

Monday, February 01, 2010

Page 1 of 4
REQUEST NUMBER: 10-1513

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

These Samples are on:

General Engineering Laboratories, Inc., Charleston, SC.

LANL Request Number: 10-1513

2040 Savage Rd

Per Agreement Number: 126310011

Charleston, SC 29407

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/1/2010

TURNAROUND/REPORT DUE: 3/3/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1		1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	

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REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1	1	1	RE15-10-7970	R	1/27/2010	
			RE15-10-7973	R	1/27/2010	
			RE15-10-7975	R	1/27/2010	
			RE15-10-7976	R	1/27/2010	
			RE15-10-7977	R	1/27/2010	
			RE15-10-7978	R	1/27/2010	
			RE15-10-7880	R	1/27/2010	
			RE15-10-7891	R	1/27/2010	
			RE15-10-7892	R	1/27/2010	
			RE15-10-7962	R	1/27/2010	
EPA:906.0	1	1	RE15-10-7963	R	1/27/2010	
			RE15-10-7964	R	1/27/2010	
			RE15-10-7965	R	1/27/2010	
			RE15-10-7967	R	1/27/2010	
			RE15-10-7968	R	1/27/2010	
			RE15-10-7970	R	1/27/2010	
			RE15-10-7973	R	1/27/2010	
			RE15-10-7975	R	1/27/2010	
			RE15-10-7976	R	1/27/2010	
			RE15-10-7977	R	1/27/2010	
HASL-300:AM-241	1	1	RE15-10-7978	R	1/27/2010	
			RE15-10-7880	R	1/27/2010	
			RE15-10-7891	R	1/27/2010	
			RE15-10-7892	R	1/27/2010	
			RE15-10-7962	R	1/27/2010	
			RE15-10-7963	R	1/27/2010	
			RE15-10-7964	R	1/27/2010	
			RE15-10-7965	R	1/27/2010	
			RE15-10-7966	R	1/27/2010	
			RE15-10-7967	R	1/27/2010	

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REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:AM-241						
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
		1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
		1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	

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PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOU						
1		1	RE15-10-7964	R	1/27/2010	
1		1	RE15-10-7965	R	1/27/2010	
1		1	RE15-10-7967	R	1/27/2010	
1		1	RE15-10-7968	R	1/27/2010	
1		1	RE15-10-7970	R	1/27/2010	
1		1	RE15-10-7973	R	1/27/2010	
1		1	RE15-10-7975	R	1/27/2010	
1		1	RE15-10-7976	R	1/27/2010	
1		1	RE15-10-7977	R	1/27/2010	
1		1	RE15-10-7978	R	1/27/2010	

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LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1513C

LOS ALAMOS

REQUEST NUMBER: 10-1513

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/3/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7880	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7880	1	POLY	H3	Ice	R
RE15-10-7891	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7891	1	POLY	H3	Ice	R
RE15-10-7892	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7892	1	POLY	H3	Ice	R
RE15-10-7967	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7967	1	POLY	H3	Ice	R
RE15-10-7976	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7976	1	POLY	H3	Ice	R
RE15-10-7968	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7968	1	POLY	H3	Ice	R
RE15-10-7965	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7965	1	POLY	H3	Ice	R
RE15-10-7975	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7975	1	POLY	H3	Ice	R
RE15-10-7978	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7978	1	POLY	H3	Ice	R
RE15-10-7970	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7970	1	POLY	H3	Ice	R
RE15-10-7964	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7964	1	POLY	H3	Ice	R
RE15-10-7973	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7973	1	POLY	H3	Ice	R
RE15-10-7962	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7962	1	POLY	H3	Ice	R
RE15-10-7963	1	POLY	AM241+GS+ISOPU+ISO U	None	R

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LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1513C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
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RE15-10-7963	1	POLY	H3	Ice	R
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RE15-10-7977	1	POLY	AM241+GS+ISOPU+ISO U	None	R
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RE15-10-7977	1	POLY	H3	Ice	R
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Relinquished By:	Date	Time	Received By:	Date	Time
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	2/1/10	3:00			
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Printed Name	Signature	Printed Name	Signature
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Printed Name	Signature	Printed Name	Signature
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Printed Name	Signature	Printed Name	Signature
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Received for DISPOSAL By:	Date	Time	Remarks:
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Printed Name	Signature
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SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7892

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:		OBT3	
TIME COLLECTED(HH:MM)		0923		SUB-MEDIA:		TUFF 1	
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:		HA	
LOCATION ID:	15-610715	↓		FIELD QC TYPE:		NA	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:		NA	
TOP DEPTH:	0	3.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH:	0	4.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	OK		EXCAVATED: YES/NO		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1	↓	H3	500 ML POLY	Ice	Y	
1	↓	Met+U+CLO4+C N	1 GAL POLY IL RS 01-11-10	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Light grey tuff

SAMPLE COMMENTS:
NA

LOCATION DESC: 8b-68 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 49 dpm
Beta/Gamma ≤ 2430 dpmPID $\frac{\text{Ambient}}{\text{Reading}} = \frac{2.4}{1.2} \text{ ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>ES</i>	Date/Time 1/28/10 7:54 AM	RECEIVED BY (Printed Name) <i>W. L. McFarland</i> (Signature) <i>W. L. McFarland</i>	Date/Time 1/28/10 7:54
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7880

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA: QBT3		ok	
TIME COLLECTED (HH:MM)		1412		SUB-MEDIA: TUFF 1		↓	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: 15-610709		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		2.8		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.6		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1	↓	H3	500 ML POLY	Ice	y	
1	↓	Met+U+CLO4+C N	1 GAL POLY IL RS 01-11-10	Ice	y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC:

whitish Gray tuff

SAMPLE COMMENTS:

2nd depth

LOCATION DESC:

8b-50, mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \pm 44 dpm
Beta/Gamma \pm 2120 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>[Signature]</i>	Date/Time 1/27/10 7:52 AM	RECEIVED BY (Printed Name) Sherry Sherwood (Signature) <i>[Signature]</i>	Date/Time 1/28/10 752
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7965

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA: OBT3		Allh	
TIME COLLECTED (HH:MM)		1005		SUB-MEDIA: TUFF 1		NA	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: 15-610752		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES (NO) / NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES (NO) / NA			
BOREHOLE: YES (NO) / NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 RC	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty clay, some rocks and wood chips

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-70 mesatop

FIELD SCREENING/MEASUREMENT RESULTS:

HE NEG

Alpha \leq 55 dpm
Beta/Gamma \leq 2350 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} \frac{0.1}{0.2}$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/28/10 0807 AM	RECEIVED BY (Printed Name) (Signature)	Date/Time 1/28/10 867
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7963

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/27/2010	MEDIA:		QBT3
TIME COLLECTED (HH:MM)		1015	SUB-MEDIA:		TUFF 1
PRS ID:	15-008(b)	ok	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610751	↓	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	↓	FIELD PREP:		NA
TOP DEPTH:	0	0.0	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	0.5	SCREEN/PORT DESC:		NA
FIELD MATRIX:	R	S	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA	BOREHOLE DIRECTION: NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 KC	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, some rocks

FR RE15-10-8083

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b - 77 12m 1/27/10
mesa Top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha ≤ 55 dpm
Beta/Gamma ≤ 1962 dpmPID $\frac{\text{Ambient Reading}}{0.2} = 0.2$ ppm

COLLECTED BY (PRINT)

TLMCFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>[Signature]</i>	Date/Time 1/29/10 0806 AM	RECEIVED BY (Printed Name) <i>[Signature]</i> (Signature) <i>[Signature]</i>	Date/Time 1/29/10 5PM
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7977

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/27/2010	MEDIA:		OBT3
TIME COLLECTED (HH:MM)		1501	SUB-MEDIA:		TUFF 1
PRS ID:	15-008(b)	ok	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610758		FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC		FIELD PREP:		NA
TOP DEPTH:	0	0.0	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	0.6	SCREEN/PORT DESC:		NA
FIELD MATRIX:	R	5	EXCAVATED: YES/NO/NA		
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA		
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA	BOREHOLE DIRECTION: NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None		
1		H3	500 ML POLY	Ice		
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 Re	Ice		
1		NMED Explosives list	250 ML AMBER GLASS	Ice		
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None		

SAMPLE DESC:

Dark brown silty sand, numerous rocks, frozen

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-51 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 27 dpmBeta/Gamma \neq 1886 dpm

HE neg

PID $\frac{\text{Ambient Reading}}{0.0} = 0.0$ ppm

COLLECTED BY (PRINT)

Th McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/28/10 0813 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature)	Date/Time 1/28/10 0813
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7891

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA: QBT3		Allh	
TIME COLLECTED(HH:MM)		0910		SUB-MEDIA: TUFF 1		NA	
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID:	15-610715	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP: NA		↓	
TOP DEPTH:	0	0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC: NA			
FIELD MATRIX:	R	S		EXCAVATED: YES/NO NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO NA			
BOREHOLE: YES/NO NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1	↓	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1	↓	Met+U+CLO4+CN	1 GAL POLY 1L RS 01-11-10	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, few wood chips

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-68 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 33 dpm
Beta/Gamma \leq 4490 dpm

HE NEG
PID $\frac{\text{Ambient Reading}}{0.8} = 0.2$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>E. Lujan</i>	Date/Time 1/28/10 7:53 AM	RECEIVED BY (Printed Name) <i>Michael J. Lujan</i> (Signature) <i>Michael J. Lujan</i>	Date/Time 1/28/10 7:53
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7975

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:	OBT3		ALLH
TIME COLLECTED(HH:MM)		1500		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610757	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.3		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 xc	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: dark brown silty sand numerous rocks, pine needles

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-30 mesa top edge

FIELD SCREENING/MEASUREMENT RESULTS:

HE NEG

Alpha \leq 44 dpm
Beta/Gamma \leq 2150 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{0.4}$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TL McFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/28/10 0812 AM	RECEIVED BY (Printed Name) Sheri Sherwood (Signature)	Date/Time 1/28/10 0812
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7976

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA: QBT3		OK	
TIME COLLECTED (HH:MM)		1510		SUB-MEDIA: TUFF 1		↓	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 15-610757		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		3.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.6		SCREEN/PORT DESC: NA			
FIELD MATRIX: R		OK		EXCAVATED: YES / (NO) NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES / (NO) NA			
BOREHOLE: YES (NO) NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		H3	500 ML POLY	Ice	y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10	Ice	y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	

SAMPLE DESC: pinkish grey tuff

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-30 mesa top edge

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 49 dpm

Beta/Gamma ≤ 2660 dpm

PID Ambient 0.0
Reading 0.3 ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>E Lujan</i>	Date/Time 1/27/10 0812 Am	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 1/28/10 0812
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7962

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		937		SUB-MEDIA:		TUFF 1	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610750		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		3.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		4.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NO/NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAE POLY 1 liter 1/11/10/20	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: grey tuff

SAMPLE COMMENTS:

Tuff at 2.3 ft

LOCATION DESC:

8b-61 mesa top next to pine tree

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 36 dpm
Beta/Gamma = 2010 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{1.7} \text{ ppm}$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>ES</i>	Date/Time 1/28/10 0806 AM	RECEIVED BY (Printed Name) <i>Michael M. [unclear]</i> (Signature) <i>[Signature]</i>	Date/Time 1/28/10 806
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-8084

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010	MEDIA:	NA		ok	
TIME COLLECTED(HH:MM)		1417	SUB-MEDIA:	OTHER			
PRS ID:	15-008(b)	ok	SAMPLE TECH CODE:	DC			
LOCATION ID:	UNK	15-610756	FIELD QC TYPE:	FR			
LOCATION TYPE:	GENERIC	ok	FIELD PREP:	UF			
TOP DEPTH:	0		SAMPLE USAGE:	QC			
BOTTOM DEPTH:	0		SCREEN/PORT DESC:				NA
FIELD MATRIX:	W		EXCAVATED: YES/NO/NA				
COMPOSITE TYPE:	NA		COMPOSITE TIME INTERVAL:	NA			
BOREHOLE: YES/NO/NA			WATER FLOWING: YES/NO/NA				
BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION:	NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1	↓	SW-846:6850	250 ML POLY	Ice	Y	
1	↓	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of

RE15-10-7974

SAMPLE COMMENTS:

Rinsate

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = ~~_____~~ dpm 12m 1/27/10
Beta/Gamma = ~~_____~~ dpm

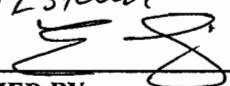
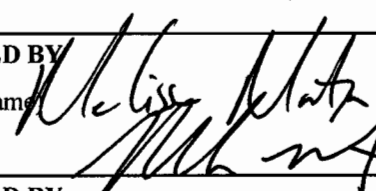

PID ~~Ambient Reading~~ = ppm 12m 1/27/10

COLLECTED BY (PRINT)

TL McFarlane

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) Estevan Luján (Signature) 	Date/Time 1/28/10 0813 AM	RECEIVED BY (Printed Name)  (Signature) 	Date/Time 1/28/10 813
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7968

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:	QBT3	72m 1/27/10	ALL OK
TIME COLLECTED (HH:MM)		1136		SUB-MEDIA:	TUFF 1		OK
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	15-610753	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC			FIELD PREP:	NA		↓
TOP DEPTH:	0	3.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	3.5		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1	↓	H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 LC	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Gray tuff

SAMPLE COMMENTS:

hit tuff at 2ft

LOCATION DESC:

8b-69 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 38 dpm
Beta/Gamma \leq 2710 dpm

PID Ambient Reading $\frac{0.2}{0.4}$ ppm
RS 01-27-10
0.0
0.5
RS 01-27-10

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarlane

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/28/10 0809 AM	RECEIVED BY (Printed Name) (Signature)	Date/Time 1/28/10 809
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7978

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:	QBT3		ALLI
TIME COLLECTED (HH:MM)		1528		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610758	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	1.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	2.0		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA	NO/NA			BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: brown silty clay, some sand, and rocks

SAMPLE COMMENTS:
NA

LOCATION DESC: 8b-51 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 49 dpm
Beta/Gamma \leq 1984 dpmPID Ambient 0.0
Reading 0.9 ppm

COLLECTED BY (PRINT)

JLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>E Lujan</i>	Date/Time 1/27/10 07:51 AM	RECEIVED BY (Printed Name) Sherrin Sherwood (Signature) <i>Sherrin Sherwood</i>	Date/Time 1/28/10 0751
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7967

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:	QBT3		ALLH
TIME COLLECTED (HH:MM)		1054		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610753	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 LC	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: brown sand some clay and few rocks

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-69 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

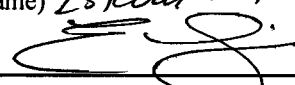

Alpha = 22 dpm
Beta/Gamma = 640 dpm

PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) T McFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) 	Date/Time 1/28/10 0808 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) 	Date/Time 1/28/10 0808
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7970

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1310		SUB-MEDIA:		TUFF 1	
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:		HA	
LOCATION ID:	15-610754	↓		FIELD QC TYPE:		NA	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:		NA	
TOP DEPTH:	0	3.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH:	0	3.3		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: brown silty sand

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-74 mesatop

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 44 dpm
Beta/Gamma = 1900 dpm

PID Ambient Reading 0.0 / 0.1 ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature) <i>ES</i>	Date/Time 1/28/10 0810 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 1/28/10 0810
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7964

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1120		SUB-MEDIA:		TUFF 1	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610751		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		3.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		4.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES/NO		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1/11/10 LC	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: pinkish grey and orange tuff

SAMPLE COMMENTS:

NA

LOCATION DESC:

77
8b - 70 mesa Top
73m 1/27/10

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 55 dpm
Beta/Gamma = 2070 dpm

PID Ambient 0.2
Reading 0.4 ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/28/10 0807 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature)	Date/Time 1/28/10 0807
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

EVENT NAME: 4th Qtr. FY09 - SWMU 15-008(b) - Threemile Canyon

SAMPLE ID: RE15-10-7973

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/27/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1351		SUB-MEDIA:		TUFF 1	
PRS ID: 15-008(b)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610756		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		0.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		0.7		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY liter 1/11/10 OK	Ice	Y	
1		NMED Explosives list	250 ML AMBER GLASS	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Dark brown silty sand, matrix, tuff fragments,
minor clay

FD: RE15-10-8063

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b - 56 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 49 dpm
Beta/Gamma \leq 2120 dpm

HE NEG

PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/28/10 0812 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature)	Date/Time 1/28/10 0812
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1513 VALIDATION DATE: 03/11/2010 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories LLCVALIDATOR: Mary Donovan ORGANIZATION: Analytical Quality Associates, Inc.

ANALYTICAL SUITE (CHECK ALL THAT APPLY):

- | | | | |
|--|--|---|--|
| <input type="checkbox"/> TPH-GRO | <input type="checkbox"/> HIGH EXPLOSIVES | <input type="checkbox"/> DIOXIN FURANS | <input type="checkbox"/> LCMSMS PERCHLORATES |
| <input type="checkbox"/> TPH-DRO | <input type="checkbox"/> METALS | <input type="checkbox"/> PCB CONGENERS | <input type="checkbox"/> ORGANOCHLORINE |
| <input type="checkbox"/> GENERAL CHEMISTRY | <input checked="" type="checkbox"/> RADIOCHEMISTRY | <input type="checkbox"/> LCMSMS HIGH EXPLOSIVES | PESTICIDES/POLYCHLORINATED BIPHENYLS |
| <input type="checkbox"/> OTHER (DESCRIBE): _____ | | | |

Section II. Completeness Check

- | YES | NO | N/A | (CHECK ONE) | YES | NO | N/A | (CHECK ONE) |
|-------------------------------------|--------------------------|-------------------------------------|-----------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 1. CHAIN-OF-CUSTODY FORM(S) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6. RAW/BSS DATA |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. CASE NARRATIVE | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7. QUALITY CONTROL FORMS |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. SAMPLE RESULT FORMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. QUANTITATION REPORTS |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 4. SAMPLE CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 9. TICS FORMS |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 5. STANDARD CHROMATOGRAMS | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 10. TICS MASS SPECTRA |


Comments/problems noted (include information about requests for further information submitted to the contract laboratory and agreed-upon date of resolution and contract laboratory point of contact):


- The gamma spec sample results which were rejected by the laboratory due to spectral interference or low abundance were qualified R,R5a. In the QC samples, several results were also rejected by the laboratory. No sample data were qualified as a result.
- In the MB associated with samples RE15-10-7975, -7978, -7970, -7964, -7973, -7962, -7963 and -7977, alpha spec U-238 was detected. The associated results for all samples except -7975 and -7963 were detects >5X but ≤50X the MB concentration and, thus, were qualified J,R4a. The remaining associated sample results were detects >50X the MB concentration and, thus, were not qualified, based on professional judgment.
- The alpha spec Am-243 tracer %R was < the laboratory LAL for sample -7964. The associated sample result was an ND and, thus, was not qualified. The alpha spec Am-243 tracer %R was also < the laboratory LAL for the duplicate associated with sample -7964. The alpha spec Am-243 tracer %R was > the laboratory UAL but ≤125% for the LCS associated with batch 951665. Because there were QC samples, no sample data were qualified.
- An MS was not analyzed for tritium. However, an LCS was analyzed and met acceptance criteria, thus, no sample data were qualified.
- It should be noted that the matrix QC analyses for iso-Am batch 951665, iso-Pu batch 951669 and iso-U batch 951672 were performed on parent samples from other LANL RNs. No sample data were qualified as a result.

Reviewed By: Charissa LewisLevel: IDate: 3/11/10


VALIDATOR'S SIGNATURE: _____

Mary A. DonovanDATE: 03/11/2010

DATA VALIDATION COVER SHEET	
5119-1 Data Validation Cover Sheet	Records Use only  LOS ALAMOS NATIONAL LABORATORY EST. 1943
Form 5119-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

RAD ANALYTICAL DATA VALIDATION CHECKLIST		
5119-2	Records Use only	
Rad Analytical Data Validation Checklist		

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1. The holding time was >1 and ≤2 times the applicable holding time requirement.	UJ, R9	J-, R9
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2. The holding time was >2 times the applicable holding time requirement.	R, R9a	J-, R9a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. The results for the affected analytes are considered not detected (U) because the associated sample concentration was less than or equal to the MDC.	U, R5	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. The analyte should be regarded as rejected because spectral interferences prevent positive identification of the analytes.	R, R5a	R, R5a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5. The MDC and/or TPU documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R5b	J-, R5b
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6. The results for the affected analytes should be regarded as not detected (U) because the associated sample concentration was less than 3X the 1 sigma TPU.	U, R11	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	7. The sample result is ≤5X the concentration of the related analyte in the method blank.	U, R4	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8. The affected analytes are considered estimated and biased high because this analyte was identified in the method blank but was >5X.	N/A	J, R4a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9. The sample result is ≤5X the concentration of the related analyte in the trip blank, rinsate blank, or equipment blank.	U, R4d	N/A
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10. Required method blank information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R4e	R, R4e
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	11. The tracer is <10%R. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	R, R3	R, R3

RAD ANALYTICAL DATA VALIDATION CHECKLIST		
5119-2	Records Use only	
Rad Analytical Data Validation Checklist		

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12. The tracer is < the Lower Acceptance Level (LAL) but $\geq 10\%R$. Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	UJ, R3a	J-, R3a
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13. The Tracer%R value is > the Upper Acceptance Limit (UAL). Follow the external laboratory limits located within the associated data package. Tracer%R is not applicable for Gamma Spectroscopy.	N/A	J+, R3b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	14. Required tracer information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. Tracer%R is not applicable for Gamma Spectroscopy.	R, R3d	R, R3d
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15. The LCS percent recovery was <10%. Follow the external laboratory limits located within the associated data package.	R, R12	R, R12
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	16. The LCS percent recovery was < the LAL but >10%. Follow the external laboratory limits located within the associated data package.	UJ, R12a	J-, R12a
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	17. The LCS percent recovery was > the UAL. Follow the external laboratory limits located within the associated data package.	N/A	J+, R12b
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	18. The LCS documentation is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R12c	R, R12c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	19. Associated duplicate sample has DER or RER > the analytical laboratory's acceptance limits.	R, R10	J, J10
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20. The duplicate sample was not prepared and/or analyzed with the samples for unspecified reasons. The duplicate information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information.	R, R6	R, R6

RAD ANALYTICAL DATA VALIDATION CHECKLIST	
5119-2 Rad Analytical Data Validation Checklist	Records Use only 

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	21. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6	R, R6
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	22. The associated matrix spike recovery was <10%. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6a	J-, R6a
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	23. The associated matrix spike recovery was above the UAL. Follow the external laboratory limits. MS/MSD is not applicable to Gamma Spectroscopy.	UJ, R6b	J+, R6b
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	24. Required matrix spike information is missing. Data may not be acceptable for use. Contact the SMO or external laboratory for information. If LCS information is present, do not Reject. Qualify data based on LCS information. MS/MSD is not applicable to Gamma Spectroscopy.	R, R6c	R, R6c
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25. Duplicate, dilution, or reanalysis.	UJ, R88	J, R88
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	26. The LANL project chemist identified quality deficiencies in the reported data that require further qualification. This code can ONLY be used and/or under advisement by the LANL project chemist.	UJ, R, R19	J, R, R19
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	27. Quantification of data via data validation did not occur based on Quality Control requirements in this procedure. Adhere to the external laboratory qualifiers found within the Form I analytical data summary sheets generated by the external laboratory.	U, U_LAB	J, J_LAB NQ, NQ

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7880
Sample ID: 245978001
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 7.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0018	0.029	+/-0.00194	0.050	pCi/g		HAKB	02/15/10	0741	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00493	0.0269	+/-0.00286	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	0.00493	0.0202	+/-0.00286	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.753	0.112	+/-0.0791	0.100	pCi/g		HAKB	02/13/10	2124	949825	3
Uranium-235/236	U	0.0219	0.0713	+/-0.0111	0.100	pCi/g						
Uranium-238		0.957	0.0763	+/-0.0946	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0753	0.397	+/-0.125	0.200	pCi/g		MXR1	02/14/10	1117	948721	4
Bismuth-211	UI	3.41	R,R5a	0.327	+/-0.268	pCi/g						
Bismuth-214		1.03		0.110	+/-0.0871	0.200	pCi/g					
Cadmium-109	UI	3.62	R,R5a	1.65	+/-0.623	pCi/g						
Cerium-139	U	0.0105		0.0509	+/-0.0152	0.050	pCi/g					
Cesium-134	UI	0.113	R,R5a	0.0929	+/-0.043	0.100	pCi/g					
Cesium-137	U	0.00966		0.067	+/-0.0195	0.100	pCi/g					
Cobalt-60	U	0.0506		0.0743	+/-0.0196	0.100	pCi/g					
Europium-152	U	-0.139		0.145	+/-0.0496	0.200	pCi/g					
Lanthanum-140	U	-0.0304		0.152	+/-0.0583	pCi/g						
Lead-212		1.71		0.0931	+/-0.086	0.100	pCi/g					
Lead-214		1.19		0.114	+/-0.0983	0.100	pCi/g					
Mercury-203	U	-0.0392		0.0672	+/-0.0207	0.100	pCi/g					
Potassium-40		39.5		0.554	+/-1.99	1.00	pCi/g					
Radium-223	U	0.181		1.09	+/-0.360	pCi/g						
Radium-224	UI	4.36	R,R5a	1.06	+/-0.700	pCi/g						
Radium-226		1.03		0.110	+/-0.0871	pCi/g						
Radium-228		1.55		0.225	+/-0.171	0.500	pCi/g					
Ruthenium-106	U	0.0557		0.535	+/-0.156	0.800	pCi/g					
Sodium-22	U	-0.0219		0.0801	+/-0.0251	0.080	pCi/g					
Strontium-85	U	0.041		0.0658	+/-0.0211	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7880
Sample ID: 245978001
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thallium-208		0.509	0.0606	+/-0.0478	0.080	pCi/g						
Thorium-227	U	0.350	0.666	+/-0.188		pCi/g						
Thorium-231	U	0.181	1.09	+/-0.360		pCi/g						
Thorium-234		3.98	3.01	+/-1.32	2.00	pCi/g						
Tin-113	U	-0.032	0.0706	+/-0.0222	0.100	pCi/g						
Uranium-235	U	0.163	0.372	+/-0.111	0.500	pCi/g						
Yttrium-88	U	-0.0179	0.0506	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		202	193	+/-61.7	250	pCi/L		KXK2	02/13/10	0713	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	68.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	70.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	81.6	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7891
Sample ID: 245978002
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 26%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	0.0102	0.0257	+/-0.00424	0.050	pCi/g		HAKB	02/15/10	0741 949823	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00225	0.0184	+/-0.0016	0.050	pCi/g		HAKB	02/18/10	1842 949824	2
Plutonium-239/240		0.0214	0.0139	+/-0.00527	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		19.6	0.430	+/-1.60	0.100	pCi/g		HAKB	02/23/10	1043 953488	4
Uranium-235/236		1.83	0.274	+/-0.241	0.100	pCi/g					
Uranium-238		77.0	0.293	+/-5.98	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.207	0.431	+/-0.137	0.200	pCi/g		MXR1	02/14/10	1117 948721	6
Bismuth-211	UI	3.94	R,R5a	+/-0.315		pCi/g					
Bismuth-214		1.27		+/-0.104	0.200	pCi/g					
Cadmium-109	UI	4.25	R,R5a	+/-0.650		pCi/g					
Cerium-139	U	0.00122	0.0574	+/-0.0185	0.050	pCi/g					
Cesium-134	UI	0.118	R,R5a	+/-0.0352	0.100	pCi/g					
Cesium-137	U	0.0297	0.0719	+/-0.0208	0.100	pCi/g					
Cobalt-60	U	-0.0391	0.0518	+/-0.0185	0.100	pCi/g					
Europium-152	U	-0.0336	0.155	+/-0.0467	0.200	pCi/g					
Lanthanum-140	U	0.0404	0.144	+/-0.0458		pCi/g					
Lead-212		1.48	0.0979	+/-0.102	0.100	pCi/g					
Lead-214		1.37	0.105	+/-0.115	0.100	pCi/g					
Mercury-203	U	0.0208	0.0707	+/-0.0208	0.100	pCi/g					
Potassium-40		26.6	0.413	+/-1.43	1.00	pCi/g					
Radium-223	U	0.377	1.10	+/-0.364		pCi/g					
Radium-224	UI	4.39	R,R5a	+/-0.589		pCi/g					
Radium-226		1.27	0.108	+/-0.104		pCi/g					
Radium-228		1.45	0.204	+/-0.165	0.500	pCi/g					
Ruthenium-106	U	-0.0564	0.497	+/-0.152	0.800	pCi/g					
Sodium-22	U	-0.000873	0.066	+/-0.0203	0.080	pCi/g					
Strontium-85	U	0.0439	0.0664	+/-0.0207		pCi/g					
Thallium-208		0.532	0.0622	+/-0.0459	0.080	pCi/g					

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7891
Sample ID: 245978002

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.320	0.649	+/-0.209		pCi/g						
Thorium-231	U	0.377	1.10	+/-0.364		pCi/g						
Thorium-234		73.9	3.22	+/-6.73	2.00	pCi/g						
Tin-113	U	-0.0215	0.0732	+/-0.0217	0.100	pCi/g						
Uranium-235		1.61	0.414	+/-0.242	0.500	pCi/g						
Yttrium-88	U	-0.0212	0.0519	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		21500	194	+/-1510	250	pCi/L		KXK2	02/13/10	0851	950495	7

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	74.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis

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Certificate of Analysis

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7892
Sample ID: 245978003
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 6.96%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00303	0.0221	+/-0.00268	0.050	pCi/g		HAKB	02/15/10	0741	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00666	0.0218	+/-0.0061	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	-0.00266	0.0164	+/-0.00231	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.17	0.0911	+/-0.105	0.100	pCi/g		HAKB	02/13/10	2125	949825	3
Uranium-235/236		0.0803	0.0581	+/-0.0207	0.100	pCi/g						
Uranium-238		2.42	0.0622	+/-0.195	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0576	0.122	+/-0.0371	0.200	pCi/g		MXR1	02/14/10	1118	948721	4
Bismuth-211	UI	4.37	R,R5a	+/-0.344		pCi/g						
Bismuth-214		1.41		+/-0.136	0.200	pCi/g						
Cadmium-109	UI	3.67	R,R5a	+/-0.511		pCi/g						
Cerium-139	U	-0.0317	0.0543	+/-0.0171	0.050	pCi/g						
Cesium-134	U	0.109	0.128	+/-0.0389	0.100	pCi/g						
Cesium-137	U	-0.0391	0.0793	+/-0.0266	0.100	pCi/g						
Cobalt-60	U	0.0164	0.0985	+/-0.0284	0.100	pCi/g						
Europium-152	U	-0.10	0.179	+/-0.058	0.200	pCi/g						
Lanthanum-140	U	0.0409	0.172	+/-0.054		pCi/g						
Lead-212		1.80	0.0983	+/-0.111	0.100	pCi/g						
Lead-214		1.52	0.146	+/-0.126	0.100	pCi/g						
Mercury-203	U	0.00129	0.0804	+/-0.0232	0.100	pCi/g						
Potassium-40		35.5	0.640	+/-1.98	1.00	pCi/g						
Radium-223	U	-0.142	1.24	+/-0.418		pCi/g						
Radium-224	UI	5.30	R,R5a	+/-0.857		pCi/g						
Radium-226		1.41	0.141	+/-0.136		pCi/g						
Radium-228		2.09	0.267	+/-0.213	0.500	pCi/g						
Ruthenium-106	U	-0.214	0.647	+/-0.210	0.800	pCi/g						
Sodium-22	U	0.0142	0.105	+/-0.0315	0.080	pCi/g						
Strontium-85	U	0.0657	0.084	+/-0.0256		pCi/g						
Thallium-208		0.567	0.0728	+/-0.059	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7892
245978003

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.244	0.677	+/-0.218		pCi/g						
Thorium-231	U	-0.142	1.24	+/-0.418		pCi/g						
Thorium-234		3.09	1.18	+/-0.573	2.00	pCi/g						
Tin-113	U	-0.0597	0.0861	+/-0.0277	0.100	pCi/g						
Uranium-235	U	0.0423	0.384	+/-0.115	0.500	pCi/g						
Yttrium-88	U	0.0112	0.0783	+/-0.0228	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		3690	194	+/-275	250	pCi/L		KXK2	02/13/10	1155	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.5	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7967
Sample ID: 245978004
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 24.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0142	0.0239	+/-0.00485	0.050	pCi/g		HAKB	02/18/10	1842	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0012	0.0197	+/-0.00121	0.050	pCi/g		HAKB	02/18/10	1843	949824	3
Plutonium-239/240		0.0723	0.0148	+/-0.0102	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		21.5	0.469	+/-1.76	0.100	pCi/g		HAKB	02/23/10	1043	953488	5
Uranium-235/236		2.75	0.299	+/-0.328	0.100	pCi/g						
Uranium-238		150	0.320	+/-11.7	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	UI	0.765	R,R5a	0.545	+/-0.165	0.200	pCi/g	MXR1	02/14/10	1118	948721	7
Bismuth-211	UI	2.02	R,R5a	0.341	+/-0.212		pCi/g					
Bismuth-214		0.551		0.112	+/-0.0765	0.200	pCi/g					
Cadmium-109	U	2.39		3.13	+/-1.34		pCi/g					
Cerium-139	U	0.0581		0.0689	+/-0.0215	0.050	pCi/g					
Cesium-134	U	0.0816		0.0866	+/-0.0234	0.100	pCi/g					
Cesium-137		0.193		0.0617	+/-0.0364	0.100	pCi/g					
Cobalt-60	U	0.00112		0.0547	+/-0.0162	0.100	pCi/g					
Europium-152	U	0.037		0.170	+/-0.0614	0.200	pCi/g					
Lanthanum-140	U	-0.0574		0.119	+/-0.0404		pCi/g					
Lead-212		1.10		0.0999	+/-0.0615	0.100	pCi/g					
Lead-214		0.702		0.119	+/-0.076	0.100	pCi/g					
Mercury-203	U	0.0174		0.0766	+/-0.0211	0.100	pCi/g					
Potassium-40		22.0		0.419	+/-1.05	1.00	pCi/g					
Radium-223	U	-0.898		1.06	+/-0.326		pCi/g					
Radium-224	UI	3.02	R,R5a	1.14	+/-0.592		pCi/g					
Radium-226		0.551		0.112	+/-0.0765		pCi/g					
Radium-228		1.10		0.191	+/-0.136	0.500	pCi/g					
Ruthenium-106	U	0.067		0.521	+/-0.151	0.800	pCi/g					
Sodium-22	U	-0.019		0.0574	+/-0.0179	0.080	pCi/g					
Strontium-85	U	0.0627		0.0679	+/-0.0204		pCi/g					
Thallium-208		0.363		0.0612	+/-0.037	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7967
Sample ID: 245978004
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	UI	0.888	R,R5a	0.840	+/-0.271	pCi/g						
Thorium-231	U	-0.898		1.06	+/-0.326	pCi/g						
Thorium-234		99.0		4.10	+/-8.95	pCi/g	2.00					
Tin-113	U	-0.0285		0.0763	+/-0.0224	pCi/g	0.100					
Uranium-235		1.66		0.495	+/-0.238	pCi/g	0.500					
Yttrium-88	U	-0.0345		0.0421	+/-0.0161	pCi/g	0.100					
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		76100		193	+/-5310	pCi/L		KXK2	02/13/10	1333	950495	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	84.9	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
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- 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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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7976
Sample ID: 245978005
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 3.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	6.35E-06	0.0213	+/-0.00176	0.050	pCi/g		HAKB	02/15/10	0741	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00126	0.0206	+/-0.00178	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	0.0151	0.0155	+/-0.00477	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.969	0.0893	+/-0.0899	0.100	pCi/g		HAKB	02/13/10	2125	949825	3
Uranium-235/236		0.0612	0.0569	+/-0.018	0.100	pCi/g						
Uranium-238		2.16	0.061	+/-0.175	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0957	0.187	+/-0.0565	0.200	pCi/g		MXR1	02/14/10	1119	948721	4
Bismuth-211	UI	3.60	R,R5a	0.274	+/-0.264	pCi/g						
Bismuth-214		1.02		0.0947	+/-0.0895	0.200	pCi/g					
Cadmium-109	UI	3.47	R,R5a	0.962	+/-0.462	pCi/g						
Cerium-139	U	-0.0252		0.0438	+/-0.0137	0.050	pCi/g					
Cesium-134	UI	0.102	R,R5a	0.0799	+/-0.0308	0.100	pCi/g					
Cesium-137		0.099		0.0586	+/-0.0241	0.100	pCi/g					
Cobalt-60	U	-0.00411		0.0511	+/-0.0161	0.100	pCi/g					
Europium-152	U	-0.0251		0.135	+/-0.0456	0.200	pCi/g					
Lanthanum-140	U	-0.0223		0.120	+/-0.0409	pCi/g						
Lead-212		1.63		0.0821	+/-0.0995	0.100	pCi/g					
Lead-214		1.25		0.0956	+/-0.0974	0.100	pCi/g					
Mercury-203	U	0.00829		0.065	+/-0.0184	0.100	pCi/g					
Potassium-40		32.6		0.431	+/-1.65	1.00	pCi/g					
Radium-223	U	0.495		0.937	+/-0.292	pCi/g						
Radium-224	UI	5.05	R,R5a	0.934	+/-0.648	pCi/g						
Radium-226		1.02		0.0947	+/-0.0895	pCi/g						
Radium-228		1.60		0.183	+/-0.159	0.500	pCi/g					
Ruthenium-106	U	-0.149		0.438	+/-0.140	0.800	pCi/g					
Sodium-22	U	-0.0167		0.0616	+/-0.0198	0.080	pCi/g					
Strontium-85	UI	0.0848	R,R5a	0.0616	+/-0.0177	pCi/g						
Thallium-208		0.478		0.0481	+/-0.0401	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7976
Sample ID: 245978005
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.171	0.556	+/-0.163		pCi/g						
Thorium-231	U	0.495	0.937	+/-0.292		pCi/g						
Thorium-234		2.91	1.56	+/-0.752	2.00	pCi/g						
Tin-113	U	-0.0171	0.0628	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.151	0.335	+/-0.0965	0.500	pCi/g						
Yttrium-88	U	-0.00489	0.0398	+/-0.0127	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		7920	194	+/-567	250	pCi/L		KXK2	02/13/10	1512	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	93.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.6	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7968
Sample ID: 245978006
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 10.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00487	0.025	+/-0.00287	0.050	pCi/g		HAKB	02/15/10	0742	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00123	0.0202	+/-0.00276	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	0.0123	0.0152	+/-0.00432	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.24	0.0893	+/-0.257	0.100	pCi/g		HAKB	02/13/10	2125	949825	3
Uranium-235/236		0.363	0.0569	+/-0.0477	0.100	pCi/g						
Uranium-238		19.4	0.061	+/-1.42	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0518	0.460	+/-0.141	0.200	pCi/g		MXR1	02/14/10	1156	948721	4
Bismuth-211	UI	3.38	R,R5a	0.331	+/-0.258	pCi/g						
Bismuth-214		1.11		0.108	+/-0.0918	0.200						
Cadmium-109	UI	3.01	R,R5a	1.96	+/-0.625	pCi/g						
Cerium-139	U	0.000395		0.0515	+/-0.0153	0.050						
Cesium-134	UI	0.167	R,R5a	0.101	+/-0.0487	0.100						
Cesium-137	U	0.0479		0.0664	+/-0.0288	0.100						
Cobalt-60	U	0.000599		0.0662	+/-0.0198	0.100						
Europium-152	U	-0.0909		0.152	+/-0.0471	0.200						
Lanthanum-140	U	-0.0148		0.165	+/-0.0514	pCi/g						
Lead-212		1.68		0.0835	+/-0.0874	0.100						
Lead-214		1.18		0.116	+/-0.0947	0.100						
Mercury-203	U	0.00298		0.0727	+/-0.0208	0.100						
Potassium-40		36.5		0.560	+/-1.63	1.00						
Radium-223	U	-0.321		1.10	+/-0.375	pCi/g						
Radium-224	UI	5.09	R,R5a	0.951	+/-0.759	pCi/g						
Radium-226		1.11		0.108	+/-0.0918	pCi/g						
Radium-228		1.76		0.217	+/-0.184	0.500						
Ruthenium-106	U	0.029		0.514	+/-0.157	0.800						
Sodium-22	U	-0.0155		0.077	+/-0.0236	0.080						
Strontium-85	U	0.0529		0.0652	+/-0.0199	pCi/g						
Thallium-208		0.514		0.0602	+/-0.0417	0.080						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7968
Sample ID: 245978006

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.0667	0.650	+/-0.187		pCi/g						
Thorium-231	U	-0.321	1.10	+/-0.375		pCi/g						
Thorium-234		19.5	3.35	+/-2.54	2.00	pCi/g						
Tin-113	U	0.0119	0.0743	+/-0.0215	0.100	pCi/g						
Uranium-235	U	0.364	0.371	+/-0.138	0.500	pCi/g						
Yttrium-88	U	-0.0122	0.0442	+/-0.0152	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		70500	193	+/-4920	250	pCi/L		KXK2	02/13/10	1650	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	76.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	87.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.8	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

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- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7965
Sample ID: 245978007
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 22.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00181	0.0208	+/-0.0028	0.050	pCi/g		HAKB	02/19/10	1553	954009	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00397	0.0216	+/-0.0023	0.050	pCi/g		HAKB	02/13/10	2140	949824	3
Plutonium-239/240	U	0.0159	0.0163	+/-0.00466	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		8.51	0.0947	+/-0.630	0.100	pCi/g		HAKB	02/13/10	2125	949825	4
Uranium-235/236		0.830	0.0604	+/-0.0856	0.100	pCi/g						
Uranium-238		35.3	0.0647	+/-2.53	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.073	0.260	+/-0.0832	0.200	pCi/g		MXR1	02/14/10	1156	948721	5
Bismuth-211	UI	4.02	R,R5a	0.324	+/-0.278	pCi/g						
Bismuth-214		1.16		0.117	+/-0.109	0.200						
Cadmium-109	UI	2.95	R,R5a	1.63	+/-0.556	pCi/g						
Cerium-139	U	-0.0168	0.0535	+/-0.0165	0.050	pCi/g						
Cesium-134	U	0.0283	0.0859	+/-0.0248	0.100	pCi/g						
Cesium-137		0.128	0.0689	+/-0.0371	0.100	pCi/g						
Cobalt-60	U	0.00128	0.0606	+/-0.0182	0.100	pCi/g						
Europium-152	U	-0.0164	0.163	+/-0.0557	0.200	pCi/g						
Lanthanum-140	U	0.066	0.168	+/-0.0532		pCi/g						
Lead-212		1.65	0.0941	+/-0.097	0.100	pCi/g						
Lead-214		1.40	0.113	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.0164	0.0759	+/-0.0217	0.100	pCi/g						
Potassium-40		26.0	0.476	+/-1.38	1.00	pCi/g						
Radium-223	U	-0.122	1.09	+/-0.323		pCi/g						
Radium-224	UI	3.96	R,R5a	1.07	+/-0.633	pCi/g						
Radium-226		1.16	0.117	+/-0.109		pCi/g						
Radium-228		1.66	0.221	+/-0.182	0.500	pCi/g						
Ruthenium-106	U	0.261	0.574	+/-0.160	0.800	pCi/g						
Sodium-22	U	-0.0396	0.0641	+/-0.0214	0.080	pCi/g						
Strontium-85	UI	0.0746	R,R5a	0.0706	+/-0.0206	pCi/g						
Thallium-208		0.543	0.0588	+/-0.0459	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7965
Sample ID: 245978007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.0672	0.657	+/-0.192		pCi/g						
Thorium-231	U	-0.122	1.09	+/-0.323		pCi/g						
Thorium-234		27.3	2.13	+/-2.67	2.00	pCi/g						
Tin-113	U	0.0161	0.0775	+/-0.0227	0.100	pCi/g						
Uranium-235		0.587	0.376	+/-0.160	0.500	pCi/g						
Yttrium-88	U	-0.00572	0.0483	+/-0.0151	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		6270	192	+/-453	250	pCi/L		KXK2	02/13/10	1829	950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.2	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7975
Sample ID: 245978008
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 25.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0324	0.0487	+/-0.0159	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0472	+/-0.0147	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240		0.0549	0.0355	+/-0.0153	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.60	0.0447	+/-0.126	0.100	pCi/g		CXM2	02/24/10	1320	951672	3
Uranium-235/236		0.171	0.0285	+/-0.0229	0.100	pCi/g						
Uranium-238		6.11	0.0305	+/-0.451	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.423	0.586	+/-0.182	0.200	pCi/g		MXR1	02/14/10	1201	948721	4
Bismuth-211	UI	4.51	R,R5a	0.387	+/-0.345	pCi/g						
Bismuth-214		1.30		0.142	+/-0.107	pCi/g						
Cadmium-109	U	1.27		2.34	+/-0.756	pCi/g						
Cerium-139	U	-0.00695		0.068	+/-0.0204	pCi/g						
Cesium-134	U	0.0462		0.0988	+/-0.0328	pCi/g						
Cesium-137		0.472		0.0848	+/-0.051	pCi/g						
Cobalt-60	U	0.0255		0.0805	+/-0.0234	pCi/g						
Europium-152	U	0.0783		0.213	+/-0.087	pCi/g						
Lanthanum-140	U	0.0619		0.197	+/-0.0629	pCi/g						
Lead-212		1.59		0.116	+/-0.115	pCi/g						
Lead-214		1.57		0.135	+/-0.127	pCi/g						
Mercury-203	U	-0.0011		0.0973	+/-0.0283	pCi/g						
Potassium-40		24.9		0.592	+/-1.53	pCi/g						
Radium-223	U	-0.216		1.39	+/-0.413	pCi/g						
Radium-224	UI	5.02	R,R5a	1.32	+/-0.817	pCi/g						
Radium-226		1.30		0.142	+/-0.107	pCi/g						
Radium-228		1.36		0.253	+/-0.181	pCi/g						
Ruthenium-106	U	0.0839		0.613	+/-0.184	pCi/g						
Sodium-22	U	-0.0249		0.0809	+/-0.0263	pCi/g						
Strontium-85	UI	0.128	R,R5a	0.0916	+/-0.0271	pCi/g						
Thallium-208		0.397		0.0757	+/-0.0524	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7975
245978008

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.307	0.881	+/-0.250		pCi/g						
Thorium-231	U	-0.216	1.39	+/-0.413		pCi/g						
Thorium-234		14.4	4.34	+/-2.54	2.00	pCi/g						
Tin-113	U	-0.024	0.0997	+/-0.0302	0.100	pCi/g						
Uranium-235	U	0.193	0.494	+/-0.144	0.500	pCi/g						
Yttrium-88	U	-0.015	0.0498	+/-0.017	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1060	194	+/-103	250	pCi/L		KXK2	02/13/10	2007	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.5	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7978
Sample ID: 245978009
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 16.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0163	0.0473	+/-0.00703	0.050	pCi/g		CXM2	02/25/10	1700	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00887	0.0483	+/-0.0148	0.050	pCi/g		CXM2	02/23/10	1308	951669	3
Plutonium-239/240	U	0.00591	0.0364	+/-0.00725	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.461	0.0435	+/-0.0433	0.100	pCi/g		CXM2	02/24/10	1320	951672	4
Uranium-235/236	U	0.0213	0.0278	+/-0.00754	0.100	pCi/g						
Uranium-238		0.609	J,R4a	0.0297	+/-0.0543	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0859	0.245	+/-0.0787	0.200	pCi/g		MXR1	02/14/10	1201	948721	5
Bismuth-211	UI	5.05	R,R5a	0.324	+/-0.373	pCi/g						
Bismuth-214		1.27		0.112	+/-0.109	0.200	pCi/g					
Cadmium-109	UI	4.34	R,R5a	1.31	+/-0.607	pCi/g						
Cerium-139	U	0.0209		0.0557	+/-0.0162	0.050	pCi/g					
Cesium-134	UI	0.108	R,R5a	0.0864	+/-0.0279	0.100	pCi/g					
Cesium-137		0.142		0.0633	+/-0.0421	0.100	pCi/g					
Cobalt-60	U	0.000858		0.0652	+/-0.0198	0.100	pCi/g					
Europium-152	U	-0.0103		0.163	+/-0.0597	0.200	pCi/g					
Lanthanum-140	U	-0.115		0.165	+/-0.0554	pCi/g						
Lead-212		2.15		0.0953	+/-0.154	0.100	pCi/g					
Lead-214		1.76		0.113	+/-0.138	0.100	pCi/g					
Mercury-203	UI	0.0943	R,R5a	0.0677	+/-0.031	0.100	pCi/g					
Potassium-40		29.2		0.451	+/-1.55	1.00	pCi/g					
Radium-223	U	0.362		1.13	+/-0.375	pCi/g						
Radium-224	UI	6.06	R,R5a	1.08	+/-0.842	pCi/g						
Radium-226		1.27		0.112	+/-0.109	pCi/g						
Radium-228		2.02		0.207	+/-0.190	0.500	pCi/g					
Ruthenium-106	U	0.0587		0.547	+/-0.164	0.800	pCi/g					
Sodium-22	U	-0.0429		0.0688	+/-0.0225	0.080	pCi/g					
Strontium-85	UI	0.143	R,R5a	0.0772	+/-0.024	pCi/g						
Thallium-208		0.633		0.0608	+/-0.0571	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7978
Sample ID: 245978009
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.286	0.689	+/-0.208		pCi/g						
Thorium-231	U	0.362	1.13	+/-0.375		pCi/g						
Thorium-234		3.04	2.02	+/-1.01	2.00	pCi/g						
Tin-113	U	0.0011	0.0776	+/-0.0234	0.100	pCi/g						
Uranium-235	U	-0.0178	0.377	+/-0.114	0.500	pCi/g						
Yttrium-88	U	-0.0185	0.0464	+/-0.0157	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	154	194	+/-60.8	250	pCi/L		KXK2	02/13/10	2145	950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	80.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	81.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7970
Sample ID: 245978010
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 8.19%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0204	0.0496	+/-0.0127	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.0236	0.0482	+/-0.0102	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240	U	0.00	0.0363	+/-0.00418	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.309	0.0384	+/-0.0308	0.100	pCi/g		CXM2	02/24/10	1320	951672	3
Uranium-235/236	U	0.0226	0.0245	+/-0.00671	0.100	pCi/g						
Uranium-238		1.16 J,R4a	0.0262	+/-0.0921	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0103	0.245	+/-0.0731	0.200	pCi/g		MXR1	02/14/10	1217	948721	4
Bismuth-211	UI	2.53 R,R5a	0.208	+/-0.169		pCi/g						
Bismuth-214		0.691	0.0697	+/-0.0531	0.200	pCi/g						
Cadmium-109	UI	1.95 R,R5a	1.20	+/-0.355		pCi/g						
Cerium-139	U	0.00238	0.0354	+/-0.00964	0.050	pCi/g						
Cesium-134	U	0.0374	0.0558	+/-0.0158	0.100	pCi/g						
Cesium-137	U	0.030	0.0451	+/-0.0122	0.100	pCi/g						
Cobalt-60	U	-0.000796	0.0442	+/-0.0134	0.100	pCi/g						
Europium-152	U	-0.024	0.0988	+/-0.0372	0.200	pCi/g						
Lanthanum-140	U	-0.0196	0.091	+/-0.0284		pCi/g						
Lead-212		0.995	0.0614	+/-0.0495	0.100	pCi/g						
Lead-214		0.880	0.0725	+/-0.0631	0.100	pCi/g						
Mercury-203	U	0.0055	0.0478	+/-0.0137	0.100	pCi/g						
Potassium-40		24.2	0.297	+/-1.08	1.00	pCi/g						
Radium-223	U	-0.459	0.703	+/-0.221		pCi/g						
Radium-224	UI	2.63 R,R5a	0.697	+/-0.408		pCi/g						
Radium-226		0.691	0.0697	+/-0.0531		pCi/g						
Radium-228		1.05	0.138	+/-0.115	0.500	pCi/g						
Ruthenium-106	U	0.184	0.347	+/-0.0974	0.800	pCi/g						
Sodium-22	U	-0.027	0.0469	+/-0.0151	0.080	pCi/g						
Strontium-85	UI	0.0989 R,R5a	0.0522	+/-0.0146		pCi/g						
Thallium-208		0.330	0.0352	+/-0.0277	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7970
Sample ID: 245978010
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.0789	0.422	+/-0.123		pCi/g						
Thorium-231	U	-0.459	0.703	+/-0.221		pCi/g						
Thorium-234		2.89	1.85	+/-0.910	2.00	pCi/g						
Tin-113	U	-0.018	0.0468	+/-0.0137	0.100	pCi/g						
Uranium-235	U	0.0417	0.252	+/-0.0729	0.500	pCi/g						
Yttrium-88	U	-0.0212	0.0285	+/-0.0104	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		5310	194	+/-386	250	pCi/L		KXK2	02/13/10	2324	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.5	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Certificate of Analysis

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TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7964
Sample ID: 245978011
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 10.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00713	0.031	+/-0.0036	0.050	pCi/g		CXM2	02/27/10	2008	957873	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00374	0.038	+/-0.00476	0.050	pCi/g		CXM2	02/24/10	2001	951669	3
Plutonium-239/240	U	0.00154	0.0285	+/-0.00422	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.444	0.0385	+/-0.0408	0.100	pCi/g		CXM2	02/24/10	1320	951672	5
Uranium-235/236		0.034	0.0246	+/-0.00836	0.100	pCi/g						
Uranium-238		0.509	J,R4a	0.0263	+/-0.0455	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.132	0.341	+/-0.105	0.200	pCi/g		MXR1	02/14/10	1218	948721	6
Bismuth-211	UI	3.72	R,R5a	0.338	+/-0.231	pCi/g						
Bismuth-214		1.20		0.103	+/-0.0909	0.200	pCi/g					
Cadmium-109	UI	1.91	R,R5a	1.46	+/-0.575	pCi/g						
Cerium-139	U	-0.014	0.0521	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0154	0.0851	+/-0.0243	0.100	pCi/g						
Cesium-137	U	-0.0241	0.060	+/-0.0192	0.100	pCi/g						
Cobalt-60	U	0.0203	0.0693	+/-0.0199	0.100	pCi/g						
Europium-152	U	0.032	0.169	+/-0.0547	0.200	pCi/g						
Lanthanum-140	U	-0.146	0.113	+/-0.0473	pCi/g							
Lead-212		1.54	0.0956	+/-0.0771	0.100	pCi/g						
Lead-214		1.29	0.121	+/-0.0871	0.100	pCi/g						
Mercury-203	U	0.0228	0.0759	+/-0.0211	0.100	pCi/g						
Potassium-40		24.5	0.583	+/-1.23	1.00	pCi/g						
Radium-223	U	-0.434	1.12	+/-0.388	pCi/g							
Radium-224	UI	4.87	R,R5a	1.09	+/-0.677	pCi/g						
Radium-226		1.20	0.103	+/-0.0909	pCi/g							
Radium-228		1.50	0.245	+/-0.197	0.500	pCi/g						
Ruthenium-106	U	0.0749	0.510	+/-0.150	0.800	pCi/g						
Sodium-22	U	-0.0482	0.0682	+/-0.0235	0.080	pCi/g						
Strontium-85	U	0.0471	0.0692	+/-0.0215	pCi/g							
Thallium-208		0.546	0.0618	+/-0.0438	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7964
Sample ID: 245978011

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.393	0.686	+/-0.198		pCi/g						
Thorium-231	U	-0.434	1.12	+/-0.388		pCi/g						
Thorium-234	U	2.63	2.74	+/-1.08	2.00	pCi/g						
Tin-113	U	-0.000973	0.0801	+/-0.0233	0.100	pCi/g						
Uranium-235	U	0.0886	0.381	+/-0.111	0.500	pCi/g						
Yttrium-88	U	0.00777	0.0602	+/-0.0175	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		596	195	+/-78.1	250	pCi/L		KXK2	02/14/10	0102	950495	7

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	36.9 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	92.2	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- C Analyte has been confirmed by GC/MS analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7973
Sample ID: 245978012
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 18.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0108	0.0505	+/-0.0151	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00493	0.0535	+/-0.00646	0.050	pCi/g		CXM2	02/24/10	2001	951669	2
Plutonium-239/240	U	0.00742	0.0401	+/-0.00894	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.687	0.0404	+/-0.059	0.100	pCi/g		CXM2	02/24/10	1321	951672	4
Uranium-235/236		0.0772	0.0258	+/-0.0138	0.100	pCi/g						
Uranium-238		2.27	J,R4a	0.0276	+/-0.172	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0591	0.299	+/-0.0976	0.200	pCi/g		MXR1	02/14/10	1311	948721	5
Bismuth-211	UI	3.97	R,R5a	0.352	+/-0.297	pCi/g						
Bismuth-214		1.08		0.114	+/-0.102	0.200	pCi/g					
Cadmium-109	UI	2.24	R,R5a	1.83	+/-0.640	pCi/g						
Cerium-139	U	-0.00108	0.0555	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0903	0.098	+/-0.0264	0.100	pCi/g						
Cesium-137	U	0.048	0.075	+/-0.0229	0.100	pCi/g						
Cobalt-60	U	0.036	0.0716	+/-0.0192	0.100	pCi/g						
Europium-152	U	-0.0203	0.166	+/-0.057	0.200	pCi/g						
Lanthanum-140	U	-0.00509	0.188	+/-0.0573	pCi/g							
Lead-212		1.57	0.0954	+/-0.0971	0.100	pCi/g						
Lead-214		1.38	0.124	+/-0.109	0.100	pCi/g						
Mercury-203	U	0.0663	0.080	+/-0.0218	0.100	pCi/g						
Potassium-40		23.3	0.450	+/-1.32	1.00	pCi/g						
Radium-223	U	0.0802	1.16	+/-0.388	pCi/g							
Radium-224	UI	4.06	R,R5a	1.09	+/-0.693	pCi/g						
Radium-226		1.08	0.114	+/-0.102	pCi/g							
Radium-228		1.50	0.184	+/-0.161	0.500	pCi/g						
Ruthenium-106	U	0.0648	0.542	+/-0.156	0.800	pCi/g						
Sodium-22	U	-0.0563	0.0615	+/-0.0217	0.080	pCi/g						
Strontium-85	UI	0.0837	R,R5a	0.0775	+/-0.0233	pCi/g						
Thallium-208		0.501	0.0608	+/-0.0464	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7973
Sample ID: 245978012
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Thorium-227	U	-0.437	0.624	+/-0.196		pCi/g					
Thorium-231	U	0.0802	1.16	+/-0.388		pCi/g					
Thorium-234		6.54	2.38	+/-1.48	2.00	pCi/g					
Tin-113	U	-0.0104	0.0798	+/-0.0242	0.100	pCi/g					
Uranium-235	U	0.104	0.398	+/-0.111	0.500	pCi/g					
Yttrium-88	U	-0.00503	0.0453	+/-0.0146	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		1080	193	+/-104	250	pCi/L		KXK2	02/14/10	0240 950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	64.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.7	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7962
Sample ID: 245978013
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 5.31%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00747	0.0484	+/-0.0147	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00146	0.036	+/-0.00399	0.050	pCi/g		CXM2	02/24/10	2001	951669	2
Plutonium-239/240	U	0.00499	0.027	+/-0.00601	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.375	0.0371	+/-0.0354	0.100	pCi/g		CXM2	02/24/10	1321	951672	4
Uranium-235/236		0.0327	0.0237	+/-0.00805	0.100	pCi/g						
Uranium-238		0.937	J,R4a	0.0254	+/-0.0757	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.116	0.343	+/-0.112	0.200	pCi/g		MXR1	02/14/10	1311	948721	5
Bismuth-211	UI	3.75	R,R5a	0.393	+/-0.290	pCi/g						
Bismuth-214		1.17		0.128	+/-0.0925	0.200	pCi/g					
Cadmium-109	UI	4.31	R,R5a	1.47	+/-0.609	pCi/g						
Cerium-139	U	-0.0224		0.0579	+/-0.0175	0.050	pCi/g					
Cesium-134	UI	0.184	R,R5a	0.105	+/-0.0335	0.100	pCi/g					
Cesium-137	U	-0.0245		0.0692	+/-0.022	0.100	pCi/g					
Cobalt-60	U	0.0141		0.0795	+/-0.0236	0.100	pCi/g					
Europium-152	U	0.0593		0.191	+/-0.0772	0.200	pCi/g					
Lanthanum-140	U	0.005		0.186	+/-0.0553	pCi/g						
Lead-212		1.74		0.109	+/-0.0878	0.100	pCi/g					
Lead-214		1.30		0.137	+/-0.106	0.100	pCi/g					
Mercury-203	U	0.0141		0.0889	+/-0.0252	0.100	pCi/g					
Potassium-40		34.9		0.414	+/-1.51	1.00	pCi/g					
Radium-223	U	0.0964		1.27	+/-0.419	pCi/g						
Radium-224	UI	3.79	R,R5a	1.24	+/-0.746	pCi/g						
Radium-226		1.17		0.128	+/-0.0925	pCi/g						
Radium-228		1.85		0.230	+/-0.174	0.500	pCi/g					
Ruthenium-106	U	0.259		0.633	+/-0.181	0.800	pCi/g					
Sodium-22	U	0.0111		0.0915	+/-0.0274	0.080	pCi/g					
Strontium-85	UI	0.0795	R,R5a	0.0785	+/-0.0234	pCi/g						
Thallium-208		0.558		0.0682	+/-0.0507	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7962
245978013

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Thorium-227	U	0.0942	0.749	+/-0.224		pCi/g					
Thorium-231	U	0.0964	1.27	+/-0.419		pCi/g					
Thorium-234		4.48	2.83	+/-1.23	2.00	pCi/g					
Tin-113	U	0.00482	0.0898	+/-0.0262	0.100	pCi/g					
Uranium-235	U	0.337	0.431	+/-0.123	0.500	pCi/g					
Yttrium-88	U	-0.000315	0.0556	+/-0.0169	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		10400	194	+/-739	250	pCi/L		KXK2	02/14/10	0419 950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.1	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7963
Sample ID: 245978014
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 20.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00205	0.052	+/-0.00703	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00296	0.0483	+/-0.0148	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240	U	0.00591	0.0363	+/-0.00836	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.864	0.0383	+/-0.0709	0.100	pCi/g		CXM2	02/24/10	1321	951672	3
Uranium-235/236		0.0619	0.0244	+/-0.0119	0.100	pCi/g						
Uranium-238		2.99	0.0261	+/-0.222	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0413	0.195	+/-0.0611	0.200	pCi/g		MXR1	02/14/10	1312	948721	4
Bismuth-211	UI	4.13	R,R5a	0.296	+/-0.341	pCi/g						
Bismuth-214		1.26		0.0976	+/-0.103	0.200	pCi/g					
Cadmium-109	UI	3.64	R,R5a	1.28	+/-0.484	pCi/g						
Cerium-139	U	-0.0151		0.042	+/-0.0123	0.050	pCi/g					
Cesium-134	U	0.0704		0.0801	+/-0.0273	0.100	pCi/g					
Cesium-137	U	-0.0106		0.0525	+/-0.0162	0.100	pCi/g					
Cobalt-60	U	0.0379		0.0638	+/-0.0174	0.100	pCi/g					
Europium-152	U	-0.0945		0.118	+/-0.0424	0.200	pCi/g					
Lanthanum-140	U	-0.129		0.140	+/-0.0521	pCi/g						
Lead-212		1.66		0.0786	+/-0.131	0.100	pCi/g					
Lead-214		1.44		0.103	+/-0.124	0.100	pCi/g					
Mercury-203	U	0.025		0.0588	+/-0.0187	0.100	pCi/g					
Potassium-40		27.4		0.467	+/-1.44	1.00	pCi/g					
Radium-223	U	0.310		0.941	+/-0.308	pCi/g						
Radium-224	UI	3.03	R,R5a	1.10	+/-0.488	pCi/g						
Radium-226		1.26		0.0976	+/-0.103	pCi/g						
Radium-228		1.60		0.187	+/-0.153	0.500	pCi/g					
Ruthenium-106	U	0.138		0.475	+/-0.137	0.800	pCi/g					
Sodium-22	U	-0.0358		0.0569	+/-0.0194	0.080	pCi/g					
Strontium-85	UI	0.0741	R,R5a	0.0606	+/-0.0173	pCi/g						
Thallium-208		0.589		0.0463	+/-0.0512	0.080	pCi/g					

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7963
Sample ID: 245978014
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.307	0.572	+/-0.164		pCi/g						
Thorium-231	U	0.310	0.941	+/-0.308		pCi/g						
Thorium-234		4.61	1.66	+/-0.915	2.00	pCi/g						
Tin-113	U	-0.00779	0.063	+/-0.0183	0.100	pCi/g						
Uranium-235	U	0.231	0.267	+/-0.107	0.500	pCi/g						
Yttrium-88	U	0.00867	0.0567	+/-0.0165	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1370	194	+/-122	250	pCi/L		KXK2	02/14/10	0557	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	93.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.9	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

GEL LABORATORIES LLC

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

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7977
Sample ID: 245978015
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 36.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00875	0.0527	+/-0.00855	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00906	0.0494	+/-0.0151	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240		0.0483	0.0371	+/-0.0144	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.00	0.0453	+/-0.0836	0.100	pCi/g		CXM2	02/24/10	1321	951672	3
Uranium-235/236		0.0555	0.0289	+/-0.0118	0.100	pCi/g						
Uranium-238		2.21	J,R4a	0.0309	+/-0.171	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0875		0.279	+/-0.0876	0.200	pCi/g	MXR1	02/14/10	1312	948721	4
Bismuth-211	UI	4.10	R,R5a	0.367	+/-0.272		pCi/g					
Bismuth-214		1.25		0.124	+/-0.105	0.200	pCi/g					
Cadmium-109	UI	2.40	R,R5a	1.74	+/-0.545		pCi/g					
Cerium-139	U	-0.00926		0.0553	+/-0.0173	0.050	pCi/g					
Cesium-134	UI	0.183	R,R5a	0.100	+/-0.037	0.100	pCi/g					
Cesium-137		0.401		0.0683	+/-0.0365	0.100	pCi/g					
Cobalt-60	U	0.0121		0.078	+/-0.0232	0.100	pCi/g					
Europium-152	U	0.0166		0.178	+/-0.0549	0.200	pCi/g					
Lanthanum-140	U	-0.126		0.133	+/-0.0529		pCi/g					
Lead-212		1.43		0.146	+/-0.0825	0.100	pCi/g					
Lead-214		1.43		0.128	+/-0.102	0.100	pCi/g					
Mercury-203	U	-0.0272		0.0698	+/-0.0246	0.100	pCi/g					
Potassium-40		22.2		0.483	+/-1.19	1.00	pCi/g					
Radium-223	U	0.226		1.20	+/-0.399		pCi/g					
Radium-224	UI	1.49	R,R5a	1.42	+/-0.514		pCi/g					
Radium-226		1.25		0.124	+/-0.105		pCi/g					
Radium-228		1.62		0.239	+/-0.196	0.500	pCi/g					
Ruthenium-106	U	0.279		0.610	+/-0.172	0.800	pCi/g					
Sodium-22	U	-0.0107		0.0821	+/-0.0257	0.080	pCi/g					
Strontium-85	U	0.0674		0.0749	+/-0.0209		pCi/g					
Thallium-208		0.572		0.0626	+/-0.0516	0.080	pCi/g					

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7977
Sample ID: 245978015
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
GAMMA SPEC "Dry Weight Corrected"												
Thorium-227	U	0.258	0.662	+/-0.190		pCi/g						
Thorium-231	U	0.226	1.20	+/-0.399		pCi/g						
Thorium-234		6.77	2.33	+/-1.57	2.00	pCi/g						
Tin-113	U	0.0646	0.0921	+/-0.0261	0.100	pCi/g						
Uranium-235	U	0.220	0.379	+/-0.113	0.500	pCi/g						
Yttrium-88	U	0.037	0.0788	+/-0.0208	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		298	195	+/-65.3	250	pCi/L		KXK2	02/14/10	0735	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.8	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

Monday, February 01, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1513C

LOS ALAMOS

REQUEST NUMBER: 10-1513

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/3/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:


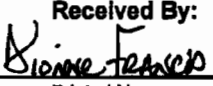
245978

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7880	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7880	1	POLY	H3	Ice	R
RE15-10-7891	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7891	1	POLY	H3	Ice	R
RE15-10-7892	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7892	1	POLY	H3	Ice	R
RE15-10-7967	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7967	1	POLY	H3	Ice	R
RE15-10-7976	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7976	1	POLY	H3	Ice	R
RE15-10-7968	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7968	1	POLY	H3	Ice	R
RE15-10-7965	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7965	1	POLY	H3	Ice	R
RE15-10-7975	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7975	1	POLY	H3	Ice	R
RE15-10-7978	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7978	1	POLY	H3	Ice	R
RE15-10-7970	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7970	1	POLY	H3	Ice	R
RE15-10-7964	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7964	1	POLY	H3	Ice	R
RE15-10-7973	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7973	1	POLY	H3	Ice	R
RE15-10-7962	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7962	1	POLY	H3	Ice	R
RE15-10-7963	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Monday, February 01, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1513C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7963	1	POLY	H3	Ice	R
RE15-10-7977	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7977	1	POLY	H3	Ice	R

Relinquished By:	Date	Time	Received By:	Date	Time
	2/1/10	3:00		2/2/10	0910
Printed Name	Signature		Printed Name	Signature	

Printed Name	Signature	Printed Name	Signature
--------------	-----------	--------------	-----------

Printed Name	Signature	Printed Name	Signature
--------------	-----------	--------------	-----------

Received for DISPOSAL By:	Date	Time	Remarks:
Printed Name	Signature		

Monday, February 01, 2010

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/1/2010

TURNAROUND/REPORT DUE: 3/3/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

REQUEST NUMBER: 10-1513

These Samples are on:

LANL Request Number: 10-1513
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	

Monday, February 01, 2010

Page 2 of 4

REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	EPA:906.0	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	HASL-300-AM-241	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	

Monday, February 01, 2010

REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	HASL-300:ISOPU	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	HASL-300:ISOU	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7862	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	

REQUEST NUMBER: 10-1513

Monday, February 01, 2010

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	

Final Page of REQUEST NUMBER 10-1513



February 04, 2010

www.gel.com

Ms. Joylene Valdez
Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm111
Los Alamos, New Mexico 87545

Re: LANL ER Project
Work Order: 245978
SDG: 10-1513

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on February 02, 2010, and analyzed for Radiochemistry. 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. 4485.

Sincerely,

Valerie Davis
Project Manager

Purchase Order: 72733-001-09
Chain of Custody: 10-1513
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 245978
SDG: 10-1513

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 245978
SDG # : 10-1513**

February 04, 2010

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 February 02, 2010 for analysis. The samples were prepared/analyzed within the required holding time. Shipping container temperatures were checked, documented, and within specifications. The samples were screened according to GEL Standard Operating Procedure. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. Containers were checked for pH, where appropriate, and matched the preservative as documented on the accompanying chain of custody. The containers for radiochemistry were received at 13-15,19C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

<u>Laboratory ID</u>	<u>Client ID</u>
245978001	RE15-10-7880
245978002	RE15-10-7891
245978003	RE15-10-7892
245978004	RE15-10-7967
245978005	RE15-10-7976
245978006	RE15-10-7968
245978007	RE15-10-7965
245978008	RE15-10-7975
245978009	RE15-10-7978
245978010	RE15-10-7970
245978011	RE15-10-7964
245978012	RE15-10-7973
245978013	RE15-10-7962
245978014	RE15-10-7963
245978015	RE15-10-7977

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.

I certify that this data report is in compliance with the terms and conditions of the subcontract and task order, both technically and for completeness, for other than the conditions detailed in the attached case narrative.



Valerie Davis

Project Manager

List of current GEL Certifications as of 04 February 2010

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

Chain of Custody and Supporting Documentation

Monday, February 01, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1513C

LOS ALAMOS

REQUEST NUMBER: 10-1513

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 3/3/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

245978

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7880	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7880	1	POLY	H3	Ice	R
RE15-10-7891	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7891	1	POLY	H3	Ice	R
RE15-10-7892	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7892	1	POLY	H3	Ice	R
RE15-10-7967	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7967	1	POLY	H3	Ice	R
RE15-10-7976	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7976	1	POLY	H3	Ice	R
RE15-10-7968	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7968	1	POLY	H3	Ice	R
RE15-10-7965	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7965	1	POLY	H3	Ice	R
RE15-10-7975	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7975	1	POLY	H3	Ice	R
RE15-10-7978	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7978	1	POLY	H3	Ice	R
RE15-10-7970	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7970	1	POLY	H3	Ice	R
RE15-10-7964	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7964	1	POLY	H3	Ice	R
RE15-10-7973	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7973	1	POLY	H3	Ice	R
RE15-10-7962	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7962	1	POLY	H3	Ice	R
RE15-10-7963	1	POLY	AM241+GS+ISOPU+ISO U	None	R

Monday, February 01, 2010


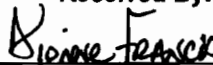
LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1513C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
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RE15-10-7963	1	POLY	H3	Ice	R
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RE15-10-7977	1	POLY	AM241+GS+ISOPU+ISO U	None	R
--------------	---	------	-------------------------	------	---

RE15-10-7977	1	POLY	H3	Ice	R
--------------	---	------	----	-----	---

Relinquished By:	Date	Time	Received By:	Date	Time
	2/1/10	3:00		2/2/10	0910
Printed Name	Signature		Printed Name	Signature	

Printed Name	Signature	Printed Name	Signature
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Printed Name	Signature	Printed Name	Signature
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Received for DISPOSAL By:	Date	Time	Remarks:

Printed Name	Signature
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Monday, February 01, 2010

LOS ALAMOS

NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

These Samples are on:

LANL Request Number: 10-1513
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 2/1/2010

TURNAROUND/REPORT DUE: 3/3/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	

Monday, February 01, 2010

REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	EPA:906.0	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	HASL-300:AM-241	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	

Monday, February 01, 2010

REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
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		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	HASL-300:ISOPU	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	
		1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
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		1	RE15-10-7973	R	1/27/2010	
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		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	
	HASL-300:ISOU	1	RE15-10-7880	R	1/27/2010	
		1	RE15-10-7891	R	1/27/2010	
		1	RE15-10-7892	R	1/27/2010	
		1	RE15-10-7962	R	1/27/2010	
		1	RE15-10-7963	R	1/27/2010	

Monday, February 01, 2010

REQUEST NUMBER: 10-1513

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-7964	R	1/27/2010	
		1	RE15-10-7965	R	1/27/2010	
		1	RE15-10-7967	R	1/27/2010	
		1	RE15-10-7968	R	1/27/2010	
		1	RE15-10-7970	R	1/27/2010	
		1	RE15-10-7973	R	1/27/2010	
		1	RE15-10-7975	R	1/27/2010	
		1	RE15-10-7976	R	1/27/2010	
		1	RE15-10-7977	R	1/27/2010	
		1	RE15-10-7978	R	1/27/2010	

Final Page of REQUEST NUMBER 10-1513



SAMPLE RECEIPT & REVIEW FORM

Client: LANL		SDG/ARCOC/Work Order: 10-1513	
Received By: Dionne Francis		Date Received: February 2, 2010	
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?		X	Maximum Counts Observed*: 80 CPM
Classified Radioactive II by RSO?		X	
COC/Samples marked containing PCBs?		X	
Shipped as a DOT Hazardous?		X	Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?		X	

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2 Samples requiring cold preservation within $0 \leq 6$ deg. C?	X			Preservation Method: ice bags blue ice dry ice none other (describe) 0-5C 13-15,19C
3 Chain of custody documents included with shipment?	X			
4 Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5 Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7 Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8 Samples received within holding time?	X			Id's and tests affected:
9 Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10 Date & time on COC match date & time on bottles?			X	Sample ID's affected: time written on containers, not on COC
11 Number of containers received match number indicated on COC?	X			Sample ID's affected:
12 COC form is properly signed in relinquished/received sections?	X			

Comments: FEDEX#S

7209 7849 7978 0C 7209 7849 7886 2C 7209 7849 7967 3C 7209 7849 7739 19C
 7209 7849 7772 1C 7209 7849 7901 2C 7209 7849 7945 4C
 7209 7849 7934 1C 7209 7849 7853 2C 7209 7849 7810 5C
 7209 7849 7831 1C 7209 7849 7875 2C 7209 7849 7897 5C
 7209 7849 7783 1C 7209 7849 7956 2C 7209 7849 7728 13C
 7209 7849 7864 1C 7209 7849 7794 2C 7209 7849 7706 13C
 7209 7849 7923 1C 7209 7849 7820 2C 7209 7849 7717 14C
 7209 7849 7761 1C 7209 7849 7809 2C 7209 7849 7750 15C
 7209 7849 7842 1C 7209 7849 7912 3C 7209 7849 7740 15C

TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

CMU: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR1A015AGML0

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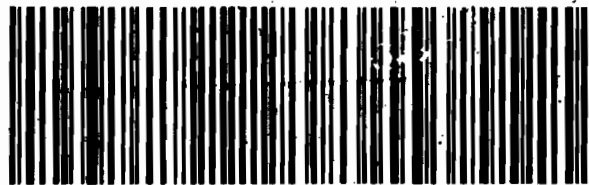


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0201

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



Pen # 156148-434 NMIT V3 09-05

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTMGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

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(843) 556-8171

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0201

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TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

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JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTMGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
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CHARLESTON SC 29407

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MPSH 7209 7849 7772
0263

Matr# 7209 7849 7761 0201

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTMGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

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CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A052VA00

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TRKH 7209 7849 7831
0201

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TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

SHIP DATE: 01FEB10
ACTWGT: 48.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

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1 of 2
TRKH 7209 7849 7783
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TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

SHIP DATE: 01FEB10
ACTWGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

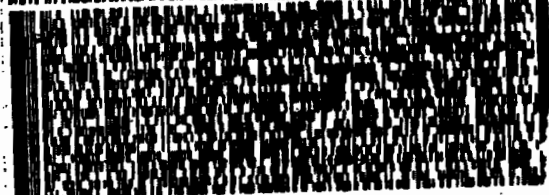
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GENERAL ENGINEERING LAB
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REF: 6B010AMR1A015AGML0



2 of 2
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NN MASTER NN

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

SHIP DATE: 01FEB10
ACTWGT: 52.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

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GENERAL ENGINEERING LAB
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2 of 2
TRKH 7209 7849 7854
NN MASTER NN

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505) 555-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

SHIP DATE: 01FEB10
ACTWGT: 53.0 LB MAN
CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
UNITED STATES US

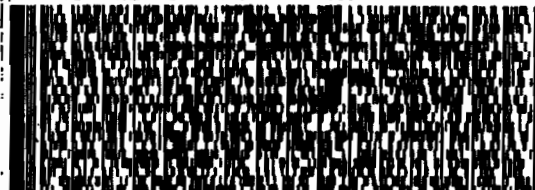
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GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 6B010AMR3A052VA00



1 of 2
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NN MASTER NN

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

ORIGIN ID: SAFA (505) 555-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 51.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

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BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

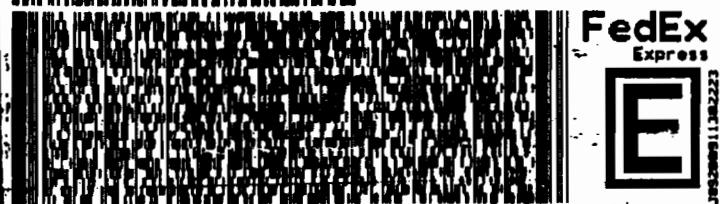
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(843) 556-9171
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VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-9171
REF: 6B010AMR1A015AGNKO



2 of 2
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TUE - 02FEB A1
PRIORITY OVERNIGHT

XX CHSA

29407
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2 of 2
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TUE - 02FEB A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

ORIGIN ID: SAFA (505) 555-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 48.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-9171
REF: 6B010AMR1A015AGNKO

ORIGIN ID: SAFA (505) 555-9969
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 50.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-9171
REF: 6B010AMR1A015AGNKO



2 of 2
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TUE - 02FEB A1
PRIORITY OVERNIGHT

XX CHSA

29407
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1 of 2
TRK# 7209 7849 7853
NN MASTER NN

TUE - 02FEB A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 55.0 LB MAN
CAO: 0014176/CAFE2449

BILL SENDER

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 48.0 LB MAN
CAO: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
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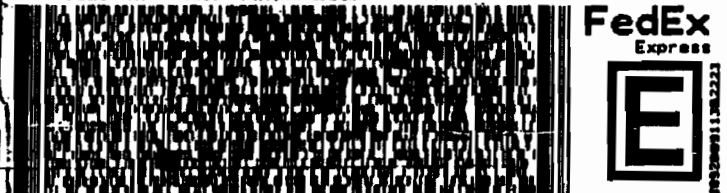
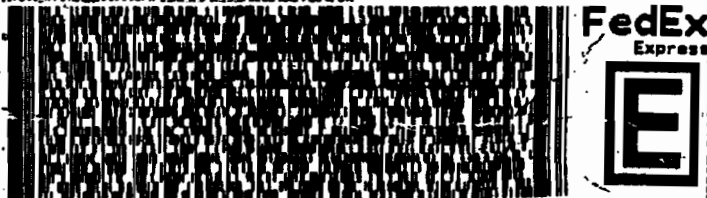
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VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
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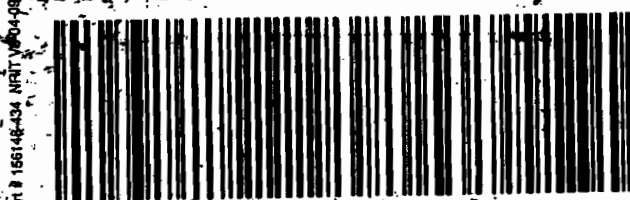
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TUE - 02FEB A1
PRIORITY OVERNIGHT

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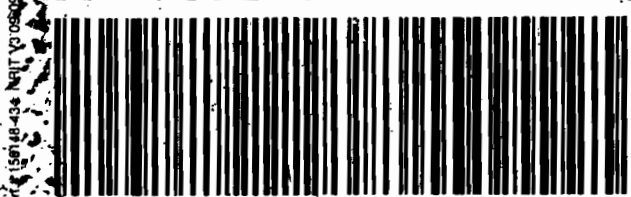
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MM MASTER MM

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 52.0 LB MAN
CAO: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR3A052VA00

2c

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 83

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
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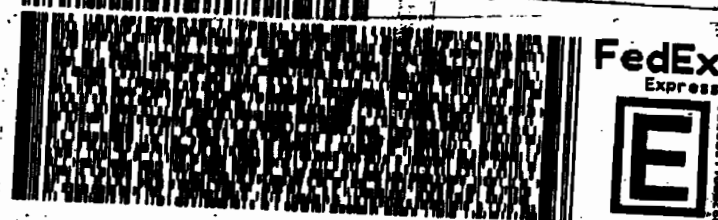
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VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR3A052VA00

2c



2 of 2
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0201
Mstr# 7209 7849 7783 0201

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

3 of 3
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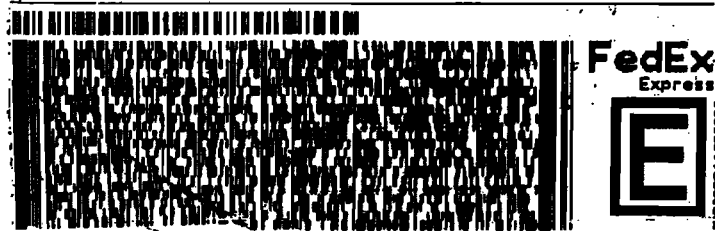
TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

1400 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US
BILL SENDER
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD
CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR3A052YA00

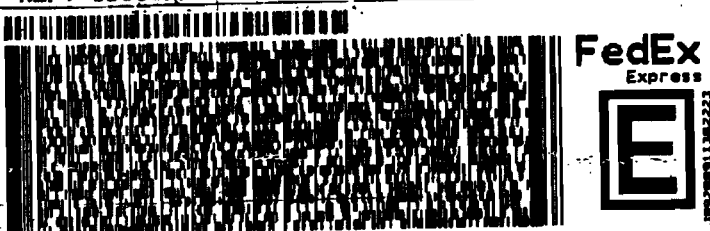
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TUE - 02FEB A1
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PRIORITY OVERNIGHT
XX CHSA
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CHS
Emp# 133998 01FEB10 SAFA

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US
SHIP DATE: 01FEB10
ACTWGT: 54.0 LB MAN
CAD: 0014176/CAFE2440
BILL SENDER
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD
CHARLESTON SC 29407
(843) 556-8171
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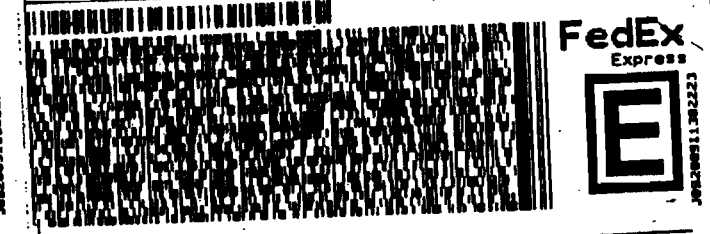
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XX CHSA
29407
SC-US
CHS
Part 9 156148-434 NRIT V3 08-08

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US
SHIP DATE: 01FEB10
ACTWGT: 50.0 LB MAN
CAD: 0014176/CAFE2440
BILL SENDER
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD
CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR1A015AGML0

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29407
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Part 9 156148-434 NRIT V3 08-08

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TA00 BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US
SHIP DATE: 01FEB10
ACTWGT: 57.0 LB MAN
CAD: 0014176/CAFE2440
BILL SENDER
VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD
CHARLESTON SC 29407
(843) 556-8171
REF: 6B010AMR1A015AGML0
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PRIORITY OVERNIGHT
XX CHSA
29407
SC-US
CHS
Part 9 156148-434 NRIT V3 08-08

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ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 51.8 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

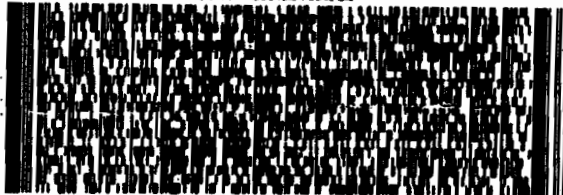
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(843) 556-8171

REF: 68010AMR3A052VA00

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2 of 3

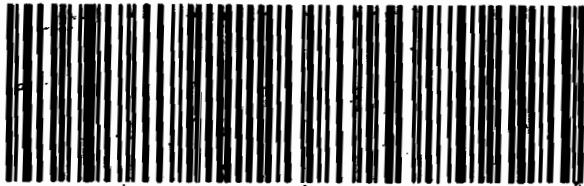
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TUE - 02FEB A1
PRIORITY OVERNIGHT

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Part # 156143-434 NRIT V3 04-05

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 56.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR1A015AGHKO

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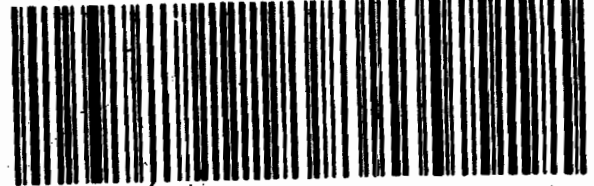
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TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



Part # 156143-434 NRIT V3 04-05

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 71.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

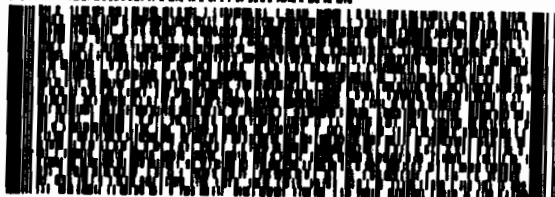
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(843) 556-8171

REF: 68010AMR2A0515BYDO

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2 of 3

MPSH 7209 7849 7706

Matr# 7209 7849 7691 0201

TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

NOTE: THIS INFORMATION IS FOR THE USE OF THE ADDRESSEE ONLY

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 51.8 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

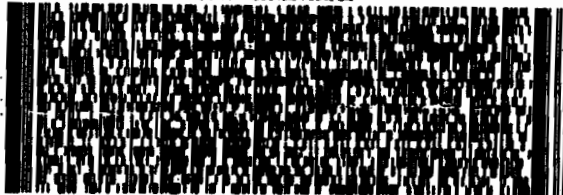
CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A052VA00

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2 of 3

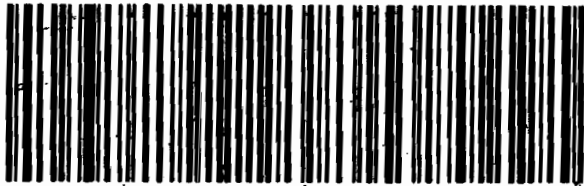
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TUE - 02FEB A1
PRIORITY OVERNIGHT

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SC-US
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XX CHSA



Part # 156143-434 NRIT V3 04-05

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 56.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

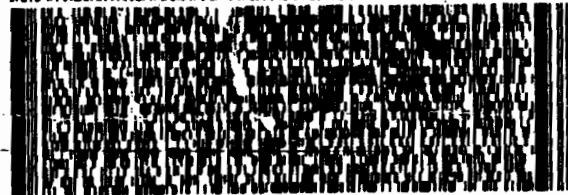
CHARLESTON SC 29407

(843) 556-8171

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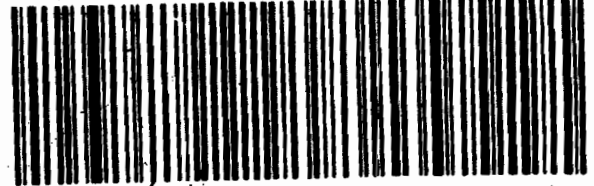
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TUE - 02FEB A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



Part # 156143-434 NRIT V3 04-05

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 01FEB10
ACTWGT: 71.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

TO VALERIE DAVIS
GENERAL ENGINEERING LAB
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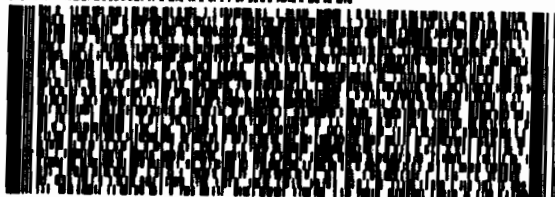
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(843) 556-8171

REF: 68010AMR2A0515BYDO

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NOTE: THIS INFORMATION IS FOR THE USE OF THE ADDRESSEE ONLY



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2 of 3

MPSH 7209 7849 7706

Matr# 7209 7849 7691 0201

TUE - 02FEB A1
PRIORITY OVERNIGHT

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SC-US
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Data Review Qualifier Flag Definition Sheet

Data Review Qualifier Definitions

Qualifier Explanation

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- ^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
- A The TIC is a suspected aldol-condensation product
- B Target analyte was detected in the associated blank
- B Metals-Either presence of analyte detected in the associated blank, or
MDL/IDL < sample value < PQL
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- d 5-day BOD-The 2:1 depletion requirement was not met for this sample
- E Organics-Concentration of the target analyte exceeds the instrument calibration range
- E Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
- H Analytical holding time was exceeded
- h Preparation or preservation holding time was exceeded
- J Value is estimated
- N Metals-The Matrix spike sample recovery is not within specified control limits
- N Organics-Presumptive evidence based on mass spectral library search to make a tentative
identification of the analyte (TIC). Quantitation is based on nearest internal standard
response factor
- N/A Spike recovery limits do not apply. Sample concentration exceeds spike concentration
by 4X or more
- ND Analyte concentration is not detected above the reporting limit
- UI Gamma Spectroscopy-Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- Z Paint Filter Test-Particulates passed through the filter, however no free liquids were observed.

RADIOLOGICAL ANALYSIS

**Radiochemistry Case Narrative
Los Alamos National Laboratory (LANL)
SDG 10-1513**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 949823
Prep Batch Number: 948542

Sample ID	Client ID
245978001	RE15-10-7880
245978002	RE15-10-7891
245978003	RE15-10-7892
245978004	RE15-10-7967
245978005	RE15-10-7976
245978006	RE15-10-7968
1202034998	Method Blank (MB)
1202034999	245978001(RE15-10-7880) Sample Duplicate (DUP)
1202035000	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# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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

Aliquot for sample 1202034998 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245978001 (RE15-10-7880). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Sample 1202035000 (LCS) was recounted due to high carrier/tracer yield. Sample 245978004 (RE15-10-7967) was recounted due to a suspected false positive.

Miscellaneous Information:

Data Exception (DER) Documentation

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample, 1202035000 (LCS), did not meet the client tracer yield requirements, however it is less than 110 percent and does meet the GEL standard tracer yield requirements.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	AM241
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	951665
Prep Batch Number:	948543

Sample ID	Client ID
245978008	RE15-10-7975
245978009	RE15-10-7978
245978010	RE15-10-7970
245978012	RE15-10-7973
245978013	RE15-10-7962
245978014	RE15-10-7963
245978015	RE15-10-7977
1202039541	Method Blank (MB)
1202039542	246020001(RE15-10-7980) Sample Duplicate (DUP)
1202039543	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# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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

Aliquot for sample 1202039541 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 246020001 (RE15-10-7980). The QC was from LANL work order 246020.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Sample 245978009 (RE15-10-7978) was recounted due to high MDA.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample, 1202039543 (LCS), did not meet the client tracer yield requirements, however it is equal to 110 percent and does meet the GEL standard tracer yield requirements.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	AM241
Analytical Method:	DOE EML HASL-300, Am-05-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	954009
Prep Batch Number:	948542

Sample ID	Client ID
245978007	RE15-10-7965
1202045187	Method Blank (MB)
1202045188	245978007(RE15-10-7965) Sample Duplicate (DUP)
1202045189	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# 18.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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**

Aliquot for sample 1202045187 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245978007 (RE15-10-7965). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Sample 245978007 (RE15-10-7965) was reprepared due to high carrier/tracer yield.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

Manual integration of alpha spectroscopy spectra 1202045189 (LCS) was performed to fully separate counts in Regions of Interest which would have been biased.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: AM241

Analytical Method: DOE EML HASL-300, Am-05-RC Modified

Prep Method: Dry Soil Prep
Analytical Batch Number: 957873
Prep Batch Number: 948543

Sample ID	Client ID
245978011	RE15-10-7964
1202054058	Method Blank (MB)
1202054059	245978011(RE15-10-7964) Sample Duplicate (DUP)
1202054060	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# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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

Aliquot for sample 1202054058 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245978011 (RE15-10-7964). The QC was from LANL work order 245978.

QC Information

Refer to Data Exception Report (DER).

CSU

The Am241 blank result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Sample 245978011 (RE15-10-7964) was repped due to low carrier/tracer yield. Sample 245978011

(RE15-10-7964) was recounted in error. Both counts confirm that there is no activity in the sample.

Miscellaneous Information:

Data Exception (DER) Documentation

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. The following DER was generated for this SDG:

DER 797056 was generated due to RDL less than MDA and Failed Recovery for Surrogate or Tracer. 1. The duplicate sample, 1202054059, does not meet the client's tracer yield requirement of 50 - 105%, nor the required detection limit for Am241. 1. The duplicate sample does not meet the GEL standard tracer yield requirements. The sample, 245978011, meets the required detection limit for Am241 and there are more than 400 Am243 tracer counts. The sample has been repped due to low tracer yield and the original analysis confirms the results of the second analysis and the duplicate. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample 245978011 (RE15-10-7964) did not meet the client's yield requirement. However, there are 400 tracer counts, GEL's standard tracer yield requirements are met, and the client's detection limits are met.

Blank Decision Level

The Am241 blank result is greater than the decision level but less than the MDC.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOPU
Analytical Method:	DOE EML HASL-300, Pu-11-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	949824
Prep Batch Number:	948542

Sample ID	Client ID
245978001	RE15-10-7880
245978002	RE15-10-7891
245978003	RE15-10-7892
245978004	RE15-10-7967
245978005	RE15-10-7976
245978006	RE15-10-7968
245978007	RE15-10-7965
1202035001	Method Blank (MB)
1202035002	245978001(RE15-10-7880) Sample Duplicate (DUP)
1202035003	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# 18.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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**

Aliquot for sample 1202035001 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245978001 (RE15-10-7880). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Sample 1202035003 (LCS) was recounted due to poor resolution. Sample 1202035002 (RE15-10-7880) was recounted due to a negative result greater than three times the error. Second count being reported. Samples 245978002 (RE15-10-7891) and 245978004 (RE15-10-7967) were recounted to verify results.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: ISOPU
Analytical Method: DOE EML HASL-300, Pu-11-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 951669
Prep Batch Number: 948543

Sample ID	Client ID
245978008	RE15-10-7975
245978009	RE15-10-7978
245978010	RE15-10-7970
245978011	RE15-10-7964
245978012	RE15-10-7973
245978013	RE15-10-7962
245978014	RE15-10-7963
245978015	RE15-10-7977
1202039555	Method Blank (MB)
1202039556	246020001(RE15-10-7980) Sample Duplicate (DUP)
1202039557	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# 18.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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**

Aliquot for sample 1202039555 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 246020001 (RE15-10-7980). The QC was from LANL work order 246020.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Samples 1202039556 (RE15-10-7980), 245978011 (RE15-10-7964), 245978012 (RE15-10-7973) and 245978013 (RE15-10-7962) were recounted due to high MDAs.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOU
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	949825
Prep Batch Number:	948542

Sample ID	Client ID
245978001	RE15-10-7880
245978003	RE15-10-7892
245978005	RE15-10-7976
245978006	RE15-10-7968
245978007	RE15-10-7965
1202035005	Method Blank (MB)
1202035006	245978001(RE15-10-7880) Sample Duplicate (DUP)
1202035007	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# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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

Aliquot for sample 1202035005 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245978001 (RE15-10-7880). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U-233/234 and 238 blank result 1202035005 (MB) is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Sample 1202035005 (MB) was recounted due to high carrier/tracer yield.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The U-233/234 and 238 blank result 1202035005 (MB) is greater than the decision level but less than the MDC.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOU
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	951672
Prep Batch Number:	948543

Sample ID	Client ID
245978008	RE15-10-7975
245978009	RE15-10-7978
245978010	RE15-10-7970
245978011	RE15-10-7964
245978012	RE15-10-7973
245978013	RE15-10-7962
245978014	RE15-10-7963
245978015	RE15-10-7977
1202039558	Method Blank (MB)
1202039559	246020001(RE15-10-7980) Sample Duplicate (DUP)
1202039560	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# 18.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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**

Aliquot for sample 1202039558 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 246020001 (RE15-10-7980). The QC was from LANL work order 246020.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U233/234 and U235 blank results are greater than 1.65 times the CSU but less than the MDC.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The U238 blank result is greater than the decision level and MDA; however, all sample activities are greater than five times the blank activity.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product: ISOU

Analytical Method: DOE EML HASL-300, U-02-RC Modified

Prep Method: Dry Soil Prep

Analytical Batch Number: 953488

Prep Batch Number: 948542

Sample ID	Client ID
245978002	RE15-10-7891
245978004	RE15-10-7967
1202044051	Method Blank (MB)
1202044052	245978002(RE15-10-7891) Sample Duplicate (DUP)
1202044053	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# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. Calibrations are performed monthly using mixed alpha standards comprised of the following: Gd-148, Np-237, and Cm-244.

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

Aliquot for sample 1202044051 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245978002 (RE15-10-7891). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U233/234 and U238 blank results are greater than 1.65 times the CSU but less than the MDC.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Samples 245978002 (RE15-10-7891) and 245978004 (RE15-10-7967) were repped with reduced aliquot size due to high levels of U238 activity.

Miscellaneous Information:**Data Exception (DER) Documentation**

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The U233/234 and U238 blank results are greater than the decision level but less than the MDC.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	948721
Prep Batch Number:	948542

Sample ID	Client ID
245978001	RE15-10-7880
245978002	RE15-10-7891
245978003	RE15-10-7892
245978004	RE15-10-7967
245978005	RE15-10-7976
245978006	RE15-10-7968
245978007	RE15-10-7965
245978008	RE15-10-7975
245978009	RE15-10-7978
245978010	RE15-10-7970
245978011	RE15-10-7964
245978012	RE15-10-7973

245978013	RE15-10-7962
245978014	RE15-10-7963
245978015	RE15-10-7977
1202032521	Method Blank (MB)
1202032522	245978008(RE15-10-7975) Sample Duplicate (DUP)
1202032523	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-013 REV# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in February 2009, March 2009, April 2009, May 2009, June 2009, July 2009, August 2009, November 2009, December 2009, January 2010 and February 2010.

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: 245978008 (RE15-10-7975). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The method blank, 1202032521 (MB), result for Cs-137 is greater than 1.65 times the CSU, but less than the MDC.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation

Data exception reports are generated to document any procedural anomalies that may deviate from referenced

SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	245978001	RE15-10-7880
			245978002	RE15-10-7891
			245978003	RE15-10-7892
			245978004	RE15-10-7967
			245978005	RE15-10-7976
			245978006	RE15-10-7968
			245978007	RE15-10-7965
			245978008	RE15-10-7975
			245978009	RE15-10-7978
			245978010	RE15-10-7970
			245978011	RE15-10-7964
			245978012	RE15-10-7973
			245978013	RE15-10-7962
			245978014	RE15-10-7963
			245978015	RE15-10-7977
			1202032522	RE15-10-7975(245978008DUP)
		Cadmium-109	245978001	RE15-10-7880
			245978002	RE15-10-7891
			245978003	RE15-10-7892
			245978005	RE15-10-7976
			245978006	RE15-10-7968
			245978007	RE15-10-7965
			245978009	RE15-10-7978
			245978010	RE15-10-7970

			245978011	RE15-10-7964
			245978012	RE15-10-7973
			245978013	RE15-10-7962
			245978014	RE15-10-7963
			245978015	RE15-10-7977
			1202032522	RE15-10-7975(245978008DUP)
		Mercury-203	245978009	RE15-10-7978
		Radium-224	245978001	RE15-10-7880
			245978002	RE15-10-7891
			245978003	RE15-10-7892
			245978004	RE15-10-7967
			245978005	RE15-10-7976
			245978006	RE15-10-7968
			245978007	RE15-10-7965
			245978008	RE15-10-7975
			245978009	RE15-10-7978
			245978010	RE15-10-7970
			245978011	RE15-10-7964
			245978012	RE15-10-7973
			245978013	RE15-10-7962
			245978014	RE15-10-7963
			245978015	RE15-10-7977
			1202032522	RE15-10-7975(245978008DUP)
UI	Data rejected due to low abundance.	Americium-241	245978004	RE15-10-7967
		Cesium-134	245978001	RE15-10-7880
			245978002	RE15-10-7891
			245978005	RE15-10-7976
			245978006	RE15-10-7968
			245978009	RE15-10-7978
			245978013	RE15-10-7962
			245978015	RE15-10-7977
		Strontium-85	245978005	RE15-10-7976

	245978007	RE15-10-7965
	245978008	RE15-10-7975
	245978009	RE15-10-7978
	245978010	RE15-10-7970
	245978012	RE15-10-7973
	245978013	RE15-10-7962
	245978014	RE15-10-7963
	1202032521	MB for batch 948721
Thorium-227	245978004	RE15-10-7967

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 950495

Sample ID	Client ID
245978001	RE15-10-7880
245978002	RE15-10-7891
245978003	RE15-10-7892
245978004	RE15-10-7967
245978005	RE15-10-7976
245978006	RE15-10-7968
245978007	RE15-10-7965
245978008	RE15-10-7975
245978009	RE15-10-7978
245978010	RE15-10-7970
245978011	RE15-10-7964
245978012	RE15-10-7973
245978013	RE15-10-7962
245978014	RE15-10-7963
245978015	RE15-10-7977
1202036900	Method Blank (MB)
1202036901	245978001(RE15-10-7880) Sample Duplicate (DUP)
1202036902	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

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: 245978001 (RE15-10-7880). The QC was from LANL work order 245978.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

None of the samples in this sample set required reprep or reanalysis.

Miscellaneous Information:

Data Exception (DER) Documentation

Data exception reports are generated to document any procedural anomalies that may deviate from referenced SOP or contractual documents. A data exception report (DER) was not generated for this SDG.

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank result is less than the decision level.

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: _____

P. [signature] 3/1/10

DATA EXCEPTION REPORT

Mo.Day Yr. 01-MAR-10	Division: Radiochemistry	Quality Criteria: Specifications	Type: Process
Insirument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, Am-05-RC Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 957873	Sample Numbers: See below		
Potentially affected work order(s)(SDG): 245978(10-1513) Application Issues: RDL less than MDA Failed Recovery for Surrogate or Tracer			
Specification and Requirements		DER Disposition:	
Exception Description:			
1. The duplicate sample, 1202054059, does not meet the client's tracer yield requirement of 50 - 105%, nor the required detection limit for Am241.		1. The duplicate sample does not meet the GEL standard tracer yield requirements. The sample, 245978011, meets the required detection limit for Am241 and there are more than 400 Am243 tracer counts. The sample has been reprep'd due to low tracer yield and the original analysis confirms the results of the second analysis and the duplicate. Reporting results.	

Originator's Name:

Joseph Moulden 01-MAR-10

Data Validator/Group Leader:

Mary Aders 01-MAR-10

SAMPLE DATA SUMMARY

GEL LABORATORIES LLC

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

Certificate of Analysis Report for

LANL010 Los Alamos National Laboratory (72733-001-09)

Client SDG: 10-1513 GEL Work Order: 245978

The Qualifiers in this report are defined as follows:

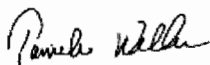
- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

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, Valerie Davis.

Reviewed by



GEL LABORATORIES LLC

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

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7880
Sample ID: 245978001
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 7.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0018	0.029	+/-0.00194	0.050	pCi/g		HAKB	02/15/10	0741	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00493	0.0269	+/-0.00286	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	0.00493	0.0202	+/-0.00286	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.753	0.112	+/-0.0791	0.100	pCi/g		HAKB	02/13/10	2124	949825	3
Uranium-235/236	U	0.0219	0.0713	+/-0.0111	0.100	pCi/g						
Uranium-238		0.957	0.0763	+/-0.0946	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0753	0.397	+/-0.125	0.200	pCi/g		MXR1	02/14/10	1117	948721	4
Bismuth-211	UI	3.41	0.327	+/-0.268		pCi/g						
Bismuth-214		1.03	0.110	+/-0.0871	0.200	pCi/g						
Cadmium-109	UI	3.62	1.65	+/-0.623		pCi/g						
Cerium-139	U	0.0105	0.0509	+/-0.0152	0.050	pCi/g						
Cesium-134	UI	0.113	0.0929	+/-0.043	0.100	pCi/g						
Cesium-137	U	0.00966	0.067	+/-0.0195	0.100	pCi/g						
Cobalt-60	U	0.0506	0.0743	+/-0.0196	0.100	pCi/g						
Europium-152	U	-0.139	0.145	+/-0.0496	0.200	pCi/g						
Lanthanum-140	U	-0.0304	0.152	+/-0.0583		pCi/g						
Lead-212		1.71	0.0931	+/-0.086	0.100	pCi/g						
Lead-214		1.19	0.114	+/-0.0983	0.100	pCi/g						
Mercury-203	U	-0.0392	0.0672	+/-0.0207	0.100	pCi/g						
Potassium-40		39.5	0.554	+/-1.99	1.00	pCi/g						
Radium-223	U	0.181	1.09	+/-0.360		pCi/g						
Radium-224	UI	4.36	1.06	+/-0.700		pCi/g						
Radium-226		1.03	0.110	+/-0.0871		pCi/g						
Radium-228		1.55	0.225	+/-0.171	0.500	pCi/g						
Ruthenium-106	U	0.0557	0.535	+/-0.156	0.800	pCi/g						
Sodium-22	U	-0.0219	0.0801	+/-0.0251	0.080	pCi/g						
Strontium-85	U	0.041	0.0658	+/-0.0211		pCi/g						

GEL LABORATORIES LLC

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7880
245978001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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Rad Gamma Spec Analysis

GAMMA SPEC "Dry Weight Corrected"

Thallium-208		0.509	0.0606	+/-0.0478	0.080	pCi/g						
Thorium-227	U	0.350	0.666	+/-0.188		pCi/g						
Thorium-231	U	0.181	1.09	+/-0.360		pCi/g						
Thorium-234		3.98	3.01	+/-1.32	2.00	pCi/g						
Tin-113	U	-0.032	0.0706	+/-0.0222	0.100	pCi/g						
Uranium-235	U	0.163	0.372	+/-0.111	0.500	pCi/g						
Yttrium-88	U	-0.0179	0.0506	+/-0.0177	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		202	193	+/-61.7	250	pCi/L		KXK2	02/13/10	0713	950495	5
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The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	68.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	70.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	81.6	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value

GEL LABORATORIES LLC

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

Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7880
245978001

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7891
Sample ID: 245978002
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 26%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0102	0.0257	+/-0.00424	0.050	pCi/g		HAKB	02/15/10	0741	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00225	0.0184	+/-0.0016	0.050	pCi/g		HAKB	02/18/10	1842	949824	2
Plutonium-239/240		0.0214	0.0139	+/-0.00527	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		19.6	0.430	+/-1.60	0.100	pCi/g		HAKB	02/23/10	1043	953488	4
Uranium-235/236		1.83	0.274	+/-0.241	0.100	pCi/g						
Uranium-238		77.0	0.293	+/-5.98	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.207	0.431	+/-0.137	0.200	pCi/g		MXR1	02/14/10	1117	948721	6
Bismuth-211	UI	3.94	0.300	+/-0.315		pCi/g						
Bismuth-214		1.27	0.108	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	4.25	1.86	+/-0.650		pCi/g						
Cerium-139	U	0.00122	0.0574	+/-0.0185	0.050	pCi/g						
Cesium-134	UI	0.118	0.0913	+/-0.0352	0.100	pCi/g						
Cesium-137	U	0.0297	0.0719	+/-0.0208	0.100	pCi/g						
Cobalt-60	U	-0.0391	0.0518	+/-0.0185	0.100	pCi/g						
Europium-152	U	-0.0336	0.155	+/-0.0467	0.200	pCi/g						
Lanthanum-140	U	0.0404	0.144	+/-0.0458		pCi/g						
Lead-212		1.48	0.0979	+/-0.102	0.100	pCi/g						
Lead-214		1.37	0.105	+/-0.115	0.100	pCi/g						
Mercury-203	U	0.0208	0.0707	+/-0.0208	0.100	pCi/g						
Potassium-40		26.6	0.413	+/-1.43	1.00	pCi/g						
Radium-223	U	0.377	1.10	+/-0.364		pCi/g						
Radium-224	UI	4.39	1.11	+/-0.589		pCi/g						
Radium-226		1.27	0.108	+/-0.104		pCi/g						
Radium-228		1.45	0.204	+/-0.165	0.500	pCi/g						
Ruthenium-106	U	-0.0564	0.497	+/-0.152	0.800	pCi/g						
Sodium-22	U	-0.000873	0.066	+/-0.0203	0.080	pCi/g						
Strontium-85	U	0.0439	0.0664	+/-0.0207		pCi/g						
Thallium-208		0.532	0.0622	+/-0.0459	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7891
Sample ID: 245978002
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Thorium-227	U	0.320	0.649	+/-0.209		pCi/g					
Thorium-231	U	0.377	1.10	+/-0.364		pCi/g					
Thorium-234		73.9	3.22	+/-6.73	2.00	pCi/g					
Tin-113	U	-0.0215	0.0732	+/-0.0217	0.100	pCi/g					
Uranium-235		1.61	0.414	+/-0.242	0.500	pCi/g					
Yttrium-88	U	-0.0212	0.0519	+/-0.0177	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		21500	194	+/-1510	250	pCi/L		KXK2	02/13/10	0851 950495	7

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	74.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7891
Sample ID: 245978002

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
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D Results are reported from a diluted aliquot of the sample

F Estimated Value

H Analytical holding time was exceeded

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7892
Sample ID: 245978003
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 6.96%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00303	0.0221	+/-0.00268	0.050	pCi/g		HAKB	02/15/10	0741	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00666	0.0218	+/-0.0061	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	-0.00266	0.0164	+/-0.00231	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.17	0.0911	+/-0.105	0.100	pCi/g		HAKB	02/13/10	2125	949825	3
Uranium-235/236		0.0803	0.0581	+/-0.0207	0.100	pCi/g						
Uranium-238		2.42	0.0622	+/-0.195	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0576	0.122	+/-0.0371	0.200	pCi/g		MXR1	02/14/10	1118	948721	4
Bismuth-211	UI	4.37	0.419	+/-0.344		pCi/g						
Bismuth-214		1.41	0.141	+/-0.136	0.200	pCi/g						
Cadmium-109	UI	3.67	1.06	+/-0.511		pCi/g						
Cerium-139	U	-0.0317	0.0543	+/-0.0171	0.050	pCi/g						
Cesium-134	U	0.109	0.128	+/-0.0389	0.100	pCi/g						
Cesium-137	U	-0.0391	0.0793	+/-0.0266	0.100	pCi/g						
Cobalt-60	U	0.0164	0.0985	+/-0.0284	0.100	pCi/g						
Europium-152	U	-0.10	0.179	+/-0.058	0.200	pCi/g						
Lanthanum-140	U	0.0409	0.172	+/-0.054		pCi/g						
Lead-212		1.80	0.0983	+/-0.111	0.100	pCi/g						
Lead-214		1.52	0.146	+/-0.126	0.100	pCi/g						
Mercury-203	U	0.00129	0.0804	+/-0.0232	0.100	pCi/g						
Potassium-40		35.5	0.640	+/-1.98	1.00	pCi/g						
Radium-223	U	-0.142	1.24	+/-0.418		pCi/g						
Radium-224	UI	5.30	1.12	+/-0.857		pCi/g						
Radium-226		1.41	0.141	+/-0.136		pCi/g						
Radium-228		2.09	0.267	+/-0.213	0.500	pCi/g						
Ruthenium-106	U	-0.214	0.647	+/-0.210	0.800	pCi/g						
Sodium-22	U	0.0142	0.105	+/-0.0315	0.080	pCi/g						
Strontium-85	U	0.0657	0.084	+/-0.0256		pCi/g						
Thallium-208		0.567	0.0728	+/-0.059	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7892
Sample ID: 245978003
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.244	0.677	+/-0.218		pCi/g						
Thorium-231	U	-0.142	1.24	+/-0.418		pCi/g						
Thorium-234		3.09	1.18	+/-0.573	2.00	pCi/g						
Tin-113	U	-0.0597	0.0861	+/-0.0277	0.100	pCi/g						
Uranium-235	U	0.0423	0.384	+/-0.115	0.500	pCi/g						
Yttrium-88	U	0.0112	0.0783	+/-0.0228	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		3690	194	+/-275	250	pCi/L		KXK2	02/13/10	1155	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	90.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.5	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :-

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7892
Sample ID: 245978003

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7967
Sample ID: 245978004
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 24.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0142	0.0239	+/-0.00485	0.050	pCi/g		HAKB	02/18/10	1842	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0012	0.0197	+/-0.00121	0.050	pCi/g		HAKB	02/18/10	1843	949824	3
Plutonium-239/240		0.0723	0.0148	+/-0.0102	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		21.5	0.469	+/-1.76	0.100	pCi/g		HAKB	02/23/10	1043	953488	5
Uranium-235/236		2.75	0.299	+/-0.328	0.100	pCi/g						
Uranium-238		150	0.320	+/-11.7	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	UI	0.765	0.545	+/-0.165	0.200	pCi/g		MXR1	02/14/10	1118	948721	7
Bismuth-211	UI	2.02	0.341	+/-0.212		pCi/g						
Bismuth-214		0.551	0.112	+/-0.0765	0.200	pCi/g						
Cadmium-109	U	2.39	3.13	+/-1.34		pCi/g						
Cerium-139	U	0.0581	0.0689	+/-0.0215	0.050	pCi/g						
Cesium-134	U	0.0816	0.0866	+/-0.0234	0.100	pCi/g						
Cesium-137		0.193	0.0617	+/-0.0364	0.100	pCi/g						
Cobalt-60	U	0.00112	0.0547	+/-0.0162	0.100	pCi/g						
Europium-152	U	0.037	0.170	+/-0.0614	0.200	pCi/g						
Lanthanum-140	U	-0.0574	0.119	+/-0.0404		pCi/g						
Lead-212		1.10	0.0999	+/-0.0615	0.100	pCi/g						
Lead-214		0.702	0.119	+/-0.076	0.100	pCi/g						
Mercury-203	U	0.0174	0.0766	+/-0.0211	0.100	pCi/g						
Potassium-40		22.0	0.419	+/-1.05	1.00	pCi/g						
Radium-223	U	-0.898	1.06	+/-0.326		pCi/g						
Radium-224	UI	3.02	1.14	+/-0.592		pCi/g						
Radium-226		0.551	0.112	+/-0.0765		pCi/g						
Radium-228		1.10	0.191	+/-0.136	0.500	pCi/g						
Ruthenium-106	U	0.067	0.521	+/-0.151	0.800	pCi/g						
Sodium-22	U	-0.019	0.0574	+/-0.0179	0.080	pCi/g						
Strontium-85	U	0.0627	0.0679	+/-0.0204		pCi/g						
Thallium-208		0.363	0.0612	+/-0.037	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7967
Sample ID: 245978004

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	UI	0.888	0.840	+/-0.271		pCi/g						
Thorium-231	U	-0.898	1.06	+/-0.326		pCi/g						
Thorium-234		99.0	4.10	+/-8.95	2.00	pCi/g						
Tin-113	U	-0.0285	0.0763	+/-0.0224	0.100	pCi/g						
Uranium-235		1.66	0.495	+/-0.238	0.500	pCi/g						
Yttrium-88	U	-0.0345	0.0421	+/-0.0161	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		76100	193	+/-5310	250	pCi/L		KXK2	02/13/10	1333	950495	8

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE EML HASL-300, U-02-RC Modified
7	DOE HASL 300, 4.5.2.3/Ga-01-R
8	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	84.9	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

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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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7967
Sample ID: 245978004
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

C Analyte has been confirmed by GC/MS analysis
D Results are reported from a diluted aliquot of the sample
F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7976
Sample ID: 245978005
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 3.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
Rad Alpha Spec Analysis											
<i>AM241 "Dry Weight Corrected"</i>											
Americium-241	U	6.35E-06	0.0213	+/-0.00176	0.050	pCi/g		HAKB	02/15/10	0741 949823	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	-0.00126	0.0206	+/-0.00178	0.050	pCi/g		HAKB	02/13/10	2140 949824	2
Plutonium-239/240	U	0.0151	0.0155	+/-0.00477	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		0.969	0.0893	+/-0.0899	0.100	pCi/g		HAKB	02/13/10	2125 949825	3
Uranium-235/236		0.0612	0.0569	+/-0.018	0.100	pCi/g					
Uranium-238		2.16	0.061	+/-0.175	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.0957	0.187	+/-0.0565	0.200	pCi/g		MXR1	02/14/10	1119 948721	4
Bismuth-211	UI	3.60	0.274	+/-0.264		pCi/g					
Bismuth-214		1.02	0.0947	+/-0.0895	0.200	pCi/g					
Cadmium-109	UI	3.47	0.962	+/-0.462		pCi/g					
Cerium-139	U	-0.0252	0.0438	+/-0.0137	0.050	pCi/g					
Cesium-134	UI	0.102	0.0799	+/-0.0308	0.100	pCi/g					
Cesium-137		0.099	0.0586	+/-0.0241	0.100	pCi/g					
Cobalt-60	U	-0.00411	0.0511	+/-0.0161	0.100	pCi/g					
Europium-152	U	-0.0251	0.135	+/-0.0456	0.200	pCi/g					
Lanthanum-140	U	-0.0223	0.120	+/-0.0409		pCi/g					
Lead-212		1.63	0.0821	+/-0.0995	0.100	pCi/g					
Lead-214		1.25	0.0956	+/-0.0974	0.100	pCi/g					
Mercury-203	U	0.00829	0.065	+/-0.0184	0.100	pCi/g					
Potassium-40		32.6	0.431	+/-1.65	1.00	pCi/g					
Radium-223	U	0.495	0.937	+/-0.292		pCi/g					
Radium-224	UI	5.05	0.934	+/-0.648		pCi/g					
Radium-226		1.02	0.0947	+/-0.0895		pCi/g					
Radium-228		1.60	0.183	+/-0.159	0.500	pCi/g					
Ruthenium-106	U	-0.149	0.438	+/-0.140	0.800	pCi/g					
Sodium-22	U	-0.0167	0.0616	+/-0.0198	0.080	pCi/g					
Strontium-85	UI	0.0848	0.0616	+/-0.0177		pCi/g					
Thallium-208		0.478	0.0481	+/-0.0401	0.080	pCi/g					

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Company : Los Alamos National Laboratory
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7976
245978005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.171	0.556	+/-0.163		pCi/g						
Thorium-231	U	0.495	0.937	+/-0.292		pCi/g						
Thorium-234		2.91	1.56	+/-0.752	2.00	pCi/g						
Tin-113	U	-0.0171	0.0628	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.151	0.335	+/-0.0965	0.500	pCi/g						
Yttrium-88	U	-0.00489	0.0398	+/-0.0127	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		7920	194	+/-567	250	pCi/L		KXX2	02/13/10	1512	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	93.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	98.6	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7976
Sample ID: 245978005

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7968
Sample ID: 245978006
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 10.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00487	0.025	+/-0.00287	0.050	pCi/g		HAKB	02/15/10	0742	949823	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00123	0.0202	+/-0.00276	0.050	pCi/g		HAKB	02/13/10	2140	949824	2
Plutonium-239/240	U	0.0123	0.0152	+/-0.00432	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.24	0.0893	+/-0.257	0.100	pCi/g		HAKB	02/13/10	2125	949825	3
Uranium-235/236		0.363	0.0569	+/-0.0477	0.100	pCi/g						
Uranium-238		19.4	0.061	+/-1.42	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0518	0.460	+/-0.141	0.200	pCi/g		MXR1	02/14/10	1156	948721	4
Bismuth-211	UI	3.38	0.331	+/-0.258		pCi/g						
Bismuth-214		1.11	0.108	+/-0.0918	0.200	pCi/g						
Cadmium-109	UI	3.01	1.96	+/-0.625		pCi/g						
Cerium-139	U	0.000395	0.0515	+/-0.0153	0.050	pCi/g						
Cesium-134	UI	0.167	0.101	+/-0.0487	0.100	pCi/g						
Cesium-137	U	0.0479	0.0664	+/-0.0288	0.100	pCi/g						
Cobalt-60	U	0.000599	0.0662	+/-0.0198	0.100	pCi/g						
Europium-152	U	-0.0909	0.152	+/-0.0471	0.200	pCi/g						
Lanthanum-140	U	-0.0148	0.165	+/-0.0514		pCi/g						
Lead-212		1.68	0.0835	+/-0.0874	0.100	pCi/g						
Lead-214		1.18	0.116	+/-0.0947	0.100	pCi/g						
Mercury-203	U	0.00298	0.0727	+/-0.0208	0.100	pCi/g						
Potassium-40		36.5	0.560	+/-1.63	1.00	pCi/g						
Radium-223	U	-0.321	1.10	+/-0.375		pCi/g						
Radium-224	UI	5.09	0.951	+/-0.759		pCi/g						
Radium-226		1.11	0.108	+/-0.0918		pCi/g						
Radium-228		1.76	0.217	+/-0.184	0.500	pCi/g						
Ruthenium-106	U	0.029	0.514	+/-0.157	0.800	pCi/g						
Sodium-22	U	-0.0155	0.077	+/-0.0236	0.080	pCi/g						
Strontium-85	U	0.0529	0.0652	+/-0.0199		pCi/g						
Thallium-208		0.514	0.0602	+/-0.0417	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7968
Sample ID: 245978006
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.0667	0.650	+/-0.187		pCi/g						
Thorium-231	U	-0.321	1.10	+/-0.375		pCi/g						
Thorium-234		19.5	3.35	+/-2.54	2.00	pCi/g						
Tin-113	U	0.0119	0.0743	+/-0.0215	0.100	pCi/g						
Uranium-235	U	0.364	0.371	+/-0.138	0.500	pCi/g						
Yttrium-88	U	-0.0122	0.0442	+/-0.0152	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		70500	193	+/-4920	250	pCi/L		KXK2	02/13/10	1650	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	76.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	87.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.8	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7968
Sample ID: 245978006

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7965
Sample ID: 245978007
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 22.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00181	0.0208	+/-0.0028	0.050	pCi/g		HAKB	02/19/10	1553	954009	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00397	0.0216	+/-0.0023	0.050	pCi/g		HAKB	02/13/10	2140	949824	3
Plutonium-239/240	U	0.0159	0.0163	+/-0.00466	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		8.51	0.0947	+/-0.630	0.100	pCi/g		HAKB	02/13/10	2125	949825	4
Uranium-235/236		0.830	0.0604	+/-0.0856	0.100	pCi/g						
Uranium-238		35.3	0.0647	+/-2.53	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.073	0.260	+/-0.0832	0.200	pCi/g		MXR1	02/14/10	1156	948721	5
Bismuth-211	UI	4.02	0.324	+/-0.278		pCi/g						
Bismuth-214		1.16	0.117	+/-0.109	0.200	pCi/g						
Cadmium-109	UI	2.95	1.63	+/-0.556		pCi/g						
Cerium-139	U	-0.0168	0.0535	+/-0.0165	0.050	pCi/g						
Cesium-134	U	0.0283	0.0859	+/-0.0248	0.100	pCi/g						
Cesium-137		0.128	0.0689	+/-0.0371	0.100	pCi/g						
Cobalt-60	U	0.00128	0.0606	+/-0.0182	0.100	pCi/g						
Europium-152	U	-0.0164	0.163	+/-0.0557	0.200	pCi/g						
Lanthanum-140	U	0.066	0.168	+/-0.0532		pCi/g						
Lead-212		1.65	0.0941	+/-0.097	0.100	pCi/g						
Lead-214		1.40	0.113	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.0164	0.0759	+/-0.0217	0.100	pCi/g						
Potassium-40		26.0	0.476	+/-1.38	1.00	pCi/g						
Radium-223	U	-0.122	1.09	+/-0.323		pCi/g						
Radium-224	UI	3.96	1.07	+/-0.633		pCi/g						
Radium-226		1.16	0.117	+/-0.109		pCi/g						
Radium-228		1.66	0.221	+/-0.182	0.500	pCi/g						
Ruthenium-106	U	0.261	0.574	+/-0.160	0.800	pCi/g						
Sodium-22	U	-0.0396	0.0641	+/-0.0214	0.080	pCi/g						
Strontium-85	UI	0.0746	0.0706	+/-0.0206		pCi/g						
Thallium-208		0.543	0.0588	+/-0.0459	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7965
Sample ID: 245978007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.0672	0.657	+/-0.192		pCi/g						
Thorium-231	U	-0.122	1.09	+/-0.323		pCi/g						
Thorium-234		27.3	2.13	+/-2.67	2.00	pCi/g						
Tin-113	U	0.0161	0.0775	+/-0.0227	0.100	pCi/g						
Uranium-235		0.587	0.376	+/-0.160	0.500	pCi/g						
Yttrium-88	U	-0.00572	0.0483	+/-0.0151	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		6270	192	+/-453	250	pCi/L		KXK2	02/13/10	1829	950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	82.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	90.2	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7965
245978007

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7975
Sample ID: 245978008
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 25.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0324	0.0487	+/-0.0159	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0472	+/-0.0147	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240		0.0549	0.0355	+/-0.0153	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.60	0.0447	+/-0.126	0.100	pCi/g		CXM2	02/24/10	1320	951672	3
Uranium-235/236		0.171	0.0285	+/-0.0229	0.100	pCi/g						
Uranium-238		6.11	0.0305	+/-0.451	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.423	0.586	+/-0.182	0.200	pCi/g		MXR1	02/14/10	1201	948721	4
Bismuth-211	UI	4.51	0.387	+/-0.345		pCi/g						
Bismuth-214		1.30	0.142	+/-0.107	0.200	pCi/g						
Cadmium-109	U	1.27	2.34	+/-0.756		pCi/g						
Cerium-139	U	-0.00695	0.068	+/-0.0204	0.050	pCi/g						
Cesium-134	U	0.0462	0.0988	+/-0.0328	0.100	pCi/g						
Cesium-137		0.472	0.0848	+/-0.051	0.100	pCi/g						
Cobalt-60	U	0.0255	0.0805	+/-0.0234	0.100	pCi/g						
Europium-152	U	0.0783	0.213	+/-0.087	0.200	pCi/g						
Lanthanum-140	U	0.0619	0.197	+/-0.0629		pCi/g						
Lead-212		1.59	0.116	+/-0.115	0.100	pCi/g						
Lead-214		1.57	0.135	+/-0.127	0.100	pCi/g						
Mercury-203	U	-0.0011	0.0973	+/-0.0283	0.100	pCi/g						
Potassium-40		24.9	0.592	+/-1.53	1.00	pCi/g						
Radium-223	U	-0.216	1.39	+/-0.413		pCi/g						
Radium-224	UI	5.02	1.32	+/-0.817		pCi/g						
Radium-226		1.30	0.142	+/-0.107		pCi/g						
Radium-228		1.36	0.253	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	0.0839	0.613	+/-0.184	0.800	pCi/g						
Sodium-22	U	-0.0249	0.0809	+/-0.0263	0.080	pCi/g						
Strontium-85	UI	0.128	0.0916	+/-0.0271		pCi/g						
Thallium-208		0.397	0.0757	+/-0.0524	0.080	pCi/g						

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Certificate of Analysis

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7975
245978008

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.307	0.881	+/-0.250		pCi/g						
Thorium-231	U	-0.216	1.39	+/-0.413		pCi/g						
Thorium-234		14.4	4.34	+/-2.54	2.00	pCi/g						
Tin-113	U	-0.024	0.0997	+/-0.0302	0.100	pCi/g						
Uranium-235	U	0.193	0.494	+/-0.144	0.500	pCi/g						
Yttrium-88	U	-0.015	0.0498	+/-0.017	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1060	194	+/-103	250	pCi/L		KXK2	02/13/10	2007	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	83.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.5	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7975
Sample ID: 245978008
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7978
Sample ID: 245978009
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 16.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0163	0.0473	+/-0.00703	0.050	pCi/g		CXM2	02/25/10	1700	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00887	0.0483	+/-0.0148	0.050	pCi/g		CXM2	02/23/10	1308	951669	3
Plutonium-239/240	U	0.00591	0.0364	+/-0.00725	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.461	0.0435	+/-0.0433	0.100	pCi/g		CXM2	02/24/10	1320	951672	4
Uranium-235/236	U	0.0213	0.0278	+/-0.00754	0.100	pCi/g						
Uranium-238		0.609	0.0297	+/-0.0543	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0859	0.245	+/-0.0787	0.200	pCi/g		MXR1	02/14/10	1201	948721	5
Bismuth-211	UI	5.05	0.324	+/-0.373		pCi/g						
Bismuth-214		1.27	0.112	+/-0.109	0.200	pCi/g						
Cadmium-109	UI	4.34	1.31	+/-0.607		pCi/g						
Cerium-139	U	0.0209	0.0557	+/-0.0162	0.050	pCi/g						
Cesium-134	UI	0.108	0.0864	+/-0.0279	0.100	pCi/g						
Cesium-137		0.142	0.0633	+/-0.0421	0.100	pCi/g						
Cobalt-60	U	0.000858	0.0652	+/-0.0198	0.100	pCi/g						
Europium-152	U	-0.0103	0.163	+/-0.0597	0.200	pCi/g						
Lanthanum-140	U	-0.115	0.165	+/-0.0554		pCi/g						
Lead-212		2.15	0.0953	+/-0.154	0.100	pCi/g						
Lead-214		1.76	0.113	+/-0.138	0.100	pCi/g						
Mercury-203	UI	0.0943	0.0677	+/-0.031	0.100	pCi/g						
Potassium-40		29.2	0.451	+/-1.55	1.00	pCi/g						
Radium-223	U	0.362	1.13	+/-0.375		pCi/g						
Radium-224	UI	6.06	1.08	+/-0.842		pCi/g						
Radium-226		1.27	0.112	+/-0.109		pCi/g						
Radium-228		2.02	0.207	+/-0.190	0.500	pCi/g						
Ruthenium-106	U	0.0587	0.547	+/-0.164	0.800	pCi/g						
Sodium-22	U	-0.0429	0.0688	+/-0.0225	0.080	pCi/g						
Strontium-85	UI	0.143	0.0772	+/-0.024		pCi/g						
Thallium-208		0.633	0.0608	+/-0.0571	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7978
245978009

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.286	0.689	+/-0.208		pCi/g						
Thorium-231	U	0.362	1.13	+/-0.375		pCi/g						
Thorium-234		3.04	2.02	+/-1.01	2.00	pCi/g						
Tin-113	U	0.0011	0.0776	+/-0.0234	0.100	pCi/g						
Uranium-235	U	-0.0178	0.377	+/-0.114	0.500	pCi/g						
Yttrium-88	U	-0.0185	0.0464	+/-0.0157	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	154	194	+/-60.8	250	pCi/L		KXK2	02/13/10	2145	950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	80.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	81.4	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7978
Sample ID: 245978009
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7970
Sample ID: 245978010
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 8.19%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.0204	0.0496	+/-0.0127	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.0236	0.0482	+/-0.0102	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240	U	0.00	0.0363	+/-0.00418	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.309	0.0384	+/-0.0308	0.100	pCi/g		CXM2	02/24/10	1320	951672	3
Uranium-235/236	U	0.0226	0.0245	+/-0.00671	0.100	pCi/g						
Uranium-238		1.16	0.0262	+/-0.0921	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0103	0.245	+/-0.0731	0.200	pCi/g		MXR1	02/14/10	1217	948721	4
Bismuth-211	UI	2.53	0.208	+/-0.169		pCi/g						
Bismuth-214		0.691	0.0697	+/-0.0531	0.200	pCi/g						
Cadmium-109	UI	1.95	1.20	+/-0.355		pCi/g						
Cerium-139	U	0.00238	0.0354	+/-0.00964	0.050	pCi/g						
Cesium-134	U	0.0374	0.0558	+/-0.0158	0.100	pCi/g						
Cesium-137	U	0.030	0.0451	+/-0.0122	0.100	pCi/g						
Cobalt-60	U	-0.000796	0.0442	+/-0.0134	0.100	pCi/g						
Europium-152	U	-0.024	0.0988	+/-0.0372	0.200	pCi/g						
Lanthanum-140	U	-0.0196	0.091	+/-0.0284		pCi/g						
Lead-212		0.995	0.0614	+/-0.0495	0.100	pCi/g						
Lead-214		0.880	0.0725	+/-0.0631	0.100	pCi/g						
Mercury-203	U	0.0055	0.0478	+/-0.0137	0.100	pCi/g						
Potassium-40		24.2	0.297	+/-1.08	1.00	pCi/g						
Radium-223	U	-0.459	0.703	+/-0.221		pCi/g						
Radium-224	UI	2.63	0.697	+/-0.408		pCi/g						
Radium-226		0.691	0.0697	+/-0.0531		pCi/g						
Radium-228		1.05	0.138	+/-0.115	0.500	pCi/g						
Ruthenium-106	U	0.184	0.347	+/-0.0974	0.800	pCi/g						
Sodium-22	U	-0.027	0.0469	+/-0.0151	0.080	pCi/g						
Strontium-85	UI	0.0989	0.0522	+/-0.0146		pCi/g						
Thallium-208		0.330	0.0352	+/-0.0277	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7970 Project: LANL01004
Sample ID: 245978010 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.0789	0.422	+/-0.123		pCi/g						
Thorium-231	U	-0.459	0.703	+/-0.221		pCi/g						
Thorium-234		2.89	1.85	+/-0.910	2.00	pCi/g						
Tin-113	U	-0.018	0.0468	+/-0.0137	0.100	pCi/g						
Uranium-235	U	0.0417	0.252	+/-0.0729	0.500	pCi/g						
Yttrium-88	U	-0.0212	0.0285	+/-0.0104	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		5310	194	+/-386	250	pCi/L		KXK2	02/13/10	2324	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.5	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7970 Project: LANL01004
Sample ID: 245978010 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7964
Sample ID: 245978011
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 10.7%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00713	0.031	+/-0.0036	0.050	pCi/g		CXM2	02/27/10	2008	957873	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00374	0.038	+/-0.00476	0.050	pCi/g		CXM2	02/24/10	2001	951669	3
Plutonium-239/240	U	0.00154	0.0285	+/-0.00422	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.444	0.0385	+/-0.0408	0.100	pCi/g		CXM2	02/24/10	1320	951672	5
Uranium-235/236		0.034	0.0246	+/-0.00836	0.100	pCi/g						
Uranium-238		0.509	0.0263	+/-0.0455	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.132	0.341	+/-0.105	0.200	pCi/g		MXR1	02/14/10	1218	948721	6
Bismuth-211	UI	3.72	0.338	+/-0.231		pCi/g						
Bismuth-214		1.20	0.103	+/-0.0909	0.200	pCi/g						
Cadmium-109	UI	1.91	1.46	+/-0.575		pCi/g						
Cerium-139	U	-0.014	0.0521	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0154	0.0851	+/-0.0243	0.100	pCi/g						
Cesium-137	U	-0.0241	0.060	+/-0.0192	0.100	pCi/g						
Cobalt-60	U	0.0203	0.0693	+/-0.0199	0.100	pCi/g						
Europium-152	U	0.032	0.169	+/-0.0547	0.200	pCi/g						
Lanthanum-140	U	-0.146	0.113	+/-0.0473		pCi/g						
Lead-212		1.54	0.0956	+/-0.0771	0.100	pCi/g						
Lead-214		1.29	0.121	+/-0.0871	0.100	pCi/g						
Mercury-203	U	0.0228	0.0759	+/-0.0211	0.100	pCi/g						
Potassium-40		24.5	0.583	+/-1.23	1.00	pCi/g						
Radium-223	U	-0.434	1.12	+/-0.388		pCi/g						
Radium-224	UI	4.87	1.09	+/-0.677		pCi/g						
Radium-226		1.20	0.103	+/-0.0909		pCi/g						
Radium-228		1.50	0.245	+/-0.197	0.500	pCi/g						
Ruthenium-106	U	0.0749	0.510	+/-0.150	0.800	pCi/g						
Sodium-22	U	-0.0482	0.0682	+/-0.0235	0.080	pCi/g						
Strontium-85	U	0.0471	0.0692	+/-0.0215		pCi/g						
Thallium-208		0.546	0.0618	+/-0.0438	0.080	pCi/g						

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Certificate of Analysis

Company : Los Alamos National Laboratory
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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7964
245978011

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.393	0.686	+/-0.198		pCi/g						
Thorium-231	U	-0.434	1.12	+/-0.388		pCi/g						
Thorium-234	U	2.63	2.74	+/-1.08	2.00	pCi/g						
Tin-113	U	-0.000973	0.0801	+/-0.0233	0.100	pCi/g						
Uranium-235	U	0.0886	0.381	+/-0.111	0.500	pCi/g						
Yttrium-88	U	0.00777	0.0602	+/-0.0175	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		596	195	+/-78.1	250	pCi/L		KXK2	02/14/10	0102	950495	7

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Am-05-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, Pu-11-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	36.9 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	92.2	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7964
Sample ID: 245978011

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

D Results are reported from a diluted aliquot of the sample
F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7973
Sample ID: 245978012
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 18.5%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.0108	0.0505	+/-0.0151	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00493	0.0535	+/-0.00646	0.050	pCi/g		CXM2	02/24/10	2001	951669	2
Plutonium-239/240	U	0.00742	0.0401	+/-0.00894	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.687	0.0404	+/-0.059	0.100	pCi/g		CXM2	02/24/10	1321	951672	4
Uranium-235/236		0.0772	0.0258	+/-0.0138	0.100	pCi/g						
Uranium-238		2.27	0.0276	+/-0.172	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0591	0.299	+/-0.0976	0.200	pCi/g		MXR1	02/14/10	1311	948721	5
Bismuth-211	UI	3.97	0.352	+/-0.297		pCi/g						
Bismuth-214		1.08	0.114	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	2.24	1.83	+/-0.640		pCi/g						
Cerium-139	U	-0.00108	0.0555	+/-0.0156	0.050	pCi/g						
Cesium-134	U	0.0903	0.098	+/-0.0264	0.100	pCi/g						
Cesium-137	U	0.048	0.075	+/-0.0229	0.100	pCi/g						
Cobalt-60	U	0.036	0.0716	+/-0.0192	0.100	pCi/g						
Europium-152	U	-0.0203	0.166	+/-0.057	0.200	pCi/g						
Lanthanum-140	U	-0.00509	0.188	+/-0.0573		pCi/g						
Lead-212		1.57	0.0954	+/-0.0971	0.100	pCi/g						
Lead-214		1.38	0.124	+/-0.109	0.100	pCi/g						
Mercury-203	U	0.0663	0.080	+/-0.0218	0.100	pCi/g						
Potassium-40		23.3	0.450	+/-1.32	1.00	pCi/g						
Radium-223	U	0.0802	1.16	+/-0.388		pCi/g						
Radium-224	UI	4.06	1.09	+/-0.693		pCi/g						
Radium-226		1.08	0.114	+/-0.102		pCi/g						
Radium-228		1.50	0.184	+/-0.161	0.500	pCi/g						
Ruthenium-106	U	0.0648	0.542	+/-0.156	0.800	pCi/g						
Sodium-22	U	-0.0563	0.0615	+/-0.0217	0.080	pCi/g						
Strontium-85	UI	0.0837	0.0775	+/-0.0233		pCi/g						
Thallium-208		0.501	0.0608	+/-0.0464	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7973
Sample ID: 245978012
Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	-0.437	0.624	+/-0.196		pCi/g						
Thorium-231	U	0.0802	1.16	+/-0.388		pCi/g						
Thorium-234		6.54	2.38	+/-1.48	2.00	pCi/g						
Tin-113	U	-0.0104	0.0798	+/-0.0242	0.100	pCi/g						
Uranium-235	U	0.104	0.398	+/-0.111	0.500	pCi/g						
Yttrium-88	U	-0.00503	0.0453	+/-0.0146	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1080	193	+/-104	250	pCi/L		KXK2	02/14/10	0240	950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	64.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.7	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Client Sample ID: RE15-10-7973
Sample ID: 245978012

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7962
Sample ID: 245978013
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 5.31%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	-0.00747	0.0484	+/-0.0147	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00146	0.036	+/-0.00399	0.050	pCi/g		CXM2	02/24/10	2001	951669	2
Plutonium-239/240	U	0.00499	0.027	+/-0.00601	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.375	0.0371	+/-0.0354	0.100	pCi/g		CXM2	02/24/10	1321	951672	4
Uranium-235/236		0.0327	0.0237	+/-0.00805	0.100	pCi/g						
Uranium-238		0.937	0.0254	+/-0.0757	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.116	0.343	+/-0.112	0.200	pCi/g		MXR1	02/14/10	1311	948721	5
Bismuth-211	UI	3.75	0.393	+/-0.290		pCi/g						
Bismuth-214		1.17	0.128	+/-0.0925	0.200	pCi/g						
Cadmium-109	UI	4.31	1.47	+/-0.609		pCi/g						
Cerium-139	U	-0.0224	0.0579	+/-0.0175	0.050	pCi/g						
Cesium-134	UI	0.184	0.105	+/-0.0335	0.100	pCi/g						
Cesium-137	U	-0.0245	0.0692	+/-0.022	0.100	pCi/g						
Cobalt-60	U	0.0141	0.0795	+/-0.0236	0.100	pCi/g						
Europium-152	U	0.0593	0.191	+/-0.0772	0.200	pCi/g						
Lanthanum-140	U	0.005	0.186	+/-0.0553		pCi/g						
Lead-212		1.74	0.109	+/-0.0878	0.100	pCi/g						
Lead-214		1.30	0.137	+/-0.106	0.100	pCi/g						
Mercury-203	U	0.0141	0.0889	+/-0.0252	0.100	pCi/g						
Potassium-40		34.9	0.414	+/-1.51	1.00	pCi/g						
Radium-223	U	0.0964	1.27	+/-0.419		pCi/g						
Radium-224	UI	3.79	1.24	+/-0.746		pCi/g						
Radium-226		1.17	0.128	+/-0.0925		pCi/g						
Radium-228		1.85	0.230	+/-0.174	0.500	pCi/g						
Ruthenium-106	U	0.259	0.633	+/-0.181	0.800	pCi/g						
Sodium-22	U	0.0111	0.0915	+/-0.0274	0.080	pCi/g						
Strontium-85	UI	0.0795	0.0785	+/-0.0234		pCi/g						
Thallium-208		0.558	0.0682	+/-0.0507	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7962
245978013

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.0942	0.749	+/-0.224		pCi/g						
Thorium-231	U	0.0964	1.27	+/-0.419		pCi/g						
Thorium-234		4.48	2.83	+/-1.23	2.00	pCi/g						
Tin-113	U	0.00482	0.0898	+/-0.0262	0.100	pCi/g						
Uranium-235	U	0.337	0.431	+/-0.123	0.500	pCi/g						
Yttrium-88	U	-0.000315	0.0556	+/-0.0169	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		10400	194	+/-739	250	pCi/L		KXX2	02/14/10	0419	950495	6

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, Pu-11-RC Modified
4	DOE EML HASL-300, U-02-RC Modified
5	DOE HASL 300, 4.5.2.3/Ga-01-R
6	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.1	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).

The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7962
Sample ID: 245978013

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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F Estimated Value
H Analytical holding time was exceeded
J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7963
Sample ID: 245978014
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 20.8%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00205	0.052	+/-0.00703	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00296	0.0483	+/-0.0148	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240	U	0.00591	0.0363	+/-0.00836	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.864	0.0383	+/-0.0709	0.100	pCi/g		CXM2	02/24/10	1321	951672	3
Uranium-235/236		0.0619	0.0244	+/-0.0119	0.100	pCi/g						
Uranium-238		2.99	0.0261	+/-0.222	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0413	0.195	+/-0.0611	0.200	pCi/g		MXR1	02/14/10	1312	948721	4
Bismuth-211	UI	4.13	0.296	+/-0.341		pCi/g						
Bismuth-214		1.26	0.0976	+/-0.103	0.200	pCi/g						
Cadmium-109	UI	3.64	1.28	+/-0.484		pCi/g						
Cerium-139	U	-0.0151	0.042	+/-0.0123	0.050	pCi/g						
Cesium-134	U	0.0704	0.0801	+/-0.0273	0.100	pCi/g						
Cesium-137	U	-0.0106	0.0525	+/-0.0162	0.100	pCi/g						
Cobalt-60	U	0.0379	0.0638	+/-0.0174	0.100	pCi/g						
Europium-152	U	-0.0945	0.118	+/-0.0424	0.200	pCi/g						
Lanthanum-140	U	-0.129	0.140	+/-0.0521		pCi/g						
Lead-212		1.66	0.0786	+/-0.131	0.100	pCi/g						
Lead-214		1.44	0.103	+/-0.124	0.100	pCi/g						
Mercury-203	U	0.025	0.0588	+/-0.0187	0.100	pCi/g						
Potassium-40		27.4	0.467	+/-1.44	1.00	pCi/g						
Radium-223	U	0.310	0.941	+/-0.308		pCi/g						
Radium-224	UI	3.03	1.10	+/-0.488		pCi/g						
Radium-226		1.26	0.0976	+/-0.103		pCi/g						
Radium-228		1.60	0.187	+/-0.153	0.500	pCi/g						
Ruthenium-106	U	0.138	0.475	+/-0.137	0.800	pCi/g						
Sodium-22	U	-0.0358	0.0569	+/-0.0194	0.080	pCi/g						
Strontium-85	UI	0.0741	0.0606	+/-0.0173		pCi/g						
Thallium-208		0.589	0.0463	+/-0.0512	0.080	pCi/g						

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Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7963
245978014

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.307	0.572	+/-0.164		pCi/g						
Thorium-231	U	0.310	0.941	+/-0.308		pCi/g						
Thorium-234		4.61	1.66	+/-0.915	2.00	pCi/g						
Tin-113	U	-0.00779	0.063	+/-0.0183	0.100	pCi/g						
Uranium-235	U	0.231	0.267	+/-0.107	0.500	pCi/g						
Yttrium-88	U	0.00867	0.0567	+/-0.0165	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1370	194	+/-122	250	pCi/L		KXK2	02/14/10	0557	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	85.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	93.1	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.9	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
The Qualifiers in this report are defined as follows :

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded

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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7963
Sample ID: 245978014

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
-----------	-----------	--------	----	-----	----	-------	----	---------	------	------	-------	------

J Value is estimated

M M if above MDC and less than LLD

M Matrix Related Failure

N/A RPD or %Recovery limits do not apply.

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

R Sample results are rejected

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

UI Gamma Spectroscopy--Uncertain identification

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

The above sample is reported on a dry weight basis.

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7977
Sample ID: 245978015
Matrix: R
Collect Date: 27-JAN-10
Receive Date: 02-FEB-10
Collector: Client
Moisture: 36.2%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00875	0.0527	+/-0.00855	0.050	pCi/g		CXM2	02/23/10	2121	951665	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00906	0.0494	+/-0.0151	0.050	pCi/g		CXM2	02/23/10	1308	951669	2
Plutonium-239/240		0.0483	0.0371	+/-0.0144	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.00	0.0453	+/-0.0836	0.100	pCi/g		CXM2	02/24/10	1321	951672	3
Uranium-235/236		0.0555	0.0289	+/-0.0118	0.100	pCi/g						
Uranium-238		2.21	0.0309	+/-0.171	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0875	0.279	+/-0.0876	0.200	pCi/g		MXR1	02/14/10	1312	948721	4
Bismuth-211	UI	4.10	0.367	+/-0.272		pCi/g						
Bismuth-214		1.25	0.124	+/-0.105	0.200	pCi/g						
Cadmium-109	UI	2.40	1.74	+/-0.545		pCi/g						
Cerium-139	U	-0.00926	0.0553	+/-0.0173	0.050	pCi/g						
Cesium-134	UI	0.183	0.100	+/-0.037	0.100	pCi/g						
Cesium-137		0.401	0.0683	+/-0.0365	0.100	pCi/g						
Cobalt-60	U	0.0121	0.078	+/-0.0232	0.100	pCi/g						
Europium-152	U	0.0166	0.178	+/-0.0549	0.200	pCi/g						
Lanthanum-140	U	-0.126	0.133	+/-0.0529		pCi/g						
Lead-212		1.43	0.146	+/-0.0825	0.100	pCi/g						
Lead-214		1.43	0.128	+/-0.102	0.100	pCi/g						
Mercury-203	U	-0.0272	0.0698	+/-0.0246	0.100	pCi/g						
Potassium-40		22.2	0.483	+/-1.19	1.00	pCi/g						
Radium-223	U	0.226	1.20	+/-0.399		pCi/g						
Radium-224	UI	1.49	1.42	+/-0.514		pCi/g						
Radium-226		1.25	0.124	+/-0.105		pCi/g						
Radium-228		1.62	0.239	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	0.279	0.610	+/-0.172	0.800	pCi/g						
Sodium-22	U	-0.0107	0.0821	+/-0.0257	0.080	pCi/g						
Strontium-85	U	0.0674	0.0749	+/-0.0209		pCi/g						
Thallium-208		0.572	0.0626	+/-0.0516	0.080	pCi/g						

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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID:
Sample ID:

RE15-10-7977
245978015

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Thorium-227	U	0.258	0.662	+/-0.190		pCi/g						
Thorium-231	U	0.226	1.20	+/-0.399		pCi/g						
Thorium-234		6.77	2.33	+/-1.57	2.00	pCi/g						
Tin-113	U	0.0646	0.0921	+/-0.0261	0.100	pCi/g						
Uranium-235	U	0.220	0.379	+/-0.113	0.500	pCi/g						
Yttrium-88	U	0.037	0.0788	+/-0.0208	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		298	195	+/-65.3	250	pCi/L		KXK2	02/14/10	0735	950495	5

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Am-05-RC Modified
2	DOE EML HASL-300, Pu-11-RC Modified
3	DOE EML HASL-300, U-02-RC Modified
4	DOE HASL 300, 4.5.2.3/Ga-01-R
5	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.8	(50%-105%)

Notes:

TPU is calculated at the 67% confidence level (1-sigma).
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
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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
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Certificate of Analysis

Company : Los Alamos National Laboratory
Address : PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: March 1, 2010

Client Sample ID: RE15-10-7977
Sample ID: 245978015

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
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J Value is estimated
M M if above MDC and less than LLD
M Matrix Related Failure
N/A RPD or %Recovery limits do not apply.
ND Analyte concentration is not detected above the detection limit
NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
R Sample results are rejected
U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
UI Gamma Spectroscopy--Uncertain identification
X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y QC Samples were not spiked with this compound
^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h Preparation or preservation holding time was exceeded
The above sample is reported on a dry weight basis.

QUALITY CONTROL DATA

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QC Summary

Report Date: March 1, 2010

Page 1 of 9

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 245978

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	949823										
QC1202034999	245978001	DUP									
Americium-241	U	-0.0018	U	0.00234	pCi/g	0.552		(0-1)	HAKB	02/15/1007:41	
	TPU:	+/-0.00194		+/-0.00181							
	Yield:	68.2		93.4							
QC1202035000	LCS										
Americium-241	33.2			30.0	pCi/g		90.4	(75%-125%)		02/18/1018:42	
	TPU:			+/-2.13							
	Yield:			106							
QC1202034998	MB										
Americium-241			U	-0.00331	pCi/g					02/15/1007:41	
	TPU:			+/-0.00355							
	Yield:			97.1							
Batch	949824										
QC1202035002	245978001	DUP									
Plutonium-238	U	0.00493	U	-0.00203	pCi/g	0.712		(0-1)	HAKB	02/18/1018:43	
	TPU:	+/-0.00286		+/-0.00203							
	Yield:	70.1		93.8							
Plutonium-239/240	U	0.00493	U	0.00203	pCi/g	0.337		(0-1)			
	TPU:	+/-0.00286		+/-0.00144							
	Yield:	70.1		93.8							
QC1202035003	LCS										
Plutonium-238				7.01	pCi/g			(75%-125%)		02/18/1018:43	
	TPU:			+/-0.502							
	Yield:			98.7							
Plutonium-239/240	41.8			36.9	pCi/g		88.4	(75%-125%)			
	TPU:			+/-2.25							
	Yield:			98.7							
QC1202035001	MB										
Plutonium-238			U	0.00	pCi/g					02/13/1021:40	
	TPU:			+/-0.00164							
	Yield:			85.7							
Plutonium-239/240			U	0.00327	pCi/g						
	TPU:			+/-0.00462							
	Yield:			85.7							
Batch	949825										
QC1202035006	245978001	DUP									
Uranium-233/234		0.753		0.691	pCi/g	0.209		(0-1)	HAKB	02/13/1021:25	
	TPU:	+/-0.0791		+/-0.0699							
	Yield:	81.6		99.7							
Uranium-235/236	U	0.0219		0.0661	pCi/g	0.741		(0-1)			
	TPU:	+/-0.0111		+/-0.0188							
	Yield:	81.6		99.7							
Uranium-238		0.957		1.23	pCi/g	0.662		(0-1)			
	TPU:	+/-0.0946		+/-0.109							

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QC Summary

Workorder: 245978

Page 2 of 9

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch	949825									
QC1202035007	LCS	Yield:	81.6	99.7						
Uranium-233/234				5.82	pCi/g		(75%-125%)			02/13/1021:25
		TPU:		+/-0.576						
		Yield:		87.3						
Uranium-235/236			U	0.329	pCi/g		(75%-125%)			
		TPU:		+/-0.0949						
		Yield:		87.3						
Uranium-238	5.75			6.82	pCi/g		119 (75%-125%)			
		TPU:		+/-0.657						
		Yield:		87.3						
QC1202035005	MB									
Uranium-233/234			U	0.0197	pCi/g					02/15/1021:17
		TPU:		+/-0.00624						
		Yield:		102						
Uranium-235/236			U	0.00359	pCi/g					
		TPU:		+/-0.0036						
		Yield:		102						
Uranium-238			U	0.016	pCi/g					
		TPU:		+/-0.00535						
		Yield:		102						
Batch	951665									
QC1202039542	246020001	DUP								
Americium-241			U	0.00156	U	0.00328	pCi/g	0.0808	(0-1) CXM2	02/23/1013:26
				+/-0.00778		+/-0.00289				
				95.5		89.5				
QC1202039543	LCS									
Americium-241		33.2		25.9	pCi/g		78 (75%-125%)			02/23/1013:26
				+/-1.71						
				110						
QC1202039541	MB									
Americium-241			U	-0.00228	pCi/g					02/23/1013:26
				+/-0.00387						
				89.4						
Batch	951669									
QC1202039556	246020001	DUP								
Plutonium-238			U	0.00	U	-0.00106	pCi/g	0.0614	(0-1) CXM2	02/25/1022:19
				+/-0.00443		+/-0.00424				
				86.5		73.2				
Plutonium-239/240			U	0.00626	U	0.00135	pCi/g	0.263	(0-1)	
				+/-0.00443		+/-0.00488				
				86.5		73.2				
QC1202039557	LCS									
Plutonium-238				7.15	pCi/g		(75%-125%)			02/23/1013:08
				+/-0.530						
				90.7						
Plutonium-239/240	41.8			39.3	pCi/g		94 (75%-125%)			
				+/-2.42						
				90.7						

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QC Summary

Workorder: 245978

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC %	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	951669										
QC1202039555	MB										
Plutonium-238			U	-0.00339	pCi/g						
		TPU:		+/-0.00294							
		Yield:		90.4							
Plutonium-239/240			U	-0.00169	pCi/g						
		TPU:		+/-0.00294							
		Yield:		90.4							
Batch	951672										
QC1202039559	246020001	DUP									
Uranium-233/234		0.249		0.280	pCi/g	0.283		(0-1)	CXM2	02/24/10	13:02
		TPU:	+/-0.0258	+/-0.0289							
		Yield:	94.7	71.5							
Uranium-235/236		U	0.0215	U	0.0115	pCi/g	0.427	(0-1)			
		TPU:	+/-0.00687	+/-0.00478							
		Yield:	94.7	71.5							
Uranium-238		0.316		0.412	pCi/g	0.694		(0-1)			
		TPU:	+/-0.0308	+/-0.0386							
		Yield:	94.7	71.5							
QC1202039560	LCS										
Uranium-233/234				6.11	pCi/g			(75%-125%)			
		TPU:		+/-0.542							
		Yield:		95.7							
Uranium-235/236				0.409	pCi/g			(75%-125%)			
		TPU:		+/-0.0953							
		Yield:		95.7							
Uranium-238	5.75			5.34	pCi/g		92.9	(75%-125%)			
		TPU:		+/-0.484							
		Yield:		95.7							
QC1202039558	MB										
Uranium-233/234			U	0.0108	pCi/g					02/24/10	09:54
		TPU:		+/-0.00398							
		Yield:		97.8							
Uranium-235/236			U	0.00577	pCi/g						
		TPU:		+/-0.00291							
		Yield:		97.8							
Uranium-238				0.049	pCi/g						
		TPU:		+/-0.00843							
		Yield:		97.8							
Batch	953488										
QC1202044052	245978002	DUP									
Uranium-233/234		19.6		18.9	pCi/g	0.110		(0-1)	HAKB	02/23/10	10:43
		TPU:	+/-1.60	+/-1.60							
		Yield:	95.4	88.7							
Uranium-235/236		1.83		2.23	pCi/g	0.376		(0-1)			
		TPU:	+/-0.241	+/-0.295							
		Yield:	95.4	88.7							
Uranium-238		77.0		79.4	pCi/g	0.0977		(0-1)			
		TPU:	+/-5.98	+/-6.31							
		Yield:	95.4	88.7							

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QC Summary

Workorder: 245978

Page 4 of 9

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	953488										
QC1202044053	LCS										
Uranium-233/234				5.86	pCi/g			(75%-125%)		02/23/1010:43	
		TPU:		+/-0.555							
		Yield:		96.0							
Uranium-235/236			U	0.266	pCi/g			(75%-125%)			
		TPU:		+/-0.0794							
		Yield:		96.0							
Uranium-238	5.75			5.91	pCi/g		103	(75%-125%)			
		TPU:		+/-0.559							
		Yield:		96.0							
QC1202044051	MB										
Uranium-233/234			U	0.0236	pCi/g					02/23/1010:41	
		TPU:		+/-0.00596							
		Yield:		100							
Uranium-235/236			U	0.00577	pCi/g						
		TPU:		+/-0.00356							
		Yield:		100							
Uranium-238			U	0.0128	pCi/g						
		TPU:		+/-0.0046							
		Yield:		100							
Batch	954009										
QC1202045188	245978007	DUP									
Americium-241		U	-0.00181	U	0.0057	pCi/g	0.683	(0-1) HAKB		02/19/1015:53	
		TPU:	+/-0.0028		+/-0.00269						
		Yield:	88.8		80.0						
QC1202045189	LCS										
Americium-241		33.2		28.1	pCi/g		84.6	(75%-125%)			
		TPU:		+/-1.94							
		Yield:		99.2							
QC1202045187	MB										
Americium-241			U	0.00221	pCi/g						
		TPU:		+/-0.00351							
		Yield:		88.9							
Batch	957873										
QC1202054059	245978011	DUP									
Americium-241		U	0.00713	U	0.0109	pCi/g	0.0767	(0-1) CXM2		02/26/1023:40	
		TPU:	+/-0.0036		+/-0.00911						
		Yield:	36.9		25.5						
QC1202054060	LCS										
Americium-241		33.2		31.4	pCi/g		94.6	(75%-125%)			
		TPU:		+/-2.03							
		Yield:		89.0							
QC1202054058	MB										
Americium-241			U	0.0137	pCi/g						
		TPU:		+/-0.00868							
		Yield:		79.1							
Rad Gamma Spec											
Batch	948721										
QC1202032522	245978008	DUP									

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QC Summary

Workorder: 245978

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	948721										
Americium-241	U	0.423	U	-0.00979	pCi/g	0.676		(0-1)	MXR1	02/14/10	13:18
	TPU:	+/-0.182		+/-0.139							
Bismuth-211	UI	4.51	UI	3.84	pCi/g	0.535		(0-1)			
	TPU:	+/-0.345		+/-0.282							
Bismuth-214		1.30		1.14	pCi/g	0.416		(0-1)			
	TPU:	+/-0.107		+/-0.0896							
Cadmium-109	U	1.27	UI	3.30	pCi/g	0.738		(0-1)			
	TPU:	+/-0.756		+/-0.622							
Cerium-139	U	-0.00695	U	-0.0396	pCi/g	0.451		(0-1)			
	TPU:	+/-0.0204		+/-0.0158							
Cesium-134	U	0.0462	U	0.0261	pCi/g	0.180		(0-1)			
	TPU:	+/-0.0328		+/-0.0231							
Cesium-137		0.472		0.428	pCi/g	0.246		(0-1)			
	TPU:	+/-0.051		+/-0.0379							
Cobalt-60	U	0.0255	U	-0.0207	pCi/g	0.560		(0-1)			
	TPU:	+/-0.0234		+/-0.0178							
Europium-152	U	0.0783	U	0.0206	pCi/g	0.211		(0-1)			
	TPU:	+/-0.087		+/-0.0497							
Lanthanum-140	U	0.0619	U	0.027	pCi/g	0.154		(0-1)			
	TPU:	+/-0.0629		+/-0.0502							
Lead-212		1.59		1.46	pCi/g	0.341		(0-1)			
	TPU:	+/-0.115		+/-0.0757							
Lead-214		1.57		1.33	pCi/g	0.505		(0-1)			
	TPU:	+/-0.127		+/-0.104							
Mercury-203	U	-0.0011	U	0.0106	pCi/g	0.121		(0-1)			
	TPU:	+/-0.0283		+/-0.0201							
Potassium-40		24.9		24.4	pCi/g	0.0845		(0-1)			
	TPU:	+/-1.53		+/-1.31							
Radium-223	U	-0.216	U	-0.0313	pCi/g	0.120		(0-1)			
	TPU:	+/-0.413		+/-0.357							
Radium-224	UI	5.02	UI	3.36	pCi/g	0.628		(0-1)			
	TPU:	+/-0.817		+/-0.511							
Radium-226		1.30		1.14	pCi/g	0.416		(0-1)			
	TPU:	+/-0.107		+/-0.0896							
Radium-228		1.36		1.49	pCi/g	0.200		(0-1)			
	TPU:	+/-0.181		+/-0.154							
Ruthenium-106	U	0.0839	U	0.0218	pCi/g	0.0934		(0-1)			
	TPU:	+/-0.184		+/-0.149							
Sodium-22	U	-0.0249	U	-0.0227	pCi/g	0.0233		(0-1)			
	TPU:	+/-0.0263		+/-0.0221							
Strontium-85	UI	0.128	U	0.0317	pCi/g	1.06		(0-1)			
	TPU:	+/-0.0271		+/-0.0183							
Thallium-208		0.397		0.431	pCi/g	0.175		(0-1)			
	TPU:	+/-0.0524		+/-0.0455							
Thorium-227	U	0.307	U	0.197	pCi/g	0.131		(0-1)			
	TPU:	+/-0.250		+/-0.172							
Thorium-231	U	-0.216	U	-0.0313	pCi/g	0.120		(0-1)			
	TPU:	+/-0.413		+/-0.357							
Thorium-234		14.4		18.1	pCi/g	0.356		(0-1)			
	TPU:	+/-2.54		+/-2.63							

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QC Summary

Workorder: 245978

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	948721										
Tin-113	U	-0.024	U	-0.0419	pCi/g	0.175		(0-1)			
	TPU:	+/-0.0302		+/-0.021							
Uranium-235	U	0.193		0.511	pCi/g	0.503		(0-1)			
	TPU:	+/-0.144		+/-0.172							
Yttrium-88	U	-0.015	U	-0.0116	pCi/g	0.0468		(0-1)			
	TPU:	+/-0.017		+/-0.0187							
QC1202032523 LCS											
Americium-241	15.9			13.9	pCi/g		87.1	(75%-125%)		02/14/10	14:00
	TPU:			+/-1.04							
Bismuth-211				1.86	pCi/g						
	TPU:			+/-0.298							
Bismuth-214				0.579	pCi/g						
	TPU:			+/-0.130							
Cadmium-109				30.0	pCi/g						
	TPU:			+/-2.26							
Cerium-139			U	0.0196	pCi/g						
	TPU:			+/-0.0218							
Cesium-134			U	0.0936	pCi/g						
	TPU:			+/-0.046							
Cesium-137	5.56			5.15	pCi/g		92.7	(75%-125%)			
	TPU:			+/-0.184							
Cobalt-60	6.40			6.37	pCi/g		99.5	(75%-125%)			
	TPU:			+/-0.278							
Europium-152			U	-0.0726	pCi/g						
	TPU:			+/-0.0813							
Lanthanum-140			U	8.11E-05	pCi/g						
	TPU:			+/-0.0379							
Lead-212				0.978	pCi/g						
	TPU:			+/-0.0854							
Lead-214				0.646	pCi/g						
	TPU:			+/-0.105							
Mercury-203			U	0.00538	pCi/g						
	TPU:			+/-0.0301							
Potassium-40				0.946	pCi/g						
	TPU:			+/-0.267							
Radium-223			U	-0.225	pCi/g						
	TPU:			+/-0.557							
Radium-224			U	1.12	pCi/g						
	TPU:			+/-0.795							
Radium-226				0.579	pCi/g						
	TPU:			+/-0.130							
Radium-228				1.37	pCi/g						
	TPU:			+/-0.247							
Ruthenium-106			U	0.0872	pCi/g						
	TPU:			+/-0.296							
Sodium-22			U	0.00745	pCi/g						
	TPU:			+/-0.0265							
Strontium-85			U	0.0619	pCi/g						
	TPU:			+/-0.0369							
Thallium-208				0.405	pCi/g						
	TPU:			+/-0.0505							

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QC Summary

Workorder: 245978

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	948721										
Thorium-227			U	-0.317	pCi/g						
	TPU:			+/-0.316							
Thorium-231			U	-0.225	pCi/g						
	TPU:			+/-0.557							
Thorium-234			U	-0.336	pCi/g						
	TPU:			+/-1.36							
Tin-113			U	-0.00334	pCi/g						
	TPU:			+/-0.0398							
Uranium-235			U	0.171	pCi/g						
	TPU:			+/-0.147							
Yttrium-88			U	-0.00751	pCi/g						
	TPU:			+/-0.0235							
QC1202032521 MB											
Americium-241			U	-0.0415	pCi/g					02/14/10	13:13
	TPU:			+/-0.0243							
Bismuth-211			U	-0.0947	pCi/g						
	TPU:			+/-0.0473							
Bismuth-214			U	-0.0326	pCi/g						
	TPU:			+/-0.0192							
Cadmium-109			U	-0.0906	pCi/g						
	TPU:			+/-0.149							
Cerium-139			U	0.00159	pCi/g						
	TPU:			+/-0.00503							
Cesium-134			U	-0.000707	pCi/g						
	TPU:			+/-0.00938							
Cesium-137			U	0.0153	pCi/g						
	TPU:			+/-0.0081							
Cobalt-60			U	-0.0105	pCi/g						
	TPU:			+/-0.00745							
Europium-152			U	0.00972	pCi/g						
	TPU:			+/-0.020							
Lanthanum-140			U	-0.000909	pCi/g						
	TPU:			+/-0.0125							
Lead-212			U	-0.0145	pCi/g						
	TPU:			+/-0.014							
Lead-214			U	-0.0296	pCi/g						
	TPU:			+/-0.0164							
Mercury-203			U	-0.000887	pCi/g						
	TPU:			+/-0.00768							
Potassium-40			U	-0.0146	pCi/g						
	TPU:			+/-0.110							
Radium-223			U	0.0655	pCi/g						
	TPU:			+/-0.138							
Radium-224			U	0.188	pCi/g						
	TPU:			+/-0.136							
Radium-226			U	-0.0326	pCi/g						
	TPU:			+/-0.0192							
Radium-228			U	-0.0166	pCi/g						
	TPU:			+/-0.0323							
Ruthenium-106			U	0.00062	pCi/g						
	TPU:			+/-0.0705							

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QC Summary

Workorder: 245978

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	948721										
Sodium-22			U	0.00838	pCi/g						
		TPU:		+/-0.00652							
Strontium-85			UI	0.0464	pCi/g						
		TPU:		+/-0.00882							
Thallium-208			U	0.00501	pCi/g						
		TPU:		+/-0.00909							
Thorium-227			U	0.118	pCi/g						
		TPU:		+/-0.0748							
Thorium-231			U	0.0655	pCi/g						
		TPU:		+/-0.138							
Thorium-234			U	-0.238	pCi/g						
		TPU:		+/-0.214							
Tin-113			U	0.0101	pCi/g						
		TPU:		+/-0.0078							
Uranium-235			U	-0.0456	pCi/g						
		TPU:		+/-0.0451							
Yttrium-88			U	0.00123	pCi/g						
		TPU:		+/-0.00804							
Rad Liquid Scintillation											
Batch	950495										
QC1202036901	245978001	DUP									
Tritium		202	U	188	pCi/L	0.0556		(0-1)	KXXK2	02/14/1012:30	
		TPU:		+/-61.7							
QC1202036902	LCS										
Tritium		5560		5590	pCi/L		100	(80%-120%)		02/14/1014:07	
		TPU:		+/-474							
QC1202036900	MB										
Tritium			U	-27.8	pCi/L					02/14/1010:51	
		TPU:		+/-56.5							

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure

GEL LABORATORIES LLC

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QC Summary

Workorder: 245978

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
N/A	RPD or %Recovery limits do not apply.									
ND	Analyte concentration is not detected above the detection limit									
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
R	Sample results are rejected									
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.									
UI	Gamma Spectroscopy--Uncertain identification									
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier									
Y	QC Samples were not spiked with this compound									
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.									
h	Preparation or preservation holding time was exceeded									

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more.

** Indicates analyte is a surrogate compound.

^ 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.

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

Radiochemistry Batch Checklist, Rev10

Batch# 949823

Product: AM

Date: 2/21/10

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)	X		
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.	X		
Instrument source check is within limits.	X		
Instrument big check is within limits.	X		
Method RDU/ LLD has been met.	X		
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%.	X		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	X		case narrative
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDU/ LLD.	X		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	X		
Sample was correctly preserved if required.	X		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	X		
No blank spaces on data forms.	X		
All line outs Initialed and dated.			
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	X		
Raw Data and/ or spectrum are included and properly statused.	X		
QC data entered into QC database and batch is in REVW	X		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	X		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Allquot 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.)	X		

GEL Laboratories, LLC

RADcheckdistrev10, revised 1/13/2010

Primary Review Performed By: High Line 2/21/10

Secondary Review Performed By: Quil 2/22/10

2/13-2/23

CAN

✓P

Am/Cm Que Sheet

05-FEB-10

Batch #: 949823 Analyst: HAKB First Client Due Date: 23-FEB-10 Internal Due Date: 13-FEB-10 Comments:
Tracer(s): Am241/Cm244 Tracer Code: 445-96-2-SS Expiration Date: 5/11/10 Vol: 50.1
LCS Isotope(s): Am241/Cm244 LCS Code(s): SPM 0244-B / NA Expiration Date: 4/30/20 / NA Vol(s): 10.38 / NA
Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA Vol(s): NA / NA
Prep Date: 2/8/10 Initials: spk Pipet ID: 2971058 Balance ID: 50410212 Witness: YAO 02/09/10

Sample ID	Client Description	Type	Hazard	Code	CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Alk/Quot	Am/Cm	Det #
245955001-1	RE16-10-1474	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	1				1.260	246
245955002-1	RE16-10-1475	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	2				1.271	248
245960001-1	RE15-10-7309	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	3				1.281	250
245960002-1	RE15-10-7308	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	4				1.268	252
245960003-1	RE15-10-7315	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	5				1.253	254
245960004-1	RE15-10-7317	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	6				1.252	256
245960005-1	RE15-10-7319	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	7				1.257	213
245960006-1	RE16-10-7312	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	8				1.284	214
245960007-1	RE15-10-7313	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	9				1.268	215
245960008-1	RE15-10-7314	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	10				1.262	216
245960009-1	RE15-10-7316	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	11				1.260	217
245960010-1	RE15-10-7318	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	12				1.270	224
245960011-1	RE15-10-7324	SAMPLE			.05 pCi/g	SOIL	LANL010	28-JAN-10	13				1.261	225
245970001-1	RE15-10-7880	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	14				1.271	226
245970002-1	RE15-10-7891	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	15				1.267	227
245970003-1	RE15-10-7892	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	16				1.264	228
245970004-1	RE15-10-7967	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	17				1.252	229
245970005-1	RE15-10-7976	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	18				1.258	230
245970006-1	RE15-10-7968	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	19				1.258	231
245970007-1	RE15-10-7965	SAMPLE			.05 pCi/g	SOIL	LANL010	27-JAN-10	20				1.284	232
1202034998-1	MB for batch 949823	MB			.05 pCi/g	SOIL	QC ACCOUNT		21				1.00	218
1202034999-1	RE15-10-7880(245970001DUP)	DUP			.05 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	22				1.260	219
1202035000-1	LCS for batch 949823	LCS			.05 pCi/g	SOIL	QC ACCOUNT		23				0.103	220 236

Choose SOP Used: GL-RAD-A-011
GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: kgf 2/2/10

Blank Correction Report

Batch ID 949823

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202034999	DUP	Americium-241	1.26 g	0.00234	0.00181	0.0207	-.00262698	pCi/g	NO
1202035000	LCS	Americium-241	0.103 g	30.0	2.13	0.223	-.03213592	pCi/g	NO
1202034998	MB	Americium-241	1.00 g	-0.00331	0.00355	0.0257	-.00331	pCi/g	NO
245955001	RE16-10-1474	Americium-241	1.26 g	0.00421	0.00253	0.0225	-.00262698	pCi/g	NO
245955002	RE16-10-1475	Americium-241	1.27 g	-0.0018	0.00142	0.0212	-.00260630	pCi/g	NO
245960001	RE15-10-7309	Americium-241	1.28 g	0.00144	0.00162	0.0241	-.00258594	pCi/g	NO
245960002	RE15-10-7308	Americium-241	1.27 g	0.0029	0.00214	0.0234	-.00260630	pCi/g	NO
245960003	RE15-10-7315	Americium-241	1.25 g	-0.00131	0.00226	0.0274	-.002648	pCi/g	NO
245960004	RE15-10-7317	Americium-241	1.25 g	0.00455	0.00271	0.0238	-.002648	pCi/g	NO
245960005	RE15-10-7319	Americium-241	1.26 g	0.0102	0.00422	0.0256	-.00262698	pCi/g	NO
245960007	RE15-10-7313	Americium-241	1.26 g	-0.00181	0.00155	0.0232	-.00262698	pCi/g	NO
245960009	RE15-10-7316	Americium-241	1.26 g	0.00352	0.003	0.0243	-.00262698	pCi/g	NO
245960010	RE15-10-7318	Americium-241	1.27 g	0.0136	0.00467	0.0231	-.00260630	pCi/g	NO
245960011	RE15-10-7324	Americium-241	1.26 g	0.00318	0.0023	0.0248	-.00262698	pCi/g	NO
245978001	RE15-10-7880	Americium-241	1.27 g	-0.0018	0.00194	0.029	-.00260630	pCi/g	NO
245978002	RE15-10-7891	Americium-241	1.27 g	0.0102	0.00424	0.0257	-.00260630	pCi/g	NO
245978003	RE15-10-7892	Americium-241	1.26 g	0.00303	0.00268	0.0221	-.00262698	pCi/g	NO
245978004	RE15-10-7967	Americium-241	1.25 g	0.0142	0.00485	0.0239	-.002648	pCi/g	NO
245978005	RE15-10-7976	Americium-241	1.26 g	8.35E-06	0.00176	0.0213	-.00262698	pCi/g	NO
245978006	RE15-10-7968	Americium-241	1.26 g	0.00487	0.00287	0.025	-.00262698	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER :	949823
SAMPLE ID :	S0245978001_AM
SAMPLE QTY :	1.271 G
SAMPLE DATE :	27-JAN-2010 00:00:00
ANALYST :	HAKEB
% YIELD :	68.190

CHAMBER : 226
DETECTOR S/N : 79419
AVERAGE %EFFICIENCY : 37.2343
COUNT DATE : 15-FEB-2010 07:41:45
ELAPSED LIVE TIME(SEC) : 43200.00

```
LIB FILE      : ENV_ALPHA_AM
BKG FILE     : B226.CNF;80
BKG DATE     : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE     : W226.CNF;28
CAL DATE     : 29-JAN-2010
```

TRACER	:	445-96-2-SS
ID	:	AM243
NUCLIDE	:	2.9166E+00 dpm
NOMINAL	:	1.9888E+00 dpm
RESULTS	:	

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3156E+01 pCi/G

LCS/LCSD	
ID	: 0244-B
NUCLIDE	: AM-241
NOMINAL	: 3.3156E

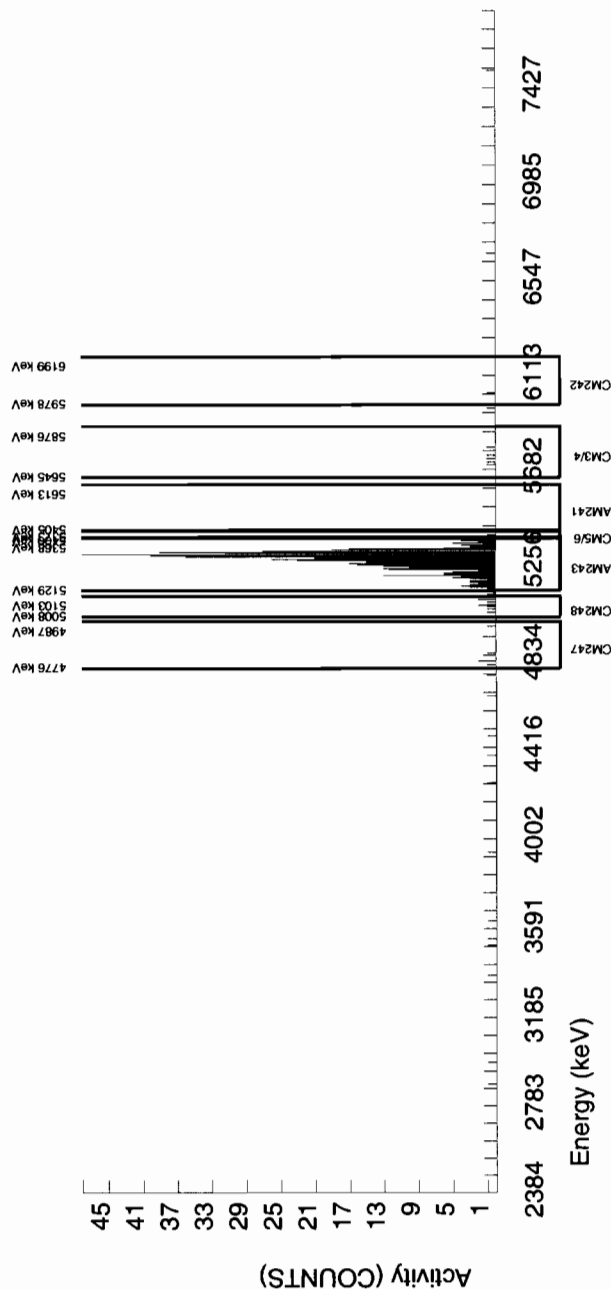
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	NUCLIDE ACTIVITY SUMMARY									
						BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G		
AM-241	5479.150	5508.883	0.000	0.000	-0.926	0.000	2.8409	99.94000	-1.80E-03	1.94E-03	1.19E-02	2.90E-02	1.94E-03		
AM243	5270.000	5276.667	39.465	532.000	532.000	0.000	0.0000	99.78000	1.03E+00	8.12E-02	0.00E+00	5.27E-03	4.48E-02		
CM-242	6102.000	6037.050	4.955	1.000	1.000	0.000	4.3413	100.0000	2.11E-03	2.11E-03	1.82E-02	4.16E-02	2.11E-03		
CM-3/4	5795.020	5741.394	79.274	5.000	4.280	0.720	5.1799	100.0000	8.31E-03	4.60E-03	2.17E-02	4.86E-02	4.56E-03		
CM-5/6	5386.000	5379.774	7.277	4.000	4.000	0.000	14.2480	86.09000	9.01E-03	4.54E-03	6.92E-02	1.45E-01	4.50E-03		
CM-247	4946.000	4848.850	4.955	5.000	2.840	2.160	13.7917	79.30000	6.94E-03	6.28E-03	7.27E-02	1.52E-01	6.26E-03		
CM-248	5078.600	5068.201	32.205	9.000	9.000	0.000	19.5080	91.00000	1.92E-02	6.51E-03	8.97E-02	1.85E-01	6.39E-03		

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241

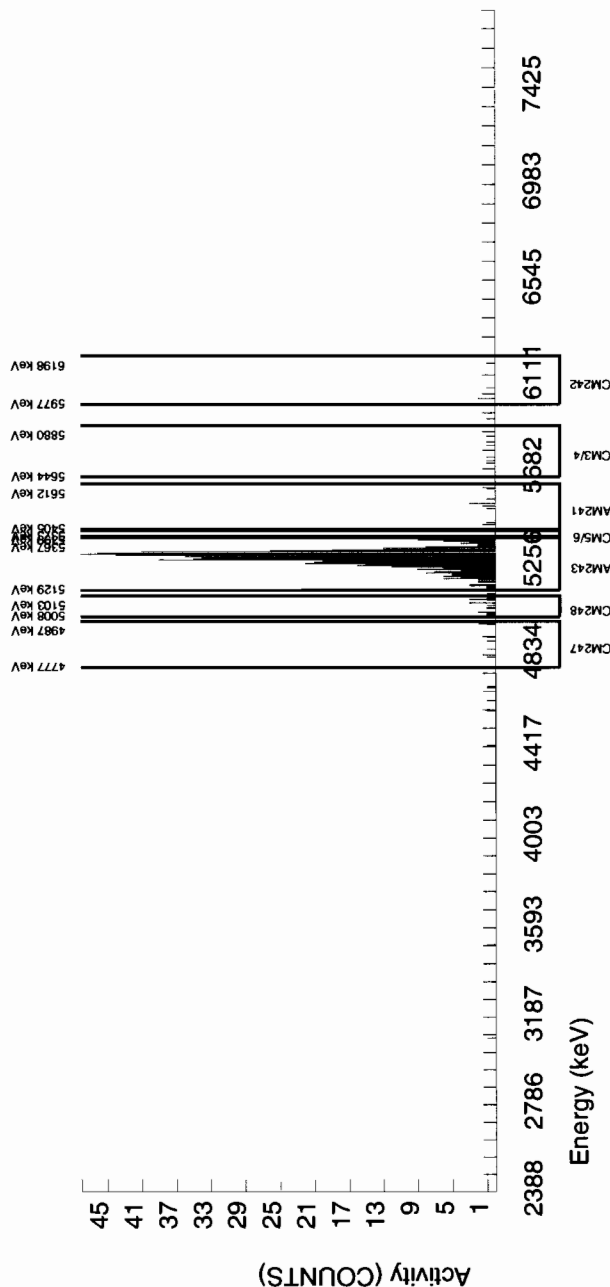


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949823 SAMPLE ID : S0245978002_AM SAMPLE QTY : 1.267 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 74.512				CHAMBER : 227 DETECTOR S/N : 79420 AVERAGE %EFFICIENCY : 38.6409 COUNT DATE : 15-FEB-2010 07:41:49 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B227.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W227.CNF:28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.1732E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5524.644	4.945	7.000	5.950	0.000	2.8409	99.94000	1.02E-02	4.24E-03	1.05E-02	2.57E-02	4.19E-03
AM243	5270.000	5279.119	44.666	604.000	603.280	0.720	0.8485	99.78000	1.04E+00	7.85E-02	3.15E-03	1.10E-02	4.23E-02
CM-242	6102.000	6055.380	4.945	5.000	5.000	0.000	4.3413	100.0000	9.32E-03	4.21E-03	1.61E-02	3.68E-02	4.17E-03
CM-3/4	5795.020	5770.030	118.686	6.000	5.280	0.720	5.1799	100.0000	9.07E-03	4.43E-03	1.92E-02	4.30E-02	4.39E-03
CM-5/6	5386.000	5375.978	0.000	8.000	8.000	0.000	14.2480	86.09000	1.59E-02	5.73E-03	6.12E-02	1.28E-01	5.63E-03
CM-247	4946.000	4922.027	7.263	7.000	7.000	0.000	13.7917	79.30000	1.51E-02	5.80E-03	6.43E-02	1.35E-01	5.72E-03
CM-248	5078.600	5056.475	0.000	20.000	20.000	0.000	19.5080	91.00000	3.77E-02	8.76E-03	7.93E-02	1.64E-01	8.43E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949823 SAMPLE ID : S0245978003_AM SAMPLE QTY : 1.264 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 90.475				CHAMBER : 228 DETECTOR S/N : 79421 AVERAGE %EFFICIENCY : 37.1363 COUNT DATE : 15-FEB-2010 07:41:52 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B228.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W228.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6388E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5492.618	4.969	4.000	2.055	0.720	2.8409	99.94000	3.03E-03	2.68E-03	9.03E-03	2.21E-02	2.68E-03
AM-243	5270.000	5277.485	45.130	704.000	704.000	0.000	0.0000	99.78000	1.04E+00	7.53E-02	0.00E+00	4.00E-03	3.92E-02
CM-242	6102.000	6021.504	84.480	4.000	4.000	0.000	4.3413	100.0000	6.40E-03	3.23E-03	1.38E-02	3.16E-02	3.20E-03
CM-3/4	5795.020	5780.945	4.969	5.000	5.000	0.000	5.1799	100.0000	7.38E-03	3.33E-03	1.65E-02	3.69E-02	3.30E-03
CM-5/6	5386.000	5381.146	0.000	4.000	4.000	0.000	14.2480	86.09000	6.84E-03	3.45E-03	5.26E-02	1.10E-01	3.42E-03
CM-247	4946.000	4918.065	149.083	4.000	4.000	0.000	13.7917	79.30000	7.43E-03	3.74E-03	5.53E-02	1.16E-01	3.72E-03
CM-248	5078.600	5059.543	77.026	17.000	17.000	0.000	19.5080	91.00000	2.75E-02	6.89E-03	6.81E-02	1.41E-01	6.67E-03

NOTES:

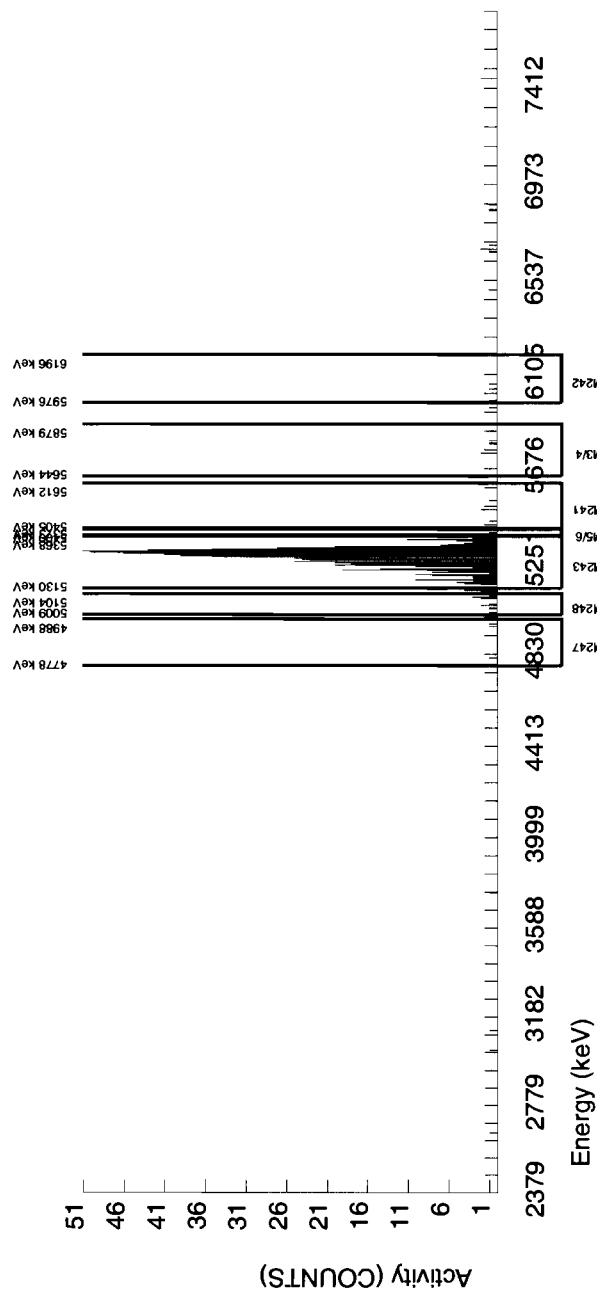
* Sq calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949823 SAMPLE ID : S0245978004_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 82.993		CHAMBER : 235 DETECTOR S/N : 79428 AVERAGE %EFFICIENCY : 37.6823 COUNT DATE : 18-FEB-2010 18:42:52 ELAPSED LIVE TIME(SEC) : 43200.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B235.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W235.CNF:28 CAL DATE : 29-JAN-2010
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4206E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
AM-241	5479.150	5511.812	6.071
AM-243	5270.000	5269.256	62.504
CM-242	6102.000	6052.270	19.589
CM-3/4	5795.020	5735.458	93.050
CM-5/6	5386.000	5377.508	0.000
CM-247	4946.000	4879.808	0.000
CM-248	5078.600	5066.934	53.748
	GROSS AREA	NET AREA	BKG AREA
	10.000	8.860	0.000
	656.000	655.280	0.720
	3.000	3.000	0.000
	2.000	2.000	0.000
	7.000	7.000	0.000
	7.000	6.280	0.720
	27.000	27.000	0.000
			BKG Sg
			2.8409
			0.8485
			4.3413
			5.1799
			14.2480
			13.7917
			19.5080
			%ABUN
			99.94000
			99.78000
			100.0000
			100.0000
			86.09000
			79.30000
			91.00000
		ACTIVITY pCi/G	TPU 1-SIGMA
		1.42E-02	4.85E-03
		1.05E+00	7.90E-02
		5.29E-03	3.07E-03
		3.20E-03	2.27E-03
		1.30E-02	4.98E-03
		1.27E-02	5.58E-03
		4.74E-02	9.62E-03
			DLC pCi/G
			9.80E-03
			2.93E-03
			1.50E-02
			1.79E-02
			5.71E-02
			6.00E-02
			7.39E-02
			MDC pCi/G
			2.39E-02
			1.02E-02
			3.43E-02
			4.00E-02
			1.19E-01
			1.25E-01
			1.53E-01
			UNC pCi/G
			4.76E-03
			4.10E-02
			3.05E-03
			2.27E-03
			4.91E-03
			5.52E-03
			9.12E-03

NOTES:

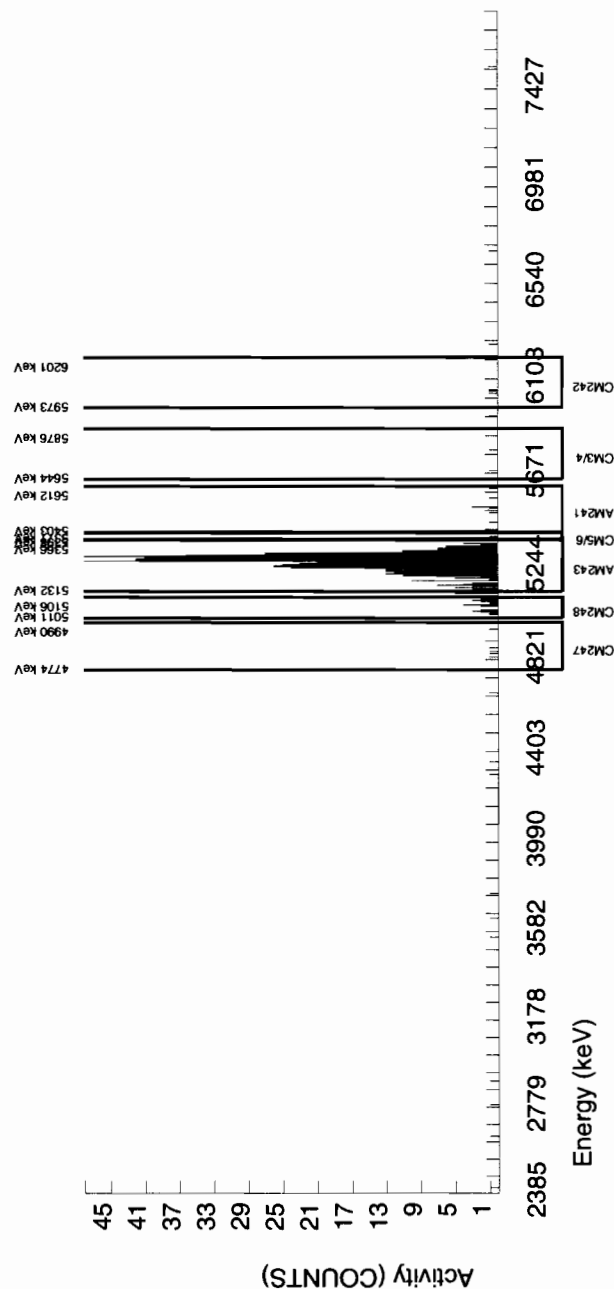
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



BATCH NUMBER : 949823				CHAMBER : 230				LIB FILE : ENV_ALPHA_AM					
SAMPLE ID : S0245978005_AM				DETECTOR S/N : 79423				BKG FILE : B230.CNF;80					
SAMPLE QTY : 1.258 G				AVERAGE %EFFICIENCY : 37.5123				BKG DATE : 14-FEB-2010					
SAMPLE DATE : 27-JAN-2010 00:00:00				COUNT DATE : 15-FEB-2010 07:41:58				BKG LIVE TIME(SEC) : 60000.00					
ANALYST : HAKB				ELAPSED LIVE TIME(SEC) : 43200.00				EFF FILE : W230.CNF;28					
% YIELD : 93.257								CAL DATE : 29-JAN-2010					
TRACER				MS/MSD				LCS/LCSD					
ID : 445-96-2-SS				ID : 0244-B				ID : 0244-B					
NUCLIDE : AM243				NUCLIDE : AM-241				NUCLIDE : AM-241					
NOMINAL : 2.9166E+00 dpm				NOMINAL : 3.3156E+01 pCi/G				NOMINAL : 3.3156E+01 pCi/G					
RESULTS : 2.7199E+00 dpm													
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5506.674	64.209	2.000	0.004	0.720	2.8409	99.94000	6.35E-06	1.76E-03	8.72E-03	2.13E-02	1.75E-03
AM243	5270.000	5269.844	71.576	733.000	733.000	0.000	0.0000	99.78000	1.04E+00	7.49E-02	0.00E+00	3.86E-03	3.86E-02
CM-242	6102.000	6027.378	98.783	7.000	7.000	0.000	4.3413	100.0000	1.08E-02	4.14E-03	1.33E-02	3.05E-02	4.09E-03
CM-3/4	5795.020	5747.474	108.661	5.000	4.280	0.720	5.1799	100.0000	6.10E-03	3.37E-03	1.59E-02	3.56E-02	3.35E-03
CM-5/6	5386.000	5374.797	0.000	4.000	4.000	0.000	14.2480	86.09000	6.61E-03	3.33E-03	5.08E-02	1.06E-01	3.30E-03
CM-247	4946.000	4937.654	0.000	9.000	9.000	0.000	13.7917	79.30000	1.61E-02	5.47E-03	5.33E-02	1.12E-01	5.38E-03
CM-248	5078.600	5070.223	44.349	15.000	15.000	0.000	19.5080	91.00000	2.34E-02	6.22E-03	6.57E-02	1.36E-01	6.05E-03

NOTES:

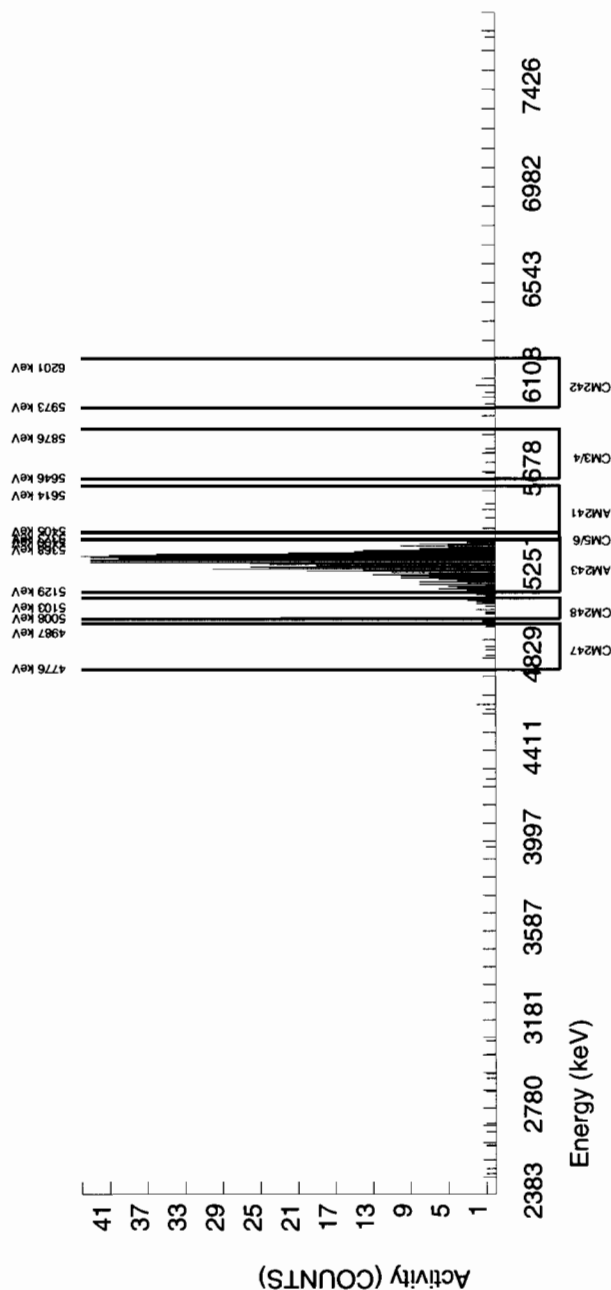
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949823			CHAMBER : 231			LIB FILE : ENV_ALPHA_AM		
SAMPLE ID : S0245978006_AM			DETECTOR S/N : 79424			BKG FILE : B231.CNF:80		
SAMPLE QTY : 1.258 G			AVERAGE %EFFICIENCY : 38.8428			BKG DATE : 14-FEB-2010		
SAMPLE DATE : 27-JAN-2010 00:00:00			COUNT DATE : 15-FEB-2010 07:42:00			BKG LIVE TIME(SEC) : 60000.00		
ANALYST : HAKB			ELAPSED LIVE TIME(SEC) : 43200.00			EFF FILE : W231.CNF:28		
% YIELD : 76.650						CAL DATE : 29-JAN-2010		
TRACER			MS/MSD			LCS/LCSD		
ID : 445-96-2-SS			ID : 0244-B			ID : 0244-B		
NUCLIDE : AM243			NUCLIDE : AM-241			NUCLIDE : AM-241		
NOMINAL : 2.9166E+00 dpm			NOMINAL : 3.3156E+01 pCi/G			NOMINAL : 3.3156E+01 pCi/G		
RESULTS : 2.2356E+00 dpm								
NUCLIDE ACTIVITY SUMMARY								
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN
AM-241	5479.150	5506.121	0.000	4.000	2.914	0.000	2.8409	99.94000
AM243	5270.000	5279.415	39.156	626.000	623.840	2.160	1.4697	99.78000
CM-242	6102.000	6061.985	49.342	2.000	2.000	0.000	4.3413	100.0000
CM-3/4	5795.020	5779.842	24.671	2.000	1.280	0.720	5.1799	100.0000
CM-5/6	5386.000	5376.660	0.000	10.000	10.000	0.000	14.2480	86.09000
CM-247	4946.000	4932.375	63.528	7.000	6.280	0.720	13.7917	79.30000
CM-248	5078.600	5056.119	14.803	15.000	14.280	0.720	19.5080	91.00000

NOTES:

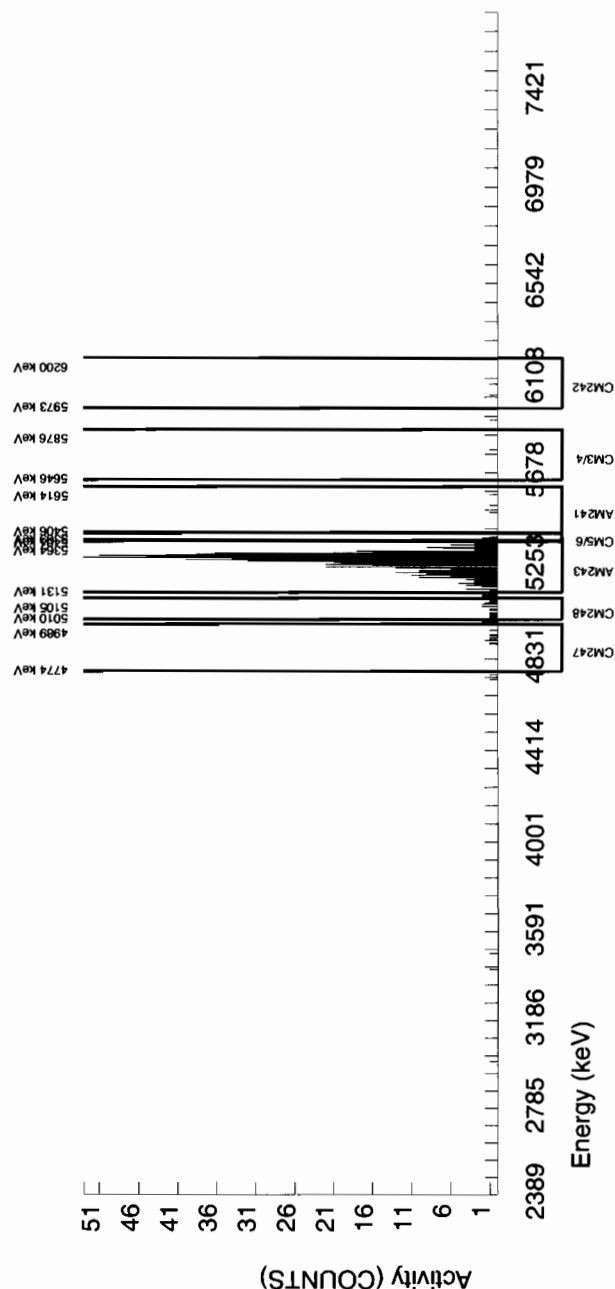
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sq of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



BATCH NUMBER : 949823 SAMPLE ID : S1202034998_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 8-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 97.083				CHAMBER : 218 DETECTOR S/N : 79411 AVERAGE %EFFICIENCY : 37.5225 COUNT DATE : 15-FEB-2010 07:41:22 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B218.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W218.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.8315E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5560.936	0.000	3.000	-1.928	3.600	2.8409	99.94000	-3.31E-03	3.55E-03	1.05E-02	2.57E-02	3.55E-03
AM-243	5270.000	5277.232	48.018	764.000	763.280	0.720	0.8485	99.78000	1.31E+00	9.33E-02	3.15E-03	1.10E-02	4.76E-02
CM-242	6102.000	6043.712	4.944	9.000	9.000	0.000	4.3413	100.0000	1.60E-02	5.41E-03	1.61E-02	3.68E-02	5.32E-03
CM-3/4	5795.020	5759.040	168.093	11.000	11.000	0.000	5.1799	100.0000	1.89E-02	5.82E-03	1.92E-02	4.30E-02	5.70E-03
CM-5/6	5386.000	5372.661	0.000	5.000	4.280	0.720	14.2480	86.09000	8.54E-03	4.72E-03	6.13E-02	1.28E-01	4.69E-03
CM-247	4946.000	4899.614	148.318	5.000	2.840	2.160	13.7917	79.30000	6.15E-03	5.56E-03	6.44E-02	1.35E-01	5.54E-03
CM-248	5078.600	5078.091	0.000	24.000	22.560	1.440	19.5080	91.00000	4.26E-02	9.79E-03	7.94E-02	1.64E-01	9.44E-03

NOTES:

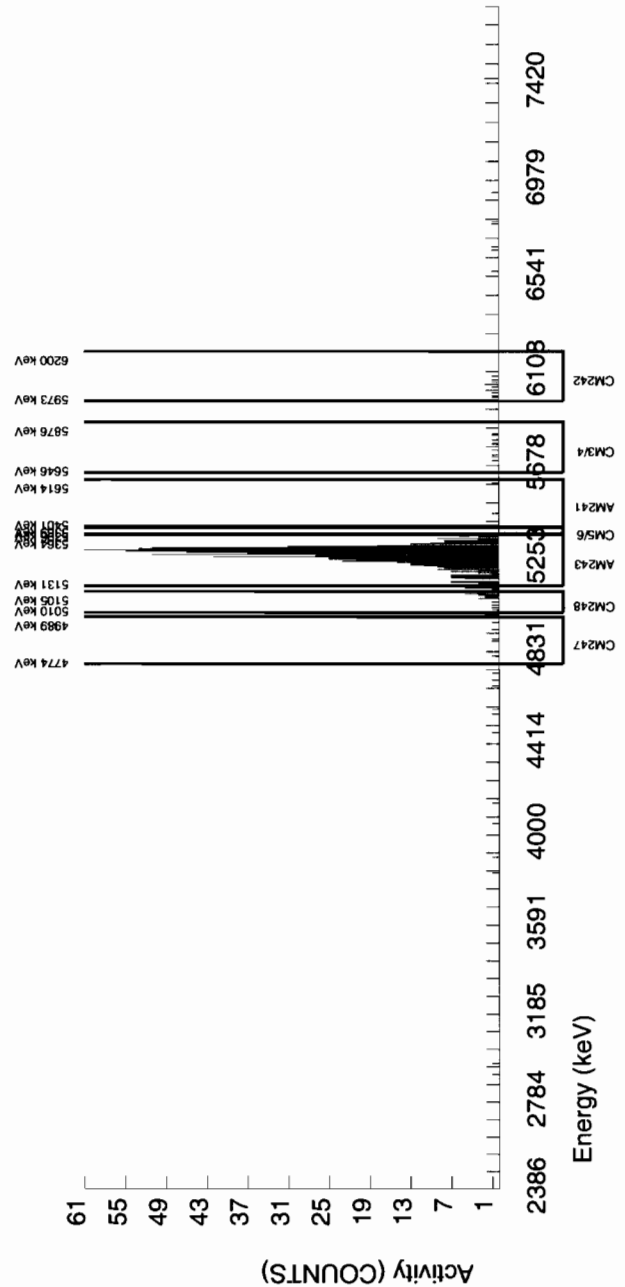
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



BATCH NUMBER : 949823
SAMPLE ID : S1202034999_AM
SAMPLE QTY : 1.260 G
SAMPLE DATE : 27-JAN-2010 00:00:00
ANALYST : HAKB
% YIELD : 93.352

CHAMBER : 219
DETECTOR S/N : 79412
AVERAGE %EFFICIENCY : 38.4458
COUNT DATE : 15-FEB-2010 07:41:25
ELAPSED LIVE TIME(SEC) : 43200.00

```
LIB FILE      : ENV_ALPHA_AM
BKG FILE     : B219.CNF;80
BKG DATE     : 14-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE     : W219.CNF;28
CAL DATE     : 29-JAN-2010
```

TRACER	:	445-96-2-SS
ID	:	AM243
NUCLIDE	:	2.9166E+00 dpm
NOMINAL	:	2.7227E+00 dpm
RESULTS	:	

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3156E+01 pCi/G

LCS/LCSD	ID :	0244-B
	NUCLIDE :	AM-241
	NOMINAL :	3.3156E

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLG pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5484.873	0.000	3.000	1.691	0.000	2.8409	99.94000	2.34E-03	1.81E-03	8.48E-03	2.07E-02	1.80E-03
AM243	5270.000	5276.857	49.546	752.000	752.000	0.000	0.0000	99.78000	1.04E+00	7.43E-02	0.00E+00	3.76E-03	3.80E-02
CM-242	6102.000	6040.348	7.220	8.000	8.000	0.000	4.3413	100.0000	1.20E-02	4.32E-03	1.30E-02	2.97E-02	4.25E-03
CM-3/4	5795.020	5779.022	7.220	12.000	12.000	0.000	5.1799	100.0000	1.68E-02	4.91E-03	1.55E-02	3.47E-02	4.80E-03
CM-5/6	5386.000	5378.583	0.000	11.000	11.000	0.000	14.2480	86.09000	1.77E-02	5.44E-03	4.94E-02	1.03E-01	5.33E-03
CM-247	4946.000	4924.962	7.220	9.000	7.560	1.440	13.7917	79.30000	1.32E-02	5.59E-03	5.19E-02	1.09E-01	5.53E-03
CM-248	5078.600	5072.415	0.000	38.000	38.000	0.000	19.5080	91.00000	5.78E-02	1.00E-02	6.40E-02	1.32E-01	9.37E-03

NOTES:

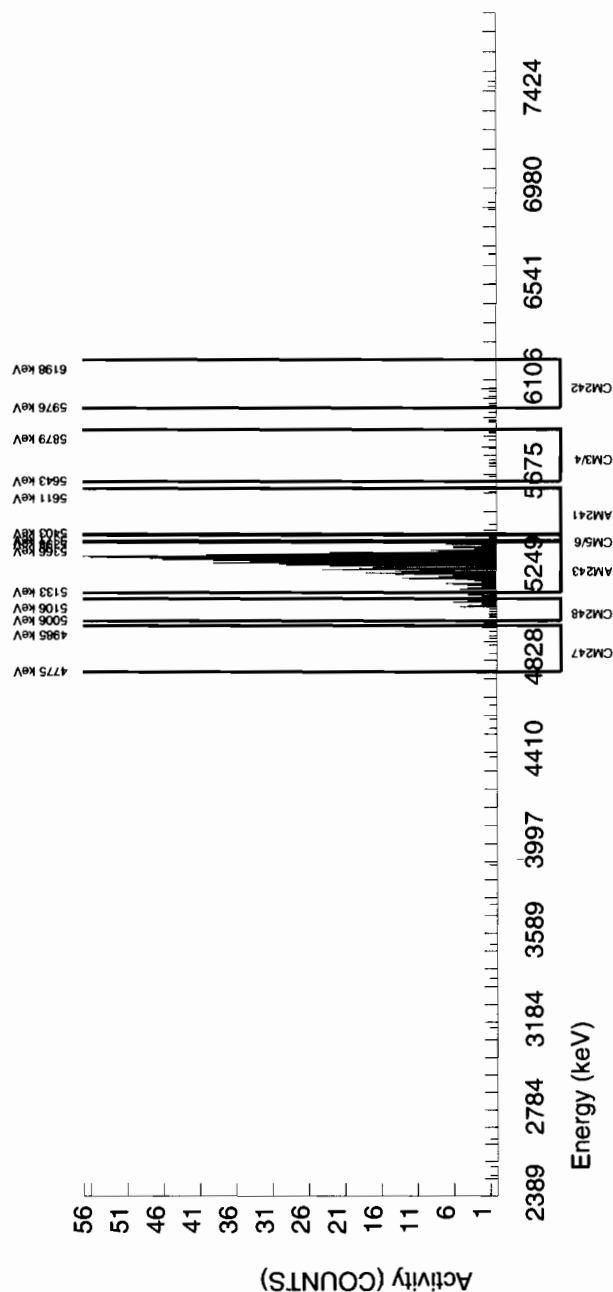
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sq of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



BATCH NUMBER : 949823 SAMPLE ID : S1202035000_AM SAMPLE QTY : 0.103 G SAMPLE DATE : 8-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 105.646				CHAMBER : 236 DETECTOR S/N : 79429 AVERAGE %EFFICIENCY : 38.6953 COUNT DATE : 18-FEB-2010 18:42:55 ELAPSED LIVE TIME(SEC) : 43200.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B236.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W236.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 3.0812E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3154E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5493.946	51.735	2017.000	2015.510	0.000	2.8409	99.94000	3.00E+01	2.13E+00	9.11E-02	2.23E-01	6.67E-01
AM243	5270.000	5273.112	66.354	858.000	856.560	1.440	1.2000	99.78000	1.28E+01	9.66E-01	3.86E-02	1.17E-01	4.36E-01
CM-242	6102.000	6049.406	58.191	5.000	5.000	0.000	4.3413	100.0000	7.79E-02	3.52E-02	1.39E-01	3.19E-01	3.48E-02
CM-3/4	5795.020	5765.562	4.900	5.000	5.000	0.000	5.1799	100.0000	7.44E-02	3.36E-02	1.66E-01	3.72E-01	3.33E-02
CM-5/6	5386.000	5384.850	0.000	98.000	98.000	0.000	14.2480	86.09000	1.69E+00	2.06E-01	5.31E-01	1.11E+00	1.71E-01
CM-247	4946.000	4913.693	4.900	11.000	10.280	0.720	13.7917	79.30000	1.93E-01	6.49E-02	5.57E-01	1.17E+00	6.36E-02
CM-248	5078.600	5066.467	36.625	30.000	30.000	0.000	19.5080	91.00000	4.90E-01	9.54E-02	6.87E-01	1.42E+00	8.94E-02

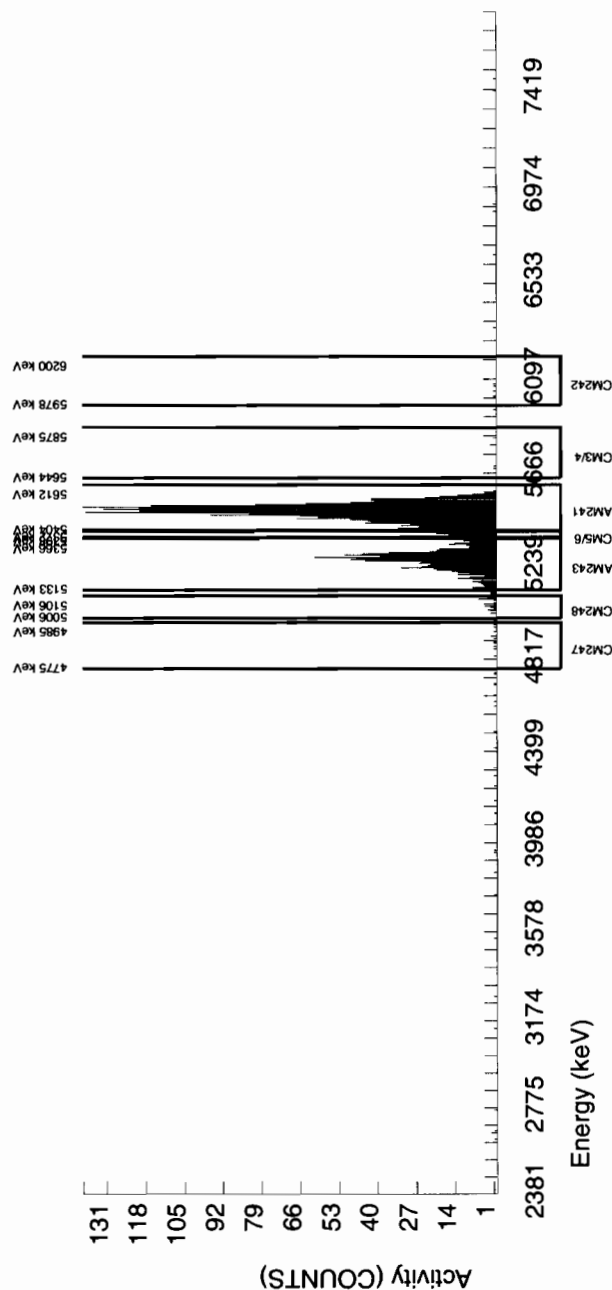
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:



Radiochemistry Batch Checklist, Rev10

Batch# 949824

Product: Pu

Date: 2/21/10

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)	X		
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.	X		
Instrument source check is within limits.	X		
Instrument bkg check is within limits.	X		
Method RDL/ LLD has been met.	X		
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%.	X		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	X		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	X		
(If rad samples, < 5% of lowest activity)			
Sample was run within hold time.	X		
Sample was correctly preserved if required.	X		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	X		
No blank spaces on data forms.	X		
All line outs initialed and dated.			
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	X		
Raw Data and/ or spectrum are included and properly statused.	X		
QC data entered into QC database and batch is in REVW	X		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	X		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (if REMF, results above MDC have been verified by historical results, recount or re-analysis.)	X		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

hgb 2/21/10

Secondary Review Performed By:

Qu 2/22/10

2/13/10

can

✓P

Plutonium Que Sheet

05-FEB-10

Batch #: 949824 Analyst: HAKB First Client Due Date: 23-FEB-10 Internal Due Date: 13-FEB-10
Tracer Isotope(s): Pu-242/Pu-238 Tracer Code: 1315-A Expiration Date: 1/8/11 Vol: 0.1
LCS Isotope(s): Pu-239/Pu-238 LCS Code: SEMA 0254-B Expiration Date: 1/30/12 Vol: 0.103
Spike Isotope(s): Pu-239/Pu-238 Spike Code: N/A Expiration Date: N/A Vol: N/A
Prep Date: 2/8/10 Initials: HAKB Pipet ID: 2971058 Balance ID: 50410272 Witness: HAKB 02/08/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	West Allquot (g/1/1)	Pu Det #
24595001-1	RE16-10-1474	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	1	1	1.260	247
24595002-1	RE16-10-1475	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	2	2	1.271	248
24596001-1	RE15-10-7309	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	3	3	1.281	249
24596002-1	RE15-10-7308	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	4	4	1.268	250
24596003-1	RE15-10-7315	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	5	5	1.253	251
24596004-1	RE15-10-7317	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	6	6	1.252	252
24596005-1	RE15-10-7319	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	7	7	1.257	253
24596006-1	RE15-10-7312	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	8	8	1.284	254
24596007-1	RE15-10-7313	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	9	9	1.261	255
24596008-1	RE15-10-7314	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	10	10	1.252	256
24596009-1	RE15-10-7316	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	11	11	1.260	257
24596010-1	RE15-10-7318	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	12	12	1.270	258
24596011-1	RE15-10-7324	SAMPLE	.05 pCi/g		SOIL	LANL010	28-JAN-10	13	13	1.261	259
24597001-1	RE15-10-7880	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	14	14	1.271	260
24597002-1	RE15-10-7891	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	15	15	1.267	213
24597003-1	RE15-10-7892	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	16	16	1.264	214
24597004-1	RE15-10-7907	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	17	17	1.252	214
24597005-1	RE15-10-7976	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	18	18	1.258	79
24597006-1	RE15-10-7968	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	19	19	1.258	80
24597007-1	RE15-10-7965	SAMPLE	.05 pCi/g		SOIL	LANL010	27-JAN-10	20	20	1.281	81
120235001-1	MB for batch 949824	MB	.05 pCi/g		SOIL	QC ACCOUNT	27-JAN-10	21	21	1.0	82
120235002-1	RE15-10-7880(24597001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	27-JAN-10	22	22	1.260	211
120235003-1	LCS for batch 949824	LCS	.05 pCi/g		SOIL	QC ACCOUNT	27-JAN-10	23	23	0.103	212

Cheese SOP Used: GL-RAD-A-911 GL-RAD-A-036, RAD-A-043
Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: HAKB 02/10/10

Blank Correction Report

Batch ID 949824

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202035002	DUP	Plutonium-238	1.26 g	-0.00203	0.00203	0.0166	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00203	0.00144	0.0125	.002595238	pCi/g	YES
1202035003	LCS	Plutonium-238	0.103 g	7.01	0.502	0.201	0	pCi/g	NO
		Plutonium-239/240	0.103 g	36.9	2.25	0.152	.031747573	pCi/g	NO
1202035001	MB	Plutonium-238	1.00 g	0.00	0.00164	0.0267	0	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00327	0.00462	0.0201	.00327	pCi/g	YES
245955001	RE16-10-1474	Plutonium-238	1.26 g	-0.00111	0.00189	0.0236	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0105	0.00502	0.0178	.002595238	pCi/g	YES
245955002	RE16-10-1475	Plutonium-238	1.27 g	0.00281	0.00199	0.0216	0	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0014	0.00141	0.0163	.002574803	pCi/g	YES
245960001	RE15-10-7309	Plutonium-238	1.28 g	-0.00108	0.00185	0.023	0	pCi/g	YES
		Plutonium-239/240	1.28 g	-0.00282	0.00263	0.0174	.002554688	pCi/g	YES
245960002	RE15-10-7308	Plutonium-238	1.27 g	0.00	0.00151	0.0231	0	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00751	0.00338	0.0174	.002574803	pCi/g	YES
245960003	RE15-10-7315	Plutonium-238	1.25 g	-0.00106	0.00182	0.0227	0	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00739	0.00333	0.0172	.002616	pCi/g	YES
245960004	RE15-10-7317	Plutonium-238	1.25 g	-0.00106	0.00149	0.0172	0	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00211	0.0015	0.013	.002616	pCi/g	YES
245960005	RE15-10-7319	Plutonium-238	1.26 g	-0.00583	0.00311	0.0222	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00433	0.00251	0.0167	.002595238	pCi/g	YES
245960006	RE15-10-7312	Plutonium-238	1.28 g	0.00183	0.00227	0.0219	0	pCi/g	NO
		Plutonium-239/240	1.28 g	0.0133	0.00469	0.0186	.002554688	pCi/g	NO
245960007	RE15-10-7313	Plutonium-238	1.26 g	0.00	0.00142	0.0218	0	pCi/g	NO
		Plutonium-239/240	1.26 g	0.000793	0.00247	0.0164	.002595238	pCi/g	YES
245960008	RE15-10-7314	Plutonium-238	1.25 g	0.000397	0.00175	0.0218	0	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00567	0.00285	0.0184	.002616	pCi/g	YES
245960009	RE15-10-7316	Plutonium-238	1.26 g	-0.00254	0.00802	0.0207	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00888	0.00383	0.0156	.002595238	pCi/g	YES
245960010	RE15-10-7318	Plutonium-238	1.27 g	0.00264	0.00264	0.0216	0	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0145	0.00444	0.0162	.002574803	pCi/g	NO
245960011	RE15-10-7324	Plutonium-238	1.26 g	0.00249	0.00249	0.0203	0	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00248	0.00176	0.0153	.002595238	pCi/g	YES
245978001	RE15-10-7880	Plutonium-238	1.27 g	0.00493	0.00286	0.0269	0	pCi/g	NO
		Plutonium-239/240	1.27 g	0.00493	0.00286	0.0202	.002574803	pCi/g	YES
245978002	RE15-10-7891	Plutonium-238	1.27 g	0.00225	0.0016	0.0184	0	pCi/g	NO
		Plutonium-239/240	1.27 g	0.0214	0.00527	0.0139	.002574803	pCi/g	NO
245978003	RE15-10-7892	Plutonium-238	1.26 g	-0.00666	0.0061	0.0218	0	pCi/g	YES
		Plutonium-239/240	1.26 g	-0.00266	0.00231	0.0164	.002595238	pCi/g	YES
245978004	RE15-10-7967	Plutonium-238	1.25 g	0.0012	0.00121	0.0197	0	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Alliquot	Result	TPU	MDA	Alliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
245978004	RE15-10-7967	Plutonium-239/240	1.25 g	0.0723	0.0102	0.0148	.002616	pCi/g	NO
245978005	RE15-10-7976	Plutonium-238	1.26 g	-0.00126	0.00178	0.0208	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0151	0.00477	0.0155	.002595238	pCi/g	NO
245978006	RE15-10-7968	Plutonium-238	1.26 g	-0.00123	0.00276	0.0202	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.0123	0.00432	0.0152	.002595238	pCi/g	YES
245978007	RE15-10-7965	Plutonium-238	1.28 g	0.00397	0.0023	0.0216	0	pCi/g	NO
		Plutonium-239/240	1.28 g	0.0159	0.00466	0.0163	.002554688	pCi/g	NO

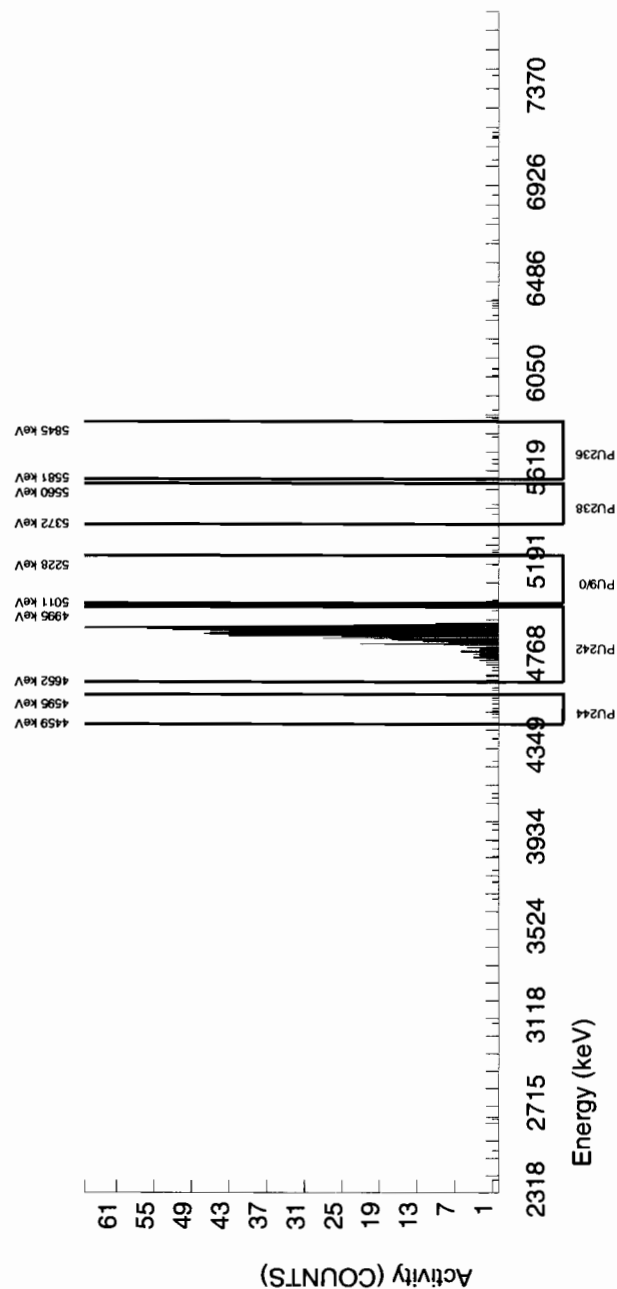
BATCH NUMBER : 949824				CHAMBER : 028				LIB FILE : ENV_ALPHA_PU					
SAMPLE ID : S0245978001_PU				DETECTOR S/N : 78792				BKG FILE : B028.CNF;1121					
SAMPLE QTY : 1.271 G				AVERAGE %EFFICIENCY : 30.7898				BKG DATE : 7-FEB-2010					
SAMPLE DATE : 27-JAN-2010 00:00:00				COUNT DATE : 13-FEB-2010 21:40:55				BKG LIVE TIME(SEC) : 59999.99					
ANALYST : HAKB				ELAPSED LIVE TIME(SEC) : 59999.99				EFF FILE : W028.CNF;321					
% YIELD : 70.130								CAL DATE : 3-FEB-2010					
TRACER				MS/MSD				LCS/LCSD					
ID : 1375-A				ID : 0244-B				ID : 0244-B					
NUCLIDE : PU242				NUCLIDE : PU-9/0				NUCLIDE : PU-9/0					
NOMINAL : 3.3808E+00 dpm				NOMINAL : 4.1778E+01 pCi/G				NOMINAL : 4.1778E+01 pCi/G					
RESULTS : 2.3709E+00 dpm													
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5706.793	4.947	5.000	-3.000	8.000	2.6925	100.0000	-4.98E-03	5.99E-03	1.03E-02	2.50E-02	5.99E-03
PU-238	5499.000	5425.808	84.091	3.000	3.000	0.000	2.9312	99.900000	4.93E-03	2.86E-03	1.12E-02	2.69E-02	2.85E-03
PU-9/0	5155.000	5139.904	158.288	3.000	3.000	0.000	2.0604	99.900000	4.93E-03	2.86E-03	7.88E-03	2.02E-02	2.85E-03
PU242	4890.000	4876.693	47.862	730.000	730.000	0.000	0.0000	100.0000	1.20E+00	8.06E-02	0.00E+00	4.45E-03	4.43E-02
PU-244	4589.000	4540.873	89.037	7.000	6.000	1.000	3.7241	99.900000	9.86E-03	4.68E-03	1.42E-02	3.29E-02	4.65E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

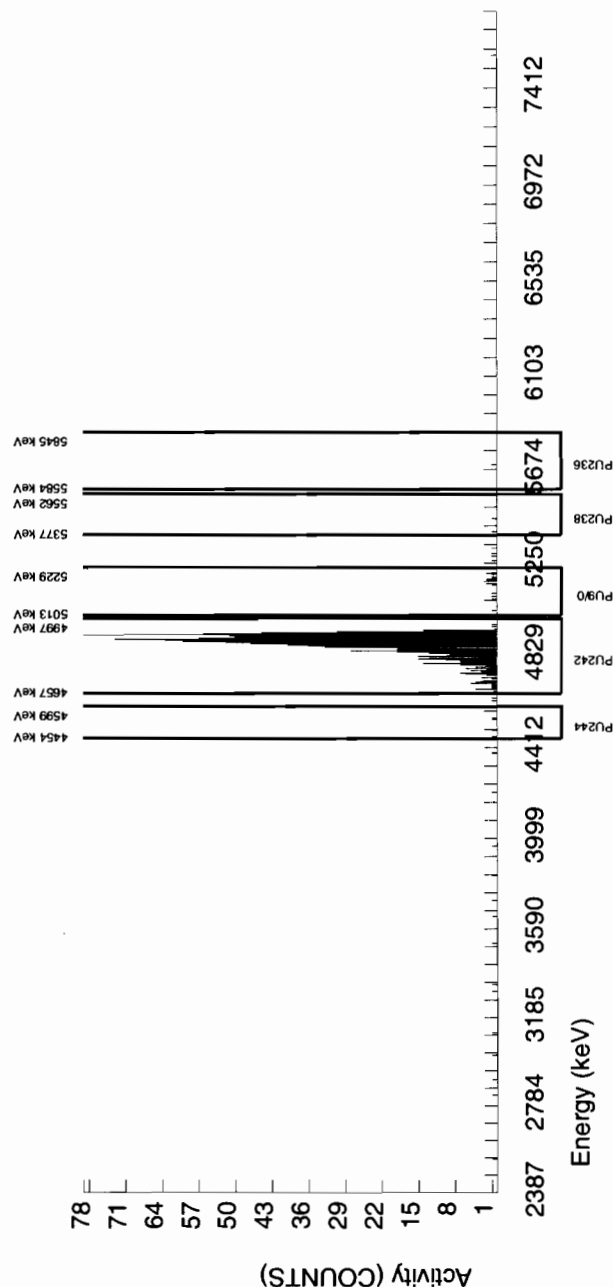
* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.



NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.

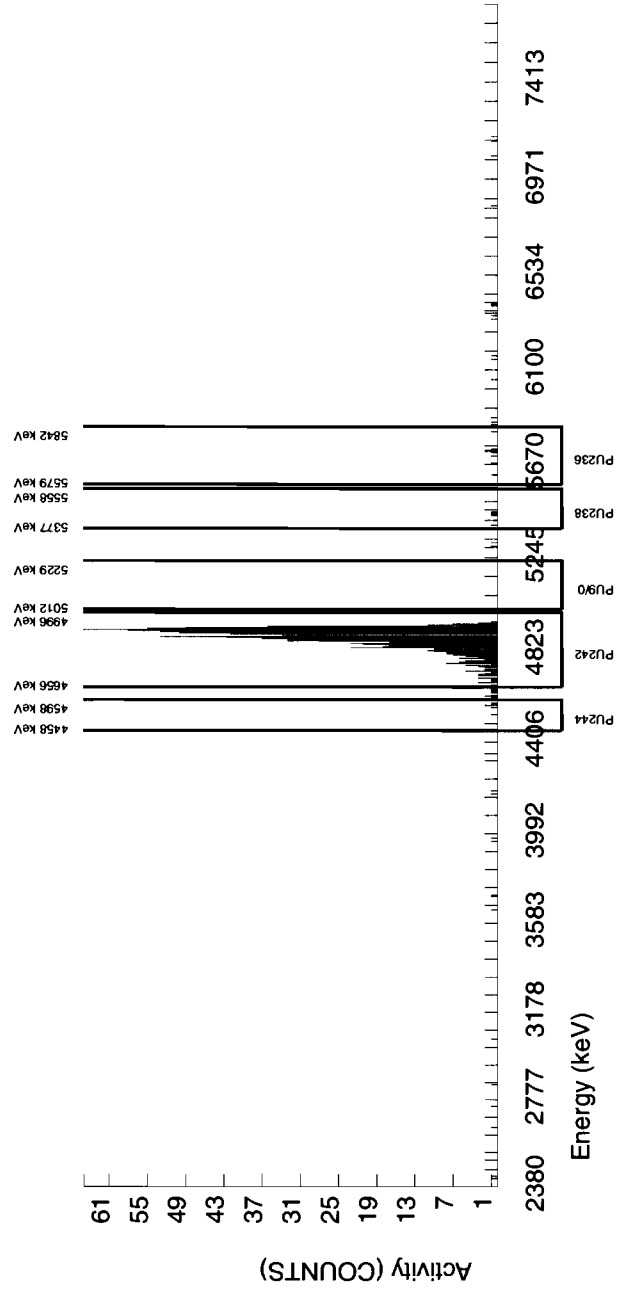


BATCH NUMBER : 949824 SAMPLE ID : S0245978003_PU SAMPLE QTY : 1.264 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 83.396				CHAMBER : 030 DETECTOR S/N : 33447 AVERAGE %EFFICIENCY : 32.1343 COUNT DATE : 13-FEB-2010 21:40:55 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B030.CNF;1109 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W030.CNF;305 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8194E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5737.279	14.194	11.000	1.000	10.000	2.6925	100.0000	1.35E-03	6.17E-03	8.33E-03	2.03E-02	6.17E-03
PU-238	5499.000	5439.589	4.937	8.000	-5.000	13.000	2.9312	99.900000	-6.66E-03	6.10E-03	9.08E-03	2.18E-02	6.10E-03
PU-9/0	5155.000	5120.359	0.000	0.000	-2.000	2.000	2.0604	99.900000	-2.66E-03	2.31E-03	6.38E-03	1.64E-02	2.31E-03
PU242	4890.000	4883.026	65.008	911.000	906.000	5.000	2.2361	100.0000	1.20E+00	7.63E-02	6.92E-03	1.74E-02	4.02E-02
PU-244	4589.000	4568.248	54.306	4.000	4.000	0.000	3.7241	99.900000	5.32E-03	2.68E-03	1.15E-02	2.67E-02	2.66E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.

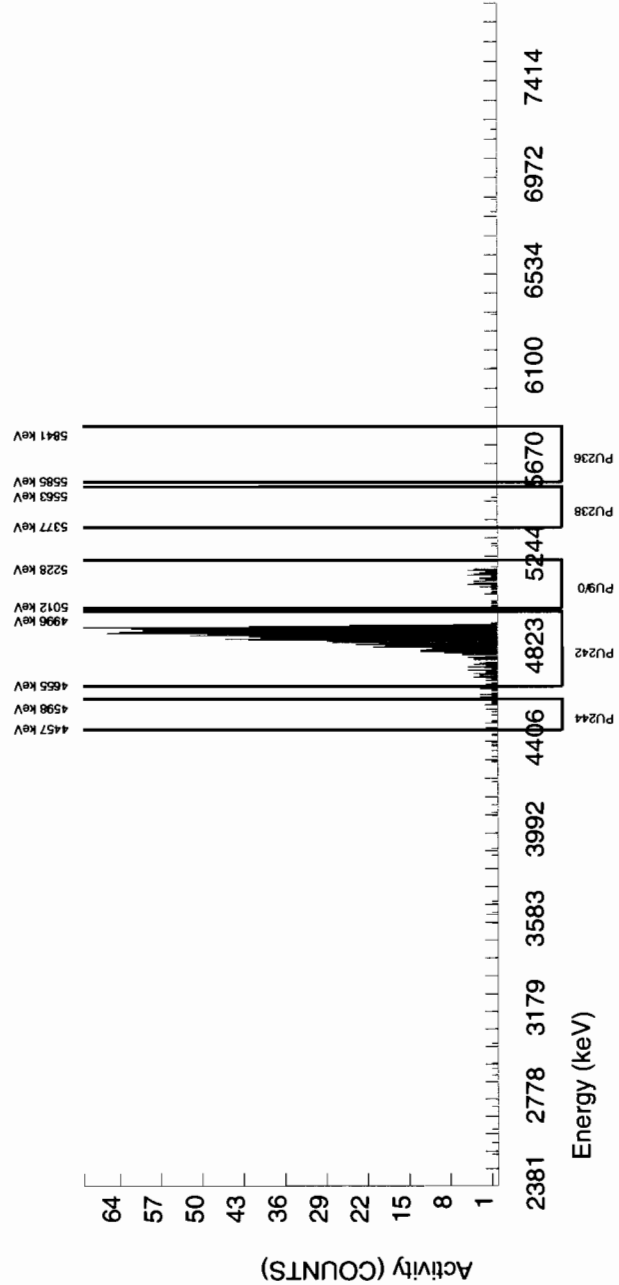


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949824 SAMPLE ID : S0245978004_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 77.875		CHAMBER : 214 DETECTOR S/N : 79193 AVERAGE %EFFICIENCY : 38.4008 COUNT DATE : 18-FEB-2010 18:43:02 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B214.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W214.CNF;28 CAL DATE : 29-JAN-2010
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.6328E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5712.754	0.000
PU-238	5499.000	5520.523	4.930
PU-9/0	5155.000	5138.585	76.617
PU242	4890.000	4880.231	63.381
PU-244	4589.000	4529.575	0.000
	GROSS AREA	NET AREA	BKG AREA
PU-236	0.000	0.000	0.000
PU-238	1.000	1.000	0.000
PU-9/0	61.000	60.000	1.000
PU242	1012.000	1011.000	1.000
PU-244	14.000	13.000	1.000
	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA
PU-236	100.0000	0.00E+00	1.22E-03
PU-238	99.90000	1.20E-03	1.21E-03
PU-9/0	99.90000	7.23E-02	1.02E-02
PU242	100.0000	1.22E+00	7.24E-02
PU-244	99.90000	1.57E-02	4.73E-03
	BKG Sg	DLC pCi/G	MDC pCi/G
PU-236	2.6925	7.54E-03	1.83E-02
PU-238	2.9312	8.21E-03	1.97E-02
PU-9/0	2.0604	5.77E-03	1.48E-02
PU242	1.0000	2.80E-03	8.86E-03
PU-244	3.7241	1.04E-02	2.41E-02
	UNC pCi/G		
PU-236	1.22E-03		
PU-238	1.20E-03		
PU-9/0	9.48E-03		
PU242	3.83E-02		
PU-244	4.66E-03		

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of PU242 calculated as sqrt(BKG AREA).

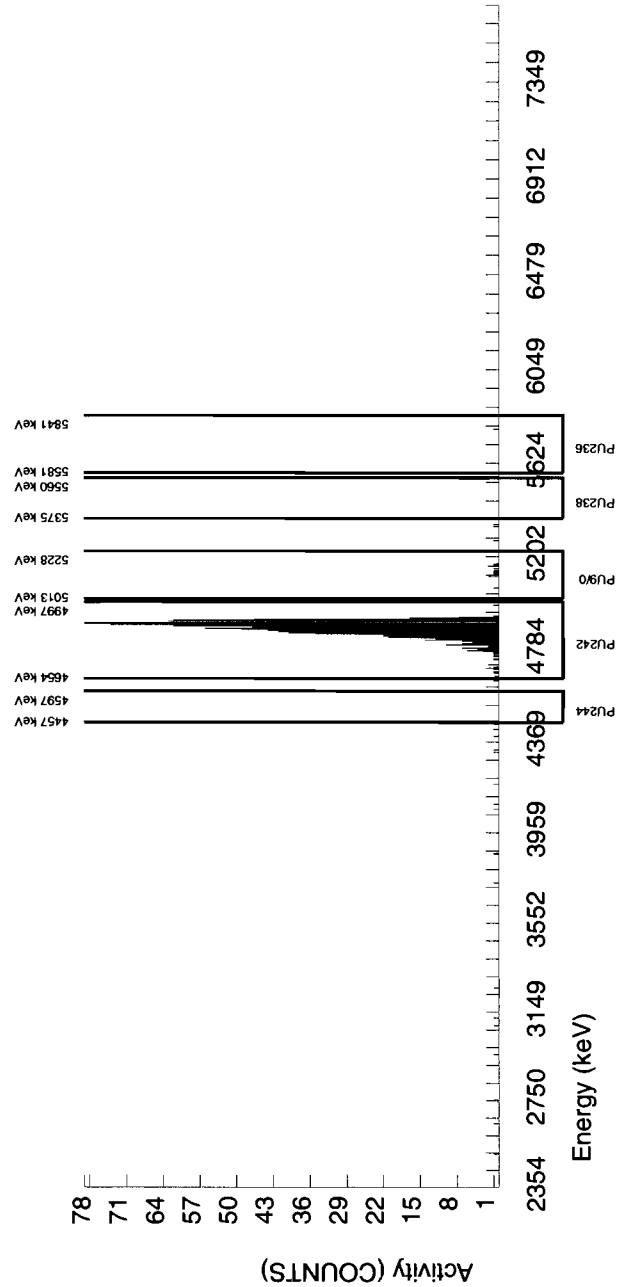


BATCH NUMBER : 949824 SAMPLE ID : S0245978005_PU SAMPLE QTY : 1.258 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.328				CHAMBER : 079 DETECTOR S/N : 79466 AVERAGE %EFFICIENCY : 32.2486 COUNT DATE : 13-FEB-2010 21:40:56 ELAPSED LIVE TIME(SEC) : 60000.01				LIB FILE : ENV_ALPHA_PU BKG FILE : B079.CNF;1016 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W079.CNF;268 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9862E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5782.711	4.918	1.000	0.000	1.000	2.6925	100.0000	-3.03E-10	1.80E-03	7.87E-03	1.92E-02	1.80E-03
PU-238	5499.000	5467.502	0.000	0.000	-1.000	1.000	2.9312	99.900000	-1.26E-03	1.78E-03	8.58E-03	2.06E-02	1.78E-03
PU-9/0	5155.000	5138.256	51.484	13.000	12.000	1.000	2.0604	99.900000	1.51E-02	4.77E-03	6.03E-03	1.55E-02	4.71E-03
PU242	4890.000	4882.313	60.378	966.000	963.000	3.000	1.7321	100.0000	1.21E+00	7.33E-02	5.07E-03	1.35E-02	3.91E-02
PU-244	4589.000	4526.695	0.000	1.000	1.000	0.000	3.7241	99.900000	1.26E-03	1.26E-03	1.09E-02	2.52E-02	1.26E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

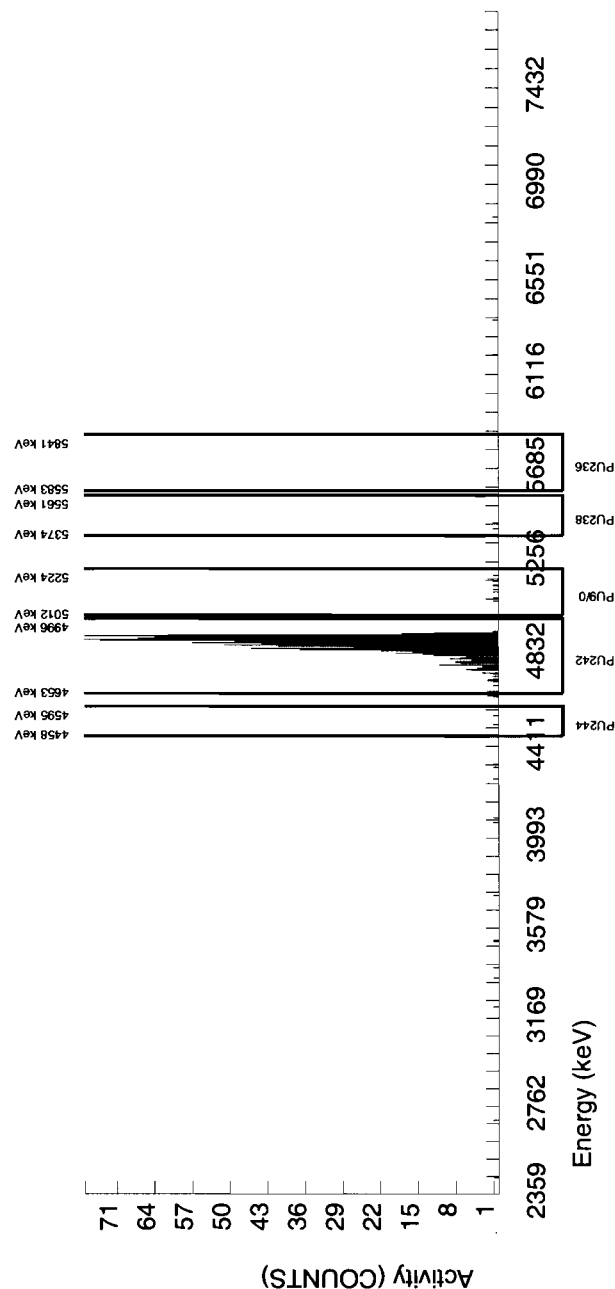
<p>BATCH NUMBER : 949824 SAMPLE ID : S0245978006_PU SAMPLE QTY : 1.258 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 87.327</p>		<p>CHAMBER : 080 DETECTOR S/N : 78197 AVERAGE %EFFICIENCY : 33.2957 COUNT DATE : 13-FEB-2010 21:40:56 ELAPSED LIVE TIME(SEC) : 60000.01</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B080.CNF:1017 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W080.CNF:276 CAL DATE : 9-FEB-2010</p>
<p>TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9523E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5689.881	5.019
PU-238	5499.000	5424.572	30.115
PU-9/0	5155.000	5135.478	5.019
PU242	4890.000	4883.376	66.988
PU-244	4589.000	4552.601	70.269
	GROSS AREA	NET AREA	BKG AREA
	1.000	-2.000	3.000
	2.000	-1.000	3.000
	11.000	10.000	1.000
	985.000	983.000	2.000
	3.000	3.000	0.000
	%ABUN	BKG	Sg
	100.0000	2.6925	100.0000
	99.90000	2.9312	99.90000
	99.90000	2.0604	99.90000
	100.0000	1.4142	100.0000
	99.90000	3.7241	99.90000
	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G
	-2.49E-03	2.49E-03	7.71E-03
	-1.23E-03	2.76E-03	8.41E-03
	1.23E-02	4.32E-03	5.91E-03
	1.21E+00	7.28E-02	4.05E-03
	3.70E-03	2.14E-03	1.07E-02
	MDC pCi/G	UNC pCi/G	
	1.88E-02	2.49E-03	
	2.02E-02	2.76E-03	
	1.52E-02	4.27E-03	
	1.14E-02	3.87E-02	
	2.47E-02	2.14E-03	

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).

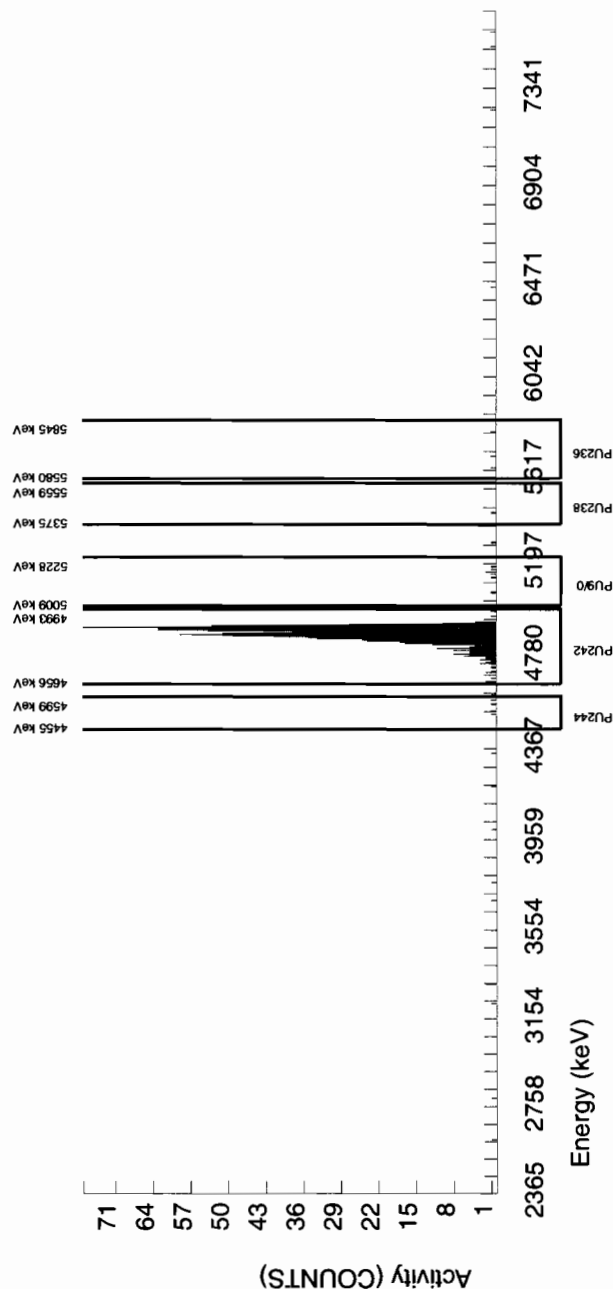


BATCH NUMBER : 949824				CHAMBER : 081				LIB FILE : ENV_ALPHA_PU			
SAMPLE ID : S0245978007_PU				DETECTOR S/N : 79996				BKG FILE : B081_CNF;1024			
SAMPLE QTY : 1.281 G				AVERAGE %EFFICIENCY : 32.2195				BKG DATE : 7-FEB-2010			
SAMPLE DATE : 27-JAN-2010 00:00:00				COUNT DATE : 13-FEB-2010 21:40:56				BKG LIVE TIME(SEC) : 60000.00			
ANALYST : HAKB				ELAPSED LIVE TIME(SEC) : 60000.01				EFF FILE : W081_CNF;274			
% YIELD : 82.533								CAL DATE : 9-FEB-2010			
TRACER				MS/MSD				LCS/LCSD			
ID : 1375-A				ID : 0244-B				ID : 0244-B			
NUCLIDE : PU242				NUCLIDE : PU-9/0				NUCLIDE : PU-9/0			
NOMINAL : 3.3808E+00 dpm				NOMINAL : 4.1778E+01 pCi/G				NOMINAL : 4.1778E+01 pCi/G			
RESULTS : 2.7902E+00 dpm											
NUCLIDE ACTIVITY SUMMARY											
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	UNC pCi/G
PU-236	5749.000	5727.216	156.115	4.000	2.000	2.000	2.6925	100.0000	2.68E-03	3.28E-03	3.28E-03
PU-238	5499.000	5466.219	106.720	3.000	3.000	0.000	2.9312	99.900000	3.97E-03	2.30E-03	2.29E-03
PU-9/0	5155.000	5149.226	4.879	12.000	12.000	0.000	2.0604	99.900000	1.59E-02	4.66E-03	4.59E-03
PU242	4890.000	4884.198	52.968	901.000	899.000	2.000	1.4142	100.0000	1.19E+00	7.34E-02	3.97E-02
PU-244	4589.000	4559.872	63.422	5.000	4.000	1.000	3.7241	99.900000	5.29E-03	3.25E-03	3.24E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.



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ALPHA SPECTROSCOPY REPORT

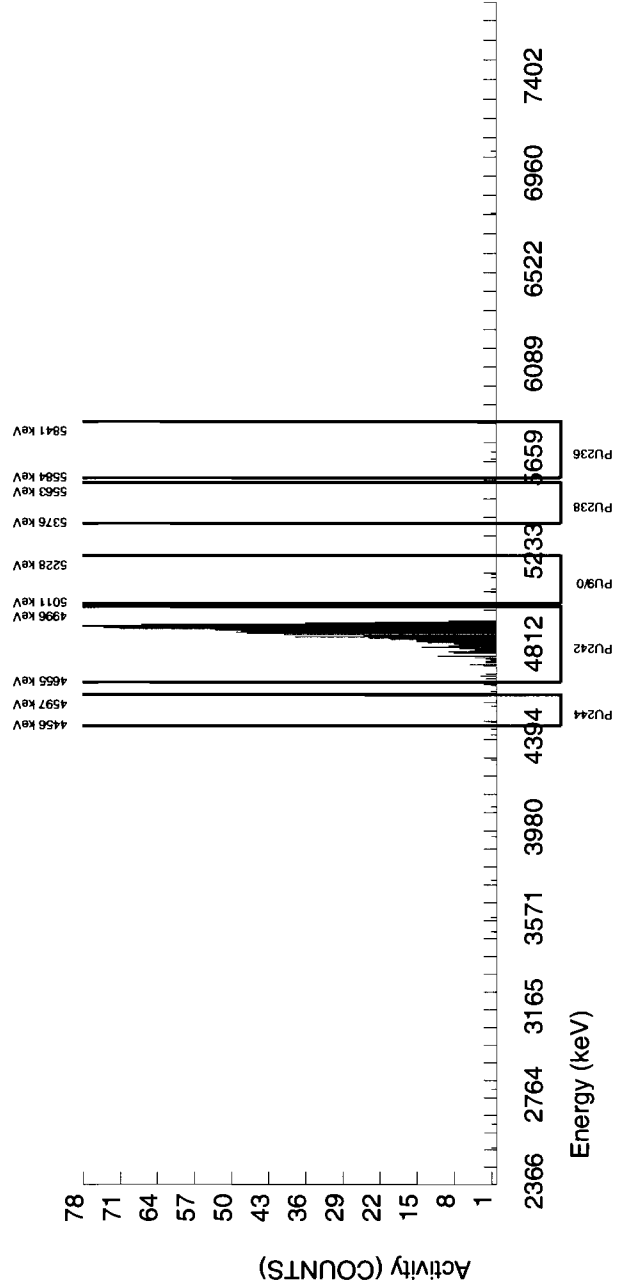
BATCH NUMBER : 949824 SAMPLE ID : S1202035001_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 8-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 85.748		CHAMBER : 082 DETECTOR S/N : 79997 AVERAGE %EFFICIENCY : 32.1841 COUNT DATE : 13-FEB-2010 21:40:56 ELAPSED LIVE TIME(SEC) : 60000.01	LIB FILE : ENV_ALPHA_PU BKG FILE : B082.CNF;1014 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W082.CNF;257 CAL DATE : 9-FEB-2010
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8989E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5690.966	34.596
PU-238	5499.000	5469.501	0.000
PU-9/0	5155.000	5115.829	88.962
PU242	4890.000	4882.608	49.152
PU-244	4589.000	4513.667	74.135
	GROSS AREA	NET AREA	BKG AREA
	2.000	1.000	1.000
	0.000	0.000	0.000
	5.000	2.000	3.000
	934.000	933.000	1.000
	2.000	0.000	2.000
	%ABUN	BKG Sg	ACTIVITY pCi/G
	100.0000	2.6925	1.64E-03
	99.90000	2.9312	0.00E+00
	99.90000	2.0604	3.27E-03
	100.0000	1.0000	1.52E+00
	99.90000	3.7241	-7.79E-10
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
	2.84E-03	1.02E-02	2.49E-02
	1.64E-03	1.11E-02	2.67E-02
	4.62E-03	7.83E-03	2.01E-02
	9.30E-02	3.80E-03	1.20E-02
	3.27E-03	1.42E-02	3.27E-02
	UNC pCi/G		
	2.84E-03		
	1.63E-03		
	4.62E-03		
	4.99E-02		
	3.27E-03		

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).

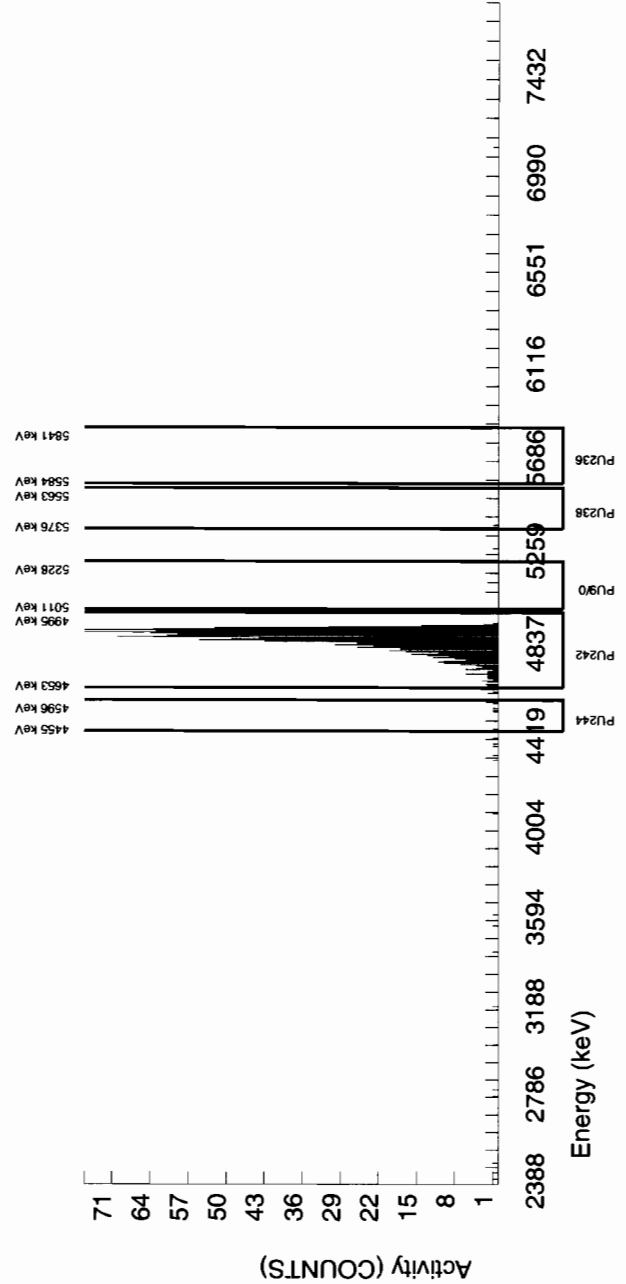


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949824 SAMPLE ID : S1202035002_PU SAMPLE QTY : 1.260 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 93.782				CHAMBER : 221 DETECTOR S/N : 79414 AVERAGE %EFFICIENCY : 37.5959 COUNT DATE : 18-FEB-2010 18:43:04 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B221.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W221.CNF:28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.1706E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5712.673	0.000	0.000	-1.000	1.000	2.6925	100.0000	-1.03E-03	1.46E-03	6.35E-03	1.55E-02	1.46E-03
PU-238	5499.000	5397.583	4.951	1.000	-2.000	3.000	2.9312	99.900000	-2.03E-03	2.03E-03	6.92E-03	1.66E-02	2.03E-03
PU-9/0	5155.000	5137.570	4.951	2.000	2.000	0.000	2.0604	99.900000	2.03E-03	1.44E-03	4.86E-03	1.25E-02	1.44E-03
PU242	4890.000	4875.339	64.164	1192.000	1192.000	0.000	0.0000	100.0000	1.21E+00	6.88E-02	0.00E+00	2.75E-03	3.50E-02
PU-244	4589.000	4552.438	118.817	6.000	6.000	0.000	3.7241	99.900000	6.09E-03	2.50E-03	8.79E-03	2.03E-02	2.49E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of PU242 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

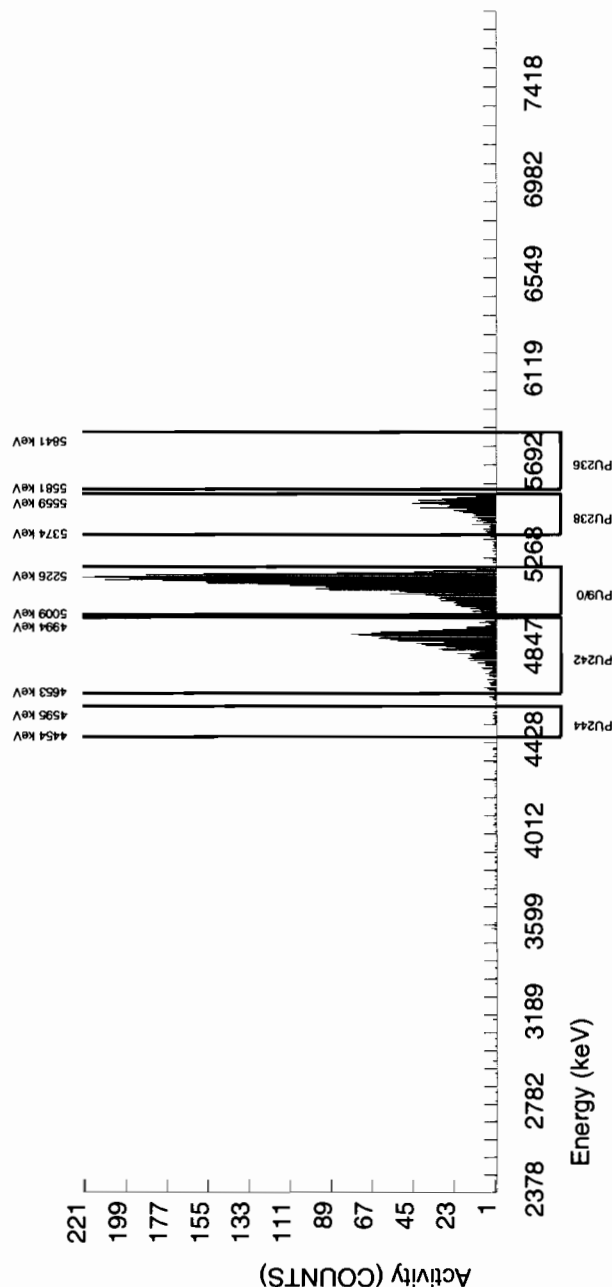
BATCH NUMBER : 949824 SAMPLE ID : S1202035003_PU SAMPLE QTY : 0.103 G SAMPLE DATE : 8-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 98.654				CHAMBER : 222 DETECTOR S/N : 79415 AVERAGE %EFFICIENCY : 36.0091 COUNT DATE : 18-FEB-2010 18:43:07 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B222.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W222.CNF:28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.3353E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5710.860	0.000	0.000	0.000	0.000	2.6925	100.0000	0.00E+00	1.24E-02	7.71E-02	1.88E-01	1.24E-02
PU-238	5499.000	5498.090	54.481	569.000	569.000	0.000	2.9312	99.900000	7.01E+00	5.02E-01	8.40E-02	2.01E-01	2.94E-01
PU-9/0	5155.000	5155.416	53.382	2997.000	2996.000	1.000	2.0604	99.900000	3.69E+01	2.25E+00	5.91E-02	1.52E-01	6.75E-01
PU242	4890.000	4886.232	63.509	1201.000	1201.000	0.000	0.0000	100.0000	1.48E+01	9.59E-01	0.00E+00	3.34E-02	4.27E-01
PU-244	4589.000	4535.408	35.247	17.000	17.000	0.000	3.7241	99.900000	2.09E-01	5.22E-02	1.07E-01	2.47E-01	5.08E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Radiochemistry Batch Checklist, Rev10

Batch# 949825

Product: U

Date: 2/16/10

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)	X		
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.	X		
Instrument source check is within limits.	X		
Instrument bkg check is within limits.	X		
Method RDL/ LLD has been met.	X		
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%.	X		
Or meets the client's required RER acceptance criteria.	X		case narrative 02/21/10
Tracer yield is 15-125% . Carrier yield 25-125%.	X		
Or meets the client's contract acceptance criteria.	X		case narrative
Method blank is less than the RDL/ LLD.	X		
(If rad samples, < 5% of lowest activity)	X		
Sample was run within hold time.	X		
Sample was correctly preserved if required.	X		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	X		
No blank spaces on data forms.	X		
All line cuts initiated and dated.	X		
No transcription errors are apparent.			N/A
Aux data is correct.			
Client Special requirements page has been checked.	X		
Raw Data and/ or spectrum are included and properly statused.	X		
QC data entered into QC database and batch is in REVW	X		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	X		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (If REMF, results above MDC have been verified by historical results, recount or re-analysis.)	X		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature] 2/16/10

Secondary Review Performed By: [Signature] 2/18/10

2/13 (2/23)
CAN

Uranium Que Sheet

05-FEB-10

Batch #: 949825

Analyst: HAKB

First Client Due Date: 23-FEB-10

Internal Due Date: 13-FEB-10

Tracer Isotope: U-232/0-236

Tracer Code: 1283-41

Expiration Date: 12/9/10

Vol: 5.1

LCS Isotope: U-238

LCS Code: 584 0244-A

Expiration Date: 10/31/20

Vol: 5.1018

Spike Isotope: U-238

Spike Code: NA

Expiration Date: NA

Vol: NA

Prep Date: 2/8/10

Initials: HAKB

Pipet ID: 2871058

Balance ID: 5010272

Witness: QAN 02/07/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Weight Aliquot	U Det #
245955001-1	RE16-10-1474	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	1	1	0.515	111
245955002-1	RE16-10-1475	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	2	2	0.506	126
245960001-1	RE15-10-7269	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	3	3	0.504	121
245960002-1	RE15-10-7308	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	4	4	0.505	122
245960003-1	RE15-10-7315	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	5	5	0.528	123
245960004-1	RE15-10-7317	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	6	6	0.551	124
245960005-1	RE15-10-7319	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	7	7	0.504	125
245960006-1	RE15-10-7312	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	8	8	0.524	124
245960007-1	RE15-10-7313	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	9	9	0.527	127
245960008-1	RE15-10-7314	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	10	10	0.526	128
245960009-1	RE15-10-7316	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	11	11	0.515	128
245960010-1	RE15-10-7318	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	12	12	0.508	130
245960011-1	RE15-10-7324	SAMPLE		.1 pCi/g	SOIL	LANL010	28-JAN-10	13	13	0.507	131
245970001-1	RE15-10-7800	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	14	14	0.500	132
245970002-1	RE15-10-7801	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	15	15	0.545	133
245970003-1	RE15-10-7802	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	16	16	0.506	134
245970004-1	RE15-10-7807	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	17	17	0.506	134
245970005-1	RE15-10-7976	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	18	18	0.501	140
245970006-1	RE15-10-7968	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	19	19	0.526	141
245970007-1	RE15-10-7965	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	20	20	0.517	141
1202035005-1	MB for batch 949825	MB		.1 pCi/g	QC ACCOUNT	QC ACCOUNT		21	21	1.0	142
1202035006-1	RE15-10-7800(45970001DUP)	DUP		.1 pCi/g	QC ACCOUNT	QC ACCOUNT	27-JAN-10	22	22	0.504	144
1202035007-1	LCS for batch 949825	LCS		.1 pCi/g	QC ACCOUNT	QC ACCOUNT		23	23	0.101	145

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION

Data Reviewed By:

GEL Laboratories LLC, Radiochemistry Division

Blank Correction Report

Batch ID 949825

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202035006	DUP	Uranium-233/234	0.504 g	0.691	0.0699	0.090	.039087302	pCi/g	NO
		Uranium-235/236	0.504 g	0.0661	0.0188	0.0574	.007123016	pCi/g	NO
		Uranium-238	0.504 g	1.23	0.109	0.0614	.031746032	pCi/g	NO
1202035007	LCS	Uranium-233/234	0.101 g	5.82	0.576	0.517	.195049505	pCi/g	NO
		Uranium-235/236	0.101 g	0.329	0.0949	0.329	.035544554	pCi/g	NO
		Uranium-238	0.101 g	6.82	0.657	0.353	.158415842	pCi/g	NO
1202035005	MB	Uranium-233/234	1.00 g	0.0197	0.00624	0.0366	.0197	pCi/g	YES
		Uranium-235/236	1.00 g	0.00359	0.0036	0.0234	.00359	pCi/g	YES
		Uranium-238	1.00 g	0.016	0.00535	0.025	.016	pCi/g	YES
245955001	RE16-10-1474	Uranium-233/234	0.515 g	0.903	0.0837	0.0835	.038252427	pCi/g	NO
		Uranium-235/236	0.515 g	0.0491	0.0146	0.0533	.006970874	pCi/g	NO
		Uranium-238	0.515 g	0.821	0.0779	0.057	.031067961	pCi/g	NO
245955002	RE16-10-1475	Uranium-233/234	0.506 g	0.710	0.0698	0.0854	.038932806	pCi/g	NO
		Uranium-235/236	0.506 g	0.046	0.0142	0.0544	.007094862	pCi/g	NO
		Uranium-238	0.506 g	0.819	0.078	0.0583	.031620553	pCi/g	NO
245960001	RE15-10-7309	Uranium-233/234	0.504 g	1.07	0.098	0.0919	.039087302	pCi/g	NO
		Uranium-235/236	0.504 g	0.0405	0.0185	0.0586	.007123016	pCi/g	NO
		Uranium-238	0.504 g	1.07	0.0984	0.0628	.031746032	pCi/g	NO
245960002	RE15-10-7308	Uranium-233/234	0.505 g	3.62	0.285	0.102	.039009901	pCi/g	NO
		Uranium-235/236	0.505 g	0.215	0.0363	0.0652	.007108911	pCi/g	NO
		Uranium-238	0.505 g	4.59	0.354	0.0699	.031683168	pCi/g	NO
245960003	RE15-10-7315	Uranium-233/234	0.528 g	1.07	0.0962	0.0857	.037310606	pCi/g	NO
		Uranium-235/236	0.528 g	0.0714	0.018	0.0547	.006799242	pCi/g	NO
		Uranium-238	0.528 g	1.25	0.110	0.0585	.030303030	pCi/g	NO
245960004	RE15-10-7317	Uranium-233/234	0.551 g	1.09	0.0962	0.0794	.035753176	pCi/g	NO
		Uranium-235/236	0.551 g	0.0777	0.0182	0.0506	.006515426	pCi/g	NO
		Uranium-238	0.551 g	1.17	0.102	0.0542	.029038113	pCi/g	NO
245960005	RE15-10-7319	Uranium-233/234	0.504 g	1.38	0.120	0.0898	.039087302	pCi/g	NO
		Uranium-235/236	0.504 g	0.0924	0.0212	0.0573	.007123016	pCi/g	NO
		Uranium-238	0.504 g	1.49	0.128	0.0613	.031746032	pCi/g	NO
245960006	RE15-10-7312	Uranium-233/234	0.524 g	7.59	0.565	0.0951	.037595420	pCi/g	NO
		Uranium-235/236	0.524 g	0.405	0.0521	0.0606	.006851145	pCi/g	NO
		Uranium-238	0.524 g	7.64	0.568	0.0649	.030534351	pCi/g	NO
245960007	RE15-10-7313	Uranium-233/234	0.526 g	0.984	0.0917	0.091	.037452471	pCi/g	NO
		Uranium-235/236	0.526 g	0.102	0.0226	0.058	.006825095	pCi/g	NO
		Uranium-238	0.526 g	1.17	0.105	0.0621	.030418251	pCi/g	NO
245960009	RE15-10-7316	Uranium-233/234	0.515 g	2.05	0.172	0.101	.038252427	pCi/g	NO
		Uranium-235/236	0.515 g	0.108	0.0244	0.0641	.006970874	pCi/g	NO
		Uranium-238	0.515 g	2.95	0.237	0.0686	.031067961	pCi/g	NO
245960010	RE15-10-7318	Uranium-233/234	0.508 g	4.65	0.349	0.0859	.038779528	pCi/g	NO
		Uranium-235/236	0.508 g	0.252	0.0371	0.0547	.007066929	pCi/g	NO

Blank Correction Report

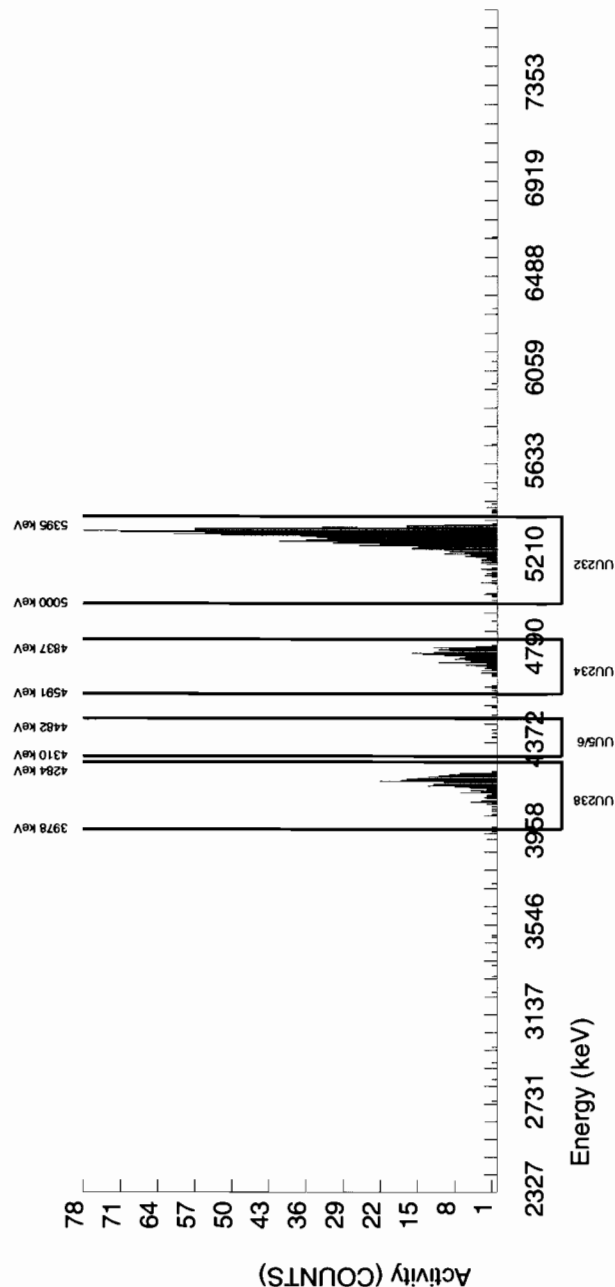
GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
245960010	RE15-10-7318	Uranium-238	0.508 g	7.77	0.568	0.0586	.031498063	pCi/g	NO
245960011	RE15-10-7324	Uranium-233/234	0.507 g	1.04	0.0977	0.0995	.038856016	pCi/g	NO
		Uranium-235/236	0.507 g	0.0682	0.0189	0.0634	.007080868	pCi/g	NO
		Uranium-238	0.507 g	1.06	0.0996	0.0679	.031558185	pCi/g	NO
245978001	RE15-10-7880	Uranium-233/234	0.500 g	0.753	0.0791	0.112	.0394	pCi/g	NO
		Uranium-235/236	0.500 g	0.0219	0.0111	0.0713	.00718	pCi/g	YES
		Uranium-238	0.500 g	0.957	0.0946	0.0763	.032	pCi/g	NO
245978003	RE15-10-7892	Uranium-233/234	0.506 g	1.17	0.105	0.0911	.038932806	pCi/g	NO
		Uranium-235/236	0.506 g	0.0803	0.0207	0.0581	.007094862	pCi/g	NO
		Uranium-238	0.506 g	2.42	0.195	0.0622	.031620553	pCi/g	NO
245978005	RE15-10-7976	Uranium-233/234	0.507 g	0.969	0.0899	0.0893	.038856016	pCi/g	NO
		Uranium-235/236	0.507 g	0.0612	0.018	0.0569	.007080868	pCi/g	NO
		Uranium-238	0.507 g	2.16	0.175	0.061	.031558185	pCi/g	NO
245978006	RE15-10-7968	Uranium-233/234	0.526 g	3.24	0.257	0.0893	.037452471	pCi/g	NO
		Uranium-235/236	0.526 g	0.363	0.0477	0.0569	.006825095	pCi/g	NO
		Uranium-238	0.526 g	19.4	1.42	0.061	.030418251	pCi/g	NO
245978007	RE15-10-7965	Uranium-233/234	0.513 g	8.51	0.630	0.0947	.038401559	pCi/g	NO
		Uranium-235/236	0.513 g	0.830	0.0856	0.0604	.006998051	pCi/g	NO
		Uranium-238	0.513 g	35.3	2.53	0.0647	.031189084	pCi/g	NO

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949825 SAMPLE ID : S0245978001_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 81.646				CHAMBER : 132 DETECTOR S/N : 67579 AVERAGE %EFFICIENCY : 24.9091 COUNT DATE : 13-FEB-2010 21:24:57 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B132.CNF:440 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W132.CNF:130 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.6792E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5303.428	59.667	916.000	916.000	0.000	0.0000	100.0000	4.06E+00	3.21E-01	0.00E+00	1.20E-02	1.34E-01
U-3/4	4763.020	4762.426	69.464	171.000	170.073	0.000	4.8416	100.0000	7.53E-01	7.91E-02	4.99E-02	1.12E-01	5.78E-02
U-235	4391.000	4413.984	39.572	4.000	4.000	0.000	2.2152	80.90000	2.19E-02	1.11E-02	2.82E-02	7.13E-02	1.10E-02
U-238	4184.730	4189.479	46.356	216.000	216.000	0.000	3.1208	100.0000	9.57E-01	9.46E-02	3.22E-02	7.63E-02	6.51E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

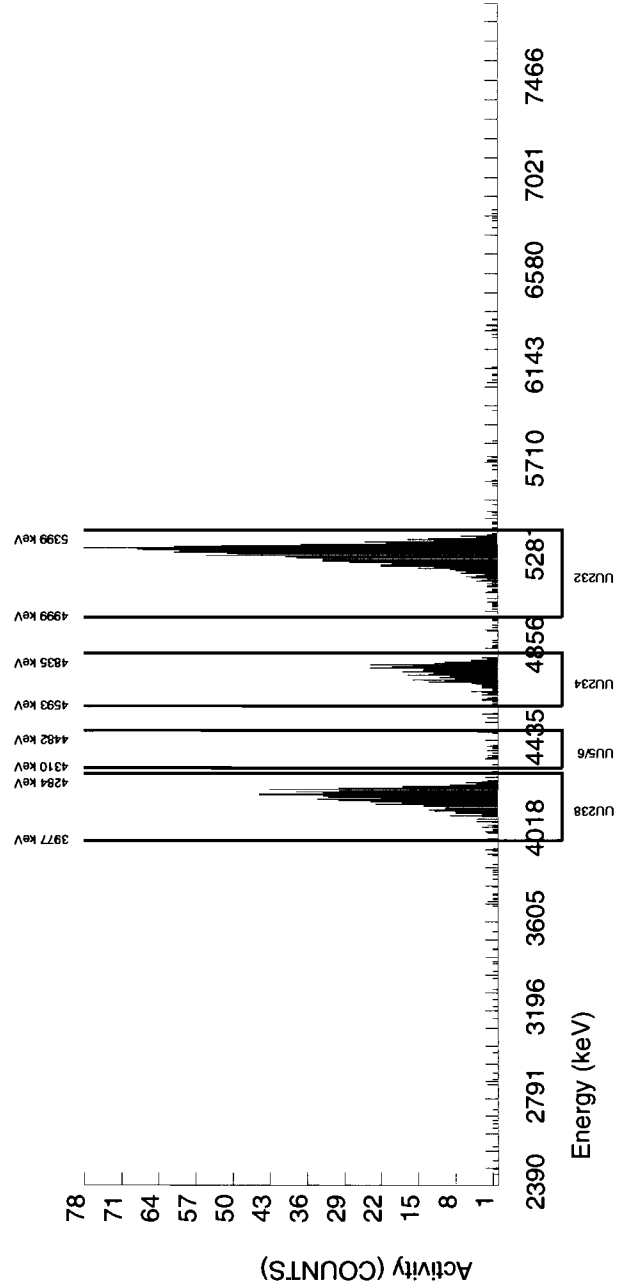


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949825 SAMPLE ID : S0245978003_UU SAMPLE QTY : 0.506 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 97.545				CHAMBER : 138 DETECTOR S/N : 65877 AVERAGE %EFFICIENCY : 25.2875 COUNT DATE : 13-FEB-2010 21:25:13 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B138.CNF;397 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W138.CNF;102 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.3957E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5293.523	56.365	1115.000	1111.000	4.000	2.0000	100.0000	4.01E+00	3.08E-01	1.68E-02	4.34E-02	1.21E-01
U-3/4	4763.020	4747.088	80.248	325.000	323.876	0.000	4.8416	100.0000	1.17E+00	1.05E-01	4.06E-02	9.11E-02	6.49E-02
U-235	4391.000	4401.157	117.038	19.000	18.000	1.000	2.2152	80.90000	8.03E-02	2.07E-02	2.30E-02	5.81E-02	2.00E-02
U-238	4184.730	4177.010	65.535	674.000	670.000	4.000	3.1208	100.0000	2.42E+00	1.95E-01	2.62E-02	6.22E-02	9.40E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949825 SAMPLE ID : S0245978005_UU SAMPLE QTY : 0.507 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 98.608				CHAMBER : 140 DETECTOR S/N : 78771 AVERAGE %EFFICIENCY : 25.4652 COUNT DATE : 13-FEB-2010 21:25:18 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B140.CNF:394 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W140.CNF:107 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.4436E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5292.712	65.094	1132.000	1131.000	1.000	1.0000	100.0000	4.00E+00	3.06E-01	8.23E-03	2.61E-02	1.19E-01
U-3/4	4763.020	4747.359	57.605	275.000	273.855	0.000	4.8416	100.0000	9.69E-01	8.99E-02	3.99E-02	8.93E-02	5.86E-02
U-235	4391.000	4411.266	34.586	15.000	14.000	1.000	2.2152	80.90000	6.12E-02	1.80E-02	2.25E-02	5.69E-02	1.75E-02
U-238	4184.730	4178.963	64.684	611.000	610.000	1.000	3.1208	100.0000	2.16E+00	1.75E-01	2.57E-02	6.10E-02	8.75E-02

NOTES:

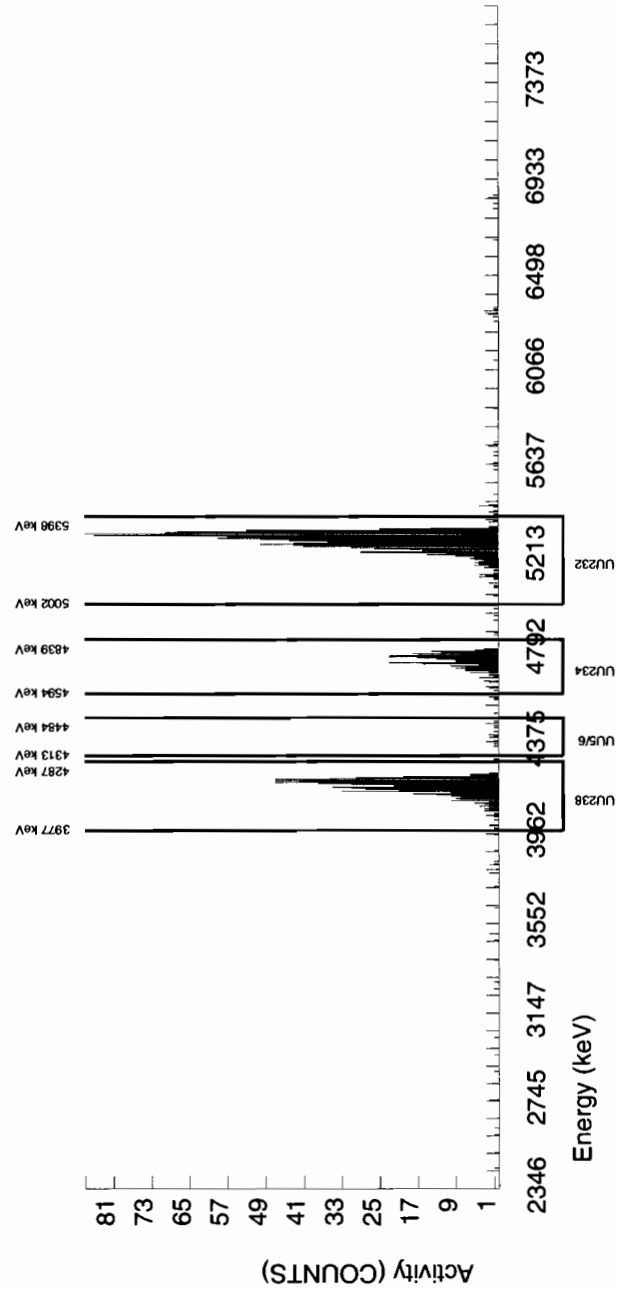
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area
due to tracer impurity:

U-3/4

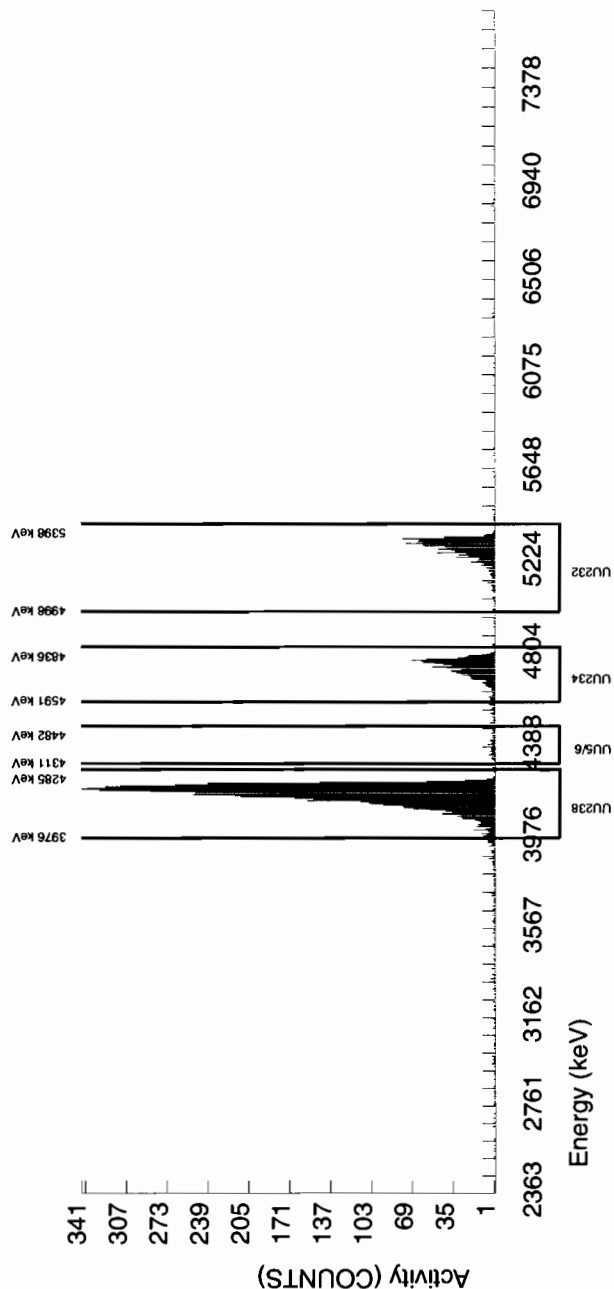


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949825 SAMPLE ID : S0245978006_UU SAMPLE QTY : 0.526 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 95.840				CHAMBER : 141 DETECTOR S/N : 76232 AVERAGE %EFFICIENCY : 25.2508 COUNT DATE : 13-FEB-2010 21:25:21 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B141.CNF;398 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W141.CNF;105 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.3189E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5288.228	71.644	1094.000	1090.000	4.000	2.0000	100.0000	3.86E+00	3.02E-01	1.65E-02	4.25E-02	1.17E-01
U-3/4	4763.020	4746.518	60.488	917.000	915.897	0.000	4.8416	100.0000	3.24E+00	2.57E-01	3.99E-02	8.93E-02	1.07E-01
U-235	4391.000	4402.194	0.000	83.000	83.000	0.000	2.2152	80.90000	3.63E-01	4.77E-02	2.25E-02	5.69E-02	3.98E-02
U-238	4184.730	4176.713	67.230	5484.000	5483.000	1.000	3.1208	100.0000	1.94E+01	1.42E+00	2.57E-02	6.10E-02	2.62E-01

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

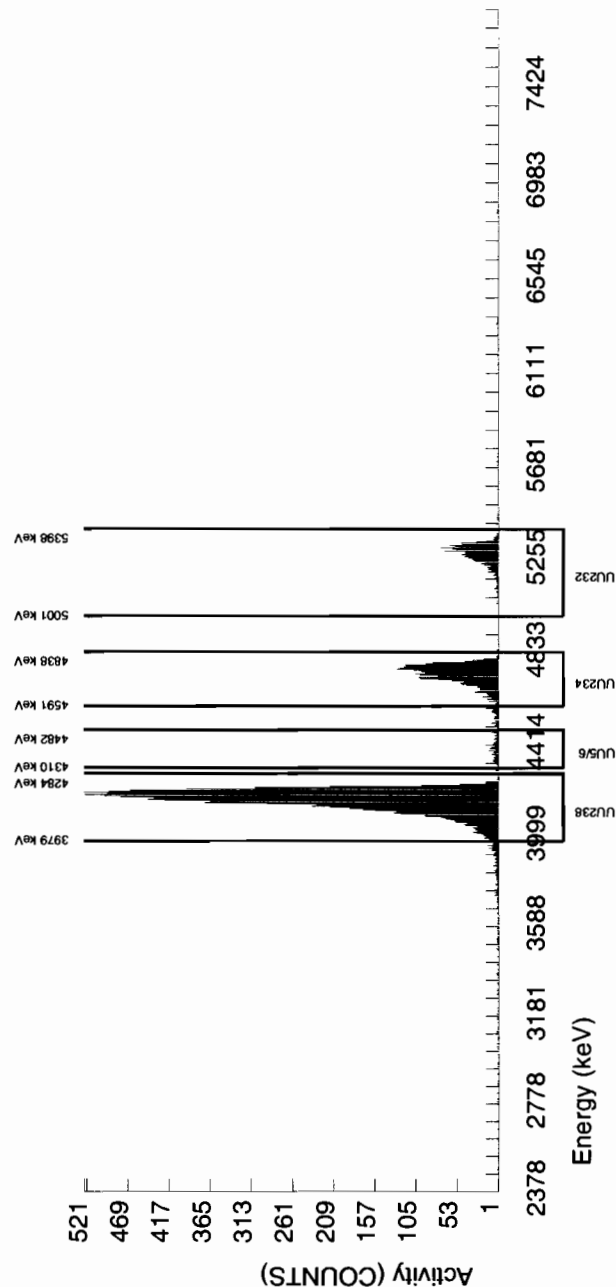


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 949825 SAMPLE ID : S0245978007_UU SAMPLE QTY : 0.513 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 90.160				CHAMBER : 142 DETECTOR S/N : 64261 AVERAGE %EFFICIENCY : 25.9552 COUNT DATE : 13-FEB-2010 21:25:24 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B142.CNF:392 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W142.CNF:109 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.0629E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5288.156	68.815	1068.000	1054.000	14.000	3.7417	100.0000	3.96E+00	3.07E-01	3.27E-02	7.55E-02	1.23E-01
U-3/4	4763.020	4740.528	79.936	2270.000	2266.933	2.000	4.8416	100.0000	8.51E+00	6.30E-01	4.23E-02	9.47E-02	1.79E-01
U-235	4391.000	4398.904	129.634	179.000	179.000	0.000	2.2152	80.90000	8.30E-01	8.56E-02	2.39E-02	6.04E-02	6.21E-02
U-238	4184.730	4170.488	73.863	9416.000	9414.000	2.000	3.1208	100.0000	3.53E+01	2.53E+00	2.72E-02	6.47E-02	3.64E-01

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

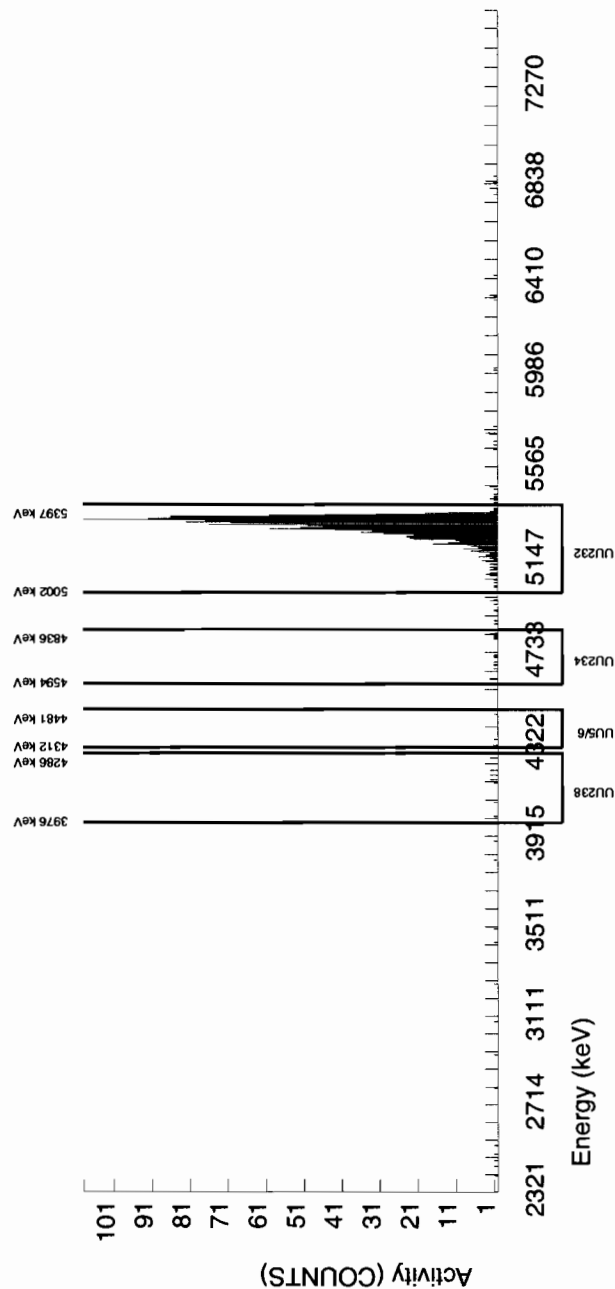
BATCH NUMBER : 949825 SAMPLE ID : S1202035005_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 8-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 101.771		CHAMBER : 004 DETECTOR S/N : 68548 AVERAGE %EFFICIENCY : 30.4786 COUNT DATE : 15-FEB-2010 21:17:42 ELAPSED LIVE TIME(SEC) : 59999.99		LIB FILE : ENV_ALPHA_UU BKG FILE : B004.CNF.1119 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W004.CNF.330 CAL DATE : 3-FEB-2010	
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5048E+00 dpm RESULTS : 4.5846E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G		LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5303.982	61.273	1402.000	1397.000	5.000	2.2361	100.0000	2.03E+00	1.50E-01	7.55E-03	1.90E-02	5.45E-02
U-3/4	4763.020	4721.488	200.062	17.000	13.586	2.000	4.8416	100.0000	1.97E-02	6.24E-03	1.64E-02	3.66E-02	6.09E-03
U-235	4391.000	4376.544	0.000	3.000	2.000	1.000	2.2152	80.90000	3.59E-03	3.60E-03	9.25E-03	2.34E-02	3.59E-03
U-238	4184.730	4182.872	97.890	12.000	11.000	1.000	3.1208	100.0000	1.60E-02	5.35E-03	1.05E-02	2.50E-02	5.24E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



BATCH NUMBER : 949825 SAMPLE ID : S1202035006_UU SAMPLE QTY : 0.504 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 99.657				CHAMBER : 144 DETECTOR S/N : 75551 AVERAGE %EFFICIENCY : 25.1526 COUNT DATE : 13-FEB-2010 21:25:30 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B144.CNF:393 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W144.CNF:106 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.4909E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5294.750	56.886	1134.000	1129.000	5.000	2.2361	100.0000	4.03E+00	3.08E-01	1.85E-02	4.68E-02	1.20E-01
U-3/4	4763.020	4744.952	36.624	197.000	193.857	2.000	4.8416	100.0000	6.91E-01	6.99E-02	4.02E-02	9.00E-02	5.02E-02
U-235	4391.000	4396.632	6.134	16.000	15.000	1.000	2.2152	80.90000	6.61E-02	1.88E-02	2.27E-02	5.74E-02	1.82E-02
U-238	4184.730	4177.830	32.338	346.000	344.000	2.000	3.1208	100.0000	1.23E+00	1.09E-01	2.59E-02	6.14E-02	6.65E-02

NOTES:

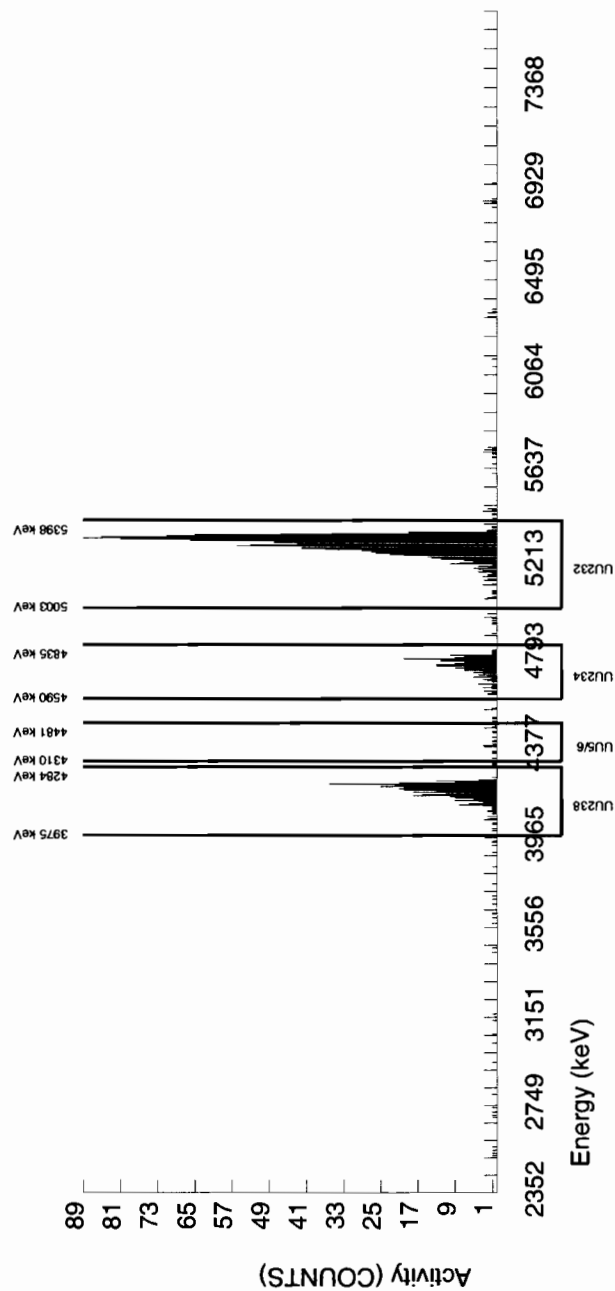
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area

due to tracer impurity:
U-3/4



BATCH NUMBER : 949825 SAMPLE ID : S1202035007_UU SAMPLE QTY : 0.101 G SAMPLE DATE : 8-FEB-2010 00:00:00. ANALYST : HAKB % YIELD : 87.269				CHAMBER : 145 DETECTOR S/N : 72526 AVERAGE %EFFICIENCY : 24.9580 COUNT DATE : 13-FEB-2010 21:25:33 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B145.CNF:391 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W145.CNF:111 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5048E+00 dpm RESULTS : 3.9313E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5297.035	51.621	984.000	981.000	3.000	1.7321	100.0000	2.01E+01	1.72E+00	8.25E-02	2.21E-01	6.43E-01
U-3/4	4763.020	4751.526	45.112	286.000	284.007	1.000	4.8416	100.0000	5.82E+00	5.76E-01	2.31E-01	5.17E-01	3.46E-01
U-235	4391.000	4393.771	44.478	13.000	13.000	0.000	2.2152	80.90000	3.29E-01	9.49E-02	1.30E-01	3.29E-01	9.13E-02
U-238	4184.730	4178.924	46.672	334.000	333.000	1.000	3.1208	100.0000	6.82E+00	6.57E-01	1.49E-01	3.53E-01	3.75E-01

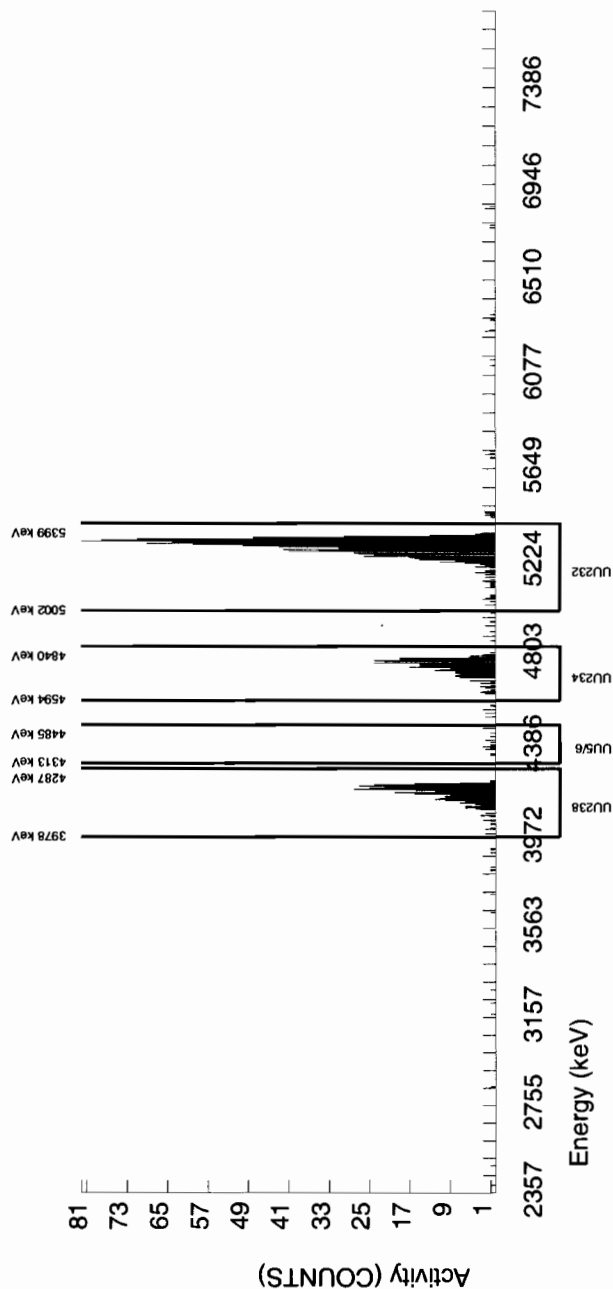
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:



Radiochemistry Batch Checklist, Rev10

Batch: 9516665Product: AmDate: 2/26/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Denise Green2/26/10Secondary Review Performed By: JLM2/26/103/2
LANC

Blank Correction Report

Batch ID 951665

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202039542	DUP	Americium-241	0.526 g	0.00328	0.00289	0.0404	-.00433460	pCi/g	NO
1202039543	LCS	Americium-241	0.115 g	25.9	1.71	0.147	-.01982609	pCi/g	NO
1202039541	MB	Americium-241	1.00 g	-0.00228	0.00387	0.0214	-.00228	pCi/g	NO
245978008	RE15-10-7975	Americium-241	0.525 g	0.0324	0.0159	0.0487	-.00434286	pCi/g	NO
245978009	RE15-10-7978	Americium-241	0.508 g	0.0163	0.00703	0.0473	-.00448819	pCi/g	NO
245978010	RE15-10-7970	Americium-241	0.501 g	0.0204	0.0127	0.0496	-.00455090	pCi/g	NO
245978012	RE15-10-7973	Americium-241	0.509 g	-0.0108	0.0151	0.0505	-.00447937	pCi/g	NO
245978013	RE15-10-7962	Americium-241	0.515 g	-0.00747	0.0147	0.0484	-.00442718	pCi/g	NO
245978014	RE15-10-7963	Americium-241	0.510 g	0.00205	0.00703	0.052	-.00447059	pCi/g	NO
245978015	RE15-10-7977	Americium-241	0.508 g	0.00875	0.00855	0.0527	-.00448819	pCi/g	NO
246020001	RE15-10-7980	Americium-241	0.503 g	0.00156	0.00778	0.0485	-.00453280	pCi/g	NO
246020002	RE15-10-7958	Americium-241	0.510 g	-0.0173	0.0131	0.0511	-.00447059	pCi/g	NO
246020003	RE15-10-7960	Americium-241	0.519 g	0.0731	0.0157	0.0494	-.00439306	pCi/g	NO
246020004	RE15-10-7979	Americium-241	0.525 g	0.00723	0.00616	0.0461	-.00434286	pCi/g	NO
246020005	RE15-10-7972	Americium-241	0.500 g	0.00737	0.00471	0.0475	-.00456	pCi/g	NO
246020006	RE15-10-7957	Americium-241	0.519 g	0.0769	0.0158	0.0418	-.00439306	pCi/g	NO
246020007	RE15-10-7974	Americium-241	0.513 g	-0.00131	0.00594	0.050	-.00444444	pCi/g	NO
246020008	RE15-10-7961	Americium-241	0.510 g	0.0159	0.020	0.054	-.00447059	pCi/g	NO
246020009	RE15-10-7971	Americium-241	0.514 g	0.00215	0.0126	0.0524	-.00443580	pCi/g	NO
246020010	RE15-10-7966	Americium-241	0.517 g	0.00101	0.00418	0.0432	-.00441006	pCi/g	NO
246020011	RE15-10-7959	Americium-241	0.510 g	0.0196	0.00984	0.048	-.00447059	pCi/g	NO
246020012	RE15-10-7969	Americium-241	0.507 g	-0.00137	0.00444	0.0499	-.00449704	pCi/g	NO

Don
2/26/10

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951665 SAMPLE ID : S0245978008_AM SAMPLE QTY : 0.525 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 83.175	CHAMBER : 013 DETECTOR S/N : 78790 AVERAGE %EFFICIENCY : 33.7535 COUNT DATE : 23-FEB-2010 21:21:25 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B013.CNF:1097 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W013.CNF:328 CAL DATE : 3-FEB-2010
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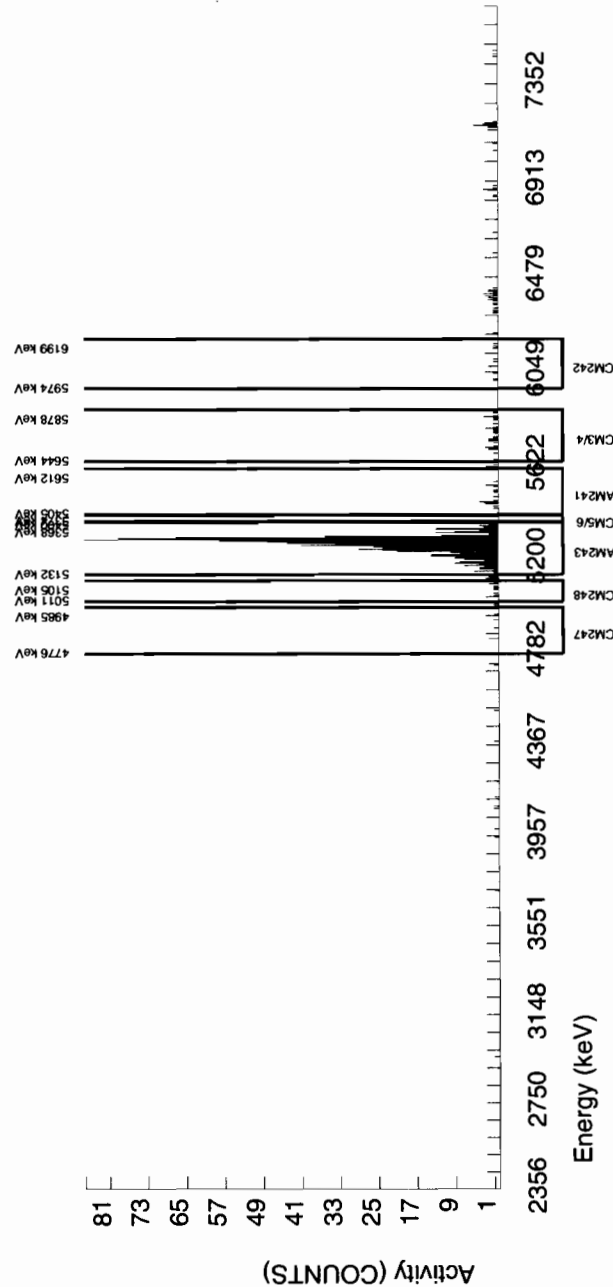
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4258E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5481.678	12.668	20.000	10.578	8.000	2.8409	99.94000	3.24E-02	1.59E-02	2.02E-02	4.87E-02	1.58E-02
AM-243	5270.000	5275.274	28.295	817.000	817.000	0.000	0.0000	99.78000	2.50E+00	1.75E-01	0.00E+00	8.30E-03	8.75E-02
CM-242	6102.000	6097.657	4.904	13.000	7.000	6.000	4.3413	100.0000	2.41E-02	1.51E-02	3.09E-02	7.00E-02	1.50E-02
CM-3/4	5795.020	5776.208	142.209	33.000	-3.000	36.000	5.1799	100.0000	-9.20E-03	2.55E-02	3.68E-02	8.19E-02	2.55E-02
CM-5/6	5386.000	5376.314	0.000	6.000	5.000	1.000	14.2480	86.09000	1.78E-02	9.45E-03	1.18E-01	2.45E-01	9.39E-03
CM-247	4946.000	4894.017	4.904	7.000	4.000	3.000	13.7917	79.30000	1.54E-02	1.22E-02	1.24E-01	2.58E-01	1.22E-02
CM-248	5078.600	5066.369	7.202	13.000	12.000	1.000	19.5080	91.00000	4.03E-02	1.28E-02	1.52E-01	3.14E-01	1.26E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



BATCH NUMBER : 951665 SAMPLE ID : S0245978009_AM SAMPLE QTY : 0.508 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 80.162				CHAMBER : 229 DETECTOR S/N : 79422 AVERAGE %EFFICIENCY : 37.2509 COUNT DATE : 25-FEB-2010 17:00:39 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B229.CNF:83 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W229.CNF:28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3380E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5515.889	153.356	7.000	5.488	0.000	2.8409	99.94000	1.63E-02	7.03E-03	1.96E-02	4.73E-02	6.96E-03
AM-243	5270.000	5275.600	43.337	869.000	869.000	0.000	0.0000	99.78000	2.59E+00	1.78E-01	0.00E+00	8.06E-03	8.77E-02
CM-242	6102.000	6074.443	84.099	4.000	3.000	1.000	4.3413	100.0000	1.01E-02	7.57E-03	3.00E-02	6.80E-02	7.55E-03
CM-3/4	5795.020	5758.621	173.144	8.000	8.000	0.000	5.1799	100.0000	2.38E-02	8.55E-03	3.58E-02	7.96E-02	8.43E-03
CM-5/6	5386.000	5377.542	0.000	3.000	3.000	0.000	14.2480	86.09000	1.03E-02	6.01E-03	1.14E-01	2.38E-01	5.97E-03
CM-247	4946.000	4882.272	4.947	16.000	15.000	1.000	13.7917	79.30000	5.62E-02	1.58E-02	1.20E-01	2.50E-01	1.54E-02
CM-248	5078.600	5062.879	79.152	22.000	22.000	0.000	19.5080	91.00000	7.18E-02	1.59E-02	1.48E-01	3.05E-01	1.53E-02

NOTES:

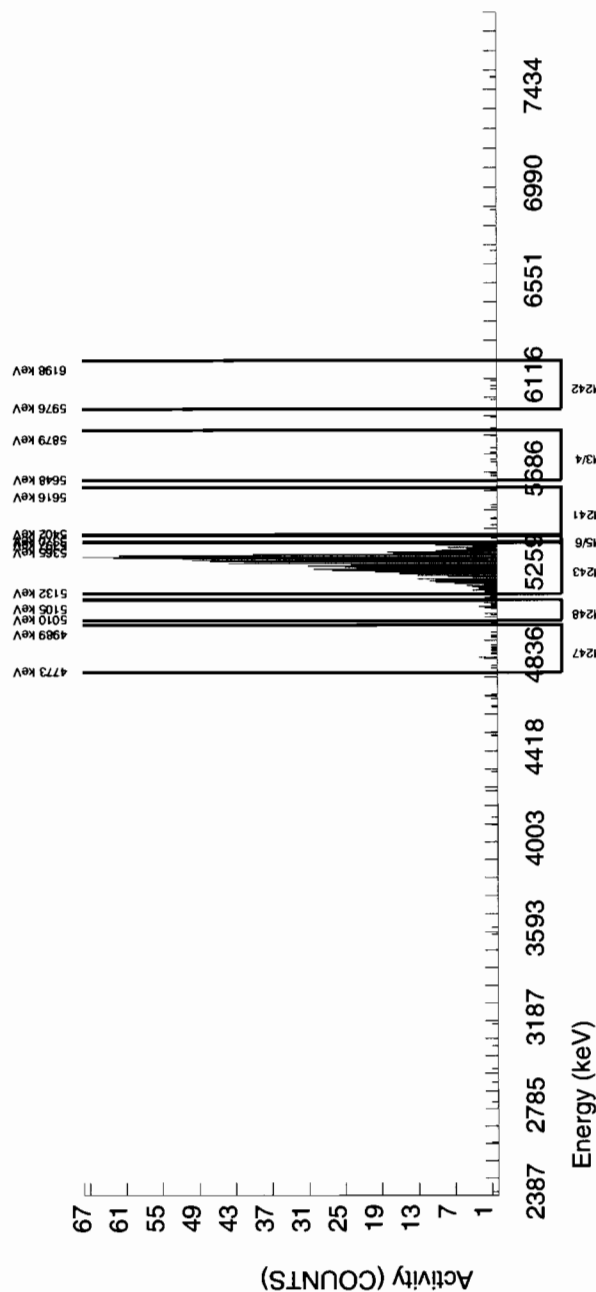
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sq of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	: 951665
SAMPLE ID	: S0245978010_AM
SAMPLE QTY	: 0.501 G
SAMPLE DATE	: 27-JAN-2010 00:00:00
ANALYST	: CXM2
% YIELD	: 85.903

CHAMBER : 016
DETECTOR S/N : 78774
AVERAGE %EFFICIENCY : 33.6016
COUNT DATE : 23-FEB-2010 21:21:25
ELAPSED LIVE TIME(SEC) : 6000.00

```
LIB FILE      : ENV_ALPHA_AM
BKG FILE     : B016.CNF;1093
BKG DATE     : 21-FEB-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE     : W016.CNF;311
CAL DATE     : 3-FEB-2010
```

TRACER	
ID	: 445-96-2-SS
NUCLIDE	: AM243
NOMINAL	: 2.9166E+00
RESULTS	: 2.5054E+00

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3156E+01 pCi/G

LCS/LCSD	
ID	: 0244-B
NUCLIDE	: AM-241
NOMINAL	: 3.3156E

NUCLIDE ACTIVITY SUMMARY

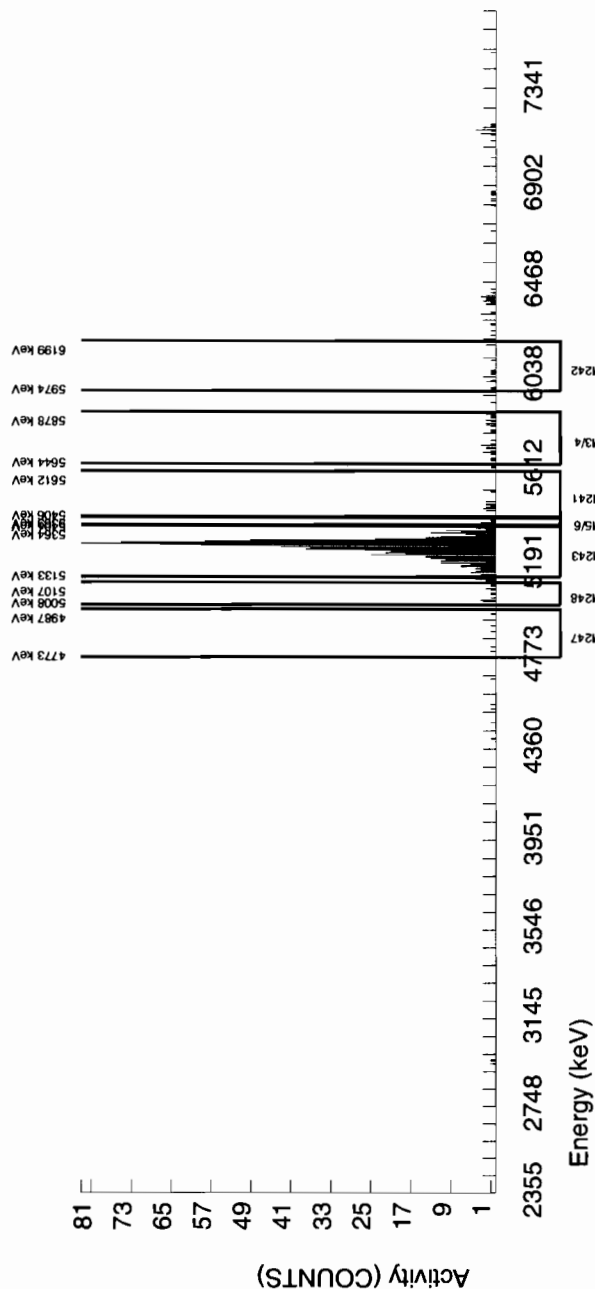
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5470.832	43.931	13.000	6.538	5.000	2.8409	99.94000	2.04E-02	1.27E-02	2.06E-02	4.96E-02	1.27E-02
AM243	5270.000	5274.906	31.804	842.000	840.000	2.000	1.4142	99.78000	2.62E+00	1.83E-01	1.03E-02	2.90E-02	9.07E-02
CM-242	6102.000	6071.860	156.097	14.000	5.000	9.000	4.3413	100.0000	1.76E-02	1.69E-02	3.15E-02	7.14E-02	1.68E-02
CM-3/4	5795.020	5775.348	160.958	34.000	-3.000	37.000	5.1799	100.0000	-9.37E-03	2.63E-02	3.75E-02	8.35E-02	2.63E-02
CM-5/6	5386.000	5380.436	0.000	11.000	10.000	1.000	14.2480	86.09000	3.62E-02	1.27E-02	1.20E-01	2.50E-01	1.25E-02
CM-247	4946.000	4864.164	0.000	6.000	6.000	0.000	13.7917	79.30000	2.36E-02	9.73E-03	1.26E-01	2.63E-01	9.62E-03
CM-248	5078.600	5065.368	0.000	15.000	15.000	0.000	19.5080	91.00000	5.13E-02	1.36E-02	1.55E-01	3.20E-01	1.33E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

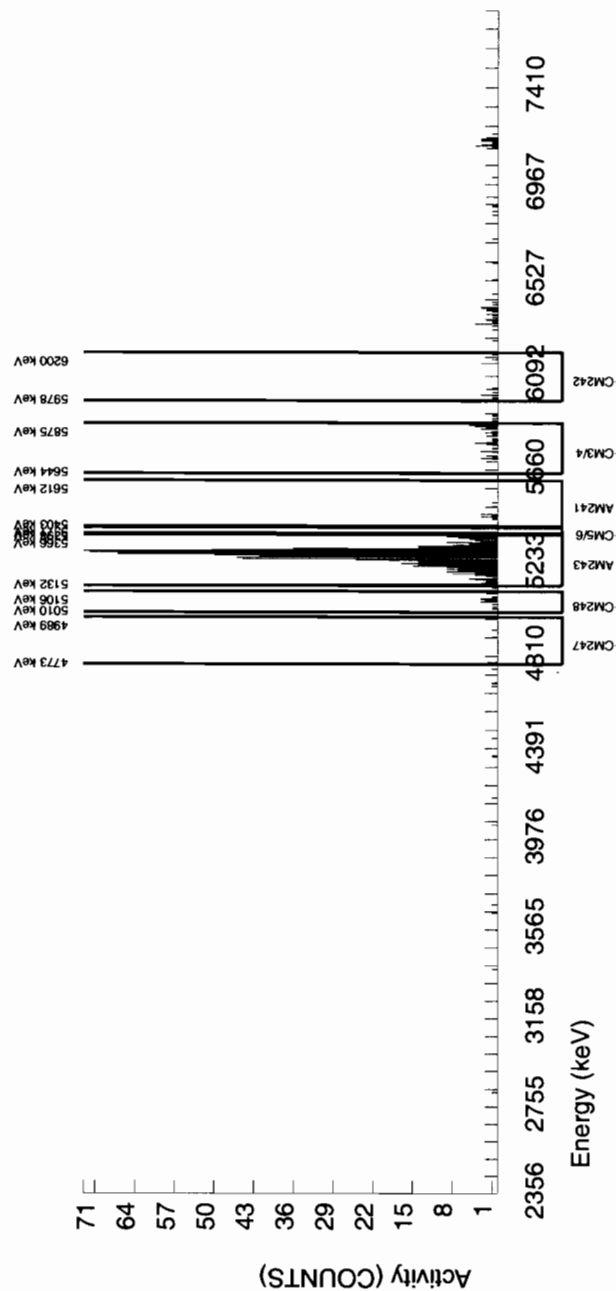
BATCH NUMBER : 951665 SAMPLE ID : S0245978012_AM SAMPLE QTY : 0.509 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 87.833				CHAMBER : 018 DETECTOR S/N : 78782 AVERAGE %EFFICIENCY : 31.8067 COUNT DATE : 23-FEB-2010 21:21:25 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B018.CNF;1092 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W018.CNF;306 CAL DATE : 3-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5617E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5463.569	16.112	11.000	-3.415	13.000	2.8409	99.94000	-1.08E-02	1.51E-02	2.09E-02	5.05E-02	1.51E-02
AM243	5270.000	5274.155	45.790	813.000	813.000	0.000	0.0000	99.78000	2.58E+00	1.81E-01	0.00E+00	8.60E-03	9.05E-02
CM-242	6102.000	6074.350	140.002	16.000	9.000	7.000	4.3413	100.0000	3.21E-02	1.72E-02	3.20E-02	7.26E-02	1.71E-02
CM-3/4	5795.020	5801.784	143.926	48.000	9.000	39.000	5.1799	100.0000	2.86E-02	2.97E-02	3.82E-02	8.49E-02	2.96E-02
CM-5/6	5386.000	5374.572	0.000	5.000	3.000	2.000	14.2480	86.09000	1.10E-02	9.76E-03	1.22E-01	2.54E-01	9.74E-03
CM-247	4946.000	4854.517	4.958	4.000	4.000	0.000	13.7917	79.30000	1.60E-02	8.05E-03	1.28E-01	2.67E-01	7.99E-03
CM-248	5078.600	5066.789	77.618	22.000	21.000	1.000	19.5080	91.00000	7.31E-02	1.73E-02	1.58E-01	3.25E-01	1.67E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951665 SAMPLE ID : S0245978013_AM SAMPLE QTY : 0.515 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 89.414				CHAMBER : 025 DETECTOR S/N : 45-149AA5 AVERAGE %EFFICIENCY : 32.2436 COUNT DATE : 23-FEB-2010 21:21:26 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B025.CNF;1115 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W025.CNF;328 CAL DATE : 3-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6078E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5462.563	0.000	12.000	-2.460	13.000	2.8409	99.94000	-7.47E-03	1.47E-02	2.01E-02	4.84E-02	1.47E-02
AM-243	5270.000	5281.309	56.167	842.000	839.000	3.000	1.7321	99.78000	2.55E+00	1.78E-01	1.23E-02	3.27E-02	8.84E-02
CM-242	6102.000	6068.716	80.296	12.000	11.000	1.000	4.3413	100.0000	3.76E-02	1.25E-02	3.06E-02	6.95E-02	1.23E-02
CM-3/4	5795.020	5755.765	115.486	21.000	9.000	12.000	5.1799	100.0000	2.74E-02	1.76E-02	3.66E-02	8.13E-02	1.75E-02
CM-5/6	5386.000	5381.722	0.000	15.000	9.000	6.000	14.2480	86.09000	3.17E-02	1.63E-02	1.17E-01	2.43E-01	1.61E-02
CM-247	4946.000	4903.080	4.866	10.000	9.000	1.000	13.7917	79.30000	3.44E-02	1.29E-02	1.23E-01	2.56E-01	1.27E-02
CM-248	5078.600	5059.843	26.309	12.000	11.000	1.000	19.5080	91.00000	3.67E-02	1.22E-02	1.51E-01	3.12E-01	1.20E-02

NOTES:

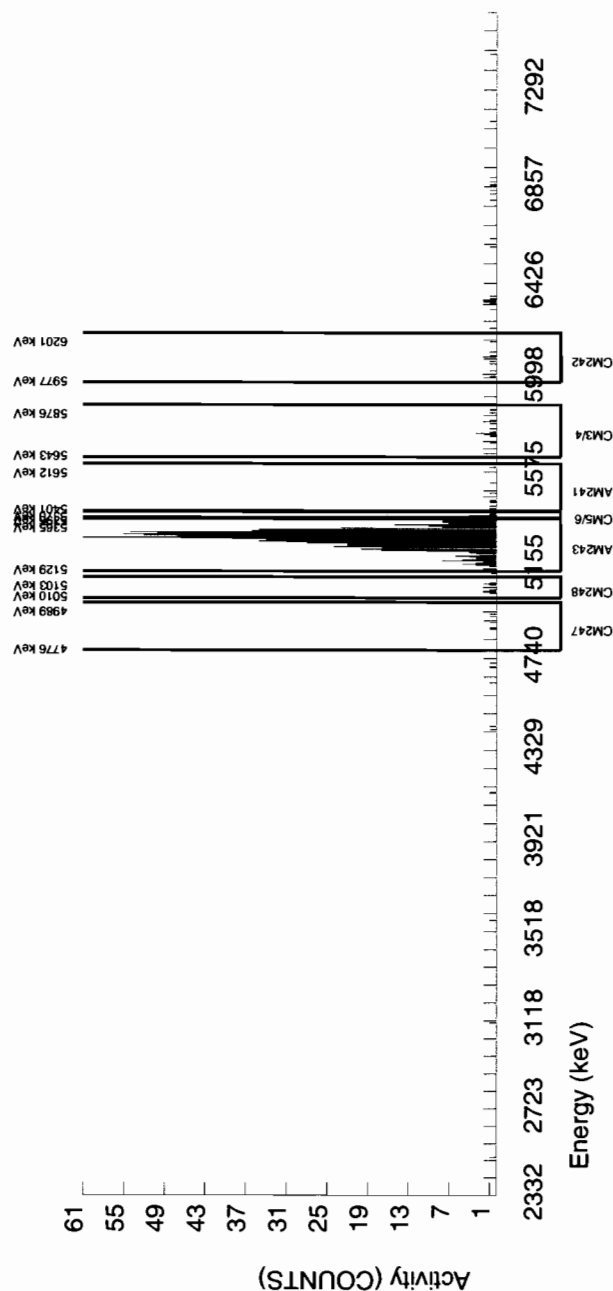
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

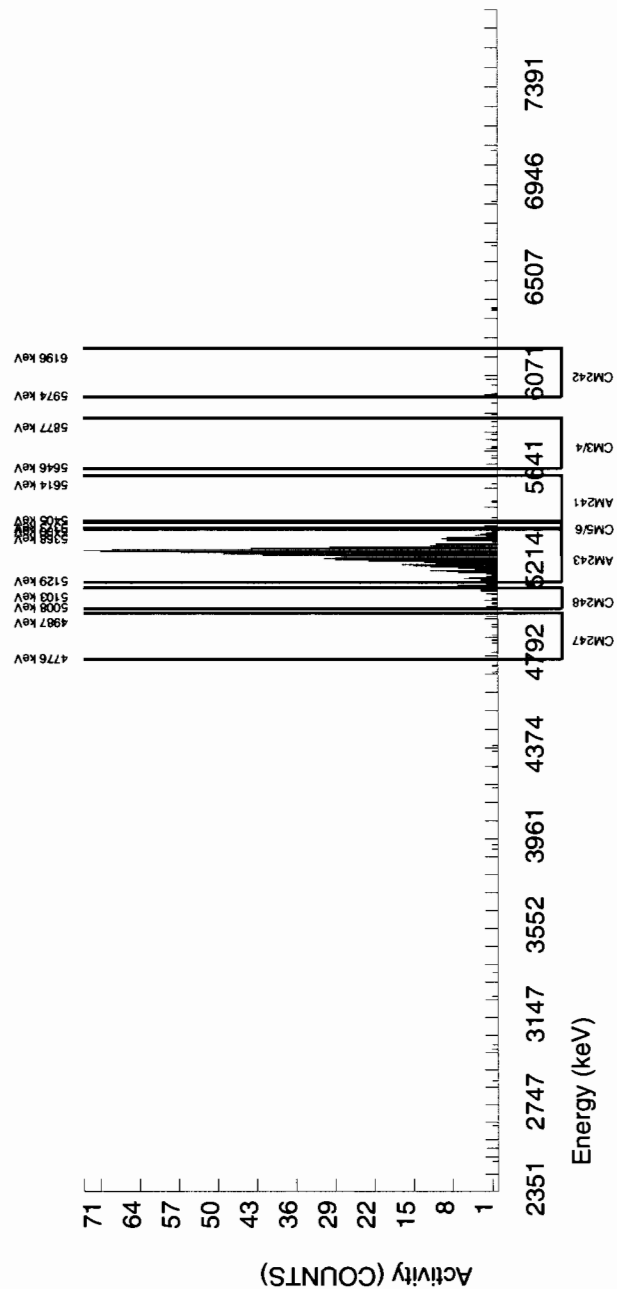
BATCH NUMBER : 951665 SAMPLE ID : S0245978014_AM SAMPLE QTY : 0.510 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 85.812				CHAMBER : 026 DETECTOR S/N : 78204 AVERAGE %EFFICIENCY : 31.5547 COUNT DATE : 23-FEB-2010 21:21:26 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B026.CNF;1116 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W026.CNF;302 CAL DATE : 3-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5028E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5501.396	147.554	4.000	0.629	2.000	2.8409	99.94000	2.05E-03	7.03E-03	2.16E-02	5.20E-02	7.02E-03
AM-243	5270.000	5259.508	33.705	792.000	788.000	4.000	2.0000	99.78000	2.58E+00	1.86E-01	1.52E-02	3.93E-02	9.22E-02
CM-242	6102.000	6037.608	4.918	4.000	4.000	0.000	4.3413	100.0000	1.47E-02	7.41E-03	3.29E-02	7.47E-02	7.36E-03
CM-3/4	5795.020	5765.735	108.206	15.000	10.000	5.000	5.1799	100.0000	3.27E-02	1.48E-02	3.93E-02	8.75E-02	1.46E-02
CM-5/6	5386.000	5386.717	0.000	0.000	0.000	0.000	14.2480	86.09000	0.00E+00	3.80E-03	1.26E-01	2.61E-01	3.79E-03
CM-247	4946.000	4901.636	4.918	9.000	8.000	1.000	13.7917	79.30000	3.29E-02	1.32E-02	1.32E-01	2.75E-01	1.30E-02
CM-248	5078.600	5068.101	0.000	20.000	20.000	0.000	19.5080	91.00000	7.17E-02	1.67E-02	1.63E-01	3.35E-01	1.60E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:
AM-241



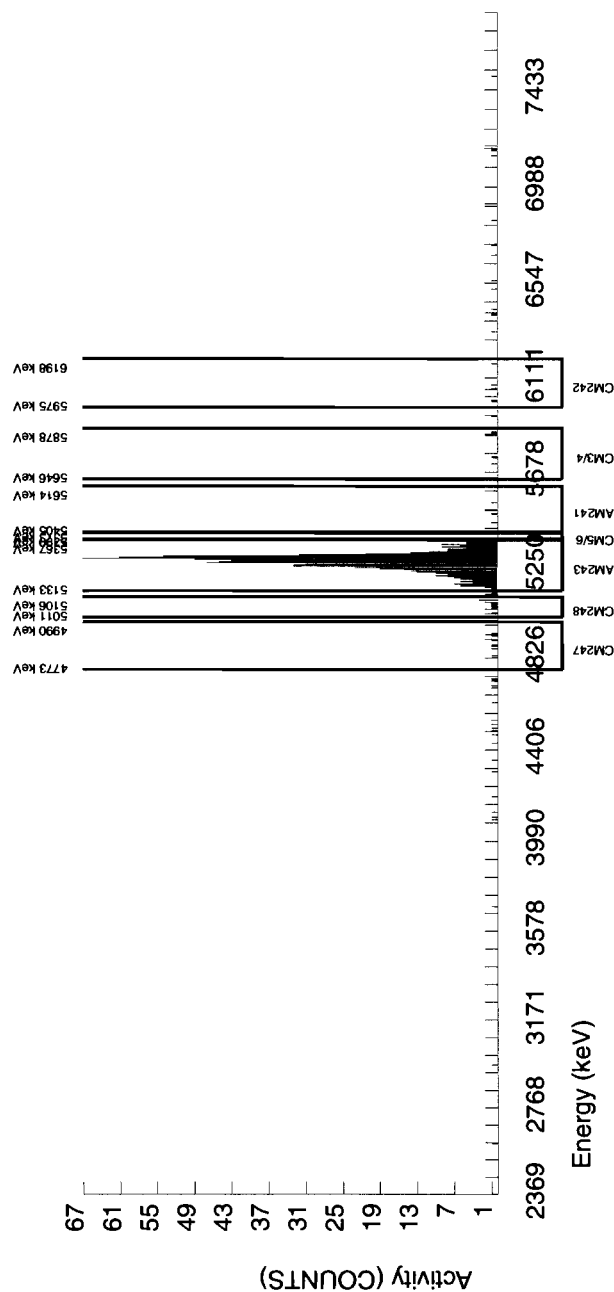
BATCH NUMBER : 951665 SAMPLE ID : S0245978015_AM SAMPLE QTY : 0.508 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 79.594				CHAMBER : 027 DETECTOR S/N : 42484 AVERAGE %EFFICIENCY : 33.6745 COUNT DATE : 23-FEB-2010 21:21:26 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B027.CNF;1122 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W027.CNF;329 CAL DATE : 3-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3214E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5499.213	4.962	6.000	2.643	2.000	2.8409	99.94000	8.75E-03	8.55E-03	2.19E-02	5.27E-02	8.53E-03
AM-243	5270.000	5269.515	38.383	781.000	780.000	1.000	1.0000	99.78000	2.59E+00	1.87E-01	7.71E-03	2.44E-02	9.27E-02
CM-242	6102.000	6059.340	37.216	9.000	8.000	1.000	4.3413	100.0000	2.98E-02	1.19E-02	3.34E-02	7.58E-02	1.18E-02
CM-3/4	5795.020	5802.742	4.962	8.000	6.000	2.000	5.1799	100.0000	1.99E-02	1.06E-02	3.99E-02	8.87E-02	1.05E-02
CM-5/6	5386.000	5388.625	4.962	3.000	3.000	0.000	14.2480	86.09000	1.15E-02	6.70E-03	1.27E-01	2.65E-01	6.66E-03
CM-247	4946.000	4911.153	47.141	12.000	12.000	0.000	13.7917	79.30000	5.01E-02	1.48E-02	1.34E-01	2.79E-01	1.45E-02
CM-248	5078.600	5061.180	78.154	16.000	13.000	3.000	19.5080	91.00000	4.73E-02	1.61E-02	1.65E-01	3.40E-01	1.58E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:
AM-241



BATCH NUMBER : 951665 SAMPLE ID : S1202039541_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 89.381			CHAMBER : 218 DETECTOR S/N : 79411 AVERAGE %EFFICIENCY : 37.5225 COUNT DATE : 23-FEB-2010 13:26:00 ELAPSED LIVE TIME(SEC) : 60000.00			LIB FILE : ENV_ALPHA_AM BKG FILE : B218.CNF:83 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W218.CNF:28 CAL DATE : 29-JAN-2010		
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6068E+00 dpm			MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G			LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G		
NUCLIDE ACTIVITY SUMMARY								
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN
AM-241	5479.150	5533.230	4.944	5.000	-1.698	5.000	2.8409	99.94000
AM243	5270.000	5275.834	54.303	977.000	976.000	1.000	1.0000	99.78000
CM-242	6102.000	6056.878	17.304	9.000	9.000	0.000	4.3413	100.0000
CM-3/4	5795.020	5763.906	4.944	1.000	0.000	1.000	5.1799	100.0000
CM-5/6	5386.000	5376.111	0.000	12.000	12.000	0.000	14.2480	86.09000
CM-247	4946.000	4906.367	0.000	14.000	12.000	2.000	13.7917	79.30000
CM-248	5078.600	5062.874	7.416	33.000	33.000	0.000	19.5080	91.00000
ACTIVITY pCi/G								
-2.28E-03								
1.31E+00								
1.24E-02								
0.00E+00								
1.87E-02								
2.03E-02								
4.87E-02								
TPU 1-SIGMA								
3.87E-03								
8.78E-02								
4.20E-03								
1.90E-03								
1.62E-02								
5.17E-02								
6.88E-03								
8.95E-03								
DLC pCi/G								
8.88E-03								
3.13E-03								
1.36E-02								
3.08E-02								
3.60E-02								
5.17E-01								
5.40E-03								
5.43E-02								
6.70E-02								
8.95E-03								
MDC pCi/G								
2.14E-02								
9.91E-03								
3.08E-02								
3.60E-02								
1.08E-01								
1.13E-01								
5.40E-03								
6.77E-03								
1.38E-01								
UNC pCi/G								
3.87E-03								
4.21E-02								
4.13E-03								
1.90E-03								
5.40E-03								
6.77E-03								
8.48E-03								

NOTES:

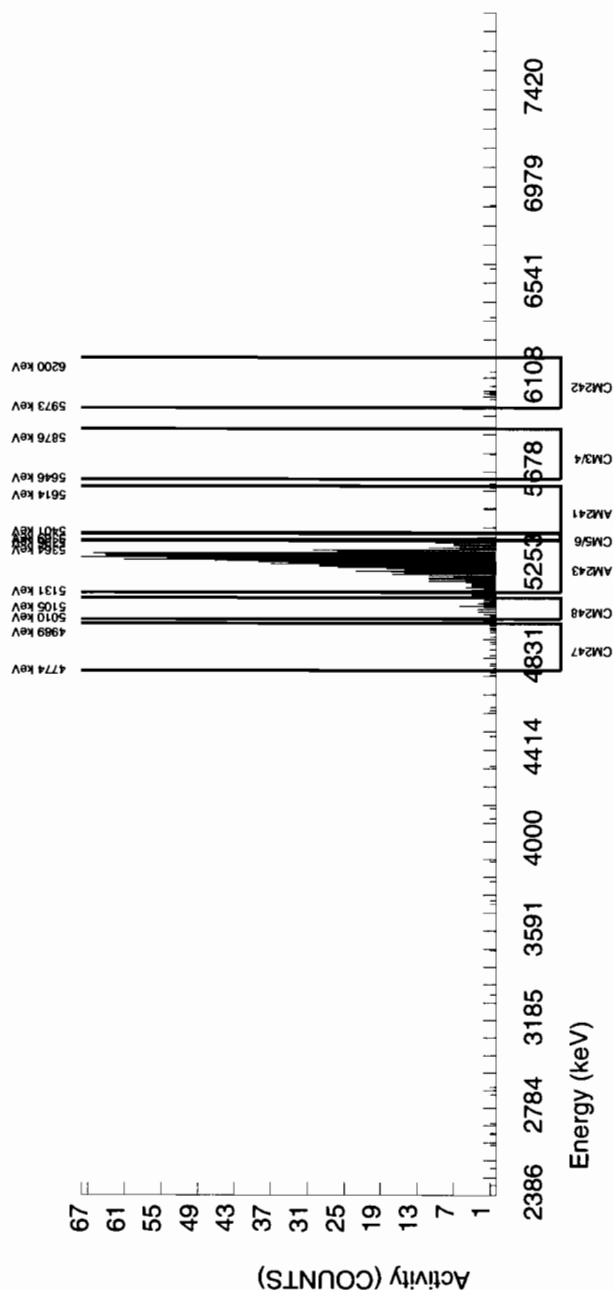
* Sg calculated via blank population.

Sg calculated via blank p
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



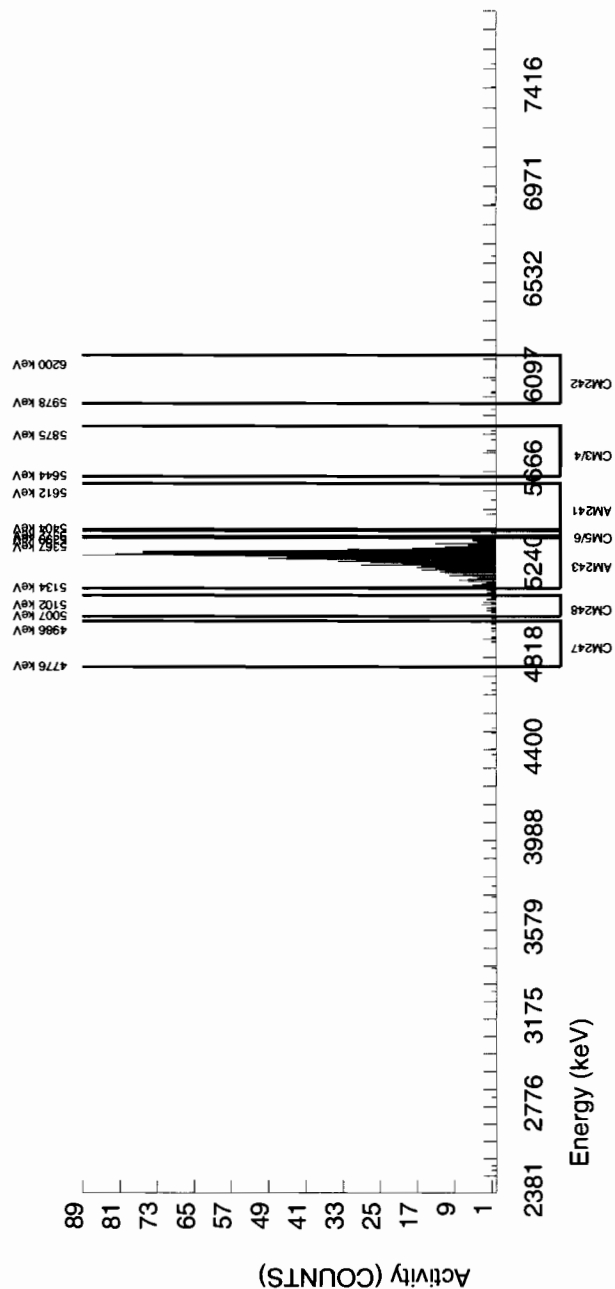
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951665 SAMPLE ID : S1202039542_AM SAMPLE QTY : 0.526 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 89.495				CHAMBER : 233 DETECTOR S/N : 79426 AVERAGE %EFFICIENCY : 37.7051 COUNT DATE : 23-FEB-2010 13:26:04 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B233.CNF;83 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W233.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6102E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5500.161	4.909	3.000	1.291	0.000	2.8409	99.94000	3.28E-03	2.89E-03	1.68E-02	4.04E-02	2.89E-03
AM243	5270.000	5276.011	38.479	984.000	982.000	2.000	1.4142	99.78000	2.50E+00	1.67E-01	8.37E-03	2.36E-02	7.99E-02
CM-242	6102.000	6053.310	58.296	3.000	3.000	0.000	4.3413	100.0000	8.57E-03	4.98E-03	2.56E-02	5.81E-02	4.95E-03
CM-3/4	5795.020	5802.671	4.909	4.000	3.000	1.000	5.1799	100.0000	7.64E-03	5.71E-03	3.06E-02	6.80E-02	5.69E-03
CM-5/6	5386.000	5377.062	0.000	9.000	9.000	0.000	14.2480	86.09000	2.65E-02	8.98E-03	9.77E-02	2.03E-01	8.84E-03
CM-247	4946.000	4936.871	87.751	9.000	9.000	0.000	13.7917	79.30000	2.88E-02	9.75E-03	1.03E-01	2.14E-01	9.60E-03
CM-248	5078.600	5062.440	53.878	20.000	20.000	0.000	19.5080	91.00000	5.58E-02	1.29E-02	1.27E-01	2.61E-01	1.25E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area
due to tracer impurity:
AM-241

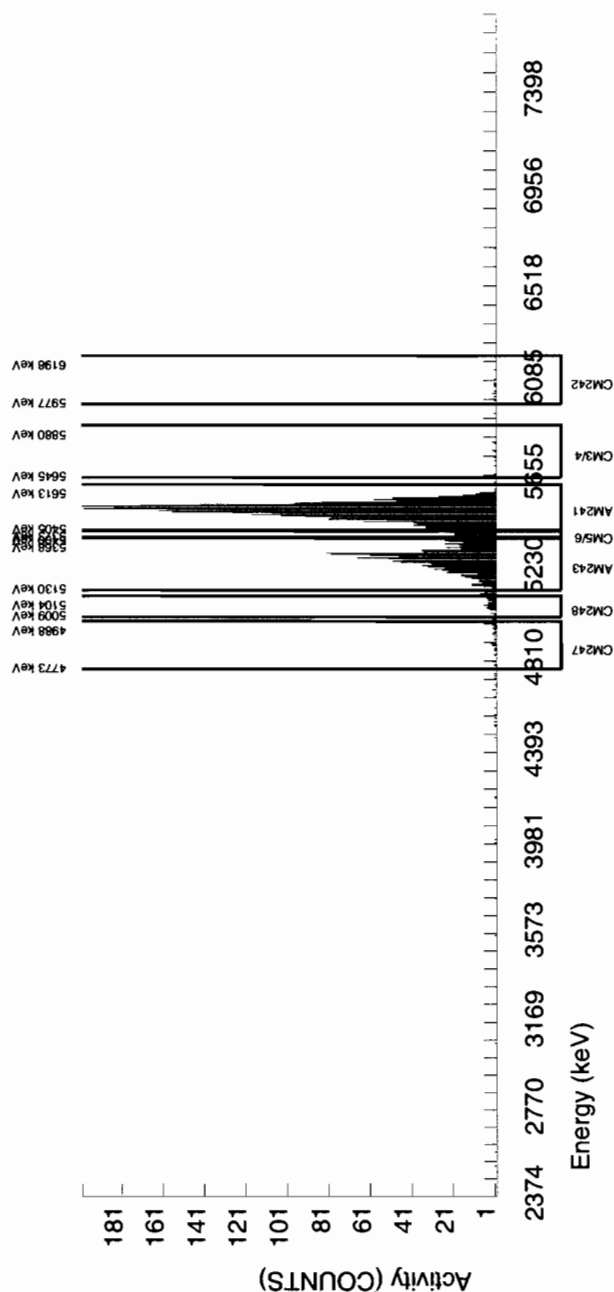
BATCH NUMBER : 951665 SAMPLE ID : S1202039543_AM SAMPLE QTY : 0.115 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 110.269				CHAMBER : 234 DETECTOR S/N : 79427 AVERAGE %EFFICIENCY : 38.3923 COUNT DATE : 23-FEB-2010 13:26:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B234.CNF:83 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W234.CNF:28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 3.2161E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5496.893	55.212	2795.000	2792.856	0.000	2.8409	99.94000	2.59E+01	1.71E+00	6.12E-02	1.47E-01	4.89E-01
AM243	5270.000	5274.375	44.178	1232.000	1232.000	0.000	0.0000	99.78000	1.14E+01	7.93E-01	0.00E+00	2.51E-02	3.25E-01
CM-242	6102.000	6057.657	4.914	11.000	10.000	1.000	4.3413	100.0000	9.49E-02	3.34E-02	9.34E-02	2.12E-01	3.29E-02
CM-3/4	5795.020	5747.720	41.617	11.000	11.000	0.000	5.1799	100.0000	1.02E-01	3.14E-02	1.11E-01	2.48E-01	3.07E-02
CM-5/6	5386.000	5386.784	0.000	134.000	134.000	0.000	14.2480	86.09000	1.44E+00	1.54E-01	3.56E-01	7.42E-01	1.24E-01
CM-247	4946.000	4913.074	0.000	40.000	38.000	2.000	13.7917	79.30000	4.43E-01	8.07E-02	3.74E-01	7.80E-01	7.56E-02
CM-248	5078.600	5065.289	0.000	58.000	57.000	1.000	19.5080	91.00000	5.80E-01	8.63E-02	4.61E-01	9.50E-01	7.81E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sq of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-24¹



Radiochemistry Batch Checklist, Rev10
 Batch# 951669 Product: PU Date: 2/27/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Denise Green 2/27/10

Secondary Review Performed By: Justine 2/27/10

✓p

Plutonium Que Sheet

10-FEB-10

Batch #: 951669 Analyst: CXM2 First Client Due Date: 02-MAR-10 Internal Due Date: 19-FEB-10

Tracer Isotope(s): Pu-242 Pu-238 Tracer Code: 1375-A Expiration Date: 1/8/11 Vol: 0.1 mL

LCS Isotope(s): Pu-238 LCS Code: 0244-B Expiration Date: 4/30/20 Vol: 0.1159

Spike Isotope(s): Pu-239/Pu-238 Spike Code: Expiration Date: Vol: 0.1159

Prep Date: 2/18/10 Initials: CMM Pipet ID: 2971058 Balance ID: 50410237Z

Witness: Wentz 1/8/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/1/1)	Pu Det #
245978008-1	RE15-10-7975	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	1	31	0.525	65
245978009-1	RE15-10-7978	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	2	32	0.508	66
245978010-1	RE15-10-7970	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	3	33	0.501	67
245978011-1	RE15-10-7964	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	4	34	0.527	68 43
245978012-1	RE15-10-7973	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	5	35	0.509	69 44
245978013-1	RE15-10-7962	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	6	36	0.515	70 45
245978014-1	RE15-10-7963	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	7	37	0.510	71
245978015-1	RE15-10-7977	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	8	38	0.508	72
246020001-1	RE15-10-7980	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	9	39	0.603	73
246020002-1	RE15-10-7958	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	10	40	0.510	74
246020003-1	RE15-10-7960	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	11	41	0.519	75
246020004-1	RE15-10-7979	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	12	42	0.525	76
246020005-1	RE15-10-7972	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	13	43	0.500	77
246020006-1	RE15-10-7957	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	14	44	0.519	78
246020007-1	RE15-10-7974	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	15	45	0.513	80 46
246020008-1	RE15-10-7961	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	16	46	0.510	81
246020009-1	RE15-10-7971	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	17	47	0.514	82
246020010-1	RE15-10-7966	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	18	48	0.517	83
246020011-1	RE15-10-7959	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	19	49	0.510	84
246020012-1	RE15-10-7969	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	20	50	0.507	85
1202039555-1	MB for batch 951669	MB		.05 pCi/g	SOIL	QC ACCOUNT		21	51	1.0	86
1202039556-1	RE15-10-7980(246020001DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	22	52	0.526	87 43
1202039557-1	LCS for batch 951669	LCS		.05 pCi/g	SOIL	QC ACCOUNT		23	53	0.115	88

Solid Sample Dissolution by: LEACH or DIGESTION
Circle OneChoose SOP Used: GL-RAD-A-011, GL-RAD-A-036,
GL-RAD-A-045, GL-RAD-A-043

GEL Laboratories LLC, , Radiochemistry Division

Data Reviewed By: Wentz 2/27/10

Page: 1 of 1

Blank Correction Report

Batch ID 951669

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202039556	DUP	Plutonium-238	0.526 g	-0.00106	0.00424	0.043	-.00644487	pCi/g	NO
		Plutonium-239/240	0.526 g	0.00135	0.00488	0.0321	-.00321293	pCi/g	NO
1202039557	LCS	Plutonium-238	0.115 g	7.15	0.530	0.233	-.02947826	pCi/g	NO
		Plutonium-239/240	0.115 g	39.3	2.42	0.175	-.01469565	pCi/g	NO
1202039555	MB	Plutonium-238	1.00 g	-0.00339	0.00294	0.0277	-.00339	pCi/g	NO
		Plutonium-239/240	1.00 g	-0.00169	0.00294	0.0208	-.00169	pCi/g	NO
245978008	RE15-10-7975	Plutonium-238	0.525 g	0.00	0.0147	0.0472	-.00645714	pCi/g	NO
		Plutonium-239/240	0.525 g	0.0549	0.0153	0.0355	-.00321905	pCi/g	NO
245978009	RE15-10-7978	Plutonium-238	0.508 g	-0.00887	0.0148	0.0483	-.00667323	pCi/g	NO
		Plutonium-239/240	0.508 g	0.00591	0.00725	0.0364	-.00332677	pCi/g	NO
245978010	RE15-10-7970	Plutonium-238	0.501 g	-0.0236	0.0102	0.0482	-.00676647	pCi/g	NO
		Plutonium-239/240	0.501 g	0.00	0.00418	0.0363	-.00337325	pCi/g	NO
245978011	RE15-10-7964	Plutonium-238	0.527 g	0.00374	0.00476	0.038	-.00643264	pCi/g	NO
		Plutonium-239/240	0.527 g	0.00154	0.00422	0.0285	-.00320683	pCi/g	NO
245978012	RE15-10-7973	Plutonium-238	0.509 g	-0.00493	0.00646	0.0535	-.00666012	pCi/g	NO
		Plutonium-239/240	0.509 g	0.00742	0.00894	0.0401	-.00332024	pCi/g	NO
245978013	RE15-10-7962	Plutonium-238	0.515 g	0.00146	0.00399	0.036	-.00658252	pCi/g	NO
		Plutonium-239/240	0.515 g	0.00499	0.00601	0.027	-.00328155	pCi/g	NO
245978014	RE15-10-7963	Plutonium-238	0.510 g	0.00296	0.0148	0.0483	-.00664706	pCi/g	NO
		Plutonium-239/240	0.510 g	0.00591	0.00836	0.0363	-.00331373	pCi/g	NO
245978015	RE15-10-7977	Plutonium-238	0.508 g	0.00906	0.0151	0.0494	-.00667323	pCi/g	NO
		Plutonium-239/240	0.508 g	0.0483	0.0144	0.0371	-.00332677	pCi/g	NO
246020001	RE15-10-7980	Plutonium-238	0.503 g	0.00	0.00443	0.0511	-.00673956	pCi/g	NO
		Plutonium-239/240	0.503 g	0.00626	0.00443	0.0385	-.00335984	pCi/g	NO
246020002	RE15-10-7958	Plutonium-238	0.510 g	-0.00309	0.00818	0.0505	-.00664706	pCi/g	NO
		Plutonium-239/240	0.510 g	0.00	0.00437	0.038	-.00331373	pCi/g	NO
246020003	RE15-10-7960	Plutonium-238	0.519 g	0.0153	0.00688	0.050	-.00653179	pCi/g	NO
		Plutonium-239/240	0.519 g	0.303	0.0345	0.0376	-.00325626	pCi/g	NO
246020004	RE15-10-7979	Plutonium-238	0.525 g	0.00613	0.00435	0.0501	-.00645714	pCi/g	NO
		Plutonium-239/240	0.525 g	0.0184	0.00973	0.0377	-.00321905	pCi/g	NO
246020005	RE15-10-7972	Plutonium-238	0.500 g	-0.0222	0.0114	0.0518	-.00678	pCi/g	NO
		Plutonium-239/240	0.500 g	0.0127	0.00779	0.039	-.00338	pCi/g	NO
246020006	RE15-10-7957	Plutonium-238	0.519 g	0.00288	0.00288	0.047	-.00653179	pCi/g	NO
		Plutonium-239/240	0.519 g	0.333	0.0355	0.0353	-.00325626	pCi/g	NO
246020007	RE15-10-7974	Plutonium-238	0.513 g	-0.00816	0.00755	0.0442	-.00660819	pCi/g	NO
		Plutonium-239/240	0.513 g	0.000267	0.00768	0.0331	-.00329435	pCi/g	NO
246020008	RE15-10-7961	Plutonium-238	0.510 g	-0.00273	0.00386	0.0446	-.00664706	pCi/g	NO
		Plutonium-239/240	0.510 g	0.0218	0.00779	0.0335	-.00331373	pCi/g	NO
246020009	RE15-10-7971	Plutonium-238	0.514 g	0.00573	0.00407	0.0468	-.00659533	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
246020009	RE15-10-7971	Plutonium-239/240	0.514 g	-0.00287	0.00641	0.0352	-.00328794	pCi/g	NO
246020010	RE15-10-7966	Plutonium-238	0.517 g	-0.0109	0.0116	0.0446	-.00655706	pCi/g	NO
		Plutonium-239/240	0.517 g	0.00273	0.0061	0.0335	-.00326886	pCi/g	NO
246020011	RE15-10-7959	Plutonium-238	0.510 g	0.0148	0.00789	0.0485	-.00664706	pCi/g	NO
		Plutonium-239/240	0.510 g	0.113	0.0201	0.0365	-.00331373	pCi/g	NO
246020012	RE15-10-7969	Plutonium-238	0.507 g	0.00913	0.00682	0.0497	-.00668639	pCi/g	NO
		Plutonium-239/240	0.507 g	0.0517	0.0128	0.0374	-.00333333	pCi/g	NO

Handwritten signature
2/12/10

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

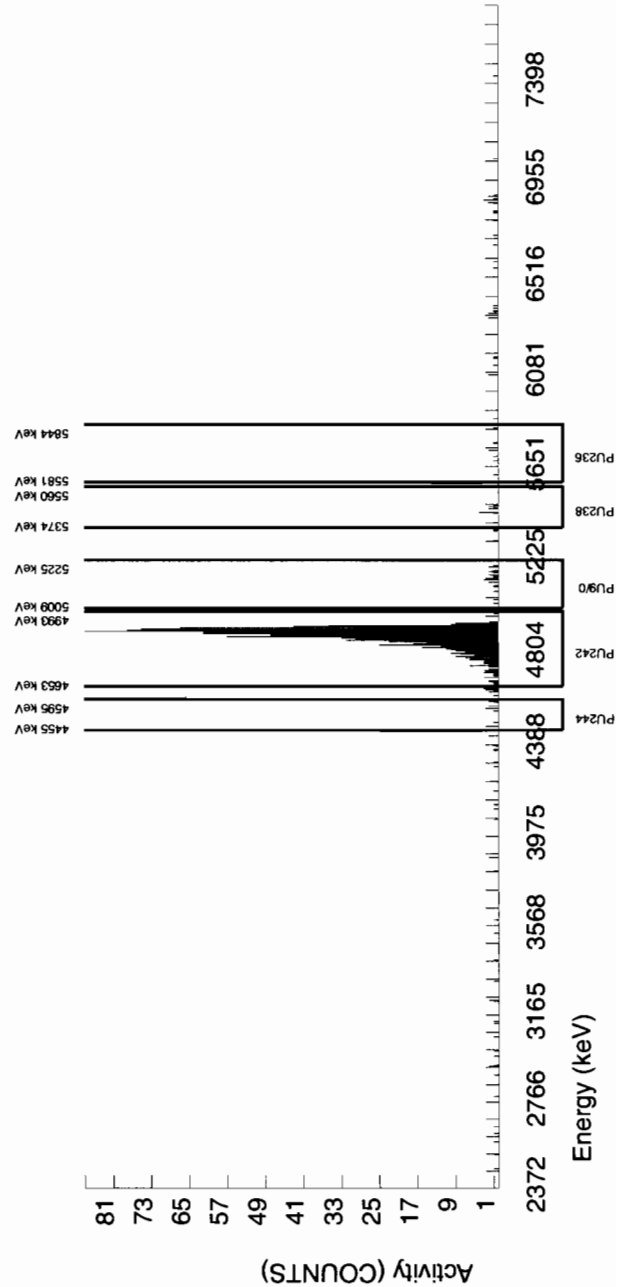
BATCH NUMBER : 951669 SAMPLE ID : S0245978008_PU SAMPLE QTY : 0.525 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 96.454				CHAMBER : 065 DETECTOR S/N : 68551 AVERAGE %EFFICIENCY : 30.8199 COUNT DATE : 23-FEB-2010 13:08:44 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B065.CNF;1947 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W065.CNF;307 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.2609E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5729.245	4.899	8.000	-3.000	11.000	2.6925	100.0000	-8.82E-03	1.28E-02	1.81E-02	4.40E-02	1.28E-02
PU-238	5499.000	5455.604	5.690	13.000	0.000	13.000	2.9312	99.900000	0.00E+00	1.47E-02	1.97E-02	4.72E-02	1.47E-02
PU-9/0	5155.000	5138.246	67.271	23.000	19.000	4.000	2.0604	99.900000	5.49E-02	1.53E-02	1.38E-02	3.55E-02	1.50E-02
PU242	4890.000	4883.535	46.553	1017.000	1005.000	12.000	3.4641	100.0000	2.90E+00	1.75E-01	2.33E-02	5.43E-02	9.26E-02
PU-244	4589.000	4532.046	112.679	12.000	7.000	5.000	3.7241	99.900000	2.02E-02	1.20E-02	2.50E-02	5.79E-02	1.19E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



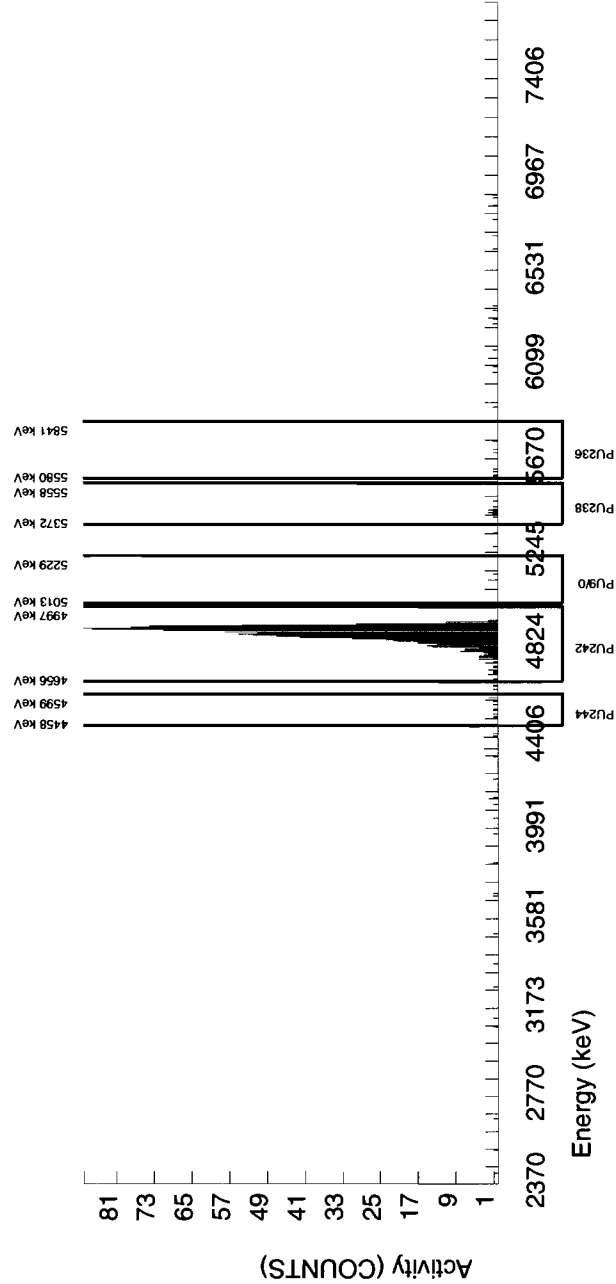
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951669 SAMPLE ID : S0245978009_PU SAMPLE QTY : 0.508 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 96.215				CHAMBER : 066 DETECTOR S/N : 46-089C1 AVERAGE %EFFICIENCY : 31.2039 COUNT DATE : 23-FEB-2010 13:08:44 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B066.CNF;1108 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W066.CNF;308 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.2528E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5659.564	153.704	7.000	-2.000	9.000	2.6925	100.0000	-6.02E-03	1.20E-02	1.85E-02	4.50E-02	1.20E-02
PU-238	5499.000	5434.573	19.913	11.000	-3.000	14.000	2.9312	99.900000	-8.87E-03	1.48E-02	2.02E-02	4.83E-02	1.48E-02
PU-9/0	5155.000	5140.812	4.978	4.000	2.000	2.000	2.0604	99.900000	5.91E-03	7.25E-03	1.42E-02	3.64E-02	7.24E-03
PU242	4890.000	4879.182	54.018	1023.000	1015.000	8.000	2.8284	100.0000	3.00E+00	1.80E-01	1.94E-02	4.69E-02	9.48E-02
PU-244	4589.000	4549.064	4.978	10.000	8.000	2.000	3.7241	99.900000	2.37E-02	1.03E-02	2.56E-02	5.92E-02	1.02E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



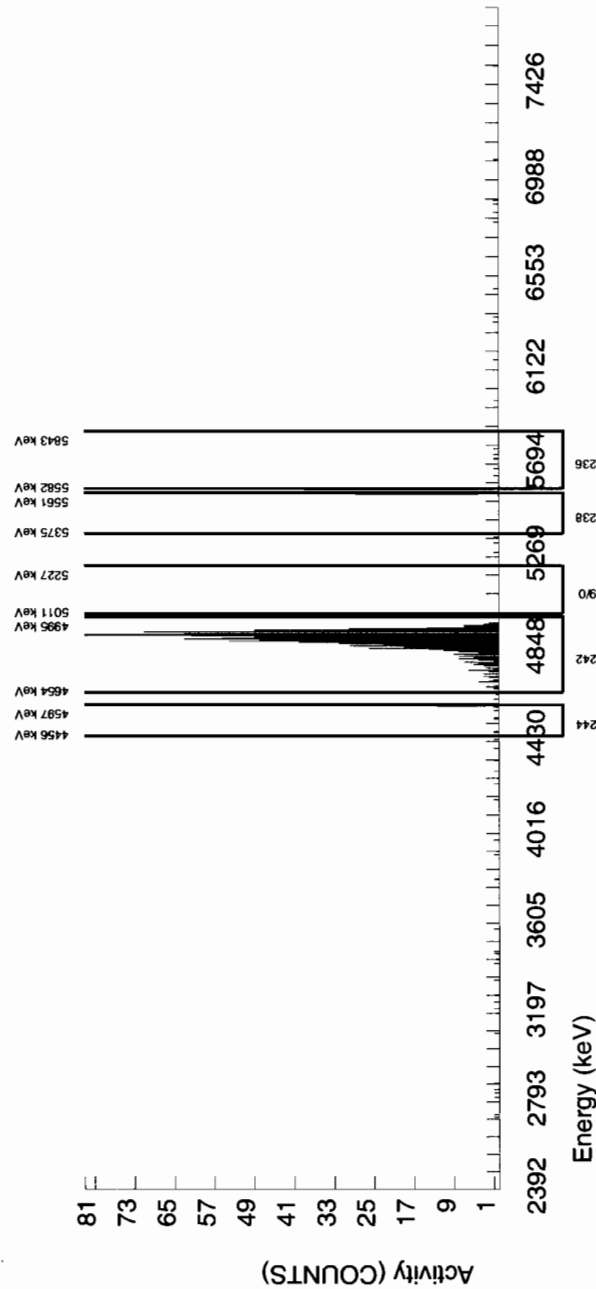
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951669 SAMPLE ID : S0245978010_PU SAMPLE QTY : 0.501 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 94.316				CHAMBER : 067 DETECTOR S/N : 46-089B4 AVERAGE %EFFICIENCY : 32.3338 COUNT DATE : 23-FEB-2010 13:08:44 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B067.CNF;1106 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W067.CNF;289 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.1886E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5723.339	134.638	7.000	-1.000	8.000	2.6925	100.0000	-3.00E-03	1.16E-02	1.85E-02	4.49E-02	1.16E-02
PU-238	5499.000	5409.304	0.000	2.000	-8.000	10.000	2.9312	99.90000	-2.36E-02	1.02E-02	2.01E-02	4.82E-02	1.02E-02
PU-9/0	5155.000	5189.796	4.987	1.000	0.000	1.000	2.0604	99.90000	0.00E+00	4.18E-03	1.41E-02	3.63E-02	4.17E-03
PU242	4890.000	4897.607	54.972	1031.000	1031.000	0.000	0.0000	100.0000	3.04E+00	1.81E-01	0.00E+00	7.99E-03	9.47E-02
PU-244	4589.000	4543.868	0.000	7.000	2.000	5.000	3.7241	99.90000	5.90E-03	1.02E-02	2.56E-02	5.91E-02	1.02E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).

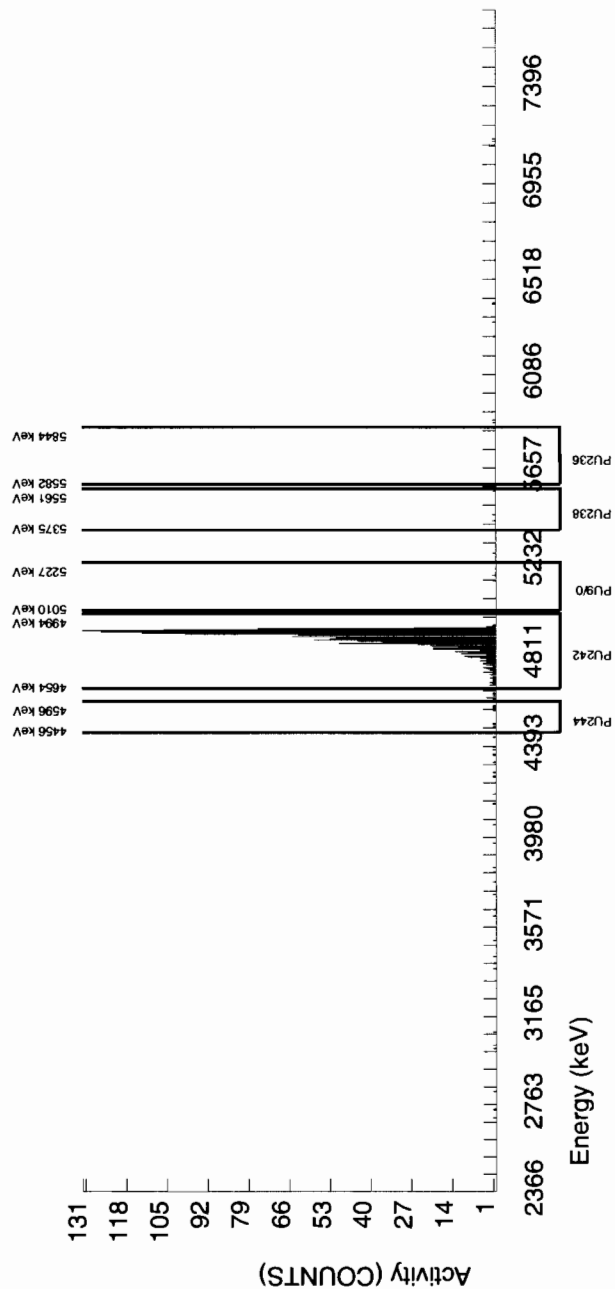


BATCH NUMBER : 951669 SAMPLE ID : S0245978011_PU SAMPLE QTY : 0.527 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 89.231				CHAMBER : 043 DETECTOR S/N : 76543 AVERAGE %EFFICIENCY : 33.6471 COUNT DATE : 24-FEB-2010 20:01:38 ELAPSED LIVE TIME(SEC) : 77909.54				LIB FILE : ENV_ALPHA_PU BKG FILE : B043.CNF;1109 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W043.CNF;286 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0167E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5776.130	4.948	3.000	-2.194	5.194	2.6925	100.0000	-4.90E-03	6.98E-03	1.47E-02	3.54E-02	6.98E-03
PU-238	5499.000	5475.699	128.646	3.000	1.702	1.298	2.9312	99.900000	3.74E-03	4.76E-03	1.60E-02	3.80E-02	4.75E-03
PU-9/0	5155.000	5160.469	29.688	2.000	0.702	1.298	2.0604	99.900000	1.54E-03	4.21E-03	1.13E-02	2.85E-02	4.21E-03
PU242	4890.000	4889.954	30.081	1318.000	1318.000	0.000	0.0000	100.0000	2.89E+00	1.62E-01	0.00E+00	5.94E-03	7.96E-02
PU-244	4589.000	4528.639	0.000	8.000	8.000	0.000	3.7241	99.900000	1.76E-02	6.27E-03	2.04E-02	4.67E-02	6.21E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

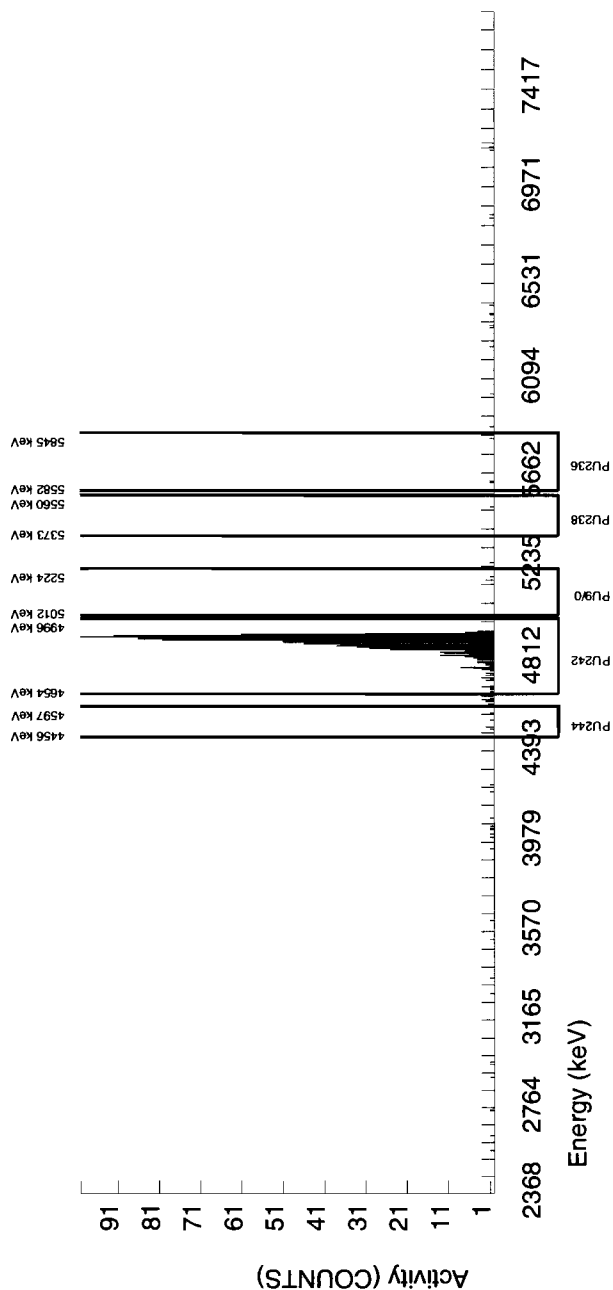
BATCH NUMBER : 951669 SAMPLE ID : S0245978012_PU SAMPLE QTY : 0.509 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 64.441				CHAMBER : 044 DETECTOR S/N : 79459 AVERAGE %EFFICIENCY : 34.2824 COUNT DATE : 24-FEB-2010 20:01:38 ELAPSED LIVE TIME(SEC) : 77909.54				LIB FILE : ENV_ALPHA_PU BKG FILE : B044.CNF;1119 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W044.CNF;307 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.1786E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5729.465	201.221	4.000	4.000	0.000	2.6925	100.0000	1.26E-02	6.32E-03	2.07E-02	4.98E-02	6.29E-03
PU-238	5499.000	5512.175	4.923	1.000	-1.597	2.597	2.9312	99.900000	-4.93E-03	6.46E-03	2.26E-02	5.35E-02	6.46E-03
PU-9/0	5155.000	5143.556	4.923	5.000	2.403	2.597	2.0604	99.900000	7.42E-03	8.94E-03	1.59E-02	4.01E-02	8.94E-03
PU242	4890.000	4891.150	37.052	975.000	969.806	5.194	2.2790	100.0000	2.99E+00	1.82E-01	1.75E-02	4.34E-02	9.67E-02
PU-244	4589.000	4524.789	4.923	5.000	5.000	0.000	3.7241	99.900000	1.54E-02	6.95E-03	2.87E-02	6.57E-02	6.91E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.

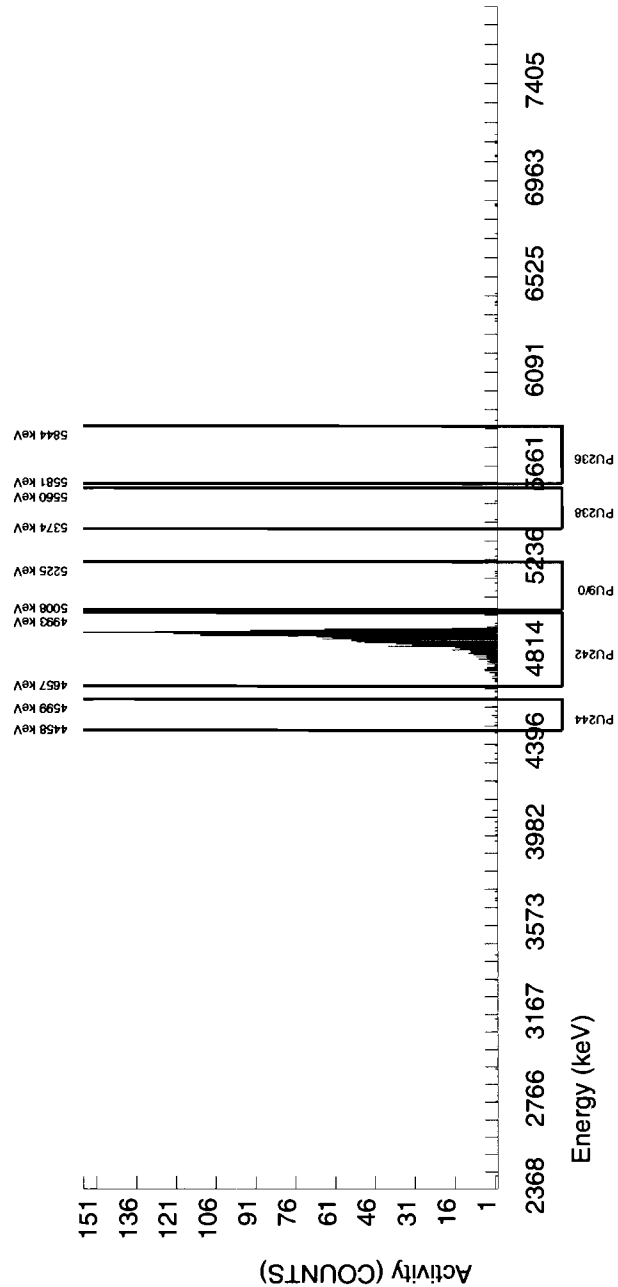


BATCH NUMBER : 951669 SAMPLE ID : S0245978013_PU SAMPLE QTY : 0.515 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 96.543				CHAMBER : 045 DETECTOR S/N : 78783 AVERAGE %EFFICIENCY : 33.6564 COUNT DATE : 24-FEB-2010 20:01:38 ELAPSED LIVE TIME(SEC) : 77909.54				LIB FILE : ENV_ALPHA_PU BKG FILE : B045.CNF;1108 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W045.CNF;298 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.2639E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5712.251	0.000	0.000	-3.895	3.895	2.6925	100.0000	-8.23E-03	5.20E-03	1.39E-02	3.35E-02	5.20E-03
PU-238	5499.000	5463.957	84.012	2.000	0.702	1.298	2.9312	99.900000	1.46E-03	3.99E-03	1.52E-02	3.60E-02	3.99E-03
PU-9/0	5155.000	5153.005	88.953	5.000	2.403	2.597	2.0604	99.900000	4.99E-03	6.01E-03	1.07E-02	2.69E-02	6.00E-03
PU242	4890.000	4883.328	31.161	1429.000	1426.403	2.597	1.6115	100.0000	2.96E+00	1.63E-01	8.33E-03	2.23E-02	7.85E-02
PU-244	4589.000	4528.537	44.477	11.000	11.000	0.000	3.7241	99.900000	2.28E-02	6.97E-03	1.93E-02	4.42E-02	6.88E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as $\sqrt{\text{BKG AREA}}$.



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ALPHA SPECTROSCOPY REPORT

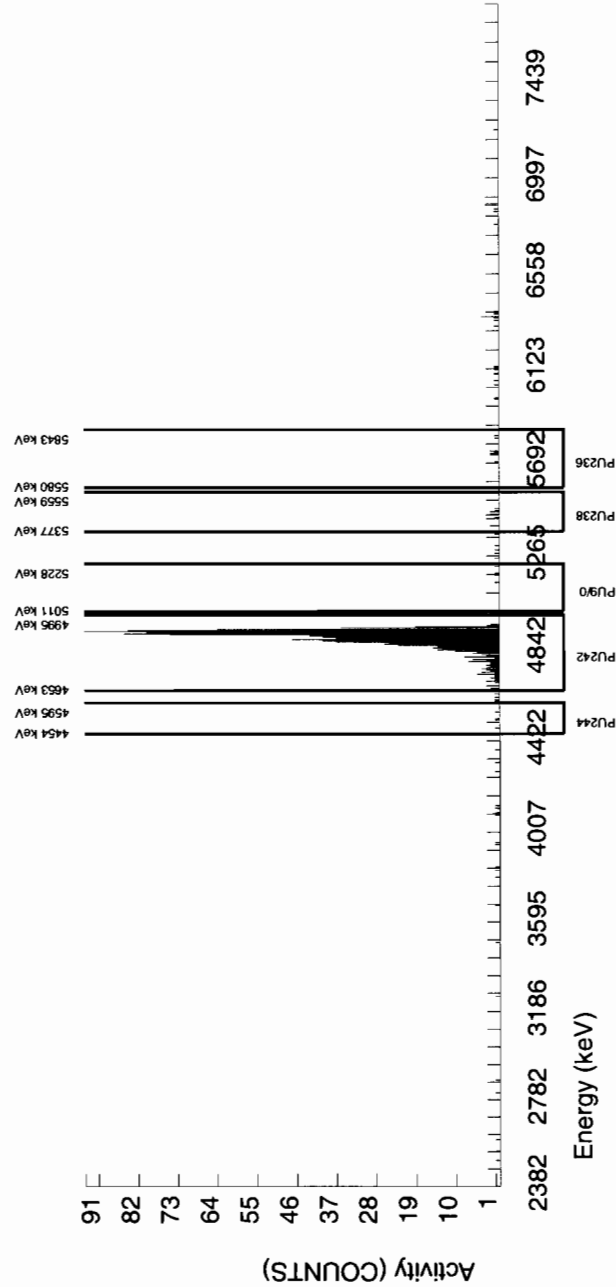
BATCH NUMBER : 951669 SAMPLE ID : S0245978014_PU SAMPLE QTY : 0.510 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 93.057				CHAMBER : 071 DETECTOR S/N : 64259 AVERAGE %EFFICIENCY : 32.1673 COUNT DATE : 23-FEB-2010 13:08:45 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B071.CNF;1104 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W071.CNF;286 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.1460E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLG pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5748.533	19.303	11.000	9.000	2.000	2.6925	100.0000	2.71E-02	1.09E-02	1.85E-02	4.50E-02	1.08E-02
PU-238	5499.000	5450.007	63.046	13.000	1.000	12.000	2.9312	99.90000	2.96E-03	1.48E-02	2.01E-02	4.83E-02	1.48E-02
PU-9/0	5155.000	5185.542	74.721	5.000	2.000	3.000	2.0604	99.90000	5.91E-03	8.36E-03	1.42E-02	3.63E-02	8.35E-03
PU242	4890.000	4894.977	32.276	1014.000	1012.000	2.000	1.4142	100.0000	2.99E+00	1.79E-01	9.71E-03	2.74E-02	9.40E-02
PU-244	4589.000	4501.514	0.000	6.000	6.000	0.000	3.7241	99.90000	1.77E-02	7.29E-03	2.56E-02	5.92E-02	7.23E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).

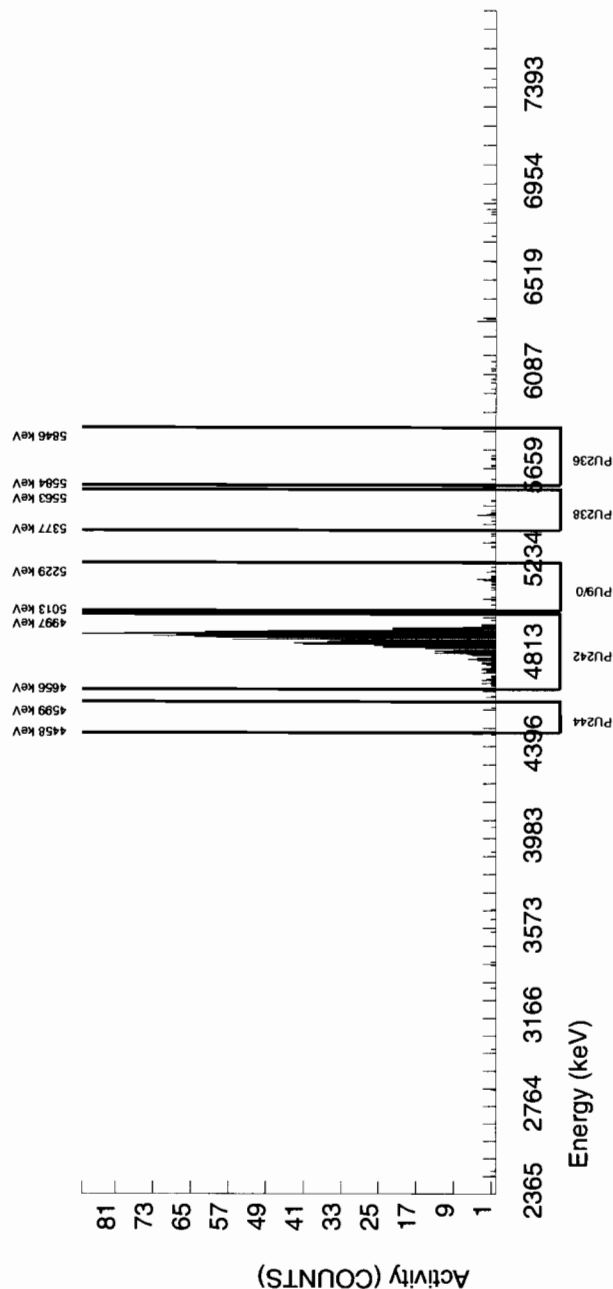


BATCH NUMBER : 951669 SAMPLE ID : S0245978015_PU SAMPLE QTY : 0.508 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 91.563			CHAMBER : 072 DETECTOR S/N : 45-149AA3 AVERAGE %EFFICIENCY : 32.1107 COUNT DATE : 23-FEB-2010 13:08:45 ELAPSED LIVE TIME(SEC) : 60000.00			LIB FILE : ENV_ALPHA_PU BKG FILE : B072.CNF;1102 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W072.CNF;277 CAL DATE : 9-FEB-2010		
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0955E+00 dpm			MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G			LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G		
NUCLIDE ACTIVITY SUMMARY								
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN
PU-236	5749.000	5694.435	129.074	7.000	2.000	5.000	2.6925	100.0000
PU-238	5499.000	5450.872	7.291	14.000	3.000	11.000	2.9312	99.900000
PU-9/0	5155.000	5147.195	5.766	19.000	16.000	3.000	2.0604	99.900000
PU242	4890.000	4886.707	43.305	997.000	994.000	3.000	1.7321	100.0000
PU-244	4589.000	4588.603	0.000	2.000	1.000	1.000	3.7241	99.900000
				ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
				6.14E-03	1.06E-02	1.89E-02	4.60E-02	1.06E-02
				9.06E-03	1.51E-02	2.06E-02	4.94E-02	1.51E-02
				4.83E-02	1.44E-02	1.45E-02	3.71E-02	1.42E-02
				3.00E+00	1.81E-01	1.22E-02	3.25E-02	9.54E-02
				3.02E-03	5.23E-03	2.62E-02	6.05E-02	5.23E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



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<p>BATCH NUMBER : 951669 SAMPLE ID : S0246020001_PU SAMPLE QTY : 0.503 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 86.528</p>		<p>CHAMBER : 073 DETECTOR S/N : 78775 AVERAGE %EFFICIENCY : 33.1249 COUNT DATE : 23-FEB-2010 13:08:45 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B073.CNF;1104 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W073.CNF;285 CAL DATE : 9-FEB-2010</p>
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<p>TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9253E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
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NUCLIDE ACTIVITY SUMMARY

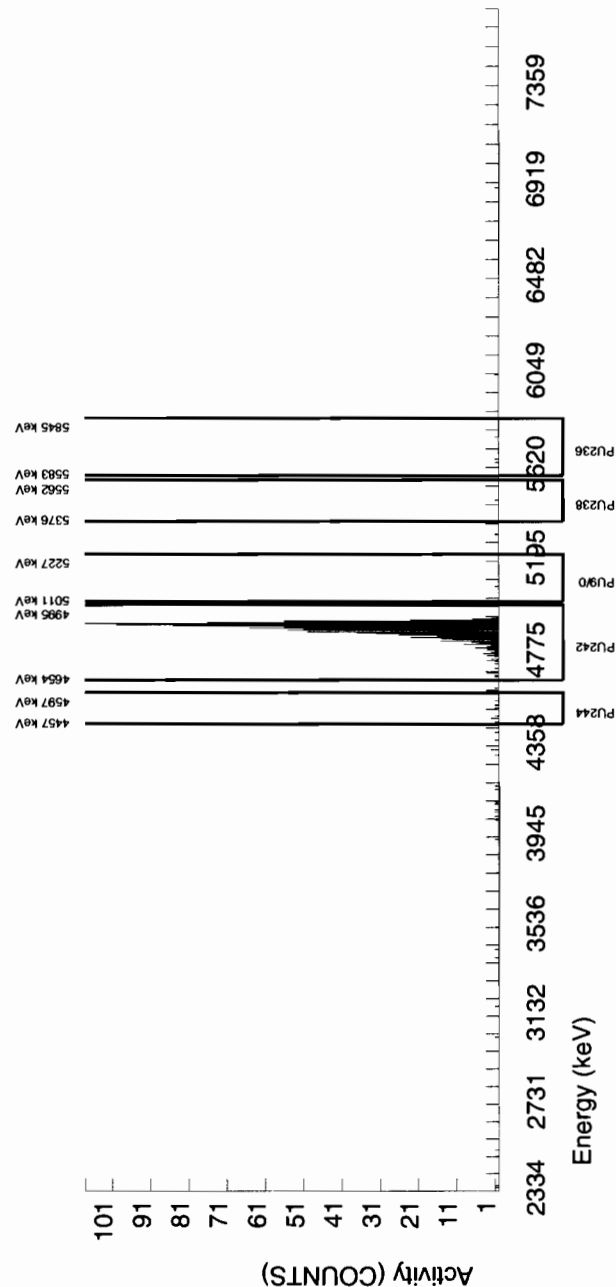
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5691.438	113.493	3.000	1.000	2.000	2.6925	100.0000	3.18E-03	7.12E-03	1.96E-02	4.76E-02	7.12E-03
PU-238	5499.000	5476.451	4.934	1.000	0.000	1.000	2.9312	99.900000	0.00E+00	4.43E-03	2.13E-02	5.11E-02	4.43E-03
PU-9/0	5155.000	5058.304	54.279	2.000	2.000	0.000	2.0604	99.900000	6.26E-03	4.43E-03	1.50E-02	3.85E-02	4.42E-03
PU242	4890.000	4890.462	39.739	974.000	969.000	5.000	2.2361	100.0000	3.03E+00	1.84E-01	1.63E-02	4.10E-02	9.78E-02
PU-244	4589.000	4510.880	4.934	9.000	8.000	1.000	3.7241	99.900000	2.50E-02	9.97E-03	2.71E-02	6.27E-02	9.89E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



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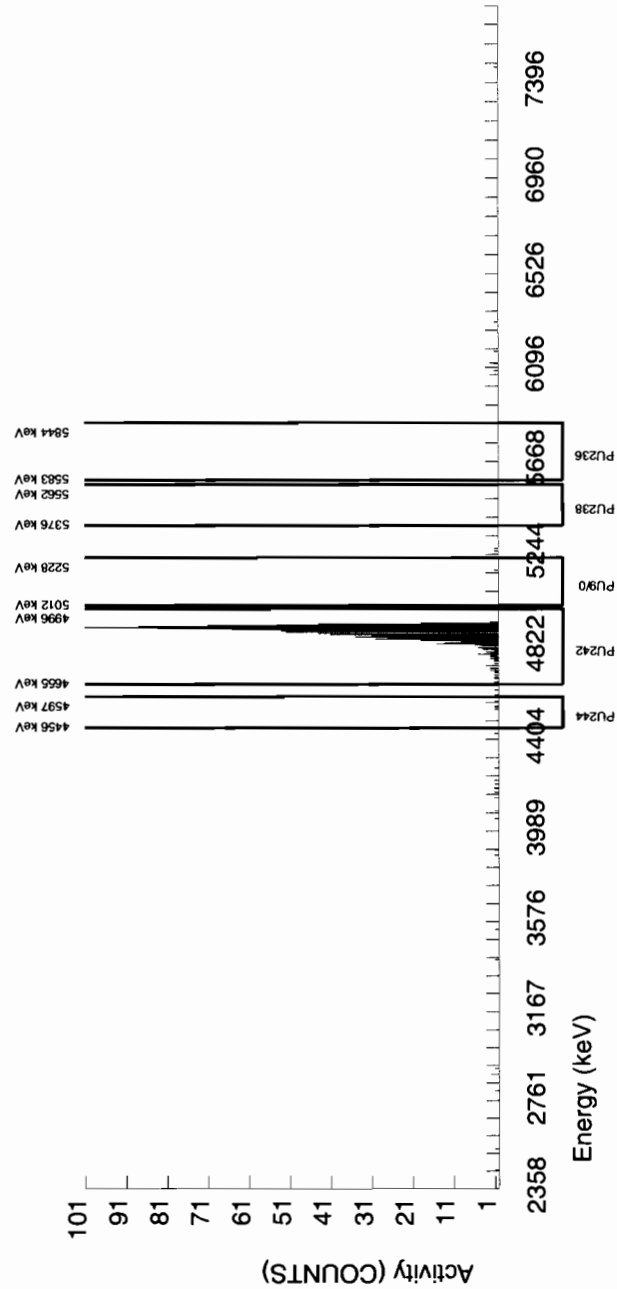
BATCH NUMBER : 951669 SAMPLE ID : S1202039555_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 90.437				CHAMBER : 086 DETECTOR S/N : 78198 AVERAGE %EFFICIENCY : 29.4361 COUNT DATE : 23-FEB-2010 13:08:47 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B086.CNF;1026 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W086.CNF;283 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0575E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5713.410	0.000	0.000	0.000	0.000	2.6925	100.0000	0.00E+00	1.70E-03	1.06E-02	2.58E-02	1.70E-03
PU-238	5499.000	5468.799	0.000	0.000	-2.000	2.000	2.9312	99.900000	-3.39E-03	2.94E-03	1.15E-02	2.77E-02	2.93E-03
PU-9/0	5155.000	5175.005	5.021	1.000	-1.000	2.000	2.0604	99.900000	-1.69E-03	2.94E-03	8.12E-03	2.08E-02	2.93E-03
PU242	4890.000	4894.702	34.850	902.000	900.000	2.000	1.4142	100.0000	1.52E+00	9.41E-02	5.57E-03	1.57E-02	5.09E-02
PU-244	4589.000	4563.577	40.165	5.000	4.000	1.000	3.7241	99.900000	6.78E-03	4.16E-03	1.47E-02	3.39E-02	4.15E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 951669 SAMPLE ID : S1202039556_PU SAMPLE QTY : 0.526 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 73.197</p>		<p>CHAMBER : 043 DETECTOR S/N : 76543 AVERAGE %EFFICIENCY : 33.6471 COUNT DATE : 25-FEB-2010 22:19:58 ELAPSED LIVE TIME(SEC) : 86400.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B043.CNF:1109 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W043.CNF:286 CAL DATE : 3-FEB-2010</p>
<p>TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.4746E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	

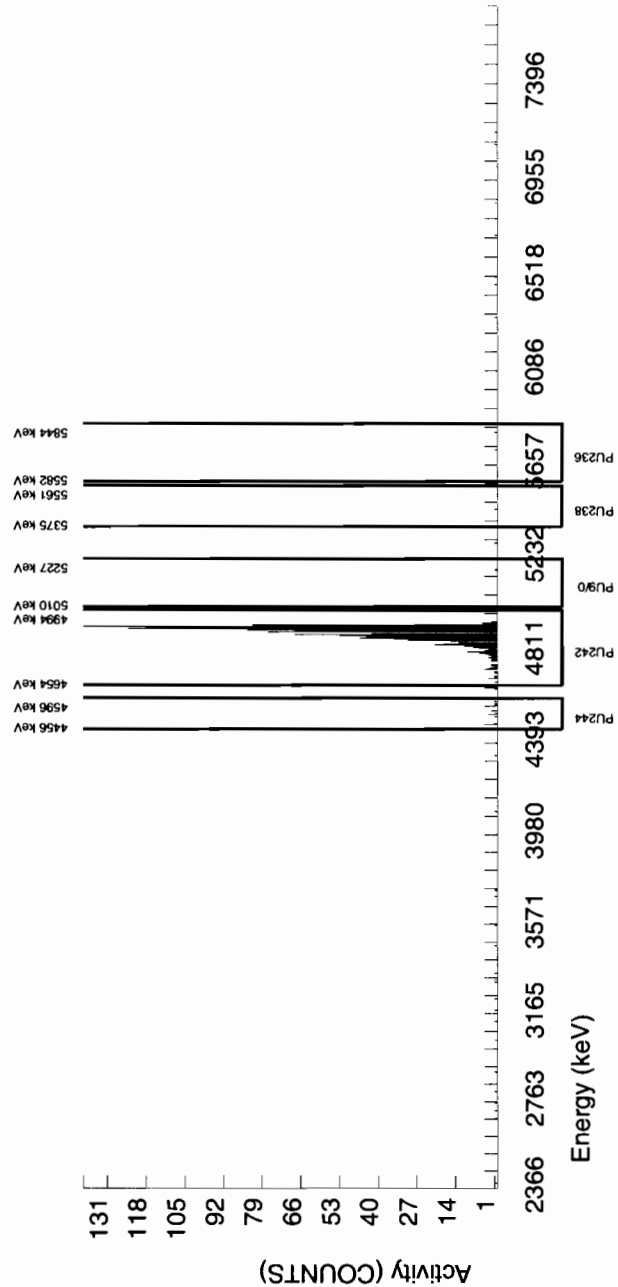
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5771.672	79.167	2.000	-3.760	5.760	2.6925	100.0000	-9.26E-03	7.91E-03	1.67E-02	4.00E-02	7.91E-03
PU-238	5499.000	5459.754	4.948	1.000	-0.440	1.440	2.9312	99.900000	-1.06E-03	4.24E-03	1.82E-02	4.30E-02	4.24E-03
PU-9/0	5155.000	5181.594	9.277	2.000	0.560	1.440	2.0604	99.900000	1.35E-03	4.88E-03	1.28E-02	3.21E-02	4.88E-03
PU242	4890.000	4895.170	31.632	1199.000	1199.000	0.000	0.0000	100.0000	2.90E+00	1.66E-01	0.00E+00	6.54E-03	8.36E-02
PU-244	4589.000	4540.475	18.503	11.000	11.000	0.000	3.7241	99.900000	2.66E-02	8.12E-03	2.31E-02	5.28E-02	8.02E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



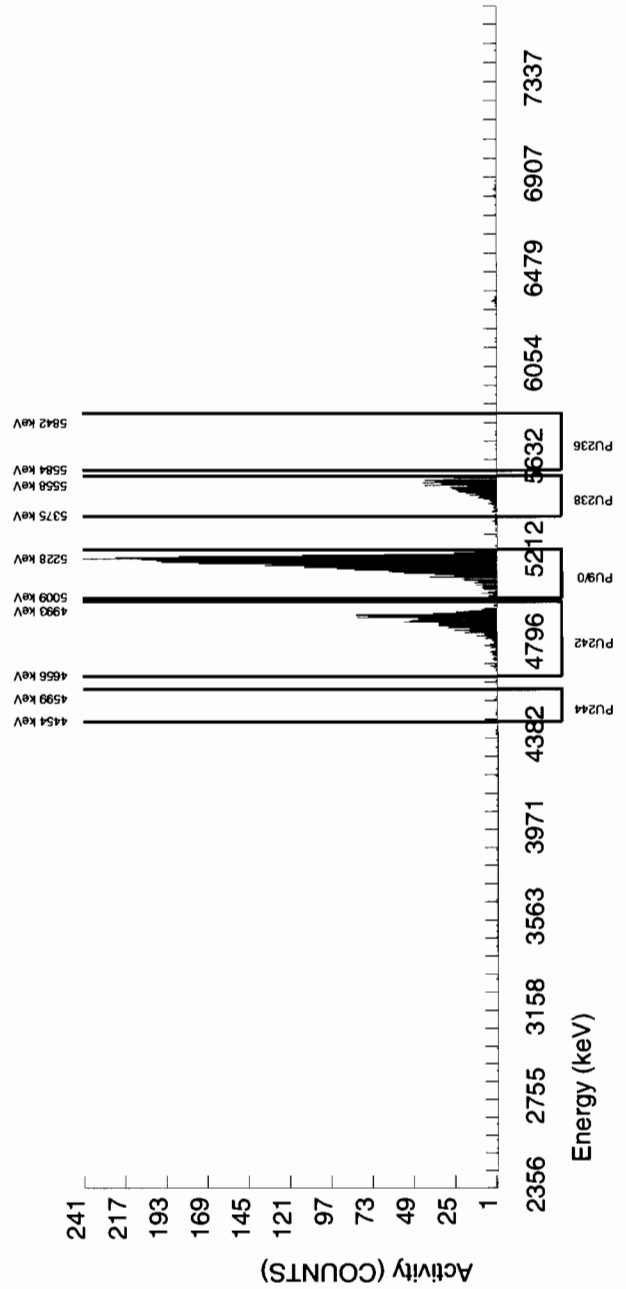
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951669 SAMPLE ID : S1202039557_PU SAMPLE QTY : 0.115 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 90.741				CHAMBER : 088 DETECTOR S/N : 33452 AVERAGE %EFFICIENCY : 30.3479 COUNT DATE : 23-FEB-2010 13:08:47 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_PU BKG FILE : B088.CNF;1021 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W088.CNF;286 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0678E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5728.028	164.299	7.000	4.000	3.000	2.6925	100.0000	5.71E-02	4.53E-02	8.91E-02	2.17E-01	4.52E-02
PU-238	5499.000	5511.380	61.878	511.000	502.000	9.000	2.9312	99.900000	7.15E+00	5.30E-01	9.71E-02	2.33E-01	3.25E-01
PU-9/0	5155.000	5167.284	47.647	2761.000	2758.000	3.000	2.0604	99.900000	3.93E+01	2.42E+00	6.82E-02	1.75E-01	7.49E-01
PU242	4890.000	4904.020	42.430	932.000	931.000	1.000	1.0000	100.0000	1.32E+01	8.90E-01	3.31E-02	1.05E-01	4.34E-01
PU-244	4589.000	4542.208	0.000	9.000	8.000	1.000	3.7241	99.900000	1.14E-01	4.55E-02	1.23E-01	2.85E-01	4.50E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of PU242 calculated as sqrt(BKG AREA).



Radiochemistry Batch Checklist, Rev10

Batch# 951672 Product: U Date: 2/25/10

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)	✓		
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)	✓		Case narrative
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly 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 Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) 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

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: S. L. M. - 2/25/10

Secondary Review Performed By: M. J. Blue 2/25/10

S/2
LANL

Uranium Que Sheet

10-FEB-10

Batch #: 951672 Analyst: CXM2 First Client Due Date: 02-MAR-10 Internal Due Date: 19-FEB-10
 Tracer Isotope: U-232 U-236 Tracer Code: 1283-14 Expiration Date: 12/9/10 Vol: 0.1 ml
 LCS Isotope: U-238 LCS Code: 0244-A Expiration Date: 10/31/20 Vol: 0.115g * 5RM
 Spike Isotope: U-238 Spike Code: Expiration Date: Vol:
 Prep Date: 2/8/10 Initials: CMM Pipet ID: 2931058 Balance ID: 50410272

Witness: wer 18/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	U Det #
245978008-1	RE15-10-7975	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	1	31	1.272	113
245978009-1	RE15-10-7978	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	2	32	1.260	114
245978010-1	RE15-10-7970	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	3	33	1.260	115
245978011-1	RE15-10-7964	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	4	34	1.253	119+18
245978012-1	RE15-10-7973	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	5	35	1.255	120 119
245978013-1	RE15-10-7962	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	6	36	1.253	121 120
245978014-1	RE15-10-7963	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	7	37	1.257	122 121
245978015-1	RE15-10-7977	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	8	38	1.257	123 122
246020001-1	RE15-10-7980	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	9	39	1.265	124 123
246020002-1	RE15-10-7958	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	10	40	1.255	125 124
* 246020003-1	RE15-10-7960	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	11	41	1.257	126 125
246020004-1	RE15-10-7979	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	12	42	1.258	127 126
246020005-1	RE15-10-7972	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	13	43	1.259	128 127
* 246020006-1	RE15-10-7967	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	14	44	1.257	129 128
246020007-1	RE15-10-7974	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	15	45	1.255	130 129
246020008-1	RE15-10-7961	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	16	46	1.255	131
246020009-1	RE15-10-7971	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	17	47	1.252	132
246020010-1	RE15-10-7966	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	18	48	1.257	133
* 246020011-1	RE15-10-7960	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	19	49	1.264	134
246020012-1	RE15-10-7969	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	20	50	1.257	135
1202039558-1	MB for batch 951672	MB		.1 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	21	51	1	166
1202039559-1	RE15-10-7980(246020001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	22	52	1.270	160
1202039560-1	LCS for batch 951672	LCS		.1 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	23	53	0.115g	11

Data Reviewed By: J. M. L. - 2/25/10

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Choose SOP used: GL-RAD-A-011

* 2/25/10

Blank Correction Report

Batch ID 951672

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202039559	DUP	Uranium-233/234	1.27 g	0.280	0.0289	0.0392	.008503937	pCi/g	NO
		Uranium-235/236	1.27 g	0.0115	0.00478	0.025	.004543307	pCi/g	YES
		Uranium-238	1.27 g	0.412	0.0386	0.0268	.038582677	pCi/g	NO
1202039560	LCS	Uranium-233/234	0.115 g	6.11	0.542	0.348	.093913043	pCi/g	NO
		Uranium-235/236	0.115 g	0.409	0.0953	0.222	.050173913	pCi/g	NO
		Uranium-238	0.115 g	5.34	0.484	0.238	.426086957	pCi/g	NO
1202039558	MB	Uranium-233/234	1.00 g	0.0108	0.00398	0.0295	.0108	pCi/g	YES
		Uranium-235/236	1.00 g	0.00577	0.00291	0.0188	.00577	pCi/g	YES
		Uranium-238	1.00 g	0.049	0.00843	0.0201	.049	pCi/g	YES
245978008	RE15-10-7975	Uranium-233/234	1.27 g	1.60	0.126	0.0447	.008503937	pCi/g	NO
		Uranium-235/236	1.27 g	0.171	0.0229	0.0285	.004543307	pCi/g	NO
		Uranium-238	1.27 g	6.11	0.451	0.0305	.038582677	pCi/g	NO
245978009	RE15-10-7978	Uranium-233/234	1.26 g	0.461	0.0433	0.0435	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0213	0.00754	0.0278	.004579365	pCi/g	YES
		Uranium-238	1.26 g	0.609	0.0543	0.0297	.038888889	pCi/g	NO
245978010	RE15-10-7970	Uranium-233/234	1.26 g	0.309	0.0308	0.0384	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0226	0.00671	0.0245	.004579365	pCi/g	YES
		Uranium-238	1.26 g	1.16	0.0921	0.0262	.038888889	pCi/g	NO
245978011	RE15-10-7964	Uranium-233/234	1.25 g	0.444	0.0408	0.0385	.00864	pCi/g	NO
		Uranium-235/236	1.25 g	0.034	0.00836	0.0246	.004616	pCi/g	NO
		Uranium-238	1.25 g	0.509	0.0455	0.0263	.0392	pCi/g	NO
245978012	RE15-10-7973	Uranium-233/234	1.26 g	0.687	0.059	0.0404	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0772	0.0138	0.0258	.004579365	pCi/g	NO
		Uranium-238	1.26 g	2.27	0.172	0.0276	.038888889	pCi/g	NO
245978013	RE15-10-7962	Uranium-233/234	1.25 g	0.375	0.0354	0.0371	.00864	pCi/g	NO
		Uranium-235/236	1.25 g	0.0327	0.00805	0.0237	.004616	pCi/g	NO
		Uranium-238	1.25 g	0.937	0.0757	0.0254	.0392	pCi/g	NO
245978014	RE15-10-7963	Uranium-233/234	1.26 g	0.864	0.0709	0.0383	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0619	0.0119	0.0244	.004579365	pCi/g	NO
		Uranium-238	1.26 g	2.99	0.222	0.0261	.038888889	pCi/g	NO
245978015	RE15-10-7977	Uranium-233/234	1.26 g	1.00	0.0836	0.0453	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0555	0.0118	0.0289	.004579365	pCi/g	NO
		Uranium-238	1.26 g	2.21	0.171	0.0309	.038888889	pCi/g	NO
246020001	RE15-10-7980	Uranium-233/234	1.27 g	0.249	0.0258	0.0366	.008503937	pCi/g	NO
		Uranium-235/236	1.27 g	0.0215	0.00687	0.0233	.004543307	pCi/g	YES
		Uranium-238	1.27 g	0.316	0.0308	0.025	.038582677	pCi/g	NO
246020002	RE15-10-7958	Uranium-233/234	1.26 g	0.279	0.0281	0.0362	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.023	0.00659	0.0231	.004579365	pCi/g	NO
		Uranium-238	1.26 g	0.403	0.0371	0.0247	.038888889	pCi/g	NO
246020004	RE15-10-7979	Uranium-233/234	1.26 g	1.57	0.121	0.0392	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.113	0.0168	0.025	.004579365	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Alliquot	Result	TPU	MDA	Alliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
246020004	RE15-10-7979	Uranium-238	1.26 g	4.15	0.304	0.0268	.038888889	pCi/g	NO
246020005	RE15-10-7972	Uranium-233/234	1.26 g	0.380	0.036	0.0381	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0448	0.00967	0.0243	.004579365	pCi/g	NO
		Uranium-238	1.26 g	1.34	0.104	0.026	.038888889	pCi/g	NO
246020007	RE15-10-7974	Uranium-233/234	1.26 g	0.275	0.028	0.0375	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0221	0.00705	0.0239	.004579365	pCi/g	YES
		Uranium-238	1.26 g	0.254	0.0264	0.0256	.038888889	pCi/g	NO
246020008	RE15-10-7961	Uranium-233/234	1.26 g	4.46	0.331	0.044	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.551	0.0524	0.028	.004579365	pCi/g	NO
		Uranium-238	1.26 g	23.1	1.67	0.030	.038888889	pCi/g	NO
246020009	RE15-10-7971	Uranium-233/234	1.25 g	2.33	0.173	0.0346	.00864	pCi/g	NO
		Uranium-235/236	1.25 g	0.278	0.0293	0.0221	.004616	pCi/g	NO
		Uranium-238	1.25 g	13.1	0.926	0.0236	.0392	pCi/g	NO
246020010	RE15-10-7966	Uranium-233/234	1.26 g	0.476	0.0401	0.0282	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.0442	0.00838	0.018	.004579365	pCi/g	NO
		Uranium-238	1.26 g	1.33	0.0991	0.0192	.038888889	pCi/g	NO
246020012	RE15-10-7969	Uranium-233/234	1.26 g	2.23	0.163	0.0313	.008571429	pCi/g	NO
		Uranium-235/236	1.26 g	0.305	0.0303	0.020	.004579365	pCi/g	NO
		Uranium-238	1.26 g	14.7	1.03	0.0214	.038888889	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

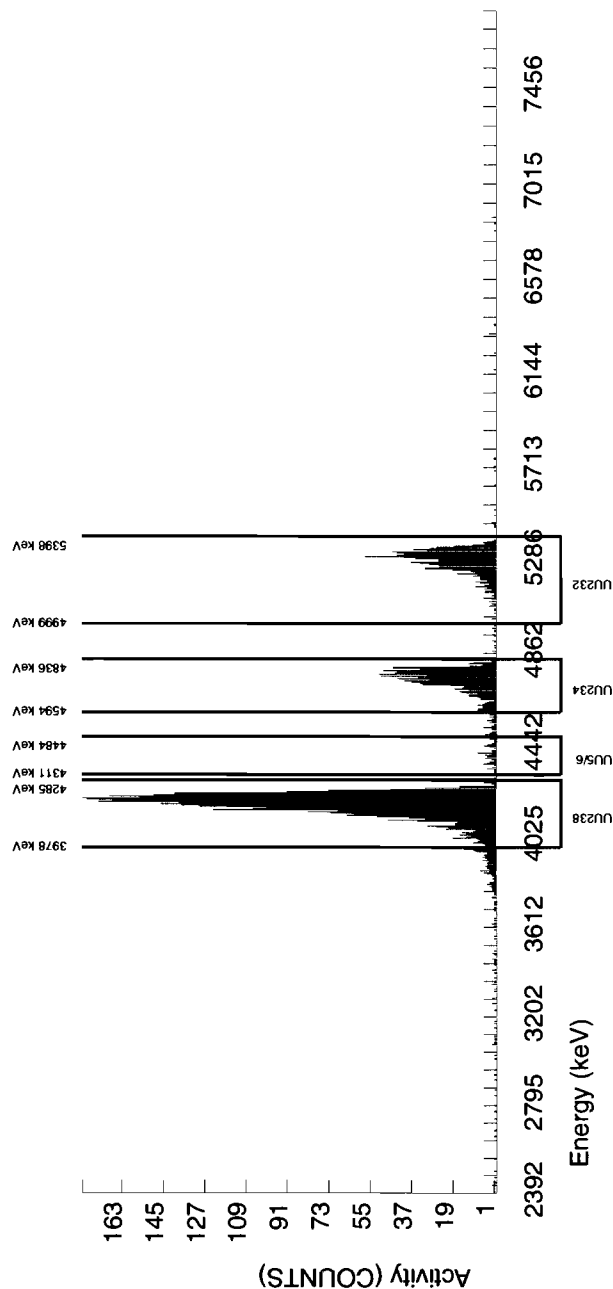
BATCH NUMBER : 951672 SAMPLE ID : S0245978008_UU SAMPLE QTY : 1.272 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 80.526				CHAMBER : 113 DETECTOR S/N : 45-111B4 AVERAGE %EFFICIENCY : 24.8218 COUNT DATE : 24-FEB-2010 13:20:46 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B113.CNF:449 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W113.CNF:125 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.6287E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5286.301	92.111	904.000	900.000	4.000	2.0000	100.0000	1.60E+00	1.26E-01	8.24E-03	2.13E-02	5.34E-02
U-3/4	4763.020	4744.499	79.682	904.000	901.089	2.000	4.8416	100.0000	1.60E+00	1.26E-01	2.00E-02	4.47E-02	5.33E-02
U-235	4391.000	4402.790	30.089	78.000	78.000	0.000	2.2152	80.90000	1.71E-01	2.29E-02	1.13E-02	2.85E-02	1.93E-02
U-238	4184.730	4176.119	83.135	3448.000	3448.000	0.000	3.1208	100.0000	6.11E+00	4.51E-01	1.29E-02	3.05E-02	1.04E-01

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

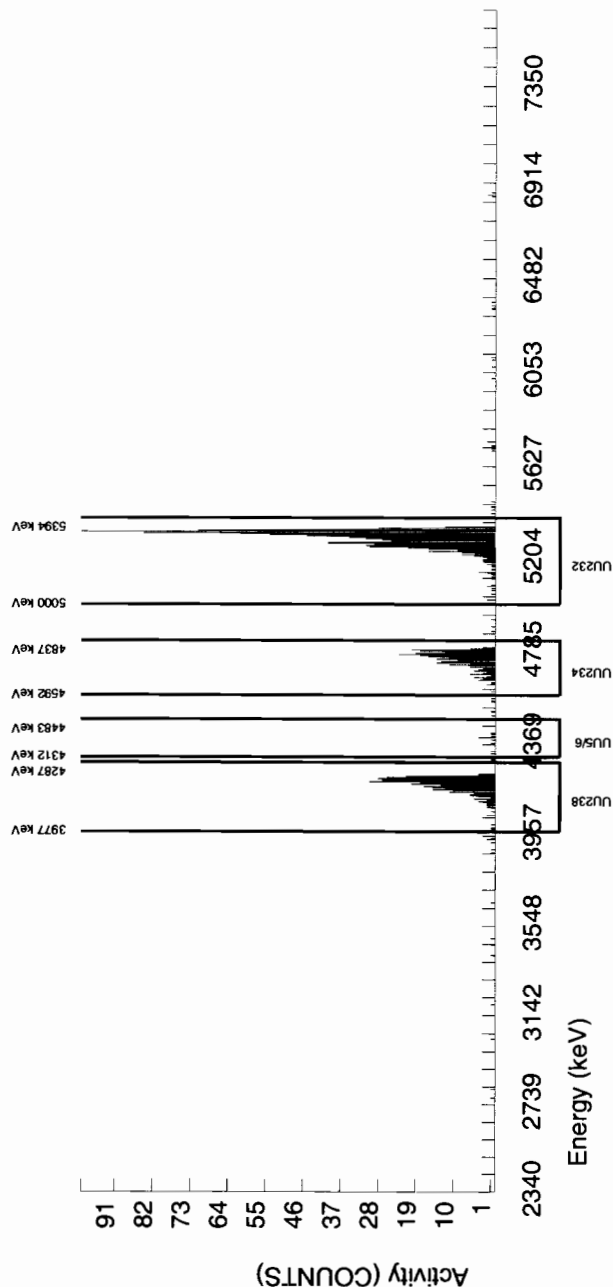
* Corrections made to the following net area
due to tracer impurity:
U-3/4

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S0245978009_UU SAMPLE QTY : 1.260 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 81.395				CHAMBER : 114 DETECTOR S/N : 78258 AVERAGE %EFFICIENCY : 25.4572 COUNT DATE : 24-FEB-2010 13:20:48 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B114.CNF:450 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W114.CNF:121 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.6679E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5304.875	28.988	934.000	933.000	1.000	1.0000	100.0000	1.61E+00	1.27E-01	4.01E-03	1.27E-02	5.28E-02
U-3/4	4763.020	4756.922	59.228	268.000	267.056	0.000	4.8416	100.0000	4.61E-01	4.33E-02	1.94E-02	4.35E-02	2.82E-02
U-235	4391.000	4393.889	5.772	11.000	10.000	1.000	2.2152	80.90000	2.13E-02	7.54E-03	1.10E-02	2.78E-02	7.39E-03
U-238	4184.730	4189.260	51.201	354.000	353.000	1.000	3.1208	100.0000	6.09E-01	5.43E-02	1.25E-02	2.97E-02	3.25E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

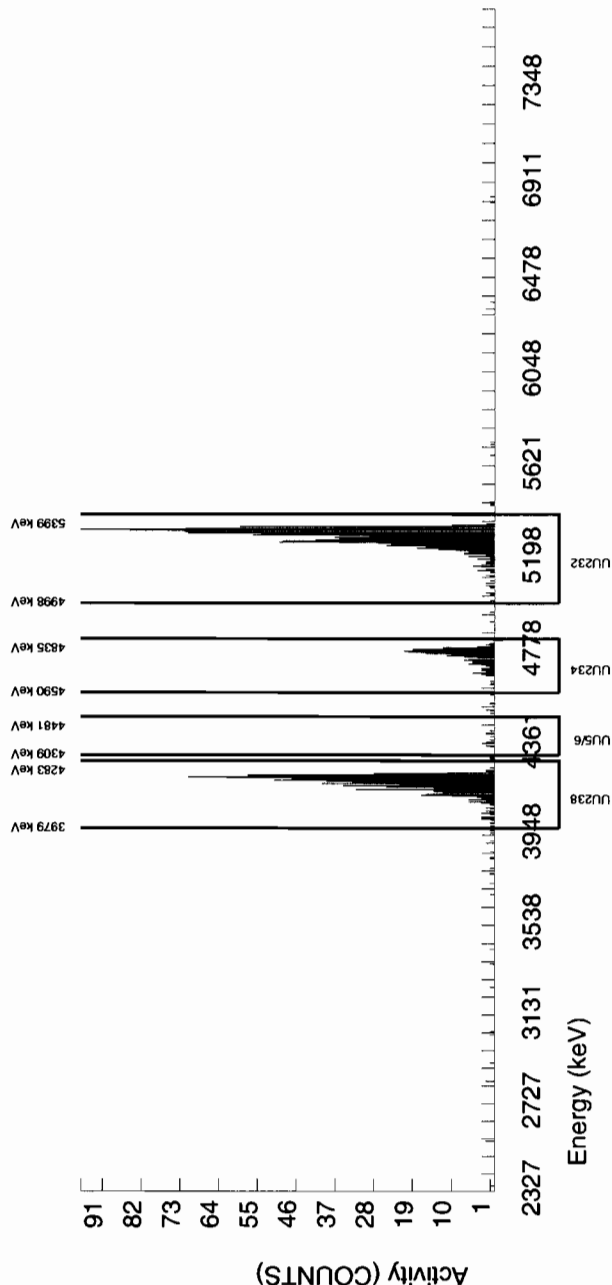


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 951672 SAMPLE ID : S0245978010_UU SAMPLE QTY : 1.260 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 91.502</p>		<p>CHAMBER : 115 DETECTOR S/N : 79995 AVERAGE %EFFICIENCY : 25.6793 COUNT DATE : 24-FEB-2010 13:20:52 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B115.CNF;457 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W115.CNF;149 CAL DATE : 18-FEB-2010</p>
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.1233E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5300.409	67.053
U-3/4	4763.020	4760.104	36.385
U-235	4391.000	4387.526	62.108
U-238	4184.730	4186.931	44.782
	GROSS AREA	NET AREA	BKG AREA
U232	1060.000	1058.000	2.000
U-3/4	205.000	202.929	1.000
U-235	12.000	12.000	0.000
U-238	764.000	764.000	0.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
U232	1.4142	100.0000	1.61E+00
U-3/4	4.8416	100.0000	3.09E-01
U-235	2.2152	80.90000	2.26E-02
U-238	3.1208	100.0000	1.16E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
U232	1.24E-01	5.01E-03	1.41E-02
U-3/4	3.08E-02	1.71E-02	3.84E-02
U-235	6.71E-03	9.69E-03	2.45E-02
U-238	9.21E-02	1.10E-02	2.62E-02
	UNC pCi/G		
U232	4.96E-02		
U-3/4	2.18E-02		
U-235	6.51E-03		
U-238	4.21E-02		

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



BATCH NUMBER : 951672 SAMPLE ID : S0245978011_UU SAMPLE QTY : 1.253 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 92.245				CHAMBER : 119 DETECTOR S/N : 79450 AVERAGE %EFFICIENCY : 25.5204 COUNT DATE : 24-FEB-2010 13:20:58 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B119.CNF;463 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W119.CNF;121 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.1568E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.475	37.493	1061.000	1060.000	1.000	1.0000	100.0000	1.62E+00	1.25E-01	3.55E-03	1.12E-02	4.98E-02
U-3/4	4763.020	4759.317	51.947	293.000	290.927	1.000	4.8416	100.0000	4.44E-01	4.08E-02	1.72E-02	3.85E-02	2.61E-02
U-235	4391.000	4402.705	7.261	18.000	18.000	0.000	2.2152	80.90000	3.40E-02	8.36E-03	9.73E-03	2.46E-02	8.01E-03
U-238	4184.730	4184.762	44.178	334.000	333.000	1.000	3.1208	100.0000	5.09E-01	4.55E-02	1.11E-02	2.63E-02	2.80E-02

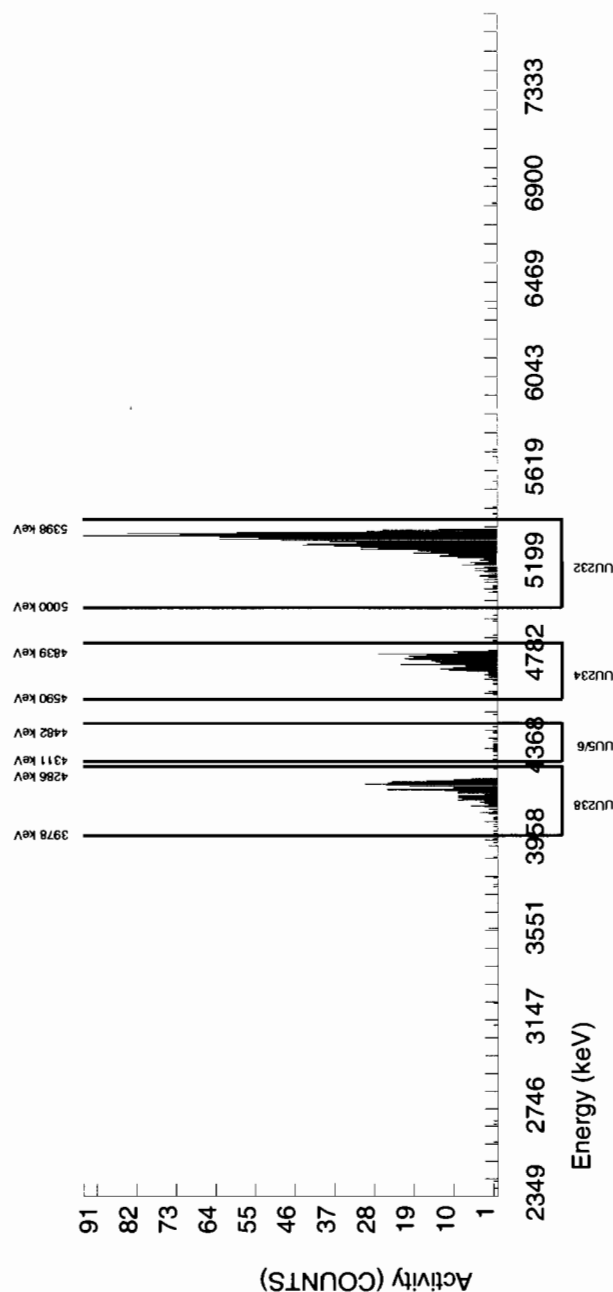
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S0245978012_UU SAMPLE QTY : 1.255 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 85.745				CHAMBER : 120 DETECTOR S/N : 74430 AVERAGE %EFFICIENCY : 26.1342 COUNT DATE : 24-FEB-2010 13:21:01 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B120.CNF;467 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W120.CNF;128 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.8639E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.438	28.879	1011.000	1009.000	2.000	1.4142	100.0000	1.62E+00	1.25E-01	5.27E-03	1.49E-02	5.10E-02
U-3/4	4763.020	4760.547	53.767	433.000	428.979	3.000	4.8416	100.0000	6.87E-01	5.90E-02	1.80E-02	4.04E-02	3.34E-02
U-235	4391.000	4407.349	46.884	40.000	39.000	1.000	2.2152	80.90000	7.72E-02	1.38E-02	1.02E-02	2.58E-02	1.27E-02
U-238	4184.730	4190.540	56.987	1420.000	1420.000	0.000	3.1208	100.0000	2.27E+00	1.72E-01	1.16E-02	2.76E-02	6.04E-02

NOTES:

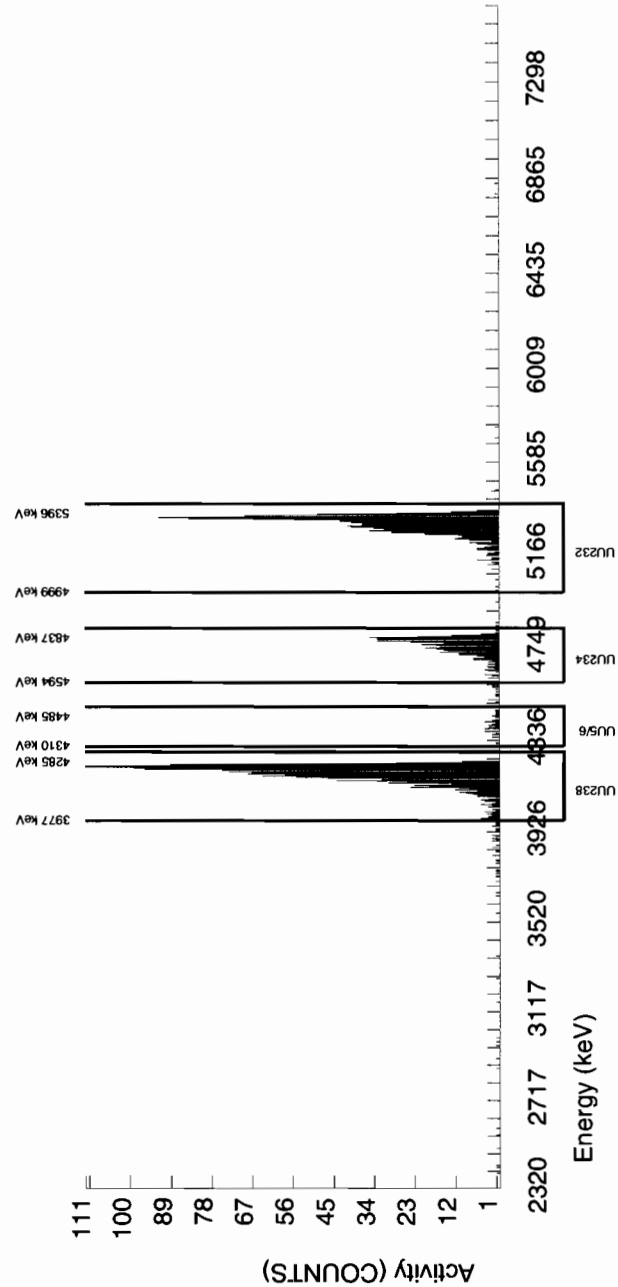
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area
due to tracer impurity:

U-3/4



BATCH NUMBER : 951672 SAMPLE ID : S0245978013_UU SAMPLE QTY : 1.253 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 99.127	CHAMBER : 121 DETECTOR S/N : 75545 AVERAGE %EFFICIENCY : 24.6447 COUNT DATE : 24-FEB-2010 13:21:03 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B121.CNF;449 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W121.CNF;119 CAL DATE : 18-FEB-2010											
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.4670E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G											
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5305.083	37.358	1105.000	1100.000	5.000	2.2361	100.0000	1.62E+00	1.24E-01	7.65E-03	1.93E-02	4.91E-02
U-3/4	4763.020	4757.733	71.296	257.000	254.887	1.000	4.8416	100.0000	3.75E-01	3.54E-02	1.66E-02	3.71E-02	2.36E-02
U-235	4391.000	4420.150	29.604	18.000	18.000	0.000	2.2152	80.90000	3.27E-02	8.05E-03	9.37E-03	2.37E-02	7.72E-03
U-238	4184.730	4193.989	54.211	637.000	637.000	0.000	3.1208	100.0000	9.37E-01	7.57E-02	1.07E-02	2.54E-02	3.71E-02

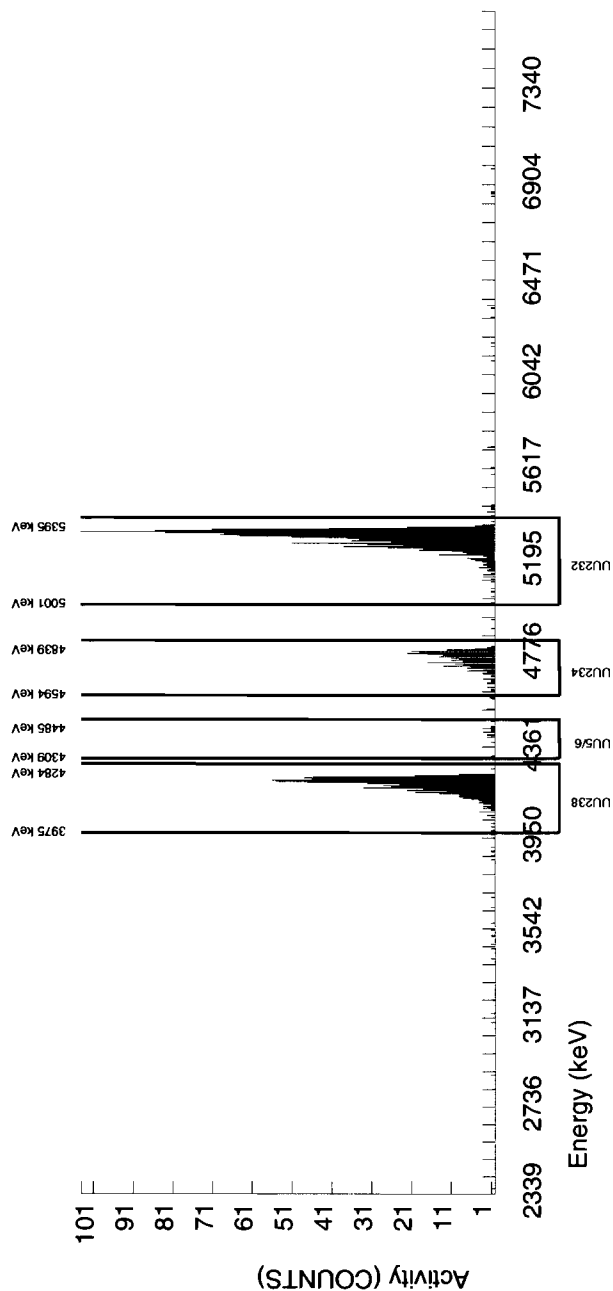
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:
U-3/4

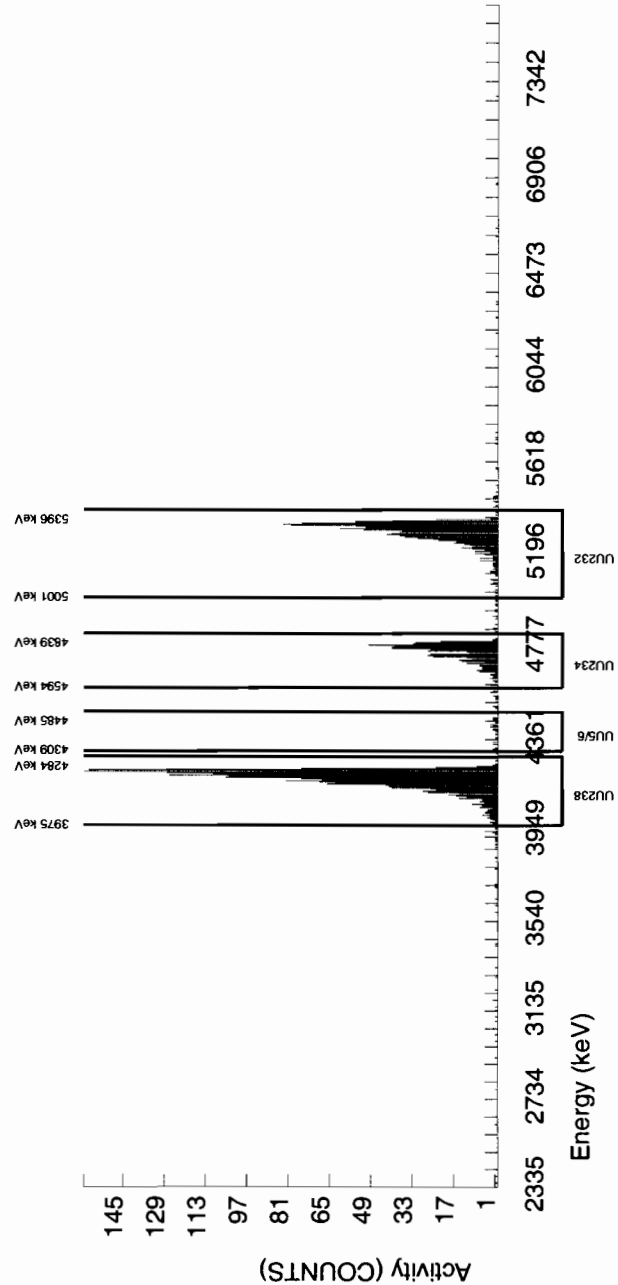


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S0245978014_UU SAMPLE QTY : 1.257 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 91.899				CHAMBER : 122 DETECTOR S/N : 75546 AVERAGE %EFFICIENCY : 25.7131 COUNT DATE : 24-FEB-2010 13:21:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B122.CNF:451 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W122.CNF:122 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.1413E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5299.044	59.799	1071.000	1064.000	7.000	2.6458	100.0000	1.61E+00	1.24E-01	9.33E-03	2.28E-02	4.98E-02
U-3/4	4763.020	4757.971	62.592	572.000	569.923	1.000	4.8416	100.0000	8.64E-01	7.09E-02	1.71E-02	3.83E-02	3.63E-02
U-235	4391.000	4406.237	135.954	34.000	33.000	1.000	2.2152	80.90000	6.19E-02	1.19E-02	9.66E-03	2.44E-02	1.11E-02
U-238	4184.730	4187.826	53.972	1973.000	1973.000	0.000	3.1208	100.0000	2.99E+00	2.22E-01	1.10E-02	2.61E-02	6.74E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S0245978015_UU SAMPLE QTY : 1.257 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 77.784		CHAMBER : 123 DETECTOR S/N : 45-142V3 AVERAGE %EFFICIENCY : 25.6683 COUNT DATE : 24-FEB-2010 13:21:08 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B123.CNF:449 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W123.CNF:118 CAL DATE : 18-FEB-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.5052E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5305.785	71.510
U-3/4	4763.020	4761.071	65.659
U-235	4391.000	4416.156	18.043
U-238	4184.730	4191.373	63.329
	GROSS AREA	NET AREA	PEAK AREA
	905.000	899.000	6.000
	561.000	559.090	1.000
	25.000	25.000	0.000
	1234.000	1234.000	0.000
	BKG Sg	BKG Sg	%ABUN
	2.4495	100.0000	100.0000
	4.8416	100.0000	100.0000
	2.2152	80.90000	100.0000
	3.1208	2.21E+00	2.21E+00
	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G
	1.61E+00	1.28E-01	1.02E-02
	1.00E+00	8.36E-02	2.02E-02
	5.55E-02	1.18E-02	1.14E-02
	2.21E+00	1.71E-01	1.30E-02
	MDC pCi/G	UNC pCi/G	
	2.53E-02	5.42E-02	
	4.53E-02	4.25E-02	
	2.89E-02	1.11E-02	
	3.09E-02	6.30E-02	

NOTES:

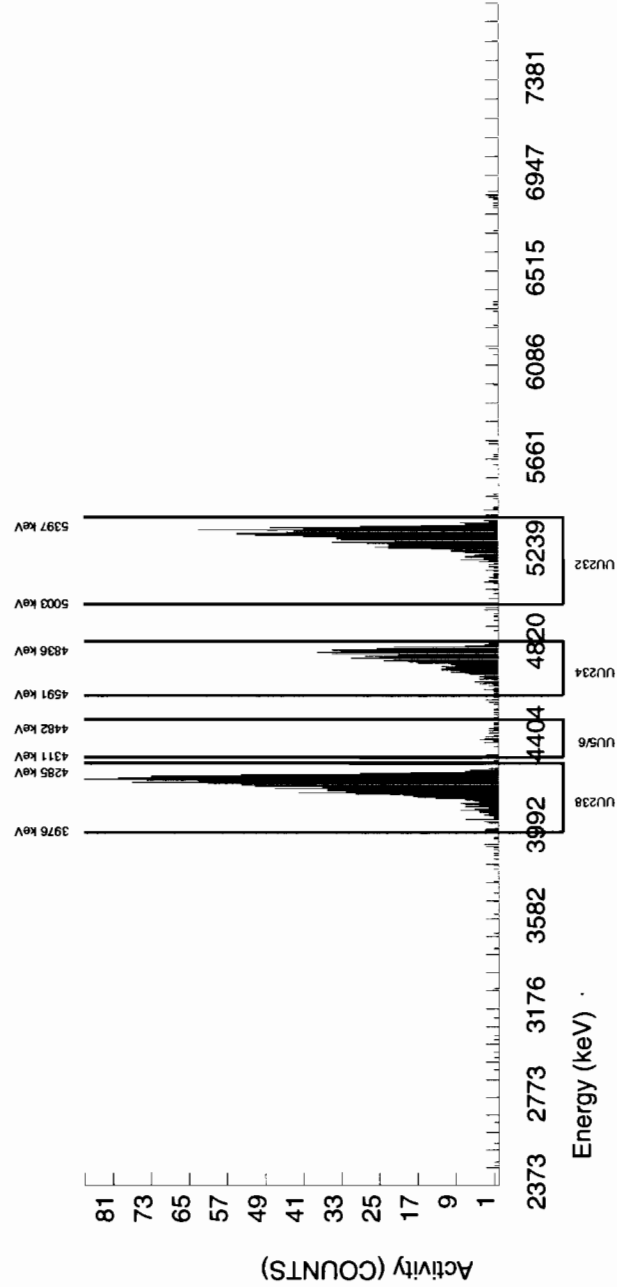
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area
due to tracer impurity:

U-3/4



BATCH NUMBER : 951672				CHAMBER : 124				LIB FILE : ENV_ALPHA_UU			
SAMPLE ID : S0246020001_UU				DETECTOR S/N : 45-142V2				BKG FILE : B124.CNF;445			
SAMPLE QTY : 1.265 G				AVERAGE %EFFICIENCY : 25.9705				BKG DATE : 21-FEB-2010			
SAMPLE DATE : 27-JAN-2010 00:00:00				COUNT DATE : 24-FEB-2010 13:21:10				BKG LIVE TIME(SEC) : 60000.00			
ANALYST : CXM2				ELAPSED LIVE TIME(SEC) : 60000.00				EFF FILE : W124.CNF;114			
% YIELD : 94.666								CAL DATE : 18-FEB-2010			
TRACER				MS/MSD				LCS/LCSD			
ID : 1283-H				ID : 0244-A				ID : 0244-A			
NUCLIDE : U232				NUCLIDE : U-238				NUCLIDE : U-238			
NOMINAL : 4.5063E+00 dpm				NOMINAL : 5.7500E+00 pCi/G				NOMINAL : 5.7500E+00 pCi/G			
RESULTS : 4.2659E+00 dpm											
NUCLIDE ACTIVITY SUMMARY											
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	UNC pCi/G
U232	5302.100	5295.275	83.338	1109.000	1107.000	2.000	1.4142	100.0000	1.60E+00	1.23E-01	4.83E-02
U-3/4	4763.020	4746.444	28.545	173.000	171.879	0.000	4.8416	100.0000	2.49E-01	2.58E-02	1.90E-02
U-235	4391.000	4404.660	0.000	13.000	12.000	1.000	2.2152	80.90000	2.15E-02	6.87E-03	6.70E-03
U-238	4184.730	4184.963	56.144	218.000	218.000	0.000	3.1208	100.0000	3.16E-01	3.08E-02	2.14E-02

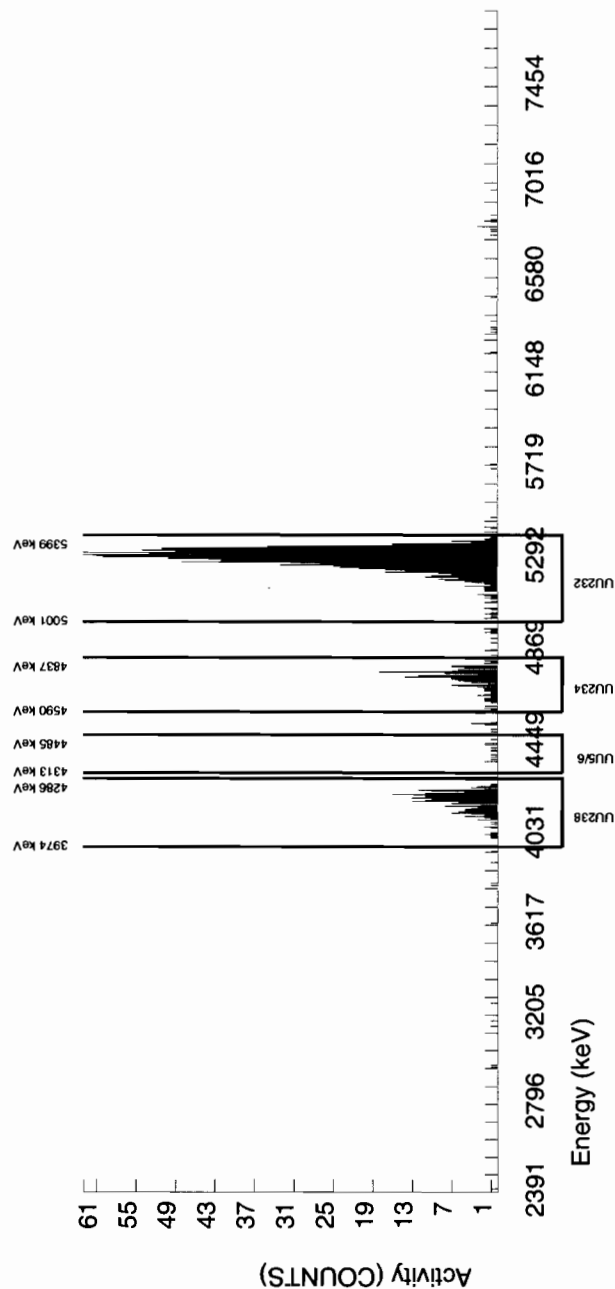
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

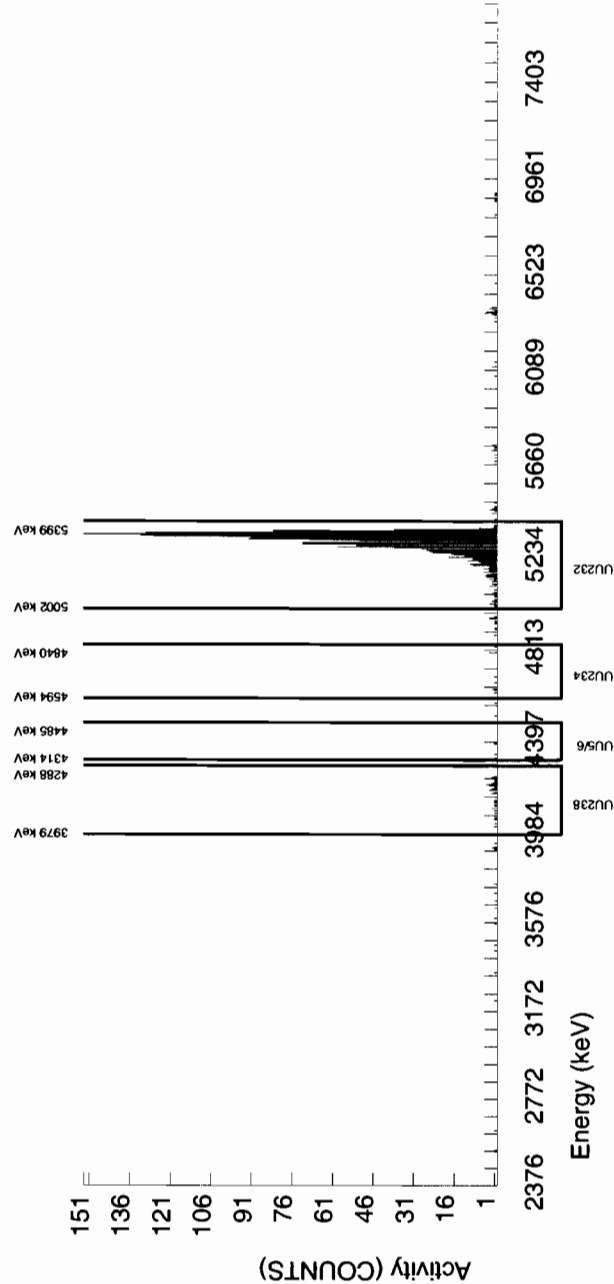


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S1202039558_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 97.771				CHAMBER : 166 DETECTOR S/N : 74545 AVERAGE %EFFICIENCY : 39.4562 COUNT DATE : 24-FEB-2010 09:54:24 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B166.CNF;173 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W166.CNF;58 CAL DATE : 22-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5036E+00 dpm RESULTS : 4.4032E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5312.138	38.766	1743.000	1737.000	6.000	2.4495	100.0000	2.03E+00	1.46E-01	6.65E-03	1.65E-02	4.88E-02
U-3/4	4763.020	4701.810	162.298	12.000	9.242	1.000	4.8416	100.0000	1.08E-02	3.98E-03	1.32E-02	2.95E-02	3.92E-03
U-235	4391.000	4365.460	68.854	4.000	4.000	0.000	2.2152	80.900000	5.77E-03	2.91E-03	7.44E-03	1.88E-02	2.89E-03
U-238	4184.730	4162.271	31.063	43.000	42.000	1.000	3.1208	100.0000	4.90E-02	8.43E-03	8.48E-03	2.01E-02	7.75E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S1202039559_UU SAMPLE QTY : 1.270 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 71.508				CHAMBER : 010 DETECTOR S/N : 72529 AVERAGE %EFFICIENCY : 31.8962 COUNT DATE : 24-FEB-2010 13:02:40 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_UU BKG FILE : B010.CNF;1126 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W010.CNF;335 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.2224E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5314.646	32.698	1036.000	1027.000	9.000	3.0000	100.0000	1.60E+00	1.24E-01	1.09E-02	2.59E-02	5.03E-02
U-3/4	4763.020	4768.191	23.687	182.000	179.960	1.000	4.8416	100.0000	2.80E-01	2.89E-02	1.75E-02	3.92E-02	2.10E-02
U-235	4391.000	4436.009	4.951	6.000	6.000	0.000	2.2152	80.90000	1.15E-02	4.78E-03	9.91E-03	2.50E-02	4.71E-03
U-238	4184.730	4192.995	33.245	265.000	265.000	0.000	3.1208	100.0000	4.12E-01	3.86E-02	1.13E-02	2.68E-02	2.53E-02

NOTES:

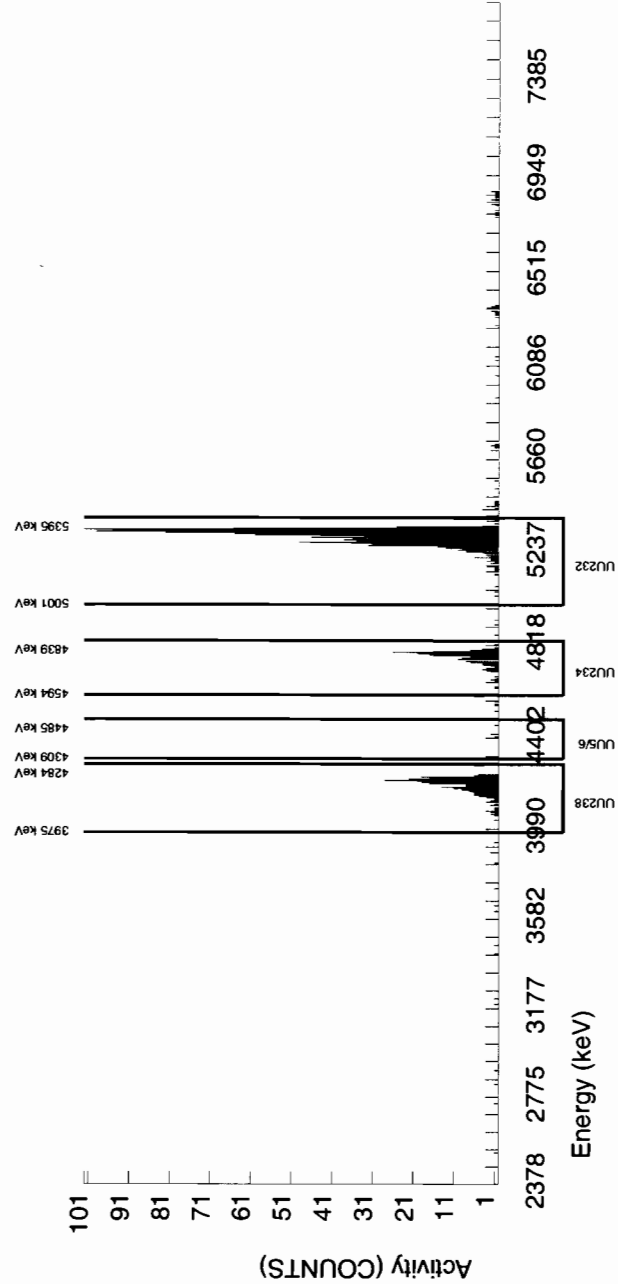
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area
due to tracer impurity:

U-3/4

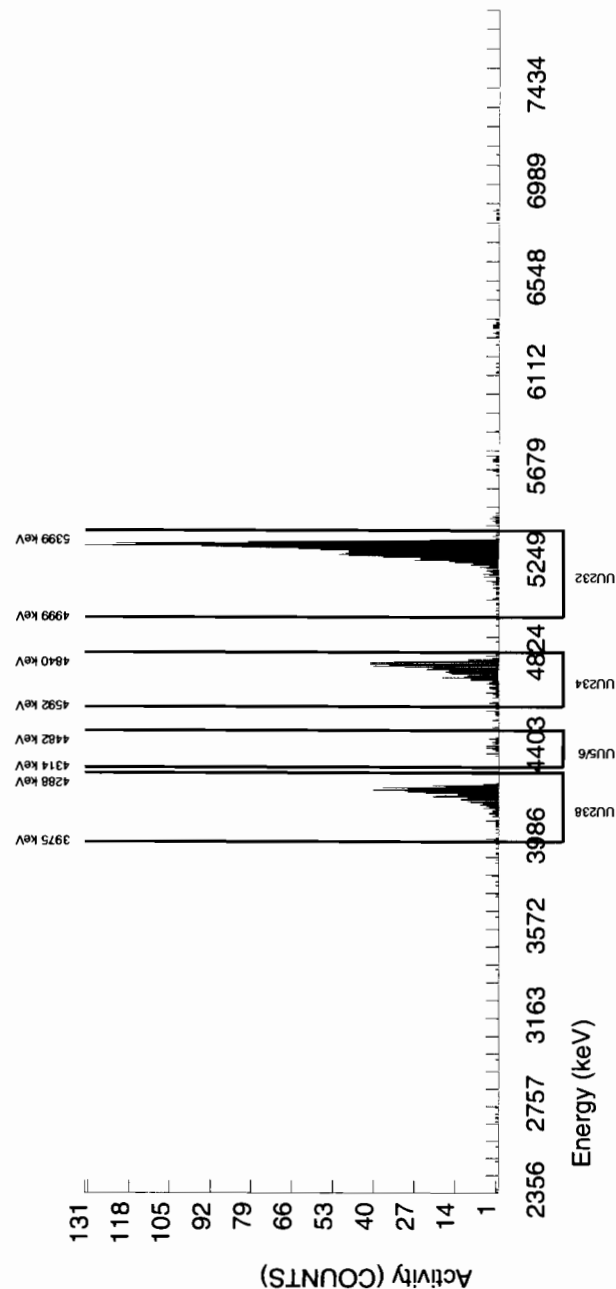


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 951672 SAMPLE ID : S1202039560_UU SAMPLE QTY : 0.115 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 95.730		CHAMBER : 011 DETECTOR S/N : 72531 AVERAGE %EFFICIENCY : 29.6489 COUNT DATE : 24-FEB-2010 13:02:40 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_UU BKG FILE : B011.CNF;1118 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W011.CNF;313 CAL DATE : 3-FEB-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5036E+00 dpm RESULTS : 4.3113E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5312.083	30.915
U-3/4	4763.020	4765.798	39.118
U-235	4391.000	4413.266	69.936
U-238	4184.730	4191.473	50.718
	GROSS AREA	NET AREA	BKG AREA
U232	1286.000	1278.000	8.000
U-3/4	445.000	442.706	1.000
U-235	26.000	24.000	2.000
U-238	390.000	387.000	3.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
U232	2.8284	100.0000	1.76E+01
U-3/4	4.8416	100.0000	6.11E+00
U-235	2.2152	80.90000	4.09E-01
U-238	3.1208	100.0000	5.34E+00
	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G
U232	1.41E+00	9.08E-02	2.19E-01
U-3/4	5.42E-01	1.55E-01	3.48E-01
U-235	9.53E-02	8.79E-02	2.22E-01
U-238	4.84E-01	1.00E-01	2.38E-01
	UNC pCi/G		
U232	4.97E-01		
U-3/4	2.91E-01		
U-235	9.03E-02		
U-238	2.74E-01		

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



Radiochemistry Batch Checklist, Rev10

Batch# 953 488 Product: U Date: 2/24/10

Criteria:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			N/A
Samples have been blank corrected (# required)	✓		
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.	✓		Case narrative
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) 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

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: JapLMR - 2/24/10

Secondary Review Performed By: [Signature] 2/24/10

3/2

Uranium Que Sheet

15-FEB-10

Batch #: 953488 Analyst: HAKB First Client Due Date: 02-MAR-10 Internal Due Date: 24-FEB-10

Tracer Isotope: U-232/91-236 Tracer Code: 1283-H Expiration Date: 12/9/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: SRM 0244-A Expiration Date: 10/31/20 Vol: 0.103
 Spike Isotope: U-238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 2/16/10 Initials: HAKB Pipet ID: 2971058 Balance ID: 5040272

Witness: JHO 02/16/10

Wet/Dry
 Aliquot
 1/1

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	U Det #
245978002-2	REIS-10-7891	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	1	1	0.108 125
245978004-2	REIS-10-7967	SAMPLE		.1 pCi/g	SOIL	LANL010	27-JAN-10	2	2	0.114 125
1202044051-1	MB for batch 953488	MB		UCF pCi/g to pCi	SOIL	QC ACCOUNT		3	3	1 167
1202044052-2	REIS-10-7891 (245978002DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	4	4	0.101 127
1202044053-1	LCS for batch 953488	LCS		UCF pCi/g to pCi	SOIL	QC ACCOUNT		5	5	0.103 128

*SRM 0244-A Exp 10/31/20

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: JALM-2/24/10

Blank Correction Report

Batch ID 953488

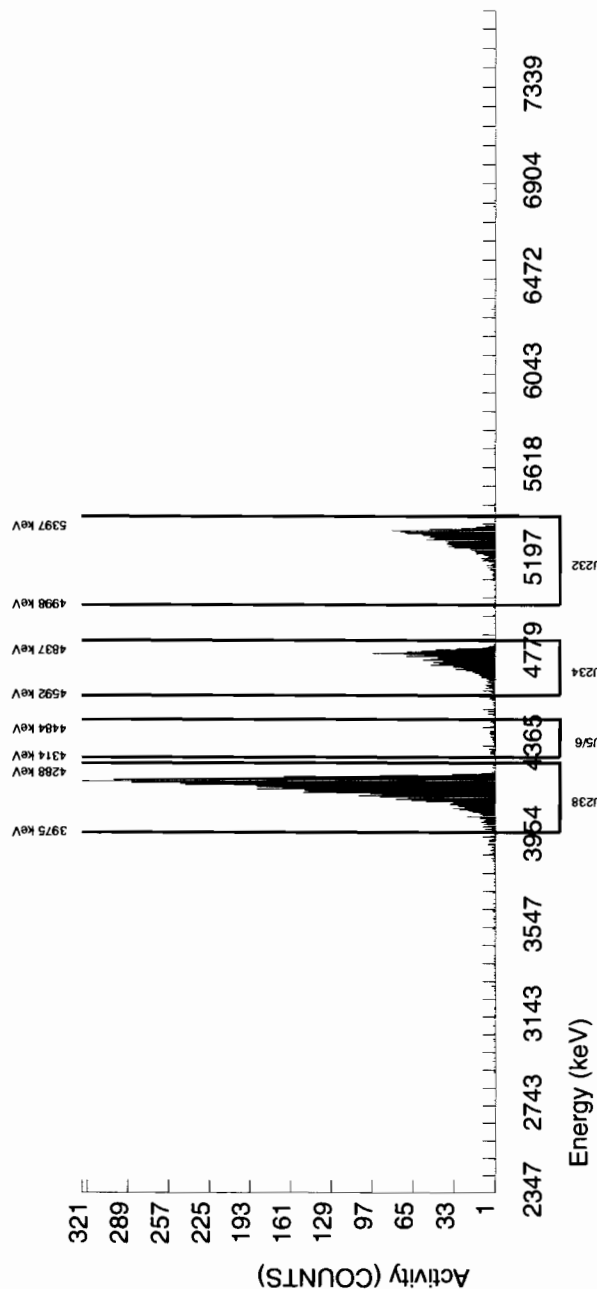
GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202044052	DUP	Uranium-233/234	0.101 g	18.9	1.60	0.518	.233663366	pCi/g	NO
		Uranium-235/236	0.101 g	2.23	0.295	0.330	.057128713	pCi/g	NO
		Uranium-238	0.101 g	79.4	6.31	0.354	.126732673	pCi/g	NO
1202044053	LCS	Uranium-233/234	0.103 g	5.86	0.555	0.452	.229126214	pCi/g	NO
		Uranium-235/236	0.103 g	0.266	0.0794	0.288	.056019417	pCi/g	YES
		Uranium-238	0.103 g	5.91	0.559	0.309	.124271845	pCi/g	NO
1202044051	MB	Uranium-233/234	1.00 g	0.0236	0.00596	0.0295	.0236	pCi/g	YES
		Uranium-235/236	1.00 g	0.00577	0.00356	0.0188	.00577	pCi/g	YES
		Uranium-238	1.00 g	0.0128	0.0046	0.0201	.0128	pCi/g	YES
245978002	RE15-10-7891	Uranium-233/234	0.108 g	19.6	1.80	0.430	.218518519	pCi/g	NO
		Uranium-235/236	0.108 g	1.83	0.241	0.274	.053425926	pCi/g	NO
		Uranium-238	0.108 g	77.0	5.98	0.293	.118518519	pCi/g	NO
245978004	RE15-10-7967	Uranium-233/234	0.114 g	21.5	1.76	0.469	.207017544	pCi/g	NO
		Uranium-235/236	0.114 g	2.75	0.328	0.299	.050814035	pCi/g	NO
		Uranium-238	0.114 g	150	11.7	0.320	.112280702	pCi/g	NO

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 953488 SAMPLE ID : S0245978002_UU SAMPLE QTY : 0.108 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 95.430				CHAMBER : 125 DETECTOR S/N : 75547 AVERAGE %EFFICIENCY : 25.6687 COUNT DATE : 23-FEB-2010 10:43:38 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B125.CNF;455 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W125.CNF;132 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 4.3004E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5294.003	50.629	1104.000	1103.000	1.000	1.0000	100.0000	1.88E+01	1.54E+00	3.96E-02	1.25E-01	5.66E-01
U-3/4	4763.020	4750.368	64.524	1153.000	1150.884	1.000	4.8416	100.0000	1.96E+01	1.60E+00	1.92E-01	4.30E-01	5.78E-01
U-235	4391.000	4392.147	0.000	87.000	87.000	0.000	2.2152	80.90000	1.83E+00	2.41E-01	1.08E-01	2.74E-01	1.96E-01
U-238	4184.730	4179.480	57.741	4520.000	4520.000	0.000	3.1208	100.0000	7.70E+01	5.98E+00	1.24E-01	2.93E-01	1.14E+00

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

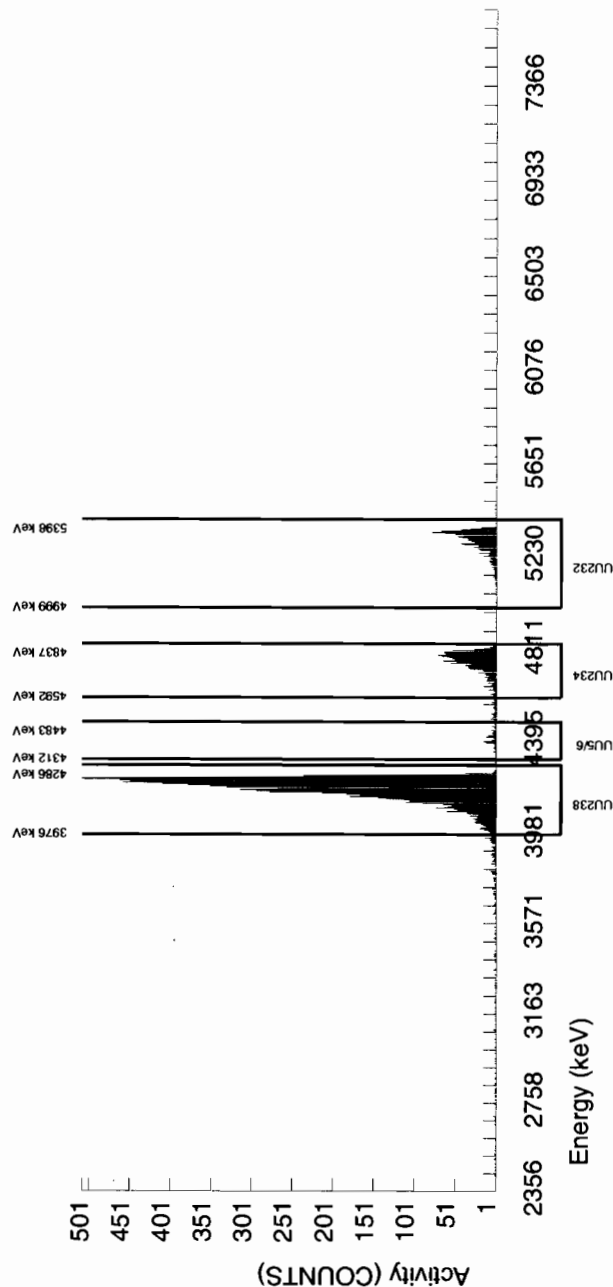


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 953488 SAMPLE ID : S0245978004_UU SAMPLE QTY : 0.114 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 84.862				CHAMBER : 126 DETECTOR S/N : 75548 AVERAGE %EFFICIENCY : 25.0705 COUNT DATE : 23-FEB-2010 10:43:40 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B126.CNF:454 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W126.CNF:134 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.8241E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5303.449	67.086	962.000	958.000	4.000	2.0000	100.0000	1.78E+01	1.48E+00	8.64E-02	2.23E-01	5.78E-01
U-3/4	4763.020	4758.333	71.655	1158.000	1156.030	1.000	4.8416	100.0000	2.15E+01	1.76E+00	2.09E-01	4.69E-01	6.32E-01
U-235	4391.000	4412.001	36.589	120.000	120.000	0.000	2.2152	80.90000	2.75E+00	3.28E-01	1.18E-01	2.99E-01	2.51E-01
U-238	4184.730	4185.379	71.210	8102.000	8102.000	0.000	3.1208	100.0000	1.50E+02	1.17E+01	1.35E-01	3.20E-01	1.67E+00

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

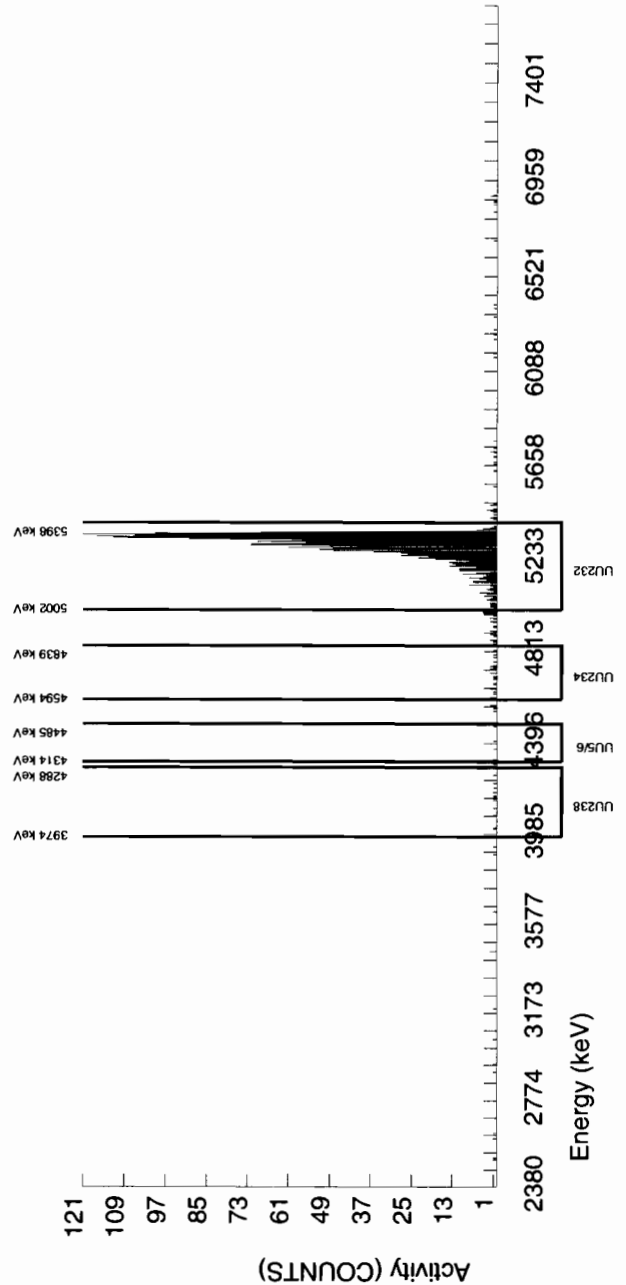
BATCH NUMBER : 953488 SAMPLE ID : S1202044051_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 16-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 99.999		CHAMBER : 167 DETECTOR S/N : 72546 AVERAGE %EFFICIENCY : 38.5981 COUNT DATE : 23-FEB-2010 10:41:59 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B167.CNF:173 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W167.CNF:58 CAL DATE : 22-FEB-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5038E+00 dpm RESULTS : 4.5038E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5298.228	65.168	1743.000	1738.000	5.000	2.2361	100.0000	2.03E+00	1.46E-01	6.07E-03	1.53E-02	4.88E-02
U-3/4	4763.020	4714.394	139.837	24.000	20.241	2.000	4.8416	100.0000	2.36E-02	5.96E-03	1.31E-02	2.95E-02	5.75E-03
U-235	4391.000	4381.996	0.000	5.000	4.000	1.000	2.2152	80.90000	5.77E-03	3.56E-03	7.43E-03	1.88E-02	3.53E-03
U-238	4184.730	4142.053	234.901	13.000	11.000	2.000	3.1208	100.0000	1.28E-02	4.60E-03	8.47E-03	2.01E-02	4.52E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

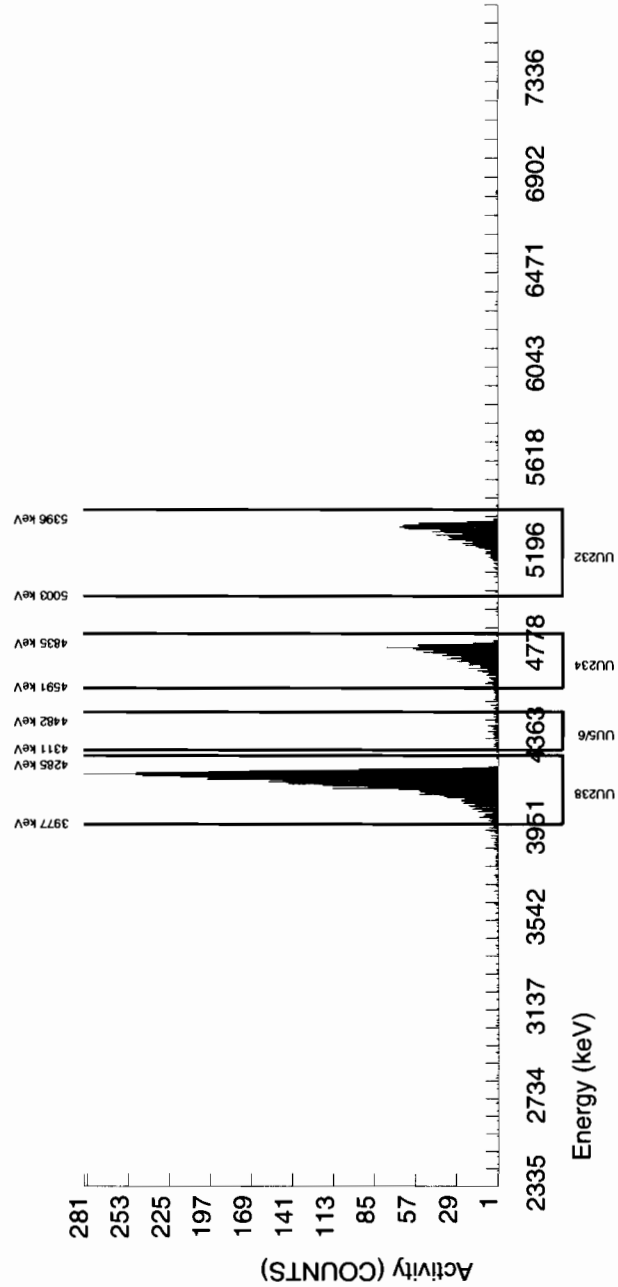
BATCH NUMBER : 953488 SAMPLE ID : S1202044052_UU SAMPLE QTY : 0.101 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.674				CHAMBER : 127 DETECTOR S/N : 78770 AVERAGE %EFFICIENCY : 24.4938 COUNT DATE : 23-FEB-2010 10:43:43 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B127.CNF:458 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W127.CNF:125 CAL DATE : 18-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5063E+00 dpm RESULTS : 3.9959E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5289.794	76.433	980.000	978.000	2.000	1.4142	100.0000	2.01E+01	1.69E+00	6.76E-02	1.91E-01	6.44E-01
U-3/4	4763.020	4742.455	43.834	922.000	920.010	1.000	4.8416	100.0000	1.89E+01	1.60E+00	2.31E-01	5.18E-01	6.24E-01
U-235	4391.000	4399.909	103.620	88.000	88.000	0.000	2.2152	80.90000	2.23E+00	2.95E-01	1.31E-01	3.30E-01	2.38E-01
U-238	4184.730	4172.280	61.798	3865.000	3865.000	0.000	3.1208	100.0000	7.94E+01	6.31E+00	1.49E-01	3.54E-01	1.28E+00

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of U232 calculated as sqrt(BKG AREA).

* Corrections made to the following net area
due to tracer impurity:
U-3/4

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

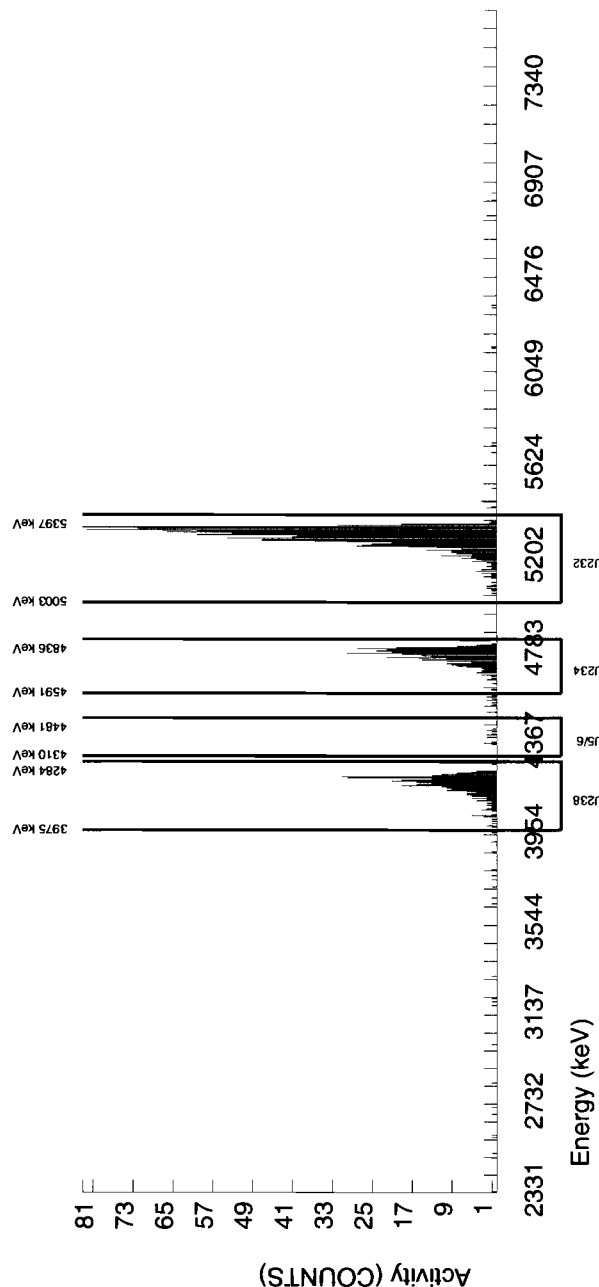
<p>BATCH NUMBER : 953488 SAMPLE ID : S1202044053_UU SAMPLE QTY : 0.103 G SAMPLE DATE : 16-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 95.986</p>		<p>CHAMBER : 128 DETECTOR S/N : 75549 AVERAGE %EFFICIENCY : 25.4275 COUNT DATE : 23-FEB-2010 10:43:46 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B128.CNF;464 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W128.CNF;135 CAL DATE : 18-FEB-2010</p>
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5038E+00 dpm RESULTS : 4.3230E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5303.295	66.442	1100.000	1099.000	1.000	1.0000	100.0000	1.97E+01	1.63E+00	4.17E-02	1.32E-01	5.95E-01
U-3/4	4763.020	4763.748	49.982	328.000	326.888	0.000	4.8416	100.0000	5.86E+00	5.55E-01	2.02E-01	4.52E-01	3.24E-01
U-235	4391.000	4405.308	37.495	12.000	12.000	0.000	2.2152	80.90000	2.66E-01	7.94E-02	1.14E-01	2.88E-01	7.67E-02
U-238	4184.730	4182.141	45.628	330.000	330.000	0.000	3.1208	100.0000	5.91E+00	5.59E-01	1.30E-01	3.09E-01	3.26E-01

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



Radiochemistry Batch Checklist, Rev10

Batch# 954009 Product: Am Date: 2/20/10

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

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: J. L. M. - 2/20/10Secondary Review Performed By: [Signature] 2/20/10

3/2

LANL

✓ 8

Am/Cm Que Sheet

16-FEB-10

Batch #: 954009 Analyst: HAKB First Client Due Date: 02-MAR-10 Internal Due Date 24-FEB-10
Tracer(s): Am243/Cm244 Tracer Code: 445-96-2-SS Expiration Date: 5/11/10
LCS Isotope(s): Am241/Cm244 LCS Code(s): 30M0244-B / NA Expiration Date: 4/30/20 / NA
Spike Isotope(s): Am241/Cm244 Spike Code(s): NA / NA Expiration Date: NA / NA
Prep Date: 2/17/10 Initials: QW Pipet ID: 2971058 Balance ID: 19350208
Comments: Vol: 5.1 Vol(s): 5.111g NA
Vol(s): NA / NA
Witness: QW 02/17/10

Sample ID	Client Description	Type	Hazard Code	Mln CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Allquot (g/l/d)	Am/Cm Det #
245978007-2	RE15-10-7965	SAMPLE		.05 pCi/g	SOIL	LANL010	27-JAN-10	1	1		1.263	107
1202045187-1	MB for batch 954009	MB		UCF pCi/g to pCi/soil	SOIL	QC ACCOUNT		2	2		1	108
1202045188-2	RE15-10-7965(245978007DUP)	DUP		.05 pCi/g	SOIL	QC ACCOUNT	27-JAN-10	3	3		1.263	109
1202045189-1	LCS for batch 954009	LCS		UCF pCi/g to pCi/soil	SOIL	QC ACCOUNT		4	4		0.111	111

* SRM 0244-B

Choose SOP Used: GL-RAD-A-011
GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: JPLALC-2/22/10

GEL Laboratories LLC, Radiochemistry Division

Blank Correction Report

Batch ID 954009

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202045188	DUP	Americium-241	1.26 g	0.0057	0.00269	0.0199	.001753968	pCi/g	YES
1202045189	LCS	Americium-241	0.111 g	28.1	1.94	0.197	.019909910	pCi/g	NO
1202045187	MB	Americium-241	1.00 g	0.00221	0.00351	0.0239	.00221	pCi/g	YES
245978007	RE15-10-7965	Americium-241	1.26 g	-0.00181	0.0028	0.0208	.001753968	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	: 954009
SAMPLE ID	: S1202045189_AM
SAMPLE QTY	: 0.111 G
SAMPLE DATE	: 17-FEB-2010 00:00:00
ANALYST	: HAKB
% YIELD	: 107.170

CHAMBER	:	111
DETECTOR SN	:	79462
AVERAGE %EFFICIENCY	:	33.1216
COUNT DATE	:	19-FEB-2010 15:53:28
ELAPSED LIVE TIME(SEC)	:	59999.99

LIB FILE	ENV ALPHA_AM
BKG FILE	B111.CNF:679
BKG DATE	14-FEB-2010
BKG LIVE TIME(SEC)	60000.00
EFF FILE	W111.CNF:209
CAL DATE	9-FEB-2010

TRACER	ID	: 445-96-2-SS
	NUCLIDE	: AM243
	NOMINAL	: 2.9166E+00 dpm
	RESULTS	: 3.1257E+00 dpm

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3153E+01 pCi/G

LCS/LCSD	ID :	NUCLIDE :	NOMINAL :
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5490.133	45.054	2171.000	2168.202	1.000	2.8409	99.94000	2.48E+01	1.70E+00	7.56E-02	1.82E-01	5.33E-01
AM-243	5270.000	5268.306	59.274	1034.000	1033.000	1.000	1.0000	99.78000	1.18E+01	8.54E-01	2.67E-02	8.44E-02	3.69E-01
CM-242	6102.000	6052.737	9.317	2.000	-1.000	3.000	4.3413	100.0000	-1.16E-02	2.59E-02	1.15E-01	2.62E-01	2.59E-02
CM-3/4	5795.020	5759.227	183.862	6.000	5.000	1.000	5.1799	100.0000	5.72E-02	3.05E-02	1.38E-01	3.07E-01	3.03E-02
CM-5/6	5386.000	5385.427	0.000	81.000	81.000	0.000	14.2480	86.09000	1.08E+00	1.39E-01	4.40E-01	9.16E-01	1.20E-01
CM-247	4946.000	4905.222	99.385	26.000	24.000	2.000	13.7917	79.30000	3.46E-01	7.95E-02	4.63E-01	9.64E-01	7.63E-02
CM-248	5078.600	5056.276	0.000	47.000	46.000	1.000	19.5080	91.00000	5.78E-01	9.48E-02	5.70E-01	1.17E+00	8.70E-02

NOTES:

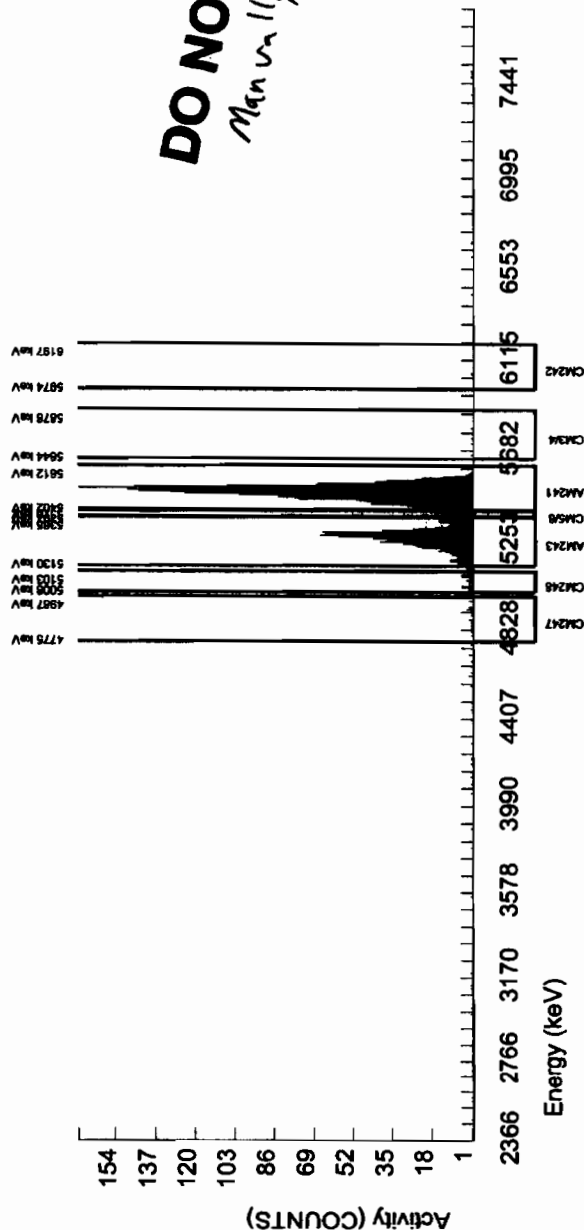
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



DO NOT REPORT
Manually Integrated

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954009 SAMPLE ID : S0245978007_AM SAMPLE QTY : 1.263 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 88.769				CHAMBER : 107 DETECTOR S/N : 67578 AVERAGE %EFFICIENCY : 30.8518 COUNT DATE : 19-FEB-2010 15:53:28 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B107.CNF:684 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W107.CNF:232 CAL DATE : 9-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5890E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5486.694	79.516	3.000	-1.387	3.000	2.8409	99.94000	-1.81E-03	2.80E-03	8.61E-03	2.08E-02	2.80E-03
AM243	5270.000	5268.987	47.520	798.000	797.000	1.000	1.0000	99.78000	1.04E+00	7.32E-02	3.04E-03	9.61E-03	3.69E-02
CM-242	6102.000	6074.474	4.970	1.000	1.000	0.000	4.3413	100.0000	1.44E-03	1.44E-03	1.32E-02	2.98E-02	1.44E-03
CM-3/4	5795.020	5771.545	4.970	5.000	4.000	1.000	5.1799	100.0000	5.22E-03	3.21E-03	1.57E-02	3.49E-02	3.20E-03
CM-5/6	5386.000	5376.999	0.000	2.000	2.000	0.000	14.2480	86.09000	3.03E-03	2.15E-03	5.01E-02	1.04E-01	2.14E-03
CM-247	4946.000	4866.349	173.942	5.000	2.000	3.000	13.7917	79.30000	3.28E-03	4.65E-03	5.27E-02	1.10E-01	4.64E-03
CM-248	5078.600	5068.514	0.000	19.000	19.000	0.000	19.5080	91.00000	2.72E-02	6.45E-03	6.49E-02	1.34E-01	6.24E-03

NOTES:

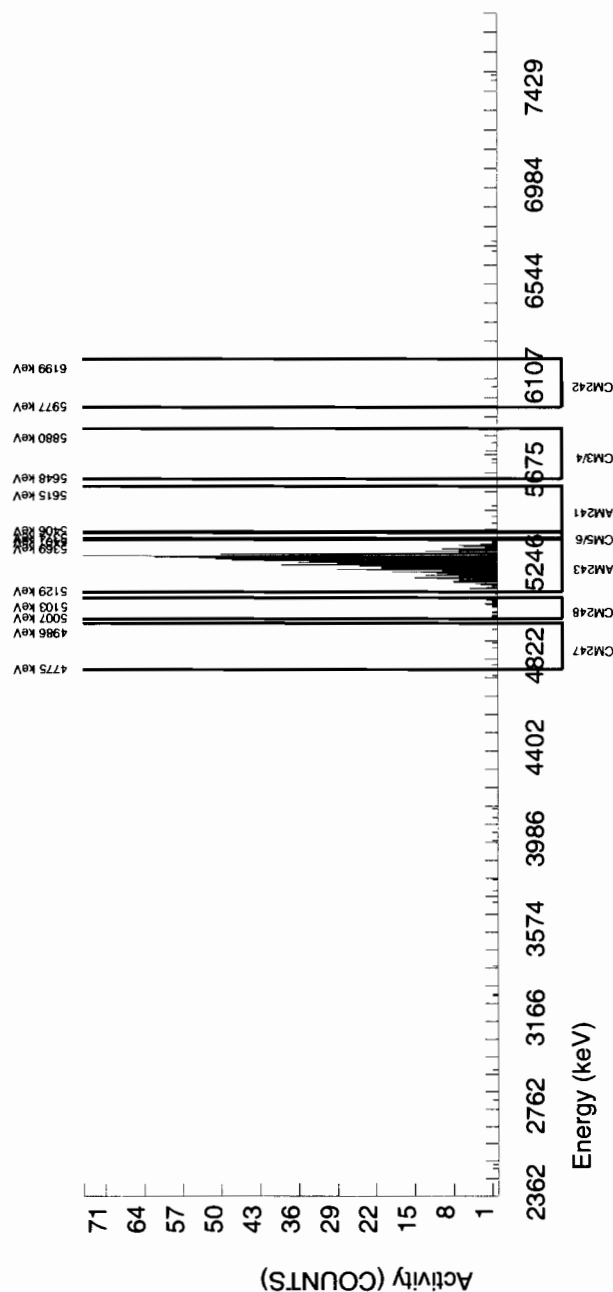
* Sq calculated via blank population.

(Sg updated 10-FEB-2010)

* Sq of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



NOTES:

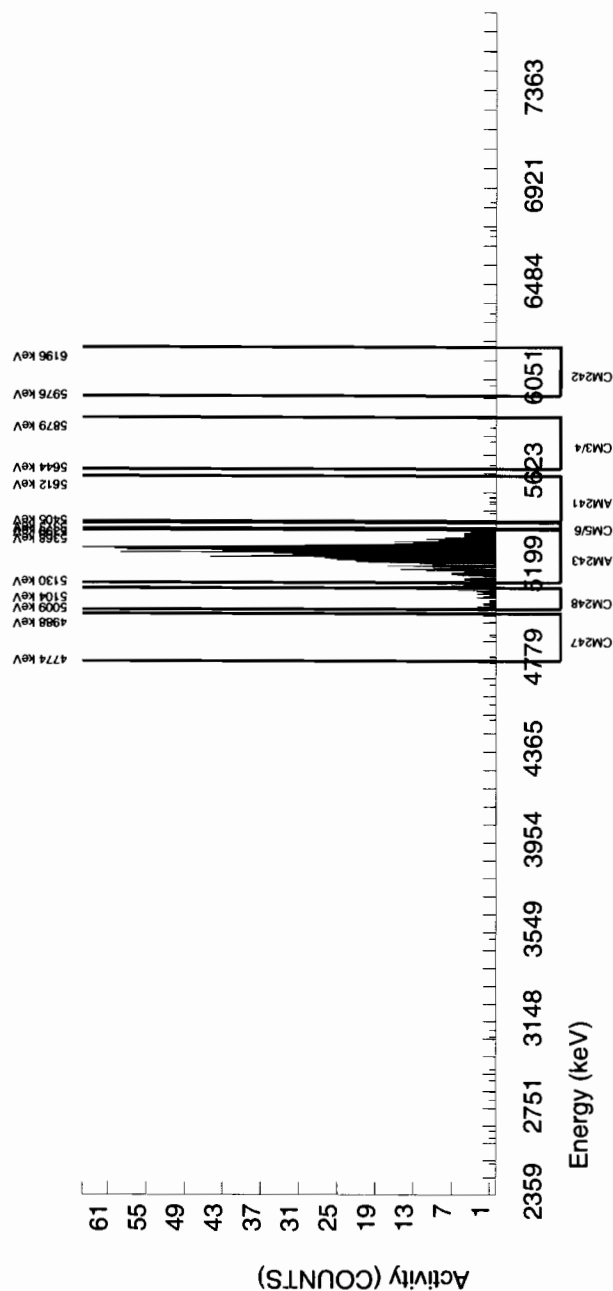
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

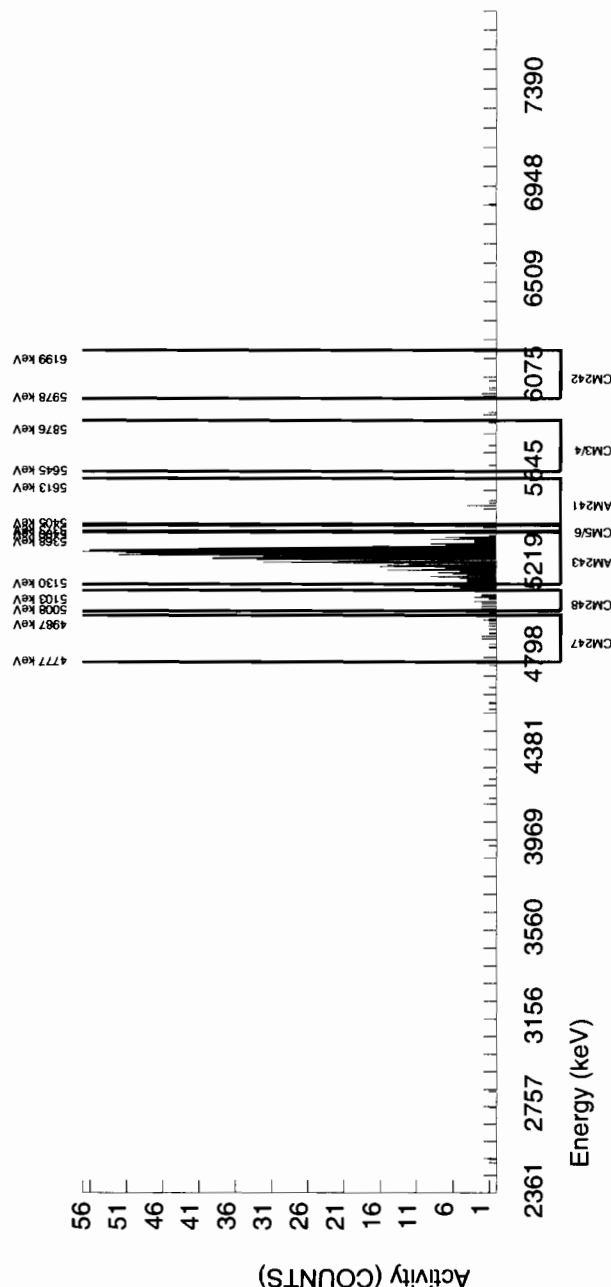
<p>BATCH NUMBER : 954009 SAMPLE ID : S1202045188_AM SAMPLE QTY : 1.263 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : HAKB % YIELD : 80.002</p>	<p>CHAMBER : 109 DETECTOR S/N : 79463 AVERAGE %EFFICIENCY : 35.6501 COUNT DATE : 19-FEB-2010 15:53:28 ELAPSED LIVE TIME(SEC) : 59999.99</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B109.CNF:680 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W109.CNF:194 CAL DATE : 9-FEB-2010</p>
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<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3333E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G</p>
--	---	---

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5500.878	4.914	6.000	4.556	0.000	2.8409	99.94000	5.70E-03	2.69E-03	8.27E-03	1.99E-02	2.67E-03
AM-243	5270.000	5261.741	67.973	834.000	830.000	4.000	2.0000	99.78000	1.04E+00	7.25E-02	5.83E-03	1.51E-02	3.63E-02
CM-242	6102.000	6025.228	4.914	5.000	5.000	0.000	4.3413	100.0000	6.92E-03	3.12E-03	1.26E-02	2.86E-02	3.10E-03
CM-3/4	5795.020	5771.720	181.835	3.000	3.000	0.000	5.1799	100.0000	3.76E-03	2.18E-03	1.51E-02	3.35E-02	2.17E-03
CM-5/6	5386.000	5386.471	0.000	4.000	4.000	0.000	14.2480	86.09000	5.81E-03	2.93E-03	4.81E-02	1.00E-01	2.91E-03
CM-247	4946.000	4918.496	0.000	16.000	14.000	2.000	13.7917	79.30000	2.21E-02	6.82E-03	5.06E-02	1.05E-01	6.69E-03
CM-248	5078.600	5068.107	0.000	25.000	25.000	0.000	19.5080	91.00000	3.44E-02	7.18E-03	6.24E-02	1.28E-01	6.87E-03

NOTES:

- * Sg calculated via blank population.
(Sg updated 10-FEB-2010)
- * Sg of AM243 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954009 SAMPLE ID : S1202045189_AM SAMPLE QTY : 0.111 G SAMPLE DATE : 17-FEB-2010 00:00:00 ANALYST : HAKB % YIELD : 99.182				CHAMBER : 111 DETECTOR S/N : 79462 AVERAGE %EFFICIENCY : 33.1216 COUNT DATE : 19-FEB-2010 15:53:28 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B111.CNF:679 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W111.CNF:209 CAL DATE : 9-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.8927E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5485.055	45.054	2276.000	2273.336	1.000	2.8409	99.94000	2.81E+01	1.94E+00	8.17E-02	1.97E-01	5.90E-01
AM243	5270.000	5261.583	59.274	957.000	956.000	1.000	1.0000	99.78000	1.18E+01	8.67E-01	2.88E-02	9.12E-02	3.83E-01
CM-242	6102.000	6052.737	9.317	2.000	-1.000	3.000	4.3413	100.0000	-1.25E-02	2.80E-02	1.25E-01	2.83E-01	2.80E-02
CM-3/4	5795.020	5759.227	183.862	6.000	5.000	1.000	5.1799	100.0000	6.18E-02	3.29E-02	1.49E-01	3.31E-01	3.27E-02
CM-5/6	5386.000	5485.055	45.054	2276.000	2273.336	1.000	14.2480	86.09000	3.26E+01	2.25E+00	4.76E-01	9.90E-01	6.84E-01
CM-247	4946.000	4905.222	99.385	26.000	24.000	2.000	13.7917	79.30000	3.74E-01	8.60E-02	5.00E-01	1.04E+00	8.24E-02
CM-248	5078.600	5056.276	0.000	47.000	46.000	1.000	19.5080	91.00000	6.24E-01	1.03E-01	6.16E-01	1.27E+00	9.41E-02

NOTES:

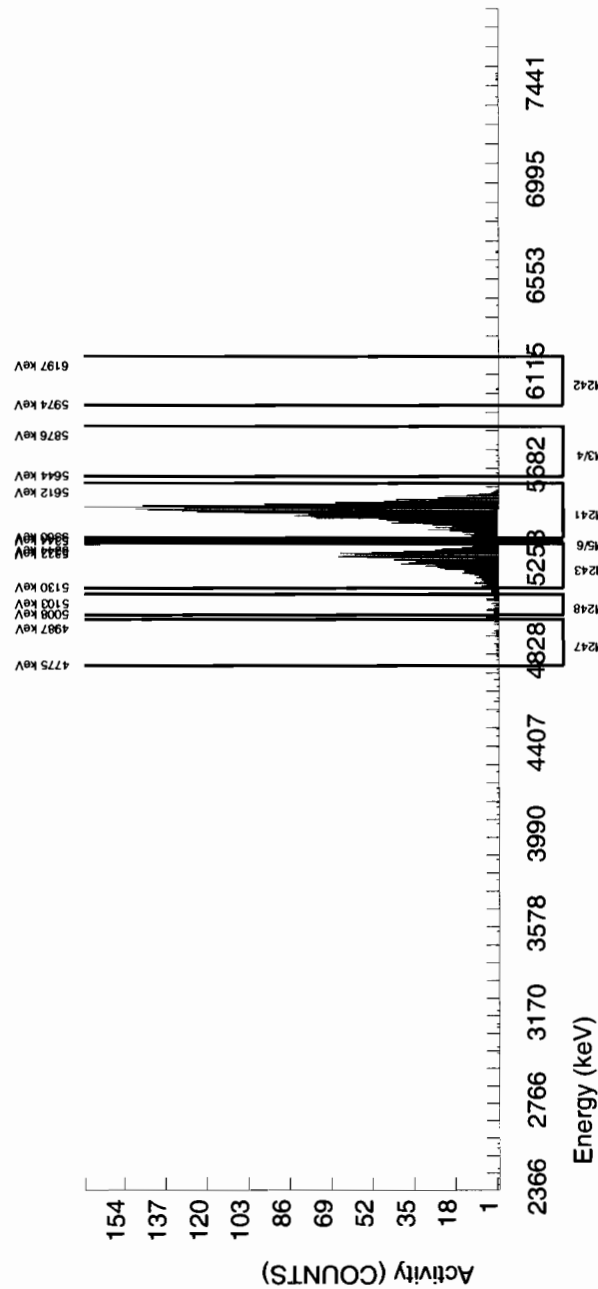
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



Radiochemistry Batch Checklist, Rev10

Batch# 957873 Product: Am Date: 3/1/16

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)	✓		
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.		✓	DER 797056
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%.		✓	DER 797056
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		Case narrative
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.	✓		
Aux data is correct.			N/A
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly statused.	✓		
QC data entered into QC database and batch is in REVW	✓		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.	✓		DER 797056
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.	X		DER 797056
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

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Jarvis - 3/1/16
by B. B. 3/1/16

Secondary Review Performed By:

3/2

LANL

Am/Cm Que Sheet

25-FEB-10

Batch #: 957873

Analyst: CXM2

First Client Due Date: 02-MAR-10

Internal Due Date: 24-FEB-10

Comments:

Tracer(s): Am243/Cm244

Tracer Code: 445-96-2-55

Expiration Date: 5/11/10

Vol: 0.1 mL

LCS Isotope(s): Am241/Cm244

LCS Code(s): 0244-B

Expiration Date: 4/30/20

Vol(s): 0.1 g

Spike Isotope(s): Am241/Cm244

Spike Code(s):

Expiration Date:

Vol(s):

Prep Date: 2/25/10

Initials: CXM

Pipet ID: 2471058

Balance ID: 50-10272

Witness: WU 2/25/10

Wet(Dry)

Sample ID	Client Description	Type	Hazard	Min	Code	CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/1/1)	Am/Cm Det #
245978011-2	RE15-10-7964	SAMPLE	.05 pCi/g				SOIL	LANL010	27-JAN-10	1	1	1.258	233
1202054058-1	MB for batch 957873	MB	UCF pCi/g to pCi/soil				SOIL	QC ACCOUNT		2	2	1	72
1202054059-2	RE15-10-7964(245978011DUP)	DUP	.05 pCi/g				SOIL	QC ACCOUNT	27-JAN-10	3	3	1.257	73
1202054060-1	LCS for batch 957873	LCS	UCF pCi/g to pCi/soil				SOIL	QC ACCOUNT		4	4	0.100	74

Choose SOP Used: GL-RAD-A-011
GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: J. M. L. - 3/1/10

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

Blank Correction Report

Batch ID 957873

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202054059	DUP	Americium-241	1.26 g	0.0109	0.00911	0.0676	.010873016	pCi/g	YES
1202054060	LCS	Americium-241	0.100 g	31.4	2.03	0.254	.137	pCi/g	NO
1202054058	MB	Americium-241	1.00 g	0.0137	0.00868	0.0283	.0137	pCi/g	YES
245978011	RE15-10-7964	Americium-241	1.26 g	0.00713	0.0036	0.031	.010873016	pCi/g	YES

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957873 SAMPLE ID : S0245978011_AM SAMPLE QTY : 1.258 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 36.905				CHAMBER : 233 DETECTOR S/N : 79426 AVERAGE %EFFICIENCY : 37.7051 COUNT DATE : 27-FEB-2010 20:08:24 ELAPSED LIVE TIME(SEC) : 86400.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B233.CNF:83 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W233.CNF:28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.0764E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5477.762	146.661	5.000	3.985	0.000	2.8409	99.94000	7.13E-03	3.60E-03	1.31E-02	3.10E-02	3.57E-03
AM243	5270.000	5272.528	38.026	586.000	583.120	2.880	1.6971	99.78000	1.04E+00	8.01E-02	7.81E-03	2.05E-02	4.35E-02
CM-242	6102.000	6023.046	4.909	10.000	10.000	0.000	4.3413	100.0000	2.05E-02	6.62E-03	1.99E-02	4.47E-02	6.48E-03
CM-3/4	5795.020	5739.129	14.646	15.000	13.560	1.440	5.1799	100.0000	2.43E-02	7.57E-03	2.38E-02	5.24E-02	7.41E-03
CM-5/6	5386.000	5379.425	0.000	3.000	3.000	0.000	14.2480	86.09000	6.23E-03	3.62E-03	7.60E-02	1.58E-01	3.60E-03
CM-247	4946.000	4890.256	4.909	5.000	5.000	0.000	13.7917	79.30000	1.13E-02	5.09E-03	7.99E-02	1.66E-01	5.04E-03
CM-248	5078.600	5049.250	41.575	14.000	14.000	0.000	19.5080	91.00000	2.75E-02	7.56E-03	9.84E-02	2.02E-01	7.35E-03

NOTES:

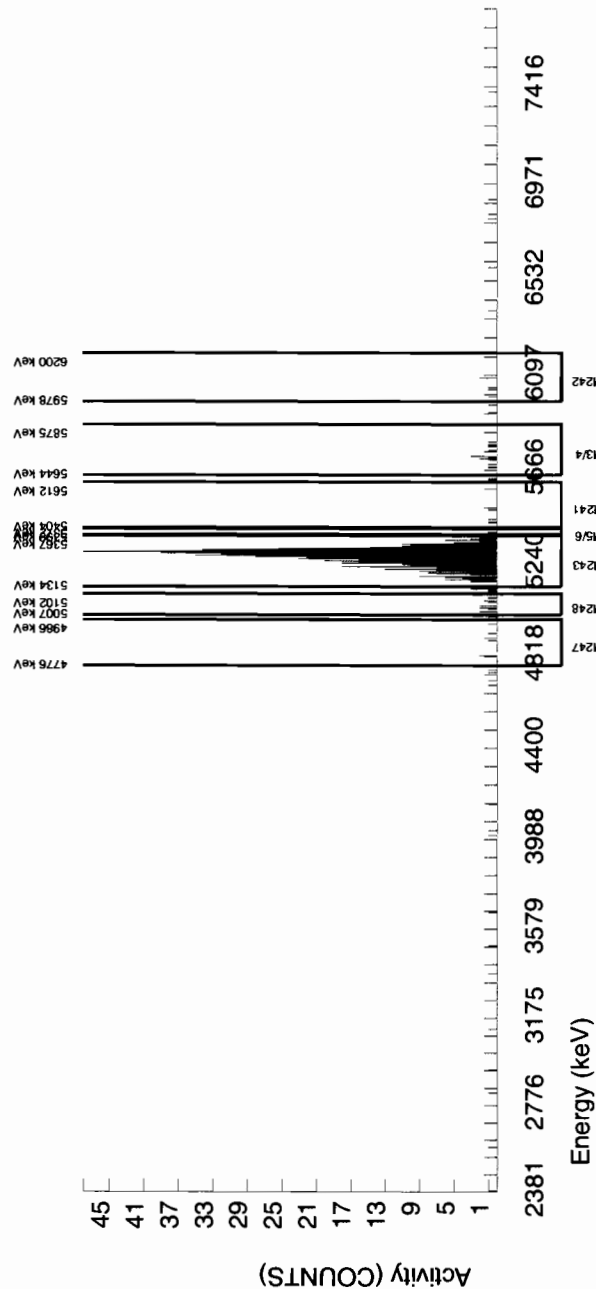
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 957873 SAMPLE ID : S1202054058_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 79.083				CHAMBER : 072 DETECTOR S/N : 45-149AA3 AVERAGE %EFFICIENCY : 32.1107 COUNT DATE : 26-FEB-2010 23:40:07 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B072.CNF;1102 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W072.CNF;277 CAL DATE : 9-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9165E+00 dpm RESULTS : 2.3065E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5480.290	24.408	17.000	7.714	8.000	2.8409	99.94000	1.37E-02	8.68E-03	1.17E-02	2.83E-02	8.64E-03
AM243	5270.000	5273.287	41.333	743.000	739.000	4.000	2.0000	99.78000	1.31E+00	9.44E-02	8.27E-03	2.14E-02	4.86E-02
CM-242	6102.000	6084.979	94.323	3.000	2.000	1.000	4.3413	100.0000	3.58E-03	3.59E-03	1.79E-02	4.06E-02	3.58E-03
CM-3/4	5795.020	5730.634	7.447	10.000	5.000	5.000	5.1799	100.0000	8.87E-03	6.89E-03	2.14E-02	4.76E-02	6.87E-03
CM-5/6	5386.000	5383.637	0.000	4.000	1.000	3.000	14.2480	86.09000	2.06E-03	5.45E-03	6.83E-02	1.42E-01	5.45E-03
CM-247	4946.000	4849.984	24.822	2.000	1.000	1.000	13.7917	79.30000	2.24E-03	3.88E-03	7.18E-02	1.50E-01	3.87E-03
CM-248	5078.600	5066.432	0.000	5.000	3.000	2.000	19.5080	91.00000	5.85E-03	5.17E-03	8.85E-02	1.82E-01	5.16E-03

NOTES:

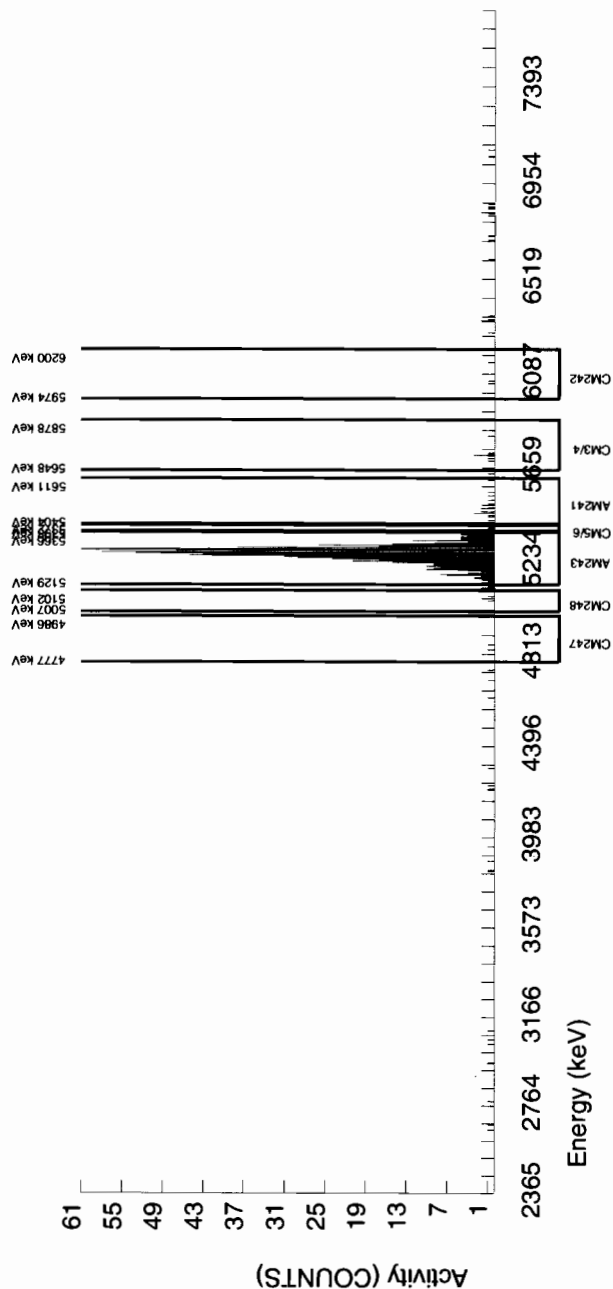
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

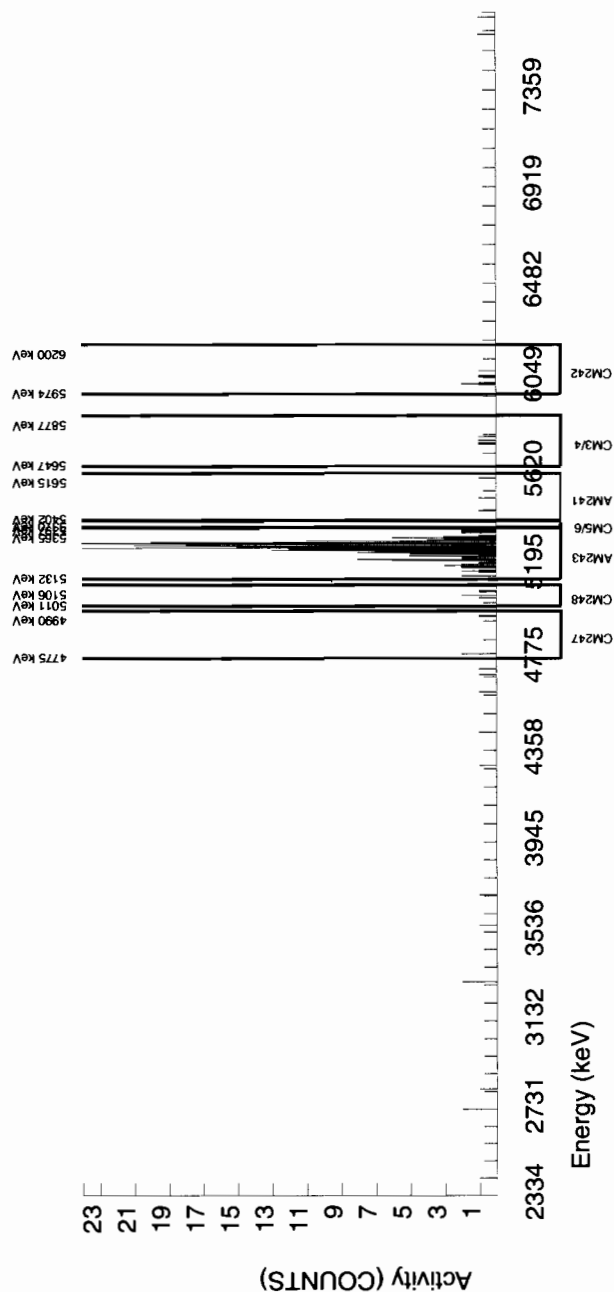
BATCH NUMBER : 957873 SAMPLE ID : S1202054059_AM SAMPLE QTY : 1.257 G SAMPLE DATE : 27-JAN-2010 00:00:00 ANALYST : CXM2 % YIELD : 25.519				CHAMBER : 073 DETECTOR S/N : 78775 AVERAGE %EFFICIENCY : 33.1249 COUNT DATE : 26-FEB-2010 23:40:07 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B073.CNF;1104 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W073.CNF;285 CAL DATE : 9-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 7.4429E-01 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5492.407	177.641	4.000	2.572	1.000	2.8409	99.94000	1.09E-02	9.11E-03	2.80E-02	6.76E-02	9.07E-03
AM-243	5270.000	5279.071	39.713	246.000	246.000	0.000	0.0000	99.78000	1.05E+00	1.07E-01	0.00E+00	1.15E-02	6.66E-02
CM-242	6102.000	6045.936	9.869	7.000	7.000	0.000	4.3413	100.0000	3.39E-02	1.31E-02	4.28E-02	9.71E-02	1.28E-02
CM-3/4	5795.020	5767.190	33.924	4.000	2.000	2.000	5.1799	100.0000	8.51E-03	1.04E-02	5.11E-02	1.14E-01	1.04E-02
CM-5/6	5386.000	5375.529	4.934	1.000	1.000	0.000	14.2480	86.09000	4.92E-03	4.94E-03	1.63E-01	3.40E-01	4.92E-03
CM-247	4946.000	4906.834	4.934	5.000	1.000	4.000	13.7917	79.30000	5.35E-03	1.60E-02	1.72E-01	3.58E-01	1.60E-02
CM-248	5078.600	5060.060	4.934	6.000	6.000	0.000	19.5080	91.00000	2.80E-02	1.16E-02	2.11E-01	4.35E-01	1.14E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as $\sqrt{\text{BKG AREA}}$.

* Corrections made to the following net area due to tracer impurity:
AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

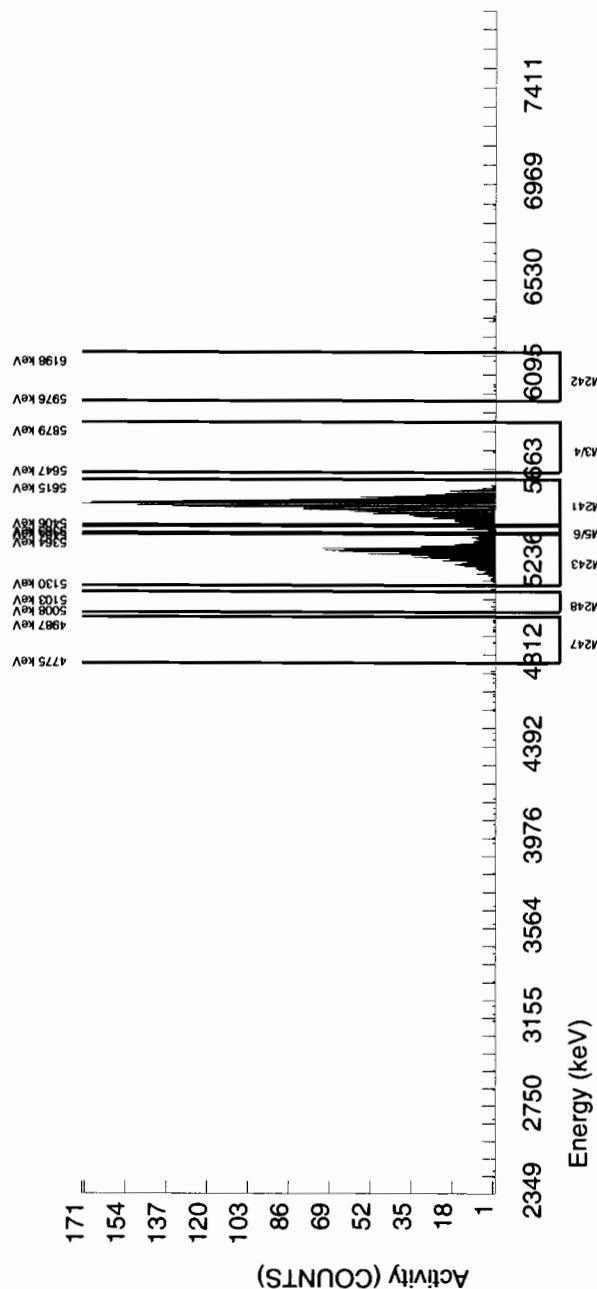
BATCH NUMBER : 957873 SAMPLE ID : S1202054060_AM SAMPLE QTY : 0.100 G SAMPLE DATE : 25-FEB-2010 00:00:00 ANALYST : CXM2 % YIELD : 88.995				CHAMBER : 074 DETECTOR S/N : 78266 AVERAGE %EFFICIENCY : 31.7390 COUNT DATE : 26-FEB-2010 23:40:07 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B074.CNF:1126 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W074.CNF:332 CAL DATE : 9-FEB-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9165E+00 dpm RESULTS : 2.5956E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3152E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5500.787	38.881	1974.000	1968.570	4.000	2.8409	99.94000	3.14E+01	2.03E+00	1.05E-01	2.54E-01	7.09E-01
AM243	5270.000	5280.268	36.851	822.000	822.000	0.000	0.0000	99.78000	1.31E+01	9.17E-01	0.00E+00	4.33E-02	4.58E-01
CM-242	6102.000	6074.374	129.716	4.000	4.000	0.000	4.3413	100.00000	6.44E-02	3.24E-02	1.61E-01	3.65E-01	3.22E-02
CM-3/4	5795.020	5746.680	9.355	2.000	0.000	2.000	5.1799	100.00000	0.00E+00	3.19E-02	1.92E-01	4.28E-01	3.19E-02
CM-5/6	5386.000	5386.368	0.000	56.000	56.000	0.000	14.2480	86.09000	1.04E+00	1.52E-01	6.14E-01	1.28E+00	1.39E-01
CM-247	4946.000	4916.223	0.000	10.000	9.000	1.000	13.7917	79.30000	1.81E-01	6.76E-02	6.45E-01	1.34E+00	6.67E-02
CM-248	5078.600	5050.105	0.000	8.000	8.000	0.000	19.5080	91.00000	1.40E-01	5.03E-02	7.95E-01	1.64E+00	4.96E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 10-FEB-2010)

* Sg of AM243 calculated as sqrt(BKG AREA).

* Corrections made to the following net area due to tracer impurity:
AM-241



Radiochemistry Batch Checklist, Rev10

Batch# 948721

Product: Gamma Solid

Date: 02/18/10

LANL

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.			N/A
Method blank is less than the RDL/ LLD. (If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.	✓		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.	✓		
Aux data is correct.	✓		
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	✓		
Hlt notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) 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

RADcheckdistrev10, revised 1/13/2010

Primary Review Performed By: for Harty 2/18/10

Secondary Review Performed By: A. Eulan 2/19/10

3/2

Gamma Spec Que Sheet

1.6.-2/12/10

02/05/2010

Batch #: 948721 Analyst: MXR1 First Client Due Date: 03/02/2010 Internal Due Date: 02/19/2010
 Gamma Spike Isotope: Mixed Gamma Spike Code: NA Expiration Date: NA Vol: NA Nominal Concentration: NA
 Gamma LCS Isotope: Mixed Gamma LCS Code: 1032-A Expiration Date: 12/2/10 Vol: 1.0mL Nominal Concentration: CS137-5.561 Co60-6.404
 Initials: MS Prep Date: 2/5/10 Library: SOLID Witness: NA Am241-15.90

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/g) F	Detector	Sealing Date/Time (if Applicable)
245978001-1	RE15-10-7880	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U	Can	127.59	10	2/5/10
245978002-1	RE15-10-7891	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		141.47	16	
245978003-1	RE15-10-7892	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		124.22	17	
245978004-1	RE15-10-7967	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		164.73	19	
245978005-1	RE15-10-7976	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		147.47	20	
245978006-1	RE15-10-7968	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		134.50	4	
245978007-1	RE15-10-7965	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		138.27	7	
245978008-1	RE15-10-7975	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		134.06	15	2/4/10
245978009-1	RE15-10-7978	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		111.44	22	2/5/10
245978010-1	RE15-10-7970	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		145.20	18	2/4/10
245978011-1	RE15-10-7964	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		143.56	23	
245978012-1	RE15-10-7973	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		142.78	7	
245978013-1	RE15-10-7962	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		134.48	6	
245978014-1	RE15-10-7963	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		141.19	11	
245978015-1	RE15-10-7977	SAMPLE	LANL010	SOIL	27-JAN-10 12:00:00	U		109.43	12	
1202032521-1	MB	MB	QC ACCOUNT	SOIL	2/5/10	U		145.20	19	2/5/10
1202032522-1	DUP RE15-10-7975(245978008)	DUP	QC ACCOUNT	SOIL	27-JAN-10 12:00:00	U		138.84	10	2/4/10
1202032523-1	LCS	LCS	QC ACCOUNT	SOIL	2/5/10	U		155.44	4	2/5/10

Data Reviewed By: Hardy 2/18/10
J. Eulaw 2/19/10 Page 1 of 1

GEL Laboratories LLC, Radiochemistry Division

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
948721	245978001	SAMPLE	14-FEB-10		Americium-241	0.07526	0.3971	0.200
					Cerium-139	0.01053	0.05093	0.050
					Sodium-22	-0.02188	0.08013	0.080
948721	245978002	SAMPLE	14-FEB-10		Americium-241	0.2068	0.4309	0.200
					Cerium-139	0.00122	0.05743	0.050
948721	245978003	SAMPLE	14-FEB-10		Cerium-139	-0.03165	0.05432	0.050
					Cesium-134	0.1086	0.1282	0.100
					Sodium-22	0.01415	0.1053	0.080
948721	245978004	SAMPLE	14-FEB-10		Cerium-139	0.0581	0.06889	0.050
948721	245978005	SAMPLE	14-FEB-10					
948721	245978006	SAMPLE	14-FEB-10		Americium-241	0.05184	0.4598	0.200
					Cerium-139	0.00039	0.05154	0.050
948721	245978007	SAMPLE	14-FEB-10		Americium-241	-0.07301	0.2595	0.200
					Cerium-139	-0.01684	0.05354	0.050
948721	245978008	SAMPLE	14-FEB-10		Americium-241	0.4229	0.5858	0.200
					Cerium-139	-0.00695	0.06803	0.050
					Europium-152	0.07826	0.2127	0.200
					Sodium-22	-0.02491	0.08094	0.080
948721	245978009	SAMPLE	14-FEB-10		Americium-241	0.08588	0.2451	0.200
					Cerium-139	0.02088	0.05574	0.050
948721	245978010	SAMPLE	14-FEB-10		Americium-241	0.01032	0.2451	0.200
948721	245978011	SAMPLE	14-FEB-10		Americium-241	0.1317	0.3407	0.200
					Cerium-139	-0.014	0.0521	0.050
					Thorium-234	2.628	2.74	2.00
948721	245978012	SAMPLE	14-FEB-10		Americium-241	-0.05905	0.2992	0.200
					Cerium-139	-0.00108	0.05545	0.050
948721	245978013	SAMPLE	14-FEB-10		Americium-241	-0.1157	0.3432	0.200
					Cerium-139	-0.02236	0.05793	0.050
					Sodium-22	0.0111	0.09154	0.080
948721	245978014	SAMPLE	14-FEB-10					
948721	245978015	SAMPLE	14-FEB-10		Americium-241	0.0875	0.2786	0.200
					Cerium-139	-0.00926	0.05529	0.050
					Sodium-22	-0.01068	0.08208	0.080
948721	1202032521	MB	14-FEB-10					
948721	1202032522	DUP	14-FEB-10		Americium-241	-0.00979	0.4422	0.200
948721	1202032523	LCS	14-FEB-10		Cerium-139	0.01961	0.07713	0.050
					Cesium-134	0.09361	0.1671	0.100
					Europium-152	-0.07255	0.2766	0.200
					Mercury-203	0.00538	0.1075	0.100
					Ruthenium-106	0.08721	0.9874	0.800
					Sodium-22	0.00745	0.09166	0.080
					Thorium-234	-0.3358	4.528	2.00
					Tin-113	-0.00334	0.1372	0.100

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
948721	1202032523	LCS	14-FEB-10		Uranium-235	0.1708	0.527	0.500

GEL QUALS

Batch ID: 948721

Report run on: February 18, 2010 10:58 AM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245978001-1 14-FEB-2010 11:17	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.406			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.618			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1128		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.363			
245978002-1 14-FEB-2010 11:17	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.936			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.253			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1183		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.39			
245978003-1 14-FEB-2010 11:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.368			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.666			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.303			
	Americium-241	UI	UI	UI	Data rejected due to low abundance.		.7652		.2	.2
245978004-1 14-FEB-2010 11:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.019			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.021			
	Thorium-227	UI	UI	UI	Data rejected due to low abundance.		.8877			
	Americium-241	UI	UI	UI	Data rejected due to low abundance.		.7652		.2	.2
245978005-1 14-FEB-2010 11:19	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.6			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.474			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1023		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.048			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08484			

GEL QUALS

Batch ID: 948721

Report run on: February 18, 2010 10:58 AM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245978006-1 14-FEB-2010 11:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.382			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.008			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.167		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.088			
245978007-1 14-FEB-2010 11:56	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.022			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.95			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.957			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07464			
245978008-1 14-FEB-2010 12:01	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.506			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.023			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1279			
245978009-1 14-FEB-2010 12:01	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.05			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.34			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.108		.1	.1
	Mercury-203	UI	UI	UI	Data rejected due to interference.		.09427		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		6.062			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1425			
245978010-1 14-FEB-2010 12:17	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.53			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.946			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.627			

GEL QUALS

Batch ID: 948721

Report run on: February 18, 2010 10:58 AM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245978010-1 14-FEB-2010 12:17	Strontium-85	UI	UI	Data rejected due to low abundance.		.09887			
245978011-1 14-FEB-2010 12:18	Bismuth-211	UI	UI	Data rejected due to interference.		3.718			
	Cadmium-109	UI	UI	Data rejected due to interference.		1.913			
	Radium-224	UI	UI	Data rejected due to interference.		4.871			
245978012-1 14-FEB-2010 13:11	Bismuth-211	UI	UI	Data rejected due to interference.		3.974			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.242			
	Radium-224	UI	UI	Data rejected due to interference.		4.061			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.08368			
245978013-1 14-FEB-2010 13:11	Bismuth-211	UI	UI	Data rejected due to interference.		3.749			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.305			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1839		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		3.788			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07947			
245978014-1 14-FEB-2010 13:12	Bismuth-211	UI	UI	Data rejected due to interference.		4.131			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.639			
	Radium-224	UI	UI	Data rejected due to interference.		3.034			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.07409			
245978015-1 14-FEB-2010 13:12	Bismuth-211	UI	UI	Data rejected due to interference.		4.103			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.396			

GEL QUALS

Batch ID: 948721

Report run on: February 18, 2010 10:58 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245978015-1 14-FEB-2010 13:12	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.183		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		1.493			
1202032521-1 MB 14-FEB-2010 13:13	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.04638			
1202032522-1 DUP 14-FEB-2010 13:18	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.835			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.301			
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.356			

Gamma Review Report based on Result > MDA for Batch:948721

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978001	27-JAN-10 12:00	14-FEB-10 11:17	18	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.553	0.1706	pCi/g	0.2248	N	910.7	3	1.794 IDENTIFIED	9.091	☐
Americium-243 int nr	0.3981	0.05502	pCi/g	0.1115	N	74.61	1	1.301 IDENTIFIED	12.69	☐
Annihilation Rad. HE	0.05992	0.03357	pCi/g	0.04936	N	510.5	1	1.327 IDENTIFIED	55.93	☐
Bismuth-211 int	3.406	0.2682	pCi/g	0.3271	Y	351.6	4	1.295 IDENTIFIED	6.978	☐ ui
Bismuth-212 HE	0.9784	0.2546	pCi/g	0.6825	N	0	11	0 FAIL_ABUND	0	☐
Bismuth-214 ✓	1.033	0.0871	pCi/g	0.1104	0.200	609	4	1.648 IDENTIFIED	7.523	☐
Cadmium-109 int	3.618	0.6228	pCi/g	1.646	Y	86.91	3	1.27 IDENTIFIED	16.26	☐ ui
Cerium-143	3579	550.5	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
Cesium-134 la	0.1128	0.04296	pCi/g	0.09286	0.100	0	11	0 FAIL_ABUND	0	☐ UI Data rejected due to low abundance.
Cesium-135 int nr	0.5965	0.1681	pCi/g	0.2512	N	269.5	1	1.74 IDENTIFIED	27.89	☐
Gross Gamma	10.27	1.627	pCi/g	3.477	N	0				☐
Iodine-123 HE	9.65E+07	1.10E+08	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
Iodine-135	9.81E+17	0	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
Lead-212 ✓	1.707	0.08603	pCi/g	0.09305	0.100	238.4	4	1.124 IDENTIFIED	3.318	☐
Lead-214 ✓	1.185	0.09828	pCi/g	0.114	0.100	351.6	4	1.295 IDENTIFIED	6.978	☐
Lutetium-177 HE	4.166	1.123	pCi/g	2.802	N	0	11	0 FAIL_ABUND	0	☐
Neptunium-237 int nr	1.04	0.2087	pCi/g	0.4777	N	86.91	3	1.27 IDENTIFIED	16.26	☐
Niobium-97	1.69E+06	8.15E+05	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
Polonium-212 nr	1.707	0.08603	pCi/g	0.09305	N	238.4	4	1.124 IDENTIFIED	3.318	☐
Polonium-214 nr	1.185	0.09828	pCi/g	0.114	N	351.6	4	1.295 IDENTIFIED	6.978	☐
Polonium-216 nr	1.707	0.08603	pCi/g	0.09305	N	238.4	4	1.124 IDENTIFIED	3.318	☐
Polonium-218 nr	1.185	0.09828	pCi/g	0.114	N	351.6	4	1.295 IDENTIFIED	6.978	☐
Potassium-40 ✓	39.46	1.985	pCi/g	0.5544	1.00	1460	1	2.167 IDENTIFIED	2.597	☐
Promethium-149 HE	61.23	107.9	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
Radium-224 int	4.363	0.7002	pCi/g	1.059	Y	241.3	1	1.787 IDENTIFIED	15.75	☐ ui
Radium-226 ✓	1.033	0.0871	pCi/g	0.1104	Y	609	4	1.648 IDENTIFIED	7.523	☐
Radium-228 ✓	1.553	0.1706	pCi/g	0.2248	0.500	910.7	3	1.794 IDENTIFIED	9.091	☐
Sodium-24 HE	9.26E+05	8.65E+06	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
Thallium-208 ✓	0.509	0.04776	pCi/g	0.06057	0.080	582.9	1	1.372 IDENTIFIED	8.761	☐
Thorium-228 nr	1.738	0.08758	pCi/g	0.09473	N	238.4	4	1.124 IDENTIFIED	3.318	☐
Thorium-230 nr	1.033	0.08709	pCi/g	0.1104	N	609	4	1.648 IDENTIFIED	7.523	☐
Thorium-232 nr	1.553	0.1706	pCi/g	0.2248	N	910.7	3	1.794 IDENTIFIED	9.091	☐
Thorium-234 ✓	3.98	1.316	pCi/g	3.011	2.00	63.3	2	1.059 IDENTIFIED	31.57	☐
Tin-126 int nr	0.3541	0.06096	pCi/g	0.1671	N	86.91	3	1.27 IDENTIFIED	16.26	☐
Titanium-44 la nr	0.1808	0.02519	pCi/g	0.08298	N	0	11	0 NOT_IDENTI	0	☐
Total Uranium	11.916	3.92E-06	ug/g	4.4828	N	0				☐
Uranium-234 nr	1.033	0.08709	pCi/g	0.1104	N	609	4	1.648 IDENTIFIED	7.523	☐
Uranium-238 HE	3.98	1.316	pCi/g	3.011	N	63.3	2	1.059 IDENTIFIED	31.57	☐
Zirconium-97	4.16E+07	1.75E+07	pCi/g	0	N	0	11	0 SHORT_HLIF	0	☐
*** = Number of isotopes identified with a keyline at this energy.										
Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue

245978002	27-JAN-10 12:00	14-FEB-10 11:17	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP	
Name		Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.451	0.1648	pCi/g	0.2042	N	911.3	3	1.437 IDENTIFIED	9.683	☐
Americium-243	int nr	0.3406	0.04703	pCi/g	0.1378	N	74.83	1	0.8063 IDENTIFIED	13.17	☐
Annihilation Rad.	HE	0.08401	0.03352	pCi/g	0.04809	N	510.7	1	1.279 IDENTIFIED	39.62	☐
Bismuth-211	int	3.936	0.3149	pCi/g	0.3003	Y	351.8	4	1.166 IDENTIFIED	5.852	☐ ui
Bismuth-212	nr	1.174	0.2566	pCi/g	0.4238	N	727.2	1	1.472 IDENTIFIED	21.22	☐
Bismuth-214	✓	1.272	0.104	pCi/g	0.1075	0.200	609.3	4	1.201 IDENTIFIED	6.241	☐
Cadmium-109	int	4.253	0.6503	pCi/g	1.859	Y	87.19	3	1.156 IDENTIFIED	14.53	☐ ui
Cerium-141	HE	0.191	0.04292	pCi/g	0.1429	N	0	13	0 NOT_IDENTI	0	☐
Cerium-143		1583	379.2	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Cesium-134	la	0.1183	0.0352	pCi/g	0.09125	0.100	0	13	0 FAIL_ABUND	0	☐ UI Data rejected due to low abundance.
Gadolinium-153	la nr	0.8438	0.08929	pCi/g	0.2293	N	0	13	0 FAIL_ABUND	0	☐
Gold-195	la nr	2.463	0.2607	pCi/g	0.6918	N	0	13	0 FAIL_ABUND	0	☐
Gross Gamma		19.08	2.012	pCi/g	6.874	N	0				☐
Iodine-135		2.10E+18	0	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Lead-212	✓	1.475	0.1015	pCi/g	0.09791	0.100	238.6	4	0.9662 IDENTIFIED	3.513	☐
Lead-214	✓	1.369	0.1152	pCi/g	0.1047	0.100	351.8	4	1.166 IDENTIFIED	5.852	☐
Lutetium-177	HE	3.776	1.01	pCi/g	2.431	N	209.2	1	1.012 IDENTIFIED	26.27	☐
Neptunium-237	int nr	1.222	0.2255	pCi/g	0.6	N	87.19	3	1.156 IDENTIFIED	14.53	☐
Niobium-95	int nr	0.4431	0.04299	pCi/g	0.07072	N	766.6	1	1.802 IDENTIFIED	8.53	☐
Polonium-212	nr	1.475	0.1015	pCi/g	0.09791	N	238.6	4	0.9662 IDENTIFIED	3.513	☐
Polonium-214	nr	1.369	0.1152	pCi/g	0.1047	N	351.8	4	1.166 IDENTIFIED	5.852	☐
Polonium-216	nr	1.475	0.1015	pCi/g	0.09791	N	238.6	4	0.9662 IDENTIFIED	3.513	☐
Polonium-218	nr	1.369	0.1152	pCi/g	0.1047	N	351.8	4	1.166 IDENTIFIED	5.852	☐
Potassium-40	✓	26.63	1.428	pCi/g	0.413	1.00	1461	1	1.942 IDENTIFIED	3.072	☐
Protactinium-234m	nr	106.4	7.96	pCi/g	6.37	N	1001	1	1.279 IDENTIFIED	5.375	☐
Radium-224	int	4.39	0.5893	pCi/g	1.114	Y	241.6	1	1.579 IDENTIFIED	12.24	☐ ui
Radium-226	✓	1.272	0.104	pCi/g	0.1075	Y	609.3	4	1.201 IDENTIFIED	6.241	☐
Radium-228	✓	1.451	0.1648	pCi/g	0.2042	0.500	911.3	3	1.437 IDENTIFIED	9.683	☐
Rhenium-183	HE	0.333	0.09317	pCi/g	0.2479	N	0	13	0 FAIL_ABUND	0	☐
Sodium-24	HE	7.22E+06	7.74E+06	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Thallium-200	HE	1135	1321	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Thallium-208	✓	0.5321	0.04588	pCi/g	0.0622	0.080	583.1	1	1.22 IDENTIFIED	7.056	☐
Thorium-228	nr	1.502	0.1034	pCi/g	0.09968	N	238.6	4	0.9662 IDENTIFIED	3.513	☐
Thorium-230	nr	1.272	0.104	pCi/g	0.1075	N	609.3	4	1.201 IDENTIFIED	6.241	☐
Thorium-232	nr	1.451	0.1648	pCi/g	0.2042	N	911.3	3	1.437 IDENTIFIED	9.683	☐
Thorium-234	✓	73.85	6.733	pCi/g	3.22	2.00	63.28	2	0.8862 IDENTIFIED	2.658	☐
Tin-126	int nr	0.4163	0.06365	pCi/g	0.1828	N	87.19	3	1.156 IDENTIFIED	14.53	☐
Titanium-44	la nr	0.3647	0.03361	pCi/g	0.09693	N	0	13	0 FAIL_ABUND	0	☐
Total Uranium		220.46	2.00E-05	ug/g	4.7932	N	0				☐
Tungsten-181	HE	1.224	0.2864	pCi/g	0.9231	N	0	13	0 NOT_IDENTI	0	☐
Uranium-231	HE	6.543	1.561	pCi/g	4.348	N	0	13	0 FAIL_ABUND	0	☐
Uranium-234	nr	1.272	0.104	pCi/g	0.1075	N	609.3	4	1.201 IDENTIFIED	6.241	☐
Uranium-235	✓	1.611	0.2424	pCi/g	0.4137	0.500	143.7	1	1.021 IDENTIFIED	12.25	☐
Uranium-238	nr	73.85	6.733	pCi/g	3.22	N	63.28	2	0.8862 IDENTIFIED	2.658	☐
Zirconium-97	HE	1.32E+07	1.60E+07	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐

*** = Number of isotopes identified with a keyline at this energy.

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978003	27-JAN-10 12:00	14-FEB-10 11:18	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy	*** FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	2.092	0.2125	pCi/g	0.267	N	910.8	3 1.575	IDENTIFIED 8.427	□	
Americium-243 int nr	0.4168	0.03527	pCi/g	0.06691	N	74.83	1 0.9322	IDENTIFIED 6.911	□	
Annihilation Rad. HE	0.1353	0.05017	pCi/g	0.05626	N	510.4	1 1.712	IDENTIFIED 36.82	□	
Bismuth-210 HE	1.667	0.4807	pCi/g	0.9236	N	46.2	3 1.008	IDENTIFIED 28.32	□	
Bismuth-211 int	4.368	0.3438	pCi/g	0.4193	Y	351.8	4 1.268	IDENTIFIED 6.341	□ ui	
Bismuth-212 HE	1.172	0.3983	pCi/g	0.891	N	0	8 0	FAIL_ABUND 0	□	
Bismuth-214 ✓	1.407	0.1356	pCi/g	0.1414	0.200	609.1	4 1.472	IDENTIFIED 8.188	□	
Cadmium-109 int	3.666	0.5108	pCi/g	1.055	Y	87.2	3 1.197	IDENTIFIED 13.05	□ ui	
Cerium-143	2442	465.5	pCi/g	0	N	0	8 0	SHORT_HLIF 0	□	
Gross Gamma	10.95	1.466	pCi/g	4.398	N	0			□	
Iodine-123 HE	6.54E+07	1.14E+08	pCi/g	0	N	0	8 0	SHORT_HLIF 0	□	
Iodine-135	2.88E+18	0	pCi/g	0	N	0	8 0	SHORT_HLIF 0	□	
Lead-210 HE	1.667	0.4807	pCi/g	0.9236	N	46.2	3 1.008	IDENTIFIED 28.32	□	
Lead-212 ✓	1.801	0.1113	pCi/g	0.09828	0.100	238.6	4 1.033	IDENTIFIED 3.581	□	
Lead-214 ✓	1.52	0.126	pCi/g	0.1462	0.100	351.8	4 1.268	IDENTIFIED 6.341	□	
Neptunium-237 int nr	1.054	0.1827	pCi/g	0.3018	N	87.2	3 1.197	IDENTIFIED 13.05	□	
Polonium-210 HE	1.667	0.4796	pCi/g	0.9236	N	46.2	3 1.008	IDENTIFIED 28.32	□	
Polonium-212 nr	1.801	0.1113	pCi/g	0.09828	N	238.6	4 1.033	IDENTIFIED 3.581	□	
Polonium-214 nr	1.52	0.126	pCi/g	0.1462	N	351.8	4 1.268	IDENTIFIED 6.341	□	
Polonium-216 nr	1.801	0.1113	pCi/g	0.09828	N	238.6	4 1.033	IDENTIFIED 3.581	□	
Polonium-218 nr	1.52	0.126	pCi/g	0.1462	N	351.8	4 1.268	IDENTIFIED 6.341	□	
Potassium-40 ✓	35.47	1.982	pCi/g	0.6402	1.00	1460	1 2.093	IDENTIFIED 3.396	□	
Promethium-149 HE	28.34	121.1	pCi/g	0	N	0	8 0	SHORT_HLIF 0	□	
Radium-224 int	5.303	0.8567	pCi/g	1.119	Y	241.4	1 1.803	IDENTIFIED 15.51	□ ui	
Radium-226 ✓	1.407	0.1356	pCi/g	0.1414	Y	609.1	4 1.472	IDENTIFIED 8.188	□	
Radium-228 ✓	2.092	0.2125	pCi/g	0.267	0.500	910.8	3 1.575	IDENTIFIED 8.427	□	
Sodium-24 HE	1.86E+07	1.25E+07	pCi/g	0	N	0	8 0	SHORT_HLIF 0	□	
Thallium-208 ✓	0.5665	0.05897	pCi/g	0.07281	0.080	583	1 1.147	IDENTIFIED 9.272	□	
Thorium-228 nr	1.833	0.1133	pCi/g	0.1001	N	238.6	4 1.033	IDENTIFIED 3.581	□	
Thorium-230 nr	1.407	0.1356	pCi/g	0.1414	N	609.1	4 1.472	IDENTIFIED 8.188	□	
Thorium-232 nr	2.092	0.2125	pCi/g	0.267	N	910.8	3 1.575	IDENTIFIED 8.427	□	
Thorium-234 ✓	3.09	0.5734	pCi/g	1.177	2.00	63.23	2 0.9624	IDENTIFIED 16.04	□	
Tin-126 int nr	0.3588	0.04999	pCi/g	0.1031	N	87.2	3 1.197	IDENTIFIED 13.05	□	
Titanium-44 la nr	0.4542	0.03067	pCi/g	0.06872	N	0	8 0	FAIL_ABUND 0	□	
Total Uranium	9.2113	1.71E-06	ug/g	1.7544	N	0			□	
Uranium-234 nr	1.407	0.1356	pCi/g	0.1414	N	609.1	4 1.472	IDENTIFIED 8.188	□	
Uranium-238 nr	3.09	0.5734	pCi/g	1.177	N	63.23	2 0.9624	IDENTIFIED 16.04	□	
Zirconium-97 HE	2.50E+07	2.05E+07	pCi/g	0	N	0	8 0	SHORT_HLIF 0	□	
*** = Number of isotopes identified with a keyline at this energy.										
Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978004	27-JAN-10 12:00	14-FEB-10 11:18	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy	*** FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-227 HE	0.8877	0.268	pCi/g	0.8399	N	0	20 0	NOT_IDENTI 0	□	

Actinium-228	nr	1.102	0.1356	pCi/g	0.1914	N	911.5	3	1.896	IDENTIFIED	10.93	<input type="checkbox"/>	
Americium-241	la	0.7652	0.1648	pCi/g	0.5448	0.200	0	20	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Americium-243	HE	0.2865	0.06378	pCi/g	0.1834	N	74.99	1	1.375	IDENTIFIED	21.9	<input type="checkbox"/>	
Annihilation Rad.	HE	0.06571	0.03583	pCi/g	0.04873	N	510.6	1	2.261	IDENTIFIED	54.45	<input type="checkbox"/>	
Barium-137m		0.1828	0.03442	pCi/g	0.05837	N	661.8	2	1.27	IDENTIFIED	18.6	<input type="checkbox"/>	
Bismuth-211	int	2.019	0.2121	pCi/g	0.3414	Y	351.7	4	1.369	IDENTIFIED	10.01	<input type="checkbox"/> ui	
Bismuth-212	nr	1.145	0.2303	pCi/g	0.4819	N	727.6	1	2.307	IDENTIFIED	19.68	<input type="checkbox"/>	
Bismuth-214	✓	0.5514	0.07654	pCi/g	0.1123	0.200	609.2	4	1.193	IDENTIFIED	13.31	<input type="checkbox"/>	
Cerium-141	la nr	0.4526	0.0566	pCi/g	0.1896	N	0	20	0	NOT_IDENTI	0	<input type="checkbox"/>	
Cerium-143		2783	476.6	pCi/g	0	N	0	20	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-137	✓	0.1933	0.03639	pCi/g	0.0617	0.100	661.8	2	1.27	IDENTIFIED	18.6	<input type="checkbox"/>	
Gadolinium-153	la nr	1.203	0.102	pCi/g	0.304	N	0	20	0	FAIL_ABUND	0	<input type="checkbox"/>	
Gold-195	la nr	3.513	0.2979	pCi/g	0.8536	N	0	20	0	FAIL_ABUND	0	<input type="checkbox"/>	
Gross Gamma		19.72	1.728	pCi/g	7.634	N		0				<input type="checkbox"/>	
Iodine-123	HE	1.33E+08	1.52E+08	pCi/g	0	N	0	20	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.097	0.06148	pCi/g	0.09991	0.100	238.5	4	1.414	IDENTIFIED	4.289	<input type="checkbox"/>	
Lead-214	✓	0.7023	0.07602	pCi/g	0.119	0.100	351.7	4	1.369	IDENTIFIED	10.01	<input type="checkbox"/>	
Neptunium-237	HE	0.9529	0.3912	pCi/g	0.891	N	0	20	0	NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-95	int nr	0.567	0.055	pCi/g	0.0626	N	766.5	1	1.571	IDENTIFIED	9.032	<input type="checkbox"/>	
Niobium-95m	HE	0.345	0.07901	pCi/g	0.2571	N	0	20	0	NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-97	HE	6.05E+05	9.41E+05	pCi/g	0	N	0	20	0	SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-212	nr	1.097	0.06148	pCi/g	0.09991	N	238.5	4	1.414	IDENTIFIED	4.289	<input type="checkbox"/>	
Polonium-214	nr	0.7023	0.07602	pCi/g	0.119	N	351.7	4	1.369	IDENTIFIED	10.01	<input type="checkbox"/>	
Polonium-216	nr	1.097	0.06148	pCi/g	0.09991	N	238.5	4	1.414	IDENTIFIED	4.289	<input type="checkbox"/>	
Polonium-218	nr	0.7023	0.07602	pCi/g	0.119	N	351.7	4	1.369	IDENTIFIED	10.01	<input type="checkbox"/>	
Potassium-40	✓	22	1.049	pCi/g	0.4186	1.00	1461	1	1.917	IDENTIFIED	2.979	<input type="checkbox"/>	
Protactinium-234m		143	9.039	pCi/g	6.204	N	1001	1	1.817	IDENTIFIED	4.276	<input type="checkbox"/>	
Radium-224	int	3.021	0.5924	pCi/g	1.136	Y	241.2	1	1.837	IDENTIFIED	19.4	<input type="checkbox"/> ui	
Radium-226	✓	0.5514	0.07654	pCi/g	0.1123	Y	609.2	4	1.193	IDENTIFIED	13.31	<input type="checkbox"/>	
Radium-228	✓	1.102	0.1356	pCi/g	0.1914	0.500	911.5	3	1.896	IDENTIFIED	10.93	<input type="checkbox"/>	
Rhenium-183	la nr	0.5088	0.1037	pCi/g	0.2855	N	0	20	0	FAIL_ABUND	0	<input type="checkbox"/>	
Sodium-24	HE	7.90E+06	6.31E+06	pCi/g	0	N	0	20	0	SHORT_HLIF	0	<input type="checkbox"/>	
Technetium-99m		6.45E+19	0	pCi/g	0	N	0	20	0	SHORT_HLIF	0	<input type="checkbox"/>	
Tellurium-125m	HE	39.08	9.293	pCi/g	30.08	N	0	20	0	NOT_IDENTI	0	<input type="checkbox"/>	
Thallium-208	✓	0.3634	0.03702	pCi/g	0.06119	0.080	583.3	1	1.83	IDENTIFIED	9.604	<input type="checkbox"/>	
Thorium-227	la	0.8877	0.2713	pCi/g	0.8399	Y	0	20	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Thorium-228	nr	1.117	0.06259	pCi/g	0.1017	N	238.5	4	1.414	IDENTIFIED	4.289	<input type="checkbox"/>	
Thorium-230	nr	0.5514	0.07653	pCi/g	0.1123	N	609.2	4	1.193	IDENTIFIED	13.31	<input type="checkbox"/>	
Thorium-232	nr	1.102	0.1356	pCi/g	0.1914	N	911.5	3	1.896	IDENTIFIED	10.93	<input type="checkbox"/>	
Thorium-234	✓	99.01	8.946	pCi/g	4.097	2.00	63.27	2	1.248	IDENTIFIED	2.258	<input type="checkbox"/>	
Tin-126	HE	0.3811	0.1282	pCi/g	0.3028	N	0	20	0	FAIL_ABUND	0	<input type="checkbox"/>	
Titanium-44	la nr	0.2283	0.04221	pCi/g	0.1241	N	0	20	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		295.33	2.66E-05	ug/g	6.0993	N		0				<input type="checkbox"/>	
Tungsten-181	la nr	15.46	0.7353	pCi/g	1.795	N	0	20	0	NOT_IDENTI	0	<input type="checkbox"/>	
Uranium-231	la nr	22.81	2.514	pCi/g	6.31	N	0	20	0	FAIL_ABUND	0	<input type="checkbox"/>	
Uranium-234	nr	0.5514	0.07653	pCi/g	0.1123	N	609.2	4	1.193	IDENTIFIED	13.31	<input type="checkbox"/>	
Uranium-235	✓	1.659	0.2378	pCi/g	0.4948	0.500	143.9	1	1.386	IDENTIFIED	11.83	<input type="checkbox"/>	
Uranium-238	nr	99.01	8.946	pCi/g	4.097	N	63.27	2	1.248	IDENTIFIED	2.258	<input type="checkbox"/>	

Zirconium-97 5.73E+07 1.70E+07 pCi/g 0 N 0 20 0 SHORT_HLIF 0 □

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978005	27-JAN-10 12:00	14-FEB-10 11:19	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.596	0.1592	pCi/g	0.1828	N	911.6	3	1.497 IDENTIFIED	7.877	□
Americium-243 int	nr 0.3729	0.0327	pCi/g	0.06976	N	74.91	1	1.131 IDENTIFIED	7.785	□
Annihilation Rad.	0.1338	0.03043	pCi/g	0.0396	N	510.8	1	1.771 IDENTIFIED	22.25	□
Barium-137m HE	0.09361	0.02282	pCi/g	0.05547	N	662.1	2	1.655 IDENTIFIED	23.85	□
Bismuth-211 int	3.6	0.2637	pCi/g	0.2742	Y	351.9	4	1.138 IDENTIFIED	5.547	□ ui
Bismuth-212 HE	0.8623	0.2115	pCi/g	0.6084	N	0	12	0 FAIL_ABUND	0	□
Bismuth-214 ✓	1.022	0.0895	pCi/g	0.09468	0.200	609.4	4	1.45 IDENTIFIED	6.761	□
Cadmium-109 int	3.474	0.4615	pCi/g	0.9621	Y	87.28	3	1.393 IDENTIFIED	12.43	□ ui
Cadmium-115	23.9	11.11	pCi/g	0	N	0	12	0 SHORT_HLIF	0	□
Cerium-143	2493	419.8	pCi/g	0	N	0	12	0 SHORT_HLIF	0	□
Cesium-134 la	0.1023	0.03075	pCi/g	0.07986	0.100	0	12	0 FAIL_ABUND	0	□ UI Data rejected due to low abundance.
Cesium-137 ✓	0.09896	0.02412	pCi/g	0.05864	0.100	662.1	2	1.655 IDENTIFIED	23.85	□
Gross Gamma	9.982	1.367	pCi/g	3.738	N	0				□
Iodine-133 HE	39150	25860	pCi/g	0	N	0	12	0 SHORT_HLIF	0	□
Krypton-85 HE	16.06	3.343	pCi/g	11.67	N	0	12	0 NOT_IDENTI	0	□
Lead-212 ✓	1.625	0.09954	pCi/g	0.08207	0.100	238.6	4	1.123 IDENTIFIED	3.041	□
Lead-214 ✓	1.252	0.09737	pCi/g	0.09558	0.100	351.9	4	1.138 IDENTIFIED	5.547	□
Lutetium-177 HE	3.865	0.8678	pCi/g	2.393	N	0	12	0 FAIL_ABUND	0	□
Neptunium-237 int nr	0.9983	0.1679	pCi/g	0.2793	N	87.28	3	1.393 IDENTIFIED	12.43	□
Niobium-97 HE	9.41E+05	7.55E+05	pCi/g	0	N	0	12	0 SHORT_HLIF	0	□
Polonium-212 nr	1.625	0.09954	pCi/g	0.08207	N	238.6	4	1.123 IDENTIFIED	3.041	□
Polonium-214 nr	1.252	0.09737	pCi/g	0.09558	N	351.9	4	1.138 IDENTIFIED	5.547	□
Polonium-216 nr	1.625	0.09954	pCi/g	0.08207	N	238.6	4	1.123 IDENTIFIED	3.041	□
Polonium-218 nr	1.252	0.09737	pCi/g	0.09558	N	351.9	4	1.138 IDENTIFIED	5.547	□
Potassium-40 ✓	32.6	1.649	pCi/g	0.4312	1.00	1461	1	1.851 IDENTIFIED	2.567	□
Radium-224 int	5.048	0.6484	pCi/g	0.9336	Y	241.6	1	1.785 IDENTIFIED	11.9	□ ui
Radium-226 ✓	1.022	0.0895	pCi/g	0.09468	Y	609.4	4	1.45 IDENTIFIED	6.761	□
Radium-228 ✓	1.596	0.1592	pCi/g	0.1828	0.500	911.6	3	1.497 IDENTIFIED	7.877	□
Strontium-85 la	0.08484	0.01766	pCi/g	0.06164	Y	0	12	0 NOT_IDENTI	0	□ UI Data rejected due to low abundance.
Thallium-200 HE	1228	1162	pCi/g	0	N	0	12	0 SHORT_HLIF	0	□
Thallium-208 ✓	0.4776	0.04011	pCi/g	0.04811	0.080	583.3	1	1.345 IDENTIFIED	6.64	□
Thorium-228 nr	1.654	0.1013	pCi/g	0.08355	N	238.6	4	1.123 IDENTIFIED	3.041	□
Thorium-230 nr	1.022	0.0895	pCi/g	0.09468	N	609.4	4	1.45 IDENTIFIED	6.761	□
Thorium-232 nr	1.596	0.1592	pCi/g	0.1828	N	911.6	3	1.497 IDENTIFIED	7.877	□
Thorium-234 ✓	2.909	0.7515	pCi/g	1.559	2.00	63.52	2	0.9776 IDENTIFIED	24.33	□
Tin-126 int nr	0.34	0.04517	pCi/g	0.09444	N	87.28	3	1.393 IDENTIFIED	12.43	□
Titanium-44 la nr	0.3566	0.02406	pCi/g	0.06903	N	0	12	0 FAIL_ABUND	0	□
Total Uranium	8.7246	2.24E-06	ug/g	2.3217	N	0				□
Uranium-234 nr	1.022	0.0895	pCi/g	0.09468	N	609.4	4	1.45 IDENTIFIED	6.761	□
Uranium-238 HE	2.909	0.7515	pCi/g	1.559	N	63.52	2	0.9776 IDENTIFIED	24.33	□
Zirconium-97	4.52E+07	1.38E+07	pCi/g	0	N	0	12	0 SHORT_HLIF	0	□

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978006	27-JAN-10 12:00	14-FEB-10 11:56	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.757	0.1844	pCi/g	0.2165	N	911.4	3	2.016 IDENTIFIED	8.968	☐
Americium-243 int nr	0.2709	0.04365	pCi/g	0.1241	N	74.78	1	0.9071 IDENTIFIED	15.06	☐
Annihilation Rad.	0.1613	0.03512	pCi/g	0.04729	N	510.8	1	1.594 IDENTIFIED	21.59	☐
Bismuth-211 int	3.382	0.2576	pCi/g	0.3313	Y	351.9	4	1.267 IDENTIFIED	6.827	☐ ui
Bismuth-212 la nr	1.594	0.2504	pCi/g	0.7277	N	0	13	0 FAIL_ABUND	0	☐
Bismuth-214	1.106	0.09175	pCi/g	0.1084	0.200	609.3	4	1.183 IDENTIFIED	7.435	☐
Cadmium-109 int	3.008	0.6246	pCi/g	1.962	Y	87.13	3	1.31 IDENTIFIED	19.89	☐ ui
Cadmium-115 HE	17.3	13.25	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Cerium-143	1989	403.9	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Cesium-134 la	0.167	0.04867	pCi/g	0.1013	0.100	0	13	0 FAIL_ABUND	0	☐ UI Data rejected due to low abundance.
Gold-195 HE	0.6684	0.1349	pCi/g	0.4959	N	0	13	0 FAIL_ABUND	0	☐
Gross Gamma	12.08	1.669	pCi/g	3.969	N	0				☐
Iodine-133 HE	7481	30440	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Lead-212 ✓	1.681	0.08737	pCi/g	0.08354	0.100	238.6	4	1.22 IDENTIFIED	3.3	☐
Lead-214 ✓	1.177	0.09471	pCi/g	0.1155	0.100	351.9	4	1.267 IDENTIFIED	6.827	☐
Lutetium-177 HE	3.834	1.092	pCi/g	2.471	N	208.9	1	1.059 IDENTIFIED	28.29	☐
Neptunium-237 HE	0.8645	0.2005	pCi/g	0.5307	N	87.13	3	1.31 IDENTIFIED	19.89	☐
Niobium-95 HE	0.1205	0.02694	pCi/g	0.0949	N	0	13	0 NOT_IDENTI	0	☐
Niobium-97 HE	6.25E+05	9.31E+05	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Polonium-212 nr	1.681	0.08737	pCi/g	0.08354	N	238.6	4	1.22 IDENTIFIED	3.3	☐
Polonium-214 nr	1.177	0.09471	pCi/g	0.1155	N	351.9	4	1.267 IDENTIFIED	6.827	☐
Polonium-216 nr	1.681	0.08737	pCi/g	0.08354	N	238.6	4	1.22 IDENTIFIED	3.3	☐
Polonium-218 nr	1.177	0.09471	pCi/g	0.1155	N	351.9	4	1.267 IDENTIFIED	6.827	☐
Potassium-40 ✓	36.45	1.625	pCi/g	0.5598	1.00	1461	1	2.119 IDENTIFIED	2.692	☐
Protactinium-234m	25.67	4.325	pCi/g	7.41	N	1001	1	1.28 IDENTIFIED	16.22	☐
Radium-224 int	5.088	0.7593	pCi/g	0.9508	Y	241.8	1	2.053 IDENTIFIED	14.55	☐ ui
Radium-226 ✓	1.106	0.09175	pCi/g	0.1084	Y	609.3	4	1.183 IDENTIFIED	7.435	☐
Radium-228 ✓	1.757	0.1844	pCi/g	0.2165	0.500	911.4	3	2.016 IDENTIFIED	8.968	☐
Sodium-24 HE	7.23E+06	9.41E+06	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Technetium-99m	1.14E+20		pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Thallium-200 HE	1189	1461	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐
Thallium-208 ✓	0.514	0.04169	pCi/g	0.06022	0.080	583.2	1	1.475 IDENTIFIED	7.475	☐
Thorium-228 nr	1.711	0.08895	pCi/g	0.08505	N	238.6	4	1.22 IDENTIFIED	3.3	☐
Thorium-230 nr	1.106	0.09175	pCi/g	0.1084	N	609.3	4	1.183 IDENTIFIED	7.435	☐
Thorium-232 nr	1.757	0.1844	pCi/g	0.2165	N	911.4	3	2.016 IDENTIFIED	8.968	☐
Thorium-234 ✓	19.54	2.536	pCi/g	3.354	2.00	63.24	2	1.034 IDENTIFIED	8.404	☐
Tin-126 HE	0.2944	0.06113	pCi/g	0.184	N	87.13	3	1.31 IDENTIFIED	19.89	☐
Titanium-44 la nr	0.3371	0.03852	pCi/g	0.08962	N	0	13	0 FAIL_ABUND	0	☐
Total Uranium	58.289	7.54E-06	ug/g	4.9922	N	0				☐
Uranium-234 nr	1.106	0.09175	pCi/g	0.1084	N	609.3	4	1.183 IDENTIFIED	7.435	☐
Uranium-238 nr	19.54	2.536	pCi/g	3.354	N	63.24	2	1.034 IDENTIFIED	8.404	☐
Zirconium-97	4.61E+07	1.75E+07	pCi/g	0	N	0	13	0 SHORT_HLIF	0	☐

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978007	27-JAN-10 12:00	14-FEB-10 11:56	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RCSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.662	0.1817	pCi/g	0.2205	N	911.4	3	1.683 IDENTIFIED 9.25	☐	
Americium-243 int	nr 0.32	0.0407	pCi/g	0.09566	N	74.85	1	1.217 IDENTIFIED 12.06	☐	
Annihilation Rad. HE	0.09038	0.03334	pCi/g	0.04721	N	511	1	2.03 IDENTIFIED 36.62	☐	
Barium-137m HE	0.1211	0.0351	pCi/g	0.06518	N	662	2	1.509 IDENTIFIED 28.65	☐	
Bismuth-211 int	4.022	0.2778	pCi/g	0.3241	Y	352.1	4	1.395 IDENTIFIED 5.254	☐ ui	
Bismuth-212 la nr	1.541	0.2428	pCi/g	0.6933	N	0	17	0 FAIL_ABUND 0	☐	
Bismuth-214 ✓	1.163	0.1088	pCi/g	0.1165	0.200	609.5	4	1.35 IDENTIFIED 7.803	☐	
Cadmium-109 int	2.95	0.556	pCi/g	1.628	Y	87.34	3	1.334 IDENTIFIED 18.26	☐ ui	
Cadmium-115 HE	6.79	13.56	pCi/g	0	N	0	17	0 SHORT_HLIF 0	☐	
Cerium-141 HE	0.1323	0.04138	pCi/g	0.1317	N	0	17	0 NOT_IDENTI 0	☐	
Cerium-143	2073	413.3	pCi/g	0	N	0	17	0 SHORT_HLIF 0	☐	
Cesium-137 ✓	0.128	0.0371	pCi/g	0.0689	0.100	662	2	1.509 IDENTIFIED 28.65	☐	
Gadolinium-153 la nr	0.3569	0.05964	pCi/g	0.1663	N	0	17	0 FAIL_ABUND 0	☐	
Gold-195 la nr	1.042	0.1741	pCi/g	0.4995	N	0	17	0 FAIL_ABUND 0	☐	
Gross Gamma	12.33	1.588	pCi/g	4.903	N	0			☐	
Iodine-133 HE	35100	30630	pCi/g	0	N	0	17	0 SHORT_HLIF 0	☐	
Iodine-135	2.33E+18	0	pCi/g	0	N	0	17	0 SHORT_HLIF 0	☐	
Krypton-85 HE	14.12	3.9	pCi/g	13.36	N	0	17	0 NOT_IDENTI 0	☐	
Lead-212 ✓	1.648	0.09702	pCi/g	0.09413	0.100	238.7	4	1.122 IDENTIFIED 3.43	☐	
Lead-214 ✓	1.399	0.1033	pCi/g	0.113	0.100	352.1	4	1.395 IDENTIFIED 5.254	☐	
Lutetium-177 HE	3.592	0.948	pCi/g	2.739	N	209.5	1	1.105 IDENTIFIED 26.07	☐	
Neptunium-237 int nr	0.8477	0.1822	pCi/g	0.4546	N	87.34	3	1.334 IDENTIFIED 18.26	☐	
Niobium-95 HE	0.1359	0.03159	pCi/g	0.1058	N	0	17	0 NOT_IDENTI 0	☐	
Niobium-97 HE	1.26E+05	9.32E+05	pCi/g	0	N	0	17	0 SHORT_HLIF 0	☐	
Polonium-212 nr	1.648	0.09702	pCi/g	0.09413	N	238.7	4	1.122 IDENTIFIED 3.43	☐	
Polonium-214 nr	1.399	0.1033	pCi/g	0.113	N	352.1	4	1.395 IDENTIFIED 5.254	☐	
Polonium-216 nr	1.648	0.09702	pCi/g	0.09413	N	238.7	4	1.122 IDENTIFIED 3.43	☐	
Polonium-218 nr	1.399	0.1033	pCi/g	0.113	N	352.1	4	1.395 IDENTIFIED 5.254	☐	
Potassium-40 ✓	25.95	1.38	pCi/g	0.4756	1.00	1461	1	2.146 IDENTIFIED 3.138	☐	
Protactinium-234m nr	36.45	5.071	pCi/g	14.58	N	0	17	0 FAIL_ABUND 0	☐	
Radium-224 int	3.957	0.6334	pCi/g	1.071	Y	241.7	1	1.663 IDENTIFIED 15.44	☐ ui	
Radium-226 ✓	1.163	0.1088	pCi/g	0.1165	Y	609.5	4	1.35 IDENTIFIED 7.803	☐	
Radium-228 ✓	1.662	0.1817	pCi/g	0.2205	0.500	911.4	3	1.683 IDENTIFIED 9.25	☐	
Strontium-85 la	0.07464	0.02061	pCi/g	0.07062	Y	0	17	0 NOT_IDENTI 0	☐ ui	Data rejected due to low abundance.
Thallium-200 HE	685.1	1470	pCi/g	0	N	0	17	0 SHORT_HLIF 0	☐	
Thallium-208 ✓	0.5427	0.04594	pCi/g	0.0588	0.080	583.5	1	1.195 IDENTIFIED 6.985	☐	
Thorium-228 nr	1.678	0.09878	pCi/g	0.09584	N	238.7	4	1.122 IDENTIFIED 3.43	☐	
Thorium-230 nr	1.163	0.1088	pCi/g	0.1165	N	609.5	4	1.35 IDENTIFIED 7.803	☐	
Thorium-232 nr	1.662	0.1817	pCi/g	0.2205	N	911.4	3	1.683 IDENTIFIED 9.25	☐	
Thorium-234 ✓	27.34	2.674	pCi/g	2.126	2.00	63.33	2	1.017 IDENTIFIED 4.462	☐	
Tin-126 int nr	0.2887	0.05442	pCi/g	0.1542	N	87.34	3	1.334 IDENTIFIED 18.26	☐	
Titanium-44 la nr	0.3953	0.03123	pCi/g	0.08282	N	0	17	0 FAIL_ABUND 0	☐	
Total Uranium	81.615	7.95E-06	ug/g	3.1652	N	0			☐	
Tungsten-181 la nr	1.131	0.2096	pCi/g	0.6987	N	0	17	0 NOT_IDENTI 0	☐	

Uranium-231	nr	7.205	2.284	pCi/g	2.585	N	94.7	1	1.53	IDENTIFIED	31.38	□
Uranium-234	nr	1.163	0.1088	pCi/g	0.1165	N	609.5	4	1.35	IDENTIFIED	7.803	□
Uranium-235	✓	0.5865	0.1604	pCi/g	0.3755	0.500	143.8	1	1.189	IDENTIFIED	25.94	□
Uranium-238	nr	27.34	2.674	pCi/g	2.126	N	63.33	2	1.017	IDENTIFIED	4.462	□
Zirconium-97	HE	2.69E+07	1.68E+07	pCi/g	0	N	0	17	0	SHORT_HLIF	0	□

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue		
245978008	27-JAN-10 12:00	14-FEB-10 12:01	18	SAMPLE	LOAD	1	LANL	LANL01004	IGEL	N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	nr	1.356	0.1808	pCi/g	0.2527	N	911.3	3	1.711	IDENTIFIED	11.96	☐	
Americium-243	int nr	0.4066	0.07267	pCi/g	0.1498	N	75.01	1	1.602	IDENTIFIED	16.92	☐	
Annihilation Rad.		0.1452	0.04058	pCi/g	0.05792	N	511	1	1.872	IDENTIFIED	27.62	☐	
Barium-137m		0.4463	0.0482	pCi/g	0.08026	N	661.5	2	1.552	IDENTIFIED	9.986	☐	
Bismuth-211	int	4.506	0.3451	pCi/g	0.3873	Y	352	4	1.483	IDENTIFIED	5.83	☐	ui
Bismuth-212	HE	1.128	0.3008	pCi/g	0.7593	N	0	14	0	FAIL_ABUND	0	☐	
Bismuth-214	✓	1.303	0.1074	pCi/g	0.1415	0.200	609.3	4	1.446	IDENTIFIED	6.587	☐	
Cadmium-115	HE	24.66	16.25	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Cerium-143		4194	677.2	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Cesium-137	✓	0.4718	0.05097	pCi/g	0.08484	0.100	661.5	2	1.552	IDENTIFIED	9.986	☐	
Gross Gamma		10.59	1.469	pCi/g	4.096	N	0					☐	
Iodine-135		6.13E+18	0	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Krypton-85	HE	24.19	5.13	pCi/g	17.33	N	0	14	0	NOT_IDENTI	0	☐	
Lead-212	✓	1.588	0.1151	pCi/g	0.1164	0.100	238.8	4	1.358	IDENTIFIED	4.141	☐	
Lead-214	✓	1.567	0.1268	pCi/g	0.135	0.100	352	4	1.483	IDENTIFIED	5.83	☐	
Lutetium-177	HE	5.61	1.478	pCi/g	3.502	N	0	14	0	FAIL_ABUND	0	☐	
Niobium-95	HE	0.1284	0.03206	pCi/g	0.109	N	0	14	0	NOT_IDENTI	0	☐	
Niobium-97	HE	1.88E+06	1.13E+06	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Polonium-212	nr	1.588	0.1151	pCi/g	0.1164	N	238.8	4	1.358	IDENTIFIED	4.141	☐	
Polonium-214	nr	1.567	0.1268	pCi/g	0.135	N	352	4	1.483	IDENTIFIED	5.83	☐	
Polonium-216	nr	1.588	0.1151	pCi/g	0.1164	N	238.8	4	1.358	IDENTIFIED	4.141	☐	
Polonium-218	nr	1.567	0.1268	pCi/g	0.135	N	352	4	1.483	IDENTIFIED	5.83	☐	
Potassium-40	✓	24.91	1.529	pCi/g	0.5915	1.00	1461	1	2.119	IDENTIFIED	3.679	☐	
Promethium-149	HE	70.41	143.4	pCi/g	0	N	0	14	0	SHORT_HLIF	0	☐	
Protactinium-234m	la nr	26.2	4.886	pCi/g	14.09	N	0	14	0	FAIL_ABUND	0	☐	
Radium-224	int	5.023	0.8174	pCi/g	1.324	Y	241.9	1	1.854	IDENTIFIED	15.31	☐	ui
Radium-226	✓	1.303	0.1074	pCi/g	0.1415	Y	609.3	4	1.446	IDENTIFIED	6.587	☐	
Radium-228	✓	1.356	0.1808	pCi/g	0.2527	0.500	911.3	3	1.711	IDENTIFIED	11.96	☐	
Strontium-85	la	0.1279	0.02711	pCi/g	0.09158	Y	0	14	0	NOT_IDENTI	0	☐	UI Data rejected due to low abundance.
Thallium-208	✓	0.3966	0.05242	pCi/g	0.07568	0.080	582.9	1	1.7	IDENTIFIED	12.4	☐	
Thorium-228	nr	1.616	0.1172	pCi/g	0.1185	N	238.8	4	1.358	IDENTIFIED	4.141	☐	
Thorium-230	nr	1.303	0.1074	pCi/g	0.1415	N	609.3	4	1.446	IDENTIFIED	6.587	☐	
Thorium-232	nr	1.356	0.1808	pCi/g	0.2527	N	911.3	3	1.711	IDENTIFIED	11.96	☐	
Thorium-234	✓	14.41	2.54	pCi/g	4.337	2.00	63.22	2	1.248	IDENTIFIED	14.69	☐	
Titanium-44	la nr	0.3217	0.03949	pCi/g	0.1191	N	0	14	0	FAIL_ABUND	0	☐	
Total Uranium		42.951	7.56E-06	ug/g	6.4567	N	0					☐	
Tungsten-181	HE	2.185	0.4431	pCi/g	1.43	N	0	14	0	NOT_IDENTI	0	☐	
Uranium-234	nr	1.303	0.1074	pCi/g	0.1415	N	609.3	4	1.446	IDENTIFIED	6.587	☐	

Uranium-238 nr 14.41 2.54 pCi/g 4.337 N 63.22 2 1.248 IDENTIFIED 14.69 ☐
 Zirconium-97 9.09E+07 2.23E+07 pCi/g 0 N 0 14 0 SHORT_HLIF 0 ☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978009	27-JAN-10 12:00	14-FEB-10 12:01	18	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	2.023	0.1898	pCi/g	0.2065	N	911.2	3	1.851 IDENTIFIED	6.644	<input type="checkbox"/>
Americium-243 int nr	0.4029	0.04244	pCi/g	0.09541	N	74.82	1	1.151 IDENTIFIED	9.712	<input type="checkbox"/>
Annihilation Rad.	0.1656	0.03288	pCi/g	0.04433	N	510.8	1	2.155 IDENTIFIED	19.21	<input type="checkbox"/>
Barium-137m HE	0.134	0.03982	pCi/g	0.05989	N	661.9	2	1.04 IDENTIFIED	29.23	<input type="checkbox"/>
Bismuth-211 int	5.05	0.3728	pCi/g	0.3237	Y	351.9	4	1.281 IDENTIFIED	4.549	<input type="checkbox"/> ui
Bismuth-212 la nr	1.202	0.2442	pCi/g	0.6386	N	0	11	0 FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214 ✓	1.271	0.1087	pCi/g	0.1121	0.200	609.4	4	1.375 IDENTIFIED	6.275	<input type="checkbox"/>
Cadmium-109 int	4.34	0.6074	pCi/g	1.312	Y	87.2	3	1.32 IDENTIFIED	13.18	<input type="checkbox"/> ui
Cerium-143	4305	680.7	pCi/g	0	N	0	11	0 SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134 la	0.108	0.02792	pCi/g	0.08644	0.100	0	11	0 FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137 ✓	0.1417	0.04209	pCi/g	0.06331	0.100	661.9	2	1.04 IDENTIFIED	29.23	<input type="checkbox"/>
Europium-155 HE	0.2278	0.06067	pCi/g	0.2079	N	0	11	0 FAIL_ABUND	0	<input type="checkbox"/>
Gross Gamma	10.61	1.392	pCi/g	2.477	N	0				<input type="checkbox"/>
Krypton-85 la nr	26.95	4.542	pCi/g	14.61	N	0	11	0 NOT_IDENTI	0	<input type="checkbox"/>
Lead-212 ✓	2.15	0.1542	pCi/g	0.0953	0.100	238.7	4	1.287 IDENTIFIED	2.788	<input type="checkbox"/>
Lead-214 ✓	1.757	0.1375	pCi/g	0.1131	0.100	351.9	4	1.281 IDENTIFIED	4.549	<input type="checkbox"/>
Lutetium-177 HE	3.773	1.116	pCi/g	2.984	N	0	11	0 FAIL_ABUND	0	<input type="checkbox"/>
Mercury-203 int	0.09427	0.03099	pCi/g	0.06772	0.100	277.9	1	1.349 IDENTIFIED	32.11	<input type="checkbox"/> ui
Neptunium-237 int nr	1.247	0.2169	pCi/g	0.4252	N	87.2	3	1.32 IDENTIFIED	13.18	<input type="checkbox"/>
Niobium-95m HE	0.3223	0.07911	pCi/g	0.2418	N	0	11	0 NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97 HE	3.21E+05	9.95E+05	pCi/g	0	N	0	11	0 SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212 nr	2.15	0.1542	pCi/g	0.0953	N	238.7	4	1.287 IDENTIFIED	2.788	<input type="checkbox"/>
Polonium-214 nr	1.757	0.1375	pCi/g	0.1131	N	351.9	4	1.281 IDENTIFIED	4.549	<input type="checkbox"/>
Polonium-216 nr	2.15	0.1542	pCi/g	0.0953	N	238.7	4	1.287 IDENTIFIED	2.788	<input type="checkbox"/>
Polonium-218 nr	1.757	0.1375	pCi/g	0.1131	N	351.9	4	1.281 IDENTIFIED	4.549	<input type="checkbox"/>
Potassium-40 ✓	29.18	1.548	pCi/g	0.451	1.00	1461	1	2.563 IDENTIFIED	2.673	<input type="checkbox"/>
Radium-224 int	6.062	0.8418	pCi/g	1.083	Y	241.6	1	2.074 IDENTIFIED	12.39	<input type="checkbox"/> ui
Radium-226 ✓	1.271	0.1087	pCi/g	0.1121	Y	609.4	4	1.375 IDENTIFIED	6.275	<input type="checkbox"/>
Radium-228 ✓	2.023	0.1898	pCi/g	0.2065	0.500	911.2	3	1.851 IDENTIFIED	6.644	<input type="checkbox"/>
Strontium-85 la	0.1425	0.02401	pCi/g	0.07722	Y	0	11	0 NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208 ✓	0.6331	0.05712	pCi/g	0.06075	0.080	583.1	1	1.819 IDENTIFIED	7.212	<input type="checkbox"/>
Thorium-228 nr	2.189	0.157	pCi/g	0.09702	N	238.7	4	1.287 IDENTIFIED	2.788	<input type="checkbox"/>
Thorium-230 nr	1.271	0.1087	pCi/g	0.1121	N	609.4	4	1.375 IDENTIFIED	6.275	<input type="checkbox"/>
Thorium-232 nr	2.023	0.1898	pCi/g	0.2065	N	911.2	3	1.851 IDENTIFIED	6.644	<input type="checkbox"/>
Thorium-234 ✓	3.038	1.008	pCi/g	2.017	2.00	63.03	2	0.9925 IDENTIFIED	32.03	<input type="checkbox"/>
Tin-126 int nr	0.4248	0.05945	pCi/g	0.1289	N	87.2	3	1.32 IDENTIFIED	13.18	<input type="checkbox"/>
Titanium-44 la nr	0.4208	0.03075	pCi/g	0.08034	N	0	11	0 FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium	9.0302	3.00E-06	ug/g	3.0032	N	0				<input type="checkbox"/>
Uranium-234 nr	1.271	0.1087	pCi/g	0.1121	N	609.4	4	1.375 IDENTIFIED	6.275	<input type="checkbox"/>
Uranium-238 HE	3.038	1.008	pCi/g	2.017	N	63.03	2	0.9925 IDENTIFIED	32.03	<input type="checkbox"/>
Zirconium-97	1.14E+08	2.06E+07	pCi/g	0	N	0	11	0 SHORT_HLIF	0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
245978010	27-JAN-10 12:00	14-FEB-10 12:17	18	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228 nr	1.051	0.1146	pCi/g	0.1381	N	910.8	3	1.654	IDENTIFIED	8.653	□
Americium-243 int nr	0.2126	0.03051	pCi/g	0.07619	N	75.05	1	1.181	IDENTIFIED	13.73	□
Annihilation Rad. HE	0.05893	0.02203	pCi/g	0.0331	N	510.8	1	2.296	IDENTIFIED	37.24	□
Bismuth-211 int	2.53	0.169	pCi/g	0.208	Y	351.8	4	1.405	IDENTIFIED	5.859	□ ui
Bismuth-212 HE	0.6025	0.1374	pCi/g	0.4201	N	0	10	0	FAIL_ABUND	0	□
Bismuth-214 ✓	0.6911	0.05313	pCi/g	0.06966	0.200	609.2	4	1.725	IDENTIFIED	6.258	□
Cadmium-109 int	1.946	0.3553	pCi/g	1.199	Y	87.38	3	1.308	IDENTIFIED	17.67	□ ui
Cadmium-115 HE	5.5	7.969	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Cerium-143	2182	336.1	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Gross Gamma	6.38	0.8448	pCi/g	1.541	N	0					□
Iodine-123 HE	1.07E+08	8.19E+07	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Krypton-85 la nr	18.7	2.762	pCi/g	9.883	N	0	10	0	NOT_IDENTI	0	□
Lead-212 ✓	0.9954	0.04948	pCi/g	0.06136	0.100	238.7	4	1.129	IDENTIFIED	3.457	□
Lead-214 ✓	0.88	0.06311	pCi/g	0.07249	0.100	351.8	4	1.405	IDENTIFIED	5.859	□
Lutetium-177 HE	1.877	0.6339	pCi/g	1.782	N	0	10	0	FAIL_ABUND	0	□
Neptunium-237 int nr	0.5592	0.1173	pCi/g	0.319	N	87.38	3	1.308	IDENTIFIED	17.67	□
Niobium-95 HE	0.08863	0.02332	pCi/g	0.04206	N	767.2	1	1.552	IDENTIFIED	25.91	□
Polonium-212 nr	0.9954	0.04948	pCi/g	0.06136	N	238.7	4	1.129	IDENTIFIED	3.457	□
Polonium-214 nr	0.88	0.06311	pCi/g	0.07249	N	351.8	4	1.405	IDENTIFIED	5.859	□
Polonium-216 nr	0.9954	0.04948	pCi/g	0.06136	N	238.7	4	1.129	IDENTIFIED	3.457	□
Polonium-218 nr	0.88	0.06311	pCi/g	0.07249	N	351.8	4	1.405	IDENTIFIED	5.859	□
Potassium-40 ✓	24.23	1.075	pCi/g	0.2971	1.00	1460	1	2.218	IDENTIFIED	2.294	□
Radium-224 int	2.627	0.4077	pCi/g	0.6973	Y	241.6	1	1.611	IDENTIFIED	15.27	□ ui
Radium-226 ✓	0.6911	0.05313	pCi/g	0.06966	Y	609.2	4	1.725	IDENTIFIED	6.258	□
Radium-228 ✓	1.051	0.1146	pCi/g	0.1381	0.500	910.8	3	1.654	IDENTIFIED	8.653	□
Rhenium-188 HE	0.2285	0.08188	pCi/g	0.2119	N	154	1	0.9184	IDENTIFIED	35.74	□
Strontium-85 la	0.09887	0.0146	pCi/g	0.05224	Y	0	10	0	NOT_IDENTI	0	□ UI Data rejected due to low abundance.
Thallium-200 HE	718.3	824.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□
Thallium-208 ✓	0.3298	0.02772	pCi/g	0.03516	0.080	583	1	1.304	IDENTIFIED	7.435	□
Thorium-228 nr	1.013	0.05038	pCi/g	0.06247	N	238.7	4	1.129	IDENTIFIED	3.457	□
Thorium-230 nr	0.6911	0.05313	pCi/g	0.06966	N	609.2	4	1.725	IDENTIFIED	6.258	□
Thorium-232 nr	1.051	0.1146	pCi/g	0.1381	N	910.8	3	1.654	IDENTIFIED	8.653	□
Thorium-234 ✓	2.885	0.9096	pCi/g	1.847	2.00	63.54	2	0.8786	IDENTIFIED	30.27	□
Tin-126 int nr	0.1904	0.03477	pCi/g	0.1142	N	87.38	3	1.308	IDENTIFIED	17.67	□
Titanium-44 la nr	0.2038	0.01969	pCi/g	0.06188	N	0	10	0	FAIL_ABUND	0	□
Total Uranium	8.6036	2.71E-06	ug/g	2.7496	N	0					□
Uranium-234 nr	0.6911	0.05313	pCi/g	0.06966	N	609.2	4	1.725	IDENTIFIED	6.258	□
Uranium-238 HE	2.885	0.9096	pCi/g	1.847	N	63.54	2	0.8786	IDENTIFIED	30.27	□
Zirconium-97	4.84E+07	1.16E+07	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978011	27-JAN-10 12:00	14-FEB-10 12:18	18	SAMPLE	LOAD	1	LANL	LANL01004IGEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 nr	1.5	0.1972	pCi/g	0.2454	N	910.4	3	1.679	IDENTIFIED	11.81			
Americium-243 int nr	0.3768	0.04261	pCi/g	0.1061	N	74.71	1	1.177	IDENTIFIED	10.4			
Annihilation Rad.	0.1613	0.03515	pCi/g	0.05008	N	510.4	1	1.927	IDENTIFIED	21.6			
Bismuth-211 int	3.718	0.2308	pCi/g	0.3377	Y	351.4	4	1.349	IDENTIFIED	5.285		ui	
Bismuth-212 la nr	1.177	0.2309	pCi/g	0.6582	N	0	11	0	FAIL_ABUND	0			
Bismuth-214	1.204	0.09085	pCi/g	0.1027	0.200	608.7	4	1.329	IDENTIFIED	6.542			
Cadmium-109 int	1.913	0.5747	pCi/g	1.457	Y	87.22	3	0.948	IDENTIFIED	29.64		ui	
Cadmium-115 HE	0.716	14.16	pCi/g	0	N	0	11	0	SHORT_HLIF	0			
Cerium-143	4666	658.8	pCi/g	0	N	0	11	0	SHORT_HLIF	0			
Cesium-135 HE	0.3377	0.09294	pCi/g	0.3018	N	0	11	0	NOT_IDENTI	0			
Gross Gamma	8.299	1.321	pCi/g	2.801	N	0							
Iodine-133 HE	45130	32210	pCi/g	0	N	0	11	0	SHORT_HLIF	0			
Iodine-135	3.62E+18	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0			
Lead-212	1.536	0.07707	pCi/g	0.09561	0.100	238.3	4	1.115	IDENTIFIED	3.501			
Lead-214	1.293	0.0871	pCi/g	0.1208	0.100	351.4	4	1.349	IDENTIFIED	5.285			
Lutetium-177 HE	3.935	0.9995	pCi/g	2.838	N	0	11	0	FAIL_ABUND	0			
Neptunium-237 HE	0.5499	0.1746	pCi/g	0.4546	N	87.22	3	0.948	IDENTIFIED	29.64			
Niobium-95 HE	0.07973	0.02505	pCi/g	0.06941	N	767.1	1	2.164	IDENTIFIED	31.24			
Niobium-95m la nr	0.6939	0.08985	pCi/g	0.3036	N	0	11	0	NOT_IDENTI	0			
Polonium-212 nr	1.536	0.07707	pCi/g	0.09561	N	238.3	4	1.115	IDENTIFIED	3.501			
Polonium-214 nr	1.293	0.0871	pCi/g	0.1208	N	351.4	4	1.349	IDENTIFIED	5.285			
Polonium-216 nr	1.536	0.07707	pCi/g	0.09561	N	238.3	4	1.115	IDENTIFIED	3.501			
Polonium-218 nr	1.293	0.0871	pCi/g	0.1208	N	351.4	4	1.349	IDENTIFIED	5.285			
Potassium-40	24.53	1.233	pCi/g	0.5831	1.00	1460	1	2.716	IDENTIFIED	3.359			
Promethium-149 HE	117.9	110	pCi/g	0	N	0	11	0	SHORT_HLIF	0			
Radium-224 int	4.871	0.6769	pCi/g	1.088	Y	241.3	1	1.773	IDENTIFIED	13.61		ui	
Radium-226	1.204	0.09085	pCi/g	0.1027	Y	608.7	4	1.329	IDENTIFIED	6.542			
Radium-228	1.5	0.1972	pCi/g	0.2454	0.500	910.4	3	1.679	IDENTIFIED	11.81			
Thallium-208	0.546	0.04381	pCi/g	0.06175	0.080	582.6	1	1.807	IDENTIFIED	7.338			
Thorium-228 nr	1.564	0.07847	pCi/g	0.09734	N	238.3	4	1.115	IDENTIFIED	3.501			
Thorium-230 nr	1.204	0.09085	pCi/g	0.1027	N	608.7	4	1.329	IDENTIFIED	6.542			
Thorium-232 nr	1.5	0.1972	pCi/g	0.2454	N	910.4	3	1.679	IDENTIFIED	11.81			
Tin-126 HE	0.1873	0.05624	pCi/g	0.1435	N	87.22	3	0.948	IDENTIFIED	29.64			
Titanium-44 la nr	0.3863	0.03223	pCi/g	0.09194	N	0	11	0	FAIL_ABUND	0			
Total Uranium	7.8598	3.21E-06	ug/g	4.0787	N	0							
Uranium-234 nr	1.204	0.09085	pCi/g	0.1027	N	608.7	4	1.329	IDENTIFIED	6.542			
Zirconium-97	9.53E+07	2.07E+07	pCi/g	0	N	0	11	0	SHORT_HLIF	0			

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project	Quals	Zero?	queue
245978012	27-JAN-10 12:00	14-FEB-10 13:11	18	SAMPLE	LOAD	1	LANL	LANL010041GEL		N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228 nr	1.503	0.1606	pCi/g	0.1835	N	911.6	3	1.389	IDENTIFIED	8.986			
Americium-243 int nr	0.3951	0.04652	pCi/g	0.1027	N	74.93	1	1.306	IDENTIFIED	11.01			
Annihilation Rad. HE	0.1173	0.03589	pCi/g	0.04779	N	511.4	1	1.734	IDENTIFIED	30.29			
Bismuth-211 int	3.974	0.297	pCi/g	0.3524	Y	352.3	4	1.405	IDENTIFIED	5.936		ui	
Bismuth-212 la nr	1.397	0.2446	pCi/g	0.7186	N	0	12	0	FAIL_ABUND	0			

Bismuth-214 ✓		1.084	0.102	pCi/g	0.1138	0.200	609.6	4	1.365	IDENTIFIED	8.013	□	
Cadmium-109 int		2.242	0.6396	pCi/g	1.826	Y	87.07	3	1.211	IDENTIFIED	28.14	□	ui
Cerium-143		1662	407.8	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Gross Gamma		9.15	1.448	pCi/g	3.898	N		0				□	
Iodine-123 HE		1.03E+08	1.19E+08	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Iodine-133 HE		3653	30600	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Iodine-135		2.84E+18	0	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Krypton-85 HE		15.83	4.413	pCi/g	14.66	N	0	12	0	NOT_IDENTI	0	□	
Lead-212 ✓		1.568	0.09712	pCi/g	0.09543	0.100	239	4	1.24	IDENTIFIED	3.571	□	
Lead-214 ✓		1.382	0.1094	pCi/g	0.1237	0.100	352.3	4	1.405	IDENTIFIED	5.936	□	
Neptunium-237 HE		0.6442	0.1955	pCi/g	0.4706	N	87.07	3	1.211	IDENTIFIED	28.14	□	
Niobium-97 HE		4.56E+05	9.66E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Polonium-212 nr		1.568	0.09712	pCi/g	0.09543	N	239	4	1.24	IDENTIFIED	3.571	□	
Polonium-214 nr		1.382	0.1094	pCi/g	0.1237	N	352.3	4	1.405	IDENTIFIED	5.936	□	
Polonium-216 nr		1.568	0.09712	pCi/g	0.09543	N	239	4	1.24	IDENTIFIED	3.571	□	
Polonium-218 nr		1.382	0.1094	pCi/g	0.1237	N	352.3	4	1.405	IDENTIFIED	5.936	□	
Potassium-40 ✓		23.29	1.315	pCi/g	0.4501	1.00	1461	1	2.038	IDENTIFIED	3.481	□	
Promethium-149		293.4	125.7	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Protactinium-234m HE		15.93	3.918	pCi/g	10.91	N	0	12	0	FAIL_ABUND	0	□	
Radium-224 int		4.061	0.6926	pCi/g	1.086	Y	242.1	1	1.879	IDENTIFIED	16.44	□	ui
Radium-226 ✓		1.084	0.102	pCi/g	0.1138	Y	609.6	4	1.365	IDENTIFIED	8.013	□	
Radium-228 ✓		1.503	0.1606	pCi/g	0.1835	0.500	911.6	3	1.389	IDENTIFIED	8.986	□	
Strontium-85 la		0.08368	0.02334	pCi/g	0.07753	Y	0	12	0	NOT_IDENTI	0	□	UI Data rejected due to low abundance.
Thallium-200		3018	1437	pCi/g	0	N	0	12	0	SHORT_HLIF	0	□	
Thallium-208 ✓		0.5009	0.04642	pCi/g	0.06076	0.080	583.4	1	1.321	IDENTIFIED	8.078	□	
Thorium-228 nr		1.596	0.09888	pCi/g	0.09717	N	239	4	1.24	IDENTIFIED	3.571	□	
Thorium-230 nr		1.084	0.102	pCi/g	0.1138	N	609.6	4	1.365	IDENTIFIED	8.013	□	
Thorium-232 nr		1.503	0.1606	pCi/g	0.1835	N	911.6	3	1.389	IDENTIFIED	8.986	□	
Thorium-234 ✓		6.535	1.476	pCi/g	2.379	2.00	63.25	2	1.063	IDENTIFIED	20.81	□	
Tin-126 HE		0.2194	0.06259	pCi/g	0.1678	N	87.07	3	1.211	IDENTIFIED	28.14	□	
Titanium-44 la nrt		0.333	0.03037	pCi/g	0.0849	N	0	12	0	FAIL_ABUND	0	□	
Total Uranium		19.489	4.39E-06	ug/g	3.5422	N		0				□	
Uranium-234 nr		1.084	0.102	pCi/g	0.1138	N	609.6	4	1.365	IDENTIFIED	8.013	□	
Uranium-238 nr		6.535	1.476	pCi/g	2.379	N	63.25	2	1.063	IDENTIFIED	20.81	□	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978013	27-JAN-10 12:00	14-FEB-10 13:11	18	SAMPLE	LOAD	1	LANL	LANL01004 GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.845	0.1742	pCi/g	0.2303	N	910.8	3	1.561	IDENTIFIED	7.934 □
Americium-243 int nr	0.3914	0.04665	pCi/g	0.1143	N	74.54	1	1.126	IDENTIFIED	11.03 □
Annihilation Rad.	0.1694	0.03218	pCi/g	0.05355	N	510.8	1	1.872	IDENTIFIED	18.8 □
Bismuth-211 int	3.749	0.2898	pCi/g	0.3934	Y	351.6	4	1.342	IDENTIFIED	7.025 □ ui
Bismuth-212 HE	1.252	0.2881	pCi/g	0.7844	N	0	14	0	FAIL_ABUND	0 □
Bismuth-214 ✓	1.167	0.09252	pCi/g	0.1277	0.200	609.1	4	1.481	IDENTIFIED	7.02 □
Cadmium-109 int	4.305	0.6093	pCi/g	1.47	Y	86.98	3	1.408	IDENTIFIED	13.28 □ ui
Cerium-143	4464	680.8	pCi/g	0	N	0	14	0	SHORT_HLIF	0 □
Cesium-134 la	0.1839	0.03351	pCi/g	0.1051	0.100	0	14	0	FAIL_ABUND	0 □ UI Data rejected due to low abundance.

Cesium-135	HE	0.3718	0.1098	pCi/g	0.3495	N	0	14	0	NOT_IDENTI	0	<input type="checkbox"/>
Gross Gamma		10.4	1.411	pCi/g	3.833	N		0				<input type="checkbox"/>
Iodine-123	HE	8.72E+07	1.38E+08	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	48050	36400	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135		7.43E+18	0	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Krypton-85	HE	15.03	4.421	pCi/g	14.84	N	0	14	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212 ✓		1.737	0.08784	pCi/g	0.1089	0.100	238.4	4	1.191	IDENTIFIED	3.464	<input type="checkbox"/>
Lead-214 ✓		1.304	0.1064	pCi/g	0.1371	0.100	351.6	4	1.342	IDENTIFIED	7.025	<input type="checkbox"/>
Lutetium-177	HE	4.445	1.214	pCi/g	3.271	N	0	14	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	int nr	1.237	0.2167	pCi/g	0.4304	N	86.98	3	1.408	IDENTIFIED	13.28	<input type="checkbox"/>
Niobium-95m	la nr	0.6783	0.09518	pCi/g	0.3189	N	0	14	0	NOT_IDENTI	0	<input type="checkbox"/>
Polonium-212	nr	1.737	0.08784	pCi/g	0.1089	N	238.4	4	1.191	IDENTIFIED	3.464	<input type="checkbox"/>
Polonium-214	nr	1.304	0.1064	pCi/g	0.1371	N	351.6	4	1.342	IDENTIFIED	7.025	<input type="checkbox"/>
Polonium-216	nr	1.737	0.08784	pCi/g	0.1089	N	238.4	4	1.191	IDENTIFIED	3.464	<input type="checkbox"/>
Polonium-218	nr	1.304	0.1064	pCi/g	0.1371	N	351.6	4	1.342	IDENTIFIED	7.025	<input type="checkbox"/>
Potassium-40 ✓		34.85	1.508	pCi/g	0.4144	1.00	1461	1	2.167	IDENTIFIED	2.791	<input type="checkbox"/>
Promethium-149	HE	23.87	128.6	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>
Radium-224	int	3.788	0.7461	pCi/g	1.239	Y	241.2	1	1.774	IDENTIFIED	19.47	<input type="checkbox"/> ui
Radium-226 ✓		1.167	0.09252	pCi/g	0.1277	Y	609.1	4	1.481	IDENTIFIED	7.02	<input type="checkbox"/>
Radium-228 ✓		1.845	0.1742	pCi/g	0.2303	0.500	910.8	3	1.561	IDENTIFIED	7.934	<input type="checkbox"/>
Strontium-85	la	0.07947	0.02338	pCi/g	0.07849	Y	0	14	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208 ✓		0.5584	0.05073	pCi/g	0.0682	0.080	583.1	1	1.484	IDENTIFIED	8.517	<input type="checkbox"/>
Thorium-228	nr	1.768	0.08943	pCi/g	0.1108	N	238.4	4	1.191	IDENTIFIED	3.464	<input type="checkbox"/>
Thorium-230	nr	1.167	0.09252	pCi/g	0.1277	N	609.1	4	1.481	IDENTIFIED	7.02	<input type="checkbox"/>
Thorium-232	nr	1.845	0.1742	pCi/g	0.2303	N	910.8	3	1.561	IDENTIFIED	7.934	<input type="checkbox"/>
Thorium-234 ✓		4.481	1.225	pCi/g	2.833	2.00	63.09	2	1.23	IDENTIFIED	25.78	<input type="checkbox"/>
Tin-126	int nr	0.4213	0.05962	pCi/g	0.1447	N	86.98	3	1.408	IDENTIFIED	13.28	<input type="checkbox"/>
Titanium-44	la nr	0.3047	0.03188	pCi/g	0.0947	N	0	14	0	NOT_IDENTI	0	<input type="checkbox"/>
Total Uranium		13.487	3.64E-06	ug/g	4.2183	N		0				<input type="checkbox"/>
Uranium-234	nr	1.167	0.09252	pCi/g	0.1277	N	609.1	4	1.481	IDENTIFIED	7.02	<input type="checkbox"/>
Uranium-238	HE	4.481	1.225	pCi/g	2.833	N	63.09	2	1.23	IDENTIFIED	25.78	<input type="checkbox"/>
Zirconium-97		1.03E+08	2.16E+07	pCi/g	0	N	0	14	0	SHORT_HLIF	0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245978014	27-JAN-10 12:00	14-FEB-10 13:12	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.603	0.1528	pCi/g	0.1868	N	911.5	3	1.52	IDENTIFIED 7.331 <input type="checkbox"/>
Americium-243	int nr	0.3333	0.03083	pCi/g	0.07343	N	74.89	1	0.8897	IDENTIFIED 8.312 <input type="checkbox"/>
Annihilation Rad.		0.1457	0.02888	pCi/g	0.04018	N	511	1	1.503	IDENTIFIED 19.08 <input type="checkbox"/>
Bismuth-211	int	4.131	0.341	pCi/g	0.2961	Y	352	4	1.235	IDENTIFIED 4.992 <input type="checkbox"/> ui
Bismuth-212	HE	0.7219	0.1913	pCi/g	0.5939	N	0	13	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214 ✓		1.256	0.1033	pCi/g	0.09758	0.200	609.4	4	1.285	IDENTIFIED 5.981 <input type="checkbox"/>
Cadmium-109	int	3.639	0.4841	pCi/g	1.275	Y	87.24	3	1.098	IDENTIFIED 12.45 <input type="checkbox"/> ui
Cadmium-115	HE	17.51	10.72	pCi/g	0	N	0	13	0	SHORT_HLIF 0 <input type="checkbox"/>
Cerium-143		1742	353.6	pCi/g	0	N	0	13	0	SHORT_HLIF 0 <input type="checkbox"/>
Gross Gamma		9.992	1.409	pCi/g	4.379	N		0		<input type="checkbox"/>
Iodine-123	HE	6.67E+07	9.36E+07	pCi/g	0	N	0	13	0	SHORT_HLIF 0 <input type="checkbox"/>

Iodine-133	HE	14300	25660	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Krypton-85	HE	14.01	3.265	pCi/g	11.45	N	0	13	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212 ✓		1.661	0.1306	pCi/g	0.07859	0.100	238.6	4	1.058	IDENTIFIED	3.574	<input type="checkbox"/>
Lead-214 ✓		1.437	0.1244	pCi/g	0.1032	0.100	352	4	1.235	IDENTIFIED	4.992	<input type="checkbox"/>
Lutetium-177	HE	2.532	0.8981	pCi/g	2.412	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	int nr	1.046	0.176	pCi/g	0.336	N	87.24	3	1.098	IDENTIFIED	12.45	<input type="checkbox"/>
Niobium-97	HE	71310	7.55E+05	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	nr	1.661	0.1306	pCi/g	0.07859	N	238.6	4	1.058	IDENTIFIED	3.574	<input type="checkbox"/>
Polonium-214	nr	1.437	0.1244	pCi/g	0.1032	N	352	4	1.235	IDENTIFIED	4.992	<input type="checkbox"/>
Polonium-216	nr	1.661	0.1306	pCi/g	0.07859	N	238.6	4	1.058	IDENTIFIED	3.574	<input type="checkbox"/>
Polonium-218	nr	1.437	0.1244	pCi/g	0.1032	N	352	4	1.235	IDENTIFIED	4.992	<input type="checkbox"/>
Potassium-40 ✓		27.42	1.442	pCi/g	0.4665	1.00	1461	1	1.873	IDENTIFIED	2.993	<input type="checkbox"/>
Protactinium-234m	HE	10.58	3.244	pCi/g	8.808	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Radium-224	int	3.034	0.4878	pCi/g	1.098	Y	241.8	1	1.02	IDENTIFIED	14.6	<input type="checkbox"/> ui
Radium-226 ✓		1.256	0.1033	pCi/g	0.09758	Y	609.4	4	1.285	IDENTIFIED	5.981	<input type="checkbox"/>
Radium-228 ✓		1.603	0.1528	pCi/g	0.1868	0.500	911.5	3	1.52	IDENTIFIED	7.331	<input type="checkbox"/>
Strontium-85	la	0.07409	0.01726	pCi/g	0.06056	Y	0	13	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Technetium-99m		1.25E+20		pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208 ✓		0.5888	0.05121	pCi/g	0.04626	0.080	583.3	1	1.413	IDENTIFIED	6.819	<input type="checkbox"/>
Thorium-228	nr	1.691	0.1329	pCi/g	0.08002	N	238.6	4	1.058	IDENTIFIED	3.574	<input type="checkbox"/>
Thorium-230	nr	1.256	0.1033	pCi/g	0.09758	N	609.4	4	1.285	IDENTIFIED	5.981	<input type="checkbox"/>
Thorium-232	nr	1.603	0.1528	pCi/g	0.1868	N	911.5	3	1.52	IDENTIFIED	7.331	<input type="checkbox"/>
Thorium-234 ✓		4.614	0.9145	pCi/g	1.662	2.00	63.24	2	0.9561	IDENTIFIED	17.81	<input type="checkbox"/>
Tin-126	int nr	0.3561	0.04737	pCi/g	0.1252	N	87.24	3	1.098	IDENTIFIED	12.45	<input type="checkbox"/>
Titanium-44	la nr	0.3629	0.0246	pCi/g	0.05896	N	0	13	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		13.833	2.72E-06	ug/g	2.475	N		0				<input type="checkbox"/>
Uranium-234	nr	1.256	0.1033	pCi/g	0.09758	N	609.4	4	1.285	IDENTIFIED	5.981	<input type="checkbox"/>
Uranium-238	nr	4.614	0.9145	pCi/g	1.662	N	63.24	2	0.9561	IDENTIFIED	17.81	<input type="checkbox"/>
Zirconium-97	HE	1.62E+07	1.40E+07	pCi/g	0	N	0	13	0	SHORT_HLIF	0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Qals	Zero?	queue
245978015	27-JAN-10 12:00	14-FEB-10 13:12	18.1	SAMPLE	LOAD	1	LANL	LANL010041GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	nr	1.621	0.1961	pCi/g	0.2385	N	910.9	3 1.311	IDENTIFIED	10.78 <input type="checkbox"/>
Americium-243	int nr	0.3893	0.04742	pCi/g	0.1026	N	74.63	1 1.092	IDENTIFIED	11.69 <input type="checkbox"/>
Annihilation Rad.		0.1949	0.0476	pCi/g	0.04742	N	511	1 2.374	IDENTIFIED	24.24 <input type="checkbox"/>
Barium-137m		0.3792	0.03455	pCi/g	0.06464	N	661.3	2 1.804	IDENTIFIED	8.514 <input type="checkbox"/>
Bismuth-211	int	4.103	0.2718	pCi/g	0.3674	Y	351.7	4 1.308	IDENTIFIED	5.831 <input type="checkbox"/> ui
Bismuth-212	HE	0.8891	0.325	pCi/g	0.7059	N	0	12 0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214 ✓		1.249	0.1045	pCi/g	0.1236	0.200	609	4 1.564	IDENTIFIED	7.287 <input type="checkbox"/>
Cadmium-109	int	2.396	0.5451	pCi/g	1.736	Y	87.09	3 1.264	IDENTIFIED	22.43 <input type="checkbox"/> ui
Cadmium-115	HE	12.64	15.61	pCi/g	0	N	0	12 0	SHORT_HLIF	0 <input type="checkbox"/>
Cerium-143		3479	567.2	pCi/g	0	N	0	12 0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-134	la	0.183	0.03702	pCi/g	0.1003	0.100	0	12 0	FAIL_ABUND	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137 ✓		0.4009	0.03653	pCi/g	0.06833	0.100	661.3	2 1.804	IDENTIFIED	8.514 <input type="checkbox"/>
Gross Gamma		9.636	1.55	pCi/g	4.218	N	0			<input type="checkbox"/>
Iodine-123	HE	1.70E+08	1.31E+08	pCi/g	0	N	0	12 0	SHORT_HLIF	0 <input type="checkbox"/>

Iodine-133	HE	13370	35600	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Iodine-135		5.26E+18	0	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Lead-212 ✓		1.425	0.08245	pCi/g 0.1456	0.100	238.4	4	1.143	IDENTIFIED 4.568	<input type="checkbox"/>
Lead-214 ✓		1.427	0.1016	pCi/g 0.1281	0.100	351.7	4	1.308	IDENTIFIED 5.831	<input type="checkbox"/>
Lutetium-177	HE	3.838	1.213	pCi/g 2.883	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Neptunium-237	HE	0.6885	0.172	pCi/g 0.4599	N	87.09	3	1.264	IDENTIFIED 22.43	<input type="checkbox"/>
Niobium-97	HE	3.36E+05	1.04E+06	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Polonium-212 nr		1.425	0.08245	pCi/g 0.1456	N	238.4	4	1.143	IDENTIFIED 4.568	<input type="checkbox"/>
Polonium-214 nr		1.427	0.1016	pCi/g 0.1281	N	351.7	4	1.308	IDENTIFIED 5.831	<input type="checkbox"/>
Polonium-216 nr		1.425	0.08245	pCi/g 0.1456	N	238.4	4	1.143	IDENTIFIED 4.568	<input type="checkbox"/>
Polonium-218 nr		1.427	0.1016	pCi/g 0.1281	N	351.7	4	1.308	IDENTIFIED 5.831	<input type="checkbox"/>
Potassium-40 ✓		22.16	1.185	pCi/g 0.4831	1.00	1460	1	1.789	IDENTIFIED 3.987	<input type="checkbox"/>
Radium-224 int		1.493	0.5137	pCi/g 1.417	Y	241.3	1	2.18	IDENTIFIED 34.3	<input type="checkbox"/> ui
Radium-226 ✓		1.249	0.1045	pCi/g 0.1236	Y	609	4	1.564	IDENTIFIED 7.287	<input type="checkbox"/>
Radium-228 ✓		1.621	0.1961	pCi/g 0.2385	0.500	910.9	3	1.311	IDENTIFIED 10.78	<input type="checkbox"/>
Thallium-200	HE	115	1637	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>
Thallium-208 ✓		0.5723	0.05164	pCi/g 0.06258	0.080	582.8	1	1.343	IDENTIFIED 8.283	<input type="checkbox"/>
Thorium-228 nr		1.451	0.08395	pCi/g 0.1483	N	238.4	4	1.143	IDENTIFIED 4.568	<input type="checkbox"/>
Thorium-230 nr		1.249	0.1045	pCi/g 0.1236	N	609	4	1.564	IDENTIFIED 7.287	<input type="checkbox"/>
Thorium-232 nr		1.621	0.1961	pCi/g 0.2385	N	910.9	3	1.311	IDENTIFIED 10.78	<input type="checkbox"/>
Thorium-234 ✓		6.766	1.569	pCi/g 2.331	2.00	62.73	2	0.9911	IDENTIFIED 21.57	<input type="checkbox"/>
Tin-126	HE	0.2345	0.05334	pCi/g 0.1689	N	87.09	3	1.264	IDENTIFIED 22.43	<input type="checkbox"/>
Titanium-44 la nr		0.4479	0.03298	pCi/g 0.08195	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Total Uranium		20.231	4.67E-06	ug/g 3.4703	N	0				<input type="checkbox"/>
Uranium-234 nr		1.249	0.1045	pCi/g 0.1236	N	609	4	1.564	IDENTIFIED 7.287	<input type="checkbox"/>
Uranium-238 nr		6.766	1.569	pCi/g 2.331	N	62.73	2	0.9911	IDENTIFIED 21.57	<input type="checkbox"/>
Zirconium-97		8.43E+07	2.14E+07	pCi/g 0	N	0	12	0	SHORT_HLIF 0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202032521		14-FEB-10 13:13	0	MB	LOAD	1		GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Iodine-135	HE	5.34E+08	7.26E+08	pCi/g 0	N	0	4	0	SHORT_HLIF 0	<input type="checkbox"/>
Krypton-85	HE	9.59	1.824	pCi/g 7.264	N	0	4	0	NOT_IDENTI 0	<input type="checkbox"/>
Strontium-85 la		0.04638	0.00882	pCi/g 0.03513	Y	0	4	0	NOT_IDENTI 0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Zirconium-97		8166	2196	pCi/g 0	N	0	4	0	SHORT_HLIF 0	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202032522	27-JAN-10 12:00	14-FEB-10 13:18	18.1	DUP	LOAD	1		LANL01004 GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr		1.49	0.1544	pCi/g 0.1718	N	910.8	3	1.261	IDENTIFIED 8.329	<input type="checkbox"/>
Americium-243 int nr		0.2647	0.04184	pCi/g 0.1222	N	74.57	1	0.8962	IDENTIFIED 14.83	<input type="checkbox"/>
Annihilation Rad.	HE	0.04809	0.02978	pCi/g 0.04712	N	510.9	1	1.78	IDENTIFIED 61.84	<input type="checkbox"/>
Barium-137m		0.4048	0.03582	pCi/g 0.05566	N	661.1	2	1.402	IDENTIFIED 8.496	<input type="checkbox"/>
Bismuth-211 int		3.835	0.2821	pCi/g 0.3297	Y	351.5	4	1.447	IDENTIFIED 6.389	<input type="checkbox"/> ui
Bismuth-212	HE	1.075	0.2185	pCi/g 0.648	N	0	12	0	FAIL_ABUND 0	<input type="checkbox"/>
Bismuth-214 ✓		1.139	0.08961	pCi/g 0.09954	0.200	608.9	4	1.377	IDENTIFIED 6.889	<input type="checkbox"/>

Cadmium-109	int	3.301	0.6219	pCi/g	1.697	Y	86.9	3	1.134	IDENTIFIED	17.98	<input type="checkbox"/>	ui
Cadmium-115	HE	14.02	12.73	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cerium-143		3008	494.1	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-137	✓	0.428	0.03788	pCi/g	0.05883	0.100	661.1	2	1.402	IDENTIFIED	8.496	<input type="checkbox"/>	
Gadolinium-153	HE	0.2923	0.07588	pCi/g	0.1672	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Gold-195	HE	0.8535	0.2215	pCi/g	0.4761	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Gross Gamma		10.16	1.509	pCi/g	4.224	N		0				<input type="checkbox"/>	
Iodine-135		5.46E+18	0	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.458	0.07567	pCi/g	0.08793	0.100	238.4	4	1.175	IDENTIFIED	3.545	<input type="checkbox"/>	
Lead-214	✓	1.334	0.1041	pCi/g	0.1149	0.100	351.5	4	1.447	IDENTIFIED	6.389	<input type="checkbox"/>	
Lutetium-177	HE	4.275	0.9728	pCi/g	2.443	N	209	1	1.369	IDENTIFIED	22.56	<input type="checkbox"/>	
Neptunium-237	int nr	0.9486	0.2038	pCi/g	0.5248	N	86.9	3	1.134	IDENTIFIED	17.98	<input type="checkbox"/>	
Niobium-95	HE	0.09803	0.02259	pCi/g	0.08585	N	0	12	0	NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-97		2.26E+06	9.66E+05	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-212	nr	1.458	0.07567	pCi/g	0.08793	N	238.4	4	1.175	IDENTIFIED	3.545	<input type="checkbox"/>	
Polonium-214	nr	1.334	0.1041	pCi/g	0.1149	N	351.5	4	1.447	IDENTIFIED	6.389	<input type="checkbox"/>	
Polonium-216	nr	1.458	0.07567	pCi/g	0.08793	N	238.4	4	1.175	IDENTIFIED	3.545	<input type="checkbox"/>	
Polonium-218	nr	1.334	0.1041	pCi/g	0.1149	N	351.5	4	1.447	IDENTIFIED	6.389	<input type="checkbox"/>	
Potassium-40	✓	24.43	1.31	pCi/g	0.2791	1.00	1460	1	2.1	IDENTIFIED	3.194	<input type="checkbox"/>	
Protactinium-234m	la nr	21.46	4.077	pCi/g	11.53	N	0	12	0	FAIL_ABUND	0	<input type="checkbox"/>	
Radium-224	int	3.356	0.5108	pCi/g	1	Y	241.5	1	1.49	IDENTIFIED	14.91	<input type="checkbox"/>	ui
Radium-226	✓	1.139	0.08961	pCi/g	0.09954	Y	608.9	4	1.377	IDENTIFIED	6.889	<input type="checkbox"/>	
Radium-228	✓	1.49	0.1544	pCi/g	0.1718	0.500	910.8	3	1.261	IDENTIFIED	8.329	<input type="checkbox"/>	
Sodium-24	HE	4.41E+06	9.35E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.4309	0.04547	pCi/g	0.05665	0.080	582.9	1	1.547	IDENTIFIED	10	<input type="checkbox"/>	
Thorium-228	nr	1.484	0.07705	pCi/g	0.08953	N	238.4	4	1.175	IDENTIFIED	3.545	<input type="checkbox"/>	
Thorium-230	nr	1.138	0.08961	pCi/g	0.09954	N	608.9	4	1.377	IDENTIFIED	6.889	<input type="checkbox"/>	
Thorium-232	nr	1.49	0.1544	pCi/g	0.1718	N	910.8	3	1.261	IDENTIFIED	8.329	<input type="checkbox"/>	
Thorium-234	✓	18.09	2.627	pCi/g	3.191	2.00	62.87	2	0.9567	IDENTIFIED	10.65	<input type="checkbox"/>	
Tin-126	int nr	0.3231	0.06086	pCi/g	0.1673	N	86.9	3	1.134	IDENTIFIED	17.98	<input type="checkbox"/>	
Titanium-44	la nr	0.1425	0.0256	pCi/g	0.0848	N	0	12	0	NOT_IDENTI	0	<input type="checkbox"/>	
Total Uranium		54.046	7.82E-06	ug/g	4.75	N		0				<input type="checkbox"/>	
Uranium-234	nr	1.138	0.08961	pCi/g	0.09954	N	608.9	4	1.377	IDENTIFIED	6.889	<input type="checkbox"/>	
Uranium-235	✓	0.5109	0.1724	pCi/g	0.3435	0.500	143	1	0.8089	IDENTIFIED	32.74	<input type="checkbox"/>	
Uranium-238	nr	18.09	2.627	pCi/g	3.191	N	62.87	2	0.9567	IDENTIFIED	10.65	<input type="checkbox"/>	
Zirconium-97		3.71E+07	1.83E+07	pCi/g	0	N	0	12	0	SHORT_HLIF	0	<input type="checkbox"/>	

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue	
1202032523		14-FEB-10 14:00	0	LCS	LOAD	1		GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.368	0.247	pCi/g	0.7062	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Americium-241	13.86	1.036	pCi/g	0.7421	0.200	59.46	1	0.9323	IDENTIFIED	3.993	<input type="checkbox"/>
Americium-243	0.6923	0.1288	pCi/g	0.1612	N	75.96	1	3.314	IDENTIFIED	17.7	<input type="checkbox"/>
Barium-137m	4.874	0.1737	pCi/g	0.1128	N	661.7	2	1.442	IDENTIFIED	2.599	<input type="checkbox"/>
Bismuth-211	1.856	0.2975	pCi/g	0.6088	Y	351.9	4	1.259	IDENTIFIED	15.67	<input type="checkbox"/>
Bismuth-212	1.165	0.3704	pCi/g	0.9789	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	0.579	0.13	pCi/g	0.2183	0.200	609.8	4	1.288	IDENTIFIED	22.15	<input type="checkbox"/>

Cadmium-109		29.95	2.262	pCi/g	2.29	Y	87.99	3	0.9036	IDENTIFIED	4.571	☐
Cesium-137	✓	5.153	0.1841	pCi/g	0.1192	0.100	661.7	2	1.442	IDENTIFIED	2.599	☐
Cobalt-57		0.2424	0.03368	pCi/g	0.06276	N	122.1	1	1.373	IDENTIFIED	13.45	☐
Cobalt-60	✓	6.374	0.2776	pCi/g	0.09554	0.100	1333	1	1.816	IDENTIFIED	2.688	☐
Gross Gamma		26.14	3.135	pCi/g	3.619	N		0				☐
Lead-212		0.9783	0.0854	pCi/g	0.2036	0.100	238.5	4	1.03	IDENTIFIED	7.752	☐
Lead-214		0.6455	0.1048	pCi/g	0.2208	0.100	351.9	4	1.259	IDENTIFIED	15.67	☐
Neptunium-237		8.717	1.115	pCi/g	0.7198	N	87.99	3	0.9036	IDENTIFIED	4.571	☐
Polonium-212		0.9783	0.0854	pCi/g	0.2036	N	238.5	4	1.03	IDENTIFIED	7.752	☐
Polonium-214		0.6455	0.1048	pCi/g	0.2208	N	351.9	4	1.259	IDENTIFIED	15.67	☐
Polonium-216		0.9783	0.0854	pCi/g	0.2036	N	238.5	4	1.03	IDENTIFIED	7.752	☐
Polonium-218		0.6455	0.1048	pCi/g	0.2208	N	351.9	4	1.259	IDENTIFIED	15.67	☐
Potassium-40		0.9463	0.267	pCi/g	0.4361	1.00	1461	1	0.9724	IDENTIFIED	27.99	☐
Radium-226		0.579	0.13	pCi/g	0.2183	Y	609.8	4	1.288	IDENTIFIED	22.15	☐
Radium-228		1.368	0.247	pCi/g	0.7062	0.500	0	7	0	FAIL_ABUND	0	☐
Sodium-24	HE	380.3	820.4	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐
Thallium-200	HE	12.16	11.62	pCi/g	0	N	0	7	0	SHORT_HLIF	0	☐
Thallium-208		0.4046	0.05047	pCi/g	0.1096	0.080	583.3	1	1.399	IDENTIFIED	12.07	☐
Thorium-228		0.9877	0.08622	pCi/g	0.2055	N	238.5	4	1.03	IDENTIFIED	7.752	☐
Thorium-230		0.579	0.13	pCi/g	0.2183	N	609.8	4	1.288	IDENTIFIED	22.15	☐
Thorium-232		1.368	0.247	pCi/g	0.7062	N	0	7	0	FAIL_ABUND	0	☐
Tin-126		2.969	0.2242	pCi/g	0.2287	N	87.99	3	0.9036	IDENTIFIED	4.571	☐
Titanium-44	HE	0.1602	0.03334	pCi/g	0.118	N	0	7	0	NOT_IDENTI	0	☐
Uranium-234		0.579	0.13	pCi/g	0.2183	N	609.8	4	1.288	IDENTIFIED	22.15	☐

*** = Number of isotopes identified with a keyline at this energy.

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
948721	245978015	SAMPLE	14-FEB-10	Radium-224	1.493	0.5137	pCi/g	0.7087	Y
				Radium-226	1.249	0.1045	pCi/g	0.06182	Y
				Radium-228	1.621	0.1961	pCi/g	0.1183	0.500
				Strontium-85	0.06738	0.02089	pCi/g	0.03745	Y
				Thallium-200	115	1637	pCi/g	0	N
				Thallium-208	0.5723	0.05164	pCi/g	0.03131	0.080
				Thorium-234	6.766	1.569	pCi/g	1.166	2.00
				Tin-113	0.06463	0.02607	pCi/g	0.04608	0.100
				Uranium-235	0.2197	0.1133	pCi/g	0.1897	0.500
				Uranium-238	6.766	1.569	pCi/g	1.166	N
				Zirconium-97	8.43E+07	2.14E+07	pCi/g	0	N
948721	1202032521	MB	14-FEB-10	Iodine-135	5.34E+08	7.26E+08	pCi/g	0	N
				Krypton-85	9.59	1.824	pCi/g	3.634	N
				Strontium-85	0.04638	0.00882	pCi/g	0.01757	Y
				Zirconium-97	8166	2196	pCi/g	0	N
948721	1202032522	DUP	14-FEB-10	Bismuth-210	13.3	4.763	pCi/g	8.908	N
				Bismuth-211	3.835	0.2821	pCi/g	0.185	Y
				Bismuth-214	1.139	0.08981	pCi/g	0.0498	0.200
				Cadmium-109	3.301	0.6219	pCi/g	0.8489	Y
				Cadmium-115	14.02	12.73	pCi/g	0	N
				Cerium-143	3008	494.1	pCi/g	0	N
				Cesium-137	0.428	0.03788	pCi/g	0.02943	0.100
				Gross Gamma	10.16	1.509	pCi/g	2.053	N
				Iodine-135	5.46E+18	0	pCi/g	0	N
				Krypton-85	5.998	3.456	pCi/g	5.41	N
				Lead-210	13.3	4.763	pCi/g	8.908	N
				Lead-212	1.458	0.07567	pCi/g	0.04399	0.100
				Lead-214	1.334	0.1041	pCi/g	0.0575	0.100
				Niobium-87	2.26E+06	9.66E+05	pCi/g	0	N
				Polonium-209	7.866	3.644	pCi/g	6.574	N
				Polonium-210	13.3	4.756	pCi/g	8.908	N
				Potassium-40	24.43	1.31	pCi/g	0.1397	1.00
				Protactinium-234m	21.46	4.077	pCi/g	5.767	N
				Radium-224	3.356	0.5108	pCi/g	0.5005	Y
				Radium-226	1.139	0.08981	pCi/g	0.0498	Y
				Radium-228	1.49	0.1544	pCi/g	0.08593	0.500
				Sodium-24	4.41E+06	9.35E+06	pCi/g	0	N

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:17:32.29

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978001.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:17:01
Sample ID    : G245978001 Sample quantity : 1.27590E+02 GRAM
Detector name : GAM10 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.18 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID : 948721 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.30*	117	402	1.06	126.75	123	8	1.63E-02	31.6	
2	3	74.61*	345	487	1.30	149.35	142	18	4.79E-02	12.7	6.14E+00
3	3	76.87	571	425	1.23	153.88	142	18	7.93E-02	7.5	
4	0	86.91*	234	428	1.27	173.94	171	7	3.24E-02	16.3	
5	0	93.35*	214	1013	1.49	186.80	180	14	2.97E-02	33.6	
6	0	185.58*	157	345	1.12	371.10	367	9	2.18E-02	23.8	
7	0	209.00	135	333	1.68	417.92	413	10	1.88E-02	26.8	
8	6	238.38*	1325	196	1.12	476.62	470	18	1.84E-01	3.3	1.36E+00
9	6	241.31	297	308	1.79	482.49	470	18	4.13E-02	15.8	
10	0	269.53	153	350	1.74	538.88	532	15	2.12E-02	27.9	
11	1	294.98	417	144	1.37	589.75	584	24	5.79E-02	7.0	1.66E+00
12	1	299.74*	98	131	1.40	599.25	584	24	1.36E-02	23.4	
13	0	327.46	38	245	0.98	654.66	649	11	5.26E-03	81.7	
14	0	338.01	217	145	1.29	675.74	672	8	3.02E-02	11.7	
15	0	351.59*	583	231	1.30	702.89	696	14	8.09E-02	7.0	
16	0	462.50	83	117	1.42	924.57	921	10	1.15E-02	26.8	
17	0	510.53*	60	187	1.33	1020.57	1015	14	8.29E-03	55.9	
18	0	582.89*	383	154	1.37	1165.22	1159	14	5.32E-02	8.8	
19	0	608.99*	412	126	1.65	1217.41	1211	12	5.72E-02	7.5	
20	0	727.23*	85	86	1.56	1453.79	1449	13	1.18E-02	25.7	
21	0	768.18	37	58	1.14	1535.66	1530	9	5.12E-03	40.8	
22	0	794.46	58	83	1.89	1588.21	1582	16	8.00E-03	37.9	
23	0	861.02	63	76	1.34	1721.30	1716	13	8.72E-03	31.1	
24	0	910.65*	254	66	1.79	1820.54	1814	12	3.53E-02	9.1	
25	0	968.76*	141	131	1.59	1936.75	1931	16	1.97E-02	21.1	
26	0	1000.72	32	39	1.50	2000.65	1996	8	4.38E-03	34.0	
27	0	1120.01*	94	88	1.97	2239.21	2232	13	1.30E-02	23.3	
28	0	1460.10*	1585	17	2.17	2919.50	2911	17	2.20E-01	2.6	
29	0	1589.44	54	6	5.52	3178.28	3168	22	7.54E-03	17.5	
30	0	1629.74	25	0	1.70	3258.92	3252	12	3.47E-03	20.0	
31	0	1660.82*	17	8	0.90	3321.11	3313	15	2.43E-03	42.8	
32	0	1763.58*	78	0	2.38	3526.74	3519	15	1.08E-02	12.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 13:17:35

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:17:01
Sample ID        : G245978001 Sample quantity : 127.59 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA10 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.18 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.946E+01	3.970E+00	5.544E-01	4.775E-02	71.181
CD-109	+	88.03	*	3.618E+00	1.246E+00	1.578E+00	1.789E-01	2.293
SN-126	+	64.28		1.575E+00	1.031E+00	1.057E+00	1.808E-01	1.490
	+	86.94		1.472E+00	7.820E-01	6.543E-01	2.748E-01	2.250
	+	87.57	*	3.541E-01	1.219E-01	1.602E-01	1.813E-02	2.210
CS-135	+	268.24	*	5.965E-01	3.362E-01	2.448E-01	1.979E-02	2.436
TL-208	+	277.35		3.139E-01	3.741E-01	6.463E-01	7.049E-02	0.486
	+	510.84		2.774E-01	3.117E-01	2.248E-01	2.363E-02	1.234
	+	583.14	*	5.090E-01	9.552E-02	5.972E-02	4.013E-03	8.523
	+	860.37		8.062E-01	5.079E-01	5.254E-01	5.131E-02	1.534
BI-211	+	72.87		1.059E+01	4.093E+00	7.029E+00	7.730E-01	1.507
	+	351.07	*	3.406E+00	5.363E-01	3.200E-01	2.333E-02	10.643
PB-212	+	74.81		2.455E+00	7.165E-01	6.550E-01	9.430E-02	3.748
	+	77.11		2.245E+00	4.160E-01	3.630E-01	3.969E-02	6.186
	+	87.30		1.638E+00	5.872E-01	7.442E-01	1.123E-01	2.201
	+	238.63	*	1.707E+00	1.721E-01	9.053E-02	6.867E-03	18.860
	+	300.09		1.932E+00	9.209E-01	1.200E+00	1.055E-01	1.610
PO-212	+	74.81		2.455E+00	7.165E-01	6.550E-01	9.430E-02	3.748
	+	77.11		2.245E+00	4.160E-01	3.630E-01	3.969E-02	6.186
	+	87.30		1.638E+00	5.872E-01	7.442E-01	1.123E-01	2.201
	+	115.19		-1.601E+00	3.796E+00	6.020E+00	4.307E-01	-0.266
	+	238.63	*	1.707E+00	1.721E-01	9.053E-02	6.867E-03	18.860
	+	300.09		1.932E+00	9.209E-01	1.200E+00	1.055E-01	1.610
BI-214	+	609.31	*	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
	+	1120.29		1.290E+00	6.146E-01	5.809E-01	5.677E-02	2.221
	+	1764.49		1.489E+00	3.887E-01	2.930E-01	1.957E-02	5.081
PB-214	+	74.81		4.231E+00	1.211E+00	1.129E+00	1.492E-01	3.748
	+	77.11		3.849E+00	7.711E-01	6.222E-01	8.292E-02	6.186
	+	87.30		2.806E+00	9.899E-01	1.275E+00	1.744E-01	2.201
	+	241.98		2.301E+00	7.497E-01	5.450E-01	4.535E-02	4.222
	+	295.21		1.446E+00	2.404E-01	2.103E-01	1.899E-02	6.877
	+	351.92	*	1.185E+00	1.966E-01	1.116E-01	1.000E-02	10.621
PO-214	+	74.81		4.231E+00	1.211E+00	1.129E+00	1.492E-01	3.748
	+	77.11		3.849E+00	7.711E-01	6.222E-01	8.292E-02	6.186

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		2.806E+00	9.899E-01	1.275E+00	1.744E-01	2.201
	+	241.98		2.301E+00	7.497E-01	5.450E-01	4.535E-02	4.222
	+	295.21		1.446E+00	2.404E-01	2.103E-01	1.899E-02	6.877
	+	351.92	*	1.185E+00	1.966E-01	1.116E-01	1.000E-02	10.621
PO-216	+	74.81		2.455E+00	7.165E-01	6.550E-01	9.430E-02	3.748
	+	77.11		2.245E+00	4.160E-01	3.630E-01	3.969E-02	6.186
	+	87.30		1.638E+00	5.872E-01	7.442E-01	1.123E-01	2.201
	+	238.63	*	1.707E+00	1.721E-01	9.053E-02	6.867E-03	18.860
	+	300.09		1.932E+00	9.209E-01	1.200E+00	1.055E-01	1.610
PO-218	+	74.81		4.231E+00	1.211E+00	1.129E+00	1.492E-01	3.748
	+	77.11		3.849E+00	7.711E-01	6.222E-01	8.292E-02	6.186
	+	87.30		2.806E+00	9.899E-01	1.275E+00	1.744E-01	2.201
	+	241.98		2.301E+00	7.497E-01	5.450E-01	4.535E-02	4.222
	+	295.21		1.446E+00	2.404E-01	2.103E-01	1.899E-02	6.877
	+	351.92	*	1.185E+00	1.966E-01	1.116E-01	1.000E-02	10.621
RA-224	+	240.98	*	4.363E+00	1.400E+00	1.030E+00	6.323E-02	4.235
RA-226	+	609.31	*	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
	+	1120.29		1.290E+00	6.146E-01	5.809E-01	5.677E-02	2.221
	+	1764.49		1.489E+00	3.887E-01	2.930E-01	1.957E-02	5.081
AC-228	+	338.32		1.400E+00	6.603E-01	3.680E-01	1.505E-01	3.804
	+	911.07	*	1.553E+00	3.412E-01	2.231E-01	2.754E-02	6.958
	+	969.11		1.532E+00	7.425E-01	5.030E-01	1.189E-01	3.046
RA-228	+	338.32		1.400E+00	6.603E-01	3.680E-01	1.505E-01	3.804
	+	911.07	*	1.553E+00	3.412E-01	2.231E-01	2.754E-02	6.958
	+	969.11		1.532E+00	7.425E-01	5.030E-01	1.189E-01	3.046
TH-228	+	74.81		2.500E+00	6.916E-01	6.669E-01	7.340E-02	3.748
	+	77.11		2.286E+00	4.235E-01	3.695E-01	4.040E-02	6.186
	+	87.30		1.668E+00	5.740E-01	7.577E-01	8.561E-02	2.201
	+	238.63	*	1.738E+00	1.752E-01	9.217E-02	6.991E-03	18.860
	+	300.09		1.967E+00	1.482E+00	1.222E+00	7.212E-01	1.610
TH-230	+	609.31	*	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
	+	1120.29		1.290E+00	6.146E-01	5.809E-01	5.677E-02	2.221
	+	1764.49		1.489E+00	3.887E-01	2.930E-01	1.957E-02	5.081
TH-232	+	338.32		1.400E+00	3.419E-01	3.680E-01	2.467E-02	3.804
	+	911.07	*	1.553E+00	3.412E-01	2.231E-01	2.754E-02	6.958
	+	969.11		1.532E+00	7.425E-01	5.030E-01	1.189E-01	3.046
TH-234	+	63.29	*	3.980E+00	2.633E+00	2.874E+00	5.665E-01	1.385
	+	92.38		2.020E+00	1.408E+00	9.115E-01	1.725E-01	2.216
U-234	+	609.31	*	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
	+	1120.29		1.290E+00	6.146E-01	5.809E-01	5.677E-02	2.221
	+	1764.49		1.489E+00	3.887E-01	2.930E-01	1.957E-02	5.081
NP-237	+	86.50	*	1.040E+00	4.174E-01	4.580E-01	1.076E-01	2.271
		95.87		-3.611E-01	1.123E+00	1.611E+00	4.025E-01	-0.224
U-238	+	63.29	*	3.980E+00	2.633E+00	2.874E+00	5.665E-01	1.385
	+	92.38		2.020E+00	1.371E+00	9.115E-01	9.366E-02	2.216
AM-243	+	74.67	*	3.981E-01	1.100E-01	1.067E-01	1.168E-02	3.731
	+	86.72		3.900E+01	1.343E+01	1.740E+01	1.959E+00	2.242
		117.66		5.251E-02	4.046E+00	6.571E+00	4.559E-01	0.008
		142.18		-6.452E+00	1.833E+01	2.870E+01	1.713E+00	-0.225

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	5.992E-02	6.714E-02	4.857E-02	3.112E-03	1.234

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-2.121E-02	3.287E-01	5.283E-01	3.928E-02	-0.040
NA-22		1274.54	*	-2.188E-02	5.013E-02	7.997E-02	6.194E-03	-0.274
NA-24		1368.53	*	9.256E-01	5.013E-02	Half-Life too short		
AL-26		1129.67		-1.149E-01	1.890E+00	3.158E+00	2.215E-01	-0.036
		1808.65	*	1.022E-02	2.949E-02	5.116E-02	3.244E-03	0.200
TI-44		67.85		-9.373E-03	6.457E-02	9.534E-02	1.076E-02	-0.098
		78.38	*	1.808E-01	5.039E-02	7.944E-02	8.693E-03	2.277
SC-46		889.25	*	2.632E-03	4.500E-02	7.394E-02	7.317E-03	0.036
	+	1120.51		2.261E-01	1.067E-01	1.500E-01	1.077E-02	1.508
V-48		944.10		-4.655E-01	1.073E+00	1.671E+00	1.619E-01	-0.279
		983.50	*	4.192E-02	9.090E-02	1.535E-01	1.419E-02	0.273
		1312.09		-6.132E-02	9.561E-02	1.469E-01	1.227E-02	-0.417
CR-51		320.08	*	-9.742E-02	3.867E-01	6.312E-01	4.559E-02	-0.154
MN-52		744.21		1.375E-01	3.498E-01	5.972E-01	3.896E-02	0.230
		848.13		-3.946E-01	9.559E+00	1.562E+01	1.385E+00	-0.025
		935.52		1.930E-01	3.941E-01	6.688E-01	6.539E-02	0.289
		1246.25		-3.694E-01	1.245E+01	2.071E+01	1.508E+00	-0.018
		1333.61		3.913E+00	7.337E+00	1.290E+01	1.121E+00	0.303
		1434.06	*	-4.972E-02	3.213E-01	5.170E-01	4.369E-02	-0.096
MN-54		834.83	*	-1.203E-02	4.182E-02	6.713E-02	5.735E-03	-0.179
CO-56		846.75	*	-5.482E-03	3.980E-02	6.445E-02	5.692E-03	-0.085
		977.42		3.055E-01	3.651E+00	5.421E+00	5.052E-01	0.056
		1037.82		8.456E-02	3.757E-01	6.191E-01	5.567E-02	0.137
		1175.09		3.473E-01	2.727E+00	4.609E+00	2.855E-01	0.075
		1238.25		1.761E-01	1.131E-01	2.062E-01	1.537E-02	0.854
		1360.21		-1.594E-01	1.101E+00	1.789E+00	1.546E-01	-0.089
		1771.40		-1.970E-01	2.536E-01	3.435E-01	2.276E-02	-0.574
CO-57		122.06	*	-1.407E-02	2.648E-02	4.190E-02	2.764E-03	-0.336
		136.48		-8.711E-02	2.115E-01	3.344E-01	2.339E-02	-0.260
CO-58		810.76	*	-9.322E-03	3.932E-02	6.329E-02	5.064E-03	-0.147
FE-59		142.65		-1.716E-01	2.929E+00	4.644E+00	2.767E-01	-0.037
		192.34		-3.894E-01	1.015E+00	1.576E+00	1.853E-01	-0.247
		1099.22	*	2.821E-02	1.160E-01	1.905E-01	1.590E-02	0.148
		1291.56		-4.681E-02	1.505E-01	2.426E-01	2.245E-02	-0.193
CO-60		1173.22		1.601E-03	5.122E-02	8.587E-02	5.295E-03	0.019
		1332.49	*	5.055E-02	3.925E-02	7.422E-02	6.450E-03	0.681
ZN-65		1115.52	*	-1.900E-02	1.236E-01	1.676E-01	1.221E-02	-0.113
GE-68		1077.35	*	2.360E-01	1.358E+00	2.225E+00	1.763E-01	0.106
AS-73		53.44	*	1.269E-02	1.608E+00	2.692E+00	3.562E-01	0.005
AS-74		595.88	*	1.731E-02	1.027E-01	1.748E-01	9.984E-03	0.099
		634.78		-1.705E-01	4.093E-01	6.646E-01	3.508E-02	-0.256
SE-75		66.05		-1.522E+00	6.851E+00	1.008E+01	1.299E+00	-0.151
		96.73		2.341E-01	9.211E-01	1.365E+00	1.932E-01	0.172

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-1.049E-02	1.432E-01	2.314E-01	2.267E-02	-0.045
		136.00		-3.021E-03	3.942E-02	6.332E-02	3.932E-03	-0.048
		198.60		-1.300E+00	1.926E+00	2.900E+00	2.054E-01	-0.448
		264.65	*	-1.358E-02	4.664E-02	6.686E-02	4.264E-03	-0.203
		279.53		-1.393E-01	1.081E-01	1.679E-01	1.151E-02	-0.830
		303.91		8.294E-01	2.210E+00	3.321E+00	3.329E-01	0.250
		400.65		5.283E-02	2.497E-01	4.136E-01	4.039E-02	0.128
BR-77	+	87.88		1.789E+03	6.159E+02	8.551E+02	9.695E+01	2.092
		200.40		-3.987E+01	3.940E+02	6.194E+02	3.573E+01	-0.064
	+	239.00		6.301E+02	5.687E+01	8.934E+01	5.469E+00	7.053
		249.79		1.080E+02	1.485E+02	2.576E+02	1.600E+01	0.419
		281.68		-1.186E+01	1.964E+02	3.267E+02	2.103E+01	-0.036
		297.23		2.142E+02	1.242E+02	2.216E+02	1.447E+01	0.967
		303.76		1.456E+02	4.248E+02	6.370E+02	4.180E+01	0.229
		439.47		3.394E+02	3.381E+02	5.841E+02	3.927E+01	0.581
		484.57		1.869E+02	5.241E+02	8.678E+02	5.686E+01	0.215
		520.65	*	7.380E+00	2.473E+01	4.060E+01	2.576E+00	0.182
		574.64		-1.094E+02	4.663E+02	7.734E+02	4.577E+01	-0.141
		578.91		-7.907E+01	2.371E+02	3.375E+02	1.984E+01	-0.234
		585.48		1.333E+03	5.105E+02	8.862E+02	5.155E+01	1.504
		755.35		3.709E+02	4.011E+02	7.091E+02	4.790E+01	0.523
		817.79		-1.361E+02	3.234E+02	5.121E+02	4.169E+01	-0.266
SR-82		698.33		-1.106E+01	3.512E+01	5.698E+01	3.197E+00	-0.194
		776.49	*	-6.843E-01	4.523E-01	6.446E-01	4.647E-02	-1.062
		1395.20		-9.466E+00	1.157E+01	1.673E+01	1.432E+00	-0.566
RB-83		520.41	*	1.803E-02	7.253E-02	1.186E-01	7.530E-03	0.152
		529.64		-2.966E-02	1.138E-01	1.788E-01	1.123E-02	-0.166
		552.65		-1.898E-01	2.157E-01	3.198E-01	1.953E-02	-0.593
RB-84		881.50	*	-2.117E-02	7.994E-02	1.276E-01	1.237E-02	-0.166
KR-85		513.99	*	7.760E+00	8.004E+00	1.226E+01	7.833E-01	0.633
SR-85		513.99	*	4.100E-02	4.229E-02	6.479E-02	4.138E-03	0.633
RB-86		1076.63	*	-2.890E-01	9.739E-01	1.521E+00	1.207E-01	-0.190
Y-88		898.02		8.500E-03	4.910E-02	8.135E-02	8.265E-03	0.104
		1836.01	*	-1.787E-02	3.546E-02	5.077E-02	3.115E-03	-0.352
ZR-88		392.90	*	4.553E-03	3.046E-02	5.031E-02	3.419E-03	0.091
Y-91		1204.90	*	-4.061E+00	2.361E+01	3.895E+01	2.587E+00	-0.104
NB-94		702.63	*	-2.132E-03	3.420E-02	5.661E-02	3.223E-03	-0.038
		871.10		-8.741E-03	3.658E-02	5.858E-02	5.526E-03	-0.149
NB-95		765.79	*	1.588E-02	5.102E-02	7.562E-02	5.277E-03	0.210
NB-95M		235.69	*	1.684E-01	1.408E-01	2.222E-01	1.723E-02	0.758
ZR-95		724.18		1.012E-02	1.160E-01	1.687E-01	1.202E-02	0.060
		756.15	*	9.256E-02	7.710E-02	1.385E-01	1.088E-02	0.668
NB-97		657.90	*	1.687E+00	7.710E-02	Half-Life	too short	
		1024.50		-1.278E+02	7.710E-02	Half-Life	too short	
ZR-97		254.15		-7.799E+01	7.710E-02	Half-Life	too short	
		355.39		1.850E+01	7.710E-02	Half-Life	too short	
		507.63	*	4.162E+01	7.710E-02	Half-Life	too short	
		602.52		-9.103E+01	7.710E-02	Half-Life	too short	
		1021.30		6.630E+01	7.710E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1147.95			-2.850E+01	7.710E-02	Half-Life	too short	
	1362.66			7.760E+01	7.710E-02	Half-Life	too short	
	1750.46			-9.938E+00	7.710E-02	Half-Life	too short	
MO-99	140.51			-5.558E+01	5.715E+01	8.408E+01	2.270E+01	-0.661
	181.06			2.905E+01	3.760E+01	5.531E+01	9.441E+00	0.525
	366.43			-1.114E+02	1.699E+02	2.671E+02	1.809E+01	-0.417
	739.58	*		-1.318E+01	2.410E+01	3.800E+01	5.342E+00	-0.347
	778.00			4.554E+01	7.141E+01	1.231E+02	8.919E+00	0.370
TC-99M	140.51	*		-1.045E+14	7.141E+01	Half-Life	too short	
RH-101	127.23			2.962E-02	3.338E-02	5.584E-02	3.569E-03	0.530
	198.01	*		9.075E-03	3.400E-02	5.370E-02	3.085E-03	0.169
	325.23			5.915E-02	2.451E-01	3.628E-01	2.415E-02	0.163
RH-102	418.52			9.675E-02	2.924E-01	4.865E-01	3.294E-02	0.199
	475.06	*		-2.343E-02	2.961E-02	4.491E-02	2.962E-03	-0.522
	631.29			-8.502E-03	5.541E-02	9.180E-02	4.884E-03	-0.093
	697.49			-3.643E-02	7.327E-02	1.170E-01	6.548E-03	-0.311
	766.84	+		1.572E-01	1.289E-01	1.999E-01	1.399E-02	0.787
	1046.59			5.211E-02	1.371E-01	2.288E-01	1.921E-02	0.228
	1112.84			7.062E-03	3.044E-01	4.223E-01	3.092E-02	0.017
RU-103	497.08	*		-3.789E-02	4.584E-02	6.885E-02	8.933E-03	-0.550
	610.33	+		1.173E+01	2.520E+00	2.947E+00	4.517E-01	3.981
RH-106	511.85	+		3.009E-01	3.371E-01	4.131E-01	2.644E-02	0.728
	621.84	*		5.571E-02	3.111E-01	5.284E-01	6.108E-02	0.105
	1050.47			1.653E+00	2.799E+00	4.744E+00	3.957E-01	0.348
RU-106	511.85	+		3.009E-01	3.371E-01	4.131E-01	2.644E-02	0.728
	621.84	*		5.571E-02	3.110E-01	5.284E-01	2.870E-02	0.105
	1050.47			1.653E+00	2.799E+00	4.744E+00	3.957E-01	0.348
AG-108M	433.93	*		-9.194E-03	3.270E-02	5.209E-02	3.735E-03	-0.176
	614.37			-1.090E-02	4.134E-02	5.870E-02	3.540E-03	-0.186
	722.95			1.630E-03	4.584E-02	6.633E-02	4.352E-03	0.025
AG-110M	657.75	*		3.552E-02	3.544E-02	6.333E-02	3.431E-03	0.561
	677.61			1.047E-01	3.075E-01	5.259E-01	2.952E-02	0.199
	706.67			6.641E-02	2.195E-01	3.728E-01	2.282E-02	0.178
	763.93			9.374E-02	1.895E-01	2.866E-01	2.075E-02	0.327
	884.67			2.189E-02	5.093E-02	8.656E-02	8.677E-03	0.253
	937.48			-2.326E-01	1.327E-01	1.777E-01	1.783E-02	-1.309
	1384.27			4.398E-03	1.711E-01	2.837E-01	2.506E-02	0.016
IN-111	171.28			1.076E+00	1.993E+00	3.257E+00	1.791E-01	0.330
	245.39	*		1.064E+00	2.255E+00	3.445E+00	2.127E-01	0.309
IN-113M	391.69	*		-3.202E-02	4.444E-02	6.915E-02	4.931E-03	-0.463
SN-113	391.69	*		-3.202E-02	4.444E-02	6.915E-02	4.931E-03	-0.463
IN-114M	190.27	*		9.813E-02	2.143E-01	3.103E-01	1.760E-02	0.316
CD-115	260.90			-1.595E-04	2.143E-01	Half-Life	too short	
	492.35			3.575E-05	2.143E-01	Half-Life	too short	
	527.90	*		-6.243E-06	2.143E-01	Half-Life	too short	
SN-117M	156.02			-2.502E+00	2.716E+00	4.163E+00	2.357E-01	-0.601
	158.56	*		1.999E-02	6.512E-02	1.056E-01	5.922E-03	0.189
SB-122	563.90	*		3.761E+00	3.976E+00	6.849E+00	4.119E-01	0.549
	692.80			1.468E+01	8.412E+01	1.420E+02	7.818E+00	0.103

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	159.00	*		9.651E+01	8.412E+01	Half-Life	too short	
	528.96			-7.717E+03	8.412E+01	Half-Life	too short	
TE-123M	159.00	*		1.305E-02	2.963E-02	4.832E-02	2.744E-03	0.270
I-124	602.71	*		-8.487E-01	1.188E+00	1.610E+00	9.084E-02	-0.527
	722.78			6.480E-01	7.712E+00	1.122E+01	6.831E-01	0.058
	1325.50			1.167E+01	5.539E+01	9.415E+01	8.071E+00	0.124
	1376.25			6.744E+01	5.553E+01	1.028E+02	8.846E+00	0.656
	1509.49			2.120E+01	2.464E+01	4.532E+01	3.706E+00	0.468
	1691.02			2.593E+00	5.887E+00	1.039E+01	7.475E-01	0.249
SB-124	602.71			-3.176E-02	4.447E-02	6.026E-02	3.401E-03	-0.527
	645.85			7.069E-02	4.908E-01	8.303E-01	4.954E-02	0.085
	709.31			4.733E-01	2.929E+00	4.927E+00	2.869E-01	0.096
	713.82			-1.153E-01	1.610E+00	2.659E+00	2.731E-01	-0.043
	722.78			3.515E-02	4.183E-01	6.086E-01	3.864E-02	0.058
	+ 968.20			1.630E+01	7.063E+00	8.454E+00	7.969E-01	1.928
	1045.16			-4.441E-01	2.979E+00	4.741E+00	3.993E-01	-0.094
	1325.50			6.761E-01	3.209E+00	5.455E+00	4.676E-01	0.124
	1368.21			9.579E-02	1.791E+00	2.983E+00	4.021E-01	0.032
	1436.60			-2.510E+00	3.691E+00	5.407E+00	4.565E-01	-0.464
	1691.02	*		3.317E-02	7.533E-02	1.330E-01	1.010E-02	0.249
SB-125	427.89	*		-2.338E-02	8.920E-02	1.424E-01	9.915E-03	-0.164
	+ 463.38			7.536E-01	4.077E-01	5.668E-01	4.251E-02	1.330
	600.56			2.962E-02	1.705E-01	2.901E-01	1.912E-02	0.102
	635.90			4.450E-02	2.772E-01	4.696E-01	2.977E-02	0.095
TE-125M	109.28	*		3.125E+00	1.023E+01	1.686E+01	1.620E+00	0.185
I-126	388.63			-1.763E-02	2.408E-01	3.924E-01	2.667E-02	-0.045
	666.33	*		-4.462E-02	2.021E-01	3.316E-01	1.664E-02	-0.135
	753.82			1.692E-01	1.811E+00	3.019E+00	2.030E-01	0.056
SB-126	223.80			2.309E+00	4.746E+00	8.170E+00	4.892E-01	0.283
	278.60			6.067E-01	2.840E+00	4.790E+00	3.075E-01	0.127
	296.50			1.061E+01	2.098E+00	3.926E+00	2.562E-01	2.703
	414.70			4.934E-02	8.602E-02	1.455E-01	9.855E-03	0.339
	415.30			8.948E-01	7.185E+00	1.181E+01	8.000E-01	0.076
	555.20			4.434E+00	4.906E+00	8.372E+00	5.097E-01	0.530
	573.80			1.582E-01	1.182E+00	2.011E+00	1.192E-01	0.079
	593.00			-1.756E-02	1.102E+00	1.852E+00	1.064E-01	-0.009
	656.30			-3.467E-01	4.062E+00	6.747E+00	3.377E-01	-0.051
	666.33			-1.877E-02	8.501E-02	1.395E-01	6.997E-03	-0.135
	675.00			-1.283E+00	2.330E+00	3.717E+00	1.923E-01	-0.345
	695.00			1.574E-02	8.375E-02	1.415E-01	7.850E-03	0.111
	697.00			-6.565E-02	2.997E-01	4.901E-01	2.737E-02	-0.134
	720.50	*		2.872E-02	1.781E-01	2.832E-01	1.711E-02	0.101
	856.80			1.758E-01	6.626E-01	9.708E-01	8.811E-02	0.181
	989.30			-6.552E-01	1.728E+00	2.703E+00	2.481E-01	-0.242
	1034.80			4.256E+00	1.220E+01	2.032E+01	1.742E+00	0.209
	1213.00			-5.384E+00	6.828E+00	1.073E+01	7.261E-01	-0.502
SB-127	61.10			4.133E+01	1.463E+02	2.215E+02	3.272E+01	0.187
	252.40			-2.482E+00	7.265E+00	1.187E+01	4.969E+00	-0.209
	290.80			-1.089E+01	3.826E+01	5.484E+01	5.832E+00	-0.199

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	411.60			-9.484E+00	2.099E+01	3.317E+01	5.136E+00	-0.286
	444.90			4.731E+00	1.564E+01	2.592E+01	3.158E+00	0.182
	473.00			1.650E+00	2.767E+00	4.654E+00	5.805E-01	0.355
	543.00			2.391E+00	2.677E+01	4.317E+01	5.979E+00	0.055
	603.60			-1.482E+01	2.160E+01	2.930E+01	3.399E+00	-0.506
	685.20	*		2.288E-01	2.136E+00	3.590E+00	3.674E-01	0.064
	698.50			-9.654E+00	2.418E+01	3.889E+01	5.873E+00	-0.248
	722.20			1.418E+01	5.587E+01	8.277E+01	8.596E+00	0.171
	783.80			2.136E+00	6.690E+00	1.129E+01	1.405E+00	0.189
XE-127	57.60			-7.869E+00	1.040E+01	1.677E+01	2.132E+00	-0.469
	145.22			-3.294E-02	7.400E-01	1.187E+00	6.999E-02	-0.028
	172.10			-3.056E-02	1.284E-01	2.022E-01	1.113E-02	-0.151
	202.84	*		3.473E-02	5.057E-02	8.542E-02	4.946E-03	0.407
	374.96			-1.464E-01	1.926E-01	2.989E-01	2.028E-02	-0.490
I-131	80.18			7.148E-01	6.845E+00	1.016E+01	1.121E+00	0.070
	284.30			1.105E-01	1.834E+00	3.069E+00	2.170E-01	0.036
	364.48	*		-4.254E-02	1.455E-01	2.347E-01	1.732E-02	-0.181
	636.97			1.542E+00	1.997E+00	3.524E+00	2.129E-01	0.438
TE-132	722.89			5.209E-01	9.885E+00	1.433E+01	8.884E-01	0.036
	49.72			-4.705E+01	7.641E+01	1.244E+02	1.853E+01	-0.378
	111.76			3.337E+01	5.826E+01	9.673E+01	1.048E+01	0.345
	116.30			3.002E+00	5.368E+01	8.682E+01	9.158E+00	0.035
	228.16	*		-5.669E-01	1.223E+00	2.018E+00	3.039E-01	-0.281
BA-133	53.15			1.062E+00	6.925E+00	1.166E+01	1.544E+00	0.091
	79.62			1.797E+00	1.547E+00	2.371E+00	3.951E-01	0.758
	81.00			-1.679E-01	1.238E-01	1.655E-01	2.860E-02	-1.015
	276.40			1.817E-01	4.045E-01	6.417E-01	8.500E-02	0.283
	302.84			5.372E-02	1.500E-01	2.249E-01	2.711E-02	0.239
	356.01	*		1.388E-02	4.662E-02	6.900E-02	8.324E-03	0.201
	383.85			1.241E-01	2.995E-01	5.028E-01	5.747E-02	0.247
I-133	+	510.53		5.972E+00	2.995E-01	Half-Life	too short	
		529.87	*	-2.693E-02	2.995E-01	Half-Life	too short	
		706.58		1.304E+00	2.995E-01	Half-Life	too short	
		856.28		8.313E-02	2.995E-01	Half-Life	too short	
		875.33		8.415E-01	2.995E-01	Half-Life	too short	
		1236.41		6.560E+00	2.995E-01	Half-Life	too short	
		1298.22		-1.141E+00	2.995E-01	Half-Life	too short	
CS-134		475.35		-1.328E+00	1.920E+00	2.936E+00	1.936E-01	-0.452
		563.23		9.320E-02	3.501E-01	5.712E-01	3.506E-02	0.163
		569.32		4.815E-02	1.894E-01	3.086E-01	1.893E-02	0.156
		604.70		-2.350E-02	3.805E-02	5.223E-02	2.953E-03	-0.450
	+	795.84	*	1.128E-01	8.592E-02	9.199E-02	7.092E-03	1.226
		801.93		1.049E-01	4.767E-01	6.921E-01	5.419E-02	0.152
		1038.57		5.233E-01	4.570E+00	7.459E+00	6.353E-01	0.070
		1167.94		-8.598E-01	2.796E+00	4.564E+00	2.863E-01	-0.188
		1365.15		5.902E-01	1.331E+00	2.318E+00	2.091E-01	0.255
I-135		288.45		-1.420E+12	1.331E+00	Half-Life	too short	
		417.63		2.272E+13	1.331E+00	Half-Life	too short	
		546.56		-9.346E+12	1.331E+00	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		836.80		4.048E+13	1.331E+00	Half-Life	too short	
		1038.76		4.963E+12	1.331E+00	Half-Life	too short	
		1124.00		2.215E+13	1.331E+00	Half-Life	too short	
		1131.51		-3.970E+12	1.331E+00	Half-Life	too short	
		1260.41	*	9.805E+11	1.331E+00	Half-Life	too short	
		1457.56		1.657E+15	1.331E+00	Half-Life	too short	
		1678.03		-1.957E+11	1.331E+00	Half-Life	too short	
		1706.46		2.317E+13	1.331E+00	Half-Life	too short	
		1791.20		2.930E+12	1.331E+00	Half-Life	too short	
		66.91		-7.918E-01	1.307E+00	1.877E+00	3.216E-01	-0.422
	+	86.29		5.371E+00	1.919E+00	2.681E+00	3.950E-01	2.004
		153.22		-2.266E-01	7.763E-01	1.228E+00	8.794E-02	-0.185
		163.89		3.251E-01	1.292E+00	2.086E+00	1.464E-01	0.156
		176.55		4.307E-01	4.264E-01	7.096E-01	4.467E-02	0.607
		273.65		-4.912E-01	6.215E-01	8.669E-01	6.188E-02	-0.567
		340.57		1.784E-01	1.592E-01	2.493E-01	1.753E-02	0.715
		818.51		-1.830E-02	9.293E-02	1.503E-01	1.228E-02	-0.122
		1048.07	*	2.645E-02	1.524E-01	2.512E-01	2.199E-02	0.105
		1235.34		2.454E-01	8.423E-01	1.431E+00	1.546E-01	0.171
BA-137M		661.65	*	9.136E-03	3.685E-02	6.260E-02	3.089E-03	0.146
CS-137		661.65	*	9.658E-03	3.895E-02	6.618E-02	3.284E-03	0.146
CE-139		165.85	*	1.053E-02	3.039E-02	4.929E-02	2.692E-03	0.214
BA-140		162.64		2.810E-01	9.115E-01	1.476E+00	9.270E-02	0.190
		304.84		5.809E-01	1.529E+00	2.289E+00	6.286E-01	0.254
		423.70		9.461E-01	2.282E+00	3.783E+00	1.209E+00	0.250
		537.32	*	1.162E-01	3.159E-01	5.168E-01	1.685E-01	0.225
LA-140	+	328.77		3.522E-01	5.758E-01	6.583E-01	4.796E-02	0.535
		432.53		9.654E-01	2.338E+00	3.910E+00	2.842E-01	0.247
		487.03		5.855E-02	1.581E-01	2.621E-01	1.895E-02	0.223
		751.79		-2.339E+00	2.076E+00	3.099E+00	2.428E-01	-0.755
		815.85		-2.318E-01	3.940E-01	6.134E-01	5.610E-02	-0.378
		867.82		-6.623E-01	2.028E+00	2.751E+00	2.689E-01	-0.241
		919.63		-9.136E-01	3.420E+00	5.431E+00	6.372E-01	-0.168
		925.24		8.225E-01	1.349E+00	2.323E+00	2.405E-01	0.354
		1596.49	*	-3.035E-02	1.165E-01	1.526E-01	1.184E-02	-0.199
CE-141		145.44	*	-2.928E-02	6.864E-02	1.082E-01	6.624E-03	-0.271
CE-143		57.37		-3.751E-03	6.864E-02	Half-Life	too short	
		231.56		-4.789E-04	6.864E-02	Half-Life	too short	
		293.26	*	3.579E-03	6.864E-02	Half-Life	too short	
	+	350.59		1.138E-01	6.864E-02	Half-Life	too short	
		490.36		-7.252E-03	6.864E-02	Half-Life	too short	
		664.57		-1.240E-03	6.864E-02	Half-Life	too short	
		721.93		3.221E-03	6.864E-02	Half-Life	too short	
CE-144		80.11		4.717E-01	2.491E+00	3.711E+00	4.072E-01	0.127
		133.54	*	-1.645E-01	2.078E-01	3.212E-01	4.614E-02	-0.512
PM-144		476.78		4.375E-03	6.695E-02	1.087E-01	8.275E-03	0.040
		618.01		-1.658E-02	3.036E-02	4.879E-02	2.851E-03	-0.340
		696.49	*	9.388E-03	3.271E-02	5.566E-02	3.107E-03	0.169
		778.57		1.793E+00	2.349E+00	4.088E+00	2.968E-01	0.439

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		696.49	*	6.371E-01	2.220E+00	3.777E+00	2.106E-01	0.169
		1489.15		-1.205E+00	1.202E+01	1.944E+01	1.605E+00	-0.062
PM-146		453.90	*	-2.782E-03	4.318E-02	6.965E-02	6.433E-03	-0.040
		633.02		3.254E-01	1.408E+00	2.390E+00	8.781E-01	0.136
		735.90		3.706E-02	1.491E-01	2.455E-01	6.875E-02	0.151
		747.13		-2.154E-02	9.459E-02	1.537E-01	1.981E-02	-0.140
ND-147		91.11		3.285E-01	5.639E-01	7.036E-01	7.844E-02	0.467
		319.41		-4.917E-01	3.759E+00	6.179E+00	4.102E-01	-0.080
		439.89		1.786E+00	7.324E+00	1.208E+01	8.127E-01	0.148
		531.02	*	-1.428E-01	7.151E-01	1.128E+00	1.549E-01	-0.127
PM-149		285.90	*	6.123E-05	7.151E-01	Half-Life	too short	
EU-152		121.78		-2.095E-02	7.492E-02	1.199E-01	9.880E-03	-0.175
		244.69		1.322E-01	3.421E-01	5.199E-01	3.207E-02	0.254
		344.27	*	-1.393E-01	9.915E-02	1.421E-01	1.047E-02	-0.980
		443.98		-4.990E-01	9.622E-01	1.503E+00	1.008E-01	-0.332
		778.89		3.501E-01	2.638E-01	4.804E-01	3.488E-02	0.729
		867.32		3.748E-01	9.682E-01	1.442E+00	1.346E-01	0.260
		964.01		4.714E-01	3.932E-01	6.204E-01	5.878E-02	0.760
		1085.78		1.390E-01	4.175E-01	6.949E-01	5.409E-02	0.200
		1112.02		1.671E-01	4.025E-01	6.128E-01	4.494E-02	0.273
		1407.95		5.695E-02	1.825E-01	3.135E-01	2.673E-02	0.182
GD-153		69.67		1.334E+00	2.260E+00	3.445E+00	3.842E-01	0.387
		83.37		1.847E+01	1.796E+01	2.766E+01	3.065E+00	0.668
		97.43	*	3.868E-02	9.318E-02	1.392E-01	1.296E-02	0.278
		103.18		-1.606E-02	1.103E-01	1.790E-01	1.513E-02	-0.090
EU-154		123.07		-9.924E-03	5.262E-02	8.451E-02	8.351E-03	-0.117
		247.94		-2.984E-01	3.588E-01	5.772E-01	5.649E-02	-0.517
		591.81		-2.661E-01	6.168E-01	1.005E+00	9.800E-02	-0.265
		723.30		-9.024E-02	2.071E-01	2.841E-01	2.081E-02	-0.318
		756.87		8.271E-01	8.185E-01	1.450E+00	1.556E-01	0.571
		873.19		3.209E-03	3.221E-01	5.278E-01	6.791E-02	0.006
		996.32		-2.756E-01	4.589E-01	5.818E-01	1.047E-01	-0.474
		1004.76		1.072E-01	2.625E-01	3.869E-01	4.608E-02	0.277
		1274.45	*	-2.620E-02	1.371E-01	2.240E-01	2.386E-02	-0.117
EU-155		48.70		-2.486E+00	5.359E+00	8.809E+00	1.058E+00	-0.282
		60.01		-1.104E+00	8.117E+00	1.205E+01	1.484E+00	-0.092
	+	86.54		4.270E-01	1.471E-01	2.120E-01	2.400E-02	2.014
		105.31	*	7.130E-02	1.146E-01	1.914E-01	1.587E-02	0.373
TB-160	+	86.79		1.171E+00	4.031E-01	5.790E-01	6.523E-02	2.022
		197.04		-1.437E-01	5.952E-01	9.170E-01	5.259E-02	-0.157
		215.65		8.460E-04	7.309E-01	1.237E+00	7.312E-02	0.001
	+	298.57		2.890E-01	1.367E-01	2.046E-01	1.337E-02	1.413
		879.36	*	-3.600E-02	1.544E-01	2.472E-01	2.383E-02	-0.146
		962.29		2.224E-01	7.108E-01	1.039E+00	9.865E-02	0.214
		966.15		1.302E+00	3.599E-01	6.186E-01	5.846E-02	2.105
		1177.93		1.559E-01	4.422E-01	7.595E-01	4.736E-02	0.205
		1271.85		-2.189E-01	8.154E-01	1.322E+00	1.017E-01	-0.166
HO-166M		80.57		-2.296E-01	3.249E-01	4.612E-01	5.066E-02	-0.498
	+	184.41		1.073E-01	5.147E-02	6.862E-02	3.854E-03	1.563

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-9.922E-02	8.362E-02	1.307E-01	8.405E-03	-0.759
		410.95		2.517E-01	2.379E-01	4.131E-01	2.801E-02	0.609
		711.68	*	-2.501E-02	6.103E-02	9.812E-02	5.758E-03	-0.255
		752.31		-2.997E-01	2.859E-01	4.310E-01	2.884E-02	-0.695
		810.29		-5.190E-02	6.038E-02	9.138E-02	7.281E-03	-0.568
		51.35		2.632E+01	6.225E+01	1.059E+02	1.392E+01	0.249
LU-176		52.39		1.480E+01	3.159E+01	5.373E+01	7.117E+00	0.275
		59.40		1.486E+01	4.332E+01	6.590E+01	8.187E+00	0.225
		66.72	*	-2.143E+01	4.064E+01	5.882E+01	6.701E+00	-0.364
	+	88.36		8.400E-01	2.892E-01	3.905E-01	4.392E-02	2.151
LU-177		201.83		6.472E-03	2.839E-02	4.862E-02	2.811E-03	0.133
		306.84	*	-5.764E-03	2.559E-02	3.877E-02	2.551E-03	-0.149
		401.10		8.922E-01	6.555E+00	1.080E+01	7.336E-01	0.083
		112.95		1.470E-01	2.304E+00	3.756E+00	2.765E-01	0.039
LU-177M	+	208.36	*	4.166E+00	2.247E+00	2.720E+00	1.590E-01	1.531
		52.97		8.691E-01	3.202E+00	5.411E+00	7.169E-01	0.161
		54.07		-5.132E-01	1.622E+00	2.678E+00	3.531E-01	-0.192
		61.30		3.125E-01	2.330E+00	3.492E+00	4.225E-01	0.089
HF-181		121.62		-1.688E-01	3.943E-01	6.269E-01	4.148E-02	-0.269
		147.16		-6.095E-01	6.746E-01	1.039E+00	6.078E-02	-0.587
		171.86		2.279E-01	4.809E-01	7.835E-01	4.313E-02	0.291
		218.09		1.474E-01	8.381E-01	1.428E+00	8.472E-02	0.103
	+	268.79		3.035E+00	1.704E+00	1.583E+00	1.006E-01	1.917
		319.02		-9.154E-02	2.485E-01	4.027E-01	2.671E-02	-0.227
		367.43		-8.435E-02	8.943E-01	1.460E+00	9.889E-02	-0.058
		413.65	*	-1.524E-01	1.790E-01	2.747E-01	1.862E-02	-0.555
		56.28		5.463E-01	1.677E+00	2.833E+00	3.660E-01	0.193
		57.53		-4.852E-01	8.624E-01	1.404E+00	1.787E-01	-0.346
		65.20		6.339E-01	1.396E+00	2.125E+00	2.455E-01	0.298
		133.02		-3.785E-02	6.871E-02	1.081E-01	6.714E-03	-0.350
W-181		136.25		-1.065E-01	4.764E-01	7.602E-01	4.653E-02	-0.140
		345.85		4.264E-02	2.093E-01	3.082E-01	2.073E-02	0.138
		482.03	*	-1.155E-02	4.545E-02	7.196E-02	4.724E-03	-0.161
		56.28		2.085E-01	6.367E-01	1.076E+00	1.390E-01	0.194
TA-182		57.53		-1.842E-01	3.278E-01	5.337E-01	6.791E-02	-0.345
		65.20	*	2.390E-01	5.265E-01	8.011E-01	9.257E-02	0.298
		67.75		-3.357E-02	1.567E-01	2.306E-01	2.605E-02	-0.146
		100.10		2.430E-03	1.895E-01	3.100E-01	2.755E-02	0.008
RE-183		152.43		-1.560E-01	3.490E-01	5.481E-01	3.144E-02	-0.285
		222.10		2.371E-02	3.476E-01	5.890E-01	3.518E-02	0.040
	+	1001.68		3.121E+00	2.143E+00	4.260E+00	3.843E-01	0.733
	+	1121.28		6.206E-01	2.928E-01	4.111E-01	2.947E-02	1.510
		1189.05		-7.259E-02	3.650E-01	6.011E-01	3.849E-02	-0.121
		1221.42	*	8.689E-02	2.542E-01	4.340E-01	2.993E-02	0.200
		1230.97		-2.566E-01	6.003E-01	9.708E-01	6.839E-02	-0.264
		57.98		-1.260E-01	3.262E-01	5.357E-01	6.777E-02	-0.235
		59.32		6.719E-02	1.834E-01	2.793E-01	3.473E-02	0.241
		67.20		-1.672E-01	2.941E-01	4.246E-01	4.818E-02	-0.394
		162.32	*	1.817E-02	1.167E-01	1.877E-01	1.038E-02	0.097

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.869E+00	1.547E+00	1.880E+00	1.099E-01	1.526
		291.72		4.008E-01	1.029E+00	1.550E+00	1.007E-01	0.259
		57.98		-4.566E-01	1.182E+00	1.941E+00	2.456E-01	-0.235
		59.32		2.433E-01	6.641E-01	1.011E+00	1.258E-01	0.241
		67.20		-6.060E-01	1.066E+00	1.538E+00	1.746E-01	-0.394
		161.27		-2.965E-01	3.786E-01	5.833E-01	3.239E-02	-0.508
		216.55		5.786E-02	2.571E-01	4.389E-01	2.599E-02	0.132
		252.85	*	-1.531E-01	2.354E-01	3.827E-01	2.386E-02	-0.400
		318.01		-4.102E-02	4.290E-01	7.068E-01	4.686E-02	-0.058
		792.07		5.217E-01	1.230E+00	1.839E+00	1.389E-01	0.284
OS-185		903.28		4.464E-01	1.229E+00	1.891E+00	1.905E-01	0.236
		920.93		-8.819E-02	4.685E-01	7.495E-01	7.434E-02	-0.118
		59.72		-1.822E-02	4.914E-01	7.334E-01	9.070E-02	-0.025
		61.14		7.551E-02	2.540E-01	3.851E-01	4.669E-02	0.196
		69.30		2.632E-01	4.156E-01	6.346E-01	7.093E-02	0.415
		592.07		-8.026E-01	2.592E+00	4.266E+00	2.454E-01	-0.188
		646.12	*	1.086E-02	4.143E-02	7.071E-02	3.633E-03	0.154
		717.42		-2.819E-01	9.183E-01	1.487E+00	8.897E-02	-0.189
		874.81		4.838E-01	6.280E-01	1.096E+00	1.044E-01	0.442
		880.27		-7.168E-02	8.530E-01	1.385E+00	1.339E-01	-0.052
RE-188		155.03	*	1.144E-01	1.746E-01	2.877E-01	1.635E-02	0.398
		477.96		-1.207E-01	3.146E+00	5.066E+00	3.335E-01	-0.024
W-188		633.10		6.214E-01	2.911E+00	4.951E+00	2.623E-01	0.126
	+	63.58		1.646E+02	1.057E+02	1.313E+02	1.544E+01	1.254
IR-192		227.08		-7.064E+00	1.239E+01	2.037E+01	1.226E+00	-0.347
	*	290.67		-3.405E+00	8.213E+00	1.166E+01	7.568E-01	-0.292
AU-195	+	295.96		1.133E+00	1.749E-01	2.889E-01	1.908E-02	3.921
		308.46		-1.469E-02	9.546E-02	1.571E-01	1.044E-02	-0.094
	*	316.51		-9.850E-04	3.265E-02	5.402E-02	3.592E-03	-0.018
		468.07		-1.750E-02	7.959E-02	1.100E-01	8.154E-03	-0.159
		604.41		-3.255E-01	5.280E-01	7.235E-01	8.147E-02	-0.450
		612.46		7.340E-01	7.244E-01	1.168E+00	8.610E-02	0.629
TL-200		65.12		1.123E-01	2.431E-01	3.700E-01	4.279E-02	0.304
		66.83		-8.615E-02	1.364E-01	1.961E-01	2.232E-02	-0.439
	+	75.70		1.302E+00	3.600E-01	5.445E-01	5.956E-02	2.392
	*	98.88		1.439E-01	2.696E-01	4.046E-01	3.672E-02	0.356
TL-201		129.76		6.542E+00	3.038E+00	5.278E+00	3.329E-01	1.240
	*	367.94		-1.584E-04	3.038E+00	Half-Life	too short	
		579.30		2.747E-03	3.038E+00	Half-Life	too short	
		828.27		-3.350E-03	3.038E+00	Half-Life	too short	
TL-202		1205.75		-4.820E-03	3.038E+00	Half-Life	too short	
		68.90		8.976E+00	1.254E+01	1.922E+01	2.154E+00	0.467
		70.82		5.326E+00	7.074E+00	1.083E+01	1.201E+00	0.492
		80.30		-7.226E+00	1.155E+01	1.649E+01	1.810E+00	-0.438
TL-202		135.34		1.444E+01	4.751E+01	7.764E+01	4.771E+00	0.186
	*	167.43		-1.226E+01	1.376E+01	2.100E+01	1.148E+00	-0.584
		68.90		4.956E-01	6.923E-01	1.061E+00	1.189E-01	0.467
		70.82		2.932E-01	3.895E-01	5.963E-01	6.610E-02	0.492
		80.30		-3.980E-01	6.364E-01	9.081E-01	9.969E-02	-0.438

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	5.587E-02	8.516E-02	1.441E-01	9.688E-03	0.388
		70.83		1.125E+00	1.502E+00	2.293E+00	3.505E-01	0.491
		72.87		2.198E+00	8.775E-01	1.459E+00	2.168E-01	1.507
		82.60		-9.101E-01	1.423E+00	2.023E+00	3.113E-01	-0.450
BI-207		279.20	*	-3.921E-02	4.132E-02	6.551E-02	4.421E-03	-0.598
		72.80		5.618E-01	2.358E-01	4.052E-01	4.458E-02	1.386
	+	74.97		7.146E-01	1.976E-01	2.720E-01	2.977E-02	2.628
		84.90		3.326E-01	2.331E-01	3.620E-01	4.039E-02	0.919
		569.67		1.772E-02	3.025E-02	5.053E-02	3.014E-03	0.351
		1063.62	*	-5.566E-02	5.809E-02	8.406E-02	6.843E-03	-0.662
TL-207		1770.23		-1.166E+00	6.578E-01	7.381E-01	4.898E-02	-1.579
		81.07		-3.707E-01	2.685E-01	3.647E-01	4.011E-02	-1.017
		83.78		1.673E-01	1.518E-01	2.342E-01	2.600E-02	0.715
		94.90		-1.242E-01	2.703E-01	4.138E-01	4.041E-02	-0.300
		122.32		-1.015E-01	1.786E+00	2.887E+00	2.131E-01	-0.035
		144.24		6.642E-01	7.044E-01	1.161E+00	8.512E-02	0.572
		154.21		3.226E-01	3.964E-01	6.570E-01	4.553E-02	0.491
	+	269.46		7.018E-01	3.942E-01	3.775E-01	2.491E-02	1.859
		323.87	*	1.805E-01	7.207E-01	1.068E+00	1.797E-01	0.169
	+	338.28		5.846E+00	1.517E+00	2.398E+00	2.651E-01	2.438
PO-209		445.03		5.597E-01	2.172E+00	3.590E+00	3.880E-01	0.156
		260.50		-6.070E+00	9.052E+00	1.464E+01	9.211E-01	-0.415
		262.80		-7.669E-01	2.596E+01	4.029E+01	2.542E+00	-0.019
		896.60	*	-3.479E-01	8.632E+00	1.406E+01	1.418E+00	-0.025
BI-210		46.50	*	-3.234E+00	8.553E+00	1.414E+01	1.387E+00	-0.229
PB-210		46.50	*	-3.234E+00	8.553E+00	1.414E+01	1.387E+00	-0.229
PO-210		46.50	*	-3.234E+00	8.552E+00	1.414E+01	1.270E+00	-0.229
PB-211		404.84	*	-2.953E-01	9.192E-01	1.438E+00	8.979E-01	-0.205
BI-212		427.08		8.614E-01	2.079E+00	3.366E+00	2.084E+00	0.256
		831.96		-1.889E-01	1.281E+00	2.069E+00	1.296E+00	-0.091
	+	727.18	*	9.784E-01	5.093E-01	6.752E-01	5.402E-02	1.449
		785.46		1.844E+00	1.973E+00	3.467E+00	2.568E-01	0.532
PO-215		1620.62		6.466E-01	1.484E+00	2.474E+00	1.887E-01	0.261
		81.07		-3.707E-01	2.685E-01	3.647E-01	4.011E-02	-1.017
		83.78		1.673E-01	1.518E-01	2.342E-01	2.600E-02	0.715
		94.90		-1.242E-01	2.703E-01	4.138E-01	4.041E-02	-0.300
		122.32		-1.015E-01	1.786E+00	2.887E+00	2.131E-01	-0.035
		144.24		6.642E-01	7.044E-01	1.161E+00	8.512E-02	0.572
		154.21		3.226E-01	3.964E-01	6.570E-01	4.553E-02	0.491
	+	269.46		7.018E-01	3.942E-01	3.775E-01	2.491E-02	1.859
		323.87	*	1.805E-01	7.207E-01	1.068E+00	1.797E-01	0.169
	+	338.28		5.846E+00	1.517E+00	2.398E+00	2.651E-01	2.438
RN-219		445.03		5.597E-01	2.172E+00	3.590E+00	3.880E-01	0.156
		271.23		6.031E-01	2.583E-01	4.652E-01	3.964E-02	1.297
		401.81	*	3.026E-01	4.084E-01	6.948E-01	9.766E-02	0.436
RN-220		549.76	*	3.716E+00	2.569E+01	4.158E+01	2.550E+00	0.089
RA-223		81.07		-3.707E-01	2.685E-01	3.647E-01	4.011E-02	-1.017
		83.78		1.673E-01	1.518E-01	2.342E-01	2.600E-02	0.715
		94.90		-1.242E-01	2.703E-01	4.138E-01	4.041E-02	-0.300

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-1.015E-01	1.786E+00	2.887E+00	2.131E-01	-0.035
		144.24		6.642E-01	7.044E-01	1.161E+00	8.512E-02	0.572
		154.21		3.226E-01	3.964E-01	6.570E-01	4.553E-02	0.491
	+	269.46		7.018E-01	3.942E-01	3.775E-01	2.491E-02	1.859
		323.87	*	1.805E-01	7.207E-01	1.068E+00	1.797E-01	0.169
	+	338.28		5.846E+00	1.517E+00	2.398E+00	2.651E-01	2.438
		445.03		5.597E-01	2.172E+00	3.590E+00	3.880E-01	0.156
		79.80		1.172E+00	1.966E+00	2.961E+00	6.676E-01	0.396
		236.00		6.991E-01	2.764E-01	4.483E-01	4.760E-02	1.560
		256.20	*	3.497E-01	3.736E-01	6.485E-01	9.181E-02	0.539
		286.10		3.214E-01	1.485E+00	2.503E+00	2.980E-01	0.128
	+	299.80		3.581E+00	1.779E+00	2.574E+00	4.263E-01	1.391
TH-227		304.40		2.795E-01	1.957E+00	2.889E+00	5.075E-01	0.097
		334.20		-6.086E-01	2.492E+00	3.539E+00	6.595E-01	-0.172
		79.80		1.172E+00	1.966E+00	2.961E+00	6.754E-01	0.396
	+	94.00		7.804E+00	5.524E+00	4.106E+00	9.171E-01	1.900
		236.00		6.991E-01	2.740E-01	4.483E-01	4.146E-02	1.560
		256.20	*	3.497E-01	3.751E-01	6.485E-01	1.107E-01	0.539
		286.10		3.214E-01	1.519E+00	2.503E+00	2.508E+00	0.128
	+	299.80		3.581E+00	1.779E+00	2.574E+00	4.263E-01	1.391
		304.40		2.795E-01	1.957E+00	2.889E+00	5.075E-01	0.097
		334.20		-6.086E-01	2.492E+00	3.539E+00	6.595E-01	-0.172
	+	85.43		7.941E-01	2.734E-01	3.751E-01	4.196E-02	2.117
		88.47		3.861E-02	1.880E-01	2.219E-01	2.490E-02	0.174
TH-229		100.00		1.529E-02	1.939E-01	3.181E-01	2.831E-02	0.048
		193.63	*	-2.367E-01	5.208E-01	8.057E-01	4.595E-02	-0.294
		210.97		1.222E+00	7.774E-01	1.262E+00	7.408E-02	0.968
		283.67	*	2.251E-01	1.473E+00	2.476E+00	3.482E-01	0.091
PA-231		301.29		7.869E-01	5.850E-01	1.023E+00	1.114E-01	0.769
TH-231		81.07		-3.707E-01	2.685E-01	3.647E-01	4.011E-02	-1.017
		83.78		1.673E-01	1.518E-01	2.342E-01	2.600E-02	0.715
		94.90		-1.242E-01	2.703E-01	4.138E-01	4.041E-02	-0.300
		122.32		-1.015E-01	1.786E+00	2.887E+00	2.131E-01	-0.035
U-231		144.24		6.642E-01	7.044E-01	1.161E+00	8.512E-02	0.572
		154.21		3.226E-01	3.964E-01	6.570E-01	4.553E-02	0.491
	+	269.46		7.018E-01	3.942E-01	3.775E-01	2.491E-02	1.859
		323.87	*	1.805E-01	7.207E-01	1.068E+00	1.797E-01	0.169
	+	338.28		5.846E+00	1.517E+00	2.398E+00	2.651E-01	2.438
		445.03		5.597E-01	2.172E+00	3.590E+00	3.880E-01	0.156
		84.21		1.297E+01	1.032E+01	1.599E+01	1.779E+00	0.811
	+	92.29		1.234E+01	8.380E+00	7.630E+00	7.855E-01	1.617
		95.87	*	-6.553E-01	2.033E+00	2.923E+00	2.802E-01	-0.224
		108.00		-1.917E+00	3.495E+00	5.562E+00	4.378E-01	-0.345
	+	75.28		2.085E+01	6.343E+00	8.205E+00	1.375E+00	2.541
	+	86.59		6.933E+00	2.966E+00	3.439E+00	9.553E-01	2.016
	+	300.12		9.983E-01	4.874E-01	7.237E-01	9.969E-02	1.379
PA-233		311.98	*	1.751E-02	5.902E-02	9.957E-02	6.890E-03	0.176
		340.50		8.637E-01	6.976E-01	1.060E+00	2.462E-01	0.814
		398.62		1.421E-01	2.009E+00	3.298E+00	8.607E-01	0.043

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234		415.76		-2.287E-01	1.645E+00	2.656E+00	5.546E-01	-0.086
	+	63.00		4.639E+00	3.039E+00	3.827E+00	6.695E-01	1.212
	+	94.67		6.959E-01	4.766E-01	3.080E-01	4.083E-02	2.259
		98.44		1.192E-01	1.256E-01	1.650E-01	9.217E-02	0.723
		99.86		8.243E-02	4.930E-01	8.114E-01	7.240E-02	0.102
		111.00		7.525E-02	1.970E-01	3.251E-01	3.691E-02	0.231
		131.20		-1.308E-01	1.136E-01	1.742E-01	1.091E-02	-0.750
		152.70		-8.840E-02	3.279E-01	5.188E-01	8.189E-02	-0.170
	+	186.00		3.862E+00	2.185E+00	2.521E+00	7.696E-01	1.531
		226.40		8.142E-02	3.905E-01	6.648E-01	7.757E-02	0.122
		227.20		-3.670E-01	4.146E-01	6.714E-01	4.041E-02	-0.547
		248.90		-2.283E-02	7.993E-01	1.341E+00	2.896E-01	-0.017
	+	293.70		6.943E+00	1.493E+00	1.752E+00	2.865E-01	3.962
		369.80		-6.704E-02	8.330E-01	1.361E+00	2.873E-01	-0.049
		568.70		3.673E-01	9.667E-01	1.591E+00	9.501E-02	0.231
		569.50		1.131E-01	2.650E-01	4.376E-01	2.610E-02	0.259
		574.00		6.124E-02	1.437E+00	2.430E+00	1.440E-01	0.025
		699.00		-2.779E-01	6.903E-01	1.109E+00	1.988E-01	-0.251
		706.10		5.941E-01	1.121E+00	1.882E+00	8.305E-01	0.316
		733.00		-1.349E-01	4.339E-01	6.002E-01	1.284E-01	-0.225
		742.81		1.404E+00	1.656E+00	2.443E+00	1.636E+00	0.575
		796.30		1.147E+00	9.928E-01	1.700E+00	4.550E-01	0.675
		805.60		-1.187E-01	1.013E+00	1.651E+00	5.026E-01	-0.072
		819.60		2.794E-01	1.352E+00	2.255E+00	8.555E-01	0.124
		826.30		-3.700E-01	8.902E-01	1.385E+00	6.188E-01	-0.267
		831.60		-1.624E-01	6.518E-01	1.045E+00	3.114E-01	-0.155
		876.40		1.288E-01	9.169E-01	1.504E+00	1.547E+00	0.086
		880.51		-6.134E-03	3.037E-01	4.960E-01	4.797E-02	-0.012
		883.24		2.434E-01	3.355E-01	5.153E-01	3.472E-01	0.472
		899.00		3.191E-01	9.610E-01	1.597E+00	7.032E-01	0.200
		925.00		9.226E-01	1.185E+00	2.072E+00	2.047E-01	0.445
		926.50		1.074E-02	1.775E-01	2.910E-01	7.487E-02	0.037
		946.00	*	-1.251E-01	3.230E-01	5.045E-01	9.720E-02	-0.248
		949.00		-1.760E-01	4.930E-01	7.749E-01	7.468E-02	-0.227
		980.50		-9.087E-01	8.500E-01	1.232E+00	1.143E-01	-0.738
		1394.10		-1.526E+00	1.492E+00	1.427E+00	9.287E-01	-1.070
PA-234M		766.42		5.088E+00	1.417E+01	2.072E+01	1.046E+01	0.246
	+	1001.03	*	6.966E+00	4.796E+00	9.452E+00	9.755E-01	0.737
U-235		89.95		-1.153E+00	1.838E+00	1.999E+00	6.308E-01	-0.576
	+	93.35		2.428E+00	1.771E+00	1.451E+00	4.136E-01	1.673
		105.00		1.255E+00	1.166E+00	1.883E+00	5.600E-01	0.666
		143.76	*	1.626E-01	2.210E-01	3.596E-01	5.880E-02	0.452
		163.35		1.486E-01	4.867E-01	7.869E-01	1.408E-01	0.189
	+	185.71		1.430E-01	6.862E-02	9.359E-02	5.267E-03	1.528
		205.31		-3.401E-01	5.934E-01	8.574E-01	1.542E-01	-0.397
NP-236	+	94.67		5.278E-01	3.584E-01	2.340E-01	2.295E-02	2.256
		98.44		9.016E-02	8.096E-02	1.247E-01	1.141E-02	0.723
		111.00		5.692E-02	1.489E-01	2.459E-01	1.858E-02	0.231
		160.31	*	2.990E-02	8.145E-02	1.324E-01	7.376E-03	0.226

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.017E-01	1.720E-01	2.749E-01	2.466E-02	0.370
		117.00	*	-1.191E-01	2.032E-01	3.215E-01	2.249E-02	-0.370
	+	209.75		2.200E+00	1.187E+00	1.409E+00	8.252E-02	1.561
		228.18		-1.019E-01	2.176E-01	3.595E-01	2.167E-02	-0.283
		277.60		1.148E-01	1.818E-01	3.122E-01	2.002E-02	0.368
		334.30		-4.094E-01	1.407E+00	1.993E+00	1.333E-01	-0.205
AM-241		59.54	*	7.526E-02	2.494E-01	3.787E-01	4.863E-02	0.199
CM-243		99.55		1.047E-01	1.770E-01	2.829E-01	2.538E-02	0.370
		103.76	*	3.053E-02	1.004E-01	1.659E-01	1.390E-02	0.184
		117.00		-1.225E-01	2.090E-01	3.308E-01	2.314E-02	-0.370
	+	209.75		2.169E+00	1.170E+00	1.389E+00	8.137E-02	1.561
		228.18		-1.030E-01	2.199E-01	3.634E-01	2.190E-02	-0.283
		277.60		1.158E-01	1.833E-01	3.148E-01	2.018E-02	0.368
AM-246		798.80		-1.969E-01	1.680E-01	2.030E-01	1.564E-02	-0.970
		1036.00		2.834E-02	3.518E-01	5.726E-01	4.898E-02	0.049
		1062.04		2.733E-02	2.492E-01	4.062E-01	3.317E-02	0.067
		1078.86	*	1.070E-01	1.481E-01	2.556E-01	2.019E-02	0.418
CM-247		278.00		4.984E-01	7.406E-01	1.274E+00	8.175E-02	0.391
		287.40		-2.737E-01	1.183E+00	1.948E+00	1.261E-01	-0.141
		402.60	*	2.125E-02	3.578E-02	6.064E-02	4.117E-03	0.350
CF-249		252.85		-5.677E-01	8.730E-01	1.419E+00	8.848E-02	-0.400
		333.44		2.142E-02	1.983E-01	2.706E-01	1.810E-02	0.079
		387.95	*	1.812E-02	4.044E-02	6.799E-02	4.620E-03	0.267
CF-251		176.60	*	8.254E-02	1.283E-01	2.102E-01	1.166E-02	0.393
		227.00		-2.400E-01	3.656E-01	5.988E-01	3.602E-02	-0.401
		285.00		-4.002E-01	1.682E+00	2.769E+00	1.789E-01	-0.145

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978001      *
* Acquisition date   : 14-FEB-2010 11:17:01 Detector SN# :                  *
* Detector ID        : GAM10 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.18 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245978001 Analyst initials: MXR1                  *
* Batch Number       : 948721 Sample Quantity : 1.2759E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.946E+01	3.891E+00	5.544E-01	0.000E+00
CD-109	3.618E+00	1.221E+00	1.646E+00	0.000E+00
SN-126	3.541E-01	1.195E-01	1.671E-01	0.000E+00
CS-135	5.965E-01	3.295E-01	2.512E-01	0.000E+00
TL-208	5.090E-01	9.361E-02	6.057E-02	0.000E+00
BI-211	3.406E+00	5.256E-01	3.271E-01	0.000E+00
PB-212	1.707E+00	1.686E-01	9.305E-02	0.000E+00
PO-212	1.707E+00	1.686E-01	9.305E-02	0.000E+00
BI-214	1.033E+00	1.707E-01	1.104E-01	0.000E+00
PB-214	1.185E+00	1.926E-01	1.140E-01	0.000E+00
PO-214	1.185E+00	1.926E-01	1.140E-01	0.000E+00
PO-216	1.707E+00	1.686E-01	9.305E-02	0.000E+00
PO-218	1.185E+00	1.926E-01	1.140E-01	0.000E+00
RA-224	4.363E+00	1.372E+00	1.059E+00	0.000E+00
RA-226	1.033E+00	1.707E-01	1.104E-01	0.000E+00
AC-228	1.553E+00	3.344E-01	2.248E-01	0.000E+00
RA-228	1.553E+00	3.344E-01	2.248E-01	0.000E+00
TH-228	1.738E+00	1.717E-01	9.473E-02	0.000E+00
TH-230	1.033E+00	1.707E-01	1.104E-01	0.000E+00
TH-232	1.553E+00	3.344E-01	2.248E-01	0.000E+00
TH-234	3.980E+00	2.580E+00	3.011E+00	0.000E+00
U-234	1.033E+00	1.707E-01	1.104E-01	0.000E+00
NP-237	1.040E+00	4.090E-01	4.777E-01	0.000E+00
U-238	3.980E+00	2.580E+00	3.011E+00	0.000E+00
AM-243	3.981E-01	1.078E-01	1.115E-01	0.000E+00
ANH-511	5.992E-02	6.579E-02	4.936E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.121E-02	3.221E-01	5.374E-01	0.000E+00 NOT IDENT.

NA-22	-2.188E-02	4.913E-02	8.013E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.695E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.022E-02	2.890E-02	5.099E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.938E-02	8.298E-02	0.000E+00	NOT IDENT.
SC-46	2.632E-03	4.410E-02	7.451E-02	0.000E+00	FAIL ABUN
V-48	4.192E-02	8.908E-02	1.544E-01	0.000E+00	NOT IDENT.
CR-51	-9.742E-02	3.790E-01	6.459E-01	0.000E+00	NOT IDENT.
MN-52	-4.972E-02	3.149E-01	5.171E-01	0.000E+00	NOT IDENT.
MN-54	-1.203E-02	4.098E-02	6.771E-02	0.000E+00	NOT IDENT.
CO-56	-5.482E-03	3.900E-02	6.499E-02	0.000E+00	NOT IDENT.
CO-57	-1.407E-02	2.595E-02	4.349E-02	0.000E+00	NOT IDENT.
CO-58	-9.322E-03	3.853E-02	6.386E-02	0.000E+00	NOT IDENT.
FE-59	2.821E-02	1.137E-01	1.913E-01	0.000E+00	NOT IDENT.
CO-60	5.055E-02	3.846E-02	7.432E-02	0.000E+00	NOT IDENT.
ZN-65	-1.900E-02	1.212E-01	1.683E-01	0.000E+00	NOT IDENT.
GE-68	2.360E-01	1.331E+00	2.236E+00	0.000E+00	NOT IDENT.
AS-73	1.269E-02	1.576E+00	2.827E+00	0.000E+00	NOT IDENT.
AS-74	1.731E-02	1.007E-01	1.772E-01	0.000E+00	NOT IDENT.
SE-75	-1.358E-02	4.570E-02	6.861E-02	0.000E+00	NOT IDENT.
BR-77	7.380E+00	2.424E+01	4.125E+01	0.000E+00	FAIL ABUN
SR-82	-6.843E-01	4.433E-01	6.509E-01	0.000E+00	NOT IDENT.
RB-83	1.803E-02	7.108E-02	1.205E-01	0.000E+00	NOT IDENT.
RB-84	-2.117E-02	7.834E-02	1.286E-01	0.000E+00	NOT IDENT.
KR-85	7.760E+00	7.844E+00	1.246E+01	0.000E+00	NOT IDENT.
SR-85	4.100E-02	4.144E-02	6.583E-02	0.000E+00	NOT IDENT.
RB-86	-2.890E-01	9.544E-01	1.528E+00	0.000E+00	NOT IDENT.
Y-88	-1.787E-02	3.475E-02	5.058E-02	0.000E+00	NOT IDENT.
ZR-88	4.553E-03	2.985E-02	5.133E-02	0.000E+00	NOT IDENT.
Y-91	-4.061E+00	2.314E+01	3.907E+01	0.000E+00	NOT IDENT.
NB-94	-2.132E-03	3.351E-02	5.725E-02	0.000E+00	NOT IDENT.
NB-95	1.588E-02	5.000E-02	7.637E-02	0.000E+00	NOT IDENT.
NB-95M	1.684E-01	1.380E-01	2.284E-01	0.000E+00	NOT IDENT.
ZR-95	9.256E-02	7.555E-02	1.399E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.598E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.429E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.318E+01	2.362E+01	3.840E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.073E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.075E-03	3.332E-02	5.534E-02	0.000E+00	NOT IDENT.
RH-102	-2.343E-02	2.901E-02	4.569E-02	0.000E+00	FAIL ABUN
RU-103	-3.789E-02	4.492E-02	7.000E-02	0.000E+00	FAIL ABUN
RH-106	5.571E-02	3.048E-01	5.354E-01	0.000E+00	FAIL ABUN
RU-106	5.571E-02	3.048E-01	5.354E-01	0.000E+00	FAIL ABUN
AG-108M	-9.194E-03	3.205E-02	5.306E-02	0.000E+00	NOT IDENT.
AG-110M	3.552E-02	3.473E-02	6.411E-02	0.000E+00	NOT IDENT.
IN-111	1.064E+00	2.210E+00	3.539E+00	0.000E+00	NOT IDENT.
IN-113M	-3.202E-02	4.355E-02	7.055E-02	0.000E+00	NOT IDENT.
SN-113	-3.202E-02	4.355E-02	7.055E-02	0.000E+00	NOT IDENT.
IN-114M	9.813E-02	2.100E-01	3.200E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.803E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.999E-02	6.382E-02	1.092E-01	0.000E+00	NOT IDENT.
SB-122	3.761E+00	3.897E+00	6.950E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.148E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.305E-02	2.904E-02	4.996E-02	0.000E+00	NOT IDENT.
I-124	-8.487E-01	1.165E+00	1.632E+00	0.000E+00	NOT IDENT.
SB-124	3.317E-02	7.382E-02	1.327E-01	0.000E+00	FAIL ABUN
SB-125	-2.338E-02	8.742E-02	1.451E-01	0.000E+00	FAIL ABUN
TE-125M	3.125E+00	1.003E+01	1.753E+01	0.000E+00	NOT IDENT.
I-126	-4.462E-02	1.981E-01	3.356E-01	0.000E+00	NOT IDENT.
SB-126	2.872E-02	1.745E-01	2.863E-01	0.000E+00	NOT IDENT.
SB-127	2.288E-01	2.094E+00	3.632E+00	0.000E+00	NOT IDENT.
XE-127	3.473E-02	4.955E-02	8.801E-02	0.000E+00	NOT IDENT.
I-131	-4.254E-02	1.426E-01	2.397E-01	0.000E+00	NOT IDENT.
TE-132	-5.669E-01	1.199E+00	2.075E+00	0.000E+00	NOT IDENT.
BA-133	1.388E-02	4.569E-02	7.049E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.156E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.421E-02	9.286E-02	0.000E+00	FAIL ABUN
I-135	0.000E+00	8.466E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.645E-02	1.494E-01	2.524E-01	0.000E+00	FAIL ABUN
BA-137M	9.136E-03	3.611E-02	6.337E-02	0.000E+00	NOT IDENT.
CS-137	9.658E-03	3.817E-02	6.699E-02	0.000E+00	NOT IDENT.
CE-139	1.053E-02	2.979E-02	5.093E-02	0.000E+00	NOT IDENT.
BA-140	1.162E-01	3.096E-01	5.248E-01	0.000E+00	NOT IDENT.
LA-140	-3.035E-02	1.142E-01	1.524E-01	0.000E+00	FAIL ABUN
CE-141	-2.928E-02	6.727E-02	1.121E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.079E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.645E-01	2.036E-01	3.329E-01	0.000E+00	NOT IDENT.
PM-144	9.388E-03	3.206E-02	5.629E-02	0.000E+00	NOT IDENT.
PR-144	6.371E-01	2.176E+00	3.820E+00	0.000E+00	NOT IDENT.

PM-146	-2.782E-03	4.232E-02	7.090E-02	0.000E+00	NOT IDENT.
ND-147	-1.428E-01	7.008E-01	1.146E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.115E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.393E-01	9.717E-02	1.453E-01	0.000E+00	NOT IDENT.
GD-153	3.868E-02	9.131E-02	1.449E-01	0.000E+00	NOT IDENT.
EU-154	-2.620E-02	1.344E-01	2.245E-01	0.000E+00	NOT IDENT.
EU-155	7.130E-02	1.123E-01	1.990E-01	0.000E+00	FAIL ABUN
TB-160	-3.600E-02	1.513E-01	2.491E-01	0.000E+00	FAIL ABUN
HO-166M	-2.501E-02	5.981E-02	9.921E-02	0.000E+00	FAIL ABUN
TM-171	-2.143E+01	3.983E+01	6.158E+01	0.000E+00	NOT IDENT.
LU-176	-5.764E-03	2.508E-02	3.970E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.202E+00	2.802E+00	0.000E+00	FAIL ABUN
LU-177M	-1.524E-01	1.754E-01	2.800E-01	0.000E+00	FAIL ABUN
HF-181	-1.155E-02	4.454E-02	7.319E-02	0.000E+00	NOT IDENT.
W-181	2.390E-01	5.159E-01	8.391E-01	0.000E+00	NOT IDENT.
TA-182	8.689E-02	2.491E-01	4.352E-01	0.000E+00	FAIL ABUN
RE-183	1.817E-02	1.143E-01	1.940E-01	0.000E+00	FAIL ABUN
RE-184	-1.531E-01	2.307E-01	3.930E-01	0.000E+00	NOT IDENT.
OS-185	1.086E-02	4.060E-02	7.160E-02	0.000E+00	NOT IDENT.
RE-188	1.144E-01	1.711E-01	2.976E-01	0.000E+00	NOT IDENT.
W-188	-3.405E+00	8.048E+00	1.195E+01	0.000E+00	FAIL ABUN
IR-192	-9.850E-04	3.200E-02	5.529E-02	0.000E+00	FAIL ABUN
AU-195	1.439E-01	2.642E-01	4.212E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.695E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.226E+01	1.348E+01	2.169E+01	0.000E+00	NOT IDENT.
TL-202	5.587E-02	8.346E-02	1.468E-01	0.000E+00	NOT IDENT.
HG-203	-3.921E-02	4.049E-02	6.718E-02	0.000E+00	NOT IDENT.
BI-207	-5.566E-02	5.692E-02	8.447E-02	0.000E+00	FAIL ABUN
TL-207	1.805E-01	7.063E-01	1.092E+00	0.000E+00	FAIL ABUN
PO-209	-3.479E-01	8.460E+00	1.416E+01	0.000E+00	NOT IDENT.
BI-210	-3.234E+00	8.382E+00	1.488E+01	0.000E+00	NOT IDENT.
PB-210	-3.234E+00	8.382E+00	1.488E+01	0.000E+00	NOT IDENT.
PO-210	-3.234E+00	8.381E+00	1.488E+01	0.000E+00	NOT IDENT.
PB-211	-2.953E-01	9.009E-01	1.466E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.991E-01	6.825E-01	0.000E+00	FAIL ABUN
PO-215	1.805E-01	7.063E-01	1.092E+00	0.000E+00	FAIL ABUN
RN-219	3.026E-01	4.002E-01	7.086E-01	0.000E+00	NOT IDENT.
RN-220	3.716E+00	2.518E+01	4.221E+01	0.000E+00	NOT IDENT.
RA-223	1.805E-01	7.063E-01	1.092E+00	0.000E+00	FAIL ABUN
AC-227	3.497E-01	3.662E-01	6.658E-01	0.000E+00	FAIL ABUN
TH-227	3.497E-01	3.676E-01	6.658E-01	0.000E+00	FAIL ABUN
TH-229	-2.367E-01	5.104E-01	8.306E-01	0.000E+00	FAIL ABUN
PA-231	2.251E-01	1.444E+00	2.538E+00	0.000E+00	NOT IDENT.
TH-231	1.805E-01	7.063E-01	1.092E+00	0.000E+00	FAIL ABUN
U-231	-6.553E-01	1.992E+00	3.045E+00	0.000E+00	FAIL ABUN
PA-233	1.751E-02	5.784E-02	1.019E-01	0.000E+00	FAIL ABUN
PA-234	-1.251E-01	3.165E-01	5.078E-01	0.000E+00	FAIL ABUN
PA-234M	6.966E+00	4.700E+00	9.506E+00	0.000E+00	FAIL ABUN
U-235	1.626E-01	2.166E-01	3.724E-01	0.000E+00	FAIL ABUN
NP-236	2.990E-02	7.982E-02	1.368E-01	0.000E+00	FAIL ABUN
NP-239	-1.191E-01	1.991E-01	3.339E-01	0.000E+00	FAIL ABUN
AM-241	7.526E-02	2.444E-01	3.971E-01	0.000E+00	NOT IDENT.
CM-243	3.053E-02	9.840E-02	1.726E-01	0.000E+00	FAIL ABUN
AM-246	1.070E-01	1.451E-01	2.568E-01	0.000E+00	NOT IDENT.
CM-247	2.125E-02	3.506E-02	6.184E-02	0.000E+00	NOT IDENT.
CF-249	1.812E-02	3.963E-02	6.938E-02	0.000E+00	NOT IDENT.
CF-251	8.254E-02	1.258E-01	2.170E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:17:33.21

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978001.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:17:01
Sample ID          : G245978001      Sample quantity   : 1.27590E+02 GRAM
Detector name      : GAM10           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.18  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity      : 5.00000
Batch ID           : 948721           Detector SN#     :
Matrix Spike ID    :                  LCS ID           : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1585	10.67*	1.108E+00	3.946E+01	3.946E+01	10.06
CD-109	88.03	234	3.72*	5.245E+00	3.522E+00	3.618E+00	34.43
SN-126	64.28	117	9.60	2.278E+00	1.575E+00	1.575E+00	65.43
	86.94	234	8.90	5.245E+00	1.472E+00	1.472E+00	53.12
	87.57	234	37.00*	5.245E+00	3.541E-01	3.541E-01	34.43
CS-135	268.24	153	16.00*	4.703E+00	5.965E-01	5.965E-01	56.37
TL-208	277.35	-----	6.80	4.610E+00	-----	Line Not Found	-----
	510.84	60	21.60	2.931E+00	2.774E-01	2.774E-01	112.35
	583.14	383	84.20*	2.628E+00	5.090E-01	5.090E-01	18.77
	860.37	63	12.46	1.840E+00	8.062E-01	8.062E-01	62.99
BI-211	72.87	-----	1.27	3.633E+00	-----	Line Not Found	-----
	351.07	583	12.94*	3.890E+00	3.406E+00	3.406E+00	15.75
PB-212	74.81	345	10.70	3.864E+00	2.455E+00	2.455E+00	29.18
	77.11	571	18.00	4.154E+00	2.245E+00	2.245E+00	18.53
	87.30	234	8.00	5.245E+00	1.638E+00	1.638E+00	35.85
	238.63	1325	44.60*	5.117E+00	1.707E+00	1.707E+00	10.08
	300.09	98	3.41	4.363E+00	1.932E+00	1.932E+00	47.66
PO-212	74.81	345	10.70	3.864E+00	2.455E+00	2.455E+00	29.18
	77.11	571	18.00	4.154E+00	2.245E+00	2.245E+00	18.53
	87.30	234	8.00	5.245E+00	1.638E+00	1.638E+00	35.85
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1325	44.60*	5.117E+00	1.707E+00	1.707E+00	10.08
	300.09	98	3.41	4.363E+00	1.932E+00	1.932E+00	47.66
BI-214	609.31	412	46.30*	2.532E+00	1.033E+00	1.033E+00	16.86
	1120.29	94	15.10	1.415E+00	1.290E+00	1.290E+00	47.64
	1764.49	78	15.80	9.767E-01	1.489E+00	1.489E+00	26.11
PB-214	74.81	345	6.21	3.864E+00	4.231E+00	4.231E+00	28.62
	77.11	571	10.50	4.154E+00	3.849E+00	3.849E+00	20.03
	87.30	234	4.67	5.245E+00	2.806E+00	2.806E+00	35.28
	241.98	297	7.49	5.075E+00	2.301E+00	2.301E+00	32.58
	295.21	417	19.20	4.413E+00	1.446E+00	1.446E+00	16.62
	351.92	583	37.20*	3.890E+00	1.185E+00	1.185E+00	16.59

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	345	6.21	3.864E+00	4.231E+00	4.231E+00	28.62
	77.11	571	10.50	4.154E+00	3.849E+00	3.849E+00	20.03
	87.30	234	4.67	5.245E+00	2.806E+00	2.806E+00	35.28
	241.98	297	7.49	5.075E+00	2.301E+00	2.301E+00	32.58
	295.21	417	19.20	4.413E+00	1.446E+00	1.446E+00	16.62
PO-216	351.92	583	37.20*	3.890E+00	1.185E+00	1.185E+00	16.59
	74.81	345	10.70	3.864E+00	2.455E+00	2.455E+00	29.18
	77.11	571	18.00	4.154E+00	2.245E+00	2.245E+00	18.53
	87.30	234	8.00	5.245E+00	1.638E+00	1.638E+00	35.85
	238.63	1325	44.60*	5.117E+00	1.707E+00	1.707E+00	10.08
PO-218	300.09	98	3.41	4.363E+00	1.932E+00	1.932E+00	47.66
	74.81	345	6.21	3.864E+00	4.231E+00	4.231E+00	28.62
	77.11	571	10.50	4.154E+00	3.849E+00	3.849E+00	20.03
	87.30	234	4.67	5.245E+00	2.806E+00	2.806E+00	35.28
	241.98	297	7.49	5.075E+00	2.301E+00	2.301E+00	32.58
RA-224	295.21	417	19.20	4.413E+00	1.446E+00	1.446E+00	16.62
	351.92	583	37.20*	3.890E+00	1.185E+00	1.185E+00	16.59
	240.98	297	3.95*	5.075E+00	4.363E+00	4.363E+00	32.10
	609.31	412	46.30*	2.532E+00	1.033E+00	1.033E+00	16.86
	1120.29	94	15.10	1.415E+00	1.290E+00	1.290E+00	47.64
AC-228	1764.49	78	15.80	9.767E-01	1.489E+00	1.489E+00	26.11
	338.32	217	11.40	4.002E+00	1.400E+00	1.400E+00	47.17
	911.07	254	27.70*	1.741E+00	1.553E+00	1.553E+00	21.98
	969.11	141	16.60	1.637E+00	1.532E+00	1.532E+00	48.46
	338.32	217	11.40	4.002E+00	1.400E+00	1.400E+00	47.17
RA-228	911.07	254	27.70*	1.741E+00	1.553E+00	1.553E+00	21.98
	969.11	141	16.60	1.637E+00	1.532E+00	1.532E+00	48.46
	74.81	345	10.70	3.864E+00	2.455E+00	2.500E+00	27.67
	77.11	571	18.00	4.154E+00	2.245E+00	2.286E+00	18.53
	87.30	234	8.00	5.245E+00	1.638E+00	1.668E+00	34.43
TH-228	238.63	1325	44.60*	5.117E+00	1.707E+00	1.738E+00	10.08
	300.09	98	3.41	4.363E+00	1.932E+00	1.967E+00	75.35
	609.31	412	46.30*	2.532E+00	1.033E+00	1.033E+00	16.86
	1120.29	94	15.10	1.415E+00	1.290E+00	1.290E+00	47.64
	1764.49	78	15.80	9.767E-01	1.489E+00	1.489E+00	26.11
TH-232	338.32	217	11.40	4.002E+00	1.400E+00	1.400E+00	24.42
	911.07	254	27.70*	1.741E+00	1.553E+00	1.553E+00	21.98
	969.11	141	16.60	1.637E+00	1.532E+00	1.532E+00	48.46
	63.29	117	3.80*	2.278E+00	3.980E+00	3.980E+00	66.14
	92.38	214	5.41	5.766E+00	2.020E+00	2.020E+00	69.74
U-234	609.31	412	46.30*	2.532E+00	1.033E+00	1.033E+00	16.86
	1120.29	94	15.10	1.415E+00	1.290E+00	1.290E+00	47.64
	1764.49	78	15.80	9.767E-01	1.489E+00	1.489E+00	26.11
	86.50	234	12.60*	5.245E+00	1.040E+00	1.040E+00	40.14
	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
U-238	63.29	117	3.80*	2.278E+00	3.980E+00	3.980E+00	66.14
	92.38	214	5.41	5.766E+00	2.020E+00	2.020E+00	67.90
	74.67	345	66.00*	3.864E+00	3.981E-01	3.981E-01	27.64
	86.72	234	0.34	5.245E+00	3.900E+01	3.900E+01	34.43

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.676E+00	-----	Line Not Found	-----
ANH-511	511.00	60	100.00*	2.931E+00	5.992E-02	5.992E-02	112.04

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 3
Number of lines tentatively identified by NID 29 90.63%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.946E+01	3.946E+01	0.397E+01	10.06	
CD-109	464.00D	1.03	3.522E+00	3.618E+00	1.246E+00	34.43	
SN-126	1.00E+05Y	1.00	3.541E-01	3.541E-01	1.219E-01	34.43	
CS-135	2.30E+06Y	1.00	5.965E-01	5.965E-01	3.362E-01	56.37	
TL-208	1.41E+10Y	1.00	5.090E-01	5.090E-01	0.955E-01	18.77	
BI-211	7.04E+08Y	1.00	3.406E+00	3.406E+00	0.536E+00	15.75	
PB-212	1.41E+10Y	1.00	1.707E+00	1.707E+00	0.172E+00	10.08	
PO-212	1.41E+10Y	1.00	1.707E+00	1.707E+00	0.172E+00	10.08	
BI-214	1600.00Y	1.00	1.033E+00	1.033E+00	0.174E+00	16.86	
PB-214	1600.00Y	1.00	1.185E+00	1.185E+00	0.197E+00	16.59	
PO-214	1600.00Y	1.00	1.185E+00	1.185E+00	0.197E+00	16.59	
PO-216	1.41E+10Y	1.00	1.707E+00	1.707E+00	0.172E+00	10.08	
PO-218	1600.00Y	1.00	1.185E+00	1.185E+00	0.197E+00	16.59	
RA-224	1.41E+10Y	1.00	4.363E+00	4.363E+00	1.400E+00	32.10	
RA-226	1600.00Y	1.00	1.033E+00	1.033E+00	0.174E+00	16.86	
AC-228	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.341E+00	21.98	
RA-228	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.341E+00	21.98	
TH-228	1.91Y	1.02	1.707E+00	1.738E+00	0.175E+00	10.08	
TH-230	4.47E+09Y	1.00	1.033E+00	1.033E+00	0.174E+00	16.86	
TH-232	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.341E+00	21.98	
TH-234	4.47E+09Y	1.00	3.980E+00	3.980E+00	2.633E+00	66.14	
U-234	4.47E+09Y	1.00	1.033E+00	1.033E+00	0.174E+00	16.86	
NP-237	2.14E+06Y	1.00	1.040E+00	1.040E+00	0.417E+00	40.14	
U-238	4.47E+09Y	1.00	3.980E+00	3.980E+00	2.633E+00	66.14	
AM-243	7380.00Y	1.00	3.981E-01	3.981E-01	1.100E-01	27.64	
ANH-511	1.00E+09Y	1.00	5.992E-02	5.992E-02	6.714E-02	112.04	

Total Activity : 8.085E+01 8.097E+01

Grand Total Activity : 8.085E+01 8.097E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978001

Page : 5
Acquisition date : 14-FEB-2010 11:17:01

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.58	157	345	1.12	371.10	367	9	2.18E-02	47.6	5.98E+00	T
0	209.00	135	333	1.68	417.92	413	10	1.88E-02	53.6	5.58E+00	T
0	327.46	38	245	0.98	654.66	649	11	5.26E-03	****	4.10E+00	T
0	462.50	83	117	1.42	924.57	921	10	1.15E-02	53.6	3.17E+00	T
0	727.23	85	86	1.56	1453.79	1449	13	1.18E-02	51.4	2.16E+00	T
0	768.18	37	58	1.14	1535.66	1530	9	5.12E-03	81.7	2.05E+00	T
0	794.46	58	83	1.89	1588.21	1582	16	8.00E-03	75.8	1.99E+00	T
0	1000.72	32	39	1.50	2000.65	1996	8	4.38E-03	68.1	1.58E+00	T
0	1589.44	54	6	5.52	3178.28	3168	22	7.54E-03	35.0	1.04E+00	
0	1629.74	25	0	1.70	3258.92	3252	12	3.47E-03	40.0	1.02E+00	
0	1660.82	17	8	0.90	3321.11	3313	15	2.43E-03	85.6	1.01E+00	

Flags: "T" = Tentatively associated


```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978001.CNF;1
* Acquisition date   : 14-FEB-2010 11:17:01  Detector SN#      :
* Detector ID        : GAM10                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.18           Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245978001           Analyst initials: MXR1
* Batch Number       : 948721              Sample Quantity : 1.27590E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08.8MS Isotope       :
* MSD ID              :                      MSD Isotope       :
* LCS ID              : 1032-A              LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.946E+01	3.970E+00	5.544E-01	4.775E-02	71.181
CD-109	3.618E+00	1.246E+00	1.578E+00	1.789E-01	2.293
SN-126	3.541E-01	1.219E-01	1.602E-01	1.813E-02	2.210
CS-135	5.965E-01	3.362E-01	2.448E-01	1.979E-02	2.436
TL-208	5.090E-01	9.552E-02	5.972E-02	4.013E-03	8.523
BI-211	3.406E+00	5.363E-01	3.200E-01	2.333E-02	10.643
PB-212	1.707E+00	1.721E-01	9.053E-02	6.867E-03	18.860
PO-212	1.707E+00	1.721E-01	9.053E-02	6.867E-03	18.860
BI-214	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
PB-214	1.185E+00	1.966E-01	1.116E-01	1.000E-02	10.621
PO-214	1.185E+00	1.966E-01	1.116E-01	1.000E-02	10.621
PO-216	1.707E+00	1.721E-01	9.053E-02	6.867E-03	18.860
PO-218	1.185E+00	1.966E-01	1.116E-01	1.000E-02	10.621
RA-224	4.363E+00	1.400E+00	1.030E+00	6.323E-02	4.235
RA-226	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
AC-228	1.553E+00	3.412E-01	2.231E-01	2.754E-02	6.958
RA-228	1.553E+00	3.412E-01	2.231E-01	2.754E-02	6.958
TH-228	1.738E+00	1.752E-01	9.217E-02	6.991E-03	18.860

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
TH-232	1.553E+00	3.412E-01	2.231E-01	2.754E-02	6.958
TH-234	3.980E+00	2.633E+00	2.874E+00	5.665E-01	1.385
U-234	1.033E+00	1.742E-01	1.089E-01	8.290E-03	9.483
NP-237	1.040E+00	4.174E-01	4.580E-01	1.076E-01	2.271
U-238	3.980E+00	2.633E+00	2.874E+00	5.665E-01	1.385
AM-243	3.981E-01	1.100E-01	1.067E-01	1.168E-02	3.731
ANH-511	5.992E-02	6.714E-02	4.857E-02	3.112E-03	1.234

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.121E-02		3.287E-01	5.283E-01	3.928E-02	-0.040
NA-22	-2.188E-02		5.013E-02	7.997E-02	6.194E-03	-0.274
NA-24	9.256E-01		8.647E+00	Half-Life too short		
AL-26	1.022E-02		2.949E-02	5.116E-02	3.244E-03	0.200
TI-44	1.808E-01		5.039E-02	7.944E-02	8.693E-03	2.277
SC-46	2.632E-03		4.500E-02	7.394E-02	7.317E-03	0.036
V-48	4.192E-02		9.090E-02	1.535E-01	1.419E-02	0.273
CR-51	-9.742E-02		3.867E-01	6.312E-01	4.559E-02	-0.154
MN-52	-4.972E-02		3.213E-01	5.170E-01	4.369E-02	-0.096
MN-54	-1.203E-02		4.182E-02	6.713E-02	5.735E-03	-0.179
CO-56	-5.482E-03		3.980E-02	6.445E-02	5.692E-03	-0.085
CO-57	-1.407E-02		2.648E-02	4.190E-02	2.764E-03	-0.336
CO-58	-9.322E-03		3.932E-02	6.329E-02	5.064E-03	-0.147
FE-59	2.821E-02		1.160E-01	1.905E-01	1.590E-02	0.148
CO-60	5.055E-02		3.925E-02	7.422E-02	6.450E-03	0.681
ZN-65	-1.900E-02		1.236E-01	1.676E-01	1.221E-02	-0.113
GE-68	2.360E-01		1.358E+00	2.225E+00	1.763E-01	0.106
AS-73	1.269E-02		1.608E+00	2.692E+00	3.562E-01	0.005
AS-74	1.731E-02		1.027E-01	1.748E-01	9.984E-03	0.099
SE-75	-1.358E-02		4.664E-02	6.686E-02	4.264E-03	-0.203
BR-77	7.380E+00		2.473E+01	4.060E+01	2.576E+00	0.182
SR-82	-6.843E-01		4.523E-01	6.446E-01	4.647E-02	-1.062
RB-83	1.803E-02		7.253E-02	1.186E-01	7.530E-03	0.152
RB-84	-2.117E-02		7.994E-02	1.276E-01	1.237E-02	-0.166
KR-85	7.760E+00		8.004E+00	1.226E+01	7.833E-01	0.633
SR-85	4.100E-02		4.229E-02	6.479E-02	4.138E-03	0.633
RB-86	-2.890E-01		9.739E-01	1.521E+00	1.207E-01	-0.190
Y-88	-1.787E-02		3.546E-02	5.077E-02	3.115E-03	-0.352
ZR-88	4.553E-03		3.046E-02	5.031E-02	3.419E-03	0.091
Y-91	-4.061E+00		2.361E+01	3.895E+01	2.587E+00	-0.104
NB-94	-2.132E-03		3.420E-02	5.661E-02	3.223E-03	-0.038
NB-95	1.588E-02		5.102E-02	7.562E-02	5.277E-03	0.210
NB-95M	1.684E-01		1.408E-01	2.222E-01	1.723E-02	0.758
ZR-95	9.256E-02		7.710E-02	1.385E-01	1.088E-02	0.668
NB-97	1.687E+00		8.152E-01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	4.162E+01		1.749E+01	Half-Life too short		
MO-99	-1.318E+01		2.410E+01	3.800E+01	5.342E+00	-0.347
TC-99M	-1.045E+14		5.476E+13	Half-Life too short		
RH-101	9.075E-03		3.400E-02	5.370E-02	3.085E-03	0.169
RH-102	-2.343E-02		2.961E-02	4.491E-02	2.962E-03	-0.522
RU-103	-3.789E-02		4.584E-02	6.885E-02	8.933E-03	-0.550
RH-106	5.571E-02		3.111E-01	5.284E-01	6.108E-02	0.105
RU-106	5.571E-02		3.110E-01	5.284E-01	2.870E-02	0.105
AG-108M	-9.194E-03		3.270E-02	5.209E-02	3.735E-03	-0.176
AG-110M	3.552E-02		3.544E-02	6.333E-02	3.431E-03	0.561
IN-111	1.064E+00		2.255E+00	3.445E+00	2.127E-01	0.309
IN-113M	-3.202E-02		4.444E-02	6.915E-02	4.931E-03	-0.463
SN-113	-3.202E-02		4.444E-02	6.915E-02	4.931E-03	-0.463
IN-114M	9.813E-02		2.143E-01	3.103E-01	1.760E-02	0.316
CD-115	-6.243E-06		1.430E-05	Half-Life too short		
SN-117M	1.999E-02		6.512E-02	1.056E-01	5.922E-03	0.189
SB-122	3.761E+00		3.976E+00	6.849E+00	4.119E-01	0.549
I-123	9.651E+01		1.096E+02	Half-Life too short		
TE-123M	1.305E-02		2.963E-02	4.832E-02	2.744E-03	0.270
I-124	-8.487E-01		1.188E+00	1.610E+00	9.084E-02	-0.527
SB-124	3.317E-02		7.533E-02	1.330E-01	1.010E-02	0.249
SB-125	-2.338E-02		8.920E-02	1.424E-01	9.915E-03	-0.164
TE-125M	3.125E+00		1.023E+01	1.686E+01	1.620E+00	0.185
I-126	-4.462E-02		2.021E-01	3.316E-01	1.664E-02	-0.135
SB-126	2.872E-02		1.781E-01	2.832E-01	1.711E-02	0.101
SB-127	2.288E-01		2.136E+00	3.590E+00	3.674E-01	0.064
XE-127	3.473E-02		5.057E-02	8.542E-02	4.946E-03	0.407
I-131	-4.254E-02		1.455E-01	2.347E-01	1.732E-02	-0.181
TE-132	-5.669E-01		1.223E+00	2.018E+00	3.039E-01	-0.281
BA-133	1.388E-02		4.662E-02	6.900E-02	8.324E-03	0.201
I-133	-2.693E-02		3.141E-02	Half-Life too short		
CS-134	1.128E-01	+	8.592E-02	9.199E-02	7.092E-03	1.226
I-135	9.805E+11		4.320E+12	Half-Life too short		
CS-136	2.645E-02		1.524E-01	2.512E-01	2.199E-02	0.105
BA-137M	9.136E-03		3.685E-02	6.260E-02	3.089E-03	0.146
CS-137	9.658E-03		3.895E-02	6.618E-02	3.284E-03	0.146
CE-139	1.053E-02		3.039E-02	4.929E-02	2.692E-03	0.214
BA-140	1.162E-01		3.159E-01	5.168E-01	1.685E-01	0.225
LA-140	-3.035E-02		1.165E-01	1.526E-01	1.184E-02	-0.199
CE-141	-2.928E-02		6.864E-02	1.082E-01	6.624E-03	-0.271
CE-143	3.579E-03		5.505E-04	Half-Life too short		
CE-144	-1.645E-01		2.078E-01	3.212E-01	4.614E-02	-0.512
PM-144	9.388E-03		3.271E-02	5.566E-02	3.107E-03	0.169
PR-144	6.371E-01		2.220E+00	3.777E+00	2.106E-01	0.169
PM-146	-2.782E-03		4.318E-02	6.965E-02	6.433E-03	-0.040
ND-147	-1.428E-01		7.151E-01	1.128E+00	1.549E-01	-0.127
PM-149	6.123E-05		1.079E-04	Half-Life too short		
EU-152	-1.393E-01		9.915E-02	1.421E-01	1.047E-02	-0.980

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	3.868E-02		9.318E-02	1.392E-01	1.296E-02	0.278
EU-154	-2.620E-02		1.371E-01	2.240E-01	2.386E-02	-0.117
EU-155	7.130E-02		1.146E-01	1.914E-01	1.587E-02	0.373
TB-160	-3.600E-02		1.544E-01	2.472E-01	2.383E-02	-0.146
HO-166M	-2.501E-02		6.103E-02	9.812E-02	5.758E-03	-0.255
TM-171	-2.143E+01		4.064E+01	5.882E+01	6.701E+00	-0.364
LU-176	-5.764E-03		2.559E-02	3.877E-02	2.551E-03	-0.149
LU-177	4.166E+00	+	2.542E+00	2.720E+00	1.590E-01	1.531
LU-177M	-1.524E-01		1.790E-01	2.747E-01	1.862E-02	-0.555
HF-181	-1.155E-02		4.545E-02	7.196E-02	4.724E-03	-0.161
W-181	2.390E-01		5.265E-01	8.011E-01	9.257E-02	0.298
TA-182	8.689E-02		2.542E-01	4.340E-01	2.993E-02	0.200
RE-183	1.817E-02		1.167E-01	1.877E-01	1.038E-02	0.097
RE-184	-1.531E-01		2.354E-01	3.827E-01	2.386E-02	-0.400
OS-185	1.086E-02		4.143E-02	7.071E-02	3.633E-03	0.154
RE-188	1.144E-01		1.746E-01	2.877E-01	1.635E-02	0.398
W-188	-3.405E+00		8.213E+00	1.166E+01	7.568E-01	-0.292
IR-192	-9.850E-04		3.265E-02	5.402E-02	3.592E-03	-0.018
AU-195	1.439E-01		2.696E-01	4.046E-01	3.672E-02	0.356
TL-200	-1.584E-04		1.375E-03	Half-Life too short		
TL-201	-1.226E+01		1.376E+01	2.100E+01	1.148E+00	-0.584
TL-202	5.587E-02		8.516E-02	1.441E-01	9.688E-03	0.388
HG-203	-3.921E-02		4.132E-02	6.551E-02	4.421E-03	-0.598
BI-207	-5.566E-02		5.809E-02	8.406E-02	6.843E-03	-0.662
TL-207	1.805E-01		7.207E-01	1.068E+00	1.797E-01	0.169
PO-209	-3.479E-01		8.632E+00	1.406E+01	1.418E+00	-0.025
BI-210	-3.234E+00		8.553E+00	1.414E+01	1.387E+00	-0.229
PB-210	-3.234E+00		8.553E+00	1.414E+01	1.387E+00	-0.229
PO-210	-3.234E+00		8.552E+00	1.414E+01	1.270E+00	-0.229
PB-211	-2.953E-01		9.192E-01	1.438E+00	8.979E-01	-0.205
BI-212	9.784E-01	+	5.093E-01	6.752E-01	5.402E-02	1.449
PO-215	1.805E-01		7.207E-01	1.068E+00	1.797E-01	0.169
RN-219	3.026E-01		4.084E-01	6.948E-01	9.766E-02	0.436
RN-220	3.716E+00		2.569E+01	4.158E+01	2.550E+00	0.089
RA-223	1.805E-01		7.207E-01	1.068E+00	1.797E-01	0.169
AC-227	3.497E-01		3.736E-01	6.485E-01	9.181E-02	0.539
TH-227	3.497E-01		3.751E-01	6.485E-01	1.107E-01	0.539
TH-229	-2.367E-01		5.208E-01	8.057E-01	4.595E-02	-0.294
PA-231	2.251E-01		1.473E+00	2.476E+00	3.482E-01	0.091
TH-231	1.805E-01		7.207E-01	1.068E+00	1.797E-01	0.169
U-231	-6.553E-01		2.033E+00	2.923E+00	2.802E-01	-0.224
PA-233	1.751E-02		5.902E-02	9.957E-02	6.890E-03	0.176
PA-234	-1.251E-01		3.230E-01	5.045E-01	9.720E-02	-0.248
PA-234M	6.966E+00	+	4.796E+00	9.452E+00	9.755E-01	0.737
U-235	1.626E-01		2.210E-01	3.596E-01	5.880E-02	0.452
NP-236	2.990E-02		8.145E-02	1.324E-01	7.376E-03	0.226
NP-239	-1.191E-01		2.032E-01	3.215E-01	2.249E-02	-0.370
AM-241	7.526E-02		2.494E-01	3.787E-01	4.863E-02	0.199

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.053E-02		1.004E-01	1.659E-01	1.390E-02	0.184
AM-246	1.070E-01		1.481E-01	2.556E-01	2.019E-02	0.418
CM-247	2.125E-02		3.578E-02	6.064E-02	4.117E-03	0.350
CF-249	1.812E-02		4.044E-02	6.799E-02	4.620E-03	0.267
CF-251	8.254E-02		1.283E-01	2.102E-01	1.166E-02	0.393

VAX/VMS Nuclide Identification Report Generated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978001
* Acquisition date   : 14-FEB-2010 11:17:01 Detector SN#      :
* Detector ID        : GAM10                               Sensitivity      : 5.000
* Geometry           : CAN                                  Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.18                      Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978001 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.2759E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME  : 16-MAR-2009 13:18:08 MS Isotope       :
* MSD DPM           : 0.000 MSD Isotope                    :
* LCS DPM           : 0.000 LCS Isotope                    :
* LCSD DPM          : 0.000 LCSD Isotope                   :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.946E+01	3.891E+00	2.773E-01	1.985E+00
CD-109	3.618E+00	1.221E+00	8.235E-01	6.228E-01
SN-126	3.541E-01	1.195E-01	8.360E-02	6.096E-02
CS-135	5.965E-01	3.295E-01	1.257E-01	1.681E-01
TL-208	5.090E-01	9.361E-02	3.030E-02	4.776E-02
BI-211	3.406E+00	5.256E-01	1.636E-01	2.682E-01
PB-212	1.707E+00	1.686E-01	4.655E-02	8.603E-02
PO-212	1.707E+00	1.686E-01	4.655E-02	8.603E-02
BI-214	1.033E+00	1.707E-01	5.524E-02	8.710E-02
PB-214	1.185E+00	1.926E-01	5.703E-02	9.828E-02
PO-214	1.185E+00	1.926E-01	5.703E-02	9.828E-02
PO-216	1.707E+00	1.686E-01	4.655E-02	8.603E-02
PO-218	1.185E+00	1.926E-01	5.703E-02	9.828E-02
RA-224	4.363E+00	1.372E+00	5.296E-01	7.002E-01
RA-226	1.033E+00	1.707E-01	5.524E-02	8.710E-02
AC-228	1.553E+00	3.344E-01	1.125E-01	1.706E-01
RA-228	1.553E+00	3.344E-01	1.125E-01	1.706E-01
TH-228	1.738E+00	1.717E-01	4.739E-02	8.758E-02
TH-230	1.033E+00	1.707E-01	5.524E-02	8.709E-02
TH-232	1.553E+00	3.344E-01	1.125E-01	1.706E-01
TH-234	3.980E+00	2.580E+00	1.507E+00	1.316E+00
U-234	1.033E+00	1.707E-01	5.524E-02	8.709E-02
NP-237	1.040E+00	4.090E-01	2.390E-01	2.087E-01
U-238	3.980E+00	2.580E+00	1.507E+00	1.316E+00
AM-243	3.981E-01	1.078E-01	5.579E-02	5.502E-02
ANH-511	5.992E-02	6.579E-02	2.469E-02	3.357E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.121E-02	3.221E-01	2.688E-01	1.644E-01 NOT IDENT.

NA-22	-2.188E-02	4.913E-02	4.009E-02	2.506E-02	NOT IDENT.
NA-24	9.256E+05	1.695E+07	0.000E+00	8.647E+06	SHORT HLIF
AL-26	1.022E-02	2.890E-02	2.551E-02	1.474E-02	NOT IDENT.
TI-44	1.808E-01	4.938E-02	4.151E-02	2.519E-02	NOT IDENT.
SC-46	2.632E-03	4.410E-02	3.728E-02	2.250E-02	FAIL ABUN
V-48	4.192E-02	8.908E-02	7.726E-02	4.545E-02	NOT IDENT.
CR-51	-9.742E-02	3.790E-01	3.231E-01	1.933E-01	NOT IDENT.
MN-52	-4.972E-02	3.149E-01	2.587E-01	1.607E-01	NOT IDENT.
MN-54	-1.203E-02	4.098E-02	3.387E-02	2.091E-02	NOT IDENT.
CO-56	-5.482E-03	3.900E-02	3.252E-02	1.990E-02	NOT IDENT.
CO-57	-1.407E-02	2.595E-02	2.176E-02	1.324E-02	NOT IDENT.
CO-58	-9.322E-03	3.853E-02	3.195E-02	1.966E-02	NOT IDENT.
FE-59	2.821E-02	1.137E-01	9.572E-02	5.800E-02	NOT IDENT.
CO-60	5.055E-02	3.846E-02	3.718E-02	1.962E-02	NOT IDENT.
ZN-65	-1.900E-02	1.212E-01	8.419E-02	6.182E-02	NOT IDENT.
GE-68	2.360E-01	1.331E+00	1.119E+00	6.792E-01	NOT IDENT.
AS-73	1.269E-02	1.576E+00	1.414E+00	8.040E-01	NOT IDENT.
AS-74	1.731E-02	1.007E-01	8.864E-02	5.137E-02	NOT IDENT.
SE-75	-1.358E-02	4.570E-02	3.433E-02	2.332E-02	NOT IDENT.
BR-77	7.380E+00	2.424E+01	2.064E+01	1.237E+01	FAIL ABUN
SR-82	-6.843E-01	4.433E-01	3.256E-01	2.262E-01	NOT IDENT.
RB-83	1.803E-02	7.108E-02	6.030E-02	3.627E-02	NOT IDENT.
RB-84	-2.117E-02	7.834E-02	6.432E-02	3.997E-02	NOT IDENT.
KR-85	7.760E+00	7.844E+00	6.234E+00	4.002E+00	NOT IDENT.
SR-85	4.100E-02	4.144E-02	3.293E-02	2.114E-02	NOT IDENT.
RB-86	-2.890E-01	9.544E-01	7.647E-01	4.870E-01	NOT IDENT.
Y-88	-1.787E-02	3.475E-02	2.530E-02	1.773E-02	NOT IDENT.
ZR-88	4.553E-03	2.985E-02	2.568E-02	1.523E-02	NOT IDENT.
Y-91	-4.061E+00	2.314E+01	1.954E+01	1.181E+01	NOT IDENT.
NB-94	-2.132E-03	3.351E-02	2.864E-02	1.710E-02	NOT IDENT.
NB-95	1.588E-02	5.000E-02	3.821E-02	2.551E-02	NOT IDENT.
NB-95M	1.684E-01	1.380E-01	1.143E-01	7.039E-02	NOT IDENT.
ZR-95	9.256E-02	7.555E-02	7.001E-02	3.855E-02	NOT IDENT.
NB-97	1.687E+06	1.598E+06	0.000E+00	8.152E+05	SHORT HLIF
ZR-97	4.162E+07	3.429E+07	0.000E+00	1.749E+07	SHORT HLIF
MO-99	-1.318E+01	2.362E+01	1.921E+01	1.205E+01	NOT IDENT.
TC-99M	-1.045E+20	1.073E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	9.075E-03	3.332E-02	2.769E-02	1.700E-02	NOT IDENT.
RH-102	-2.343E-02	2.901E-02	2.286E-02	1.480E-02	FAIL ABUN
RU-103	-3.789E-02	4.492E-02	3.502E-02	2.292E-02	FAIL ABUN
RH-106	5.571E-02	3.048E-01	2.679E-01	1.555E-01	FAIL ABUN
RU-106	5.571E-02	3.048E-01	2.679E-01	1.555E-01	FAIL ABUN
AG-108M	-9.194E-03	3.205E-02	2.655E-02	1.635E-02	NOT IDENT.
AG-110M	3.552E-02	3.473E-02	3.207E-02	1.772E-02	NOT IDENT.
IN-111	1.064E+00	2.210E+00	1.770E+00	1.128E+00	NOT IDENT.
IN-113M	-3.202E-02	4.355E-02	3.530E-02	2.222E-02	NOT IDENT.
SN-113	-3.202E-02	4.355E-02	3.530E-02	2.222E-02	NOT IDENT.
IN-114M	9.813E-02	2.100E-01	1.601E-01	1.071E-01	NOT IDENT.
CD-115	-6.243E+00	2.803E+01	0.000E+00	1.430E+01	SHORT HLIF
SN-117M	1.999E-02	6.382E-02	5.463E-02	3.256E-02	NOT IDENT.
SB-122	3.761E+00	3.897E+00	3.477E+00	1.988E+00	NOT IDENT.
I-123	9.651E+07	2.148E+08	0.000E+00	1.096E+08	SHORT HLIF
TE-123M	1.305E-02	2.904E-02	2.499E-02	1.481E-02	NOT IDENT.
I-124	-8.487E-01	1.165E+00	8.166E-01	5.942E-01	NOT IDENT.
SB-124	3.317E-02	7.382E-02	6.638E-02	3.766E-02	FAIL ABUN
SB-125	-2.338E-02	8.742E-02	7.258E-02	4.460E-02	FAIL ABUN
TE-125M	3.125E+00	1.003E+01	8.768E+00	5.116E+00	NOT IDENT.
I-126	-4.462E-02	1.981E-01	1.679E-01	1.011E-01	NOT IDENT.
SB-126	2.872E-02	1.745E-01	1.432E-01	8.904E-02	NOT IDENT.
SB-127	2.288E-01	2.094E+00	1.817E+00	1.068E+00	NOT IDENT.
XE-127	3.473E-02	4.955E-02	4.403E-02	2.528E-02	NOT IDENT.
I-131	-4.254E-02	1.426E-01	1.199E-01	7.276E-02	NOT IDENT.
TE-132	-5.669E-01	1.199E+00	1.038E+00	6.117E-01	NOT IDENT.
BA-133	1.388E-02	4.569E-02	3.527E-02	2.331E-02	NOT IDENT.
I-133	-2.693E+04	6.156E+04	0.000E+00	3.141E+04	SHORT HLIF
CS-134	1.128E-01	8.421E-02	4.646E-02	4.296E-02	FAIL ABUN
I-135	9.805E+17	8.466E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.645E-02	1.494E-01	1.263E-01	7.621E-02	FAIL ABUN
BA-137M	9.136E-03	3.611E-02	3.170E-02	1.842E-02	NOT IDENT.
CS-137	9.658E-03	3.817E-02	3.351E-02	1.947E-02	NOT IDENT.
CE-139	1.053E-02	2.979E-02	2.548E-02	1.520E-02	NOT IDENT.
BA-140	1.162E-01	3.096E-01	2.625E-01	1.580E-01	NOT IDENT.
LA-140	-3.035E-02	1.142E-01	7.622E-02	5.826E-02	FAIL ABUN
CE-141	-2.928E-02	6.727E-02	5.606E-02	3.432E-02	NOT IDENT.
CE-143	3.579E+03	1.079E+03	0.000E+00	5.505E+02	SHORT HLIF
CE-144	-1.645E-01	2.036E-01	1.666E-01	1.039E-01	NOT IDENT.
PM-144	9.388E-03	3.206E-02	2.816E-02	1.636E-02	NOT IDENT.
PR-144	6.371E-01	2.176E+00	1.911E+00	1.110E+00	NOT IDENT.

PM-146	-2.782E-03	4.232E-02	3.547E-02	2.159E-02	NOT IDENT.
ND-147	-1.428E-01	7.008E-01	5.733E-01	3.575E-01	NOT IDENT.
PM-149	6.123E+01	2.115E+02	0.000E+00	1.079E+02	SHORT HLIF
EU-152	-1.393E-01	9.717E-02	7.268E-02	4.958E-02	NOT IDENT.
GD-153	3.868E-02	9.131E-02	7.251E-02	4.659E-02	NOT IDENT.
EU-154	-2.620E-02	1.344E-01	1.123E-01	6.857E-02	NOT IDENT.
EU-155	7.130E-02	1.123E-01	9.958E-02	5.731E-02	FAIL ABUN
TB-160	-3.600E-02	1.513E-01	1.246E-01	7.719E-02	FAIL ABUN
HO-166M	-2.501E-02	5.981E-02	4.963E-02	3.052E-02	FAIL ABUN
TM-171	-2.143E+01	3.983E+01	3.081E+01	2.032E+01	NOT IDENT.
LU-176	-5.764E-03	2.508E-02	1.986E-02	1.279E-02	FAIL ABUN
LU-177	4.166E+00	2.202E+00	1.402E+00	1.123E+00	FAIL ABUN
LU-177M	-1.524E-01	1.754E-01	1.401E-01	8.949E-02	FAIL ABUN
HF-181	-1.155E-02	4.454E-02	3.662E-02	2.273E-02	NOT IDENT.
W-181	2.390E-01	5.159E-01	4.198E-01	2.632E-01	NOT IDENT.
TA-182	8.689E-02	2.491E-01	2.177E-01	1.271E-01	FAIL ABUN
RE-183	1.817E-02	1.143E-01	9.707E-02	5.833E-02	FAIL ABUN
RE-184	-1.531E-01	2.307E-01	1.966E-01	1.177E-01	NOT IDENT.
OS-185	1.086E-02	4.060E-02	3.582E-02	2.071E-02	NOT IDENT.
RE-188	1.144E-01	1.711E-01	1.489E-01	8.729E-02	NOT IDENT.
W-188	-3.405E+00	8.048E+00	5.977E+00	4.106E+00	FAIL ABUN
IR-192	-9.850E-04	3.200E-02	2.766E-02	1.633E-02	FAIL ABUN
AU-195	1.439E-01	2.642E-01	2.107E-01	1.348E-01	FAIL ABUN
TL-200	-1.584E+02	2.695E+03	0.000E+00	1.375E+03	SHORT HLIF
TL-201	-1.226E+01	1.348E+01	1.085E+01	6.878E+00	NOT IDENT.
TL-202	5.587E-02	8.346E-02	7.343E-02	4.258E-02	NOT IDENT.
HG-203	-3.921E-02	4.049E-02	3.361E-02	2.066E-02	NOT IDENT.
BI-207	-5.566E-02	5.692E-02	4.226E-02	2.904E-02	FAIL ABUN
TL-207	1.805E-01	7.063E-01	5.465E-01	3.604E-01	FAIL ABUN
PO-209	-3.479E-01	8.460E+00	7.085E+00	4.316E+00	NOT IDENT.
BI-210	-3.234E+00	8.382E+00	7.447E+00	4.276E+00	NOT IDENT.
PB-210	-3.234E+00	8.382E+00	7.447E+00	4.276E+00	NOT IDENT.
PO-210	-3.234E+00	8.381E+00	7.447E+00	4.276E+00	NOT IDENT.
PB-211	-2.953E-01	9.009E-01	7.337E-01	4.596E-01	NOT IDENT.
BI-212	9.784E-01	4.991E-01	3.415E-01	2.546E-01	FAIL ABUN
PO-215	1.805E-01	7.063E-01	5.465E-01	3.604E-01	FAIL ABUN
RN-219	3.026E-01	4.002E-01	3.545E-01	2.042E-01	NOT IDENT.
RN-220	3.716E+00	2.518E+01	2.112E+01	1.285E+01	NOT IDENT.
RA-223	1.805E-01	7.063E-01	5.465E-01	3.604E-01	FAIL ABUN
AC-227	3.497E-01	3.662E-01	3.331E-01	1.868E-01	FAIL ABUN
TH-227	3.497E-01	3.676E-01	3.331E-01	1.876E-01	FAIL ABUN
TH-229	-2.367E-01	5.104E-01	4.156E-01	2.604E-01	FAIL ABUN
PA-231	2.251E-01	1.444E+00	1.270E+00	7.365E-01	NOT IDENT.
TH-231	1.805E-01	7.063E-01	5.465E-01	3.604E-01	FAIL ABUN
U-231	-6.553E-01	1.992E+00	1.523E+00	1.016E+00	FAIL ABUN
PA-233	1.751E-02	5.784E-02	5.100E-02	2.951E-02	FAIL ABUN
PA-234	-1.251E-01	3.165E-01	2.541E-01	1.615E-01	FAIL ABUN
PA-234M	6.966E+00	4.700E+00	4.756E+00	2.398E+00	FAIL ABUN
U-235	1.626E-01	2.166E-01	1.863E-01	1.105E-01	FAIL ABUN
NP-236	2.990E-02	7.982E-02	6.846E-02	4.073E-02	FAIL ABUN
NP-239	-1.191E-01	1.991E-01	1.671E-01	1.016E-01	FAIL ABUN
AM-241	7.526E-02	2.444E-01	1.987E-01	1.247E-01	NOT IDENT.
CM-243	3.053E-02	9.840E-02	8.634E-02	5.020E-02	FAIL ABUN
AM-246	1.070E-01	1.451E-01	1.285E-01	7.404E-02	NOT IDENT.
CM-247	2.125E-02	3.506E-02	3.094E-02	1.789E-02	NOT IDENT.
CF-249	1.812E-02	3.963E-02	3.471E-02	2.022E-02	NOT IDENT.
CF-251	8.254E-02	1.258E-01	1.086E-01	6.417E-02	NOT IDENT.


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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
46.50	275.8679
46.50	275.8679
46.50	275.8679
48.70	277.5230
49.72	293.0212
51.35	275.7661
52.39	292.2796
52.97	298.2877
53.15	300.2833
53.44	298.6428
54.07	317.7536
56.28	295.1347
56.28	295.1371
57.37	0.0000
57.53	318.5893
57.53	318.5906
57.60	328.0422
57.98	318.9341
57.98	318.9341
59.32	287.3915
59.32	287.3915
59.40	287.4457
59.54	287.5410
59.72	308.9193
60.01	319.0558
61.10	297.1224
61.14	297.1496
61.30	297.2596
63.00	330.3103
63.29	330.5279
63.29	330.5279
63.58	330.7450
64.28	322.1981
65.12	319.9347
65.20	319.9913
65.20	319.9913
66.05	340.7219
66.72	372.8974
66.83	381.6290
66.91	381.6957
67.20	381.9383
67.20	381.9383
67.75	360.7502
67.85	360.8284
68.90	342.8410
68.90	342.8410
69.30	351.8228
69.67	349.2047
70.82	370.3893
70.82	370.3893
70.83	370.3971
72.80	395.7490
72.87	395.8069
72.87	395.8069
74.67	397.2726
74.81	397.3864
74.81	397.3864
74.81	397.3864
74.81	397.3864
74.81	397.3864
74.81	397.3864
74.81	397.3864
74.97	397.5148
75.28	397.7653
75.70	398.1027
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77.11	399.2309

77.11	399.2309
77.11	399.2309
77.11	399.2309
77.11	399.2309
77.11	399.2309
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79.80	344.6523
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80.18	344.9083
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80.30	386.4462
80.57	386.6493
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81.07	428.5434
81.07	428.5434
81.07	428.5434
81.07	428.5434
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83.37	338.0892
83.78	341.3353
83.78	341.3353
83.78	341.3353
83.78	341.3353
84.21	331.1691
84.90	355.4984
85.43	397.7154
86.29	482.2139
86.50	482.4030
86.54	482.4374
86.59	482.4817
86.72	498.7861
86.79	498.8470
86.94	498.9867
87.30	528.1262
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87.88	498.6484
88.03	498.7852
88.36	529.1521
88.47	529.2568
89.95	530.6802
91.11	531.7866
92.29	421.4785
92.38	421.5464
92.38	421.5464
93.35	422.2686
94.00	422.7507
94.67	423.2414
94.67	423.2456
94.90	423.4156
94.90	423.4156
94.90	423.4156
94.90	423.4156
95.87	348.8689
95.87	348.8689
96.73	321.9250
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98.44	284.6110
98.44	284.6110
98.88	307.7935
99.55	298.0235
99.55	298.0235
99.86	311.8816
100.00	311.9561
100.10	312.0104
103.18	310.5235
103.76	296.4111
105.00	283.6049
105.31	306.4489
108.00	340.9396
109.28	320.8660

111.00	319.6527
111.00	319.6527
111.76	318.9912
112.95	323.7587
115.19	323.8286
116.30	305.4799
117.00	334.1776
117.00	334.1776
117.66	316.6281
121.11	297.1147
121.62	304.7461
121.78	293.1755
122.06	310.2365
122.32	289.1697
122.32	289.1697
122.32	289.1697
122.32	289.1697
123.07	291.6098
127.23	298.7013
129.76	275.1513
131.20	369.0413
133.02	301.1430
133.54	306.7409
135.34	266.5004
136.00	279.7007
136.25	286.2773
136.48	297.1753
140.51	323.7822
140.51	0.0000
142.18	307.0806
142.65	296.3738
143.76	281.5314
144.24	268.6046
144.24	268.6046
144.24	268.6046
144.24	268.6046
145.22	302.8419
145.44	321.5206
147.16	325.5266
152.43	306.7604
152.70	298.0344
153.22	301.5430
154.21	265.4199
154.21	265.4199
154.21	265.4199
154.21	265.4199
155.03	262.3722
156.02	323.6583
158.56	280.1982
159.00	0.0000
159.00	275.8995
160.31	276.3410
161.27	320.1715
162.32	287.0701
162.64	287.1799
163.35	281.8337
163.89	287.6113
165.85	263.6076
167.43	300.0654
171.28	239.3324
171.86	239.4942
172.10	271.2012
176.55	232.8376
176.60	248.7520
181.06	224.3227
184.41	285.3176
185.71	286.8729
186.00	286.9644
190.27	249.0930
192.34	270.4530
193.63	270.8267
197.04	257.8686
198.01	245.3403
198.60	278.0699
200.40	273.9300
201.83	274.0469
202.84	261.4369
205.31	306.4880

208.36	257.3758
208.81	257.4939
209.75	228.7874
209.75	228.7874
210.97	203.6162
215.65	237.9514
216.55	233.7207
218.09	239.4139
222.10	244.8194
223.80	240.7459
226.40	229.6836
227.00	239.6893
227.08	232.5254
227.20	247.8171
228.16	239.0554
228.18	239.0595
228.18	239.0595
231.56	0.0000
235.69	236.0436
236.00	236.1132
236.00	236.1132
238.63	227.7924
238.63	227.7924
238.63	227.7924
238.63	227.7924
239.00	227.8690
240.98	228.2826
241.98	228.4913
241.98	228.4913
241.98	228.4913
244.69	186.8938
245.39	187.0109
247.94	224.2313
248.90	200.6074
249.79	183.3496
252.40	209.5021
252.85	219.6972
252.85	219.6972
254.15	0.0000
256.20	175.1678
256.20	175.1678
260.50	190.6292
260.90	0.0000
262.80	161.9537
264.65	160.4786
268.24	182.5776
268.79	182.6644
269.46	182.7661
269.46	182.7661
269.46	182.7661
269.46	182.7661
271.23	183.0382
273.65	247.0408
276.40	202.5857
277.35	185.8486
277.60	194.3373
277.60	194.3373
278.00	185.9483
278.60	190.7400
279.20	204.9338
279.53	212.5130
280.46	209.8519
281.68	172.3807
283.67	166.9989
284.30	167.0853
285.00	172.8470
285.90	0.0000
286.10	166.3831
286.10	166.3831
287.40	172.2329
288.45	0.0000
290.67	177.6195
290.80	173.0818
291.72	162.5742
293.26	0.0000
293.70	175.0044
295.21	169.4987
295.21	169.4987

295.21	169.4987
295.96	169.5992
296.50	169.6698
297.23	169.7676
298.57	169.9469
299.80	170.1098
299.80	170.1098
300.09	170.1479
300.09	170.1479
300.09	170.1479
300.09	170.1479
300.12	170.1506
301.29	170.3054
302.84	145.6056
303.76	141.1063
303.91	141.1243
304.40	145.7795
304.40	145.7795
304.84	135.0852
306.84	156.3026
308.46	156.8169
311.98	132.1564
316.51	135.5118
318.01	143.4156
319.02	149.3426
319.41	144.5347
320.08	153.3422
323.87	146.3747
323.87	146.3747
323.87	146.3747
323.87	146.3747
325.23	152.7565
328.77	167.2188
333.44	148.9663
334.20	153.7566
334.20	153.7566
334.30	153.7662
338.28	150.4670
338.28	150.4670
338.28	150.4670
338.28	150.4670
338.32	150.4716
338.32	150.4716
338.32	150.4716
340.50	140.2641
340.57	140.2706
344.27	167.0497
345.85	121.8108
350.59	0.0000
351.07	138.9255
351.92	139.0088
351.92	139.0088
351.92	139.0088
355.39	0.0000
356.01	124.2649
364.48	134.1963
366.43	137.3826
367.43	127.4399
367.94	0.0000
369.80	127.6414
374.96	123.0369
383.85	121.7249
387.95	126.1172
388.63	134.3123
391.69	134.5761
391.69	134.5761
392.90	117.3338
398.62	115.7122
400.65	113.8099
401.10	119.9957
401.81	111.8408
402.60	109.8425
404.84	124.3880
410.95	104.2225
411.60	141.4276
413.65	137.4708
414.70	106.5315
415.30	113.8135

415.76	121.0901
417.63	0.0000
418.52	117.1468
423.70	114.3942
427.08	103.1633
427.89	110.5126
432.53	99.3183
433.93	115.0941
439.47	100.7739
439.56	110.2279
439.89	117.5986
443.98	116.8281
444.90	94.7749
445.03	94.7832
445.03	94.7832
445.03	94.7832
445.03	94.7832
453.90	105.8533
463.38	107.2753
468.07	112.6802
473.00	89.8781
475.06	114.6181
475.35	111.4220
476.78	97.5706
477.59	98.6863
477.96	99.7803
482.03	106.4549
484.57	92.6033
487.03	89.4932
490.36	0.0000
492.35	0.0000
497.08	120.3307
507.63	0.0000
510.53	0.0000
510.84	108.1053
511.00	108.1143
511.85	108.1612
511.85	108.1612
513.99	94.5007
513.99	94.5007
520.41	92.1826
520.65	92.1929
527.90	0.0000
528.96	0.0000
529.64	102.5418
529.87	0.0000
531.02	102.6128
537.32	89.6567
543.00	79.9211
546.56	0.0000
549.76	81.3041
552.65	108.1866
555.20	81.5213
563.23	79.5998
563.90	63.9250
568.70	77.5618
569.32	77.5850
569.50	77.5913
569.67	77.5976
573.80	88.3436
574.00	88.3507
574.64	93.7904
578.91	112.9578
579.30	0.0000
583.14	93.2633
585.48	96.6901
591.81	95.4613
592.07	95.4741
593.00	92.7861
595.88	91.0889
600.56	86.7200
602.52	0.0000
602.71	102.0349
602.71	102.0349
603.60	103.6021
604.41	106.6890
604.70	106.7033
609.31	87.0702

609.31	87.0702
609.31	87.0702
609.31	87.0702
610.33	90.1661
612.46	65.7773
614.37	85.7386
618.01	85.5732
621.84	78.3469
621.84	78.3469
631.29	87.0074
633.02	81.5160
633.10	81.5203
634.78	92.7051
635.90	83.4763
636.97	73.3084
645.85	70.7991
646.12	69.8749
656.30	89.8359
657.75	71.1646
657.90	0.0000
661.65	87.2284
661.65	87.2284
664.57	0.0000
666.33	80.8224
666.33	80.8224
675.00	85.8368
677.61	72.7101
685.20	67.2576
692.80	68.4193
695.00	67.5315
696.49	70.4265
696.49	70.4265
697.00	78.0582
697.49	81.8806
698.33	80.0051
698.50	80.9637
699.00	82.8858
702.63	86.8255
706.10	81.2148
706.58	0.0000
706.67	84.1006
709.31	80.3640
711.68	83.3127
713.82	69.9667
717.42	79.6666
720.50	74.4793
721.93	0.0000
722.20	73.7280
722.78	73.7449
722.78	73.7449
722.89	73.7486
722.95	73.7505
723.30	91.4004
724.18	89.8265
727.18	77.0859
733.00	77.2637
735.90	64.4613
739.58	78.4332
742.81	58.1719
744.21	69.8449
747.13	77.6934
751.79	89.5091
752.31	89.5270
753.82	77.8945
755.35	66.2485
756.15	62.3719
756.87	65.3135
763.93	70.0517
765.79	78.2520
766.42	88.0554
766.84	86.1115
776.49	97.2308
778.00	58.9614
778.57	57.0088
778.89	51.1164
783.80	82.7265
785.46	75.8796
792.07	75.7364

795.84	62.3232
796.30	62.3325
798.80	85.8288
801.93	64.4462
805.60	67.5103
810.29	74.5880
810.76	61.6700
815.85	72.7451
817.79	71.7996
818.51	71.8189
819.60	68.8534
826.30	73.0196
828.27	0.0000
831.60	72.1564
831.96	73.1675
834.83	87.2889
836.80	0.0000
846.75	59.4465
848.13	58.4673
856.28	0.0000
856.80	64.0369
860.37	77.6156
867.32	54.1237
867.82	69.3577
871.10	66.0490
873.19	64.0628
874.81	51.8890
875.33	0.0000
876.40	63.1156
879.36	66.2362
880.27	64.2182
880.51	64.2228
881.50	66.2838
883.24	47.9570
884.67	52.0633
889.25	67.4808
896.60	73.7982
898.02	71.7825
899.00	66.6774
903.28	64.5713
911.07	61.7959
911.07	61.7959
911.07	61.7959
919.63	60.9388
920.93	56.8315
925.00	44.4918
925.24	47.5992
926.50	52.7942
935.52	59.1792
937.48	94.5391
944.10	62.4683
946.00	63.5481
949.00	67.7803
962.29	75.0488
964.01	71.5982
966.15	80.3839
968.20	139.8893
969.11	99.6990
969.11	99.6990
969.11	99.6990
977.42	58.6238
980.50	77.9385
983.50	57.9823
989.30	70.7606
996.32	63.5054
1001.03	61.4777
1001.68	60.0755
1004.76	53.0579
1021.30	0.0000
1024.50	0.0000
1034.80	61.0384
1036.00	64.2744
1037.82	63.2377
1038.57	64.3242
1038.76	0.0000
1045.16	66.5985
1046.59	63.4048
1048.07	65.5810

1050.47	62.4010
1050.47	62.4010
1062.04	55.0566
1063.62	68.0418
1076.63	60.7113
1077.35	53.1344
1078.86	43.3945
1085.78	47.8285
1099.22	67.6551
1112.02	61.0164
1112.84	67.5503
1115.52	74.9098
1120.29	82.3279
1120.29	82.3279
1120.29	82.3279
1120.29	82.3279
1120.51	76.8462
1121.28	67.7129
1124.00	0.0000
1129.67	66.9538
1131.51	0.0000
1147.95	0.0000
1167.94	71.3698
1173.22	64.9756
1175.09	75.2223
1177.93	73.4228
1189.05	78.3022
1204.90	87.0588
1205.75	0.0000
1213.00	101.3159
1221.42	91.1980
1230.97	100.8480
1235.34	97.1912
1236.41	0.0000
1238.25	78.3765
1246.25	76.6461
1260.41	0.0000
1271.85	56.1936
1274.45	56.2320
1274.54	60.9974
1291.56	57.4316
1298.22	0.0000
1312.09	45.2176
1325.50	30.8880
1325.50	30.8880
1332.49	21.2713
1333.61	29.0149
1360.21	34.0686
1362.66	0.0000
1365.15	28.2613
1368.21	26.3320
1368.53	0.0000
1376.25	29.3127
1384.27	30.3479
1394.10	32.3810
1395.20	30.4261
1407.95	24.6104
1434.06	22.7782
1436.60	25.7641
1457.56	0.0000
1460.81	22.9176
1489.15	21.0573
1509.49	16.1159
1596.49	21.1113
1620.62	19.8031
1678.03	0.0000
1691.02	10.4626
1691.02	10.4626
1706.46	0.0000
1750.46	0.0000
1764.49	10.9177
1764.49	10.9177
1764.49	10.9177
1764.49	10.9177
1770.23	39.3170
1771.40	19.1316
1791.20	0.0000
1808.65	9.6339

1836.01

15.0630

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978001

Total Uranium Activity	1.1916E+01	ug/g
Total Uranium Counting Unc.	7.6758E+00	ug/g
Total Uranium Tpu	3.9162E-06	ug/g
Total Uranium Mda	4.4828E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978001                *
*  ANALYST       : MXR1                  DETECTOR    : GAM10                  *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE: 14-FEB-2010 11:17:01.15  SAMPLE ALQT: 127.590 GRAM          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.027E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.627E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.477E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.683E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:18:37.38

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978002.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:17:26
Sample ID          : G245978002      Sample quantity   : 1.41470E+02 GRAM
Detector name      : GAM16           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:03.29 0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials  : MXR1
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 948721          Detector SN#      :
Matrix Spike ID    :                 LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.28*	3732	1852	0.89	126.75	122	9	5.18E-01	2.7	
2	3	74.83	433	1275	0.81	149.84	146	13	6.01E-02	13.2	8.08E-01
3	3	77.13*	719	1184	0.85	154.44	146	13	9.99E-02	8.2	
4	0	84.06*	411	1726	1.54	168.31	165	7	5.71E-02	17.5	
5	3	87.19	363	1198	1.16	174.57	172	22	5.04E-02	14.5	4.68E+00
6	3	90.03	461	1594	1.16	180.25	172	22	6.41E-02	14.8	
7	3	92.58*	9732	1160	1.01	185.34	172	22	1.35E+00	1.2	
8	3	94.35*	267	930	1.07	188.89	172	22	3.71E-02	32.0	
9	0	98.48	647	1063	0.90	197.16	194	8	8.99E-02	9.6	
10	0	112.37	632	1206	0.82	224.93	220	9	8.78E-02	10.7	
11	0	143.66*	443	755	1.02	287.52	283	9	6.15E-02	12.2	
12	0	163.19*	162	600	0.82	326.57	323	8	2.25E-02	27.6	
13	0	185.70*	2307	647	1.06	371.59	366	10	3.20E-01	3.0	
14	0	205.23	170	380	0.90	410.65	408	7	2.36E-02	20.5	
15	0	209.22	139	395	1.01	418.64	415	8	1.93E-02	26.3	
16	4	238.56*	1295	295	0.97	477.31	473	16	1.80E-01	3.5	1.15E+00
17	4	241.63	339	355	1.58	483.45	473	16	4.70E-02	12.2	
18	0	258.05	148	370	1.02	516.29	511	11	2.05E-02	26.5	
19	0	270.00*	136	249	1.00	540.19	536	9	1.90E-02	22.8	
20	0	295.27*	453	306	1.08	590.74	585	12	6.29E-02	9.2	
21	0	299.77	95	169	0.92	599.72	597	7	1.32E-02	24.8	
22	0	328.21	66	192	1.04	656.61	653	8	9.17E-03	38.4	
23	0	338.15	260	258	1.03	676.48	672	10	3.62E-02	13.1	
24	0	351.77*	756	262	1.17	703.73	697	14	1.05E-01	5.9	
25	0	462.81	78	115	0.98	925.79	922	8	1.08E-02	26.5	
26	0	510.70*	94	235	1.28	1021.55	1015	14	1.30E-02	39.6	
27	0	583.14*	450	126	1.22	1166.41	1159	13	6.26E-02	7.1	
28	0	609.29*	571	159	1.20	1218.71	1212	13	7.94E-02	6.2	
29	0	727.17	116	110	1.47	1454.44	1449	14	1.61E-02	21.2	
30	0	742.89	75	73	1.34	1485.86	1483	9	1.04E-02	23.8	
31	2	766.63*	291	99	1.80	1533.34	1528	27	4.04E-02	8.5	5.56E+00
32	2	771.67	46	49	1.81	1543.41	1528	27	6.46E-03	40.3	
33	0	786.18	69	79	1.64	1572.43	1568	13	9.65E-03	29.2	
34	0	795.01	69	85	2.04	1590.08	1585	12	9.63E-03	29.4	
35	0	860.24	63	73	0.87	1720.52	1715	12	8.72E-03	29.9	
36	0	911.27*	276	88	1.44	1822.55	1816	13	3.84E-02	9.7	
37	0	969.07*	167	139	1.79	1938.12	1928	17	2.32E-02	18.1	
38	0	1001.07*	565	82	1.28	2002.09	1996	13	7.84E-02	5.4	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1120.49*	112	61	1.35	2240.87	2235	14	1.56E-02	17.8	
40	0	1238.21	57	80	0.99	2476.22	2472	12	7.90E-03	33.8	
41	0	1393.19*	4	35	1.73	2786.04	2780	16	6.15E-04	309.3	
42	0	1408.25	38	14	1.83	2816.16	2809	14	5.28E-03	26.4	
43	0	1460.79*	1294	42	1.94	2921.18	2911	21	1.80E-01	3.1	
44	0	1509.67	29	15	5.32	3018.89	3009	15	3.96E-03	35.1	
45	0	1589.65	23	42	5.60	3178.78	3168	19	3.13E-03	72.6	
46	0	1764.79*	94	8	1.90	3528.87	3521	17	1.30E-02	13.2	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:17:26
Sample ID        : G245978002 Sample quantity : 141.47 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:03.29 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.663E+01	2.856E+00	4.112E-01	3.615E-02	64.763
NB-95	+	765.79	*	4.431E-01	8.599E-02	6.944E-02	6.419E-03	6.381
CD-109	+	88.03	*	4.253E+00	1.301E+00	1.747E+00	1.683E-01	2.435
SN-126	+	64.28		2.923E+01	4.523E+00	1.058E+00	1.541E-01	27.633
	+	86.94		1.731E+00	8.775E-01	7.941E-01	3.300E-01	2.179
	+	87.57	*	4.163E-01	1.273E-01	1.717E-01	1.646E-02	2.424
LU-177	+	112.95		2.358E+01	5.409E+00	4.587E+00	3.841E-01	5.141
	+	208.36	*	3.776E+00	2.021E+00	2.324E+00	2.358E-01	1.625
TL-208		277.35		3.841E-01	3.672E-01	6.103E-01	9.072E-02	0.629
	+	510.84		3.889E-01	3.121E-01	2.167E-01	2.740E-02	1.795
	+	583.14	*	5.321E-01	9.176E-02	6.072E-02	6.019E-03	8.763
	+	860.37		6.962E-01	4.220E-01	3.973E-01	3.978E-02	1.752
BI-211		72.87		4.139E+00	4.571E+00	7.197E+00	5.850E-01	0.575
	+	351.07	*	3.936E+00	6.299E-01	2.901E-01	3.172E-02	13.568
BI-212	+	727.18	*	1.174E+00	5.132E-01	4.157E-01	4.343E-02	2.824
	+	785.46		4.506E+00	2.666E+00	3.043E+00	2.828E-01	1.481
		1620.62		-1.579E-02	1.028E+00	1.704E+00	1.448E-01	-0.009
PB-212	+	74.81		2.101E+00	6.126E-01	7.936E-01	9.915E-02	2.647
	+	77.11		1.976E+00	3.642E-01	4.503E-01	3.825E-02	4.389
	+	87.30		1.925E+00	6.194E-01	7.963E-01	1.101E-01	2.418
	+	238.63	*	1.475E+00	2.030E-01	9.383E-02	1.111E-02	15.719
	+	300.09		1.666E+00	8.548E-01	1.072E+00	1.405E-01	1.554
PO-212	+	74.81		2.101E+00	6.126E-01	7.936E-01	9.915E-02	2.647
	+	77.11		1.976E+00	3.642E-01	4.503E-01	3.825E-02	4.389
	+	87.30		1.925E+00	6.194E-01	7.963E-01	1.101E-01	2.418
	+	115.19		5.550E+00	4.723E+00	7.388E+00	6.164E-01	0.751
	+	238.63	*	1.475E+00	2.030E-01	9.383E-02	1.111E-02	15.719
	+	300.09		1.666E+00	8.548E-01	1.072E+00	1.405E-01	1.554
BI-214	+	609.31	*	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
	+	1120.29		1.301E+00	4.827E-01	3.907E-01	4.195E-02	3.329
	+	1764.49		1.493E+00	4.132E-01	2.648E-01	2.192E-02	5.637
PB-214	+	74.81		3.620E+00	1.035E+00	1.367E+00	1.520E-01	2.647
	+	77.11		3.388E+00	6.757E-01	7.719E-01	8.808E-02	4.389
	+	87.30		3.298E+00	1.040E+00	1.364E+00	1.675E-01	2.418

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		2.315E+00	6.350E-01	5.651E-01	7.001E-02	4.097
	+	295.21		1.395E+00	3.165E-01	1.968E-01	2.627E-02	7.089
	+	351.92	*	1.369E+00	2.305E-01	1.011E-01	1.223E-02	13.539
	+	74.81		3.620E+00	1.035E+00	1.367E+00	1.520E-01	2.647
	+	77.11		3.388E+00	6.757E-01	7.719E-01	8.808E-02	4.389
	+	87.30		3.298E+00	1.040E+00	1.364E+00	1.675E-01	2.418
PO-216	+	241.98		2.315E+00	6.350E-01	5.651E-01	7.001E-02	4.097
	+	295.21		1.395E+00	3.165E-01	1.968E-01	2.627E-02	7.089
	+	351.92	*	1.369E+00	2.305E-01	1.011E-01	1.223E-02	13.539
	+	74.81		2.101E+00	6.126E-01	7.936E-01	9.915E-02	2.647
	+	77.11		1.976E+00	3.642E-01	4.503E-01	3.825E-02	4.389
	+	87.30		1.925E+00	6.194E-01	7.963E-01	1.101E-01	2.418
PO-218	+	238.63	*	1.475E+00	2.030E-01	9.383E-02	1.111E-02	15.719
	+	300.09		1.666E+00	8.548E-01	1.072E+00	1.405E-01	1.554
	+	74.81		3.620E+00	1.035E+00	1.367E+00	1.520E-01	2.647
	+	77.11		3.388E+00	6.757E-01	7.719E-01	8.808E-02	4.389
	+	87.30		3.298E+00	1.040E+00	1.364E+00	1.675E-01	2.418
	+	241.98		2.315E+00	6.350E-01	5.651E-01	7.001E-02	4.097
RA-224	+	295.21		1.395E+00	3.165E-01	1.968E-01	2.627E-02	7.089
	+	351.92	*	1.369E+00	2.305E-01	1.011E-01	1.223E-02	13.539
RA-226	+	240.98	*	4.390E+00	1.179E+00	1.068E+00	1.177E-01	4.111
	+	609.31	*	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
AC-228	+	1120.29		1.301E+00	4.827E-01	3.907E-01	4.195E-02	3.329
	+	1764.49		1.493E+00	4.132E-01	2.648E-01	2.192E-02	5.637
	+	338.32		1.493E+00	7.361E-01	3.515E-01	1.469E-01	4.249
RA-228	+	911.07	*	1.451E+00	3.295E-01	2.013E-01	2.391E-02	7.207
	+	969.11		1.547E+00	6.689E-01	3.245E-01	7.653E-02	4.766
	+	338.32		1.493E+00	7.361E-01	3.515E-01	1.469E-01	4.249
TH-228	+	911.07	*	1.451E+00	3.295E-01	2.013E-01	2.391E-02	7.207
	+	969.11		1.547E+00	6.689E-01	3.245E-01	7.653E-02	4.766
	+	74.81		2.139E+00	5.912E-01	8.080E-01	6.760E-02	2.647
TH-230	+	77.11		2.012E+00	3.708E-01	4.584E-01	3.894E-02	4.389
	+	87.30		1.960E+00	5.994E-01	8.107E-01	7.747E-02	2.418
	+	238.63	*	1.502E+00	2.067E-01	9.552E-02	1.131E-02	15.719
TH-232	+	300.09		1.696E+00	1.318E+00	1.092E+00	6.528E-01	1.554
	+	609.31	*	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
	+	1120.29		1.301E+00	4.827E-01	3.907E-01	4.194E-02	3.329
PA-234M	+	1764.49		1.493E+00	4.132E-01	2.648E-01	2.192E-02	5.637
	+	338.32		1.493E+00	4.226E-01	3.515E-01	3.837E-02	4.249
	+	911.07	*	1.451E+00	3.295E-01	2.013E-01	2.391E-02	7.207
TH-234	+	969.11		1.547E+00	6.689E-01	3.245E-01	7.653E-02	4.766
	+	766.42		1.137E+02	6.099E+01	1.628E+01	8.279E+00	6.984
	+	1001.03	*	1.064E+02	1.592E+01	6.291E+00	6.550E-01	16.911
U-234	+	63.29	*	7.385E+01	1.347E+01	3.005E+00	5.242E-01	24.573
	+	92.38		7.249E+01	1.343E+01	1.128E+00	2.072E-01	64.295
U-235	+	609.31	*	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
	+	1120.29		1.301E+00	4.827E-01	3.907E-01	4.194E-02	3.329
U-235	+	1764.49		1.493E+00	4.132E-01	2.648E-01	2.192E-02	5.637
	+	89.95		7.039E+00	3.024E+00	2.302E+00	7.159E-01	3.058

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	93.35		8.715E+01	2.467E+01	1.347E+00	3.796E-01	64.724
		105.00		7.035E-01	1.307E+00	2.206E+00	6.579E-01	0.319
	+	143.76	*	1.611E+00	4.848E-01	3.925E-01	6.859E-02	4.105
	+	163.35		1.387E+00	8.113E-01	8.511E-01	1.639E-01	1.630
	+	185.71		1.844E+00	2.074E-01	7.304E-02	6.977E-03	25.243
	+	205.31		1.660E+00	7.556E-01	8.941E-01	1.768E-01	1.856
NP-237	+	86.50	*	1.222E+00	4.510E-01	5.635E-01	1.279E-01	2.169
		95.87		3.605E+00	1.911E+00	2.254E+00	5.582E-01	1.599
U-238	+	63.29	*	7.385E+01	1.347E+01	3.005E+00	5.242E-01	24.573
	+	92.38		7.249E+01	6.888E+00	1.128E+00	1.040E-01	64.295
AM-243	+	74.67	*	3.406E-01	9.407E-02	1.291E-01	1.068E-02	2.639
	+	86.72		4.584E+01	1.402E+01	2.108E+01	2.001E+00	2.174
		117.66		-6.000E+00	4.485E+00	7.196E+00	5.988E-01	-0.834
	+	142.18		1.353E+02	3.511E+01	3.170E+01	2.703E+00	4.269
ANH-511	+	511.00	*	8.401E-02	6.705E-02	4.682E-02	4.453E-03	1.794

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	6.217E-02	3.195E-01	5.357E-01	5.419E-02	0.116
NA-22		1274.54	*	-8.733E-04	4.050E-02	6.552E-02	5.452E-03	-0.013
NA-24		1368.53	*	7.215E+00	4.050E-02	Half-Life too short		
AL-26		1129.67		8.149E-01	1.564E+00	2.677E+00	2.244E-01	0.304
		1808.65	*	-2.395E-04	2.708E-02	4.447E-02	3.636E-03	-0.005
TI-44		67.85		-2.560E-02	6.571E-02	1.005E-01	7.784E-03	-0.255
	+	78.38	*	3.647E-01	6.722E-02	9.086E-02	7.824E-03	4.014
SC-46		889.25	*	-9.936E-03	3.743E-02	6.112E-02	5.778E-03	-0.163
	+	1120.51		2.280E-01	8.324E-02	1.200E-01	1.014E-02	1.900
V-48		944.10		-2.457E-01	9.992E-01	1.589E+00	1.485E-01	-0.155
		983.50	*	4.300E-02	7.504E-02	1.303E-01	1.199E-02	0.330
		1312.09		5.043E-02	8.047E-02	1.394E-01	1.170E-02	0.362
CR-51		320.08	*	-2.179E-01	4.106E-01	6.288E-01	7.351E-02	-0.347
MN-52	+	744.21		9.421E-01	4.559E-01	6.920E-01	6.354E-02	1.361
		848.13		2.305E+00	9.442E+00	1.612E+01	1.517E+00	0.143
		935.52		2.623E-01	3.078E-01	5.489E-01	5.142E-02	0.478
		1246.25		-5.816E+00	1.023E+01	1.462E+01	1.205E+00	-0.398
		1333.61		-1.452E+00	6.253E+00	9.790E+00	8.260E-01	-0.148
		1434.06	*	1.100E-01	3.092E-01	5.206E-01	4.442E-02	0.211
MN-54		834.83	*	5.347E-03	3.628E-02	6.154E-02	5.780E-03	0.087
CO-56		846.75	*	-3.052E-02	4.029E-02	6.352E-02	5.978E-03	-0.480
		977.42		1.163E+00	2.537E+00	4.387E+00	4.048E-01	0.265
		1037.82		-7.428E-02	2.838E-01	4.563E-01	4.290E-02	-0.163
		1175.09		6.944E-01	1.945E+00	3.286E+00	2.644E-01	0.211
	+	1238.25		1.903E-01	1.298E-01	1.748E-01	1.483E-02	1.089
		1360.21		1.980E-01	9.225E-01	1.529E+00	1.295E-01	0.130
		1771.40		-6.292E-02	1.868E-01	2.317E-01	1.914E-02	-0.272
CO-57		122.06	*	8.956E-04	2.883E-02	4.834E-02	4.017E-03	0.019
		136.48		1.016E-01	2.335E-01	3.937E-01	3.579E-02	0.258

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-58		810.76	*	-2.902E-02	3.933E-02	6.235E-02	5.841E-03	-0.466
FE-59	+	142.65		2.172E+01	5.637E+00	6.682E+00	5.704E-01	3.251
		192.34		-1.437E+00	1.033E+00	1.564E+00	2.214E-01	-0.919
		1099.22	*	7.247E-02	8.948E-02	1.570E-01	1.459E-02	0.462
		1291.56		5.922E-02	1.238E-01	2.101E-01	2.006E-02	0.282
CO-60		1173.22		2.355E-02	4.007E-02	6.890E-02	5.540E-03	0.342
		1332.49	*	-3.912E-02	3.702E-02	5.148E-02	4.342E-03	-0.760
ZN-65		1115.52	*	-5.657E-02	8.906E-02	1.147E-01	9.745E-03	-0.493
GE-68		1077.35	*	7.575E-01	1.156E+00	2.011E+00	1.756E-01	0.377
AS-73		53.44	*	4.451E-02	1.315E+00	2.064E+00	1.574E-01	0.022
AS-74		595.88	*	5.900E-02	1.082E-01	1.823E-01	1.692E-02	0.324
		634.78		2.151E-01	3.993E-01	6.723E-01	6.095E-02	0.320
SE-75		66.05		-9.379E+00	7.522E+00	1.019E+01	9.805E-01	-0.920
		96.73		1.617E+00	1.416E+00	1.793E+00	2.479E-01	0.902
		121.11		1.295E-01	1.593E-01	2.719E-01	2.986E-02	0.476
		136.00		2.410E-02	4.429E-02	7.491E-02	6.357E-03	0.322
		198.60		-7.949E-01	1.910E+00	3.036E+00	3.254E-01	-0.262
		264.65	*	2.710E-02	4.712E-02	7.403E-02	8.639E-03	0.366
		279.53		-4.524E-02	1.122E-01	1.753E-01	2.146E-02	-0.258
		303.91		-2.601E-01	2.419E+00	3.388E+00	4.708E-01	-0.077
		400.65		-1.361E-01	2.443E-01	3.961E-01	4.611E-02	-0.344
BR-77	+	87.88		2.103E+03	6.432E+02	1.075E+03	1.034E+02	1.957
		200.40		-1.323E+02	3.872E+02	6.230E+02	6.190E+01	-0.212
	+	239.00		5.444E+02	7.085E+01	7.938E+01	8.706E+00	6.858
		249.79		1.874E+01	1.502E+02	2.431E+02	2.736E+01	0.077
		281.68		1.371E+02	1.931E+02	3.191E+02	3.823E+01	0.430
		297.23		3.559E+02	1.592E+02	2.118E+02	2.491E+01	1.680
		303.76		3.629E+02	4.405E+02	6.569E+02	7.655E+01	0.552
		439.47		3.444E+02	2.958E+02	5.249E+02	4.953E+01	0.656
		484.57		1.694E+02	5.296E+02	8.930E+02	8.495E+01	0.190
		520.65	*	2.457E+00	2.367E+01	3.923E+01	3.728E+00	0.063
		574.64		-8.072E+01	4.840E+02	7.822E+02	7.330E+01	-0.103
		578.91		6.412E+01	2.197E+02	3.229E+02	3.021E+01	0.199
		585.48		1.711E+03	5.025E+02	8.623E+02	8.044E+01	1.984
		755.35		5.413E+01	3.863E+02	6.250E+02	5.759E+01	0.087
		817.79		2.493E+02	2.981E+02	5.300E+02	4.962E+01	0.470
SR-82		698.33		1.195E+00	3.802E+01	6.137E+01	5.537E+00	0.019
		776.49	*	-1.404E-01	4.488E-01	5.994E-01	5.557E-02	-0.234
		1395.20		-4.183E+00	1.141E+01	1.488E+01	1.266E+00	-0.281
RB-83		520.41	*	6.148E-03	6.958E-02	1.152E-01	1.095E-02	0.053
		529.64		-6.017E-02	1.077E-01	1.703E-01	1.616E-02	-0.353
		552.65		-1.283E-01	2.044E-01	3.203E-01	3.023E-02	-0.401
RB-84		881.50	*	8.662E-02	7.763E-02	1.393E-01	1.316E-02	0.622
KR-85		513.99	*	8.305E+00	7.828E+00	1.224E+01	1.164E+00	0.679
SR-85		513.99	*	4.388E-02	4.136E-02	6.467E-02	6.149E-03	0.679
RB-86		1076.63	*	4.347E-01	8.139E-01	1.402E+00	1.225E-01	0.310
Y-88		898.02		-1.978E-02	3.611E-02	5.715E-02	5.427E-03	-0.346
		1836.01	*	-2.123E-02	3.531E-02	5.190E-02	4.213E-03	-0.409
ZR-88		392.90	*	-1.061E-02	3.040E-02	5.006E-02	4.631E-03	-0.212

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91		1204.90	*	-4.330E+00	1.916E+01	3.063E+01	2.491E+00	-0.141
NB-94		702.63	*	2.984E-03	3.480E-02	5.635E-02	5.094E-03	0.053
		871.10		3.306E-03	3.230E-02	5.448E-02	5.143E-03	0.061
NB-95M		235.69	*	4.785E-02	1.418E-01	2.078E-01	2.470E-02	0.230
ZR-95		724.18		7.919E-03	1.104E-01	1.558E-01	1.531E-02	0.051
		756.15	*	-1.740E-02	7.594E-02	1.192E-01	1.197E-02	-0.146
NB-97		657.90	*	-1.316E+00	7.594E-02	Half-Life	too short	
		1024.50		3.084E+01	7.594E-02	Half-Life	too short	
ZR-97		254.15		-1.822E+01	7.594E-02	Half-Life	too short	
		355.39		-2.306E+01	7.594E-02	Half-Life	too short	
		507.63	*	1.318E+01	7.594E-02	Half-Life	too short	
		602.52		-4.289E+00	7.594E-02	Half-Life	too short	
		1021.30		-3.507E+01	7.594E-02	Half-Life	too short	
		1147.95		-4.918E+01	7.594E-02	Half-Life	too short	
		1362.66		-2.523E+01	7.594E-02	Half-Life	too short	
		1750.46		2.115E+00	7.594E-02	Half-Life	too short	
MO-99		140.51		-2.745E+01	6.671E+01	9.626E+01	2.662E+01	-0.285
		181.06		8.001E+00	4.183E+01	6.187E+01	1.156E+01	0.129
		366.43		-3.585E+01	1.610E+02	2.683E+02	2.714E+01	-0.134
		739.58	*	2.659E+00	2.732E+01	3.860E+01	5.984E+00	0.069
		778.00		-1.001E+02	8.668E+01	1.035E+02	9.599E+00	-0.967
TC-99M		140.51	*	-5.167E+13	8.668E+01	Half-Life	too short	
RH-101		127.23		-2.316E-02	3.559E-02	5.827E-02	4.852E-03	-0.397
		198.01	*	-2.793E-02	3.489E-02	5.452E-02	5.383E-03	-0.512
		325.23		9.409E-02	2.401E-01	3.470E-01	3.896E-02	0.271
RH-102		418.52		1.856E-01	2.646E-01	4.592E-01	4.301E-02	0.404
		475.06	*	-1.085E-02	2.777E-02	4.486E-02	4.264E-03	-0.242
		631.29		4.431E-03	5.134E-02	8.390E-02	7.624E-03	0.053
		697.49		-6.733E-04	7.969E-02	1.282E-01	1.157E-02	-0.005
	+	766.84		1.083E+00	2.102E-01	3.239E-01	2.995E-02	3.343
		1046.59		-1.115E-01	1.132E-01	1.695E-01	1.510E-02	-0.658
		1112.84		-1.133E-01	2.163E-01	3.146E-01	2.675E-02	-0.360
RU-103		497.08	*	1.766E-02	4.078E-02	6.912E-02	1.018E-02	0.255
	+	610.33		1.445E+01	3.046E+00	3.012E+00	5.119E-01	4.796
RH-106	+	511.85		4.219E-01	3.367E-01	4.001E-01	3.805E-02	1.054
		621.84	*	-5.636E-02	3.033E-01	4.857E-01	6.655E-02	-0.116
		1050.47		1.006E+00	2.290E+00	3.911E+00	3.477E-01	0.257
RU-106	+	511.85		4.219E-01	3.367E-01	4.001E-01	3.805E-02	1.054
		621.84	*	-5.636E-02	3.033E-01	4.857E-01	4.442E-02	-0.116
		1050.47		1.006E+00	2.290E+00	3.911E+00	3.477E-01	0.257
AG-108M		433.93	*	-1.046E-03	3.185E-02	5.261E-02	5.121E-03	-0.020
		614.37		-7.584E-03	4.298E-02	6.008E-02	5.711E-03	-0.126
		722.95		1.322E-02	4.455E-02	6.446E-02	6.080E-03	0.205
AG-110M		657.75	*	-2.631E-02	3.638E-02	5.559E-02	5.088E-03	-0.473
		677.61		5.252E-02	3.035E-01	4.964E-01	4.555E-02	0.106
		706.67		5.140E-03	2.106E-01	3.394E-01	3.150E-02	0.015
		763.93		4.366E-01	2.262E-01	3.627E-01	3.433E-02	1.204
		884.67		1.366E-02	5.287E-02	8.997E-02	8.731E-03	0.152
		937.48		-3.891E-02	9.571E-02	1.531E-01	1.477E-02	-0.254

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111		1384.27		1.946E-02	1.256E-01	2.070E-01	1.809E-02	0.094
		171.28		-4.431E-01	2.165E+00	3.537E+00	3.252E-01	-0.125
		245.39	*	-5.134E-01	2.322E+00	3.285E+00	3.658E-01	-0.156
IN-113M		391.69	*	-2.146E-02	4.340E-02	7.088E-02	6.728E-03	-0.303
SN-113		391.69	*	-2.146E-02	4.340E-02	7.088E-02	6.728E-03	-0.303
IN-114M		190.27	*	4.884E-02	1.991E-01	3.137E-01	3.033E-02	0.156
CD-115		260.90		6.885E-05	1.991E-01	Half-Life	too short	
		492.35		-2.645E-05	1.991E-01	Half-Life	too short	
		527.90	*	-6.816E-06	1.991E-01	Half-Life	too short	
SN-117M		156.02		-7.126E-01	2.809E+00	4.608E+00	4.064E-01	-0.155
		158.56	*	-3.292E-02	7.026E-02	1.087E-01	9.650E-03	-0.303
SB-122		563.90	*	3.971E+00	4.559E+00	7.834E+00	7.370E-01	0.507
		692.80		5.622E+01	9.394E+01	1.576E+02	1.419E+01	0.357
I-123		159.00	*	-1.999E+02	9.394E+01	Half-Life	too short	
		528.96		-1.168E+04	9.394E+01	Half-Life	too short	
TE-123M		159.00	*	-2.702E-02	3.482E-02	4.959E-02	4.435E-03	-0.545
I-124		602.71	*	-1.041E-01	1.218E+00	1.722E+00	1.593E-01	-0.060
		722.78		3.066E+00	7.449E+00	1.091E+01	9.940E-01	0.281
		1325.50		6.149E+00	5.055E+01	8.287E+01	6.979E+00	0.074
SB-124		1376.25		5.212E+01	4.641E+01	8.388E+01	7.119E+00	0.621
	+	1509.49		4.380E+01	3.097E+01	4.236E+01	3.622E+00	1.034
		1691.02		1.915E+00	4.426E+00	7.965E+00	6.698E-01	0.240
		602.71		-3.897E-03	4.558E-02	6.445E-02	5.962E-03	-0.060
		645.85		4.071E-02	4.657E-01	7.600E-01	7.210E-02	0.054
		709.31		-1.546E-01	2.742E+00	4.390E+00	3.979E-01	-0.035
		713.82		-2.895E-01	1.602E+00	2.535E+00	3.137E-01	-0.114
		722.78		1.663E-01	4.041E-01	5.918E-01	5.496E-02	0.281
	+	968.20		1.646E+01	6.157E+00	6.968E+00	6.454E-01	2.362
		1045.16		-8.587E-01	2.362E+00	3.762E+00	3.355E-01	-0.228
		1325.50		3.562E-01	2.928E+00	4.801E+00	4.043E-01	0.074
		1368.21		7.466E-01	1.603E+00	2.739E+00	3.666E-01	0.273
		1436.60		2.047E+00	3.286E+00	5.943E+00	5.072E-01	0.344
		1691.02	*	2.451E-02	5.664E-02	1.019E-01	8.925E-03	0.240
		427.89	*	-3.276E-02	7.883E-02	1.279E-01	1.222E-02	-0.256
SB-125	+	463.38		6.316E-01	3.403E-01	5.103E-01	5.158E-02	1.238
		600.56		-2.609E-02	1.858E-01	3.000E-01	2.956E-02	-0.087
		635.90		7.844E-02	2.751E-01	4.553E-01	4.427E-02	0.172
TE-125M		109.28	*	1.637E+01	1.370E+01	2.129E+01	2.169E+00	0.769
I-126		388.63		8.153E-02	2.295E-01	3.924E-01	3.672E-02	0.208
		666.33	*	-8.789E-02	2.279E-01	3.583E-01	3.187E-02	-0.245
SB-126		753.82		3.248E-01	1.718E+00	2.791E+00	2.571E-01	0.116
		223.80		-3.434E+00	4.789E+00	7.498E+00	7.919E-01	-0.458
		278.60		3.400E+00	2.837E+00	4.758E+00	5.707E-01	0.715
	+	296.50		1.629E+01	3.553E+00	3.841E+00	4.522E-01	4.242
		414.70		-1.598E-02	8.587E-02	1.422E-01	1.330E-02	-0.112
		415.30		-1.003E+01	7.328E+00	1.122E+01	1.050E+00	-0.894
		555.20		2.297E+00	4.792E+00	8.088E+00	7.630E-01	0.284
		573.80		-2.067E-01	1.201E+00	1.941E+00	1.819E-01	-0.106
		593.00		4.445E-02	1.105E+00	1.808E+00	1.680E-01	0.025

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	656.30		3.646E+00	3.626E+00	6.302E+00	5.618E-01	0.579
	666.33		-3.697E-02	9.586E-02	1.507E-01	1.341E-02	-0.245
	675.00		-7.316E-02	2.237E+00	3.602E+00	3.217E-01	-0.020
	695.00		-2.514E-02	9.610E-02	1.519E-01	1.368E-02	-0.166
	697.00		-5.185E-02	3.252E-01	5.176E-01	4.668E-02	-0.100
	720.50	*	1.637E-02	1.753E-01	2.738E-01	2.492E-02	0.060
	856.80		5.597E-02	5.480E-01	7.813E-01	7.362E-02	0.072
	989.30		-6.593E-01	1.334E+00	2.105E+00	1.933E-01	-0.313
	1034.80		-7.124E-03	9.077E+00	1.498E+01	1.344E+00	0.000
	1213.00		1.791E+00	5.526E+00	9.228E+00	7.525E-01	0.194
SB-127	61.10		2.319E+01	1.722E+02	2.475E+02	2.749E+01	0.094
	252.40		-2.598E+00	7.468E+00	1.107E+01	4.751E+00	-0.235
	290.80		8.892E+00	3.845E+01	5.534E+01	8.049E+00	0.161
	411.60		2.453E+01	1.973E+01	3.446E+01	5.775E+00	0.712
	444.90		-2.146E+00	1.450E+01	2.391E+01	3.320E+00	-0.090
	473.00		3.530E-01	2.599E+00	4.345E+00	6.179E-01	0.081
	543.00		-1.203E+01	2.950E+01	4.709E+01	7.344E+00	-0.256
	603.60		-9.767E+00	2.253E+01	3.077E+01	4.223E+00	-0.317
	685.20	*	1.857E+00	2.316E+00	3.937E+00	4.925E-01	0.472
	698.50		4.433E+00	2.574E+01	4.196E+01	6.996E+00	0.106
	722.20		4.972E+01	5.213E+01	8.030E+01	9.963E+00	0.619
	783.80		1.086E+01	7.384E+00	1.160E+01	1.585E+00	0.936
XE-127	57.60		-7.285E+00	1.042E+01	1.597E+01	1.154E+00	-0.456
	145.22		3.215E+00	9.915E-01	1.586E+00	1.361E-01	2.028
	172.10		6.147E-02	1.351E-01	2.256E-01	2.078E-02	0.272
	202.84	*	3.432E-02	5.603E-02	8.396E-02	8.397E-03	0.409
	374.96		1.323E-01	1.983E-01	3.448E-01	3.391E-02	0.384
I-131	80.18		5.270E-01	1.124E+01	1.386E+01	1.228E+00	0.038
	284.30		-4.424E-01	1.772E+00	2.786E+00	3.424E-01	-0.159
	364.48	*	-8.007E-03	1.392E-01	2.318E-01	2.455E-02	-0.035
	636.97		-1.468E-01	2.018E+00	3.255E+00	3.103E-01	-0.045
	722.89		3.802E+00	9.561E+00	1.398E+01	1.284E+00	0.272
TE-132	49.72		-4.627E+00	5.368E+01	8.417E+01	9.481E+00	-0.055
	111.76	+	5.856E+02	1.419E+02	1.551E+02	1.782E+01	3.775
	116.30		1.244E+01	6.598E+01	1.002E+02	1.146E+01	0.124
	228.16	*	1.177E-01	1.303E+00	2.117E+00	3.695E-01	0.056
BA-133	53.15		-4.023E-01	5.508E+00	8.618E+00	6.603E-01	-0.047
	79.62		-1.055E+00	2.169E+00	3.011E+00	4.602E-01	-0.350
	81.00		8.093E-02	1.887E-01	2.354E-01	3.769E-02	0.344
	276.40		3.548E-02	3.639E-01	5.846E-01	9.729E-02	0.061
	302.84		-2.891E-02	1.605E-01	2.236E-01	3.452E-02	-0.129
	356.01	*	-2.730E-02	4.357E-02	6.161E-02	8.902E-03	-0.443
	383.85		6.830E-02	2.861E-01	4.869E-01	6.447E-02	0.140
I-133	510.53	+	8.374E+00	2.861E-01	Half-Life	too short	
	529.87	*	-4.033E-02	2.861E-01	Half-Life	too short	
	706.58		4.796E-02	2.861E-01	Half-Life	too short	
	856.28		1.309E+00	2.861E-01	Half-Life	too short	
	875.33		-6.292E-01	2.861E-01	Half-Life	too short	
	1236.41		1.189E+01	2.861E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	1298.22			5.397E-01	2.861E-01	Half-Life	too short	
	475.35			-7.268E-01	1.845E+00	2.980E+00	2.833E-01	-0.244
	563.23			2.909E-01	3.753E-01	6.425E-01	6.094E-02	0.453
	569.32			-4.003E-02	2.050E-01	3.300E-01	3.134E-02	-0.121
	604.70			1.247E-03	3.735E-02	5.340E-02	4.944E-03	0.023
	+ 795.84	*		1.183E-01	7.040E-02	8.968E-02	8.408E-03	1.319
	801.93			-9.955E-02	4.069E-01	6.095E-01	5.714E-02	-0.163
	1038.57			-2.024E-01	3.430E+00	5.627E+00	5.038E-01	-0.036
	1167.94			4.823E-01	2.257E+00	3.759E+00	3.039E-01	0.128
	1365.15			-5.878E-01	1.148E+00	1.720E+00	1.526E-01	-0.342
CS-135	268.24	*		3.972E-02	1.746E-01	2.498E-01	3.185E-02	0.159
I-135	288.45			-1.157E+12	1.746E-01	Half-Life	too short	
	417.63			1.937E+12	1.746E-01	Half-Life	too short	
	546.56			3.379E+11	1.746E-01	Half-Life	too short	
	836.80			5.313E+12	1.746E-01	Half-Life	too short	
	1038.76			-5.115E+12	1.746E-01	Half-Life	too short	
	1124.00			-3.453E+12	1.746E-01	Half-Life	too short	
	1131.51			4.884E+12	1.746E-01	Half-Life	too short	
	1260.41	*		2.101E+12	1.746E-01	Half-Life	too short	
	1457.56			4.659E+14	1.746E-01	Half-Life	too short	
	1678.03			1.765E+13	1.746E-01	Half-Life	too short	
CS-136	1706.46			1.432E+13	1.746E-01	Half-Life	too short	
	1791.20			-1.132E+13	1.746E-01	Half-Life	too short	
	66.91			-8.721E-01	1.388E+00	1.926E+00	2.876E-01	-0.453
	+ 86.29			6.313E+00	2.022E+00	3.214E+00	4.312E-01	1.964
	153.22			1.008E+00	8.350E-01	1.425E+00	1.391E-01	0.708
	+ 163.89			3.652E+00	2.050E+00	2.642E+00	2.646E-01	1.382
	176.55			-7.016E-02	4.580E-01	7.484E-01	7.325E-02	-0.094
	273.65			7.047E-03	5.476E-01	7.800E-01	9.587E-02	0.009
	400.57			1.181E-01	1.534E-01	2.399E-01	2.654E-02	0.492
	818.51			5.724E-02	8.488E-02	1.494E-01	1.400E-02	0.383
BA-137M	1048.07	*		2.503E-02	1.204E-01	2.020E-01	1.871E-02	0.124
	1235.34			4.961E-01	7.203E-01	1.089E+00	1.259E-01	0.455
	661.65	*		2.808E-02	3.941E-02	6.655E-02	5.906E-03	0.422
CS-137	661.65	*		2.969E-02	4.166E-02	7.035E-02	6.255E-03	0.422
CE-139	165.85	*		1.222E-03	3.697E-02	5.464E-02	4.955E-03	0.022
BA-140	+ 162.64			2.583E+00	1.447E+00	1.836E+00	1.738E-01	1.407
	304.84			-7.366E-01	1.586E+00	2.302E+00	6.696E-01	-0.320
	423.70			-1.952E+00	2.146E+00	3.227E+00	1.053E+00	-0.605
	537.32	*		-4.897E-02	3.107E-01	5.045E-01	1.684E-01	-0.097
	+ 328.77			5.465E-01	4.243E-01	5.929E-01	6.833E-02	0.922
	432.53			7.404E-01	2.252E+00	3.796E+00	3.721E-01	0.195
	487.03			7.667E-02	1.580E-01	2.689E-01	2.689E-02	0.285
	751.79			2.495E-01	1.997E+00	3.229E+00	3.252E-01	0.077
	815.85			6.112E-02	3.780E-01	6.430E-01	6.610E-02	0.095
	867.82			5.481E-01	1.593E+00	2.671E+00	2.632E-01	0.205
LA-140	919.63			3.009E-02	2.984E+00	4.977E+00	5.622E-01	0.006
	925.24			1.007E-01	1.283E+00	2.150E+00	2.127E-01	0.047
	1596.49	*		4.041E-02	9.165E-02	1.441E-01	1.227E-02	0.280

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-141		145.44	*	1.910E-01	8.584E-02	1.356E-01	1.186E-02	1.408
CE-143		57.37		-4.740E-03	8.584E-02	Half-Life too short		
		231.56		5.016E-03	8.584E-02	Half-Life too short		
		293.26	*	1.583E-03	8.584E-02	Half-Life too short		
	+	350.59		1.315E-01	8.584E-02	Half-Life too short		
		490.36		-9.778E-03	8.584E-02	Half-Life too short		
		664.57		-5.185E-03	8.584E-02	Half-Life too short		
		721.93		8.249E-03	8.584E-02	Half-Life too short		
CE-144		80.11		3.270E-02	4.071E+00	5.013E+00	4.401E-01	0.007
		133.54	*	-2.418E-01	2.323E-01	3.701E-01	5.715E-02	-0.653
PM-144		476.78		3.223E-02	6.566E-02	1.119E-01	1.147E-02	0.288
		618.01		1.860E-02	3.188E-02	5.389E-02	5.061E-03	0.345
		696.49	*	-2.288E-03	3.586E-02	5.749E-02	5.186E-03	-0.040
		778.57		-3.554E+00	2.847E+00	3.344E+00	3.103E-01	-1.063
PR-144		696.49	*	-1.553E-01	2.434E+00	3.901E+00	3.518E-01	-0.040
	1	489.15		-2.179E+00	1.028E+01	1.669E+01	1.427E+00	-0.131
PM-146		453.90	*	-1.413E-02	3.962E-02	6.433E-02	7.347E-03	-0.220
		633.02		3.565E-01	1.374E+00	2.261E+00	8.476E-01	0.158
		735.90		1.234E-01	1.457E-01	2.430E-01	6.990E-02	0.508
		747.13		-5.422E-02	1.079E-01	1.415E-01	2.038E-02	-0.383
ND-147	+	91.11		2.116E+00	6.626E-01	1.526E+00	1.525E-01	1.387
		319.41		-1.849E+00	4.047E+00	6.228E+00	7.072E-01	-0.297
		439.89		2.975E+00	6.362E+00	1.089E+01	1.028E+00	0.273
		531.02	*	-2.110E-01	6.671E-01	1.073E+00	1.659E-01	-0.197
PM-149		285.90	*	-8.527E-05	6.671E-01	Half-Life too short		
EU-152		121.78		3.150E-02	8.308E-02	1.406E-01	1.357E-02	0.224
		244.69		-1.990E-02	3.581E-01	5.122E-01	5.695E-02	-0.039
		344.27	*	-3.356E-02	9.344E-02	1.500E-01	1.677E-02	-0.224
		443.98		-4.421E-01	8.604E-01	1.384E+00	1.307E-01	-0.320
		778.89		-3.827E-01	3.283E-01	3.912E-01	3.629E-02	-0.978
		867.32		-1.198E-01	8.545E-01	1.334E+00	1.258E-01	-0.090
		964.01		3.940E-01	3.050E-01	4.959E-01	4.601E-02	0.795
		1085.78		3.473E-02	3.379E-01	5.612E-01	4.872E-02	0.062
		1112.02		-8.827E-02	2.882E-01	4.592E-01	3.906E-02	-0.192
	+	1407.95		3.925E-01	2.103E-01	3.288E-01	2.800E-02	1.194
GD-153		69.67		-5.708E-01	2.192E+00	3.742E+00	2.949E-01	-0.153
	+	83.37		8.680E+01	3.145E+01	4.021E+01	3.665E+00	2.158
	+	97.43	*	8.438E-01	1.786E-01	2.159E-01	1.918E-02	3.909
		103.18		-1.853E-01	1.336E-01	2.052E-01	1.768E-02	-0.903
EU-154		123.07		-3.612E-02	5.833E-02	9.565E-02	1.064E-02	-0.378
		247.94		-2.144E-01	3.617E-01	5.638E-01	7.625E-02	-0.380
		591.81		-3.236E-01	6.208E-01	9.732E-01	1.185E-01	-0.333
		723.30		4.302E-02	1.855E-01	2.667E-01	2.661E-02	0.161
		756.87		-1.156E-01	7.923E-01	1.252E+00	1.555E-01	-0.092
		873.19		-1.224E-01	2.795E-01	4.499E-01	5.774E-02	-0.272
		996.32		4.250E-02	3.616E-01	5.276E-01	9.513E-02	0.081
		1004.76		4.463E-02	2.289E-01	3.370E-01	4.047E-02	0.132
		1274.45	*	2.350E-02	1.108E-01	1.836E-01	2.033E-02	0.128
EU-155		48.70		9.457E-02	3.660E+00	5.763E+00	4.735E-01	0.016

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160		60.01		4.843E+00	8.781E+00	1.278E+01	9.131E-01	0.379
	+	86.54		5.019E-01	1.536E-01	2.567E-01	2.451E-02	1.955
		105.31	*	1.072E-01	1.311E-01	2.251E-01	1.948E-02	0.476
	+	86.79		1.376E+00	4.209E-01	7.080E-01	6.724E-02	1.944
		197.04		-4.892E-01	6.146E-01	9.614E-01	9.467E-02	-0.509
		215.65		8.137E-02	7.580E-01	1.236E+00	1.279E-01	0.066
	+	298.57		2.491E-01	1.270E-01	1.910E-01	2.242E-02	1.305
		879.36	*	4.849E-02	1.495E-01	2.557E-01	2.416E-02	0.190
		962.29		6.760E-01	5.183E-01	8.552E-01	7.939E-02	0.790
		966.15		4.848E-01	2.414E-01	4.066E-01	3.769E-02	1.192
HO-166M		1177.93		-2.261E-01	3.145E-01	4.746E-01	3.823E-02	-0.476
		1271.85		1.270E-01	6.475E-01	1.072E+00	8.903E-02	0.118
		80.57		3.621E-01	5.113E-01	6.451E-01	5.693E-02	0.561
	+	184.41		1.383E+00	1.555E-01	1.259E-01	1.198E-02	10.987
		280.46		-5.158E-02	8.515E-02	1.313E-01	1.575E-02	-0.393
		410.95		2.163E-01	2.289E-01	4.012E-01	3.745E-02	0.539
		711.68	*	-3.055E-02	5.748E-02	8.816E-02	7.999E-03	-0.346
		752.31		1.188E-01	2.679E-01	4.441E-01	4.088E-02	0.268
		810.29		-3.866E-02	5.784E-02	9.229E-02	8.627E-03	-0.419
		51.35		1.225E+01	4.684E+01	7.407E+01	5.837E+00	0.165
TM-171		52.39		-8.531E+00	2.451E+01	3.807E+01	2.951E+00	-0.224
		59.40		6.975E+01	4.653E+01	6.935E+01	4.925E+00	1.006
		66.72	*	-2.017E+01	4.281E+01	5.995E+01	4.593E+00	-0.337
LU-176	+	88.36		9.873E-01	3.019E-01	4.989E-01	4.790E-02	1.979
		201.83		-1.725E-03	3.324E-02	4.827E-02	4.815E-03	-0.036
		306.84	*	-4.265E-03	2.429E-02	3.817E-02	4.427E-03	-0.112
LU-177M		401.10		1.986E-01	6.232E+00	1.047E+01	9.725E-01	0.019
		52.97		-5.345E-01	2.517E+00	3.923E+00	3.014E-01	-0.136
		54.07		-1.442E-01	1.337E+00	2.089E+00	1.579E-01	-0.069
		61.30		1.631E+00	2.715E+00	3.950E+00	2.865E-01	0.413
		121.62		1.250E-01	4.343E-01	7.335E-01	6.088E-02	0.170
		147.16		7.269E-01	7.694E-01	1.181E+00	1.018E-01	0.616
		171.86		2.067E-01	5.207E-01	8.681E-01	7.994E-02	0.238
		218.09		-4.691E-01	8.825E-01	1.398E+00	1.456E-01	-0.335
	+	268.79		2.405E+00	1.132E+00	1.391E+00	1.634E-01	1.729
		319.02		1.381E-02	2.666E-01	4.233E-01	4.809E-02	0.033
HF-181		367.43		1.974E-01	8.745E-01	1.491E+00	1.504E-01	0.132
		413.65	*	1.886E-01	1.709E-01	3.013E-01	2.816E-02	0.626
		56.28		-3.920E-01	1.569E+00	2.438E+00	1.789E-01	-0.161
		57.53		-6.615E-01	8.695E-01	1.330E+00	9.622E-02	-0.497
		65.20		3.248E+00	1.519E+00	2.287E+00	1.727E-01	1.420
		133.02		-5.983E-02	7.664E-02	1.246E-01	1.044E-02	-0.480
		136.25		2.548E-01	5.327E-01	8.995E-01	7.583E-02	0.283
		345.85		9.116E-02	2.019E-01	3.113E-01	3.337E-02	0.293
		482.03	*	-1.275E-02	4.432E-02	7.207E-02	6.854E-03	-0.177
		56.28		-1.478E-01	5.960E-01	9.259E-01	6.796E-02	-0.160
W-181		57.53		-2.520E-01	3.304E-01	5.055E-01	3.657E-02	-0.499
		65.20	*	1.224E+00	5.728E-01	8.621E-01	6.511E-02	1.420
TA-182		67.75		-7.162E-02	1.594E-01	2.435E-01	1.884E-02	-0.294

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		100.10	5.701E-01	2.540E-01	4.061E-01	3.552E-02	1.404
		152.43	2.953E-01	3.702E-01	6.271E-01	5.479E-02	0.471
		222.10	2.793E-02	3.592E-01	5.841E-01	6.143E-02	0.048
	+	1001.68	4.767E+01	6.724E+00	9.903E+00	9.041E-01	4.814
	+	1121.28	6.256E-01	2.284E-01	3.321E-01	2.804E-02	1.884
		1189.05	-1.634E-01	2.876E-01	4.438E-01	3.589E-02	-0.368
		1221.42	* -1.657E-02	2.026E-01	3.276E-01	2.679E-02	-0.051
		1230.97	2.873E-01	4.610E-01	7.695E-01	6.312E-02	0.373
RE-183		57.98	-1.087E-01	3.331E-01	5.158E-01	3.714E-02	-0.211
		59.32	3.182E-01	1.951E-01	2.917E-01	2.073E-02	1.091
		67.20	-2.178E-01	3.156E-01	4.384E-01	3.374E-02	-0.497
	+	162.32	* 3.330E-01	1.863E-01	2.358E-01	2.116E-02	1.412
	+	208.81	2.600E+00	1.392E+00	1.848E+00	1.878E-01	1.407
		291.72	-7.137E-02	1.028E+00	1.449E+00	1.716E-01	-0.049
RE-184		57.98	-3.940E-01	1.207E+00	1.870E+00	1.346E-01	-0.211
		59.32	1.152E+00	7.066E-01	1.056E+00	7.508E-02	1.091
		67.20	-7.892E-01	1.144E+00	1.588E+00	1.223E-01	-0.497
		161.27	3.373E-01	4.229E-01	6.460E-01	5.781E-02	0.522
		216.55	-4.133E-02	2.690E-01	4.339E-01	4.499E-02	-0.095
		252.85	* -1.869E-01	2.610E-01	3.545E-01	4.017E-02	-0.527
		318.01	1.255E-01	4.632E-01	7.443E-01	8.472E-02	0.169
		792.07	2.180E-01	1.565E+00	1.594E+00	1.484E-01	0.137
		903.28	6.590E-01	9.658E-01	1.658E+00	1.567E-01	0.397
		920.93	2.204E-01	4.185E-01	7.275E-01	6.843E-02	0.303
OS-185		59.72	3.964E-01	5.310E-01	7.772E-01	5.531E-02	0.510
		61.14	6.850E-02	2.996E-01	4.319E-01	3.127E-02	0.159
		69.30	2.028E-01	3.912E-01	6.776E-01	5.320E-02	0.299
		592.07	-1.077E+00	2.602E+00	4.118E+00	3.829E-01	-0.262
		646.12	* 1.551E-02	3.882E-02	6.493E-02	5.836E-03	0.239
		717.42	-8.743E-01	9.234E-01	1.363E+00	1.240E-01	-0.641
		874.81	-4.660E-01	5.576E-01	8.634E-01	8.153E-02	-0.540
		880.27	2.383E-01	8.398E-01	1.432E+00	1.353E-01	0.166
RE-188		155.03	* -7.146E-02	1.930E-01	3.155E-01	2.775E-02	-0.227
		477.96	-2.256E-01	3.091E+00	5.098E+00	4.847E-01	-0.044
		633.10	4.430E-01	2.866E+00	4.703E+00	4.268E-01	0.094
W-188	+	63.58	3.054E+03	2.785E+02	2.557E+02	1.900E+01	11.946
		227.08	1.331E+00	1.336E+01	2.171E+01	2.312E+00	0.061
		290.67	* 1.711E+00	8.186E+00	1.177E+01	1.396E+00	0.145
IR-192	+	295.96	1.093E+00	2.385E-01	2.783E-01	3.291E-02	3.927
		308.46	-2.357E-02	9.737E-02	1.523E-01	1.767E-02	-0.155
		316.51	* 3.305E-03	3.717E-02	5.916E-02	6.761E-03	0.056
		468.07	-2.009E-02	6.642E-02	9.963E-02	1.003E-02	-0.202
		604.41	2.004E-02	5.174E-01	7.402E-01	9.946E-02	0.027
		612.46	6.621E-02	7.902E-01	1.134E+00	1.180E-01	0.058
AU-195		65.12	7.802E-01	2.712E-01	4.122E-01	3.110E-02	1.893
		66.83	-5.391E-02	1.428E-01	2.007E-01	1.539E-02	-0.269
	+	75.70	1.114E+00	3.077E-01	5.067E-01	4.240E-02	2.199
	+	98.88	* 2.463E+00	5.214E-01	6.514E-01	5.736E-02	3.782
		129.76	3.721E+00	3.186E+00	5.474E+00	4.570E-01	0.680

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	367.94	*		1.135E-03	3.186E+00	Half-Life	too short	
	579.30			3.044E-03	3.186E+00	Half-Life	too short	
	828.27			-3.803E-03	3.186E+00	Half-Life	too short	
	1205.75			-4.249E-04	3.186E+00	Half-Life	too short	
TL-201	68.90			7.610E+00	1.189E+01	2.063E+01	1.614E+00	0.369
	70.82			-1.798E+00	7.642E+00	1.176E+01	9.368E-01	-0.153
	80.30			2.081E+00	1.835E+01	2.268E+01	1.995E+00	0.092
	135.34			3.053E+01	5.355E+01	9.066E+01	7.631E+00	0.337
	167.43	*		5.159E-01	1.628E+01	2.404E+01	2.188E+00	0.021
TL-202	68.90			4.202E-01	6.564E-01	1.139E+00	8.909E-02	0.369
	70.82			-9.899E-02	4.208E-01	6.474E-01	5.157E-02	-0.153
	80.30			1.146E-01	1.011E+00	1.249E+00	1.099E-01	0.092
	439.56	*		8.291E-02	7.336E-02	1.299E-01	1.226E-02	0.638
HG-203	70.83			-3.782E-01	1.619E+00	2.490E+00	3.287E-01	-0.152
	72.87			8.590E-01	9.525E-01	1.493E+00	1.925E-01	0.575
	82.60			6.678E+00	2.523E+00	2.953E+00	4.136E-01	2.261
	279.20	*		2.079E-02	4.158E-02	6.800E-02	8.287E-03	0.306
BI-207	72.80			2.323E-01	2.668E-01	4.198E-01	3.410E-02	0.553
	74.97			6.115E-01	1.689E-01	2.703E-01	2.245E-02	2.262
	84.90			1.114E+00	4.036E-01	4.949E-01	4.593E-02	2.250
	569.67			-4.762E-03	3.171E-02	5.121E-02	4.807E-03	-0.093
	1063.62	*		4.343E-02	4.626E-02	8.251E-02	7.273E-03	0.526
	1770.23			4.511E-02	3.940E-01	5.781E-01	4.777E-02	0.078
TL-207	81.07			1.832E-01	4.156E-01	5.193E-01	4.609E-02	0.353
	83.78			7.342E-01	2.660E-01	3.419E-01	3.132E-02	2.147
	94.90			9.475E-01	6.123E-01	6.077E-01	5.494E-02	1.559
	122.32			-5.570E-01	1.966E+00	3.264E+00	2.922E-01	-0.171
	144.24			5.220E+00	1.373E+00	1.676E+00	1.608E-01	3.116
	154.21			-5.382E-02	4.323E-01	7.127E-01	6.858E-02	-0.076
	269.46			5.562E-01	2.620E-01	3.360E-01	3.996E-02	1.656
	323.87	*		3.773E-01	7.271E-01	1.057E+00	2.021E-01	0.357
	338.28			6.237E+00	1.848E+00	2.372E+00	3.324E-01	2.629
	445.03			-2.098E-01	2.027E+00	3.352E+00	4.255E-01	-0.063
PO-209	260.50			7.402E+00	1.083E+01	1.611E+01	1.858E+00	0.460
	262.80			-5.295E-01	3.054E+01	4.356E+01	5.049E+00	-0.012
	896.60	*		-5.490E+00	6.512E+00	9.996E+00	9.454E-01	-0.549
BI-210	46.50	*		-1.906E+00	5.142E+00	8.003E+00	7.463E-01	-0.238
PB-210	46.50	*		-1.906E+00	5.142E+00	8.003E+00	7.463E-01	-0.238
PO-210	46.50	*		-1.906E+00	5.141E+00	8.003E+00	6.760E-01	-0.238
PB-211	404.84	*		3.962E-01	8.917E-01	1.472E+00	9.236E-01	0.269
	427.08			-7.730E-01	1.892E+00	2.974E+00	1.852E+00	-0.260
	831.96			-2.178E-02	1.136E+00	1.905E+00	1.196E+00	-0.011
PO-215	81.07			1.832E-01	4.156E-01	5.193E-01	4.609E-02	0.353
	83.78			7.342E-01	2.660E-01	3.419E-01	3.132E-02	2.147
	94.90			9.475E-01	6.123E-01	6.077E-01	5.494E-02	1.559
	122.32			-5.570E-01	1.966E+00	3.264E+00	2.922E-01	-0.171
	144.24			5.220E+00	1.373E+00	1.676E+00	1.608E-01	3.116
	154.21			-5.382E-02	4.323E-01	7.127E-01	6.858E-02	-0.076
	269.46			5.562E-01	2.620E-01	3.360E-01	3.996E-02	1.656

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		323.87	*	3.773E-01	7.271E-01	1.057E+00	2.021E-01	0.357
	+	338.28		6.237E+00	1.848E+00	2.372E+00	3.324E-01	2.629
		445.03		-2.098E-01	2.027E+00	3.352E+00	4.255E-01	-0.063
	+	271.23		7.137E-01	3.383E-01	4.166E-01	5.455E-02	1.713
		401.81	*	1.547E-01	3.885E-01	6.641E-01	1.024E-01	0.233
RN-220		549.76	*	-8.650E+00	2.624E+01	4.207E+01	3.975E+00	-0.206
RA-223		81.07		1.832E-01	4.156E-01	5.193E-01	4.609E-02	0.353
	+	83.78		7.342E-01	2.660E-01	3.419E-01	3.132E-02	2.147
	+	94.90		9.475E-01	6.123E-01	6.077E-01	5.494E-02	1.559
		122.32		-5.570E-01	1.966E+00	3.264E+00	2.922E-01	-0.171
	+	144.24		5.220E+00	1.373E+00	1.676E+00	1.608E-01	3.116
AC-227		154.21		-5.382E-02	4.323E-01	7.127E-01	6.858E-02	-0.076
	+	269.46		5.562E-01	2.620E-01	3.360E-01	3.996E-02	1.656
		323.87	*	3.773E-01	7.271E-01	1.057E+00	2.021E-01	0.357
	+	338.28		6.237E+00	1.848E+00	2.372E+00	3.324E-01	2.629
		445.03		-2.098E-01	2.027E+00	3.352E+00	4.255E-01	-0.063
TH-227		79.80		-1.133E+00	2.755E+00	3.828E+00	8.252E-01	-0.296
		236.00		1.107E-01	2.588E-01	3.805E-01	5.302E-02	0.291
		256.20	*	3.202E-01	4.177E-01	6.225E-01	1.063E-01	0.514
		286.10		-3.540E-01	1.440E+00	2.263E+00	3.522E-01	-0.156
	+	299.80		3.088E+00	1.642E+00	2.443E+00	4.693E-01	1.264
TH-229		304.40		-6.341E-01	1.994E+00	2.945E+00	5.899E-01	-0.215
		334.20		-1.144E+00	2.292E+00	3.296E+00	6.786E-01	-0.347
		79.80		-1.133E+00	2.755E+00	3.828E+00	8.357E-01	-0.296
	+	94.00		7.580E+00	5.127E+00	9.513E+00	2.090E+00	0.797
		236.00		1.107E-01	2.587E-01	3.805E-01	4.916E-02	0.291
TH-229		256.20	*	3.202E-01	4.189E-01	6.225E-01	1.217E-01	0.514
		286.10		-3.540E-01	1.483E+00	2.263E+00	2.279E+00	-0.156
	+	299.80		3.088E+00	1.642E+00	2.443E+00	4.693E-01	1.264
		304.40		-6.341E-01	1.994E+00	2.945E+00	5.899E-01	-0.215
		334.20		-1.144E+00	2.292E+00	3.296E+00	6.786E-01	-0.347
PA-231	+	85.43		1.099E+00	3.983E-01	4.752E-01	4.439E-02	2.313
	+	88.47		5.683E-01	1.738E-01	2.879E-01	2.761E-02	1.974
		100.00		6.995E-01	2.641E-01	4.237E-01	3.708E-02	1.651
		193.63	*	-1.742E-01	5.240E-01	8.453E-01	8.248E-02	-0.206
		210.97		8.231E-01	8.267E-01	1.257E+00	1.285E-01	0.655
TH-231		283.67	*	-9.013E-01	1.443E+00	2.207E+00	3.817E-01	-0.408
		301.29		8.160E-01	6.695E-01	1.006E+00	1.466E-01	0.811
		81.07		1.832E-01	4.156E-01	5.193E-01	4.609E-02	0.353
	+	83.78		7.342E-01	2.660E-01	3.419E-01	3.132E-02	2.147
	+	94.90		9.475E-01	6.123E-01	6.077E-01	5.494E-02	1.559
U-231		122.32		-5.570E-01	1.966E+00	3.264E+00	2.922E-01	-0.171
	+	144.24		5.220E+00	1.373E+00	1.676E+00	1.608E-01	3.116
		154.21		-5.382E-02	4.323E-01	7.127E-01	6.858E-02	-0.076
	+	269.46		5.562E-01	2.620E-01	3.360E-01	3.996E-02	1.656
		323.87	*	3.773E-01	7.271E-01	1.057E+00	2.021E-01	0.357
U-231	+	338.28		6.237E+00	1.848E+00	2.372E+00	3.324E-01	2.629
		445.03		-2.098E-01	2.027E+00	3.352E+00	4.255E-01	-0.063
	+	84.21		5.063E+01	1.835E+01	2.348E+01	2.161E+00	2.156

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		4.430E+02	4.210E+01	2.202E+01	2.034E+00	20.119
		95.87	*	6.543E+00	3.122E+00	4.091E+00	3.673E-01	1.599
		108.00		-1.457E+00	4.659E+00	6.952E+00	5.888E-01	-0.210
	+	75.28		1.784E+01	5.423E+00	7.855E+00	1.193E+00	2.272
	+	86.59		8.149E+00	3.239E+00	4.173E+00	1.131E+00	1.953
	+	300.12		8.608E-01	4.510E-01	6.831E-01	1.151E-01	1.260
		311.98	*	7.025E-03	6.502E-02	1.037E-01	1.212E-02	0.068
		340.50		5.869E-01	6.582E-01	1.016E+00	2.513E-01	0.578
		398.62		-1.380E+00	1.980E+00	3.132E+00	8.411E-01	-0.441
		415.76		-2.869E+00	1.728E+00	2.419E+00	5.286E-01	-1.186
PA-234	+	63.00		8.609E+01	1.359E+01	7.488E+00	1.112E+00	11.497
	+	94.67		6.759E-01	4.409E-01	4.838E-01	6.148E-02	1.397
	+	98.44		9.874E-01	5.830E-01	2.624E-01	1.465E-01	3.763
	+	99.86		5.119E+00	1.083E+00	1.131E+00	9.905E-02	4.526
	+	111.00		1.990E+00	4.865E-01	4.583E-01	5.470E-02	4.342
		131.20		9.144E-02	1.194E-01	2.032E-01	1.700E-02	0.450
		152.70		4.056E-01	3.559E-01	5.992E-01	1.025E-01	0.677
	+	186.00		4.978E+01	1.595E+01	5.264E+00	1.657E+00	9.457
		226.40		8.627E-02	4.000E-01	6.533E-01	9.535E-02	0.132
		227.20		4.570E-02	4.386E-01	7.131E-01	7.597E-02	0.064
		248.90		2.238E-01	7.972E-01	1.298E+00	3.056E-01	0.172
		293.70		4.353E+00	1.180E+00	1.510E+00	2.883E-01	2.883
		369.80		5.807E-01	8.054E-01	1.391E+00	3.110E-01	0.418
		568.70		-3.264E-01	1.049E+00	1.676E+00	1.574E-01	-0.195
		569.50		-5.844E-02	2.827E-01	4.547E-01	4.269E-02	-0.129
		574.00		-9.575E-02	1.481E+00	2.411E+00	2.260E-01	-0.040
		699.00		2.890E-02	7.302E-01	1.179E+00	2.272E-01	0.025
		706.10		3.156E-01	1.056E+00	1.721E+00	7.690E-01	0.183
		733.00		-2.434E-01	4.141E-01	5.328E-01	1.194E-01	-0.457
	+	742.81		3.787E+00	3.120E+00	2.871E+00	1.932E+00	1.319
	+	796.30		2.292E+00	1.486E+00	1.679E+00	4.582E-01	1.365
NP-236		805.60		3.396E-01	9.696E-01	1.664E+00	5.133E-01	0.204
		819.60		7.152E-01	1.221E+00	2.090E+00	7.984E-01	0.342
		826.30		2.680E-01	7.442E-01	1.270E+00	5.701E-01	0.211
		831.60		-1.199E-01	5.940E-01	9.807E-01	2.949E-01	-0.122
		876.40		-6.488E-01	1.041E+00	1.247E+00	1.283E+00	-0.520
		880.51		1.350E-01	2.966E-01	5.115E-01	4.832E-02	0.264
		883.24		1.005E-01	3.206E-01	5.356E-01	3.606E-01	0.188
		899.00		-1.165E-01	7.419E-01	1.218E+00	5.347E-01	-0.096
		925.00		1.593E-01	1.132E+00	1.907E+00	1.792E-01	0.084
		926.50		1.123E-01	1.692E-01	2.928E-01	7.480E-02	0.384
		946.00	*	1.522E-01	3.008E-01	5.070E-01	9.686E-02	0.300
		949.00		3.104E-02	4.406E-01	7.365E-01	6.869E-02	0.042
		980.50		-5.652E-01	6.680E-01	1.016E+00	9.364E-02	-0.556
	+	1394.10		3.019E-01	1.877E+00	1.467E+00	9.549E-01	0.206
	+	94.67		5.127E-01	3.313E-01	3.677E-01	3.330E-02	1.394
	+	98.44		7.465E-01	1.580E-01	1.984E-01	1.751E-02	3.763
	+	111.00		1.505E+00	3.452E-01	3.467E-01	2.914E-02	4.342
		160.31	*	-5.631E-02	9.463E-02	1.359E-01	1.213E-02	-0.414

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		1.706E+00	3.611E-01	4.172E-01	3.660E-02	4.089
		117.00	*	-2.460E-01	2.337E-01	3.606E-01	3.002E-02	-0.682
	+	209.75		1.994E+00	1.067E+00	1.388E+00	1.414E-01	1.437
		228.18		2.080E-02	2.323E-01	3.773E-01	4.030E-02	0.055
		277.60		1.627E-01	1.785E-01	2.965E-01	3.549E-02	0.549
AM-241	+	334.30		-6.737E-01	1.293E+00	1.863E+00	2.052E-01	-0.362
		59.54	*	2.068E-01	2.745E-01	4.018E-01	3.153E-02	0.515
CM-243	+	99.55		1.756E+00	3.716E-01	4.294E-01	3.767E-02	4.089
		103.76	*	-1.188E-01	1.163E-01	1.903E-01	1.636E-02	-0.624
		117.00		-2.531E-01	2.405E-01	3.710E-01	3.089E-02	-0.682
	+	209.75		1.966E+00	1.052E+00	1.369E+00	1.394E-01	1.437
		228.18		2.102E-02	2.348E-01	3.814E-01	4.072E-02	0.055
AM-246		277.60		1.640E-01	1.800E-01	2.990E-01	3.578E-02	0.549
		798.80		-2.324E-02	1.405E-01	2.024E-01	1.887E-02	-0.115
		1036.00		-1.712E-02	2.647E-01	4.342E-01	3.893E-02	-0.039
		1062.04		9.064E-02	1.956E-01	3.363E-01	2.968E-02	0.269
		1078.86	*	7.844E-02	1.316E-01	2.278E-01	1.987E-02	0.344
CM-247		278.00		1.011E+00	7.318E-01	1.234E+00	1.478E-01	0.819
		287.40		-1.369E-01	1.184E+00	1.876E+00	2.233E-01	-0.073
		402.60	*	3.348E-02	3.446E-02	6.056E-02	5.631E-03	0.553
CF-249		252.85		-6.933E-01	9.680E-01	1.315E+00	1.490E-01	-0.527
		333.44		3.385E-02	1.749E-01	2.489E-01	2.747E-02	0.136
		387.95	*	1.028E-02	3.935E-02	6.698E-02	6.283E-03	0.154
CF-251		176.60	*	-2.343E-02	1.358E-01	2.218E-01	2.068E-02	-0.106
		227.00		1.571E-01	3.836E-01	6.314E-01	6.722E-02	0.249
		285.00		-8.304E-01	1.660E+00	2.568E+00	3.066E-01	-0.323

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978002      *
* Acquisition date   : 14-FEB-2010 11:17:26 Detector SN# :                  *
* Detector ID        : GAM16 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:03.29 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G245978002 Analyst initials: MXR1                  *
* Batch Number      : 948721 Sample Quantity : 1.4147E+02 GRAM          *
* Recovery          : 1.00000 Carrier Weight  : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                              *
* CALIB. DATE/TIME  : 16-NOV-2009 11:22:16 MS Isotope :                  *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.663E+01	2.799E+00	4.130E-01	0.000E+00
NB-95	4.431E-01	8.427E-02	7.072E-02	0.000E+00
CD-109	4.253E+00	1.275E+00	1.859E+00	0.000E+00
SN-126	4.163E-01	1.248E-01	1.828E-01	0.000E+00
LU-177	3.776E+00	1.980E+00	2.431E+00	0.000E+00
TL-208	5.321E-01	8.992E-02	6.220E-02	0.000E+00
BI-211	3.936E+00	6.173E-01	3.003E-01	0.000E+00
BI-212	1.174E+00	5.029E-01	4.238E-01	0.000E+00
PB-212	1.475E+00	1.990E-01	9.791E-02	0.000E+00
PO-212	1.475E+00	1.990E-01	9.791E-02	0.000E+00
BI-214	1.272E+00	2.039E-01	1.075E-01	0.000E+00
PB-214	1.369E+00	2.258E-01	1.047E-01	0.000E+00
PO-214	1.369E+00	2.258E-01	1.047E-01	0.000E+00
PO-216	1.475E+00	1.990E-01	9.791E-02	0.000E+00
PO-218	1.369E+00	2.258E-01	1.047E-01	0.000E+00
RA-224	4.390E+00	1.155E+00	1.114E+00	0.000E+00
RA-226	1.272E+00	2.039E-01	1.075E-01	0.000E+00
AC-228	1.451E+00	3.229E-01	2.042E-01	0.000E+00
RA-228	1.451E+00	3.229E-01	2.042E-01	0.000E+00
TH-228	1.502E+00	2.026E-01	9.968E-02	0.000E+00
TH-230	1.272E+00	2.039E-01	1.075E-01	0.000E+00
TH-232	1.451E+00	3.229E-01	2.042E-01	0.000E+00
PA-234M	1.064E+02	1.560E+01	6.370E+00	0.000E+00
TH-234	7.385E+01	1.320E+01	3.220E+00	0.000E+00
U-234	1.272E+00	2.039E-01	1.075E-01	0.000E+00
U-235	1.611E+00	4.751E-01	4.137E-01	0.000E+00
NP-237	1.222E+00	4.419E-01	6.000E-01	0.000E+00
U-238	7.385E+01	1.320E+01	3.220E+00	0.000E+00
AM-243	3.406E-01	9.219E-02	1.378E-01	0.000E+00
ANH-511	8.401E-02	6.570E-02	4.809E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	6.217E-02	3.131E-01	5.510E-01	0.000E+00	NOT IDENT.
NA-22	-8.733E-04	3.969E-02	6.599E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.518E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.395E-04	2.654E-02	4.445E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.588E-02	9.693E-02	0.000E+00	FAIL ABUN
SC-46	-9.936E-03	3.668E-02	6.205E-02	0.000E+00	FAIL ABUN
V-48	4.300E-02	7.354E-02	1.320E-01	0.000E+00	NOT IDENT.
CR-51	-2.179E-01	4.024E-01	6.522E-01	0.000E+00	NOT IDENT.
MN-52	1.100E-01	3.030E-01	5.230E-01	0.000E+00	FAIL ABUN
MN-54	5.347E-03	3.556E-02	6.255E-02	0.000E+00	NOT IDENT.
CO-56	-3.052E-02	3.948E-02	6.455E-02	0.000E+00	FAIL ABUN
CO-57	8.956E-04	2.825E-02	5.112E-02	0.000E+00	NOT IDENT.
CO-58	-2.902E-02	3.854E-02	6.341E-02	0.000E+00	NOT IDENT.
FE-59	7.247E-02	8.769E-02	1.586E-01	0.000E+00	FAIL ABUN
CO-60	-3.912E-02	3.628E-02	5.180E-02	0.000E+00	NOT IDENT.
ZN-65	-5.657E-02	8.728E-02	1.159E-01	0.000E+00	NOT IDENT.
GE-68	7.575E-01	1.133E+00	2.033E+00	0.000E+00	NOT IDENT.
AS-73	4.451E-02	1.289E+00	2.218E+00	0.000E+00	NOT IDENT.
AS-74	5.900E-02	1.060E-01	1.866E-01	0.000E+00	NOT IDENT.
SE-75	2.710E-02	4.618E-02	7.709E-02	0.000E+00	NOT IDENT.
BR-77	2.457E+00	2.319E+01	4.028E+01	0.000E+00	FAIL ABUN
SR-82	-1.404E-01	4.398E-01	6.102E-01	0.000E+00	NOT IDENT.
RB-83	6.148E-03	6.818E-02	1.183E-01	0.000E+00	NOT IDENT.
RB-84	8.662E-02	7.608E-02	1.415E-01	0.000E+00	NOT IDENT.
KR-85	8.305E+00	7.672E+00	1.257E+01	0.000E+00	NOT IDENT.
SR-85	4.388E-02	4.053E-02	6.641E-02	0.000E+00	NOT IDENT.
RB-86	4.347E-01	7.976E-01	1.417E+00	0.000E+00	NOT IDENT.
Y-88	-2.123E-02	3.461E-02	5.185E-02	0.000E+00	NOT IDENT.
ZR-88	-1.061E-02	2.979E-02	5.171E-02	0.000E+00	NOT IDENT.
Y-91	-4.330E+00	1.878E+01	3.089E+01	0.000E+00	NOT IDENT.
NB-94	2.984E-03	3.410E-02	5.749E-02	0.000E+00	NOT IDENT.
NB-95M	4.785E-02	1.390E-01	2.168E-01	0.000E+00	NOT IDENT.
ZR-95	-1.740E-02	7.442E-02	1.215E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.646E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.141E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.659E+00	2.677E+01	3.934E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.235E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.793E-02	3.419E-02	5.711E-02	0.000E+00	NOT IDENT.
RH-102	-1.085E-02	2.722E-02	4.615E-02	0.000E+00	FAIL ABUN
RU-103	1.766E-02	3.997E-02	7.104E-02	0.000E+00	FAIL ABUN
RH-106	-5.636E-02	2.973E-01	4.968E-01	0.000E+00	FAIL ABUN
RU-106	-5.636E-02	2.972E-01	4.968E-01	0.000E+00	FAIL ABUN
AG-108M	-1.046E-03	3.121E-02	5.423E-02	0.000E+00	NOT IDENT.
AG-110M	-2.631E-02	3.565E-02	5.680E-02	0.000E+00	NOT IDENT.
IN-111	-5.134E-01	2.276E+00	3.425E+00	0.000E+00	NOT IDENT.
IN-113M	-2.146E-02	4.254E-02	7.321E-02	0.000E+00	NOT IDENT.
SN-113	-2.146E-02	4.254E-02	7.321E-02	0.000E+00	NOT IDENT.
IN-114M	4.884E-02	1.951E-01	3.288E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.467E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.292E-02	6.885E-02	1.143E-01	0.000E+00	NOT IDENT.
SB-122	3.971E+00	4.468E+00	8.030E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.525E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.702E-02	3.412E-02	5.217E-02	0.000E+00	NOT IDENT.
I-124	-1.041E-01	1.194E+00	1.763E+00	0.000E+00	FAIL ABUN
SB-124	2.451E-02	5.550E-02	1.020E-01	0.000E+00	FAIL ABUN
SB-125	-3.276E-02	7.725E-02	1.319E-01	0.000E+00	FAIL ABUN
TE-125M	1.637E+01	1.342E+01	2.257E+01	0.000E+00	NOT IDENT.
I-126	-8.789E-02	2.233E-01	3.660E-01	0.000E+00	NOT IDENT.
SB-126	1.637E-02	1.718E-01	2.792E-01	0.000E+00	FAIL ABUN
SB-127	1.857E+00	2.269E+00	4.019E+00	0.000E+00	NOT IDENT.
XE-127	3.432E-02	5.491E-02	8.790E-02	0.000E+00	NOT IDENT.
I-131	-8.007E-03	1.364E-01	2.398E-01	0.000E+00	NOT IDENT.
TE-132	1.177E-01	1.277E+00	2.211E+00	0.000E+00	FAIL ABUN
BA-133	-2.730E-02	4.270E-02	6.376E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.819E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.899E-02	9.125E-02	0.000E+00	FAIL ABUN
CS-135	3.972E-02	1.711E-01	2.600E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.788E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.503E-02	1.179E-01	2.043E-01	0.000E+00	FAIL ABUN
BA-137M	2.808E-02	3.862E-02	6.799E-02	0.000E+00	NOT IDENT.
CS-137	2.969E-02	4.082E-02	7.187E-02	0.000E+00	NOT IDENT.
CE-139	1.222E-03	3.623E-02	5.743E-02	0.000E+00	NOT IDENT.
BA-140	-4.897E-02	3.045E-01	5.177E-01	0.000E+00	FAIL ABUN
LA-140	4.041E-02	8.981E-02	1.444E-01	0.000E+00	FAIL ABUN
CE-141	0.000E+00	8.412E-02	1.429E-01	0.000E+00	NOT IDENT.

CE-143	0.000E+00	7.432E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.418E-01	2.276E-01	3.907E-01	0.000E+00	NOT IDENT.
PM-144	-2.288E-03	3.514E-02	5.866E-02	0.000E+00	NOT IDENT.
PR-144	-1.553E-01	2.385E+00	3.981E+00	0.000E+00	NOT IDENT.
PM-146	-1.413E-02	3.883E-02	6.624E-02	0.000E+00	NOT IDENT.
ND-147	-2.110E-01	6.537E-01	1.101E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.059E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.356E-02	9.157E-02	1.554E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.750E-01	2.293E-01	0.000E+00	FAIL ABUN
EU-154	2.350E-02	1.086E-01	1.849E-01	0.000E+00	NOT IDENT.
EU-155	1.072E-01	1.285E-01	2.388E-01	0.000E+00	FAIL ABUN
TB-160	4.849E-02	1.465E-01	2.597E-01	0.000E+00	FAIL ABUN
HO-166M	-3.055E-02	5.633E-02	8.992E-02	0.000E+00	FAIL ABUN
TM-171	-2.017E+01	4.195E+01	6.415E+01	0.000E+00	NOT IDENT.
LU-176	-4.265E-03	2.381E-02	3.962E-02	0.000E+00	FAIL ABUN
LU-177M	1.886E-01	1.675E-01	3.108E-01	0.000E+00	FAIL ABUN
HF-181	-1.275E-02	4.344E-02	7.412E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	5.613E-01	9.231E-01	0.000E+00	NOT IDENT.
TA-182	-1.657E-02	1.986E-01	3.303E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	1.826E-01	2.479E-01	0.000E+00	FAIL ABUN
RE-184	-1.869E-01	2.558E-01	3.695E-01	0.000E+00	NOT IDENT.
OS-185	1.551E-02	3.804E-02	6.636E-02	0.000E+00	NOT IDENT.
RE-188	-7.146E-02	1.892E-01	3.321E-01	0.000E+00	NOT IDENT.
W-188	1.711E+00	8.022E+00	1.223E+01	0.000E+00	FAIL ABUN
IR-192	3.305E-03	3.643E-02	6.138E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	5.109E-01	6.918E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.589E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.159E-01	1.595E+01	2.526E+01	0.000E+00	NOT IDENT.
TL-202	8.291E-02	7.189E-02	1.339E-01	0.000E+00	NOT IDENT.
HG-203	2.079E-02	4.075E-02	7.073E-02	0.000E+00	FAIL ABUN
BI-207	4.343E-02	4.533E-02	8.343E-02	0.000E+00	FAIL ABUN
TL-207	3.773E-01	7.125E-01	1.096E+00	0.000E+00	FAIL ABUN
PO-209	-5.490E+00	6.382E+00	1.015E+01	0.000E+00	NOT IDENT.
BI-210	-1.906E+00	5.039E+00	8.625E+00	0.000E+00	NOT IDENT.
PB-210	-1.906E+00	5.039E+00	8.625E+00	0.000E+00	NOT IDENT.
PO-210	-1.906E+00	5.038E+00	8.625E+00	0.000E+00	NOT IDENT.
PB-211	3.962E-01	8.738E-01	1.519E+00	0.000E+00	NOT IDENT.
PO-215	3.773E-01	7.125E-01	1.096E+00	0.000E+00	FAIL ABUN
RN-219	1.547E-01	3.807E-01	6.856E-01	0.000E+00	FAIL ABUN
RN-220	-8.650E+00	2.572E+01	4.315E+01	0.000E+00	NOT IDENT.
RA-223	3.773E-01	7.125E-01	1.096E+00	0.000E+00	FAIL ABUN
AC-227	3.202E-01	4.094E-01	6.486E-01	0.000E+00	FAIL ABUN
TH-227	3.202E-01	4.105E-01	6.486E-01	0.000E+00	FAIL ABUN
TH-229	-1.742E-01	5.136E-01	8.858E-01	0.000E+00	FAIL ABUN
PA-231	-9.013E-01	1.414E+00	2.295E+00	0.000E+00	NOT IDENT.
TH-231	3.773E-01	7.125E-01	1.096E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	3.060E+00	4.348E+00	0.000E+00	FAIL ABUN
PA-233	7.025E-03	6.372E-02	1.076E-01	0.000E+00	FAIL ABUN
PA-234	1.522E-01	2.948E-01	5.140E-01	0.000E+00	FAIL ABUN
NP-236	-5.631E-02	9.274E-02	1.430E-01	0.000E+00	FAIL ABUN
NP-239	-2.460E-01	2.290E-01	3.817E-01	0.000E+00	FAIL ABUN
AM-241	2.068E-01	2.690E-01	4.309E-01	0.000E+00	NOT IDENT.
CM-243	-1.188E-01	1.140E-01	2.019E-01	0.000E+00	FAIL ABUN
AM-246	7.844E-02	1.290E-01	2.303E-01	0.000E+00	NOT IDENT.
CM-247	3.348E-02	3.377E-02	6.251E-02	0.000E+00	NOT IDENT.
CF-249	1.028E-02	3.856E-02	6.919E-02	0.000E+00	NOT IDENT.
CF-251	-2.343E-02	1.331E-01	2.328E-01	0.000E+00	NOT IDENT.


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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978002.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:17:26
Sample ID          : G245978002          Sample quantity   : 1.41470E+02 GRAM
Detector name      : GAM16              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time  : 0 02:00:03.29  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity        : 5.00000
Batch ID           : 948721             Detector SN#       :
Matrix Spike ID    :                   LCS ID              : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1294	10.67*	1.208E+00	2.663E+01	2.663E+01	10.72
NB-95	765.79	291	99.81*	2.123E+00	3.646E-01	4.431E-01	19.41
CD-109	88.03	363	3.72*	6.255E+00	4.140E+00	4.253E+00	30.58
SN-126	64.28	3732	9.60	3.529E+00	2.923E+01	2.923E+01	15.47
	86.94	363	8.90	6.255E+00	1.731E+00	1.731E+00	50.71
	87.57	363	37.00*	6.255E+00	4.163E-01	4.163E-01	30.58
LU-177	112.95	632	6.40	7.146E+00	3.669E+00	2.358E+01	22.94
	208.36	139	11.00*	5.709E+00	5.874E-01	3.776E+00	53.51
TL-208	277.35	---	6.80	4.695E+00	-----	Line Not Found	-----
	510.84	94	21.60	2.965E+00	3.889E-01	3.889E-01	80.24
	583.14	450	84.20*	2.668E+00	5.321E-01	5.321E-01	17.24
	860.37	63	12.46	1.920E+00	6.962E-01	6.962E-01	60.62
BI-211	72.87	---	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	756	12.94*	3.941E+00	3.936E+00	3.936E+00	16.00
BI-212	727.18	116	11.80*	2.221E+00	1.174E+00	1.174E+00	43.71
	785.46	69	1.97	2.077E+00	4.506E+00	4.506E+00	59.15
	1620.62	---	2.75	1.117E+00	-----	Line Not Found	-----
PB-212	74.81	433	10.70	5.107E+00	2.101E+00	2.101E+00	29.15
	77.11	719	18.00	5.365E+00	1.976E+00	1.976E+00	18.43
	87.30	363	8.00	6.255E+00	1.925E+00	1.925E+00	32.17
	238.63	1295	44.60*	5.226E+00	1.475E+00	1.475E+00	13.77
	300.09	95	3.41	4.436E+00	1.666E+00	1.666E+00	51.31
PO-212	74.81	433	10.70	5.107E+00	2.101E+00	2.101E+00	29.15
	77.11	719	18.00	5.365E+00	1.976E+00	1.976E+00	18.43
	87.30	363	8.00	6.255E+00	1.925E+00	1.925E+00	32.17
	115.19	---	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	1295	44.60*	5.226E+00	1.475E+00	1.475E+00	13.77
	300.09	95	3.41	4.436E+00	1.666E+00	1.666E+00	51.31
BI-214	609.31	571	46.30*	2.574E+00	1.272E+00	1.272E+00	16.36
	1120.29	112	15.10	1.516E+00	1.301E+00	1.301E+00	37.11
	1764.49	94	15.80	1.056E+00	1.493E+00	1.493E+00	27.68
PB-214	74.81	433	6.21	5.107E+00	3.620E+00	3.620E+00	28.59

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	719	10.50	5.365E+00	3.388E+00	3.388E+00	19.95
	87.30	363	4.67	6.255E+00	3.298E+00	3.298E+00	31.54
	241.98	339	7.49	5.179E+00	2.315E+00	2.315E+00	27.43
	295.21	453	19.20	4.485E+00	1.395E+00	1.395E+00	22.68
	351.92	756	37.20*	3.941E+00	1.369E+00	1.369E+00	16.83
PO-214	74.81	433	6.21	5.107E+00	3.620E+00	3.620E+00	28.59
	77.11	719	10.50	5.365E+00	3.388E+00	3.388E+00	19.95
	87.30	363	4.67	6.255E+00	3.298E+00	3.298E+00	31.54
	241.98	339	7.49	5.179E+00	2.315E+00	2.315E+00	27.43
	295.21	453	19.20	4.485E+00	1.395E+00	1.395E+00	22.68
	351.92	756	37.20*	3.941E+00	1.369E+00	1.369E+00	16.83
PO-216	74.81	433	10.70	5.107E+00	2.101E+00	2.101E+00	29.15
	77.11	719	18.00	5.365E+00	1.976E+00	1.976E+00	18.43
	87.30	363	8.00	6.255E+00	1.925E+00	1.925E+00	32.17
	238.63	1295	44.60*	5.226E+00	1.475E+00	1.475E+00	13.77
	300.09	95	3.41	4.436E+00	1.666E+00	1.666E+00	51.31
PO-218	74.81	433	6.21	5.107E+00	3.620E+00	3.620E+00	28.59
	77.11	719	10.50	5.365E+00	3.388E+00	3.388E+00	19.95
	87.30	363	4.67	6.255E+00	3.298E+00	3.298E+00	31.54
	241.98	339	7.49	5.179E+00	2.315E+00	2.315E+00	27.43
	295.21	453	19.20	4.485E+00	1.395E+00	1.395E+00	22.68
	351.92	756	37.20*	3.941E+00	1.369E+00	1.369E+00	16.83
RA-224	240.98	339	3.95*	5.179E+00	4.390E+00	4.390E+00	26.85
RA-226	609.31	571	46.30*	2.574E+00	1.272E+00	1.272E+00	16.36
	1120.29	112	15.10	1.516E+00	1.301E+00	1.301E+00	37.11
	1764.49	94	15.80	1.056E+00	1.493E+00	1.493E+00	27.68
AC-228	338.32	260	11.40	4.058E+00	1.493E+00	1.493E+00	49.28
	911.07	276	27.70*	1.824E+00	1.451E+00	1.451E+00	22.72
	969.11	167	16.60	1.727E+00	1.547E+00	1.547E+00	43.25
RA-228	338.32	260	11.40	4.058E+00	1.493E+00	1.493E+00	49.28
	911.07	276	27.70*	1.824E+00	1.451E+00	1.451E+00	22.72
	969.11	167	16.60	1.727E+00	1.547E+00	1.547E+00	43.25
TH-228	74.81	433	10.70	5.107E+00	2.101E+00	2.139E+00	27.64
	77.11	719	18.00	5.365E+00	1.976E+00	2.012E+00	18.43
	87.30	363	8.00	6.255E+00	1.925E+00	1.960E+00	30.58
	238.63	1295	44.60*	5.226E+00	1.475E+00	1.502E+00	13.77
	300.09	95	3.41	4.436E+00	1.666E+00	1.696E+00	77.70
TH-230	609.31	571	46.30*	2.574E+00	1.272E+00	1.272E+00	16.36
	1120.29	112	15.10	1.516E+00	1.301E+00	1.301E+00	37.11
	1764.49	94	15.80	1.056E+00	1.493E+00	1.493E+00	27.68
TH-232	338.32	260	11.40	4.058E+00	1.493E+00	1.493E+00	28.30
	911.07	276	27.70*	1.824E+00	1.451E+00	1.451E+00	22.72
	969.11	167	16.60	1.727E+00	1.547E+00	1.547E+00	43.25
PA-234M	766.42	291	0.32	2.123E+00	1.137E+02	1.137E+02	53.63
	1001.03	565	0.84*	1.677E+00	1.064E+02	1.064E+02	14.97
TH-234	63.29	3732	3.80*	3.529E+00	7.385E+01	7.385E+01	18.23
	92.38	9732	5.41	6.584E+00	7.249E+01	7.249E+01	18.52
U-234	609.31	571	46.30*	2.574E+00	1.272E+00	1.272E+00	16.36
	1120.29	112	15.10	1.516E+00	1.301E+00	1.301E+00	37.11

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	1764.49	94	15.80	1.056E+00	1.493E+00	1.493E+00	27.68
	89.95	461	2.70	6.440E+00	7.039E+00	7.039E+00	42.96
	93.35	9732	4.50	6.584E+00	8.715E+01	8.715E+01	28.31
	105.00	-----	2.10	7.034E+00	-----	Line Not Found	-----
	143.76	443	10.50*	6.944E+00	1.611E+00	1.611E+00	30.09
	163.35	162	4.70	6.591E+00	1.387E+00	1.387E+00	58.49
	185.71	2307	54.00	6.148E+00	1.844E+00	1.844E+00	11.25
	205.31	170	4.70	5.781E+00	1.660E+00	1.660E+00	45.53
NP-237	86.50	363	12.60*	6.255E+00	1.222E+00	1.222E+00	36.89
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
U-238	63.29	3732	3.80*	3.529E+00	7.385E+01	7.385E+01	18.23
	92.38	9732	5.41	6.584E+00	7.249E+01	7.249E+01	9.50
AM-243	74.67	433	66.00*	5.107E+00	3.406E-01	3.406E-01	27.62
	86.72	363	0.34	6.255E+00	4.584E+01	4.584E+01	30.58
	117.66	-----	0.55	7.175E+00	-----	Line Not Found	-----
	142.18	443	0.13	6.944E+00	1.353E+02	1.353E+02	25.95
ANH-511	511.00	94	100.00*	2.965E+00	8.401E-02	8.401E-02	79.81

Flag: "*" = Keyline

Total number of lines in spectrum 46
Number of unidentified lines 3
Number of lines tentatively identified by NID 43 93.48%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.663E+01	2.663E+01	0.286E+01	10.72	
NB-95	64.02D	1.22	3.646E-01	4.431E-01	0.860E-01	19.41	
CD-109	464.00D	1.03	4.140E+00	4.253E+00	1.301E+00	30.58	
SN-126	1.00E+05Y	1.00	4.163E-01	4.163E-01	1.273E-01	30.58	
LU-177	6.71D	6.43	5.874E-01	3.776E+00	2.021E+00	53.51	
TL-208	1.41E+10Y	1.00	5.321E-01	5.321E-01	0.918E-01	17.24	
BI-211	7.04E+08Y	1.00	3.936E+00	3.936E+00	0.630E+00	16.00	
BI-212	1.41E+10Y	1.00	1.174E+00	1.174E+00	0.513E+00	43.71	
PB-212	1.41E+10Y	1.00	1.475E+00	1.475E+00	0.203E+00	13.77	
PO-212	1.41E+10Y	1.00	1.475E+00	1.475E+00	0.203E+00	13.77	
BI-214	1600.00Y	1.00	1.272E+00	1.272E+00	0.208E+00	16.36	
PB-214	1600.00Y	1.00	1.369E+00	1.369E+00	0.230E+00	16.83	
PO-214	1600.00Y	1.00	1.369E+00	1.369E+00	0.230E+00	16.83	
PO-216	1.41E+10Y	1.00	1.475E+00	1.475E+00	0.203E+00	13.77	
PO-218	1600.00Y	1.00	1.369E+00	1.369E+00	0.230E+00	16.83	
RA-224	1.41E+10Y	1.00	4.390E+00	4.390E+00	1.179E+00	26.85	
RA-226	1600.00Y	1.00	1.272E+00	1.272E+00	0.208E+00	16.36	
AC-228	1.41E+10Y	1.00	1.451E+00	1.451E+00	0.330E+00	22.72	
RA-228	1.41E+10Y	1.00	1.451E+00	1.451E+00	0.330E+00	22.72	
TH-228	1.91Y	1.02	1.475E+00	1.502E+00	0.207E+00	13.77	
TH-230	4.47E+09Y	1.00	1.272E+00	1.272E+00	0.208E+00	16.36	
TH-232	1.41E+10Y	1.00	1.451E+00	1.451E+00	0.330E+00	22.72	
PA-234M	4.47E+09Y	1.00	1.064E+02	1.064E+02	0.159E+02	14.97	
TH-234	4.47E+09Y	1.00	7.385E+01	7.385E+01	1.347E+01	18.23	
U-234	4.47E+09Y	1.00	1.272E+00	1.272E+00	0.208E+00	16.36	
U-235	7.04E+08Y	1.00	1.611E+00	1.611E+00	0.485E+00	30.09	
NP-237	2.14E+06Y	1.00	1.222E+00	1.222E+00	0.451E+00	36.89	
U-238	4.47E+09Y	1.00	7.385E+01	7.385E+01	1.347E+01	18.23	
AM-243	7380.00Y	1.00	3.406E-01	3.406E-01	0.941E-01	27.62	
ANH-511	1.00E+09Y	1.00	8.401E-02	8.401E-02	6.705E-02	79.81	
Total Activity :			3.190E+02	3.224E+02			

Grand Total Activity : 3.190E+02 3.224E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.06	411	1726	1.54	168.31	165	7	5.71E-02	35.1	6.02E+00	T
3	94.35	267	930	1.07	188.89	172	22	3.71E-02	64.0	6.67E+00	T
0	98.48	647	1063	0.90	197.16	194	8	8.99E-02	19.2	6.85E+00	T
0	258.05	148	370	1.02	516.29	511	11	2.05E-02	53.0	4.94E+00	
0	270.00	136	249	1.00	540.19	536	9	1.90E-02	45.6	4.79E+00	T
0	328.21	66	192	1.04	656.61	653	8	9.17E-03	76.8	4.15E+00	T
0	462.81	78	115	0.98	925.79	922	8	1.08E-02	52.9	3.20E+00	T
0	742.89	75	73	1.34	1485.86	1483	9	1.04E-02	47.5	2.18E+00	T
2	771.67	46	49	1.81	1543.41	1528	27	6.46E-03	80.5	2.11E+00	
0	795.01	69	85	2.04	1590.08	1585	12	9.63E-03	58.8	2.06E+00	T
0	1238.21	57	80	0.99	2476.22	2472	12	7.90E-03	67.7	1.39E+00	T
0	1393.19	4	35	1.73	2786.04	2780	16	6.15E-04	****	1.26E+00	T
0	1408.25	38	14	1.83	2816.16	2809	14	5.28E-03	52.9	1.24E+00	T
0	1509.67	29	15	5.32	3018.89	3009	15	3.96E-03	70.2	1.18E+00	T
0	1589.65	23	42	5.60	3178.78	3168	19	3.13E-03	****	1.13E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:18:45.82

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978002.CNF;1
* Acquisition date   : 14-FEB-2010 11:17:26  Detector SN#      :
* Detector ID        : GAM16                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:03.29          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245978002            Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity : 1.41470E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16.1MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                          LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.663E+01	2.856E+00	4.112E-01	3.615E-02	64.763
NB-95	4.431E-01	8.599E-02	6.944E-02	6.419E-03	6.381
CD-109	4.253E+00	1.301E+00	1.747E+00	1.683E-01	2.435
SN-126	4.163E-01	1.273E-01	1.717E-01	1.646E-02	2.424
LU-177	3.776E+00	2.021E+00	2.324E+00	2.358E-01	1.625
TL-208	5.321E-01	9.176E-02	6.072E-02	6.019E-03	8.763
BI-211	3.936E+00	6.299E-01	2.901E-01	3.172E-02	13.568
BI-212	1.174E+00	5.132E-01	4.157E-01	4.343E-02	2.824
PB-212	1.475E+00	2.030E-01	9.383E-02	1.111E-02	15.719
PO-212	1.475E+00	2.030E-01	9.383E-02	1.111E-02	15.719
BI-214	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
PB-214	1.369E+00	2.305E-01	1.011E-01	1.223E-02	13.539
PO-214	1.369E+00	2.305E-01	1.011E-01	1.223E-02	13.539
PO-216	1.475E+00	2.030E-01	9.383E-02	1.111E-02	15.719
PO-218	1.369E+00	2.305E-01	1.011E-01	1.223E-02	13.539
RA-224	4.390E+00	1.179E+00	1.068E+00	1.177E-01	4.111
RA-226	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
AC-228	1.451E+00	3.295E-01	2.013E-01	2.391E-02	7.207

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.451E+00	3.295E-01	2.013E-01	2.391E-02	7.207
TH-228	1.502E+00	2.067E-01	9.552E-02	1.131E-02	15.719
TH-230	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
TH-232	1.451E+00	3.295E-01	2.013E-01	2.391E-02	7.207
PA-234M	1.064E+02	1.592E+01	6.291E+00	6.550E-01	16.911
TH-234	7.385E+01	1.347E+01	3.005E+00	5.242E-01	24.573
U-234	1.272E+00	2.081E-01	1.051E-01	1.111E-02	12.108
U-235	1.611E+00	4.848E-01	3.925E-01	6.859E-02	4.105
NP-237	1.222E+00	4.510E-01	5.635E-01	1.279E-01	2.169
U-238	7.385E+01	1.347E+01	3.005E+00	5.242E-01	24.573
AM-243	3.406E-01	9.407E-02	1.291E-01	1.068E-02	2.639
ANH-511	8.401E-02	6.705E-02	4.682E-02	4.453E-03	1.794

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.217E-02		3.195E-01	5.357E-01	5.419E-02	0.116
NA-22	-8.733E-04		4.050E-02	6.552E-02	5.452E-03	-0.013
NA-24	7.215E+00		7.744E+00	Half-Life too short		
AL-26	-2.395E-04		2.708E-02	4.447E-02	3.636E-03	-0.005
TI-44	3.647E-01	+	6.722E-02	9.086E-02	7.824E-03	4.014
SC-46	-9.936E-03		3.743E-02	6.112E-02	5.778E-03	-0.163
V-48	4.300E-02		7.504E-02	1.303E-01	1.199E-02	0.330
CR-51	-2.179E-01		4.106E-01	6.288E-01	7.351E-02	-0.347
MN-52	1.100E-01		3.092E-01	5.206E-01	4.442E-02	0.211
MN-54	5.347E-03		3.628E-02	6.154E-02	5.780E-03	0.087
CO-56	-3.052E-02		4.029E-02	6.352E-02	5.978E-03	-0.480
CO-57	8.956E-04		2.883E-02	4.834E-02	4.017E-03	0.019
CO-58	-2.902E-02		3.933E-02	6.235E-02	5.841E-03	-0.466
FE-59	7.247E-02		8.948E-02	1.570E-01	1.459E-02	0.462
CO-60	-3.912E-02		3.702E-02	5.148E-02	4.342E-03	-0.760
ZN-65	-5.657E-02		8.906E-02	1.147E-01	9.745E-03	-0.493
GE-68	7.575E-01		1.156E+00	2.011E+00	1.756E-01	0.377
AS-73	4.451E-02		1.315E+00	2.064E+00	1.574E-01	0.022
AS-74	5.900E-02		1.082E-01	1.823E-01	1.692E-02	0.324
SE-75	2.710E-02		4.712E-02	7.403E-02	8.639E-03	0.366
BR-77	2.457E+00		2.367E+01	3.923E+01	3.728E+00	0.063
SR-82	-1.404E-01		4.488E-01	5.994E-01	5.557E-02	-0.234
RB-83	6.148E-03		6.958E-02	1.152E-01	1.095E-02	0.053
RB-84	8.662E-02		7.763E-02	1.393E-01	1.316E-02	0.622
KR-85	8.305E+00		7.828E+00	1.224E+01	1.164E+00	0.679
SR-85	4.388E-02		4.136E-02	6.467E-02	6.149E-03	0.679
RB-86	4.347E-01		8.139E-01	1.402E+00	1.225E-01	0.310
Y-88	-2.123E-02		3.531E-02	5.190E-02	4.213E-03	-0.409
ZR-88	-1.061E-02		3.040E-02	5.006E-02	4.631E-03	-0.212
Y-91	-4.330E+00		1.916E+01	3.063E+01	2.491E+00	-0.141
NB-94	2.984E-03		3.480E-02	5.635E-02	5.094E-03	0.053

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	4.785E-02		1.418E-01	2.078E-01	2.470E-02	0.230
ZR-95	-1.740E-02		7.594E-02	1.192E-01	1.197E-02	-0.146
NB-97	-1.316E+00		8.397E-01	Half-Life too short		
ZR-97	1.318E+01		1.602E+01	Half-Life too short		
MO-99	2.659E+00		2.732E+01	3.860E+01	5.984E+00	0.069
TC-99M	-5.167E+13		6.300E+13	Half-Life too short		
RH-101	-2.793E-02		3.489E-02	5.452E-02	5.383E-03	-0.512
RH-102	-1.085E-02		2.777E-02	4.486E-02	4.264E-03	-0.242
RU-103	1.766E-02		4.078E-02	6.912E-02	1.018E-02	0.255
RH-106	-5.636E-02		3.033E-01	4.857E-01	6.655E-02	-0.116
RU-106	-5.636E-02		3.033E-01	4.857E-01	4.442E-02	-0.116
AG-108M	-1.046E-03		3.185E-02	5.261E-02	5.121E-03	-0.020
AG-110M	-2.631E-02		3.638E-02	5.559E-02	5.088E-03	-0.473
IN-111	-5.134E-01		2.322E+00	3.285E+00	3.658E-01	-0.156
IN-113M	-2.146E-02		4.340E-02	7.088E-02	6.728E-03	-0.303
SN-113	-2.146E-02		4.340E-02	7.088E-02	6.728E-03	-0.303
IN-114M	4.884E-02		1.991E-01	3.137E-01	3.033E-02	0.156
CD-115	-6.816E-06		1.259E-05	Half-Life too short		
SN-117M	-3.292E-02		7.026E-02	1.087E-01	9.650E-03	-0.303
SB-122	3.971E+00		4.559E+00	7.834E+00	7.370E-01	0.507
I-123	-1.999E+02		1.288E+02	Half-Life too short		
TE-123M	-2.702E-02		3.482E-02	4.959E-02	4.435E-03	-0.545
I-124	-1.041E-01		1.218E+00	1.722E+00	1.593E-01	-0.060
SB-124	2.451E-02		5.664E-02	1.019E-01	8.925E-03	0.240
SB-125	-3.276E-02		7.883E-02	1.279E-01	1.222E-02	-0.256
TE-125M	1.637E+01		1.370E+01	2.129E+01	2.169E+00	0.769
I-126	-8.789E-02		2.279E-01	3.583E-01	3.187E-02	-0.245
SB-126	1.637E-02		1.753E-01	2.738E-01	2.492E-02	0.060
SB-127	1.857E+00		2.316E+00	3.937E+00	4.925E-01	0.472
XE-127	3.432E-02		5.603E-02	8.396E-02	8.397E-03	0.409
I-131	-8.007E-03		1.392E-01	2.318E-01	2.455E-02	-0.035
TE-132	1.177E-01		1.303E+00	2.117E+00	3.695E-01	0.056
BA-133	-2.730E-02		4.357E-02	6.161E-02	8.902E-03	-0.443
I-133	-4.033E-02		2.969E-02	Half-Life too short		
CS-134	1.183E-01	+	7.040E-02	8.968E-02	8.408E-03	1.319
CS-135	3.972E-02		1.746E-01	2.498E-01	3.185E-02	0.159
I-135	2.101E+12		3.463E+12	Half-Life too short		
CS-136	2.503E-02		1.204E-01	2.020E-01	1.871E-02	0.124
BA-137M	2.808E-02		3.941E-02	6.655E-02	5.906E-03	0.422
CS-137	2.969E-02		4.166E-02	7.035E-02	6.255E-03	0.422
CE-139	1.222E-03		3.697E-02	5.464E-02	4.955E-03	0.022
BA-140	-4.897E-02		3.107E-01	5.045E-01	1.684E-01	-0.097
LA-140	4.041E-02		9.165E-02	1.441E-01	1.227E-02	0.280
CE-141	1.910E-01		8.584E-02	1.356E-01	1.186E-02	1.408
CE-143	1.583E-03		3.792E-04	Half-Life too short		
CE-144	-2.418E-01		2.323E-01	3.701E-01	5.715E-02	-0.653
PM-144	-2.288E-03		3.586E-02	5.749E-02	5.186E-03	-0.040
PR-144	-1.553E-01		2.434E+00	3.901E+00	3.518E-01	-0.040

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	-1.413E-02		3.962E-02	6.433E-02	7.347E-03	-0.220
ND-147	-2.110E-01		6.671E-01	1.073E+00	1.659E-01	-0.197
PM-149	-8.527E-05		1.050E-04	Half-Life too short		
EU-152	-3.356E-02		9.344E-02	1.500E-01	1.677E-02	-0.224
GD-153	8.438E-01	+	1.786E-01	2.159E-01	1.918E-02	3.909
EU-154	2.350E-02		1.108E-01	1.836E-01	2.033E-02	0.128
EU-155	1.072E-01		1.311E-01	2.251E-01	1.948E-02	0.476
TB-160	4.849E-02		1.495E-01	2.557E-01	2.416E-02	0.190
HO-166M	-3.055E-02		5.748E-02	8.816E-02	7.999E-03	-0.346
TM-171	-2.017E+01		4.281E+01	5.995E+01	4.593E+00	-0.337
LU-176	-4.265E-03		2.429E-02	3.817E-02	4.427E-03	-0.112
LU-177M	1.886E-01		1.709E-01	3.013E-01	2.816E-02	0.626
HF-181	-1.275E-02		4.432E-02	7.207E-02	6.854E-03	-0.177
W-181	1.224E+00		5.728E-01	8.621E-01	6.511E-02	1.420
TA-182	-1.657E-02		2.026E-01	3.276E-01	2.679E-02	-0.051
RE-183	3.330E-01	+	1.863E-01	2.358E-01	2.116E-02	1.412
RE-184	-1.869E-01		2.610E-01	3.545E-01	4.017E-02	-0.527
OS-185	1.551E-02		3.882E-02	6.493E-02	5.836E-03	0.239
RE-188	-7.146E-02		1.930E-01	3.155E-01	2.775E-02	-0.227
W-188	1.711E+00		8.186E+00	1.177E+01	1.396E+00	0.145
IR-192	3.305E-03		3.717E-02	5.916E-02	6.761E-03	0.056
AU-195	2.463E+00	+	5.214E-01	6.514E-01	5.736E-02	3.782
TL-200	1.135E-03		1.321E-03	Half-Life too short		
TL-201	5.159E-01		1.628E+01	2.404E+01	2.188E+00	0.021
TL-202	8.291E-02		7.336E-02	1.299E-01	1.226E-02	0.638
HG-203	2.079E-02		4.158E-02	6.800E-02	8.287E-03	0.306
BI-207	4.343E-02		4.626E-02	8.251E-02	7.273E-03	0.526
TL-207	3.773E-01		7.271E-01	1.057E+00	2.021E-01	0.357
PO-209	-5.490E+00		6.512E+00	9.996E+00	9.454E-01	-0.549
BI-210	-1.906E+00		5.142E+00	8.003E+00	7.463E-01	-0.238
PB-210	-1.906E+00		5.142E+00	8.003E+00	7.463E-01	-0.238
PO-210	-1.906E+00		5.141E+00	8.003E+00	6.760E-01	-0.238
PB-211	3.962E-01		8.917E-01	1.472E+00	9.236E-01	0.269
PO-215	3.773E-01		7.271E-01	1.057E+00	2.021E-01	0.357
RN-219	1.547E-01		3.885E-01	6.641E-01	1.024E-01	0.233
RN-220	-8.650E+00		2.624E+01	4.207E+01	3.975E+00	-0.206
RA-223	3.773E-01		7.271E-01	1.057E+00	2.021E-01	0.357
AC-227	3.202E-01		4.177E-01	6.225E-01	1.063E-01	0.514
TH-227	3.202E-01		4.189E-01	6.225E-01	1.217E-01	0.514
TH-229	-1.742E-01		5.240E-01	8.453E-01	8.248E-02	-0.206
PA-231	-9.013E-01		1.443E+00	2.207E+00	3.817E-01	-0.408
TH-231	3.773E-01		7.271E-01	1.057E+00	2.021E-01	0.357
U-231	6.543E+00		3.122E+00	4.091E+00	3.673E-01	1.599
PA-233	7.025E-03		6.502E-02	1.037E-01	1.212E-02	0.068
PA-234	1.522E-01		3.008E-01	5.070E-01	9.686E-02	0.300
NP-236	-5.631E-02		9.463E-02	1.359E-01	1.213E-02	-0.414
NP-239	-2.460E-01		2.337E-01	3.606E-01	3.002E-02	-0.682
AM-241	2.068E-01		2.745E-01	4.018E-01	3.153E-02	0.515

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.188E-01		1.163E-01	1.903E-01	1.636E-02	-0.624
AM-246	7.844E-02		1.316E-01	2.278E-01	1.987E-02	0.344
CM-247	3.348E-02		3.446E-02	6.056E-02	5.631E-03	0.553
CF-249	1.028E-02		3.935E-02	6.698E-02	6.283E-03	0.154
CF-251	-2.343E-02		1.358E-01	2.218E-01	2.068E-02	-0.106

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978002          *
* Acquisition date   : 14-FEB-2010 11:17:26 Detector SN# :                 *
* Detector ID        : GAM16 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:03.29 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245978002 Analyst initials: MXR1                 *
* Batch Number       : 948721 Sample Quantity : 1.4147E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                 *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope :                 *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.663E+01	2.799E+00	2.066E-01	1.428E+00
NB-95	4.431E-01	8.427E-02	3.538E-02	4.299E-02
CD-109	4.253E+00	1.275E+00	9.301E-01	6.503E-01
SN-126	4.163E-01	1.248E-01	9.145E-02	6.365E-02
LU-177	3.776E+00	1.980E+00	1.216E+00	1.010E+00
TL-208	5.321E-01	8.992E-02	3.112E-02	4.588E-02
BI-211	3.936E+00	6.173E-01	1.502E-01	3.149E-01
BI-212	1.174E+00	5.029E-01	2.120E-01	2.566E-01
PB-212	1.475E+00	1.990E-01	4.898E-02	1.015E-01
PO-212	1.475E+00	1.990E-01	4.898E-02	1.015E-01
BI-214	1.272E+00	2.039E-01	5.379E-02	1.040E-01
PB-214	1.369E+00	2.258E-01	5.237E-02	1.152E-01
PO-214	1.369E+00	2.258E-01	5.237E-02	1.152E-01
PO-216	1.475E+00	1.990E-01	4.898E-02	1.015E-01
PO-218	1.369E+00	2.258E-01	5.237E-02	1.152E-01
RA-224	4.390E+00	1.155E+00	5.574E-01	5.893E-01
RA-226	1.272E+00	2.039E-01	5.379E-02	1.040E-01
AC-228	1.451E+00	3.229E-01	1.022E-01	1.648E-01
RA-228	1.451E+00	3.229E-01	1.022E-01	1.648E-01
TH-228	1.502E+00	2.026E-01	4.987E-02	1.034E-01
TH-230	1.272E+00	2.039E-01	5.379E-02	1.040E-01
TH-232	1.451E+00	3.229E-01	1.022E-01	1.648E-01
PA-234M	1.064E+02	1.560E+01	3.187E+00	7.960E+00
TH-234	7.385E+01	1.320E+01	1.611E+00	6.733E+00
U-234	1.272E+00	2.039E-01	5.379E-02	1.040E-01
U-235	1.611E+00	4.751E-01	2.070E-01	2.424E-01
NP-237	1.222E+00	4.419E-01	3.002E-01	2.255E-01
U-238	7.385E+01	1.320E+01	1.611E+00	6.733E+00
AM-243	3.406E-01	9.219E-02	6.895E-02	4.703E-02
ANH-511	8.401E-02	6.570E-02	2.406E-02	3.352E-02

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	6.217E-02	3.131E-01	2.757E-01	1.598E-01 NOT IDENT.
NA-22	-8.733E-04	3.969E-02	3.302E-02	2.025E-02 NOT IDENT.
NA-24	7.215E+06	1.518E+07	0.000E+00	7.744E+06 SHORT HLIF
AL-26	-2.395E-04	2.654E-02	2.224E-02	1.354E-02 NOT IDENT.
TI-44	3.647E-01	6.588E-02	4.850E-02	3.361E-02 FAIL ABUN
SC-46	-9.936E-03	3.668E-02	3.104E-02	1.871E-02 FAIL ABUN
V-48	4.300E-02	7.354E-02	6.603E-02	3.752E-02 NOT IDENT.
CR-51	-2.179E-01	4.024E-01	3.263E-01	2.053E-01 NOT IDENT.
MN-52	1.100E-01	3.030E-01	2.617E-01	1.546E-01 FAIL ABUN
MN-54	5.347E-03	3.556E-02	3.130E-02	1.814E-02 NOT IDENT.
CO-56	-3.052E-02	3.948E-02	3.230E-02	2.014E-02 FAIL ABUN
CO-57	8.956E-04	2.825E-02	2.558E-02	1.442E-02 NOT IDENT.
CO-58	-2.902E-02	3.854E-02	3.173E-02	1.966E-02 NOT IDENT.
FE-59	7.247E-02	8.769E-02	7.935E-02	4.474E-02 FAIL ABUN
CO-60	-3.912E-02	3.628E-02	2.592E-02	1.851E-02 NOT IDENT.
ZN-65	-5.657E-02	8.728E-02	5.799E-02	4.453E-02 NOT IDENT.
GE-68	7.575E-01	1.133E+00	1.017E+00	5.781E-01 NOT IDENT.
AS-73	4.451E-02	1.289E+00	1.110E+00	6.577E-01 NOT IDENT.
AS-74	5.900E-02	1.060E-01	9.337E-02	5.408E-02 NOT IDENT.
SE-75	2.710E-02	4.618E-02	3.857E-02	2.356E-02 NOT IDENT.
BR-77	2.457E+00	2.319E+01	2.015E+01	1.183E+01 FAIL ABUN
SR-82	-1.404E-01	4.398E-01	3.053E-01	2.244E-01 NOT IDENT.
RB-83	6.148E-03	6.818E-02	5.919E-02	3.479E-02 NOT IDENT.
RB-84	8.662E-02	7.608E-02	7.078E-02	3.882E-02 NOT IDENT.
KR-85	8.305E+00	7.672E+00	6.289E+00	3.914E+00 NOT IDENT.
SR-85	4.388E-02	4.053E-02	3.323E-02	2.068E-02 NOT IDENT.
RB-86	4.347E-01	7.976E-01	7.090E-01	4.069E-01 NOT IDENT.
Y-88	-2.123E-02	3.461E-02	2.594E-02	1.766E-02 NOT IDENT.
ZR-88	-1.061E-02	2.979E-02	2.587E-02	1.520E-02 NOT IDENT.
Y-91	-4.330E+00	1.878E+01	1.545E+01	9.581E+00 NOT IDENT.
NB-94	2.984E-03	3.410E-02	2.876E-02	1.740E-02 NOT IDENT.
NB-95M	4.785E-02	1.390E-01	1.085E-01	7.089E-02 NOT IDENT.
ZR-95	-1.740E-02	7.442E-02	6.076E-02	3.797E-02 NOT IDENT.
NB-97	-1.316E+06	1.646E+06	0.000E+00	8.397E+05 SHORT HLIF
ZR-97	1.318E+07	3.141E+07	0.000E+00	1.602E+07 SHORT HLIF
MO-99	2.659E+00	2.677E+01	1.968E+01	1.366E+01 NOT IDENT.
TC-99M	-5.167E+19	1.235E+20	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-2.793E-02	3.419E-02	2.857E-02	1.744E-02 NOT IDENT.
RH-102	-1.085E-02	2.722E-02	2.309E-02	1.389E-02 FAIL ABUN
RU-103	1.766E-02	3.997E-02	3.554E-02	2.039E-02 FAIL ABUN
RH-106	-5.636E-02	2.973E-01	2.486E-01	1.517E-01 FAIL ABUN
RU-106	-5.636E-02	2.972E-01	2.486E-01	1.516E-01 FAIL ABUN
AG-108M	-1.046E-03	3.121E-02	2.713E-02	1.593E-02 NOT IDENT.
AG-110M	-2.631E-02	3.565E-02	2.841E-02	1.819E-02 NOT IDENT.
IN-111	-5.134E-01	2.276E+00	1.714E+00	1.161E+00 NOT IDENT.
IN-113M	-2.146E-02	4.254E-02	3.662E-02	2.170E-02 NOT IDENT.
SN-113	-2.146E-02	4.254E-02	3.662E-02	2.170E-02 NOT IDENT.
IN-114M	4.884E-02	1.951E-01	1.645E-01	9.956E-02 NOT IDENT.
CD-115	-6.816E+00	2.467E+01	0.000E+00	1.259E+01 SHORT HLIF
SN-117M	-3.292E-02	6.885E-02	5.719E-02	3.513E-02 NOT IDENT.
SB-122	3.971E+00	4.468E+00	4.018E+00	2.279E+00 NOT IDENT.
I-123	-1.999E+08	2.525E+08	0.000E+00	1.288E+08 SHORT HLIF
TE-123M	-2.702E-02	3.412E-02	2.610E-02	1.741E-02 NOT IDENT.
I-124	-1.041E-01	1.194E+00	8.820E-01	6.090E-01 FAIL ABUN
SB-124	2.451E-02	5.550E-02	5.104E-02	2.832E-02 FAIL ABUN
SB-125	-3.276E-02	7.725E-02	6.599E-02	3.942E-02 FAIL ABUN
TE-125M	1.637E+01	1.342E+01	1.129E+01	6.849E+00 NOT IDENT.
I-126	-8.789E-02	2.233E-01	1.831E-01	1.139E-01 NOT IDENT.
SB-126	1.637E-02	1.718E-01	1.397E-01	8.765E-02 FAIL ABUN
SB-127	1.857E+00	2.269E+00	2.011E+00	1.158E+00 NOT IDENT.
XE-127	3.432E-02	5.491E-02	4.398E-02	2.801E-02 NOT IDENT.
I-131	-8.007E-03	1.364E-01	1.200E-01	6.959E-02 NOT IDENT.
TE-132	1.177E-01	1.277E+00	1.106E+00	6.516E-01 FAIL ABUN
BA-133	-2.730E-02	4.270E-02	3.190E-02	2.179E-02 NOT IDENT.
I-133	-4.033E+04	5.819E+04	0.000E+00	2.969E+04 SHORT HLIF
CS-134	1.183E-01	6.899E-02	4.565E-02	3.520E-02 FAIL ABUN
CS-135	3.972E-02	1.711E-01	1.301E-01	8.732E-02 NOT IDENT.
I-135	2.101E+18	6.788E+18	0.000E+00	0.000E+00 SHORT HLIF
CS-136	2.503E-02	1.179E-01	1.022E-01	6.018E-02 FAIL ABUN
BA-137M	2.808E-02	3.862E-02	3.401E-02	1.970E-02 NOT IDENT.
CS-137	2.969E-02	4.082E-02	3.596E-02	2.083E-02 NOT IDENT.
CE-139	1.222E-03	3.623E-02	2.873E-02	1.849E-02 NOT IDENT.
BA-140	-4.897E-02	3.045E-01	2.590E-01	1.553E-01 FAIL ABUN
LA-140	4.041E-02	8.981E-02	7.226E-02	4.582E-02 FAIL ABUN
CE-141	1.910E-01	8.412E-02	7.151E-02	4.292E-02 NOT IDENT.

CE-143	1.583E+03	7.432E+02	0.000E+00	3.792E+02	SHORT HLIF
CE-144	-2.418E-01	2.276E-01	1.955E-01	1.161E-01	NOT IDENT.
PM-144	-2.288E-03	3.514E-02	2.935E-02	1.793E-02	NOT IDENT.
PR-144	-1.553E-01	2.385E+00	1.992E+00	1.217E+00	NOT IDENT.
PM-146	-1.413E-02	3.883E-02	3.314E-02	1.981E-02	NOT IDENT.
ND-147	-2.110E-01	6.537E-01	5.507E-01	3.335E-01	FAIL ABUN
PM-149	-8.527E+01	2.059E+02	0.000E+00	1.050E+02	SHORT HLIF
EU-152	-3.356E-02	9.157E-02	7.773E-02	4.672E-02	FAIL ABUN
GD-153	8.438E-01	1.750E-01	1.147E-01	8.929E-02	FAIL ABUN
EU-154	2.350E-02	1.086E-01	9.250E-02	5.539E-02	NOT IDENT.
EU-155	1.072E-01	1.285E-01	1.195E-01	6.556E-02	FAIL ABUN
TB-160	4.849E-02	1.465E-01	1.299E-01	7.475E-02	FAIL ABUN
HO-166M	-3.055E-02	5.633E-02	4.499E-02	2.874E-02	FAIL ABUN
TM-171	-2.017E+01	4.195E+01	3.210E+01	2.140E+01	NOT IDENT.
LU-176	-4.265E-03	2.381E-02	1.982E-02	1.215E-02	FAIL ABUN
LU-177M	1.886E-01	1.675E-01	1.555E-01	8.545E-02	FAIL ABUN
HF-181	-1.275E-02	4.344E-02	3.708E-02	2.216E-02	NOT IDENT.
W-181	1.224E+00	5.613E-01	4.618E-01	2.864E-01	NOT IDENT.
TA-182	-1.657E-02	1.986E-01	1.653E-01	1.013E-01	FAIL ABUN
RE-183	3.330E-01	1.826E-01	1.240E-01	9.317E-02	FAIL ABUN
RE-184	-1.869E-01	2.558E-01	1.848E-01	1.305E-01	NOT IDENT.
OS-185	1.551E-02	3.804E-02	3.320E-02	1.941E-02	NOT IDENT.
RE-188	-7.146E-02	1.892E-01	1.661E-01	9.651E-02	NOT IDENT.
W-188	1.711E+00	8.022E+00	6.118E+00	4.093E+00	FAIL ABUN
IR-192	3.305E-03	3.643E-02	3.071E-02	1.858E-02	FAIL ABUN
AU-195	2.463E+00	5.109E-01	3.461E-01	2.607E-01	FAIL ABUN
TL-200	1.135E+03	2.589E+03	0.000E+00	1.321E+03	SHORT HLIF
TL-201	5.159E-01	1.595E+01	1.264E+01	8.139E+00	NOT IDENT.
TL-202	8.291E-02	7.189E-02	6.698E-02	3.668E-02	NOT IDENT.
HG-203	2.079E-02	4.075E-02	3.538E-02	2.079E-02	FAIL ABUN
BI-207	4.343E-02	4.533E-02	4.174E-02	2.313E-02	FAIL ABUN
TL-207	3.773E-01	7.125E-01	5.481E-01	3.635E-01	FAIL ABUN
PO-209	-5.490E+00	6.382E+00	5.076E+00	3.256E+00	NOT IDENT.
BI-210	-1.906E+00	5.039E+00	4.315E+00	2.571E+00	NOT IDENT.
PB-210	-1.906E+00	5.039E+00	4.315E+00	2.571E+00	NOT IDENT.
PO-210	-1.906E+00	5.038E+00	4.315E+00	2.571E+00	NOT IDENT.
PB-211	3.962E-01	8.738E-01	7.599E-01	4.458E-01	NOT IDENT.
PO-215	3.773E-01	7.125E-01	5.481E-01	3.635E-01	FAIL ABUN
RN-219	1.547E-01	3.807E-01	3.430E-01	1.943E-01	FAIL ABUN
RN-220	-8.650E+00	2.572E+01	2.159E+01	1.312E+01	NOT IDENT.
RA-223	3.773E-01	7.125E-01	5.481E-01	3.635E-01	FAIL ABUN
AC-227	3.202E-01	4.094E-01	3.245E-01	2.089E-01	FAIL ABUN
TH-227	3.202E-01	4.105E-01	3.245E-01	2.094E-01	FAIL ABUN
TH-229	-1.742E-01	5.136E-01	4.431E-01	2.620E-01	FAIL ABUN
PA-231	-9.013E-01	1.414E+00	1.148E+00	7.215E-01	NOT IDENT.
TH-231	3.773E-01	7.125E-01	5.481E-01	3.635E-01	FAIL ABUN
U-231	6.543E+00	3.060E+00	2.175E+00	1.561E+00	FAIL ABUN
PA-233	7.025E-03	6.372E-02	5.384E-02	3.251E-02	FAIL ABUN
PA-234	1.522E-01	2.948E-01	2.572E-01	1.504E-01	FAIL ABUN
NP-236	-5.631E-02	9.274E-02	7.154E-02	4.731E-02	FAIL ABUN
NP-239	-2.460E-01	2.290E-01	1.909E-01	1.168E-01	FAIL ABUN
AM-241	2.068E-01	2.690E-01	2.156E-01	1.373E-01	NOT IDENT.
CM-243	-1.188E-01	1.140E-01	1.010E-01	5.814E-02	FAIL ABUN
AM-246	7.844E-02	1.290E-01	1.152E-01	6.581E-02	NOT IDENT.
CM-247	3.348E-02	3.377E-02	3.128E-02	1.723E-02	NOT IDENT.
CF-249	1.028E-02	3.856E-02	3.462E-02	1.967E-02	NOT IDENT.
CF-251	-2.343E-02	1.331E-01	1.165E-01	6.791E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY MDA COUNTS

46.50	715.8649
46.50	715.8649
46.50	715.8649
48.70	769.3136
49.72	785.9583
51.35	796.9653
52.39	859.2451
52.97	842.7196
53.15	843.1607
53.44	854.6722
54.07	870.6537
56.28	966.8655
56.28	966.8716
57.37	0.0000
57.53	1073.4447
57.53	1073.4498
57.60	1073.6521
57.98	1072.3401
57.98	1072.3401
59.32	998.9711
59.32	998.9711
59.40	1020.3420
59.54	1102.1256
59.72	1102.6576
60.01	1127.9669
61.10	1244.0411
61.14	1244.1709
61.30	1244.6953
63.00	1067.0609
63.29	1067.8638
63.29	1067.8638
63.58	1068.6632
64.28	918.1132
65.12	883.7413
65.20	883.9168
65.20	883.9168
66.05	1013.3075
66.72	965.2518
66.83	965.5182
66.91	998.8997
67.20	1016.2211
67.20	1016.2211
67.75	1015.1090
67.85	1015.3636
68.90	1032.1578
68.90	1032.1578
69.30	1031.4962
69.67	1111.7798
70.82	1167.2108
70.82	1167.2108
70.83	1167.2391
72.80	1205.5388
72.87	1205.7356
72.87	1205.7356
74.67	1234.0582
74.81	1234.4518
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74.81	1234.4518
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74.81	1234.4518
74.97	1234.9122
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77.11	1240.9644

77.11	1240.9644
77.11	1240.9644
77.11	1240.9644
77.11	1240.9644
77.11	1240.9644
78.38	1286.2896
79.62	1271.9006
79.80	1272.4077
79.80	1272.4077
80.11	1242.4730
80.18	1242.6650
80.30	1242.9900
80.30	1242.9900
80.57	1184.6256
81.00	1244.9027
81.07	1245.0947
81.07	1245.0947
81.07	1245.0947
81.07	1245.0947
82.60	1299.5764
83.37	1344.3860
83.78	1318.4059
83.78	1318.4059
83.78	1318.4059
83.78	1318.4059
84.21	1319.6187
84.90	1270.9749
85.43	1272.4030
86.29	1274.7133
86.50	1275.2740
86.54	1275.3788
86.59	1275.5133
86.72	1275.8573
86.79	1276.0367
86.94	1276.4479
87.30	1045.3865
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87.88	1046.6470
88.03	1046.9713
88.36	1047.6871
88.47	1047.9258
89.95	1051.1075
91.11	1053.5857
92.29	1056.0944
92.38	1056.2841
92.38	1056.2841
93.35	1058.3278
94.00	1059.6984
94.67	1061.0873
94.67	1061.0995
94.90	1061.5768
94.90	1061.5768
94.90	1061.5768
94.90	1061.5768
95.87	787.7506
95.87	787.7506
96.73	789.0785
97.43	790.1434
98.44	699.7130
98.44	699.7170
98.88	700.3057
99.55	637.0912
99.55	637.0912
99.86	637.4678
100.00	637.6353
100.10	637.7626
103.18	703.5769
103.76	688.3604
105.00	658.4493
105.31	639.0246
108.00	738.0183
109.28	678.5261

111.00	759.7047
111.00	759.7047
111.76	744.7866
112.95	700.7188
115.19	577.0418
116.30	585.0235
117.00	615.2168
117.00	615.2168
117.66	627.3104
121.11	513.4557
121.62	523.1497
121.78	512.1736
122.06	524.4586
122.32	527.4641
122.32	527.4641
122.32	527.4641
122.32	527.4641
123.07	542.0375
127.23	557.8565
129.76	496.3088
131.20	520.9473
133.02	544.1188
133.54	549.2720
135.34	482.6593
136.00	487.8889
136.25	490.9155
136.48	491.0894
140.51	512.2105
140.51	0.0000
142.18	500.5745
142.65	536.8090
143.76	537.6878
144.24	515.0457
144.24	515.0457
144.24	515.0457
144.24	515.0457
145.22	453.8363
145.44	453.9805
147.16	408.8810
152.43	444.4842
152.70	432.0308
153.22	437.2055
154.21	482.5636
154.21	482.5636
154.21	482.5636
154.21	482.5636
155.03	489.9369
156.02	463.3018
158.56	440.4602
159.00	0.0000
159.00	464.2263
160.31	447.3999
161.27	400.8281
162.32	420.5811
162.64	455.6997
163.35	456.1377
163.89	449.5662
165.85	449.2617
167.43	438.3138
171.28	419.1199
171.86	396.5222
172.10	396.6437
176.55	414.9476
176.60	414.9771
181.06	417.3102
184.41	385.6431
185.71	386.2555
186.00	386.3950
190.27	348.6414
192.34	398.5614
193.63	373.5844
197.04	383.3093
198.01	376.5439
198.60	358.2697
200.40	370.3685
201.83	365.8151
202.84	330.5472
205.31	387.5047

208.36	340.4321
208.81	309.3569
209.75	301.8629
209.75	301.8629
210.97	299.1428
215.65	301.2180
216.55	314.1227
218.09	332.5419
222.10	309.6762
223.80	319.7690
226.40	285.6155
227.00	283.6712
227.08	300.6961
227.20	300.7336
228.16	306.3574
228.18	306.3633
228.18	306.3633
231.56	0.0000
235.69	313.5871
236.00	323.3402
236.00	323.3402
238.63	313.9957
238.63	313.9957
238.63	313.9957
238.63	313.9957
239.00	314.1115
240.98	314.7442
241.98	315.0620
241.98	315.0620
241.98	315.0620
244.69	256.4125
245.39	253.3453
247.94	260.4980
248.90	227.0651
249.79	235.9641
252.40	234.1705
252.85	248.6699
252.85	248.6699
254.15	0.0000
256.20	211.7282
256.20	211.7282
260.50	222.4937
260.90	0.0000
262.80	241.1486
264.65	219.7271
268.24	229.1016
268.79	230.8805
269.46	220.4984
269.46	220.4984
269.46	220.4984
269.46	220.4984
271.23	229.7375
273.65	215.2349
276.40	230.8325
277.35	203.1282
277.60	212.1071
277.60	212.1071
278.00	193.1995
278.60	197.7746
279.20	210.1766
279.53	244.9091
280.46	238.3986
281.68	178.1536
283.67	199.8009
284.30	187.5590
285.00	200.0363
285.90	0.0000
286.10	191.2327
286.10	191.2327
287.40	198.2113
288.45	0.0000
290.67	198.2195
290.80	198.2409
291.72	201.7930
293.26	0.0000
293.70	190.2510
295.21	188.7996
295.21	188.7996

295.21	188.7996
295.96	188.9249
296.50	143.0369
297.23	143.1266
298.57	143.2906
299.80	256.1462
299.80	256.1462
300.09	172.5150
300.09	172.5150
300.09	172.5150
300.09	172.5150
300.12	172.5211
301.29	212.0200
302.84	208.8759
303.76	171.3440
303.91	210.7794
304.40	213.9516
304.40	213.9516
304.84	212.6595
306.84	188.9685
308.46	190.3738
311.98	190.9344
316.51	200.8866
318.01	186.1071
319.02	189.7318
319.41	199.0500
320.08	203.7900
323.87	170.7374
323.87	170.7374
323.87	170.7374
323.87	170.7374
325.23	170.9258
328.77	176.6575
333.44	156.2498
334.20	178.4759
334.20	178.4759
334.30	178.4914
338.28	173.5864
338.28	173.5864
338.28	173.5864
338.28	173.5864
338.32	173.5924
338.32	173.5924
338.32	173.5924
340.50	183.5964
340.57	183.6060
344.27	179.0742
345.85	148.9047
350.59	0.0000
351.07	144.1601
351.92	144.2541
351.92	144.2541
351.92	144.2541
355.39	0.0000
356.01	160.0635
364.48	147.4138
366.43	155.7280
367.43	155.8415
367.94	0.0000
369.80	139.8704
374.96	144.9243
383.85	151.3190
387.95	162.7303
388.63	153.6599
391.69	164.9899
391.69	164.9899
392.90	164.2126
398.62	157.4971
400.65	157.7163
401.10	145.7720
401.81	142.1497
402.60	128.3739
404.84	135.0438
410.95	130.9612
411.60	128.2295
413.65	129.3369
414.70	155.4999
415.30	181.6431

415.76	182.6315
417.63	0.0000
418.52	120.4218
423.70	147.0629
427.08	126.7355
427.89	116.4714
432.53	116.8233
433.93	132.9577
439.47	98.4188
439.56	99.3700
439.89	113.5895
443.98	123.3766
444.90	114.9016
445.03	114.9127
445.03	114.9127
445.03	114.9127
445.03	114.9127
453.90	122.2383
463.38	133.7158
468.07	118.1707
473.00	113.0492
475.06	126.7343
475.35	130.6268
476.78	117.1800
477.59	119.1750
477.96	127.9233
482.03	134.0623
484.57	126.4810
487.03	116.9220
490.36	0.0000
492.35	0.0000
497.08	107.8113
507.63	0.0000
510.53	0.0000
510.84	126.4473
511.00	126.4590
511.85	126.5186
511.85	126.5186
513.99	120.3383
513.99	120.3383
520.41	115.2106
520.65	115.2283
527.90	0.0000
528.96	0.0000
529.64	125.7885
529.87	0.0000
531.02	119.8901
537.32	125.3166
543.00	136.7637
546.56	0.0000
549.76	120.1076
552.65	124.3363
555.20	111.3461
563.23	113.8525
563.90	116.9408
568.70	127.4300
569.32	122.3730
569.50	122.3840
569.67	120.3551
573.80	113.4593
574.00	113.4695
574.64	118.6196
578.91	108.2232
579.30	0.0000
583.14	122.2212
585.48	92.1348
591.81	115.5410
592.07	115.5547
593.00	110.4482
595.88	114.7431
600.56	128.4843
602.52	0.0000
602.71	119.4926
602.71	119.4926
603.60	131.1678
604.41	114.6114
604.70	114.6283
609.31	103.0243

609.31	103.0243
609.31	103.0243
609.31	103.0243
610.33	94.9545
612.46	110.0634
614.37	110.1665
618.01	95.1046
621.84	94.2352
621.84	94.2352
631.29	86.2516
633.02	92.6406
633.10	95.8016
634.78	91.6649
635.90	96.9835
636.97	103.3624
645.85	77.3174
646.12	72.0321
656.30	71.3102
657.75	117.1570
657.90	0.0000
661.65	113.1005
661.65	113.1005
664.57	0.0000
666.33	125.1052
666.33	125.1052
675.00	88.0284
677.61	88.1335
685.20	85.2008
692.80	97.3938
695.00	114.8215
696.49	108.3923
696.49	108.3923
697.00	109.5009
697.49	108.4412
698.33	107.3960
698.50	101.9806
699.00	105.2590
702.63	106.5146
706.10	94.7022
706.58	0.0000
706.67	97.9926
709.31	88.2946
711.68	90.5685
713.82	85.1911
717.42	105.0146
720.50	92.6368
721.93	0.0000
722.20	70.1543
722.78	80.6977
722.78	80.6977
722.89	80.7021
722.95	82.4588
723.30	82.4703
724.18	100.0562
727.18	77.9943
733.00	88.1006
735.90	67.2586
739.58	84.8109
742.81	74.3121
744.21	95.5995
747.13	95.7155
751.79	84.3589
752.31	76.6058
753.82	84.4308
755.35	86.7074
756.15	95.6320
756.87	92.3238
763.93	101.7400
765.79	96.4591
766.42	80.4045
766.84	80.4177
776.49	78.9400
778.00	109.5081
778.57	109.5319
778.89	109.5468
783.80	77.3748
785.46	102.0360
792.07	81.2417

795.84	73.3287
796.30	73.8449
798.80	73.9167
801.93	81.5603
805.60	78.0488
810.29	90.9229
810.76	90.9399
815.85	82.0085
817.79	67.4798
818.51	71.1464
819.60	69.3519
826.30	62.2127
828.27	0.0000
831.60	82.5095
831.96	78.8529
834.83	85.3643
836.80	0.0000
846.75	92.2070
848.13	75.6498
856.28	0.0000
856.80	57.0763
860.37	59.3156
867.32	76.6589
867.82	68.1538
871.10	67.9260
873.19	72.6337
874.81	76.4045
875.33	0.0000
876.40	80.1778
879.36	79.3326
880.27	82.1605
880.51	79.3658
881.50	68.1862
883.24	86.9219
884.67	82.2916
889.25	69.3154
896.60	67.6213
898.02	62.0184
899.00	62.0410
903.28	60.6716
911.07	67.9728
911.07	67.9728
911.07	67.9728
919.63	62.4986
920.93	55.8959
925.00	66.4111
925.24	68.3139
926.50	58.8531
935.52	46.6589
937.48	60.0315
944.10	61.1250
946.00	53.5186
949.00	71.7517
962.29	49.6535
964.01	57.6958
966.15	70.5690
968.20	56.8149
969.11	56.8336
969.11	56.8336
969.11	56.8336
977.42	45.4004
980.50	67.6877
983.50	55.1728
989.30	62.0688
996.32	51.8438
1001.03	51.6000
1001.68	51.6116
1004.76	56.8622
1021.30	0.0000
1024.50	0.0000
1034.80	52.1693
1036.00	54.1594
1037.82	57.1447
1038.57	54.2024
1038.76	0.0000
1045.16	63.2062
1046.59	78.0549
1048.07	61.2855

1050.47	62.3232
1050.47	62.3232
1062.04	45.6721
1063.62	43.7078
1076.63	52.8603
1077.35	50.8780
1078.86	51.8984
1085.78	48.0094
1099.22	52.2234
1112.02	63.5168
1112.84	65.5522
1115.52	62.2388
1120.29	52.5586
1120.29	52.5586
1120.29	52.5586
1120.29	52.5586
1120.51	52.5611
1121.28	52.5738
1124.00	0.0000
1129.67	50.6787
1131.51	0.0000
1147.95	0.0000
1167.94	57.4000
1173.22	52.3547
1175.09	49.3031
1177.93	60.6507
1189.05	70.1250
1204.90	78.7275
1205.75	0.0000
1213.00	76.8328
1221.42	84.2985
1230.97	64.9262
1235.34	67.9072
1236.41	0.0000
1238.25	59.2482
1246.25	68.1135
1260.41	0.0000
1271.85	44.3174
1274.45	46.4621
1274.54	50.6859
1291.56	45.6140
1298.22	0.0000
1312.09	33.0631
1325.50	36.3906
1325.50	36.3906
1332.49	48.2498
1333.61	35.3944
1360.21	30.2367
1362.66	0.0000
1365.15	36.7625
1368.21	25.9699
1368.53	0.0000
1376.25	29.2755
1384.27	21.7295
1394.10	17.4266
1395.20	25.4206
1407.95	22.9513
1434.06	25.2989
1436.60	21.0955
1457.56	0.0000
1460.81	18.4513
1489.15	24.1486
1509.49	31.9964
1596.49	16.3184
1620.62	18.1828
1678.03	0.0000
1691.02	8.7444
1691.02	8.7444
1706.46	0.0000
1750.46	0.0000
1764.49	12.8249
1764.49	12.8249
1764.49	12.8249
1764.49	12.8249
1770.23	10.1589
1771.40	10.1614
1791.20	0.0000
1808.65	12.9397

1836.01

22.0170

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978002

Total Uranium Activity	2.2046E+02	ug/g
Total Uranium Counting Unc.	3.9262E+01	ug/g
Total Uranium Tpu	2.0032E-05	ug/g
Total Uranium Mda	4.7932E+00	ug/g


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*****
*
*                               GEL Laboratories LLC
*                               2040 SAVAGE ROAD
*                               CHARLESTON ,SC 29417
*                               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 948721          SAMPLE ID   : G245978002
*  ANALYST       : MXR1            DETECTOR    : GAM16
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 14-FEB-2010 11:17:26.63  SAMPLE ALQT: 141.470 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.908E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.012E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 6.874E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 3.376E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:19:37.67

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978003.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:18:00
Sample ID     : G245978003           Sample quantity : 1.24220E+02 GRAM
Detector name : GAM17                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:10.11 0.1%
Energy tolerance: 1.50000 keV         Analyst Initials : MXR1
Abundance limit: 75.00000             Sensitivity    : 5.00000
Batch ID      : 948721                Detector SN#   :
Matrix Spike ID :                      LCS ID        : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.20*	140	403	1.01	92.03	87	9	1.95E-02	28.3	
2	0	63.23*	263	512	0.96	126.09	122	7	3.66E-02	16.0	
3	3	74.83*	619	470	0.93	149.30	145	16	8.59E-02	6.9	1.04E+00
4	3	77.09*	994	423	0.94	153.84	145	16	1.38E-01	4.7	
5	3	87.20	293	449	1.20	174.06	163	28	4.07E-02	13.1	2.43E+00
6	3	89.95	194	301	0.85	179.55	163	28	2.69E-02	15.2	
7	3	92.73*	474	394	1.24	185.11	163	28	6.59E-02	8.8	
8	0	185.88*	164	309	1.29	371.49	367	10	2.28E-02	22.4	
9	0	209.10	79	197	0.70	417.94	415	7	1.10E-02	31.5	
10	7	238.56*	1069	134	1.03	476.89	472	16	1.48E-01	3.6	2.10E+00
11	7	241.45	276	185	1.80	482.66	472	16	3.84E-02	15.5	
12	0	270.45	108	177	0.96	540.69	535	11	1.50E-02	25.8	
13	0	295.19*	287	142	0.97	590.19	586	9	3.98E-02	9.7	
14	0	299.76	88	105	1.01	599.34	596	7	1.22E-02	22.2	
15	0	327.42	70	147	0.94	654.68	651	10	9.67E-03	34.6	
16	0	338.29*	156	176	1.05	676.44	672	10	2.17E-02	18.0	
17	0	351.76*	544	152	1.27	703.39	698	12	7.56E-02	6.3	
18	0	462.97	79	67	1.01	925.93	921	10	1.10E-02	23.3	
19	0	510.39*	92	173	1.71	1020.80	1014	17	1.28E-02	36.8	
20	0	582.99*	286	87	1.15	1166.07	1159	14	3.97E-02	9.3	
21	0	609.06*	374	113	1.47	1218.25	1211	15	5.20E-02	8.2	
22	0	727.28	67	88	1.79	1454.83	1447	16	9.31E-03	33.6	
23	0	795.04	37	41	1.34	1590.44	1586	9	5.07E-03	35.5	
24	0	860.42	50	41	2.39	1721.27	1715	12	6.96E-03	29.4	
25	0	910.82*	227	25	1.58	1822.14	1816	14	3.15E-02	8.4	
26	3	964.04	53	30	2.21	1928.66	1922	20	7.31E-03	27.4	6.93E-01
27	3	968.35*	120	28	1.56	1937.28	1922	20	1.66E-02	12.3	
28	0	1120.60	76	63	2.24	2242.01	2233	17	1.06E-02	26.6	
29	0	1459.91*	975	20	2.09	2921.18	2911	19	1.35E-01	3.4	
30	0	1590.45	19	19	4.92	3182.49	3173	16	2.61E-03	57.8	
31	0	1763.45*	83	0	2.01	3528.83	3522	13	1.15E-02	11.3	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:18:00
Sample ID        : G245978003 Sample quantity : 124.22 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:10.11 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.547E+01	3.965E+00	6.409E-01	5.690E-02	55.344
CD-109	+	88.03	*	3.666E+00	1.022E+00	1.016E+00	9.923E-02	3.606
SN-126	+	64.28		1.223E+00	4.383E-01	4.403E-01	7.028E-02	2.778
	+	86.94		1.491E+00	7.326E-01	4.122E-01	1.715E-01	3.618
	+	87.57	*	3.588E-01	9.999E-02	9.934E-02	9.694E-03	3.611
TL-208		277.35		6.637E-01	4.258E-01	7.648E-01	9.737E-02	0.868
	+	510.84		6.263E-01	4.675E-01	2.569E-01	3.138E-02	2.438
	+	583.14	*	5.665E-01	1.179E-01	7.197E-02	6.808E-03	7.871
	+	860.37		9.755E-01	5.805E-01	6.340E-01	5.965E-02	1.539
BI-210	+	46.50	*	1.667E+00	9.615E-01	8.828E-01	9.577E-02	1.888
PB-210	+	46.50	*	1.667E+00	9.615E-01	8.828E-01	9.577E-02	1.888
PO-210	+	46.50	*	1.667E+00	9.592E-01	8.828E-01	8.919E-02	1.888
BI-211		72.87		2.934E+00	2.287E+00	3.631E+00	3.550E-01	0.808
	+	351.07	*	4.368E+00	6.877E-01	4.116E-01	3.841E-02	10.612
PB-212	+	74.81		2.571E+00	4.970E-01	3.971E-01	5.366E-02	6.475
	+	77.11		2.461E+00	3.323E-01	2.371E-01	2.311E-02	10.380
	+	87.30		1.659E+00	4.913E-01	4.591E-01	6.414E-02	3.614
	+	238.63	*	1.801E+00	2.227E-01	9.598E-02	9.676E-03	18.762
	+	300.09		2.326E+00	1.064E+00	1.328E+00	1.447E-01	1.751
PO-212	+	74.81		2.571E+00	4.970E-01	3.971E-01	5.366E-02	6.475
	+	77.11		2.461E+00	3.323E-01	2.371E-01	2.311E-02	10.380
	+	87.30		1.659E+00	4.913E-01	4.591E-01	6.414E-02	3.614
	+	115.19		-1.800E+00	3.544E+00	5.733E+00	6.454E-01	-0.314
	+	238.63	*	1.801E+00	2.227E-01	9.598E-02	9.676E-03	18.762
	+	300.09		2.326E+00	1.064E+00	1.328E+00	1.447E-01	1.751
BI-214	+	609.31	*	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
	+	1120.29		1.559E+00	8.463E-01	6.396E-01	6.838E-02	2.438
	+	1764.49		2.360E+00	5.708E-01	4.291E-01	3.628E-02	5.501
PB-214	+	74.81		4.430E+00	8.183E-01	6.841E-01	8.383E-02	6.475
	+	77.11		4.219E+00	6.541E-01	4.065E-01	5.029E-02	10.380
	+	87.30		2.843E+00	8.219E-01	7.865E-01	9.780E-02	3.614
	+	241.98		2.797E+00	9.171E-01	5.786E-01	6.160E-02	4.833
	+	295.21		1.332E+00	2.985E-01	2.336E-01	2.595E-02	5.703
	+	351.92	*	1.520E+00	2.520E-01	1.435E-01	1.534E-02	10.586

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		4.430E+00	8.183E-01	6.841E-01	8.383E-02	6.475
	+	77.11		4.219E+00	6.541E-01	4.065E-01	5.029E-02	10.380
	+	87.30		2.843E+00	8.219E-01	7.865E-01	9.780E-02	3.614
	+	241.98		2.797E+00	9.171E-01	5.786E-01	6.160E-02	4.833
	+	295.21		1.332E+00	2.985E-01	2.336E-01	2.595E-02	5.703
	+	351.92	*	1.520E+00	2.520E-01	1.435E-01	1.534E-02	10.586
PO-216	+	74.81		2.571E+00	4.970E-01	3.971E-01	5.366E-02	6.475
	+	77.11		2.461E+00	3.323E-01	2.371E-01	2.311E-02	10.380
	+	87.30		1.659E+00	4.913E-01	4.591E-01	6.414E-02	3.614
	+	238.63	*	1.801E+00	2.227E-01	9.598E-02	9.676E-03	18.762
	+	300.09		2.326E+00	1.064E+00	1.328E+00	1.447E-01	1.751
	+	74.81		4.430E+00	8.183E-01	6.841E-01	8.383E-02	6.475
PO-218	+	77.11		4.219E+00	6.541E-01	4.065E-01	5.029E-02	10.380
	+	87.30		2.843E+00	8.219E-01	7.865E-01	9.780E-02	3.614
	+	241.98		2.797E+00	9.171E-01	5.786E-01	6.160E-02	4.833
	+	295.21		1.332E+00	2.985E-01	2.336E-01	2.595E-02	5.703
	+	351.92	*	1.520E+00	2.520E-01	1.435E-01	1.534E-02	10.586
	+	240.98	*	5.303E+00	1.713E+00	1.093E+00	9.886E-02	4.851
RA-224	+	609.31	*	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
RA-226	+	1120.29		1.559E+00	8.463E-01	6.396E-01	6.838E-02	2.438
	+	1764.49		2.360E+00	5.708E-01	4.291E-01	3.628E-02	5.501
	+	338.32		1.374E+00	7.541E-01	4.396E-01	1.817E-01	3.126
AC-228	+	911.07	*	2.092E+00	4.249E-01	2.656E-01	3.013E-02	7.875
	+	969.11		1.954E+00	6.622E-01	5.457E-01	1.276E-01	3.581
	+	338.32		1.374E+00	7.541E-01	4.396E-01	1.817E-01	3.126
RA-228	+	911.07	*	2.092E+00	4.249E-01	2.656E-01	3.013E-02	7.875
	+	969.11		1.954E+00	6.622E-01	5.457E-01	1.276E-01	3.581
	+	74.81		2.617E+00	4.439E-01	4.042E-01	3.972E-02	6.475
TH-228	+	77.11		2.506E+00	3.383E-01	2.414E-01	2.353E-02	10.380
	+	87.30		1.689E+00	4.708E-01	4.674E-01	4.560E-02	3.614
	+	238.63	*	1.833E+00	2.267E-01	9.771E-02	9.851E-03	18.762
	+	300.09		2.368E+00	1.755E+00	1.352E+00	8.028E-01	1.751
	+	609.31	*	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
TH-230	+	1120.29		1.559E+00	8.463E-01	6.396E-01	6.838E-02	2.438
	+	1764.49		2.360E+00	5.707E-01	4.291E-01	3.628E-02	5.501
	+	338.32		1.374E+00	5.111E-01	4.396E-01	3.960E-02	3.126
TH-232	+	911.07	*	2.092E+00	4.249E-01	2.656E-01	3.013E-02	7.875
	+	969.11		1.954E+00	6.622E-01	5.457E-01	1.276E-01	3.581
	+	63.29	*	3.090E+00	1.147E+00	1.130E+00	2.109E-01	2.735
TH-234	+	92.38		4.019E+00	1.037E+00	6.900E-01	1.295E-01	5.825
	+	609.31	*	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
	+	1120.29		1.559E+00	8.463E-01	6.396E-01	6.838E-02	2.438
U-234	+	1764.49		2.360E+00	5.707E-01	4.291E-01	3.628E-02	5.501
	+	86.50	*	1.054E+00	3.653E-01	2.908E-01	6.637E-02	3.623
	+	95.87		3.934E-01	8.910E-01	1.361E+00	3.431E-01	0.289
U-238	+	63.29	*	3.090E+00	1.147E+00	1.130E+00	2.109E-01	2.735
	+	92.38		4.019E+00	8.162E-01	6.900E-01	6.877E-02	5.825
	+	74.67	*	4.168E-01	7.053E-02	6.435E-02	6.283E-03	6.477
AM-243	+	86.72		3.951E+01	1.101E+01	1.091E+01	1.064E+00	3.621

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		9.890E-01	3.661E+00	6.137E+00	7.008E-01	0.161
		142.18		4.873E+00	1.861E+01	3.090E+01	3.187E+00	0.158
ANH-511	+	511.00	*	1.353E-01	1.003E-01	5.551E-02	4.957E-03	2.437

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-6.973E-02	4.288E-01	6.938E-01	6.602E-02	-0.100
NA-22		1274.54	*	1.415E-02	6.309E-02	1.052E-01	8.863E-03	0.134
NA-24		1368.53	*	1.860E+01	6.309E-02	Half-Life too short		
AL-26		1129.67		1.036E+00	2.534E+00	4.282E+00	3.578E-01	0.242
		1808.65	*	-1.053E-02	3.963E-02	6.042E-02	5.064E-03	-0.174
TI-44		67.85		-5.098E-03	2.687E-02	4.526E-02	4.457E-03	-0.113
	+	78.38	*	4.542E-01	6.133E-02	6.613E-02	6.444E-03	6.869
SC-46		889.25	*	-9.102E-03	5.359E-02	8.709E-02	7.624E-03	-0.105
	+	1120.51		2.733E-01	1.472E-01	1.808E-01	1.517E-02	1.511
V-48		944.10		-2.434E-01	1.347E+00	2.174E+00	1.902E-01	-0.112
		983.50	*	2.203E-02	1.154E-01	1.932E-01	1.685E-02	0.114
		1312.09		-5.574E-02	1.218E-01	1.926E-01	1.635E-02	-0.289
CR-51		320.08	*	-3.886E-02	4.596E-01	7.694E-01	7.348E-02	-0.051
MN-52		744.21		6.337E-02	4.532E-01	7.696E-01	6.690E-02	0.082
		848.13		4.170E+00	1.281E+01	2.195E+01	1.929E+00	0.190
		935.52		2.412E-01	5.278E-01	9.072E-01	7.939E-02	0.266
		1246.25		-3.883E-01	1.534E+01	2.462E+01	2.057E+00	-0.016
		1333.61		-3.013E-01	1.028E+01	1.717E+01	1.463E+00	-0.018
		1434.06	*	-3.777E-01	4.277E-01	6.020E-01	5.190E-02	-0.627
MN-54		834.83	*	2.415E-02	5.578E-02	9.603E-02	8.443E-03	0.251
CO-56		846.75	*	-2.087E-03	5.179E-02	8.568E-02	7.532E-03	-0.024
		977.42		9.442E-01	4.477E+00	7.509E+00	6.554E-01	0.126
		1037.82		1.793E-01	5.031E-01	8.504E-01	7.733E-02	0.211
		1175.09		1.385E+00	3.710E+00	6.209E+00	5.075E-01	0.223
		1238.25		2.454E-01	1.473E-01	2.673E-01	2.297E-02	0.918
		1360.21		6.732E-01	1.415E+00	2.509E+00	2.147E-01	0.268
		1771.40		-5.050E-02	3.143E-01	4.953E-01	4.183E-02	-0.102
CO-57		122.06	*	2.262E-02	2.473E-02	4.244E-02	4.972E-03	0.533
		136.48		1.227E-01	2.194E-01	3.695E-01	4.159E-02	0.332
CO-58		810.76	*	-5.059E-02	5.344E-02	8.012E-02	7.056E-03	-0.631
FE-59		142.65		-6.740E-01	3.124E+00	4.971E+00	5.109E-01	-0.136
		192.34		-4.945E-01	1.035E+00	1.621E+00	2.177E-01	-0.305
		1099.22	*	8.836E-02	1.439E-01	2.481E-01	2.277E-02	0.356
		1291.56		-1.609E-01	2.003E-01	2.883E-01	2.777E-02	-0.558
CO-60		1173.22		4.774E-02	7.189E-02	1.234E-01	1.008E-02	0.387
		1332.49	*	1.640E-02	5.687E-02	9.844E-02	8.390E-03	0.167
ZN-65		1115.52	*	-5.991E-02	1.401E-01	1.825E-01	1.537E-02	-0.328
GE-68		1077.35	*	1.409E+00	1.851E+00	3.245E+00	2.769E-01	0.434
AS-73		53.44	*	-2.476E-02	2.684E-01	4.507E-01	4.510E-02	-0.055
AS-74		595.88	*	5.693E-02	1.358E-01	2.272E-01	2.001E-02	0.251
		634.78		-1.061E-01	4.995E-01	7.837E-01	6.750E-02	-0.135

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75	66.05			2.311E+00	2.974E+00	4.675E+00	5.378E-01	0.494
	96.73			-9.100E-01	8.076E-01	1.120E+00	1.643E-01	-0.813
	121.11			-4.806E-02	1.350E-01	2.193E-01	3.000E-02	-0.219
	136.00			9.009E-03	4.126E-02	6.854E-02	7.412E-03	0.131
	198.60			8.072E-01	2.101E+00	3.406E+00	3.281E-01	0.237
	264.65	*		-5.898E-02	5.949E-02	7.559E-02	6.945E-03	-0.780
	279.53			-1.634E-02	1.195E-01	2.012E-01	1.908E-02	-0.081
	303.91			4.735E-01	2.710E+00	4.093E+00	4.868E-01	0.116
	400.65			-1.180E-01	3.205E-01	5.177E-01	5.699E-02	-0.228
	87.88		+	1.813E+03	5.052E+02	7.074E+02	6.904E+01	2.563
BR-77	200.40			-2.074E+01	4.275E+02	6.866E+02	5.986E+01	-0.030
	239.00		+	6.647E+02	7.660E+01	1.041E+02	9.403E+00	6.385
	249.79			-1.372E+02	1.670E+02	2.492E+02	2.266E+01	-0.550
	281.68			-2.359E+02	2.162E+02	3.404E+02	3.126E+01	-0.693
	297.23			3.819E+02	2.042E+02	2.747E+02	2.522E+01	1.390
	303.76			1.134E+02	5.233E+02	7.930E+02	7.270E+01	0.143
	439.47			1.901E+02	4.092E+02	6.974E+02	6.077E+01	0.273
	484.57			6.333E+00	6.580E+02	1.078E+03	9.582E+01	0.006
	520.65	*		2.626E+01	3.017E+01	5.264E+01	4.705E+00	0.499
	574.64			-1.337E+02	6.062E+02	9.601E+02	8.525E+01	-0.139
SR-82	578.91			3.484E+01	2.828E+02	4.058E+02	3.598E+01	0.086
	585.48			9.512E+02	6.343E+02	1.026E+03	9.074E+01	0.927
	755.35			2.637E+02	5.401E+02	9.407E+02	8.199E+01	0.280
	817.79			1.467E+02	4.072E+02	7.017E+02	6.168E+01	0.209
	698.33			-9.500E+00	4.936E+01	8.189E+01	7.012E+00	-0.116
	776.49	*		-2.061E-02	4.918E-01	8.190E-01	7.167E-02	-0.025
	1395.20			9.631E+00	1.439E+01	2.640E+01	2.269E+00	0.365
	520.41	*		8.809E-02	8.977E-02	1.577E-01	1.410E-02	0.559
	529.64			-5.013E-02	1.374E-01	2.163E-01	1.933E-02	-0.232
	552.65			-4.502E-02	2.570E-01	4.101E-01	3.659E-02	-0.110
RB-84	881.50	*		-2.547E-03	1.086E-01	1.794E-01	1.573E-02	-0.014
KR-85	513.99	*		1.244E+01	9.690E+00	1.569E+01	1.402E+00	0.793
SR-85	513.99	*		6.573E-02	5.120E-02	8.289E-02	7.405E-03	0.793
RB-86	1076.63	*		1.625E-01	1.337E+00	2.206E+00	1.883E-01	0.074
Y-88	898.02			9.431E-03	5.389E-02	9.035E-02	7.936E-03	0.104
	1836.01	*		1.121E-02	4.568E-02	7.866E-02	6.560E-03	0.143
ZR-88	392.90	*		6.505E-03	3.730E-02	6.271E-02	5.283E-03	0.104
Y-91	1204.90	*		-1.833E+00	3.158E+01	5.072E+01	4.186E+00	-0.036
NB-94	702.63	*		5.414E-03	4.678E-02	7.951E-02	6.820E-03	0.068
	871.10			5.290E-04	4.741E-02	7.868E-02	6.904E-03	0.007
NB-95	765.79	*		5.042E-02	6.327E-02	1.120E-01	9.786E-03	0.450
NB-95M	235.69	*		-7.180E-02	1.593E-01	2.178E-01	2.223E-02	-0.330
ZR-95	724.18			6.509E-02	1.487E-01	2.284E-01	2.144E-02	0.285
	756.15	*		2.664E-02	1.046E-01	1.789E-01	1.714E-02	0.149
NB-97	657.90	*		-1.642E-01	1.046E-01	Half-Life	too short	
	1024.50			-7.905E+01	1.046E-01	Half-Life	too short	
ZR-97	254.15			-5.264E+01	1.046E-01	Half-Life	too short	
	355.39			1.899E+01	1.046E-01	Half-Life	too short	
	507.63	*		2.495E+01	1.046E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	602.52			1.166E+02	1.046E-01	Half-Life	too short	
	1021.30			1.275E+01	1.046E-01	Half-Life	too short	
	1147.95			-5.509E+01	1.046E-01	Half-Life	too short	
	1362.66			-7.232E+01	1.046E-01	Half-Life	too short	
	1750.46			5.187E+01	1.046E-01	Half-Life	too short	
MO-99	140.51			-3.607E+01	6.010E+01	9.337E+01	2.643E+01	-0.386
	181.06			4.524E+00	4.337E+01	6.308E+01	1.150E+01	0.072
	366.43			3.090E+01	2.004E+02	3.378E+02	2.957E+01	0.091
	739.58	*		-6.090E+00	3.305E+01	5.457E+01	8.305E+00	-0.112
	778.00			-3.903E+01	8.009E+01	1.266E+02	1.109E+01	-0.308
TC-99M	140.51	*		-6.798E+13	8.009E+01	Half-Life	too short	
RH-101	127.23			-4.528E-03	3.369E-02	5.525E-02	6.284E-03	-0.082
	198.01	*		-6.743E-03	3.842E-02	6.054E-02	5.263E-03	-0.111
	325.23			7.646E-02	2.809E-01	4.258E-01	3.871E-02	0.180
RH-102	418.52			-1.441E-01	3.516E-01	5.637E-01	4.847E-02	-0.256
	475.06	*		-3.391E-02	3.793E-02	5.751E-02	5.094E-03	-0.590
	631.29			-4.868E-02	7.359E-02	1.101E-01	9.509E-03	-0.442
	697.49			-4.231E-05	1.028E-01	1.733E-01	1.484E-02	0.000
	766.84			1.976E-01	1.643E-01	2.968E-01	2.593E-02	0.666
	1046.59			8.656E-03	1.773E-01	2.910E-01	2.507E-02	0.030
	1112.84			1.424E-01	3.348E-01	5.026E-01	4.232E-02	0.283
RU-103	497.08	*		-6.819E-03	5.337E-02	8.628E-02	1.237E-02	-0.079
+	610.33			1.598E+01	3.743E+00	4.089E+00	6.849E-01	3.908
RH-106	511.85	+		6.793E-01	5.039E-01	5.647E-01	5.044E-02	1.203
	621.84	*		-2.142E-01	4.207E-01	6.404E-01	8.582E-02	-0.334
	1050.47			-1.378E+00	3.534E+00	5.535E+00	4.763E-01	-0.249
RU-106	511.85	+		6.793E-01	5.039E-01	5.647E-01	5.044E-02	1.203
	621.84	*		-2.142E-01	4.201E-01	6.404E-01	5.564E-02	-0.334
	1050.47			-1.378E+00	3.534E+00	5.535E+00	4.763E-01	-0.249
AG-108M	433.93	*		-2.085E-02	4.012E-02	6.348E-02	5.729E-03	-0.328
	614.37			8.185E-03	5.591E-02	8.006E-02	7.254E-03	0.102
	722.95			3.658E-03	5.991E-02	8.840E-02	7.935E-03	0.041
AG-110M	657.75	*		4.080E-03	5.020E-02	8.096E-02	7.056E-03	0.050
	677.61			6.820E-02	4.395E-01	7.124E-01	6.223E-02	0.096
	706.67			4.529E-02	2.922E-01	4.979E-01	4.396E-02	0.091
	763.93			-2.174E-01	2.514E-01	3.911E-01	3.509E-02	-0.556
	884.67			2.676E-02	7.188E-02	1.232E-01	1.113E-02	0.217
	937.48			1.005E-03	1.636E-01	2.697E-01	2.443E-02	0.004
	1384.27			2.151E-01	1.919E-01	3.715E-01	3.279E-02	0.579
IN-111	171.28			3.320E-01	2.142E+00	3.509E+00	2.946E-01	0.095
	245.39	*		1.848E-01	2.513E+00	3.576E+00	3.243E-01	0.052
IN-113M	391.69	*		-5.974E-02	5.541E-02	8.459E-02	7.350E-03	-0.706
SN-113	391.69	*		-5.974E-02	5.541E-02	8.459E-02	7.350E-03	-0.706
IN-114M	190.27	*		1.704E-01	2.077E-01	3.173E-01	2.733E-02	0.537
CD-115	260.90			-1.153E-04	2.077E-01	Half-Life	too short	
	492.35			3.609E-05	2.077E-01	Half-Life	too short	
	527.90	*		-2.583E-05	2.077E-01	Half-Life	too short	
SN-117M	156.02			1.169E-01	2.868E+00	4.693E+00	4.321E-01	0.025
	158.56	*		3.892E-02	6.790E-02	1.138E-01	1.023E-02	0.342

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		3.088E+00	5.609E+00	9.506E+00	8.465E-01	0.325
	692.80			-7.166E+01	1.234E+02	1.981E+02	1.692E+01	-0.362
I-123	159.00	*		6.541E+01	1.234E+02	Half-Life too short		
	528.96			-1.755E+04	1.234E+02	Half-Life too short		
TE-123M	159.00	*		8.834E-03	3.090E-02	5.111E-02	4.600E-03	0.173
I-124	602.71	*		7.211E-01	1.460E+00	2.187E+00	1.921E-01	0.330
	722.78			-2.003E+00	1.023E+01	1.461E+01	1.262E+00	-0.137
	1325.50			1.806E+01	8.452E+01	1.450E+02	1.234E+01	0.125
	1376.25			1.397E+02	7.104E+01	1.425E+02	1.222E+01	0.980
	1509.49			2.211E+01	3.029E+01	5.613E+01	4.854E+00	0.394
	1691.02			4.317E-03	8.059E+00	1.323E+01	1.132E+00	0.000
SB-124	602.71			2.698E-02	5.462E-02	8.185E-02	7.189E-03	0.330
	645.85			3.686E-01	6.869E-01	1.158E+00	1.049E-01	0.318
	709.31			-8.818E-01	4.072E+00	6.555E+00	5.637E-01	-0.135
	713.82			4.283E-01	2.334E+00	3.985E+00	4.795E-01	0.107
	722.78			-1.086E-01	5.548E-01	7.922E-01	6.991E-02	-0.137
+	968.20			2.079E+01	5.414E+00	1.019E+01	8.902E-01	2.040
	1045.16			2.130E-02	3.917E+00	6.404E+00	5.519E-01	0.003
	1325.50			1.046E+00	4.896E+00	8.398E+00	7.147E-01	0.125
	1368.21			2.322E+00	2.591E+00	4.781E+00	6.427E-01	0.486
	1436.60			-1.690E+00	4.751E+00	7.427E+00	6.405E-01	-0.228
	1691.02	*		5.523E-05	1.031E-01	1.693E-01	1.506E-02	0.000
SB-125	427.89	*		-5.328E-02	1.127E-01	1.793E-01	1.581E-02	-0.297
+	463.38			1.034E+00	4.924E-01	6.784E-01	6.431E-02	1.524
	600.56			-4.004E-03	2.263E-01	3.642E-01	3.429E-02	-0.011
	635.90			9.828E-03	3.385E-01	5.451E-01	5.071E-02	0.018
TE-125M	109.28	*		-7.029E-01	9.483E+00	1.571E+01	1.932E+00	-0.045
I-126	388.63			4.088E-02	2.809E-01	4.716E-01	3.991E-02	0.087
	666.33	*		-1.287E-01	2.938E-01	4.498E-01	3.798E-02	-0.286
	753.82			1.358E+00	2.369E+00	4.156E+00	3.621E-01	0.327
SB-126	223.80			5.872E-01	5.695E+00	9.162E+00	8.178E-01	0.064
	278.60			4.642E+00	3.218E+00	5.817E+00	5.339E-01	0.798
+	296.50			1.556E+01	3.347E+00	4.766E+00	4.376E-01	3.265
	414.70			-1.120E-02	1.005E-01	1.648E-01	1.413E-02	-0.068
	415.30			8.051E-01	8.165E+00	1.362E+01	1.168E+00	0.059
	555.20			-9.592E-01	5.696E+00	9.087E+00	8.106E-01	-0.106
	573.80			-1.052E+00	1.569E+00	2.373E+00	2.108E-01	-0.443
	593.00			-8.366E-01	1.570E+00	2.414E+00	2.129E-01	-0.347
	656.30			2.678E+00	5.581E+00	9.319E+00	7.888E-01	0.287
	666.33			-5.411E-02	1.236E-01	1.892E-01	1.597E-02	-0.286
	675.00			-1.889E+00	3.199E+00	4.796E+00	4.066E-01	-0.394
	695.00			-1.621E-02	1.193E-01	1.988E-01	1.700E-02	-0.082
	697.00			9.031E-03	4.197E-01	7.086E-01	6.065E-02	0.013
	720.50	*		-1.353E-01	2.599E-01	3.553E-01	3.067E-02	-0.381
	856.80			5.677E-01	7.931E-01	1.259E+00	1.106E-01	0.451
	989.30			1.193E+00	1.934E+00	3.388E+00	2.953E-01	0.352
	1034.80			-1.025E+01	1.583E+01	2.408E+01	2.080E+00	-0.426
	1213.00			5.522E+00	8.705E+00	1.484E+01	1.228E+00	0.372
SB-127	61.10			1.557E+00	4.864E+01	7.467E+01	9.775E+00	0.021

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	252.40			1.080E+01	8.991E+00	1.345E+01	5.699E+00	0.803
	290.80			-4.996E+01	4.483E+01	6.013E+01	7.494E+00	-0.831
	411.60			-1.981E+00	2.399E+01	3.949E+01	6.451E+00	-0.050
	444.90			7.299E+00	1.958E+01	3.315E+01	4.446E+00	0.220
	473.00			3.299E+00	3.516E+00	6.141E+00	8.471E-01	0.537
	543.00			-1.124E+01	3.535E+01	5.569E+01	8.509E+00	-0.202
	603.60			6.839E+00	2.689E+01	3.908E+01	5.242E+00	0.175
	685.20	*		-4.851E+00	3.211E+00	4.196E+00	5.114E-01	-1.156
	698.50			-1.126E+01	3.427E+01	5.614E+01	9.224E+00	-0.201
	722.20			-3.759E+01	7.328E+01	1.000E+02	1.206E+01	-0.376
	783.80			8.490E+00	8.010E+00	1.449E+01	1.929E+00	0.586
XE-127	57.60			-9.179E-01	2.535E+00	4.268E+00	4.286E-01	-0.215
	145.22			-2.363E-01	7.890E-01	1.247E+00	1.257E-01	-0.190
	172.10			-1.113E-01	1.371E-01	2.125E-01	1.787E-02	-0.524
	202.84	*		-3.624E-02	5.452E-02	8.432E-02	7.372E-03	-0.430
	374.96			8.701E-02	2.339E-01	3.999E-01	3.459E-02	0.218
I-131	80.18			1.304E+00	6.014E+00	7.365E+00	7.225E-01	0.177
	284.30			-1.061E+00	2.044E+00	3.353E+00	3.228E-01	-0.316
	364.48	*		6.632E-02	1.686E-01	2.888E-01	2.673E-02	0.230
	636.97			2.442E-02	2.490E+00	4.001E+00	3.642E-01	0.006
	722.89			-2.038E+00	1.318E+01	1.893E+01	1.650E+00	-0.108
TE-132	49.72			-1.032E+01	8.557E+00	1.227E+01	1.561E+00	-0.841
	111.76			3.199E+01	5.443E+01	9.232E+01	1.250E+01	0.346
	116.30			-6.714E+00	5.038E+01	8.298E+01	1.143E+01	-0.081
	228.16	*		-2.756E-01	1.495E+00	2.364E+00	3.890E-01	-0.117
BA-133	53.15			5.061E-01	1.090E+00	1.863E+00	1.864E-01	0.272
	79.62			6.439E-01	1.285E+00	1.602E+00	2.545E-01	0.402
	81.00			-6.904E-03	1.009E-01	1.209E-01	1.997E-02	-0.057
	276.40			4.458E-01	4.256E-01	7.325E-01	1.083E-01	0.609
	302.84			-7.947E-02	1.831E-01	2.627E-01	3.586E-02	-0.303
	356.01	*		3.855E-03	5.937E-02	8.788E-02	1.174E-02	0.044
	383.85			5.323E-02	3.629E-01	6.096E-01	7.647E-02	0.087
I-133	510.53	+		1.349E+01	3.629E-01	Half-Life	too short	
	529.87	*		-2.707E-02	3.629E-01	Half-Life	too short	
	706.58			1.089E+00	3.629E-01	Half-Life	too short	
	856.28			1.827E+00	3.629E-01	Half-Life	too short	
	875.33			-1.733E+00	3.629E-01	Half-Life	too short	
	1236.41			8.140E+00	3.629E-01	Half-Life	too short	
	1298.22			-3.563E-01	3.629E-01	Half-Life	too short	
CS-134	475.35			-8.693E-01	2.398E+00	3.815E+00	3.379E-01	-0.228
	563.23			2.895E-01	4.591E-01	7.838E-01	7.043E-02	0.369
	569.32			2.055E-01	2.527E-01	4.370E-01	3.936E-02	0.470
	604.70			6.363E-04	4.830E-02	6.806E-02	5.986E-03	0.009
	795.84	*		1.086E-01	7.773E-02	1.272E-01	1.124E-02	0.853
	801.93			-5.152E-01	5.714E-01	8.682E-01	7.664E-02	-0.593
	1038.57			3.499E+00	6.085E+00	1.049E+01	9.052E-01	0.334
	1167.94			-3.121E+00	3.774E+00	5.554E+00	4.550E-01	-0.562
	1365.15			-3.846E-01	1.786E+00	2.902E+00	2.600E-01	-0.133
CS-135	268.24	*		1.912E-01	1.994E-01	3.020E-01	3.151E-02	0.633

---- Non-Identified Nuclides ----

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I-135	288.45			2.752E+13	1.994E-01	Half-Life	too short	
	417.63			-5.373E+12	1.994E-01	Half-Life	too short	
	546.56			-1.487E+13	1.994E-01	Half-Life	too short	
	836.80			3.084E+13	1.994E-01	Half-Life	too short	
	1038.76			2.593E+13	1.994E-01	Half-Life	too short	
	1124.00			-1.750E+13	1.994E-01	Half-Life	too short	
	1131.51			6.334E+11	1.994E-01	Half-Life	too short	
	1260.41	*		2.877E+12	1.994E-01	Half-Life	too short	
	1457.56			1.542E+15	1.994E-01	Half-Life	too short	
	1678.03			-4.453E+12	1.994E-01	Half-Life	too short	
	1706.46			-2.215E+13	1.994E-01	Half-Life	too short	
	1791.20			-2.690E+13	1.994E-01	Half-Life	too short	
CS-136	66.91			2.291E-01	5.381E-01	8.841E-01	1.429E-01	0.259
	86.29	+		5.441E+00	1.603E+00	2.072E+00	2.825E-01	2.626
	153.22			-1.638E-01	8.373E-01	1.356E+00	1.407E-01	-0.121
	163.89			1.887E+00	1.385E+00	2.383E+00	2.280E-01	0.792
	176.55			3.332E-02	4.591E-01	7.475E-01	6.704E-02	0.045
	273.65			-6.312E-01	6.949E-01	8.909E-01	8.651E-02	-0.709
	340.57			1.517E-01	1.854E-01	2.916E-01	2.694E-02	0.520
	818.51			2.323E-02	1.141E-01	1.938E-01	1.706E-02	0.120
	1048.07	*		5.139E-02	1.841E-01	3.093E-01	2.778E-02	0.166
	1235.34			-3.644E-01	1.178E+00	1.777E+00	2.069E-01	-0.205
BA-137M	661.65	*		-3.696E-02	5.040E-02	7.426E-02	6.256E-03	-0.498
CS-137	661.65	*		-3.907E-02	5.328E-02	7.850E-02	6.626E-03	-0.498
CE-139	165.85	*		-3.165E-02	3.412E-02	5.280E-02	4.403E-03	-0.600
BA-140	162.64			5.906E-01	9.758E-01	1.634E+00	1.492E-01	0.362
	304.84			7.264E-01	1.752E+00	2.917E+00	8.225E-01	0.249
LA-140	423.70			1.129E-01	2.855E+00	4.671E+00	1.514E+00	0.024
	537.32	*		2.234E-02	4.082E-01	6.665E-01	2.215E-01	0.034
	328.77	+		8.793E-01	6.137E-01	7.722E-01	7.360E-02	1.139
	432.53			1.940E+00	2.904E+00	5.025E+00	4.571E-01	0.386
	487.03			-1.005E-01	1.908E-01	2.973E-01	2.797E-02	-0.338
	751.79			-1.197E+00	2.740E+00	4.411E+00	4.244E-01	-0.271
	815.85			3.589E-01	4.936E-01	8.781E-01	8.574E-02	0.409
	867.82			-9.527E-01	2.365E+00	3.652E+00	3.369E-01	-0.261
	919.63			-1.902E+00	4.698E+00	7.429E+00	7.989E-01	-0.256
	925.24			3.048E-01	1.972E+00	3.302E+00	3.066E-01	0.092
	1596.49	*		4.087E-02	1.080E-01	1.728E-01	1.492E-02	0.236
CE-141	145.44	*		-4.940E-02	7.115E-02	1.125E-01	1.147E-02	-0.439
CE-143	57.37			-9.145E-04	7.115E-02	Half-Life	too short	
	231.56			-1.373E-03	7.115E-02	Half-Life	too short	
	293.26	*		2.442E-03	7.115E-02	Half-Life	too short	
	350.59	+		1.460E-01	7.115E-02	Half-Life	too short	
	490.36			-2.104E-03	7.115E-02	Half-Life	too short	
CE-144	664.57			-2.242E-03	7.115E-02	Half-Life	too short	
	721.93			-4.610E-03	7.115E-02	Half-Life	too short	
	80.11			4.924E-01	2.178E+00	2.669E+00	2.600E-01	0.185
	133.54	*		-2.443E-01	2.140E-01	3.259E-01	5.527E-02	-0.750
PM-144	476.78			-8.141E-03	8.692E-02	1.414E-01	1.365E-02	-0.058

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		618.01		-4.029E-02	4.100E-02	5.895E-02	5.273E-03	-0.683
		696.49	*	-2.749E-03	4.589E-02	7.697E-02	6.590E-03	-0.036
		778.57		-2.414E+00	2.613E+00	3.893E+00	3.409E-01	-0.620
PR-144		696.49	*	-1.866E-01	3.114E+00	5.224E+00	4.470E-01	-0.036
		1489.15		-9.700E+00	1.743E+01	2.634E+01	2.277E+00	-0.368
PM-146		453.90	*	-2.131E-03	5.169E-02	8.475E-02	9.199E-03	-0.025
		633.02		3.087E-01	1.732E+00	2.827E+00	1.056E+00	0.109
		735.90		1.677E-02	2.067E-01	3.407E-01	9.750E-02	0.049
		747.13		9.968E-03	1.187E-01	2.005E-01	2.825E-02	0.050
ND-147	+	91.11		9.810E-01	3.151E-01	5.935E-01	6.251E-02	1.653
		319.41		-2.951E+00	4.564E+00	7.360E+00	6.713E-01	-0.401
		439.89		8.039E-01	8.876E+00	1.473E+01	1.284E+00	0.055
		531.02	*	-1.726E-02	8.651E-01	1.405E+00	2.127E-01	-0.012
PM-149		285.90	*	2.834E-05	8.651E-01	Half-Life too short		
EU-152		121.78		2.856E-02	7.194E-02	1.211E-01	1.536E-02	0.236
		244.69		-2.156E-01	4.047E-01	5.447E-01	4.938E-02	-0.396
		344.27	*	-1.002E-01	1.160E-01	1.755E-01	1.660E-02	-0.571
		443.98		4.648E-02	1.185E+00	1.959E+00	1.712E-01	0.024
		778.89		-2.997E-01	3.013E-01	4.445E-01	3.891E-02	-0.674
		867.32		-1.664E-01	1.229E+00	1.894E+00	1.662E-01	-0.088
	+	964.01		9.878E-01	5.486E-01	7.956E-01	6.953E-02	1.242
		1085.78		2.719E-01	5.358E-01	9.222E-01	7.847E-02	0.295
		1112.02		5.335E-02	4.784E-01	7.156E-01	6.027E-02	0.075
		1407.95		-2.993E-02	2.667E-01	4.383E-01	3.771E-02	-0.068
GD-153		69.67		-1.230E+00	1.077E+00	1.659E+00	1.629E-01	-0.741
		83.37		2.766E+01	1.254E+01	2.109E+01	2.054E+00	1.312
		97.43	*	-1.109E-01	8.332E-02	1.146E-01	1.171E-02	-0.968
		103.18		-1.132E-01	1.025E-01	1.617E-01	1.704E-02	-0.700
EU-154		123.07		-3.469E-02	5.112E-02	8.133E-02	1.123E-02	-0.427
		247.94		-5.588E-02	3.856E-01	6.067E-01	7.175E-02	-0.092
		591.81		2.991E-01	8.401E-01	1.398E+00	1.652E-01	0.214
		723.30		5.928E-02	2.544E-01	3.831E-01	3.657E-02	0.155
		756.87		6.714E-01	1.037E+00	1.829E+00	2.204E-01	0.367
		873.19		1.823E-01	3.955E-01	6.855E-01	8.468E-02	0.266
		996.32		-3.763E-01	5.397E-01	8.129E-01	1.448E-01	-0.463
		1004.76		2.702E-02	3.381E-01	5.583E-01	6.530E-02	0.048
		1274.45	*	2.280E-02	1.791E-01	2.952E-01	3.293E-02	0.077
EU-155		48.70		-4.235E-01	5.091E-01	7.510E-01	7.544E-02	-0.564
		60.01		1.193E+00	2.435E+00	3.794E+00	3.817E-01	0.315
	+	86.54		4.326E-01	1.207E-01	1.697E-01	1.669E-02	2.549
		105.31	*	1.812E-01	1.072E-01	1.876E-01	2.015E-02	0.966
TB-160	+	86.79		1.186E+00	3.306E-01	4.672E-01	4.557E-02	2.539
		197.04		-3.564E-01	6.750E-01	1.043E+00	9.057E-02	-0.342
		215.65		8.323E-01	8.735E-01	1.469E+00	1.302E-01	0.566
	+	298.57		3.478E-01	1.578E-01	2.515E-01	2.308E-02	1.383
		879.36	*	6.707E-02	1.965E-01	3.365E-01	2.950E-02	0.199
		962.29		6.515E-01	8.915E-01	1.395E+00	1.219E-01	0.467
		966.15		1.443E+00	4.000E-01	7.724E-01	6.749E-02	1.868
		1177.93		5.966E-03	6.040E-01	9.779E-01	8.001E-02	0.006

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			4.513E-01	1.057E+00	1.784E+00	1.500E-01	0.253
	80.57			2.438E-02	2.779E-01	3.372E-01	3.284E-02	0.072
	184.41		+	1.434E-01	6.547E-02	7.527E-02	6.435E-03	1.905
	280.46			-1.294E-01	9.462E-02	1.467E-01	1.347E-02	-0.882
	410.95			2.394E-01	2.944E-01	5.137E-01	4.393E-02	0.466
	711.68		*	-2.510E-02	8.420E-02	1.382E-01	1.189E-02	-0.182
TM-171	752.31			8.365E-02	3.810E-01	6.503E-01	5.664E-02	0.129
	810.29			-8.205E-02	8.120E-02	1.213E-01	1.065E-02	-0.677
	51.35			-1.655E+00	7.633E+00	1.296E+01	1.298E+00	-0.128
	52.39			2.209E+00	4.528E+00	7.746E+00	7.750E-01	0.285
	59.40			9.455E+00	1.272E+01	2.001E+01	2.017E+00	0.472
	66.72		*	1.205E+01	1.780E+01	2.789E+01	2.753E+00	0.432
LU-176	88.36		+	8.509E-01	2.371E-01	3.287E-01	3.213E-02	2.589
	201.83			-7.986E-03	3.100E-02	4.917E-02	4.294E-03	-0.162
	306.84		*	8.799E-03	2.829E-02	4.856E-02	4.449E-03	0.181
LU-177	401.10			1.560E+00	8.247E+00	1.386E+01	1.176E+00	0.113
	112.95			-3.382E-01	2.169E+00	3.574E+00	3.974E-01	-0.095
	208.36		+	3.147E+00	2.001E+00	3.089E+00	2.717E-01	1.019
LU-177M	52.97			2.534E-01	4.943E-01	8.461E-01	8.465E-02	0.300
	54.07			1.730E-01	2.820E-01	4.838E-01	4.841E-02	0.358
	61.30			-5.424E-02	7.871E-01	1.203E+00	1.205E-01	-0.045
	121.62			1.013E-01	3.706E-01	6.205E-01	7.247E-02	0.163
	147.16			-3.459E-01	6.939E-01	1.108E+00	1.100E-01	-0.312
	171.86			-2.961E-01	5.259E-01	8.276E-01	6.955E-02	-0.358
	218.09			-9.460E-01	1.007E+00	1.521E+00	1.351E-01	-0.622
	268.79			1.515E+00	1.086E+00	1.683E+00	1.542E-01	0.900
	319.02			-1.974E-01	2.983E-01	4.803E-01	4.381E-02	-0.411
	367.43			-1.134E-01	1.082E+00	1.791E+00	1.566E-01	-0.063
	413.65		*	-3.149E-01	2.141E-01	3.114E-01	2.669E-02	-1.011
	56.28			-8.514E-02	3.628E-01	6.142E-01	6.157E-02	-0.139
	57.53			-8.631E-02	2.106E-01	3.539E-01	3.554E-02	-0.244
	65.20			1.521E-01	5.842E-01	9.026E-01	8.939E-02	0.168
	133.02			-6.394E-02	7.087E-02	1.110E-01	1.219E-02	-0.576
HF-181	136.25			1.734E-01	4.996E-01	8.345E-01	8.969E-02	0.208
	345.85			3.535E-02	2.415E-01	3.799E-01	3.401E-02	0.093
	482.03		*	4.257E-02	5.564E-02	9.652E-02	8.569E-03	0.441
	56.28			-3.255E-02	1.378E-01	2.332E-01	2.338E-02	-0.140
	57.53			-3.291E-02	8.002E-02	1.345E-01	1.350E-02	-0.245
	65.20		*	5.734E-02	2.203E-01	3.403E-01	3.370E-02	0.168
W-181	67.75			-1.002E-03	6.487E-02	1.099E-01	1.083E-02	-0.009
	100.10			2.083E-01	1.679E-01	2.920E-01	3.027E-02	0.713
	152.43			-1.706E-01	3.730E-01	5.958E-01	5.664E-02	-0.286
TA-182	222.10			2.828E-01	4.206E-01	6.966E-01	6.208E-02	0.406
	1001.68			4.214E+00	3.337E+00	6.034E+00	5.249E-01	0.698
	1121.28		+	7.499E-01	4.041E-01	4.886E-01	4.099E-02	1.535
	1189.05			-1.800E-03	4.830E-01	7.804E-01	6.409E-02	-0.002
	1221.42		*	2.594E-01	3.310E-01	5.689E-01	4.719E-02	0.456
	1230.97			-6.519E-02	7.522E-01	1.202E+00	9.999E-02	-0.054
RE-183	57.98			-5.876E-02	8.507E-02	1.402E-01	1.409E-02	-0.419

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		3.873E-02	5.343E-02	8.402E-02	8.465E-03	0.461
		67.20		3.923E-02	1.215E-01	1.992E-01	1.964E-02	0.197
		162.32	*	4.216E-02	1.254E-01	2.075E-01	1.797E-02	0.203
	+	208.81		2.167E+00	1.378E+00	2.077E+00	1.828E-01	1.043
		291.72		-9.011E-01	1.183E+00	1.651E+00	1.516E-01	-0.546
		57.98		-2.130E-01	3.083E-01	5.082E-01	5.108E-02	-0.419
		59.32		1.403E-01	1.935E-01	3.043E-01	3.066E-02	0.461
		67.20		1.421E-01	4.401E-01	7.218E-01	7.117E-02	0.197
		161.27		-3.400E-01	3.975E-01	6.185E-01	5.412E-02	-0.550
		216.55		8.174E-02	3.054E-01	4.968E-01	4.405E-02	0.165
		252.85	*	1.669E-01	2.576E-01	4.262E-01	3.880E-02	0.392
		318.01		-4.648E-01	5.353E-01	8.508E-01	7.763E-02	-0.546
		792.07		-8.702E-02	1.531E+00	2.206E+00	1.935E-01	-0.039
		903.28		-4.615E-01	1.408E+00	2.104E+00	1.840E-01	-0.219
OS-185		920.93		2.015E-01	6.698E-01	1.137E+00	9.953E-02	0.177
		59.72		1.293E-01	1.450E-01	2.292E-01	2.308E-02	0.564
		61.14		3.224E-03	8.468E-02	1.300E-01	1.300E-02	0.025
		69.30		-2.260E-01	1.836E-01	2.963E-01	2.911E-02	-0.763
		592.07		-1.625E+00	3.719E+00	5.771E+00	5.092E-01	-0.282
		646.12	*	3.552E-02	5.764E-02	9.784E-02	8.354E-03	0.363
		717.42		6.217E-01	1.227E+00	2.148E+00	1.853E-01	0.289
		874.81		-6.161E-01	8.029E-01	1.217E+00	1.067E-01	-0.506
		880.27		6.742E-01	1.110E+00	1.945E+00	1.705E-01	0.347
		155.03	*	9.773E-02	1.920E-01	3.209E-01	2.981E-02	0.305
RE-188		477.96		8.603E-01	3.966E+00	6.614E+00	5.864E-01	0.130
		633.10		6.414E-01	3.592E+00	5.873E+00	5.065E-01	0.109
	+	63.58		1.278E+02	4.292E+01	6.002E+01	5.969E+00	2.129
W-188		227.08		1.426E+00	1.542E+01	2.478E+01	2.218E+00	0.058
		290.67	*	-1.065E+01	9.512E+00	1.282E+01	1.177E+00	-0.831
	+	295.96		1.044E+00	2.247E-01	3.354E-01	3.099E-02	3.111
IR-192		308.46		-8.654E-02	1.140E-01	1.830E-01	1.683E-02	-0.473
		316.51	*	2.378E-02	4.065E-02	7.072E-02	6.470E-03	0.336
		468.07		-3.809E-02	9.382E-02	1.285E-01	1.213E-02	-0.296
		604.41		1.585E-02	6.694E-01	9.447E-01	1.240E-01	0.017
		612.46		6.924E-01	1.042E+00	1.582E+00	1.582E-01	0.438
		65.12		5.150E-02	1.021E-01	1.592E-01	1.577E-02	0.324
AU-195		66.83		2.803E-02	5.618E-02	9.264E-02	9.141E-03	0.303
	+	75.70		1.363E+00	2.307E-01	3.861E-01	3.767E-02	3.531
		98.88	*	1.178E-01	2.099E-01	3.578E-01	3.686E-02	0.329
		129.76		3.406E+00	3.100E+00	5.312E+00	5.950E-01	0.641
TL-200		367.94	*	-8.896E-04	3.100E+00	Half-Life	too short	
		579.30		7.974E-03	3.100E+00	Half-Life	too short	
		828.27		6.187E-03	3.100E+00	Half-Life	too short	
		1205.75		-9.215E-03	3.100E+00	Half-Life	too short	
TL-201		68.90		-2.398E+00	5.411E+00	9.028E+00	8.874E-01	-0.266
		70.82		2.288E+00	3.496E+00	5.464E+00	5.355E-01	0.419
		80.30		1.928E+00	9.827E+00	1.202E+01	1.170E+00	0.160
		135.34		4.217E+00	4.981E+01	8.227E+01	8.896E+00	0.051
		167.43	*	-8.198E+00	1.444E+01	2.277E+01	1.901E+00	-0.360

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-1.324E-01	2.987E-01	4.984E-01	4.899E-02	-0.266
		70.82		1.260E-01	1.924E-01	3.008E-01	2.948E-02	0.419
		80.30		1.062E-01	5.412E-01	6.618E-01	6.446E-02	0.160
HG-203		439.56	*	4.776E-02	1.014E-01	1.728E-01	1.506E-02	0.276
		70.83		4.870E-01	7.422E-01	1.157E+00	1.665E-01	0.421
		72.87		6.090E-01	4.785E-01	7.534E-01	1.054E-01	0.808
		82.60		4.589E-01	1.244E+00	1.535E+00	2.222E-01	0.299
BI-207		279.20	*	1.288E-03	4.631E-02	7.867E-02	7.404E-03	0.016
		72.80		1.439E-01	1.322E-01	2.088E-01	2.042E-02	0.689
	+	74.97		7.483E-01	1.266E-01	1.855E-01	1.810E-02	4.035
		84.90		3.435E-01	1.609E-01	2.702E-01	2.633E-02	1.271
		569.67		2.762E-02	3.922E-02	6.730E-02	5.984E-03	0.410
		1063.62	*	3.373E-02	7.921E-02	1.347E-01	1.155E-02	0.250
TL-207		1770.23		-1.973E+00	9.914E-01	1.064E+00	8.984E-02	-1.855
		81.07		-1.941E-02	2.226E-01	2.665E-01	2.596E-02	-0.073
		83.78		2.564E-01	1.074E-01	1.810E-01	1.763E-02	1.417
		94.90		2.574E-01	2.203E-01	3.481E-01	3.513E-02	0.739
		122.32		1.576E+00	1.701E+00	2.919E+00	3.552E-01	0.540
		144.24		1.912E-01	7.327E-01	1.190E+00	1.313E-01	0.161
		154.21		2.306E-01	4.323E-01	7.230E-01	7.343E-02	0.319
	+	269.46		6.597E-01	3.455E-01	4.088E-01	3.815E-02	1.614
		323.87	*	-1.419E-01	8.356E-01	1.220E+00	2.189E-01	-0.116
	+	338.28		5.738E+00	2.193E+00	2.948E+00	3.711E-01	1.946
		445.03		1.189E+00	2.743E+00	4.664E+00	5.679E-01	0.255
PO-209		260.50		-3.434E+00	1.124E+01	1.744E+01	1.594E+00	-0.197
		262.80		1.580E+01	3.012E+01	4.936E+01	4.513E+00	0.320
PB-211		896.60	*	-2.075E+00	9.303E+00	1.499E+01	1.311E+00	-0.138
		404.84	*	-4.501E-01	1.196E+00	1.876E+00	1.175E+00	-0.240
		427.08		-1.228E+00	2.601E+00	3.952E+00	2.456E+00	-0.311
BI-212		831.96		-1.220E+00	1.873E+00	2.655E+00	1.665E+00	-0.459
	+	727.18	*	1.172E+00	7.967E-01	8.834E-01	8.864E-02	1.327
		785.46		3.638E+00	2.390E+00	4.467E+00	3.915E-01	0.814
PO-215		1620.62		1.494E+00	1.829E+00	3.393E+00	2.923E-01	0.440
		81.07		-1.941E-02	2.226E-01	2.665E-01	2.596E-02	-0.073
		83.78		2.564E-01	1.074E-01	1.810E-01	1.763E-02	1.417
		94.90		2.574E-01	2.203E-01	3.481E-01	3.513E-02	0.739
		122.32		1.576E+00	1.701E+00	2.919E+00	3.552E-01	0.540
		144.24		1.912E-01	7.327E-01	1.190E+00	1.313E-01	0.161
		154.21		2.306E-01	4.323E-01	7.230E-01	7.343E-02	0.319
	+	269.46		6.597E-01	3.455E-01	4.088E-01	3.815E-02	1.614
		323.87	*	-1.419E-01	8.356E-01	1.220E+00	2.189E-01	-0.116
	+	338.28		5.738E+00	2.193E+00	2.948E+00	3.711E-01	1.946
		445.03		1.189E+00	2.743E+00	4.664E+00	5.679E-01	0.255
RN-219	+	271.23		8.464E-01	4.456E-01	5.191E-01	5.592E-02	1.631
		401.81	*	3.138E-01	5.091E-01	8.758E-01	1.309E-01	0.358
RN-220		549.76	*	6.007E-01	3.375E+01	5.486E+01	4.898E+00	0.011
RA-223		81.07		-1.941E-02	2.226E-01	2.665E-01	2.596E-02	-0.073
		83.78		2.564E-01	1.074E-01	1.810E-01	1.763E-02	1.417
		94.90		2.574E-01	2.203E-01	3.481E-01	3.513E-02	0.739

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		1.576E+00	1.701E+00	2.919E+00	3.552E-01	0.540
		144.24		1.912E-01	7.327E-01	1.190E+00	1.313E-01	0.161
		154.21		2.306E-01	4.323E-01	7.230E-01	7.343E-02	0.319
	+	269.46		6.597E-01	3.455E-01	4.088E-01	3.815E-02	1.614
		323.87	*	-1.419E-01	8.356E-01	1.220E+00	2.189E-01	-0.116
	+	338.28		5.738E+00	2.193E+00	2.948E+00	3.711E-01	1.946
		445.03		1.189E+00	2.743E+00	4.664E+00	5.679E-01	0.255
		79.80		8.359E-01	1.639E+00	2.039E+00	4.481E-01	0.410
		236.00		2.438E-02	2.919E-01	4.165E-01	5.217E-02	0.059
		256.20	*	-2.438E-01	4.356E-01	6.622E-01	1.035E-01	-0.368
		286.10		8.708E-01	1.619E+00	2.821E+00	3.831E-01	0.309
	+	299.80		4.310E+00	2.062E+00	3.181E+00	5.653E-01	1.355
TH-227		304.40		5.277E-01	2.267E+00	3.611E+00	6.752E-01	0.146
		334.20		-1.727E+00	3.063E+00	4.284E+00	8.396E-01	-0.403
		79.80		8.359E-01	1.640E+00	2.039E+00	4.536E-01	0.410
	+	94.00		1.553E+01	4.427E+00	3.857E+00	8.632E-01	4.027
		236.00		2.438E-02	2.919E-01	4.165E-01	4.742E-02	0.059
		256.20	*	-2.438E-01	4.362E-01	6.622E-01	1.212E-01	-0.368
		286.10		8.708E-01	1.836E+00	2.821E+00	2.833E+00	0.309
	+	299.80		4.310E+00	2.062E+00	3.181E+00	5.653E-01	1.355
		304.40		5.277E-01	2.267E+00	3.611E+00	6.752E-01	0.146
		334.20		-1.727E+00	3.063E+00	4.284E+00	8.396E-01	-0.403
		85.43		4.064E-01	1.628E-01	2.743E-01	2.674E-02	1.481
	+	88.47		4.898E-01	1.365E-01	1.882E-01	1.841E-02	2.602
TH-229		100.00		1.531E-01	1.727E-01	2.973E-01	3.080E-02	0.515
		193.63	*	-2.578E-01	5.421E-01	8.505E-01	7.355E-02	-0.303
		210.97		2.917E-01	9.452E-01	1.381E+00	1.218E-01	0.211
		283.67	*	-6.970E-01	1.596E+00	2.627E+00	4.074E-01	-0.265
PA-231		301.29		9.055E-01	7.643E-01	1.223E+00	1.546E-01	0.740
TH-231		81.07		-1.941E-02	2.226E-01	2.665E-01	2.596E-02	-0.073
		83.78		2.564E-01	1.074E-01	1.810E-01	1.763E-02	1.417
		94.90		2.574E-01	2.203E-01	3.481E-01	3.513E-02	0.739
		122.32		1.576E+00	1.701E+00	2.919E+00	3.552E-01	0.540
U-231		144.24		1.912E-01	7.327E-01	1.190E+00	1.313E-01	0.161
		154.21		2.306E-01	4.323E-01	7.230E-01	7.343E-02	0.319
	+	269.46		6.597E-01	3.455E-01	4.088E-01	3.815E-02	1.614
		323.87	*	-1.419E-01	8.356E-01	1.220E+00	2.189E-01	-0.116
	+	338.28		5.738E+00	2.193E+00	2.948E+00	3.711E-01	1.946
		445.03		1.189E+00	2.743E+00	4.664E+00	5.679E-01	0.255
		84.21		1.723E+01	7.393E+00	1.244E+01	1.212E+00	1.385
	+	92.29		2.456E+01	4.989E+00	7.006E+00	6.980E-01	3.506
		95.87	*	7.139E-01	1.609E+00	2.471E+00	2.506E-01	0.289
		108.00		-2.895E+00	3.353E+00	5.351E+00	5.788E-01	-0.541
	+	75.28		2.183E+01	4.619E+00	5.706E+00	9.138E-01	3.826
	+	86.59		7.023E+00	2.648E+00	2.759E+00	7.507E-01	2.545
	+	300.12		1.202E+00	5.642E-01	8.839E-01	1.344E-01	1.359
PA-233		311.98	*	-3.972E-02	7.459E-02	1.216E-01	1.140E-02	-0.327
		340.50		8.306E-01	8.076E-01	1.256E+00	3.010E-01	0.662
		398.62		-2.275E+00	2.674E+00	4.058E+00	1.079E+00	-0.561

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		6.508E-01	1.852E+00	3.140E+00	6.762E-01	0.207
		63.00		3.601E+00	1.296E+00	1.698E+00	2.765E-01	2.121
		94.67		3.717E-01	1.703E-01	2.711E-01	3.649E-02	1.371
		98.44		4.370E-02	8.707E-02	1.425E-01	7.989E-02	0.307
		99.86		4.139E-01	4.383E-01	7.557E-01	7.824E-02	0.548
		111.00		-1.164E-02	1.825E-01	3.022E-01	4.196E-02	-0.039
		131.20		-5.152E-02	1.115E-01	1.796E-01	1.994E-02	-0.287
		152.70		-1.838E-01	3.603E-01	5.725E-01	1.002E-01	-0.321
		186.00		5.162E+00	2.820E+00	2.926E+00	9.128E-01	1.764
		226.40		1.575E-01	4.831E-01	7.855E-01	1.054E-01	0.201
		227.20		1.900E-01	4.952E-01	8.086E-01	7.238E-02	0.235
		248.90		-4.956E-01	8.857E-01	1.341E+00	3.030E-01	-0.370
		293.70		6.396E+00	1.677E+00	1.890E+00	3.324E-01	3.384
		369.80		-4.459E-01	9.972E-01	1.603E+00	3.497E-01	-0.278
		568.70		4.961E-01	1.298E+00	2.171E+00	1.931E-01	0.229
		569.50		3.209E-01	3.438E-01	6.005E-01	5.339E-02	0.534
		574.00		-1.217E+00	1.896E+00	2.874E+00	2.552E-01	-0.423
		699.00		-8.251E-02	9.403E-01	1.573E+00	2.997E-01	-0.052
		706.10		-3.231E-01	1.491E+00	2.457E+00	1.095E+00	-0.132
		733.00		-5.446E-01	5.856E-01	7.306E-01	1.623E-01	-0.745
		742.81		1.087E+00	1.936E+00	3.168E+00	2.130E+00	0.343
		796.30		2.104E+00	1.600E+00	2.424E+00	6.569E-01	0.868
		805.60		1.143E+00	1.429E+00	2.478E+00	7.606E-01	0.461
		819.60		-1.219E-01	1.603E+00	2.648E+00	1.008E+00	-0.046
		826.30		1.716E-01	1.116E+00	1.881E+00	8.424E-01	0.091
		831.60		-8.705E-01	9.291E-01	1.348E+00	4.030E-01	-0.646
		876.40		-9.668E-01	1.517E+00	1.729E+00	1.777E+00	-0.559
		880.51		2.137E-01	3.943E-01	6.868E-01	6.020E-02	0.311
		883.24		1.519E-01	4.211E-01	7.008E-01	4.712E-01	0.217
		899.00		3.932E-01	1.091E+00	1.842E+00	8.058E-01	0.213
		925.00		3.041E-01	1.791E+00	3.003E+00	2.628E-01	0.101
		926.50		-1.676E-01	2.712E-01	4.149E-01	1.051E-01	-0.404
		946.00	*	-8.536E-02	4.217E-01	6.794E-01	1.279E-01	-0.126
		949.00		2.917E-01	6.391E-01	1.099E+00	9.615E-02	0.265
		980.50		-3.707E-01	1.073E+00	1.698E+00	1.482E-01	-0.218
		1394.10		1.043E+00	1.531E+00	2.562E+00	1.667E+00	0.407
PA-234M		766.42		2.282E+01	2.035E+01	3.074E+01	1.561E+01	0.742
		1001.03	*	8.704E+00	7.447E+00	1.336E+01	1.341E+00	0.652
U-235	+	89.95		3.263E+00	1.421E+00	1.766E+00	5.515E-01	1.848
	+	93.35		4.832E+00	1.620E+00	1.383E+00	3.941E-01	3.493
		105.00		1.702E+00	1.151E+00	1.825E+00	5.563E-01	0.933
		143.76	*	4.231E-02	2.301E-01	3.726E-01	6.830E-02	0.114
		163.35		7.627E-01	5.412E-01	9.082E-01	1.731E-01	0.840
	+	185.71		1.912E-01	8.730E-02	1.086E-01	9.299E-03	1.760
		205.31		4.961E-01	6.226E-01	9.323E-01	1.785E-01	0.532
NP-236		94.67		2.859E-01	1.270E-01	2.061E-01	2.077E-02	1.387
		98.44		3.299E-02	6.325E-02	1.077E-01	1.107E-02	0.306
		111.00		-8.802E-03	1.380E-01	2.286E-01	2.514E-02	-0.039
		160.31	*	-8.065E-02	8.768E-02	1.359E-01	1.201E-02	-0.593

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.201E-01	1.472E-01	2.529E-01	2.614E-02	0.475
		117.00	*	8.595E-02	1.825E-01	3.085E-01	3.510E-02	0.279
	+	209.75		1.662E+00	1.057E+00	1.615E+00	1.423E-01	1.029
		228.18		-5.211E-02	2.663E-01	4.208E-01	3.770E-02	-0.124
		277.60		2.989E-01	2.044E-01	3.691E-01	3.388E-02	0.810
		334.30		-1.037E+00	1.724E+00	2.415E+00	2.182E-01	-0.430
AM-241		59.54	*	5.756E-02	7.428E-02	1.169E-01	1.241E-02	0.492
CM-243		99.55		1.236E-01	1.515E-01	2.602E-01	2.690E-02	0.475
		103.76	*	-8.236E-02	9.440E-02	1.508E-01	1.594E-02	-0.546
		117.00		8.844E-02	1.878E-01	3.175E-01	3.611E-02	0.279
	+	209.75		1.639E+00	1.042E+00	1.593E+00	1.403E-01	1.029
		228.18		-5.267E-02	2.692E-01	4.252E-01	3.810E-02	-0.124
		277.60		3.014E-01	2.061E-01	3.722E-01	3.416E-02	0.810
AM-246		798.80		-4.312E-02	2.063E-01	2.904E-01	2.549E-02	-0.148
		1036.00		-3.076E-02	4.583E-01	7.442E-01	6.429E-02	-0.041
		1062.04		1.477E-01	3.532E-01	5.996E-01	5.143E-02	0.246
		1078.86	*	2.155E-01	2.138E-01	3.821E-01	3.259E-02	0.564
CM-247		278.00		1.230E+00	8.599E-01	1.550E+00	1.423E-01	0.794
		287.40		1.363E+00	1.357E+00	2.416E+00	2.219E-01	0.564
		402.60	*	4.365E-02	4.543E-02	7.993E-02	6.790E-03	0.546
CF-249		252.85		6.190E-01	9.553E-01	1.581E+00	1.439E-01	0.392
		333.44		-2.269E-01	2.735E-01	3.070E-01	2.776E-02	-0.739
		387.95	*	9.737E-03	4.705E-02	7.933E-02	6.721E-03	0.123
CF-251		176.60	*	8.171E-03	1.361E-01	2.215E-01	1.874E-02	0.037
		227.00		5.655E-02	4.506E-01	7.254E-01	6.492E-02	0.078
		285.00		-8.760E-01	1.934E+00	3.188E+00	2.928E-01	-0.275

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978003
* Acquisition date   : 14-FEB-2010 11:18:00 Detector SN#      :
* Detector ID        : GAM17 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:10.11 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978003 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.2422E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.547E+01	3.886E+00	6.402E-01	0.000E+00
CD-109	3.666E+00	1.001E+00	1.055E+00	0.000E+00
SN-126	3.588E-01	9.799E-02	1.031E-01	0.000E+00
TL-208	5.665E-01	1.156E-01	7.281E-02	0.000E+00
BI-210	1.667E+00	9.422E-01	9.236E-01	0.000E+00
PB-210	1.667E+00	9.422E-01	9.236E-01	0.000E+00
PO-210	1.667E+00	9.400E-01	9.236E-01	0.000E+00
BI-211	4.368E+00	6.739E-01	4.193E-01	0.000E+00
PB-212	1.801E+00	2.182E-01	9.828E-02	0.000E+00
PO-212	1.801E+00	2.182E-01	9.828E-02	0.000E+00
BI-214	1.407E+00	2.658E-01	1.414E-01	0.000E+00
PB-214	1.520E+00	2.470E-01	1.462E-01	0.000E+00
PO-214	1.520E+00	2.470E-01	1.462E-01	0.000E+00
PO-216	1.801E+00	2.182E-01	9.828E-02	0.000E+00
PO-218	1.520E+00	2.470E-01	1.462E-01	0.000E+00
RA-224	5.303E+00	1.679E+00	1.119E+00	0.000E+00
RA-226	1.407E+00	2.658E-01	1.414E-01	0.000E+00
AC-228	2.092E+00	4.164E-01	2.670E-01	0.000E+00
RA-228	2.092E+00	4.164E-01	2.670E-01	0.000E+00
TH-228	1.833E+00	2.222E-01	1.001E-01	0.000E+00
TH-230	1.407E+00	2.658E-01	1.414E-01	0.000E+00
TH-232	2.092E+00	4.164E-01	2.670E-01	0.000E+00
TH-234	3.090E+00	1.124E+00	1.177E+00	0.000E+00
U-234	1.407E+00	2.658E-01	1.414E-01	0.000E+00
NP-237	1.054E+00	3.580E-01	3.018E-01	0.000E+00
U-238	3.090E+00	1.124E+00	1.177E+00	0.000E+00
AM-243	4.168E-01	6.912E-02	6.691E-02	0.000E+00
ANH-511	1.353E-01	9.834E-02	5.626E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-6.973E-02	4.202E-01	7.038E-01	0.000E+00	NOT IDENT.
NA-22	1.415E-02	6.182E-02	1.053E-01	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.440E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.053E-02	3.884E-02	6.017E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.011E-02	6.872E-02	0.000E+00	FAIL ABUN
SC-46	-9.102E-03	5.252E-02	8.760E-02	0.000E+00	FAIL ABUN
V-48	2.203E-02	1.131E-01	1.940E-01	0.000E+00	NOT IDENT.
CR-51	-3.886E-02	4.504E-01	7.848E-01	0.000E+00	NOT IDENT.
MN-52	-3.777E-01	4.192E-01	6.015E-01	0.000E+00	NOT IDENT.
MN-54	2.415E-02	5.467E-02	9.667E-02	0.000E+00	NOT IDENT.
CO-56	-2.087E-03	5.075E-02	8.623E-02	0.000E+00	NOT IDENT.
CO-57	2.262E-02	2.424E-02	4.384E-02	0.000E+00	NOT IDENT.
CO-58	-5.059E-02	5.237E-02	8.069E-02	0.000E+00	NOT IDENT.
FE-59	8.836E-02	1.410E-01	2.488E-01	0.000E+00	NOT IDENT.
CO-60	1.640E-02	5.573E-02	9.846E-02	0.000E+00	NOT IDENT.
ZN-65	-5.991E-02	1.373E-01	1.830E-01	0.000E+00	NOT IDENT.
GE-68	1.409E+00	1.814E+00	3.255E+00	0.000E+00	NOT IDENT.
AS-73	-2.476E-02	2.630E-01	4.707E-01	0.000E+00	NOT IDENT.
AS-74	5.693E-02	1.331E-01	2.298E-01	0.000E+00	NOT IDENT.
SE-75	-5.898E-02	5.830E-02	7.730E-02	0.000E+00	NOT IDENT.
BR-77	2.626E+01	2.957E+01	5.334E+01	0.000E+00	FAIL ABUN
SR-82	-2.061E-02	4.820E-01	8.253E-01	0.000E+00	NOT IDENT.
RB-83	8.809E-02	8.798E-02	1.598E-01	0.000E+00	NOT IDENT.
RB-84	-2.547E-03	1.064E-01	1.805E-01	0.000E+00	NOT IDENT.
KR-85	1.244E+01	9.496E+00	1.590E+01	0.000E+00	NOT IDENT.
SR-85	6.573E-02	5.017E-02	8.400E-02	0.000E+00	NOT IDENT.
RB-86	1.625E-01	1.310E+00	2.213E+00	0.000E+00	NOT IDENT.
Y-88	1.121E-02	4.477E-02	7.832E-02	0.000E+00	NOT IDENT.
ZR-88	6.505E-03	3.655E-02	6.378E-02	0.000E+00	NOT IDENT.
Y-91	-1.833E+00	3.095E+01	5.080E+01	0.000E+00	NOT IDENT.
NB-94	5.414E-03	4.585E-02	8.023E-02	0.000E+00	NOT IDENT.
NB-95	5.042E-02	6.201E-02	1.129E-01	0.000E+00	NOT IDENT.
NB-95M	-7.180E-02	1.561E-01	2.230E-01	0.000E+00	NOT IDENT.
ZR-95	2.664E-02	1.025E-01	1.804E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.267E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.008E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.090E+00	3.239E+01	5.502E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.118E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.743E-03	3.766E-02	6.215E-02	0.000E+00	NOT IDENT.
RH-102	-3.391E-02	3.717E-02	5.834E-02	0.000E+00	NOT IDENT.
RU-103	-6.819E-03	5.230E-02	8.748E-02	0.000E+00	FAIL ABUN
RH-106	-2.142E-01	4.122E-01	6.473E-01	0.000E+00	FAIL ABUN
RU-106	-2.142E-01	4.117E-01	6.473E-01	0.000E+00	FAIL ABUN
AG-108M	-2.085E-02	3.932E-02	6.448E-02	0.000E+00	NOT IDENT.
AG-110M	4.080E-03	4.919E-02	8.177E-02	0.000E+00	NOT IDENT.
IN-111	1.848E-01	2.462E+00	3.661E+00	0.000E+00	NOT IDENT.
IN-113M	-5.974E-02	5.430E-02	8.605E-02	0.000E+00	NOT IDENT.
SN-113	-5.974E-02	5.430E-02	8.605E-02	0.000E+00	NOT IDENT.
IN-114M	1.704E-01	2.035E-01	3.259E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.303E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	3.892E-02	6.654E-02	1.172E-01	0.000E+00	NOT IDENT.
SB-122	3.088E+00	5.497E+00	9.621E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.242E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.834E-03	3.028E-02	5.262E-02	0.000E+00	NOT IDENT.
I-124	7.211E-01	1.431E+00	2.212E+00	0.000E+00	NOT IDENT.
SB-124	5.523E-05	1.010E-01	1.688E-01	0.000E+00	FAIL ABUN
SB-125	-5.328E-02	1.104E-01	1.822E-01	0.000E+00	FAIL ABUN
TE-125M	-7.029E-01	9.294E+00	1.625E+01	0.000E+00	NOT IDENT.
I-126	-1.287E-01	2.879E-01	4.542E-01	0.000E+00	NOT IDENT.
SB-126	-1.353E-01	2.547E-01	3.584E-01	0.000E+00	FAIL ABUN
SB-127	-4.851E+00	3.147E+00	4.236E+00	0.000E+00	NOT IDENT.
XE-127	-3.624E-02	5.343E-02	8.653E-02	0.000E+00	NOT IDENT.
I-131	6.632E-02	1.652E-01	2.940E-01	0.000E+00	NOT IDENT.
TE-132	-2.756E-01	1.466E+00	2.422E+00	0.000E+00	NOT IDENT.
BA-133	3.855E-03	5.818E-02	8.951E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.457E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.086E-01	7.618E-02	1.282E-01	0.000E+00	FAIL ABUN
CS-135	1.912E-01	1.955E-01	3.088E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.054E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.139E-02	1.804E-01	3.104E-01	0.000E+00	FAIL ABUN
BA-137M	-3.696E-02	4.939E-02	7.500E-02	0.000E+00	NOT IDENT.
CS-137	-3.907E-02	5.221E-02	7.928E-02	0.000E+00	NOT IDENT.
CE-139	-3.165E-02	3.344E-02	5.432E-02	0.000E+00	NOT IDENT.
BA-140	2.234E-02	4.000E-01	6.751E-01	0.000E+00	NOT IDENT.
LA-140	4.087E-02	1.059E-01	1.724E-01	0.000E+00	FAIL ABUN
CE-141	-4.940E-02	6.973E-02	1.159E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.123E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-2.443E-01	2.097E-01	3.363E-01	0.000E+00	NOT IDENT.
PM-144	-2.749E-03	4.497E-02	7.768E-02	0.000E+00	NOT IDENT.
PR-144	-1.866E-01	3.052E+00	5.272E+00	0.000E+00	NOT IDENT.
PM-146	-2.131E-03	5.066E-02	8.604E-02	0.000E+00	NOT IDENT.
ND-147	-1.726E-02	8.478E-01	1.423E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.374E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.002E-01	1.137E-01	1.788E-01	0.000E+00	FAIL ABUN
GD-153	-1.109E-01	8.166E-02	1.187E-01	0.000E+00	NOT IDENT.
EU-154	2.280E-02	1.755E-01	2.954E-01	0.000E+00	NOT IDENT.
EU-155	1.812E-01	1.050E-01	1.941E-01	0.000E+00	FAIL ABUN
TB-160	6.707E-02	1.925E-01	3.385E-01	0.000E+00	FAIL ABUN
HO-166M	-2.510E-02	8.251E-02	1.394E-01	0.000E+00	FAIL ABUN
TM-171	1.205E+01	1.744E+01	2.904E+01	0.000E+00	NOT IDENT.
LU-176	8.799E-03	2.772E-02	4.956E-02	0.000E+00	FAIL ABUN
LU-177	3.147E+00	1.961E+00	3.169E+00	0.000E+00	FAIL ABUN
LU-177M	-3.149E-01	2.098E-01	3.166E-01	0.000E+00	NOT IDENT.
HF-181	4.257E-02	5.453E-02	9.790E-02	0.000E+00	NOT IDENT.
W-181	5.734E-02	2.158E-01	3.545E-01	0.000E+00	NOT IDENT.
TA-182	2.594E-01	3.244E-01	5.697E-01	0.000E+00	FAIL ABUN
RE-183	4.216E-02	1.229E-01	2.136E-01	0.000E+00	FAIL ABUN
RE-184	1.669E-01	2.524E-01	4.361E-01	0.000E+00	NOT IDENT.
OS-185	3.552E-02	5.649E-02	9.885E-02	0.000E+00	NOT IDENT.
RE-188	9.773E-02	1.882E-01	3.305E-01	0.000E+00	NOT IDENT.
W-188	-1.065E+01	9.322E+00	1.309E+01	0.000E+00	FAIL ABUN
IR-192	2.378E-02	3.984E-02	7.215E-02	0.000E+00	FAIL ABUN
AU-195	1.178E-01	2.057E-01	3.707E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.182E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-8.198E+00	1.415E+01	2.343E+01	0.000E+00	NOT IDENT.
TL-202	4.776E-02	9.933E-02	1.755E-01	0.000E+00	NOT IDENT.
HG-203	1.288E-03	4.538E-02	8.039E-02	0.000E+00	NOT IDENT.
BI-207	3.373E-02	7.762E-02	1.351E-01	0.000E+00	FAIL ABUN
TL-207	-1.419E-01	8.189E-01	1.244E+00	0.000E+00	FAIL ABUN
PO-209	-2.075E+00	9.117E+00	1.508E+01	0.000E+00	NOT IDENT.
PB-211	-4.501E-01	1.172E+00	1.907E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.807E-01	8.910E-01	0.000E+00	FAIL ABUN
PO-215	-1.419E-01	8.189E-01	1.244E+00	0.000E+00	FAIL ABUN
RN-219	3.138E-01	4.989E-01	8.905E-01	0.000E+00	FAIL ABUN
RN-220	6.007E-01	3.307E+01	5.554E+01	0.000E+00	NOT IDENT.
RA-223	-1.419E-01	8.189E-01	1.244E+00	0.000E+00	FAIL ABUN
AC-227	-2.438E-01	4.269E-01	6.774E-01	0.000E+00	FAIL ABUN
TH-227	-2.438E-01	4.275E-01	6.774E-01	0.000E+00	FAIL ABUN
TH-229	-2.578E-01	5.313E-01	8.733E-01	0.000E+00	FAIL ABUN
PA-231	-6.970E-01	1.564E+00	2.684E+00	0.000E+00	NOT IDENT.
TH-231	-1.419E-01	8.189E-01	1.244E+00	0.000E+00	FAIL ABUN
U-231	7.139E-01	1.576E+00	2.560E+00	0.000E+00	FAIL ABUN
PA-233	-3.972E-02	7.310E-02	1.240E-01	0.000E+00	FAIL ABUN
PA-234	-8.536E-02	4.133E-01	6.827E-01	0.000E+00	FAIL ABUN
PA-234M	8.704E+00	7.298E+00	1.342E+01	0.000E+00	NOT IDENT.
U-235	4.231E-02	2.255E-01	3.841E-01	0.000E+00	FAIL ABUN
NP-236	-8.065E-02	8.593E-02	1.399E-01	0.000E+00	NOT IDENT.
NP-239	8.595E-02	1.788E-01	3.189E-01	0.000E+00	FAIL ABUN
AM-241	5.756E-02	7.279E-02	1.219E-01	0.000E+00	NOT IDENT.
CM-243	-8.236E-02	9.251E-02	1.561E-01	0.000E+00	FAIL ABUN
AM-246	2.155E-01	2.095E-01	3.833E-01	0.000E+00	NOT IDENT.
CM-247	4.365E-02	4.452E-02	8.127E-02	0.000E+00	NOT IDENT.
CF-249	9.737E-03	4.611E-02	8.070E-02	0.000E+00	NOT IDENT.
CF-251	8.171E-03	1.334E-01	2.277E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                               *
*                                     2040 Savage Road                               *
*                                     Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978003.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:18:00
Sample ID          : G245978003           Sample quantity  : 1.24220E+02 GRAM
Detector name      : GAM17                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00         Elapsed real time: 0 02:00:10.11 0.1%
Energy tolerance   : 1.50000 keV           Analyst Initials : MXR1
Abundance limit    : 75.00000              Sensitivity       : 5.00000
Batch ID           : 948721                Detector SN#      :
Matrix Spike ID    :                      LCS ID          : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	975	10.67*	7.782E-01	3.547E+01	3.547E+01	11.18
CD-109	88.03	293	3.72*	6.676E+00	3.568E+00	3.666E+00	27.87
SN-126	64.28	263	9.60	6.776E+00	1.223E+00	1.223E+00	35.84
	86.94	293	8.90	6.676E+00	1.491E+00	1.491E+00	49.12
	87.57	293	37.00*	6.676E+00	3.588E-01	3.588E-01	27.87
TL-208	277.35	-----	6.80	3.568E+00	-----	Line Not Found	-----
	510.84	92	21.60	2.058E+00	6.263E-01	6.263E-01	74.65
	583.14	286	84.20*	1.812E+00	5.665E-01	5.665E-01	20.82
	860.37	50	12.46	1.247E+00	9.755E-01	9.755E-01	59.50
BI-210	46.50	140	4.05*	6.296E+00	1.665E+00	1.667E+00	57.67
PB-210	46.50	140	4.05*	6.296E+00	1.665E+00	1.667E+00	57.67
PO-210	46.50	140	4.05*	6.296E+00	1.665E+00	1.667E+00	57.54
BI-211	72.87	-----	1.27	6.803E+00	-----	Line Not Found	-----
	351.07	544	12.94*	2.908E+00	4.368E+00	4.368E+00	15.74
PB-212	74.81	619	10.70	6.795E+00	2.571E+00	2.571E+00	19.33
	77.11	994	18.00	6.782E+00	2.461E+00	2.461E+00	13.50
	87.30	293	8.00	6.676E+00	1.659E+00	1.659E+00	29.61
	238.63	1069	44.60*	4.023E+00	1.801E+00	1.801E+00	12.37
	300.09	88	3.41	3.344E+00	2.326E+00	2.326E+00	45.74
PO-212	74.81	619	10.70	6.795E+00	2.571E+00	2.571E+00	19.33
	77.11	994	18.00	6.782E+00	2.461E+00	2.461E+00	13.50
	87.30	293	8.00	6.676E+00	1.659E+00	1.659E+00	29.61
	115.19	-----	0.60	6.177E+00	-----	Line Not Found	-----
	238.63	1069	44.60*	4.023E+00	1.801E+00	1.801E+00	12.37
	300.09	88	3.41	3.344E+00	2.326E+00	2.326E+00	45.74
BI-214	609.31	374	46.30*	1.737E+00	1.407E+00	1.407E+00	19.28
	1120.29	76	15.10	9.766E-01	1.559E+00	1.559E+00	54.28
	1764.49	83	15.80	6.717E-01	2.360E+00	2.360E+00	24.18
PB-214	74.81	619	6.21	6.795E+00	4.430E+00	4.430E+00	18.47
	77.11	994	10.50	6.782E+00	4.219E+00	4.219E+00	15.50
	87.30	293	4.67	6.676E+00	2.842E+00	2.843E+00	28.92
	241.98	276	7.49	3.986E+00	2.797E+00	2.797E+00	32.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	287	19.20	3.387E+00	1.332E+00	1.332E+00	22.40
	351.92	544	37.20*	2.908E+00	1.519E+00	1.520E+00	16.58
	74.81	619	6.21	6.795E+00	4.430E+00	4.430E+00	18.47
	77.11	994	10.50	6.782E+00	4.219E+00	4.219E+00	15.50
	87.30	293	4.67	6.676E+00	2.842E+00	2.843E+00	28.92
	241.98	276	7.49	3.986E+00	2.797E+00	2.797E+00	32.79
PO-216	295.21	287	19.20	3.387E+00	1.332E+00	1.332E+00	22.40
	351.92	544	37.20*	2.908E+00	1.519E+00	1.520E+00	16.58
	74.81	619	10.70	6.795E+00	2.571E+00	2.571E+00	19.33
	77.11	994	18.00	6.782E+00	2.461E+00	2.461E+00	13.50
	87.30	293	8.00	6.676E+00	1.659E+00	1.659E+00	29.61
	238.63	1069	44.60*	4.023E+00	1.801E+00	1.801E+00	12.37
PO-218	300.09	88	3.41	3.344E+00	2.326E+00	2.326E+00	45.74
	74.81	619	6.21	6.795E+00	4.430E+00	4.430E+00	18.47
	77.11	994	10.50	6.782E+00	4.219E+00	4.219E+00	15.50
	87.30	293	4.67	6.676E+00	2.842E+00	2.843E+00	28.92
	241.98	276	7.49	3.986E+00	2.797E+00	2.797E+00	32.79
	295.21	287	19.20	3.387E+00	1.332E+00	1.332E+00	22.40
RA-224	351.92	544	37.20*	2.908E+00	1.519E+00	1.520E+00	16.58
	240.98	276	3.95*	3.986E+00	5.303E+00	5.303E+00	32.31
RA-226	609.31	374	46.30*	1.737E+00	1.407E+00	1.407E+00	19.28
	1120.29	76	15.10	9.766E-01	1.559E+00	1.559E+00	54.28
AC-228	1764.49	83	15.80	6.717E-01	2.360E+00	2.360E+00	24.18
	338.32	156	11.40	3.011E+00	1.374E+00	1.374E+00	54.88
	911.07	227	27.70*	1.182E+00	2.092E+00	2.092E+00	20.32
	969.11	120	16.60	1.116E+00	1.954E+00	1.954E+00	33.89
RA-228	338.32	156	11.40	3.011E+00	1.374E+00	1.374E+00	54.88
	911.07	227	27.70*	1.182E+00	2.092E+00	2.092E+00	20.32
TH-228	969.11	120	16.60	1.116E+00	1.954E+00	1.954E+00	33.89
	74.81	619	10.70	6.795E+00	2.571E+00	2.617E+00	16.96
	77.11	994	18.00	6.782E+00	2.461E+00	2.506E+00	13.50
	87.30	293	8.00	6.676E+00	1.659E+00	1.689E+00	27.87
TH-230	238.63	1069	44.60*	4.023E+00	1.801E+00	1.833E+00	12.37
	300.09	88	3.41	3.344E+00	2.326E+00	2.368E+00	74.14
	609.31	374	46.30*	1.737E+00	1.407E+00	1.407E+00	19.28
	1120.29	76	15.10	9.766E-01	1.559E+00	1.559E+00	54.28
TH-232	1764.49	83	15.80	6.717E-01	2.360E+00	2.360E+00	24.18
	338.32	156	11.40	3.011E+00	1.374E+00	1.374E+00	37.20
	911.07	227	27.70*	1.182E+00	2.092E+00	2.092E+00	20.32
TH-234	969.11	120	16.60	1.116E+00	1.954E+00	1.954E+00	33.89
	63.29	263	3.80*	6.776E+00	3.090E+00	3.090E+00	37.11
U-234	92.38	474	5.41	6.594E+00	4.019E+00	4.019E+00	25.79
	609.31	374	46.30*	1.737E+00	1.407E+00	1.407E+00	19.28
	1120.29	76	15.10	9.766E-01	1.559E+00	1.559E+00	54.28
NP-237	1764.49	83	15.80	6.717E-01	2.360E+00	2.360E+00	24.18
	86.50	293	12.60*	6.676E+00	1.054E+00	1.054E+00	34.68
U-238	95.87	-----	2.60	6.543E+00	-----	Line Not Found	-----
	63.29	263	3.80*	6.776E+00	3.090E+00	3.090E+00	37.11
	92.38	474	5.41	6.594E+00	4.019E+00	4.019E+00	20.31

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	619	66.00*	6.795E+00	4.168E-01	4.168E-01	16.92
	86.72	293	0.34	6.676E+00	3.951E+01	3.951E+01	27.87
	117.66	-----	0.55	6.127E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.624E+00	-----	Line Not Found	-----
ANH-511	511.00	92	100.00*	2.058E+00	1.353E-01	1.353E-01	74.18

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 1
Number of lines tentatively identified by NID 30 96.77%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.547E+01	3.547E+01	0.396E+01	11.18	
CD-109	464.00D	1.03	3.568E+00	3.666E+00	1.022E+00	27.87	
SN-126	1.00E+05Y	1.00	3.588E-01	3.588E-01	0.100E+00	27.87	
TL-208	1.41E+10Y	1.00	5.665E-01	5.665E-01	1.179E-01	20.82	
BI-210	22.26Y	1.00	1.665E+00	1.667E+00	0.961E+00	57.67	
PB-210	22.26Y	1.00	1.665E+00	1.667E+00	0.961E+00	57.67	
PO-210	22.26Y	1.00	1.665E+00	1.667E+00	0.959E+00	57.54	
BI-211	7.04E+08Y	1.00	4.368E+00	4.368E+00	0.688E+00	15.74	
PB-212	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.223E+00	12.37	
PO-212	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.223E+00	12.37	
BI-214	1600.00Y	1.00	1.407E+00	1.407E+00	0.271E+00	19.28	
PB-214	1600.00Y	1.00	1.519E+00	1.520E+00	0.252E+00	16.58	
PO-214	1600.00Y	1.00	1.519E+00	1.520E+00	0.252E+00	16.58	
PO-216	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.223E+00	12.37	
PO-218	1600.00Y	1.00	1.519E+00	1.520E+00	0.252E+00	16.58	
RA-224	1.41E+10Y	1.00	5.303E+00	5.303E+00	1.713E+00	32.31	
RA-226	1600.00Y	1.00	1.407E+00	1.407E+00	0.271E+00	19.28	
AC-228	1.41E+10Y	1.00	2.092E+00	2.092E+00	0.425E+00	20.32	
RA-228	1.41E+10Y	1.00	2.092E+00	2.092E+00	0.425E+00	20.32	
TH-228	1.91Y	1.02	1.801E+00	1.833E+00	0.227E+00	12.37	
TH-230	4.47E+09Y	1.00	1.407E+00	1.407E+00	0.271E+00	19.28	
TH-232	1.41E+10Y	1.00	2.092E+00	2.092E+00	0.425E+00	20.32	
TH-234	4.47E+09Y	1.00	3.090E+00	3.090E+00	1.147E+00	37.11	
U-234	4.47E+09Y	1.00	1.407E+00	1.407E+00	0.271E+00	19.28	
NP-237	2.14E+06Y	1.00	1.054E+00	1.054E+00	0.365E+00	34.68	
U-238	4.47E+09Y	1.00	3.090E+00	3.090E+00	1.147E+00	37.11	
AM-243	7380.00Y	1.00	4.168E-01	4.168E-01	0.705E-01	16.92	
ANH-511	1.00E+09Y	1.00	1.353E-01	1.353E-01	1.003E-01	74.18	
Total Activity :			8.608E+01	8.622E+01			

Grand Total Activity : 8.608E+01 8.622E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978003

Page : 5
Acquisition date : 14-FEB-2010 11:18:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.95	194	301	0.85	179.55	163	28	2.69E-02	30.4	6.64E+00	T
0	185.88	164	309	1.29	371.49	367	10	2.28E-02	44.9	4.81E+00	T
0	209.10	79	197	0.70	417.94	415	7	1.10E-02	63.0	4.44E+00	T
0	270.45	108	177	0.96	540.69	535	11	1.50E-02	51.5	3.64E+00	T
0	327.42	70	147	0.94	654.68	651	10	9.67E-03	69.1	3.10E+00	T
0	462.97	79	67	1.01	925.93	921	10	1.10E-02	46.7	2.26E+00	T
0	727.28	67	88	1.79	1454.83	1447	16	9.31E-03	67.2	1.46E+00	T
0	795.04	37	41	1.34	1590.44	1586	9	5.07E-03	71.0	1.34E+00	T
3	964.04	53	30	2.21	1928.66	1922	20	7.31E-03	54.8	1.12E+00	T
0	1590.45	19	19	4.92	3182.49	3173	16	2.61E-03	****	7.27E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978003.CNF;1
* Acquisition date   : 14-FEB-2010 11:18:00  Detector SN#      :
* Detector ID        : GAM17                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:10.11          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245978003            Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity  : 1.24220E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope       :
* MSD ID             :                        MSD Isotope      :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.547E+01	3.965E+00	6.409E-01	5.690E-02	55.344
CD-109	3.666E+00	1.022E+00	1.016E+00	9.923E-02	3.606
SN-126	3.588E-01	9.999E-02	9.934E-02	9.694E-03	3.611
TL-208	5.665E-01	1.179E-01	7.197E-02	6.808E-03	7.871
BI-210	1.667E+00	9.615E-01	8.828E-01	9.577E-02	1.888
PB-210	1.667E+00	9.615E-01	8.828E-01	9.577E-02	1.888
PO-210	1.667E+00	9.592E-01	8.828E-01	8.919E-02	1.888
BI-211	4.368E+00	6.877E-01	4.116E-01	3.841E-02	10.612
PB-212	1.801E+00	2.227E-01	9.598E-02	9.676E-03	18.762
PO-212	1.801E+00	2.227E-01	9.598E-02	9.676E-03	18.762
BI-214	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
PB-214	1.520E+00	2.520E-01	1.435E-01	1.534E-02	10.586
PO-214	1.520E+00	2.520E-01	1.435E-01	1.534E-02	10.586
PO-216	1.801E+00	2.227E-01	9.598E-02	9.676E-03	18.762
PO-218	1.520E+00	2.520E-01	1.435E-01	1.534E-02	10.586
RA-224	5.303E+00	1.713E+00	1.093E+00	9.886E-02	4.851
RA-226	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
AC-228	2.092E+00	4.249E-01	2.656E-01	3.013E-02	7.875

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	2.092E+00	4.249E-01	2.656E-01	3.013E-02	7.875
TH-228	1.833E+00	2.267E-01	9.771E-02	9.851E-03	18.762
TH-230	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
TH-232	2.092E+00	4.249E-01	2.656E-01	3.013E-02	7.875
TH-234	3.090E+00	1.147E+00	1.130E+00	2.109E-01	2.735
U-234	1.407E+00	2.713E-01	1.398E-01	1.422E-02	10.064
NP-237	1.054E+00	3.653E-01	2.908E-01	6.637E-02	3.623
U-238	3.090E+00	1.147E+00	1.130E+00	2.109E-01	2.735
AM-243	4.168E-01	7.053E-02	6.435E-02	6.283E-03	6.477
ANH-511	1.353E-01	1.003E-01	5.551E-02	4.957E-03	2.437

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.973E-02		4.288E-01	6.938E-01	6.602E-02	-0.100
NA-22	1.415E-02		6.309E-02	1.052E-01	8.863E-03	0.134
NA-24	1.860E+01		1.245E+01	Half-Life too short		
AL-26	-1.053E-02		3.963E-02	6.042E-02	5.064E-03	-0.174
TI-44	4.542E-01	+	6.133E-02	6.613E-02	6.444E-03	6.869
SC-46	-9.102E-03		5.359E-02	8.709E-02	7.624E-03	-0.105
V-48	2.203E-02		1.154E-01	1.932E-01	1.685E-02	0.114
CR-51	-3.886E-02		4.596E-01	7.694E-01	7.348E-02	-0.051
MN-52	-3.777E-01		4.277E-01	6.020E-01	5.190E-02	-0.627
MN-54	2.415E-02		5.578E-02	9.603E-02	8.443E-03	0.251
CO-56	-2.087E-03		5.179E-02	8.568E-02	7.532E-03	-0.024
CO-57	2.262E-02		2.473E-02	4.244E-02	4.972E-03	0.533
CO-58	-5.059E-02		5.344E-02	8.012E-02	7.056E-03	-0.631
FE-59	8.836E-02		1.439E-01	2.481E-01	2.277E-02	0.356
CO-60	1.640E-02		5.687E-02	9.844E-02	8.390E-03	0.167
ZN-65	-5.991E-02		1.401E-01	1.825E-01	1.537E-02	-0.328
GE-68	1.409E+00		1.851E+00	3.245E+00	2.769E-01	0.434
AS-73	-2.476E-02		2.684E-01	4.507E-01	4.510E-02	-0.055
AS-74	5.693E-02		1.358E-01	2.272E-01	2.001E-02	0.251
SE-75	-5.898E-02		5.949E-02	7.559E-02	6.945E-03	-0.780
BR-77	2.626E+01		3.017E+01	5.264E+01	4.705E+00	0.499
SR-82	-2.061E-02		4.918E-01	8.190E-01	7.167E-02	-0.025
RB-83	8.809E-02		8.977E-02	1.577E-01	1.410E-02	0.559
RB-84	-2.547E-03		1.086E-01	1.794E-01	1.573E-02	-0.014
KR-85	1.244E+01		9.690E+00	1.569E+01	1.402E+00	0.793
SR-85	6.573E-02		5.120E-02	8.289E-02	7.405E-03	0.793
RB-86	1.625E-01		1.337E+00	2.206E+00	1.883E-01	0.074
Y-88	1.121E-02		4.568E-02	7.866E-02	6.560E-03	0.143
ZR-88	6.505E-03		3.730E-02	6.271E-02	5.283E-03	0.104
Y-91	-1.833E+00		3.158E+01	5.072E+01	4.186E+00	-0.036
NB-94	5.414E-03		4.678E-02	7.951E-02	6.820E-03	0.068
NB-95	5.042E-02		6.327E-02	1.120E-01	9.786E-03	0.450
NB-95M	-7.180E-02		1.593E-01	2.178E-01	2.223E-02	-0.330

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	2.664E-02		1.046E-01	1.789E-01	1.714E-02	0.149
NB-97	-1.642E-01		1.156E+00	Half-Life too short		
ZR-97	2.495E+01		2.045E+01	Half-Life too short		
MO-99	-6.090E+00		3.305E+01	5.457E+01	8.305E+00	-0.112
TC-99M	-6.798E+13		5.703E+13	Half-Life too short		
RH-101	-6.743E-03		3.842E-02	6.054E-02	5.263E-03	-0.111
RH-102	-3.391E-02		3.793E-02	5.751E-02	5.094E-03	-0.590
RU-103	-6.819E-03		5.337E-02	8.628E-02	1.237E-02	-0.079
RH-106	-2.142E-01		4.207E-01	6.404E-01	8.582E-02	-0.334
RU-106	-2.142E-01		4.201E-01	6.404E-01	5.564E-02	-0.334
AG-108M	-2.085E-02		4.012E-02	6.348E-02	5.729E-03	-0.328
AG-110M	4.080E-03		5.020E-02	8.096E-02	7.056E-03	0.050
IN-111	1.848E-01		2.513E+00	3.576E+00	3.243E-01	0.052
IN-113M	-5.974E-02		5.541E-02	8.459E-02	7.350E-03	-0.706
SN-113	-5.974E-02		5.541E-02	8.459E-02	7.350E-03	-0.706
IN-114M	1.704E-01		2.077E-01	3.173E-01	2.733E-02	0.537
CD-115	-2.583E-05		1.685E-05	Half-Life too short		
SN-117M	3.892E-02		6.790E-02	1.138E-01	1.023E-02	0.342
SB-122	3.088E+00		5.609E+00	9.506E+00	8.465E-01	0.325
I-123	6.541E+01		1.144E+02	Half-Life too short		
TE-123M	8.834E-03		3.090E-02	5.111E-02	4.600E-03	0.173
I-124	7.211E-01		1.460E+00	2.187E+00	1.921E-01	0.330
SB-124	5.523E-05		1.031E-01	1.693E-01	1.506E-02	0.000
SB-125	-5.328E-02		1.127E-01	1.793E-01	1.581E-02	-0.297
TE-125M	-7.029E-01		9.483E+00	1.571E+01	1.932E+00	-0.045
I-126	-1.287E-01		2.938E-01	4.498E-01	3.798E-02	-0.286
SB-126	-1.353E-01		2.599E-01	3.553E-01	3.067E-02	-0.381
SB-127	-4.851E+00		3.211E+00	4.196E+00	5.114E-01	-1.156
XE-127	-3.624E-02		5.452E-02	8.432E-02	7.372E-03	-0.430
I-131	6.632E-02		1.686E-01	2.888E-01	2.673E-02	0.230
TE-132	-2.756E-01		1.495E+00	2.364E+00	3.890E-01	-0.117
BA-133	3.855E-03		5.937E-02	8.788E-02	1.174E-02	0.044
I-133	-2.707E-02		3.804E-02	Half-Life too short		
CS-134	1.086E-01	+	7.773E-02	1.272E-01	1.124E-02	0.853
CS-135	1.912E-01		1.994E-01	3.020E-01	3.151E-02	0.633
I-135	2.877E+12		5.375E+12	Half-Life too short		
CS-136	5.139E-02		1.841E-01	3.093E-01	2.778E-02	0.166
BA-137M	-3.696E-02		5.040E-02	7.426E-02	6.256E-03	-0.498
CS-137	-3.907E-02		5.328E-02	7.850E-02	6.626E-03	-0.498
CE-139	-3.165E-02		3.412E-02	5.280E-02	4.403E-03	-0.600
BA-140	2.234E-02		4.082E-01	6.665E-01	2.215E-01	0.034
LA-140	4.087E-02		1.080E-01	1.728E-01	1.492E-02	0.236
CE-141	-4.940E-02		7.115E-02	1.125E-01	1.147E-02	-0.439
CE-143	2.442E-03		4.655E-04	Half-Life too short		
CE-144	-2.443E-01		2.140E-01	3.259E-01	5.527E-02	-0.750
PM-144	-2.749E-03		4.589E-02	7.697E-02	6.590E-03	-0.036
PR-144	-1.866E-01		3.114E+00	5.224E+00	4.470E-01	-0.036
PM-146	-2.131E-03		5.169E-02	8.475E-02	9.199E-03	-0.025

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-1.726E-02		8.651E-01	1.405E+00	2.127E-01	-0.012
PM-149	2.834E-05		1.211E-04	Half-Life too short		
EU-152	-1.002E-01		1.160E-01	1.755E-01	1.660E-02	-0.571
GD-153	-1.109E-01		8.332E-02	1.146E-01	1.171E-02	-0.968
EU-154	2.280E-02		1.791E-01	2.952E-01	3.293E-02	0.077
EU-155	1.812E-01		1.072E-01	1.876E-01	2.015E-02	0.966
TB-160	6.707E-02		1.965E-01	3.365E-01	2.950E-02	0.199
HO-166M	-2.510E-02		8.420E-02	1.382E-01	1.189E-02	-0.182
TM-171	1.205E+01		1.780E+01	2.789E+01	2.753E+00	0.432
LU-176	8.799E-03		2.829E-02	4.856E-02	4.449E-03	0.181
LU-177	3.147E+00	+	2.001E+00	3.089E+00	2.717E-01	1.019
LU-177M	-3.149E-01		2.141E-01	3.114E-01	2.669E-02	-1.011
HF-181	4.257E-02		5.564E-02	9.652E-02	8.569E-03	0.441
W-181	5.734E-02		2.203E-01	3.403E-01	3.370E-02	0.168
TA-182	2.594E-01		3.310E-01	5.689E-01	4.719E-02	0.456
RE-183	4.216E-02		1.254E-01	2.075E-01	1.797E-02	0.203
RE-184	1.669E-01		2.576E-01	4.262E-01	3.880E-02	0.392
OS-185	3.552E-02		5.764E-02	9.784E-02	8.354E-03	0.363
RE-188	9.773E-02		1.920E-01	3.209E-01	2.981E-02	0.305
W-188	-1.065E+01		9.512E+00	1.282E+01	1.177E+00	-0.831
IR-192	2.378E-02		4.065E-02	7.072E-02	6.470E-03	0.336
AU-195	1.178E-01		2.099E-01	3.578E-01	3.686E-02	0.329
TL-200	-8.896E-04		1.624E-03	Half-Life too short		
TL-201	-8.198E+00		1.444E+01	2.277E+01	1.901E+00	-0.360
TL-202	4.776E-02		1.014E-01	1.728E-01	1.506E-02	0.276
HG-203	1.288E-03		4.631E-02	7.867E-02	7.404E-03	0.016
BI-207	3.373E-02		7.921E-02	1.347E-01	1.155E-02	0.250
TL-207	-1.419E-01		8.356E-01	1.220E+00	2.189E-01	-0.116
PO-209	-2.075E+00		9.303E+00	1.499E+01	1.311E+00	-0.138
PB-211	-4.501E-01		1.196E+00	1.876E+00	1.175E+00	-0.240
BI-212	1.172E+00	+	7.967E-01	8.834E-01	8.864E-02	1.327
PO-215	-1.419E-01		8.356E-01	1.220E+00	2.189E-01	-0.116
RN-219	3.138E-01		5.091E-01	8.758E-01	1.309E-01	0.358
RN-220	6.007E-01		3.375E+01	5.486E+01	4.898E+00	0.011
RA-223	-1.419E-01		8.356E-01	1.220E+00	2.189E-01	-0.116
AC-227	-2.438E-01		4.356E-01	6.622E-01	1.035E-01	-0.368
TH-227	-2.438E-01		4.362E-01	6.622E-01	1.212E-01	-0.368
TH-229	-2.578E-01		5.421E-01	8.505E-01	7.355E-02	-0.303
PA-231	-6.970E-01		1.596E+00	2.627E+00	4.074E-01	-0.265
TH-231	-1.419E-01		8.356E-01	1.220E+00	2.189E-01	-0.116
U-231	7.139E-01		1.609E+00	2.471E+00	2.506E-01	0.289
PA-233	-3.972E-02		7.459E-02	1.216E-01	1.140E-02	-0.327
PA-234	-8.536E-02		4.217E-01	6.794E-01	1.279E-01	-0.126
PA-234M	8.704E+00		7.447E+00	1.336E+01	1.341E+00	0.652
U-235	4.231E-02		2.301E-01	3.726E-01	6.830E-02	0.114
NP-236	-8.065E-02		8.768E-02	1.359E-01	1.201E-02	-0.593
NP-239	8.595E-02		1.825E-01	3.085E-01	3.510E-02	0.279
AM-241	5.756E-02		7.428E-02	1.169E-01	1.241E-02	0.492

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-8.236E-02		9.440E-02	1.508E-01	1.594E-02	-0.546
AM-246	2.155E-01		2.138E-01	3.821E-01	3.259E-02	0.564
CM-247	4.365E-02		4.543E-02	7.993E-02	6.790E-03	0.546
CF-249	9.737E-03		4.705E-02	7.933E-02	6.721E-03	0.123
CF-251	8.171E-03		1.361E-01	2.215E-01	1.874E-02	0.037

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978003           *
* Acquisition date   : 14-FEB-2010 11:18:00 Detector SN# :                 *
* Detector ID        : GAM17 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:10.11 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245978003 Analyst initials: MXR1                 *
* Batch Number       : 948721 Sample Quantity : 1.2422E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.547E+01	3.886E+00	3.203E-01	1.982E+00
CD-109	3.666E+00	1.001E+00	5.276E-01	5.108E-01
SN-126	3.588E-01	9.799E-02	5.157E-02	4.999E-02
TL-208	5.665E-01	1.156E-01	3.643E-02	5.897E-02
BI-210	1.667E+00	9.422E-01	4.621E-01	4.807E-01
PB-210	1.667E+00	9.422E-01	4.621E-01	4.807E-01
PO-210	1.667E+00	9.400E-01	4.621E-01	4.796E-01
BI-211	4.368E+00	6.739E-01	2.098E-01	3.438E-01
PB-212	1.801E+00	2.182E-01	4.917E-02	1.113E-01
PO-212	1.801E+00	2.182E-01	4.917E-02	1.113E-01
BI-214	1.407E+00	2.658E-01	7.073E-02	1.356E-01
PB-214	1.520E+00	2.470E-01	7.315E-02	1.260E-01
PO-214	1.520E+00	2.470E-01	7.315E-02	1.260E-01
PO-216	1.801E+00	2.182E-01	4.917E-02	1.113E-01
PO-218	1.520E+00	2.470E-01	7.315E-02	1.260E-01
RA-224	5.303E+00	1.679E+00	5.599E-01	8.567E-01
RA-226	1.407E+00	2.658E-01	7.073E-02	1.356E-01
AC-228	2.092E+00	4.164E-01	1.336E-01	2.125E-01
RA-228	2.092E+00	4.164E-01	1.336E-01	2.125E-01
TH-228	1.833E+00	2.222E-01	5.006E-02	1.133E-01
TH-230	1.407E+00	2.658E-01	7.072E-02	1.356E-01
TH-232	2.092E+00	4.164E-01	1.336E-01	2.125E-01
TH-234	3.090E+00	1.124E+00	5.890E-01	5.734E-01
U-234	1.407E+00	2.658E-01	7.072E-02	1.356E-01
NP-237	1.054E+00	3.580E-01	1.510E-01	1.827E-01
U-238	3.090E+00	1.124E+00	5.890E-01	5.734E-01
AM-243	4.168E-01	6.912E-02	3.348E-02	3.527E-02
ANH-511	1.353E-01	9.834E-02	2.814E-02	5.017E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-6.973E-02	4.202E-01	3.521E-01	2.144E-01	NOT IDENT.
NA-22	1.415E-02	6.182E-02	5.268E-02	3.154E-02	NOT IDENT.
NA-24	1.860E+07	2.440E+07	0.000E+00	1.245E+07	SHORT HLIF
AL-26	-1.053E-02	3.884E-02	3.010E-02	1.981E-02	NOT IDENT.
TI-44	4.542E-01	6.011E-02	3.438E-02	3.067E-02	FAIL ABUN
SC-46	-9.102E-03	5.252E-02	4.382E-02	2.680E-02	FAIL ABUN
V-48	2.203E-02	1.131E-01	9.708E-02	5.770E-02	NOT IDENT.
CR-51	-3.886E-02	4.504E-01	3.926E-01	2.298E-01	NOT IDENT.
MN-52	-3.777E-01	4.192E-01	3.009E-01	2.139E-01	NOT IDENT.
MN-54	2.415E-02	5.467E-02	4.836E-02	2.789E-02	NOT IDENT.
CO-56	-2.087E-03	5.075E-02	4.314E-02	2.589E-02	NOT IDENT.
CO-57	2.262E-02	2.424E-02	2.193E-02	1.237E-02	NOT IDENT.
CO-58	-5.059E-02	5.237E-02	4.037E-02	2.672E-02	NOT IDENT.
FE-59	8.836E-02	1.410E-01	1.245E-01	7.194E-02	NOT IDENT.
CO-60	1.640E-02	5.573E-02	4.926E-02	2.843E-02	NOT IDENT.
ZN-65	-5.991E-02	1.373E-01	9.157E-02	7.003E-02	NOT IDENT.
GE-68	1.409E+00	1.814E+00	1.628E+00	9.254E-01	NOT IDENT.
AS-73	-2.476E-02	2.630E-01	2.355E-01	1.342E-01	NOT IDENT.
AS-74	5.693E-02	1.331E-01	1.150E-01	6.791E-02	NOT IDENT.
SE-75	-5.898E-02	5.830E-02	3.867E-02	2.975E-02	NOT IDENT.
BR-77	2.626E+01	2.957E+01	2.669E+01	1.509E+01	FAIL ABUN
SR-82	-2.061E-02	4.820E-01	4.129E-01	2.459E-01	NOT IDENT.
RB-83	8.809E-02	8.798E-02	7.995E-02	4.489E-02	NOT IDENT.
RB-84	-2.547E-03	1.064E-01	9.030E-02	5.429E-02	NOT IDENT.
KR-85	1.244E+01	9.496E+00	7.954E+00	4.845E+00	NOT IDENT.
SR-85	6.573E-02	5.017E-02	4.203E-02	2.560E-02	NOT IDENT.
RB-86	1.625E-01	1.310E+00	1.107E+00	6.684E-01	NOT IDENT.
Y-88	1.121E-02	4.477E-02	3.918E-02	2.284E-02	NOT IDENT.
ZR-88	6.505E-03	3.655E-02	3.191E-02	1.865E-02	NOT IDENT.
Y-91	-1.833E+00	3.095E+01	2.541E+01	1.579E+01	NOT IDENT.
NB-94	5.414E-03	4.585E-02	4.014E-02	2.339E-02	NOT IDENT.
NB-95	5.042E-02	6.201E-02	5.649E-02	3.164E-02	NOT IDENT.
NB-95M	-7.180E-02	1.561E-01	1.116E-01	7.966E-02	NOT IDENT.
ZR-95	2.664E-02	1.025E-01	9.024E-02	5.231E-02	NOT IDENT.
NB-97	-1.642E+05	2.267E+06	0.000E+00	1.156E+06	SHORT HLIF
ZR-97	2.495E+07	4.008E+07	0.000E+00	2.045E+07	SHORT HLIF
MO-99	-6.090E+00	3.239E+01	2.753E+01	1.652E+01	NOT IDENT.
TC-99M	-6.798E+19	1.118E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.743E-03	3.766E-02	3.109E-02	1.921E-02	NOT IDENT.
RH-102	-3.391E-02	3.717E-02	2.919E-02	1.897E-02	NOT IDENT.
RU-103	-6.819E-03	5.230E-02	4.376E-02	2.668E-02	FAIL ABUN
RH-106	-2.142E-01	4.122E-01	3.238E-01	2.103E-01	FAIL ABUN
RU-106	-2.142E-01	4.117E-01	3.238E-01	2.100E-01	FAIL ABUN
AG-108M	-2.085E-02	3.932E-02	3.226E-02	2.006E-02	NOT IDENT.
AG-110M	4.080E-03	4.919E-02	4.091E-02	2.510E-02	NOT IDENT.
IN-111	1.848E-01	2.462E+00	1.832E+00	1.256E+00	NOT IDENT.
IN-113M	-5.974E-02	5.430E-02	4.305E-02	2.770E-02	NOT IDENT.
SN-113	-5.974E-02	5.430E-02	4.305E-02	2.770E-02	NOT IDENT.
IN-114M	1.704E-01	2.035E-01	1.631E-01	1.038E-01	NOT IDENT.
CD-115	-2.583E+01	3.303E+01	0.000E+00	1.685E+01	SHORT HLIF
SN-117M	3.892E-02	6.654E-02	5.861E-02	3.395E-02	NOT IDENT.
SB-122	3.088E+00	5.497E+00	4.814E+00	2.804E+00	NOT IDENT.
I-123	6.541E+07	2.242E+08	0.000E+00	1.144E+08	SHORT HLIF
TE-123M	8.834E-03	3.028E-02	2.633E-02	1.545E-02	NOT IDENT.
I-124	7.211E-01	1.431E+00	1.107E+00	7.299E-01	NOT IDENT.
SB-124	5.523E-05	1.010E-01	8.444E-02	5.155E-02	FAIL ABUN
SB-125	-5.328E-02	1.104E-01	9.113E-02	5.635E-02	FAIL ABUN
TE-125M	-7.029E-01	9.294E+00	8.132E+00	4.742E+00	NOT IDENT.
I-126	-1.287E-01	2.879E-01	2.272E-01	1.469E-01	NOT IDENT.
SB-126	-1.353E-01	2.547E-01	1.793E-01	1.299E-01	FAIL ABUN
SB-127	-4.851E+00	3.147E+00	2.119E+00	1.606E+00	NOT IDENT.
XE-127	-3.624E-02	5.343E-02	4.329E-02	2.726E-02	NOT IDENT.
I-131	6.632E-02	1.652E-01	1.471E-01	8.429E-02	NOT IDENT.
TE-132	-2.756E-01	1.466E+00	1.212E+00	7.477E-01	NOT IDENT.
BA-133	3.855E-03	5.818E-02	4.478E-02	2.968E-02	NOT IDENT.
I-133	-2.707E+04	7.457E+04	0.000E+00	3.804E+04	SHORT HLIF
CS-134	1.086E-01	7.618E-02	6.413E-02	3.887E-02	FAIL ABUN
CS-135	1.912E-01	1.955E-01	1.545E-01	9.972E-02	NOT IDENT.
I-135	2.877E+18	1.054E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.139E-02	1.804E-01	1.553E-01	9.203E-02	FAIL ABUN
BA-137M	-3.696E-02	4.939E-02	3.752E-02	2.520E-02	NOT IDENT.
CS-137	-3.907E-02	5.221E-02	3.967E-02	2.664E-02	NOT IDENT.
CE-139	-3.165E-02	3.344E-02	2.718E-02	1.706E-02	NOT IDENT.
BA-140	2.234E-02	4.000E-01	3.377E-01	2.041E-01	NOT IDENT.
LA-140	4.087E-02	1.059E-01	8.627E-02	5.402E-02	FAIL ABUN
CE-141	-4.940E-02	6.973E-02	5.799E-02	3.558E-02	NOT IDENT.
CE-143	2.442E+03	9.123E+02	0.000E+00	4.655E+02	SHORT HLIF

CE-144	-2.443E-01	2.097E-01	1.682E-01	1.070E-01	NOT IDENT.
PM-144	-2.749E-03	4.497E-02	3.886E-02	2.294E-02	NOT IDENT.
PR-144	-1.866E-01	3.052E+00	2.637E+00	1.557E+00	NOT IDENT.
PM-146	-2.131E-03	5.066E-02	4.304E-02	2.585E-02	NOT IDENT.
ND-147	-1.726E-02	8.478E-01	7.121E-01	4.326E-01	FAIL ABUN
PM-149	2.834E+01	2.374E+02	0.000E+00	1.211E+02	SHORT HLIF
EU-152	-1.002E-01	1.137E-01	8.946E-02	5.799E-02	FAIL ABUN
GD-153	-1.109E-01	8.166E-02	5.940E-02	4.166E-02	NOT IDENT.
EU-154	2.280E-02	1.755E-01	1.478E-01	8.953E-02	NOT IDENT.
EU-155	1.812E-01	1.050E-01	9.713E-02	5.358E-02	FAIL ABUN
TB-160	6.707E-02	1.925E-01	1.693E-01	9.824E-02	FAIL ABUN
HO-166M	-2.510E-02	8.251E-02	6.976E-02	4.210E-02	FAIL ABUN
TM-171	1.205E+01	1.744E+01	1.453E+01	8.898E+00	NOT IDENT.
LU-176	8.799E-03	2.772E-02	2.479E-02	1.414E-02	FAIL ABUN
LU-177	3.147E+00	1.961E+00	1.585E+00	1.000E+00	FAIL ABUN
LU-177M	-3.149E-01	2.098E-01	1.584E-01	1.071E-01	NOT IDENT.
HF-181	4.257E-02	5.453E-02	4.898E-02	2.782E-02	NOT IDENT.
W-181	5.734E-02	2.158E-01	1.773E-01	1.101E-01	NOT IDENT.
TA-182	2.594E-01	3.244E-01	2.850E-01	1.655E-01	FAIL ABUN
RE-183	4.216E-02	1.229E-01	1.069E-01	6.268E-02	FAIL ABUN
RE-184	1.669E-01	2.524E-01	2.182E-01	1.288E-01	NOT IDENT.
OS-185	3.552E-02	5.649E-02	4.945E-02	2.882E-02	NOT IDENT.
RE-188	9.773E-02	1.882E-01	1.654E-01	9.601E-02	NOT IDENT.
W-188	-1.065E+01	9.322E+00	6.548E+00	4.756E+00	FAIL ABUN
IR-192	2.378E-02	3.984E-02	3.609E-02	2.032E-02	FAIL ABUN
AU-195	1.178E-01	2.057E-01	1.855E-01	1.050E-01	FAIL ABUN
TL-200	-8.896E+02	3.182E+03	0.000E+00	1.624E+03	SHORT HLIF
TL-201	-8.198E+00	1.415E+01	1.172E+01	7.220E+00	NOT IDENT.
TL-202	4.776E-02	9.933E-02	8.781E-02	5.068E-02	NOT IDENT.
HG-203	1.288E-03	4.538E-02	4.022E-02	2.316E-02	NOT IDENT.
BI-207	3.373E-02	7.762E-02	6.760E-02	3.960E-02	FAIL ABUN
TL-207	-1.419E-01	8.189E-01	6.224E-01	4.178E-01	FAIL ABUN
PO-209	-2.075E+00	9.117E+00	7.544E+00	4.651E+00	NOT IDENT.
PB-211	-4.501E-01	1.172E+00	9.540E-01	5.980E-01	NOT IDENT.
BI-212	1.172E+00	7.807E-01	4.458E-01	3.983E-01	FAIL ABUN
PO-215	-1.419E-01	8.189E-01	6.224E-01	4.178E-01	FAIL ABUN
RN-219	3.138E-01	4.989E-01	4.455E-01	2.545E-01	FAIL ABUN
RN-220	6.007E-01	3.307E+01	2.779E+01	1.687E+01	NOT IDENT.
RA-223	-1.419E-01	8.189E-01	6.224E-01	4.178E-01	FAIL ABUN
AC-227	-2.438E-01	4.269E-01	3.389E-01	2.178E-01	FAIL ABUN
TH-227	-2.438E-01	4.275E-01	3.389E-01	2.181E-01	FAIL ABUN
TH-229	-2.578E-01	5.313E-01	4.369E-01	2.710E-01	FAIL ABUN
PA-231	-6.970E-01	1.564E+00	1.343E+00	7.980E-01	NOT IDENT.
TH-231	-1.419E-01	8.189E-01	6.224E-01	4.178E-01	FAIL ABUN
U-231	7.139E-01	1.576E+00	1.281E+00	8.043E-01	FAIL ABUN
PA-233	-3.972E-02	7.310E-02	6.205E-02	3.730E-02	FAIL ABUN
PA-234	-8.536E-02	4.133E-01	3.416E-01	2.109E-01	FAIL ABUN
PA-234M	8.704E+00	7.298E+00	6.712E+00	3.723E+00	NOT IDENT.
U-235	4.231E-02	2.255E-01	1.922E-01	1.150E-01	FAIL ABUN
NP-236	-8.065E-02	8.593E-02	6.999E-02	4.384E-02	NOT IDENT.
NP-239	8.595E-02	1.788E-01	1.596E-01	9.124E-02	FAIL ABUN
AM-241	5.756E-02	7.279E-02	6.100E-02	3.714E-02	NOT IDENT.
CM-243	-8.236E-02	9.251E-02	7.810E-02	4.720E-02	FAIL ABUN
AM-246	2.155E-01	2.095E-01	1.917E-01	1.069E-01	NOT IDENT.
CM-247	4.365E-02	4.452E-02	4.066E-02	2.271E-02	NOT IDENT.
CF-249	9.737E-03	4.611E-02	4.038E-02	2.352E-02	NOT IDENT.
CF-251	8.171E-03	1.334E-01	1.139E-01	6.806E-02	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT          *
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ENERGY	MDA COUNTS
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46.50	257.1653
46.50	257.1653
46.50	257.1653
48.70	286.5021
49.72	318.8636
51.35	303.8965
52.39	303.9425
52.97	310.3716
53.15	310.5261
53.44	339.6464
54.07	314.7187
56.28	360.2466
56.28	360.2487
57.37	0.0000
57.53	376.0420
57.53	376.0443
57.60	376.1111
57.98	393.6788
57.98	393.6788
59.32	348.0446
59.32	348.0446
59.40	348.1165
59.54	348.2426
59.72	344.5182
60.01	362.9210
61.10	393.8258
61.14	393.8651
61.30	417.4320
63.00	417.9095
63.29	428.6651
63.29	428.6651
63.58	428.9729
64.28	416.6108
65.12	403.0259
65.20	403.1038
65.20	403.1038
66.05	384.1968
66.72	396.6746
66.83	403.8986
66.91	403.9757
67.20	397.9232
67.20	397.9232
67.75	408.6574
67.85	415.8040
68.90	417.7147
68.90	417.7147
69.30	448.1610
69.67	452.2662
70.82	375.2283
70.82	375.2283
70.83	375.2369
72.80	414.3511
72.87	414.4150
72.87	414.4150
74.67	421.9953
74.81	422.1248
74.81	422.1248
74.81	422.1248
74.81	422.1248
74.81	422.1248
74.81	422.1248
74.97	422.2759
75.28	422.5638
75.70	422.9571
77.11	424.2620
77.11	424.2620

77.11	424.2620
77.11	424.2620
77.11	424.2620
77.11	424.2620
77.11	424.2620
78.38	425.4278
79.62	347.3242
79.80	347.4570
79.80	347.4570
80.11	369.4159
80.18	369.4719
80.30	369.5653
80.30	369.5653
80.57	369.7749
81.00	370.1111
81.07	370.1650
81.07	370.1650
81.07	370.1650
81.07	370.1650
82.60	371.3500
83.37	301.9272
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83.78	302.1850
83.78	302.1850
84.21	302.4511
84.90	302.8773
85.43	303.2041
86.29	303.7331
86.50	303.8611
86.54	303.8847
86.59	303.9167
86.72	303.9959
86.79	304.0363
86.94	304.1290
87.30	304.3496
87.30	304.3496
87.30	304.3496
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87.57	304.5130
87.88	304.7017
88.03	304.7927
88.36	304.9915
88.47	305.0588
89.95	305.9500
91.11	306.6423
92.29	307.3431
92.38	307.3970
92.38	307.3970
93.35	307.9698
94.00	308.3505
94.67	268.4692
94.67	268.4722
94.90	268.5894
94.90	268.5894
94.90	268.5894
94.90	268.5894
95.87	249.4597
95.87	249.4597
96.73	315.8380
97.43	320.4650
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98.44	256.2874
98.88	257.4352
99.55	255.8702
99.55	255.8702
99.86	247.5444
100.00	247.6072
100.10	232.5876
103.18	292.5888
103.76	289.0991
105.00	227.0383
105.31	227.1623
108.00	300.8064
109.28	261.2751

111.00	255.3239
111.00	255.3239
111.76	244.1195
112.95	255.2024
115.19	252.2902
116.30	239.1946
117.00	204.5672
117.00	204.5672
117.66	208.6705
121.11	216.6670
121.62	201.2159
121.78	201.2672
122.06	184.7395
122.32	184.8154
122.32	184.8154
122.32	184.8154
122.32	184.8154
123.07	225.1756
127.23	252.2643
129.76	232.4708
131.20	252.8081
133.02	241.5712
133.54	241.7591
135.34	215.4727
136.00	214.6851
136.25	214.7638
136.48	209.8398
140.51	255.2997
140.51	0.0000
142.18	227.7036
142.65	235.9210
143.76	221.1476
144.24	210.1815
144.24	210.1815
144.24	210.1815
144.24	210.1815
145.22	220.5924
145.44	244.9516
147.16	231.3375
152.43	238.1338
152.70	247.4232
153.22	235.3204
154.21	216.1707
154.21	216.1707
154.21	216.1707
154.21	216.1707
155.03	214.3577
156.02	224.9125
158.56	195.7906
159.00	0.0000
159.00	201.0600
160.31	236.5243
161.27	236.8202
162.32	214.3637
162.64	209.2721
163.35	188.7261
163.89	189.8953
165.85	242.3907
167.43	212.6494
171.28	185.4049
171.86	204.4064
172.10	211.8078
176.55	189.7815
176.60	189.7943
181.06	206.7253
184.41	255.4541
185.71	187.6213
186.00	187.6857
190.27	141.4692
192.34	180.4841
193.63	187.2079
197.04	210.6172
198.01	201.1178
198.60	183.9384
200.40	201.6589
201.83	185.6918
202.84	198.9462
205.31	152.0694

208.36	196.8732
208.81	191.4988
209.75	175.8114
209.75	175.8114
210.97	185.9148
215.65	163.1457
216.55	175.4396
218.09	204.4590
222.10	178.6831
223.80	191.2254
226.40	183.9348
227.00	179.5855
227.08	179.6002
227.20	166.2351
228.16	185.3822
228.18	185.3856
228.18	185.3856
231.56	0.0000
235.69	187.3531
236.00	187.4124
236.00	187.4124
238.63	150.0945
238.63	150.0945
238.63	150.0945
238.63	150.0945
239.00	150.1486
240.98	150.4408
241.98	150.5869
241.98	150.5869
241.98	150.5869
244.69	151.5523
245.39	127.7985
247.94	127.5426
248.90	134.4989
249.79	142.5985
252.40	100.6382
252.85	117.8427
252.85	117.8427
254.15	0.0000
256.20	146.9063
256.20	146.9063
260.50	146.3425
260.90	0.0000
262.80	121.2482
264.65	154.4191
268.24	121.8506
268.79	132.3599
269.46	130.1152
269.46	130.1152
269.46	130.1152
269.46	130.1152
271.23	129.1590
273.65	162.6734
276.40	128.2522
277.35	121.0890
277.60	124.6270
277.60	124.6270
278.00	129.0602
278.60	118.5864
279.20	137.1070
279.53	137.1451
280.46	161.8928
281.68	137.4045
283.67	122.6409
284.30	129.7712
285.00	136.9164
285.90	0.0000
286.10	108.7530
286.10	108.7530
287.40	110.6453
288.45	0.0000
290.67	149.1226
290.80	149.1379
291.72	140.7269
293.26	0.0000
293.70	106.7908
295.21	116.9061
295.21	116.9061

295.21	116.9061
295.96	121.2599
296.50	107.0416
297.23	107.1075
298.57	107.2284
299.80	123.0791
299.80	123.0791
300.09	115.9530
300.09	115.9530
300.09	115.9530
300.09	115.9530
300.12	115.9550
301.29	131.8300
302.84	136.3027
303.76	124.9202
303.91	124.9351
304.40	123.3100
304.40	123.3100
304.84	121.1299
306.84	118.7589
308.46	136.9313
311.98	132.8060
316.51	108.8086
318.01	137.9889
319.02	126.2890
319.41	128.1449
320.08	120.0278
323.87	116.7402
323.87	116.7402
323.87	116.7402
323.87	116.7402
325.23	112.4828
328.77	130.3711
333.44	142.1113
334.20	133.8584
334.20	133.8584
334.30	133.8695
338.28	115.2782
338.28	115.2782
338.28	115.2782
338.28	115.2782
338.32	115.2821
338.32	115.2821
338.32	115.2821
340.50	107.8978
340.57	107.9031
344.27	121.7563
345.85	100.1706
350.59	0.0000
351.07	121.9750
351.92	122.0509
351.92	122.0509
351.92	122.0509
355.39	0.0000
356.01	113.6326
364.48	88.3817
366.43	93.2128
367.43	100.8170
367.94	0.0000
369.80	102.8744
374.96	83.3580
383.85	98.1719
387.95	92.7136
388.63	93.7128
391.69	115.9485
391.69	115.9485
392.90	92.0684
398.62	115.5286
400.65	106.0455
401.10	98.3627
401.81	91.6558
402.60	85.9118
404.84	109.2411
410.95	84.4445
411.60	92.2487
413.65	110.8480
414.70	82.7056
415.30	75.9243

415.76	73.0259
417.63	0.0000
418.52	96.5664
423.70	90.0375
427.08	92.1927
427.89	93.2214
432.53	73.8121
433.93	91.6079
439.47	80.0644
439.56	80.0681
439.89	88.9838
443.98	83.2617
444.90	73.3914
445.03	73.3970
445.03	73.3970
445.03	73.3970
445.03	73.3970
453.90	75.7901
463.38	60.9781
468.07	80.4590
473.00	65.5634
475.06	94.9280
475.35	82.8246
476.78	82.8934
477.59	83.9435
477.96	74.8570
482.03	65.9085
484.57	75.1450
487.03	73.2173
490.36	0.0000
492.35	0.0000
497.08	73.6370
507.63	0.0000
510.53	0.0000
510.84	65.9604
511.00	65.9663
511.85	65.9976
511.85	65.9976
513.99	61.1191
513.99	61.1191
520.41	58.0200
520.65	58.0269
527.90	0.0000
528.96	0.0000
529.64	72.8882
529.87	0.0000
531.02	69.8155
537.32	75.2783
543.00	70.2613
546.56	0.0000
549.76	67.3535
552.65	66.4011
555.20	61.2126
563.23	59.3462
563.90	63.6072
568.70	64.8255
569.32	57.4047
569.50	54.2202
569.67	58.4778
573.80	73.5168
574.00	71.3920
574.64	66.0869
578.91	63.2378
579.30	0.0000
583.14	61.0165
585.48	70.3046
591.81	64.5044
592.07	82.7900
593.00	83.9033
595.88	62.4781
600.56	64.7809
602.52	0.0000
602.71	53.6082
602.71	53.6082
603.60	58.8210
604.41	65.7671
604.70	65.7764
609.31	63.9713

609.31	63.9713
609.31	63.9713
609.31	63.9713
610.33	64.0019
612.46	59.0733
614.37	60.8655
618.01	68.5929
621.84	65.4456
621.84	65.4456
631.29	67.9279
633.02	50.4388
633.10	50.4417
634.78	54.8706
635.90	51.6056
636.97	52.7300
645.85	51.8437
646.12	50.7463
656.30	62.0652
657.75	67.6514
657.90	0.0000
661.65	71.1035
661.65	71.1035
664.57	0.0000
666.33	71.2539
666.33	71.2539
675.00	65.9411
677.61	61.5410
685.20	76.3423
692.80	74.7932
695.00	64.9441
696.49	65.8871
696.49	65.8871
697.00	65.9032
697.49	66.8186
698.33	69.5538
698.50	72.2695
699.00	65.9584
702.63	70.5866
706.10	76.1311
706.58	0.0000
706.67	67.9907
709.31	69.8809
711.68	69.9523
713.82	62.7418
717.42	54.6416
720.50	66.8701
721.93	0.0000
722.20	63.8767
722.78	60.8496
722.78	60.8496
722.89	60.8529
722.95	56.2889
723.30	56.2979
724.18	62.4076
727.18	54.8657
733.00	67.2210
735.90	57.1044
739.58	62.5016
742.81	47.8588
744.21	54.3330
747.13	51.6318
751.79	63.7391
752.31	58.2089
753.82	53.6217
755.35	57.3545
756.15	61.0758
756.87	49.0599
763.93	89.1164
765.79	64.0996
766.42	61.3288
766.84	66.9146
776.49	43.8491
778.00	43.8755
778.57	46.6858
778.89	47.6257
783.80	43.0396
785.46	40.2590
792.07	56.3203

795.84	43.8696
796.30	53.2799
798.80	51.7626
801.93	63.1331
805.60	46.2366
810.29	62.3906
810.76	57.6745
815.85	38.8399
817.79	43.6090
818.51	44.5697
819.60	45.5367
826.30	47.5537
828.27	0.0000
831.60	68.6144
831.96	64.8108
834.83	61.0641
836.80	0.0000
846.75	44.0841
848.13	43.1477
856.28	0.0000
856.80	36.8734
860.37	49.1211
867.32	50.6940
867.82	54.7271
871.10	47.3790
873.19	38.7061
874.81	51.3153
875.33	0.0000
876.40	54.2514
879.36	42.6712
880.27	41.7150
880.51	42.6884
881.50	52.4087
883.24	45.6437
884.67	46.6383
889.25	44.7680
896.60	40.0060
898.02	34.1686
899.00	33.2040
903.28	46.4575
911.07	38.2478
911.07	38.2478
911.07	38.2478
919.63	53.1154
920.93	47.2348
925.00	52.2288
925.24	50.2616
926.50	61.1296
935.52	47.4727
937.48	51.4630
944.10	42.6515
946.00	47.6414
949.00	43.7153
962.29	46.5710
964.01	47.9297
966.15	47.9637
968.20	61.6606
969.11	51.6780
969.11	51.6780
969.11	51.6780
977.42	47.1388
980.50	51.2030
983.50	44.2181
989.30	32.2195
996.32	55.5035
1001.03	48.5133
1001.68	47.5129
1004.76	56.6672
1021.30	0.0000
1024.50	0.0000
1034.80	56.1870
1036.00	51.0986
1037.82	50.1054
1038.57	47.0489
1038.76	0.0000
1045.16	51.2451
1046.59	51.2671
1048.07	44.1107

1050.47	54.4104
1050.47	54.4104
1062.04	47.3926
1063.62	45.3535
1076.63	48.6386
1077.35	39.3341
1078.86	38.3152
1085.78	34.2456
1099.22	43.7596
1112.02	41.8359
1112.84	34.8714
1115.52	47.1138
1120.29	45.0828
1120.29	45.0828
1120.29	45.0828
1120.29	45.0828
1120.51	45.0849
1121.28	45.0954
1124.00	0.0000
1129.67	46.2580
1131.51	0.0000
1147.95	0.0000
1167.94	60.5875
1173.22	52.1630
1175.09	56.4497
1177.93	61.8261
1189.05	56.6722
1204.90	65.5125
1205.75	0.0000
1213.00	55.9736
1221.42	60.4160
1230.97	64.9014
1235.34	74.7242
1236.41	0.0000
1238.25	53.1081
1246.25	49.9644
1260.41	0.0000
1271.85	34.9953
1274.45	36.1131
1274.54	33.9259
1291.56	48.3678
1298.22	0.0000
1312.09	34.0747
1325.50	34.1922
1325.50	34.1922
1332.49	29.6237
1333.61	31.4849
1360.21	22.3740
1362.66	0.0000
1365.15	28.9351
1368.21	19.6157
1368.53	0.0000
1376.25	14.9753
1384.27	11.2539
1394.10	12.2208
1395.20	14.1052
1407.95	28.2971
1434.06	23.7305
1436.60	18.9958
1457.56	0.0000
1460.81	14.3286
1489.15	24.0397
1509.49	11.5928
1596.49	6.7545
1620.62	12.8725
1678.03	0.0000
1691.02	11.0555
1691.02	11.0555
1706.46	0.0000
1750.46	0.0000
1764.49	10.4937
1764.49	10.4937
1764.49	10.4937
1764.49	10.4937
1770.23	41.8775
1771.40	11.2381
1791.20	0.0000
1808.65	10.2917

1836.01

8.2777

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978003

Total Uranium Activity	9.2113E+00	ug/g
Total Uranium Counting Unc.	3.3449E+00	ug/g
Total Uranium Tpu	1.7066E-06	ug/g
Total Uranium Mda	1.7544E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978003                *
*  ANALYST       : MXR1                  DETECTOR    : GAM17                    *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE: 14-FEB-2010 11:18:00.67  SAMPLE ALQT: 124.220 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.095E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.466E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.398E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.135E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:20:37.08

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978004.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:18:29
Sample ID     : G245978004           Sample quantity : 1.64730E+02 GRAM
Detector name : GAM19                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00      Elapsed real time: 0 02:00:02.56 0.0%
Energy tolerance : 1.50000 keV        Analyst Initials : MXR1
Abundance limit : 75.00000            Sensitivity     : 5.00000
Batch ID       : 948721               Detector SN#    :
Matrix Spike ID :                     LCS ID         : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.27*	5979	3261	1.25	126.40	120	11	8.30E-01	2.3	
2	1	74.99	422	2672	1.37	149.81	143	16	5.86E-02	21.9	2.19E+00
3	1	77.14	518	2670	1.29	154.11	143	16	7.19E-02	18.0	
4	0	84.06*	462	3006	1.71	167.94	164	8	6.41E-02	21.1	
5	0	92.64*	15880	4871	1.35	185.10	177	16	2.21E+00	1.3	
6	0	98.62*	1037	1543	1.24	197.04	193	9	1.44E-01	7.6	
7	0	112.74	1190	2160	1.32	225.27	219	14	1.65E-01	8.9	
8	0	143.91*	507	932	1.39	287.55	283	9	7.04E-02	11.8	
9	0	163.31	275	804	1.70	326.32	322	10	3.82E-02	20.2	
10	0	185.65*	2426	765	1.33	370.98	366	12	3.37E-01	3.1	
11	0	205.25	149	575	1.12	410.14	407	9	2.07E-02	30.3	
12	3	238.47*	1077	318	1.41	476.55	469	19	1.50E-01	4.3	1.66E+00
13	3	241.24	261	496	1.84	482.07	469	19	3.62E-02	19.4	
14	0	257.94	197	416	1.29	515.46	510	11	2.74E-02	21.3	
15	0	270.19	116	389	1.44	539.94	534	12	1.61E-02	35.3	
16	0	294.99	332	412	1.29	589.51	583	13	4.62E-02	13.7	
17	0	338.25	181	291	1.36	675.97	671	12	2.52E-02	20.2	
18	0	351.70*	434	334	1.37	702.86	697	13	6.03E-02	10.0	
19	0	510.59*	82	289	2.26	1020.48	1011	19	1.14E-02	54.5	
20	0	568.17*	190	131	2.57	1135.60	1128	15	2.64E-02	15.4	
21	0	583.34*	343	154	1.83	1165.93	1160	14	4.76E-02	9.6	
22	0	609.16*	276	228	1.19	1217.56	1211	14	3.84E-02	13.3	
23	0	661.79	166	174	1.27	1322.79	1316	14	2.30E-02	18.6	
24	0	727.57	126	108	2.31	1454.32	1448	14	1.75E-02	19.7	
25	0	743.40	93	173	2.17	1485.95	1476	17	1.29E-02	34.2	
26	0	766.47	415	180	1.57	1532.10	1523	18	5.76E-02	9.0	
27	0	786.93	119	110	1.38	1573.00	1567	14	1.65E-02	21.0	
28	0	861.32	43	102	1.56	1721.77	1715	14	6.01E-03	52.9	
29	0	911.54	234	83	1.90	1822.20	1816	16	3.25E-02	10.9	
30	1	965.12	58	37	2.01	1929.36	1925	19	7.99E-03	23.1	9.56E-01
31	1	969.12*	113	51	1.74	1937.36	1925	19	1.56E-02	15.7	
32	0	1001.23*	847	73	1.82	2001.58	1993	19	1.18E-01	4.3	
33	0	1120.61	66	77	1.42	2240.37	2236	14	9.11E-03	31.4	
34	0	1155.57	41	38	1.63	2310.29	2304	11	5.66E-03	33.4	
35	0	1460.97*	1204	12	1.92	2921.29	2914	17	1.67E-01	3.0	
36	0	1509.81	44	0	2.31	3019.02	3012	15	6.11E-03	15.1	
37	0	1738.67	10	15	1.50	3477.02	3471	10	1.46E-03	75.4	
38	0	1764.86*	66	13	1.65	3529.44	3522	13	9.12E-03	17.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
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Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 13:20:40

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:18:29
Sample ID        : G245978004 Sample quantity : 164.73 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA19 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.56 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.200E+01	2.098E+00	4.139E-01	3.082E-02	53.165
NB-95	+	765.79	*	5.670E-01	1.100E-01	6.063E-02	4.285E-03	9.351
BA-137M	+	661.65	*	1.828E-01	6.884E-02	5.629E-02	3.278E-03	3.248
CS-137	+	661.65	*	1.933E-01	7.278E-02	5.950E-02	3.479E-03	3.248
TL-208		277.35		3.142E-01	3.754E-01	6.341E-01	6.691E-02	0.496
	+	510.84		3.042E-01	3.327E-01	2.158E-01	2.203E-02	1.410
	+	583.14	*	3.634E-01	7.404E-02	5.878E-02	3.997E-03	6.182
	+	860.37		4.315E-01	4.583E-01	3.950E-01	3.537E-02	1.092
BI-211		72.87		1.373E+01	6.280E+00	9.292E+00	7.281E-01	1.477
	+	351.07	*	2.019E+00	4.242E-01	3.229E-01	2.062E-01	6.252
BI-212	+	727.18	*	1.145E+00	4.605E-01	4.661E-01	3.880E-02	2.456
	+	785.46		6.925E+00	2.948E+00	2.912E+00	2.130E-01	2.379
		1620.62		3.439E-01	9.034E-01	1.574E+00	1.051E-01	0.218
PB-212	+	74.81		1.767E+00	8.040E-01	1.021E+00	1.252E-01	1.731
	+	77.11		1.237E+00	4.574E-01	5.812E-01	4.695E-02	2.128
		87.30		1.613E+00	1.197E+00	1.270E+00	1.700E-01	1.270
	+	238.63	*	1.097E+00	1.230E-01	9.345E-02	6.745E-03	11.738
		300.09		4.423E-01	8.625E-01	1.297E+00	1.071E-01	0.341
PO-212	+	74.81		1.767E+00	8.040E-01	1.021E+00	1.252E-01	1.731
	+	77.11		1.237E+00	4.574E-01	5.812E-01	4.695E-02	2.128
		87.30		1.613E+00	1.197E+00	1.270E+00	1.700E-01	1.270
		115.19		2.796E+01	6.416E+00	9.905E+00	6.306E-01	2.823
	+	238.63	*	1.097E+00	1.230E-01	9.345E-02	6.745E-03	11.738
		300.09		4.423E-01	8.625E-01	1.297E+00	1.071E-01	0.341
BI-214	+	609.31	*	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
	+	1120.29		6.806E-01	4.320E-01	3.614E-01	3.306E-02	1.883
	+	1764.49		9.201E-01	3.290E-01	1.730E-01	1.049E-02	5.317
PB-214	+	74.81		3.045E+00	1.374E+00	1.760E+00	1.911E-01	1.731
	+	77.11		2.120E+00	8.006E-01	9.963E-01	1.106E-01	2.128
		87.30		2.763E+00	2.043E+00	2.176E+00	2.562E-01	1.270
	+	241.98		1.593E+00	6.312E-01	5.664E-01	4.517E-02	2.813
	+	295.21		9.146E-01	2.631E-01	2.351E-01	2.007E-02	3.890
	+	351.92	*	7.023E-01	1.520E-01	1.125E-01	9.279E-03	6.240
PO-214	+	74.81		3.045E+00	1.374E+00	1.760E+00	1.911E-01	1.731

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		2.120E+00	8.006E-01	9.963E-01	1.106E-01	2.128
		87.30		2.763E+00	2.043E+00	2.176E+00	2.562E-01	1.270
	+	241.98		1.593E+00	6.312E-01	5.664E-01	4.517E-02	2.813
	+	295.21		9.146E-01	2.631E-01	2.351E-01	2.007E-02	3.890
	+	351.92	*	7.023E-01	1.520E-01	1.125E-01	9.279E-03	6.240
	+	74.81		1.767E+00	8.040E-01	1.021E+00	1.252E-01	1.731
	+	77.11		1.237E+00	4.574E-01	5.812E-01	4.695E-02	2.128
		87.30		1.613E+00	1.197E+00	1.270E+00	1.700E-01	1.270
PO-218	+	238.63	*	1.097E+00	1.230E-01	9.345E-02	6.745E-03	11.738
		300.09		4.423E-01	8.625E-01	1.297E+00	1.071E-01	0.341
	+	74.81		3.045E+00	1.374E+00	1.760E+00	1.911E-01	1.731
	+	77.11		2.120E+00	8.006E-01	9.963E-01	1.106E-01	2.128
		87.30		2.763E+00	2.043E+00	2.176E+00	2.562E-01	1.270
RA-224	+	241.98		1.593E+00	6.312E-01	5.664E-01	4.517E-02	2.813
	+	295.21		9.146E-01	2.631E-01	2.351E-01	2.007E-02	3.890
	+	351.92	*	7.023E-01	1.520E-01	1.125E-01	9.279E-03	6.240
	+	240.98	*	3.021E+00	1.185E+00	1.063E+00	6.023E-02	2.842
RA-226	+	609.31	*	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
	+	1120.29		6.806E-01	4.320E-01	3.614E-01	3.306E-02	1.883
	+	1764.49		9.201E-01	3.290E-01	1.730E-01	1.049E-02	5.317
AC-228	+	338.32		9.294E-01	5.337E-01	3.659E-01	1.492E-01	2.540
	+	911.07	*	1.102E+00	2.712E-01	1.864E-01	2.109E-02	5.910
	+	969.11		9.353E-01	3.646E-01	2.994E-01	6.939E-02	3.124
RA-228	+	338.32		9.294E-01	5.337E-01	3.659E-01	1.492E-01	2.540
	+	911.07	*	1.102E+00	2.712E-01	1.864E-01	2.109E-02	5.910
	+	969.11		9.353E-01	3.646E-01	2.994E-01	6.939E-02	3.124
TH-228	+	74.81		1.799E+00	8.013E-01	1.040E+00	8.336E-02	1.731
	+	77.11		1.259E+00	4.657E-01	5.917E-01	4.780E-02	2.128
		87.30		1.642E+00	1.207E+00	1.293E+00	1.150E-01	1.270
TH-230	+	238.63	*	1.117E+00	1.252E-01	9.514E-02	6.867E-03	11.738
		300.09		4.503E-01	9.166E-01	1.320E+00	7.780E-01	0.341
	+	609.31	*	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
	+	1120.29		6.806E-01	4.320E-01	3.614E-01	3.306E-02	1.883
	+	1764.49		9.201E-01	3.290E-01	1.730E-01	1.049E-02	5.317
TH-232	+	338.32		9.294E-01	3.797E-01	3.659E-01	2.115E-02	2.540
	+	911.07	*	1.102E+00	2.712E-01	1.864E-01	2.109E-02	5.910
	+	969.11		9.353E-01	3.646E-01	2.994E-01	6.939E-02	3.124
PA-234M	+	766.42		1.455E+02	7.804E+01	1.557E+01	7.864E+00	9.344
	+	1001.03	*	1.430E+02	1.808E+01	6.060E+00	5.641E-01	23.602
	+	63.29	*	9.901E+01	1.789E+01	3.693E+00	6.461E-01	26.814
TH-234	+	92.38		1.048E+02	1.899E+01	1.722E+00	3.092E-01	60.881
	+	609.31	*	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
	+	1120.29		6.806E-01	4.320E-01	3.614E-01	3.306E-02	1.883
U-234	+	1764.49		9.201E-01	3.290E-01	1.730E-01	1.049E-02	5.317
	+	89.95		3.121E+01	1.005E+01	4.752E+00	1.467E+00	6.568
	+	93.35		1.260E+02	3.535E+01	2.057E+00	5.740E-01	61.274
	+	105.00		-3.527E+00	1.952E+00	2.582E+00	7.600E-01	-1.366
	+	143.76	*	1.659E+00	4.757E-01	4.561E-01	7.396E-02	3.637
U-235	+	163.35		2.119E+00	9.361E-01	9.598E-01	1.710E-01	2.208

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	185.71		1.739E+00	1.420E-01	8.155E-02	4.358E-03	21.324
	+	205.31		1.301E+00	8.221E-01	1.003E+00	1.793E-01	1.298
U-238	+	63.29	*	9.901E+01	1.789E+01	3.693E+00	6.461E-01	26.814
	+	92.38		1.048E+02	9.117E+00	1.722E+00	1.438E-01	60.881
AM-243	+	74.67	*	2.865E-01	1.276E-01	1.660E-01	1.317E-02	1.726
		86.72		3.404E+01	2.831E+01	3.024E+01	2.673E+00	1.126
		117.66		5.444E-01	6.157E+00	8.802E+00	5.469E-01	0.062
		142.18		1.132E+02	2.992E+01	4.627E+01	2.576E+00	2.447
ANH-511	+	511.00	*	6.571E-02	7.166E-02	4.662E-02	2.751E-03	1.410

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	3.077E-01	3.379E-01	5.847E-01	3.969E-02	0.526
NA-22		1274.54	*	-1.897E-02	3.589E-02	5.648E-02	3.767E-03	-0.336
NA-24		1368.53	*	7.895E+00	3.589E-02	Half-Life too short		
AL-26		1129.67		4.361E-02	1.343E+00	2.089E+00	1.289E-01	0.021
		1808.65	*	1.936E-03	2.643E-02	4.364E-02	2.548E-03	0.044
TI-44		67.85		-1.836E-01	1.111E-01	1.276E-01	9.741E-03	-1.439
	+	78.38	*	2.283E-01	8.442E-02	1.125E-01	9.186E-03	2.028
SC-46		889.25	*	1.766E-02	3.877E-02	6.480E-02	5.631E-03	0.273
	+	1120.51		1.193E-01	7.530E-02	9.605E-02	6.058E-03	1.242
V-48		944.10		7.390E-01	9.558E-01	1.634E+00	1.377E-01	0.452
		983.50	*	-7.789E-03	6.792E-02	1.078E-01	8.668E-03	-0.072
		1312.09		-2.671E-02	6.959E-02	1.103E-01	7.848E-03	-0.242
CR-51		320.08	*	1.064E-01	3.840E-01	6.517E-01	4.217E-02	0.163
MN-52	+	744.21		1.050E+00	7.224E-01	7.316E-01	4.974E-02	1.436
		848.13		-1.591E+00	9.371E+00	1.495E+01	1.216E+00	-0.106
		935.52		1.898E-01	3.165E-01	5.357E-01	4.554E-02	0.354
		1246.25		-1.043E+00	8.027E+00	1.318E+01	8.333E-01	-0.079
		1333.61		-1.831E+00	5.849E+00	9.345E+00	6.886E-01	-0.196
		1434.06	*	7.536E-02	2.464E-01	4.241E-01	3.059E-02	0.178
MN-54		834.83	*	-1.915E-02	3.582E-02	5.555E-02	4.419E-03	-0.345
CO-56		846.75	*	6.194E-03	3.904E-02	6.391E-02	5.185E-03	0.097
		977.42		7.431E-01	2.646E+00	4.252E+00	3.445E-01	0.175
		1037.82		-1.284E-01	2.569E-01	4.110E-01	3.270E-02	-0.312
		1175.09		2.693E-01	1.886E+00	3.181E+00	1.750E-01	0.085
		1238.25		1.235E-01	7.659E-02	1.412E-01	9.272E-03	0.875
		1360.21		6.136E-01	8.659E-01	1.542E+00	1.131E-01	0.398
		1771.40		-5.396E-01	2.426E-01	2.338E-01	1.409E-02	-2.308
CO-57		122.06	*	2.184E-02	3.624E-02	5.977E-02	3.567E-03	0.365
		136.48		-1.822E-01	2.859E-01	4.563E-01	3.012E-02	-0.399
CO-58		810.76	*	3.831E-03	3.855E-02	6.294E-02	4.823E-03	0.061
FE-59	+	142.65		2.237E+01	5.434E+00	7.623E+00	4.239E-01	2.935
		192.34		-4.803E-01	1.250E+00	1.827E+00	2.122E-01	-0.263
		1099.22	*	2.371E-02	7.908E-02	1.355E-01	1.017E-02	0.175
		1291.56		9.891E-02	1.124E-01	2.007E-01	1.662E-02	0.493
CO-60		1173.22		2.240E-02	3.708E-02	6.483E-02	3.553E-03	0.345

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49	*		1.117E-03	3.243E-02	5.393E-02	3.974E-03	0.021
ZN-65	1115.52	*		-1.823E-02	8.432E-02	1.182E-01	7.556E-03	-0.154
GE-68	1077.35	*		1.951E-02	1.015E+00	1.701E+00	1.177E-01	0.011
AS-73	53.44	*		-1.196E-01	1.484E+00	2.449E+00	1.811E-01	-0.049
AS-74	595.88	*		-3.689E-02	9.686E-02	1.551E-01	9.186E-03	-0.238
	634.78			-2.248E-01	3.668E-01	5.740E-01	3.374E-02	-0.392
SE-75	66.05			1.701E+01	9.934E+00	1.464E+01	1.406E+00	1.162
	96.73			1.112E+01	2.631E+00	2.698E+00	3.549E-01	4.120
	121.11			9.895E-02	1.974E-01	3.247E-01	3.041E-02	0.305
	136.00			-1.495E-02	5.416E-02	8.732E-02	5.029E-03	-0.171
	198.60			-8.093E-01	2.190E+00	3.443E+00	2.350E-01	-0.235
	264.65	*		-7.392E-03	6.004E-02	7.677E-02	4.464E-03	-0.096
	279.53			-3.155E-03	1.105E-01	1.859E-01	1.164E-02	-0.017
	303.91			-2.700E+00	2.176E+00	3.451E+00	3.296E-01	-0.782
BR-77	400.65			4.339E-02	2.557E-01	4.293E-01	3.855E-02	0.101
	87.88			9.090E+02	1.325E+03	1.397E+03	1.250E+02	0.651
	200.40			1.127E+02	5.004E+02	7.092E+02	3.858E+01	0.159
+	239.00			4.050E+02	4.160E+01	7.000E+01	3.960E+00	5.785
	249.79			1.134E+02	1.683E+02	2.758E+02	1.573E+01	0.411
	281.68			5.778E+01	2.093E+02	3.515E+02	2.037E+01	0.164
	297.23			3.870E+02	1.496E+02	2.434E+02	1.415E+01	1.590
	303.76			-4.787E+02	4.157E+02	6.649E+02	3.868E+01	-0.720
	439.47			8.759E+01	3.186E+02	5.364E+02	3.080E+01	0.163
	484.57			-3.919E+02	5.170E+02	8.177E+02	4.789E+01	-0.479
	520.65	*		1.678E+01	2.386E+01	4.089E+01	2.417E+00	0.410
	574.64			-1.559E+02	5.294E+02	7.334E+02	4.353E+01	-0.213
	578.91			1.741E+02	2.122E+02	3.232E+02	1.918E+01	0.539
	585.48			1.946E+03	5.115E+02	8.885E+02	5.269E+01	2.191
	755.35			7.985E+02	3.705E+02	6.831E+02	4.738E+01	1.169
	817.79			3.852E+01	2.805E+02	4.595E+02	3.552E+01	0.084
SR-82	698.33			1.786E+00	3.698E+01	6.049E+01	3.779E+00	0.030
	776.49	*		-8.098E-02	3.950E-01	6.314E-01	4.546E-02	-0.128
	1395.20			8.344E+00	9.605E+00	1.747E+01	1.273E+00	0.478
RB-83	520.41	*		2.279E-02	7.116E-02	1.195E-01	7.065E-03	0.191
	529.64			-4.256E-02	1.056E-01	1.699E-01	1.006E-02	-0.251
	552.65			4.290E-02	1.967E-01	3.280E-01	1.947E-02	0.131
RB-84	881.50	*		6.970E-02	7.262E-02	1.256E-01	1.078E-02	0.555
KR-85	513.99	*		1.186E+01	7.730E+00	1.229E+01	7.257E-01	0.965
SR-85	513.99	*		6.268E-02	4.084E-02	6.493E-02	3.834E-03	0.965
RB-86	1076.63	*		-1.749E-01	7.155E-01	1.172E+00	8.118E-02	-0.149
Y-88	898.02			3.531E-02	4.038E-02	6.949E-02	6.151E-03	0.508
	1836.01	*		-3.452E-02	3.217E-02	4.198E-02	2.396E-03	-0.822
ZR-88	392.90	*		-8.651E-03	3.121E-02	5.132E-02	2.858E-03	-0.169
Y-91	1204.90	*		1.245E+01	1.588E+01	2.807E+01	1.639E+00	0.444
NB-94	702.63	*		-1.514E-02	3.352E-02	5.301E-02	3.339E-03	-0.286
	871.10			5.781E-03	3.131E-02	5.136E-02	4.336E-03	0.113
NB-95M	235.69	*		3.450E-01	1.580E-01	2.404E-01	1.781E-02	1.435
ZR-95	724.18			8.561E-02	1.053E-01	1.592E-01	1.195E-02	0.538
	756.15	*		8.624E-02	7.290E-02	1.274E-01	1.020E-02	0.677

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	657.90	*		6.046E-01	7.290E-02	Half-Life	too short	
	1024.50			-1.924E+01	7.290E-02	Half-Life	too short	
ZR-97	254.15			-6.819E+00	7.290E-02	Half-Life	too short	
	355.39			-2.354E+00	7.290E-02	Half-Life	too short	
	507.63	*		5.732E+01	7.290E-02	Half-Life	too short	
	602.52			3.496E+01	7.290E-02	Half-Life	too short	
	1021.30			2.839E+01	7.290E-02	Half-Life	too short	
	1147.95			-3.298E+01	7.290E-02	Half-Life	too short	
	1362.66			1.818E+01	7.290E-02	Half-Life	too short	
	1750.46			-5.393E+00	7.290E-02	Half-Life	too short	
MO-99	140.51			3.420E+01	8.246E+01	1.179E+02	3.173E+01	0.290
	181.06			3.744E+00	4.857E+01	6.859E+01	1.165E+01	0.055
	366.43			-1.928E+01	1.749E+02	2.907E+02	1.655E+01	-0.066
	739.58	*		1.565E+01	2.852E+01	4.203E+01	5.970E+00	0.372
	778.00			-7.266E+00	6.608E+01	1.064E+02	7.681E+00	-0.068
TC-99M	140.51	*		6.449E+13	6.608E+01	Half-Life	too short	
RH-101	127.23			-7.834E-02	4.465E-02	6.919E-02	4.037E-03	-1.132
	198.01	*		-6.440E-03	3.873E-02	6.127E-02	3.324E-03	-0.105
	325.23			-9.396E-02	2.117E-01	3.481E-01	2.020E-02	-0.270
RH-102	418.52			-3.869E-02	2.784E-01	4.597E-01	2.607E-02	-0.084
	475.06	*		1.922E-02	2.909E-02	4.982E-02	2.908E-03	0.386
	631.29			4.074E-04	5.047E-02	8.269E-02	4.865E-03	0.005
	697.49			-2.052E-02	7.829E-02	1.256E-01	7.831E-03	-0.163
+	766.84			1.386E+00	2.688E-01	3.514E-01	2.488E-02	3.944
	1046.59			-3.313E-04	9.864E-02	1.653E-01	1.209E-02	-0.002
	1112.84			9.542E-03	1.883E-01	3.094E-01	1.986E-02	0.031
RU-103	497.08	*		1.363E-02	4.224E-02	7.101E-02	9.005E-03	0.192
+	610.33			6.261E+00	1.928E+00	2.271E+00	3.511E-01	2.757
RH-106	511.85	+		3.300E-01	3.599E-01	3.594E-01	2.121E-02	0.918
	621.84	*		6.699E-02	3.019E-01	5.017E-01	5.913E-02	0.134
	1050.47			-3.857E-01	1.927E+00	3.173E+00	2.307E-01	-0.122
RU-106	511.85	+		3.300E-01	3.599E-01	3.594E-01	2.121E-02	0.918
	621.84	*		6.699E-02	3.018E-01	5.017E-01	2.959E-02	0.134
	1050.47			-3.857E-01	1.927E+00	3.173E+00	2.307E-01	-0.122
AG-108M	433.93	*		-1.718E-02	3.244E-02	5.236E-02	3.261E-03	-0.328
	614.37			8.672E-03	4.148E-02	5.997E-02	3.832E-03	0.145
	722.95			4.338E-03	4.405E-02	6.260E-02	4.370E-03	0.069
CD-109	88.03	*		2.388E+00	2.683E+00	2.842E+00	2.545E-01	0.840
AG-110M	657.75	*		9.873E-03	4.078E-02	5.892E-02	3.656E-03	0.168
	677.61			3.117E-01	3.071E-01	5.333E-01	3.386E-02	0.584
	706.67			-2.932E-02	2.043E-01	3.297E-01	2.198E-02	-0.089
	763.93			1.401E+00	2.524E-01	4.542E-01	3.334E-02	3.086
	884.67			-2.878E-02	5.108E-02	7.865E-02	7.002E-03	-0.366
	937.48			-1.050E-02	9.588E-02	1.527E-01	1.344E-02	-0.069
	1384.27			-7.448E-02	1.319E-01	2.026E-01	1.538E-02	-0.368
IN-111	171.28			-1.875E+00	2.519E+00	3.975E+00	2.086E-01	-0.472
	245.39	*		-1.726E+00	2.721E+00	3.658E+00	2.080E-01	-0.472
IN-113M	391.69	*		-2.847E-02	4.485E-02	7.241E-02	4.321E-03	-0.393
SN-113	391.69	*		-2.847E-02	4.485E-02	7.241E-02	4.321E-03	-0.393

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-114M	190.27	*		-9.375E-02	2.477E-01	3.422E-01	1.839E-02	-0.274
CD-115	260.90			1.173E-04	2.477E-01	Half-Life	too short	
	492.35			-7.470E-05	2.477E-01	Half-Life	too short	
	527.90	*		-5.234E-06	2.477E-01	Half-Life	too short	
SN-117M	156.02			-2.670E+00	3.338E+00	5.280E+00	2.830E-01	-0.506
	158.56	*		3.592E-02	9.144E-02	1.312E-01	6.982E-03	0.274
SB-122	563.90	*		1.669E+00	4.628E+00	6.804E+00	4.039E-01	0.245
	692.80			4.931E+01	9.190E+01	1.549E+02	9.576E+00	0.318
I-123	159.00	*		1.333E+02	9.190E+01	Half-Life	too short	
	528.96			-5.411E+03	9.190E+01	Half-Life	too short	
TE-123M	159.00	*		1.800E-02	4.114E-02	5.912E-02	3.193E-03	0.304
I-124	602.71	*		4.469E-01	1.156E+00	1.697E+00	1.005E-01	0.263
	722.78			1.344E-01	7.352E+00	1.036E+01	6.776E-01	0.013
	1325.50			-4.104E+00	4.005E+01	6.552E+01	4.771E+00	-0.063
	1376.25			2.189E+01	3.526E+01	6.266E+01	4.583E+00	0.349
+	1509.49			5.991E+01	1.855E+01	4.088E+01	2.876E+00	1.465
	1691.02			-1.260E-01	4.006E+00	6.509E+00	4.163E-01	-0.019
SB-124	602.71			1.672E-02	4.325E-02	6.350E-02	3.760E-03	0.263
	645.85			-2.658E-01	5.110E-01	8.066E-01	5.319E-02	-0.330
	709.31			1.752E+00	2.786E+00	4.727E+00	3.015E-01	0.371
	713.82			1.316E+00	1.618E+00	2.774E+00	2.935E-01	0.475
	722.78			7.288E-03	3.987E-01	5.621E-01	3.812E-02	0.013
+	968.20			9.950E+00	3.224E+00	5.836E+00	4.783E-01	1.705
	1045.16			3.959E-01	2.195E+00	3.732E+00	2.738E-01	0.106
	1325.50			-2.378E-01	2.320E+00	3.795E+00	2.764E-01	-0.063
	1368.21			9.909E-01	1.332E+00	2.403E+00	3.048E-01	0.412
	1436.60			-8.063E-01	2.727E+00	4.295E+00	3.096E-01	-0.188
	1691.02	*		-1.612E-03	5.125E-02	8.327E-02	5.703E-03	-0.019
SB-125	427.89	*		-3.593E-02	8.808E-02	1.432E-01	8.524E-03	-0.251
	463.38			5.168E-01	2.917E-01	5.198E-01	3.520E-02	0.994
	600.56			-8.515E-02	1.724E-01	2.741E-01	1.868E-02	-0.311
	635.90			-4.717E-02	2.470E-01	3.988E-01	2.734E-02	-0.118
TE-125M	109.28	*		3.908E+01	1.859E+01	2.752E+01	2.435E+00	1.420
I-126	388.63			2.238E-01	2.373E-01	4.120E-01	2.299E-02	0.543
	666.33	*		7.163E-02	2.263E-01	3.295E-01	1.936E-02	0.217
	753.82			9.812E-01	1.717E+00	2.898E+00	2.005E-01	0.339
SB-126	223.80			-8.551E-01	5.451E+00	8.689E+00	4.849E-01	-0.098
	278.60			2.605E+00	2.833E+00	4.925E+00	2.851E-01	0.529
	296.50			6.976E+00	2.175E+00	3.568E+00	2.074E-01	1.955
	414.70			-3.063E-02	8.353E-02	1.363E-01	7.710E-03	-0.225
	415.30			-3.660E+00	6.947E+00	1.123E+01	6.357E-01	-0.326
	555.20			-1.294E-01	4.520E+00	7.428E+00	4.408E-01	-0.017
	573.80			-7.765E-01	1.307E+00	1.755E+00	1.041E-01	-0.443
	593.00			-2.593E-01	1.057E+00	1.708E+00	1.012E-01	-0.152
	656.30			1.974E+00	4.523E+00	6.647E+00	3.879E-01	0.297
	666.33			3.013E-02	9.518E-02	1.386E-01	8.143E-03	0.217
	675.00			1.347E+00	2.312E+00	3.917E+00	2.341E-01	0.344
	695.00			-5.077E-02	9.312E-02	1.465E-01	9.095E-03	-0.347
	697.00			-7.683E-02	3.153E-01	5.060E-01	3.154E-02	-0.152

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-126	+	720.50	*	3.547E-02	1.723E-01	2.590E-01	1.687E-02	0.137
		856.80		-2.972E-02	6.274E-01	8.700E-01	7.175E-02	-0.034
		989.30		-5.925E-01	1.356E+00	2.086E+00	1.664E-01	-0.284
		1034.80		-6.885E+00	8.551E+00	1.328E+01	9.909E-01	-0.519
		1213.00		-2.758E+00	4.691E+00	7.437E+00	4.412E-01	-0.371
		64.28		3.919E+01	5.988E+00	2.601E+00	3.798E-01	15.069
SB-127		86.94		1.294E+00	1.188E+00	1.140E+00	4.719E-01	1.136
		87.57	*	3.811E-01	2.565E-01	2.753E-01	2.456E-02	1.384
		61.10		2.729E+03	3.837E+02	3.929E+02	4.437E+01	6.947
		252.40		-5.944E-01	9.305E+00	1.290E+01	5.390E+00	-0.046
		290.80		1.317E+01	4.075E+01	6.073E+01	6.214E+00	0.217
		411.60		-1.743E+00	1.938E+01	3.209E+01	4.820E+00	-0.054
XE-127		444.90		-1.288E+00	1.543E+01	2.549E+01	2.980E+00	-0.051
		473.00		-3.164E+00	2.788E+00	4.279E+00	5.169E-01	-0.739
		543.00		-3.722E+00	2.743E+01	4.481E+01	6.157E+00	-0.083
		603.60		5.487E+00	2.167E+01	3.142E+01	3.689E+00	0.175
		685.20	*	-1.510E+00	2.163E+00	3.344E+00	3.557E-01	-0.452
		698.50		2.824E+00	2.554E+01	4.193E+01	6.437E+00	0.067
		722.20		3.208E+01	4.966E+01	7.447E+01	7.938E+00	0.431
		783.80		1.273E+01	7.144E+00	1.141E+01	1.415E+00	1.116
		57.60		2.087E+01	1.322E+01	1.965E+01	1.472E+00	1.062
		145.22		5.789E+00	1.406E+00	1.954E+00	1.078E-01	2.963
		172.10		-8.392E-02	1.574E-01	2.500E-01	1.314E-02	-0.336
		202.84	*	4.610E-02	6.845E-02	9.869E-02	5.384E-03	0.467
I-131		374.96		-2.438E-02	1.979E-01	3.284E-01	1.856E-02	-0.074
		80.18		-1.056E+01	1.802E+01	1.830E+01	1.532E+00	-0.577
		284.30		-1.097E+00	1.914E+00	3.148E+00	2.039E-01	-0.348
		364.48	*	6.130E-02	1.474E-01	2.508E-01	1.609E-02	0.244
TE-132		636.97		-4.901E-02	1.846E+00	3.017E+00	1.988E-01	-0.016
		722.89		6.657E-01	9.473E+00	1.342E+01	8.916E-01	0.050
		49.72		-4.592E+01	5.795E+01	9.423E+01	9.998E+00	-0.487
		111.76		9.869E+02	2.019E+02	1.896E+02	1.942E+01	5.206
BA-133		116.30		9.963E+01	8.413E+01	1.235E+02	1.242E+01	0.807
		228.16	*	-2.136E-01	1.472E+00	2.346E+00	3.495E-01	-0.091
		53.15		2.584E+00	6.187E+00	1.029E+01	7.598E-01	0.251
		79.62		2.415E-01	3.898E+00	4.051E+00	6.084E-01	0.060
I-133	+	81.00		-6.092E-02	3.009E-01	3.097E-01	4.873E-02	-0.197
		276.40		-1.434E-02	3.975E-01	6.093E-01	7.895E-02	-0.024
		302.84		-8.497E-02	1.447E-01	2.370E-01	2.765E-02	-0.358
		356.01	*	3.117E-03	4.924E-02	7.188E-02	8.285E-03	0.043
		383.85		-2.517E-02	3.031E-01	5.035E-01	5.423E-02	-0.050
		510.53		6.554E+00	3.031E-01	Half-Life	too short	
		529.87	*	-2.335E-02	3.031E-01	Half-Life	too short	
		706.58		-6.548E-01	3.031E-01	Half-Life	too short	
		856.28		-1.313E+00	3.031E-01	Half-Life	too short	
		875.33		-1.085E+00	3.031E-01	Half-Life	too short	
		1236.41		4.937E+00	3.031E-01	Half-Life	too short	
		1298.22		-1.461E+00	3.031E-01	Half-Life	too short	
CS-134		475.35		1.760E+00	1.899E+00	3.293E+00	1.922E-01	0.535

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135		563.23		-1.148E-01	3.848E-01	5.331E-01	3.228E-02	-0.215
	+	569.32		1.092E+00	3.435E-01	4.373E-01	2.670E-02	2.497
		604.70		2.022E-02	3.675E-02	5.461E-02	3.249E-03	0.370
		795.84	*	8.160E-02	4.681E-02	8.398E-02	6.315E-03	0.972
		801.93		-5.016E-01	3.908E-01	5.644E-01	4.279E-02	-0.889
		1038.57		8.864E-02	3.184E+00	5.350E+00	3.968E-01	0.017
		1167.94		-9.021E-01	2.029E+00	3.251E+00	1.810E-01	-0.277
		1365.15		-8.333E-01	1.017E+00	1.507E+00	1.174E-01	-0.553
		268.24	*	1.138E-01	1.826E-01	2.765E-01	2.110E-02	0.412
		288.45		-1.739E+12	1.826E-01	Half-Life	too short	
		417.63		-1.108E+13	1.826E-01	Half-Life	too short	
		546.56		-9.236E+11	1.826E-01	Half-Life	too short	
		836.80		3.469E+13	1.826E-01	Half-Life	too short	
		1038.76		2.253E+12	1.826E-01	Half-Life	too short	
		1124.00		6.445E+12	1.826E-01	Half-Life	too short	
		1131.51		-1.540E+12	1.826E-01	Half-Life	too short	
		1260.41	*	-1.020E+11	1.826E-01	Half-Life	too short	
		1457.56		4.137E+14	1.826E-01	Half-Life	too short	
CS-136		1678.03		-3.675E+12	1.826E-01	Half-Life	too short	
		1706.46		-1.633E+13	1.826E-01	Half-Life	too short	
		1791.20		-2.485E+12	1.826E-01	Half-Life	too short	
		66.91		-4.393E+00	1.905E+00	2.453E+00	3.653E-01	-1.791
		86.29		5.265E+00	3.957E+00	4.205E+00	5.456E-01	1.252
		153.22		3.973E-02	9.745E-01	1.579E+00	1.091E-01	0.025
	+	163.89		5.580E+00	2.287E+00	2.903E+00	1.980E-01	1.922
		176.55		2.812E-02	5.337E-01	8.622E-01	5.231E-02	0.033
		273.65		-4.384E-01	5.817E-01	8.184E-01	5.402E-02	-0.536
		340.57		2.675E-01	1.612E-01	2.560E-01	1.574E-02	1.045
CE-139 BA-140		818.51		3.928E-02	7.824E-02	1.318E-01	1.022E-02	0.298
		1048.07	*	2.277E-02	1.059E-01	1.807E-01	1.397E-02	0.126
		1235.34		-1.807E-01	5.747E-01	9.326E-01	9.533E-02	-0.194
		165.85	*	5.810E-02	4.303E-02	6.376E-02	3.329E-03	0.911
	+	162.64		3.946E+00	1.613E+00	2.061E+00	1.247E-01	1.914
		304.84		-8.944E-01	1.513E+00	2.449E+00	6.684E-01	-0.365
		423.70		3.041E-01	2.165E+00	3.582E+00	1.138E+00	0.085
		537.32	*	-1.079E-01	2.879E-01	4.598E-01	1.496E-01	-0.235
		328.77		2.855E-01	3.377E-01	5.830E-01	3.788E-02	0.490
		432.53		9.692E-01	2.359E+00	3.999E+00	2.533E-01	0.242
LA-140		487.03		1.445E-01	1.523E-01	2.649E-01	1.753E-02	0.546
		751.79		-9.258E-01	2.048E+00	3.223E+00	2.583E-01	-0.287
		815.85		-2.199E-01	3.486E-01	5.340E-01	4.700E-02	-0.412
		867.82		5.266E-02	1.646E+00	2.302E+00	2.041E-01	0.023
		919.63		1.340E+00	3.462E+00	5.032E+00	5.365E-01	0.266
		925.24		1.195E+00	1.265E+00	2.188E+00	1.998E-01	0.546
		1596.49	*	-5.737E-02	8.074E-02	1.180E-01	7.982E-03	-0.486
		145.44	*	4.526E-01	1.132E-01	1.748E-01	1.007E-02	2.589
	CE-141	57.37		1.232E-02	1.132E-01	Half-Life	too short	
	CE-143	231.56		-6.272E-04	1.132E-01	Half-Life	too short	
		293.26	*	2.783E-03	1.132E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	350.59		6.747E-02	1.132E-01	Half-Life	too short	
		490.36		-7.616E-03	1.132E-01	Half-Life	too short	
		664.57		6.392E-03	1.132E-01	Half-Life	too short	
		721.93		3.880E-03	1.132E-01	Half-Life	too short	
CE-144		80.11		-3.794E+00	6.530E+00	6.633E+00	5.496E-01	-0.572
		133.54	*	-1.935E-01	2.917E-01	4.643E-01	6.577E-02	-0.417
PM-144		476.78		4.181E-02	6.837E-02	1.167E-01	8.145E-03	0.358
		618.01		9.110E-04	3.037E-02	4.980E-02	3.111E-03	0.018
		696.49	*	-3.041E-02	3.509E-02	5.391E-02	3.359E-03	-0.564
		778.57		8.560E-01	2.197E+00	3.578E+00	2.588E-01	0.239
PR-144		696.49	*	-2.064E+00	2.381E+00	3.659E+00	2.278E-01	-0.564
		1489.15		-9.348E+00	8.932E+00	1.208E+01	8.562E-01	-0.774
PM-146		453.90	*	2.830E-02	4.351E-02	7.444E-02	6.411E-03	0.380
		633.02		-6.018E-01	1.295E+00	2.019E+00	7.437E-01	-0.298
		735.90		-5.218E-02	1.941E-01	2.487E-01	6.986E-02	-0.210
		747.13		5.241E-02	9.896E-02	1.464E-01	1.906E-02	0.358
ND-147		91.11		4.945E+01	4.711E+00	2.323E+00	2.146E-01	21.287
		319.41		1.893E-01	3.830E+00	6.438E+00	3.743E-01	0.029
		439.89		2.755E+00	6.635E+00	1.125E+01	6.469E-01	0.245
		531.02	*	3.888E-01	6.575E-01	1.118E+00	1.518E-01	0.348
PM-149		285.90	*	-7.404E-05	6.575E-01	Half-Life	too short	
EU-152		121.78		5.922E-02	1.047E-01	1.724E-01	1.335E-02	0.343
		244.69		1.570E-02	4.133E-01	5.770E-01	3.279E-02	0.027
		344.27	*	3.701E-02	1.228E-01	1.605E-01	1.044E-02	0.231
		443.98		-2.411E-01	9.161E-01	1.498E+00	8.625E-02	-0.161
		778.89		8.500E-02	2.594E-01	4.201E-01	3.037E-02	0.202
		867.32		-2.340E-01	8.546E-01	1.148E+00	9.634E-02	-0.204
	+	964.01		5.499E-01	2.583E-01	4.721E-01	3.889E-02	1.165
		1085.78		1.234E-01	3.239E-01	5.595E-01	3.807E-02	0.221
		1112.02		7.578E-02	2.613E-01	4.471E-01	2.876E-02	0.169
		1407.95		4.029E-02	1.498E-01	2.553E-01	1.854E-02	0.158
GD-153		69.67		4.302E+00	3.253E+00	4.797E+00	3.692E-01	0.897
	+	83.37		8.561E+01	3.694E+01	5.146E+01	4.396E+00	1.664
	+	97.43	*	1.203E+00	2.041E-01	2.772E-01	2.156E-02	4.341
		103.18		-9.235E-02	1.845E-01	2.599E-01	1.882E-02	-0.355
EU-154		123.07		2.572E-02	7.341E-02	1.204E-01	1.142E-02	0.214
		247.94		-1.773E-01	4.231E-01	6.397E-01	6.063E-02	-0.277
		591.81		-1.669E-01	6.196E-01	9.716E-01	9.570E-02	-0.172
		723.30		4.652E-02	1.860E-01	2.682E-01	2.066E-02	0.173
		756.87		4.999E-01	7.835E-01	1.295E+00	1.404E-01	0.386
		873.19		5.553E-02	2.764E-01	4.538E-01	5.508E-02	0.122
		996.32		-1.431E-01	3.923E-01	5.149E-01	8.974E-02	-0.278
		1004.76		8.983E-01	2.750E-01	4.826E-01	5.335E-02	1.861
		1274.45	*	-2.807E-02	9.883E-02	1.595E-01	1.578E-02	-0.176
EU-155		48.70		-4.617E+00	3.855E+00	6.223E+00	4.364E-01	-0.742
		60.01		2.828E+01	1.068E+01	1.594E+01	1.200E+00	1.774
		86.54		3.879E-01	3.108E-01	3.322E-01	2.960E-02	1.167
		105.31	*	-3.390E-01	1.774E-01	2.651E-01	1.907E-02	-1.279
TB-160		86.79		1.006E+00	8.492E-01	9.067E-01	8.020E-02	1.110

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		197.04		3.997E-01	6.623E-01	1.085E+00	5.880E-02	0.368
		215.65		-9.006E-03	8.646E-01	1.387E+00	7.675E-02	-0.006
		298.57		1.012E-01	1.310E-01	1.995E-01	1.160E-02	0.507
		879.36	*	-1.130E-02	1.426E-01	2.288E-01	1.957E-02	-0.049
		962.29		2.122E-01	5.204E-01	7.564E-01	6.242E-02	0.280
	+	966.15		3.879E-01	1.822E-01	4.063E-01	3.338E-02	0.955
		1177.93		4.114E-02	3.100E-01	5.223E-01	2.890E-02	0.079
		1271.85		8.155E-01	5.979E-01	1.111E+00	7.360E-02	0.734
HO-166M		80.57		-4.177E-01	8.302E-01	8.457E-01	7.036E-02	-0.494
	+	184.41		1.304E+00	1.065E-01	1.347E-01	7.187E-03	9.682
		280.46		-5.774E-02	8.631E-02	1.416E-01	8.204E-03	-0.408
		410.95		1.301E-01	2.341E-01	3.998E-01	2.256E-02	0.325
		711.68	*	-2.106E-02	6.033E-02	9.596E-02	6.147E-03	-0.219
		752.31		-8.101E-02	2.810E-01	4.478E-01	3.089E-02	-0.181
		810.29		3.049E-02	5.631E-02	9.493E-02	7.246E-03	0.321
TM-171		51.35		2.601E+01	5.138E+01	8.561E+01	6.243E+00	0.304
		52.39		5.732E+00	2.707E+01	4.490E+01	3.301E+00	0.128
		59.40		1.228E+02	5.651E+01	8.425E+01	6.338E+00	1.457
		66.72	*	-9.907E+01	5.586E+01	7.696E+01	5.850E+00	-1.287
LU-176		88.36		8.205E-01	6.254E-01	6.681E-01	5.950E-02	1.228
		201.83		1.343E-03	3.903E-02	5.483E-02	2.988E-03	0.024
		306.84	*	-4.129E-03	2.490E-02	4.154E-02	2.417E-03	-0.099
		401.10		-3.099E-01	6.594E+00	1.096E+01	6.139E-01	-0.028
LU-177	+	112.95		3.974E+01	7.507E+00	7.530E+00	4.903E-01	5.278
		208.36	*	2.136E+00	1.848E+00	2.719E+00	1.493E-01	0.786
LU-177M		52.97		1.033E+00	2.831E+00	4.704E+00	3.471E-01	0.220
		54.07		-1.175E+00	1.540E+00	2.509E+00	1.861E-01	-0.468
		61.30		5.699E+01	5.698E+00	6.646E+00	5.000E-01	8.575
		121.62		3.015E-01	5.428E-01	8.945E-01	5.348E-02	0.337
		147.16		1.066E+00	9.669E-01	1.421E+00	7.803E-02	0.750
		171.86		-4.816E-01	6.102E-01	9.615E-01	5.051E-02	-0.501
		218.09		3.838E-02	9.676E-01	1.554E+00	8.623E-02	0.025
	+	268.79		1.827E+00	1.294E+00	1.430E+00	8.246E-02	1.277
		319.02		6.105E-02	2.528E-01	4.284E-01	2.490E-02	0.143
		367.43		-1.110E-01	9.206E-01	1.529E+00	8.695E-02	-0.073
		413.65	*	-2.078E-01	1.713E-01	2.665E-01	1.506E-02	-0.780
HF-181		56.28		-3.778E-02	1.866E+00	2.976E+00	2.222E-01	-0.013
		57.53		1.662E+00	1.102E+00	1.637E+00	1.226E-01	1.015
		65.20		4.101E+01	3.901E+00	4.295E+00	3.250E-01	9.549
		133.02		3.012E-02	9.637E-02	1.577E-01	9.023E-03	0.191
		136.25		-2.635E-01	6.492E-01	1.043E+00	5.909E-02	-0.253
		345.85		-8.430E-02	2.389E-01	3.198E-01	1.843E-02	-0.264
		482.03	*	-1.260E-03	4.336E-02	7.163E-02	4.192E-03	-0.018
W-181		56.28		-1.181E-01	7.104E-01	1.130E+00	8.441E-02	-0.104
		57.53		6.308E-01	4.189E-01	6.222E-01	4.660E-02	1.014
		65.20	*	1.546E+01	1.471E+00	1.619E+00	1.225E-01	9.549
TA-182		67.75		-4.248E-01	2.424E-01	3.093E-01	2.360E-02	-1.374
	+	100.10		2.828E+00	4.796E-01	5.858E-01	4.402E-02	4.828
		152.43		-1.068E-01	4.451E-01	7.162E-01	3.876E-02	-0.149

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	222.10			4.835E-02	3.947E-01	6.355E-01	3.540E-02	0.076
	+ 1001.68			6.409E+01	7.440E+00	1.051E+01	8.247E-01	6.097
	+ 1121.28			3.274E-01	2.067E-01	2.624E-01	1.652E-02	1.247
	1189.05			-7.248E-02	2.423E-01	3.928E-01	2.222E-02	-0.185
	1221.42 *			-7.993E-02	1.660E-01	2.652E-01	1.599E-02	-0.301
RE-183	1230.97			1.442E-01	3.912E-01	6.695E-01	4.112E-02	0.215
	57.98			6.198E-01	4.278E-01	6.345E-01	4.758E-02	0.977
	59.32			4.978E-01	2.380E-01	3.546E-01	2.667E-02	1.404
	67.20			-9.416E-01	4.124E-01	5.585E-01	4.253E-02	-1.686
	+ 162.32 *			5.088E-01	2.074E-01	2.641E-01	1.391E-02	1.927
	208.81			1.603E+00	1.261E+00	1.865E+00	1.024E-01	0.859
RE-184	291.72			7.355E-01	1.106E+00	1.677E+00	9.741E-02	0.439
	57.98			2.246E+00	1.551E+00	2.300E+00	1.724E-01	0.977
	59.32			1.803E+00	8.618E-01	1.284E+00	9.658E-02	1.404
	67.20			-3.412E+00	1.494E+00	2.023E+00	1.541E-01	-1.686
	161.27			1.040E+00	5.346E-01	8.048E-01	4.252E-02	1.292
	216.55			3.266E-02	2.988E-01	4.812E-01	2.666E-02	0.068
	252.85 *			-8.375E-02	3.023E-01	4.142E-01	2.367E-02	-0.202
	318.01			2.310E-01	4.435E-01	7.599E-01	4.417E-02	0.304
	792.07			1.496E-01	1.152E+00	1.633E+00	1.208E-01	0.092
	903.28			-1.239E+00	9.632E-01	1.311E+00	1.149E-01	-0.945
OS-185	920.93			-4.019E-02	4.560E-01	7.085E-01	6.112E-02	-0.057
	59.72			1.617E+00	6.399E-01	9.555E-01	7.189E-02	1.693
	61.14			5.082E+00	5.539E-01	6.942E-01	5.223E-02	7.321
	69.30			7.406E-01	6.304E-01	8.674E-01	6.663E-02	0.854
	592.07			-6.548E-01	2.583E+00	4.057E+00	2.404E-01	-0.161
	646.12 *			-2.405E-02	4.268E-02	6.714E-02	3.932E-03	-0.358
	717.42			-2.906E-01	8.777E-01	1.396E+00	9.037E-02	-0.208
	874.81			-3.408E-01	5.693E-01	8.711E-01	7.397E-02	-0.391
RE-188	880.27			3.988E-01	7.770E-01	1.304E+00	1.117E-01	0.306
	155.03 *			-5.414E-03	2.240E-01	3.624E-01	1.947E-02	-0.015
	477.96			1.884E+00	3.205E+00	5.465E+00	3.194E-01	0.345
	633.10			-1.149E+00	2.658E+00	4.218E+00	2.480E-01	-0.272
W-188	+ 63.58			4.095E+03	3.598E+02	2.838E+02	2.141E+01	14.427
	227.08			-3.959E+00	1.527E+01	2.424E+01	1.357E+00	-0.163
	290.67 *			3.623E+00	8.583E+00	1.286E+01	7.471E-01	0.282
IR-192	+ 295.96			7.163E-01	2.013E-01	2.448E-01	1.445E-02	2.926
	308.46			5.168E-02	9.960E-02	1.706E-01	1.004E-02	0.303
	316.51 *			6.809E-03	3.540E-02	5.987E-02	3.498E-03	0.114
	468.07			-1.845E-03	6.804E-02	1.125E-01	7.546E-03	-0.016
	604.41			2.074E-01	5.148E-01	7.554E-01	8.619E-02	0.275
AU-195	612.46			6.406E-01	8.267E-01	1.245E+00	9.533E-02	0.514
	65.12			7.820E+00	7.242E-01	7.677E-01	5.808E-02	10.186
	66.83			-3.370E-01	1.861E-01	2.560E-01	1.947E-02	-1.316
	+ 75.70			9.374E-01	4.173E-01	5.981E-01	4.779E-02	1.567
	+ 98.88 *			3.513E+00	5.958E-01	7.787E-01	5.943E-02	4.511
	129.76			6.274E+00	3.969E+00	6.658E+00	3.851E-01	0.942
TL-200	367.94 *			-1.444E-04	3.969E+00	Half-Life too short		
	579.30			2.004E-02	3.969E+00	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	828.27			2.124E-02	3.969E+00	Half-Life	too short	
	1205.75			8.566E-03	3.969E+00	Half-Life	too short	
TL-201	68.90			1.507E+01	1.894E+01	2.589E+01	1.985E+00	0.582
	70.82			2.235E+01	1.032E+01	1.532E+01	1.186E+00	1.459
	80.30			-1.749E+01	2.939E+01	2.984E+01	2.477E+00	-0.586
	135.34			-5.884E+01	6.743E+01	1.070E+02	6.081E+00	-0.550
	167.43	*		1.127E+01	1.868E+01	2.699E+01	1.410E+00	0.418
TL-202	68.90			8.317E-01	1.045E+00	1.429E+00	1.096E-01	0.582
	70.82			1.231E+00	5.683E-01	8.433E-01	6.529E-02	1.459
	80.30			-9.630E-01	1.619E+00	1.643E+00	1.364E-01	-0.586
	439.56	*		2.013E-02	7.877E-02	1.325E-01	7.610E-03	0.152
HG-203	70.83			4.435E+00	2.238E+00	3.245E+00	4.240E-01	1.367
	72.87			2.849E+00	1.334E+00	1.928E+00	2.450E-01	1.477
	82.60			6.586E+00	2.928E+00	3.964E+00	5.414E-01	1.661
	279.20	*		1.735E-02	4.214E-02	7.201E-02	4.428E-03	0.241
BI-207	72.80			9.639E-01	3.650E-01	5.411E-01	4.238E-02	1.781
	74.97			5.144E-01	2.290E-01	3.233E-01	2.570E-02	1.591
	84.90			1.098E+00	4.740E-01	6.500E-01	5.639E-02	1.690
	569.67			1.697E-01	5.335E-02	6.625E-02	3.933E-03	2.562
	1063.62	*		-4.278E-02	4.027E-02	6.111E-02	4.339E-03	-0.700
	1770.23			2.016E-01	2.597E-01	4.710E-01	2.841E-02	0.428
TL-207	81.07			-8.172E-02	6.638E-01	6.854E-01	5.729E-02	-0.119
	83.78			7.241E-01	3.125E-01	4.334E-01	3.718E-02	1.671
	94.90			1.730E+01	1.576E+00	1.234E+00	9.934E-02	14.017
	122.32			1.227E+00	2.494E+00	4.104E+00	2.803E-01	0.299
	144.24			5.376E+00	1.326E+00	1.834E+00	1.288E-01	2.931
	154.21			9.351E-02	4.999E-01	8.132E-01	5.428E-02	0.115
	269.46			4.224E-01	2.994E-01	3.379E-01	2.038E-02	1.250
	323.87	*		-8.983E-01	6.521E-01	9.988E-01	1.650E-01	-0.899
	338.28			3.881E+00	1.622E+00	1.984E+00	2.088E-01	1.956
	445.03			-1.103E-01	2.161E+00	3.576E+00	3.664E-01	-0.031
PO-209	260.50			1.315E+01	1.242E+01	1.823E+01	1.046E+00	0.721
	262.80			8.623E+00	3.507E+01	4.600E+01	2.644E+00	0.187
	896.60	*		7.016E+00	7.052E+00	1.224E+01	1.076E+00	0.573
BI-210	46.50	*		8.161E-01	5.250E+00	8.687E+00	6.622E-01	0.094
PB-210	46.50	*		8.161E-01	5.250E+00	8.687E+00	6.622E-01	0.094
PO-210	46.50	*		8.161E-01	5.250E+00	8.687E+00	5.662E-01	0.094
PB-211	404.84	*		-6.240E-01	1.026E+00	1.532E+00	9.547E-01	-0.407
	427.08			-7.518E-01	2.016E+00	3.194E+00	1.974E+00	-0.235
	831.96			-9.020E-01	1.284E+00	1.717E+00	1.074E+00	-0.525
PO-215	81.07			-8.172E-02	6.638E-01	6.854E-01	5.729E-02	-0.119
	83.78			7.241E-01	3.125E-01	4.334E-01	3.718E-02	1.671
	94.90			1.730E+01	1.576E+00	1.234E+00	9.934E-02	14.017
	122.32			1.227E+00	2.494E+00	4.104E+00	2.803E-01	0.299
	144.24			5.376E+00	1.326E+00	1.834E+00	1.288E-01	2.931
	154.21			9.351E-02	4.999E-01	8.132E-01	5.428E-02	0.115
	269.46			4.224E-01	2.994E-01	3.379E-01	2.038E-02	1.250
	323.87	*		-8.983E-01	6.521E-01	9.988E-01	1.650E-01	-0.899
	338.28			3.881E+00	1.622E+00	1.984E+00	2.088E-01	1.956

Sample ID : G245978004

Acquisition date : 14-FEB-2010 11:18:29

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		-1.103E-01	2.161E+00	3.576E+00	3.664E-01	-0.031
		271.23		5.420E-01	3.853E-01	4.383E-01	3.543E-02	1.237
		401.81	*	-9.984E-03	4.059E-01	6.751E-01	9.131E-02	-0.015
RN-220		549.76	*	8.586E+00	2.599E+01	4.362E+01	2.588E+00	0.197
RA-223	+	81.07		-8.172E-02	6.638E-01	6.854E-01	5.729E-02	-0.119
		83.78		7.241E-01	3.125E-01	4.334E-01	3.718E-02	1.671
		94.90		1.730E+01	1.576E+00	1.234E+00	9.934E-02	14.017
	+	122.32		1.227E+00	2.494E+00	4.104E+00	2.803E-01	0.299
		144.24		5.376E+00	1.326E+00	1.834E+00	1.288E-01	2.931
		154.21		9.351E-02	4.999E-01	8.132E-01	5.428E-02	0.115
	+	269.46		4.224E-01	2.994E-01	3.379E-01	2.038E-02	1.250
		323.87	*	-8.983E-01	6.521E-01	9.988E-01	1.650E-01	-0.899
		338.28		3.881E+00	1.622E+00	1.984E+00	2.088E-01	1.956
AC-227	+	445.03		-1.103E-01	2.161E+00	3.576E+00	3.664E-01	-0.031
		79.80		-1.871E-01	4.936E+00	5.113E+00	1.092E+00	-0.037
		236.00		1.347E+00	3.300E-01	4.971E-01	5.153E-02	2.710
	+	256.20	*	8.877E-01	5.360E-01	7.872E-01	1.097E-01	1.128
		286.10		-5.589E-01	1.518E+00	2.515E+00	2.908E-01	-0.222
		299.80		8.866E-01	1.605E+00	2.410E+00	3.926E-01	0.368
	+	304.40		-1.876E+00	1.919E+00	3.053E+00	5.283E-01	-0.614
		334.20		4.077E-01	2.534E+00	3.729E+00	6.834E-01	0.109
		79.80		-1.871E-01	4.936E+00	5.113E+00	1.107E+00	-0.037
TH-227	+	94.00		4.050E+02	8.834E+01	1.462E+01	3.159E+00	27.697
		236.00		1.347E+00	3.224E-01	4.971E-01	4.453E-02	2.710
		256.20	*	8.877E-01	5.427E-01	7.872E-01	1.328E-01	1.128
	+	286.10		-5.589E-01	1.617E+00	2.515E+00	2.520E+00	-0.222
		299.80		8.866E-01	1.605E+00	2.410E+00	3.926E-01	0.368
		304.40		-1.876E+00	1.919E+00	3.053E+00	5.283E-01	-0.614
TH-229	+	334.20		4.077E-01	2.534E+00	3.729E+00	6.834E-01	0.109
		85.43		1.084E+00	4.677E-01	6.374E-01	5.559E-02	1.701
		88.47		8.226E-01	3.543E-01	3.847E-01	3.420E-02	2.138
	+	100.00		2.884E+00	4.892E-01	6.072E-01	4.569E-02	4.751
		193.63	*	2.820E-01	5.879E-01	9.602E-01	5.181E-02	0.294
		210.97		6.372E-01	9.648E-01	1.391E+00	7.662E-02	0.458
PA-231	+	283.67	*	-6.326E-01	1.564E+00	2.553E+00	3.518E-01	-0.248
		301.29		1.160E+00	6.045E-01	9.938E-01	1.040E-01	1.167
		81.07		-8.172E-02	6.638E-01	6.854E-01	5.729E-02	-0.119
TH-231	+	83.78		7.241E-01	3.125E-01	4.334E-01	3.718E-02	1.671
		94.90		1.730E+01	1.576E+00	1.234E+00	9.934E-02	14.017
		122.32		1.227E+00	2.494E+00	4.104E+00	2.803E-01	0.299
	+	144.24		5.376E+00	1.326E+00	1.834E+00	1.288E-01	2.931
		154.21		9.351E-02	4.999E-01	8.132E-01	5.428E-02	0.115
		269.46		4.224E-01	2.994E-01	3.379E-01	2.038E-02	1.250
	+	323.87	*	-8.983E-01	6.521E-01	9.988E-01	1.650E-01	-0.899
		338.28		3.881E+00	1.622E+00	1.984E+00	2.088E-01	1.956
		445.03		-1.103E-01	2.161E+00	3.576E+00	3.664E-01	-0.031
U-231	+	84.21		4.994E+01	2.155E+01	2.965E+01	2.554E+00	1.685
		92.29		6.407E+02	5.573E+01	2.506E+01	2.096E+00	25.561
		95.87	*	2.281E+01	5.028E+00	5.751E+00	4.568E-01	3.965

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	108.00		6.471E+00	6.010E+00	8.814E+00	6.046E-01	0.734
		75.28		1.501E+01	6.949E+00	9.514E+00	1.426E+00	1.578
		86.59		6.229E+00	5.284E+00	5.389E+00	1.449E+00	1.156
		300.12		2.266E-01	4.462E-01	6.697E-01	9.004E-02	0.338
		311.98	*	-4.185E-02	6.564E-02	1.073E-01	6.622E-03	-0.390
PA-234	+	340.50		1.200E+00	7.266E-01	1.079E+00	2.478E-01	1.112
		398.62		-8.027E-01	2.065E+00	3.357E+00	8.664E-01	-0.239
		415.76		-3.884E-01	1.546E+00	2.535E+00	5.209E-01	-0.153
		63.00		1.154E+02	1.800E+01	8.256E+00	1.232E+00	13.979
		94.67		1.786E+01	2.224E+00	1.022E+00	1.229E-01	17.480
		98.44		1.408E+00	8.121E-01	3.136E-01	1.745E-01	4.491
		99.86		7.299E+00	1.238E+00	1.564E+00	1.179E-01	4.666
		111.00		2.032E+00	4.444E-01	6.183E-01	6.658E-02	3.286
		131.20		2.058E-01	1.475E-01	2.466E-01	1.419E-02	0.835
		152.70		-4.383E-02	4.175E-01	6.740E-01	1.056E-01	-0.065
		186.00		4.695E+01	1.460E+01	4.957E+00	1.510E+00	9.473
		226.40		2.924E-01	4.620E-01	7.546E-01	8.646E-02	0.387
		227.20		-2.122E-01	5.033E-01	7.944E-01	4.447E-02	-0.267
		248.90		-4.495E-03	9.108E-01	1.455E+00	3.122E-01	-0.003
		293.70		4.390E+00	1.398E+00	1.497E+00	2.408E-01	2.932
		369.80		2.282E-01	8.422E-01	1.422E+00	2.956E-01	0.161
		568.70		5.524E+00	1.736E+00	2.275E+00	1.351E-01	2.427
		569.50		1.506E+00	4.734E-01	5.957E-01	3.536E-02	2.529
		574.00		-8.978E-01	1.603E+00	2.160E+00	1.282E-01	-0.416
		699.00		3.068E-01	7.130E-01	1.191E+00	2.159E-01	0.258
		706.10		-5.639E-01	1.067E+00	1.631E+00	7.209E-01	-0.346
		733.00		3.844E-02	4.454E-01	6.241E-01	1.343E-01	0.062
		742.81		4.221E+00	4.044E+00	3.020E+00	2.024E+00	1.398
		796.30		1.626E+00	9.942E-01	1.625E+00	4.339E-01	1.001
		805.60		5.152E-01	9.550E-01	1.590E+00	4.830E-01	0.324
		819.60		5.239E-01	1.149E+00	1.901E+00	7.194E-01	0.276
		826.30		-1.222E-01	7.759E-01	1.237E+00	5.517E-01	-0.099
		831.60		-4.374E-01	5.940E-01	8.805E-01	2.611E-01	-0.497
		876.40		-3.253E-01	8.781E-01	1.268E+00	1.303E+00	-0.257
		880.51		2.149E-01	2.705E-01	4.633E-01	3.971E-02	0.464
		883.24		-4.396E-02	2.880E-01	4.567E-01	3.070E-01	-0.096
		899.00		5.567E-01	8.230E-01	1.341E+00	5.868E-01	0.415
		925.00		1.042E+00	1.124E+00	1.942E+00	1.669E-01	0.537
		926.50		7.646E-02	1.720E-01	2.853E-01	7.208E-02	0.268
		946.00	*	3.094E-01	2.975E-01	5.096E-01	9.512E-02	0.607
		949.00		-7.255E-02	4.476E-01	7.105E-01	5.953E-02	-0.102
		980.50		-4.962E-01	6.399E-01	9.464E-01	7.638E-02	-0.524
		1394.10		4.937E-01	1.038E+00	1.727E+00	1.122E+00	0.286
NP-236	+	94.67		1.364E+01	1.184E+00	7.772E-01	6.278E-02	17.550
		98.44		1.065E+00	1.805E-01	2.371E-01	1.819E-02	4.491
		111.00		1.537E+00	3.099E-01	4.677E-01	3.107E-02	3.286
NP-237	+	160.31	*	3.421E-02	1.161E-01	1.658E-01	8.784E-03	0.206
		86.50	*	9.529E-01	7.824E-01	8.098E-01	1.817E-01	1.177
		95.87		1.257E+01	4.010E+00	3.169E+00	7.734E-01	3.965

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		2.433E+00	4.126E-01	5.310E-01	4.018E-02	4.582
		117.00	*	2.036E-01	3.101E-01	4.510E-01	2.820E-02	0.451
		209.75		8.060E-01	9.824E-01	1.426E+00	7.841E-02	0.565
		228.18		-4.053E-02	2.622E-01	4.178E-01	2.341E-02	-0.097
		277.60		1.463E-01	1.804E-01	3.053E-01	1.767E-02	0.479
		334.30		2.538E-01	1.436E+00	2.116E+00	1.225E-01	0.120
AM-241		59.54	*	7.652E-01	3.296E-01	4.902E-01	4.036E-02	1.561
CM-243	+	99.55		2.504E+00	4.247E-01	5.465E-01	4.136E-02	4.582
		103.76	*	-1.080E-01	1.700E-01	2.385E-01	1.715E-02	-0.453
		117.00		2.095E-01	3.191E-01	4.641E-01	2.902E-02	0.451
		209.75		7.947E-01	9.686E-01	1.406E+00	7.731E-02	0.565
		228.18		-4.096E-02	2.650E-01	4.222E-01	2.366E-02	-0.097
		277.60		1.475E-01	1.819E-01	3.079E-01	1.782E-02	0.479
AM-246		798.80		-9.857E-02	1.400E-01	2.151E-01	1.610E-02	-0.458
		1036.00		-2.111E-01	2.471E-01	3.817E-01	2.843E-02	-0.553
		1062.04		-5.552E-03	1.695E-01	2.829E-01	2.015E-02	-0.020
		1078.86	*	8.864E-02	1.179E-01	2.095E-01	1.445E-02	0.423
CM-247		278.00		7.873E-01	7.272E-01	1.271E+00	7.355E-02	0.620
		287.40		-9.607E-01	1.308E+00	2.008E+00	1.165E-01	-0.478
		402.60	*	1.070E-02	3.639E-02	6.144E-02	3.446E-03	0.174
CF-249		252.85		-3.106E-01	1.121E+00	1.536E+00	8.780E-02	-0.202
		333.44		2.207E-02	1.861E-01	2.733E-01	1.583E-02	0.081
		387.95	*	1.546E-02	4.015E-02	6.810E-02	3.803E-03	0.227
CF-251		176.60	*	-1.713E-02	1.592E-01	2.560E-01	1.353E-02	-0.067
		227.00		-1.040E-01	4.456E-01	7.081E-01	3.964E-02	-0.147
		285.00		-6.356E-01	1.758E+00	2.917E+00	1.692E-01	-0.218

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978004
* Acquisition date   : 14-FEB-2010 11:18:29 Detector SN#      :
* Detector ID        : GAM19 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:02.56 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978004 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.6473E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.200E+01	2.057E+00	4.186E-01	0.000E+00
NB-95	5.670E-01	1.078E-01	6.260E-02	0.000E+00
BA-137M	1.828E-01	6.746E-02	5.837E-02	0.000E+00
CS-137	1.933E-01	7.132E-02	6.170E-02	0.000E+00
TL-208	3.634E-01	7.256E-02	6.119E-02	0.000E+00
BI-211	2.019E+00	4.157E-01	3.414E-01	0.000E+00
BI-212	1.145E+00	4.513E-01	4.819E-01	0.000E+00
PB-212	1.097E+00	1.205E-01	9.991E-02	0.000E+00
PO-212	1.097E+00	1.205E-01	9.991E-02	0.000E+00
BI-214	5.514E-01	1.500E-01	1.123E-01	0.000E+00
PB-214	7.023E-01	1.490E-01	1.190E-01	0.000E+00
PO-214	7.023E-01	1.490E-01	1.190E-01	0.000E+00
PO-216	1.097E+00	1.205E-01	9.991E-02	0.000E+00
PO-218	7.023E-01	1.490E-01	1.190E-01	0.000E+00
RA-224	3.021E+00	1.161E+00	1.136E+00	0.000E+00
RA-226	5.514E-01	1.500E-01	1.123E-01	0.000E+00
AC-228	1.102E+00	2.658E-01	1.914E-01	0.000E+00
RA-228	1.102E+00	2.658E-01	1.914E-01	0.000E+00
TH-228	1.117E+00	1.227E-01	1.017E-01	0.000E+00
TH-230	5.514E-01	1.500E-01	1.123E-01	0.000E+00
TH-232	1.102E+00	2.658E-01	1.914E-01	0.000E+00
PA-234M	1.430E+02	1.772E+01	6.204E+00	0.000E+00
TH-234	9.901E+01	1.753E+01	4.097E+00	0.000E+00
U-234	5.514E-01	1.500E-01	1.123E-01	0.000E+00
U-235	1.659E+00	4.662E-01	4.948E-01	0.000E+00
U-238	9.901E+01	1.753E+01	4.097E+00	0.000E+00
AM-243	2.865E-01	1.250E-01	1.834E-01	0.000E+00
ANH-511	6.571E-02	7.023E-02	4.873E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	3.077E-01	3.312E-01	6.125E-01	0.000E+00	NOT IDENT.
NA-22	-1.897E-02	3.517E-02	5.737E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.238E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.936E-03	2.591E-02	4.383E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	8.273E-02	1.241E-01	0.000E+00	FAIL ABUN
SC-46	1.766E-02	3.799E-02	6.659E-02	0.000E+00	FAIL ABUN
V-48	-7.789E-03	6.656E-02	1.104E-01	0.000E+00	NOT IDENT.
CR-51	1.064E-01	3.764E-01	6.908E-01	0.000E+00	NOT IDENT.
MN-52	7.536E-02	2.415E-01	4.292E-01	0.000E+00	FAIL ABUN
MN-54	-1.915E-02	3.511E-02	5.719E-02	0.000E+00	NOT IDENT.
CO-56	6.194E-03	3.826E-02	6.577E-02	0.000E+00	NOT IDENT.
CO-57	2.184E-02	3.552E-02	6.514E-02	0.000E+00	NOT IDENT.
CO-58	3.831E-03	3.778E-02	6.486E-02	0.000E+00	NOT IDENT.
FE-59	2.371E-02	7.750E-02	1.383E-01	0.000E+00	FAIL ABUN
CO-60	1.117E-03	3.178E-02	5.471E-02	0.000E+00	NOT IDENT.
ZN-65	-1.823E-02	8.263E-02	1.206E-01	0.000E+00	NOT IDENT.
GE-68	1.951E-02	9.944E-01	1.738E+00	0.000E+00	NOT IDENT.
AS-73	-1.196E-01	1.454E+00	2.730E+00	0.000E+00	NOT IDENT.
AS-74	-3.689E-02	9.492E-02	1.613E-01	0.000E+00	NOT IDENT.
SE-75	-7.392E-03	5.884E-02	8.184E-02	0.000E+00	NOT IDENT.
BR-77	1.678E+01	2.338E+01	4.272E+01	0.000E+00	FAIL ABUN
SR-82	-8.098E-02	3.871E-01	6.515E-01	0.000E+00	NOT IDENT.
RB-83	2.279E-02	6.973E-02	1.248E-01	0.000E+00	NOT IDENT.
RB-84	6.970E-02	7.117E-02	1.291E-01	0.000E+00	NOT IDENT.
KR-85	1.186E+01	7.575E+00	1.284E+01	0.000E+00	NOT IDENT.
SR-85	6.268E-02	4.002E-02	6.786E-02	0.000E+00	NOT IDENT.
RB-86	-1.749E-01	7.012E-01	1.197E+00	0.000E+00	NOT IDENT.
Y-88	-3.452E-02	3.153E-02	4.214E-02	0.000E+00	NOT IDENT.
ZR-88	-8.651E-03	3.059E-02	5.407E-02	0.000E+00	NOT IDENT.
Y-91	1.245E+01	1.556E+01	2.857E+01	0.000E+00	NOT IDENT.
NB-94	-1.514E-02	3.285E-02	5.488E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.549E-01	2.571E-01	0.000E+00	NOT IDENT.
ZR-95	8.624E-02	7.144E-02	1.316E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.843E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.335E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.565E+01	2.794E+01	4.344E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.529E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.440E-03	3.796E-02	6.586E-02	0.000E+00	NOT IDENT.
RH-102	1.922E-02	2.851E-02	5.219E-02	0.000E+00	FAIL ABUN
RU-103	1.363E-02	4.139E-02	7.428E-02	0.000E+00	FAIL ABUN
RH-106	6.699E-02	2.958E-01	5.213E-01	0.000E+00	FAIL ABUN
RU-106	6.699E-02	2.957E-01	5.213E-01	0.000E+00	FAIL ABUN
AG-108M	-1.718E-02	3.179E-02	5.500E-02	0.000E+00	NOT IDENT.
CD-109	2.388E+00	2.630E+00	3.125E+00	0.000E+00	NOT IDENT.
AG-110M	9.873E-03	3.996E-02	6.111E-02	0.000E+00	NOT IDENT.
IN-111	-1.726E+00	2.666E+00	3.908E+00	0.000E+00	NOT IDENT.
IN-113M	-2.847E-02	4.395E-02	7.630E-02	0.000E+00	NOT IDENT.
SN-113	-2.847E-02	4.395E-02	7.630E-02	0.000E+00	NOT IDENT.
IN-114M	-9.375E-02	2.428E-01	3.683E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.521E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	3.592E-02	8.961E-02	1.419E-01	0.000E+00	NOT IDENT.
SB-122	1.669E+00	4.536E+00	7.090E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.986E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.800E-02	4.032E-02	6.395E-02	0.000E+00	NOT IDENT.
I-124	4.469E-01	1.133E+00	1.765E+00	0.000E+00	FAIL ABUN
SB-124	-1.612E-03	5.022E-02	8.382E-02	0.000E+00	FAIL ABUN
SB-125	-3.593E-02	8.632E-02	1.504E-01	0.000E+00	NOT IDENT.
TE-125M	0.000E+00	1.821E+01	3.008E+01	0.000E+00	NOT IDENT.
I-126	7.163E-02	2.218E-01	3.416E-01	0.000E+00	NOT IDENT.
SB-126	3.547E-02	1.688E-01	2.679E-01	0.000E+00	NOT IDENT.
SN-126	0.000E+00	2.513E-01	3.028E-01	0.000E+00	FAIL ABUN
SB-127	-1.510E+00	2.120E+00	3.464E+00	0.000E+00	NOT IDENT.
XE-127	4.610E-02	6.708E-02	1.060E-01	0.000E+00	FAIL ABUN
I-131	6.130E-02	1.445E-01	2.649E-01	0.000E+00	NOT IDENT.
TE-132	-2.136E-01	1.443E+00	2.511E+00	0.000E+00	FAIL ABUN
BA-133	3.117E-03	4.825E-02	7.595E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.686E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.160E-02	4.587E-02	8.659E-02	0.000E+00	FAIL ABUN
CS-135	1.138E-01	1.790E-01	2.946E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.753E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.277E-02	1.038E-01	1.847E-01	0.000E+00	FAIL ABUN
CE-139	5.810E-02	4.217E-02	6.889E-02	0.000E+00	NOT IDENT.
BA-140	-1.079E-01	2.821E-01	4.799E-01	0.000E+00	FAIL ABUN
LA-140	-5.737E-02	7.912E-02	1.190E-01	0.000E+00	NOT IDENT.
CE-141	0.000E+00	1.109E-01	1.896E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.340E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.935E-01	2.859E-01	5.047E-01	0.000E+00	NOT IDENT.

PM-144	-3.041E-02	3.438E-02	5.582E-02	0.000E+00	NOT IDENT.
PR-144	-2.064E+00	2.334E+00	3.788E+00	0.000E+00	NOT IDENT.
PM-146	2.830E-02	4.264E-02	7.809E-02	0.000E+00	NOT IDENT.
ND-147	3.888E-01	6.443E-01	1.167E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.175E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	3.701E-02	1.203E-01	1.697E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	2.000E-01	3.040E-01	0.000E+00	FAIL ABUN
EU-154	-2.807E-02	9.685E-02	1.620E-01	0.000E+00	NOT IDENT.
EU-155	-3.390E-01	1.739E-01	2.901E-01	0.000E+00	NOT IDENT.
TB-160	-1.130E-02	1.398E-01	2.352E-01	0.000E+00	FAIL ABUN
HO-166M	-2.106E-02	5.912E-02	9.929E-02	0.000E+00	FAIL ABUN
TM-171	-9.907E+01	5.474E+01	8.527E+01	0.000E+00	NOT IDENT.
LU-176	-4.129E-03	2.441E-02	4.409E-02	0.000E+00	NOT IDENT.
LU-177	2.136E+00	1.811E+00	2.918E+00	0.000E+00	FAIL ABUN
LU-177M	-2.078E-01	1.679E-01	2.803E-01	0.000E+00	FAIL ABUN
HF-181	-1.260E-03	4.249E-02	7.501E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	1.441E+00	1.795E+00	0.000E+00	NOT IDENT.
TA-182	-7.993E-02	1.626E-01	2.698E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	2.032E-01	2.855E-01	0.000E+00	FAIL ABUN
RE-184	-8.375E-02	2.963E-01	4.421E-01	0.000E+00	NOT IDENT.
OS-185	-2.405E-02	4.183E-02	6.968E-02	0.000E+00	NOT IDENT.
RE-188	-5.414E-03	2.195E-01	3.922E-01	0.000E+00	NOT IDENT.
W-188	3.623E+00	8.411E+00	1.368E+01	0.000E+00	FAIL ABUN
IR-192	6.809E-03	3.469E-02	6.348E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	5.839E-01	8.536E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.784E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.127E+01	1.831E+01	2.915E+01	0.000E+00	NOT IDENT.
TL-202	2.013E-02	7.720E-02	1.391E-01	0.000E+00	NOT IDENT.
HG-203	1.735E-02	4.130E-02	7.664E-02	0.000E+00	FAIL ABUN
BI-207	-4.278E-02	3.947E-02	6.244E-02	0.000E+00	FAIL ABUN
TL-207	-8.983E-01	6.391E-01	1.058E+00	0.000E+00	FAIL ABUN
PO-209	7.016E+00	6.911E+00	1.258E+01	0.000E+00	NOT IDENT.
BI-210	8.161E-01	5.145E+00	9.719E+00	0.000E+00	NOT IDENT.
PB-210	8.161E-01	5.145E+00	9.719E+00	0.000E+00	NOT IDENT.
PO-210	8.161E-01	5.145E+00	9.719E+00	0.000E+00	NOT IDENT.
PB-211	-6.240E-01	1.005E+00	1.613E+00	0.000E+00	NOT IDENT.
PO-215	-8.983E-01	6.391E-01	1.058E+00	0.000E+00	FAIL ABUN
RN-219	-9.984E-03	3.978E-01	7.108E-01	0.000E+00	FAIL ABUN
RN-220	8.586E+00	2.547E+01	4.549E+01	0.000E+00	NOT IDENT.
RA-223	-8.983E-01	6.391E-01	1.058E+00	0.000E+00	FAIL ABUN
AC-227	0.000E+00	5.253E-01	8.399E-01	0.000E+00	NOT IDENT.
TH-227	0.000E+00	5.318E-01	8.399E-01	0.000E+00	FAIL ABUN
TH-229	2.820E-01	5.761E-01	1.033E+00	0.000E+00	FAIL ABUN
PA-231	-6.326E-01	1.532E+00	2.716E+00	0.000E+00	NOT IDENT.
TH-231	-8.983E-01	6.391E-01	1.058E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	4.928E+00	6.310E+00	0.000E+00	FAIL ABUN
PA-233	-4.185E-02	6.433E-02	1.138E-01	0.000E+00	FAIL ABUN
PA-234	3.094E-01	2.916E-01	5.226E-01	0.000E+00	FAIL ABUN
NP-236	3.421E-02	1.137E-01	1.793E-01	0.000E+00	FAIL ABUN
NP-237	0.000E+00	7.667E-01	8.910E-01	0.000E+00	NOT IDENT.
NP-239	2.036E-01	3.039E-01	4.920E-01	0.000E+00	FAIL ABUN
AM-241	0.000E+00	3.230E-01	5.448E-01	0.000E+00	NOT IDENT.
CM-243	-1.080E-01	1.666E-01	2.611E-01	0.000E+00	FAIL ABUN
AM-246	8.864E-02	1.156E-01	2.139E-01	0.000E+00	NOT IDENT.
CM-247	1.070E-02	3.567E-02	6.468E-02	0.000E+00	NOT IDENT.
CF-249	1.546E-02	3.935E-02	7.178E-02	0.000E+00	NOT IDENT.
CF-251	-1.713E-02	1.560E-01	2.761E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978004.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:18:29
Sample ID          : G245978004          Sample quantity   : 1.64730E+02 GRAM
Detector name      : GAM19              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time  : 0 02:00:02.56  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity        : 5.00000
Batch ID           : 948721             Detector SN#       :
Matrix Spike ID    :                    LCS ID             : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1204	10.67*	1.168E+00	2.200E+01	2.200E+01	9.54
NB-95	765.79	415	99.81*	2.031E+00	4.665E-01	5.670E-01	19.40
BA-137M	661.65	166	89.98*	2.301E+00	1.826E-01	1.828E-01	37.65
CS-137	661.65	166	85.12*	2.301E+00	1.931E-01	1.933E-01	37.65
TL-208	277.35	-----	6.80	4.511E+00	-----	Line Not Found	-----
	510.84	82	21.60	2.843E+00	3.042E-01	3.042E-01	109.38
	583.14	343	84.20*	2.554E+00	3.634E-01	3.634E-01	20.38
	860.37	43	12.46	1.835E+00	4.315E-01	4.315E-01	106.21
BI-211	72.87	-----	1.27	4.857E+00	-----	Line Not Found	-----
	351.07	434	12.94*	3.788E+00	2.019E+00	2.019E+00	21.01
BI-212	727.18	126	11.80*	2.124E+00	1.145E+00	1.145E+00	40.23
	785.46	119	1.97	1.985E+00	6.925E+00	6.925E+00	42.57
	1620.62	-----	2.75	1.085E+00	-----	Line Not Found	-----
PB-212	74.81	422	10.70	5.086E+00	1.767E+00	1.767E+00	45.49
	77.11	518	18.00	5.302E+00	1.237E+00	1.237E+00	36.98
	87.30	-----	8.00	6.097E+00	-----	Line Not Found	-----
	238.63	1077	44.60*	5.018E+00	1.097E+00	1.097E+00	11.21
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
PO-212	74.81	422	10.70	5.086E+00	1.767E+00	1.767E+00	45.49
	77.11	518	18.00	5.302E+00	1.237E+00	1.237E+00	36.98
	87.30	-----	8.00	6.097E+00	-----	Line Not Found	-----
	115.19	-----	0.60	6.866E+00	-----	Line Not Found	-----
	238.63	1077	44.60*	5.018E+00	1.097E+00	1.097E+00	11.21
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
BI-214	609.31	276	46.30*	2.465E+00	5.514E-01	5.514E-01	27.76
	1120.29	66	15.10	1.455E+00	6.806E-01	6.806E-01	63.47
	1764.49	66	15.80	1.029E+00	9.201E-01	9.201E-01	35.76
PB-214	74.81	422	6.21	5.086E+00	3.045E+00	3.045E+00	45.13
	77.11	518	10.50	5.302E+00	2.120E+00	2.120E+00	37.76
	87.30	-----	4.67	6.097E+00	-----	Line Not Found	-----
	241.98	261	7.49	4.978E+00	1.593E+00	1.593E+00	39.62
	295.21	332	19.20	4.314E+00	9.146E-01	9.146E-01	28.77

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	434	37.20*	3.788E+00	7.023E-01	7.023E-01	21.65
	74.81	422	6.21	5.086E+00	3.045E+00	3.045E+00	45.13
	77.11	518	10.50	5.302E+00	2.120E+00	2.120E+00	37.76
	87.30	-----	4.67	6.097E+00	-----	Line Not Found	-----
	241.98	261	7.49	4.978E+00	1.593E+00	1.593E+00	39.62
PO-216	295.21	332	19.20	4.314E+00	9.146E-01	9.146E-01	28.77
	351.92	434	37.20*	3.788E+00	7.023E-01	7.023E-01	21.65
	74.81	422	10.70	5.086E+00	1.767E+00	1.767E+00	45.49
	77.11	518	18.00	5.302E+00	1.237E+00	1.237E+00	36.98
	87.30	-----	8.00	6.097E+00	-----	Line Not Found	-----
PO-218	238.63	1077	44.60*	5.018E+00	1.097E+00	1.097E+00	11.21
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
	74.81	422	6.21	5.086E+00	3.045E+00	3.045E+00	45.13
	77.11	518	10.50	5.302E+00	2.120E+00	2.120E+00	37.76
	87.30	-----	4.67	6.097E+00	-----	Line Not Found	-----
RA-224	241.98	261	7.49	4.978E+00	1.593E+00	1.593E+00	39.62
	295.21	332	19.20	4.314E+00	9.146E-01	9.146E-01	28.77
	351.92	434	37.20*	3.788E+00	7.023E-01	7.023E-01	21.65
	240.98	261	3.95*	4.978E+00	3.021E+00	3.021E+00	39.22
	609.31	276	46.30*	2.465E+00	5.514E-01	5.514E-01	27.76
AC-228	1120.29	66	15.10	1.455E+00	6.806E-01	6.806E-01	63.47
	1764.49	66	15.80	1.029E+00	9.201E-01	9.201E-01	35.76
	338.32	181	11.40	3.900E+00	9.294E-01	9.294E-01	57.42
	911.07	234	27.70*	1.746E+00	1.102E+00	1.102E+00	24.61
	969.11	113	16.60	1.654E+00	9.353E-01	9.353E-01	38.99
RA-228	338.32	181	11.40	3.900E+00	9.294E-01	9.294E-01	57.42
	911.07	234	27.70*	1.746E+00	1.102E+00	1.102E+00	24.61
	969.11	113	16.60	1.654E+00	9.353E-01	9.353E-01	38.99
	74.81	422	10.70	5.086E+00	1.767E+00	1.799E+00	44.53
	77.11	518	18.00	5.302E+00	1.237E+00	1.259E+00	36.98
TH-228	87.30	-----	8.00	6.097E+00	-----	Line Not Found	-----
	238.63	1077	44.60*	5.018E+00	1.097E+00	1.117E+00	11.21
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
	609.31	276	46.30*	2.465E+00	5.514E-01	5.514E-01	27.76
	1120.29	66	15.10	1.455E+00	6.806E-01	6.806E-01	63.47
TH-230	1764.49	66	15.80	1.029E+00	9.201E-01	9.201E-01	35.76
	338.32	181	11.40	3.900E+00	9.294E-01	9.294E-01	40.85
	911.07	234	27.70*	1.746E+00	1.102E+00	1.102E+00	24.61
	969.11	113	16.60	1.654E+00	9.353E-01	9.353E-01	38.99
	766.42	415	0.32	2.031E+00	1.455E+02	1.455E+02	53.63
PA-234M	1001.03	847	0.84*	1.607E+00	1.430E+02	1.430E+02	12.64
	63.29	5979	3.80*	3.621E+00	9.901E+01	9.901E+01	18.07
	92.38	15880	5.41	6.381E+00	1.048E+02	1.048E+02	18.12
	609.31	276	46.30*	2.465E+00	5.514E-01	5.514E-01	27.76
	1120.29	66	15.10	1.455E+00	6.806E-01	6.806E-01	63.47
U-234	1764.49	66	15.80	1.029E+00	9.201E-01	9.201E-01	35.76
	89.95	-----	2.70	6.249E+00	-----	Line Not Found	-----
	93.35	15880	4.50	6.381E+00	1.260E+02	1.260E+02	28.05
	105.00	-----	2.10	6.763E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	143.76	507	10.50*	6.633E+00	1.659E+00	1.659E+00	28.67
	163.35	275	4.70	6.300E+00	2.119E+00	2.119E+00	44.17
	185.71	2426	54.00	5.888E+00	1.739E+00	1.739E+00	8.16
	205.31	149	4.70	5.541E+00	1.301E+00	1.301E+00	63.18
U-238	63.29	5979	3.80*	3.621E+00	9.901E+01	9.901E+01	18.07
	92.38	15880	5.41	6.381E+00	1.048E+02	1.048E+02	8.70
AM-243	74.67	422	66.00*	5.086E+00	2.865E-01	2.865E-01	44.52
	86.72	-----	0.34	6.061E+00	-----	Line Not Found	-----
	117.66	-----	0.55	6.871E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.659E+00	-----	Line Not Found	-----
ANH-511	511.00	82	100.00*	2.843E+00	6.571E-02	6.571E-02	109.06

Flag: "*" = Keyline

Total number of lines in spectrum 38
Number of unidentified lines 3
Number of lines tentatively identified by NID 35 92.11%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.200E+01	2.200E+01	0.210E+01	9.54	
NB-95	64.02D	1.22	4.665E-01	5.670E-01	1.100E-01	19.40	
BA-137M	30.17Y	1.00	1.826E-01	1.828E-01	0.688E-01	37.65	
CS-137	30.17Y	1.00	1.931E-01	1.933E-01	0.728E-01	37.65	
TL-208	1.41E+10Y	1.00	3.634E-01	3.634E-01	0.740E-01	20.38	
BI-211	7.04E+08Y	1.00	2.019E+00	2.019E+00	0.424E+00	21.01	
BI-212	1.41E+10Y	1.00	1.145E+00	1.145E+00	0.461E+00	40.23	
PB-212	1.41E+10Y	1.00	1.097E+00	1.097E+00	0.123E+00	11.21	
PO-212	1.41E+10Y	1.00	1.097E+00	1.097E+00	0.123E+00	11.21	
BI-214	1600.00Y	1.00	5.514E-01	5.514E-01	1.531E-01	27.76	
PB-214	1600.00Y	1.00	7.023E-01	7.023E-01	1.520E-01	21.65	
PO-214	1600.00Y	1.00	7.023E-01	7.023E-01	1.520E-01	21.65	
PO-216	1.41E+10Y	1.00	1.097E+00	1.097E+00	0.123E+00	11.21	
PO-218	1600.00Y	1.00	7.023E-01	7.023E-01	1.520E-01	21.65	
RA-224	1.41E+10Y	1.00	3.021E+00	3.021E+00	1.185E+00	39.22	
RA-226	1600.00Y	1.00	5.514E-01	5.514E-01	1.531E-01	27.76	
AC-228	1.41E+10Y	1.00	1.102E+00	1.102E+00	0.271E+00	24.61	
RA-228	1.41E+10Y	1.00	1.102E+00	1.102E+00	0.271E+00	24.61	
TH-228	1.91Y	1.02	1.097E+00	1.117E+00	0.125E+00	11.21	
TH-230	4.47E+09Y	1.00	5.514E-01	5.514E-01	1.531E-01	27.76	
TH-232	1.41E+10Y	1.00	1.102E+00	1.102E+00	0.271E+00	24.61	
PA-234M	4.47E+09Y	1.00	1.430E+02	1.430E+02	0.181E+02	12.64	
TH-234	4.47E+09Y	1.00	9.901E+01	9.901E+01	1.789E+01	18.07	
U-234	4.47E+09Y	1.00	5.514E-01	5.514E-01	1.531E-01	27.76	
U-235	7.04E+08Y	1.00	1.659E+00	1.659E+00	0.476E+00	28.67	
U-238	4.47E+09Y	1.00	9.901E+01	9.901E+01	1.789E+01	18.07	
AM-243	7380.00Y	1.00	2.865E-01	2.865E-01	1.276E-01	44.52	
ANH-511	1.00E+09Y	1.00	6.571E-02	6.571E-02	7.166E-02	109.06	
Total Activity :			3.845E+02	3.846E+02			

Grand Total Activity : 3.845E+02 3.846E+02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978004

Page : 5
Acquisition date : 14-FEB-2010 11:18:29

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.06	462	3006	1.71	167.94	164	8	6.41E-02	42.3	5.88E+00	T
0	98.62	1037	1543	1.24	197.04	193	9	1.44E-01	15.1	6.61E+00	T
0	112.74	1190	2160	1.32	225.27	219	14	1.65E-01	17.7	6.85E+00	T
0	257.94	197	416	1.29	515.46	510	11	2.74E-02	42.5	4.75E+00	
0	270.19	116	389	1.44	539.94	534	12	1.61E-02	70.6	4.60E+00	T
0	568.17	190	131	2.57	1135.60	1128	15	2.64E-02	30.9	2.61E+00	T
0	743.40	93	173	2.17	1485.95	1476	17	1.29E-02	68.5	2.08E+00	T
1	965.12	58	37	2.01	1929.36	1925	19	7.99E-03	46.2	1.66E+00	T
0	1155.57	41	38	1.63	2310.29	2304	11	5.66E-03	66.8	1.42E+00	
0	1509.81	44	0	2.31	3019.02	3012	15	6.11E-03	30.2	1.14E+00	T
0	1738.67	10	15	1.50	3477.02	3471	10	1.46E-03	****	1.04E+00	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
*                               DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978004.CNF;1
* Acquisition date   : 14-FEB-2010 11:18:29  Detector SN#      :
* Detector ID        : GAM19                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:02.56             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                             *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245978004             Analyst initials: MXR1
* Batch Number       : 948721                 Sample Quantity : 1.64730E+02 GRAM
*****
*                               QC DATA                                *
*
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54.1MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.200E+01	2.098E+00	4.139E-01	3.082E-02	53.165
NB-95	5.670E-01	1.100E-01	6.063E-02	4.285E-03	9.351
BA-137M	1.828E-01	6.884E-02	5.629E-02	3.278E-03	3.248
CS-137	1.933E-01	7.278E-02	5.950E-02	3.479E-03	3.248
TL-208	3.634E-01	7.404E-02	5.878E-02	3.997E-03	6.182
BI-211	2.019E+00	4.242E-01	3.229E-01	2.062E-02	6.252
BI-212	1.145E+00	4.605E-01	4.661E-01	3.880E-02	2.456
PB-212	1.097E+00	1.230E-01	9.345E-02	6.745E-03	11.738
PO-212	1.097E+00	1.230E-01	9.345E-02	6.745E-03	11.738
BI-214	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
PB-214	7.023E-01	1.520E-01	1.125E-01	9.279E-03	6.240
PO-214	7.023E-01	1.520E-01	1.125E-01	9.279E-03	6.240
PO-216	1.097E+00	1.230E-01	9.345E-02	6.745E-03	11.738
PO-218	7.023E-01	1.520E-01	1.125E-01	9.279E-03	6.240
RA-224	3.021E+00	1.185E+00	1.063E+00	6.023E-02	2.842
RA-226	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
AC-228	1.102E+00	2.712E-01	1.864E-01	2.109E-02	5.910
RA-228	1.102E+00	2.712E-01	1.864E-01	2.109E-02	5.910

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.117E+00	1.252E-01	9.514E-02	6.867E-03	11.738
TH-230	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
TH-232	1.102E+00	2.712E-01	1.864E-01	2.109E-02	5.910
PA-234M	1.430E+02	1.808E+01	6.060E+00	5.641E-01	23.602
TH-234	9.901E+01	1.789E+01	3.693E+00	6.461E-01	26.814
U-234	5.514E-01	1.531E-01	1.080E-01	8.493E-03	5.105
U-235	1.659E+00	4.757E-01	4.561E-01	7.396E-02	3.637
U-238	9.901E+01	1.789E+01	3.693E+00	6.461E-01	26.814
AM-243	2.865E-01	1.276E-01	1.660E-01	1.317E-02	1.726
ANH-511	6.571E-02	7.166E-02	4.662E-02	2.751E-03	1.410

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.077E-01		3.379E-01	5.847E-01	3.969E-02	0.526
NA-22	-1.897E-02		3.589E-02	5.648E-02	3.767E-03	-0.336
NA-24	7.895E+00		6.314E+00	Half-Life too short		
AL-26	1.936E-03		2.643E-02	4.364E-02	2.548E-03	0.044
TI-44	2.283E-01	+	8.442E-02	1.125E-01	9.186E-03	2.028
SC-46	1.766E-02		3.877E-02	6.480E-02	5.631E-03	0.273
V-48	-7.789E-03		6.792E-02	1.078E-01	8.668E-03	-0.072
CR-51	1.064E-01		3.840E-01	6.517E-01	4.217E-02	0.163
MN-52	7.536E-02		2.464E-01	4.241E-01	3.059E-02	0.178
MN-54	-1.915E-02		3.582E-02	5.555E-02	4.419E-03	-0.345
CO-56	6.194E-03		3.904E-02	6.391E-02	5.185E-03	0.097
CO-57	2.184E-02		3.624E-02	5.977E-02	3.567E-03	0.365
CO-58	3.831E-03		3.855E-02	6.294E-02	4.823E-03	0.061
FE-59	2.371E-02		7.908E-02	1.355E-01	1.017E-02	0.175
CO-60	1.117E-03		3.243E-02	5.393E-02	3.974E-03	0.021
ZN-65	-1.823E-02		8.432E-02	1.182E-01	7.556E-03	-0.154
GE-68	1.951E-02		1.015E+00	1.701E+00	1.177E-01	0.011
AS-73	-1.196E-01		1.484E+00	2.449E+00	1.811E-01	-0.049
AS-74	-3.689E-02		9.686E-02	1.551E-01	9.186E-03	-0.238
SE-75	-7.392E-03		6.004E-02	7.677E-02	4.464E-03	-0.096
BR-77	1.678E+01		2.386E+01	4.089E+01	2.417E+00	0.410
SR-82	-8.098E-02		3.950E-01	6.314E-01	4.546E-02	-0.128
RB-83	2.279E-02		7.116E-02	1.195E-01	7.065E-03	0.191
RB-84	6.970E-02		7.262E-02	1.256E-01	1.078E-02	0.555
KR-85	1.186E+01		7.730E+00	1.229E+01	7.257E-01	0.965
SR-85	6.268E-02		4.084E-02	6.493E-02	3.834E-03	0.965
RB-86	-1.749E-01		7.155E-01	1.172E+00	8.118E-02	-0.149
Y-88	-3.452E-02		3.217E-02	4.198E-02	2.396E-03	-0.822
ZR-88	-8.651E-03		3.121E-02	5.132E-02	2.858E-03	-0.169
Y-91	1.245E+01		1.588E+01	2.807E+01	1.639E+00	0.444
NB-94	-1.514E-02		3.352E-02	5.301E-02	3.339E-03	-0.286
NB-95M	3.450E-01		1.580E-01	2.404E-01	1.781E-02	1.435
ZR-95	8.624E-02		7.290E-02	1.274E-01	1.020E-02	0.677

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	6.046E-01		9.406E-01	Half-Life too short		
ZR-97	5.732E+01		1.702E+01	Half-Life too short		
MO-99	1.565E+01		2.852E+01	4.203E+01	5.970E+00	0.372
TC-99M	6.449E+13		7.802E+13	Half-Life too short		
RH-101	-6.440E-03		3.873E-02	6.127E-02	3.324E-03	-0.105
RH-102	1.922E-02		2.909E-02	4.982E-02	2.908E-03	0.386
RU-103	1.363E-02		4.224E-02	7.101E-02	9.005E-03	0.192
RH-106	6.699E-02		3.019E-01	5.017E-01	5.913E-02	0.134
RU-106	6.699E-02		3.018E-01	5.017E-01	2.959E-02	0.134
AG-108M	-1.718E-02		3.244E-02	5.236E-02	3.261E-03	-0.328
CD-109	2.388E+00		2.683E+00	2.842E+00	2.545E-01	0.840
AG-110M	9.873E-03		4.078E-02	5.892E-02	3.656E-03	0.168
IN-111	-1.726E+00		2.721E+00	3.658E+00	2.080E-01	-0.472
IN-113M	-2.847E-02		4.485E-02	7.241E-02	4.321E-03	-0.393
SN-113	-2.847E-02		4.485E-02	7.241E-02	4.321E-03	-0.393
IN-114M	-9.375E-02		2.477E-01	3.422E-01	1.839E-02	-0.274
CD-115	-5.234E-06		1.286E-05	Half-Life too short		
SN-117M	3.592E-02		9.144E-02	1.312E-01	6.982E-03	0.274
SB-122	1.669E+00		4.628E+00	6.804E+00	4.039E-01	0.245
I-123	1.333E+02		1.523E+02	Half-Life too short		
TE-123M	1.800E-02		4.114E-02	5.912E-02	3.193E-03	0.304
I-124	4.469E-01		1.156E+00	1.697E+00	1.005E-01	0.263
SB-124	-1.612E-03		5.125E-02	8.327E-02	5.703E-03	-0.019
SB-125	-3.593E-02		8.808E-02	1.432E-01	8.524E-03	-0.251
TE-125M	3.908E+01		1.859E+01	2.752E+01	2.435E+00	1.420
I-126	7.163E-02		2.263E-01	3.295E-01	1.936E-02	0.217
SB-126	3.547E-02		1.723E-01	2.590E-01	1.687E-02	0.137
SN-126	3.811E-01		2.565E-01	2.753E-01	2.456E-02	1.384
SB-127	-1.510E+00		2.163E+00	3.344E+00	3.557E-01	-0.452
XE-127	4.610E-02		6.845E-02	9.869E-02	5.384E-03	0.467
I-131	6.130E-02		1.474E-01	2.508E-01	1.609E-02	0.244
TE-132	-2.136E-01		1.472E+00	2.346E+00	3.495E-01	-0.091
BA-133	3.117E-03		4.924E-02	7.188E-02	8.285E-03	0.043
I-133	-2.335E-02		2.901E-02	Half-Life too short		
CS-134	8.160E-02		4.681E-02	8.398E-02	6.315E-03	0.972
CS-135	1.138E-01		1.826E-01	2.765E-01	2.110E-02	0.412
I-135	-1.020E+11		2.935E+12	Half-Life too short		
CS-136	2.277E-02		1.059E-01	1.807E-01	1.397E-02	0.126
CE-139	5.810E-02		4.303E-02	6.376E-02	3.329E-03	0.911
BA-140	-1.079E-01		2.879E-01	4.598E-01	1.496E-01	-0.235
LA-140	-5.737E-02		8.074E-02	1.180E-01	7.982E-03	-0.486
CE-141	4.526E-01		1.132E-01	1.748E-01	1.007E-02	2.589
CE-143	2.783E-03		4.766E-04	Half-Life too short		
CE-144	-1.935E-01		2.917E-01	4.643E-01	6.577E-02	-0.417
PM-144	-3.041E-02		3.509E-02	5.391E-02	3.359E-03	-0.564
PR-144	-2.064E+00		2.381E+00	3.659E+00	2.278E-01	-0.564
PM-146	2.830E-02		4.351E-02	7.444E-02	6.411E-03	0.380
ND-147	3.888E-01		6.575E-01	1.118E+00	1.518E-01	0.348

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	-7.404E-05		1.110E-04	Half-Life too short		
EU-152	3.701E-02		1.228E-01	1.605E-01	1.044E-02	0.231
GD-153	1.203E+00	+	2.041E-01	2.772E-01	2.156E-02	4.341
EU-154	-2.807E-02		9.883E-02	1.595E-01	1.578E-02	-0.176
EU-155	-3.390E-01		1.774E-01	2.651E-01	1.907E-02	-1.279
TB-160	-1.130E-02		1.426E-01	2.288E-01	1.957E-02	-0.049
HO-166M	-2.106E-02		6.033E-02	9.596E-02	6.147E-03	-0.219
TM-171	-9.907E+01		5.586E+01	7.696E+01	5.850E+00	-1.287
LU-176	-4.129E-03		2.490E-02	4.154E-02	2.417E-03	-0.099
LU-177	2.136E+00		1.848E+00	2.719E+00	1.493E-01	0.786
LU-177M	-2.078E-01		1.713E-01	2.665E-01	1.506E-02	-0.780
HF-181	-1.260E-03		4.336E-02	7.163E-02	4.192E-03	-0.018
W-181	1.546E+01		1.471E+00	1.619E+00	1.225E-01	9.549
TA-182	-7.993E-02		1.660E-01	2.652E-01	1.599E-02	-0.301
RE-183	5.088E-01	+	2.074E-01	2.641E-01	1.391E-02	1.927
RE-184	-8.375E-02		3.023E-01	4.142E-01	2.367E-02	-0.202
OS-185	-2.405E-02		4.268E-02	6.714E-02	3.932E-03	-0.358
RE-188	-5.414E-03		2.240E-01	3.624E-01	1.947E-02	-0.015
W-188	3.623E+00		8.583E+00	1.286E+01	7.471E-01	0.282
IR-192	6.809E-03		3.540E-02	5.987E-02	3.498E-03	0.114
AU-195	3.513E+00	+	5.958E-01	7.787E-01	5.943E-02	4.511
TL-200	-1.444E-04		1.420E-03	Half-Life too short		
TL-201	1.127E+01		1.868E+01	2.699E+01	1.410E+00	0.418
TL-202	2.013E-02		7.877E-02	1.325E-01	7.610E-03	0.152
HG-203	1.735E-02		4.214E-02	7.201E-02	4.428E-03	0.241
BI-207	-4.278E-02		4.027E-02	6.111E-02	4.339E-03	-0.700
TL-207	-8.983E-01		6.521E-01	9.988E-01	1.650E-01	-0.899
PO-209	7.016E+00		7.052E+00	1.224E+01	1.076E+00	0.573
BI-210	8.161E-01		5.250E+00	8.687E+00	6.622E-01	0.094
PB-210	8.161E-01		5.250E+00	8.687E+00	6.622E-01	0.094
PO-210	8.161E-01		5.250E+00	8.687E+00	5.662E-01	0.094
PB-211	-6.240E-01		1.026E+00	1.532E+00	9.547E-01	-0.407
PO-215	-8.983E-01		6.521E-01	9.988E-01	1.650E-01	-0.899
RN-219	-9.984E-03		4.059E-01	6.751E-01	9.131E-02	-0.015
RN-220	8.586E+00		2.599E+01	4.362E+01	2.588E+00	0.197
RA-223	-8.983E-01		6.521E-01	9.988E-01	1.650E-01	-0.899
AC-227	8.877E-01		5.360E-01	7.872E-01	1.097E-01	1.128
TH-227	8.877E-01		5.427E-01	7.872E-01	1.328E-01	1.128
TH-229	2.820E-01		5.879E-01	9.602E-01	5.181E-02	0.294
PA-231	-6.326E-01		1.564E+00	2.553E+00	3.518E-01	-0.248
TH-231	-8.983E-01		6.521E-01	9.988E-01	1.650E-01	-0.899
U-231	2.281E+01		5.028E+00	5.751E+00	4.568E-01	3.965
PA-233	-4.185E-02		6.564E-02	1.073E-01	6.622E-03	-0.390
PA-234	3.094E-01		2.975E-01	5.096E-01	9.512E-02	0.607
NP-236	3.421E-02		1.161E-01	1.658E-01	8.784E-03	0.206
NP-237	9.529E-01		7.824E-01	8.098E-01	1.817E-01	1.177
NP-239	2.036E-01		3.101E-01	4.510E-01	2.820E-02	0.451
AM-241	7.652E-01		3.296E-01	4.902E-01	4.036E-02	1.561

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.080E-01		1.700E-01	2.385E-01	1.715E-02	-0.453
AM-246	8.864E-02		1.179E-01	2.095E-01	1.445E-02	0.423
CM-247	1.070E-02		3.639E-02	6.144E-02	3.446E-03	0.174
CF-249	1.546E-02		4.015E-02	6.810E-02	3.803E-03	0.227
CF-251	-1.713E-02		1.592E-01	2.560E-01	1.353E-02	-0.067

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978004            *
* Acquisition date   : 14-FEB-2010 11:18:29 Detector SN#                   *
* Detector ID        : GAM19 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:02.56 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245978004 Analyst initials: MXR1                 *
* Batch Number       : 948721 Sample Quantity : 1.6473E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                 *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54 MS Isotope                   :
* MSD DPM             : 0.000 MSD Isotope                               :
* LCS DPM             : 0.000 LCS Isotope                               :
* LCSD DPM            : 0.000 LCSD Isotope                              :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.200E+01	2.057E+00	2.094E-01	1.049E+00
NB-95	5.670E-01	1.078E-01	3.132E-02	5.500E-02
BA-137M	1.828E-01	6.746E-02	2.920E-02	3.442E-02
CS-137	1.933E-01	7.132E-02	3.087E-02	3.639E-02
TL-208	3.634E-01	7.256E-02	3.061E-02	3.702E-02
BI-211	2.019E+00	4.157E-01	1.708E-01	2.121E-01
BI-212	1.145E+00	4.513E-01	2.411E-01	2.303E-01
PB-212	1.097E+00	1.205E-01	4.999E-02	6.148E-02
PO-212	1.097E+00	1.205E-01	4.999E-02	6.148E-02
BI-214	5.514E-01	1.500E-01	5.618E-02	7.654E-02
PB-214	7.023E-01	1.490E-01	5.952E-02	7.602E-02
PO-214	7.023E-01	1.490E-01	5.952E-02	7.602E-02
PO-216	1.097E+00	1.205E-01	4.999E-02	6.148E-02
PO-218	7.023E-01	1.490E-01	5.952E-02	7.602E-02
RA-224	3.021E+00	1.161E+00	5.684E-01	5.924E-01
RA-226	5.514E-01	1.500E-01	5.618E-02	7.654E-02
AC-228	1.102E+00	2.658E-01	9.577E-02	1.356E-01
RA-228	1.102E+00	2.658E-01	9.577E-02	1.356E-01
TH-228	1.117E+00	1.227E-01	5.089E-02	6.259E-02
TH-230	5.514E-01	1.500E-01	5.618E-02	7.653E-02
TH-232	1.102E+00	2.658E-01	9.577E-02	1.356E-01
PA-234M	1.430E+02	1.772E+01	3.104E+00	9.039E+00
TH-234	9.901E+01	1.753E+01	2.050E+00	8.946E+00
U-234	5.514E-01	1.500E-01	5.618E-02	7.653E-02
U-235	1.659E+00	4.662E-01	2.475E-01	2.378E-01
U-238	9.901E+01	1.753E+01	2.050E+00	8.946E+00
AM-243	2.865E-01	1.250E-01	9.176E-02	6.378E-02
ANH-511	6.571E-02	7.023E-02	2.438E-02	3.583E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	3.077E-01	3.312E-01	3.064E-01	1.690E-01	NOT IDENT.
NA-22	-1.897E-02	3.517E-02	2.870E-02	1.794E-02	NOT IDENT.
NA-24	7.895E+06	1.238E+07	0.000E+00	6.314E+06	SHORT HLIF
AL-26	1.936E-03	2.591E-02	2.193E-02	1.322E-02	NOT IDENT.
TI-44	2.283E-01	8.273E-02	6.211E-02	4.221E-02	FAIL ABUN
SC-46	1.766E-02	3.799E-02	3.331E-02	1.938E-02	FAIL ABUN
V-48	-7.789E-03	6.656E-02	5.525E-02	3.396E-02	NOT IDENT.
CR-51	1.064E-01	3.764E-01	3.456E-01	1.920E-01	NOT IDENT.
MN-52	7.536E-02	2.415E-01	2.147E-01	1.232E-01	FAIL ABUN
MN-54	-1.915E-02	3.511E-02	2.861E-02	1.791E-02	NOT IDENT.
CO-56	6.194E-03	3.826E-02	3.291E-02	1.952E-02	NOT IDENT.
CO-57	2.184E-02	3.552E-02	3.259E-02	1.812E-02	NOT IDENT.
CO-58	3.831E-03	3.778E-02	3.245E-02	1.927E-02	NOT IDENT.
FE-59	2.371E-02	7.750E-02	6.921E-02	3.954E-02	FAIL ABUN
CO-60	1.117E-03	3.178E-02	2.737E-02	1.622E-02	NOT IDENT.
ZN-65	-1.823E-02	8.263E-02	6.032E-02	4.216E-02	NOT IDENT.
GE-68	1.951E-02	9.944E-01	8.693E-01	5.074E-01	NOT IDENT.
AS-73	-1.196E-01	1.454E+00	1.366E+00	7.420E-01	NOT IDENT.
AS-74	-3.689E-02	9.492E-02	8.071E-02	4.843E-02	NOT IDENT.
SE-75	-7.392E-03	5.884E-02	4.094E-02	3.002E-02	NOT IDENT.
BR-77	1.678E+01	2.338E+01	2.137E+01	1.193E+01	FAIL ABUN
SR-82	-8.098E-02	3.871E-01	3.259E-01	1.975E-01	NOT IDENT.
RB-83	2.279E-02	6.973E-02	6.246E-02	3.558E-02	NOT IDENT.
RB-84	6.970E-02	7.117E-02	6.460E-02	3.631E-02	NOT IDENT.
KR-85	1.186E+01	7.575E+00	6.426E+00	3.865E+00	NOT IDENT.
SR-85	6.268E-02	4.002E-02	3.395E-02	2.042E-02	NOT IDENT.
RB-86	-1.749E-01	7.012E-01	5.986E-01	3.577E-01	NOT IDENT.
Y-88	-3.452E-02	3.153E-02	2.108E-02	1.609E-02	NOT IDENT.
ZR-88	-8.651E-03	3.059E-02	2.705E-02	1.561E-02	NOT IDENT.
Y-91	1.245E+01	1.556E+01	1.429E+01	7.941E+00	NOT IDENT.
NB-94	-1.514E-02	3.285E-02	2.745E-02	1.676E-02	NOT IDENT.
NB-95M	3.450E-01	1.549E-01	1.286E-01	7.901E-02	NOT IDENT.
ZR-95	8.624E-02	7.144E-02	6.584E-02	3.645E-02	NOT IDENT.
NB-97	6.046E+05	1.843E+06	0.000E+00	9.406E+05	SHORT HLIF
ZR-97	5.732E+07	3.335E+07	0.000E+00	1.702E+07	SHORT HLIF
MO-99	1.565E+01	2.794E+01	2.173E+01	1.426E+01	NOT IDENT.
TC-99M	6.449E+19	1.529E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.440E-03	3.796E-02	3.295E-02	1.937E-02	NOT IDENT.
RH-102	1.922E-02	2.851E-02	2.611E-02	1.455E-02	FAIL ABUN
RU-103	1.363E-02	4.139E-02	3.716E-02	2.112E-02	FAIL ABUN
RH-106	6.699E-02	2.958E-01	2.608E-01	1.509E-01	FAIL ABUN
RU-106	6.699E-02	2.957E-01	2.608E-01	1.509E-01	FAIL ABUN
AG-108M	-1.718E-02	3.179E-02	2.752E-02	1.622E-02	NOT IDENT.
CD-109	2.388E+00	2.630E+00	1.563E+00	1.342E+00	NOT IDENT.
AG-110M	9.873E-03	3.996E-02	3.057E-02	2.039E-02	NOT IDENT.
IN-111	-1.726E+00	2.666E+00	1.955E+00	1.360E+00	NOT IDENT.
IN-113M	-2.847E-02	4.395E-02	3.817E-02	2.242E-02	NOT IDENT.
SN-113	-2.847E-02	4.395E-02	3.817E-02	2.242E-02	NOT IDENT.
IN-114M	-9.375E-02	2.428E-01	1.843E-01	1.239E-01	NOT IDENT.
CD-115	-5.234E+00	2.521E+01	0.000E+00	1.286E+01	SHORT HLIF
SN-117M	3.592E-02	8.961E-02	7.099E-02	4.572E-02	NOT IDENT.
SB-122	1.669E+00	4.536E+00	3.547E+00	2.314E+00	NOT IDENT.
I-123	1.333E+08	2.986E+08	0.000E+00	1.523E+08	SHORT HLIF
TE-123M	1.800E-02	4.032E-02	3.199E-02	2.057E-02	NOT IDENT.
I-124	4.469E-01	1.133E+00	8.831E-01	5.780E-01	FAIL ABUN
SB-124	-1.612E-03	5.022E-02	4.194E-02	2.562E-02	FAIL ABUN
SB-125	-3.593E-02	8.632E-02	7.527E-02	4.404E-02	NOT IDENT.
TE-125M	3.908E+01	1.821E+01	1.505E+01	9.293E+00	NOT IDENT.
I-126	7.163E-02	2.218E-01	1.709E-01	1.131E-01	NOT IDENT.
SB-126	3.547E-02	1.688E-01	1.340E-01	8.614E-02	NOT IDENT.
SN-126	3.811E-01	2.513E-01	1.515E-01	1.282E-01	FAIL ABUN
SB-127	-1.510E+00	2.120E+00	1.733E+00	1.082E+00	NOT IDENT.
XE-127	4.610E-02	6.708E-02	5.304E-02	3.422E-02	FAIL ABUN
I-131	6.130E-02	1.445E-01	1.325E-01	7.371E-02	NOT IDENT.
TE-132	-2.136E-01	1.443E+00	1.256E+00	7.360E-01	FAIL ABUN
BA-133	3.117E-03	4.825E-02	3.800E-02	2.462E-02	NOT IDENT.
I-133	-2.335E+04	5.686E+04	0.000E+00	2.901E+04	SHORT HLIF
CS-134	8.160E-02	4.587E-02	4.332E-02	2.340E-02	FAIL ABUN
CS-135	1.138E-01	1.790E-01	1.474E-01	9.132E-02	NOT IDENT.
I-135	-1.020E+17	5.753E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.277E-02	1.038E-01	9.241E-02	5.297E-02	FAIL ABUN
CE-139	5.810E-02	4.217E-02	3.446E-02	2.152E-02	NOT IDENT.
BA-140	-1.079E-01	2.821E-01	2.401E-01	1.439E-01	FAIL ABUN
LA-140	-5.737E-02	7.912E-02	5.952E-02	4.037E-02	NOT IDENT.
CE-141	4.526E-01	1.109E-01	9.484E-02	5.660E-02	NOT IDENT.
CE-143	2.783E+03	9.340E+02	0.000E+00	4.766E+02	SHORT HLIF
CE-144	-1.935E-01	2.859E-01	2.525E-01	1.459E-01	NOT IDENT.

PM-144	-3.041E-02	3.438E-02	2.792E-02	1.754E-02	NOT IDENT.
PR-144	-2.064E+00	2.334E+00	1.895E+00	1.191E+00	NOT IDENT.
PM-146	2.830E-02	4.264E-02	3.907E-02	2.175E-02	NOT IDENT.
ND-147	3.888E-01	6.443E-01	5.840E-01	3.287E-01	NOT IDENT.
PM-149	-7.404E+01	2.175E+02	0.000E+00	1.110E+02	SHORT HLIF
EU-152	3.701E-02	1.203E-01	8.491E-02	6.138E-02	FAIL ABUN
GD-153	1.203E+00	2.000E-01	1.521E-01	1.020E-01	FAIL ABUN
EU-154	-2.807E-02	9.685E-02	8.105E-02	4.941E-02	NOT IDENT.
EU-155	-3.390E-01	1.739E-01	1.451E-01	8.871E-02	NOT IDENT.
TB-160	-1.130E-02	1.398E-01	1.177E-01	7.132E-02	FAIL ABUN
HO-166M	-2.106E-02	5.912E-02	4.968E-02	3.016E-02	FAIL ABUN
TM-171	-9.907E+01	5.474E+01	4.266E+01	2.793E+01	NOT IDENT.
LU-176	-4.129E-03	2.441E-02	2.206E-02	1.245E-02	NOT IDENT.
LU-177	2.136E+00	1.811E+00	1.460E+00	9.239E-01	FAIL ABUN
LU-177M	-2.078E-01	1.679E-01	1.402E-01	8.566E-02	FAIL ABUN
HF-181	-1.260E-03	4.249E-02	3.753E-02	2.168E-02	NOT IDENT.
W-181	1.546E+01	1.441E+00	8.982E-01	7.353E-01	NOT IDENT.
TA-182	-7.993E-02	1.626E-01	1.350E-01	8.298E-02	FAIL ABUN
RE-183	5.088E-01	2.032E-01	1.428E-01	1.037E-01	FAIL ABUN
RE-184	-8.375E-02	2.963E-01	2.212E-01	1.512E-01	NOT IDENT.
OS-185	-2.405E-02	4.183E-02	3.486E-02	2.134E-02	NOT IDENT.
RE-188	-5.414E-03	2.195E-01	1.962E-01	1.120E-01	NOT IDENT.
W-188	3.623E+00	8.411E+00	6.842E+00	4.292E+00	FAIL ABUN
IR-192	6.809E-03	3.469E-02	3.176E-02	1.770E-02	FAIL ABUN
AU-195	3.513E+00	5.839E-01	4.270E-01	2.979E-01	FAIL ABUN
TL-200	-1.444E+02	2.784E+03	0.000E+00	1.420E+03	SHORT HLIF
TL-201	1.127E+01	1.831E+01	1.459E+01	9.342E+00	NOT IDENT.
TL-202	2.013E-02	7.720E-02	6.961E-02	3.939E-02	NOT IDENT.
HG-203	1.735E-02	4.130E-02	3.834E-02	2.107E-02	FAIL ABUN
BI-207	-4.278E-02	3.947E-02	3.124E-02	2.014E-02	FAIL ABUN
TL-207	-8.983E-01	6.391E-01	5.295E-01	3.260E-01	FAIL ABUN
PO-209	7.016E+00	6.911E+00	6.293E+00	3.526E+00	NOT IDENT.
BI-210	8.161E-01	5.145E+00	4.862E+00	2.625E+00	NOT IDENT.
PB-210	8.161E-01	5.145E+00	4.862E+00	2.625E+00	NOT IDENT.
PO-210	8.161E-01	5.145E+00	4.862E+00	2.625E+00	NOT IDENT.
PB-211	-6.240E-01	1.005E+00	8.068E-01	5.130E-01	NOT IDENT.
PO-215	-8.983E-01	6.391E-01	5.295E-01	3.260E-01	FAIL ABUN
RN-219	-9.984E-03	3.978E-01	3.556E-01	2.030E-01	FAIL ABUN
RN-220	8.586E+00	2.547E+01	2.276E+01	1.300E+01	NOT IDENT.
RA-223	-8.983E-01	6.391E-01	5.295E-01	3.260E-01	FAIL ABUN
AC-227	8.877E-01	5.253E-01	4.202E-01	2.680E-01	NOT IDENT.
TH-227	8.877E-01	5.318E-01	4.202E-01	2.713E-01	FAIL ABUN
TH-229	2.820E-01	5.761E-01	5.167E-01	2.939E-01	FAIL ABUN
PA-231	-6.326E-01	1.532E+00	1.359E+00	7.818E-01	NOT IDENT.
TH-231	-8.983E-01	6.391E-01	5.295E-01	3.260E-01	FAIL ABUN
U-231	2.281E+01	4.928E+00	3.157E+00	2.514E+00	FAIL ABUN
PA-233	-4.185E-02	6.433E-02	5.692E-02	3.282E-02	FAIL ABUN
PA-234	3.094E-01	2.916E-01	2.614E-01	1.488E-01	FAIL ABUN
NP-236	3.421E-02	1.137E-01	8.972E-02	5.803E-02	FAIL ABUN
NP-237	9.529E-01	7.667E-01	4.458E-01	3.912E-01	NOT IDENT.
NP-239	2.036E-01	3.039E-01	2.462E-01	1.550E-01	FAIL ABUN
AM-241	7.652E-01	3.230E-01	2.726E-01	1.648E-01	NOT IDENT.
CM-243	-1.080E-01	1.666E-01	1.306E-01	8.502E-02	FAIL ABUN
AM-246	8.864E-02	1.156E-01	1.070E-01	5.896E-02	NOT IDENT.
CM-247	1.070E-02	3.567E-02	3.236E-02	1.820E-02	NOT IDENT.
CF-249	1.546E-02	3.935E-02	3.591E-02	2.008E-02	NOT IDENT.
CF-251	-1.713E-02	1.560E-01	1.381E-01	7.960E-02	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
46.50	1467.4465
46.50	1467.4465
46.50	1467.4465
48.70	1672.0861
49.72	1728.7484
51.35	1727.1632
52.39	1829.0560
52.97	1845.9365
53.15	1846.3176
53.44	1923.3497
54.07	2049.2434
56.28	2152.3008
56.28	2172.5291
57.37	0.0000
57.53	2058.2915
57.53	2058.2976
57.60	2058.4492
57.98	2141.2295
57.98	2141.2295
59.32	2232.6799
59.32	2232.6799
59.40	2232.8699
59.54	2233.2065
59.72	2233.6343
60.01	2288.0120
61.10	2421.8625
61.14	2421.9607
61.30	2472.9651
63.00	2302.7195
63.29	2303.4094
63.29	2303.4094
63.58	2142.8301
64.28	2150.7134
65.12	2195.4133
65.20	2195.5906
65.20	2195.5906
66.05	2318.2373
66.72	2412.0151
66.83	2412.2837
66.91	2520.6182
67.20	2521.3438
67.20	2521.3438
67.75	2498.8433
67.85	2522.9788
68.90	2226.8220
68.90	2226.8220
69.30	2227.7007
69.67	2243.6599
70.82	2292.4553
70.82	2292.4553
70.83	2316.4280
72.80	2461.5640
72.87	2554.5078
72.87	2554.5078
74.67	2730.9011
74.81	2731.2651
74.81	2731.2651
74.81	2731.2651
74.81	2731.2651
74.81	2731.2651
74.81	2731.2651
74.81	2731.2651
74.97	2731.6709
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75.70	2733.5330
77.11	2737.1113
77.11	2737.1113

77.11	2737.1113
77.11	2737.1113
77.11	2737.1113
77.11	2737.1113
77.11	2737.1113
78.38	3081.6289
79.62	2873.1702
79.80	2873.6387
79.80	2873.6387
80.11	2995.2200
80.18	2995.4016
80.30	2995.7307
80.30	2995.7307
80.57	2996.4573
81.00	2997.6152
81.07	2997.7969
81.07	2997.7969
81.07	2997.7969
81.07	2997.7969
82.60	2878.1611
83.37	3121.0159
83.78	3122.1482
83.78	3122.1482
83.78	3122.1482
83.78	3122.1482
84.21	3249.5942
84.90	3296.3672
85.43	3070.0261
86.29	3072.3193
86.50	3072.8752
86.54	3072.9795
86.59	3073.1184
86.72	3073.4658
86.79	3073.6396
86.94	3074.0449
87.30	3074.9946
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87.57	3075.7126
87.88	3323.7803
88.03	3324.2056
88.36	3325.1440
88.47	3078.0752
89.95	3414.0950
91.11	3131.2783
92.29	3134.3699
92.38	3134.6050
92.38	3134.6050
93.35	3137.1206
94.00	3138.8018
94.67	1630.5908
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94.90	1630.9082
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94.90	1630.9082
94.90	1630.9082
95.87	1632.1960
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96.73	1633.3374
97.43	1634.2590
98.44	1421.3221
98.44	1421.3274
98.88	1405.4644
99.55	1213.0437
99.55	1213.0437
99.86	1172.4063
100.00	1172.5374
100.10	1172.6335
103.18	1267.4106
103.76	1287.6952
105.00	1416.9596
105.31	1418.9165
108.00	1311.6704
109.28	1369.0188

111.00	1499.6077
111.00	1499.6077
111.76	1265.1879
112.95	1266.3047
115.19	985.7230
116.30	1006.4145
117.00	985.3606
117.00	985.3606
117.66	990.8109
121.11	957.7003
121.62	950.7631
121.78	950.8712
122.06	945.8567
122.32	956.4374
122.32	956.4374
122.32	956.4374
122.32	956.4374
123.07	956.9458
127.23	1059.9762
129.76	906.9907
131.20	916.2560
133.02	954.0795
133.54	1000.5602
135.34	971.3093
136.00	902.3983
136.25	902.5490
136.48	917.3986
140.51	871.5729
140.51	0.0000
142.18	907.9538
142.65	933.5520
143.76	899.5883
144.24	851.7059
144.24	851.7059
144.24	851.7059
144.24	851.7059
145.22	825.1859
145.44	850.6668
147.16	761.8634
152.43	816.4054
152.70	796.3657
153.22	775.3799
154.21	751.4086
154.21	751.4086
154.21	751.4086
154.21	751.4086
155.03	765.6097
156.02	792.6766
158.56	709.2922
159.00	0.0000
159.00	689.0143
160.31	727.1069
161.27	693.3718
162.32	757.0368
162.64	733.2538
163.35	719.2421
163.89	694.4572
165.85	645.5987
167.43	637.6313
171.28	693.6052
171.86	697.0590
172.10	684.2628
176.55	665.5457
176.60	678.4882
181.06	649.5363
184.41	668.0552
185.71	598.6038
186.00	598.7008
190.27	566.0270
192.34	575.0612
193.63	538.1357
197.04	534.7612
198.01	560.0974
198.60	590.7946
200.40	549.8965
201.83	580.0071
202.84	576.8192
205.31	607.0948

208.36	492.5767
208.81	478.6631
209.75	505.2058
209.75	505.2058
210.97	494.9906
215.65	481.6490
216.55	463.1636
218.09	467.9274
222.10	455.6228
223.80	485.8154
226.40	453.2672
227.00	492.1068
227.08	492.1271
227.20	501.0020
228.16	485.7462
228.18	485.7496
228.18	485.7496
231.56	0.0000
235.69	399.7787
236.00	399.8392
236.00	399.8392
238.63	389.2185
238.63	389.2185
238.63	389.2185
238.63	389.2185
239.00	389.2853
240.98	389.6484
241.98	395.6245
241.98	395.6245
241.98	395.6245
244.69	399.6945
245.39	417.6723
247.94	400.8067
248.90	376.5616
249.79	351.0053
252.40	374.2585
252.85	381.4993
252.85	381.4993
254.15	0.0000
256.20	382.0817
256.20	382.0817
260.50	343.2824
260.90	0.0000
262.80	319.3440
264.65	339.8652
268.24	335.1443
268.79	321.6966
269.46	297.7332
269.46	297.7332
269.46	297.7332
269.46	297.7332
271.23	303.9822
273.65	340.4576
276.40	321.9058
277.35	294.7327
277.60	294.7645
277.60	294.7645
278.00	284.3517
278.60	290.7652
279.20	305.3363
279.53	320.7844
280.46	341.7621
281.68	297.4982
283.67	309.5516
284.30	311.4509
285.00	307.9099
285.90	0.0000
286.10	298.0588
286.10	298.0588
287.40	314.8140
288.45	0.0000
290.67	288.3128
290.80	297.4333
291.72	296.0309
293.26	0.0000
293.70	309.9470
295.21	337.5076
295.21	337.5076

295.21	337.5076
295.96	342.1738
296.50	349.8572
297.23	301.2740
298.57	293.8271
299.80	287.8835
299.80	287.8835
300.09	287.9182
300.09	287.9182
300.09	287.9182
300.09	287.9182
300.12	287.9220
301.29	236.4578
302.84	310.2024
303.76	322.2184
303.91	326.8171
304.40	315.8948
304.40	315.8948
304.84	300.3810
306.84	277.7118
308.46	260.4674
311.98	291.1470
316.51	253.9490
318.01	234.7668
319.02	235.7813
319.41	239.5018
320.08	233.1139
323.87	278.6790
323.87	278.6790
323.87	278.6790
323.87	278.6790
325.23	256.6681
328.77	241.3039
333.44	242.3579
334.20	245.5164
334.20	245.5164
334.30	245.5261
338.28	235.6941
338.28	235.6941
338.28	235.6941
338.28	235.6941
338.32	235.6972
338.32	235.6972
338.32	235.6972
340.50	224.4385
340.57	224.4444
344.27	220.8820
345.85	238.2312
350.59	0.0000
351.07	223.7783
351.92	223.8486
351.92	223.8486
351.92	223.8486
355.39	0.0000
356.01	228.8591
364.48	208.0166
366.43	222.2309
367.43	220.4330
367.94	0.0000
369.80	204.6624
374.96	195.6348
383.85	217.0120
387.95	206.9299
388.63	190.9112
391.69	218.5533
391.69	218.5533
392.90	211.0715
398.62	207.6944
400.65	197.3994
401.10	203.1250
401.81	202.2252
402.60	195.6321
404.84	230.9479
410.95	180.9500
411.60	189.5626
413.65	209.7090
414.70	184.9915
415.30	186.9369

415.76	176.4727
417.63	0.0000
418.52	184.2735
423.70	167.3737
427.08	178.0918
427.89	178.1395
432.53	167.8586
433.93	189.0474
439.47	164.3913
439.56	164.3976
439.89	155.7609
443.98	167.5196
444.90	159.8642
445.03	160.8333
445.03	160.8333
445.03	160.8333
445.03	160.8333
453.90	162.2537
463.38	165.6437
468.07	173.6444
473.00	182.6528
475.06	152.6323
475.35	146.8121
476.78	157.5762
477.59	152.7492
477.96	158.6046
482.03	154.9047
484.57	169.6500
487.03	127.8194
490.36	0.0000
492.35	0.0000
497.08	147.7798
507.63	0.0000
510.53	0.0000
510.84	156.2429
511.00	156.2497
511.85	156.2876
511.85	156.2876
513.99	137.6989
513.99	137.6989
520.41	146.8247
520.65	135.9954
527.90	0.0000
528.96	0.0000
529.64	148.2019
529.87	0.0000
531.02	129.4808
537.32	136.6456
543.00	143.8070
546.56	0.0000
549.76	136.1304
552.65	130.2708
555.20	133.3490
563.23	129.6572
563.90	123.0292
568.70	124.8566
569.32	106.5625
569.50	106.5677
569.67	111.5685
573.80	131.6988
574.00	131.7052
574.64	135.0626
578.91	116.8547
579.30	0.0000
583.14	142.3917
585.48	128.7688
591.81	132.8937
592.07	132.9034
593.00	131.7068
595.88	130.8030
600.56	145.0687
602.52	0.0000
602.71	125.9979
602.71	125.9979
603.60	139.4715
604.41	134.4596
604.70	129.4268
609.31	135.3053

609.31	135.3053
609.31	135.3053
609.31	135.3053
610.33	117.8345
612.46	138.1081
614.37	121.3271
618.01	113.3453
621.84	111.4314
621.84	111.4314
631.29	106.6252
633.02	112.7669
633.10	112.7696
634.78	114.8484
635.90	105.7316
636.97	108.8129
645.85	127.4017
646.12	126.3916
656.30	119.2188
657.75	124.3727
657.90	0.0000
661.65	120.7426
661.65	120.7426
664.57	0.0000
666.33	107.5635
666.33	107.5635
675.00	109.8448
677.61	101.6974
685.20	117.3204
692.80	120.6277
695.00	141.3231
696.49	144.4707
696.49	144.4707
697.00	132.1031
697.49	137.2796
698.33	129.0466
698.50	129.0527
699.00	120.8076
702.63	134.3450
706.10	132.3875
706.58	0.0000
706.67	119.9932
709.31	105.5760
711.68	123.2417
713.82	95.3265
717.42	111.9999
720.50	99.3316
721.93	0.0000
722.20	84.7870
722.78	103.8330
722.78	103.8330
722.89	103.8354
722.95	103.8379
723.30	103.8452
724.18	103.8672
727.18	121.6103
733.00	111.0182
735.90	127.0635
739.58	109.4502
742.81	112.6591
744.21	111.3047
747.13	88.7561
751.79	122.2987
752.31	120.2222
753.82	102.4861
755.35	71.1360
756.15	91.0293
756.87	97.6719
763.93	76.8639
765.79	91.2268
766.42	91.2395
766.84	91.2480
776.49	101.9566
778.00	96.7325
778.57	86.4638
778.89	92.3124
783.80	87.7319
785.46	115.8491
792.07	108.9869

795.84	85.5029
796.30	83.3994
798.80	118.3000
801.93	110.9832
805.60	83.5672
810.29	82.5932
810.76	88.9567
815.85	90.1133
817.79	78.4841
818.51	72.1321
819.60	74.2708
826.30	87.1270
828.27	0.0000
831.60	97.8623
831.96	98.9351
834.83	105.3809
836.80	0.0000
846.75	87.5054
848.13	91.7991
856.28	0.0000
856.80	96.2424
860.37	72.7713
867.32	75.0193
867.82	69.6671
871.10	72.9323
873.19	74.0369
874.81	88.0139
875.33	0.0000
876.40	89.1176
879.36	89.1703
880.27	78.4411
880.51	71.9988
881.50	72.0119
883.24	90.3164
884.67	100.0227
889.25	76.4325
896.60	66.8422
898.02	70.0972
899.00	70.1115
903.28	93.5623
911.07	72.4421
911.07	72.4421
911.07	72.4421
919.63	68.5951
920.93	81.8531
925.00	66.1379
925.24	66.1409
926.50	75.9182
935.52	61.9291
937.48	66.3003
944.10	66.3852
946.00	67.4992
949.00	89.3251
962.29	69.1672
964.01	65.5488
966.15	60.1106
968.20	60.1348
969.11	60.1455
969.11	60.1455
969.11	60.1455
977.42	57.1971
980.50	71.2350
983.50	60.3093
989.30	73.5479
996.32	75.1116
1001.03	59.5913
1001.68	59.5992
1004.76	56.6191
1021.30	0.0000
1024.50	0.0000
1034.80	68.2669
1036.00	69.2047
1037.82	62.7677
1038.57	59.0833
1038.76	0.0000
1045.16	63.7750
1046.59	65.6409
1048.07	61.0344

1050.47	63.8368
1050.47	63.8368
1062.04	49.1354
1063.62	58.4242
1076.63	61.3459
1077.35	57.6356
1078.86	52.0739
1085.78	53.9998
1099.22	58.7933
1112.02	60.7947
1112.84	63.2687
1115.52	67.3828
1120.29	56.1987
1120.29	56.1987
1120.29	56.1987
1120.29	56.1987
1120.51	52.9897
1121.28	56.2085
1124.00	0.0000
1129.67	50.0347
1131.51	0.0000
1147.95	0.0000
1167.94	67.9863
1173.22	58.5968
1175.09	63.3414
1177.93	66.2089
1189.05	62.5410
1204.90	58.9045
1205.75	0.0000
1213.00	83.7175
1221.42	79.0688
1230.97	67.7441
1235.34	88.7958
1236.41	0.0000
1238.25	62.0907
1246.25	58.3466
1260.41	0.0000
1271.85	37.4559
1274.45	53.8034
1274.54	57.6489
1291.56	45.2788
1298.22	0.0000
1312.09	41.5583
1325.50	31.9594
1325.50	31.9594
1332.49	39.7488
1333.61	41.6947
1360.21	31.1549
1362.66	0.0000
1365.15	40.9216
1368.21	21.4450
1368.53	0.0000
1376.25	25.3748
1384.27	38.1066
1394.10	29.3567
1395.20	24.4670
1407.95	31.3776
1434.06	21.6545
1436.60	23.6318
1457.56	0.0000
1460.81	23.7148
1489.15	27.7790
1509.49	10.9445
1596.49	29.2006
1620.62	15.1526
1678.03	0.0000
1691.02	11.2148
1691.02	11.2148
1706.46	0.0000
1750.46	0.0000
1764.49	7.0569
1764.49	7.0569
1764.49	7.0569
1764.49	7.0569
1770.23	3.5310
1771.40	41.1995
1791.20	0.0000
1808.65	16.5566

1836.01

25.9562

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978004

Total Uranium Activity	2.9533E+02	ug/g
Total Uranium Counting Unc.	5.2163E+01	ug/g
Total Uranium Tpu	2.6614E-05	ug/g
Total Uranium Mda	6.0993E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*   BATCH ID      : 948721          SAMPLE ID   : G245978004
*   ANALYST       : MXR1            DETECTOR    : GAM19
*   SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*   ANALYSIS DATE: 14-FEB-2010 11:18:29.90  SAMPLE ALQT: 164.730 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.972E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.728E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 7.634E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 3.772E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:22:39.25

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978005.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:19:06
Sample ID          : G245978005          Sample quantity  : 1.47470E+02 GRAM
Detector name      : GAM20              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:34.69 0.5%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 948721             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.52*	203	653	0.98	127.03	123	9	2.82E-02	24.3	
2	2	73.24	100	542	1.24	146.43	143	22	1.39E-02	41.7	2.39E+00
3	2	74.91	585	528	1.13	149.76	143	22	8.13E-02	7.8	
4	2	77.18*	855	429	1.08	154.29	143	22	1.19E-01	5.3	
5	3	87.28	343	502	1.39	174.46	165	29	4.76E-02	12.4	3.26E+00
6	3	89.90	217	480	1.32	179.69	165	29	3.02E-02	19.1	
7	3	92.82*	518	457	1.40	185.53	165	29	7.20E-02	9.1	
8	0	128.65	148	471	1.02	257.09	252	11	2.06E-02	29.4	
9	0	185.87*	289	323	1.34	371.37	367	9	4.01E-02	13.1	
10	0	209.19	149	284	0.89	417.94	414	9	2.07E-02	22.0	
11	6	238.61*	1495	194	1.12	476.72	470	18	2.08E-01	3.0	3.03E+00
12	6	241.61	408	270	1.79	482.70	470	18	5.66E-02	11.9	
13	0	270.33	129	267	1.46	540.08	535	12	1.79E-02	26.9	
14	0	295.18	532	204	1.28	589.71	584	12	7.39E-02	6.9	
15	0	299.89	77	127	1.06	599.12	596	7	1.07E-02	26.8	
16	0	328.37	56	176	1.32	656.03	652	9	7.73E-03	45.1	
17	0	338.38*	248	218	1.25	676.03	672	11	3.44E-02	13.3	
18	0	351.90*	726	205	1.14	703.04	697	13	1.01E-01	5.5	
19	0	409.82	57	89	1.32	818.76	814	9	7.91E-03	32.8	
20	0	463.25	92	111	1.28	925.54	920	12	1.28E-02	25.1	
21	0	510.81*	157	170	1.77	1020.57	1014	16	2.19E-02	22.3	
22	0	583.31*	426	88	1.35	1165.47	1160	12	5.92E-02	6.6	
23	0	609.37*	484	124	1.45	1217.58	1210	14	6.72E-02	6.8	
24	0	662.09	80	82	1.66	1322.97	1317	10	1.12E-02	23.9	
25	0	727.66	90	99	1.52	1454.04	1448	11	1.25E-02	23.9	
26	2	768.32	45	61	1.91	1535.34	1526	25	6.25E-03	38.2	1.12E+00
27	2	772.82	53	46	1.91	1544.34	1526	25	7.31E-03	31.3	
28	0	795.00	64	68	1.82	1588.69	1582	13	8.82E-03	29.6	
29	0	860.91	50	62	1.04	1720.50	1716	11	6.96E-03	33.3	
30	0	911.62*	323	65	1.50	1821.90	1816	14	4.49E-02	7.9	
31	1	965.33	55	71	1.84	1929.33	1924	20	7.57E-03	30.8	2.40E+00
32	1	969.32*	196	56	1.84	1937.33	1924	20	2.72E-02	10.6	
33	0	1004.09	81	97	5.47	2006.87	1993	24	1.12E-02	34.8	
34	0	1121.24	107	117	1.65	2241.25	2232	18	1.49E-02	25.6	
35	0	1378.10	40	20	1.60	2755.30	2748	13	5.62E-03	27.4	
36	0	1461.02	1712	39	1.85	2921.31	2911	19	2.38E-01	2.6	
37	0	1588.52	32	19	1.15	3176.61	3172	12	4.45E-03	32.0	
38	0	1729.92	31	3	1.32	3459.81	3454	13	4.34E-03	21.4	

Peak Search Report (continued)
Sample ID : G245978005

Page : 2
Acquisition date : 14-FEB-2010 11:19:06

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1764.77*	110	7	1.47	3529.62	3523	13	1.53E-02	11.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 13:22:42

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978005.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:19:06
Sample ID         : G245978005 Sample quantity : 147.47 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA20 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:34.69 0.5%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00
    
```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.260E+01	3.299E+00	4.286E-01	3.737E-02	76.074
CD-109	+	88.03	*	3.474E+00	9.230E-01	8.961E-01	8.473E-02	3.876
SN-126	+	64.28		1.152E+00	5.845E-01	5.725E-01	8.289E-02	2.011
	+	86.94		1.413E+00	6.840E-01	3.671E-01	1.524E-01	3.850
	+	87.57	*	3.400E-01	9.033E-02	8.795E-02	8.272E-03	3.865
BA-137M	+	661.65	*	9.361E-02	4.564E-02	5.409E-02	5.428E-03	1.731
CS-137	+	661.65	*	9.896E-02	4.825E-02	5.718E-02	5.747E-03	1.731
TL-208		277.35		3.889E-01	3.281E-01	5.549E-01	7.378E-02	0.701
	+	510.84		6.196E-01	2.864E-01	1.776E-01	2.220E-02	3.489
	+	583.14	*	4.776E-01	8.022E-02	4.677E-02	4.809E-03	10.211
	+	860.37		5.245E-01	3.534E-01	3.388E-01	3.591E-02	1.548
BI-211	+	72.87		3.421E+00	2.862E+00	3.465E+00	2.736E-01	0.987
	+	351.07	*	3.600E+00	5.274E-01	2.635E-01	2.524E-02	13.665
PB-212	+	74.81		2.300E+00	4.571E-01	3.985E-01	4.919E-02	5.772
	+	77.11		1.932E+00	2.607E-01	2.293E-01	1.897E-02	8.427
	+	87.30		1.572E+00	4.464E-01	4.075E-01	5.585E-02	3.859
	+	238.63	*	1.625E+00	1.991E-01	7.815E-02	8.311E-03	20.794
	+	300.09		1.285E+00	7.047E-01	9.229E-01	1.055E-01	1.392
PO-212	+	74.81		2.300E+00	4.571E-01	3.985E-01	4.919E-02	5.772
	+	77.11		1.932E+00	2.607E-01	2.293E-01	1.897E-02	8.427
	+	87.30		1.572E+00	4.464E-01	4.075E-01	5.585E-02	3.859
	+	115.19		1.756E+00	3.054E+00	5.026E+00	4.221E-01	0.349
	+	238.63	*	1.625E+00	1.991E-01	7.815E-02	8.311E-03	20.794
	+	300.09		1.285E+00	7.047E-01	9.229E-01	1.055E-01	1.392
BI-214	+	609.31	*	1.022E+00	1.790E-01	9.214E-02	1.025E-02	11.094
	+	1120.29		1.159E+00	6.066E-01	3.707E-01	4.010E-02	3.127
	+	1764.49		1.611E+00	3.806E-01	1.794E-01	1.474E-02	8.977
PB-214	+	74.81		3.963E+00	7.545E-01	6.867E-01	7.518E-02	5.772
	+	77.11		3.313E+00	5.133E-01	3.931E-01	4.421E-02	8.427
	+	87.30		2.694E+00	7.452E-01	6.980E-01	8.471E-02	3.859
	+	241.98		2.662E+00	7.000E-01	4.705E-01	5.261E-02	5.659
	+	295.21		1.563E+00	2.825E-01	1.792E-01	2.092E-02	8.723
	+	351.92	*	1.252E+00	1.947E-01	9.183E-02	1.001E-02	13.637
PO-214	+	74.81		3.963E+00	7.545E-01	6.867E-01	7.518E-02	5.772

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.313E+00	5.133E-01	3.931E-01	4.421E-02	8.427
	+	87.30		2.694E+00	7.452E-01	6.980E-01	8.471E-02	3.859
	+	241.98		2.662E+00	7.000E-01	4.705E-01	5.261E-02	5.659
	+	295.21		1.563E+00	2.825E-01	1.792E-01	2.092E-02	8.723
	+	351.92	*	1.252E+00	1.947E-01	9.183E-02	1.001E-02	13.637
	+	74.81		2.300E+00	4.571E-01	3.985E-01	4.919E-02	5.772
	+	77.11		1.932E+00	2.607E-01	2.293E-01	1.897E-02	8.427
	+	87.30		1.572E+00	4.464E-01	4.075E-01	5.585E-02	3.859
	+	238.63	*	1.625E+00	1.991E-01	7.815E-02	8.311E-03	20.794
	+	300.09		1.285E+00	7.047E-01	9.229E-01	1.055E-01	1.392
PO-218	+	74.81		3.963E+00	7.545E-01	6.867E-01	7.518E-02	5.772
	+	77.11		3.313E+00	5.133E-01	3.931E-01	4.421E-02	8.427
	+	87.30		2.694E+00	7.452E-01	6.980E-01	8.471E-02	3.859
RA-224	+	241.98		2.662E+00	7.000E-01	4.705E-01	5.261E-02	5.659
	+	295.21		1.563E+00	2.825E-01	1.792E-01	2.092E-02	8.723
	+	351.92	*	1.252E+00	1.947E-01	9.183E-02	1.001E-02	13.637
	+	240.98	*	5.048E+00	1.297E+00	8.892E-01	8.595E-02	5.677
	+	609.31	*	1.022E+00	1.790E-01	9.214E-02	1.025E-02	11.094
RA-226	+	1120.29		1.159E+00	6.066E-01	3.707E-01	4.010E-02	3.127
	+	1764.49		1.611E+00	3.806E-01	1.794E-01	1.474E-02	8.977
AC-228	+	338.32		1.354E+00	6.668E-01	3.160E-01	1.309E-01	4.285
	+	911.07	*	1.596E+00	3.185E-01	1.796E-01	2.200E-02	8.886
RA-228	+	969.11		1.705E+00	5.415E-01	2.862E-01	6.791E-02	5.958
	+	338.32		1.354E+00	6.668E-01	3.160E-01	1.309E-01	4.285
	+	911.07	*	1.596E+00	3.185E-01	1.796E-01	2.200E-02	8.886
TH-228	+	969.11		1.705E+00	5.415E-01	2.862E-01	6.791E-02	5.958
	+	74.81		2.342E+00	4.115E-01	4.057E-01	3.302E-02	5.772
	+	77.11		1.967E+00	2.654E-01	2.335E-01	1.931E-02	8.427
	+	87.30		1.601E+00	4.253E-01	4.148E-01	3.888E-02	3.859
TH-230	+	238.63	*	1.654E+00	2.027E-01	7.956E-02	8.461E-03	20.794
	+	300.09		1.308E+00	1.048E+00	9.396E-01	5.587E-01	1.392
	+	609.31	*	1.022E+00	1.790E-01	9.213E-02	1.025E-02	11.094
	+	1120.29		1.159E+00	6.066E-01	3.707E-01	4.010E-02	3.127
	+	1764.49		1.611E+00	3.806E-01	1.794E-01	1.474E-02	8.977
TH-232	+	338.32		1.354E+00	3.824E-01	3.160E-01	2.960E-02	4.285
	+	911.07	*	1.596E+00	3.185E-01	1.796E-01	2.200E-02	8.886
	+	969.11		1.705E+00	5.415E-01	2.862E-01	6.791E-02	5.958
TH-234	+	63.29	*	2.909E+00	1.503E+00	1.442E+00	2.505E-01	2.018
	+	92.38		3.401E+00	8.776E-01	5.867E-01	1.076E-01	5.797
U-234	+	609.31	*	1.022E+00	1.790E-01	9.213E-02	1.025E-02	11.094
	+	1120.29		1.159E+00	6.066E-01	3.707E-01	4.010E-02	3.127
	+	1764.49		1.611E+00	3.806E-01	1.794E-01	1.474E-02	8.977
NP-237	+	86.50	*	9.983E-01	3.359E-01	2.601E-01	5.884E-02	3.838
	+	95.87		-3.804E-01	8.624E-01	1.211E+00	2.998E-01	-0.314
U-238	+	63.29	*	2.909E+00	1.503E+00	1.442E+00	2.505E-01	2.018
	+	92.38		3.401E+00	6.913E-01	5.867E-01	5.363E-02	5.797
AM-243	+	74.67	*	3.729E-01	6.540E-02	6.475E-02	5.212E-03	5.760
	+	86.72		3.744E+01	9.948E+00	9.739E+00	9.060E-01	3.844
	+	117.66		-1.975E+00	3.229E+00	5.053E+00	4.230E-01	-0.391

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	6.540E+00	1.585E+01	2.572E+01	2.171E+00	0.254
		511.00	*	1.338E-01	6.085E-02	3.838E-02	3.576E-03	3.488

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-1.070E-01	2.937E-01	4.638E-01	4.509E-02	-0.231
NA-22		1274.54	*	-1.669E-02	3.960E-02	6.101E-02	5.054E-03	-0.274
NA-24		1368.53	*	-1.190E+01	3.960E-02	Half-Life too short		
AL-26		1129.67		-5.267E-01	1.701E+00	2.521E+00	2.135E-01	-0.209
		1808.65	*	-2.360E-03	1.822E-02	2.893E-02	2.350E-03	-0.082
TI-44		67.85		2.350E-02	3.679E-02	5.529E-02	4.160E-03	0.425
	+	78.38	*	3.566E-01	4.812E-02	6.413E-02	5.382E-03	5.561
SC-46		889.25	*	-2.404E-02	3.135E-02	4.762E-02	4.747E-03	-0.505
	+	1120.51		2.031E-01	1.055E-01	1.155E-01	9.882E-03	1.758
V-48		944.10		-7.620E-01	9.085E-01	1.376E+00	1.343E-01	-0.554
		983.50	*	-2.164E-02	7.014E-02	1.118E-01	1.068E-02	-0.194
		1312.09		6.245E-03	7.852E-02	1.274E-01	1.063E-02	0.049
CR-51		320.08	*	-5.332E-02	3.098E-01	5.080E-01	5.093E-02	-0.105
MN-52		744.21		7.292E-02	2.902E-01	4.940E-01	5.019E-02	0.148
		848.13		-8.308E+00	8.389E+00	1.263E+01	1.272E+00	-0.658
		935.52		6.241E-02	3.352E-01	5.603E-01	5.488E-02	0.111
		1246.25		-1.473E+00	1.080E+01	1.725E+01	1.417E+00	-0.085
		1333.61		-1.779E+00	5.945E+00	9.172E+00	7.684E-01	-0.194
		1434.06	*	-1.594E-01	2.896E-01	4.506E-01	3.814E-02	-0.354
MN-54		834.83	*	7.123E-04	3.156E-02	5.245E-02	5.298E-03	0.014
CO-56		846.75	*	1.605E-03	3.442E-02	5.727E-02	5.772E-03	0.028
		977.42		-9.129E-01	2.731E+00	4.216E+00	4.044E-01	-0.217
		1037.82		-7.854E-02	2.799E-01	4.454E-01	4.298E-02	-0.176
		1175.09		-2.404E-01	2.275E+00	3.656E+00	2.941E-01	-0.066
		1238.25		9.211E-02	9.324E-02	1.604E-01	1.357E-02	0.574
		1360.21		-2.979E-01	8.600E-01	1.381E+00	1.162E-01	-0.216
		1771.40		-4.904E-01	2.539E-01	2.790E-01	2.289E-02	-1.758
CO-57		122.06	*	1.340E-03	2.142E-02	3.450E-02	2.880E-03	0.039
		136.48		1.088E-01	1.821E-01	2.983E-01	2.700E-02	0.365
CO-58		810.76	*	-4.829E-03	3.409E-02	5.599E-02	5.685E-03	-0.086
FE-59		142.65		2.486E+00	2.602E+00	4.300E+00	3.632E-01	0.578
		192.34		1.085E-01	8.127E-01	1.384E+00	1.901E-01	0.078
		1099.22	*	-2.076E-02	8.787E-02	1.401E-01	1.321E-02	-0.148
		1291.56		6.253E-02	1.126E-01	1.917E-01	1.823E-02	0.326
CO-60		1173.22		1.310E-04	4.427E-02	7.179E-02	5.772E-03	0.002
		1332.49	*	-4.108E-03	3.211E-02	5.071E-02	4.248E-03	-0.081
ZN-65		1115.52	*	1.179E-02	8.677E-02	1.242E-01	1.069E-02	0.095
GE-68		1077.35	*	-5.469E-01	1.115E+00	1.732E+00	1.546E-01	-0.316
AS-73		53.44	*	5.204E-01	5.117E-01	8.719E-01	6.472E-02	0.597
AS-74		595.88	*	-4.032E-02	8.788E-02	1.352E-01	1.323E-02	-0.298
		634.78		-1.904E-01	3.305E-01	5.327E-01	5.299E-02	-0.357
SE-75		66.05		-8.824E-01	3.850E+00	5.589E+00	5.287E-01	-0.158

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-3.249E-01	6.999E-01	9.846E-01	1.360E-01	-0.330
		121.11		2.745E-02	1.164E-01	1.889E-01	2.080E-02	0.145
		136.00		1.797E-02	3.463E-02	5.657E-02	4.780E-03	0.318
		198.60		1.463E+00	1.449E+00	2.538E+00	2.554E-01	0.577
		264.65	*	-5.532E-03	3.986E-02	6.134E-02	6.073E-03	-0.090
		279.53		-3.676E-02	9.627E-02	1.576E-01	1.613E-02	-0.233
		303.91		-2.285E-01	1.935E+00	2.800E+00	3.465E-01	-0.082
		400.65		1.379E-01	2.183E-01	3.710E-01	4.072E-02	0.372
BR-77	+	87.88		1.718E+03	4.566E+02	6.308E+02	5.957E+01	2.724
		200.40		-2.659E+02	3.027E+02	4.923E+02	4.528E+01	-0.540
	+	239.00		6.000E+02	6.841E+01	7.864E+01	7.587E+00	7.630
		249.79		-5.473E+01	1.231E+02	2.017E+02	1.966E+01	-0.271
		281.68		-1.398E+01	1.789E+02	2.972E+02	2.955E+01	-0.047
		297.23		6.379E+02	1.645E+02	2.333E+02	2.295E+01	2.735
		303.76		-2.166E+01	3.739E+02	5.438E+02	5.320E+01	-0.040
		439.47		2.749E+02	2.811E+02	4.863E+02	4.272E+01	0.565
		484.57		-1.335E+02	4.419E+02	6.997E+02	6.393E+01	-0.191
		520.65	*	1.318E+01	1.845E+01	3.150E+01	2.955E+00	0.419
		574.64		-1.198E+02	3.907E+02	6.103E+02	5.912E+01	-0.196
		578.91		-1.822E+01	1.822E+02	2.518E+02	2.445E+01	-0.072
		585.48		2.525E+03	5.349E+02	9.182E+02	8.943E+01	2.749
		755.35		8.850E+01	3.180E+02	5.421E+02	5.509E+01	0.163
		817.79		-1.106E+01	2.485E+02	4.112E+02	4.164E+01	-0.027
SR-82		698.33		-1.451E+01	3.387E+01	5.514E+01	5.575E+00	-0.263
		776.49	*	-1.394E-01	3.462E-01	4.734E-01	4.810E-02	-0.294
		1395.20		2.518E+00	8.823E+00	1.533E+01	1.294E+00	0.164
RB-83		520.41	*	2.144E-02	5.625E-02	9.358E-02	8.776E-03	0.229
		529.64		7.901E-02	9.433E-02	1.611E-01	1.520E-02	0.490
		552.65		1.475E-01	1.695E-01	2.906E-01	2.781E-02	0.508
RB-84		881.50	*	5.773E-02	6.334E-02	1.125E-01	1.124E-02	0.513
KR-85		513.99	*	1.606E+01	6.685E+00	1.131E+01	1.056E+00	1.420
SR-85		513.99	*	8.484E-02	3.532E-02	5.974E-02	5.579E-03	1.420
RB-86		1076.63	*	-5.536E-02	7.492E-01	1.213E+00	1.083E-01	-0.046
Y-88		898.02		-9.068E-03	3.624E-02	5.865E-02	5.852E-03	-0.155
		1836.01	*	-4.885E-03	2.531E-02	3.982E-02	3.213E-03	-0.123
ZR-88		392.90	*	-1.952E-02	2.624E-02	4.085E-02	3.416E-03	-0.478
Y-91		1204.90	*	2.093E+00	1.745E+01	2.853E+01	2.317E+00	0.073
NB-94		702.63	*	-5.361E-03	2.916E-02	4.825E-02	4.882E-03	-0.111
		871.10		-1.759E-02	2.789E-02	4.328E-02	4.338E-03	-0.406
NB-95		765.79	*	6.196E-02	3.652E-02	6.735E-02	6.844E-03	0.920
NB-95M		235.69	*	3.504E-02	1.184E-01	1.784E-01	1.916E-02	0.196
ZR-95		724.18		5.626E-02	8.786E-02	1.364E-01	1.471E-02	0.412
		756.15	*	1.137E-02	6.060E-02	1.026E-01	1.120E-02	0.111
NB-97		657.90	*	9.410E-01	6.060E-02	Half-Life	too short	
		1024.50		-1.440E+01	6.060E-02	Half-Life	too short	
ZR-97		254.15		-1.626E+01	6.060E-02	Half-Life	too short	
		355.39		-3.769E+01	6.060E-02	Half-Life	too short	
		507.63	*	4.516E+01	6.060E-02	Half-Life	too short	
		602.52		2.778E+01	6.060E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1021.30			9.455E+01	6.060E-02	Half-Life	too short	
	1147.95			-3.892E+01	6.060E-02	Half-Life	too short	
	1362.66			6.789E+01	6.060E-02	Half-Life	too short	
	1750.46			-5.847E+01	6.060E-02	Half-Life	too short	
MO-99	140.51			-3.078E+01	4.877E+01	7.425E+01	2.052E+01	-0.415
	181.06			-1.382E+01	3.426E+01	4.671E+01	8.613E+00	-0.296
	366.43			1.018E+02	1.477E+02	2.527E+02	2.247E+01	0.403
	739.58	*		-1.173E+01	2.078E+01	3.307E+01	5.326E+00	-0.355
	778.00			-6.529E+01	6.578E+01	8.265E+01	8.399E+00	-0.790
TC-99M	140.51	*		-5.814E+13	6.578E+01	Half-Life	too short	
RH-101	+	127.23		7.689E-02	4.570E-02	4.349E-02	3.628E-03	1.768
		198.01	*	1.866E-02	2.651E-02	4.603E-02	4.220E-03	0.405
		325.23		-5.426E-03	2.051E-01	2.978E-01	2.844E-02	-0.018
RH-102		418.52		-1.700E-01	2.425E-01	3.767E-01	3.240E-02	-0.451
		475.06	*	-4.093E-03	2.564E-02	4.114E-02	3.730E-03	-0.099
		631.29		3.019E-02	4.640E-02	7.801E-02	7.750E-03	0.387
		697.49		-1.729E-02	7.012E-02	1.156E-01	1.169E-02	-0.150
	+	766.84		1.584E-01	1.220E-01	1.861E-01	1.891E-02	0.851
		1046.59		9.929E-03	1.073E-01	1.768E-01	1.619E-02	0.056
		1112.84		-1.742E-01	2.322E-01	2.923E-01	2.520E-02	-0.596
RU-103		497.08	*	1.704E-02	3.639E-02	6.082E-02	8.841E-03	0.280
	+	610.33		1.161E+01	2.553E+00	2.674E+00	4.640E-01	4.341
RH-106	+	511.85		6.721E-01	3.056E-01	3.835E-01	3.576E-02	1.752
		621.84	*	-1.488E-01	2.808E-01	4.268E-01	6.067E-02	-0.349
		1050.47		7.771E-01	2.278E+00	3.825E+00	3.491E-01	0.203
RU-106	+	511.85		6.721E-01	3.056E-01	3.835E-01	3.576E-02	1.752
		621.84	*	-1.488E-01	2.804E-01	4.268E-01	4.224E-02	-0.349
		1050.47		7.771E-01	2.278E+00	3.825E+00	3.491E-01	0.203
AG-108M		433.93	*	-1.804E-03	2.638E-02	4.283E-02	3.887E-03	-0.042
		614.37		1.670E-03	3.948E-02	5.524E-02	5.615E-03	0.030
		722.95		1.173E-02	3.663E-02	5.525E-02	5.764E-03	0.212
AG-110M		657.75	*	2.187E-02	3.296E-02	5.154E-02	5.280E-03	0.424
		677.61		-2.249E-02	2.542E-01	4.242E-01	4.362E-02	-0.053
		706.67		-3.109E-02	1.803E-01	2.985E-01	3.082E-02	-0.104
		763.93		6.495E-02	1.531E-01	2.323E-01	2.409E-02	0.280
		884.67		-9.404E-04	4.262E-02	6.947E-02	7.102E-03	-0.014
		937.48		-9.143E-02	1.036E-01	1.569E-01	1.579E-02	-0.583
		1384.27		1.371E-01	1.369E-01	2.330E-01	2.022E-02	0.588
IN-111		171.28		-1.041E+00	1.794E+00	2.762E+00	2.430E-01	-0.377
		245.39	*	6.207E-01	1.850E+00	2.797E+00	2.715E-01	0.222
IN-113M		391.69	*	-1.707E-02	3.799E-02	6.047E-02	5.216E-03	-0.282
SN-113		391.69	*	-1.707E-02	3.799E-02	6.047E-02	5.216E-03	-0.282
IN-114M		190.27	*	-1.962E-02	1.824E-01	2.717E-01	2.462E-02	-0.072
CD-115		260.90		1.594E-04	1.824E-01	Half-Life	too short	
		492.35		-1.249E-05	1.824E-01	Half-Life	too short	
		527.90	*	2.390E-05	1.824E-01	Half-Life	too short	
SN-117M		156.02		3.563E-01	2.308E+00	3.696E+00	3.178E-01	0.096
		158.56	*	2.734E-02	5.535E-02	8.892E-02	7.674E-03	0.308
SB-122		563.90	*	1.962E+00	3.719E+00	6.209E+00	5.980E-01	0.316

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	692.80			2.836E+01	8.008E+01	1.375E+02	1.389E+01	0.206
	159.00	*		-2.105E+01	8.008E+01	Half-Life	too short	
	528.96			2.018E+04	8.008E+01	Half-Life	too short	
TE-123M	159.00	*		-2.840E-03	2.567E-02	4.017E-02	3.490E-03	-0.071
I-124	602.71	*		-4.893E-01	1.055E+00	1.393E+00	1.367E-01	-0.351
	722.78			2.045E+00	6.148E+00	9.287E+00	9.419E-01	0.220
	1325.50			-1.533E+01	4.737E+01	7.300E+01	6.107E+00	-0.210
SB-124	1376.25			4.984E+01	4.823E+01	8.003E+01	6.741E+00	0.623
	1509.49			1.797E+01	2.039E+01	3.763E+01	3.190E+00	0.477
	1691.02			1.836E+00	4.467E+00	7.945E+00	6.625E-01	0.231
	602.71			-1.830E-02	3.946E-02	5.211E-02	5.117E-03	-0.351
	645.85			3.563E-01	4.410E-01	7.821E-01	8.161E-02	0.456
	709.31			-3.234E-02	2.399E+00	4.016E+00	4.067E-01	-0.008
	713.82			1.599E-01	1.363E+00	2.303E+00	3.032E-01	0.069
	722.78			1.109E-01	3.334E-01	5.036E-01	5.188E-02	0.220
	968.20	+		1.814E+01	4.208E+00	6.822E+00	6.577E-01	2.659
	1045.16			7.423E-01	2.338E+00	3.926E+00	3.598E-01	0.189
	1325.50			-8.880E-01	2.744E+00	4.228E+00	3.537E-01	-0.210
	1368.21			-1.057E+00	1.590E+00	2.455E+00	3.276E-01	-0.431
	1436.60			2.387E+00	3.216E+00	5.863E+00	4.962E-01	0.407
	1691.02	*		2.348E-02	5.715E-02	1.016E-01	8.833E-03	0.231
	427.89	*		9.054E-03	7.609E-02	1.252E-01	1.108E-02	0.072
SB-125	463.38	+		7.118E-01	3.637E-01	4.569E-01	4.399E-02	1.558
	600.56			1.369E-01	1.451E-01	2.490E-01	2.582E-02	0.550
	635.90			-9.668E-02	2.234E-01	3.642E-01	3.846E-02	-0.265
TE-125M	109.28	*		-8.402E-01	8.435E+00	1.356E+01	1.387E+00	-0.062
I-126	388.63			4.053E-02	2.015E-01	3.347E-01	2.819E-02	0.121
	666.33	*		2.716E-01	1.868E-01	3.125E-01	3.140E-02	0.869
	753.82			1.265E+00	1.404E+00	2.498E+00	2.539E-01	0.506
SB-126	223.80			3.105E-01	4.002E+00	6.763E+00	6.415E-01	0.046
	278.60			1.147E+00	2.518E+00	4.284E+00	4.264E-01	0.268
	296.50	+		1.826E+01	3.095E+00	3.879E+00	3.818E-01	4.707
	414.70			2.922E-02	8.324E-02	1.230E-01	1.054E-02	0.238
	415.30			1.100E+00	6.358E+00	1.017E+01	8.716E-01	0.108
	555.20			-4.502E-01	4.036E+00	6.433E+00	6.165E-01	-0.070
	573.80			-4.434E-03	1.001E+00	1.606E+00	1.555E-01	-0.003
	593.00			-7.101E-03	9.232E-01	1.478E+00	1.444E-01	-0.005
	656.30			2.966E-01	3.907E+00	5.774E+00	5.785E-01	0.051
	666.33			1.142E-01	7.859E-02	1.314E-01	1.321E-02	0.869
	675.00			1.473E+00	1.986E+00	3.503E+00	3.527E-01	0.421
	695.00			7.804E-02	8.140E-02	1.446E-01	1.461E-02	0.540
	697.00			4.020E-02	2.863E-01	4.847E-01	4.900E-02	0.083
	720.50	*		-8.479E-02	1.449E-01	2.162E-01	2.192E-02	-0.392
	856.80			-2.346E-01	5.076E-01	6.839E-01	6.877E-02	-0.343
SB-127	989.30			-9.217E-02	1.284E+00	2.092E+00	1.993E-01	-0.044
	1034.80			6.268E+00	8.942E+00	1.554E+01	1.436E+00	0.403
	1213.00			-4.106E+00	4.939E+00	7.371E+00	6.000E-01	-0.557
	61.10			2.264E+01	7.198E+01	1.072E+02	1.184E+01	0.211
	252.40			6.946E+00	6.788E+00	1.077E+01	4.580E+00	0.645

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	290.80			-2.107E+01	3.377E+01	4.705E+01	6.112E+00	-0.448
	411.60			1.225E+00	1.939E+01	2.794E+01	4.563E+00	0.044
	444.90			-1.526E+01	1.384E+01	2.047E+01	2.757E+00	-0.745
	473.00			8.433E-01	2.399E+00	3.987E+00	5.551E-01	0.212
	543.00			-1.151E+01	2.293E+01	3.525E+01	5.508E+00	-0.326
	603.60			-6.914E+00	1.797E+01	2.388E+01	3.372E+00	-0.290
	685.20	*		4.024E-01	1.808E+00	3.087E+00	4.116E-01	0.130
	698.50			-1.138E+01	2.326E+01	3.760E+01	6.500E+00	-0.303
	722.20			3.166E+01	4.249E+01	6.691E+01	8.821E+00	0.473
	783.80			5.162E+00	5.527E+00	9.728E+00	1.389E+00	0.531
XE-127	57.60			3.839E-01	4.107E+00	6.783E+00	4.847E-01	0.057
	145.22			-1.292E-01	6.854E-01	1.086E+00	9.202E-02	-0.119
	172.10			-2.808E-02	1.106E-01	1.730E-01	1.525E-02	-0.162
	202.84	*		1.879E-02	3.934E-02	6.776E-02	6.253E-03	0.277
	374.96			1.022E-01	1.747E-01	2.971E-01	2.590E-02	0.344
I-131	80.18			1.458E+00	4.974E+00	7.332E+00	6.343E-01	0.199
	284.30			-8.640E-01	1.651E+00	2.677E+00	2.768E-01	-0.323
	364.48	*		3.522E-02	1.233E-01	2.065E-01	1.941E-02	0.171
	636.97			-2.067E-01	1.658E+00	2.770E+00	2.879E-01	-0.075
TE-132	722.89			2.562E+00	7.892E+00	1.191E+01	1.216E+00	0.215
	49.72			-1.492E+01	1.939E+01	3.098E+01	3.437E+00	-0.482
	111.76			-3.555E+01	4.839E+01	7.470E+01	8.610E+00	-0.476
	116.30			2.137E+01	4.237E+01	6.951E+01	7.979E+00	0.308
	228.16	*		3.966E-02	1.094E+00	1.844E+00	3.094E-01	0.022
BA-133	53.15			2.198E+00	2.150E+00	3.665E+00	2.731E-01	0.600
	79.62			5.069E-01	1.099E+00	1.629E+00	2.470E-01	0.311
	81.00			8.682E-02	1.002E-01	1.210E-01	1.924E-02	0.717
	276.40			4.283E-01	3.544E-01	5.525E-01	8.438E-02	0.775
	302.84			1.480E-02	1.283E-01	1.891E-01	2.662E-02	0.078
	356.01	*		-2.415E-02	4.104E-02	5.619E-02	7.591E-03	-0.430
	383.85			5.887E-02	2.571E-01	4.279E-01	5.366E-02	0.138
I-133	+	510.53		1.336E+01	2.571E-01	Half-Life	too short	
		529.87	*	3.915E-02	2.571E-01	Half-Life	too short	
		706.58		-5.978E-01	2.571E-01	Half-Life	too short	
		856.28		-4.083E+00	2.571E-01	Half-Life	too short	
		875.33		2.936E-01	2.571E-01	Half-Life	too short	
		1236.41		2.250E+00	2.571E-01	Half-Life	too short	
		1298.22		-3.622E-01	2.571E-01	Half-Life	too short	
CS-134		475.35		4.205E-01	1.642E+00	2.713E+00	2.461E-01	0.155
		563.23		2.030E-01	3.078E-01	5.187E-01	5.032E-02	0.391
		569.32		2.343E-03	1.604E-01	2.579E-01	2.519E-02	0.009
		604.70		-5.760E-03	2.948E-02	4.012E-02	3.950E-03	-0.144
	+	795.84	*	1.023E-01	6.150E-02	7.821E-02	7.981E-03	1.308
		801.93		-2.933E-02	3.403E-01	5.296E-01	5.395E-02	-0.055
		1038.57		-7.335E-01	3.488E+00	5.592E+00	5.152E-01	-0.131
		1167.94		1.543E+00	2.247E+00	3.858E+00	3.122E-01	0.400
		1365.15		6.236E-01	1.077E+00	1.917E+00	1.690E-01	0.325
CS-135		268.24	*	1.814E-01	1.435E-01	2.268E-01	2.513E-02	0.800
I-135		288.45		-5.231E+12	1.435E-01	Half-Life	too short	

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	417.63			-1.259E+12	1.435E-01	Half-Life	too short	
	546.56			1.221E+11	1.435E-01	Half-Life	too short	
	836.80			1.052E+13	1.435E-01	Half-Life	too short	
	1038.76			-4.453E+12	1.435E-01	Half-Life	too short	
	1124.00			5.445E+13	1.435E-01	Half-Life	too short	
	1131.51			1.995E+12	1.435E-01	Half-Life	too short	
	1260.41	*		-1.901E+12	1.435E-01	Half-Life	too short	
	1457.56			4.180E+14	1.435E-01	Half-Life	too short	
	1678.03			4.949E+12	1.435E-01	Half-Life	too short	
	1706.46			-2.406E+13	1.435E-01	Half-Life	too short	
	1791.20			7.512E+12	1.435E-01	Half-Life	too short	
CS-136	66.91			-3.287E-01	7.300E-01	1.047E+00	1.552E-01	-0.314
	86.29	+		5.156E+00	1.456E+00	1.872E+00	2.487E-01	2.754
	153.22			6.602E-01	6.736E-01	1.113E+00	1.067E-01	0.593
	163.89			4.023E-01	1.083E+00	1.747E+00	1.700E-01	0.230
	176.55			-3.299E-01	3.909E-01	5.926E-01	5.548E-02	-0.557
	273.65			-3.757E-01	4.938E-01	6.858E-01	7.149E-02	-0.548
	340.57			2.859E-01	1.524E-01	2.438E-01	2.333E-02	1.173
	818.51			-4.415E-02	7.202E-02	1.129E-01	1.144E-02	-0.391
	1048.07	*		6.022E-03	1.220E-01	2.002E-01	1.901E-02	0.030
	1235.34			-1.666E-01	6.966E-01	1.105E+00	1.276E-01	-0.151
CE-139	165.85	*		-2.524E-02	2.732E-02	4.140E-02	3.614E-03	-0.610
BA-140	162.64			5.916E-01	7.596E-01	1.246E+00	1.144E-01	0.475
	304.84			-2.272E-01	1.299E+00	1.975E+00	5.610E-01	-0.115
	423.70			1.419E+00	1.938E+00	3.227E+00	1.046E+00	0.440
	537.32	*		-6.299E-02	2.654E-01	4.184E-01	1.396E-01	-0.151
LA-140	328.77	+		4.394E-01	3.991E-01	5.329E-01	5.299E-02	0.824
	432.53			-2.736E-01	1.926E+00	3.110E+00	2.843E-01	-0.088
	487.03			-1.256E-01	1.321E-01	1.970E-01	1.902E-02	-0.637
	751.79			-9.238E-01	1.671E+00	2.660E+00	2.914E-01	-0.347
	815.85			1.090E-01	3.064E-01	5.243E-01	5.761E-02	0.208
	867.82			1.151E+00	1.333E+00	2.209E+00	2.303E-01	0.521
	919.63			-7.022E-01	2.740E+00	4.131E+00	4.824E-01	-0.170
	925.24			5.419E-01	1.206E+00	2.060E+00	2.125E-01	0.263
	1596.49	*		-2.228E-02	8.185E-02	1.193E-01	1.007E-02	-0.187
CE-141	145.44	*		6.874E-04	6.132E-02	9.788E-02	8.451E-03	0.007
CE-143	57.37			-4.135E-04	6.132E-02	Half-Life	too short	
	231.56			8.548E-04	6.132E-02	Half-Life	too short	
	293.26	*		2.493E-03	6.132E-02	Half-Life	too short	
	350.59	+		1.203E-01	6.132E-02	Half-Life	too short	
	490.36			-5.516E-03	6.132E-02	Half-Life	too short	
	664.57			3.474E-03	6.132E-02	Half-Life	too short	
	721.93			5.843E-03	6.132E-02	Half-Life	too short	
CE-144	80.11			5.106E-01	1.802E+00	2.655E+00	2.274E-01	0.192
	133.54	*		6.686E-02	2.030E-01	2.941E-01	4.538E-02	0.227
PM-144	476.78			5.884E-03	6.026E-02	9.843E-02	9.695E-03	0.060
	618.01			2.761E-03	2.788E-02	4.490E-02	4.531E-03	0.061
	696.49	*		7.557E-03	3.104E-02	5.290E-02	5.349E-03	0.143
	778.57			-1.660E+00	2.202E+00	2.882E+00	2.929E-01	-0.576

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PR-144	696.49	*		5.129E-01	2.107E+00	3.590E+00	3.629E-01	0.143
	1489.15			8.121E+00	8.312E+00	1.588E+01	1.346E+00	0.511
PM-146	453.90	*		5.070E-03	3.651E-02	5.998E-02	6.570E-03	0.085
	633.02			5.297E-01	1.165E+00	1.906E+00	7.184E-01	0.278
	735.90			2.842E-02	1.265E-01	2.147E-01	6.249E-02	0.132
	747.13			-1.353E-02	7.456E-02	1.227E-01	1.844E-02	-0.110
ND-147	91.11	+		8.723E-01	3.444E-01	5.270E-01	5.214E-02	1.655
	319.41			-1.226E+00	3.095E+00	5.004E+00	4.815E-01	-0.245
	439.89			6.918E+00	5.961E+00	1.041E+01	9.153E-01	0.664
	531.02	*		-4.615E-01	6.073E-01	9.153E-01	1.413E-01	-0.504
PM-149	285.90	*		-1.946E-05	6.073E-01	Half-Life	too short	
EU-152	121.78			1.359E-02	6.154E-02	9.980E-02	9.667E-03	0.136
	244.69			2.297E-01	2.842E-01	4.418E-01	4.286E-02	0.520
	344.27	*		-2.513E-02	9.128E-02	1.293E-01	1.261E-02	-0.194
	443.98			-3.388E-01	8.003E-01	1.263E+00	1.115E-01	-0.268
	778.89			-1.920E-01	2.557E-01	3.351E-01	3.405E-02	-0.573
	867.32			3.056E-01	7.299E-01	1.107E+00	1.110E-01	0.276
	964.01	+		5.457E-01	3.405E-01	4.861E-01	4.697E-02	1.123
	1085.78			9.721E-02	3.700E-01	6.169E-01	5.462E-02	0.158
	1112.02			-1.998E-01	3.017E-01	4.280E-01	3.694E-02	-0.467
	1407.95			1.109E-01	1.630E-01	2.920E-01	2.467E-02	0.380
GD-153	69.67			-3.526E-01	1.360E+00	1.967E+00	1.505E-01	-0.179
	83.37			1.961E+01	1.574E+01	1.953E+01	1.741E+00	1.004
	97.43	*		6.379E-03	7.277E-02	1.052E-01	9.329E-03	0.061
	103.18			-8.785E-02	8.819E-02	1.363E-01	1.179E-02	-0.645
EU-154	123.07			1.041E-02	4.522E-02	6.988E-02	7.792E-03	0.149
	247.94			-3.629E-01	2.949E-01	4.587E-01	5.657E-02	-0.791
	591.81			-4.065E-02	5.220E-01	8.306E-01	1.042E-01	-0.049
	723.30			1.277E-02	1.604E-01	2.357E-01	2.575E-02	0.054
	756.87			2.079E-01	6.352E-01	1.087E+00	1.427E-01	0.191
	873.19			-2.074E-01	2.379E-01	3.569E-01	4.733E-02	-0.581
	996.32			-4.995E-02	3.737E-01	5.209E-01	9.481E-02	-0.096
	1004.76	+		6.739E-01	4.762E-01	3.341E-01	4.094E-02	2.017
	1274.45	*		-1.691E-02	1.077E-01	1.707E-01	1.887E-02	-0.099
EU-155	48.70			-1.024E+00	1.287E+00	2.058E+00	1.647E-01	-0.497
	60.01			2.075E+00	3.691E+00	5.562E+00	3.946E-01	0.373
	86.54	+		4.099E-01	1.090E-01	1.495E-01	1.399E-02	2.742
	105.31	*		4.312E-02	9.242E-02	1.518E-01	1.320E-02	0.284
TB-160	86.79	+		1.124E+00	2.987E-01	4.111E-01	3.827E-02	2.734
	197.04			7.161E-02	4.653E-01	7.927E-01	7.255E-02	0.090
	215.65			1.822E-02	6.062E-01	1.024E+00	9.616E-02	0.018
	298.57	+		1.922E-01	1.048E-01	1.673E-01	1.645E-02	1.149
	879.36	*		-2.325E-02	1.239E-01	2.014E-01	2.014E-02	-0.115
	962.29			-3.697E-01	5.228E-01	6.757E-01	6.534E-02	-0.547
	966.15	+		3.849E-01	2.402E-01	4.015E-01	3.875E-02	0.959
	1177.93			-2.291E-02	3.698E-01	5.963E-01	4.802E-02	-0.038
	1271.85			1.656E-02	6.565E-01	1.061E+00	8.772E-02	0.016
HO-166M	80.57			5.751E-02	2.292E-01	3.372E-01	2.904E-02	0.171
	184.41	+		1.654E-01	4.590E-02	5.934E-02	5.329E-03	2.788

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	+	280.46		-4.360E-02	7.382E-02	1.194E-01	1.188E-02	-0.365
		410.95		3.653E-01	2.415E-01	3.540E-01	3.021E-02	1.032
		711.68	*	-3.440E-03	5.084E-02	8.474E-02	8.584E-03	-0.041
		752.31		3.410E-02	2.215E-01	3.744E-01	3.804E-02	0.091
		810.29		4.061E-03	5.016E-02	8.392E-02	8.507E-03	0.048
		51.35		5.239E+00	1.755E+01	2.929E+01	2.238E+00	0.179
		52.39		8.505E+00	9.366E+00	1.591E+01	1.198E+00	0.534
		59.40		1.609E+01	1.948E+01	2.969E+01	2.101E+00	0.542
		66.72	*	-6.299E+00	2.259E+01	3.272E+01	2.438E+00	-0.193
		88.36		8.063E-01	2.143E-01	2.985E-01	2.815E-02	2.701
LU-176	+	201.83		-3.038E-02	2.347E-02	3.732E-02	3.440E-03	-0.814
		306.84	*	5.519E-04	2.028E-02	3.373E-02	3.290E-03	0.016
		401.10		3.477E+00	5.556E+00	9.451E+00	7.978E-01	0.368
LU-177	+	112.95		-7.872E-01	1.921E+00	3.012E+00	2.539E-01	-0.261
		208.36	*	3.865E+00	1.736E+00	2.272E+00	2.113E-01	1.701
LU-177M	+	52.97		1.024E+00	9.833E-01	1.677E+00	1.252E-01	0.611
		54.07		1.442E-01	5.269E-01	8.765E-01	6.459E-02	0.164
		61.30		4.050E-01	1.138E+00	1.698E+00	1.215E-01	0.238
		121.62		6.480E-02	3.202E-01	5.189E-01	4.328E-02	0.125
		147.16		9.741E-02	5.901E-01	9.476E-01	8.047E-02	0.103
		171.86		-1.127E-01	4.270E-01	6.680E-01	5.884E-02	-0.169
		218.09		1.214E-01	6.996E-01	1.188E+00	1.119E-01	0.102
		268.79		1.149E+00	7.736E-01	1.232E+00	1.219E-01	0.933
		319.02		2.460E-02	1.986E-01	3.316E-01	3.191E-02	0.074
		367.43		5.446E-01	7.610E-01	1.305E+00	1.157E-01	0.417
		413.65	*	5.033E-02	1.649E-01	2.429E-01	2.079E-02	0.207
		56.28		-7.776E-01	6.241E-01	9.767E-01	7.046E-02	-0.796
		57.53		7.978E-03	3.419E-01	5.633E-01	4.026E-02	0.014
		65.20		-7.862E-02	7.972E-01	1.165E+00	8.573E-02	-0.067
		133.02		-9.448E-03	6.813E-02	9.633E-02	8.061E-03	-0.098
HF-181		136.25		2.589E-01	4.153E-01	6.811E-01	5.714E-02	0.380
		345.85		1.042E-02	1.892E-01	2.754E-01	2.549E-02	0.038
		482.03	*	2.369E-02	3.777E-02	6.393E-02	5.829E-03	0.371
		56.28		-2.949E-01	2.370E-01	3.710E-01	2.676E-02	-0.795
		57.53		2.763E-03	1.299E-01	2.140E-01	1.530E-02	0.013
		65.20	*	-2.964E-02	3.006E-01	4.392E-01	3.232E-02	-0.067
		67.75		8.676E-03	9.098E-02	1.339E-01	1.006E-02	0.065
		100.10		-1.776E-02	1.503E-01	2.398E-01	2.099E-02	-0.074
		152.43		4.571E-02	3.025E-01	4.849E-01	4.147E-02	0.094
		222.10		6.847E-02	2.979E-01	5.066E-01	4.796E-02	0.135
W-181		1001.68		2.083E+00	2.083E+00	3.505E+00	3.313E-01	0.594
		1121.28	+	5.575E-01	2.894E-01	3.179E-01	2.717E-02	1.754
		1189.05		-7.249E-02	2.954E-01	4.684E-01	3.785E-02	-0.155
		1221.42	*	8.706E-02	2.024E-01	3.376E-01	2.755E-02	0.258
		1230.97		1.247E-01	4.776E-01	7.868E-01	6.438E-02	0.158
		57.98		6.693E-02	1.323E-01	2.215E-01	1.579E-02	0.302
		59.32		6.681E-02	8.210E-02	1.251E-01	8.854E-03	0.534
		67.20		-6.524E-02	1.657E-01	2.387E-01	1.786E-02	-0.273
		162.32	*	5.650E-02	9.785E-02	1.593E-01	1.382E-02	0.355
TA-182								
RE-183								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.662E+00	1.195E+00	1.601E+00	1.490E-01	1.663
		291.72		1.127E-01	9.058E-01	1.338E+00	1.322E-01	0.084
		57.98		2.426E-01	4.796E-01	8.029E-01	5.723E-02	0.302
		59.32		2.419E-01	2.973E-01	4.530E-01	3.206E-02	0.534
		67.20		-2.364E-01	6.005E-01	8.650E-01	6.471E-02	-0.273
		161.27		-1.209E-02	3.117E-01	4.943E-01	4.284E-02	-0.024
		216.55		1.664E-02	2.142E-01	3.626E-01	3.409E-02	0.046
		252.85	*	2.394E-01	2.001E-01	3.512E-01	3.432E-02	0.682
		318.01		1.481E-01	3.537E-01	6.003E-01	5.784E-02	0.247
		792.07		-2.814E-01	9.319E-01	1.298E+00	1.318E-01	-0.217
OS-185		903.28		-9.217E-02	8.741E-01	1.430E+00	1.419E-01	-0.064
		920.93		-1.193E-01	3.749E-01	5.989E-01	5.903E-02	-0.199
		59.72		1.918E-01	2.195E-01	3.351E-01	2.373E-02	0.572
		61.14		4.143E-02	1.251E-01	1.866E-01	1.333E-02	0.222
		69.30		-7.159E-02	2.464E-01	3.560E-01	2.714E-02	-0.201
		592.07		2.082E-01	2.174E+00	3.511E+00	3.430E-01	0.059
		646.12	*	4.729E-02	3.643E-02	6.644E-02	6.635E-03	0.712
		717.42		-4.392E-01	7.270E-01	1.155E+00	1.171E-01	-0.380
		874.81		-1.003E-01	4.873E-01	7.903E-01	7.913E-02	-0.127
		880.27		2.493E-01	6.729E-01	1.148E+00	1.148E-01	0.217
RE-188		155.03	*	7.090E-02	1.565E-01	2.537E-01	2.178E-02	0.279
		477.96		3.505E-01	2.759E+00	4.517E+00	4.105E-01	0.078
		633.10		1.343E-01	2.471E+00	3.960E+00	3.936E-01	0.034
W-188	+	63.58		1.203E+02	5.918E+01	7.320E+01	5.320E+00	1.644
		227.08		-7.179E-01	1.140E+01	1.914E+01	1.822E+00	-0.038
IR-192	+	290.67	*	-4.489E+00	7.186E+00	1.003E+01	9.916E-01	-0.448
		295.96		1.224E+00	2.079E-01	2.679E-01	2.653E-02	4.570
		308.46		4.109E-02	8.032E-02	1.369E-01	1.339E-02	0.300
		316.51	*	-2.263E-02	2.781E-02	4.371E-02	4.227E-03	-0.518
		468.07		-9.085E-03	6.260E-02	8.757E-02	8.414E-03	-0.104
		604.41		-7.880E-02	4.133E-01	5.627E-01	7.791E-02	-0.140
AU-195		612.46		1.220E+00	7.776E-01	1.227E+00	1.350E-01	0.994
		65.12		2.121E-02	1.394E-01	2.058E-01	1.514E-02	0.103
		66.83		-3.554E-02	7.610E-02	1.093E-01	8.149E-03	-0.325
	+	75.70		1.220E+00	2.139E-01	3.675E-01	2.992E-02	3.319
		98.88	*	2.206E-01	2.051E-01	3.101E-01	2.731E-02	0.711
TL-200	+	129.76		6.839E+00	4.065E+00	4.315E+00	3.604E-01	1.585
		367.94	*	1.228E-03	4.065E+00	Half-Life	too short	
		579.30		8.345E-03	4.065E+00	Half-Life	too short	
		828.27		-1.356E-02	4.065E+00	Half-Life	too short	
TL-201		1205.75		8.807E-03	4.065E+00	Half-Life	too short	
		68.90		4.278E+00	7.315E+00	1.097E+01	8.329E-01	0.390
		70.82		4.445E-01	4.170E+00	6.127E+00	4.739E-01	0.073
		80.30		2.321E+00	8.119E+00	1.196E+01	1.027E+00	0.194
		135.34		9.101E+00	4.282E+01	6.911E+01	5.794E+00	0.132
TL-202		167.43	*	8.278E+00	1.169E+01	1.911E+01	1.672E+00	0.433
		68.90		2.361E-01	4.038E-01	6.053E-01	4.597E-02	0.390
		70.82		2.447E-02	2.296E-01	3.372E-01	2.608E-02	0.073
		80.30		1.278E-01	4.470E-01	6.587E-01	5.655E-02	0.194

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	7.175E-02	6.984E-02	1.211E-01	1.064E-02	0.592
		70.83		9.686E-02	8.830E-01	1.297E+00	1.695E-01	0.075
	+	72.87		7.099E-01	5.983E-01	8.485E-01	1.081E-01	0.837
		82.60		1.249E+00	1.202E+00	1.466E+00	2.034E-01	0.852
BI-207		279.20	*	8.290E-03	3.686E-02	6.211E-02	6.317E-03	0.133
	+	72.80		1.995E-01	1.669E-01	2.341E-01	1.847E-02	0.852
	+	74.97		6.695E-01	1.174E-01	1.783E-01	1.440E-02	3.754
		84.90		4.281E-01	1.614E-01	2.536E-01	2.304E-02	1.689
		569.67		9.257E-03	2.499E-02	4.131E-02	3.991E-03	0.224
TL-207		1063.62	*	-9.890E-03	4.664E-02	7.463E-02	6.739E-03	-0.133
		1770.23		-8.871E-02	3.967E-01	5.233E-01	4.293E-02	-0.170
		81.07		1.828E-01	2.193E-01	2.660E-01	2.305E-02	0.687
		83.78		1.883E-01	1.335E-01	1.669E-01	1.496E-02	1.128
		94.90		4.617E-01	2.126E-01	3.319E-01	2.985E-02	1.391
		122.32		6.701E-01	1.444E+00	2.365E+00	2.126E-01	0.283
		144.24		2.122E-01	6.340E-01	1.026E+00	9.744E-02	0.207
		154.21		1.057E-01	3.555E-01	5.728E-01	5.406E-02	0.184
	+	269.46		5.009E-01	2.740E-01	2.999E-01	3.016E-02	1.670
	+	323.87	*	4.954E-01	5.844E-01	8.986E-01	1.634E-01	0.551
PO-209	+	338.28		5.653E+00	1.672E+00	2.147E+00	2.759E-01	2.633
		445.03		-2.092E+00	1.927E+00	2.861E+00	3.501E-01	-0.731
		260.50		4.481E+00	8.140E+00	1.395E+01	1.372E+00	0.321
		262.80		-5.541E+00	2.273E+01	3.757E+01	3.701E+00	-0.147
		896.60	*	-2.709E+00	6.273E+00	9.939E+00	9.886E-01	-0.273
BI-210		46.50	*	2.073E-01	1.791E+00	2.964E+00	2.749E-01	0.070
PB-210		46.50	*	2.073E-01	1.791E+00	2.964E+00	2.749E-01	0.070
PO-210		46.50	*	2.073E-01	1.791E+00	2.964E+00	2.487E-01	0.070
PB-211		404.84	*	-2.122E-01	8.708E-01	1.206E+00	7.556E-01	-0.176
BI-212		427.08		9.118E-01	1.815E+00	2.914E+00	1.811E+00	0.313
		831.96		-7.673E-01	1.115E+00	1.504E+00	9.457E-01	-0.510
	+	727.18	*	8.623E-01	4.231E-01	5.946E-01	6.748E-02	1.450
		785.46		1.546E+00	1.619E+00	2.862E+00	2.907E-01	0.540
		1620.62		1.328E+00	1.054E+00	2.035E+00	1.714E-01	0.652
PO-215		81.07		1.828E-01	2.193E-01	2.660E-01	2.305E-02	0.687
		83.78		1.883E-01	1.335E-01	1.669E-01	1.496E-02	1.128
		94.90		4.617E-01	2.126E-01	3.319E-01	2.985E-02	1.391
		122.32		6.701E-01	1.444E+00	2.365E+00	2.126E-01	0.283
		144.24		2.122E-01	6.340E-01	1.026E+00	9.744E-02	0.207
		154.21		1.057E-01	3.555E-01	5.728E-01	5.406E-02	0.184
	+	269.46		5.009E-01	2.740E-01	2.999E-01	3.016E-02	1.670
	+	323.87	*	4.954E-01	5.844E-01	8.986E-01	1.634E-01	0.551
	+	338.28		5.653E+00	1.672E+00	2.147E+00	2.759E-01	2.633
		445.03		-2.092E+00	1.927E+00	2.861E+00	3.501E-01	-0.731
RN-219	+	271.23		6.426E-01	3.532E-01	3.882E-01	4.430E-02	1.656
		401.81	*	7.283E-02	3.416E-01	5.670E-01	8.465E-02	0.128
RN-220		549.76	*	-3.520E+00	2.182E+01	3.463E+01	3.309E+00	-0.102
RA-223		81.07		1.828E-01	2.193E-01	2.660E-01	2.305E-02	0.687
		83.78		1.883E-01	1.335E-01	1.669E-01	1.496E-02	1.128
		94.90		4.617E-01	2.126E-01	3.319E-01	2.985E-02	1.391

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		6.701E-01	1.444E+00	2.365E+00	2.126E-01	0.283
		144.24		2.122E-01	6.340E-01	1.026E+00	9.744E-02	0.207
		154.21		1.057E-01	3.555E-01	5.728E-01	5.406E-02	0.184
	+	269.46		5.009E-01	2.740E-01	2.999E-01	3.016E-02	1.670
		323.87	*	4.954E-01	5.844E-01	8.986E-01	1.634E-01	0.551
	+	338.28		5.653E+00	1.672E+00	2.147E+00	2.759E-01	2.633
		445.03		-2.092E+00	1.927E+00	2.861E+00	3.501E-01	-0.731
		79.80		3.924E-01	1.386E+00	2.040E+00	4.379E-01	0.192
		236.00		4.220E-01	2.273E-01	3.599E-01	4.666E-02	1.173
		256.20	*	-1.708E-01	3.257E-01	5.301E-01	8.504E-02	-0.322
		286.10		-1.920E-02	1.322E+00	2.202E+00	3.101E-01	-0.009
	+	299.80		2.382E+00	1.348E+00	2.118E+00	3.835E-01	1.125
TH-227		304.40		-6.629E-01	1.746E+00	2.470E+00	4.694E-01	-0.268
		334.20		1.090E+00	2.338E+00	3.279E+00	6.488E-01	0.332
		79.80		3.924E-01	1.386E+00	2.040E+00	4.435E-01	0.192
	+	94.00		1.314E+01	3.748E+00	3.489E+00	7.657E-01	3.767
		236.00		4.220E-01	2.262E-01	3.599E-01	4.271E-02	1.173
		256.20	*	-1.708E-01	3.261E-01	5.301E-01	9.890E-02	-0.322
		286.10		-1.920E-02	1.322E+00	2.202E+00	2.212E+00	-0.009
	+	299.80		2.382E+00	1.348E+00	2.118E+00	3.835E-01	1.125
		304.40		-6.629E-01	1.746E+00	2.470E+00	4.694E-01	-0.268
		334.20		1.090E+00	2.338E+00	3.279E+00	6.488E-01	0.332
		85.43		4.998E-01	1.628E-01	2.568E-01	2.350E-02	1.946
	+	88.47		4.642E-01	1.233E-01	1.712E-01	1.612E-02	2.712
PA-231		100.00		2.749E-03	1.540E-01	2.471E-01	2.165E-02	0.011
		193.63	*	-9.130E-02	4.166E-01	6.997E-01	6.373E-02	-0.130
		210.97		1.323E+00	6.804E-01	1.107E+00	1.033E-01	1.195
	+	283.67	*	-3.059E-01	1.308E+00	2.154E+00	3.439E-01	-0.142
TH-231		301.29		9.527E-01	5.260E-01	8.609E-01	1.128E-01	1.107
		81.07		1.828E-01	2.193E-01	2.660E-01	2.305E-02	0.687
		83.78		1.883E-01	1.335E-01	1.669E-01	1.496E-02	1.128
		94.90		4.617E-01	2.126E-01	3.319E-01	2.985E-02	1.391
U-231		122.32		6.701E-01	1.444E+00	2.365E+00	2.126E-01	0.283
		144.24		2.122E-01	6.340E-01	1.026E+00	9.744E-02	0.207
		154.21		1.057E-01	3.555E-01	5.728E-01	5.406E-02	0.184
	+	269.46		5.009E-01	2.740E-01	2.999E-01	3.016E-02	1.670
		323.87	*	4.954E-01	5.844E-01	8.986E-01	1.634E-01	0.551
	+	338.28		5.653E+00	1.672E+00	2.147E+00	2.759E-01	2.633
		445.03		-2.092E+00	1.927E+00	2.861E+00	3.501E-01	-0.731
		84.21		1.857E+01	7.323E+00	1.149E+01	1.036E+00	1.615
	+	92.29		2.079E+01	4.226E+00	5.959E+00	5.450E-01	3.489
		95.87	*	-6.904E-01	1.557E+00	2.199E+00	1.967E-01	-0.314
		108.00		-2.263E+00	2.911E+00	4.548E+00	3.876E-01	-0.498
	+	75.28		1.953E+01	4.229E+00	5.361E+00	8.076E-01	3.643
PA-233	+	86.59		6.655E+00	2.446E+00	2.430E+00	6.570E-01	2.739
	+	300.12		6.640E-01	3.708E-01	5.987E-01	9.337E-02	1.109
		311.98	*	4.844E-03	5.082E-02	8.479E-02	8.412E-03	0.057
		340.50		1.410E+00	7.204E-01	1.049E+00	2.528E-01	1.345
		398.62		7.367E-01	1.776E+00	2.969E+00	7.888E-01	0.248

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		4.974E-01	1.377E+00	2.298E+00	4.948E-01	0.216
		63.00		3.391E+00	1.724E+00	2.090E+00	3.088E-01	1.623
		94.67		5.386E-01	1.694E-01	2.575E-01	3.263E-02	2.092
		98.44		1.116E-01	1.029E-01	1.261E-01	7.040E-02	0.885
		99.86		1.674E-02	4.120E-01	6.317E-01	5.537E-02	0.027
		111.00		3.317E-02	1.598E-01	2.596E-01	3.110E-02	0.128
		131.20		6.855E-02	1.023E-01	1.510E-01	1.262E-02	0.454
		152.70		3.023E-01	2.833E-01	4.644E-01	7.902E-02	0.651
	+	186.00		5.956E+00	2.434E+00	2.354E+00	7.374E-01	2.530
		226.40		-2.181E-01	3.504E-01	5.727E-01	7.905E-02	-0.381
		227.20		-6.535E-03	3.742E-01	6.296E-01	5.996E-02	-0.010
		248.90		-9.610E-01	7.052E-01	1.045E+00	2.388E-01	-0.920
	+	293.70		7.504E+00	1.699E+00	1.502E+00	2.697E-01	4.996
		369.80		-1.173E+00	7.720E-01	1.075E+00	2.349E-01	-1.091
		568.70		-2.643E-01	8.224E-01	1.285E+00	1.240E-01	-0.206
		569.50		2.748E-02	2.233E-01	3.621E-01	3.498E-02	0.076
		574.00		-1.358E-01	1.216E+00	1.932E+00	1.871E-01	-0.070
		699.00		-2.075E-01	6.419E-01	1.051E+00	2.080E-01	-0.197
		706.10		-1.762E-01	9.184E-01	1.513E+00	6.794E-01	-0.116
		733.00		-4.172E-02	3.651E-01	5.242E-01	1.197E-01	-0.080
		742.81		6.009E-03	1.154E+00	1.930E+00	1.302E+00	0.003
	+	796.30		1.984E+00	1.296E+00	1.501E+00	4.138E-01	1.322
		805.60		1.060E-01	8.145E-01	1.368E+00	4.257E-01	0.077
		819.60		-5.049E-01	1.043E+00	1.628E+00	6.251E-01	-0.310
		826.30		-3.943E-01	6.830E-01	1.035E+00	4.661E-01	-0.381
		831.60		-2.392E-01	5.207E-01	7.937E-01	2.405E-01	-0.301
		876.40		1.943E-01	7.065E-01	1.150E+00	1.184E+00	0.169
		880.51		2.443E-02	2.437E-01	4.063E-01	4.062E-02	0.060
		883.24		1.671E-01	2.696E-01	4.241E-01	2.859E-01	0.394
		899.00		-2.779E-01	7.301E-01	1.151E+00	5.063E-01	-0.241
		925.00		4.601E-01	1.071E+00	1.827E+00	1.798E-01	0.252
		926.50		6.536E-02	1.610E-01	2.728E-01	7.016E-02	0.240
		946.00	*	-2.402E-01	2.712E-01	4.036E-01	7.792E-02	-0.595
		949.00		2.369E-01	3.983E-01	6.874E-01	6.692E-02	0.345
		980.50		3.021E-01	6.211E-01	1.064E+00	1.019E-01	0.284
		1394.10		3.986E-01	9.066E-01	1.543E+00	1.004E+00	0.258
PA-234M		766.42		2.362E+01	1.556E+01	1.899E+01	9.690E+00	1.244
		1001.03	*	4.995E+00	4.681E+00	7.902E+00	8.453E-01	0.632
U-235	+	89.95		2.901E+00	1.428E+00	1.522E+00	4.728E-01	1.906
	+	93.35		4.089E+00	1.371E+00	1.170E+00	3.297E-01	3.494
		105.00		6.326E-01	9.116E-01	1.480E+00	4.417E-01	0.427
		143.76	*	1.505E-01	1.930E-01	3.151E-01	5.491E-02	0.478
		163.35		5.470E-02	4.159E-01	6.641E-01	1.269E-01	0.082
	+	185.71		2.206E-01	6.120E-02	8.740E-02	7.866E-03	2.524
		205.31		2.093E-01	4.629E-01	7.061E-01	1.368E-01	0.296
NP-236		94.67		4.119E-01	1.234E-01	1.956E-01	1.762E-02	2.106
		98.44		8.436E-02	6.237E-02	9.534E-02	8.413E-03	0.885
		111.00		2.509E-02	1.208E-01	1.964E-01	1.662E-02	0.128
		160.31	*	-5.129E-02	7.137E-02	1.083E-01	9.373E-03	-0.473

Sample ID : G245978005

Acquisition date : 14-FEB-2010 11:19:06

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		3.974E-02	1.365E-01	2.115E-01	1.857E-02	0.188
		117.00	*	-2.641E-02	1.616E-01	2.583E-01	2.164E-02	-0.102
	+	209.75		2.041E+00	9.166E-01	1.223E+00	1.139E-01	1.670
		228.18		6.088E-02	1.930E-01	3.289E-01	3.136E-02	0.185
		277.60		1.702E-01	1.541E-01	2.687E-01	2.673E-02	0.634
		334.30		5.510E-01	1.317E+00	1.846E+00	1.741E-01	0.298
AM-241		59.54	*	9.572E-02	1.131E-01	1.724E-01	1.349E-02	0.555
CM-243		99.55		4.091E-02	1.405E-01	2.177E-01	1.911E-02	0.188
		103.76	*	-2.333E-02	7.955E-02	1.270E-01	1.096E-02	-0.184
		117.00		-2.717E-02	1.663E-01	2.658E-01	2.227E-02	-0.102
	+	209.75		2.013E+00	9.037E-01	1.205E+00	1.123E-01	1.670
		228.18		6.153E-02	1.951E-01	3.324E-01	3.169E-02	0.185
		277.60		1.716E-01	1.554E-01	2.709E-01	2.695E-02	0.634
AM-246		798.80		3.372E-03	1.267E-01	1.838E-01	1.865E-02	0.018
		1036.00		1.863E-01	2.558E-01	4.458E-01	4.114E-02	0.418
		1062.04		-1.269E-01	1.999E-01	3.058E-01	2.765E-02	-0.415
		1078.86	*	-5.143E-02	1.275E-01	1.999E-01	1.781E-02	-0.257
CM-247		278.00		5.775E-01	6.410E-01	1.109E+00	1.104E-01	0.521
		287.40		4.380E-01	1.068E+00	1.813E+00	1.797E-01	0.242
		402.60	*	-1.621E-02	3.086E-02	4.876E-02	4.124E-03	-0.333
CF-249		252.85		8.880E-01	7.422E-01	1.302E+00	1.273E-01	0.682
		333.44		1.211E-01	2.136E-01	2.418E-01	2.282E-02	0.501
		387.95	*	1.116E-02	3.326E-02	5.572E-02	4.701E-03	0.200
CF-251		176.60	*	-9.857E-02	1.159E-01	1.757E-01	1.560E-02	-0.561
		227.00		-2.701E-02	3.321E-01	5.572E-01	5.305E-02	-0.048
		285.00		-2.425E-01	1.514E+00	2.502E+00	2.484E-01	-0.097

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978005      *
* Acquisition date   : 14-FEB-2010 11:19:06 Detector SN#                   *
* Detector ID        : GAM20 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000               *
* Elapsed real time: 0 02:00:34.69 Half life ratio : 8.000                *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245978005 Analyst initials: MXR1                  *
* Batch Number       : 948721 Sample Quantity : 1.4747E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                   *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.260E+01	3.233E+00	4.312E-01	0.000E+00
CD-109	3.474E+00	9.045E-01	9.621E-01	0.000E+00
SN-126	3.400E-01	8.853E-02	9.444E-02	0.000E+00
BA-137M	9.361E-02	4.473E-02	5.547E-02	0.000E+00
CS-137	9.896E-02	4.728E-02	5.864E-02	0.000E+00
TL-208	4.776E-01	7.861E-02	4.811E-02	0.000E+00
BI-211	3.600E+00	5.168E-01	2.742E-01	0.000E+00
PB-212	1.625E+00	1.951E-01	8.207E-02	0.000E+00
PO-212	1.625E+00	1.951E-01	8.207E-02	0.000E+00
BI-214	1.022E+00	1.754E-01	9.468E-02	0.000E+00
PB-214	1.252E+00	1.909E-01	9.558E-02	0.000E+00
PO-214	1.252E+00	1.909E-01	9.558E-02	0.000E+00
PO-216	1.625E+00	1.951E-01	8.207E-02	0.000E+00
PO-218	1.252E+00	1.909E-01	9.558E-02	0.000E+00
RA-224	5.048E+00	1.271E+00	9.336E-01	0.000E+00
RA-226	1.022E+00	1.754E-01	9.468E-02	0.000E+00
AC-228	1.596E+00	3.121E-01	1.828E-01	0.000E+00
RA-228	1.596E+00	3.121E-01	1.828E-01	0.000E+00
TH-228	1.654E+00	1.986E-01	8.355E-02	0.000E+00
TH-230	1.022E+00	1.754E-01	9.468E-02	0.000E+00
TH-232	1.596E+00	3.121E-01	1.828E-01	0.000E+00
TH-234	2.909E+00	1.473E+00	1.559E+00	0.000E+00
U-234	1.022E+00	1.754E-01	9.468E-02	0.000E+00
NP-237	9.983E-01	3.291E-01	2.793E-01	0.000E+00
U-238	2.909E+00	1.473E+00	1.559E+00	0.000E+00
AM-243	3.729E-01	6.409E-02	6.976E-02	0.000E+00
ANH-511	1.338E-01	5.964E-02	3.960E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-1.070E-01	2.878E-01	4.794E-01	0.000E+00	NOT IDENT.
NA-22	-1.669E-02	3.881E-02	6.158E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.546E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.360E-03	1.785E-02	2.896E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.715E-02	6.903E-02	0.000E+00	FAIL ABUN
SC-46	-2.404E-02	3.072E-02	4.849E-02	0.000E+00	FAIL ABUN
V-48	-2.164E-02	6.873E-02	1.135E-01	0.000E+00	NOT IDENT.
CR-51	-5.332E-02	3.036E-01	5.299E-01	0.000E+00	NOT IDENT.
MN-52	-1.594E-01	2.838E-01	4.536E-01	0.000E+00	NOT IDENT.
MN-54	7.123E-04	3.093E-02	5.349E-02	0.000E+00	NOT IDENT.
CO-56	1.605E-03	3.373E-02	5.839E-02	0.000E+00	NOT IDENT.
CO-57	1.340E-03	2.099E-02	3.678E-02	0.000E+00	NOT IDENT.
CO-58	-4.829E-03	3.341E-02	5.714E-02	0.000E+00	NOT IDENT.
FE-59	-2.076E-02	8.612E-02	1.419E-01	0.000E+00	NOT IDENT.
CO-60	-4.108E-03	3.147E-02	5.114E-02	0.000E+00	NOT IDENT.
ZN-65	1.179E-02	8.503E-02	1.258E-01	0.000E+00	NOT IDENT.
GE-68	-5.469E-01	1.093E+00	1.756E+00	0.000E+00	NOT IDENT.
AS-73	5.204E-01	5.015E-01	9.461E-01	0.000E+00	NOT IDENT.
AS-74	-4.032E-02	8.612E-02	1.390E-01	0.000E+00	NOT IDENT.
SE-75	-5.532E-03	3.907E-02	6.427E-02	0.000E+00	NOT IDENT.
BR-77	1.318E+01	1.808E+01	3.249E+01	0.000E+00	FAIL ABUN
SR-82	-1.394E-01	3.393E-01	4.836E-01	0.000E+00	NOT IDENT.
RB-83	2.144E-02	5.512E-02	9.651E-02	0.000E+00	NOT IDENT.
RB-84	5.773E-02	6.207E-02	1.145E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.551E+00	1.167E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.461E-02	6.164E-02	0.000E+00	NOT IDENT.
RB-86	-5.536E-02	7.342E-01	1.230E+00	0.000E+00	NOT IDENT.
Y-88	-4.885E-03	2.480E-02	3.983E-02	0.000E+00	NOT IDENT.
ZR-88	-1.952E-02	2.571E-02	4.241E-02	0.000E+00	NOT IDENT.
Y-91	2.093E+00	1.710E+01	2.884E+01	0.000E+00	NOT IDENT.
NB-94	-5.361E-03	2.857E-02	4.941E-02	0.000E+00	NOT IDENT.
NB-95	6.196E-02	3.579E-02	6.883E-02	0.000E+00	NOT IDENT.
NB-95M	3.504E-02	1.160E-01	1.874E-01	0.000E+00	NOT IDENT.
ZR-95	1.137E-02	5.939E-02	1.049E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.480E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.696E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.173E+01	2.036E+01	3.382E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	9.099E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.866E-02	2.598E-02	4.855E-02	0.000E+00	FAIL ABUN
RH-102	-4.093E-03	2.513E-02	4.252E-02	0.000E+00	FAIL ABUN
RU-103	1.704E-02	3.567E-02	6.279E-02	0.000E+00	FAIL ABUN
RH-106	-1.488E-01	2.752E-01	4.383E-01	0.000E+00	FAIL ABUN
RU-106	-1.488E-01	2.748E-01	4.383E-01	0.000E+00	FAIL ABUN
AG-108M	-1.804E-03	2.586E-02	4.436E-02	0.000E+00	NOT IDENT.
AG-110M	2.187E-02	3.230E-02	5.286E-02	0.000E+00	NOT IDENT.
IN-111	6.207E-01	1.813E+00	2.935E+00	0.000E+00	NOT IDENT.
IN-113M	-1.707E-02	3.723E-02	6.278E-02	0.000E+00	NOT IDENT.
SN-113	-1.707E-02	3.723E-02	6.278E-02	0.000E+00	NOT IDENT.
IN-114M	-1.962E-02	1.787E-01	2.868E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.177E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.734E-02	5.424E-02	9.424E-02	0.000E+00	NOT IDENT.
SB-122	1.962E+00	3.644E+00	6.392E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.865E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.840E-03	2.516E-02	4.257E-02	0.000E+00	NOT IDENT.
I-124	-4.893E-01	1.034E+00	1.432E+00	0.000E+00	NOT IDENT.
SB-124	2.348E-02	5.600E-02	1.019E-01	0.000E+00	FAIL ABUN
SB-125	9.054E-03	7.457E-02	1.298E-01	0.000E+00	FAIL ABUN
TE-125M	-8.402E-01	8.267E+00	1.449E+01	0.000E+00	NOT IDENT.
I-126	2.716E-01	1.831E-01	3.204E-01	0.000E+00	NOT IDENT.
SB-126	-8.479E-02	1.420E-01	2.213E-01	0.000E+00	FAIL ABUN
SB-127	4.024E-01	1.772E+00	3.164E+00	0.000E+00	NOT IDENT.
XE-127	1.879E-02	3.855E-02	7.141E-02	0.000E+00	NOT IDENT.
I-131	3.522E-02	1.208E-01	2.148E-01	0.000E+00	NOT IDENT.
TE-132	3.966E-02	1.072E+00	1.939E+00	0.000E+00	NOT IDENT.
BA-133	-2.415E-02	4.022E-02	5.847E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.070E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.027E-02	7.986E-02	0.000E+00	FAIL ABUN
CS-135	1.814E-01	1.406E-01	2.375E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.078E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.022E-03	1.196E-01	2.031E-01	0.000E+00	FAIL ABUN
CE-139	-2.524E-02	2.678E-02	4.384E-02	0.000E+00	NOT IDENT.
BA-140	-6.299E-02	2.601E-01	4.312E-01	0.000E+00	NOT IDENT.
LA-140	-2.228E-02	8.022E-02	1.197E-01	0.000E+00	FAIL ABUN
CE-141	6.874E-04	6.009E-02	1.039E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	8.228E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	6.686E-02	1.989E-01	3.129E-01	0.000E+00	NOT IDENT.
PM-144	7.557E-03	3.042E-02	5.419E-02	0.000E+00	NOT IDENT.
PR-144	5.129E-01	2.065E+00	3.678E+00	0.000E+00	NOT IDENT.

PM-146	5.070E-03	3.578E-02	6.206E-02	0.000E+00	NOT IDENT.
ND-147	-4.615E-01	5.952E-01	9.437E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	1.893E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.513E-02	8.946E-02	1.346E-01	0.000E+00	FAIL ABUN
GD-153	6.379E-03	7.131E-02	1.127E-01	0.000E+00	NOT IDENT.
EU-154	-1.691E-02	1.056E-01	1.724E-01	0.000E+00	FAIL ABUN
EU-155	4.312E-02	9.057E-02	1.624E-01	0.000E+00	FAIL ABUN
TB-160	-2.325E-02	1.214E-01	2.052E-01	0.000E+00	FAIL ABUN
HO-166M	-3.440E-03	4.982E-02	8.675E-02	0.000E+00	FAIL ABUN
TM-171	-6.299E+00	2.214E+01	3.534E+01	0.000E+00	NOT IDENT.
LU-176	5.519E-04	1.987E-02	3.522E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.701E+00	2.393E+00	0.000E+00	FAIL ABUN
LU-177M	5.033E-02	1.616E-01	2.519E-01	0.000E+00	NOT IDENT.
HF-181	2.369E-02	3.702E-02	6.605E-02	0.000E+00	NOT IDENT.
W-181	-2.964E-02	2.946E-01	4.747E-01	0.000E+00	NOT IDENT.
TA-182	8.706E-02	1.984E-01	3.412E-01	0.000E+00	FAIL ABUN
RE-183	5.650E-02	9.590E-02	1.687E-01	0.000E+00	FAIL ABUN
RE-184	2.394E-01	1.961E-01	3.683E-01	0.000E+00	NOT IDENT.
OS-185	4.729E-02	3.570E-02	6.818E-02	0.000E+00	NOT IDENT.
RE-188	7.090E-02	1.534E-01	2.690E-01	0.000E+00	NOT IDENT.
W-188	-4.489E+00	7.042E+00	1.048E+01	0.000E+00	FAIL ABUN
IR-192	-2.263E-02	2.726E-02	4.561E-02	0.000E+00	FAIL ABUN
AU-195	2.206E-01	2.010E-01	3.321E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.278E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.278E+00	1.146E+01	2.022E+01	0.000E+00	NOT IDENT.
TL-202	7.175E-02	6.845E-02	1.254E-01	0.000E+00	NOT IDENT.
HG-203	8.290E-03	3.612E-02	6.500E-02	0.000E+00	FAIL ABUN
BI-207	-9.890E-03	4.571E-02	7.567E-02	0.000E+00	FAIL ABUN
TL-207	4.954E-01	5.728E-01	9.371E-01	0.000E+00	FAIL ABUN
PO-209	-2.709E+00	6.148E+00	1.012E+01	0.000E+00	NOT IDENT.
BI-210	2.073E-01	1.755E+00	3.226E+00	0.000E+00	NOT IDENT.
PB-210	2.073E-01	1.755E+00	3.226E+00	0.000E+00	NOT IDENT.
PO-210	2.073E-01	1.755E+00	3.226E+00	0.000E+00	NOT IDENT.
PB-211	-2.122E-01	8.534E-01	1.251E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.146E-01	6.084E-01	0.000E+00	FAIL ABUN
PO-215	4.954E-01	5.728E-01	9.371E-01	0.000E+00	FAIL ABUN
RN-219	7.283E-02	3.348E-01	5.884E-01	0.000E+00	FAIL ABUN
RN-220	-3.520E+00	2.138E+01	3.568E+01	0.000E+00	NOT IDENT.
RA-223	4.954E-01	5.728E-01	9.371E-01	0.000E+00	FAIL ABUN
AC-227	-1.708E-01	3.192E-01	5.558E-01	0.000E+00	FAIL ABUN
TH-227	-1.708E-01	3.196E-01	5.558E-01	0.000E+00	FAIL ABUN
TH-229	-9.130E-02	4.082E-01	7.383E-01	0.000E+00	FAIL ABUN
PA-231	-3.059E-01	1.282E+00	2.253E+00	0.000E+00	FAIL ABUN
TH-231	4.954E-01	5.728E-01	9.371E-01	0.000E+00	FAIL ABUN
U-231	-6.904E-01	1.526E+00	2.357E+00	0.000E+00	FAIL ABUN
PA-233	4.844E-03	4.980E-02	8.850E-02	0.000E+00	FAIL ABUN
PA-234	-2.402E-01	2.658E-01	4.104E-01	0.000E+00	FAIL ABUN
PA-234M	4.995E+00	4.587E+00	8.024E+00	0.000E+00	NOT IDENT.
U-235	1.505E-01	1.892E-01	3.347E-01	0.000E+00	FAIL ABUN
NP-236	-5.129E-02	6.994E-02	1.148E-01	0.000E+00	NOT IDENT.
NP-239	-2.641E-02	1.584E-01	2.756E-01	0.000E+00	FAIL ABUN
AM-241	9.572E-02	1.108E-01	1.867E-01	0.000E+00	NOT IDENT.
CM-243	-2.333E-02	7.796E-02	1.359E-01	0.000E+00	FAIL ABUN
AM-246	-5.143E-02	1.249E-01	2.026E-01	0.000E+00	NOT IDENT.
CM-247	-1.621E-02	3.024E-02	5.060E-02	0.000E+00	NOT IDENT.
CF-249	1.116E-02	3.260E-02	5.786E-02	0.000E+00	NOT IDENT.
CF-251	-9.857E-02	1.136E-01	1.858E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978005.CNF;1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:19:06
Sample ID        : G245978005 Sample quantity   : 1.47470E+02 GRAM
Detector name    : GAM20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:34.69 0.5%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 948721 Detector SN#       :
Matrix Spike ID : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1712	10.67*	1.253E+00	3.260E+01	3.260E+01	10.12
CD-109	88.03	343	3.72*	6.938E+00	3.381E+00	3.474E+00	26.57
SN-126	64.28	203	9.60	4.669E+00	1.152E+00	1.152E+00	50.76
	86.94	343	8.90	6.938E+00	1.413E+00	1.413E+00	48.40
	87.57	343	37.00*	6.938E+00	3.400E-01	3.400E-01	26.57
BA-137M	661.65	80	89.98*	2.434E+00	9.351E-02	9.361E-02	48.75
CS-137	661.65	80	85.12*	2.434E+00	9.885E-02	9.896E-02	48.76
TL-208	277.35	-----	6.80	4.722E+00	-----	Line Not Found	-----
	510.84	157	21.60	2.993E+00	6.196E-01	6.196E-01	46.22
	583.14	426	84.20*	2.696E+00	4.776E-01	4.776E-01	16.79
	860.37	50	12.46	1.953E+00	5.245E-01	5.245E-01	67.39
BI-211	72.87	100	1.27	5.883E+00	3.421E+00	3.421E+00	83.68
	351.07	726	12.94*	3.969E+00	3.600E+00	3.600E+00	14.65
PB-212	74.81	585	10.70	6.050E+00	2.300E+00	2.300E+00	19.87
	77.11	855	18.00	6.258E+00	1.932E+00	1.932E+00	13.49
	87.30	343	8.00	6.938E+00	1.572E+00	1.572E+00	28.39
	238.63	1495	44.60*	5.249E+00	1.625E+00	1.625E+00	12.25
	300.09	77	3.41	4.463E+00	1.285E+00	1.285E+00	54.83
PO-212	74.81	585	10.70	6.050E+00	2.300E+00	2.300E+00	19.87
	77.11	855	18.00	6.258E+00	1.932E+00	1.932E+00	13.49
	87.30	343	8.00	6.938E+00	1.572E+00	1.572E+00	28.39
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1495	44.60*	5.249E+00	1.625E+00	1.625E+00	12.25
	300.09	77	3.41	4.463E+00	1.285E+00	1.285E+00	54.83
BI-214	609.31	484	46.30*	2.603E+00	1.022E+00	1.022E+00	17.51
	1120.29	107	15.10	1.556E+00	1.159E+00	1.159E+00	52.34
	1764.49	110	15.80	1.100E+00	1.611E+00	1.611E+00	23.63
PB-214	74.81	585	6.21	6.050E+00	3.963E+00	3.963E+00	19.04
	77.11	855	10.50	6.258E+00	3.313E+00	3.313E+00	15.49
	87.30	343	4.67	6.938E+00	2.693E+00	2.694E+00	27.67
	241.98	408	7.49	5.204E+00	2.662E+00	2.662E+00	26.29
	295.21	532	19.20	4.515E+00	1.563E+00	1.563E+00	18.07

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	726	37.20*	3.969E+00	1.252E+00	1.252E+00	15.55
	74.81	585	6.21	6.050E+00	3.963E+00	3.963E+00	19.04
	77.11	855	10.50	6.258E+00	3.313E+00	3.313E+00	15.49
	87.30	343	4.67	6.938E+00	2.693E+00	2.694E+00	27.67
	241.98	408	7.49	5.204E+00	2.662E+00	2.662E+00	26.29
PO-216	295.21	532	19.20	4.515E+00	1.563E+00	1.563E+00	18.07
	351.92	726	37.20*	3.969E+00	1.252E+00	1.252E+00	15.55
	74.81	585	10.70	6.050E+00	2.300E+00	2.300E+00	19.87
	77.11	855	18.00	6.258E+00	1.932E+00	1.932E+00	13.49
	87.30	343	8.00	6.938E+00	1.572E+00	1.572E+00	28.39
PO-218	238.63	1495	44.60*	5.249E+00	1.625E+00	1.625E+00	12.25
	300.09	77	3.41	4.463E+00	1.285E+00	1.285E+00	54.83
	74.81	585	6.21	6.050E+00	3.963E+00	3.963E+00	19.04
	77.11	855	10.50	6.258E+00	3.313E+00	3.313E+00	15.49
	87.30	343	4.67	6.938E+00	2.693E+00	2.694E+00	27.67
RA-224	241.98	408	7.49	5.204E+00	2.662E+00	2.662E+00	26.29
	295.21	532	19.20	4.515E+00	1.563E+00	1.563E+00	18.07
	351.92	726	37.20*	3.969E+00	1.252E+00	1.252E+00	15.55
	240.98	408	3.95*	5.204E+00	5.048E+00	5.048E+00	25.69
	609.31	484	46.30*	2.603E+00	1.022E+00	1.022E+00	17.51
AC-228	1120.29	107	15.10	1.556E+00	1.159E+00	1.159E+00	52.34
	1764.49	110	15.80	1.100E+00	1.611E+00	1.611E+00	23.63
	338.32	248	11.40	4.086E+00	1.354E+00	1.354E+00	49.25
	911.07	323	27.70*	1.860E+00	1.596E+00	1.596E+00	19.96
	969.11	196	16.60	1.764E+00	1.705E+00	1.705E+00	31.76
RA-228	338.32	248	11.40	4.086E+00	1.354E+00	1.354E+00	49.25
	911.07	323	27.70*	1.860E+00	1.596E+00	1.596E+00	19.96
	969.11	196	16.60	1.764E+00	1.705E+00	1.705E+00	31.76
	74.81	585	10.70	6.050E+00	2.300E+00	2.342E+00	17.57
	77.11	855	18.00	6.258E+00	1.932E+00	1.967E+00	13.49
TH-228	87.30	343	8.00	6.938E+00	1.572E+00	1.601E+00	26.57
	238.63	1495	44.60*	5.249E+00	1.625E+00	1.654E+00	12.25
	300.09	77	3.41	4.463E+00	1.285E+00	1.308E+00	80.08
	609.31	484	46.30*	2.603E+00	1.022E+00	1.022E+00	17.51
	1120.29	107	15.10	1.556E+00	1.159E+00	1.159E+00	52.34
TH-230	1764.49	110	15.80	1.100E+00	1.611E+00	1.611E+00	23.63
	338.32	248	11.40	4.086E+00	1.354E+00	1.354E+00	28.24
	911.07	323	27.70*	1.860E+00	1.596E+00	1.596E+00	19.96
	969.11	196	16.60	1.764E+00	1.705E+00	1.705E+00	31.76
	63.29	203	3.80*	4.669E+00	2.909E+00	2.909E+00	51.66
TH-234	92.38	518	5.41	7.168E+00	3.401E+00	3.401E+00	25.80
	609.31	484	46.30*	2.603E+00	1.022E+00	1.022E+00	17.51
	1120.29	107	15.10	1.556E+00	1.159E+00	1.159E+00	52.34
	1764.49	110	15.80	1.100E+00	1.611E+00	1.611E+00	23.63
	86.50	343	12.60*	6.938E+00	9.983E-01	9.983E-01	33.64
NP-237	95.87	----	2.60	7.260E+00	-----	Line Not Found	-----
	63.29	203	3.80*	4.669E+00	2.909E+00	2.909E+00	51.66
	92.38	518	5.41	7.168E+00	3.401E+00	3.401E+00	20.33
	74.67	585	66.00*	6.050E+00	3.729E-01	3.729E-01	17.54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	343	0.34	6.938E+00	3.744E+01	3.744E+01	26.57
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
ANH-511	511.00	157	100.00*	2.993E+00	1.338E-01	1.338E-01	45.47

Flag: "*" = Keyline

Total number of lines in spectrum 39
Number of unidentified lines 4
Number of lines tentatively identified by NID 35 89.74%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.260E+01	3.260E+01	0.330E+01	10.12	
CD-109	464.00D	1.03	3.381E+00	3.474E+00	0.923E+00	26.57	
SN-126	1.00E+05Y	1.00	3.400E-01	3.400E-01	0.903E-01	26.57	
BA-137M	30.17Y	1.00	9.351E-02	9.361E-02	4.564E-02	48.75	
CS-137	30.17Y	1.00	9.885E-02	9.896E-02	4.825E-02	48.76	
TL-208	1.41E+10Y	1.00	4.776E-01	4.776E-01	0.802E-01	16.79	
BI-211	7.04E+08Y	1.00	3.600E+00	3.600E+00	0.527E+00	14.65	
PB-212	1.41E+10Y	1.00	1.625E+00	1.625E+00	0.199E+00	12.25	
PO-212	1.41E+10Y	1.00	1.625E+00	1.625E+00	0.199E+00	12.25	
BI-214	1600.00Y	1.00	1.022E+00	1.022E+00	0.179E+00	17.51	
PB-214	1600.00Y	1.00	1.252E+00	1.252E+00	0.195E+00	15.55	
PO-214	1600.00Y	1.00	1.252E+00	1.252E+00	0.195E+00	15.55	
PO-216	1.41E+10Y	1.00	1.625E+00	1.625E+00	0.199E+00	12.25	
PO-218	1600.00Y	1.00	1.252E+00	1.252E+00	0.195E+00	15.55	
RA-224	1.41E+10Y	1.00	5.048E+00	5.048E+00	1.297E+00	25.69	
RA-226	1600.00Y	1.00	1.022E+00	1.022E+00	0.179E+00	17.51	
AC-228	1.41E+10Y	1.00	1.596E+00	1.596E+00	0.318E+00	19.96	
RA-228	1.41E+10Y	1.00	1.596E+00	1.596E+00	0.318E+00	19.96	
TH-228	1.91Y	1.02	1.625E+00	1.654E+00	0.203E+00	12.25	
TH-230	4.47E+09Y	1.00	1.022E+00	1.022E+00	0.179E+00	17.51	
TH-232	1.41E+10Y	1.00	1.596E+00	1.596E+00	0.318E+00	19.96	
TH-234	4.47E+09Y	1.00	2.909E+00	2.909E+00	1.503E+00	51.66	
U-234	4.47E+09Y	1.00	1.022E+00	1.022E+00	0.179E+00	17.51	
NP-237	2.14E+06Y	1.00	9.983E-01	9.983E-01	3.359E-01	33.64	
U-238	4.47E+09Y	1.00	2.909E+00	2.909E+00	1.503E+00	51.66	
AM-243	7380.00Y	1.00	3.729E-01	3.729E-01	0.654E-01	17.54	
ANH-511	1.00E+09Y	1.00	1.338E-01	1.338E-01	0.609E-01	45.47	
Total Activity :			7.210E+01	7.222E+01			

Grand Total Activity : 7.210E+01 7.222E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
3	89.90	217	480	1.32	179.69	165	29	3.02E-02	38.2	7.06E+00	T
0	128.65	148	471	1.02	257.09	252	11	2.06E-02	58.8	7.30E+00	T
0	185.87	289	323	1.34	371.37	367	9	4.01E-02	26.2	6.18E+00	T
0	209.19	149	284	0.89	417.94	414	9	2.07E-02	43.9	5.73E+00	T
0	270.33	129	267	1.46	540.08	535	12	1.79E-02	53.8	4.81E+00	T
0	328.37	56	176	1.32	656.03	652	9	7.73E-03	90.3	4.18E+00	T
0	409.82	57	89	1.32	818.76	814	9	7.91E-03	65.6	3.54E+00	T
0	463.25	92	111	1.28	925.54	920	12	1.28E-02	50.2	3.23E+00	T
0	727.66	90	99	1.52	1454.04	1448	11	1.25E-02	47.7	2.25E+00	T
2	768.32	45	61	1.91	1535.34	1526	25	6.25E-03	76.4	2.15E+00	T
2	772.82	53	46	1.91	1544.34	1526	25	7.31E-03	62.5	2.14E+00	
0	795.00	64	68	1.82	1588.69	1582	13	8.82E-03	59.2	2.09E+00	T
1	965.33	55	71	1.84	1929.33	1924	20	7.57E-03	61.7	1.77E+00	T
0	1004.09	81	97	5.47	2006.87	1993	24	1.12E-02	69.6	1.71E+00	T
0	1378.10	40	20	1.60	2755.30	2748	13	5.62E-03	54.9	1.31E+00	
0	1588.52	32	19	1.15	3176.61	3172	12	4.45E-03	63.9	1.18E+00	
0	1729.92	31	3	1.32	3459.81	3454	13	4.34E-03	42.8	1.11E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978005.CNF;1
* Acquisition date   : 14-FEB-2010 11:19:06  Detector SN#      :
* Detector ID        : GAM20                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:34.69          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245978005            Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity  : 1.47470E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11.7MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.260E+01	3.299E+00	4.286E-01	3.737E-02	76.074
CD-109	3.474E+00	9.230E-01	8.961E-01	8.473E-02	3.876
SN-126	3.400E-01	9.033E-02	8.795E-02	8.272E-03	3.865
BA-137M	9.361E-02	4.564E-02	5.409E-02	5.428E-03	1.731
CS-137	9.896E-02	4.825E-02	5.718E-02	5.747E-03	1.731
TL-208	4.776E-01	8.022E-02	4.677E-02	4.809E-03	10.211
BI-211	3.600E+00	5.274E-01	2.635E-01	2.524E-02	13.665
PB-212	1.625E+00	1.991E-01	7.815E-02	8.311E-03	20.794
PO-212	1.625E+00	1.991E-01	7.815E-02	8.311E-03	20.794
BI-214	1.022E+00	1.790E-01	9.214E-02	1.025E-02	11.094
PB-214	1.252E+00	1.947E-01	9.183E-02	1.001E-02	13.637
PO-214	1.252E+00	1.947E-01	9.183E-02	1.001E-02	13.637
PO-216	1.625E+00	1.991E-01	7.815E-02	8.311E-03	20.794
PO-218	1.252E+00	1.947E-01	9.183E-02	1.001E-02	13.637
RA-224	5.048E+00	1.297E+00	8.892E-01	8.595E-02	5.677
RA-226	1.022E+00	1.790E-01	9.214E-02	1.025E-02	11.094
AC-228	1.596E+00	3.185E-01	1.796E-01	2.200E-02	8.886
RA-228	1.596E+00	3.185E-01	1.796E-01	2.200E-02	8.886

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.654E+00	2.027E-01	7.956E-02	8.461E-03	20.794
TH-230	1.022E+00	1.790E-01	9.213E-02	1.025E-02	11.094
TH-232	1.596E+00	3.185E-01	1.796E-01	2.200E-02	8.886
TH-234	2.909E+00	1.503E+00	1.442E+00	2.505E-01	2.018
U-234	1.022E+00	1.790E-01	9.213E-02	1.025E-02	11.094
NP-237	9.983E-01	3.359E-01	2.601E-01	5.884E-02	3.838
U-238	2.909E+00	1.503E+00	1.442E+00	2.505E-01	2.018
AM-243	3.729E-01	6.540E-02	6.475E-02	5.212E-03	5.760
ANH-511	1.338E-01	6.085E-02	3.838E-02	3.576E-03	3.488

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.070E-01		2.937E-01	4.638E-01	4.509E-02	-0.231
NA-22	-1.669E-02		3.960E-02	6.101E-02	5.054E-03	-0.274
NA-24	-1.190E+01		7.887E+00	Half-Life	too short	
AL-26	-2.360E-03		1.822E-02	2.893E-02	2.350E-03	-0.082
TI-44	3.566E-01	+	4.812E-02	6.413E-02	5.382E-03	5.561
SC-46	-2.404E-02		3.135E-02	4.762E-02	4.747E-03	-0.505
V-48	-2.164E-02		7.014E-02	1.118E-01	1.068E-02	-0.194
CR-51	-5.332E-02		3.098E-01	5.080E-01	5.093E-02	-0.105
MN-52	-1.594E-01		2.896E-01	4.506E-01	3.814E-02	-0.354
MN-54	7.123E-04		3.156E-02	5.245E-02	5.298E-03	0.014
CO-56	1.605E-03		3.442E-02	5.727E-02	5.772E-03	0.028
CO-57	1.340E-03		2.142E-02	3.450E-02	2.880E-03	0.039
CO-58	-4.829E-03		3.409E-02	5.599E-02	5.685E-03	-0.086
FE-59	-2.076E-02		8.787E-02	1.401E-01	1.321E-02	-0.148
CO-60	-4.108E-03		3.211E-02	5.071E-02	4.248E-03	-0.081
ZN-65	1.179E-02		8.677E-02	1.242E-01	1.069E-02	0.095
GE-68	-5.469E-01		1.115E+00	1.732E+00	1.546E-01	-0.316
AS-73	5.204E-01		5.117E-01	8.719E-01	6.472E-02	0.597
AS-74	-4.032E-02		8.788E-02	1.352E-01	1.323E-02	-0.298
SE-75	-5.532E-03		3.986E-02	6.134E-02	6.073E-03	-0.090
BR-77	1.318E+01		1.845E+01	3.150E+01	2.955E+00	0.419
SR-82	-1.394E-01		3.462E-01	4.734E-01	4.810E-02	-0.294
RB-83	2.144E-02		5.625E-02	9.358E-02	8.776E-03	0.229
RB-84	5.773E-02		6.334E-02	1.125E-01	1.124E-02	0.513
KR-85	1.606E+01		6.685E+00	1.131E+01	1.056E+00	1.420
SR-85	8.484E-02		3.532E-02	5.974E-02	5.579E-03	1.420
RB-86	-5.536E-02		7.492E-01	1.213E+00	1.083E-01	-0.046
Y-88	-4.885E-03		2.531E-02	3.982E-02	3.213E-03	-0.123
ZR-88	-1.952E-02		2.624E-02	4.085E-02	3.416E-03	-0.478
Y-91	2.093E+00		1.745E+01	2.853E+01	2.317E+00	0.073
NB-94	-5.361E-03		2.916E-02	4.825E-02	4.882E-03	-0.111
NB-95	6.196E-02		3.652E-02	6.735E-02	6.844E-03	0.920
NB-95M	3.504E-02		1.184E-01	1.784E-01	1.916E-02	0.196
ZR-95	1.137E-02		6.060E-02	1.026E-01	1.120E-02	0.111

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	9.410E-01		7.549E-01	Half-Life too short		
ZR-97	4.516E+01		1.376E+01	Half-Life too short		
MO-99	-1.173E+01		2.078E+01	3.307E+01	5.326E+00	-0.355
TC-99M	-5.814E+13		4.643E+13	Half-Life too short		
RH-101	1.866E-02		2.651E-02	4.603E-02	4.220E-03	0.405
RH-102	-4.093E-03		2.564E-02	4.114E-02	3.730E-03	-0.099
RU-103	1.704E-02		3.639E-02	6.082E-02	8.841E-03	0.280
RH-106	-1.488E-01		2.808E-01	4.268E-01	6.067E-02	-0.349
RU-106	-1.488E-01		2.804E-01	4.268E-01	4.224E-02	-0.349
AG-108M	-1.804E-03		2.638E-02	4.283E-02	3.887E-03	-0.042
AG-110M	2.187E-02		3.296E-02	5.154E-02	5.280E-03	0.424
IN-111	6.207E-01		1.850E+00	2.797E+00	2.715E-01	0.222
IN-113M	-1.707E-02		3.799E-02	6.047E-02	5.216E-03	-0.282
SN-113	-1.707E-02		3.799E-02	6.047E-02	5.216E-03	-0.282
IN-114M	-1.962E-02		1.824E-01	2.717E-01	2.462E-02	-0.072
CD-115	2.390E-05		1.111E-05	Half-Life too short		
SN-117M	2.734E-02		5.535E-02	8.892E-02	7.674E-03	0.308
SB-122	1.962E+00		3.719E+00	6.209E+00	5.980E-01	0.316
I-123	-2.105E+01		9.514E+01	Half-Life too short		
TE-123M	-2.840E-03		2.567E-02	4.017E-02	3.490E-03	-0.071
I-124	-4.893E-01		1.055E+00	1.393E+00	1.367E-01	-0.351
SB-124	2.348E-02		5.715E-02	1.016E-01	8.833E-03	0.231
SB-125	9.054E-03		7.609E-02	1.252E-01	1.108E-02	0.072
TE-125M	-8.402E-01		8.435E+00	1.356E+01	1.387E+00	-0.062
I-126	2.716E-01		1.868E-01	3.125E-01	3.140E-02	0.869
SB-126	-8.479E-02		1.449E-01	2.162E-01	2.192E-02	-0.392
SB-127	4.024E-01		1.808E+00	3.087E+00	4.116E-01	0.130
XE-127	1.879E-02		3.934E-02	6.776E-02	6.253E-03	0.277
I-131	3.522E-02		1.233E-01	2.065E-01	1.941E-02	0.171
TE-132	3.966E-02		1.094E+00	1.844E+00	3.094E-01	0.022
BA-133	-2.415E-02		4.104E-02	5.619E-02	7.591E-03	-0.430
I-133	3.915E-02		2.586E-02	Half-Life too short		
CS-134	1.023E-01	+	6.150E-02	7.821E-02	7.981E-03	1.308
CS-135	1.814E-01		1.435E-01	2.268E-01	2.513E-02	0.800
I-135	-1.901E+12		3.101E+12	Half-Life too short		
CS-136	6.022E-03		1.220E-01	2.002E-01	1.901E-02	0.030
CE-139	-2.524E-02		2.732E-02	4.140E-02	3.614E-03	-0.610
BA-140	-6.299E-02		2.654E-01	4.184E-01	1.396E-01	-0.151
LA-140	-2.228E-02		8.185E-02	1.193E-01	1.007E-02	-0.187
CE-141	6.874E-04		6.132E-02	9.788E-02	8.451E-03	0.007
CE-143	2.493E-03		4.198E-04	Half-Life too short		
CE-144	6.686E-02		2.030E-01	2.941E-01	4.538E-02	0.227
PM-144	7.557E-03		3.104E-02	5.290E-02	5.349E-03	0.143
PR-144	5.129E-01		2.107E+00	3.590E+00	3.629E-01	0.143
PM-146	5.070E-03		3.651E-02	5.998E-02	6.570E-03	0.085
ND-147	-4.615E-01		6.073E-01	9.153E-01	1.413E-01	-0.504
PM-149	-1.946E-05		9.657E-05	Half-Life too short		
EU-152	-2.513E-02		9.128E-02	1.293E-01	1.261E-02	-0.194

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	6.379E-03		7.277E-02	1.052E-01	9.329E-03	0.061
EU-154	-1.691E-02		1.077E-01	1.707E-01	1.887E-02	-0.099
EU-155	4.312E-02		9.242E-02	1.518E-01	1.320E-02	0.284
TB-160	-2.325E-02		1.239E-01	2.014E-01	2.014E-02	-0.115
HO-166M	-3.440E-03		5.084E-02	8.474E-02	8.584E-03	-0.041
TM-171	-6.299E+00		2.259E+01	3.272E+01	2.438E+00	-0.193
LU-176	5.519E-04		2.028E-02	3.373E-02	3.290E-03	0.016
LU-177	3.865E+00	+	1.736E+00	2.272E+00	2.113E-01	1.701
LU-177M	5.033E-02		1.649E-01	2.429E-01	2.079E-02	0.207
HF-181	2.369E-02		3.777E-02	6.393E-02	5.829E-03	0.371
W-181	-2.964E-02		3.006E-01	4.392E-01	3.232E-02	-0.067
TA-182	8.706E-02		2.024E-01	3.376E-01	2.755E-02	0.258
RE-183	5.650E-02		9.785E-02	1.593E-01	1.382E-02	0.355
RE-184	2.394E-01		2.001E-01	3.512E-01	3.432E-02	0.682
OS-185	4.729E-02		3.643E-02	6.644E-02	6.635E-03	0.712
RE-188	7.090E-02		1.565E-01	2.537E-01	2.178E-02	0.279
W-188	-4.489E+00		7.186E+00	1.003E+01	9.916E-01	-0.448
IR-192	-2.263E-02		2.781E-02	4.371E-02	4.227E-03	-0.518
AU-195	2.206E-01		2.051E-01	3.101E-01	2.731E-02	0.711
TL-200	1.228E-03		1.162E-03	Half-Life too short		
TL-201	8.278E+00		1.169E+01	1.911E+01	1.672E+00	0.433
TL-202	7.175E-02		6.984E-02	1.211E-01	1.064E-02	0.592
HG-203	8.290E-03		3.686E-02	6.211E-02	6.317E-03	0.133
BI-207	-9.890E-03		4.664E-02	7.463E-02	6.739E-03	-0.133
TL-207	4.954E-01		5.844E-01	8.986E-01	1.634E-01	0.551
PO-209	-2.709E+00		6.273E+00	9.939E+00	9.886E-01	-0.273
BI-210	2.073E-01		1.791E+00	2.964E+00	2.749E-01	0.070
PB-210	2.073E-01		1.791E+00	2.964E+00	2.749E-01	0.070
PO-210	2.073E-01		1.791E+00	2.964E+00	2.487E-01	0.070
PB-211	-2.122E-01		8.708E-01	1.206E+00	7.556E-01	-0.176
BI-212	8.623E-01	+	4.231E-01	5.946E-01	6.748E-02	1.450
PO-215	4.954E-01		5.844E-01	8.986E-01	1.634E-01	0.551
RN-219	7.283E-02		3.416E-01	5.670E-01	8.465E-02	0.128
RN-220	-3.520E+00		2.182E+01	3.463E+01	3.309E+00	-0.102
RA-223	4.954E-01		5.844E-01	8.986E-01	1.634E-01	0.551
AC-227	-1.708E-01		3.257E-01	5.301E-01	8.504E-02	-0.322
TH-227	-1.708E-01		3.261E-01	5.301E-01	9.890E-02	-0.322
TH-229	-9.130E-02		4.166E-01	6.997E-01	6.373E-02	-0.130
PA-231	-3.059E-01		1.308E+00	2.154E+00	3.439E-01	-0.142
TH-231	4.954E-01		5.844E-01	8.986E-01	1.634E-01	0.551
U-231	-6.904E-01		1.557E+00	2.199E+00	1.967E-01	-0.314
PA-233	4.844E-03		5.082E-02	8.479E-02	8.412E-03	0.057
PA-234	-2.402E-01		2.712E-01	4.036E-01	7.792E-02	-0.595
PA-234M	4.995E+00		4.681E+00	7.902E+00	8.453E-01	0.632
U-235	1.505E-01		1.930E-01	3.151E-01	5.491E-02	0.478
NP-236	-5.129E-02		7.137E-02	1.083E-01	9.373E-03	-0.473
NP-239	-2.641E-02		1.616E-01	2.583E-01	2.164E-02	-0.102
AM-241	9.572E-02		1.131E-01	1.724E-01	1.349E-02	0.555

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.333E-02		7.955E-02	1.270E-01	1.096E-02	-0.184
AM-246	-5.143E-02		1.275E-01	1.999E-01	1.781E-02	-0.257
CM-247	-1.621E-02		3.086E-02	4.876E-02	4.124E-03	-0.333
CF-249	1.116E-02		3.326E-02	5.572E-02	4.701E-03	0.200
CF-251	-9.857E-02		1.159E-01	1.757E-01	1.560E-02	-0.561

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978005
* Acquisition date   : 14-FEB-2010 11:19:06 Detector SN#   :
* Detector ID        : GAM20                               Sensitivity      : 5.000
* Geometry           : CAN                                 Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:34.69                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978005                      Analyst initials: MXR1
* Batch Number       : 948721                          Sample Quantity : 1.4747E+02 GRAM
* Recovery           : 1.00000                          Carrier Weight  : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 26-AUG-2009 06:32:11 MS Isotope    :
* MSD DPM             : 0.000                          MSD Isotope     :
* LCS DPM             : 0.000                          LCS Isotope     :
* LCSD DPM            : 0.000                          LCSD Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.260E+01	3.233E+00	2.157E-01	1.649E+00
CD-109	3.474E+00	9.045E-01	4.813E-01	4.615E-01
SN-126	3.400E-01	8.853E-02	4.725E-02	4.517E-02
BA-137M	9.361E-02	4.473E-02	2.775E-02	2.282E-02
CS-137	9.896E-02	4.728E-02	2.934E-02	2.412E-02
TL-208	4.776E-01	7.861E-02	2.407E-02	4.011E-02
BI-211	3.600E+00	5.168E-01	1.372E-01	2.637E-01
PB-212	1.625E+00	1.951E-01	4.106E-02	9.954E-02
PO-212	1.625E+00	1.951E-01	4.106E-02	9.954E-02
BI-214	1.022E+00	1.754E-01	4.737E-02	8.950E-02
PB-214	1.252E+00	1.909E-01	4.782E-02	9.737E-02
PO-214	1.252E+00	1.909E-01	4.782E-02	9.737E-02
PO-216	1.625E+00	1.951E-01	4.106E-02	9.954E-02
PO-218	1.252E+00	1.909E-01	4.782E-02	9.737E-02
RA-224	5.048E+00	1.271E+00	4.671E-01	6.484E-01
RA-226	1.022E+00	1.754E-01	4.737E-02	8.950E-02
AC-228	1.596E+00	3.121E-01	9.144E-02	1.592E-01
RA-228	1.596E+00	3.121E-01	9.144E-02	1.592E-01
TH-228	1.654E+00	1.986E-01	4.180E-02	1.013E-01
TH-230	1.022E+00	1.754E-01	4.737E-02	8.950E-02
TH-232	1.596E+00	3.121E-01	9.144E-02	1.592E-01
TH-234	2.909E+00	1.473E+00	7.800E-01	7.515E-01
U-234	1.022E+00	1.754E-01	4.737E-02	8.950E-02
NP-237	9.983E-01	3.291E-01	1.398E-01	1.679E-01
U-238	2.909E+00	1.473E+00	7.800E-01	7.515E-01
AM-243	3.729E-01	6.409E-02	3.490E-02	3.270E-02
ANH-511	1.338E-01	5.964E-02	1.981E-02	3.043E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-1.070E-01	2.878E-01	2.398E-01	1.468E-01	NOT IDENT.
NA-22	-1.669E-02	3.881E-02	3.081E-02	1.980E-02	NOT IDENT.
NA-24	-1.190E+07	1.546E+07	0.000E+00	7.887E+06	SHORT HLIF
AL-26	-2.360E-03	1.785E-02	1.449E-02	9.109E-03	NOT IDENT.
TI-44	3.566E-01	4.715E-02	3.453E-02	2.406E-02	FAIL ABUN
SC-46	-2.404E-02	3.072E-02	2.426E-02	1.568E-02	FAIL ABUN
V-48	-2.164E-02	6.873E-02	5.680E-02	3.507E-02	NOT IDENT.
CR-51	-5.332E-02	3.036E-01	2.651E-01	1.549E-01	NOT IDENT.
MN-52	-1.594E-01	2.838E-01	2.269E-01	1.448E-01	NOT IDENT.
MN-54	7.123E-04	3.093E-02	2.676E-02	1.578E-02	NOT IDENT.
CO-56	1.605E-03	3.373E-02	2.921E-02	1.721E-02	NOT IDENT.
CO-57	1.340E-03	2.099E-02	1.840E-02	1.071E-02	NOT IDENT.
CO-58	-4.829E-03	3.341E-02	2.859E-02	1.705E-02	NOT IDENT.
FE-59	-2.076E-02	8.612E-02	7.099E-02	4.394E-02	NOT IDENT.
CO-60	-4.108E-03	3.147E-02	2.558E-02	1.606E-02	NOT IDENT.
ZN-65	1.179E-02	8.503E-02	6.291E-02	4.338E-02	NOT IDENT.
GE-68	-5.469E-01	1.093E+00	8.785E-01	5.576E-01	NOT IDENT.
AS-73	5.204E-01	5.015E-01	4.733E-01	2.558E-01	NOT IDENT.
AS-74	-4.032E-02	8.612E-02	6.954E-02	4.394E-02	NOT IDENT.
SE-75	-5.532E-03	3.907E-02	3.215E-02	1.993E-02	NOT IDENT.
BR-77	1.318E+01	1.808E+01	1.625E+01	9.226E+00	FAIL ABUN
SR-82	-1.394E-01	3.393E-01	2.420E-01	1.731E-01	NOT IDENT.
RB-83	2.144E-02	5.512E-02	4.829E-02	2.812E-02	NOT IDENT.
RB-84	5.773E-02	6.207E-02	5.731E-02	3.167E-02	NOT IDENT.
KR-85	1.606E+01	6.551E+00	5.836E+00	3.343E+00	NOT IDENT.
SR-85	8.484E-02	3.461E-02	3.084E-02	1.766E-02	NOT IDENT.
RB-86	-5.536E-02	7.342E-01	6.153E-01	3.746E-01	NOT IDENT.
Y-88	-4.885E-03	2.480E-02	1.993E-02	1.265E-02	NOT IDENT.
ZR-88	-1.952E-02	2.571E-02	2.122E-02	1.312E-02	NOT IDENT.
Y-91	2.093E+00	1.710E+01	1.443E+01	8.726E+00	NOT IDENT.
NB-94	-5.361E-03	2.857E-02	2.472E-02	1.458E-02	NOT IDENT.
NB-95	6.196E-02	3.579E-02	3.443E-02	1.826E-02	NOT IDENT.
NB-95M	3.504E-02	1.160E-01	9.373E-02	5.920E-02	NOT IDENT.
ZR-95	1.137E-02	5.939E-02	5.249E-02	3.030E-02	NOT IDENT.
NB-97	9.410E+05	1.480E+06	0.000E+00	7.549E+05	SHORT HLIF
ZR-97	4.516E+07	2.696E+07	0.000E+00	1.376E+07	SHORT HLIF
MO-99	-1.173E+01	2.036E+01	1.692E+01	1.039E+01	NOT IDENT.
TC-99M	-5.814E+19	9.099E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.866E-02	2.598E-02	2.429E-02	1.326E-02	FAIL ABUN
RH-102	-4.093E-03	2.513E-02	2.127E-02	1.282E-02	FAIL ABUN
RU-103	1.704E-02	3.567E-02	3.142E-02	1.820E-02	FAIL ABUN
RH-106	-1.488E-01	2.752E-01	2.193E-01	1.404E-01	FAIL ABUN
RU-106	-1.488E-01	2.748E-01	2.193E-01	1.402E-01	FAIL ABUN
AG-108M	-1.804E-03	2.586E-02	2.219E-02	1.319E-02	NOT IDENT.
AG-110M	2.187E-02	3.230E-02	2.645E-02	1.648E-02	NOT IDENT.
IN-111	6.207E-01	1.813E+00	1.468E+00	9.250E-01	NOT IDENT.
IN-113M	-1.707E-02	3.723E-02	3.141E-02	1.899E-02	NOT IDENT.
SN-113	-1.707E-02	3.723E-02	3.141E-02	1.899E-02	NOT IDENT.
IN-114M	-1.962E-02	1.787E-01	1.435E-01	9.118E-02	NOT IDENT.
CD-115	2.390E+01	2.177E+01	0.000E+00	1.111E+01	SHORT HLIF
SN-117M	2.734E-02	5.424E-02	4.715E-02	2.768E-02	NOT IDENT.
SB-122	1.962E+00	3.644E+00	3.198E+00	1.859E+00	NOT IDENT.
I-123	-2.105E+07	1.865E+08	0.000E+00	9.514E+07	SHORT HLIF
TE-123M	-2.840E-03	2.516E-02	2.130E-02	1.284E-02	NOT IDENT.
I-124	-4.893E-01	1.034E+00	7.162E-01	5.274E-01	NOT IDENT.
SB-124	2.348E-02	5.600E-02	5.097E-02	2.857E-02	FAIL ABUN
SB-125	9.054E-03	7.457E-02	6.492E-02	3.804E-02	FAIL ABUN
TE-125M	-8.402E-01	8.267E+00	7.247E+00	4.218E+00	NOT IDENT.
I-126	2.716E-01	1.831E-01	1.603E-01	9.342E-02	NOT IDENT.
SB-126	-8.479E-02	1.420E-01	1.107E-01	7.246E-02	FAIL ABUN
SB-127	4.024E-01	1.772E+00	1.583E+00	9.041E-01	NOT IDENT.
XE-127	1.879E-02	3.855E-02	3.573E-02	1.967E-02	NOT IDENT.
I-131	3.522E-02	1.208E-01	1.074E-01	6.165E-02	NOT IDENT.
TE-132	3.966E-02	1.072E+00	9.700E-01	5.470E-01	NOT IDENT.
BA-133	-2.415E-02	4.022E-02	2.925E-02	2.052E-02	NOT IDENT.
I-133	3.915E+04	5.070E+04	0.000E+00	2.586E+04	SHORT HLIF
CS-134	1.023E-01	6.027E-02	3.995E-02	3.075E-02	FAIL ABUN
CS-135	1.814E-01	1.406E-01	1.188E-01	7.174E-02	NOT IDENT.
I-135	-1.901E+18	6.078E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.022E-03	1.196E-01	1.016E-01	6.100E-02	FAIL ABUN
CE-139	-2.524E-02	2.678E-02	2.193E-02	1.366E-02	NOT IDENT.
BA-140	-6.299E-02	2.601E-01	2.157E-01	1.327E-01	NOT IDENT.
LA-140	-2.228E-02	8.022E-02	5.990E-02	4.093E-02	FAIL ABUN
CE-141	6.874E-04	6.009E-02	5.200E-02	3.066E-02	NOT IDENT.
CE-143	2.493E+03	8.228E+02	0.000E+00	4.198E+02	SHORT HLIF
CE-144	6.686E-02	1.989E-01	1.565E-01	1.015E-01	NOT IDENT.
PM-144	7.557E-03	3.042E-02	2.711E-02	1.552E-02	NOT IDENT.
PR-144	5.129E-01	2.065E+00	1.840E+00	1.053E+00	NOT IDENT.

PM-146	5.070E-03	3.578E-02	3.105E-02	1.825E-02	NOT IDENT.
ND-147	-4.615E-01	5.952E-01	4.721E-01	3.037E-01	FAIL ABUN
PM-149	-1.946E+01	1.893E+02	0.000E+00	9.657E+01	SHORT HLIF
EU-152	-2.513E-02	8.946E-02	6.735E-02	4.564E-02	FAIL ABUN
GD-153	6.379E-03	7.131E-02	5.638E-02	3.639E-02	NOT IDENT.
EU-154	-1.691E-02	1.056E-01	8.623E-02	5.386E-02	FAIL ABUN
EU-155	4.312E-02	9.057E-02	8.124E-02	4.621E-02	FAIL ABUN
TB-160	-2.325E-02	1.214E-01	1.027E-01	6.195E-02	FAIL ABUN
HO-166M	-3.440E-03	4.982E-02	4.340E-02	2.542E-02	FAIL ABUN
TM-171	-6.299E+00	2.214E+01	1.768E+01	1.130E+01	NOT IDENT.
LU-176	5.519E-04	1.987E-02	1.762E-02	1.014E-02	FAIL ABUN
LU-177	3.865E+00	1.701E+00	1.197E+00	8.678E-01	FAIL ABUN
LU-177M	5.033E-02	1.616E-01	1.260E-01	8.246E-02	NOT IDENT.
HF-181	2.369E-02	3.702E-02	3.305E-02	1.889E-02	NOT IDENT.
W-181	-2.964E-02	2.946E-01	2.375E-01	1.503E-01	NOT IDENT.
TA-182	8.706E-02	1.984E-01	1.707E-01	1.012E-01	FAIL ABUN
RE-183	5.650E-02	9.590E-02	8.441E-02	4.893E-02	FAIL ABUN
RE-184	2.394E-01	1.961E-01	1.843E-01	1.001E-01	NOT IDENT.
OS-185	4.729E-02	3.570E-02	3.411E-02	1.822E-02	NOT IDENT.
RE-188	7.090E-02	1.534E-01	1.346E-01	7.825E-02	NOT IDENT.
W-188	-4.489E+00	7.042E+00	5.245E+00	3.593E+00	FAIL ABUN
IR-192	-2.263E-02	2.726E-02	2.282E-02	1.391E-02	FAIL ABUN
AU-195	2.206E-01	2.010E-01	1.662E-01	1.025E-01	FAIL ABUN
TL-200	1.228E+03	2.278E+03	0.000E+00	1.162E+03	SHORT HLIF
TL-201	8.278E+00	1.146E+01	1.012E+01	5.845E+00	NOT IDENT.
TL-202	7.175E-02	6.845E-02	6.275E-02	3.492E-02	NOT IDENT.
HG-203	8.290E-03	3.612E-02	3.252E-02	1.843E-02	FAIL ABUN
BI-207	-9.890E-03	4.571E-02	3.786E-02	2.332E-02	FAIL ABUN
TL-207	4.954E-01	5.728E-01	4.688E-01	2.922E-01	FAIL ABUN
PO-209	-2.709E+00	6.148E+00	5.063E+00	3.137E+00	NOT IDENT.
BI-210	2.073E-01	1.755E+00	1.614E+00	8.954E-01	NOT IDENT.
PB-210	2.073E-01	1.755E+00	1.614E+00	8.954E-01	NOT IDENT.
PO-210	2.073E-01	1.755E+00	1.614E+00	8.953E-01	NOT IDENT.
PB-211	-2.122E-01	8.534E-01	6.261E-01	4.354E-01	NOT IDENT.
BI-212	8.623E-01	4.146E-01	3.044E-01	2.115E-01	FAIL ABUN
PO-215	4.954E-01	5.728E-01	4.688E-01	2.922E-01	FAIL ABUN
RN-219	7.283E-02	3.348E-01	2.944E-01	1.708E-01	FAIL ABUN
RN-220	-3.520E+00	2.138E+01	1.785E+01	1.091E+01	NOT IDENT.
RA-223	4.954E-01	5.728E-01	4.688E-01	2.922E-01	FAIL ABUN
AC-227	-1.708E-01	3.192E-01	2.781E-01	1.628E-01	FAIL ABUN
TH-227	-1.708E-01	3.196E-01	2.781E-01	1.631E-01	FAIL ABUN
TH-229	-9.130E-02	4.082E-01	3.694E-01	2.083E-01	FAIL ABUN
PA-231	-3.059E-01	1.282E+00	1.127E+00	6.541E-01	FAIL ABUN
TH-231	4.954E-01	5.728E-01	4.688E-01	2.922E-01	FAIL ABUN
U-231	-6.904E-01	1.526E+00	1.179E+00	7.786E-01	FAIL ABUN
PA-233	4.844E-03	4.980E-02	4.428E-02	2.541E-02	FAIL ABUN
PA-234	-2.402E-01	2.658E-01	2.053E-01	1.356E-01	FAIL ABUN
PA-234M	4.995E+00	4.587E+00	4.014E+00	2.340E+00	NOT IDENT.
U-235	1.505E-01	1.892E-01	1.674E-01	9.651E-02	FAIL ABUN
NP-236	-5.129E-02	6.994E-02	5.742E-02	3.568E-02	NOT IDENT.
NP-239	-2.641E-02	1.584E-01	1.379E-01	8.081E-02	FAIL ABUN
AM-241	9.572E-02	1.108E-01	9.338E-02	5.654E-02	NOT IDENT.
CM-243	-2.333E-02	7.796E-02	6.798E-02	3.978E-02	FAIL ABUN
AM-246	-5.143E-02	1.249E-01	1.014E-01	6.374E-02	NOT IDENT.
CM-247	-1.621E-02	3.024E-02	2.531E-02	1.543E-02	NOT IDENT.
CF-249	1.116E-02	3.260E-02	2.895E-02	1.663E-02	NOT IDENT.
CF-251	-9.857E-02	1.136E-01	9.296E-02	5.797E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT          *
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ENERGY	MDA COUNTS
--------	------------

46.50	302.4542
46.50	302.4542
46.50	302.4542
48.70	348.8253
49.72	353.4874
51.35	337.9750
52.39	326.8733
52.97	325.2835
53.15	325.4002
53.44	325.5890
54.07	352.6684
56.28	414.7131
56.28	414.7152
57.37	0.0000
57.53	391.8417
57.53	391.8427
57.60	391.8938
57.98	386.2041
57.98	386.2041
59.32	395.1631
59.32	395.1631
59.40	395.2215
59.54	395.3253
59.72	395.4582
60.01	421.1495
61.10	446.0268
61.14	446.0586
61.30	453.7016
63.00	460.1286
63.29	460.3680
63.29	460.3680
63.58	460.6073
64.28	492.4000
65.12	496.1584
65.20	496.2285
65.20	496.2285
66.05	466.6668
66.72	476.3135
66.83	491.5767
66.91	491.6459
67.20	491.8931
67.20	491.8931
67.75	475.6443
67.85	465.0863
68.90	472.0149
68.90	472.0149
69.30	513.4756
69.67	513.7996
70.82	493.4084
70.82	493.4084
70.83	493.4158
72.80	496.5675
72.87	472.0997
72.87	472.0997
74.67	473.4908
74.81	473.5989
74.81	473.5989
74.81	473.5989
74.81	473.5989
74.81	473.5989
74.81	473.5989
74.97	473.7211
75.28	473.9584
75.70	474.2780
77.11	475.3495
77.11	475.3495

77.11	475.3495
77.11	475.3495
77.11	475.3495
77.11	475.3495
77.11	475.3495
78.38	476.3059
79.62	477.2318
79.80	477.3657
79.80	477.3657
80.11	477.5960
80.18	477.6477
80.30	477.7370
80.30	477.7370
80.57	477.9367
81.00	413.0375
81.07	413.0822
81.07	413.0822
81.07	413.0822
81.07	413.0822
82.60	414.0522
83.37	414.5332
83.78	414.7929
83.78	414.7929
83.78	414.7929
83.78	414.7929
84.21	363.5683
84.90	363.9452
85.43	364.2349
86.29	364.7007
86.50	364.8145
86.54	364.8358
86.59	364.8625
86.72	364.9318
86.79	364.9691
86.94	365.0509
87.30	365.2446
87.30	365.2446
87.30	365.2446
87.30	365.2446
87.30	365.2446
87.30	365.2446
87.57	365.3886
87.88	365.5557
88.03	365.6357
88.36	365.8117
88.47	365.8704
89.95	366.6579
91.11	367.2694
92.29	367.8880
92.38	367.9360
92.38	367.9360
93.35	368.4409
94.00	368.7786
94.67	369.1217
94.67	369.1252
94.90	369.2426
94.90	369.2426
94.90	369.2426
94.90	369.2426
95.87	401.4796
95.87	401.4796
96.73	374.9492
97.43	353.0453
98.44	297.7958
98.44	297.7958
98.88	304.3480
99.55	341.9453
99.55	341.9453
99.86	353.5774
100.00	347.8999
100.10	347.9481
103.18	376.0930
103.76	348.5803
105.00	340.5810
105.31	356.7901
108.00	410.7207
109.28	383.3942

111.00	359.4077
111.00	359.4077
111.76	383.5198
112.95	365.6990
115.19	329.8281
116.30	309.6371
117.00	331.6500
117.00	331.6500
117.66	339.5345
121.11	302.7025
121.62	301.7922
121.78	299.6624
122.06	305.2329
122.32	284.5337
122.32	284.5337
122.32	284.5337
122.32	284.5337
123.07	295.7410
127.23	297.1829
129.76	334.4762
131.20	316.7809
133.02	342.3631
133.54	324.2690
135.34	327.7008
136.00	307.9309
136.25	303.5675
136.48	303.6453
140.51	353.0248
140.51	0.0000
142.18	345.8302
142.65	323.6080
143.76	321.7510
144.24	348.8373
144.24	348.8373
144.24	348.8373
144.24	348.8373
145.22	363.7980
145.44	363.8837
147.16	336.4176
152.43	319.0343
152.70	279.5145
153.22	294.3831
154.21	324.1502
154.21	324.1502
154.21	324.1502
154.21	324.1502
155.03	310.8087
156.02	311.1209
158.56	277.7664
159.00	0.0000
159.00	302.9435
160.31	321.5874
161.27	294.4991
162.32	278.8065
162.64	273.1807
163.35	299.6780
163.89	286.1049
165.85	333.6625
167.43	271.0144
171.28	301.9860
171.86	286.0058
172.10	286.0714
176.55	323.1812
176.60	323.1983
181.06	291.3836
184.41	242.2211
185.71	278.6018
186.00	278.6746
190.27	304.0190
192.34	270.5597
193.63	277.0426
197.04	263.7079
198.01	247.1029
198.60	231.2763
200.40	279.5616
201.83	295.8972
202.84	241.0141
205.31	242.4098

208.36	257.3262
208.81	231.5018
209.75	204.6687
209.75	204.6687
210.97	206.3092
215.65	229.2164
216.55	231.1847
218.09	234.1750
222.10	248.4865
223.80	249.7291
226.40	277.4456
227.00	263.0625
227.08	263.0780
227.20	262.1973
228.16	256.9459
228.18	245.1469
228.18	245.1469
231.56	0.0000
235.69	254.2541
236.00	241.1594
236.00	241.1594
238.63	238.8989
238.63	238.8989
238.63	238.8989
238.63	238.8989
239.00	238.9666
240.98	239.3270
241.98	239.5062
241.98	239.5062
241.98	239.5062
244.69	172.1351
245.39	178.1131
247.94	217.5337
248.90	225.9902
249.79	199.3722
252.40	181.2587
252.85	181.3185
252.85	181.3185
254.15	0.0000
256.20	219.7835
256.20	219.7835
260.50	189.7683
260.90	0.0000
262.80	205.9229
264.65	191.5757
268.24	164.6267
268.79	181.1573
269.46	179.7451
269.46	179.7451
269.46	179.7451
269.46	179.7451
271.23	179.9678
273.65	217.8292
276.40	176.0999
277.35	177.5051
277.60	183.5891
277.60	183.5891
278.00	189.2901
278.60	204.4408
279.20	203.5811
279.53	216.8253
280.46	216.0206
281.68	200.1507
283.67	191.9108
284.30	200.5065
285.00	193.9767
285.90	0.0000
286.10	189.3860
286.10	189.3860
287.40	182.9165
288.45	0.0000
290.67	193.0053
290.80	193.0239
291.72	180.9753
293.26	0.0000
293.70	175.1195
295.21	172.2450
295.21	172.2450

295.21	172.2450
295.96	172.3305
296.50	125.8608
297.23	125.9213
298.57	126.0320
299.80	148.3015
299.80	148.3015
300.09	140.6841
300.09	140.6841
300.09	140.6841
300.09	140.6841
300.12	140.6863
301.29	160.6890
302.84	153.1909
303.76	159.4125
303.91	159.4277
304.40	170.2126
304.40	170.2126
304.84	162.3363
306.84	155.5063
308.46	143.1751
311.98	140.6065
316.51	149.7021
318.01	127.6071
319.02	125.7530
319.41	141.2637
320.08	136.4840
323.87	122.6390
323.87	122.6390
323.87	122.6390
323.87	122.6390
325.23	153.8150
328.77	163.4934
333.44	140.5349
334.20	152.3152
334.20	152.3152
334.30	152.3247
338.28	154.6465
338.28	154.6465
338.28	154.6465
338.28	154.6465
338.32	154.6513
338.32	154.6513
338.32	154.6513
340.50	147.4028
340.57	147.4097
344.27	146.1617
345.85	141.5786
350.59	0.0000
351.07	131.1654
351.92	131.2303
351.92	131.2303
351.92	131.2303
355.39	0.0000
356.01	147.1675
364.48	125.2233
366.43	122.3769
367.43	115.4778
367.94	0.0000
369.80	161.4858
374.96	118.9655
383.85	128.5918
387.95	120.8258
388.63	126.9132
391.69	133.1783
391.69	133.1783
392.90	135.2841
398.62	119.4962
400.65	114.5553
401.10	112.5548
401.81	118.6835
402.60	131.9261
404.84	120.2970
410.95	123.9435
411.60	122.3547
413.65	109.4197
414.70	111.1143
415.30	115.5857

415.76	110.3582
417.63	0.0000
418.52	127.9106
423.70	105.6781
427.08	104.8326
427.89	106.9326
432.53	102.0303
433.93	102.1013
439.47	97.2129
439.56	97.2172
439.89	94.1298
443.98	111.9419
444.90	122.3627
445.03	122.3699
445.03	122.3699
445.03	122.3699
445.03	122.3699
453.90	103.1119
463.38	88.9364
468.07	97.3143
473.00	98.8036
475.06	111.5251
475.35	101.0171
476.78	110.5611
477.59	114.8162
477.96	105.3543
482.03	90.7779
484.57	101.4521
487.03	104.7419
490.36	0.0000
492.35	0.0000
497.08	90.3449
507.63	0.0000
510.53	0.0000
510.84	94.1150
511.00	94.1210
511.85	94.1573
511.85	94.1573
513.99	70.2565
513.99	70.2565
520.41	76.2565
520.65	66.5959
527.90	0.0000
528.96	0.0000
529.64	84.1128
529.87	0.0000
531.02	111.1380
537.32	98.4565
543.00	90.0214
546.56	0.0000
549.76	87.0166
552.65	72.9643
555.20	91.5751
563.23	82.0381
563.90	86.4376
568.70	88.8014
569.32	82.2464
569.50	82.2510
569.67	77.8708
573.80	82.3975
574.00	82.4043
574.64	84.6229
578.91	82.7893
579.30	0.0000
583.14	80.5054
585.48	74.1788
591.81	82.9994
592.07	80.7950
593.00	83.0383
595.88	93.1106
600.56	69.9637
602.52	0.0000
602.71	99.5887
602.71	99.5887
603.60	88.9478
604.41	80.0793
604.70	78.3084
609.31	88.0336

609.31	88.0336
609.31	88.0336
609.31	88.0336
610.33	107.0215
612.46	91.0430
614.37	96.4723
618.01	83.8600
621.84	90.7048
621.84	90.7048
631.29	68.5561
633.02	67.4762
633.10	77.5997
634.78	89.1290
635.90	85.5649
636.97	84.6987
645.85	73.2283
646.12	63.2905
656.30	89.2466
657.75	72.6465
657.90	0.0000
661.65	100.0313
661.65	100.0313
664.57	0.0000
666.33	56.1760
666.33	56.1760
675.00	73.1074
677.61	77.7493
685.20	68.7909
692.80	88.2914
695.00	81.9187
696.49	93.9341
696.49	93.9341
697.00	98.5544
697.49	105.0214
698.33	109.6595
698.50	109.6654
699.00	103.2336
702.63	94.1358
706.10	94.2529
706.58	0.0000
706.67	89.6492
709.31	81.4064
711.68	80.5493
713.82	71.3434
717.42	76.9979
720.50	81.2601
721.93	0.0000
722.20	57.3021
722.78	66.6084
722.78	66.6084
722.89	66.6101
722.95	66.6119
723.30	75.9165
724.18	69.7394
727.18	84.7060
733.00	79.2787
735.90	72.8203
739.58	85.9984
742.81	74.8633
744.21	73.0260
747.13	71.2240
751.79	79.7830
752.31	66.6544
753.82	59.1732
755.35	69.5412
756.15	69.5593
756.87	66.7549
763.93	69.1117
765.79	58.4671
766.42	58.4792
766.84	58.4868
776.49	58.3575
778.00	77.3221
778.57	77.3361
778.89	78.9225
783.80	74.9381
785.46	75.9277
792.07	72.9194

795.84	65.0718
796.30	66.6692
798.80	63.5449
801.93	65.5962
805.60	63.0464
810.29	66.9666
810.76	68.8904
815.85	56.5426
817.79	60.4129
818.51	70.0183
819.60	68.1226
826.30	65.3819
828.27	0.0000
831.60	66.4529
831.96	71.2756
834.83	72.3029
836.80	0.0000
846.75	65.7970
848.13	79.3754
856.28	0.0000
856.80	64.7038
860.37	48.5803
867.32	47.0601
867.82	40.3433
871.10	63.3591
873.19	62.4234
874.81	58.5498
875.33	0.0000
876.40	52.7199
879.36	65.4706
880.27	56.6902
880.51	62.5594
881.50	50.8447
883.24	50.8714
884.67	58.7227
889.25	58.8018
896.60	64.8221
898.02	59.9352
899.00	61.9187
903.28	66.9159
911.07	61.1508
911.07	61.1508
911.07	61.1508
919.63	54.3810
920.93	58.3576
925.00	62.3863
925.24	62.3909
926.50	63.4031
935.52	71.5131
937.48	82.4833
944.10	74.6741
946.00	74.7125
949.00	58.8243
962.29	78.3907
964.01	43.3852
966.15	50.0891
968.20	50.1184
969.11	50.1306
969.11	50.1306
969.11	50.1306
977.42	64.7607
980.50	51.2938
983.50	63.4153
989.30	59.4825
996.32	63.9735
1001.03	57.6485
1001.68	57.6582
1004.76	57.7069
1021.30	0.0000
1024.50	0.0000
1034.80	48.9844
1036.00	47.9788
1037.82	62.2986
1038.57	64.3566
1038.76	0.0000
1045.16	61.3975
1046.59	66.5361
1048.07	72.7091

1050.47	70.7048
1050.47	70.7048
1062.04	65.7750
1063.62	63.7468
1076.63	56.7375
1077.35	66.0344
1078.86	66.0594
1085.78	63.0730
1099.22	69.5125
1112.02	72.8574
1112.84	72.8711
1115.52	59.0324
1120.29	54.2344
1120.29	54.2344
1120.29	54.2344
1120.29	54.2344
1120.51	54.2369
1121.28	54.2471
1124.00	0.0000
1129.67	75.7887
1131.51	0.0000
1147.95	0.0000
1167.94	59.0844
1173.22	81.3463
1175.09	83.4939
1177.93	84.6094
1189.05	79.5300
1204.90	70.2475
1205.75	0.0000
1213.00	83.1759
1221.42	88.6819
1230.97	89.9473
1235.34	111.4750
1236.41	0.0000
1238.25	93.3126
1246.25	91.3335
1260.41	0.0000
1271.85	54.0381
1274.45	54.0698
1274.54	59.4768
1291.56	42.3344
1298.22	0.0000
1312.09	41.4345
1325.50	40.4633
1325.50	40.4633
1332.49	35.0469
1333.61	37.2473
1360.21	34.8890
1362.66	0.0000
1365.15	31.2483
1368.21	42.3052
1368.53	0.0000
1376.25	31.5848
1384.27	18.9827
1394.10	21.2677
1395.20	23.1222
1407.95	31.5291
1434.06	35.4286
1436.60	19.5884
1457.56	0.0000
1460.81	23.4344
1489.15	11.3120
1509.49	19.8755
1596.49	21.8117
1620.62	13.5329
1678.03	0.0000
1691.02	10.7695
1691.02	10.7695
1706.46	0.0000
1750.46	0.0000
1764.49	6.9422
1764.49	6.9422
1764.49	6.9422
1764.49	6.9422
1770.23	13.6144
1771.40	39.7168
1791.20	0.0000
1808.65	7.9941

1836.01

12.0464

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978005

Total Uranium Activity	8.7246E+00	ug/g
Total Uranium Counting Unc.	4.3829E+00	ug/g
Total Uranium Tpu	2.2362E-06	ug/g
Total Uranium Mda	2.3217E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978005                *
*  ANALYST       : MXR1                  DETECTOR    : GAM20                  *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 14-FEB-2010 11:19:06.07  SAMPLE ALQT: 147.470 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.982E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.367E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.738E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.818E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:56:44.13

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978006.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:56:15
Sample ID          : G245978006 Sample quantity : 1.34500E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.52 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 948721 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.24*	548	512	1.03	126.51	122	8	7.61E-02	8.4	
2	4	74.78	233	489	0.91	149.59	146	14	3.23E-02	15.1	3.12E+00
3	4	77.17	464	559	1.11	154.37	146	14	6.44E-02	9.9	
4	0	87.13	195	527	1.31	174.29	172	6	2.71E-02	19.9	
5	0	92.69*	1705	1064	1.12	185.42	181	11	2.37E-01	4.5	
6	0	113.16	135	609	0.98	226.37	222	10	1.87E-02	35.5	
7	0	129.92	180	460	3.49	259.88	255	11	2.50E-02	24.3	
8	0	143.66	88	348	0.63	287.36	284	7	1.22E-02	36.9	
9	0	185.87*	490	459	1.26	371.81	367	12	6.80E-02	10.0	
10	0	208.88	124	343	1.06	417.82	414	9	1.72E-02	28.3	
11	6	238.60*	1296	165	1.22	477.26	470	20	1.80E-01	3.3	2.99E+00
12	6	241.77*	344	212	2.05	483.61	470	20	4.78E-02	14.5	
13	0	269.80	89	233	1.17	539.67	536	10	1.24E-02	33.6	
14	3	295.21	384	170	1.30	590.50	584	23	5.34E-02	7.7	1.05E+00
15	3	300.06	102	214	1.62	600.19	584	23	1.41E-02	28.6	
16	0	328.13	61	173	1.12	656.34	653	9	8.49E-03	40.9	
17	0	338.19*	224	151	1.07	676.46	672	9	3.11E-02	12.1	
18	0	351.87*	569	228	1.27	703.83	698	12	7.90E-02	6.8	
19	0	463.04	53	114	1.01	926.17	922	10	7.34E-03	40.1	
20	0	510.77*	158	151	1.59	1021.63	1014	17	2.19E-02	21.6	
21	0	583.22*	381	107	1.47	1166.54	1161	11	5.29E-02	7.5	
22	0	609.33*	435	130	1.18	1218.75	1212	14	6.03E-02	7.4	
23	0	662.03*	32	86	1.21	1324.15	1320	10	4.47E-03	60.0	
24	0	727.51	137	66	1.56	1455.11	1449	14	1.90E-02	15.2	
25	0	767.85	109	97	2.20	1535.79	1529	19	1.52E-02	23.5	
26	0	795.96	85	92	2.32	1592.00	1585	18	1.18E-02	29.0	
27	0	861.05	59	55	2.16	1722.16	1715	13	8.17E-03	29.1	
28	0	911.39*	288	68	2.02	1822.84	1817	17	4.00E-02	9.0	
29	1	964.86	44	40	1.87	1929.77	1926	17	6.17E-03	27.2	8.43E-01
30	1	968.99*	145	47	1.73	1938.04	1926	17	2.02E-02	12.6	
31	0	1001.11*	117	55	1.28	2002.26	1995	13	1.62E-02	16.2	
32	0	1121.10*	115	91	2.03	2242.20	2234	19	1.59E-02	22.1	
33	0	1155.04	44	60	3.36	2310.09	2303	12	6.11E-03	38.3	
34	0	1377.91	27	30	2.74	2755.74	2749	14	3.81E-03	45.3	
35	0	1460.94*	1497	22	2.12	2921.77	2913	17	2.08E-01	2.7	
36	0	1509.92	25	7	1.08	3019.70	3015	10	3.45E-03	28.7	
37	0	1764.53*	76	3	1.89	3528.78	3522	13	1.06E-02	13.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 13:56:47

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:56:15
Sample ID         : G245978006 Sample quantity : 134.50 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA4 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.52 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00 %
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00
    
```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.645E+01	3.249E+00	5.587E-01	3.970E-02	65.234
CD-109	+	88.03	*	3.008E+00	1.249E+00	1.862E+00	2.238E-01	1.615
SN-126	+	64.28		7.733E+00	1.864E+00	1.238E+00	2.132E-01	6.248
	+	86.94		1.224E+00	7.095E-01	7.501E-01	3.164E-01	1.632
	+	87.57	*	2.944E-01	1.223E-01	1.746E-01	2.094E-02	1.686
BA-137M	+	661.65	*	4.531E-02	5.446E-02	6.178E-02	3.013E-03	0.733
CS-137	+	661.65	*	4.790E-02	5.756E-02	6.531E-02	3.204E-03	0.733
LU-177	+	112.95		5.952E+00	4.246E+00	3.918E+00	3.033E-01	1.519
	+	208.36	*	3.834E+00	2.184E+00	2.381E+00	1.562E-01	1.610
TL-208	+	277.35		3.565E-01	3.576E-01	6.281E-01	6.940E-02	0.568
	+	510.84		7.467E-01	3.311E-01	2.142E-01	2.150E-02	3.486
	+	583.14	*	5.140E-01	8.337E-02	5.909E-02	3.718E-03	8.699
	+	860.37		7.559E-01	4.449E-01	4.510E-01	3.762E-02	1.676
BI-211	+	72.87		2.879E+00	4.481E+00	6.920E+00	7.934E-01	0.416
	+	351.07	*	3.382E+00	5.151E-01	3.221E-01	2.176E-02	10.500
PB-212	+	74.81		1.671E+00	5.607E-01	7.211E-01	1.066E-01	2.317
	+	77.11		1.827E+00	4.174E-01	3.980E-01	4.566E-02	4.590
	+	87.30		1.362E+00	5.816E-01	8.077E-01	1.260E-01	1.686
	+	238.63	*	1.681E+00	1.747E-01	8.067E-02	6.478E-03	20.839
	+	300.09		2.039E+00	1.178E+00	1.190E+00	1.048E-01	1.714
PO-212	+	74.81		1.671E+00	5.607E-01	7.211E-01	1.066E-01	2.317
	+	77.11		1.827E+00	4.174E-01	3.980E-01	4.566E-02	4.590
	+	87.30		1.362E+00	5.816E-01	8.077E-01	1.260E-01	1.686
	+	115.19		6.479E+00	4.060E+00	6.434E+00	4.842E-01	1.007
	+	238.63	*	1.681E+00	1.747E-01	8.067E-02	6.478E-03	20.839
	+	300.09		2.039E+00	1.178E+00	1.190E+00	1.048E-01	1.714
BI-214	+	609.31	*	1.106E+00	1.835E-01	1.065E-01	7.824E-03	10.392
	+	1120.29		1.561E+00	7.065E-01	4.856E-01	4.524E-02	3.214
	+	1764.49		1.417E+00	3.798E-01	2.326E-01	1.418E-02	6.091
PB-214	+	74.81		2.879E+00	9.521E-01	1.242E+00	1.695E-01	2.317
	+	77.11		3.132E+00	7.543E-01	6.823E-01	9.397E-02	4.590
	+	87.30		2.332E+00	9.852E-01	1.384E+00	1.970E-01	1.686
	+	241.98		2.683E+00	8.149E-01	4.859E-01	4.234E-02	5.522
	+	295.21		1.352E+00	2.423E-01	2.084E-01	1.892E-02	6.487

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.177E+00	1.894E-01	1.123E-01	9.578E-03	10.478
	+	74.81		2.879E+00	9.521E-01	1.242E+00	1.695E-01	2.317
	+	77.11		3.132E+00	7.543E-01	6.823E-01	9.397E-02	4.590
	+	87.30		2.332E+00	9.852E-01	1.384E+00	1.970E-01	1.686
	+	241.98		2.683E+00	8.149E-01	4.859E-01	4.234E-02	5.522
	+	295.21		1.352E+00	2.423E-01	2.084E-01	1.892E-02	6.487
PO-216	+	351.92	*	1.177E+00	1.894E-01	1.123E-01	9.578E-03	10.478
	+	74.81		1.671E+00	5.607E-01	7.211E-01	1.066E-01	2.317
	+	77.11		1.827E+00	4.174E-01	3.980E-01	4.566E-02	4.590
	+	87.30		1.362E+00	5.816E-01	8.077E-01	1.260E-01	1.686
	+	238.63	*	1.681E+00	1.747E-01	8.067E-02	6.478E-03	20.839
	+	300.09		2.039E+00	1.178E+00	1.190E+00	1.048E-01	1.714
PO-218	+	74.81		2.879E+00	9.521E-01	1.242E+00	1.695E-01	2.317
	+	77.11		3.132E+00	7.543E-01	6.823E-01	9.397E-02	4.590
	+	87.30		2.332E+00	9.852E-01	1.384E+00	1.970E-01	1.686
	+	241.98		2.683E+00	8.149E-01	4.859E-01	4.234E-02	5.522
	+	295.21		1.352E+00	2.423E-01	2.084E-01	1.892E-02	6.487
	+	351.92	*	1.177E+00	1.894E-01	1.123E-01	9.578E-03	10.478
RA-224	+	240.98	*	5.088E+00	1.519E+00	9.182E-01	6.122E-02	5.541
RA-226	+	609.31	*	1.106E+00	1.835E-01	1.065E-01	7.824E-03	10.392
AC-228	+	1120.29		1.561E+00	7.065E-01	4.856E-01	4.524E-02	3.214
	+	1764.49		1.417E+00	3.798E-01	2.326E-01	1.418E-02	6.091
	+	338.32		1.468E+00	6.965E-01	3.768E-01	1.539E-01	3.896
	+	911.07	*	1.757E+00	3.688E-01	2.142E-01	2.335E-02	8.205
	+	969.11		1.569E+00	5.371E-01	3.980E-01	9.179E-02	3.942
	+	338.32		1.468E+00	6.965E-01	3.768E-01	1.539E-01	3.896
RA-228	+	911.07	*	1.757E+00	3.688E-01	2.142E-01	2.335E-02	8.205
	+	969.11		1.569E+00	5.371E-01	3.980E-01	9.179E-02	3.942
	+	74.81		1.701E+00	5.486E-01	7.341E-01	8.447E-02	2.317
	+	77.11		1.860E+00	4.250E-01	4.052E-01	4.649E-02	4.590
	+	87.30		1.386E+00	5.757E-01	8.223E-01	9.844E-02	1.686
	+	238.63	*	1.711E+00	1.779E-01	8.212E-02	6.595E-03	20.839
TH-230	+	300.09		2.076E+00	1.705E+00	1.211E+00	7.149E-01	1.714
	+	609.31	*	1.106E+00	1.835E-01	1.065E-01	7.823E-03	10.392
	+	1120.29		1.561E+00	7.064E-01	4.856E-01	4.524E-02	3.214
	+	1764.49		1.417E+00	3.798E-01	2.326E-01	1.418E-02	6.091
	+	338.32		1.468E+00	3.663E-01	3.768E-01	2.369E-02	3.896
	+	911.07	*	1.757E+00	3.688E-01	2.142E-01	2.335E-02	8.205
TH-232	+	969.11		1.569E+00	5.371E-01	3.980E-01	9.179E-02	3.942
	+	766.42		4.922E+01	3.389E+01	1.802E+01	9.082E+00	2.731
	+	1001.03	*	2.567E+01	8.650E+00	7.343E+00	6.694E-01	3.496
	+	63.29	*	1.954E+01	5.072E+00	3.165E+00	6.262E-01	6.172
	+	92.38		1.610E+01	3.419E+00	1.029E+00	1.980E-01	15.655
	+	609.31	*	1.106E+00	1.835E-01	1.065E-01	7.823E-03	10.392
U-234	+	1120.29		1.561E+00	7.064E-01	4.856E-01	4.524E-02	3.214
	+	1764.49		1.417E+00	3.798E-01	2.326E-01	1.418E-02	6.091
	+	89.95		-9.277E-01	2.047E+00	2.342E+00	7.440E-01	-0.396
	+	93.35		1.936E+01	5.838E+00	1.222E+00	3.508E-01	15.842
	+	105.00		2.190E+00	1.314E+00	2.017E+00	6.021E-01	1.086

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	143.76	*	3.636E-01	2.752E-01	3.546E-01	5.878E-02	1.025
		163.35		-9.845E-02	4.780E-01	7.665E-01	1.393E-01	-0.128
	+	185.71		4.443E-01	9.330E-02	7.018E-02	4.525E-03	6.331
		205.31		9.307E-02	5.917E-01	8.494E-01	1.549E-01	0.110
NP-237	+	86.50	*	8.645E-01	4.009E-01	5.035E-01	1.200E-01	1.717
		95.87		-1.593E+00	1.332E+00	1.788E+00	4.506E-01	-0.891
U-238	+	63.29	*	1.954E+01	5.072E+00	3.165E+00	6.262E-01	6.172
	+	92.38		1.610E+01	2.268E+00	1.029E+00	1.117E-01	15.655
AM-243	+	74.67	*	2.709E-01	8.730E-02	1.175E-01	1.345E-02	2.306
	+	86.72		3.242E+01	1.346E+01	1.872E+01	2.232E+00	1.732
		117.66		-1.331E+00	4.267E+00	6.175E+00	4.508E-01	-0.216
	+	142.18		3.054E+01	2.265E+01	2.882E+01	1.885E+00	1.060
ANH-511	+	511.00	*	1.613E-01	7.024E-02	4.628E-02	2.588E-03	3.485

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	5.157E-02	3.411E-01	5.621E-01	3.724E-02	0.092
NA-22		1274.54	*	-1.545E-02	4.725E-02	7.662E-02	5.010E-03	-0.202
NA-24		1368.53	*	7.231E+00	4.725E-02	Half-Life too short		
AL-26		1129.67		-1.873E+00	2.269E+00	2.793E+00	1.801E-01	-0.671
		1808.65	*	1.188E-02	2.735E-02	4.859E-02	2.882E-03	0.245
TI-44		67.85		-5.605E-03	6.086E-02	1.023E-01	1.189E-02	-0.055
	+	78.38	*	3.371E-01	7.704E-02	8.488E-02	9.761E-03	3.972
SC-46		889.25	*	3.623E-04	4.111E-02	6.776E-02	5.480E-03	0.005
	+	1120.51		2.737E-01	1.225E-01	1.350E-01	8.843E-03	2.027
V-48		944.10		-3.790E-01	1.118E+00	1.776E+00	1.420E-01	-0.213
		983.50	*	9.923E-02	9.054E-02	1.614E-01	1.250E-02	0.615
		1312.09		-8.490E-02	1.042E-01	1.595E-01	1.075E-02	-0.532
CR-51		320.08	*	2.297E-01	3.901E-01	6.730E-01	4.739E-02	0.341
MN-52		744.21		4.958E-01	3.414E-01	6.309E-01	3.745E-02	0.786
		848.13		2.238E+00	1.078E+01	1.810E+01	1.347E+00	0.124
		935.52		2.758E-01	3.973E-01	6.890E-01	5.541E-02	0.400
		1246.25		-1.210E+01	1.148E+01	1.747E+01	1.112E+00	-0.693
		1333.61		2.455E-02	7.339E+00	1.224E+01	8.388E-01	0.002
		1434.06	*	3.985E-02	3.297E-01	5.629E-01	3.842E-02	0.071
MN-54		834.83	*	2.027E-02	3.829E-02	6.602E-02	4.777E-03	0.307
CO-56		846.75	*	4.271E-02	4.313E-02	7.681E-02	5.699E-03	0.556
		977.42		-4.352E+00	3.282E+00	4.623E+00	3.600E-01	-0.941
		1037.82		2.771E-01	3.210E-01	5.658E-01	4.454E-02	0.490
		1175.09		-2.752E+00	2.771E+00	4.048E+00	2.412E-01	-0.680
		1238.25		1.232E-01	1.128E-01	2.016E-01	1.342E-02	0.611
		1360.21		-1.036E-01	1.002E+00	1.646E+00	1.128E-01	-0.063
		1771.40		-6.072E-01	2.925E-01	2.728E-01	1.656E-02	-2.226
CO-57		122.06	*	5.078E-03	2.684E-02	4.444E-02	3.085E-03	0.114
		136.48		9.188E-02	2.123E-01	3.530E-01	2.626E-02	0.260
CO-58		810.76	*	1.218E-02	3.865E-02	6.589E-02	4.549E-03	0.185
FE-59	+	142.65		4.905E+00	3.637E+00	5.099E+00	3.333E-01	0.962

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	192.34			-1.737E-01	1.003E+00	1.516E+00	1.843E-01	-0.115
	1099.22	*		-4.223E-02	1.158E-01	1.817E-01	1.389E-02	-0.232
	1291.56			3.511E-02	1.320E-01	2.264E-01	1.830E-02	0.155
CO-60	1173.22			-1.650E-02	5.391E-02	8.441E-02	5.020E-03	-0.195
	1332.49	*		5.988E-04	3.949E-02	6.596E-02	4.520E-03	0.009
ZN-65	1115.52	*		-3.557E-02	1.107E-01	1.474E-01	9.751E-03	-0.241
GE-68	1077.35	*		4.677E-01	1.393E+00	2.329E+00	1.627E-01	0.201
AS-73	53.44	*		-3.985E-01	1.731E+00	2.896E+00	3.789E-01	-0.138
AS-74	595.88	*		2.910E-02	1.009E-01	1.658E-01	8.754E-03	0.175
	634.78			-3.615E-01	4.150E-01	6.099E-01	3.085E-02	-0.593
SE-75	66.05			4.357E+00	7.425E+00	1.153E+01	1.513E+00	0.378
	96.73			-1.426E+00	1.076E+00	1.478E+00	2.143E-01	-0.965
	121.11			1.556E-01	1.420E-01	2.423E-01	2.431E-02	0.642
	136.00			1.931E-02	4.013E-02	6.686E-02	4.481E-03	0.289
	198.60			1.256E+00	1.854E+00	3.035E+00	2.343E-01	0.414
	264.65	*		2.079E-02	4.510E-02	7.290E-02	4.904E-03	0.285
	279.53			-6.846E-02	1.094E-01	1.788E-01	1.263E-02	-0.383
	303.91			-5.200E-01	2.335E+00	3.397E+00	3.401E-01	-0.153
	400.65			-4.091E-02	2.608E-01	4.182E-01	3.765E-02	-0.098
BR-77	87.88	+		1.499E+03	6.226E+02	9.334E+02	1.122E+02	1.606
	200.40			-2.884E+02	3.910E+02	6.034E+02	3.937E+01	-0.478
	239.00	+		6.253E+02	5.864E+01	8.797E+01	5.862E+00	7.109
	249.79			5.302E+01	1.412E+02	2.440E+02	1.629E+01	0.217
	281.68			6.508E+01	2.062E+02	3.529E+02	2.344E+01	0.184
	297.23			4.590E+02	1.378E+02	2.568E+02	1.690E+01	1.787
	303.76			-1.604E+02	4.542E+02	6.544E+02	4.284E+01	-0.245
	439.47			1.453E+02	3.470E+02	5.843E+02	3.314E+01	0.249
	484.57			1.009E+02	5.538E+02	9.135E+02	5.154E+01	0.111
	520.65	*		9.097E+00	2.323E+01	3.882E+01	2.162E+00	0.234
	574.64			-3.374E+02	4.686E+02	7.058E+02	3.797E+01	-0.478
	578.91			9.750E+01	2.132E+02	3.151E+02	1.689E+01	0.309
	585.48			2.260E+03	5.842E+02	1.038E+03	5.533E+01	2.178
	755.35			4.076E+02	4.018E+02	7.192E+02	4.378E+01	0.567
SR-82	817.79			-1.183E+00	2.920E+02	4.838E+02	3.377E+01	-0.002
	698.33			-1.586E+01	3.798E+01	6.176E+01	3.293E+00	-0.257
	776.49	*		-1.296E-01	4.741E-01	6.624E-01	4.227E-02	-0.196
	1395.20			1.409E+01	1.303E+01	2.422E+01	1.658E+00	0.582
RB-83	520.41	*		8.905E-03	6.865E-02	1.124E-01	6.260E-03	0.079
	529.64			3.294E-03	1.086E-01	1.762E-01	9.766E-03	0.019
	552.65			-6.123E-02	2.096E-01	3.302E-01	1.806E-02	-0.185
RB-84	881.50	*		8.387E-02	7.788E-02	1.398E-01	1.113E-02	0.600
KR-85	513.99	*		1.002E+01	7.542E+00	1.208E+01	6.750E-01	0.829
SR-85	513.99	*		5.294E-02	3.986E-02	6.387E-02	3.567E-03	0.829
RB-86	1076.63	*		4.217E-01	9.407E-01	1.591E+00	1.112E-01	0.265
Y-88	898.02			-3.297E-02	4.454E-02	6.810E-02	5.635E-03	-0.484
	1836.01	*		-1.216E-02	3.033E-02	4.431E-02	2.586E-03	-0.274
ZR-88	392.90	*		2.111E-02	2.943E-02	5.086E-02	2.862E-03	0.415
Y-91	1204.90	*		-7.267E+00	2.345E+01	3.665E+01	2.246E+00	-0.198
NB-94	702.63	*		2.695E-02	3.398E-02	6.009E-02	3.237E-03	0.448

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		871.10		-1.160E-02	3.610E-02	5.781E-02	4.508E-03	-0.201
NB-95		765.79	*	1.205E-01	5.388E-02	9.358E-02	5.832E-03	1.288
NB-95M		235.69	*	1.668E-01	1.416E-01	2.139E-01	1.755E-02	0.780
ZR-95		724.18		5.334E-02	9.778E-02	1.512E-01	1.020E-02	0.353
		756.15	*	7.323E-02	7.585E-02	1.353E-01	9.854E-03	0.541
NB-97		657.90	*	6.253E-01	7.585E-02	Half-Life	too short	
		1024.50		-8.145E+01	7.585E-02	Half-Life	too short	
ZR-97		254.15		-6.494E+01	7.585E-02	Half-Life	too short	
		355.39		5.069E+00	7.585E-02	Half-Life	too short	
		507.63	*	4.613E+01	7.585E-02	Half-Life	too short	
		602.52		-3.193E+00	7.585E-02	Half-Life	too short	
		1021.30		-8.103E+01	7.585E-02	Half-Life	too short	
		1147.95		-5.076E+01	7.585E-02	Half-Life	too short	
		1362.66		-2.262E-01	7.585E-02	Half-Life	too short	
		1750.46		-3.334E+00	7.585E-02	Half-Life	too short	
MO-99		140.51		5.649E+01	6.209E+01	9.189E+01	2.492E+01	0.615
		181.06		5.291E+00	4.121E+01	5.953E+01	1.033E+01	0.089
		366.43		-7.093E+01	1.825E+02	2.960E+02	1.769E+01	-0.240
		739.58	*	-1.455E+01	2.408E+01	3.806E+01	5.257E+00	-0.382
		778.00		9.337E+00	7.654E+01	1.216E+02	7.788E+00	0.077
TC-99M		140.51	*	1.138E+14	7.654E+01	Half-Life	too short	
RH-101		127.23		-5.743E-03	3.686E-02	5.361E-02	3.641E-03	-0.107
		198.01	*	3.981E-02	3.331E-02	5.572E-02	3.629E-03	0.714
		325.23		-1.259E-02	2.428E-01	3.561E-01	2.279E-02	-0.035
RH-102		418.52		-7.978E-02	2.752E-01	4.436E-01	2.512E-02	-0.180
		475.06	*	-1.561E-04	2.948E-02	4.807E-02	2.718E-03	-0.003
		631.29		3.409E-02	5.720E-02	9.587E-02	4.871E-03	0.356
		697.49		-4.497E-02	7.970E-02	1.282E-01	6.820E-03	-0.351
	+	766.84		4.688E-01	2.219E-01	2.403E-01	1.501E-02	1.951
		1046.59		-3.183E-02	1.180E-01	1.864E-01	1.354E-02	-0.171
		1112.84		-8.156E-02	2.703E-01	3.805E-01	2.523E-02	-0.214
RU-103		497.08	*	1.014E-02	4.335E-02	7.167E-02	9.004E-03	0.141
	+	610.33		1.257E+01	2.673E+00	3.067E+00	4.662E-01	4.099
RH-106	+	511.85		8.100E-01	3.528E-01	4.242E-01	2.372E-02	1.910
		621.84	*	2.897E-02	3.132E-01	5.050E-01	5.769E-02	0.057
		1050.47		2.203E+00	2.492E+00	4.375E+00	3.163E-01	0.504
RU-106	+	511.85		8.100E-01	3.528E-01	4.242E-01	2.372E-02	1.910
		621.84	*	2.897E-02	3.132E-01	5.050E-01	2.594E-02	0.057
		1050.47		2.203E+00	2.492E+00	4.375E+00	3.163E-01	0.504
AG-108M		433.93	*	5.107E-03	3.146E-02	5.223E-02	3.227E-03	0.098
		614.37		1.765E-02	4.339E-02	6.338E-02	3.629E-03	0.278
		722.95		-4.853E-03	4.154E-02	5.955E-02	3.665E-03	-0.081
AG-110M		657.75	*	1.117E-02	3.937E-02	5.951E-02	3.179E-03	0.188
		677.61		1.435E-01	2.901E-01	5.062E-01	2.771E-02	0.284
		706.67		1.230E-01	2.187E-01	3.807E-01	2.211E-02	0.323
		763.93		2.238E-01	1.759E-01	2.905E-01	1.900E-02	0.770
		884.67		-1.413E-02	5.224E-02	8.390E-02	6.974E-03	-0.168
		937.48		-1.260E-01	1.243E-01	1.842E-01	1.541E-02	-0.684
		1384.27		1.816E-01	1.616E-01	2.818E-01	2.016E-02	0.644

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111	171.28			-6.433E-01	1.981E+00	3.150E+00	2.008E-01	-0.204
	245.39	*		-2.545E-02	2.159E+00	3.028E+00	2.021E-01	-0.008
IN-113M	391.69	*		1.188E-02	4.302E-02	7.235E-02	4.359E-03	0.164
SN-113	391.69	*		1.188E-02	4.302E-02	7.235E-02	4.359E-03	0.164
IN-114M	190.27	*		6.743E-02	1.978E-01	2.891E-01	1.871E-02	0.233
CD-115	260.90			-1.973E-04	1.978E-01	Half-Life	too short	
	492.35			4.469E-05	1.978E-01	Half-Life	too short	
	527.90	*		1.730E-05	1.978E-01	Half-Life	too short	
SN-117M	156.02			-4.412E-01	2.615E+00	4.213E+00	2.703E-01	-0.105
	158.56	*		-4.877E-04	6.288E-02	1.020E-01	6.521E-03	-0.005
SB-122	563.90	*		2.053E+00	4.090E+00	6.862E+00	3.723E-01	0.299
	692.80			5.286E+01	9.165E+01	1.601E+02	8.422E+00	0.330
I-123	159.00	*		-4.548E+00	9.165E+01	Half-Life	too short	
	528.96			2.025E+03	9.165E+01	Half-Life	too short	
TE-123M	159.00	*		-5.941E-04	2.879E-02	4.664E-02	3.015E-03	-0.013
I-124	602.71	*		-2.902E-02	1.218E+00	1.698E+00	8.907E-02	-0.017
	722.78			-9.008E-01	6.989E+00	1.000E+01	5.651E-01	-0.090
	1325.50			1.510E+01	6.082E+01	1.041E+02	7.090E+00	0.145
	1376.25			1.028E+02	5.949E+01	1.065E+02	7.300E+00	0.965
+	1509.49			4.524E+01	2.614E+01	4.999E+01	3.371E+00	0.905
	1691.02			-1.989E-01	6.056E+00	9.831E+00	6.231E-01	-0.020
SB-124	602.71			-1.081E-03	4.540E-02	6.329E-02	3.321E-03	-0.017
	645.85			9.129E-02	4.777E-01	8.175E-01	4.770E-02	0.112
	709.31			-1.707E-01	3.141E+00	5.155E+00	2.821E-01	-0.033
	713.82			-2.580E-02	1.690E+00	2.827E+00	2.844E-01	-0.009
	722.78			-4.866E-02	3.775E-01	5.404E-01	3.204E-02	-0.090
+	968.20			1.670E+01	4.422E+00	7.648E+00	6.002E-01	2.183
	1045.16			-2.161E+00	2.719E+00	4.053E+00	2.948E-01	-0.533
	1325.50			8.713E-01	3.509E+00	6.004E+00	4.091E-01	0.145
	1368.21			4.118E-01	1.860E+00	3.177E+00	3.946E-01	0.130
	1436.60			-8.749E-01	3.846E+00	6.256E+00	4.268E-01	-0.140
	1691.02	*		-2.535E-03	7.716E-02	1.253E-01	8.512E-03	-0.020
SB-125	427.89	*		5.413E-02	8.804E-02	1.507E-01	8.918E-03	0.359
+	463.38			4.896E-01	3.935E-01	5.264E-01	3.499E-02	0.930
	600.56			6.795E-02	1.753E-01	2.899E-01	1.810E-02	0.234
	635.90			-8.223E-02	2.736E-01	4.248E-01	2.619E-02	-0.194
TE-125M	109.28	*		1.014E+01	1.149E+01	1.767E+01	1.755E+00	0.574
I-126	388.63			6.074E-02	2.284E-01	3.840E-01	2.178E-02	0.158
	666.33	*		-5.451E-02	2.544E-01	3.649E-01	1.800E-02	-0.149
	753.82			8.888E-01	1.834E+00	3.166E+00	1.921E-01	0.281
SB-126	223.80			6.621E-01	4.897E+00	7.841E+00	5.194E-01	0.084
	278.60			2.237E+00	2.780E+00	4.862E+00	3.233E-01	0.460
+	296.50			1.581E+01	2.655E+00	4.175E+00	2.749E-01	3.786
	414.70			-6.149E-03	8.650E-02	1.417E-01	8.020E-03	-0.043
	415.30			1.907E-01	7.104E+00	1.171E+01	6.630E-01	0.016
	555.20			3.294E+00	4.727E+00	8.036E+00	4.386E-01	0.410
	573.80			-1.563E+00	1.225E+00	1.749E+00	9.418E-02	-0.893
	593.00			-1.039E+00	1.119E+00	1.650E+00	8.735E-02	-0.629
	656.30			1.241E+00	4.002E+00	6.334E+00	3.113E-01	0.196

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		666.33		-2.293E-02	1.070E-01	1.535E-01	7.572E-03	-0.149
		675.00		-5.367E-01	2.250E+00	3.711E+00	1.870E-01	-0.145
		695.00		5.034E-02	9.360E-02	1.629E-01	8.615E-03	0.309
		697.00		-3.820E-02	3.091E-01	5.135E-01	2.730E-02	-0.074
		720.50	*	-3.481E-02	1.699E-01	2.529E-01	1.421E-02	-0.138
		856.80		-6.095E-01	6.484E-01	8.089E-01	6.127E-02	-0.753
		989.30		-2.507E-01	1.596E+00	2.566E+00	1.978E-01	-0.098
		1034.80		-2.167E+00	1.068E+01	1.701E+01	1.252E+00	-0.127
		1213.00		-1.613E+00	6.908E+00	1.087E+01	6.715E-01	-0.148
		61.10		1.401E+02	1.668E+02	2.616E+02	3.855E+01	0.536
		252.40		-5.377E-01	6.778E+00	1.145E+01	4.802E+00	-0.047
		290.80		-9.265E+00	3.779E+01	5.507E+01	5.901E+00	-0.168
		411.60		6.303E+00	2.100E+01	3.518E+01	5.287E+00	0.179
		444.90		-1.229E+01	1.620E+01	2.498E+01	2.911E+00	-0.492
		473.00		-3.137E-01	2.787E+00	4.509E+00	5.412E-01	-0.070
		543.00		1.439E+01	2.618E+01	4.412E+01	5.987E+00	0.326
		603.60		7.198E+00	2.151E+01	3.119E+01	3.563E+00	0.231
		685.20	*	1.119E+00	2.241E+00	3.900E+00	3.956E-01	0.287
		698.50		-1.390E+01	2.663E+01	4.285E+01	6.431E+00	-0.324
		722.20		6.302E+00	4.912E+01	7.262E+01	7.369E+00	0.087
XE-127		783.80		3.404E+00	6.961E+00	1.195E+01	1.428E+00	0.285
		57.60		-4.549E+00	1.145E+01	1.912E+01	2.393E+00	-0.238
		145.22		8.219E-01	8.498E-01	1.296E+00	8.434E-02	0.634
		172.10		-1.274E-01	1.262E-01	1.938E-01	1.236E-02	-0.657
		202.84	*	9.869E-03	5.149E-02	8.309E-02	5.431E-03	0.119
I-131		374.96		1.283E-03	2.114E-01	3.505E-01	2.056E-02	0.004
		80.18		-1.489E+00	7.606E+00	1.133E+01	1.316E+00	-0.131
		284.30		8.825E-01	1.879E+00	3.238E+00	2.342E-01	0.273
		364.48	*	1.360E-01	1.455E-01	2.544E-01	1.701E-02	0.534
TE-132		636.97		4.472E-01	1.945E+00	3.170E+00	1.859E-01	0.141
		722.89		-1.134E+00	8.961E+00	1.283E+01	7.401E-01	-0.088
		49.72		-3.182E+01	8.483E+01	1.423E+02	2.079E+01	-0.224
	+	111.76		1.482E+02	1.064E+02	1.133E+02	1.259E+01	1.308
BA-133		116.30		1.585E+01	5.797E+01	8.666E+01	9.363E+00	0.183
		228.16	*	-3.777E-02	1.322E+00	2.097E+00	3.214E-01	-0.018
		53.15		-2.161E+00	7.498E+00	1.252E+01	1.639E+00	-0.173
		79.62		1.967E-02	1.665E+00	2.506E+00	4.271E-01	0.008
		81.00		-1.655E-01	1.354E-01	1.882E-01	3.325E-02	-0.879
I-133		276.40		2.480E-01	3.629E-01	6.116E-01	8.176E-02	0.405
		302.84		-6.298E-02	1.568E-01	2.249E-01	2.710E-02	-0.280
		356.01	*	-7.102E-03	4.778E-02	6.897E-02	8.080E-03	-0.103
		383.85		-1.530E-01	2.925E-01	4.670E-01	5.063E-02	-0.328
	+	510.53		1.643E+01	2.925E-01	Half-Life	too short	
		529.87	*	7.481E-03	2.925E-01	Half-Life	too short	
		706.58		2.503E+00	2.925E-01	Half-Life	too short	
		856.28		-4.542E+00	2.925E-01	Half-Life	too short	
		875.33		1.097E-01	2.925E-01	Half-Life	too short	
		1236.41		4.126E+00	2.925E-01	Half-Life	too short	
		1298.22		-1.704E+00	2.925E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134	475.35			9.915E-02	1.907E+00	3.122E+00	1.765E-01	0.032
	563.23			3.790E-01	3.388E-01	5.950E-01	3.306E-02	0.637
	569.32			1.802E-01	2.017E-01	3.434E-01	1.919E-02	0.525
	604.70			1.141E-02	3.738E-02	5.404E-02	2.848E-03	0.211
	+ 795.84		*	1.670E-01	9.734E-02	9.997E-02	6.738E-03	1.670
	801.93			2.533E-02	4.533E-01	6.576E-01	4.478E-02	0.039
	1038.57			3.215E+00	4.015E+00	7.028E+00	5.151E-01	0.457
	1167.94			1.812E+00	2.759E+00	4.709E+00	2.830E-01	0.385
	1365.15			9.916E-02	1.301E+00	2.184E+00	1.603E-01	0.045
	268.24		*	9.217E-02	1.693E-01	2.615E-01	2.180E-02	0.352
CS-135	288.45			2.431E+12	1.693E-01	Half-Life	too short	
I-135	417.63			-1.574E+11	1.693E-01	Half-Life	too short	
	546.56			2.291E+12	1.693E-01	Half-Life	too short	
	836.80			-6.808E+12	1.693E-01	Half-Life	too short	
	1038.76			1.233E+13	1.693E-01	Half-Life	too short	
	1124.00			5.595E+13	1.693E-01	Half-Life	too short	
	1131.51			-7.625E+11	1.693E-01	Half-Life	too short	
	1260.41		*	-2.599E+12	1.693E-01	Half-Life	too short	
	1457.56			7.105E+14	1.693E-01	Half-Life	too short	
	1678.03			1.212E+12	1.693E-01	Half-Life	too short	
	1706.46			-1.088E+13	1.693E-01	Half-Life	too short	
CS-136	1791.20			1.349E+12	1.693E-01	Half-Life	too short	
	+ 66.91			7.903E-01	1.344E+00	2.081E+00	3.606E-01	0.380
	86.29			4.471E+00	1.905E+00	2.793E+00	4.257E-01	1.601
	153.22			5.292E-01	7.641E-01	1.276E+00	9.881E-02	0.415
	163.89			-2.065E-02	1.265E+00	2.046E+00	1.578E-01	-0.010
	176.55			7.050E-02	4.469E-01	7.256E-01	5.123E-02	0.097
	273.65			-4.907E-01	5.609E-01	7.842E-01	5.791E-02	-0.626
	340.57			1.919E-01	1.601E-01	2.546E-01	1.683E-02	0.754
	818.51			-4.057E-02	8.166E-02	1.288E-01	9.020E-03	-0.315
	1048.07		*	-1.747E-02	1.345E-01	2.158E-01	1.658E-02	-0.081
CE-139	1235.34			3.095E-01	8.211E-01	1.410E+00	1.451E-01	0.219
BA-140	165.85		*	3.948E-04	3.055E-02	4.945E-02	3.142E-03	0.008
	162.64			8.734E-03	8.912E-01	1.444E+00	1.016E-01	0.006
LA-140	304.84			3.353E-01	1.630E+00	2.444E+00	6.710E-01	0.137
	423.70			-3.622E-01	2.119E+00	3.436E+00	1.091E+00	-0.105
	537.32		*	5.279E-02	3.107E-01	5.082E-01	1.650E-01	0.104
	+ 328.77			5.787E-01	4.749E-01	6.382E-01	4.475E-02	0.907
	432.53			-5.300E-01	2.385E+00	3.856E+00	2.425E-01	-0.137
	487.03			8.555E-02	1.607E-01	2.717E-01	1.745E-02	0.315
	751.79			-2.793E-01	2.033E+00	3.353E+00	2.446E-01	-0.083
	815.85			-4.319E-02	3.579E-01	5.865E-01	4.781E-02	-0.074
	867.82			-8.663E-02	1.797E+00	2.782E+00	2.296E-01	-0.031
	919.63			2.491E+00	3.803E+00	5.867E+00	6.014E-01	0.425
CE-141	925.24			-3.764E-01	1.380E+00	2.205E+00	1.912E-01	-0.171
	1596.49		*	-1.477E-02	1.027E-01	1.650E-01	1.086E-02	-0.090
CE-143	145.44		*	5.754E-02	7.697E-02	1.162E-01	7.803E-03	0.495
	57.37			-3.086E-05	7.697E-02	Half-Life	too short	
	231.56			-6.360E-03	7.697E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	293.26	*		1.989E-03	7.697E-02	Half-Life	too short	
	350.59			1.145E-01	7.697E-02	Half-Life	too short	
	490.36			-7.596E-03	7.697E-02	Half-Life	too short	
	664.57			2.135E-03	7.697E-02	Half-Life	too short	
	721.93			-1.285E-03	7.697E-02	Half-Life	too short	
CE-144	80.11			-5.658E-01	2.752E+00	4.099E+00	4.736E-01	-0.138
	133.54	*		-8.786E-02	2.262E-01	3.229E-01	4.706E-02	-0.272
PM-144	476.78			7.397E-03	7.003E-02	1.150E-01	7.847E-03	0.064
	618.01			-6.104E-03	3.270E-02	5.139E-02	2.852E-03	-0.119
	696.49	*		-4.391E-03	3.571E-02	5.936E-02	3.155E-03	-0.074
	778.57			-1.549E-01	2.406E+00	3.876E+00	2.487E-01	-0.040
PR-144	696.49	*		-2.980E-01	2.423E+00	4.029E+00	2.139E-01	-0.074
	1489.15			-8.831E-01	9.406E+00	1.526E+01	1.033E+00	-0.058
PM-146	453.90	*		2.208E-02	4.214E-02	7.146E-02	6.099E-03	0.309
	633.02			-7.382E-01	1.495E+00	2.245E+00	8.244E-01	-0.329
	735.90			1.016E-02	1.454E-01	2.381E-01	6.640E-02	0.043
	747.13			-8.339E-02	9.440E-02	1.452E-01	1.828E-02	-0.574
ND-147	91.11			4.403E+00	8.580E-01	1.035E+00	1.213E-01	4.255
	319.41			-8.872E-02	3.979E+00	6.652E+00	4.290E-01	-0.013
	439.89			6.196E+00	7.120E+00	1.233E+01	6.996E-01	0.503
	531.02	*		-3.642E-01	6.903E-01	1.067E+00	1.432E-01	-0.341
PM-149	285.90	*		-1.224E-04	6.903E-01	Half-Life	too short	
EU-152	121.78			1.891E-02	7.754E-02	1.286E-01	1.096E-02	0.147
	244.69			-4.397E-02	3.319E-01	4.609E-01	3.075E-02	-0.095
	344.27	*		-9.088E-02	9.415E-02	1.475E-01	1.021E-02	-0.616
	443.98			-7.076E-01	9.507E-01	1.473E+00	8.358E-02	-0.480
	778.89			-4.360E-02	2.697E-01	4.427E-01	2.841E-02	-0.098
	867.32			-8.573E-03	9.594E-01	1.436E+00	1.111E-01	-0.006
	964.01	+		5.511E-01	3.034E-01	6.033E-01	4.751E-02	0.913
	1085.78			1.079E-01	4.281E-01	7.107E-01	4.906E-02	0.152
	1112.02			-1.774E-01	3.525E-01	5.243E-01	3.482E-02	-0.338
	1407.95			-3.259E-02	2.094E-01	3.409E-01	2.332E-02	-0.096
GD-153	69.67			-2.109E+00	2.220E+00	3.583E+00	4.137E-01	-0.589
	83.37			2.078E+01	2.023E+01	3.136E+01	3.671E+00	0.663
	97.43	*		9.667E-02	1.039E-01	1.604E-01	1.574E-02	0.603
	103.18			-1.896E-01	1.176E-01	1.810E-01	1.611E-02	-1.048
EU-154	123.07			-3.207E-02	5.461E-02	8.748E-02	8.855E-03	-0.367
	247.94			7.603E-02	3.710E-01	5.647E-01	5.701E-02	0.135
	591.81			-1.299E-01	6.233E-01	9.825E-01	9.320E-02	-0.132
	723.30			3.750E-03	1.713E-01	2.499E-01	1.740E-02	0.015
	756.87			5.972E-01	8.066E-01	1.416E+00	1.461E-01	0.422
	873.19			-5.822E-03	3.121E-01	5.137E-01	6.012E-02	-0.011
	996.32			5.407E-02	4.355E-01	6.249E-01	1.082E-01	0.087
	1004.76			-2.922E-02	2.562E-01	3.552E-01	3.873E-02	-0.082
	1274.45	*		-7.417E-02	1.335E-01	2.115E-01	2.074E-02	-0.351
EU-155	48.70			-3.687E+00	6.058E+00	1.006E+01	1.160E+00	-0.366
	60.01			3.900E+00	8.742E+00	1.358E+01	1.649E+00	0.287
	86.54	+		3.549E-01	1.475E-01	2.240E-01	2.683E-02	1.584
	105.31	*		1.411E-01	1.183E-01	2.031E-01	1.770E-02	0.695

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	86.79		9.736E-01	4.043E-01	6.190E-01	7.386E-02	1.573
		197.04		-4.484E-01	6.046E-01	9.274E-01	6.035E-02	-0.484
		215.65		-1.830E-01	7.856E-01	1.237E+00	8.160E-02	-0.148
	+	298.57		3.050E-01	1.753E-01	2.113E-01	1.389E-02	1.443
		879.36	*	-7.278E-03	1.571E-01	2.579E-01	2.045E-02	-0.028
		962.29		2.913E-01	6.877E-01	1.020E+00	8.040E-02	0.286
	+	966.15		3.888E-01	2.141E-01	5.045E-01	3.966E-02	0.771
		1177.93		1.311E-01	4.547E-01	7.098E-01	4.240E-02	0.185
		1271.85		1.071E-01	7.977E-01	1.351E+00	8.798E-02	0.079
	HO-166M	80.57		-1.644E-01	3.522E-01	5.180E-01	5.994E-02	-0.317
		184.41		3.332E-01	6.998E-02	7.694E-02	4.956E-03	4.331
		280.46		-8.133E-02	8.463E-02	1.358E-01	9.025E-03	-0.599
		410.95		3.154E-01	2.516E-01	4.439E-01	2.510E-02	0.710
		711.68	*	-2.769E-02	6.169E-02	9.973E-02	5.489E-03	-0.278
		752.31		-8.635E-02	2.850E-01	4.640E-01	2.805E-02	-0.186
		810.29		1.727E-02	5.602E-02	9.548E-02	6.560E-03	0.181
TM-171		51.35		5.130E+01	6.737E+01	1.174E+02	1.520E+01	0.437
		52.39		-9.102E-01	3.389E+01	5.719E+01	7.481E+00	-0.016
		59.40		-4.918E+00	4.910E+01	7.449E+01	9.083E+00	-0.066
		66.72	*	2.161E+01	4.232E+01	6.553E+01	7.661E+00	0.330
LU-176	+	88.36		6.982E-01	2.900E-01	4.291E-01	5.115E-02	1.627
		201.83		-3.232E-02	3.052E-02	4.632E-02	3.025E-03	-0.698
	+	306.84	*	5.618E-03	2.490E-02	4.095E-02	2.674E-03	0.137
		401.10		2.334E+00	6.683E+00	1.106E+01	6.242E-01	0.211
LU-177M		52.97		-2.548E+00	3.538E+00	5.793E+00	7.585E-01	-0.440
		54.07		-8.002E-01	1.760E+00	2.917E+00	3.804E-01	-0.274
		61.30		2.666E+00	2.599E+00	4.107E+00	4.955E-01	0.649
		121.62		2.461E-01	3.974E-01	6.686E-01	4.657E-02	0.368
		147.16		-1.839E-01	7.695E-01	1.104E+00	7.163E-02	-0.167
		171.86		-5.018E-01	4.872E-01	7.471E-01	4.764E-02	-0.672
		218.09		6.445E-01	8.808E-01	1.452E+00	9.588E-02	0.444
	+	268.79		1.790E+00	1.210E+00	1.419E+00	9.462E-02	1.262
		319.02		-2.555E-02	2.568E-01	4.276E-01	2.757E-02	-0.060
		367.43		4.079E-01	9.376E-01	1.595E+00	9.510E-02	0.256
	+	413.65	*	-1.444E-01	1.864E-01	2.917E-01	1.650E-02	-0.495
		56.28		1.810E+00	1.828E+00	3.185E+00	4.061E-01	0.568
		57.53		-1.690E-01	9.508E-01	1.602E+00	2.007E-01	-0.105
HF-181		65.20		6.221E-01	1.549E+00	2.390E+00	2.817E-01	0.260
		133.02		-9.368E-03	7.524E-02	1.093E-01	7.292E-03	-0.086
		136.25		2.242E-01	4.830E-01	8.041E-01	5.324E-02	0.279
		345.85		-2.866E-03	2.149E-01	3.145E-01	1.954E-02	-0.009
	+	482.03	*	9.973E-04	4.758E-02	7.659E-02	4.324E-03	0.013
		56.28		6.868E-01	6.938E-01	1.209E+00	1.541E-01	0.568
		57.53		-6.386E-02	3.613E-01	6.087E-01	7.628E-02	-0.105
W-181		65.20	*	2.345E-01	5.838E-01	9.009E-01	1.062E-01	0.260
		67.75		3.517E-03	1.487E-01	2.509E-01	2.919E-02	0.014
		100.10		9.805E-02	1.996E-01	3.365E-01	3.150E-02	0.291
TA-182		152.43		-2.262E-01	3.498E-01	5.526E-01	3.560E-02	-0.409
		222.10		-9.610E-02	3.546E-01	5.562E-01	3.681E-02	-0.173

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	1001.68		1.151E+01	3.834E+00	5.767E+00	4.394E-01	1.995
	+	1121.28		7.510E-01	3.362E-01	3.820E-01	2.499E-02	1.966
		1189.05		1.454E-01	3.603E-01	5.998E-01	3.622E-02	0.242
		1221.42	*	-7.205E-02	2.156E-01	3.523E-01	2.193E-02	-0.205
		1230.97		1.856E-02	5.347E-01	8.996E-01	5.648E-02	0.021
RE-183		57.98		-2.026E-01	3.790E-01	5.998E-01	7.468E-02	-0.338
		59.32		-3.125E-02	2.074E-01	3.139E-01	3.832E-02	-0.100
		67.20		1.680E-01	2.857E-01	4.696E-01	5.477E-02	0.358
		162.32	*	3.905E-02	1.139E-01	1.872E-01	1.193E-02	0.209
	+	208.81		2.634E+00	1.500E+00	1.918E+00	1.259E-01	1.373
		291.72		-1.177E-01	1.013E+00	1.490E+00	9.843E-02	-0.079
RE-184		57.98		-7.341E-01	1.373E+00	2.174E+00	2.706E-01	-0.338
		59.32		-1.132E-01	7.511E-01	1.137E+00	1.388E-01	-0.100
		67.20		6.088E-01	1.035E+00	1.701E+00	1.984E-01	0.358
		161.27		-2.515E-02	3.588E-01	5.796E-01	3.697E-02	-0.043
		216.55		4.177E-02	2.736E-01	4.392E-01	2.898E-02	0.095
		252.85	*	-1.416E-01	2.190E-01	3.595E-01	2.401E-02	-0.394
		318.01		-1.214E-01	4.407E-01	7.265E-01	4.690E-02	-0.167
		792.07		3.696E-01	1.221E+00	1.820E+00	1.202E-01	0.203
		903.28		5.239E-01	1.079E+00	1.806E+00	1.482E-01	0.290
		920.93		3.147E-01	5.060E-01	8.342E-01	6.773E-02	0.377
OS-185		59.72		2.587E-01	5.373E-01	8.358E-01	1.017E-01	0.310
		61.14		2.532E-01	2.880E-01	4.533E-01	5.475E-02	0.558
		69.30		-5.644E-01	4.067E-01	6.416E-01	7.418E-02	-0.880
		592.07		-8.671E-01	2.608E+00	4.066E+00	2.155E-01	-0.213
		646.12	*	-4.867E-03	4.066E-02	6.791E-02	3.385E-03	-0.072
		717.42		1.673E-02	8.653E-01	1.450E+00	8.091E-02	0.012
		874.81		2.847E-02	6.195E-01	1.026E+00	8.059E-02	0.028
		880.27		2.320E-01	8.423E-01	1.421E+00	1.129E-01	0.163
RE-188		155.03	*	1.772E-01	1.753E-01	2.962E-01	1.902E-02	0.598
		477.96		7.871E-01	3.180E+00	5.277E+00	2.982E-01	0.149
		633.10		-1.719E+00	3.042E+00	4.616E+00	2.340E-01	-0.372
W-188	+	63.58		8.081E+02	1.665E+02	2.004E+02	2.385E+01	4.033
		227.08		4.257E+00	1.353E+01	2.184E+01	1.449E+00	0.195
		290.67	*	-1.913E+00	8.018E+00	1.169E+01	7.729E-01	-0.164
IR-192	+	295.96		1.059E+00	1.782E-01	2.922E-01	1.948E-02	3.624
		308.46		-2.247E-02	9.265E-02	1.533E-01	1.008E-02	-0.147
		316.51	*	-5.455E-03	3.512E-02	5.832E-02	3.787E-03	-0.094
		468.07		6.000E-03	7.374E-02	1.063E-01	6.982E-03	0.056
		604.41		2.984E-01	5.063E-01	7.537E-01	8.346E-02	0.396
		612.46		5.562E-01	8.674E-01	1.290E+00	9.183E-02	0.431
AU-195		65.12		1.330E-01	2.704E-01	4.187E-01	4.937E-02	0.318
		66.83		7.025E-02	1.406E-01	2.176E-01	2.543E-02	0.323
	+	75.70		8.862E-01	2.856E-01	5.147E-01	5.896E-02	1.722
		98.88	*	6.684E-01	2.698E-01	4.716E-01	4.509E-02	1.417
	+	129.76		1.020E+01	5.007E+00	5.341E+00	3.598E-01	1.909
TL-200		367.94	*	1.189E-03	5.007E+00	Half-Life too short		
		579.30		1.025E-02	5.007E+00	Half-Life too short		
		828.27		-1.076E-02	5.007E+00	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-201	1205.75		-2.078E-03	5.007E+00	Half-Life too short		
	68.90		-1.832E+01	1.232E+01	1.941E+01	2.247E+00	-0.944
	70.82		2.969E+00	7.528E+00	1.154E+01	1.328E+00	0.257
	80.30		-2.203E+00	1.245E+01	1.856E+01	2.146E+00	-0.119
TL-202	135.34		2.257E+01	5.032E+01	8.007E+01	5.313E+00	0.282
	167.43	*	-1.015E+00	1.348E+01	2.173E+01	1.381E+00	-0.047
	68.90		-1.007E+00	6.768E-01	1.067E+00	1.235E-01	-0.944
	70.82		1.627E-01	4.125E-01	6.322E-01	7.276E-02	0.257
HG-203	80.30		-1.208E-01	6.823E-01	1.018E+00	1.176E-01	-0.119
	439.56	*	3.573E-02	8.537E-02	1.437E-01	8.153E-03	0.249
	70.83		6.345E-01	1.586E+00	2.429E+00	3.789E-01	0.261
	72.87		5.977E-01	9.323E-01	1.437E+00	2.186E-01	0.416
BI-207	82.60		1.083E-01	1.461E+00	2.339E+00	3.702E-01	0.046
	279.20	*	2.979E-03	4.159E-02	7.040E-02	4.902E-03	0.042
	72.80		1.575E-01	2.616E-01	4.035E-01	4.627E-02	0.390
	74.97	+	4.863E-01	1.567E-01	2.637E-01	3.020E-02	1.844
TL-207	84.90		2.803E-01	2.524E-01	3.916E-01	4.620E-02	0.716
	569.67		2.011E-02	3.190E-02	5.331E-02	2.879E-03	0.377
	1063.62	*	4.109E-02	6.072E-02	1.043E-01	7.419E-03	0.394
	1770.23		-9.201E-02	3.618E-01	4.463E-01	2.712E-02	-0.206
PO-209	81.07		-3.570E-01	2.945E-01	4.156E-01	4.818E-02	-0.859
	83.78		2.218E-01	1.695E-01	2.643E-01	3.100E-02	0.839
	94.90		5.600E-01	3.066E-01	4.828E-01	4.976E-02	1.160
	122.32		-6.242E-01	1.869E+00	3.031E+00	2.332E-01	-0.206
BI-210	144.24	+	1.178E+00	8.752E-01	1.239E+00	9.686E-02	0.951
	154.21		3.805E-01	3.935E-01	6.633E-01	5.002E-02	0.574
	269.46	+	4.140E-01	2.799E-01	3.435E-01	2.370E-02	1.205
	323.87	*	-3.213E-01	7.506E-01	1.067E+00	1.786E-01	-0.301
PB-210	338.28	+	6.130E+00	1.622E+00	2.406E+00	2.601E-01	2.548
	445.03		-1.786E+00	2.240E+00	3.445E+00	3.513E-01	-0.518
	260.50		-5.725E+00	9.490E+00	1.561E+01	1.042E+00	-0.367
	262.80		-2.208E+01	2.542E+01	4.112E+01	2.745E+00	-0.537
PB-211	896.60	*	-4.193E+00	7.680E+00	1.197E+01	9.827E-01	-0.350
	46.50	*	4.080E+00	1.008E+01	1.715E+01	1.495E+00	0.238
	46.50	*	4.080E+00	1.008E+01	1.715E+01	1.495E+00	0.238
	46.50	*	4.080E+00	1.007E+01	1.715E+01	1.332E+00	0.238
BI-212	404.84	*	-6.346E-01	1.012E+00	1.469E+00	9.155E-01	-0.432
	427.08		-2.265E-01	2.034E+00	3.308E+00	2.044E+00	-0.068
	831.96		-1.318E-04	1.275E+00	2.110E+00	1.319E+00	0.000
	727.18	+	1.594E+00	5.009E-01	7.169E-01	5.480E-02	2.224
PO-215	785.46		2.710E+00	1.982E+00	3.593E+00	2.339E-01	0.754
	1620.62		1.468E+00	1.396E+00	2.615E+00	1.707E-01	0.561
	81.07		-3.570E-01	2.945E-01	4.156E-01	4.818E-02	-0.859
	83.78		2.218E-01	1.695E-01	2.643E-01	3.100E-02	0.839
PO-215	94.90		5.600E-01	3.066E-01	4.828E-01	4.976E-02	1.160
	122.32		-6.242E-01	1.869E+00	3.031E+00	2.332E-01	-0.206
	144.24	+	1.178E+00	8.752E-01	1.239E+00	9.686E-02	0.951
	154.21		3.805E-01	3.935E-01	6.633E-01	5.002E-02	0.574
PO-215	269.46	+	4.140E-01	2.799E-01	3.435E-01	2.370E-02	1.205

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		323.87	*	-3.213E-01	7.506E-01	1.067E+00	1.786E-01	-0.301
	+	338.28		6.130E+00	1.622E+00	2.406E+00	2.601E-01	2.548
		445.03		-1.786E+00	2.240E+00	3.445E+00	3.513E-01	-0.518
	+	271.23		5.312E-01	3.602E-01	4.359E-01	3.812E-02	1.218
		401.81	*	2.633E-01	4.079E-01	6.853E-01	9.279E-02	0.384
RN-220		549.76	*	-8.922E+00	2.548E+01	3.991E+01	2.186E+00	-0.224
RA-223		81.07		-3.570E-01	2.945E-01	4.156E-01	4.818E-02	-0.859
		83.78		2.218E-01	1.695E-01	2.643E-01	3.100E-02	0.839
		94.90		5.600E-01	3.066E-01	4.828E-01	4.976E-02	1.160
		122.32		-6.242E-01	1.869E+00	3.031E+00	2.332E-01	-0.206
	+	144.24		1.178E+00	8.752E-01	1.239E+00	9.686E-02	0.951
		154.21		3.805E-01	3.935E-01	6.633E-01	5.002E-02	0.574
	+	269.46		4.140E-01	2.799E-01	3.435E-01	2.370E-02	1.205
AC-227		323.87	*	-3.213E-01	7.506E-01	1.067E+00	1.786E-01	-0.301
	+	338.28		6.130E+00	1.622E+00	2.406E+00	2.601E-01	2.548
		445.03		-1.786E+00	2.240E+00	3.445E+00	3.513E-01	-0.518
		79.80		-4.613E-02	2.104E+00	3.161E+00	7.218E-01	-0.015
		236.00		4.092E-01	2.641E-01	4.028E-01	4.411E-02	1.016
		256.20	*	-6.667E-02	3.738E-01	6.284E-01	9.016E-02	-0.106
		286.10		-1.410E+00	1.514E+00	2.414E+00	2.896E-01	-0.584
	+	299.80		3.778E+00	2.247E+00	2.773E+00	4.596E-01	1.363
		304.40		1.648E-01	2.025E+00	3.014E+00	5.294E-01	0.055
TH-227		334.20		-2.029E+00	2.692E+00	3.390E+00	6.273E-01	-0.599
		79.80		-4.613E-02	2.104E+00	3.161E+00	7.300E-01	-0.015
	+	94.00		6.222E+01	1.522E+01	6.233E+00	1.408E+00	9.983
		236.00		4.092E-01	2.633E-01	4.028E-01	3.878E-02	1.016
		256.20	*	-6.667E-02	3.739E-01	6.284E-01	1.082E-01	-0.106
		286.10		-1.410E+00	2.064E+00	2.414E+00	2.420E+00	-0.584
	+	299.80		3.778E+00	2.247E+00	2.773E+00	4.596E-01	1.363
		304.40		1.648E-01	2.025E+00	3.014E+00	5.294E-01	0.055
TH-229		334.20		-2.029E+00	2.692E+00	3.390E+00	6.273E-01	-0.599
		85.43		2.949E-01	2.515E-01	3.903E-01	4.619E-02	0.756
	+	88.47		4.019E-01	1.669E-01	2.459E-01	2.923E-02	1.635
		100.00		1.546E-01	2.060E-01	3.499E-01	3.281E-02	0.442
		193.63	*	1.199E-01	5.056E-01	8.200E-01	5.322E-02	0.146
		210.97		1.306E+00	8.700E-01	1.341E+00	8.816E-02	0.974
PA-231		283.67	*	7.114E-01	1.515E+00	2.607E+00	3.689E-01	0.273
TH-231	+	301.29		1.511E+00	8.787E-01	1.039E+00	1.132E-01	1.455
		81.07		-3.570E-01	2.945E-01	4.156E-01	4.818E-02	-0.859
		83.78		2.218E-01	1.695E-01	2.643E-01	3.100E-02	0.839
		94.90		5.600E-01	3.066E-01	4.828E-01	4.976E-02	1.160
		122.32		-6.242E-01	1.869E+00	3.031E+00	2.332E-01	-0.206
	+	144.24		1.178E+00	8.752E-01	1.239E+00	9.686E-02	0.951
		154.21		3.805E-01	3.935E-01	6.633E-01	5.002E-02	0.574
	+	269.46		4.140E-01	2.799E-01	3.435E-01	2.370E-02	1.205
		323.87	*	-3.213E-01	7.506E-01	1.067E+00	1.786E-01	-0.301
	+	338.28		6.130E+00	1.622E+00	2.406E+00	2.601E-01	2.548
		445.03		-1.786E+00	2.240E+00	3.445E+00	3.513E-01	-0.518
U-231		84.21		1.694E+01	1.166E+01	1.822E+01	2.142E+00	0.930

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		9.884E+01	1.392E+01	1.301E+01	7.595
		95.87	*	-2.904E+00	2.334E+00	3.260E+00	-0.891
		108.00		-7.366E+00	3.962E+00	5.686E+00	-1.295
	+	75.28		1.419E+01	4.915E+00	7.800E+00	1.819
	+	86.59		5.763E+00	2.806E+00	3.644E+00	1.582
	+	300.12		1.053E+00	6.189E-01	7.645E-01	1.378
		311.98	*	4.771E-03	6.119E-02	1.030E-01	0.046
		340.50		9.981E-01	7.132E-01	1.094E+00	0.912
		398.62		-1.529E+00	2.051E+00	3.154E+00	-0.485
		415.76		7.916E-02	1.618E+00	2.672E+00	0.030
PA-234	+	63.00		2.277E+01	5.535E+00	5.927E+00	3.842
		94.67		7.074E-01	2.380E-01	3.657E-01	1.934
		98.44		2.450E-01	1.762E-01	1.901E-01	1.289
		99.86		5.777E-01	5.301E-01	9.080E-01	0.636
		111.00		2.026E-01	2.343E-01	3.584E-01	0.565
	+	131.20		3.782E-01	1.857E-01	1.807E-01	2.093
		152.70		-8.167E-02	3.302E-01	5.306E-01	-0.154
	+	186.00		1.200E+01	4.393E+00	3.117E+00	3.849
		226.40		-5.759E-02	4.281E-01	6.756E-01	-0.085
		227.20		1.609E-01	4.452E-01	7.201E-01	0.223
NP-236		248.90		3.043E-01	7.999E-01	1.288E+00	0.236
		293.70		4.377E+00	1.077E+00	1.607E+00	2.723
		369.80		1.830E-01	8.885E-01	1.490E+00	0.123
		568.70		9.789E-01	1.018E+00	1.742E+00	0.562
		569.50		1.513E-01	2.843E-01	4.718E-01	0.321
		574.00		-1.273E+00	1.448E+00	2.146E+00	-0.593
		699.00		-1.945E-01	7.259E-01	1.192E+00	-0.163
		706.10		2.577E-02	1.090E+00	1.829E+00	0.014
		733.00		1.998E-01	4.003E-01	6.131E-01	0.326
	+	742.81		1.552E+00	1.726E+00	2.497E+00	0.622
NP-236		796.30		3.236E+00	2.061E+00	1.887E+00	1.715
		805.60		5.688E-01	1.063E+00	1.731E+00	0.329
		819.60		-4.458E-01	1.182E+00	1.868E+00	-0.239
		826.30		5.915E-02	8.116E-01	1.352E+00	0.044
		831.60		-1.920E-01	6.685E-01	1.077E+00	-0.178
		876.40		-3.695E-01	9.768E-01	1.429E+00	-0.259
		880.51		1.078E-01	3.005E-01	5.104E-01	0.211
		883.24		2.536E-03	2.977E-01	4.909E-01	0.005
		899.00		-7.162E-01	9.289E-01	1.328E+00	-0.539
		925.00		-3.320E-01	1.216E+00	1.943E+00	-0.171
NP-236		926.50		4.612E-02	1.837E-01	3.079E-01	0.150
		946.00	*	-2.286E-01	3.418E-01	5.222E-01	-0.438
		949.00		4.157E-01	4.934E-01	8.647E-01	0.481
		980.50		-4.431E-02	7.974E-01	1.296E+00	-0.034
		1394.10		1.148E+00	1.449E+00	2.290E+00	0.501
		94.67		5.398E-01	1.743E-01	2.777E-01	1.944
		98.44		1.852E-01	8.561E-02	1.437E-01	1.289
		111.00		1.532E-01	1.767E-01	2.711E-01	0.565
		160.31	*	2.251E-02	8.027E-02	1.317E-01	0.171

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		3.533E-01	1.809E-01	3.148E-01	2.975E-02	1.122
		117.00	*	-2.337E-02	2.135E-01	3.128E-01	2.301E-02	-0.075
	+	209.75		2.019E+00	1.150E+00	1.476E+00	9.693E-02	1.368
		228.18		-8.581E-03	2.342E-01	3.714E-01	2.465E-02	-0.023
		277.60		1.533E-01	1.729E-01	3.034E-01	2.018E-02	0.505
		334.30		-1.186E+00	1.511E+00	1.913E+00	1.210E-01	-0.620
AM-241		59.54	*	5.184E-02	2.821E-01	4.336E-01	5.474E-02	0.120
CM-243		99.55		3.637E-01	1.862E-01	3.240E-01	3.062E-02	1.122
		103.76	*	2.780E-02	1.040E-01	1.739E-01	1.533E-02	0.160
		117.00		-2.404E-02	2.197E-01	3.218E-01	2.368E-02	-0.075
	+	209.75		1.991E+00	1.134E+00	1.455E+00	9.557E-02	1.368
		228.18		-8.672E-03	2.367E-01	3.753E-01	2.491E-02	-0.023
		277.60		1.546E-01	1.744E-01	3.060E-01	2.035E-02	0.505
AM-246		798.80		2.531E-03	1.386E-01	2.305E-01	1.545E-02	0.011
		1036.00		1.092E-01	3.116E-01	5.243E-01	3.854E-02	0.208
		1062.04		4.090E-02	2.549E-01	4.200E-01	2.993E-02	0.097
		1078.86	*	-2.010E-02	1.666E-01	2.671E-01	1.862E-02	-0.075
CM-247		278.00		5.289E-01	7.137E-01	1.245E+00	8.280E-02	0.425
		287.40		-1.476E-01	1.165E+00	1.949E+00	1.291E-01	-0.076
		402.60	*	4.060E-02	3.569E-02	6.295E-02	3.553E-03	0.645
CF-249		252.85		-5.252E-01	8.119E-01	1.333E+00	8.903E-02	-0.394
		333.44		9.420E-02	2.307E-01	2.623E-01	1.661E-02	0.359
		387.95	*	-4.805E-04	3.769E-02	6.226E-02	3.538E-03	-0.008
CF-251		176.60	*	2.223E-02	1.325E-01	2.152E-01	1.377E-02	0.103
		227.00		-9.706E-03	4.001E-01	6.350E-01	4.212E-02	-0.015
		285.00		1.778E-01	1.682E+00	2.850E+00	1.890E-01	0.062

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*                                     DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978006
* Acquisition date   : 14-FEB-2010 11:56:15 Detector SN#      :
* Detector ID        : GAM04 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.52 Half life ratio : 8.000
*****
*                                     SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978006 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.3450E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.645E+01	3.184E+00	5.598E-01	0.000E+00
CD-109	3.008E+00	1.224E+00	1.962E+00	0.000E+00
SN-126	2.944E-01	1.198E-01	1.840E-01	0.000E+00
BA-137M	4.531E-02	5.337E-02	6.283E-02	0.000E+00
CS-137	4.790E-02	5.641E-02	6.641E-02	0.000E+00
LU-177	3.834E+00	2.140E+00	2.471E+00	0.000E+00
TL-208	5.140E-01	8.170E-02	6.022E-02	0.000E+00
BI-211	3.382E+00	5.048E-01	3.313E-01	0.000E+00
PB-212	1.681E+00	1.712E-01	8.354E-02	0.000E+00
PO-212	1.681E+00	1.712E-01	8.354E-02	0.000E+00
BI-214	1.106E+00	1.798E-01	1.084E-01	0.000E+00
PB-214	1.177E+00	1.856E-01	1.155E-01	0.000E+00
PO-214	1.177E+00	1.856E-01	1.155E-01	0.000E+00
PO-216	1.681E+00	1.712E-01	8.354E-02	0.000E+00
PO-218	1.177E+00	1.856E-01	1.155E-01	0.000E+00
RA-224	5.088E+00	1.488E+00	9.508E-01	0.000E+00
RA-226	1.106E+00	1.798E-01	1.084E-01	0.000E+00
AC-228	1.757E+00	3.614E-01	2.165E-01	0.000E+00
RA-228	1.757E+00	3.614E-01	2.165E-01	0.000E+00
TH-228	1.711E+00	1.743E-01	8.505E-02	0.000E+00
TH-230	1.106E+00	1.798E-01	1.084E-01	0.000E+00
TH-232	1.757E+00	3.614E-01	2.165E-01	0.000E+00
PA-234M	2.567E+01	8.477E+00	7.410E+00	0.000E+00
TH-234	1.954E+01	4.971E+00	3.354E+00	0.000E+00
U-234	1.106E+00	1.798E-01	1.084E-01	0.000E+00
U-235	3.636E-01	2.697E-01	3.705E-01	0.000E+00
NP-237	8.645E-01	3.929E-01	5.307E-01	0.000E+00
U-238	1.954E+01	4.971E+00	3.354E+00	0.000E+00
AM-243	2.709E-01	8.556E-02	1.241E-01	0.000E+00
ANH-511	1.613E-01	6.884E-02	4.729E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	5.157E-02	3.343E-01	5.750E-01	0.000E+00	NOT IDENT.
NA-22	-1.545E-02	4.630E-02	7.697E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.845E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.188E-02	2.680E-02	4.850E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.550E-02	8.962E-02	0.000E+00	FAIL ABUN
SC-46	3.623E-04	4.029E-02	6.853E-02	0.000E+00	FAIL ABUN
V-48	9.923E-02	8.873E-02	1.629E-01	0.000E+00	NOT IDENT.
CR-51	2.297E-01	3.823E-01	6.933E-01	0.000E+00	NOT IDENT.
MN-52	3.985E-02	3.231E-01	5.643E-01	0.000E+00	NOT IDENT.
MN-54	2.027E-02	3.752E-02	6.684E-02	0.000E+00	NOT IDENT.
CO-56	4.271E-02	4.227E-02	7.776E-02	0.000E+00	NOT IDENT.
CO-57	5.078E-03	2.630E-02	4.656E-02	0.000E+00	NOT IDENT.
CO-58	1.218E-02	3.788E-02	6.676E-02	0.000E+00	NOT IDENT.
FE-59	-4.223E-02	1.135E-01	1.831E-01	0.000E+00	FAIL ABUN
CO-60	5.988E-04	3.870E-02	6.621E-02	0.000E+00	NOT IDENT.
ZN-65	-3.557E-02	1.085E-01	1.485E-01	0.000E+00	NOT IDENT.
GE-68	4.677E-01	1.365E+00	2.347E+00	0.000E+00	NOT IDENT.
AS-73	-3.985E-01	1.697E+00	3.077E+00	0.000E+00	NOT IDENT.
AS-74	2.910E-02	9.889E-02	1.689E-01	0.000E+00	NOT IDENT.
SE-75	2.079E-02	4.420E-02	7.536E-02	0.000E+00	NOT IDENT.
BR-77	9.097E+00	2.277E+01	3.964E+01	0.000E+00	FAIL ABUN
SR-82	-1.296E-01	4.646E-01	6.716E-01	0.000E+00	NOT IDENT.
RB-83	8.905E-03	6.728E-02	1.148E-01	0.000E+00	NOT IDENT.
RB-84	8.387E-02	7.632E-02	1.414E-01	0.000E+00	NOT IDENT.
KR-85	1.002E+01	7.391E+00	1.235E+01	0.000E+00	NOT IDENT.
SR-85	5.294E-02	3.906E-02	6.524E-02	0.000E+00	NOT IDENT.
RB-86	4.217E-01	9.219E-01	1.603E+00	0.000E+00	NOT IDENT.
Y-88	-1.216E-02	2.972E-02	4.421E-02	0.000E+00	NOT IDENT.
ZR-88	2.111E-02	2.885E-02	5.221E-02	0.000E+00	NOT IDENT.
Y-91	-7.267E+00	2.298E+01	3.685E+01	0.000E+00	NOT IDENT.
NB-94	2.695E-02	3.330E-02	6.104E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	5.280E-02	9.490E-02	0.000E+00	NOT IDENT.
NB-95M	1.668E-01	1.388E-01	2.215E-01	0.000E+00	NOT IDENT.
ZR-95	7.323E-02	7.433E-02	1.373E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.825E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.433E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.455E+01	2.359E+01	3.863E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.246E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.981E-02	3.265E-02	5.790E-02	0.000E+00	NOT IDENT.
RH-102	-1.561E-04	2.889E-02	4.917E-02	0.000E+00	FAIL ABUN
RU-103	1.014E-02	4.248E-02	7.326E-02	0.000E+00	FAIL ABUN
RH-106	2.897E-02	3.070E-01	5.141E-01	0.000E+00	FAIL ABUN
RU-106	2.897E-02	3.069E-01	5.141E-01	0.000E+00	FAIL ABUN
AG-108M	5.107E-03	3.084E-02	5.352E-02	0.000E+00	NOT IDENT.
AG-110M	1.117E-02	3.859E-02	6.052E-02	0.000E+00	NOT IDENT.
IN-111	-2.545E-02	2.116E+00	3.134E+00	0.000E+00	NOT IDENT.
IN-113M	1.188E-02	4.216E-02	7.427E-02	0.000E+00	NOT IDENT.
SN-113	1.188E-02	4.216E-02	7.427E-02	0.000E+00	NOT IDENT.
IN-114M	6.743E-02	1.938E-01	3.006E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.598E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-4.877E-04	6.162E-02	1.063E-01	0.000E+00	NOT IDENT.
SB-122	2.053E+00	4.008E+00	6.998E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.160E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-5.941E-04	2.821E-02	4.865E-02	0.000E+00	NOT IDENT.
I-124	-2.902E-02	1.194E+00	1.730E+00	0.000E+00	FAIL ABUN
SB-124	-2.535E-03	7.561E-02	1.252E-01	0.000E+00	FAIL ABUN
SB-125	5.413E-02	8.628E-02	1.544E-01	0.000E+00	FAIL ABUN
TE-125M	1.014E+01	1.126E+01	1.855E+01	0.000E+00	NOT IDENT.
I-126	-5.451E-02	2.494E-01	3.710E-01	0.000E+00	NOT IDENT.
SB-126	-3.481E-02	1.665E-01	2.568E-01	0.000E+00	FAIL ABUN
SB-127	1.119E+00	2.196E+00	3.964E+00	0.000E+00	NOT IDENT.
XE-127	9.869E-03	5.046E-02	8.630E-02	0.000E+00	NOT IDENT.
I-131	1.360E-01	1.426E-01	2.615E-01	0.000E+00	NOT IDENT.
TE-132	-3.777E-02	1.296E+00	2.173E+00	0.000E+00	FAIL ABUN
BA-133	-7.102E-03	4.682E-02	7.093E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.967E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	9.539E-02	1.013E-01	0.000E+00	FAIL ABUN
CS-135	9.217E-02	1.659E-01	2.703E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.641E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.747E-02	1.318E-01	2.176E-01	0.000E+00	FAIL ABUN
CE-139	3.948E-04	2.994E-02	5.154E-02	0.000E+00	NOT IDENT.
BA-140	5.279E-02	3.045E-01	5.187E-01	0.000E+00	NOT IDENT.
LA-140	-1.477E-02	1.007E-01	1.650E-01	0.000E+00	FAIL ABUN
CE-141	5.754E-02	7.543E-02	1.214E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.917E+02	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-8.786E-02	2.217E-01	3.378E-01	0.000E+00	NOT IDENT.
PM-144	-4.391E-03	3.499E-02	6.030E-02	0.000E+00	NOT IDENT.
PR-144	-2.980E-01	2.375E+00	4.093E+00	0.000E+00	NOT IDENT.
PM-146	2.208E-02	4.130E-02	7.316E-02	0.000E+00	NOT IDENT.
ND-147	-3.642E-01	6.764E-01	1.090E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.155E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-9.088E-02	9.227E-02	1.518E-01	0.000E+00	FAIL ABUN
GD-153	9.667E-02	1.018E-01	1.687E-01	0.000E+00	NOT IDENT.
EU-154	-7.417E-02	1.309E-01	2.124E-01	0.000E+00	NOT IDENT.
EU-155	1.411E-01	1.160E-01	2.134E-01	0.000E+00	FAIL ABUN
TB-160	-7.278E-03	1.539E-01	2.609E-01	0.000E+00	FAIL ABUN
HO-166M	-2.769E-02	6.045E-02	1.013E-01	0.000E+00	FAIL ABUN
TM-171	2.161E+01	4.147E+01	6.937E+01	0.000E+00	NOT IDENT.
LU-176	5.618E-03	2.441E-02	4.222E-02	0.000E+00	FAIL ABUN
LU-177M	-1.444E-01	1.826E-01	2.991E-01	0.000E+00	FAIL ABUN
HF-181	9.973E-04	4.663E-02	7.834E-02	0.000E+00	NOT IDENT.
W-181	2.345E-01	5.721E-01	9.540E-01	0.000E+00	NOT IDENT.
TA-182	-7.205E-02	2.113E-01	3.542E-01	0.000E+00	FAIL ABUN
RE-183	3.905E-02	1.116E-01	1.952E-01	0.000E+00	FAIL ABUN
RE-184	-1.416E-01	2.146E-01	3.719E-01	0.000E+00	NOT IDENT.
OS-185	-4.867E-03	3.985E-02	6.908E-02	0.000E+00	NOT IDENT.
RE-188	1.772E-01	1.718E-01	3.091E-01	0.000E+00	NOT IDENT.
W-188	-1.913E+00	7.858E+00	1.207E+01	0.000E+00	FAIL ABUN
IR-192	-5.455E-03	3.442E-02	6.010E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.644E-01	4.959E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.864E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.015E+00	1.321E+01	2.264E+01	0.000E+00	NOT IDENT.
TL-202	3.573E-02	8.367E-02	1.473E-01	0.000E+00	NOT IDENT.
HG-203	2.979E-03	4.076E-02	7.271E-02	0.000E+00	NOT IDENT.
BI-207	4.109E-02	5.951E-02	1.052E-01	0.000E+00	FAIL ABUN
TL-207	-3.213E-01	7.356E-01	1.099E+00	0.000E+00	FAIL ABUN
PO-209	-4.193E+00	7.526E+00	1.211E+01	0.000E+00	NOT IDENT.
BI-210	4.080E+00	9.874E+00	1.826E+01	0.000E+00	NOT IDENT.
PB-210	4.080E+00	9.874E+00	1.826E+01	0.000E+00	NOT IDENT.
PO-210	4.080E+00	9.873E+00	1.826E+01	0.000E+00	NOT IDENT.
PB-211	-6.346E-01	9.916E-01	1.507E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.909E-01	7.277E-01	0.000E+00	FAIL ABUN
PO-215	-3.213E-01	7.356E-01	1.099E+00	0.000E+00	FAIL ABUN
RN-219	2.633E-01	3.998E-01	7.032E-01	0.000E+00	FAIL ABUN
RN-220	-8.922E+00	2.497E+01	4.072E+01	0.000E+00	NOT IDENT.
RA-223	-3.213E-01	7.356E-01	1.099E+00	0.000E+00	FAIL ABUN
AC-227	-6.667E-02	3.663E-01	6.500E-01	0.000E+00	FAIL ABUN
TH-227	-6.667E-02	3.664E-01	6.500E-01	0.000E+00	FAIL ABUN
TH-229	1.199E-01	4.955E-01	8.524E-01	0.000E+00	FAIL ABUN
PA-231	7.114E-01	1.485E+00	2.691E+00	0.000E+00	FAIL ABUN
TH-231	-3.213E-01	7.356E-01	1.099E+00	0.000E+00	FAIL ABUN
U-231	-2.904E+00	2.288E+00	3.430E+00	0.000E+00	FAIL ABUN
PA-233	4.771E-03	5.997E-02	1.062E-01	0.000E+00	FAIL ABUN
PA-234	-2.286E-01	3.350E-01	5.276E-01	0.000E+00	FAIL ABUN
NP-236	2.251E-02	7.866E-02	1.373E-01	0.000E+00	NOT IDENT.
NP-239	-2.337E-02	2.093E-01	3.279E-01	0.000E+00	FAIL ABUN
AM-241	5.184E-02	2.765E-01	4.598E-01	0.000E+00	NOT IDENT.
CM-243	2.780E-02	1.019E-01	1.827E-01	0.000E+00	FAIL ABUN
AM-246	-2.010E-02	1.633E-01	2.692E-01	0.000E+00	NOT IDENT.
CM-247	4.060E-02	3.497E-02	6.459E-02	0.000E+00	NOT IDENT.
CF-249	-4.805E-04	3.693E-02	6.393E-02	0.000E+00	NOT IDENT.
CF-251	2.223E-02	1.298E-01	2.240E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:56:45.17

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978006.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:56:15
Sample ID          : G245978006          Sample quantity  : 1.34500E+02 GRAM
Detector name      : GAM04              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time : 0 02:00:01.52  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 948721             Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1497	10.67*	1.074E+00	3.645E+01	3.645E+01	8.92
CD-109	88.03	195	3.72*	5.006E+00	2.928E+00	3.008E+00	41.53
SN-126	64.28	548	9.60	2.060E+00	7.733E+00	7.733E+00	24.10
	86.94	195	8.90	5.006E+00	1.224E+00	1.224E+00	57.97
	87.57	195	37.00*	5.006E+00	2.944E-01	2.944E-01	41.53
BA-137M	661.65	32	89.98*	2.207E+00	4.526E-02	4.531E-02	120.18
CS-137	661.65	32	85.12*	2.207E+00	4.784E-02	4.790E-02	120.18
LU-177	112.95	135	6.40	6.370E+00	9.233E-01	5.952E+00	71.35
	208.36	124	11.00*	5.292E+00	5.948E-01	3.834E+00	56.96
TL-208	277.35	-----	6.80	4.326E+00	-----	Line Not Found	-----
	510.84	158	21.60	2.731E+00	7.467E-01	7.467E-01	44.34
	583.14	381	84.20*	2.455E+00	5.140E-01	5.140E-01	16.22
	860.37	59	12.46	1.743E+00	7.559E-01	7.559E-01	58.86
BI-211	72.87	-----	1.27	3.384E+00	-----	Line Not Found	-----
	351.07	569	12.94*	3.627E+00	3.382E+00	3.382E+00	15.23
PB-212	74.81	233	10.70	3.634E+00	1.671E+00	1.671E+00	33.56
	77.11	464	18.00	3.935E+00	1.827E+00	1.827E+00	22.85
	87.30	195	8.00	5.006E+00	1.362E+00	1.362E+00	42.72
	238.63	1296	44.60*	4.826E+00	1.681E+00	1.681E+00	10.39
	300.09	102	3.41	4.082E+00	2.039E+00	2.039E+00	57.79
PO-212	74.81	233	10.70	3.634E+00	1.671E+00	1.671E+00	33.56
	77.11	464	18.00	3.935E+00	1.827E+00	1.827E+00	22.85
	87.30	195	8.00	5.006E+00	1.362E+00	1.362E+00	42.72
	115.19	-----	0.60	6.408E+00	-----	Line Not Found	-----
	238.63	1296	44.60*	4.826E+00	1.681E+00	1.681E+00	10.39
	300.09	102	3.41	4.082E+00	2.039E+00	2.039E+00	57.79
BI-214	609.31	435	46.30*	2.367E+00	1.106E+00	1.106E+00	16.59
	1120.29	115	15.10	1.357E+00	1.561E+00	1.561E+00	45.26
	1764.49	76	15.80	9.529E-01	1.417E+00	1.417E+00	26.80
PB-214	74.81	233	6.21	3.634E+00	2.879E+00	2.879E+00	33.07
	77.11	464	10.50	3.935E+00	3.132E+00	3.132E+00	24.09
	87.30	195	4.67	5.006E+00	2.332E+00	2.332E+00	42.24

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	241.98	344	7.49	4.781E+00	2.683E+00	2.683E+00	30.37
	295.21	384	19.20	4.132E+00	1.351E+00	1.352E+00	17.92
	351.92	569	37.20*	3.627E+00	1.176E+00	1.177E+00	16.10
PO-214	74.81	233	6.21	3.634E+00	2.879E+00	2.879E+00	33.07
	77.11	464	10.50	3.935E+00	3.132E+00	3.132E+00	24.09
	87.30	195	4.67	5.006E+00	2.332E+00	2.332E+00	42.24
	241.98	344	7.49	4.781E+00	2.683E+00	2.683E+00	30.37
	295.21	384	19.20	4.132E+00	1.351E+00	1.352E+00	17.92
	351.92	569	37.20*	3.627E+00	1.176E+00	1.177E+00	16.10
PO-216	74.81	233	10.70	3.634E+00	1.671E+00	1.671E+00	33.56
	77.11	464	18.00	3.935E+00	1.827E+00	1.827E+00	22.85
	87.30	195	8.00	5.006E+00	1.362E+00	1.362E+00	42.72
	238.63	1296	44.60*	4.826E+00	1.681E+00	1.681E+00	10.39
	300.09	102	3.41	4.082E+00	2.039E+00	2.039E+00	57.79
PO-218	74.81	233	6.21	3.634E+00	2.879E+00	2.879E+00	33.07
	77.11	464	10.50	3.935E+00	3.132E+00	3.132E+00	24.09
	87.30	195	4.67	5.006E+00	2.332E+00	2.332E+00	42.24
	241.98	344	7.49	4.781E+00	2.683E+00	2.683E+00	30.37
	295.21	384	19.20	4.132E+00	1.351E+00	1.352E+00	17.92
	351.92	569	37.20*	3.627E+00	1.176E+00	1.177E+00	16.10
RA-224	240.98	344	3.95*	4.781E+00	5.088E+00	5.088E+00	29.85
RA-226	609.31	435	46.30*	2.367E+00	1.106E+00	1.106E+00	16.59
	1120.29	115	15.10	1.357E+00	1.561E+00	1.561E+00	45.26
	1764.49	76	15.80	9.529E-01	1.417E+00	1.417E+00	26.80
AC-228	338.32	224	11.40	3.735E+00	1.468E+00	1.468E+00	47.44
	911.07	288	27.70*	1.652E+00	1.757E+00	1.757E+00	20.99
	969.11	145	16.60	1.559E+00	1.569E+00	1.569E+00	34.23
RA-228	338.32	224	11.40	3.735E+00	1.468E+00	1.468E+00	47.44
	911.07	288	27.70*	1.652E+00	1.757E+00	1.757E+00	20.99
	969.11	145	16.60	1.559E+00	1.569E+00	1.569E+00	34.23
TH-228	74.81	233	10.70	3.634E+00	1.671E+00	1.701E+00	32.25
	77.11	464	18.00	3.935E+00	1.827E+00	1.860E+00	22.85
	87.30	195	8.00	5.006E+00	1.362E+00	1.386E+00	41.53
	238.63	1296	44.60*	4.826E+00	1.681E+00	1.711E+00	10.39
	300.09	102	3.41	4.082E+00	2.039E+00	2.076E+00	82.13
TH-230	609.31	435	46.30*	2.367E+00	1.106E+00	1.106E+00	16.59
	1120.29	115	15.10	1.357E+00	1.561E+00	1.561E+00	45.26
	1764.49	76	15.80	9.529E-01	1.417E+00	1.417E+00	26.80
TH-232	338.32	224	11.40	3.735E+00	1.468E+00	1.468E+00	24.95
	911.07	288	27.70*	1.652E+00	1.757E+00	1.757E+00	20.99
	969.11	145	16.60	1.559E+00	1.569E+00	1.569E+00	34.23
PA-234M	766.42	109	0.32	1.936E+00	4.922E+01	4.922E+01	68.85
	1001.03	117	0.84*	1.511E+00	2.567E+01	2.567E+01	33.69
TH-234	63.29	548	3.80*	2.060E+00	1.954E+01	1.954E+01	25.96
	92.38	1705	5.41	5.462E+00	1.610E+01	1.610E+01	21.24
U-234	609.31	435	46.30*	2.367E+00	1.106E+00	1.106E+00	16.59
	1120.29	115	15.10	1.357E+00	1.561E+00	1.561E+00	45.26
	1764.49	76	15.80	9.529E-01	1.417E+00	1.417E+00	26.80
U-235	89.95	-----	2.70	5.250E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	93.35	1705	4.50	5.462E+00	1.936E+01	1.936E+01	30.16
	105.00	-----	2.10	6.134E+00	-----	Line Not Found	-----
	143.76	88	10.50*	6.400E+00	3.636E-01	3.636E-01	75.71
	163.35	-----	4.70	6.104E+00	-----	Line Not Found	-----
	185.71	490	54.00	5.698E+00	4.443E-01	4.443E-01	21.00
	205.31	-----	4.70	5.352E+00	-----	Line Not Found	-----
NP-237	86.50	195	12.60*	5.006E+00	8.645E-01	8.645E-01	46.38
	95.87	-----	2.60	5.678E+00	-----	Line Not Found	-----
U-238	63.29	548	3.80*	2.060E+00	1.954E+01	1.954E+01	25.96
	92.38	1705	5.41	5.462E+00	1.610E+01	1.610E+01	14.08
AM-243	74.67	233	66.00*	3.634E+00	2.709E-01	2.709E-01	32.23
	86.72	195	0.34	5.006E+00	3.242E+01	3.242E+01	41.53
	117.66	-----	0.55	6.445E+00	-----	Line Not Found	-----
	142.18	88	0.13	6.400E+00	3.054E+01	3.054E+01	74.16
ANH-511	511.00	158	100.00*	2.731E+00	1.613E-01	1.613E-01	43.55

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G245978006

Page : 4
Acquisition date : 14-FEB-2010 11:56:15

Total number of lines in spectrum 37
Number of unidentified lines 2
Number of lines tentatively identified by NID 35 94.59%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.645E+01	3.645E+01	0.325E+01	8.92	
CD-109	464.00D	1.03	2.928E+00	3.008E+00	1.249E+00	41.53	
SN-126	1.00E+05Y	1.00	2.944E-01	2.944E-01	1.223E-01	41.53	
BA-137M	30.17Y	1.00	4.526E-02	4.531E-02	5.446E-02	120.18	
CS-137	30.17Y	1.00	4.784E-02	4.790E-02	5.756E-02	120.18	
LU-177	6.71D	6.45	5.948E-01	3.834E+00	2.184E+00	56.96	
TL-208	1.41E+10Y	1.00	5.140E-01	5.140E-01	0.834E-01	16.22	
BI-211	7.04E+08Y	1.00	3.382E+00	3.382E+00	0.515E+00	15.23	
PB-212	1.41E+10Y	1.00	1.681E+00	1.681E+00	0.175E+00	10.39	
PO-212	1.41E+10Y	1.00	1.681E+00	1.681E+00	0.175E+00	10.39	
BI-214	1600.00Y	1.00	1.106E+00	1.106E+00	0.184E+00	16.59	
PB-214	1600.00Y	1.00	1.176E+00	1.177E+00	0.189E+00	16.10	
PO-214	1600.00Y	1.00	1.176E+00	1.177E+00	0.189E+00	16.10	
PO-216	1.41E+10Y	1.00	1.681E+00	1.681E+00	0.175E+00	10.39	
PO-218	1600.00Y	1.00	1.176E+00	1.177E+00	0.189E+00	16.10	
RA-224	1.41E+10Y	1.00	5.088E+00	5.088E+00	1.519E+00	29.85	
RA-226	1600.00Y	1.00	1.106E+00	1.106E+00	0.184E+00	16.59	
AC-228	1.41E+10Y	1.00	1.757E+00	1.757E+00	0.369E+00	20.99	
RA-228	1.41E+10Y	1.00	1.757E+00	1.757E+00	0.369E+00	20.99	
TH-228	1.91Y	1.02	1.681E+00	1.711E+00	0.178E+00	10.39	
TH-230	4.47E+09Y	1.00	1.106E+00	1.106E+00	0.184E+00	16.59	
TH-232	1.41E+10Y	1.00	1.757E+00	1.757E+00	0.369E+00	20.99	
PA-234M	4.47E+09Y	1.00	2.567E+01	2.567E+01	0.865E+01	33.69	
TH-234	4.47E+09Y	1.00	1.954E+01	1.954E+01	0.507E+01	25.96	
U-234	4.47E+09Y	1.00	1.106E+00	1.106E+00	0.184E+00	16.59	
U-235	7.04E+08Y	1.00	3.636E-01	3.636E-01	2.752E-01	75.71	
NP-237	2.14E+06Y	1.00	8.645E-01	8.645E-01	4.009E-01	46.38	
U-238	4.47E+09Y	1.00	1.954E+01	1.954E+01	0.507E+01	25.96	
AM-243	7380.00Y	1.00	2.709E-01	2.709E-01	0.873E-01	32.23	
ANH-511	1.00E+09Y	1.00	1.613E-01	1.613E-01	0.702E-01	43.55	

Total Activity : 1.357E+02 1.390E+02

Grand Total Activity : 1.357E+02 1.390E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978006

Page : 5
Acquisition date : 14-FEB-2010 11:56:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.92	180	460	3.49	259.88	255	11	2.50E-02	48.6	6.50E+00	T
0	269.80	89	233	1.17	539.67	536	10	1.24E-02	67.3	4.41E+00	T
0	328.13	61	173	1.12	656.34	653	9	8.49E-03	81.8	3.82E+00	T
0	463.04	53	114	1.01	926.17	922	10	7.34E-03	80.1	2.95E+00	T
0	727.51	137	66	1.56	1455.11	1449	14	1.90E-02	30.5	2.03E+00	T
0	795.96	85	92	2.32	1592.00	1585	18	1.18E-02	57.9	1.87E+00	T
1	964.86	44	40	1.87	1929.77	1926	17	6.17E-03	54.5	1.57E+00	T
0	1155.04	44	60	3.36	2310.09	2303	12	6.11E-03	76.6	1.32E+00	
0	1377.91	27	30	2.74	2755.74	2749	14	3.81E-03	90.7	1.13E+00	
0	1509.92	25	7	1.08	3019.70	3015	10	3.45E-03	57.4	1.05E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978006.CNF;1
* Acquisition date   : 14-FEB-2010 11:56:15   Detector SN#      :
* Detector ID        : GAM04                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.52          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245978006             Analyst initials: MXR1
* Batch Number       : 948721                 Sample Quantity  : 1.34500E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                    LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.645E+01	3.249E+00	5.587E-01	3.970E-02	65.234
CD-109	3.008E+00	1.249E+00	1.862E+00	2.238E-01	1.615
SN-126	2.944E-01	1.223E-01	1.746E-01	2.094E-02	1.686
BA-137M	4.531E-02	5.446E-02	6.178E-02	3.013E-03	0.733
CS-137	4.790E-02	5.756E-02	6.531E-02	3.204E-03	0.733
LU-177	3.834E+00	2.184E+00	2.381E+00	1.562E-01	1.610
TL-208	5.140E-01	8.337E-02	5.909E-02	3.718E-03	8.699
BI-211	3.382E+00	5.151E-01	3.221E-01	2.176E-02	10.500
PB-212	1.681E+00	1.747E-01	8.067E-02	6.478E-03	20.839
PO-212	1.681E+00	1.747E-01	8.067E-02	6.478E-03	20.839
BI-214	1.106E+00	1.835E-01	1.065E-01	7.824E-03	10.392
PB-214	1.177E+00	1.894E-01	1.123E-01	9.578E-03	10.478
PO-214	1.177E+00	1.894E-01	1.123E-01	9.578E-03	10.478
PO-216	1.681E+00	1.747E-01	8.067E-02	6.478E-03	20.839
PO-218	1.177E+00	1.894E-01	1.123E-01	9.578E-03	10.478
RA-224	5.088E+00	1.519E+00	9.182E-01	6.122E-02	5.541
RA-226	1.106E+00	1.835E-01	1.065E-01	7.824E-03	10.392
AC-228	1.757E+00	3.688E-01	2.142E-01	2.335E-02	8.205

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.757E+00	3.688E-01	2.142E-01	2.335E-02	8.205
TH-228	1.711E+00	1.779E-01	8.212E-02	6.595E-03	20.839
TH-230	1.106E+00	1.835E-01	1.065E-01	7.823E-03	10.392
TH-232	1.757E+00	3.688E-01	2.142E-01	2.335E-02	8.205
PA-234M	2.567E+01	8.650E+00	7.343E+00	6.694E-01	3.496
TH-234	1.954E+01	5.072E+00	3.165E+00	6.262E-01	6.172
U-234	1.106E+00	1.835E-01	1.065E-01	7.823E-03	10.392
U-235	3.636E-01	2.752E-01	3.546E-01	5.878E-02	1.025
NP-237	8.645E-01	4.009E-01	5.035E-01	1.200E-01	1.717
U-238	1.954E+01	5.072E+00	3.165E+00	6.262E-01	6.172
AM-243	2.709E-01	8.730E-02	1.175E-01	1.345E-02	2.306
ANH-511	1.613E-01	7.024E-02	4.628E-02	2.588E-03	3.485

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	5.157E-02		3.411E-01	5.621E-01	3.724E-02	0.092
NA-22	-1.545E-02		4.725E-02	7.662E-02	5.010E-03	-0.202
NA-24	7.231E+00		9.411E+00	Half-Life too short		
AL-26	1.188E-02		2.735E-02	4.859E-02	2.882E-03	0.245
TI-44	3.371E-01	+	7.704E-02	8.488E-02	9.761E-03	3.972
SC-46	3.623E-04		4.111E-02	6.776E-02	5.480E-03	0.005
V-48	9.923E-02		9.054E-02	1.614E-01	1.250E-02	0.615
CR-51	2.297E-01		3.901E-01	6.730E-01	4.739E-02	0.341
MN-52	3.985E-02		3.297E-01	5.629E-01	3.842E-02	0.071
MN-54	2.027E-02		3.829E-02	6.602E-02	4.777E-03	0.307
CO-56	4.271E-02		4.313E-02	7.681E-02	5.699E-03	0.556
CO-57	5.078E-03		2.684E-02	4.444E-02	3.085E-03	0.114
CO-58	1.218E-02		3.865E-02	6.589E-02	4.549E-03	0.185
FE-59	-4.223E-02		1.158E-01	1.817E-01	1.389E-02	-0.232
CO-60	5.988E-04		3.949E-02	6.596E-02	4.520E-03	0.009
ZN-65	-3.557E-02		1.107E-01	1.474E-01	9.751E-03	-0.241
GE-68	4.677E-01		1.393E+00	2.329E+00	1.627E-01	0.201
AS-73	-3.985E-01		1.731E+00	2.896E+00	3.789E-01	-0.138
AS-74	2.910E-02		1.009E-01	1.658E-01	8.754E-03	0.175
SE-75	2.079E-02		4.510E-02	7.290E-02	4.904E-03	0.285
BR-77	9.097E+00		2.323E+01	3.882E+01	2.162E+00	0.234
SR-82	-1.296E-01		4.741E-01	6.624E-01	4.227E-02	-0.196
RB-83	8.905E-03		6.865E-02	1.124E-01	6.260E-03	0.079
RB-84	8.387E-02		7.788E-02	1.398E-01	1.113E-02	0.600
KR-85	1.002E+01		7.542E+00	1.208E+01	6.750E-01	0.829
SR-85	5.294E-02		3.986E-02	6.387E-02	3.567E-03	0.829
RB-86	4.217E-01		9.407E-01	1.591E+00	1.112E-01	0.265
Y-88	-1.216E-02		3.033E-02	4.431E-02	2.586E-03	-0.274
ZR-88	2.111E-02		2.943E-02	5.086E-02	2.862E-03	0.415
Y-91	-7.267E+00		2.345E+01	3.665E+01	2.246E+00	-0.198
NB-94	2.695E-02		3.398E-02	6.009E-02	3.237E-03	0.448

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	1.205E-01		5.388E-02	9.358E-02	5.832E-03	1.288
NB-95M	1.668E-01		1.416E-01	2.139E-01	1.755E-02	0.780
ZR-95	7.323E-02		7.585E-02	1.353E-01	9.854E-03	0.541
NB-97	6.253E-01		9.314E-01	Half-Life too short		
ZR-97	4.613E+01		1.752E+01	Half-Life too short		
MO-99	-1.455E+01		2.408E+01	3.806E+01	5.257E+00	-0.382
TC-99M	1.138E+14		6.357E+13	Half-Life too short		
RH-101	3.981E-02		3.331E-02	5.572E-02	3.629E-03	0.714
RH-102	-1.561E-04		2.948E-02	4.807E-02	2.718E-03	-0.003
RU-103	1.014E-02		4.335E-02	7.167E-02	9.004E-03	0.141
RH-106	2.897E-02		3.132E-01	5.050E-01	5.769E-02	0.057
RU-106	2.897E-02		3.132E-01	5.050E-01	2.594E-02	0.057
AG-108M	5.107E-03		3.146E-02	5.223E-02	3.227E-03	0.098
AG-110M	1.117E-02		3.937E-02	5.951E-02	3.179E-03	0.188
IN-111	-2.545E-02		2.159E+00	3.028E+00	2.021E-01	-0.008
IN-113M	1.188E-02		4.302E-02	7.235E-02	4.359E-03	0.164
SN-113	1.188E-02		4.302E-02	7.235E-02	4.359E-03	0.164
IN-114M	6.743E-02		1.978E-01	2.891E-01	1.871E-02	0.233
CD-115	1.730E-05		1.325E-05	Half-Life too short		
SN-117M	-4.877E-04		6.288E-02	1.020E-01	6.521E-03	-0.005
SB-122	2.053E+00		4.090E+00	6.862E+00	3.723E-01	0.299
I-123	-4.548E+00		1.102E+02	Half-Life too short		
TE-123M	-5.941E-04		2.879E-02	4.664E-02	3.015E-03	-0.013
I-124	-2.902E-02		1.218E+00	1.698E+00	8.907E-02	-0.017
SB-124	-2.535E-03		7.716E-02	1.253E-01	8.512E-03	-0.020
SB-125	5.413E-02		8.804E-02	1.507E-01	8.918E-03	0.359
TE-125M	1.014E+01		1.149E+01	1.767E+01	1.755E+00	0.574
I-126	-5.451E-02		2.544E-01	3.649E-01	1.800E-02	-0.149
SB-126	-3.481E-02		1.699E-01	2.529E-01	1.421E-02	-0.138
SB-127	1.119E+00		2.241E+00	3.900E+00	3.956E-01	0.287
XE-127	9.869E-03		5.149E-02	8.309E-02	5.431E-03	0.119
I-131	1.360E-01		1.455E-01	2.544E-01	1.701E-02	0.534
TE-132	-3.777E-02		1.322E+00	2.097E+00	3.214E-01	-0.018
BA-133	-7.102E-03		4.778E-02	6.897E-02	8.080E-03	-0.103
I-133	7.481E-03		3.044E-02	Half-Life too short		
CS-134	1.670E-01	+	9.734E-02	9.997E-02	6.738E-03	1.670
CS-135	9.217E-02		1.693E-01	2.615E-01	2.180E-02	0.352
I-135	-2.599E+12		4.409E+12	Half-Life too short		
CS-136	-1.747E-02		1.345E-01	2.158E-01	1.658E-02	-0.081
CE-139	3.948E-04		3.055E-02	4.945E-02	3.142E-03	0.008
BA-140	5.279E-02		3.107E-01	5.082E-01	1.650E-01	0.104
LA-140	-1.477E-02		1.027E-01	1.650E-01	1.086E-02	-0.090
CE-141	5.754E-02		7.697E-02	1.162E-01	7.803E-03	0.495
CE-143	1.989E-03		4.039E-04	Half-Life too short		
CE-144	-8.786E-02		2.262E-01	3.229E-01	4.706E-02	-0.272
PM-144	-4.391E-03		3.571E-02	5.936E-02	3.155E-03	-0.074
PR-144	-2.980E-01		2.423E+00	4.029E+00	2.139E-01	-0.074
PM-146	2.208E-02		4.214E-02	7.146E-02	6.099E-03	0.309

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-3.642E-01		6.903E-01	1.067E+00	1.432E-01	-0.341
PM-149	-1.224E-04		1.100E-04	Half-Life too short		
EU-152	-9.088E-02		9.415E-02	1.475E-01	1.021E-02	-0.616
GD-153	9.667E-02		1.039E-01	1.604E-01	1.574E-02	0.603
EU-154	-7.417E-02		1.335E-01	2.115E-01	2.074E-02	-0.351
EU-155	1.411E-01		1.183E-01	2.031E-01	1.770E-02	0.695
TB-160	-7.278E-03		1.571E-01	2.579E-01	2.045E-02	-0.028
HO-166M	-2.769E-02		6.169E-02	9.973E-02	5.489E-03	-0.278
TM-171	2.161E+01		4.232E+01	6.553E+01	7.661E+00	0.330
LU-176	5.618E-03		2.490E-02	4.095E-02	2.674E-03	0.137
LU-177M	-1.444E-01		1.864E-01	2.917E-01	1.650E-02	-0.495
HF-181	9.973E-04		4.758E-02	7.659E-02	4.324E-03	0.013
W-181	2.345E-01		5.838E-01	9.009E-01	1.062E-01	0.260
TA-182	-7.205E-02		2.156E-01	3.523E-01	2.193E-02	-0.205
RE-183	3.905E-02		1.139E-01	1.872E-01	1.193E-02	0.209
RE-184	-1.416E-01		2.190E-01	3.595E-01	2.401E-02	-0.394
OS-185	-4.867E-03		4.066E-02	6.791E-02	3.385E-03	-0.072
RE-188	1.772E-01		1.753E-01	2.962E-01	1.902E-02	0.598
W-188	-1.913E+00		8.018E+00	1.169E+01	7.729E-01	-0.164
IR-192	-5.455E-03		3.512E-02	5.832E-02	3.787E-03	-0.094
AU-195	6.684E-01		2.698E-01	4.716E-01	4.509E-02	1.417
TL-200	1.189E-03		1.461E-03	Half-Life too short		
TL-201	-1.015E+00		1.348E+01	2.173E+01	1.381E+00	-0.047
TL-202	3.573E-02		8.537E-02	1.437E-01	8.153E-03	0.249
HG-203	2.979E-03		4.159E-02	7.040E-02	4.902E-03	0.042
BI-207	4.109E-02		6.072E-02	1.043E-01	7.419E-03	0.394
TL-207	-3.213E-01		7.506E-01	1.067E+00	1.786E-01	-0.301
PO-209	-4.193E+00		7.680E+00	1.197E+01	9.827E-01	-0.350
BI-210	4.080E+00		1.008E+01	1.715E+01	1.495E+00	0.238
PB-210	4.080E+00		1.008E+01	1.715E+01	1.495E+00	0.238
PO-210	4.080E+00		1.007E+01	1.715E+01	1.332E+00	0.238
PB-211	-6.346E-01		1.012E+00	1.469E+00	9.155E-01	-0.432
BI-212	1.594E+00	+	5.009E-01	7.169E-01	5.480E-02	2.224
PO-215	-3.213E-01		7.506E-01	1.067E+00	1.786E-01	-0.301
RN-219	2.633E-01		4.079E-01	6.853E-01	9.279E-02	0.384
RN-220	-8.922E+00		2.548E+01	3.991E+01	2.186E+00	-0.224
RA-223	-3.213E-01		7.506E-01	1.067E+00	1.786E-01	-0.301
AC-227	-6.667E-02		3.738E-01	6.284E-01	9.016E-02	-0.106
TH-227	-6.667E-02		3.739E-01	6.284E-01	1.082E-01	-0.106
TH-229	1.199E-01		5.056E-01	8.200E-01	5.322E-02	0.146
PA-231	7.114E-01		1.515E+00	2.607E+00	3.689E-01	0.273
TH-231	-3.213E-01		7.506E-01	1.067E+00	1.786E-01	-0.301
U-231	-2.904E+00		2.334E+00	3.260E+00	3.296E-01	-0.891
PA-233	4.771E-03		6.119E-02	1.030E-01	7.025E-03	0.046
PA-234	-2.286E-01		3.418E-01	5.222E-01	9.651E-02	-0.438
NP-236	2.251E-02		8.027E-02	1.317E-01	8.406E-03	0.171
NP-239	-2.337E-02		2.135E-01	3.128E-01	2.301E-02	-0.075
AM-241	5.184E-02		2.821E-01	4.336E-01	5.474E-02	0.120

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.780E-02		1.040E-01	1.739E-01	1.533E-02	0.160
AM-246	-2.010E-02		1.666E-01	2.671E-01	1.862E-02	-0.075
CM-247	4.060E-02		3.569E-02	6.295E-02	3.553E-03	0.645
CF-249	-4.805E-04		3.769E-02	6.226E-02	3.538E-03	-0.008
CF-251	2.223E-02		1.325E-01	2.152E-01	1.377E-02	0.103

VAX/VMS Nuclide Identification Report Generated

```
*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*                                     DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978006
* Acquisition date   : 14-FEB-2010 11:56:15 Detector SN#
* Detector ID        : GAM04 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.52 Half life ratio : 8.000
*****
*                                     SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978006 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.3450E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope
* MSD DPM             : 0.000 MSD Isotope
* LCS DPM             : 0.000 LCS Isotope
* LCSD DPM            : 0.000 LCSD Isotope
*****
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.645E+01	3.184E+00	2.801E-01	1.625E+00
CD-109	3.008E+00	1.224E+00	9.817E-01	6.246E-01
SN-126	2.944E-01	1.198E-01	9.203E-02	6.113E-02
BA-137M	4.531E-02	5.337E-02	3.143E-02	2.723E-02
CS-137	4.790E-02	5.641E-02	3.323E-02	2.878E-02
LU-177	3.834E+00	2.140E+00	1.236E+00	1.092E+00
TL-208	5.140E-01	8.170E-02	3.013E-02	4.169E-02
BI-211	3.382E+00	5.048E-01	1.658E-01	2.576E-01
PB-212	1.681E+00	1.712E-01	4.179E-02	8.737E-02
PO-212	1.681E+00	1.712E-01	4.179E-02	8.737E-02
BI-214	1.106E+00	1.798E-01	5.424E-02	9.175E-02
PB-214	1.177E+00	1.856E-01	5.778E-02	9.471E-02
PO-214	1.177E+00	1.856E-01	5.778E-02	9.471E-02
PO-216	1.681E+00	1.712E-01	4.179E-02	8.737E-02
PO-218	1.177E+00	1.856E-01	5.778E-02	9.471E-02
RA-224	5.088E+00	1.488E+00	4.757E-01	7.593E-01
RA-226	1.106E+00	1.798E-01	5.424E-02	9.175E-02
AC-228	1.757E+00	3.614E-01	1.083E-01	1.844E-01
RA-228	1.757E+00	3.614E-01	1.083E-01	1.844E-01
TH-228	1.711E+00	1.743E-01	4.255E-02	8.895E-02
TH-230	1.106E+00	1.798E-01	5.424E-02	9.175E-02
TH-232	1.757E+00	3.614E-01	1.083E-01	1.844E-01
PA-234M	2.567E+01	8.477E+00	3.707E+00	4.325E+00
TH-234	1.954E+01	4.971E+00	1.678E+00	2.536E+00
U-234	1.106E+00	1.798E-01	5.424E-02	9.175E-02
U-235	3.636E-01	2.697E-01	1.854E-01	1.376E-01
NP-237	8.645E-01	3.929E-01	2.655E-01	2.005E-01
U-238	1.954E+01	4.971E+00	1.678E+00	2.536E+00
AM-243	2.709E-01	8.556E-02	6.209E-02	4.365E-02
ANH-511	1.613E-01	6.884E-02	2.366E-02	3.512E-02

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	5.157E-02	3.343E-01	2.877E-01	1.706E-01 NOT IDENT.
NA-22	-1.545E-02	4.630E-02	3.851E-02	2.362E-02 NOT IDENT.
NA-24	7.231E+06	1.845E+07	0.000E+00	9.411E+06 SHORT HLIF
AL-26	1.188E-02	2.680E-02	2.426E-02	1.367E-02 NOT IDENT.
TI-44	3.371E-01	7.550E-02	4.483E-02	3.852E-02 FAIL ABUN
SC-46	3.623E-04	4.029E-02	3.428E-02	2.056E-02 FAIL ABUN
V-48	9.923E-02	8.873E-02	8.149E-02	4.527E-02 NOT IDENT.
CR-51	2.297E-01	3.823E-01	3.469E-01	1.950E-01 NOT IDENT.
MN-52	3.985E-02	3.231E-01	2.823E-01	1.648E-01 NOT IDENT.
MN-54	2.027E-02	3.752E-02	3.344E-02	1.914E-02 NOT IDENT.
CO-56	4.271E-02	4.227E-02	3.890E-02	2.157E-02 NOT IDENT.
CO-57	5.078E-03	2.630E-02	2.329E-02	1.342E-02 NOT IDENT.
CO-58	1.218E-02	3.788E-02	3.340E-02	1.933E-02 NOT IDENT.
FE-59	-4.223E-02	1.135E-01	9.159E-02	5.791E-02 FAIL ABUN
CO-60	5.988E-04	3.870E-02	3.312E-02	1.975E-02 NOT IDENT.
ZN-65	-3.557E-02	1.085E-01	7.427E-02	5.536E-02 NOT IDENT.
GE-68	4.677E-01	1.365E+00	1.174E+00	6.964E-01 NOT IDENT.
AS-73	-3.985E-01	1.697E+00	1.540E+00	8.657E-01 NOT IDENT.
AS-74	2.910E-02	9.889E-02	8.451E-02	5.046E-02 NOT IDENT.
SE-75	2.079E-02	4.420E-02	3.770E-02	2.255E-02 NOT IDENT.
BR-77	9.097E+00	2.277E+01	1.983E+01	1.162E+01 FAIL ABUN
SR-82	-1.296E-01	4.646E-01	3.360E-01	2.370E-01 NOT IDENT.
RB-83	8.905E-03	6.728E-02	5.743E-02	3.433E-02 NOT IDENT.
RB-84	8.387E-02	7.632E-02	7.074E-02	3.894E-02 NOT IDENT.
KR-85	1.002E+01	7.391E+00	6.176E+00	3.771E+00 NOT IDENT.
SR-85	5.294E-02	3.906E-02	3.264E-02	1.993E-02 NOT IDENT.
RB-86	4.217E-01	9.219E-01	8.021E-01	4.704E-01 NOT IDENT.
Y-88	-1.216E-02	2.972E-02	2.212E-02	1.517E-02 NOT IDENT.
ZR-88	2.111E-02	2.885E-02	2.612E-02	1.472E-02 NOT IDENT.
Y-91	-7.267E+00	2.298E+01	1.844E+01	1.172E+01 NOT IDENT.
NB-94	2.695E-02	3.330E-02	3.054E-02	1.699E-02 NOT IDENT.
NB-95	1.205E-01	5.280E-02	4.748E-02	2.694E-02 NOT IDENT.
NB-95M	1.668E-01	1.388E-01	1.108E-01	7.080E-02 NOT IDENT.
ZR-95	7.323E-02	7.433E-02	6.868E-02	3.792E-02 NOT IDENT.
NB-97	6.253E+05	1.825E+06	0.000E+00	9.314E+05 SHORT HLIF
ZR-97	4.613E+07	3.433E+07	0.000E+00	1.752E+07 SHORT HLIF
MO-99	-1.455E+01	2.359E+01	1.933E+01	1.204E+01 NOT IDENT.
TC-99M	1.138E+20	1.246E+20	0.000E+00	0.000E+00 SHORT HLIF
RH-101	3.981E-02	3.265E-02	2.897E-02	1.666E-02 NOT IDENT.
RH-102	-1.561E-04	2.889E-02	2.460E-02	1.474E-02 FAIL ABUN
RU-103	1.014E-02	4.248E-02	3.665E-02	2.168E-02 FAIL ABUN
RH-106	2.897E-02	3.070E-01	2.572E-01	1.566E-01 FAIL ABUN
RU-106	2.897E-02	3.069E-01	2.572E-01	1.566E-01 FAIL ABUN
AG-108M	5.107E-03	3.084E-02	2.677E-02	1.573E-02 NOT IDENT.
AG-110M	1.117E-02	3.859E-02	3.028E-02	1.969E-02 NOT IDENT.
I-111	-2.545E-02	2.116E+00	1.568E+00	1.080E+00 NOT IDENT.
IN-113M	1.188E-02	4.216E-02	3.716E-02	2.151E-02 NOT IDENT.
SN-113	1.188E-02	4.216E-02	3.716E-02	2.151E-02 NOT IDENT.
IN-114M	6.743E-02	1.938E-01	1.504E-01	9.890E-02 NOT IDENT.
CD-115	1.730E+01	2.598E+01	0.000E+00	1.325E+01 SHORT HLIF
SN-117M	-4.877E-04	6.162E-02	5.320E-02	3.144E-02 NOT IDENT.
SB-122	2.053E+00	4.008E+00	3.501E+00	2.045E+00 NOT IDENT.
I-123	-4.548E+06	2.160E+08	0.000E+00	1.102E+08 SHORT HLIF
TE-123M	-5.941E-04	2.821E-02	2.434E-02	1.439E-02 NOT IDENT.
I-124	-2.902E-02	1.194E+00	8.655E-01	6.092E-01 FAIL ABUN
SB-124	-2.535E-03	7.561E-02	6.263E-02	3.858E-02 FAIL ABUN
SB-125	5.413E-02	8.628E-02	7.725E-02	4.402E-02 FAIL ABUN
TE-125M	1.014E+01	1.126E+01	9.281E+00	5.746E+00 NOT IDENT.
I-126	-5.451E-02	2.494E-01	1.856E-01	1.272E-01 NOT IDENT.
SB-126	-3.481E-02	1.665E-01	1.285E-01	8.496E-02 FAIL ABUN
SB-127	1.119E+00	2.196E+00	1.983E+00	1.121E+00 NOT IDENT.
XE-127	9.869E-03	5.046E-02	4.318E-02	2.575E-02 NOT IDENT.
I-131	1.360E-01	1.426E-01	1.308E-01	7.274E-02 NOT IDENT.
TE-132	-3.777E-02	1.296E+00	1.087E+00	6.611E-01 FAIL ABUN
BA-133	-7.102E-03	4.682E-02	3.548E-02	2.389E-02 NOT IDENT.
I-133	7.481E+03	5.967E+04	0.000E+00	3.044E+04 SHORT HLIF
CS-134	1.670E-01	9.539E-02	5.069E-02	4.867E-02 FAIL ABUN
CS-135	9.217E-02	1.659E-01	1.352E-01	8.465E-02 NOT IDENT.
I-135	-2.599E+18	8.641E+18	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-1.747E-02	1.318E-01	1.089E-01	6.726E-02 FAIL ABUN
CE-139	3.948E-04	2.994E-02	2.579E-02	1.527E-02 NOT IDENT.
BA-140	5.279E-02	3.045E-01	2.595E-01	1.554E-01 NOT IDENT.
LA-140	-1.477E-02	1.007E-01	8.256E-02	5.136E-02 FAIL ABUN
CE-141	5.754E-02	7.543E-02	6.075E-02	3.849E-02 NOT IDENT.
CE-143	1.989E+03	7.917E+02	0.000E+00	4.039E+02 SHORT HLIF

CE-144	-8.786E-02	2.217E-01	1.690E-01	1.131E-01	NOT IDENT.
PM-144	-4.391E-03	3.499E-02	3.017E-02	1.785E-02	NOT IDENT.
PR-144	-2.980E-01	2.375E+00	2.048E+00	1.212E+00	NOT IDENT.
PM-146	2.208E-02	4.130E-02	3.660E-02	2.107E-02	NOT IDENT.
ND-147	-3.642E-01	6.764E-01	5.452E-01	3.451E-01	NOT IDENT.
PM-149	-1.224E+02	2.155E+02	0.000E+00	1.100E+02	SHORT HLIF
EU-152	-9.088E-02	9.227E-02	7.594E-02	4.708E-02	FAIL ABUN
GD-153	9.667E-02	1.018E-01	8.440E-02	5.195E-02	NOT IDENT.
EU-154	-7.417E-02	1.309E-01	1.063E-01	6.676E-02	NOT IDENT.
EU-155	1.411E-01	1.160E-01	1.067E-01	5.916E-02	FAIL ABUN
TB-160	-7.278E-03	1.539E-01	1.305E-01	7.854E-02	FAIL ABUN
HO-166M	-2.769E-02	6.045E-02	5.067E-02	3.084E-02	FAIL ABUN
TM-171	2.161E+01	4.147E+01	3.470E+01	2.116E+01	NOT IDENT.
LU-176	5.618E-03	2.441E-02	2.112E-02	1.245E-02	FAIL ABUN
LU-177M	-1.444E-01	1.826E-01	1.496E-01	9.318E-02	FAIL ABUN
HF-181	9.973E-04	4.663E-02	3.919E-02	2.379E-02	NOT IDENT.
W-181	2.345E-01	5.721E-01	4.773E-01	2.919E-01	NOT IDENT.
TA-182	-7.205E-02	2.113E-01	1.772E-01	1.078E-01	FAIL ABUN
RE-183	3.905E-02	1.116E-01	9.766E-02	5.696E-02	FAIL ABUN
RE-184	-1.416E-01	2.146E-01	1.861E-01	1.095E-01	NOT IDENT.
OS-185	-4.867E-03	3.985E-02	3.456E-02	2.033E-02	NOT IDENT.
RE-188	1.772E-01	1.718E-01	1.546E-01	8.767E-02	NOT IDENT.
W-188	-1.913E+00	7.858E+00	6.038E+00	4.009E+00	FAIL ABUN
IR-192	-5.455E-03	3.442E-02	3.007E-02	1.756E-02	FAIL ABUN
AU-195	6.684E-01	2.644E-01	2.481E-01	1.349E-01	FAIL ABUN
TL-200	1.189E+03	2.864E+03	0.000E+00	1.461E+03	SHORT HLIF
TL-201	-1.015E+00	1.321E+01	1.133E+01	6.740E+00	NOT IDENT.
TL-202	3.573E-02	8.367E-02	7.367E-02	4.269E-02	NOT IDENT.
HG-203	2.979E-03	4.076E-02	3.638E-02	2.079E-02	NOT IDENT.
BI-207	4.109E-02	5.951E-02	5.261E-02	3.036E-02	FAIL ABUN
TL-207	-3.213E-01	7.356E-01	5.498E-01	3.753E-01	FAIL ABUN
PO-209	-4.193E+00	7.526E+00	6.058E+00	3.840E+00	NOT IDENT.
BI-210	4.080E+00	9.874E+00	9.138E+00	5.038E+00	NOT IDENT.
PB-210	4.080E+00	9.874E+00	9.138E+00	5.038E+00	NOT IDENT.
PO-210	4.080E+00	9.873E+00	9.138E+00	5.037E+00	NOT IDENT.
PB-211	-6.346E-01	9.916E-01	7.539E-01	5.059E-01	NOT IDENT.
BI-212	1.594E+00	4.909E-01	3.641E-01	2.504E-01	FAIL ABUN
PO-215	-3.213E-01	7.356E-01	5.498E-01	3.753E-01	FAIL ABUN
RN-219	2.633E-01	3.998E-01	3.518E-01	2.040E-01	FAIL ABUN
RN-220	-8.922E+00	2.497E+01	2.037E+01	1.274E+01	NOT IDENT.
RA-223	-3.213E-01	7.356E-01	5.498E-01	3.753E-01	FAIL ABUN
AC-227	-6.667E-02	3.663E-01	3.252E-01	1.869E-01	FAIL ABUN
TH-227	-6.667E-02	3.664E-01	3.252E-01	1.869E-01	FAIL ABUN
TH-229	1.199E-01	4.955E-01	4.264E-01	2.528E-01	FAIL ABUN
PA-231	7.114E-01	1.485E+00	1.346E+00	7.576E-01	FAIL ABUN
TH-231	-3.213E-01	7.356E-01	5.498E-01	3.753E-01	FAIL ABUN
U-231	-2.904E+00	2.288E+00	1.716E+00	1.167E+00	FAIL ABUN
PA-233	4.771E-03	5.997E-02	5.312E-02	3.060E-02	FAIL ABUN
PA-234	-2.286E-01	3.350E-01	2.639E-01	1.709E-01	FAIL ABUN
NP-236	2.251E-02	7.866E-02	6.869E-02	4.013E-02	NOT IDENT.
NP-239	-2.337E-02	2.093E-01	1.641E-01	1.068E-01	FAIL ABUN
AM-241	5.184E-02	2.765E-01	2.301E-01	1.411E-01	NOT IDENT.
CM-243	2.780E-02	1.019E-01	9.141E-02	5.200E-02	FAIL ABUN
AM-246	-2.010E-02	1.633E-01	1.347E-01	8.331E-02	NOT IDENT.
CM-247	4.060E-02	3.497E-02	3.231E-02	1.784E-02	NOT IDENT.
CF-249	-4.805E-04	3.693E-02	3.198E-02	1.884E-02	NOT IDENT.
CF-251	2.223E-02	1.298E-01	1.121E-01	6.624E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
*****

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ENERGY	MDA COUNTS
46.50	262.0153
46.50	262.0153
46.50	262.0153
48.70	290.3527
49.72	289.4874
51.35	261.4022
52.39	291.6775
52.97	327.7945
53.15	305.3397
53.44	296.0059
54.07	320.0629
56.28	290.3826
56.28	290.3851
57.37	0.0000
57.53	339.7516
57.53	339.7536
57.60	350.3786
57.98	358.4800
57.98	358.4800
59.32	352.8246
59.32	352.8246
59.40	352.8967
59.54	343.7324
59.72	327.9574
60.01	328.1995
61.10	339.7643
61.14	339.7983
61.30	339.9355
63.00	366.8094
63.29	367.0712
63.29	367.0712
63.58	398.1670
64.28	406.9043
65.12	380.8194
65.20	380.8928
65.20	380.8928
66.05	364.1371
66.72	366.0667
66.83	366.1638
66.91	360.8285
67.20	365.6729
67.20	365.6729
67.75	386.3686
67.85	386.4600
68.90	451.6731
68.90	451.6731
69.30	452.0918
69.67	444.3217
70.82	415.9427
70.82	415.9427
70.83	415.9520
72.80	480.8228
72.87	480.8977
72.87	480.8977
74.67	467.6894
74.81	467.8346
74.81	467.8346
74.81	467.8346
74.81	467.8346
74.81	467.8346
74.81	467.8346
74.97	467.9980
75.28	468.3171
75.70	468.7477
77.11	470.1822
77.11	470.1822

77.11	470.1822
77.11	470.1822
77.11	470.1822
77.11	470.1822
77.11	470.1822
78.38	442.3438
79.62	429.6065
79.80	429.7691
79.80	429.7691
80.11	442.5754
80.18	442.6397
80.30	442.7501
80.30	442.7501
80.57	459.7195
81.00	522.8777
81.07	522.9521
81.07	522.9521
81.07	522.9521
81.07	522.9521
82.60	492.4380
83.37	476.3974
83.78	462.7760
83.78	462.7760
83.78	462.7760
83.78	462.7760
84.21	457.5670
84.90	476.4808
85.43	493.8723
86.29	584.9330
86.50	585.1769
86.54	585.2244
86.59	585.2813
86.72	579.7906
86.79	579.8690
86.94	658.6069
87.30	625.1849
87.30	625.1849
87.30	625.1849
87.30	625.1849
87.30	625.1849
87.30	625.1849
87.57	630.7947
87.88	698.4828
88.03	698.6901
88.36	651.0268
88.47	651.1672
89.95	701.3208
91.11	702.8962
92.29	543.8172
92.38	543.9103
92.38	543.9103
93.35	544.9141
94.00	545.5861
94.67	391.0774
94.67	391.0816
94.90	421.3465
94.90	421.3465
94.90	421.3465
94.90	421.3465
95.87	498.2062
95.87	498.2062
96.73	491.8129
97.43	390.2138
98.44	340.4474
98.44	340.4474
98.88	326.2837
99.55	331.5003
99.55	331.5003
99.86	350.0056
100.00	350.0943
100.10	350.1607
103.18	404.4693
103.76	336.9187
105.00	299.7034
105.31	327.1270
108.00	442.5079
109.28	327.9022

111.00	370.1519
111.00	370.1519
111.76	404.5844
112.95	363.9645
115.19	276.2130
116.30	306.4696
117.00	302.3503
117.00	302.3503
117.66	305.6560
121.11	276.8647
121.62	301.0965
121.78	319.1817
122.06	319.3229
122.32	342.4871
122.32	342.4871
122.32	342.4871
122.32	342.4871
123.07	341.8880
127.23	336.0275
129.76	313.0140
131.20	313.6930
133.02	294.6949
133.54	299.5089
135.34	280.6927
136.00	292.4151
136.25	293.5455
136.48	295.6897
140.51	271.6887
140.51	0.0000
142.18	317.2095
142.65	318.9674
143.76	337.0431
144.24	327.4435
144.24	327.4435
144.24	327.4435
144.24	327.4435
145.22	310.8002
145.44	310.8948
147.16	338.1288
152.43	328.5399
152.70	317.1476
153.22	281.7571
154.21	270.5924
154.21	270.5924
154.21	270.5924
154.21	270.5924
155.03	268.7917
156.02	297.5323
158.56	280.5983
159.00	0.0000
159.00	283.9271
160.31	283.3569
161.27	285.8286
162.32	281.9756
162.64	293.7574
163.35	297.2123
163.89	294.2308
165.85	286.4501
167.43	279.5557
171.28	262.6801
171.86	289.6930
172.10	289.7781
176.55	288.1283
176.60	288.1473
181.06	297.8385
184.41	313.7314
185.71	277.1174
186.00	277.2104
190.27	222.1044
192.34	242.7533
193.63	248.8359
197.04	287.3769
198.01	221.3013
198.60	235.8397
200.40	287.3492
201.83	311.1406
202.84	269.2147
205.31	262.6928

208.36	275.3161
208.81	253.0545
209.75	257.2350
209.75	257.2350
210.97	234.0026
215.65	248.1378
216.55	235.9541
218.09	221.6365
222.10	231.6437
223.80	233.1858
226.40	250.9151
227.00	238.5139
227.08	224.8374
227.20	224.8654
228.16	234.2243
228.18	234.2285
228.18	234.2285
231.56	0.0000
235.69	212.3935
236.00	219.3665
236.00	219.3665
238.63	178.9491
238.63	178.9491
238.63	178.9491
238.63	178.9491
239.00	179.0138
240.98	179.3591
241.98	179.5341
241.98	179.5341
241.98	179.5341
244.69	163.7455
245.39	156.8820
247.94	171.9433
248.90	166.7359
249.79	170.6696
252.40	180.7404
252.85	192.2282
252.85	192.2282
254.15	0.0000
256.20	202.5143
256.20	202.5143
260.50	208.6246
260.90	0.0000
262.80	196.6619
264.65	165.6376
268.24	180.8944
268.79	188.1097
269.46	183.9447
269.46	183.9447
269.46	183.9447
269.46	183.9447
271.23	177.0936
273.65	204.6687
276.40	171.1412
277.35	165.1300
277.60	169.6547
277.60	169.6547
278.00	170.6104
278.60	169.8018
279.20	187.8691
279.53	205.0073
280.46	210.5736
281.68	179.2658
283.67	169.6464
284.30	166.1295
285.00	166.2278
285.90	0.0000
286.10	192.6087
286.10	192.6087
287.40	164.7598
288.45	0.0000
290.67	167.0336
290.80	167.0504
291.72	165.7258
293.26	0.0000
293.70	161.9997
295.21	162.2034
295.21	162.2034

295.21	162.2034
295.96	162.3066
296.50	162.3772
297.23	162.4777
298.57	162.6570
299.80	162.8226
299.80	162.8226
300.09	162.8634
300.09	162.8634
300.09	162.8634
300.09	162.8634
300.12	162.8661
301.29	163.0236
302.84	171.6666
303.76	170.3297
303.91	167.4124
304.40	157.1954
304.40	157.1954
304.84	157.2529
306.84	152.4619
308.46	148.3187
311.98	145.0434
316.51	157.6241
318.01	153.1693
319.02	153.2902
319.41	157.9846
320.08	139.4714
323.87	168.6089
323.87	168.6089
323.87	168.6089
323.87	168.6089
325.23	153.8512
328.77	166.6306
333.44	116.4960
334.20	156.0455
334.20	156.0455
334.30	156.0556
338.28	152.7550
338.28	152.7550
338.28	152.7550
338.28	152.7550
338.32	152.7599
338.32	152.7599
338.32	152.7599
340.50	139.0332
340.57	139.0399
344.27	154.3894
345.85	130.4844
350.59	0.0000
351.07	136.1289
351.92	136.2140
351.92	136.2140
351.92	136.2140
355.39	0.0000
356.01	136.0466
364.48	111.5024
366.43	149.1960
367.43	129.0744
367.94	0.0000
369.80	137.9748
374.96	132.6644
383.85	128.6122
387.95	114.3167
388.63	113.3910
391.69	109.7083
391.69	109.7083
392.90	99.0135
398.62	126.9489
400.65	121.2076
401.10	112.3718
401.81	104.5362
402.60	98.6694
404.84	136.3660
410.95	112.1086
411.60	126.0524
413.65	145.1022
414.70	115.3663
415.30	110.4360

415.76	112.4586
417.63	0.0000
418.52	110.6646
423.70	106.0307
427.08	111.2693
427.89	93.2739
432.53	110.6462
433.93	98.6609
439.47	112.1331
439.56	112.1399
439.89	99.0273
443.98	115.4838
444.90	113.5227
445.03	113.5313
445.03	113.5313
445.03	113.5313
445.03	113.5313
453.90	90.7043
463.38	89.1692
468.07	92.0896
473.00	98.9531
475.06	101.1358
475.35	98.0557
476.78	104.3350
477.59	101.2838
477.96	96.1376
482.03	103.6163
484.57	102.7297
487.03	88.3268
490.36	0.0000
492.35	0.0000
497.08	93.0103
507.63	0.0000
510.53	0.0000
510.84	94.7770
511.00	94.7859
511.85	94.8299
511.85	94.8299
513.99	77.6407
513.99	77.6407
520.41	82.5703
520.65	77.2885
527.90	0.0000
528.96	0.0000
529.64	88.3015
529.87	0.0000
531.02	97.9465
537.32	88.6612
543.00	68.5703
546.56	0.0000
549.76	84.9404
552.65	93.6827
555.20	76.5534
563.23	62.7950
563.90	71.4805
568.70	69.4824
569.32	70.5919
569.50	79.2868
569.67	77.1211
573.80	101.2278
574.00	90.3532
574.64	88.2032
578.91	71.5858
579.30	0.0000
583.14	88.5764
585.48	92.8406
591.81	83.4659
592.07	85.6719
593.00	95.6023
595.88	75.9278
600.56	78.3063
602.52	0.0000
602.71	86.5587
602.71	86.5587
603.60	79.5278
604.41	74.2547
604.70	81.3378
609.31	80.8529

609.31	80.8529
609.31	80.8529
609.31	80.8529
610.33	80.8930
612.46	90.5150
614.37	76.3859
618.01	78.9650
621.84	71.3066
621.84	71.3066
631.29	72.7422
633.02	88.4820
633.10	88.4844
634.78	89.6753
635.90	77.3849
636.97	67.3242
645.85	65.7962
646.12	71.2138
656.30	67.2743
657.75	75.5168
657.90	0.0000
661.65	89.2658
661.65	89.2658
664.57	0.0000
666.33	95.5177
666.33	95.5177
675.00	75.7963
677.61	62.1695
685.20	67.8791
692.80	74.5453
695.00	79.2225
696.49	89.4136
696.49	89.4136
697.00	81.1357
697.49	96.8302
698.33	94.0960
698.50	97.7938
699.00	89.5095
702.63	73.9375
706.10	87.9307
706.58	0.0000
706.67	79.6193
709.31	84.3438
711.68	85.3561
713.82	76.1463
717.42	66.9621
720.50	66.5161
721.93	0.0000
722.20	57.4662
722.78	62.1419
722.78	62.1419
722.89	62.1436
722.95	62.1452
723.30	59.0472
724.18	59.0688
727.18	66.3025
733.00	57.7252
735.90	63.5218
739.58	77.9057
742.81	58.2718
744.21	52.6627
747.13	84.7375
751.79	74.5215
752.31	80.1980
753.82	74.5813
755.35	64.2364
756.15	63.3130
756.87	67.1120
763.93	52.1359
765.79	63.2422
766.42	74.3268
766.84	66.4316
776.49	71.4496
778.00	70.3002
778.57	70.9785
778.89	72.4709
783.80	83.1194
785.46	70.7444
792.07	76.6777

795.84	67.1921
796.30	67.2041
798.80	67.2690
801.93	64.1423
805.60	57.8093
810.29	53.0865
810.76	54.0613
815.85	56.1011
817.79	54.2062
818.51	59.0625
819.60	58.1177
826.30	58.2642
828.27	0.0000
831.60	76.8668
831.96	72.0109
834.83	64.2952
836.80	0.0000
846.75	56.7511
848.13	71.4655
856.28	0.0000
856.80	73.6560
860.37	57.0343
867.32	63.3754
867.82	62.8582
871.10	66.1412
873.19	61.2507
874.81	59.3086
875.33	0.0000
876.40	69.2327
879.36	67.3260
880.27	59.4243
880.51	59.4302
881.50	48.5514
883.24	59.4873
884.67	63.4859
889.25	57.6276
896.60	64.7493
898.02	69.7659
899.00	69.7898
903.28	56.5809
911.07	57.0682
911.07	57.0682
911.07	57.0682
919.63	48.5339
920.93	51.4852
925.00	59.3543
925.24	60.3647
926.50	55.3585
935.52	58.5579
937.48	78.8017
944.10	67.8408
946.00	74.9756
949.00	52.7389
962.29	74.7048
964.01	52.6632
966.15	65.2797
968.20	65.3250
969.11	62.9614
969.11	62.9614
969.11	62.9614
977.42	73.7121
980.50	60.4649
983.50	51.2915
989.30	59.6100
996.32	53.2207
1001.03	51.5820
1001.68	61.9116
1004.76	56.8087
1021.30	0.0000
1024.50	0.0000
1034.80	53.1790
1036.00	49.0264
1037.82	40.7043
1038.57	43.8457
1038.76	0.0000
1045.16	63.8117
1046.59	54.4197
1048.07	57.5862

1050.47	47.1511
1050.47	47.1511
1062.04	58.8848
1063.62	57.8628
1076.63	50.6977
1077.35	55.9916
1078.86	67.6438
1085.78	52.9565
1099.22	75.4999
1112.02	65.2290
1112.84	64.0605
1115.52	64.1104
1120.29	58.8484
1120.29	58.8484
1120.29	58.8484
1120.29	58.8484
1120.51	58.8538
1121.28	58.8672
1124.00	0.0000
1129.67	75.1030
1131.51	0.0000
1147.95	0.0000
1167.94	55.3206
1173.22	78.2156
1175.09	86.9531
1177.93	60.9164
1189.05	65.4697
1204.90	83.2920
1205.75	0.0000
1213.00	91.1663
1221.42	76.1475
1230.97	78.1864
1235.34	94.8525
1236.41	0.0000
1238.25	89.3982
1246.25	79.4317
1260.41	0.0000
1271.85	52.0739
1274.45	59.5547
1274.54	55.8325
1291.56	41.1265
1298.22	0.0000
1312.09	57.3191
1325.50	38.6577
1325.50	38.6577
1332.49	34.0042
1333.61	34.9585
1360.21	29.4851
1362.66	0.0000
1365.15	31.4263
1368.21	28.5913
1368.53	0.0000
1376.25	22.9180
1384.27	14.7625
1394.10	23.0186
1395.20	23.9848
1407.95	36.5697
1434.06	18.3993
1436.60	21.3170
1457.56	0.0000
1460.81	24.3632
1489.15	13.7334
1509.49	24.6379
1596.49	23.1104
1620.62	16.1608
1678.03	0.0000
1691.02	14.3520
1691.02	14.3520
1706.46	0.0000
1750.46	0.0000
1764.49	7.2840
1764.49	7.2840
1764.49	7.2840
1764.49	7.2840
1770.23	7.1434
1771.40	34.3857
1791.20	0.0000
1808.65	8.3971

1836.01

11.6078

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978006

Total Uranium Activity	5.8289E+01	ug/g
Total Uranium Counting Unc.	1.4788E+01	ug/g
Total Uranium Tpu	7.5449E-06	ug/g
Total Uranium Mda	4.9922E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978006                *
*  ANALYST       : MXR1                  DETECTOR    : GAM04                  *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 14-FEB-2010 11:56:15.89  SAMPLE ALQT: 134.500 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.208E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.669E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.969E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.925E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 13:57:44.89

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978007.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:56:47
Sample ID          : G245978007          Sample quantity  : 1.38270E+02 GRAM
Detector name      : GAM07              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.60  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 948721             Detector SN#      :
Matrix Spike ID    :                    LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.20*	82	742	0.95	92.05	89	8	1.14E-02	59.2	
2	0	63.33*	1838	1349	1.02	126.31	122	10	2.55E-01	4.5	
3	2	74.85	473	962	1.22	149.35	143	16	6.56E-02	12.1	4.04E+00
4	2	77.12*	889	969	1.09	153.89	143	16	1.23E-01	6.7	
5	0	84.17*	162	979	1.44	168.00	165	7	2.25E-02	33.3	
6	0	87.34	269	862	1.33	174.32	172	6	3.74E-02	18.3	
7	4	90.05	249	568	1.34	179.75	178	16	3.46E-02	13.9	1.35E+00
8	4	92.65*	4021	778	1.17	184.94	178	16	5.59E-01	2.0	
9	4	94.70	267	739	1.53	189.04	178	16	3.71E-02	31.4	
10	0	98.61*	279	566	1.10	196.86	193	8	3.87E-02	16.1	
11	0	112.96	163	768	0.81	225.56	221	10	2.26E-02	32.9	
12	0	143.80*	152	448	1.19	287.23	283	8	2.11E-02	25.9	
13	0	185.99*	645	553	1.22	371.59	366	11	8.96E-02	8.3	
14	0	209.50*	121	279	1.11	418.61	415	8	1.69E-02	26.1	
15	3	238.72*	1329	237	1.12	477.03	469	20	1.85E-01	3.4	1.31E+00
16	3	241.66	280	325	1.66	482.91	469	20	3.89E-02	15.4	
17	0	270.40	96	278	2.05	540.39	534	11	1.34E-02	35.1	
18	0	295.35*	353	232	1.16	590.28	585	10	4.90E-02	9.8	
19	0	300.63*	53	184	1.06	600.84	596	7	7.34E-03	46.0	
20	0	338.30	251	221	1.23	676.15	671	12	3.48E-02	13.4	
21	0	352.05*	705	158	1.39	703.65	698	12	9.80E-02	5.3	
22	0	463.21	71	138	1.68	925.94	919	12	9.90E-03	35.0	
23	0	510.99*	92	172	2.03	1021.49	1014	15	1.27E-02	36.6	
24	0	583.46*	417	99	1.20	1166.40	1160	12	5.79E-02	7.0	
25	0	609.51*	474	180	1.35	1218.49	1211	15	6.58E-02	7.8	
26	0	662.02	89	134	1.51	1323.50	1317	13	1.24E-02	28.6	
27	0	727.58	138	63	1.95	1454.60	1448	14	1.92E-02	14.9	
28	0	744.13	35	69	2.56	1487.70	1482	9	4.86E-03	46.2	
29	0	768.18*	135	149	2.35	1535.79	1528	21	1.87E-02	24.6	
30	0	861.38	66	75	2.42	1722.16	1713	15	9.19E-03	31.1	
31	0	911.44*	288	72	1.68	1822.28	1813	18	3.99E-02	9.2	
32	0	969.10*	146	74	1.25	1937.59	1933	12	2.02E-02	15.0	
33	0	1001.42	176	75	1.59	2002.23	1996	15	2.44E-02	12.9	
34	0	1120.92	88	66	1.36	2241.19	2235	13	1.22E-02	22.1	
35	0	1461.22*	1152	25	2.15	2921.74	2913	17	1.60E-01	3.1	
36	0	1589.65	57	20	4.80	3178.58	3168	21	7.91E-03	24.0	
37	0	1765.18*	100	4	1.59	3529.62	3523	14	1.39E-02	11.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 13:57:48

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978007.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:56:47
 Sample ID : G245978007 Sample quantity : 138.27 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA7 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.60 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.595E+01	2.760E+00	4.741E-01	4.071E-02	54.736
CD-109	+	88.03	*	2.950E+00	1.112E+00	1.537E+00	1.447E-01	1.920
SN-126	+	64.28		1.082E+01	1.841E+00	7.689E-01	1.115E-01	14.075
	+	86.94		1.200E+00	6.636E-01	6.275E-01	2.604E-01	1.913
	+	87.57	*	2.887E-01	1.088E-01	1.455E-01	1.364E-02	1.984
BA-137M	+	661.65	*	1.211E-01	7.019E-02	6.394E-02	5.658E-03	1.894
CS-137	+	661.65	*	1.280E-01	7.420E-02	6.759E-02	5.992E-03	1.894
LU-177	+	112.95		6.209E+00	4.118E+00	3.921E+00	3.383E-01	1.583
	+	208.36	*	3.592E+00	1.896E+00	2.627E+00	2.176E-01	1.367
TL-208	+	277.35		4.273E-01	3.899E-01	6.720E-01	8.228E-02	0.636
	+	510.84		4.184E-01	3.107E-01	2.132E-01	2.598E-02	1.962
	+	583.14	*	5.427E-01	9.189E-02	5.753E-02	5.503E-03	9.434
	+	860.37		8.093E-01	5.089E-01	4.564E-01	4.463E-02	1.773
BI-210	+	46.50	*	2.738E+00	3.254E+00	3.610E+00	3.386E-01	0.758
PB-210	+	46.50	*	2.738E+00	3.254E+00	3.610E+00	3.386E-01	0.758
PO-210	+	46.50	*	2.738E+00	3.252E+00	3.610E+00	3.071E-01	0.758
BI-211	+	72.87		5.323E+00	3.542E+00	5.405E+00	4.266E-01	0.985
	+	351.07	*	4.022E+00	5.556E-01	3.140E-01	2.817E-02	12.808
PB-212	+	74.81		1.974E+00	5.348E-01	5.542E-01	6.837E-02	3.561
	+	77.11		2.142E+00	3.384E-01	3.205E-01	2.645E-02	6.683
	+	87.30		1.335E+00	5.208E-01	6.968E-01	9.533E-02	1.916
	+	238.63	*	1.648E+00	1.940E-01	9.052E-02	8.658E-03	18.210
	+	300.09		1.014E+00	9.387E-01	1.276E+00	1.323E-01	0.795
PO-212	+	74.81		1.974E+00	5.348E-01	5.542E-01	6.837E-02	3.561
	+	77.11		2.142E+00	3.384E-01	3.205E-01	2.645E-02	6.683
	+	87.30		1.335E+00	5.208E-01	6.968E-01	9.533E-02	1.916
	+	115.19		4.207E+00	4.242E+00	6.358E+00	5.476E-01	0.662
	+	238.63	*	1.648E+00	1.940E-01	9.052E-02	8.658E-03	18.210
	+	300.09		1.014E+00	9.387E-01	1.276E+00	1.323E-01	0.795
BI-214	+	609.31	*	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
	+	1120.29		1.114E+00	5.075E-01	5.091E-01	5.467E-02	2.187
	+	1764.49		1.752E+00	4.239E-01	2.079E-01	1.709E-02	8.430
PB-214	+	74.81		3.401E+00	9.010E-01	9.550E-01	1.045E-01	3.561
	+	77.11		3.672E+00	6.441E-01	5.494E-01	6.171E-02	6.683

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	87.30		2.287E+00	8.802E-01	1.194E+00	1.445E-01	1.916
	+	241.98		2.087E+00	6.783E-01	5.453E-01	5.534E-02	3.827
	+	295.21		1.188E+00	2.637E-01	2.251E-01	2.383E-02	5.276
	+	351.92	*	1.399E+00	2.066E-01	1.095E-01	1.136E-02	12.781
	+	74.81		3.401E+00	9.010E-01	9.550E-01	1.045E-01	3.561
	+	77.11		3.672E+00	6.441E-01	5.494E-01	6.171E-02	6.683
PO-216	+	87.30		2.287E+00	8.802E-01	1.194E+00	1.445E-01	1.916
	+	241.98		2.087E+00	6.783E-01	5.453E-01	5.534E-02	3.827
	+	295.21		1.188E+00	2.637E-01	2.251E-01	2.383E-02	5.276
	+	351.92	*	1.399E+00	2.066E-01	1.095E-01	1.136E-02	12.781
	+	74.81		1.974E+00	5.348E-01	5.542E-01	6.837E-02	3.561
	+	77.11		2.142E+00	3.384E-01	3.205E-01	2.645E-02	6.683
PO-218	+	87.30		1.335E+00	5.208E-01	6.968E-01	9.533E-02	1.916
	+	238.63	*	1.648E+00	1.940E-01	9.052E-02	8.658E-03	18.210
	+	300.09		1.014E+00	9.387E-01	1.276E+00	1.323E-01	0.795
	+	74.81		3.401E+00	9.010E-01	9.550E-01	1.045E-01	3.561
	+	77.11		3.672E+00	6.441E-01	5.494E-01	6.171E-02	6.683
	+	87.30		2.287E+00	8.802E-01	1.194E+00	1.445E-01	1.916
RA-224	+	241.98		2.087E+00	6.783E-01	5.453E-01	5.534E-02	3.827
	+	295.21		1.188E+00	2.637E-01	2.251E-01	2.383E-02	5.276
	+	351.92	*	1.399E+00	2.066E-01	1.095E-01	1.136E-02	12.781
	+	240.98	*	3.957E+00	1.267E+00	1.030E+00	8.714E-02	3.840
	+	609.31	*	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
	+	1120.29		1.114E+00	5.075E-01	5.091E-01	5.467E-02	2.187
AC-228	+	1764.49		1.752E+00	4.239E-01	2.079E-01	1.709E-02	8.430
	+	338.32		1.573E+00	7.739E-01	3.896E-01	1.607E-01	4.037
	+	911.07	*	1.662E+00	3.634E-01	2.177E-01	2.536E-02	7.634
	+	969.11		1.482E+00	5.640E-01	5.157E-01	1.212E-01	2.874
	+	338.32		1.573E+00	7.739E-01	3.896E-01	1.607E-01	4.037
	+	911.07	*	1.662E+00	3.634E-01	2.177E-01	2.536E-02	7.634
TH-228	+	969.11		1.482E+00	5.640E-01	5.157E-01	1.212E-01	2.874
	+	74.81		2.009E+00	5.116E-01	5.643E-01	4.586E-02	3.561
	+	77.11		2.180E+00	3.445E-01	3.263E-01	2.693E-02	6.683
	+	87.30		1.359E+00	5.125E-01	7.094E-01	6.624E-02	1.916
	+	238.63	*	1.678E+00	1.976E-01	9.216E-02	8.815E-03	18.210
	+	300.09		1.033E+00	1.130E+00	1.299E+00	7.698E-01	0.795
TH-229	+	85.43		3.973E-01	2.671E-01	3.295E-01	3.004E-02	1.206
	+	88.47		3.941E-01	1.486E-01	2.049E-01	1.924E-02	1.923
	+	100.00		8.554E-01	2.859E-01	3.060E-01	2.710E-02	2.796
	+	193.63	*	-3.247E-01	4.945E-01	8.133E-01	6.642E-02	-0.399
	+	210.97		1.878E+00	9.913E-01	1.167E+00	9.683E-02	1.610
	+	609.31	*	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
TH-230	+	1120.29		1.114E+00	5.075E-01	5.091E-01	5.466E-02	2.187
	+	1764.49		1.752E+00	4.239E-01	2.078E-01	1.709E-02	8.430
U-231	+	84.21		1.838E+01	1.236E+01	1.563E+01	1.403E+00	1.177
	+	92.29		1.766E+02	1.760E+01	5.295E+00	4.853E-01	33.349
	+	95.87	*	7.205E+00	4.569E+00	2.444E+00	2.200E-01	2.948
	+	108.00		-6.077E+00	4.176E+00	5.575E+00	4.842E-01	-1.090
	+	338.32		1.573E+00	4.429E-01	3.896E-01	3.335E-02	4.037

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	911.07	*	1.662E+00	3.634E-01	2.177E-01	2.536E-02	7.634
	+	969.11		1.482E+00	5.640E-01	5.157E-01	1.212E-01	2.874
TH-234	+	63.29	*	2.734E+01	5.347E+00	1.994E+00	3.470E-01	13.710
	+	92.38		2.877E+01	5.397E+00	8.623E-01	1.582E-01	33.358
U-234	+	609.31	*	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
	+	1120.29		1.114E+00	5.075E-01	5.091E-01	5.466E-02	2.187
	+	1764.49		1.752E+00	4.239E-01	2.078E-01	1.709E-02	8.430
U-235	+	89.95		3.614E+00	1.508E+00	2.044E+00	6.348E-01	1.768
	+	93.35		3.458E+01	9.845E+00	1.034E+00	2.914E-01	33.448
		105.00		1.049E+00	1.154E+00	1.856E+00	5.545E-01	0.565
	+	143.76	*	5.865E-01	3.208E-01	3.576E-01	6.194E-02	1.640
		163.35		2.994E-01	5.350E-01	8.542E-01	1.605E-01	0.351
	+	185.71		5.576E-01	1.026E-01	7.313E-02	5.920E-03	7.625
		205.31		5.344E-01	6.010E-01	9.120E-01	1.725E-01	0.586
NP-237	+	86.50	*	8.477E-01	3.643E-01	4.289E-01	9.698E-02	1.976
	+	95.87		3.952E+00	2.667E+00	1.341E+00	3.321E-01	2.948
U-238	+	63.29	*	2.734E+01	5.347E+00	1.994E+00	3.470E-01	13.710
	+	92.38		2.877E+01	2.867E+00	8.623E-01	7.899E-02	33.358
AM-243	+	74.67	*	3.200E-01	8.139E-02	9.002E-02	7.236E-03	3.554
	+	86.72		3.179E+01	1.199E+01	1.607E+01	1.489E+00	1.979
		117.66		6.645E-01	4.548E+00	6.572E+00	5.653E-01	0.101
		142.18		3.740E+01	2.125E+01	3.247E+01	2.680E+00	1.152
ANH-511	+	511.00	*	9.038E-02	6.668E-02	4.607E-02	4.094E-03	1.962

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.178E-01	3.529E-01	5.787E-01	5.462E-02	0.204
NA-22		1274.54	*	-3.958E-02	4.283E-02	6.370E-02	5.229E-03	-0.621
NA-24		1368.53	*	-8.256E-01	4.283E-02	Half-Life too short		
AL-26		1129.67		8.682E-01	1.738E+00	2.962E+00	2.488E-01	0.293
		1808.65	*	1.720E-02	3.172E-02	5.746E-02	4.686E-03	0.299
TI-44		67.85		8.523E-03	4.985E-02	7.390E-02	5.575E-03	0.115
	+	78.38	*	3.953E-01	6.246E-02	7.800E-02	6.530E-03	5.067
SC-46		889.25	*	-6.105E-03	3.943E-02	6.303E-02	5.776E-03	-0.097
	+	1120.51		1.952E-01	8.803E-02	1.250E-01	1.057E-02	1.561
V-48		944.10		-1.754E-01	9.833E-01	1.560E+00	1.418E-01	-0.112
		983.50	*	2.599E-02	8.282E-02	1.374E-01	1.237E-02	0.189
		1312.09		4.246E-02	8.244E-02	1.439E-01	1.179E-02	0.295
CR-51		320.08	*	-1.378E-01	3.880E-01	6.080E-01	5.495E-02	-0.227
MN-52	+	744.21		4.885E-01	4.535E-01	6.987E-01	6.342E-02	0.699
		848.13		1.346E+01	1.053E+01	1.879E+01	1.725E+00	0.716
		935.52		1.212E-01	3.355E-01	5.621E-01	5.119E-02	0.216
		1246.25		-3.270E+00	9.828E+00	1.575E+01	1.290E+00	-0.208
		1333.61		-7.491E-03	6.660E+00	1.096E+01	8.984E-01	-0.001
		1434.06	*	1.266E-01	2.828E-01	4.945E-01	4.112E-02	0.256
MN-54		834.83	*	8.756E-03	3.813E-02	6.336E-02	5.816E-03	0.138
CO-56		846.75	*	1.922E-02	4.318E-02	7.290E-02	6.692E-03	0.264

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	977.42			2.366E+00	3.053E+00	5.167E+00	4.659E-01	0.458
	1037.82			-3.118E-01	3.177E-01	4.835E-01	4.485E-02	-0.645
	1175.09			1.869E-01	2.498E+00	4.179E+00	3.401E-01	0.045
	1238.25			1.746E-01	9.774E-02	1.801E-01	1.522E-02	0.969
	1360.21			-2.478E-01	8.036E-01	1.256E+00	1.034E-01	-0.197
	1771.40			9.722E-02	2.473E-01	3.904E-01	3.207E-02	0.249
CO-57	122.06	*		-6.667E-03	2.799E-02	4.460E-02	3.838E-03	-0.149
	136.48			1.700E-01	2.173E-01	3.575E-01	3.219E-02	0.475
CO-58	810.76	*		2.372E-03	3.856E-02	6.340E-02	5.825E-03	0.037
FE-59	142.65	+		7.912E+00	4.156E+00	5.534E+00	4.563E-01	1.430
	192.34			-4.687E-01	9.536E-01	1.578E+00	2.072E-01	-0.297
	1099.22	*		5.402E-02	9.731E-02	1.700E-01	1.575E-02	0.318
	1291.56			4.132E-02	1.179E-01	2.019E-01	1.901E-02	0.205
CO-60	1173.22			-5.782E-03	4.773E-02	7.860E-02	6.396E-03	-0.074
	1332.49	*		1.283E-03	3.644E-02	6.027E-02	4.937E-03	0.021
ZN-65	1115.52	*		-2.815E-02	1.070E-01	1.491E-01	1.265E-02	-0.189
GE-68	1077.35	*		-4.252E-01	1.190E+00	1.925E+00	1.668E-01	-0.221
AS-73	53.44	*		-3.690E-01	7.018E-01	1.142E+00	8.573E-02	-0.323
AS-74	595.88	*		-9.133E-02	1.050E-01	1.643E-01	1.473E-02	-0.556
	634.78			1.057E-01	4.054E-01	6.868E-01	6.123E-02	0.154
SE-75	66.05			-6.928E+00	5.164E+00	7.202E+00	6.832E-01	-0.962
	96.73			2.689E+00	1.121E+00	1.417E+00	1.962E-01	1.898
	121.11			-4.957E-02	1.507E-01	2.393E-01	2.681E-02	-0.207
	136.00			3.019E-02	4.139E-02	6.799E-02	5.716E-03	0.444
	198.60			-1.182E-01	1.873E+00	3.112E+00	2.860E-01	-0.038
	264.65	*		-4.518E-02	5.078E-02	6.947E-02	5.932E-03	-0.650
	279.53			-1.900E-02	1.132E-01	1.862E-01	1.641E-02	-0.102
	303.91			1.443E+00	2.349E+00	3.545E+00	4.053E-01	0.407
	400.65			3.904E-02	2.593E-01	4.246E-01	4.642E-02	0.092
BR-77	87.88	+		1.470E+03	5.543E+02	8.704E+02	8.189E+01	1.689
	200.40			-1.995E+02	3.828E+02	6.326E+02	5.201E+01	-0.315
	239.00	+		6.133E+02	6.675E+01	8.807E+01	7.442E+00	6.964
	249.79			-7.170E+00	1.460E+02	2.429E+02	2.060E+01	-0.030
	281.68			-1.412E+02	2.105E+02	3.367E+02	2.861E+01	-0.419
	297.23			4.775E+02	2.254E+02	2.805E+02	2.397E+01	1.703
	303.76			2.834E+02	4.556E+02	6.887E+02	5.896E+01	0.412
	439.47			7.494E+01	3.338E+02	5.463E+02	4.706E+01	0.137
	484.57			-1.659E+02	5.341E+02	8.347E+02	7.351E+01	-0.199
	520.65	*		2.410E+00	2.416E+01	4.097E+01	3.649E+00	0.059
	574.64			4.816E+02	4.811E+02	8.554E+02	7.671E+01	0.563
	578.91			-1.715E+02	2.276E+02	3.055E+02	2.740E+01	-0.561
	585.48			3.908E+03	6.917E+02	1.203E+03	1.079E+02	3.249
	755.35			1.309E+02	3.831E+02	6.466E+02	5.883E+01	0.202
	817.79			-9.951E+01	2.924E+02	4.618E+02	4.235E+01	-0.215
SR-82	698.33			-1.148E+01	4.008E+01	6.491E+01	5.820E+00	-0.177
	776.49	*		-4.311E-02	4.821E-01	6.770E-01	6.182E-02	-0.064
	1395.20			1.008E+01	1.062E+01	1.958E+01	1.620E+00	0.515
RB-83	520.41	*		3.410E-03	7.028E-02	1.188E-01	1.058E-02	0.029
	529.64			5.230E-02	1.096E-01	1.900E-01	1.696E-02	0.275

Sample ID : G245978007

Acquisition date : 14-FEB-2010 11:56:47

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	552.65			-8.643E-02	1.878E-01	3.043E-01	2.725E-02	-0.284
RB-84	881.50	*		4.188E-02	7.299E-02	1.248E-01	1.144E-02	0.336
KR-85	513.99	*		1.412E+01	7.801E+00	1.304E+01	1.160E+00	1.083
SR-85	513.99	*		7.464E-02	4.123E-02	6.893E-02	6.129E-03	1.083
RB-86	1076.63	*		-6.723E-02	8.347E-01	1.387E+00	1.202E-01	-0.048
Y-88	898.02			-1.761E-03	4.359E-02	7.044E-02	6.478E-03	-0.025
	1836.01	*		-5.724E-03	3.019E-02	4.834E-02	3.923E-03	-0.118
ZR-88	392.90	*		-5.561E-03	3.171E-02	5.091E-02	4.240E-03	-0.109
Y-91	1204.90	*		-1.913E+00	2.020E+01	3.327E+01	2.717E+00	-0.057
NB-94	702.63	*		8.890E-03	3.489E-02	5.866E-02	5.267E-03	0.152
	871.10			2.000E-02	3.463E-02	5.917E-02	5.429E-03	0.338
NB-95	765.79	*		1.359E-01	6.317E-02	1.041E-01	9.490E-03	1.305
NB-95M	235.69	*		6.517E-02	1.434E-01	2.163E-01	2.100E-02	0.301
ZR-95	724.18			-2.160E-02	1.118E-01	1.564E-01	1.524E-02	-0.138
	756.15	*		7.665E-03	7.407E-02	1.227E-01	1.219E-02	0.062
NB-97	657.90	*		1.256E-01	7.407E-02	Half-Life	too short	
	1024.50			2.703E+01	7.407E-02	Half-Life	too short	
ZR-97	254.15			-2.853E+01	7.407E-02	Half-Life	too short	
	355.39			-1.899E+01	7.407E-02	Half-Life	too short	
	507.63	*		2.691E+01	7.407E-02	Half-Life	too short	
	602.52			-5.621E+00	7.407E-02	Half-Life	too short	
	1021.30			3.769E+01	7.407E-02	Half-Life	too short	
	1147.95			1.079E+01	7.407E-02	Half-Life	too short	
	1362.66			-7.564E+00	7.407E-02	Half-Life	too short	
	1750.46			-1.207E+02	7.407E-02	Half-Life	too short	
MO-99	140.51			-2.100E+01	6.381E+01	8.827E+01	2.435E+01	-0.238
	181.06			2.906E+01	3.981E+01	6.123E+01	1.104E+01	0.475
	366.43			-6.170E+01	1.782E+02	2.844E+02	2.409E+01	-0.217
	739.58	*		4.747E+00	2.776E+01	4.035E+01	6.231E+00	0.118
	778.00			-5.374E+00	8.387E+01	1.181E+02	1.079E+01	-0.045
TC-99M	140.51	*		-4.233E+13	8.387E+01	Half-Life	too short	
RH-101	127.23			-3.907E-02	3.558E-02	5.457E-02	4.635E-03	-0.716
	198.01	*		1.762E-02	3.370E-02	5.713E-02	4.686E-03	0.309
	325.23			-2.400E-01	2.332E-01	3.608E-01	3.094E-02	-0.665
RH-102	418.52			7.255E-02	2.896E-01	4.761E-01	4.045E-02	0.152
	475.06	*		3.315E-02	3.006E-02	5.171E-02	4.537E-03	0.641
	631.29			8.517E-03	5.739E-02	9.649E-02	8.609E-03	0.088
	697.49			-4.931E-02	8.483E-02	1.344E-01	1.205E-02	-0.367
+	766.84			5.529E-01	2.769E-01	2.646E-01	2.413E-02	2.089
	1046.59			4.870E-03	1.113E-01	1.875E-01	1.649E-02	0.026
	1112.84			7.554E-02	2.380E-01	3.810E-01	3.235E-02	0.198
RU-103	497.08	*		-1.402E-02	4.711E-02	7.365E-02	1.053E-02	-0.190
+	610.33			1.321E+01	3.034E+00	3.203E+00	5.399E-01	4.124
RH-106	511.85	+		4.539E-01	3.349E-01	4.260E-01	3.786E-02	1.066
	621.84	*		2.605E-01	3.209E-01	5.619E-01	7.622E-02	0.464
	1050.47			-2.228E+00	2.234E+00	3.381E+00	2.968E-01	-0.659
RU-106	511.85	+		4.539E-01	3.349E-01	4.260E-01	3.786E-02	1.066
	621.84	*		2.605E-01	3.198E-01	5.619E-01	5.022E-02	0.464
	1050.47			-2.228E+00	2.234E+00	3.381E+00	2.968E-01	-0.659

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AG-108M		433.93	*	-5.218E-03	3.285E-02	5.240E-02	4.678E-03	-0.100
		614.37		1.336E-02	4.183E-02	6.259E-02	5.805E-03	0.213
		722.95		-8.450E-03	4.663E-02	6.523E-02	6.102E-03	-0.130
AG-110M		657.75	*	3.874E-03	3.963E-02	5.770E-02	5.257E-03	0.067
		677.61		-8.523E-02	2.836E-01	4.575E-01	4.181E-02	-0.186
		706.67		-9.124E-02	2.126E-01	3.394E-01	3.128E-02	-0.269
		763.93		2.672E-01	2.036E-01	3.255E-01	3.041E-02	0.821
		884.67		-7.358E-03	4.847E-02	7.752E-02	7.309E-03	-0.095
		937.48		2.110E-02	1.049E-01	1.730E-01	1.626E-02	0.122
	1384.27			-1.010E-01	1.794E-01	2.749E-01	2.341E-02	-0.367
IN-111		171.28		1.524E+00	2.119E+00	3.452E+00	2.747E-01	0.441
		245.39	*	-1.098E+00	2.447E+00	3.492E+00	2.958E-01	-0.314
IN-113M		391.69	*	1.612E-02	4.535E-02	7.528E-02	6.471E-03	0.214
SN-113		391.69	*	1.612E-02	4.535E-02	7.528E-02	6.471E-03	0.214
IN-114M		190.27	*	7.414E-02	1.974E-01	3.007E-01	2.447E-02	0.247
CD-115		260.90		-8.484E-05	1.974E-01	Half-Life	too short	
		492.35		-7.414E-06	1.974E-01	Half-Life	too short	
		527.90	*	6.790E-06	1.974E-01	Half-Life	too short	
SN-117M		156.02		1.552E+00	2.780E+00	4.513E+00	3.635E-01	0.344
		158.56	*	-4.451E-02	6.850E-02	1.056E-01	8.470E-03	-0.421
SB-122		563.90	*	1.038E+00	4.540E+00	7.720E+00	6.921E-01	0.134
		692.80		-1.732E+01	1.015E+02	1.659E+02	1.485E+01	-0.104
I-123		159.00	*	-1.635E+02	1.015E+02	Half-Life	too short	
		528.96		2.829E+03	1.015E+02	Half-Life	too short	
TE-123M		159.00	*	-2.135E-02	3.143E-02	4.839E-02	3.904E-03	-0.441
I-124		602.71	*	1.733E-02	1.230E+00	1.787E+00	1.601E-01	0.010
		722.78		-1.514E+00	7.847E+00	1.096E+01	9.899E-01	-0.138
		1325.50		2.363E+01	5.459E+01	9.424E+01	7.722E+00	0.251
		1376.25		5.210E+01	5.019E+01	9.128E+01	7.534E+00	0.571
		1509.49		3.514E+01	2.510E+01	4.799E+01	4.012E+00	0.732
		1691.02		-1.238E+00	4.167E+00	6.154E+00	5.113E-01	-0.201
SB-124		602.71		6.458E-04	4.582E-02	6.659E-02	5.968E-03	0.010
		645.85		-9.145E-02	5.002E-01	8.191E-01	7.694E-02	-0.112
		709.31		2.278E-01	2.794E+00	4.642E+00	4.177E-01	0.049
		713.82		1.641E-01	1.681E+00	2.794E+00	3.442E-01	0.059
		722.78		-8.179E-02	4.239E-01	5.921E-01	5.453E-02	-0.138
	+	968.20		1.577E+01	4.932E+00	7.682E+00	6.944E-01	2.053
		1045.16		7.727E-01	2.496E+00	4.299E+00	3.784E-01	0.180
		1325.50		1.363E+00	3.150E+00	5.437E+00	4.455E-01	0.251
		1368.21		6.016E-02	1.592E+00	2.629E+00	3.480E-01	0.023
		1436.60		-1.929E+00	3.699E+00	5.585E+00	4.645E-01	-0.345
		1691.02	*	-1.577E-02	5.309E-02	7.840E-02	6.791E-03	-0.201
SB-125		427.89	*	-9.936E-02	8.903E-02	1.311E-01	1.143E-02	-0.758
	+	463.38		6.357E-01	4.492E-01	5.456E-01	5.125E-02	1.165
		600.56		-1.427E-02	1.814E-01	3.013E-01	2.884E-02	-0.047
		635.90		6.144E-02	2.744E-01	4.638E-01	4.447E-02	0.132
TE-125M		109.28	*	5.041E+00	1.171E+01	1.718E+01	1.783E+00	0.293
I-126		388.63		4.142E-02	2.434E-01	3.997E-01	3.335E-02	0.104
		666.33	*	1.692E-01	2.440E-01	3.754E-01	3.328E-02	0.451

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-126		753.82		6.297E-01	1.701E+00	2.878E+00	2.618E-01	0.219
		223.80		5.195E-01	4.546E+00	7.662E+00	6.421E-01	0.068
		278.60		3.803E+00	2.989E+00	5.208E+00	4.420E-01	0.730
	+	296.50		1.389E+01	2.960E+00	4.321E+00	3.692E-01	3.215
		414.70		-1.002E-01	8.844E-02	1.312E-01	1.112E-02	-0.764
		415.30		-5.608E+00	7.278E+00	1.112E+01	9.430E-01	-0.504
		555.20		-4.698E+00	4.565E+00	7.065E+00	6.329E-01	-0.665
		573.80		5.719E-01	1.192E+00	2.059E+00	1.846E-01	0.278
		593.00		5.432E-01	1.112E+00	1.918E+00	1.720E-01	0.283
		656.30		-1.395E-01	4.699E+00	6.749E+00	5.983E-01	-0.021
		666.33		7.119E-02	1.027E-01	1.579E-01	1.400E-02	0.451
		675.00		4.219E-01	2.171E+00	3.653E+00	3.249E-01	0.115
		695.00		5.859E-02	9.896E-02	1.699E-01	1.522E-02	0.345
		697.00		-1.157E-01	3.460E-01	5.585E-01	5.006E-02	-0.207
		720.50	*	1.387E-01	1.795E-01	2.891E-01	2.609E-02	0.480
		856.80		7.029E-02	5.783E-01	8.272E-01	7.593E-02	0.085
		989.30		-3.152E-01	1.491E+00	2.348E+00	2.110E-01	-0.134
		1034.80		8.245E+00	9.817E+00	1.767E+01	1.562E+00	0.467
		1213.00		7.434E-01	5.834E+00	9.773E+00	7.988E-01	0.076
SB-127		61.10		1.107E+02	1.057E+02	1.604E+02	1.783E+01	0.690
		252.40		-6.227E+00	7.375E+00	1.097E+01	4.634E+00	-0.568
		290.80		6.001E+00	3.955E+01	5.805E+01	6.964E+00	0.103
		411.60		1.611E+01	2.136E+01	3.592E+01	5.851E+00	0.449
		444.90		1.142E+01	1.672E+01	2.809E+01	3.751E+00	0.407
		473.00		-4.280E-01	2.946E+00	4.676E+00	6.427E-01	-0.092
		543.00		-1.014E+01	2.778E+01	4.548E+01	6.954E+00	-0.223
		603.60		2.297E+00	2.272E+01	3.328E+01	4.506E+00	0.069
		685.20	*	7.634E-01	2.289E+00	3.880E+00	4.845E-01	0.197
		698.50		-8.825E+00	2.778E+01	4.484E+01	7.466E+00	-0.197
		722.20		1.746E+01	5.346E+01	7.922E+01	9.790E+00	0.220
		783.80		2.053E+00	6.481E+00	1.087E+01	1.475E+00	0.189
XE-127		57.60		6.983E-01	5.949E+00	9.886E+00	7.166E-01	0.071
	+	145.22		2.048E+00	1.076E+00	1.411E+00	1.159E-01	1.451
		172.10		4.173E-02	1.312E-01	2.103E-01	1.676E-02	0.198
		202.84	*	-1.364E-02	5.038E-02	8.405E-02	6.927E-03	-0.162
I-131		374.96		-9.033E-02	2.058E-01	3.256E-01	2.743E-02	-0.277
		80.18		-1.292E+00	8.883E+00	1.020E+01	8.803E-01	-0.127
		284.30		-1.128E-01	1.875E+00	3.096E+00	2.781E-01	-0.036
		364.48	*	-1.609E-02	1.430E-01	2.317E-01	2.080E-02	-0.069
TE-132		636.97		-1.009E+00	2.005E+00	3.206E+00	3.013E-01	-0.315
		722.89		-1.866E+00	1.006E+01	1.407E+01	1.281E+00	-0.133
		49.72		5.949E+00	2.804E+01	4.218E+01	4.709E+00	0.141
	+	111.76		1.546E+02	1.033E+02	1.138E+02	1.328E+01	1.359
BA-133		116.30		-7.376E+00	6.189E+01	8.835E+01	1.029E+01	-0.083
		228.16	*	-2.830E-01	1.236E+00	2.049E+00	3.313E-01	-0.138
		53.15		-1.618E+00	2.931E+00	4.766E+00	3.591E-01	-0.339
		79.62		-2.319E-01	1.688E+00	2.242E+00	3.397E-01	-0.103
		81.00		-1.452E-01	1.559E-01	1.698E-01	2.697E-02	-0.855
		276.40		4.432E-01	3.871E-01	6.657E-01	9.567E-02	0.666

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	+	302.84		1.386E-01	1.596E-01	2.439E-01	3.232E-02	0.568
		356.01	*	-7.595E-04	4.888E-02	6.907E-02	9.071E-03	-0.011
		383.85		8.250E-02	2.973E-01	4.917E-01	6.115E-02	0.168
		510.53		9.208E+00	2.973E-01	Half-Life	too short	
		529.87	*	3.510E-02	2.973E-01	Half-Life	too short	
		706.58		-1.906E+00	2.973E-01	Half-Life	too short	
		856.28		5.912E-01	2.973E-01	Half-Life	too short	
		875.33		-1.024E+00	2.973E-01	Half-Life	too short	
		1236.41		1.006E+01	2.973E-01	Half-Life	too short	
		1298.22		-1.155E+00	2.973E-01	Half-Life	too short	
CS-134		475.35		1.369E+00	2.045E+00	3.424E+00	3.004E-01	0.400
		563.23		5.281E-02	3.870E-01	6.544E-01	5.918E-02	0.081
		569.32		-5.302E-04	1.973E-01	3.306E-01	3.002E-02	-0.002
		604.70		-1.772E-02	4.015E-02	5.580E-02	5.010E-03	-0.318
		795.84	*	2.834E-02	4.959E-02	8.458E-02	7.793E-03	0.335
		801.93		-1.430E-01	4.115E-01	6.533E-01	6.015E-02	-0.219
		1038.57		-1.092E+00	3.807E+00	6.224E+00	5.493E-01	-0.175
		1167.94		1.842E+00	2.586E+00	4.543E+00	3.712E-01	0.405
		1365.15		3.140E-01	9.890E-01	1.702E+00	1.472E-01	0.184
		268.24	*	1.387E-01	1.763E-01	2.697E-01	2.659E-02	0.514
I-135		288.45		-1.045E+13	1.763E-01	Half-Life	too short	
		417.63		2.338E+13	1.763E-01	Half-Life	too short	
		546.56		4.969E+12	1.763E-01	Half-Life	too short	
		836.80		2.611E+13	1.763E-01	Half-Life	too short	
		1038.76		-3.025E+12	1.763E-01	Half-Life	too short	
		1124.00		-4.488E+12	1.763E-01	Half-Life	too short	
		1131.51		-2.857E+11	1.763E-01	Half-Life	too short	
		1260.41	*	2.326E+12	1.763E-01	Half-Life	too short	
		1457.56		4.120E+14	1.763E-01	Half-Life	too short	
		1678.03		2.906E+12	1.763E-01	Half-Life	too short	
CS-136		1706.46		1.900E+13	1.763E-01	Half-Life	too short	
		1791.20		4.432E+11	1.763E-01	Half-Life	too short	
		66.91		-1.315E+00	9.946E-01	1.372E+00	2.036E-01	-0.959
		86.29	+	4.384E+00	1.705E+00	2.532E+00	3.358E-01	1.731
		153.22		3.831E-01	8.216E-01	1.330E+00	1.220E-01	0.288
		163.89		5.574E-01	1.405E+00	2.239E+00	2.028E-01	0.249
		176.55		2.497E-01	4.155E-01	7.195E-01	6.149E-02	0.347
		273.65		-6.837E-01	6.256E-01	8.442E-01	7.660E-02	-0.810
		340.57		4.714E-01	1.781E-01	2.933E-01	2.585E-02	1.607
		818.51		2.853E-02	8.061E-02	1.360E-01	1.249E-02	0.210
CE-139		1048.07	*	-1.339E-02	1.179E-01	1.956E-01	1.790E-02	-0.068
		1235.34		1.506E-01	7.390E-01	1.242E+00	1.433E-01	0.121
		165.85	*	-1.684E-02	3.302E-02	5.114E-02	4.045E-03	-0.329
		162.64		7.412E-01	9.829E-01	1.587E+00	1.349E-01	0.467
		304.84		-4.617E-01	1.592E+00	2.378E+00	6.660E-01	-0.194
		423.70		-9.118E-02	2.239E+00	3.609E+00	1.169E+00	-0.025
		537.32	*	-8.581E-02	2.870E-01	4.702E-01	1.562E-01	-0.182
		328.77		4.778E-01	3.718E-01	6.440E-01	5.833E-02	0.742
		432.53		1.764E+00	2.342E+00	3.970E+00	3.572E-01	0.444

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		487.03		8.264E-02	1.666E-01	2.760E-01	2.577E-02	0.299
		751.79		-9.432E-01	1.998E+00	3.151E+00	3.141E-01	-0.299
		815.85		-1.946E-02	3.558E-01	5.784E-01	5.848E-02	-0.034
		867.82		9.498E-01	1.947E+00	3.016E+00	2.897E-01	0.315
		919.63		9.735E-01	3.529E+00	5.348E+00	5.918E-01	0.182
		925.24		7.524E-01	1.246E+00	2.136E+00	2.059E-01	0.352
	1596.49	*		6.601E-02	1.063E-01	1.682E-01	1.407E-02	0.392
CE-141	145.44	*		1.323E-01	8.276E-02	1.255E-01	1.050E-02	1.054
CE-143	57.37			2.880E-03	8.276E-02	Half-Life	too short	
	231.56			-1.927E-03	8.276E-02	Half-Life	too short	
	293.26	*		2.073E-03	8.276E-02	Half-Life	too short	
	350.59		+	1.362E-01	8.276E-02	Half-Life	too short	
	490.36			-8.987E-03	8.276E-02	Half-Life	too short	
	664.57			1.216E-02	8.276E-02	Half-Life	too short	
	721.93			2.341E-03	8.276E-02	Half-Life	too short	
CE-144	80.11			-4.367E-01	3.212E+00	3.691E+00	3.153E-01	-0.118
	133.54	*		-1.074E-01	2.242E-01	3.515E-01	5.426E-02	-0.306
PM-144	476.78			3.995E-02	7.269E-02	1.208E-01	1.156E-02	0.331
	618.01			-2.072E-02	3.159E-02	4.999E-02	4.586E-03	-0.414
	696.49	*		6.976E-03	3.745E-02	6.269E-02	5.620E-03	0.111
	778.57			3.127E-01	2.510E+00	3.926E+00	3.587E-01	0.080
PR-144	696.49	*		4.734E-01	2.542E+00	4.255E+00	3.813E-01	0.111
	1489.15			8.174E-02	1.093E+01	1.727E+01	1.443E+00	0.005
PM-146	453.90	*		4.072E-02	4.199E-02	7.194E-02	7.751E-03	0.566
	633.02			8.951E-01	1.486E+00	2.512E+00	9.405E-01	0.356
	735.90			9.973E-04	1.486E-01	2.382E-01	6.846E-02	0.004
	747.13			7.499E-02	1.049E-01	1.609E-01	2.306E-02	0.466
ND-147	91.11		+	1.088E+00	3.219E-01	1.127E+00	1.115E-01	0.966
	319.41			-1.593E+00	3.825E+00	5.967E+00	5.119E-01	-0.267
	439.89			-3.304E-01	7.112E+00	1.143E+01	9.848E-01	-0.029
	531.02	*		3.740E-01	6.679E-01	1.161E+00	1.757E-01	0.322
PM-149	285.90	*		-4.200E-05	6.679E-01	Half-Life	too short	
EU-152	121.78			-9.245E-04	8.058E-02	1.295E-01	1.283E-02	-0.007
	244.69			-4.225E-02	3.737E-01	5.454E-01	4.619E-02	-0.077
	344.27	*		-1.635E-02	1.115E-01	1.580E-01	1.432E-02	-0.103
	443.98			7.491E-02	1.000E+00	1.620E+00	1.399E-01	0.046
	778.89			1.484E-02	2.867E-01	4.453E-01	4.067E-02	0.033
	867.32			6.413E-01	1.030E+00	1.553E+00	1.425E-01	0.413
	964.01			3.388E-01	3.239E-01	5.061E-01	4.580E-02	0.669
	1085.78			-8.711E-02	3.739E-01	6.117E-01	5.277E-02	-0.142
	1112.02			1.085E-01	3.197E-01	5.384E-01	4.574E-02	0.201
	1407.95			9.759E-02	1.943E-01	3.365E-01	2.790E-02	0.290
GD-153	69.67			2.028E+00	1.818E+00	2.764E+00	2.118E-01	0.734
	83.37		+	3.138E+01	2.110E+01	2.953E+01	2.624E+00	1.063
	97.43	*	+	3.569E-01	1.193E-01	1.573E-01	1.406E-02	2.269
	103.18			-1.207E-01	1.204E-01	1.778E-01	1.561E-02	-0.679
EU-154	123.07			1.967E-03	5.564E-02	8.956E-02	1.015E-02	0.022
	247.94			3.406E-01	3.654E-01	6.138E-01	6.978E-02	0.555
	591.81			3.141E-01	6.443E-01	1.110E+00	1.324E-01	0.283

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		723.30		-1.950E-02	1.921E-01	2.713E-01	2.686E-02	-0.072
		756.87		-2.745E-01	8.098E-01	1.294E+00	1.595E-01	-0.212
		873.19		-1.636E-01	3.014E-01	4.633E-01	5.856E-02	-0.353
		996.32		-1.383E-02	3.876E-01	5.342E-01	9.581E-02	-0.026
		1004.76		1.992E-01	2.763E-01	4.146E-01	4.925E-02	0.481
		1274.45	*	-1.087E-01	1.187E-01	1.761E-01	1.936E-02	-0.617
		48.70		-1.386E+00	1.856E+00	2.690E+00	2.177E-01	-0.515
		60.01		-1.494E+00	5.311E+00	7.800E+00	5.616E-01	-0.192
	+	86.54		3.480E-01	1.313E-01	2.017E-01	1.882E-02	1.725
		105.31	*	8.315E-02	1.139E-01	1.885E-01	1.666E-02	0.441
TB-160	+	86.79		9.547E-01	3.599E-01	5.602E-01	5.197E-02	1.704
		197.04		6.857E-01	5.872E-01	1.015E+00	8.315E-02	0.676
		215.65		-2.212E-01	7.642E-01	1.269E+00	1.057E-01	-0.174
		298.57		-1.446E-02	2.000E-01	2.074E-01	1.774E-02	-0.070
		879.36	*	1.552E-01	1.428E-01	2.538E-01	2.328E-02	0.611
		962.29		-1.343E-01	5.635E-01	8.334E-01	7.545E-02	-0.161
		966.15		8.125E-01	2.714E-01	4.747E-01	4.294E-02	1.712
		1177.93		-4.545E-02	4.062E-01	6.695E-01	5.451E-02	-0.068
		1271.85		3.332E-02	6.756E-01	1.122E+00	9.203E-02	0.030
		80.57		1.200E-01	3.990E-01	4.690E-01	4.028E-02	0.256
HO-166M		184.41		3.383E-01	5.574E-02	8.969E-02	7.250E-03	3.772
		280.46		-1.126E-01	8.847E-02	1.368E-01	1.161E-02	-0.824
		410.95		5.838E-01	2.550E-01	4.608E-01	3.893E-02	1.267
		711.68	*	-1.490E-02	6.047E-02	9.784E-02	8.809E-03	-0.152
		752.31		-1.857E-01	2.764E-01	4.280E-01	3.892E-02	-0.434
		810.29		-1.973E-02	5.813E-02	9.205E-02	8.438E-03	-0.214
	TM-171	51.35		-2.009E+01	2.453E+01	3.787E+01	2.925E+00	-0.531
		52.39		-3.427E+00	1.246E+01	2.042E+01	1.554E+00	-0.168
		59.40		6.143E+00	2.798E+01	4.177E+01	3.004E+00	0.147
	LU-176	66.72	*	-4.408E+01	3.061E+01	4.266E+01	3.191E+00	-1.033
		88.36		6.846E-01	2.581E-01	4.106E-01	3.859E-02	1.667
		201.83		-2.344E-02	2.938E-02	4.797E-02	3.950E-03	-0.489
LU-177M		306.84	*	-3.495E-03	2.420E-02	3.958E-02	3.390E-03	-0.088
		401.10		2.920E+00	6.623E+00	1.104E+01	9.256E-01	0.265
		52.97		-4.420E-01	1.327E+00	2.171E+00	1.639E-01	-0.204
		54.07		-1.060E-02	7.274E-01	1.201E+00	8.957E-02	-0.009
		61.30		3.436E+00	1.692E+00	2.626E+00	1.901E-01	1.308
		121.62		4.193E-03	4.185E-01	6.733E-01	5.786E-02	0.006
		147.16		6.214E-01	7.548E-01	1.115E+00	9.120E-02	0.557
		171.86		2.225E-01	5.094E-01	8.204E-01	6.533E-02	0.271
		218.09		2.803E-01	8.364E-01	1.423E+00	1.188E-01	0.197
		268.79		1.158E+00	9.358E-01	1.462E+00	1.242E-01	0.792
HF-181		319.02		-1.384E-01	2.499E-01	3.860E-01	3.310E-02	-0.359
		367.43		1.227E-01	9.217E-01	1.515E+00	1.283E-01	0.081
		413.65	*	-2.599E-01	1.875E-01	2.737E-01	2.318E-02	-0.950
		56.28		3.040E-01	8.946E-01	1.495E+00	1.093E-01	0.203
		57.53		4.566E-02	4.960E-01	8.237E-01	5.973E-02	0.055
		65.20		3.000E+00	1.112E+00	1.740E+00	1.288E-01	1.724
		133.02		1.962E-02	7.548E-02	1.220E-01	1.024E-02	0.161

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181		136.25		5.572E-01	4.924E-01	8.196E-01	6.837E-02	0.680
		345.85		-3.047E-02	2.182E-01	3.272E-01	2.796E-02	-0.093
		482.03	*	1.227E-02	4.358E-02	7.130E-02	6.273E-03	0.172
		56.28		1.162E-01	3.397E-01	5.678E-01	4.151E-02	0.205
		57.53		1.720E-02	1.884E-01	3.129E-01	2.269E-02	0.055
TA-182		65.20	*	1.131E+00	4.193E-01	6.559E-01	4.853E-02	1.724
		67.75		4.437E-04	1.211E-01	1.783E-01	1.344E-02	0.002
	+	100.10		8.388E-01	2.804E-01	3.429E-01	3.037E-02	2.446
		152.43		1.825E-01	3.610E-01	5.855E-01	4.747E-02	0.312
		222.10		-4.565E-02	3.434E-01	5.730E-01	4.796E-02	-0.080
RE-183	+	1001.68		1.634E+01	4.471E+00	6.519E+00	5.835E-01	2.506
	+	1121.28		5.357E-01	2.416E-01	3.408E-01	2.878E-02	1.572
		1189.05		-1.532E-01	3.210E-01	5.127E-01	4.180E-02	-0.299
		1221.42	*	1.164E-01	1.984E-01	3.442E-01	2.815E-02	0.338
		1230.97		1.452E-01	4.795E-01	8.137E-01	6.660E-02	0.178
RE-184		57.98		1.406E-02	2.010E-01	3.184E-01	2.303E-02	0.044
		59.32		4.114E-02	1.171E-01	1.755E-01	1.262E-02	0.234
		67.20		-2.773E-01	2.240E-01	3.150E-01	2.365E-02	-0.880
		162.32	*	1.354E-01	1.253E-01	2.064E-01	1.643E-02	0.656
	+	208.81		2.467E+00	1.302E+00	1.871E+00	1.550E-01	1.319
RE-184		291.72		3.761E-01	1.037E+00	1.544E+00	1.318E-01	0.244
		57.98		5.095E-02	7.284E-01	1.154E+00	8.345E-02	0.044
		59.32		1.490E-01	4.240E-01	6.356E-01	4.571E-02	0.234
		67.20		-1.005E+00	8.115E-01	1.141E+00	8.566E-02	-0.880
		161.27		8.192E-02	3.936E-01	6.296E-01	5.022E-02	0.130
OS-185		216.55		8.427E-02	2.604E-01	4.432E-01	3.695E-02	0.190
		252.85	*	-2.094E-01	2.220E-01	3.514E-01	2.982E-02	-0.596
		318.01		-2.344E-01	4.264E-01	6.779E-01	5.813E-02	-0.346
		792.07		-5.838E-01	1.094E+00	1.716E+00	1.570E-01	-0.340
		903.28		5.211E-01	1.240E+00	1.824E+00	1.669E-01	0.286
OS-185		920.93		1.163E-01	4.413E-01	7.330E-01	6.691E-02	0.159
		59.72		-1.407E-01	3.231E-01	4.722E-01	3.397E-02	-0.298
		61.14		2.295E-01	1.832E-01	2.804E-01	2.028E-02	0.819
		69.30		3.447E-01	3.296E-01	5.004E-01	3.821E-02	0.689
		592.07		1.401E+00	2.653E+00	4.585E+00	4.111E-01	0.306
RE-188		646.12	*	-1.206E-02	4.145E-02	6.726E-02	5.980E-03	-0.179
		717.42		-2.036E-01	9.205E-01	1.492E+00	1.345E-01	-0.136
		874.81		-5.132E-01	5.988E-01	8.879E-01	8.145E-02	-0.578
		880.27		5.365E-01	7.946E-01	1.369E+00	1.255E-01	0.392
		155.03	*	2.085E-01	1.885E-01	3.116E-01	2.514E-02	0.669
W-188		477.96		1.666E+00	3.358E+00	5.564E+00	4.887E-01	0.299
		633.10		1.807E+00	3.009E+00	5.208E+00	4.645E-01	0.347
	+	63.58		1.131E+03	1.305E+02	1.471E+02	1.078E+01	7.686
		227.08		3.645E+00	1.281E+01	2.172E+01	1.824E+00	0.168
		290.67	*	1.224E+00	8.387E+00	1.231E+01	1.050E+00	0.099
IR-192	+	295.96		9.303E-01	1.985E-01	2.888E-01	2.486E-02	3.221
		308.46		7.955E-03	9.472E-02	1.568E-01	1.351E-02	0.051
		316.51	*	-9.168E-03	3.284E-02	5.313E-02	4.567E-03	-0.173
		468.07		5.766E-02	7.287E-02	1.103E-01	1.032E-02	0.523

---- Non-Identified Nuclides ----

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AU-195	604.41			-2.901E-01	5.545E-01	7.628E-01	1.010E-01	-0.380
	612.46			1.559E+00	9.086E-01	1.484E+00	1.512E-01	1.050
	65.12			7.273E-01	2.008E-01	3.163E-01	2.339E-02	2.299
	66.83			-1.413E-01	1.022E-01	1.428E-01	1.069E-02	-0.990
	75.70		+	1.047E+00	2.663E-01	4.307E-01	3.500E-02	2.431
TL-200	98.88		+	1.042E+00	3.483E-01	4.725E-01	4.202E-02	2.205
	129.76			1.081E+00	3.267E+00	5.296E+00	4.473E-01	0.204
	367.94		*	6.851E-04	3.267E+00	Half-Life	too short	
	579.30			-2.386E-02	3.267E+00	Half-Life	too short	
	828.27			6.791E-03	3.267E+00	Half-Life	too short	
TL-201	1205.75			-2.809E-04	3.267E+00	Half-Life	too short	
	68.90			1.234E+01	9.984E+00	1.523E+01	1.159E+00	0.810
	70.82			1.246E+00	5.767E+00	8.543E+00	6.612E-01	0.146
	80.30			-2.355E+00	1.456E+01	1.670E+01	1.430E+00	-0.141
	135.34			-1.154E+01	5.136E+01	8.144E+01	6.805E+00	-0.142
TL-202	167.43		*	-2.528E+00	1.435E+01	2.254E+01	1.785E+00	-0.112
	68.90			6.783E-01	5.486E-01	8.369E-01	6.368E-02	0.810
	70.82			6.829E-02	3.160E-01	4.682E-01	3.623E-02	0.146
	80.30			-1.291E-01	7.979E-01	9.156E-01	7.839E-02	-0.141
	439.56		*	1.604E-02	8.194E-02	1.339E-01	1.153E-02	0.120
HG-203	70.83			2.595E-01	1.214E+00	1.799E+00	2.350E-01	0.144
	72.87			1.105E+00	7.436E-01	1.122E+00	1.430E-01	0.985
	82.60			2.169E+00	1.456E+00	2.182E+00	3.023E-01	0.994
	279.20		*	1.642E-02	4.345E-02	7.324E-02	6.398E-03	0.224
	72.80			2.888E-01	2.061E-01	3.140E-01	2.476E-02	0.920
BI-207	74.97		+	5.744E-01	1.461E-01	2.126E-01	1.714E-02	2.702
	84.90		+	4.026E-01	2.706E-01	3.703E-01	3.353E-02	1.087
	569.67			-8.230E-05	3.070E-02	5.143E-02	4.612E-03	-0.002
	1063.62		*	9.415E-03	5.242E-02	8.918E-02	7.781E-03	0.106
	1770.23			3.946E-02	5.885E-01	8.551E-01	7.025E-02	0.046
TL-207	81.07			-3.164E-01	3.414E-01	3.749E-01	3.239E-02	-0.844
	83.78		+	2.654E-01	1.784E-01	2.475E-01	2.210E-02	1.072
	94.90		+	9.175E-01	5.818E-01	5.285E-01	4.779E-02	1.736
	122.32			-4.691E-01	1.902E+00	3.029E+00	2.794E-01	-0.155
	144.24		+	1.901E+00	1.002E+00	1.366E+00	1.269E-01	1.392
PO-209	154.21			2.616E-02	4.297E-01	6.848E-01	6.157E-02	0.038
	269.46		+	4.294E-01	3.036E-01	3.408E-01	2.958E-02	1.260
	323.87		*	-1.219E-01	6.468E-01	1.051E+00	1.859E-01	-0.116
	338.28		+	6.568E+00	1.937E+00	2.429E+00	2.981E-01	2.704
	445.03			1.604E+00	2.319E+00	3.900E+00	4.720E-01	0.411
PB-211	260.50			1.091E+01	9.534E+00	1.663E+01	1.413E+00	0.656
	262.80			-4.147E+01	2.676E+01	4.072E+01	3.460E+00	-1.019
	896.60		*	2.485E+00	7.361E+00	1.232E+01	1.128E+00	0.202
	404.84		*	-3.833E-02	9.206E-01	1.488E+00	9.318E-01	-0.026
	427.08			-1.919E+00	2.312E+00	2.970E+00	1.845E+00	-0.646
BI-212	831.96			-6.011E-01	1.277E+00	1.904E+00	1.194E+00	-0.316
	727.18		+	1.541E+00	4.856E-01	6.814E-01	7.067E-02	2.262
	785.46			1.357E+00	1.899E+00	3.271E+00	2.991E-01	0.415
	1620.62			9.562E-01	1.273E+00	2.289E+00	1.913E-01	0.418

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-215		81.07		-3.164E-01	3.414E-01	3.749E-01	3.239E-02	-0.844
	+	83.78		2.654E-01	1.784E-01	2.475E-01	2.210E-02	1.072
	+	94.90		9.175E-01	5.818E-01	5.285E-01	4.779E-02	1.736
		122.32		-4.691E-01	1.902E+00	3.029E+00	2.794E-01	-0.155
	+	144.24		1.901E+00	1.002E+00	1.366E+00	1.269E-01	1.392
		154.21		2.616E-02	4.297E-01	6.848E-01	6.157E-02	0.038
	+	269.46		4.294E-01	3.036E-01	3.408E-01	2.958E-02	1.260
		323.87	*	-1.219E-01	6.468E-01	1.051E+00	1.859E-01	-0.116
	+	338.28		6.568E+00	1.937E+00	2.429E+00	2.981E-01	2.704
		445.03		1.604E+00	2.319E+00	3.900E+00	4.720E-01	0.411
RN-219	+	271.23		5.510E-01	3.906E-01	4.467E-01	4.561E-02	1.233
		401.81	*	3.180E-02	4.073E-01	6.638E-01	9.888E-02	0.048
RN-220		549.76	*	5.376E+00	2.457E+01	4.190E+01	3.751E+00	0.128
RA-223		81.07		-3.164E-01	3.414E-01	3.749E-01	3.239E-02	-0.844
	+	83.78		2.654E-01	1.784E-01	2.475E-01	2.210E-02	1.072
	+	94.90		9.175E-01	5.818E-01	5.285E-01	4.779E-02	1.736
		122.32		-4.691E-01	1.902E+00	3.029E+00	2.794E-01	-0.155
	+	144.24		1.901E+00	1.002E+00	1.366E+00	1.269E-01	1.392
		154.21		2.616E-02	4.297E-01	6.848E-01	6.157E-02	0.038
	+	269.46		4.294E-01	3.036E-01	3.408E-01	2.958E-02	1.260
		323.87	*	-1.219E-01	6.468E-01	1.051E+00	1.859E-01	-0.116
	+	338.28		6.568E+00	1.937E+00	2.429E+00	2.981E-01	2.704
		445.03		1.604E+00	2.319E+00	3.900E+00	4.720E-01	0.411
AC-227		79.80		-3.318E-01	2.142E+00	2.841E+00	6.097E-01	-0.117
		236.00		3.024E-01	2.633E-01	4.076E-01	4.939E-02	0.742
		256.20	*	-6.721E-02	3.829E-01	6.322E-01	9.658E-02	-0.106
		286.10		1.104E-01	1.501E+00	2.493E+00	3.274E-01	0.044
	+	299.80		1.880E+00	1.760E+00	2.687E+00	4.690E-01	0.700
		304.40		6.410E-02	2.094E+00	3.039E+00	5.595E-01	0.021
		334.20		-4.630E-01	2.721E+00	3.862E+00	7.486E-01	-0.120
		79.80		-3.318E-01	2.142E+00	2.841E+00	6.175E-01	-0.117
TH-227	+	94.00		7.340E+00	4.881E+00	7.539E+00	1.656E+00	0.974
		236.00		3.024E-01	2.628E-01	4.076E-01	4.458E-02	0.742
		256.20	*	-6.721E-02	3.829E-01	6.322E-01	1.138E-01	-0.106
		286.10		1.104E-01	1.505E+00	2.493E+00	2.502E+00	0.044
	+	299.80		1.880E+00	1.760E+00	2.687E+00	4.690E-01	0.700
		304.40		6.410E-02	2.094E+00	3.039E+00	5.595E-01	0.021
		334.20		-4.630E-01	2.721E+00	3.862E+00	7.486E-01	-0.120
		283.67	*	-5.955E-02	1.488E+00	2.459E+00	3.718E-01	-0.024
PA-231	+	301.29		7.520E-01	6.975E-01	1.092E+00	1.332E-01	0.689
TH-231		81.07		-3.164E-01	3.414E-01	3.749E-01	3.239E-02	-0.844
	+	83.78		2.654E-01	1.784E-01	2.475E-01	2.210E-02	1.072
	+	94.90		9.175E-01	5.818E-01	5.285E-01	4.779E-02	1.736
		122.32		-4.691E-01	1.902E+00	3.029E+00	2.794E-01	-0.155
	+	144.24		1.901E+00	1.002E+00	1.366E+00	1.269E-01	1.392
		154.21		2.616E-02	4.297E-01	6.848E-01	6.157E-02	0.038
	+	269.46		4.294E-01	3.036E-01	3.408E-01	2.958E-02	1.260
		323.87	*	-1.219E-01	6.468E-01	1.051E+00	1.859E-01	-0.116
	+	338.28		6.568E+00	1.937E+00	2.429E+00	2.981E-01	2.704

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		445.03		1.604E+00	2.319E+00	3.900E+00	4.720E-01	0.411
	+	75.28		1.676E+01	4.765E+00	6.452E+00	9.715E-01	2.598
	+	86.59		5.651E+00	2.569E+00	3.283E+00	8.875E-01	1.721
	+	300.12		5.241E-01	4.882E-01	7.462E-01	1.107E-01	0.702
		311.98	*	-6.934E-03	6.069E-02	9.930E-02	8.757E-03	-0.070
		340.50		2.147E+00	8.911E-01	1.248E+00	2.971E-01	1.721
PA-234		398.62		1.124E+00	2.064E+00	3.432E+00	9.112E-01	0.328
		415.76		4.859E-02	1.641E+00	2.661E+00	5.719E-01	0.018
	+	63.00		3.187E+01	5.512E+00	4.249E+00	6.292E-01	7.501
	+	94.67		6.546E-01	4.192E-01	4.449E-01	5.653E-02	1.471
	+	98.44		4.176E-01	2.692E-01	1.900E-01	1.061E-01	2.198
	+	99.86		2.165E+00	7.235E-01	9.206E-01	8.159E-02	2.351
		111.00		2.378E-01	2.380E-01	3.548E-01	4.296E-02	0.670
		131.20		9.382E-02	1.194E-01	1.962E-01	1.653E-02	0.478
		152.70		1.873E-01	3.466E-01	5.609E-01	9.418E-02	0.334
	+	186.00		1.505E+01	5.298E+00	3.539E+00	1.100E+00	4.254
		226.40		3.922E-03	3.940E-01	6.608E-01	8.628E-02	0.006
		227.20		2.294E-01	4.172E-01	7.146E-01	6.002E-02	0.321
		248.90		6.565E-01	8.099E-01	1.379E+00	3.083E-01	0.476
		293.70		3.977E+00	1.115E+00	1.572E+00	2.713E-01	2.530
		369.80		7.006E-01	8.770E-01	1.476E+00	3.205E-01	0.475
		568.70		-1.943E-01	9.927E-01	1.641E+00	1.472E-01	-0.118
		569.50		-7.309E-04	2.723E-01	4.563E-01	4.092E-02	-0.002
		574.00		7.381E-01	1.481E+00	2.560E+00	2.296E-01	0.288
		699.00		-2.462E-01	7.798E-01	1.258E+00	2.421E-01	-0.196
		706.10		-3.770E-01	1.077E+00	1.710E+00	7.640E-01	-0.220
		733.00		2.476E-02	3.965E-01	5.701E-01	1.275E-01	0.043
	+	742.81		1.957E+00	2.237E+00	2.811E+00	1.891E+00	0.696
		796.30		7.408E-01	9.733E-01	1.651E+00	4.494E-01	0.449
		805.60		2.650E-01	1.034E+00	1.722E+00	5.306E-01	0.154
		819.60		3.287E-01	1.130E+00	1.887E+00	7.200E-01	0.174
		826.30		-1.412E-01	7.988E-01	1.278E+00	5.733E-01	-0.110
		831.60		-3.246E-01	6.238E-01	9.575E-01	2.873E-01	-0.339
		876.40		-5.643E-01	1.022E+00	1.278E+00	1.315E+00	-0.441
		880.51		1.703E-01	2.818E-01	4.826E-01	4.426E-02	0.353
		883.24		-5.829E-02	2.923E-01	4.615E-01	3.106E-01	-0.126
		899.00		-2.534E-01	8.795E-01	1.377E+00	6.036E-01	-0.184
		925.00		4.958E-01	1.113E+00	1.881E+00	1.716E-01	0.264
		926.50		1.869E-02	1.636E-01	2.678E-01	6.816E-02	0.070
		946.00	*	-9.226E-02	2.966E-01	4.632E-01	8.794E-02	-0.199
		949.00		-8.976E-02	4.496E-01	7.118E-01	6.464E-02	-0.126
		980.50		-7.491E-01	7.791E-01	1.130E+00	1.018E-01	-0.663
		1394.10		5.967E-01	1.130E+00	1.875E+00	1.220E+00	0.318
PA-234M		766.42		3.671E+01	2.485E+01	2.754E+01	1.400E+01	1.333
NP-236	+	1001.03	*	3.645E+01	1.014E+01	1.442E+01	1.479E+00	2.528
	+	94.67		4.964E-01	3.148E-01	3.385E-01	3.064E-02	1.467
	+	98.44		3.157E-01	1.055E-01	1.436E-01	1.279E-02	2.198
		111.00		1.799E-01	1.794E-01	2.684E-01	2.321E-02	0.670
		160.31	*	-5.171E-02	8.832E-02	1.366E-01	1.092E-02	-0.378

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		7.215E-01	2.412E-01	3.198E-01	2.837E-02	2.256
		117.00	*	-1.851E-03	2.268E-01	3.255E-01	2.800E-02	-0.006
	+	209.75		1.892E+00	9.986E-01	1.425E+00	1.181E-01	1.328
		228.18		-4.974E-02	2.189E-01	3.632E-01	3.053E-02	-0.137
		277.60		2.507E-01	1.863E-01	3.253E-01	2.761E-02	0.771
AM-241		334.30		-2.693E-01	1.541E+00	2.187E+00	1.874E-01	-0.123
		59.54	*	-7.301E-02	1.664E-01	2.432E-01	1.928E-02	-0.300
CM-243	+	99.55		7.426E-01	2.482E-01	3.292E-01	2.920E-02	2.256
		103.76	*	-2.654E-02	1.026E-01	1.648E-01	1.444E-02	-0.161
		117.00		-1.904E-03	2.334E-01	3.349E-01	2.881E-02	-0.006
	+	209.75		1.865E+00	9.846E-01	1.405E+00	1.165E-01	1.328
		228.18		-5.027E-02	2.213E-01	3.671E-01	3.085E-02	-0.137
AM-246		277.60		2.528E-01	1.878E-01	3.280E-01	2.784E-02	0.771
		798.80		-1.551E-01	1.500E-01	2.236E-01	2.048E-02	-0.693
		1036.00		-3.267E-02	2.917E-01	4.848E-01	4.284E-02	-0.067
		1062.04		-6.382E-04	2.268E-01	3.800E-01	3.318E-02	-0.002
		1078.86	*	1.407E-02	1.329E-01	2.247E-01	1.945E-02	0.063
CM-247		278.00		1.201E+00	7.728E-01	1.358E+00	1.153E-01	0.884
		287.40		-6.128E-02	1.201E+00	1.982E+00	1.688E-01	-0.031
		402.60	*	-6.640E-03	3.670E-02	5.881E-02	4.937E-03	-0.113
CF-249		252.85		-7.765E-01	8.232E-01	1.303E+00	1.106E-01	-0.596
		333.44		-6.422E-02	2.053E-01	2.884E-01	2.471E-02	-0.223
		387.95	*	1.440E-02	3.919E-02	6.515E-02	5.438E-03	0.221
CF-251		176.60	*	7.296E-02	1.231E-01	2.131E-01	1.707E-02	0.342
		227.00		1.063E-01	3.734E-01	6.331E-01	5.317E-02	0.168
		285.00		-2.569E-01	1.712E+00	2.812E+00	2.393E-01	-0.091

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978007
* Acquisition date   : 14-FEB-2010 11:56:47 Detector SN#      :
* Detector ID        : GAM07 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.60 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID         : G245978007 Analyst initials: MXR1
* Batch Number      : 948721 Sample Quantity : 1.3827E+02 GRAM
* Recovery          : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight   : 0.00000
* CALIB. DATE/TIME : 20-JUL-2009 15:29:58 MS Isotope      :
* MSD DPM           : 0.000 MSD Isotope      :
* LCS DPM           : 0.000 LCS Isotope      :
* LCSD DPM          : 0.000 LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.595E+01	2.705E+00	4.756E-01	0.000E+00
CD-109	2.950E+00	1.090E+00	1.628E+00	0.000E+00
SN-126	2.887E-01	1.067E-01	1.542E-01	0.000E+00
BA-137M	1.211E-01	6.879E-02	6.518E-02	0.000E+00
CS-137	1.280E-01	7.272E-02	6.890E-02	0.000E+00
LU-177	3.592E+00	1.858E+00	2.739E+00	0.000E+00
TL-208	5.427E-01	9.005E-02	5.880E-02	0.000E+00
BI-210	2.738E+00	3.189E+00	3.869E+00	0.000E+00
PB-210	2.738E+00	3.189E+00	3.869E+00	0.000E+00
PO-210	2.738E+00	3.187E+00	3.869E+00	0.000E+00
BI-211	4.022E+00	5.445E-01	3.241E-01	0.000E+00
PB-212	1.648E+00	1.902E-01	9.413E-02	0.000E+00
PO-212	1.648E+00	1.902E-01	9.413E-02	0.000E+00
BI-214	1.163E+00	2.133E-01	1.165E-01	0.000E+00
PB-214	1.399E+00	2.025E-01	1.130E-01	0.000E+00
PO-214	1.399E+00	2.025E-01	1.130E-01	0.000E+00
PO-216	1.648E+00	1.902E-01	9.413E-02	0.000E+00
PO-218	1.399E+00	2.025E-01	1.130E-01	0.000E+00
RA-224	3.957E+00	1.241E+00	1.071E+00	0.000E+00
RA-226	1.163E+00	2.133E-01	1.165E-01	0.000E+00
AC-228	1.662E+00	3.561E-01	2.205E-01	0.000E+00
RA-228	1.662E+00	3.561E-01	2.205E-01	0.000E+00
TH-228	1.678E+00	1.936E-01	9.584E-02	0.000E+00
TH-229	-3.247E-01	4.846E-01	8.491E-01	0.000E+00
TH-230	1.163E+00	2.133E-01	1.165E-01	0.000E+00
U-231	7.205E+00	4.478E+00	2.585E+00	0.000E+00
TH-232	1.662E+00	3.561E-01	2.205E-01	0.000E+00
TH-234	2.734E+01	5.240E+00	2.126E+00	0.000E+00
U-234	1.163E+00	2.133E-01	1.165E-01	0.000E+00
U-235	5.865E-01	3.144E-01	3.755E-01	0.000E+00
NP-237	8.477E-01	3.570E-01	4.546E-01	0.000E+00
U-238	2.734E+01	5.240E+00	2.126E+00	0.000E+00
AM-243	3.200E-01	7.976E-02	9.566E-02	0.000E+00
ANH-511	9.038E-02	6.534E-02	4.721E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.178E-01	3.459E-01	5.938E-01	0.000E+00	NOT IDENT.
NA-22	-3.958E-02	4.197E-02	6.409E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.533E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.720E-02	3.109E-02	5.739E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.121E-02	8.282E-02	0.000E+00	FAIL ABUN
SC-46	-6.105E-03	3.864E-02	6.388E-02	0.000E+00	FAIL ABUN
V-48	2.599E-02	8.116E-02	1.389E-01	0.000E+00	NOT IDENT.
CR-51	-1.378E-01	3.802E-01	6.287E-01	0.000E+00	NOT IDENT.
MN-52	1.266E-01	2.771E-01	4.963E-01	0.000E+00	FAIL ABUN
MN-54	8.756E-03	3.736E-02	6.429E-02	0.000E+00	NOT IDENT.
CO-56	1.922E-02	4.231E-02	7.395E-02	0.000E+00	NOT IDENT.
CO-57	-6.667E-03	2.743E-02	4.697E-02	0.000E+00	NOT IDENT.
CO-58	2.372E-03	3.779E-02	6.437E-02	0.000E+00	NOT IDENT.
FE-59	5.402E-02	9.537E-02	1.715E-01	0.000E+00	FAIL ABUN
CO-60	1.283E-03	3.571E-02	6.058E-02	0.000E+00	NOT IDENT.
ZN-65	-2.815E-02	1.049E-01	1.504E-01	0.000E+00	NOT IDENT.
GE-68	-4.252E-01	1.167E+00	1.944E+00	0.000E+00	NOT IDENT.
AS-73	-3.690E-01	6.877E-01	1.221E+00	0.000E+00	NOT IDENT.
AS-74	-9.133E-02	1.029E-01	1.679E-01	0.000E+00	NOT IDENT.
SE-75	-4.518E-02	4.977E-02	7.210E-02	0.000E+00	NOT IDENT.
BR-77	2.410E+00	2.367E+01	4.197E+01	0.000E+00	FAIL ABUN
SR-82	-4.311E-02	4.725E-01	6.879E-01	0.000E+00	NOT IDENT.
RB-83	3.410E-03	6.888E-02	1.217E-01	0.000E+00	NOT IDENT.
RB-84	4.188E-02	7.153E-02	1.265E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.645E+00	1.336E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.040E-02	7.062E-02	0.000E+00	NOT IDENT.
RB-86	-6.723E-02	8.180E-01	1.400E+00	0.000E+00	NOT IDENT.
Y-88	-5.724E-03	2.959E-02	4.827E-02	0.000E+00	NOT IDENT.
ZR-88	-5.561E-03	3.107E-02	5.243E-02	0.000E+00	NOT IDENT.
Y-91	-1.913E+00	1.980E+01	3.351E+01	0.000E+00	NOT IDENT.
NB-94	8.890E-03	3.419E-02	5.972E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	6.191E-02	1.058E-01	0.000E+00	NOT IDENT.
NB-95M	6.517E-02	1.405E-01	2.250E-01	0.000E+00	NOT IDENT.
ZR-95	7.665E-03	7.259E-02	1.248E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.827E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.289E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.747E+00	2.720E+01	4.104E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.263E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.762E-02	3.302E-02	5.962E-02	0.000E+00	NOT IDENT.
RH-102	3.315E-02	2.946E-02	5.306E-02	0.000E+00	FAIL ABUN
RU-103	-1.402E-02	4.617E-02	7.550E-02	0.000E+00	FAIL ABUN
RH-106	2.605E-01	3.145E-01	5.735E-01	0.000E+00	FAIL ABUN
RU-106	2.605E-01	3.134E-01	5.735E-01	0.000E+00	FAIL ABUN
AG-108M	-5.218E-03	3.219E-02	5.386E-02	0.000E+00	NOT IDENT.
AG-110M	3.874E-03	3.884E-02	5.883E-02	0.000E+00	NOT IDENT.
IN-111	-1.098E+00	2.398E+00	3.629E+00	0.000E+00	NOT IDENT.
IN-113M	1.612E-02	4.444E-02	7.753E-02	0.000E+00	NOT IDENT.
SN-113	1.612E-02	4.444E-02	7.753E-02	0.000E+00	NOT IDENT.
IN-114M	7.414E-02	1.935E-01	3.141E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.657E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-4.451E-02	6.713E-02	1.107E-01	0.000E+00	NOT IDENT.
SB-122	1.038E+00	4.449E+00	7.895E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.359E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.135E-02	3.080E-02	5.071E-02	0.000E+00	NOT IDENT.
I-124	1.733E-02	1.205E+00	1.825E+00	0.000E+00	NOT IDENT.
SB-124	-1.577E-02	5.203E-02	7.842E-02	0.000E+00	FAIL ABUN
SB-125	-9.936E-02	8.725E-02	1.348E-01	0.000E+00	FAIL ABUN
TE-125M	5.041E+00	1.148E+01	1.813E+01	0.000E+00	NOT IDENT.
I-126	1.692E-01	2.392E-01	3.826E-01	0.000E+00	NOT IDENT.
SB-126	1.387E-01	1.759E-01	2.942E-01	0.000E+00	FAIL ABUN
SB-127	7.634E-01	2.243E+00	3.953E+00	0.000E+00	NOT IDENT.
XE-127	-1.364E-02	4.937E-02	8.767E-02	0.000E+00	FAIL ABUN
I-131	-1.609E-02	1.402E-01	2.390E-01	0.000E+00	NOT IDENT.
TE-132	-2.830E-01	1.211E+00	2.133E+00	0.000E+00	FAIL ABUN
BA-133	-7.595E-04	4.790E-02	7.127E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.004E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	2.834E-02	4.860E-02	8.591E-02	0.000E+00	NOT IDENT.
CS-135	1.387E-01	1.728E-01	2.798E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.037E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.339E-02	1.155E-01	1.976E-01	0.000E+00	FAIL ABUN
CE-139	-1.684E-02	3.236E-02	5.354E-02	0.000E+00	NOT IDENT.

BA-140	-8.581E-02	2.813E-01	4.813E-01	0.000E+00	NOT IDENT.
LA-140	6.601E-02	1.042E-01	1.684E-01	0.000E+00	NOT IDENT.
CE-141	0.000E+00	8.111E-02	1.317E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	8.100E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.074E-01	2.197E-01	3.695E-01	0.000E+00	NOT IDENT.
PM-144	6.976E-03	3.671E-02	6.384E-02	0.000E+00	NOT IDENT.
PR-144	4.734E-01	2.491E+00	4.333E+00	0.000E+00	NOT IDENT.
PM-146	4.072E-02	4.115E-02	7.388E-02	0.000E+00	NOT IDENT.
ND-147	3.740E-01	6.545E-01	1.189E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.187E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.635E-02	1.092E-01	1.632E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.169E-01	1.663E-01	0.000E+00	FAIL ABUN
EU-154	-1.087E-01	1.163E-01	1.772E-01	0.000E+00	NOT IDENT.
EU-155	8.315E-02	1.116E-01	1.991E-01	0.000E+00	FAIL ABUN
TB-160	1.552E-01	1.400E-01	2.573E-01	0.000E+00	FAIL ABUN
HO-166M	-1.490E-02	5.926E-02	9.960E-02	0.000E+00	NOT IDENT.
TM-171	-4.408E+01	3.000E+01	4.543E+01	0.000E+00	NOT IDENT.
LU-176	-3.495E-03	2.371E-02	4.096E-02	0.000E+00	FAIL ABUN
LU-177M	-2.599E-01	1.838E-01	2.817E-01	0.000E+00	NOT IDENT.
HF-181	1.227E-02	4.271E-02	7.314E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	4.109E-01	6.987E-01	0.000E+00	NOT IDENT.
TA-182	1.164E-01	1.944E-01	3.466E-01	0.000E+00	FAIL ABUN
RE-183	1.354E-01	1.228E-01	2.162E-01	0.000E+00	FAIL ABUN
RE-184	-2.094E-01	2.175E-01	3.650E-01	0.000E+00	NOT IDENT.
OS-185	-1.206E-02	4.062E-02	6.860E-02	0.000E+00	NOT IDENT.
RE-188	2.085E-01	1.847E-01	3.267E-01	0.000E+00	NOT IDENT.
W-188	1.224E+00	8.220E+00	1.275E+01	0.000E+00	FAIL ABUN
IR-192	-9.168E-03	3.218E-02	5.495E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.413E-01	4.995E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.881E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.528E+00	1.406E+01	2.359E+01	0.000E+00	NOT IDENT.
TL-202	1.604E-02	8.031E-02	1.376E-01	0.000E+00	NOT IDENT.
HG-203	1.642E-02	4.258E-02	7.593E-02	0.000E+00	NOT IDENT.
BI-207	9.415E-03	5.137E-02	9.005E-02	0.000E+00	FAIL ABUN
TL-207	-1.219E-01	6.338E-01	1.087E+00	0.000E+00	FAIL ABUN
PO-209	2.485E+00	7.214E+00	1.248E+01	0.000E+00	NOT IDENT.
PB-211	-3.833E-02	9.022E-01	1.531E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.759E-01	6.933E-01	0.000E+00	FAIL ABUN
PO-215	-1.219E-01	6.338E-01	1.087E+00	0.000E+00	FAIL ABUN
RN-219	3.180E-02	3.991E-01	6.834E-01	0.000E+00	FAIL ABUN
RN-220	5.376E+00	2.408E+01	4.287E+01	0.000E+00	NOT IDENT.
RA-223	-1.219E-01	6.338E-01	1.087E+00	0.000E+00	FAIL ABUN
AC-227	-6.721E-02	3.752E-01	6.566E-01	0.000E+00	FAIL ABUN
TH-227	-6.721E-02	3.752E-01	6.566E-01	0.000E+00	FAIL ABUN
PA-231	-5.955E-02	1.458E+00	2.548E+00	0.000E+00	FAIL ABUN
TH-231	-1.219E-01	6.338E-01	1.087E+00	0.000E+00	FAIL ABUN
PA-233	-6.934E-03	5.948E-02	1.027E-01	0.000E+00	FAIL ABUN
PA-234	-9.226E-02	2.907E-01	4.689E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	9.939E+00	1.458E+01	0.000E+00	FAIL ABUN
NP-236	-5.171E-02	8.656E-02	1.432E-01	0.000E+00	FAIL ABUN
NP-239	-1.851E-03	2.223E-01	3.430E-01	0.000E+00	FAIL ABUN
AM-241	-7.301E-02	1.631E-01	2.595E-01	0.000E+00	NOT IDENT.
CM-243	-2.654E-02	1.006E-01	1.740E-01	0.000E+00	FAIL ABUN
AM-246	1.407E-02	1.303E-01	2.268E-01	0.000E+00	NOT IDENT.
CM-247	-6.640E-03	3.597E-02	6.054E-02	0.000E+00	NOT IDENT.
CF-249	1.440E-02	3.841E-02	6.712E-02	0.000E+00	NOT IDENT.
CF-251	7.296E-02	1.206E-01	2.228E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978007.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 11:56:47
Sample ID          : G245978007 Sample quantity : 1.38270E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.60 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 948721 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1152	10.67*	1.129E+00	2.595E+01	2.595E+01	10.64
CD-109	88.03	269	3.72*	6.840E+00	2.871E+00	2.950E+00	37.70
SN-126	64.28	1838	9.60	4.803E+00	1.082E+01	1.082E+01	17.01
	86.94	269	8.90	6.840E+00	1.200E+00	1.200E+00	55.30
	87.57	269	37.00*	6.840E+00	2.887E-01	2.887E-01	37.70
BA-137M	661.65	89	89.98*	2.231E+00	1.209E-01	1.211E-01	57.97
CS-137	661.65	89	85.12*	2.231E+00	1.278E-01	1.280E-01	57.98
LU-177	112.95	163	6.40	7.166E+00	9.632E-01	6.209E+00	66.32
	208.36	121	11.00*	5.377E+00	5.572E-01	3.592E+00	52.79
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	92	21.60	2.755E+00	4.184E-01	4.184E-01	74.25
	583.14	417	84.20*	2.476E+00	5.427E-01	5.427E-01	16.93
	860.37	66	12.46	1.781E+00	8.093E-01	8.093E-01	62.88
BI-210	46.50	82	4.05*	2.018E+00	2.734E+00	2.738E+00	118.87
PB-210	46.50	82	4.05*	2.018E+00	2.734E+00	2.738E+00	118.87
PO-210	46.50	82	4.05*	2.018E+00	2.734E+00	2.738E+00	118.80
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	705	12.94*	3.680E+00	4.022E+00	4.022E+00	13.81
PB-212	74.81	473	10.70	6.076E+00	1.974E+00	1.974E+00	27.10
	77.11	889	18.00	6.258E+00	2.142E+00	2.142E+00	15.80
	87.30	269	8.00	6.840E+00	1.335E+00	1.335E+00	39.01
	238.63	1329	44.60*	4.909E+00	1.648E+00	1.648E+00	11.77
	300.09	53	3.41	4.146E+00	1.014E+00	1.014E+00	92.54
PO-212	74.81	473	10.70	6.076E+00	1.974E+00	1.974E+00	27.10
	77.11	889	18.00	6.258E+00	2.142E+00	2.142E+00	15.80
	87.30	269	8.00	6.840E+00	1.335E+00	1.335E+00	39.01
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1329	44.60*	4.909E+00	1.648E+00	1.648E+00	11.77
	300.09	53	3.41	4.146E+00	1.014E+00	1.014E+00	92.54
BI-214	609.31	474	46.30*	2.389E+00	1.163E+00	1.163E+00	18.72
	1120.29	88	15.10	1.413E+00	1.114E+00	1.114E+00	45.57
	1764.49	100	15.80	9.831E-01	1.752E+00	1.752E+00	24.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	74.81	473	6.21	6.076E+00	3.401E+00	3.401E+00	26.49
	77.11	889	10.50	6.258E+00	3.671E+00	3.672E+00	17.54
	87.30	269	4.67	6.840E+00	2.287E+00	2.287E+00	38.48
	241.98	280	7.49	4.866E+00	2.087E+00	2.087E+00	32.50
	295.21	353	19.20	4.201E+00	1.188E+00	1.188E+00	22.21
	351.92	705	37.20*	3.680E+00	1.399E+00	1.399E+00	14.77
PO-214	74.81	473	6.21	6.076E+00	3.401E+00	3.401E+00	26.49
	77.11	889	10.50	6.258E+00	3.671E+00	3.672E+00	17.54
	87.30	269	4.67	6.840E+00	2.287E+00	2.287E+00	38.48
	241.98	280	7.49	4.866E+00	2.087E+00	2.087E+00	32.50
	295.21	353	19.20	4.201E+00	1.188E+00	1.188E+00	22.21
	351.92	705	37.20*	3.680E+00	1.399E+00	1.399E+00	14.77
PO-216	74.81	473	10.70	6.076E+00	1.974E+00	1.974E+00	27.10
	77.11	889	18.00	6.258E+00	2.142E+00	2.142E+00	15.80
	87.30	269	8.00	6.840E+00	1.335E+00	1.335E+00	39.01
	238.63	1329	44.60*	4.909E+00	1.648E+00	1.648E+00	11.77
	300.09	53	3.41	4.146E+00	1.014E+00	1.014E+00	92.54
	74.81	473	6.21	6.076E+00	3.401E+00	3.401E+00	26.49
PO-218	77.11	889	10.50	6.258E+00	3.671E+00	3.672E+00	17.54
	87.30	269	4.67	6.840E+00	2.287E+00	2.287E+00	38.48
	241.98	280	7.49	4.866E+00	2.087E+00	2.087E+00	32.50
	295.21	353	19.20	4.201E+00	1.188E+00	1.188E+00	22.21
	351.92	705	37.20*	3.680E+00	1.399E+00	1.399E+00	14.77
	240.98	280	3.95*	4.866E+00	3.957E+00	3.957E+00	32.02
RA-226	609.31	474	46.30*	2.389E+00	1.163E+00	1.163E+00	18.72
AC-228	1120.29	88	15.10	1.413E+00	1.114E+00	1.114E+00	45.57
	1764.49	100	15.80	9.831E-01	1.752E+00	1.752E+00	24.19
	338.32	251	11.40	3.793E+00	1.573E+00	1.573E+00	49.20
	911.07	288	27.70*	1.695E+00	1.662E+00	1.662E+00	21.86
	969.11	146	16.60	1.606E+00	1.482E+00	1.482E+00	38.05
	338.32	251	11.40	3.793E+00	1.573E+00	1.573E+00	49.20
RA-228	911.07	288	27.70*	1.695E+00	1.662E+00	1.662E+00	21.86
	969.11	146	16.60	1.606E+00	1.482E+00	1.482E+00	38.05
	74.81	473	10.70	6.076E+00	1.974E+00	2.009E+00	25.46
	77.11	889	18.00	6.258E+00	2.142E+00	2.180E+00	15.80
	87.30	269	8.00	6.840E+00	1.335E+00	1.359E+00	37.70
	238.63	1329	44.60*	4.909E+00	1.648E+00	1.678E+00	11.77
TH-228	300.09	53	3.41	4.146E+00	1.014E+00	1.033E+00	109.40
	85.43	162	16.50	6.698E+00	3.973E-01	3.973E-01	67.23
	88.47	269	27.10	6.840E+00	3.941E-01	3.941E-01	37.70
	100.00	279	12.40	7.131E+00	8.554E-01	8.554E-01	33.43
	193.63	-----	4.59*	5.666E+00	-----	Line Not Found	-----
	210.97	121	3.26	5.377E+00	1.878E+00	1.878E+00	52.79
TH-230	609.31	474	46.30*	2.389E+00	1.163E+00	1.163E+00	18.72
	1120.29	88	15.10	1.413E+00	1.114E+00	1.114E+00	45.57
	1764.49	100	15.80	9.831E-01	1.752E+00	1.752E+00	24.19
	84.21	162	7.00	6.698E+00	9.365E-01	1.838E+01	67.23
	92.29	4021	17.30	7.015E+00	8.996E+00	1.766E+02	9.97
	95.87	267	28.00*	7.063E+00	3.670E-01	7.205E+00	63.41

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	108.00	-----	13.10	7.185E+00	-----	Line Not Found	-----
TH-232	338.32	251	11.40	3.793E+00	1.573E+00	1.573E+00	28.16
	911.07	288	27.70*	1.695E+00	1.662E+00	1.662E+00	21.86
	969.11	146	16.60	1.606E+00	1.482E+00	1.482E+00	38.05
TH-234	63.29	1838	3.80*	4.803E+00	2.734E+01	2.734E+01	19.56
	92.38	4021	5.41	7.015E+00	2.877E+01	2.877E+01	18.76
U-234	609.31	474	46.30*	2.389E+00	1.163E+00	1.163E+00	18.72
	1120.29	88	15.10	1.413E+00	1.114E+00	1.114E+00	45.57
	1764.49	100	15.80	9.831E-01	1.752E+00	1.752E+00	24.19
U-235	89.95	249	2.70	6.939E+00	3.614E+00	3.614E+00	41.71
	93.35	4021	4.50	7.015E+00	3.458E+01	3.458E+01	28.47
	105.00	-----	2.10	7.182E+00	-----	Line Not Found	-----
	143.76	152	10.50*	6.690E+00	5.865E-01	5.865E-01	54.70
	163.35	-----	4.70	6.279E+00	-----	Line Not Found	-----
	185.71	645	54.00	5.814E+00	5.576E-01	5.576E-01	18.39
	205.31	-----	4.70	5.451E+00	-----	Line Not Found	-----
NP-237	86.50	269	12.60*	6.840E+00	8.477E-01	8.477E-01	42.98
	95.87	267	2.60	7.063E+00	3.952E+00	3.952E+00	67.48
U-238	63.29	1838	3.80*	4.803E+00	2.734E+01	2.734E+01	19.56
	92.38	4021	5.41	7.015E+00	2.877E+01	2.877E+01	9.97
AM-243	74.67	473	66.00*	6.076E+00	3.200E-01	3.200E-01	25.44
	86.72	269	0.34	6.840E+00	3.179E+01	3.179E+01	37.70
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	92	100.00*	2.755E+00	9.038E-02	9.038E-02	73.78

Flag: "*" = Keyline

Total number of lines in spectrum 37
Number of unidentified lines 1
Number of lines tentatively identified by NID 36 97.30%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.595E+01	2.595E+01	0.276E+01	10.64	
CD-109	464.00D	1.03	2.871E+00	2.950E+00	1.112E+00	37.70	
SN-126	1.00E+05Y	1.00	2.887E-01	2.887E-01	1.088E-01	37.70	
BA-137M	30.17Y	1.00	1.209E-01	1.211E-01	0.702E-01	57.97	
CS-137	30.17Y	1.00	1.278E-01	1.280E-01	0.742E-01	57.98	
LU-177	6.71D	6.45	5.572E-01	3.592E+00	1.896E+00	52.79	
TL-208	1.41E+10Y	1.00	5.427E-01	5.427E-01	0.919E-01	16.93	
BI-210	22.26Y	1.00	2.734E+00	2.738E+00	3.254E+00	118.87	
PB-210	22.26Y	1.00	2.734E+00	2.738E+00	3.254E+00	118.87	
PO-210	22.26Y	1.00	2.734E+00	2.738E+00	3.252E+00	118.80	
BI-211	7.04E+08Y	1.00	4.022E+00	4.022E+00	0.556E+00	13.81	
PB-212	1.41E+10Y	1.00	1.648E+00	1.648E+00	0.194E+00	11.77	
PO-212	1.41E+10Y	1.00	1.648E+00	1.648E+00	0.194E+00	11.77	
BI-214	1600.00Y	1.00	1.163E+00	1.163E+00	0.218E+00	18.72	
PB-214	1600.00Y	1.00	1.399E+00	1.399E+00	0.207E+00	14.77	
PO-214	1600.00Y	1.00	1.399E+00	1.399E+00	0.207E+00	14.77	
PO-216	1.41E+10Y	1.00	1.648E+00	1.648E+00	0.194E+00	11.77	
PO-218	1600.00Y	1.00	1.399E+00	1.399E+00	0.207E+00	14.77	
RA-224	1.41E+10Y	1.00	3.957E+00	3.957E+00	1.267E+00	32.02	
RA-226	1600.00Y	1.00	1.163E+00	1.163E+00	0.218E+00	18.72	
AC-228	1.41E+10Y	1.00	1.662E+00	1.662E+00	0.363E+00	21.86	
RA-228	1.41E+10Y	1.00	1.662E+00	1.662E+00	0.363E+00	21.86	
TH-228	1.91Y	1.02	1.648E+00	1.678E+00	0.198E+00	11.77	
TH-229	7340.00Y	1.00	3.941E-01	3.941E-01	1.486E-01	37.70	K
TH-230	4.47E+09Y	1.00	1.163E+00	1.163E+00	0.218E+00	18.72	
U-231	4.20D	19.6	3.670E-01	7.205E+00	4.569E+00	63.41	
TH-232	1.41E+10Y	1.00	1.662E+00	1.662E+00	0.363E+00	21.86	
TH-234	4.47E+09Y	1.00	2.734E+01	2.734E+01	0.535E+01	19.56	
U-234	4.47E+09Y	1.00	1.163E+00	1.163E+00	0.218E+00	18.72	
U-235	7.04E+08Y	1.00	5.865E-01	5.865E-01	3.208E-01	54.70	
NP-237	2.14E+06Y	1.00	8.477E-01	8.477E-01	3.643E-01	42.98	
U-238	4.47E+09Y	1.00	2.734E+01	2.734E+01	0.535E+01	19.56	
AM-243	7380.00Y	1.00	3.200E-01	3.200E-01	0.814E-01	25.44	
ANH-511	1.00E+09Y	1.00	9.038E-02	9.038E-02	6.668E-02	73.78	

Total Activity : 1.244E+02 1.343E+02

Grand Total Activity : 1.244E+02 1.343E+02

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978007

Page : 5
Acquisition date : 14-FEB-2010 11:56:47

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	270.40	96	278	2.05	540.39	534	11	1.34E-02	70.2	4.48E+00	T
0	463.21	71	138	1.68	925.94	919	12	9.90E-03	70.0	2.98E+00	T
0	727.58	138	63	1.95	1454.60	1448	14	1.92E-02	29.8	2.06E+00	T
0	744.13	35	69	2.56	1487.70	1482	9	4.86E-03	92.4	2.02E+00	T
0	768.18	135	149	2.35	1535.79	1528	21	1.87E-02	49.2	1.97E+00	T
0	1001.42	176	75	1.59	2002.23	1996	15	2.44E-02	25.9	1.56E+00	T
0	1589.65	57	20	4.80	3178.58	3168	21	7.91E-03	48.0	1.06E+00	

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978007.CNF;1
* Acquisition date   : 14-FEB-2010 11:56:47   Detector SN#      :
* Detector ID        : GAM07                   Sensitivity       : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.60           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 27-JAN-2010 12:00:00   Nuclide Library  : SOLID
* Sample ID          : G245978007             Analyst initials: MXR1
* Batch Number       : 948721                 Sample Quantity  : 1.38270E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58.0MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                  LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.595E+01	2.760E+00	4.741E-01	4.071E-02	54.736
CD-109	2.950E+00	1.112E+00	1.537E+00	1.447E-01	1.920
SN-126	2.887E-01	1.088E-01	1.455E-01	1.364E-02	1.984
BA-137M	1.211E-01	7.019E-02	6.394E-02	5.658E-03	1.894
CS-137	1.280E-01	7.420E-02	6.759E-02	5.992E-03	1.894
LU-177	3.592E+00	1.896E+00	2.627E+00	2.176E-01	1.367
TL-208	5.427E-01	9.189E-02	5.753E-02	5.503E-03	9.434
BI-210	2.738E+00	3.254E+00	3.610E+00	3.386E-01	0.758
PB-210	2.738E+00	3.254E+00	3.610E+00	3.386E-01	0.758
PO-210	2.738E+00	3.252E+00	3.610E+00	3.071E-01	0.758
BI-211	4.022E+00	5.556E-01	3.140E-01	2.817E-02	12.808
PB-212	1.648E+00	1.940E-01	9.052E-02	8.658E-03	18.210
PO-212	1.648E+00	1.940E-01	9.052E-02	8.658E-03	18.210
BI-214	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
PB-214	1.399E+00	2.066E-01	1.095E-01	1.136E-02	12.781
PO-214	1.399E+00	2.066E-01	1.095E-01	1.136E-02	12.781
PO-216	1.648E+00	1.940E-01	9.052E-02	8.658E-03	18.210
PO-218	1.399E+00	2.066E-01	1.095E-01	1.136E-02	12.781

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	3.957E+00	1.267E+00	1.030E+00	8.714E-02	3.840
RA-226	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
AC-228	1.662E+00	3.634E-01	2.177E-01	2.536E-02	7.634
RA-228	1.662E+00	3.634E-01	2.177E-01	2.536E-02	7.634
TH-228	1.678E+00	1.976E-01	9.216E-02	8.815E-03	18.210
TH-229	3.941E-01	1.486E-01	8.133E-01	6.642E-02	0.485
TH-230	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
U-231	7.205E+00	4.569E+00	2.444E+00	2.200E-01	2.948
TH-232	1.662E+00	3.634E-01	2.177E-01	2.536E-02	7.634
TH-234	2.734E+01	5.347E+00	1.994E+00	3.470E-01	13.710
U-234	1.163E+00	2.177E-01	1.141E-01	1.180E-02	10.193
U-235	5.865E-01	3.208E-01	3.576E-01	6.194E-02	1.640
NP-237	8.477E-01	3.643E-01	4.289E-01	9.698E-02	1.976
U-238	2.734E+01	5.347E+00	1.994E+00	3.470E-01	13.710
AM-243	3.200E-01	8.139E-02	9.002E-02	7.236E-03	3.554
ANH-511	9.038E-02	6.668E-02	4.607E-02	4.094E-03	1.962

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.178E-01		3.529E-01	5.787E-01	5.462E-02	0.204
NA-22	-3.958E-02		4.283E-02	6.370E-02	5.229E-03	-0.621
NA-24	-8.256E-01		7.823E+00	Half-Life too short		
AL-26	1.720E-02		3.172E-02	5.746E-02	4.686E-03	0.299
TI-44	3.953E-01	+	6.246E-02	7.800E-02	6.530E-03	5.067
SC-46	-6.105E-03		3.943E-02	6.303E-02	5.776E-03	-0.097
V-48	2.599E-02		8.282E-02	1.374E-01	1.237E-02	0.189
CR-51	-1.378E-01		3.880E-01	6.080E-01	5.495E-02	-0.227
MN-52	1.266E-01		2.828E-01	4.945E-01	4.112E-02	0.256
MN-54	8.756E-03		3.813E-02	6.336E-02	5.816E-03	0.138
CO-56	1.922E-02		4.318E-02	7.290E-02	6.692E-03	0.264
CO-57	-6.667E-03		2.799E-02	4.460E-02	3.838E-03	-0.149
CO-58	2.372E-03		3.856E-02	6.340E-02	5.825E-03	0.037
FE-59	5.402E-02		9.731E-02	1.700E-01	1.575E-02	0.318
CO-60	1.283E-03		3.644E-02	6.027E-02	4.937E-03	0.021
ZN-65	-2.815E-02		1.070E-01	1.491E-01	1.265E-02	-0.189
GE-68	-4.252E-01		1.190E+00	1.925E+00	1.668E-01	-0.221
AS-73	-3.690E-01		7.018E-01	1.142E+00	8.573E-02	-0.323
AS-74	-9.133E-02		1.050E-01	1.643E-01	1.473E-02	-0.556
SE-75	-4.518E-02		5.078E-02	6.947E-02	5.932E-03	-0.650
BR-77	2.410E+00		2.416E+01	4.097E+01	3.649E+00	0.059
SR-82	-4.311E-02		4.821E-01	6.770E-01	6.182E-02	-0.064
RB-83	3.410E-03		7.028E-02	1.188E-01	1.058E-02	0.029
RB-84	4.188E-02		7.299E-02	1.248E-01	1.144E-02	0.336
KR-85	1.412E+01		7.801E+00	1.304E+01	1.160E+00	1.083
SR-85	7.464E-02		4.123E-02	6.893E-02	6.129E-03	1.083
RB-86	-6.723E-02		8.347E-01	1.387E+00	1.202E-01	-0.048

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-88	-5.724E-03		3.019E-02	4.834E-02	3.923E-03	-0.118
ZR-88	-5.561E-03		3.171E-02	5.091E-02	4.240E-03	-0.109
Y-91	-1.913E+00		2.020E+01	3.327E+01	2.717E+00	-0.057
NB-94	8.890E-03		3.489E-02	5.866E-02	5.267E-03	0.152
NB-95	1.359E-01		6.317E-02	1.041E-01	9.490E-03	1.305
NB-95M	6.517E-02		1.434E-01	2.163E-01	2.100E-02	0.301
ZR-95	7.665E-03		7.407E-02	1.227E-01	1.219E-02	0.062
NB-97	1.256E-01		9.323E-01	Half-Life too short		
ZR-97	2.691E+01		1.678E+01	Half-Life too short		
MO-99	4.747E+00		2.776E+01	4.035E+01	6.231E+00	0.118
TC-99M	-4.233E+13		6.446E+13	Half-Life too short		
RH-101	1.762E-02		3.370E-02	5.713E-02	4.686E-03	0.309
RH-102	3.315E-02		3.006E-02	5.171E-02	4.537E-03	0.641
RU-103	-1.402E-02		4.711E-02	7.365E-02	1.053E-02	-0.190
RH-106	2.605E-01		3.209E-01	5.619E-01	7.622E-02	0.464
RU-106	2.605E-01		3.198E-01	5.619E-01	5.022E-02	0.464
AG-108M	-5.218E-03		3.285E-02	5.240E-02	4.678E-03	-0.100
AG-110M	3.874E-03		3.963E-02	5.770E-02	5.257E-03	0.067
IN-111	-1.098E+00		2.447E+00	3.492E+00	2.958E-01	-0.314
IN-113M	1.612E-02		4.535E-02	7.528E-02	6.471E-03	0.214
SN-113	1.612E-02		4.535E-02	7.528E-02	6.471E-03	0.214
IN-114M	7.414E-02		1.974E-01	3.007E-01	2.447E-02	0.247
CD-115	6.790E-06		1.356E-05	Half-Life too short		
SN-117M	-4.451E-02		6.850E-02	1.056E-01	8.470E-03	-0.421
SB-122	1.038E+00		4.540E+00	7.720E+00	6.921E-01	0.134
I-123	-1.635E+02		1.203E+02	Half-Life too short		
TE-123M	-2.135E-02		3.143E-02	4.839E-02	3.904E-03	-0.441
I-124	1.733E-02		1.230E+00	1.787E+00	1.601E-01	0.010
SB-124	-1.577E-02		5.309E-02	7.840E-02	6.791E-03	-0.201
SB-125	-9.936E-02		8.903E-02	1.311E-01	1.143E-02	-0.758
TE-125M	5.041E+00		1.171E+01	1.718E+01	1.783E+00	0.293
I-126	1.692E-01		2.440E-01	3.754E-01	3.328E-02	0.451
SB-126	1.387E-01		1.795E-01	2.891E-01	2.609E-02	0.480
SB-127	7.634E-01		2.289E+00	3.880E+00	4.845E-01	0.197
XE-127	-1.364E-02		5.038E-02	8.405E-02	6.927E-03	-0.162
I-131	-1.609E-02		1.430E-01	2.317E-01	2.080E-02	-0.069
TE-132	-2.830E-01		1.236E+00	2.049E+00	3.313E-01	-0.138
BA-133	-7.595E-04		4.888E-02	6.907E-02	9.071E-03	-0.011
I-133	3.510E-02		3.063E-02	Half-Life too short		
CS-134	2.834E-02		4.959E-02	8.458E-02	7.793E-03	0.335
CS-135	1.387E-01		1.763E-01	2.697E-01	2.659E-02	0.514
I-135	2.326E+12		4.101E+12	Half-Life too short		
CS-136	-1.339E-02		1.179E-01	1.956E-01	1.790E-02	-0.068
CE-139	-1.684E-02		3.302E-02	5.114E-02	4.045E-03	-0.329
BA-140	-8.581E-02		2.870E-01	4.702E-01	1.562E-01	-0.182
LA-140	6.601E-02		1.063E-01	1.682E-01	1.407E-02	0.392
CE-141	1.323E-01		8.276E-02	1.255E-01	1.050E-02	1.054
CE-143	2.073E-03		4.133E-04	Half-Life too short		

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144	-1.074E-01		2.242E-01	3.515E-01	5.426E-02	-0.306
PM-144	6.976E-03		3.745E-02	6.269E-02	5.620E-03	0.111
PR-144	4.734E-01		2.542E+00	4.255E+00	3.813E-01	0.111
PM-146	4.072E-02		4.199E-02	7.194E-02	7.751E-03	0.566
ND-147	3.740E-01		6.679E-01	1.161E+00	1.757E-01	0.322
PM-149	-4.200E-05		1.116E-04	Half-Life	too short	
EU-152	-1.635E-02		1.115E-01	1.580E-01	1.432E-02	-0.103
GD-153	3.569E-01	+	1.193E-01	1.573E-01	1.406E-02	2.269
EU-154	-1.087E-01		1.187E-01	1.761E-01	1.936E-02	-0.617
EU-155	8.315E-02		1.139E-01	1.885E-01	1.666E-02	0.441
TB-160	1.552E-01		1.428E-01	2.538E-01	2.328E-02	0.611
HO-166M	-1.490E-02		6.047E-02	9.784E-02	8.809E-03	-0.152
TM-171	-4.408E+01		3.061E+01	4.266E+01	3.191E+00	-1.033
LU-176	-3.495E-03		2.420E-02	3.958E-02	3.390E-03	-0.088
LU-177M	-2.599E-01		1.875E-01	2.737E-01	2.318E-02	-0.950
HF-181	1.227E-02		4.358E-02	7.130E-02	6.273E-03	0.172
W-181	1.131E+00		4.193E-01	6.559E-01	4.853E-02	1.724
TA-182	1.164E-01		1.984E-01	3.442E-01	2.815E-02	0.338
RE-183	1.354E-01		1.253E-01	2.064E-01	1.643E-02	0.656
RE-184	-2.094E-01		2.220E-01	3.514E-01	2.982E-02	-0.596
OS-185	-1.206E-02		4.145E-02	6.726E-02	5.980E-03	-0.179
RE-188	2.085E-01		1.885E-01	3.116E-01	2.514E-02	0.669
W-188	1.224E+00		8.387E+00	1.231E+01	1.050E+00	0.099
IR-192	-9.168E-03		3.284E-02	5.313E-02	4.567E-03	-0.173
AU-195	1.042E+00	+	3.483E-01	4.725E-01	4.202E-02	2.205
TL-200	6.851E-04		1.470E-03	Half-Life	too short	
TL-201	-2.528E+00		1.435E+01	2.254E+01	1.785E+00	-0.112
TL-202	1.604E-02		8.194E-02	1.339E-01	1.153E-02	0.120
HG-203	1.642E-02		4.345E-02	7.324E-02	6.398E-03	0.224
BI-207	9.415E-03		5.242E-02	8.918E-02	7.781E-03	0.106
TL-207	-1.219E-01		6.468E-01	1.051E+00	1.859E-01	-0.116
PO-209	2.485E+00		7.361E+00	1.232E+01	1.128E+00	0.202
PB-211	-3.833E-02		9.206E-01	1.488E+00	9.318E-01	-0.026
BI-212	1.541E+00	+	4.856E-01	6.814E-01	7.067E-02	2.262
PO-215	-1.219E-01		6.468E-01	1.051E+00	1.859E-01	-0.116
RN-219	3.180E-02		4.073E-01	6.638E-01	9.888E-02	0.048
RN-220	5.376E+00		2.457E+01	4.190E+01	3.751E+00	0.128
RA-223	-1.219E-01		6.468E-01	1.051E+00	1.859E-01	-0.116
AC-227	-6.721E-02		3.829E-01	6.322E-01	9.658E-02	-0.106
TH-227	-6.721E-02		3.829E-01	6.322E-01	1.138E-01	-0.106
PA-231	-5.955E-02		1.488E+00	2.459E+00	3.718E-01	-0.024
TH-231	-1.219E-01		6.468E-01	1.051E+00	1.859E-01	-0.116
PA-233	-6.934E-03		6.069E-02	9.930E-02	8.757E-03	-0.070
PA-234	-9.226E-02		2.966E-01	4.632E-01	8.794E-02	-0.199
PA-234M	3.645E+01	+	1.014E+01	1.442E+01	1.479E+00	2.528
NP-236	-5.171E-02		8.832E-02	1.366E-01	1.092E-02	-0.378
NP-239	-1.851E-03		2.268E-01	3.255E-01	2.800E-02	-0.006
AM-241	-7.301E-02		1.664E-01	2.432E-01	1.928E-02	-0.300

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.654E-02		1.026E-01	1.648E-01	1.444E-02	-0.161
AM-246	1.407E-02		1.329E-01	2.247E-01	1.945E-02	0.063
CM-247	-6.640E-03		3.670E-02	5.881E-02	4.937E-03	-0.113
CF-249	1.440E-02		3.919E-02	6.515E-02	5.438E-03	0.221
CF-251	7.296E-02		1.231E-01	2.131E-01	1.707E-02	0.342

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978007          *
* Acquisition date   : 14-FEB-2010 11:56:47 Detector SN#      :             *
* Detector ID        : GAM07 Sensitivity      : 5.000           *
* Geometry           : CAN Energy tolerance: 1.500           *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time: 0 02:00:01.60 Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245978007 Analyst initials: MXR1         *
* Batch Number       : 948721 Sample Quantity : 1.3827E+02 GRAM  *
* Recovery           : 1.00000 Carrier Weight : 0.00000         *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 20-JUL-2009 15:29:58 MS Isotope        :             *
* MSD DPM             : 0.000 MSD Isotope                     :             *
* LCS DPM             : 0.000 LCS Isotope                     :             *
* LCSD DPM            : 0.000 LCSD Isotope                    :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.595E+01	2.705E+00	2.379E-01	1.380E+00
CD-109	2.950E+00	1.090E+00	8.145E-01	5.560E-01
SN-126	2.887E-01	1.067E-01	7.715E-02	5.442E-02
BA-137M	1.211E-01	6.879E-02	3.261E-02	3.510E-02
CS-137	1.280E-01	7.272E-02	3.447E-02	3.710E-02
LU-177	3.592E+00	1.858E+00	1.370E+00	9.480E-01
TL-208	5.427E-01	9.005E-02	2.942E-02	4.594E-02
BI-210	2.738E+00	3.189E+00	1.936E+00	1.627E+00
PB-210	2.738E+00	3.189E+00	1.936E+00	1.627E+00
PO-210	2.738E+00	3.187E+00	1.936E+00	1.626E+00
BI-211	4.022E+00	5.445E-01	1.621E-01	2.778E-01
PB-212	1.648E+00	1.902E-01	4.709E-02	9.702E-02
PO-212	1.648E+00	1.902E-01	4.709E-02	9.702E-02
BI-214	1.163E+00	2.133E-01	5.827E-02	1.088E-01
PB-214	1.399E+00	2.025E-01	5.652E-02	1.033E-01
PO-214	1.399E+00	2.025E-01	5.652E-02	1.033E-01
PO-216	1.648E+00	1.902E-01	4.709E-02	9.702E-02
PO-218	1.399E+00	2.025E-01	5.652E-02	1.033E-01
RA-224	3.957E+00	1.241E+00	5.360E-01	6.334E-01
RA-226	1.163E+00	2.133E-01	5.827E-02	1.088E-01
AC-228	1.662E+00	3.561E-01	1.103E-01	1.817E-01
RA-228	1.662E+00	3.561E-01	1.103E-01	1.817E-01
TH-228	1.678E+00	1.936E-01	4.795E-02	9.878E-02
TH-229	-3.247E-01	4.846E-01	4.248E-01	2.473E-01
TH-230	1.163E+00	2.133E-01	5.827E-02	1.088E-01
U-231	7.205E+00	4.478E+00	1.293E+00	2.284E+00
TH-232	1.662E+00	3.561E-01	1.103E-01	1.817E-01
TH-234	2.734E+01	5.240E+00	1.064E+00	2.674E+00
U-234	1.163E+00	2.133E-01	5.827E-02	1.088E-01
U-235	5.865E-01	3.144E-01	1.878E-01	1.604E-01
NP-237	8.477E-01	3.570E-01	2.274E-01	1.822E-01
U-238	2.734E+01	5.240E+00	1.064E+00	2.674E+00
AM-243	3.200E-01	7.976E-02	4.786E-02	4.070E-02
ANH-511	9.038E-02	6.534E-02	2.362E-02	3.334E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.178E-01	3.459E-01	2.971E-01	1.765E-01 NOT IDENT.
NA-22	-3.958E-02	4.197E-02	3.206E-02	2.141E-02 NOT IDENT.
NA-24	-8.256E+05	1.533E+07	0.000E+00	7.823E+06 SHORT HLIF
AL-26	1.720E-02	3.109E-02	2.871E-02	1.586E-02 NOT IDENT.
TI-44	3.953E-01	6.121E-02	4.143E-02	3.123E-02 FAIL ABUN
SC-46	-6.105E-03	3.864E-02	3.196E-02	1.971E-02 FAIL ABUN
V-48	2.599E-02	8.116E-02	6.951E-02	4.141E-02 NOT IDENT.
CR-51	-1.378E-01	3.802E-01	3.146E-01	1.940E-01 NOT IDENT.
MN-52	1.266E-01	2.771E-01	2.483E-01	1.414E-01 FAIL ABUN
MN-54	8.756E-03	3.736E-02	3.217E-02	1.906E-02 NOT IDENT.
CO-56	1.922E-02	4.231E-02	3.699E-02	2.159E-02 NOT IDENT.
CO-57	-6.667E-03	2.743E-02	2.350E-02	1.399E-02 NOT IDENT.
CO-58	2.372E-03	3.779E-02	3.220E-02	1.928E-02 NOT IDENT.
FE-59	5.402E-02	9.537E-02	8.580E-02	4.866E-02 FAIL ABUN
CO-60	1.283E-03	3.571E-02	3.031E-02	1.822E-02 NOT IDENT.
ZN-65	-2.815E-02	1.049E-01	7.525E-02	5.352E-02 NOT IDENT.
GE-68	-4.252E-01	1.167E+00	9.724E-01	5.952E-01 NOT IDENT.
AS-73	-3.690E-01	6.877E-01	6.107E-01	3.509E-01 NOT IDENT.
AS-74	-9.133E-02	1.029E-01	8.399E-02	5.252E-02 NOT IDENT.
SE-75	-4.518E-02	4.977E-02	3.607E-02	2.539E-02 NOT IDENT.
BR-77	2.410E+00	2.367E+01	2.100E+01	1.208E+01 FAIL ABUN
SR-82	-4.311E-02	4.725E-01	3.442E-01	2.411E-01 NOT IDENT.
RB-83	3.410E-03	6.888E-02	6.089E-02	3.514E-02 NOT IDENT.
RB-84	4.188E-02	7.153E-02	6.329E-02	3.649E-02 NOT IDENT.
KR-85	1.412E+01	7.645E+00	6.685E+00	3.900E+00 NOT IDENT.
SR-85	7.464E-02	4.040E-02	3.533E-02	2.061E-02 NOT IDENT.
RB-86	-6.723E-02	8.180E-01	7.005E-01	4.173E-01 NOT IDENT.
Y-88	-5.724E-03	2.959E-02	2.415E-02	1.510E-02 NOT IDENT.
ZR-88	-5.561E-03	3.107E-02	2.623E-02	1.585E-02 NOT IDENT.
Y-91	-1.913E+00	1.980E+01	1.677E+01	1.010E+01 NOT IDENT.
NB-94	8.890E-03	3.419E-02	2.988E-02	1.744E-02 NOT IDENT.
NB-95	1.359E-01	6.191E-02	5.294E-02	3.159E-02 NOT IDENT.
NB-95M	6.517E-02	1.405E-01	1.126E-01	7.169E-02 NOT IDENT.
ZR-95	7.665E-03	7.259E-02	6.242E-02	3.703E-02 NOT IDENT.
NB-97	1.256E+05	1.827E+06	0.000E+00	9.323E+05 SHORT HLIF
ZR-97	2.691E+07	3.289E+07	0.000E+00	1.678E+07 SHORT HLIF
MO-99	4.747E+00	2.720E+01	2.053E+01	1.388E+01 NOT IDENT.
TC-99M	-4.233E+19	1.263E+20	0.000E+00	0.000E+00 SHORT HLIF
RH-101	1.762E-02	3.302E-02	2.983E-02	1.685E-02 NOT IDENT.
RH-102	3.315E-02	2.946E-02	2.655E-02	1.503E-02 FAIL ABUN
RU-103	-1.402E-02	4.617E-02	3.777E-02	2.355E-02 FAIL ABUN
RH-106	2.605E-01	3.145E-01	2.869E-01	1.604E-01 FAIL ABUN
RU-106	2.605E-01	3.134E-01	2.869E-01	1.599E-01 FAIL ABUN
AG-108M	-5.218E-03	3.219E-02	2.695E-02	1.642E-02 NOT IDENT.
AG-110M	3.874E-03	3.884E-02	2.943E-02	1.982E-02 NOT IDENT.
IN-111	-1.098E+00	2.398E+00	1.816E+00	1.223E+00 NOT IDENT.
IN-113M	1.612E-02	4.444E-02	3.879E-02	2.268E-02 NOT IDENT.
SN-113	1.612E-02	4.444E-02	3.879E-02	2.268E-02 NOT IDENT.
IN-114M	7.414E-02	1.935E-01	1.571E-01	9.872E-02 NOT IDENT.
CD-115	6.790E+00	2.657E+01	0.000E+00	1.356E+01 SHORT HLIF
SN-117M	-4.451E-02	6.713E-02	5.538E-02	3.425E-02 NOT IDENT.
SB-122	1.038E+00	4.449E+00	3.950E+00	2.270E+00 NOT IDENT.
I-123	-1.635E+08	2.359E+08	0.000E+00	1.203E+08 SHORT HLIF
TE-123M	-2.135E-02	3.080E-02	2.537E-02	1.571E-02 NOT IDENT.
I-124	1.733E-02	1.205E+00	9.132E-01	6.148E-01 NOT IDENT.
SB-124	-1.577E-02	5.203E-02	3.923E-02	2.654E-02 FAIL ABUN
SB-125	-9.936E-02	8.725E-02	6.744E-02	4.451E-02 FAIL ABUN
TE-125M	5.041E+00	1.148E+01	9.071E+00	5.855E+00 NOT IDENT.
I-126	1.692E-01	2.392E-01	1.914E-01	1.220E-01 NOT IDENT.
SB-126	1.387E-01	1.759E-01	1.472E-01	8.977E-02 FAIL ABUN
SB-127	7.634E-01	2.243E+00	1.978E+00	1.144E+00 NOT IDENT.
XE-127	-1.364E-02	4.937E-02	4.386E-02	2.519E-02 FAIL ABUN
I-131	-1.609E-02	1.402E-01	1.196E-01	7.152E-02 NOT IDENT.
TE-132	-2.830E-01	1.211E+00	1.067E+00	6.179E-01 FAIL ABUN
BA-133	-7.595E-04	4.790E-02	3.566E-02	2.444E-02 NOT IDENT.
I-133	3.510E+04	6.004E+04	0.000E+00	3.063E+04 SHORT HLIF
CS-134	2.834E-02	4.860E-02	4.298E-02	2.480E-02 NOT IDENT.
CS-135	1.387E-01	1.728E-01	1.400E-01	8.816E-02 NOT IDENT.
I-135	2.326E+18	8.037E+18	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-1.339E-02	1.155E-01	9.885E-02	5.893E-02 FAIL ABUN
CE-139	-1.684E-02	3.236E-02	2.679E-02	1.651E-02 NOT IDENT.

BA-140	-8.581E-02	2.813E-01	2.408E-01	1.435E-01	NOT IDENT.
LA-140	6.601E-02	1.042E-01	8.427E-02	5.316E-02	NOT IDENT.
CE-141	1.323E-01	8.111E-02	6.590E-02	4.138E-02	NOT IDENT.
CE-143	2.073E+03	8.100E+02	0.000E+00	4.133E+02	SHORT HLIF
CE-144	-1.074E-01	2.197E-01	1.849E-01	1.121E-01	NOT IDENT.
PM-144	6.976E-03	3.671E-02	3.194E-02	1.873E-02	NOT IDENT.
PR-144	4.734E-01	2.491E+00	2.168E+00	1.271E+00	NOT IDENT.
PM-146	4.072E-02	4.115E-02	3.696E-02	2.100E-02	NOT IDENT.
ND-147	3.740E-01	6.545E-01	5.947E-01	3.339E-01	FAIL ABUN
PM-149	-4.200E+01	2.187E+02	0.000E+00	1.116E+02	SHORT HLIF
EU-152	-1.635E-02	1.092E-01	8.163E-02	5.573E-02	NOT IDENT.
GD-153	3.569E-01	1.169E-01	8.320E-02	5.964E-02	FAIL ABUN
EU-154	-1.087E-01	1.163E-01	8.864E-02	5.934E-02	NOT IDENT.
EU-155	8.315E-02	1.116E-01	9.960E-02	5.694E-02	FAIL ABUN
TB-160	1.552E-01	1.400E-01	1.287E-01	7.141E-02	FAIL ABUN
HO-166M	-1.490E-02	5.926E-02	4.983E-02	3.024E-02	NOT IDENT.
TM-171	-4.408E+01	3.000E+01	2.273E+01	1.530E+01	NOT IDENT.
LU-176	-3.495E-03	2.371E-02	2.049E-02	1.210E-02	FAIL ABUN
LU-177M	-2.599E-01	1.838E-01	1.409E-01	9.377E-02	NOT IDENT.
HF-181	1.227E-02	4.271E-02	3.659E-02	2.179E-02	NOT IDENT.
W-181	1.131E+00	4.109E-01	3.496E-01	2.096E-01	NOT IDENT.
TA-182	1.164E-01	1.944E-01	1.734E-01	9.918E-02	FAIL ABUN
RE-183	1.354E-01	1.228E-01	1.082E-01	6.263E-02	FAIL ABUN
RE-184	-2.094E-01	2.175E-01	1.826E-01	1.110E-01	NOT IDENT.
OS-185	-1.206E-02	4.062E-02	3.432E-02	2.073E-02	NOT IDENT.
RE-188	2.085E-01	1.847E-01	1.634E-01	9.424E-02	NOT IDENT.
W-188	1.224E+00	8.220E+00	6.379E+00	4.194E+00	FAIL ABUN
IR-192	-9.168E-03	3.218E-02	2.749E-02	1.642E-02	FAIL ABUN
AU-195	1.042E+00	3.413E-01	2.499E-01	1.741E-01	FAIL ABUN
TL-200	6.851E+02	2.881E+03	0.000E+00	1.470E+03	SHORT HLIF
TL-201	-2.528E+00	1.406E+01	1.180E+01	7.174E+00	NOT IDENT.
TL-202	1.604E-02	8.031E-02	6.884E-02	4.097E-02	NOT IDENT.
HG-203	1.642E-02	4.258E-02	3.799E-02	2.172E-02	NOT IDENT.
BI-207	9.415E-03	5.137E-02	4.505E-02	2.621E-02	FAIL ABUN
TL-207	-1.219E-01	6.338E-01	5.437E-01	3.234E-01	FAIL ABUN
PO-209	2.485E+00	7.214E+00	6.245E+00	3.681E+00	NOT IDENT.
PB-211	-3.833E-02	9.022E-01	7.660E-01	4.603E-01	NOT IDENT.
BI-212	1.541E+00	4.759E-01	3.468E-01	2.428E-01	FAIL ABUN
PO-215	-1.219E-01	6.338E-01	5.437E-01	3.234E-01	FAIL ABUN
RN-219	3.180E-02	3.991E-01	3.419E-01	2.036E-01	FAIL ABUN
RN-220	5.376E+00	2.408E+01	2.145E+01	1.229E+01	NOT IDENT.
RA-223	-1.219E-01	6.338E-01	5.437E-01	3.234E-01	FAIL ABUN
AC-227	-6.721E-02	3.752E-01	3.285E-01	1.914E-01	FAIL ABUN
TH-227	-6.721E-02	3.752E-01	3.285E-01	1.915E-01	FAIL ABUN
PA-231	-5.955E-02	1.458E+00	1.275E+00	7.439E-01	FAIL ABUN
TH-231	-1.219E-01	6.338E-01	5.437E-01	3.234E-01	FAIL ABUN
PA-233	-6.934E-03	5.948E-02	5.140E-02	3.035E-02	FAIL ABUN
PA-234	-9.226E-02	2.907E-01	2.346E-01	1.483E-01	FAIL ABUN
PA-234M	3.645E+01	9.939E+00	7.294E+00	5.071E+00	FAIL ABUN
NP-236	-5.171E-02	8.656E-02	7.162E-02	4.416E-02	FAIL ABUN
NP-239	-1.851E-03	2.223E-01	1.716E-01	1.134E-01	FAIL ABUN
AM-241	-7.301E-02	1.631E-01	1.298E-01	8.321E-02	NOT IDENT.
CM-243	-2.654E-02	1.006E-01	8.707E-02	5.132E-02	FAIL ABUN
AM-246	1.407E-02	1.303E-01	1.135E-01	6.645E-02	NOT IDENT.
CM-247	-6.640E-03	3.597E-02	3.029E-02	1.835E-02	NOT IDENT.
CF-249	1.440E-02	3.841E-02	3.358E-02	1.959E-02	NOT IDENT.
CF-251	7.296E-02	1.206E-01	1.115E-01	6.153E-02	NOT IDENT.

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*****
*                               *
*               GEL Laboratories LLC                               *
*               2040 SAVAGE ROAD                                   *
*               CHARLESTON , SC 29417                             *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT               *
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ENERGY	MDA COUNTS
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46.50	572.4137
46.50	572.4137
46.50	572.4137
48.70	623.6572
49.72	595.4296
51.35	677.5011
52.39	660.7568
52.97	682.7985
53.15	702.2700
53.44	707.5766
54.07	708.6933
56.28	777.2479
56.28	777.2520
57.37	0.0000
57.53	817.3718
57.53	817.3760
57.60	817.5091
57.98	831.8246
57.98	831.8246
59.32	821.3416
59.32	821.3416
59.40	839.0038
59.54	906.4225
59.72	906.8063
60.01	894.2689
61.10	889.2111
61.14	889.2921
61.30	889.6210
63.00	828.8324
63.29	829.3760
63.29	829.3760
63.58	829.9186
64.28	831.2209
65.12	798.2820
65.20	798.4232
65.20	798.4232
66.05	845.8399
66.72	881.1976
66.83	881.4151
66.91	881.5692
67.20	891.0324
67.20	891.0324
67.75	819.2401
67.85	819.4166
68.90	779.5322
68.90	779.5322
69.30	790.6411
69.67	786.7889
70.82	850.0543
70.82	850.0543
70.83	850.0716
72.80	882.1122
72.87	882.2421
72.87	882.2421
74.67	813.5880
74.81	813.8184
74.81	813.8184
74.81	813.8184
74.81	813.8184
74.81	813.8184
74.81	813.8184
74.81	813.8184
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77.11	817.5793

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77.11	817.5793
77.11	817.5793
77.11	817.5793
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79.80	845.2751
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80.18	841.8303
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80.30	842.0240
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81.00	934.8091
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81.07	934.9352
81.07	934.9352
82.60	819.6963
83.37	848.5026
83.78	862.9850
83.78	862.9850
83.78	862.9850
83.78	862.9850
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84.90	846.3291
85.43	847.1642
86.29	848.5153
86.50	848.8427
86.54	848.9056
86.59	848.9853
86.72	849.1867
86.79	849.2916
86.94	911.3149
87.30	911.9135
87.30	911.9135
87.30	911.9135
87.30	911.9135
87.30	911.9135
87.30	911.9135
87.57	853.6013
87.88	854.0856
88.03	916.2242
88.36	916.7753
88.47	916.9604
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91.11	669.2013
92.29	670.5988
92.38	670.7071
92.38	670.7071
93.35	671.8488
94.00	672.6132
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94.67	673.3972
94.90	673.6663
94.90	673.6663
94.90	673.6663
94.90	673.6663
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95.87	382.9068
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97.43	383.9288
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98.44	466.5491
98.88	466.8947
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100.10	461.5321
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103.76	479.1695
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111.00	492.2400
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116.30	444.3636
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117.00	417.2348
117.66	412.7733
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121.62	423.9215
121.78	424.0205
122.06	430.7374
122.32	422.1731
122.32	422.1731
122.32	422.1731
122.32	422.1731
123.07	406.2544
127.23	482.2987
129.76	466.3837
131.20	434.1814
133.02	413.1253
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136.00	345.8635
136.25	325.9559
136.48	340.5240
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143.76	396.0892
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144.24	396.3402
144.24	396.3402
145.22	383.3362
145.44	368.2409
147.16	328.4288
152.43	348.8165
152.70	355.7548
153.22	362.8112
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154.21	380.3402
154.21	380.3402
154.21	380.3402
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161.27	361.8251
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162.64	345.1630
163.35	356.9711
163.89	360.6613
165.85	370.7415
167.43	340.1917
171.28	292.9054
171.86	300.0814
172.10	300.1654
176.55	292.9253
176.60	292.9431
181.06	314.5111
184.41	369.4749
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186.00	331.4759
190.27	264.9864
192.34	302.5193
193.63	311.8719
197.04	278.9182
198.01	299.8488
198.60	317.9983
200.40	329.3950
201.83	344.3048
202.84	325.7158
205.31	288.0059

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208.81	357.2946
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209.75	322.5584
210.97	260.5464
215.65	286.9845
216.55	256.1362
218.09	252.8582
222.10	261.2015
223.80	245.0462
226.40	255.8138
227.00	245.7951
227.08	245.8154
227.20	235.6754
228.16	253.4655
228.18	253.4717
228.18	253.4717
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236.00	274.3401
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238.63	246.6057
238.63	246.6057
238.63	246.6057
239.00	246.6903
240.98	247.1354
241.98	247.3600
241.98	247.3600
241.98	247.3600
244.69	247.9653
245.39	249.6262
247.94	193.7831
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249.79	201.9197
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252.85	212.8721
252.85	212.8721
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256.20	223.9346
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260.90	0.0000
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264.65	223.2738
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268.79	208.7082
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269.46	219.7682
269.46	219.7682
269.46	219.7682
271.23	206.0610
273.65	266.5703
276.40	206.5615
277.35	206.7215
277.60	198.0682
277.60	198.0682
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279.20	209.9373
279.53	221.6061
280.46	245.9850
281.68	217.1470
283.67	183.5148
284.30	185.5500
285.00	186.6270
285.90	0.0000
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286.10	181.9267
287.40	183.0917
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290.80	184.3692
291.72	173.5594
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293.70	194.1890
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295.21	206.9622

295.21	206.9622
295.96	235.3235
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297.23	243.4098
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300.09	204.6040
300.09	204.6040
300.12	204.6104
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303.91	162.5871
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304.40	176.8621
304.84	182.9776
306.84	169.0848
308.46	157.4133
311.98	153.8624
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323.87	167.2446
323.87	167.2446
323.87	167.2446
325.23	210.5159
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334.20	188.8824
334.30	188.8967
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338.28	178.1001
338.28	178.1001
338.28	178.1001
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338.32	178.1055
338.32	178.1055
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351.92	140.9859
351.92	140.9859
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364.48	130.8602
366.43	148.5725
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374.96	139.0381
383.85	126.2786
387.95	123.4736
388.63	137.1366
391.69	126.9156
391.69	126.9156
392.90	136.4607
398.62	115.8847
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401.10	121.3400
401.81	126.6724
402.60	132.0152
404.84	129.0274
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411.60	127.4432
413.65	161.6299
414.70	141.5175
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423.70	121.9617
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427.89	124.4129
432.53	96.7937
433.93	117.3244
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439.56	111.2323
439.89	117.7352
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444.90	103.9951
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445.03	104.0039
445.03	104.0039
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468.07	84.2965
473.00	115.5647
475.06	92.5569
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476.78	110.2905
477.59	110.3394
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511.85	101.1381
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513.99	88.5000
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595.88	112.4121
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602.71	101.8032
603.60	106.5461
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604.70	119.1396
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609.31	99.9107
609.31	99.9107
610.33	99.9573
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614.37	83.4508
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661.65	103.2017
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696.49	98.8424
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699.00	108.7399
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722.78	82.4219
722.78	82.4219
722.89	82.4259
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724.18	90.7155
727.18	70.3465
733.00	64.5493
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744.21	81.4573
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755.35	70.1213
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765.79	97.2213
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766.84	91.5576
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778.00	77.4622
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778.89	74.5404
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911.07	65.6464
911.07	65.6464
911.07	65.6464
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969.11	118.6716
969.11	118.6716
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1050.47	65.4329
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1063.62	57.3581
1076.63	53.8605
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1099.22	56.0815
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1175.09	74.4517
1177.93	78.3298
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1260.41	0.0000
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1298.22	0.0000
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1325.50	33.7275
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1333.61	32.7999
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1362.66	0.0000
1365.15	19.0286
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1368.53	0.0000
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1384.27	45.2728
1394.10	21.1760
1395.20	18.1553
1407.95	32.3724
1434.06	17.3016
1436.60	29.5310
1457.56	0.0000
1460.81	20.4785
1489.15	16.4870
1509.49	16.5612
1596.49	16.2692
1620.62	16.9570
1678.03	0.0000
1691.02	8.6003
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1706.46	0.0000
1750.46	0.0000
1764.49	6.5437
1764.49	6.5437
1764.49	6.5437
1764.49	6.5437
1770.23	19.6523
1771.40	11.4669
1791.20	0.0000
1808.65	13.1978

1836.01

12.3181

6

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978007

Total Uranium Activity	8.1615E+01	ug/g
Total Uranium Counting Unc.	1.5590E+01	ug/g
Total Uranium Tpu	7.9543E-06	ug/g
Total Uranium Mda	3.1652E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 948721          SAMPLE ID   : G245978007
*  ANALYST       : MXR1            DETECTOR    : GAM07
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 14-FEB-2010 11:56:47.30  SAMPLE ALQT: 138.270 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.233E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.588E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.903E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.403E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 14:01:36.90

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978008.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:01:03
Sample ID          : G245978008      Sample quantity    : 1.34060E+02 GRAM
Detector name      : GAM15            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.40  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 948721            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.22*	354	613	1.25	125.37	120	11	4.92E-02	14.7	
2	2	75.01*	311	631	1.60	148.94	143	14	4.33E-02	16.9	2.81E+00
3	2	77.29*	393	450	1.12	153.50	143	14	5.45E-02	10.8	
4	0	92.71*	1520	943	1.47	184.35	177	15	2.11E-01	5.2	
5	0	185.98*	445	422	1.24	370.87	366	12	6.17E-02	10.7	
6	0	209.18	154	357	1.51	417.27	413	12	2.14E-02	25.8	
7	2	238.79*	1040	250	1.36	476.48	471	23	1.44E-01	4.1	1.63E+00
8	2	241.87	289	256	1.85	482.63	471	23	4.01E-02	15.3	
9	0	270.67*	66	236	1.34	540.25	536	10	9.17E-03	46.0	
10	0	295.25*	368	207	1.42	589.40	584	11	5.11E-02	9.4	
11	0	299.69	55	202	0.73	598.28	595	9	7.68E-03	48.1	
12	0	338.45	200	224	1.71	675.79	671	11	2.77E-02	16.1	
13	0	351.96*	654	162	1.48	702.82	695	14	9.08E-02	5.8	
14	0	463.55	74	134	1.57	925.99	921	13	1.03E-02	34.6	
15	0	510.97*	125	140	1.87	1020.84	1012	19	1.74E-02	27.6	
16	0	582.95*	261	161	1.70	1164.81	1160	15	3.63E-02	12.4	
17	0	609.34*	456	102	1.45	1217.59	1212	12	6.34E-02	6.6	
18	0	661.48*	284	103	1.55	1321.88	1313	15	3.94E-02	10.0	
19	0	727.44*	87	81	1.63	1453.81	1446	16	1.21E-02	26.2	
20	0	768.21	102	50	2.29	1535.38	1529	13	1.42E-02	17.8	
21	0	796.04	21	61	1.45	1591.03	1585	9	2.93E-03	70.9	
22	0	911.30*	200	67	1.71	1821.59	1815	16	2.78E-02	12.0	
23	0	969.60	115	108	1.52	1938.21	1929	14	1.60E-02	21.3	
24	0	1000.74*	107	49	1.57	2000.49	1993	16	1.49E-02	17.9	
25	0	1122.09*	84	116	2.03	2243.25	2233	21	1.16E-02	35.0	
26	0	1237.94	46	71	4.59	2475.00	2467	15	6.36E-03	42.8	
27	0	1377.39	72	10	6.14	2753.98	2745	20	1.00E-02	16.0	
28	0	1460.67*	917	32	2.12	2920.59	2910	21	1.27E-01	3.7	
29	0	1592.80	32	6	1.30	3184.95	3180	12	4.44E-03	23.4	
30	0	1764.60*	62	16	2.21	3528.68	3522	13	8.59E-03	19.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 14:01:40

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978008.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:01:03
 Sample ID : G245978008 Sample quantity : 134.06 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA15 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.40 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.491E+01	3.058E+00	5.904E-01	5.801E-02	42.196
BA-137M	+	661.65	*	4.463E-01	9.640E-02	7.895E-02	6.491E-03	5.653
CS-137	+	661.65	*	4.718E-01	1.019E-01	8.346E-02	6.876E-03	5.653
TL-208		277.35		4.088E-01	5.133E-01	8.367E-01	1.169E-01	0.489
	+	510.84		6.720E-01	3.798E-01	2.625E-01	3.151E-02	2.560
	+	583.14	*	3.966E-01	1.048E-01	7.427E-02	6.801E-03	5.339
		860.37		4.645E-01	3.720E-01	6.463E-01	6.321E-02	0.719
BI-211		72.87		8.236E+00	5.582E+00	8.446E+00	9.674E-01	0.975
	+	351.07	*	4.506E+00	6.903E-01	3.767E-01	3.751E-02	11.962
PB-212	+	74.81		2.508E+00	9.266E-01	8.705E-01	1.290E-01	2.881
	+	77.11		1.743E+00	4.279E-01	4.992E-01	5.786E-02	3.492
		87.30		1.507E-01	6.843E-01	9.902E-01	1.573E-01	0.152
	+	238.63	*	1.588E+00	2.303E-01	1.125E-01	1.339E-02	14.117
	+	300.09		1.293E+00	1.254E+00	1.489E+00	1.799E-01	0.868
PO-212	+	74.81		2.508E+00	9.266E-01	8.705E-01	1.290E-01	2.881
	+	77.11		1.743E+00	4.279E-01	4.992E-01	5.786E-02	3.492
		87.30		1.507E-01	6.843E-01	9.902E-01	1.573E-01	0.152
		115.19		-6.860E-01	5.094E+00	8.254E+00	8.355E-01	-0.083
	+	238.63	*	1.588E+00	2.303E-01	1.125E-01	1.339E-02	14.117
	+	300.09		1.293E+00	1.254E+00	1.489E+00	1.799E-01	0.868
BI-214	+	609.31	*	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
		1120.29		1.359E+00	4.800E-01	8.745E-01	9.427E-02	1.554
	+	1764.49		1.281E+00	5.215E-01	2.889E-01	2.533E-02	4.435
PB-214	+	74.81		4.322E+00	1.577E+00	1.500E+00	2.052E-01	2.881
	+	77.11		2.988E+00	7.681E-01	8.557E-01	1.187E-01	3.492
		87.30		2.581E-01	1.172E+00	1.696E+00	2.469E-01	0.152
	+	241.98		2.649E+00	8.749E-01	6.769E-01	8.374E-02	3.914
	+	295.21		1.513E+00	3.388E-01	2.644E-01	3.260E-02	5.720
	+	351.92	*	1.567E+00	2.537E-01	1.313E-01	1.473E-02	11.939
PO-214	+	74.81		4.322E+00	1.577E+00	1.500E+00	2.052E-01	2.881
	+	77.11		2.988E+00	7.681E-01	8.557E-01	1.187E-01	3.492
		87.30		2.581E-01	1.172E+00	1.696E+00	2.469E-01	0.152
	+	241.98		2.649E+00	8.749E-01	6.769E-01	8.374E-02	3.914
	+	295.21		1.513E+00	3.388E-01	2.644E-01	3.260E-02	5.720

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	351.92	*	1.567E+00	2.537E-01	1.313E-01	1.473E-02	11.939
	+	74.81		2.508E+00	9.266E-01	8.705E-01	1.290E-01	2.881
	+	77.11		1.743E+00	4.279E-01	4.992E-01	5.786E-02	3.492
	+	87.30		1.507E-01	6.843E-01	9.902E-01	1.573E-01	0.152
PO-218	+	238.63	*	1.588E+00	2.303E-01	1.125E-01	1.339E-02	14.117
	+	300.09		1.293E+00	1.254E+00	1.489E+00	1.799E-01	0.868
	+	74.81		4.322E+00	1.577E+00	1.500E+00	2.052E-01	2.881
	+	77.11		2.988E+00	7.681E-01	8.557E-01	1.187E-01	3.492
	+	87.30		2.581E-01	1.172E+00	1.696E+00	2.469E-01	0.152
	+	241.98		2.649E+00	8.749E-01	6.769E-01	8.374E-02	3.914
	+	295.21		1.513E+00	3.388E-01	2.644E-01	3.260E-02	5.720
RA-224	+	351.92	*	1.567E+00	2.537E-01	1.313E-01	1.473E-02	11.939
	+	240.98	*	5.023E+00	1.635E+00	1.279E+00	1.411E-01	3.926
RA-226	+	609.31	*	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
	+	1120.29		1.359E+00	4.800E-01	8.745E-01	9.427E-02	1.554
AC-228	+	1764.49		1.281E+00	5.215E-01	2.889E-01	2.533E-02	4.435
	+	338.32		1.519E+00	7.989E-01	5.016E-01	2.084E-01	3.028
	+	911.07	*	1.356E+00	3.617E-01	2.500E-01	2.945E-02	5.426
RA-228	+	969.11		1.380E+00	6.717E-01	3.926E-01	9.247E-02	3.514
	+	338.32		1.519E+00	7.989E-01	5.016E-01	2.084E-01	3.028
	+	911.07	*	1.356E+00	3.617E-01	2.500E-01	2.945E-02	5.426
TH-228	+	969.11		1.380E+00	6.717E-01	3.926E-01	9.247E-02	3.514
	+	74.81		2.553E+00	9.131E-01	8.863E-01	1.024E-01	2.881
	+	77.11		1.775E+00	4.357E-01	5.082E-01	5.891E-02	3.492
TH-230	+	87.30		1.534E-01	6.965E-01	1.008E+00	1.245E-01	0.152
	+	238.63	*	1.616E+00	2.345E-01	1.145E-01	1.363E-02	14.117
	+	300.09		1.317E+00	1.490E+00	1.516E+00	9.035E-01	0.868
	+	609.31	*	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
TH-232	+	1120.29		1.359E+00	4.800E-01	8.745E-01	9.427E-02	1.554
	+	1764.49		1.281E+00	5.215E-01	2.889E-01	2.533E-02	4.435
	+	338.32		1.519E+00	5.125E-01	5.016E-01	4.945E-02	3.028
TH-234	+	911.07	*	1.356E+00	3.617E-01	2.500E-01	2.945E-02	5.426
	+	969.11		1.380E+00	6.717E-01	3.926E-01	9.247E-02	3.514
	+	63.29	*	1.441E+01	5.080E+00	4.096E+00	7.981E-01	3.517
U-234	+	92.38		1.631E+01	3.628E+00	1.258E+00	2.479E-01	12.968
	+	609.31	*	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
U-238	+	1120.29		1.359E+00	4.800E-01	8.745E-01	9.427E-02	1.554
	+	1764.49		1.281E+00	5.215E-01	2.889E-01	2.533E-02	4.435
	+	63.29	*	1.441E+01	5.080E+00	4.096E+00	7.981E-01	3.517
AM-243	+	92.38		1.631E+01	2.538E+00	1.258E+00	1.466E-01	12.968
	+	74.67	*	4.066E-01	1.453E-01	1.418E-01	1.631E-02	2.867
	+	86.72		1.634E+01	1.625E+01	2.404E+01	2.954E+00	0.680
ANH-511	+	117.66		-6.507E+00	5.260E+00	8.100E+00	8.171E-01	-0.803
	+	142.18		3.244E+01	2.389E+01	4.014E+01	4.074E+00	0.808
	+	511.00	*	1.452E-01	8.115E-02	5.671E-02	4.900E-03	2.560

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	7.890E-02	4.172E-01	6.887E-01	6.403E-02	0.115

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		-2.491E-02	5.264E-02	8.058E-02	7.320E-03	-0.309
NA-24	1368.53	*		-1.805E+01	5.264E-02	Half-Life too short		
AL-26	1129.67			-1.568E+00	2.341E+00	2.937E+00	2.481E-01	-0.534
	1808.65	*		2.213E-02	3.173E-02	5.916E-02	5.061E-03	0.374
TI-44	67.85			1.359E-02	9.917E-02	1.344E-01	1.534E-02	0.101
	78.38	*	+	3.217E-01	7.898E-02	1.129E-01	1.316E-02	2.848
SC-46	889.25	*		-2.575E-02	4.316E-02	6.693E-02	6.219E-03	-0.385
	1120.51			2.410E-01	8.291E-02	1.539E-01	1.308E-02	1.566
V-48	944.10			-9.628E-01	1.138E+00	1.674E+00	1.548E-01	-0.575
	983.50	*		-3.584E-04	9.192E-02	1.509E-01	1.379E-02	-0.002
	1312.09			-4.646E-02	1.090E-01	1.665E-01	1.570E-02	-0.279
CR-51	320.08	*		-5.440E-01	4.914E-01	7.612E-01	8.083E-02	-0.715
MN-52	744.21			-1.504E-01	4.146E-01	6.725E-01	5.820E-02	-0.224
	848.13			-6.036E-01	1.089E+01	1.795E+01	1.639E+00	-0.034
	935.52			1.166E-01	4.188E-01	7.066E-01	6.546E-02	0.165
	1246.25			2.246E+00	1.319E+01	2.011E+01	1.773E+00	0.112
	1333.61			5.858E+00	8.341E+00	1.457E+01	1.401E+00	0.402
	1434.06	*		-1.354E-01	3.499E-01	5.492E-01	5.289E-02	-0.247
MN-54	834.83	*		5.646E-02	4.510E-02	8.123E-02	7.371E-03	0.695
CO-56	846.75	*		-2.115E-02	4.638E-02	7.368E-02	6.723E-03	-0.287
	977.42			-4.693E-01	3.235E+00	5.112E+00	4.683E-01	-0.092
	1037.82			-1.308E-01	3.462E-01	5.435E-01	5.101E-02	-0.241
	1175.09			4.490E-01	2.783E+00	4.587E+00	3.741E-01	0.098
	1238.25		+	2.011E-01	1.730E-01	2.080E-01	1.869E-02	0.967
	1360.21			9.632E-02	1.055E+00	1.785E+00	1.719E-01	0.054
	1771.40			-1.377E+00	4.330E-01	3.139E-01	2.742E-02	-4.389
CO-57	122.06	*		-1.949E-02	3.443E-02	5.467E-02	5.507E-03	-0.356
	136.48			2.529E-01	2.733E-01	4.560E-01	4.849E-02	0.555
CO-58	810.76	*		1.265E-03	4.518E-02	7.518E-02	6.759E-03	0.017
FE-59	142.65			7.373E+00	3.864E+00	6.553E+00	6.656E-01	1.125
	192.34			-9.404E-01	1.518E+00	2.030E+00	3.039E-01	-0.463
	1099.22	*		-7.481E-02	1.132E-01	1.722E-01	1.607E-02	-0.434
	1291.56			3.768E-02	1.492E-01	2.477E-01	2.559E-02	0.152
CO-60	1173.22			-3.757E-02	5.670E-02	8.638E-02	7.031E-03	-0.435
	1332.49	*		2.545E-02	4.676E-02	8.021E-02	7.711E-03	0.317
ZN-65	1115.52	*		7.599E-02	1.115E-01	1.705E-01	1.457E-02	0.446
GE-68	1077.35	*		-2.066E-01	1.542E+00	2.486E+00	2.176E-01	-0.083
AS-73	53.44	*		1.336E+00	2.280E+00	3.852E+00	5.001E-01	0.347
AS-74	595.88	*		4.274E-02	1.236E-01	2.044E-01	1.736E-02	0.209
	634.78			8.938E-02	4.383E-01	7.169E-01	5.986E-02	0.125
SE-75	66.05			5.429E+00	1.020E+01	1.502E+01	1.929E+00	0.361
	96.73			4.607E-01	1.295E+00	1.884E+00	2.887E-01	0.245
	121.11			-9.086E-02	1.854E-01	2.952E-01	3.651E-02	-0.308
	136.00			-7.215E-03	5.255E-02	8.466E-02	8.569E-03	-0.085
	198.60			5.751E-01	2.483E+00	4.005E+00	4.675E-01	0.144
	264.65	*		3.994E-02	6.170E-02	9.721E-02	1.066E-02	0.411
	279.53			-6.581E-02	1.472E-01	2.406E-01	2.663E-02	-0.274
	303.91			-2.070E-01	3.136E+00	4.510E+00	5.841E-01	-0.046
	400.65			-2.848E-01	3.411E-01	5.315E-01	5.838E-02	-0.536

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	87.88			5.507E+02	7.527E+02	1.105E+03	1.371E+02	0.498
	200.40			-1.344E+02	5.212E+02	8.235E+02	8.997E+01	-0.163
+	239.00			5.911E+02	8.155E+01	1.002E+02	1.106E+01	5.897
	249.79			1.585E+02	2.064E+02	3.154E+02	3.472E+01	0.503
	281.68			-8.323E+01	2.746E+02	4.518E+02	4.874E+01	-0.184
	297.23			1.124E+03	3.045E+02	3.843E+02	4.073E+01	2.925
	303.76			-7.182E+01	6.078E+02	8.711E+02	9.151E+01	-0.082
	439.47			7.013E+01	4.177E+02	6.909E+02	5.921E+01	0.102
	484.57			-7.269E+01	6.500E+02	1.051E+03	9.075E+01	-0.069
	520.65	*		3.331E-01	2.967E+01	4.689E+01	4.050E+00	0.007
	574.64			-1.130E+02	6.151E+02	9.803E+02	8.386E+01	-0.115
	578.91			2.584E+01	2.881E+02	4.047E+02	3.458E+01	0.064
	585.48			3.503E+03	7.829E+02	1.334E+03	1.137E+02	2.626
	755.35			4.923E+01	4.553E+02	7.649E+02	6.663E+01	0.064
	817.79			-7.514E+01	3.446E+02	5.606E+02	5.046E+01	-0.134
SR-82	698.33			2.433E+01	4.344E+01	7.540E+01	6.348E+00	0.323
	776.49	*		-3.868E-01	4.885E-01	7.148E-01	6.299E-02	-0.541
	1395.20			3.064E+00	1.309E+01	2.250E+01	2.168E+00	0.136
RB-83	520.41	*		-8.664E-03	9.024E-02	1.368E-01	1.181E-02	-0.063
	529.64			1.556E-02	1.319E-01	2.157E-01	1.862E-02	0.072
	552.65			-8.354E-02	2.506E-01	3.955E-01	3.401E-02	-0.211
RB-84	881.50	*		5.638E-02	7.854E-02	1.383E-01	1.282E-02	0.408
KR-85	513.99	*		2.419E+01	1.026E+01	1.697E+01	1.466E+00	1.426
SR-85	513.99	*		1.279E-01	5.422E-02	8.968E-02	7.748E-03	1.426
RB-86	1076.63	*		8.735E-01	1.026E+00	1.806E+00	1.582E-01	0.484
Y-88	898.02			1.653E-02	5.197E-02	8.803E-02	8.243E-03	0.188
	1836.01	*		-1.498E-02	3.401E-02	4.994E-02	4.206E-03	-0.300
ZR-88	392.90	*		-2.939E-02	4.170E-02	6.578E-02	5.537E-03	-0.447
Y-91	1204.90	*		4.275E+00	2.506E+01	4.122E+01	3.475E+00	0.104
NB-94	702.63	*		-1.845E-02	3.868E-02	6.241E-02	5.269E-03	-0.296
	871.10			4.471E-03	3.846E-02	6.426E-02	5.927E-03	0.070
NB-95	765.79	*		1.284E-01	6.413E-02	1.075E-01	9.417E-03	1.195
NB-95M	235.69	*		2.550E-01	1.965E-01	3.026E-01	3.641E-02	0.843
ZR-95	724.18			1.486E-01	1.164E-01	1.900E-01	1.768E-02	0.782
	756.15	*		3.164E-02	8.602E-02	1.473E-01	1.411E-02	0.215
NB-97	657.90	*		1.884E+00	8.602E-02	Half-Life	too short	
	1024.50			1.899E+01	8.602E-02	Half-Life	too short	
ZR-97	254.15			-1.494E+02	8.602E-02	Half-Life	too short	
	355.39			6.706E+01	8.602E-02	Half-Life	too short	
	507.63	*		9.091E+01	8.602E-02	Half-Life	too short	
	602.52			-1.019E+02	8.602E-02	Half-Life	too short	
	1021.30			8.046E+01	8.602E-02	Half-Life	too short	
	1147.95			5.585E+01	8.602E-02	Half-Life	too short	
	1362.66			1.451E+01	8.602E-02	Half-Life	too short	
	1750.46			-1.345E+01	8.602E-02	Half-Life	too short	
MO-99	140.51			-7.147E+01	7.791E+01	1.161E+02	3.274E+01	-0.615
	181.06			-3.223E-01	5.368E+01	7.507E+01	1.457E+01	-0.004
	366.43			1.366E+02	2.171E+02	3.704E+02	3.394E+01	0.369
	739.58	*		1.902E+01	2.782E+01	4.857E+01	7.378E+00	0.392

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	778.00			-1.297E+02	8.079E+01	1.143E+02	1.008E+01	-1.135
RH-101	140.51	*		-1.452E+14	8.079E+01	Half-Life	too short	
	127.23			2.725E-02	4.310E-02	7.140E-02	7.164E-03	0.382
	198.01	*		2.071E-02	4.463E-02	7.262E-02	7.923E-03	0.285
RH-102	325.23			1.369E-01	2.803E-01	4.756E-01	4.819E-02	0.288
	418.52			-2.049E-02	3.656E-01	5.978E-01	5.089E-02	-0.034
	475.06	*		-7.322E-03	3.790E-02	6.104E-02	5.267E-03	-0.120
	631.29			-2.123E-02	6.097E-02	9.490E-02	7.939E-03	-0.224
	697.49			1.872E-02	9.191E-02	1.559E-01	1.312E-02	0.120
	766.84	+		4.874E-01	1.790E-01	2.716E-01	2.381E-02	1.795
	1046.59			-3.787E-02	1.357E-01	2.159E-01	1.922E-02	-0.175
	1112.84			9.364E-02	2.867E-01	4.191E-01	3.584E-02	0.223
RU-103	497.08	*		2.271E-02	5.197E-02	8.697E-02	1.233E-02	0.261
	610.33	+		1.481E+01	3.137E+00	3.615E+00	6.000E-01	4.096
RH-106	511.85	+		7.290E-01	4.075E-01	4.880E-01	4.216E-02	1.494
	621.84	*		8.386E-02	3.674E-01	6.019E-01	7.957E-02	0.139
	1050.47			1.800E+00	2.708E+00	4.699E+00	4.175E-01	0.383
RU-106	511.85	+		7.290E-01	4.075E-01	4.880E-01	4.216E-02	1.494
	621.84	*		8.386E-02	3.673E-01	6.019E-01	5.059E-02	0.139
	1050.47			1.800E+00	2.708E+00	4.699E+00	4.175E-01	0.383
AG-108M	433.93	*		1.698E-02	4.118E-02	6.911E-02	6.152E-03	0.246
	614.37			-1.891E-02	5.117E-02	6.784E-02	5.956E-03	-0.279
	722.95			-2.599E-02	5.020E-02	6.762E-02	6.010E-03	-0.384
CD-109	88.03	*		1.267E+00	1.511E+00	2.224E+00	2.761E-01	0.569
AG-110M	657.75	*		2.856E-02	4.704E-02	7.228E-02	6.151E-03	0.395
	677.61			3.961E-02	3.354E-01	5.672E-01	4.855E-02	0.070
	706.67			3.117E-02	2.327E-01	3.930E-01	3.421E-02	0.079
	763.93			1.345E-01	2.351E-01	3.531E-01	3.175E-02	0.381
	884.67			-1.990E-02	5.159E-02	8.181E-02	7.800E-03	-0.243
	937.48			-1.196E-02	1.224E-01	1.996E-01	1.906E-02	-0.060
	1384.27			6.044E-02	1.671E-01	2.586E-01	2.548E-02	0.234
IN-111	171.28			1.275E+00	2.715E+00	4.440E+00	4.756E-01	0.287
	245.39	*		1.505E+00	2.919E+00	4.395E+00	4.844E-01	0.342
IN-113M	391.69	*		-2.404E-02	6.041E-02	9.718E-02	8.440E-03	-0.247
SN-113	391.69	*		-2.404E-02	6.041E-02	9.718E-02	8.440E-03	-0.247
IN-114M	190.27	*		-5.105E-02	2.810E-01	3.878E-01	4.211E-02	-0.132
CD-115	260.90			-1.786E-04	2.810E-01	Half-Life	too short	
	492.35			-1.232E-04	2.810E-01	Half-Life	too short	
	527.90	*		2.466E-05	2.810E-01	Half-Life	too short	
SN-117M	156.02			-3.251E-01	3.398E+00	5.458E+00	5.689E-01	-0.060
	158.56	*		-4.342E-02	8.255E-02	1.300E-01	1.363E-02	-0.334
SB-122	563.90	*		2.036E+00	5.444E+00	9.029E+00	7.745E-01	0.226
	692.80			1.166E+01	1.044E+02	1.761E+02	1.478E+01	0.066
I-123	159.00	*		-2.486E+02	1.044E+02	Half-Life	too short	
	528.96			1.757E+03	1.044E+02	Half-Life	too short	
TE-123M	159.00	*		-3.233E-02	3.798E-02	5.884E-02	6.200E-03	-0.550
I-124	602.71	*		-6.564E-02	1.564E+00	2.163E+00	1.833E-01	-0.030
	722.78			-4.379E+00	8.457E+00	1.139E+01	9.738E-01	-0.384
	1325.50			4.933E+00	6.798E+01	1.105E+02	1.055E+01	0.045

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	+	1376.25		2.445E+02	8.150E+01	1.313E+02	1.265E+01	1.862
		1509.49		2.442E+01	2.874E+01	5.283E+01	5.045E+00	0.462
		1691.02		-6.530E-01	7.187E+00	1.166E+01	1.058E+00	-0.056
		602.71		-2.445E-03	5.827E-02	8.056E-02	6.828E-03	-0.030
		645.85		-1.460E-01	6.188E-01	9.734E-01	8.601E-02	-0.150
		709.31		4.704E-01	3.196E+00	5.403E+00	4.580E-01	0.087
		713.82		-4.154E-01	1.909E+00	3.136E+00	3.748E-01	-0.132
		722.78		-2.364E-01	4.566E-01	6.152E-01	5.373E-02	-0.384
	+	968.20		1.468E+01	6.400E+00	8.610E+00	7.910E-01	1.705
		1045.16		1.212E+00	3.041E+00	5.158E+00	4.595E-01	0.235
SB-125		1325.50		2.844E-01	3.920E+00	6.373E+00	6.085E-01	0.045
		1368.21		-1.180E+00	2.074E+00	2.717E+00	3.843E-01	-0.434
		1436.60		3.435E+00	3.765E+00	7.087E+00	6.821E-01	0.485
		1691.02	*	-8.316E-03	9.153E-02	1.485E-01	1.396E-02	-0.056
		427.89	*	8.149E-02	1.123E-01	1.921E-01	1.673E-02	0.424
	+	463.38		7.796E-01	5.439E-01	6.602E-01	6.134E-02	1.181
		600.56		4.436E-02	2.283E-01	3.729E-01	3.403E-02	0.119
		635.90		1.362E-01	2.986E-01	4.986E-01	4.519E-02	0.273
		109.28	*	-9.278E+00	1.425E+01	2.267E+01	2.664E+00	-0.409
		388.63		2.289E-01	3.056E-01	5.228E-01	4.449E-02	0.438
TE-125M I-126		666.33	*	2.849E-01	2.905E-01	4.591E-01	3.786E-02	0.620
		753.82		5.961E-01	2.000E+00	3.407E+00	2.965E-01	0.175
	SB-126	223.80		1.204E+00	6.109E+00	1.036E+01	1.142E+00	0.116
		278.60		2.507E+00	3.816E+00	6.530E+00	7.064E-01	0.384
	+	296.50		1.769E+01	3.806E+00	5.253E+00	5.573E-01	3.368
		414.70		-8.302E-02	1.167E-01	1.832E-01	1.558E-02	-0.453
		415.30		-5.695E+00	9.414E+00	1.487E+01	1.265E+00	-0.383
		555.20		-1.366E+00	5.739E+00	9.119E+00	7.837E-01	-0.150
		573.80		-4.669E-01	1.585E+00	2.506E+00	2.144E-01	-0.186
		593.00		-8.362E-01	1.355E+00	2.078E+00	1.767E-01	-0.402
SB-126		656.30		-3.434E+00	5.165E+00	6.920E+00	5.708E-01	-0.496
		666.33		1.198E-01	1.222E-01	1.931E-01	1.593E-02	0.620
		675.00		-2.658E-01	2.499E+00	4.154E+00	3.445E-01	-0.064
		695.00		9.631E-03	1.076E-01	1.812E-01	1.522E-02	0.053
		697.00		8.514E-02	3.669E-01	6.240E-01	5.249E-02	0.136
		720.50	*	9.683E-02	1.925E-01	2.945E-01	2.514E-02	0.329
		856.80		-9.489E-01	6.849E-01	9.927E-01	9.100E-02	-0.956
		989.30		-1.292E+00	1.804E+00	2.755E+00	2.513E-01	-0.469
		1034.80		-1.926E+00	1.069E+01	1.714E+01	1.535E+00	-0.112
		1213.00		-2.340E+00	7.128E+00	1.123E+01	9.551E-01	-0.208
SN-126	+	64.28		5.703E+00	1.934E+00	1.990E+00	3.368E-01	2.866
		86.94		1.815E-01	6.242E-01	8.995E-01	3.803E-01	0.202
		87.57	*	7.062E-02	1.475E-01	2.152E-01	2.663E-02	0.328
	SB-127	61.10		3.896E+02	2.322E+02	3.526E+02	4.988E+01	1.105
		252.40		-5.343E+00	9.359E+00	1.480E+01	6.341E+00	-0.361
		290.80		-4.877E+00	4.859E+01	6.986E+01	9.510E+00	-0.070
		411.60		1.180E+01	2.649E+01	4.447E+01	7.254E+00	0.265
		444.90		-1.375E+01	2.038E+01	3.172E+01	4.224E+00	-0.433
		473.00		-6.649E-01	3.698E+00	5.961E+00	8.142E-01	-0.112

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		543.00		-8.145E+00	3.328E+01	5.287E+01	7.984E+00	-0.154
		603.60		1.075E+01	2.858E+01	4.111E+01	5.436E+00	0.262
		685.20	*	4.845E-01	2.578E+00	4.378E+00	5.289E-01	0.111
		698.50		1.013E+01	3.043E+01	5.200E+01	8.509E+00	0.195
		722.20		-1.498E+01	5.962E+01	8.319E+01	9.989E+00	-0.180
		783.80		1.159E+01	7.354E+00	1.334E+01	1.785E+00	0.869
XE-127		57.60		-6.068E+00	1.672E+01	2.390E+01	2.809E+00	-0.254
		145.22		-5.790E-01	1.028E+00	1.621E+00	1.654E-01	-0.357
		172.10		-3.627E-02	1.682E-01	2.677E-01	2.870E-02	-0.135
		202.84	*	-6.697E-03	7.067E-02	1.084E-01	1.185E-02	-0.062
		374.96		2.133E-01	2.584E-01	4.448E-01	3.968E-02	0.480
I-131		80.18		-1.224E+01	1.071E+01	1.458E+01	1.722E+00	-0.839
		284.30		1.034E+00	2.487E+00	4.222E+00	4.703E-01	0.245
		364.48	*	9.129E-02	1.883E-01	3.188E-01	3.085E-02	0.286
		636.97		-7.847E-01	2.253E+00	3.506E+00	3.107E-01	-0.224
		722.89		-5.612E+00	1.084E+01	1.460E+01	1.260E+00	-0.384
TE-132		49.72		-6.167E+01	1.149E+02	1.864E+02	2.927E+01	-0.331
		111.76		1.093E+02	8.150E+01	1.365E+02	1.757E+01	0.800
		116.30		-4.295E+01	7.141E+01	1.134E+02	1.451E+01	-0.379
		228.16	*	-1.028E+00	1.691E+00	2.762E+00	4.882E-01	-0.372
BA-133		53.15		7.180E+00	9.656E+00	1.639E+01	2.140E+00	0.438
		79.62		2.277E+00	2.353E+00	3.478E+00	5.972E-01	0.655
		81.00		-1.944E-01	1.795E-01	2.426E-01	4.321E-02	-0.801
		276.40		3.581E-01	5.568E-01	8.358E-01	1.327E-01	0.428
		302.84		-1.088E-01	2.164E-01	3.012E-01	4.395E-02	-0.361
		356.01	*	-1.314E-02	6.040E-02	8.498E-02	1.168E-02	-0.155
		383.85		-3.672E-02	3.713E-01	6.080E-01	7.678E-02	-0.060
I-133	+	510.53		1.482E+01	3.713E-01	Half-Life	too short	
		529.87	*	-8.200E-03	3.713E-01	Half-Life	too short	
		706.58		9.437E-02	3.713E-01	Half-Life	too short	
		856.28		-9.469E+00	3.713E-01	Half-Life	too short	
		875.33		-2.963E-01	3.713E-01	Half-Life	too short	
		1236.41		1.337E+01	3.713E-01	Half-Life	too short	
		1298.22		-2.533E+00	3.713E-01	Half-Life	too short	
CS-134		475.35		-4.533E-02	2.446E+00	3.984E+00	3.438E-01	-0.011
		563.23		3.922E-02	4.513E-01	7.343E-01	6.360E-02	0.053
		569.32		1.126E-01	2.397E-01	4.012E-01	3.484E-02	0.281
		604.70		1.156E-02	4.762E-02	6.774E-02	5.750E-03	0.171
	+	795.84	*	4.620E-02	6.565E-02	9.751E-02	8.740E-03	0.474
		801.93		2.181E-01	4.865E-01	7.824E-01	7.023E-02	0.279
		1038.57		-2.585E+00	4.300E+00	6.581E+00	5.882E-01	-0.393
		1167.94		2.723E-01	3.215E+00	5.263E+00	4.305E-01	0.052
		1365.15		4.225E-01	1.196E+00	2.097E+00	2.093E-01	0.201
CS-135		268.24	*	1.111E-01	2.297E-01	3.433E-01	4.120E-02	0.324
I-135		288.45		-2.837E+13	2.297E-01	Half-Life	too short	
		417.63		1.182E+13	2.297E-01	Half-Life	too short	
		546.56		1.457E+13	2.297E-01	Half-Life	too short	
		836.80		3.219E+13	2.297E-01	Half-Life	too short	
		1038.76		-1.603E+13	2.297E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

	Line Energy Nuclide Ided (keV) Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1124.00	1.124E+14	2.297E-01	Half-Life	too short	
	1131.51	-7.521E+11	2.297E-01	Half-Life	too short	
	1260.41 *	6.130E+12	2.297E-01	Half-Life	too short	
	1457.56	9.917E+14	2.297E-01	Half-Life	too short	
	1678.03	-2.076E+12	2.297E-01	Half-Life	too short	
	1706.46	1.676E+13	2.297E-01	Half-Life	too short	
	1791.20	-1.240E+13	2.297E-01	Half-Life	too short	
CS-136	66.91	-2.654E-01	1.836E+00	2.631E+00	4.513E-01	-0.101
	86.29	4.835E+00	2.302E+00	3.386E+00	5.256E-01	1.428
	153.22	1.272E-01	1.016E+00	1.647E+00	1.848E-01	0.077
	163.89	1.411E+00	1.685E+00	2.786E+00	3.199E-01	0.506
	176.55	4.432E-01	5.561E-01	9.187E-01	1.025E-01	0.482
	273.65	-4.923E-01	8.043E-01	1.122E+00	1.271E-01	-0.439
	340.57	7.771E-01	2.467E-01	4.016E-01	4.029E-02	1.935
	818.51	2.251E-02	9.438E-02	1.599E-01	1.441E-02	0.141
	1048.07 *	-6.948E-02	1.538E-01	2.406E-01	2.227E-02	-0.289
	1235.34	7.823E-01	9.544E-01	1.445E+00	1.722E-01	0.541
CE-139	165.85 *	-6.948E-03	4.087E-02	6.531E-02	6.971E-03	-0.106
BA-140	162.64	7.152E-01	1.177E+00	1.935E+00	2.128E-01	0.370
	304.84	-5.312E-01	2.188E+00	3.101E+00	8.885E-01	-0.171
	423.70	-2.216E+00	2.870E+00	4.328E+00	1.402E+00	-0.512
	537.32 *	2.201E-02	3.572E-01	5.816E-01	1.927E-01	0.038
LA-140	328.77	2.892E-02	4.513E-01	7.506E-01	7.865E-02	0.039
	432.53	-1.382E+00	3.121E+00	4.971E+00	4.462E-01	-0.278
	487.03	1.362E-01	1.958E-01	3.334E-01	3.057E-02	0.409
	751.79	-6.990E-02	2.315E+00	3.851E+00	3.700E-01	-0.018
	815.85	-2.477E-02	4.121E-01	6.802E-01	6.767E-02	-0.036
	867.82	-8.805E-01	1.845E+00	2.916E+00	2.810E-01	-0.302
	919.63	-2.847E+00	4.195E+00	5.323E+00	5.961E-01	-0.535
	925.24	1.447E+00	1.636E+00	2.886E+00	2.824E-01	0.502
	1596.49 *	6.188E-02	1.257E-01	1.970E-01	1.847E-02	0.314
CE-141	145.44 *	-5.422E-02	9.296E-02	1.464E-01	1.514E-02	-0.370
CE-143	57.37	-4.611E-03	9.296E-02	Half-Life	too short	
	231.56	-2.624E-03	9.296E-02	Half-Life	too short	
	293.26 *	4.194E-03	9.296E-02	Half-Life	too short	
	+ 350.59	1.528E-01	9.296E-02	Half-Life	too short	
	490.36	4.606E-03	9.296E-02	Half-Life	too short	
	664.57	3.017E-02	9.296E-02	Half-Life	too short	
	721.93	-3.859E-03	9.296E-02	Half-Life	too short	
CE-144	80.11	-4.085E+00	3.878E+00	5.309E+00	6.240E-01	-0.769
	133.54 *	-7.314E-02	2.743E-01	4.397E-01	7.213E-02	-0.166
PM-144	476.78	1.474E-02	8.639E-02	1.424E-01	1.344E-02	0.104
	618.01	-8.891E-03	3.671E-02	5.785E-02	5.012E-03	-0.154
	696.49 *	-8.406E-03	4.067E-02	6.706E-02	5.643E-03	-0.125
	778.57	-4.539E+00	2.624E+00	3.647E+00	3.219E-01	-1.245
PR-144	696.49 *	-5.705E-01	2.760E+00	4.551E+00	3.828E-01	-0.125
	1489.15	-1.818E+01	1.478E+01	1.998E+01	1.914E+00	-0.910
PM-146	453.90 *	1.247E-02	5.489E-02	8.903E-02	9.534E-03	0.140
	633.02	-6.902E-01	1.579E+00	2.404E+00	8.969E-01	-0.287

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147		735.90		-2.009E-01	1.985E-01	2.637E-01	7.542E-02	-0.762
		747.13		-2.716E-02	1.062E-01	1.734E-01	2.440E-02	-0.157
		91.11		6.972E+00	1.073E+00	1.262E+00	1.563E-01	5.524
		319.41		-3.295E+00	4.918E+00	7.856E+00	8.048E-01	-0.419
		439.89		-1.507E+00	8.823E+00	1.429E+01	1.225E+00	-0.105
PM-149		531.02	*	-3.770E-01	8.459E-01	1.325E+00	1.981E-01	-0.285
EU-152		285.90	*	7.041E-05	8.459E-01	Half-Life too short		
GD-153		121.78		-5.512E-02	9.982E-02	1.586E-01	1.777E-02	-0.348
		244.69		3.948E-01	4.278E-01	7.400E-01	8.157E-02	0.534
		344.27	*	7.826E-02	1.740E-01	2.068E-01	2.106E-02	0.378
		443.98		-8.695E-01	1.199E+00	1.866E+00	1.601E-01	-0.466
		778.89		-5.338E-01	3.085E-01	4.306E-01	3.799E-02	-1.240
		867.32		-9.347E-01	9.603E-01	1.440E+00	1.326E-01	-0.649
		964.01		1.062E-01	4.013E-01	5.835E-01	5.367E-02	0.182
		1085.78		2.671E-01	4.487E-01	7.747E-01	6.746E-02	0.345
		1112.02		-2.463E-01	3.952E-01	5.486E-01	4.694E-02	-0.449
		1407.95		6.031E-02	2.223E-01	3.822E-01	3.683E-02	0.158
EU-154		69.67		-7.026E-01	3.397E+00	4.532E+00	5.174E-01	-0.155
		83.37		-3.867E+01	2.488E+01	3.818E+01	4.577E+00	-1.013
		97.43	*	1.789E-01	1.246E-01	1.885E-01	2.081E-02	0.949
		103.18		-2.141E-01	1.498E-01	2.295E-01	2.426E-02	-0.933
		123.07		4.254E-02	6.752E-02	1.120E-01	1.398E-02	0.380
		247.94		-2.725E-01	5.129E-01	7.208E-01	9.636E-02	-0.378
		591.81		-2.635E-01	8.674E-01	1.227E+00	1.422E-01	-0.215
		723.30		-8.385E-02	2.118E-01	2.902E-01	2.746E-02	-0.289
		756.87		4.270E-01	9.110E-01	1.569E+00	1.890E-01	0.272
		873.19		2.566E-01	3.329E-01	5.858E-01	7.429E-02	0.438
EU-155		996.32		7.538E-02	4.946E-01	7.106E-01	1.279E-01	0.106
		1004.76		2.562E-01	3.175E-01	4.880E-01	5.845E-02	0.525
		1274.45	*	-4.091E-02	1.431E-01	2.238E-01	2.610E-02	-0.183
		48.70		-4.409E-01	8.178E+00	1.357E+01	1.821E+00	-0.032
		60.01		1.441E+01	1.138E+01	1.739E+01	1.963E+00	0.829
		86.54		1.967E-01	1.792E-01	2.655E-01	3.275E-02	0.741
		105.31	*	-3.134E-02	1.480E-01	2.397E-01	2.525E-02	-0.131
		86.79		3.697E-01	4.892E-01	7.195E-01	8.846E-02	0.514
		197.04		8.622E-02	7.886E-01	1.266E+00	1.381E-01	0.068
		215.65		5.572E-01	1.114E+00	1.678E+00	1.846E-01	0.332
TB-160		298.57		1.935E-01	1.873E-01	2.782E-01	2.943E-02	0.695
	+	879.36	*	-1.678E-02	1.573E-01	2.574E-01	2.382E-02	-0.065
		962.29		-4.136E-01	7.764E-01	1.025E+00	9.433E-02	-0.403
		966.15		9.420E-01	3.439E-01	5.880E-01	5.404E-02	1.602
		1177.93		-5.260E-02	4.369E-01	7.014E-01	5.740E-02	-0.075
		1271.85		5.655E-01	8.223E-01	1.427E+00	1.291E-01	0.396
		80.57		-7.790E-01	5.024E-01	6.665E-01	7.853E-02	-1.169
		184.41		2.478E-01	6.610E-02	1.011E-01	1.094E-02	2.450
		280.46		-8.379E-02	1.115E-01	1.792E-01	1.936E-02	-0.467
		410.95		2.684E-01	3.179E-01	5.449E-01	4.625E-02	0.493
HO-166M		711.68	*	2.238E-02	6.818E-02	1.168E-01	9.912E-03	0.192
		752.31		2.826E-02	3.181E-01	5.338E-01	4.642E-02	0.053

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	810.29			-4.825E-02	6.821E-02	1.061E-01	9.516E-03	-0.455
	51.35			-4.286E+01	9.146E+01	1.490E+02	2.009E+01	-0.288
	52.39			2.023E+01	4.437E+01	7.475E+01	9.913E+00	0.271
	59.40			6.925E+01	6.279E+01	9.548E+01	1.076E+01	0.725
LU-176	66.72	*		-9.406E+00	5.772E+01	8.267E+01	9.437E+00	-0.114
	88.36			4.760E-01	3.481E-01	5.176E-01	6.390E-02	0.920
	201.83			-3.850E-02	4.009E-02	6.113E-02	6.683E-03	-0.630
	306.84	*		1.272E-02	3.257E-02	5.378E-02	5.624E-03	0.236
LU-177	401.10			-4.099E+00	8.669E+00	1.386E+01	1.171E+00	-0.296
	112.95			4.864E+00	3.213E+00	5.428E+00	5.518E-01	0.896
+ LU-177M	208.36	*		5.610E+00	2.956E+00	3.375E+00	3.702E-01	1.662
	52.97			3.501E+00	4.473E+00	7.597E+00	9.961E-01	0.461
HF-181	54.07			1.096E+00	2.280E+00	3.840E+00	4.916E-01	0.286
	61.30			7.331E+00	3.684E+00	5.664E+00	6.437E-01	1.294
	121.62			-1.508E-01	5.126E-01	8.235E-01	8.288E-02	-0.183
	147.16			-1.074E+00	9.119E-01	1.398E+00	1.430E-01	-0.768
	171.86			8.344E-02	6.474E-01	1.046E+00	1.121E-01	0.080
	218.09			4.334E-01	1.107E+00	1.890E+00	2.081E-01	0.229
	268.79			1.143E+00	1.187E+00	1.816E+00	1.980E-01	0.629
	319.02			-1.372E-01	3.248E-01	5.268E-01	5.399E-02	-0.261
	367.43			-5.347E-01	1.160E+00	1.862E+00	1.701E-01	-0.287
	413.65	*		-9.937E-02	2.367E-01	3.790E-01	3.221E-02	-0.262
	56.28			-9.382E-01	2.394E+00	3.909E+00	4.746E-01	-0.240
	57.53			-5.170E-01	1.400E+00	2.000E+00	2.355E-01	-0.259
	65.20			5.797E+00	2.351E+00	3.584E+00	4.093E-01	1.617
	133.02			-2.235E-02	9.223E-02	1.481E-01	1.488E-02	-0.151
	136.25			1.376E-01	6.321E-01	1.032E+00	1.039E-01	0.133
W-181	345.85			-1.913E-01	3.137E-01	4.012E-01	3.886E-02	-0.477
	482.03	*		-3.859E-02	5.513E-02	8.531E-02	7.366E-03	-0.452
	56.28			-3.548E-01	9.086E-01	1.484E+00	1.801E-01	-0.239
	57.53			-1.965E-01	5.319E-01	7.598E-01	8.947E-02	-0.259
TA-182	65.20	*		2.185E+00	8.862E-01	1.351E+00	1.543E-01	1.617
	67.75			4.478E-02	2.248E-01	3.271E-01	3.732E-02	0.137
	100.10			3.409E-01	2.587E-01	4.245E-01	4.583E-02	0.803
	152.43			-2.743E-02	4.630E-01	7.455E-01	7.709E-02	-0.037
RE-183	222.10			-1.554E-01	4.555E-01	7.563E-01	8.334E-02	-0.205
	+ 1001.68			1.174E+01	4.340E+00	6.157E+00	5.591E-01	1.907
	+ 1121.28			6.100E-01	4.301E-01	4.250E-01	3.612E-02	1.435
	1189.05			-2.402E-01	3.345E-01	4.997E-01	4.140E-02	-0.481
	1221.42	*		-2.233E-01	2.471E-01	3.662E-01	3.143E-02	-0.610
	1230.97			-3.735E-01	7.110E-01	9.172E-01	7.953E-02	-0.407
	57.98			7.356E-02	5.163E-01	7.567E-01	8.815E-02	0.097
	59.32			2.833E-01	2.653E-01	4.030E-01	4.552E-02	0.703
RE-184	67.20			-1.313E-02	4.140E-01	5.964E-01	6.807E-02	-0.022
	162.32	*		1.070E-01	1.506E-01	2.485E-01	2.629E-02	0.431
	+ 208.81			3.852E+00	2.030E+00	2.360E+00	2.590E-01	1.632
	291.72			3.298E-01	1.320E+00	1.944E+00	2.075E-01	0.170
RE-184	57.98			2.666E-01	1.871E+00	2.742E+00	3.194E-01	0.097
	59.32			1.026E+00	9.607E-01	1.459E+00	1.648E-01	0.703

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		67.20		-4.756E-02	1.500E+00	2.160E+00	2.466E-01	-0.022
		161.27		3.325E-01	4.738E-01	7.820E-01	8.251E-02	0.425
		216.55		3.692E-01	3.759E-01	6.012E-01	6.616E-02	0.614
		252.85	*	-2.121E-01	2.957E-01	4.781E-01	5.258E-02	-0.444
		318.01		-5.056E-03	5.568E-01	9.241E-01	9.487E-02	-0.005
		792.07		-1.039E+00	1.518E+00	2.012E+00	1.787E-01	-0.516
		903.28		-4.607E-01	1.381E+00	2.039E+00	1.900E-01	-0.226
		920.93		-4.638E-01	5.542E-01	7.879E-01	7.320E-02	-0.589
		59.72		8.733E-01	7.013E-01	1.071E+00	1.206E-01	0.816
		61.14		7.215E-01	3.994E-01	6.136E-01	6.970E-02	1.176
		69.30		-2.496E-01	6.291E-01	8.306E-01	9.480E-02	-0.300
		592.07		-7.575E-01	3.425E+00	5.093E+00	4.333E-01	-0.149
		646.12	*	-2.672E-02	5.304E-02	8.147E-02	6.761E-03	-0.328
		717.42		-1.088E-01	9.909E-01	1.641E+00	1.398E-01	-0.066
		874.81		-2.717E-02	6.824E-01	1.124E+00	1.038E-01	-0.024
RE-188		880.27		-7.124E-02	8.502E-01	1.394E+00	1.290E-01	-0.051
		155.03	*	2.693E-01	2.285E-01	3.826E-01	3.979E-02	0.704
		477.96		-7.847E-01	4.002E+00	6.440E+00	5.559E-01	-0.122
		633.10		-9.575E-01	3.204E+00	5.010E+00	4.187E-01	-0.191
W-188	+	63.58		5.960E+02	1.879E+02	2.182E+02	2.490E+01	2.732
		227.08		-2.346E+00	1.720E+01	2.879E+01	3.175E+00	-0.081
IR-192		290.67	*	-9.737E-01	1.031E+01	1.483E+01	1.584E+00	-0.066
	+	295.96		1.185E+00	2.552E-01	3.534E-01	3.769E-02	3.353
		308.46		8.597E-02	1.243E-01	2.132E-01	2.232E-02	0.403
		316.51	*	4.745E-02	4.279E-02	7.469E-02	7.701E-03	0.635
		468.07		-5.005E-02	1.015E-01	1.364E-01	1.261E-02	-0.367
AU-195		604.41		2.381E-01	6.593E-01	9.480E-01	1.225E-01	0.251
		612.46		3.941E+00	1.163E+00	1.983E+00	1.933E-01	1.987
		65.12		1.087E+00	4.136E-01	6.306E-01	7.200E-02	1.724
		66.83		-3.373E-02	1.918E-01	2.745E-01	3.133E-02	-0.123
	+	75.70		1.330E+00	4.755E-01	6.585E-01	7.595E-02	2.020
		98.88	*	3.616E-01	3.656E-01	5.448E-01	5.938E-02	0.664
TL-200		129.76		6.729E+00	3.826E+00	6.498E+00	6.520E-01	1.036
		367.94	*	-7.509E-04	3.826E+00	Half-Life	too short	
		579.30		7.257E-03	3.826E+00	Half-Life	too short	
		828.27		1.049E-02	3.826E+00	Half-Life	too short	
TL-201		1205.75		4.695E-03	3.826E+00	Half-Life	too short	
		68.90		-9.615E+00	2.147E+01	2.546E+01	2.906E+00	-0.378
		70.82		-6.356E-01	9.531E+00	1.375E+01	1.571E+00	-0.046
		80.30		-2.997E+01	1.796E+01	2.363E+01	2.780E+00	-1.268
TL-202		135.34		-7.062E+01	6.555E+01	1.012E+02	1.018E+01	-0.698
		167.43	*	-1.462E+01	1.857E+01	2.883E+01	3.080E+00	-0.507
		68.90		-5.281E-01	1.179E+00	1.398E+00	1.596E-01	-0.378
		70.82		-3.481E-02	5.220E-01	7.534E-01	8.606E-02	-0.046
HG-203		80.30		-1.642E+00	9.841E-01	1.295E+00	1.523E-01	-1.268
		439.56	*	1.440E-02	1.025E-01	1.693E-01	1.451E-02	0.085
		70.83		-1.298E-01	2.005E+00	2.894E+00	4.495E-01	-0.045
		72.87		1.710E+00	1.171E+00	1.754E+00	2.666E-01	0.975
		82.60		2.086E-01	1.861E+00	2.964E+00	4.750E-01	0.070

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207	279.20	*		-1.102E-03	5.654E-02	9.429E-02	1.038E-02	-0.012
	72.80			4.198E-01	3.236E-01	4.880E-01	5.589E-02	0.860
	74.97	+		7.300E-01	2.609E-01	3.350E-01	3.855E-02	2.179
	84.90			1.741E-01	3.107E-01	4.977E-01	6.031E-02	0.350
	569.67			1.365E-02	3.817E-02	6.337E-02	5.428E-03	0.215
TL-207	1063.62	*		4.227E-02	6.039E-02	1.051E-01	9.273E-03	0.402
	1770.23			-1.559E-01	5.295E-01	6.692E-01	5.850E-02	-0.233
	81.07			-4.217E-01	3.916E-01	5.352E-01	6.324E-02	-0.788
	83.78			-3.176E-01	2.087E-01	3.207E-01	3.855E-02	-0.990
	94.90			3.502E+00	5.971E-01	8.044E-01	9.103E-02	4.354
	122.32			-1.425E+00	2.363E+00	3.746E+00	3.974E-01	-0.380
	144.24			3.524E-01	9.339E-01	1.525E+00	1.687E-01	0.231
	154.21			4.067E-01	5.132E-01	8.501E-01	9.440E-02	0.478
	269.46	+		3.608E-01	3.346E-01	4.342E-01	4.794E-02	0.831
	323.87	*		-2.156E-01	8.252E-01	1.349E+00	2.497E-01	-0.160
PO-209	338.28	+		6.342E+00	2.212E+00	2.946E+00	3.891E-01	2.153
	445.03			-1.719E+00	2.832E+00	4.437E+00	5.352E-01	-0.387
	260.50			-5.578E-01	1.279E+01	2.136E+01	2.341E+00	-0.026
	262.80			-2.425E+01	3.517E+01	5.690E+01	6.228E+00	-0.426
	896.60	*		3.049E+00	8.781E+00	1.493E+01	1.391E+00	0.204
BI-210	46.50	*		-7.636E+00	1.394E+01	2.235E+01	2.752E+00	-0.342
PB-210	46.50	*		-7.636E+00	1.394E+01	2.235E+01	2.752E+00	-0.342
PO-210	46.50	*		-7.636E+00	1.394E+01	2.235E+01	2.606E+00	-0.342
PB-211	404.84	*		-9.193E-01	1.361E+00	1.942E+00	1.217E+00	-0.473
BI-212	427.08			1.503E-01	2.512E+00	4.130E+00	2.566E+00	0.036
	831.96			-1.218E+00	1.630E+00	2.220E+00	1.392E+00	-0.549
	727.18	+		1.128E+00	6.015E-01	7.482E-01	7.456E-02	1.508
	785.46			2.457E+00	2.149E+00	3.847E+00	3.406E-01	0.639
	1620.62			7.218E-01	1.351E+00	2.420E+00	2.253E-01	0.298
PO-215	81.07			-4.217E-01	3.916E-01	5.352E-01	6.324E-02	-0.788
	83.78			-3.176E-01	2.087E-01	3.207E-01	3.855E-02	-0.990
	94.90			3.502E+00	5.971E-01	8.044E-01	9.103E-02	4.354
	122.32			-1.425E+00	2.363E+00	3.746E+00	3.974E-01	-0.380
	144.24			3.524E-01	9.339E-01	1.525E+00	1.687E-01	0.231
	154.21			4.067E-01	5.132E-01	8.501E-01	9.440E-02	0.478
	269.46	+		3.608E-01	3.346E-01	4.342E-01	4.794E-02	0.831
	323.87	*		-2.156E-01	8.252E-01	1.349E+00	2.497E-01	-0.160
	338.28	+		6.342E+00	2.212E+00	2.946E+00	3.891E-01	2.153
	445.03			-1.719E+00	2.832E+00	4.437E+00	5.352E-01	-0.387
RN-219	271.23	+		4.629E-01	4.301E-01	5.678E-01	6.966E-02	0.815
RN-220	401.81	*		1.663E-01	5.223E-01	8.732E-01	1.304E-01	0.190
RA-223	549.76	*		1.956E+00	3.302E+01	5.368E+01	4.619E+00	0.036
RA-223	81.07			-4.217E-01	3.916E-01	5.352E-01	6.324E-02	-0.788
	83.78			-3.176E-01	2.087E-01	3.207E-01	3.855E-02	-0.990
	94.90			3.502E+00	5.971E-01	8.044E-01	9.103E-02	4.354
	122.32			-1.425E+00	2.363E+00	3.746E+00	3.974E-01	-0.380
	144.24			3.524E-01	9.339E-01	1.525E+00	1.687E-01	0.231
	154.21			4.067E-01	5.132E-01	8.501E-01	9.440E-02	0.478
	269.46	+		3.608E-01	3.346E-01	4.342E-01	4.794E-02	0.831

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		323.87	*	-2.156E-01	8.252E-01	1.349E+00	2.497E-01	-0.160
	+	338.28		6.342E+00	2.212E+00	2.946E+00	3.891E-01	2.153
		445.03		-1.719E+00	2.832E+00	4.437E+00	5.352E-01	-0.387
		79.80		-1.979E+00	3.033E+00	4.211E+00	9.656E-01	-0.470
		236.00		1.094E+00	3.992E-01	6.118E-01	8.596E-02	1.788
		256.20	*	3.072E-01	4.986E-01	8.521E-01	1.431E-01	0.361
		286.10		6.491E-01	1.943E+00	3.287E+00	4.823E-01	0.197
TH-227	+	299.80		2.397E+00	2.349E+00	3.263E+00	6.045E-01	0.734
		304.40		-6.692E-01	2.758E+00	3.914E+00	7.586E-01	-0.171
		334.20		8.218E-01	3.489E+00	5.093E+00	1.020E+00	0.161
		79.80		-1.979E+00	3.034E+00	4.211E+00	9.765E-01	-0.470
	+	94.00		6.303E+01	1.597E+01	8.145E+00	1.876E+00	7.738
		236.00		1.094E+00	3.951E-01	6.118E-01	7.981E-02	1.788
		256.20	*	3.072E-01	4.995E-01	8.521E-01	1.645E-01	0.361
TH-229		286.10		6.491E-01	2.048E+00	3.287E+00	3.306E+00	0.197
	+	299.80		2.397E+00	2.349E+00	3.263E+00	6.045E-01	0.734
		304.40		-6.692E-01	2.758E+00	3.914E+00	7.586E-01	-0.171
		334.20		8.218E-01	3.489E+00	5.093E+00	1.020E+00	0.161
		85.43		5.759E-01	3.212E-01	5.038E-01	6.129E-02	1.143
		88.47		2.625E-01	1.996E-01	2.965E-01	3.654E-02	0.885
		100.00		3.578E-01	2.644E-01	4.343E-01	4.692E-02	0.824
PA-231		193.63	*	2.682E-03	6.746E-01	1.079E+00	1.175E-01	0.002
		210.97		1.777E+00	1.130E+00	1.766E+00	1.939E-01	1.006
		283.67	*	-1.484E-01	1.996E+00	3.319E+00	5.475E-01	-0.045
TH-231		301.29		7.642E-01	8.546E-01	1.296E+00	1.771E-01	0.590
		81.07		-4.217E-01	3.916E-01	5.352E-01	6.324E-02	-0.788
		83.78		-3.176E-01	2.087E-01	3.207E-01	3.855E-02	-0.990
		94.90		3.502E+00	5.971E-01	8.044E-01	9.103E-02	4.354
		122.32		-1.425E+00	2.363E+00	3.746E+00	3.974E-01	-0.380
		144.24		3.524E-01	9.339E-01	1.525E+00	1.687E-01	0.231
		154.21		4.067E-01	5.132E-01	8.501E-01	9.440E-02	0.478
U-231	+	269.46		3.608E-01	3.346E-01	4.342E-01	4.794E-02	0.831
		323.87	*	-2.156E-01	8.252E-01	1.349E+00	2.497E-01	-0.160
	+	338.28		6.342E+00	2.212E+00	2.946E+00	3.891E-01	2.153
		445.03		-1.719E+00	2.832E+00	4.437E+00	5.352E-01	-0.387
		84.21		-1.467E+01	1.424E+01	2.242E+01	2.704E+00	-0.654
	+	92.29		1.002E+02	1.559E+01	1.377E+01	1.607E+00	7.275
		95.87	*	2.617E+00	2.991E+00	4.426E+00	4.959E-01	0.591
PA-233		108.00		-2.280E+00	4.746E+00	7.605E+00	7.851E-01	-0.300
	+	75.28		2.130E+01	8.079E+00	1.009E+01	1.730E+00	2.111
		86.59		3.113E+00	3.009E+00	4.301E+00	1.213E+00	0.724
	+	300.12		6.682E-01	6.519E-01	9.212E-01	1.481E-01	0.725
		311.98	*	-4.433E-02	8.156E-02	1.316E-01	1.392E-02	-0.337
		340.50		3.373E+00	1.278E+00	1.690E+00	4.106E-01	1.996
		398.62		-8.293E-01	2.740E+00	4.414E+00	1.173E+00	-0.188
PA-234		415.76		-5.175E-01	2.130E+00	3.441E+00	7.400E-01	-0.150
	+	63.00		1.679E+01	5.719E+00	6.437E+00	1.108E+00	2.609
		94.67		3.298E+00	5.809E-01	6.227E-01	8.986E-02	5.295
		98.44		1.979E-01	1.827E-01	2.210E-01	1.242E-01	0.896

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		99.86		9.401E-01	6.715E-01	1.104E+00	1.194E-01	0.852
		111.00		1.555E-01	2.735E-01	4.527E-01	6.010E-02	0.343
		131.20		8.740E-02	1.421E-01	2.351E-01	2.360E-02	0.372
		152.70		7.311E-03	4.352E-01	7.026E-01	1.263E-01	0.010
	+	186.00		1.281E+01	4.917E+00	3.832E+00	1.222E+00	3.343
		226.40		2.277E-02	5.215E-01	8.788E-01	1.308E-01	0.026
		227.20		-5.763E-02	5.655E-01	9.474E-01	1.045E-01	-0.061
		248.90		-4.762E-01	1.147E+00	1.620E+00	3.797E-01	-0.294
		293.70		6.539E+00	1.625E+00	2.051E+00	3.773E-01	3.188
		369.80		-3.787E-01	1.049E+00	1.689E+00	3.708E-01	-0.224
		568.70		8.653E-01	1.178E+00	2.003E+00	1.716E-01	0.432
		569.50		1.346E-01	3.345E-01	5.571E-01	4.772E-02	0.242
		574.00		-1.026E-01	1.912E+00	3.076E+00	2.632E-01	-0.033
		699.00		3.614E-01	8.351E-01	1.435E+00	2.725E-01	0.252
		706.10		-1.101E-03	1.167E+00	1.952E+00	8.697E-01	-0.001
		733.00		-1.320E-01	4.888E-01	6.798E-01	1.508E-01	-0.194
		742.81		8.155E-01	1.717E+00	2.815E+00	1.893E+00	0.290
	+	796.30		8.955E-01	1.293E+00	1.862E+00	5.054E-01	0.481
		805.60		1.166E+00	1.220E+00	2.087E+00	6.417E-01	0.559
		819.60		4.560E-01	1.372E+00	2.325E+00	8.864E-01	0.196
		826.30		-9.952E-02	9.049E-01	1.484E+00	6.652E-01	-0.067
		831.60		-7.168E-01	7.732E-01	1.132E+00	3.394E-01	-0.633
		876.40		-2.013E-01	9.537E-01	1.508E+00	1.551E+00	-0.134
		880.51		2.168E-02	3.027E-01	5.037E-01	4.664E-02	0.043
		883.24		-6.937E-02	3.043E-01	4.854E-01	3.267E-01	-0.143
		899.00		-1.472E-02	1.051E+00	1.732E+00	7.598E-01	-0.008
		925.00		1.412E+00	1.410E+00	2.514E+00	2.334E-01	0.562
		926.50		9.579E-02	2.183E-01	3.708E-01	9.459E-02	0.258
		946.00	*	1.758E-01	3.226E-01	5.563E-01	1.060E-01	0.316
		949.00		5.618E-01	4.920E-01	8.905E-01	8.223E-02	0.631
		980.50		-2.005E-01	7.942E-01	1.270E+00	1.162E-01	-0.158
PA-234M		1394.10		6.796E-01	1.340E+00	2.259E+00	1.473E+00	0.301
		766.42		3.170E+01	2.362E+01	2.876E+01	1.460E+01	1.102
U-235	+	1001.03	*	2.620E+01	9.772E+00	1.397E+01	1.448E+00	1.876
		89.95		-1.959E-01	2.083E+00	2.981E+00	9.535E-01	-0.066
	+	93.35		1.961E+01	6.054E+00	2.661E+00	7.730E-01	7.368
		105.00		1.138E-01	1.439E+00	2.354E+00	7.164E-01	0.048
		143.76	*	1.926E-01	2.886E-01	4.731E-01	8.668E-02	0.407
		163.35		3.860E-01	6.378E-01	1.043E+00	2.092E-01	0.370
	+	185.71		4.745E-01	1.136E-01	1.419E-01	1.536E-02	3.344
NP-236		205.31		7.040E-01	7.798E-01	1.125E+00	2.276E-01	0.626
		94.67		2.513E+00	3.811E-01	4.731E-01	5.368E-02	5.312
		98.44		1.496E-01	1.108E-01	1.671E-01	1.828E-02	0.896
		111.00		1.176E-01	2.067E-01	3.424E-01	3.499E-02	0.343
		160.31	*	-5.535E-02	1.054E-01	1.660E-01	1.747E-02	-0.334
NP-237		86.50	*	4.887E-01	4.485E-01	6.479E-01	1.555E-01	0.754
		95.87		1.435E+00	1.673E+00	2.427E+00	6.226E-01	0.591
NP-239		99.55		2.847E-01	2.345E-01	3.697E-01	4.007E-02	0.770
		117.00	*	-1.566E-01	2.668E-01	4.243E-01	4.284E-02	-0.369

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		2.954E+00	1.556E+00	1.819E+00	1.997E-01	1.624
		228.18		-1.803E-01	2.985E-01	4.894E-01	5.398E-02	-0.368
		277.60		1.675E-01	2.485E-01	4.041E-01	4.375E-02	0.414
		334.30		6.558E-01	1.961E+00	2.884E+00	2.868E-01	0.227
AM-241		59.54	*	4.229E-01	3.631E-01	5.527E-01	6.488E-02	0.765
CM-243		99.55		2.930E-01	2.414E-01	3.805E-01	4.124E-02	0.770
		103.76	*	-1.998E-02	1.334E-01	2.167E-01	2.283E-02	-0.092
		117.00		-1.612E-01	2.746E-01	4.366E-01	4.408E-02	-0.369
	+	209.75		2.912E+00	1.534E+00	1.794E+00	1.969E-01	1.624
		228.18		-1.822E-01	3.017E-01	4.946E-01	5.456E-02	-0.368
		277.60		1.689E-01	2.506E-01	4.074E-01	4.412E-02	0.414
AM-246		798.80		-1.600E-01	1.887E-01	2.409E-01	2.148E-02	-0.664
		1036.00		-3.716E-02	3.018E-01	4.872E-01	4.360E-02	-0.076
		1062.04		4.831E-02	2.577E-01	4.291E-01	3.789E-02	0.113
		1078.86	*	-4.432E-02	1.746E-01	2.782E-01	2.433E-02	-0.159
CM-247		278.00		5.038E-01	1.008E+00	1.675E+00	1.813E-01	0.301
		287.40		-7.090E-01	1.556E+00	2.535E+00	2.718E-01	-0.280
		402.60	*	2.242E-02	4.664E-02	7.869E-02	6.655E-03	0.285
CF-249		252.85		-7.864E-01	1.097E+00	1.773E+00	1.950E-01	-0.444
		333.44		9.334E-02	2.597E-01	3.824E-01	3.810E-02	0.244
		387.95	*	4.437E-02	5.152E-02	8.859E-02	7.557E-03	0.501
CF-251		176.60	*	9.537E-02	1.658E-01	2.720E-01	2.925E-02	0.351
		227.00		-7.356E-02	5.014E-01	8.386E-01	9.250E-02	-0.088
		285.00		2.013E+00	2.235E+00	3.864E+00	4.154E-01	0.521

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     *
*                               GEL Laboratories LLC                       *
*                               2040 Savage Road                         *
*                               Charleston, SC 29414                     *
*                               *****                                *
*                               *                                     *
*                               DETECTOR DATA                           *
*                               *                                     *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978008   *
* Acquisition date   : 14-FEB-2010 12:01:03 Detector SN#      :         *
* Detector ID        : GAM15                                           Sensitivity      : 5.000   *
* Geometry           : CAN                                             Energy tolerance: 1.500   *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000   *
* Elapsed real time  : 0 02:00:01.40 Half life ratio : 8.000   *
*                               *****                                *
*                               *                                     *
*                               SAMPLE DATA                             *
*                               *                                     *
* Sample date       : 27-JAN-2010 12:00:00 Nuclide Library : SOLID   *
* Sample ID        : G245978008 Analyst initials: MXR1             *
* Batch Number     : 948721 Sample Quantity : 1.3406E+02 GRAM      *
* Recovery         : 1.00000 Carrier Weight : 0.00000             *
*                               *****                                *
*                               *                                     *
*                               QC DATA                                *
*                               *                                     *
* Standard Weight   : 0.00000                                         *
* CALIB. DATE/TIME  : 3-FEB-2010 11:04:32 MS Isotope      :         *
* MSD DPM           : 0.000 MSD Isotope      :         *
* LCS DPM           : 0.000 LCS Isotope      :         *
* LCSD DPM          : 0.000 LCSD Isotope     :         *
*                               *****                                *

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.491E+01	2.997E+00	5.915E-01	0.000E+00
BA-137M	4.463E-01	9.447E-02	8.026E-02	0.000E+00
CS-137	4.718E-01	9.990E-02	8.484E-02	0.000E+00
TL-208	3.966E-01	1.027E-01	7.568E-02	0.000E+00
BI-211	4.506E+00	6.765E-01	3.873E-01	0.000E+00
PB-212	1.588E+00	2.257E-01	1.164E-01	0.000E+00
PO-212	1.588E+00	2.257E-01	1.164E-01	0.000E+00
BI-214	1.303E+00	2.106E-01	1.415E-01	0.000E+00
PB-214	1.567E+00	2.486E-01	1.350E-01	0.000E+00
PO-214	1.567E+00	2.486E-01	1.350E-01	0.000E+00
PO-216	1.588E+00	2.257E-01	1.164E-01	0.000E+00
PO-218	1.567E+00	2.486E-01	1.350E-01	0.000E+00
RA-224	5.023E+00	1.602E+00	1.324E+00	0.000E+00
RA-226	1.303E+00	2.106E-01	1.415E-01	0.000E+00
AC-228	1.356E+00	3.544E-01	2.527E-01	0.000E+00
RA-228	1.356E+00	3.544E-01	2.527E-01	0.000E+00
TH-228	1.616E+00	2.298E-01	1.185E-01	0.000E+00
TH-230	1.303E+00	2.106E-01	1.415E-01	0.000E+00
TH-232	1.356E+00	3.544E-01	2.527E-01	0.000E+00
TH-234	1.441E+01	4.978E+00	4.337E+00	0.000E+00
U-234	1.303E+00	2.106E-01	1.415E-01	0.000E+00
U-238	1.441E+01	4.978E+00	4.337E+00	0.000E+00
AM-243	4.066E-01	1.424E-01	1.498E-01	0.000E+00
ANH-511	1.452E-01	7.953E-02	5.792E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	7.890E-02	4.089E-01	7.042E-01	0.000E+00 NOT IDENT.
NA-22	-2.491E-02	5.158E-02	8.094E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.194E+07	0.000E+00	0.000E+00 SHORT HLIF

AL-26	2.213E-02	3.110E-02	5.904E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.740E-02	1.191E-01	0.000E+00	FAIL ABUN
SC-46	-2.575E-02	4.229E-02	6.767E-02	0.000E+00	NOT IDENT.
V-48	-3.584E-04	9.009E-02	1.523E-01	0.000E+00	NOT IDENT.
CR-51	-5.440E-01	4.816E-01	7.839E-01	0.000E+00	NOT IDENT.
MN-52	-1.354E-01	3.429E-01	5.505E-01	0.000E+00	NOT IDENT.
MN-54	5.646E-02	4.420E-02	8.223E-02	0.000E+00	NOT IDENT.
CO-56	-2.115E-02	4.545E-02	7.456E-02	0.000E+00	FAIL ABUN
CO-57	-1.949E-02	3.374E-02	5.725E-02	0.000E+00	NOT IDENT.
CO-58	1.265E-03	4.427E-02	7.615E-02	0.000E+00	NOT IDENT.
FE-59	-7.481E-02	1.109E-01	1.734E-01	0.000E+00	NOT IDENT.
CO-60	2.545E-02	4.583E-02	8.050E-02	0.000E+00	NOT IDENT.
ZN-65	7.599E-02	1.093E-01	1.717E-01	0.000E+00	NOT IDENT.
GE-68	-2.066E-01	1.511E+00	2.505E+00	0.000E+00	NOT IDENT.
AS-73	1.336E+00	2.234E+00	4.090E+00	0.000E+00	NOT IDENT.
AS-74	4.274E-02	1.211E-01	2.082E-01	0.000E+00	NOT IDENT.
SE-75	3.994E-02	6.046E-02	1.004E-01	0.000E+00	NOT IDENT.
BR-77	3.331E-01	2.907E+01	4.788E+01	0.000E+00	FAIL ABUN
SR-82	-3.868E-01	4.787E-01	7.246E-01	0.000E+00	NOT IDENT.
RB-83	-8.664E-03	8.843E-02	1.397E-01	0.000E+00	NOT IDENT.
RB-84	5.638E-02	7.697E-02	1.399E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	1.005E+01	1.733E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.314E-02	9.158E-02	0.000E+00	NOT IDENT.
RB-86	8.735E-01	1.006E+00	1.820E+00	0.000E+00	NOT IDENT.
Y-88	-1.498E-02	3.333E-02	4.983E-02	0.000E+00	NOT IDENT.
ZR-88	-2.939E-02	4.086E-02	6.749E-02	0.000E+00	NOT IDENT.
Y-91	4.275E+00	2.456E+01	4.145E+01	0.000E+00	NOT IDENT.
NB-94	-1.845E-02	3.791E-02	6.337E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	6.284E-02	1.090E-01	0.000E+00	NOT IDENT.
NB-95M	2.550E-01	1.926E-01	3.133E-01	0.000E+00	NOT IDENT.
ZR-95	3.164E-02	8.430E-02	1.493E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.216E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.369E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.902E+01	2.726E+01	4.927E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.577E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.071E-02	4.374E-02	7.542E-02	0.000E+00	NOT IDENT.
RH-102	-7.322E-03	3.714E-02	6.242E-02	0.000E+00	FAIL ABUN
RU-103	2.271E-02	5.093E-02	8.887E-02	0.000E+00	FAIL ABUN
RH-106	8.386E-02	3.600E-01	6.126E-01	0.000E+00	FAIL ABUN
RU-106	8.386E-02	3.600E-01	6.126E-01	0.000E+00	FAIL ABUN
AG-108M	1.698E-02	4.035E-02	7.079E-02	0.000E+00	NOT IDENT.
CD-109	1.267E+00	1.481E+00	2.342E+00	0.000E+00	NOT IDENT.
AG-110M	2.856E-02	4.610E-02	7.349E-02	0.000E+00	NOT IDENT.
IN-111	1.505E+00	2.861E+00	4.547E+00	0.000E+00	NOT IDENT.
IN-113M	-2.404E-02	5.920E-02	9.972E-02	0.000E+00	NOT IDENT.
SN-113	-2.404E-02	5.920E-02	9.972E-02	0.000E+00	NOT IDENT.
IN-114M	-5.105E-02	2.754E-01	4.030E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.184E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-4.342E-02	8.090E-02	1.355E-01	0.000E+00	NOT IDENT.
SB-122	2.036E+00	5.335E+00	9.205E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.862E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.233E-02	3.723E-02	6.133E-02	0.000E+00	NOT IDENT.
I-124	-6.564E-02	1.533E+00	2.202E+00	0.000E+00	FAIL ABUN
SB-124	-8.316E-03	8.969E-02	1.484E-01	0.000E+00	FAIL ABUN
SB-125	8.149E-02	1.101E-01	1.968E-01	0.000E+00	FAIL ABUN
TE-125M	-9.278E+00	1.397E+01	2.379E+01	0.000E+00	NOT IDENT.
I-126	2.849E-01	2.847E-01	4.667E-01	0.000E+00	NOT IDENT.
SB-126	9.683E-02	1.887E-01	2.989E-01	0.000E+00	FAIL ABUN
SN-126	7.062E-02	1.446E-01	2.266E-01	0.000E+00	FAIL ABUN
SB-127	4.845E-01	2.526E+00	4.448E+00	0.000E+00	NOT IDENT.
XE-127	-6.697E-03	6.925E-02	1.125E-01	0.000E+00	NOT IDENT.
I-131	9.129E-02	1.846E-01	3.276E-01	0.000E+00	NOT IDENT.
TE-132	-1.028E+00	1.657E+00	2.861E+00	0.000E+00	NOT IDENT.
BA-133	-1.314E-02	5.919E-02	8.735E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.330E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	4.620E-02	6.433E-02	9.880E-02	0.000E+00	FAIL ABUN
CS-135	1.111E-01	2.251E-01	3.547E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.673E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.948E-02	1.507E-01	2.426E-01	0.000E+00	NOT IDENT.
CE-139	-6.948E-03	4.005E-02	6.803E-02	0.000E+00	NOT IDENT.
BA-140	2.201E-02	3.501E-01	5.934E-01	0.000E+00	NOT IDENT.
LA-140	6.188E-02	1.232E-01	1.971E-01	0.000E+00	NOT IDENT.
CE-141	-5.422E-02	9.111E-02	1.529E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.327E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-7.314E-02	2.689E-01	4.597E-01	0.000E+00	NOT IDENT.
PM-144	-8.406E-03	3.986E-02	6.811E-02	0.000E+00	NOT IDENT.
PR-144	-5.705E-01	2.705E+00	4.623E+00	0.000E+00	NOT IDENT.
PM-146	1.247E-02	5.380E-02	9.112E-02	0.000E+00	NOT IDENT.

ND-147	-3.770E-01	8.290E-01	1.352E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.811E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	7.826E-02	1.706E-01	2.127E-01	0.000E+00	NOT IDENT.
GD-153	1.789E-01	1.221E-01	1.982E-01	0.000E+00	NOT IDENT.
EU-154	-4.091E-02	1.403E-01	2.248E-01	0.000E+00	NOT IDENT.
EU-155	-3.134E-02	1.450E-01	2.516E-01	0.000E+00	NOT IDENT.
TB-160	-1.678E-02	1.542E-01	2.603E-01	0.000E+00	FAIL ABUN
HO-166M	2.238E-02	6.682E-02	1.185E-01	0.000E+00	NOT IDENT.
TM-171	-9.406E+00	5.657E+01	8.746E+01	0.000E+00	NOT IDENT.
LU-176	1.272E-02	3.192E-02	5.543E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	2.897E+00	3.502E+00	0.000E+00	FAIL ABUN
LU-177M	-9.937E-02	2.319E-01	3.886E-01	0.000E+00	NOT IDENT.
HF-181	-3.859E-02	5.402E-02	8.722E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	8.685E-01	1.430E+00	0.000E+00	NOT IDENT.
TA-182	-2.233E-01	2.422E-01	3.681E-01	0.000E+00	FAIL ABUN
RE-183	1.070E-01	1.476E-01	2.590E-01	0.000E+00	FAIL ABUN
RE-184	-2.121E-01	2.898E-01	4.944E-01	0.000E+00	NOT IDENT.
OS-185	-2.672E-02	5.198E-02	8.286E-02	0.000E+00	NOT IDENT.
RE-188	2.693E-01	2.239E-01	3.990E-01	0.000E+00	NOT IDENT.
W-188	-9.737E-01	1.010E+01	1.529E+01	0.000E+00	FAIL ABUN
IR-192	4.745E-02	4.193E-02	7.694E-02	0.000E+00	FAIL ABUN
AU-195	3.616E-01	3.582E-01	5.726E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.515E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.462E+01	1.820E+01	3.003E+01	0.000E+00	NOT IDENT.
TL-202	1.440E-02	1.005E-01	1.733E-01	0.000E+00	NOT IDENT.
HG-203	-1.102E-03	5.541E-02	9.734E-02	0.000E+00	NOT IDENT.
BI-207	4.227E-02	5.918E-02	1.059E-01	0.000E+00	FAIL ABUN
TL-207	-2.156E-01	8.087E-01	1.389E+00	0.000E+00	FAIL ABUN
PO-209	3.049E+00	8.606E+00	1.509E+01	0.000E+00	NOT IDENT.
BI-210	-7.636E+00	1.366E+01	2.378E+01	0.000E+00	NOT IDENT.
PB-210	-7.636E+00	1.366E+01	2.378E+01	0.000E+00	NOT IDENT.
PO-210	-7.636E+00	1.366E+01	2.378E+01	0.000E+00	NOT IDENT.
PB-211	-9.193E-01	1.334E+00	1.992E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.895E-01	7.593E-01	0.000E+00	FAIL ABUN
PO-215	-2.156E-01	8.087E-01	1.389E+00	0.000E+00	FAIL ABUN
RN-219	1.663E-01	5.119E-01	8.957E-01	0.000E+00	FAIL ABUN
RN-220	1.956E+00	3.236E+01	5.476E+01	0.000E+00	NOT IDENT.
RA-223	-2.156E-01	8.087E-01	1.389E+00	0.000E+00	FAIL ABUN
AC-227	3.072E-01	4.887E-01	8.810E-01	0.000E+00	FAIL ABUN
TH-227	3.072E-01	4.895E-01	8.810E-01	0.000E+00	FAIL ABUN
TH-229	2.682E-03	6.611E-01	1.121E+00	0.000E+00	NOT IDENT.
PA-231	-1.484E-01	1.956E+00	3.425E+00	0.000E+00	NOT IDENT.
TH-231	-2.156E-01	8.087E-01	1.389E+00	0.000E+00	FAIL ABUN
U-231	2.617E+00	2.931E+00	4.654E+00	0.000E+00	FAIL ABUN
PA-233	-4.433E-02	7.993E-02	1.356E-01	0.000E+00	FAIL ABUN
PA-234	1.758E-01	3.161E-01	5.619E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	9.577E+00	1.409E+01	0.000E+00	FAIL ABUN
U-235	1.926E-01	2.828E-01	4.940E-01	0.000E+00	FAIL ABUN
NP-236	-5.535E-02	1.033E-01	1.730E-01	0.000E+00	NOT IDENT.
NP-237	4.887E-01	4.396E-01	6.825E-01	0.000E+00	NOT IDENT.
NP-239	-1.566E-01	2.615E-01	4.446E-01	0.000E+00	FAIL ABUN
AM-241	4.229E-01	3.559E-01	5.858E-01	0.000E+00	NOT IDENT.
CM-243	-1.998E-02	1.307E-01	2.275E-01	0.000E+00	FAIL ABUN
AM-246	-4.432E-02	1.711E-01	2.803E-01	0.000E+00	NOT IDENT.
CM-247	2.242E-02	4.570E-02	8.071E-02	0.000E+00	NOT IDENT.
CF-249	4.437E-02	5.049E-02	9.092E-02	0.000E+00	NOT IDENT.
CF-251	9.537E-02	1.625E-01	2.830E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978008.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:01:03
Sample ID          : G245978008           Sample quantity  : 1.34060E+02 GRAM
Detector name      : GAM15                 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00         Elapsed real time  : 0 02:00:01.40  0.0%
Energy tolerance   : 1.50000 keV           Analyst Initials : MXR1
Abundance limit    : 75.00000              Sensitivity        : 5.00000
Batch ID           : 948721                 Detector SN#        :
Matrix Spike ID    :                       LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	917	10.67*	9.662E-01	2.491E+01	2.491E+01	12.28
BA-137M	661.65	284	89.98*	1.982E+00	4.458E-01	4.463E-01	21.60
CS-137	661.65	284	85.12*	1.982E+00	4.713E-01	4.718E-01	21.61
TL-208	277.35	-----	6.80	3.705E+00	-----	Line Not Found	-----
	510.84	125	21.60	2.419E+00	6.720E-01	6.720E-01	56.52
	583.14	261	84.20*	2.191E+00	3.966E-01	3.966E-01	26.44
	860.37	-----	12.46	1.576E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.001E+00	-----	Line Not Found	-----
	351.07	654	12.94*	3.141E+00	4.506E+00	4.506E+00	15.32
PB-212	74.81	311	10.70	3.250E+00	2.508E+00	2.508E+00	36.95
	77.11	393	18.00	3.504E+00	1.743E+00	1.743E+00	24.55
	87.30	-----	8.00	4.444E+00	-----	Line Not Found	-----
	238.63	1040	44.60*	4.114E+00	1.588E+00	1.588E+00	14.51
	300.09	55	3.41	3.510E+00	1.293E+00	1.293E+00	96.98
PO-212	74.81	311	10.70	3.250E+00	2.508E+00	2.508E+00	36.95
	77.11	393	18.00	3.504E+00	1.743E+00	1.743E+00	24.55
	87.30	-----	8.00	4.444E+00	-----	Line Not Found	-----
	115.19	-----	0.60	5.586E+00	-----	Line Not Found	-----
	238.63	1040	44.60*	4.114E+00	1.588E+00	1.588E+00	14.51
	300.09	55	3.41	3.510E+00	1.293E+00	1.293E+00	96.98
BI-214	609.31	456	46.30*	2.117E+00	1.303E+00	1.303E+00	16.49
	1120.29	-----	15.10	1.226E+00	-----	Line Not Found	-----
	1764.49	62	15.80	8.553E-01	1.281E+00	1.281E+00	40.71
PB-214	74.81	311	6.21	3.250E+00	4.321E+00	4.322E+00	36.50
	77.11	393	10.50	3.504E+00	2.988E+00	2.988E+00	25.71
	87.30	-----	4.67	4.444E+00	-----	Line Not Found	-----
	241.98	289	7.49	4.077E+00	2.649E+00	2.649E+00	33.02
	295.21	368	19.20	3.547E+00	1.513E+00	1.513E+00	22.40
	351.92	654	37.20*	3.141E+00	1.567E+00	1.567E+00	16.18
PO-214	74.81	311	6.21	3.250E+00	4.321E+00	4.322E+00	36.50
	77.11	393	10.50	3.504E+00	2.988E+00	2.988E+00	25.71
	87.30	-----	4.67	4.444E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	241.98	289	7.49	4.077E+00	2.649E+00	2.649E+00	33.02
	295.21	368	19.20	3.547E+00	1.513E+00	1.513E+00	22.40
	351.92	654	37.20*	3.141E+00	1.567E+00	1.567E+00	16.18
	74.81	311	10.70	3.250E+00	2.508E+00	2.508E+00	36.95
	77.11	393	18.00	3.504E+00	1.743E+00	1.743E+00	24.55
	87.30	-----	8.00	4.444E+00	-----	Line Not Found	-----
PO-218	238.63	1040	44.60*	4.114E+00	1.588E+00	1.588E+00	14.51
	300.09	55	3.41	3.510E+00	1.293E+00	1.293E+00	96.98
	74.81	311	6.21	3.250E+00	4.321E+00	4.322E+00	36.50
	77.11	393	10.50	3.504E+00	2.988E+00	2.988E+00	25.71
	87.30	-----	4.67	4.444E+00	-----	Line Not Found	-----
	241.98	289	7.49	4.077E+00	2.649E+00	2.649E+00	33.02
RA-224	295.21	368	19.20	3.547E+00	1.513E+00	1.513E+00	22.40
	351.92	654	37.20*	3.141E+00	1.567E+00	1.567E+00	16.18
	240.98	289	3.95*	4.077E+00	5.023E+00	5.023E+00	32.54
	609.31	456	46.30*	2.117E+00	1.303E+00	1.303E+00	16.49
	1120.29	-----	15.10	1.226E+00	-----	Line Not Found	-----
	1764.49	62	15.80	8.553E-01	1.281E+00	1.281E+00	40.71
AC-228	338.32	200	11.40	3.227E+00	1.519E+00	1.519E+00	52.60
	911.07	200	27.70*	1.494E+00	1.356E+00	1.356E+00	26.66
	969.11	115	16.60	1.409E+00	1.380E+00	1.380E+00	48.69
	338.32	200	11.40	3.227E+00	1.519E+00	1.519E+00	52.60
	911.07	200	27.70*	1.494E+00	1.356E+00	1.356E+00	26.66
	969.11	115	16.60	1.409E+00	1.380E+00	1.380E+00	48.69
TH-228	74.81	311	10.70	3.250E+00	2.508E+00	2.553E+00	35.76
	77.11	393	18.00	3.504E+00	1.743E+00	1.775E+00	24.55
	87.30	-----	8.00	4.444E+00	-----	Line Not Found	-----
	238.63	1040	44.60*	4.114E+00	1.588E+00	1.616E+00	14.51
	300.09	55	3.41	3.510E+00	1.293E+00	1.317E+00	113.19
	609.31	456	46.30*	2.117E+00	1.303E+00	1.303E+00	16.49
TH-230	1120.29	-----	15.10	1.226E+00	-----	Line Not Found	-----
	1764.49	62	15.80	8.553E-01	1.281E+00	1.281E+00	40.71
	338.32	200	11.40	3.227E+00	1.519E+00	1.519E+00	33.75
	911.07	200	27.70*	1.494E+00	1.356E+00	1.356E+00	26.66
	969.11	115	16.60	1.409E+00	1.380E+00	1.380E+00	48.69
	63.29	354	3.80*	1.810E+00	1.441E+01	1.441E+01	35.26
TH-234	92.38	1520	5.41	4.823E+00	1.631E+01	1.631E+01	22.24
	609.31	456	46.30*	2.117E+00	1.303E+00	1.303E+00	16.49
	1120.29	-----	15.10	1.226E+00	-----	Line Not Found	-----
	1764.49	62	15.80	8.553E-01	1.281E+00	1.281E+00	40.71
	63.29	354	3.80*	1.810E+00	1.441E+01	1.441E+01	35.26
	92.38	1520	5.41	4.823E+00	1.631E+01	1.631E+01	15.56
U-234	74.67	311	66.00*	3.250E+00	4.066E-01	4.066E-01	35.74
	86.72	-----	0.34	4.398E+00	-----	Line Not Found	-----
	117.66	-----	0.55	5.611E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.525E+00	-----	Line Not Found	-----
	511.00	125	100.00*	2.419E+00	1.452E-01	1.452E-01	55.90

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 1
Number of lines tentatively identified by NID 29 96.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.491E+01	2.491E+01	0.306E+01	12.28	
BA-137M	30.17Y	1.00	4.458E-01	4.463E-01	0.964E-01	21.60	
CS-137	30.17Y	1.00	4.713E-01	4.718E-01	1.019E-01	21.61	
TL-208	1.41E+10Y	1.00	3.966E-01	3.966E-01	1.048E-01	26.44	
BI-211	7.04E+08Y	1.00	4.506E+00	4.506E+00	0.690E+00	15.32	
PB-212	1.41E+10Y	1.00	1.588E+00	1.588E+00	0.230E+00	14.51	
PO-212	1.41E+10Y	1.00	1.588E+00	1.588E+00	0.230E+00	14.51	
BI-214	1600.00Y	1.00	1.303E+00	1.303E+00	0.215E+00	16.49	
PB-214	1600.00Y	1.00	1.567E+00	1.567E+00	0.254E+00	16.18	
PO-214	1600.00Y	1.00	1.567E+00	1.567E+00	0.254E+00	16.18	
PO-216	1.41E+10Y	1.00	1.588E+00	1.588E+00	0.230E+00	14.51	
PO-218	1600.00Y	1.00	1.567E+00	1.567E+00	0.254E+00	16.18	
RA-224	1.41E+10Y	1.00	5.023E+00	5.023E+00	1.635E+00	32.54	
RA-226	1600.00Y	1.00	1.303E+00	1.303E+00	0.215E+00	16.49	
AC-228	1.41E+10Y	1.00	1.356E+00	1.356E+00	0.362E+00	26.66	
RA-228	1.41E+10Y	1.00	1.356E+00	1.356E+00	0.362E+00	26.66	
TH-228	1.91Y	1.02	1.588E+00	1.616E+00	0.234E+00	14.51	
TH-230	4.47E+09Y	1.00	1.303E+00	1.303E+00	0.215E+00	16.49	
TH-232	1.41E+10Y	1.00	1.356E+00	1.356E+00	0.362E+00	26.66	
TH-234	4.47E+09Y	1.00	1.441E+01	1.441E+01	0.508E+01	35.26	
U-234	4.47E+09Y	1.00	1.303E+00	1.303E+00	0.215E+00	16.49	
U-238	4.47E+09Y	1.00	1.441E+01	1.441E+01	0.508E+01	35.26	
AM-243	7380.00Y	1.00	4.066E-01	4.066E-01	1.453E-01	35.74	
ANH-511	1.00E+09Y	1.00	1.452E-01	1.452E-01	0.812E-01	55.90	

Total Activity : 8.546E+01 8.549E+01

Grand Total Activity : 8.546E+01 8.549E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978008

Page : 4
Acquisition date : 14-FEB-2010 12:01:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.98	445	422	1.24	370.87	366	12	6.17E-02	21.3	4.86E+00	T
0	209.18	154	357	1.51	417.27	413	12	2.14E-02	51.5	4.50E+00	T
0	270.67	66	236	1.34	540.25	536	10	9.17E-03	92.1	3.77E+00	T
0	463.55	74	134	1.57	925.99	921	13	1.03E-02	69.1	2.59E+00	T
0	727.44	87	81	1.63	1453.81	1446	16	1.21E-02	52.4	1.83E+00	T
0	768.21	102	50	2.29	1535.38	1529	13	1.42E-02	35.7	1.75E+00	T
0	796.04	21	61	1.45	1591.03	1585	9	2.93E-03	****	1.69E+00	T
0	1000.74	107	49	1.57	2000.49	1993	16	1.49E-02	35.8	1.37E+00	T
0	1122.09	84	116	2.03	2243.25	2233	21	1.16E-02	70.0	1.22E+00	T
0	1237.94	46	71	4.59	2475.00	2467	15	6.36E-03	85.5	1.12E+00	T
0	1377.39	72	10	6.14	2753.98	2745	20	1.00E-02	31.9	1.01E+00	T
0	1592.80	32	6	1.30	3184.95	3180	12	4.44E-03	46.8	9.07E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978008.CNF;1
* Acquisition date   : 14-FEB-2010 12:01:03   Detector SN#      :
* Detector ID        : GAM15                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:01.40          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G245978008             Analyst initials  : MXR1
* Batch Number       : 948721                 Sample Quantity   : 1.34060E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32.11MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                   LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.491E+01	3.058E+00	5.904E-01	5.801E-02	42.196
BA-137M	4.463E-01	9.640E-02	7.895E-02	6.491E-03	5.653
CS-137	4.718E-01	1.019E-01	8.346E-02	6.876E-03	5.653
TL-208	3.966E-01	1.048E-01	7.427E-02	6.801E-03	5.339
BI-211	4.506E+00	6.903E-01	3.767E-01	3.751E-02	11.962
PB-212	1.588E+00	2.303E-01	1.125E-01	1.339E-02	14.117
PO-212	1.588E+00	2.303E-01	1.125E-01	1.339E-02	14.117
BI-214	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
PB-214	1.567E+00	2.537E-01	1.313E-01	1.473E-02	11.939
PO-214	1.567E+00	2.537E-01	1.313E-01	1.473E-02	11.939
PO-216	1.588E+00	2.303E-01	1.125E-01	1.339E-02	14.117
PO-218	1.567E+00	2.537E-01	1.313E-01	1.473E-02	11.939
RA-224	5.023E+00	1.635E+00	1.279E+00	1.411E-01	3.926
RA-226	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
AC-228	1.356E+00	3.617E-01	2.500E-01	2.945E-02	5.426
RA-228	1.356E+00	3.617E-01	2.500E-01	2.945E-02	5.426
TH-228	1.616E+00	2.345E-01	1.145E-01	1.363E-02	14.117
TH-230	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.356E+00	3.617E-01	2.500E-01	2.945E-02	5.426
TH-234	1.441E+01	5.080E+00	4.096E+00	7.981E-01	3.517
U-234	1.303E+00	2.149E-01	1.390E-01	1.378E-02	9.374
U-238	1.441E+01	5.080E+00	4.096E+00	7.981E-01	3.517
AM-243	4.066E-01	1.453E-01	1.418E-01	1.631E-02	2.867
ANH-511	1.452E-01	8.115E-02	5.671E-02	4.900E-03	2.560

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	7.890E-02		4.172E-01	6.887E-01	6.403E-02	0.115
NA-22	-2.491E-02		5.264E-02	8.058E-02	7.320E-03	-0.309
NA-24	-1.805E+01		1.120E+01	Half-Life too short		
AL-26	2.213E-02		3.173E-02	5.916E-02	5.061E-03	0.374
TI-44	3.217E-01	+	7.898E-02	1.129E-01	1.316E-02	2.848
SC-46	-2.575E-02		4.316E-02	6.693E-02	6.219E-03	-0.385
V-48	-3.584E-04		9.192E-02	1.509E-01	1.379E-02	-0.002
CR-51	-5.440E-01		4.914E-01	7.612E-01	8.083E-02	-0.715
MN-52	-1.354E-01		3.499E-01	5.492E-01	5.287E-02	-0.247
MN-54	5.646E-02		4.510E-02	8.123E-02	7.371E-03	0.695
CO-56	-2.115E-02		4.638E-02	7.368E-02	6.723E-03	-0.287
CO-57	-1.949E-02		3.443E-02	5.467E-02	5.507E-03	-0.356
CO-58	1.265E-03		4.518E-02	7.518E-02	6.759E-03	0.017
FE-59	-7.481E-02		1.132E-01	1.722E-01	1.607E-02	-0.434
CO-60	2.545E-02		4.676E-02	8.021E-02	7.711E-03	0.317
ZN-65	7.599E-02		1.115E-01	1.705E-01	1.457E-02	0.446
GE-68	-2.066E-01		1.542E+00	2.486E+00	2.176E-01	-0.083
AS-73	1.336E+00		2.280E+00	3.852E+00	5.001E-01	0.347
AS-74	4.274E-02		1.236E-01	2.044E-01	1.736E-02	0.209
SE-75	3.994E-02		6.170E-02	9.721E-02	1.066E-02	0.411
BR-77	3.331E-01		2.967E+01	4.689E+01	4.050E+00	0.007
SR-82	-3.868E-01		4.885E-01	7.148E-01	6.299E-02	-0.541
RB-83	-8.664E-03		9.024E-02	1.368E-01	1.181E-02	-0.063
RB-84	5.638E-02		7.854E-02	1.383E-01	1.282E-02	0.408
KR-85	2.419E+01		1.026E+01	1.697E+01	1.466E+00	1.426
SR-85	1.279E-01		5.422E-02	8.968E-02	7.748E-03	1.426
RB-86	8.735E-01		1.026E+00	1.806E+00	1.582E-01	0.484
Y-88	-1.498E-02		3.401E-02	4.994E-02	4.206E-03	-0.300
ZR-88	-2.939E-02		4.170E-02	6.578E-02	5.537E-03	-0.447
Y-91	4.275E+00		2.506E+01	4.122E+01	3.475E+00	0.104
NB-94	-1.845E-02		3.868E-02	6.241E-02	5.269E-03	-0.296
NB-95	1.284E-01		6.413E-02	1.075E-01	9.417E-03	1.195
NB-95M	2.550E-01		1.965E-01	3.026E-01	3.641E-02	0.843
ZR-95	3.164E-02		8.602E-02	1.473E-01	1.411E-02	0.215
NB-97	1.884E+00		1.131E+00	Half-Life too short		
ZR-97	9.091E+01		2.229E+01	Half-Life too short		
MO-99	1.902E+01		2.782E+01	4.857E+01	7.378E+00	0.392

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	-1.452E+14		8.045E+13	Half-Life too short		
RH-101	2.071E-02		4.463E-02	7.262E-02	7.923E-03	0.285
RH-102	-7.322E-03		3.790E-02	6.104E-02	5.267E-03	-0.120
RU-103	2.271E-02		5.197E-02	8.697E-02	1.233E-02	0.261
RH-106	8.386E-02		3.674E-01	6.019E-01	7.957E-02	0.139
RU-106	8.386E-02		3.673E-01	6.019E-01	5.059E-02	0.139
AG-108M	1.698E-02		4.118E-02	6.911E-02	6.152E-03	0.246
CD-109	1.267E+00		1.511E+00	2.224E+00	2.761E-01	0.569
AG-110M	2.856E-02		4.704E-02	7.228E-02	6.151E-03	0.395
IN-111	1.505E+00		2.919E+00	4.395E+00	4.844E-01	0.342
IN-113M	-2.404E-02		6.041E-02	9.718E-02	8.440E-03	-0.247
SN-113	-2.404E-02		6.041E-02	9.718E-02	8.440E-03	-0.247
IN-114M	-5.105E-02		2.810E-01	3.878E-01	4.211E-02	-0.132
CD-115	2.466E-05		1.625E-05	Half-Life too short		
SN-117M	-4.342E-02		8.255E-02	1.300E-01	1.363E-02	-0.334
SB-122	2.036E+00		5.444E+00	9.029E+00	7.745E-01	0.226
I-123	-2.486E+02		1.460E+02	Half-Life too short		
TE-123M	-3.233E-02		3.798E-02	5.884E-02	6.200E-03	-0.550
I-124	-6.564E-02		1.564E+00	2.163E+00	1.833E-01	-0.030
SB-124	-8.316E-03		9.153E-02	1.485E-01	1.396E-02	-0.056
SB-125	8.149E-02		1.123E-01	1.921E-01	1.673E-02	0.424
TE-125M	-9.278E+00		1.425E+01	2.267E+01	2.664E+00	-0.409
I-126	2.849E-01		2.905E-01	4.591E-01	3.786E-02	0.620
SB-126	9.683E-02		1.925E-01	2.945E-01	2.514E-02	0.329
SN-126	7.062E-02		1.475E-01	2.152E-01	2.663E-02	0.328
SB-127	4.845E-01		2.578E+00	4.378E+00	5.289E-01	0.111
XE-127	-6.697E-03		7.067E-02	1.084E-01	1.185E-02	-0.062
I-131	9.129E-02		1.883E-01	3.188E-01	3.085E-02	0.286
TE-132	-1.028E+00		1.691E+00	2.762E+00	4.882E-01	-0.372
BA-133	-1.314E-02		6.040E-02	8.498E-02	1.168E-02	-0.155
I-133	-8.200E-03		3.740E-02	Half-Life too short		
CS-134	4.620E-02	+	6.565E-02	9.751E-02	8.740E-03	0.474
CS-135	1.111E-01		2.297E-01	3.433E-01	4.120E-02	0.324
I-135	6.130E+12		4.935E+12	Half-Life too short		
CS-136	-6.948E-02		1.538E-01	2.406E-01	2.227E-02	-0.289
CE-139	-6.948E-03		4.087E-02	6.531E-02	6.971E-03	-0.106
BA-140	2.201E-02		3.572E-01	5.816E-01	1.927E-01	0.038
LA-140	6.188E-02		1.257E-01	1.970E-01	1.847E-02	0.314
CE-141	-5.422E-02		9.296E-02	1.464E-01	1.514E-02	-0.370
CE-143	4.194E-03		6.772E-04	Half-Life too short		
CE-144	-7.314E-02		2.743E-01	4.397E-01	7.213E-02	-0.166
PM-144	-8.406E-03		4.067E-02	6.706E-02	5.643E-03	-0.125
PR-144	-5.705E-01		2.760E+00	4.551E+00	3.828E-01	-0.125
PM-146	1.247E-02		5.489E-02	8.903E-02	9.534E-03	0.140
ND-147	-3.770E-01		8.459E-01	1.325E+00	1.981E-01	-0.285
PM-149	7.041E-05		1.434E-04	Half-Life too short		
EU-152	7.826E-02		1.740E-01	2.068E-01	2.106E-02	0.378
GD-153	1.789E-01		1.246E-01	1.885E-01	2.081E-02	0.949

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-4.091E-02		1.431E-01	2.238E-01	2.610E-02	-0.183
EU-155	-3.134E-02		1.480E-01	2.397E-01	2.525E-02	-0.131
TB-160	-1.678E-02		1.573E-01	2.574E-01	2.382E-02	-0.065
HO-166M	2.238E-02		6.818E-02	1.168E-01	9.912E-03	0.192
TM-171	-9.406E+00		5.772E+01	8.267E+01	9.437E+00	-0.114
LU-176	1.272E-02		3.257E-02	5.378E-02	5.624E-03	0.236
LU-177	5.610E+00	+	2.956E+00	3.375E+00	3.702E-01	1.662
LU-177M	-9.937E-02		2.367E-01	3.790E-01	3.221E-02	-0.262
HF-181	-3.859E-02		5.513E-02	8.531E-02	7.366E-03	-0.452
W-181	2.185E+00		8.862E-01	1.351E+00	1.543E-01	1.617
TA-182	-2.233E-01		2.471E-01	3.662E-01	3.143E-02	-0.610
RE-183	1.070E-01		1.506E-01	2.485E-01	2.629E-02	0.431
RE-184	-2.121E-01		2.957E-01	4.781E-01	5.258E-02	-0.444
OS-185	-2.672E-02		5.304E-02	8.147E-02	6.761E-03	-0.328
RE-188	2.693E-01		2.285E-01	3.826E-01	3.979E-02	0.704
W-188	-9.737E-01		1.031E+01	1.483E+01	1.584E+00	-0.066
IR-192	4.745E-02		4.279E-02	7.469E-02	7.701E-03	0.635
AU-195	3.616E-01		3.656E-01	5.448E-01	5.938E-02	0.664
TL-200	-7.509E-04		1.793E-03	Half-Life too short		
TL-201	-1.462E+01		1.857E+01	2.883E+01	3.080E+00	-0.507
TL-202	1.440E-02		1.025E-01	1.693E-01	1.451E-02	0.085
HG-203	-1.102E-03		5.654E-02	9.429E-02	1.038E-02	-0.012
BI-207	4.227E-02		6.039E-02	1.051E-01	9.273E-03	0.402
TL-207	-2.156E-01		8.252E-01	1.349E+00	2.497E-01	-0.160
PO-209	3.049E+00		8.781E+00	1.493E+01	1.391E+00	0.204
BI-210	-7.636E+00		1.394E+01	2.235E+01	2.752E+00	-0.342
PB-210	-7.636E+00		1.394E+01	2.235E+01	2.752E+00	-0.342
PO-210	-7.636E+00		1.394E+01	2.235E+01	2.606E+00	-0.342
PB-211	-9.193E-01		1.361E+00	1.942E+00	1.217E+00	-0.473
BI-212	1.128E+00	+	6.015E-01	7.482E-01	7.456E-02	1.508
PO-215	-2.156E-01		8.252E-01	1.349E+00	2.497E-01	-0.160
RN-219	1.663E-01		5.223E-01	8.732E-01	1.304E-01	0.190
RN-220	1.956E+00		3.302E+01	5.368E+01	4.619E+00	0.036
RA-223	-2.156E-01		8.252E-01	1.349E+00	2.497E-01	-0.160
AC-227	3.072E-01		4.986E-01	8.521E-01	1.431E-01	0.361
TH-227	3.072E-01		4.995E-01	8.521E-01	1.645E-01	0.361
TH-229	2.682E-03		6.746E-01	1.079E+00	1.175E-01	0.002
PA-231	-1.484E-01		1.996E+00	3.319E+00	5.475E-01	-0.045
TH-231	-2.156E-01		8.252E-01	1.349E+00	2.497E-01	-0.160
U-231	2.617E+00		2.991E+00	4.426E+00	4.959E-01	0.591
PA-233	-4.433E-02		8.156E-02	1.316E-01	1.392E-02	-0.337
PA-234	1.758E-01		3.226E-01	5.563E-01	1.060E-01	0.316
PA-234M	2.620E+01	+	9.772E+00	1.397E+01	1.448E+00	1.876
U-235	1.926E-01		2.886E-01	4.731E-01	8.668E-02	0.407
NP-236	-5.535E-02		1.054E-01	1.660E-01	1.747E-02	-0.334
NP-237	4.887E-01		4.485E-01	6.479E-01	1.555E-01	0.754
NP-239	-1.566E-01		2.668E-01	4.243E-01	4.284E-02	-0.369
AM-241	4.229E-01		3.631E-01	5.527E-01	6.488E-02	0.765

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.998E-02		1.334E-01	2.167E-01	2.283E-02	-0.092
AM-246	-4.432E-02		1.746E-01	2.782E-01	2.433E-02	-0.159
CM-247	2.242E-02		4.664E-02	7.869E-02	6.655E-03	0.285
CF-249	4.437E-02		5.152E-02	8.859E-02	7.557E-03	0.501
CF-251	9.537E-02		1.658E-01	2.720E-01	2.925E-02	0.351

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 Savage Road      *
*               Charleston, SC 29414  *
*                                     *
*****
*               DETECTOR DATA        *
*                                     *
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978008 *
* Acquisition date   : 14-FEB-2010 12:01:03 Detector SN#      : *
* Detector ID        : GAM15          Sensitivity             : 5.000 *
* Geometry           : CAN            Energy tolerance        : 1.500 *
* Elapsed live time  : 0 02:00:00.00 Abundance limit         : 75.000 *
* Elapsed real time  : 0 02:00:01.40 Half life ratio         : 8.000 *
*****
*               SAMPLE DATA          *
*                                     *
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID *
* Sample ID          : G245978008    Analyst initials: MXR1  *
* Batch Number       : 948721        Sample Quantity : 1.3406E+02 GRAM *
* Recovery           : 1.00000        Carrier Weight  : 0.00000 *
*****
*               QC DATA              *
*                                     *
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32 MS Isotope       : *
* MSD DPM            : 0.000          MSD Isotope           : *
* LCS DPM            : 0.000          LCS Isotope            : *
* LCSD DPM           : 0.000          LCSD Isotope           : *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.491E+01	2.997E+00	2.959E-01	1.529E+00
BA-137M	4.463E-01	9.447E-02	4.015E-02	4.820E-02
CS-137	4.718E-01	9.990E-02	4.245E-02	5.097E-02
TL-208	3.966E-01	1.027E-01	3.786E-02	5.242E-02
BI-211	4.506E+00	6.765E-01	1.938E-01	3.451E-01
PB-212	1.588E+00	2.257E-01	5.824E-02	1.151E-01
PO-212	1.588E+00	2.257E-01	5.824E-02	1.151E-01
BI-214	1.303E+00	2.106E-01	7.081E-02	1.074E-01
PB-214	1.567E+00	2.486E-01	6.752E-02	1.268E-01
PO-214	1.567E+00	2.486E-01	6.752E-02	1.268E-01
PO-216	1.588E+00	2.257E-01	5.824E-02	1.151E-01
PO-218	1.567E+00	2.486E-01	6.752E-02	1.268E-01
RA-224	5.023E+00	1.602E+00	6.624E-01	8.174E-01
RA-226	1.303E+00	2.106E-01	7.081E-02	1.074E-01
AC-228	1.356E+00	3.544E-01	1.264E-01	1.808E-01
RA-228	1.356E+00	3.544E-01	1.264E-01	1.808E-01
TH-228	1.616E+00	2.298E-01	5.929E-02	1.172E-01
TH-230	1.303E+00	2.106E-01	7.081E-02	1.074E-01
TH-232	1.356E+00	3.544E-01	1.264E-01	1.808E-01
TH-234	1.441E+01	4.978E+00	2.170E+00	2.540E+00
U-234	1.303E+00	2.106E-01	7.081E-02	1.074E-01
U-238	1.441E+01	4.978E+00	2.170E+00	2.540E+00
AM-243	4.066E-01	1.424E-01	7.492E-02	7.267E-02
ANH-511	1.452E-01	7.953E-02	2.898E-02	4.058E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	7.890E-02	4.089E-01	3.523E-01	2.086E-01 NOT IDENT.
NA-22	-2.491E-02	5.158E-02	4.049E-02	2.632E-02 NOT IDENT.
NA-24	-1.805E+07	2.194E+07	0.000E+00	1.120E+07 SHORT HLIF

AL-26	2.213E-02	3.110E-02	2.954E-02	1.587E-02	NOT IDENT.
TI-44	3.217E-01	7.740E-02	5.961E-02	3.949E-02	FAIL ABUN
SC-46	-2.575E-02	4.229E-02	3.386E-02	2.158E-02	NOT IDENT.
V-48	-3.584E-04	9.009E-02	7.619E-02	4.596E-02	NOT IDENT.
CR-51	-5.440E-01	4.816E-01	3.922E-01	2.457E-01	NOT IDENT.
MN-52	-1.354E-01	3.429E-01	2.754E-01	1.749E-01	NOT IDENT.
MN-54	5.646E-02	4.420E-02	4.114E-02	2.255E-02	NOT IDENT.
CO-56	-2.115E-02	4.545E-02	3.730E-02	2.319E-02	FAIL ABUN
CO-57	-1.949E-02	3.374E-02	2.864E-02	1.721E-02	NOT IDENT.
CO-58	1.265E-03	4.427E-02	3.810E-02	2.259E-02	NOT IDENT.
FE-59	-7.481E-02	1.109E-01	8.677E-02	5.660E-02	NOT IDENT.
CO-60	2.545E-02	4.583E-02	4.027E-02	2.338E-02	NOT IDENT.
ZN-65	7.599E-02	1.093E-01	8.592E-02	5.574E-02	NOT IDENT.
GE-68	-2.066E-01	1.511E+00	1.253E+00	7.708E-01	NOT IDENT.
AS-73	1.336E+00	2.234E+00	2.046E+00	1.140E+00	NOT IDENT.
AS-74	4.274E-02	1.211E-01	1.041E-01	6.180E-02	NOT IDENT.
SE-75	3.994E-02	6.046E-02	5.025E-02	3.085E-02	NOT IDENT.
BR-77	3.331E-01	2.907E+01	2.395E+01	1.483E+01	FAIL ABUN
SR-82	-3.868E-01	4.787E-01	3.625E-01	2.442E-01	NOT IDENT.
RB-83	-8.664E-03	8.843E-02	6.987E-02	4.512E-02	NOT IDENT.
RB-84	5.638E-02	7.697E-02	7.000E-02	3.927E-02	NOT IDENT.
KR-85	2.419E+01	1.005E+01	8.669E+00	5.130E+00	NOT IDENT.
SR-85	1.279E-01	5.314E-02	4.582E-02	2.711E-02	NOT IDENT.
RB-86	8.735E-01	1.006E+00	9.104E-01	5.131E-01	NOT IDENT.
Y-88	-1.498E-02	3.333E-02	2.493E-02	1.701E-02	NOT IDENT.
ZR-88	-2.939E-02	4.086E-02	3.377E-02	2.085E-02	NOT IDENT.
Y-91	4.275E+00	2.456E+01	2.074E+01	1.253E+01	NOT IDENT.
NB-94	-1.845E-02	3.791E-02	3.171E-02	1.934E-02	NOT IDENT.
NB-95	1.284E-01	6.284E-02	5.452E-02	3.206E-02	NOT IDENT.
NB-95M	2.550E-01	1.926E-01	1.567E-01	9.826E-02	NOT IDENT.
ZR-95	3.164E-02	8.430E-02	7.471E-02	4.301E-02	NOT IDENT.
NB-97	1.884E+06	2.216E+06	0.000E+00	1.131E+06	SHORT HLIF
ZR-97	9.091E+07	4.369E+07	0.000E+00	2.229E+07	SHORT HLIF
MO-99	1.902E+01	2.726E+01	2.465E+01	1.391E+01	NOT IDENT.
TC-99M	-1.452E+20	1.577E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.071E-02	4.374E-02	3.773E-02	2.232E-02	NOT IDENT.
RH-102	-7.322E-03	3.714E-02	3.123E-02	1.895E-02	FAIL ABUN
RU-103	2.271E-02	5.093E-02	4.446E-02	2.599E-02	FAIL ABUN
RH-106	8.386E-02	3.600E-01	3.065E-01	1.837E-01	FAIL ABUN
RU-106	8.386E-02	3.600E-01	3.065E-01	1.836E-01	FAIL ABUN
AG-108M	1.698E-02	4.035E-02	3.542E-02	2.059E-02	NOT IDENT.
CD-109	1.267E+00	1.481E+00	1.172E+00	7.555E-01	NOT IDENT.
AG-110M	2.856E-02	4.610E-02	3.677E-02	2.352E-02	NOT IDENT.
IN-111	1.505E+00	2.861E+00	2.275E+00	1.460E+00	NOT IDENT.
IN-113M	-2.404E-02	5.920E-02	4.989E-02	3.020E-02	NOT IDENT.
SN-113	-2.404E-02	5.920E-02	4.989E-02	3.020E-02	NOT IDENT.
IN-114M	-5.105E-02	2.754E-01	2.016E-01	1.405E-01	NOT IDENT.
CD-115	2.466E+01	3.184E+01	0.000E+00	1.625E+01	SHORT HLIF
SN-117M	-4.342E-02	8.090E-02	6.779E-02	4.128E-02	NOT IDENT.
SB-122	2.036E+00	5.335E+00	4.605E+00	2.722E+00	NOT IDENT.
I-123	-2.486E+08	2.862E+08	0.000E+00	1.460E+08	SHORT HLIF
TE-123M	-3.233E-02	3.723E-02	3.068E-02	1.899E-02	NOT IDENT.
I-124	-6.564E-02	1.533E+00	1.102E+00	7.822E-01	FAIL ABUN
SB-124	-8.316E-03	8.969E-02	7.425E-02	4.576E-02	FAIL ABUN
SB-125	8.149E-02	1.101E-01	9.845E-02	5.617E-02	FAIL ABUN
TE-125M	-9.278E+00	1.397E+01	1.190E+01	7.126E+00	NOT IDENT.
I-126	2.849E-01	2.847E-01	2.335E-01	1.452E-01	NOT IDENT.
SB-126	9.683E-02	1.887E-01	1.496E-01	9.627E-02	FAIL ABUN
SN-126	7.062E-02	1.446E-01	1.134E-01	7.376E-02	FAIL ABUN
SB-127	4.845E-01	2.526E+00	2.225E+00	1.289E+00	NOT IDENT.
XE-127	-6.697E-03	6.925E-02	5.627E-02	3.533E-02	NOT IDENT.
I-131	9.129E-02	1.846E-01	1.639E-01	9.416E-02	NOT IDENT.
TE-132	-1.028E+00	1.657E+00	1.431E+00	8.455E-01	NOT IDENT.
BA-133	-1.314E-02	5.919E-02	4.370E-02	3.020E-02	NOT IDENT.
I-133	-8.200E+03	7.330E+04	0.000E+00	3.740E+04	SHORT HLIF
CS-134	4.620E-02	6.433E-02	4.943E-02	3.282E-02	FAIL ABUN
CS-135	1.111E-01	2.251E-01	1.774E-01	1.148E-01	NOT IDENT.
I-135	6.130E+18	9.673E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.948E-02	1.507E-01	1.214E-01	7.689E-02	NOT IDENT.
CE-139	-6.948E-03	4.005E-02	3.403E-02	2.044E-02	NOT IDENT.
BA-140	2.201E-02	3.501E-01	2.969E-01	1.786E-01	NOT IDENT.
LA-140	6.188E-02	1.232E-01	9.859E-02	6.286E-02	NOT IDENT.
CE-141	-5.422E-02	9.111E-02	7.649E-02	4.648E-02	NOT IDENT.
CE-143	4.194E+03	1.327E+03	0.000E+00	6.772E+02	SHORT HLIF
CE-144	-7.314E-02	2.689E-01	2.300E-01	1.372E-01	NOT IDENT.
PM-144	-8.406E-03	3.986E-02	3.408E-02	2.033E-02	NOT IDENT.
PR-144	-5.705E-01	2.705E+00	2.313E+00	1.380E+00	NOT IDENT.
PM-146	1.247E-02	5.380E-02	4.559E-02	2.745E-02	NOT IDENT.

ND-147	-3.770E-01	8.290E-01	6.764E-01	4.229E-01	NOT IDENT.
PM-149	7.041E+01	2.811E+02	0.000E+00	1.434E+02	SHORT HLIF
EU-152	7.826E-02	1.706E-01	1.064E-01	8.702E-02	NOT IDENT.
GD-153	1.789E-01	1.221E-01	9.914E-02	6.232E-02	NOT IDENT.
EU-154	-4.091E-02	1.403E-01	1.125E-01	7.156E-02	NOT IDENT.
EU-155	-3.134E-02	1.450E-01	1.259E-01	7.400E-02	NOT IDENT.
TB-160	-1.678E-02	1.542E-01	1.302E-01	7.866E-02	FAIL ABUN
HO-166M	2.238E-02	6.682E-02	5.930E-02	3.409E-02	NOT IDENT.
TM-171	-9.406E+00	5.657E+01	4.375E+01	2.886E+01	NOT IDENT.
LU-176	1.272E-02	3.192E-02	2.773E-02	1.628E-02	NOT IDENT.
LU-177	5.610E+00	2.897E+00	1.752E+00	1.478E+00	FAIL ABUN
LU-177M	-9.937E-02	2.319E-01	1.944E-01	1.183E-01	NOT IDENT.
HF-181	-3.859E-02	5.402E-02	4.364E-02	2.756E-02	NOT IDENT.
W-181	2.185E+00	8.685E-01	7.153E-01	4.431E-01	NOT IDENT.
TA-182	-2.233E-01	2.422E-01	1.841E-01	1.236E-01	FAIL ABUN
RE-183	1.070E-01	1.476E-01	1.296E-01	7.532E-02	FAIL ABUN
RE-184	-2.121E-01	2.898E-01	2.474E-01	1.479E-01	NOT IDENT.
OS-185	-2.672E-02	5.198E-02	4.145E-02	2.652E-02	NOT IDENT.
RE-188	2.693E-01	2.239E-01	1.996E-01	1.143E-01	NOT IDENT.
W-188	-9.737E-01	1.010E+01	7.652E+00	5.154E+00	FAIL ABUN
IR-192	4.745E-02	4.193E-02	3.849E-02	2.139E-02	FAIL ABUN
AU-195	3.616E-01	3.582E-01	2.865E-01	1.828E-01	FAIL ABUN
TL-200	-7.509E+02	3.515E+03	0.000E+00	1.793E+03	SHORT HLIF
TL-201	-1.462E+01	1.820E+01	1.502E+01	9.284E+00	NOT IDENT.
TL-202	1.440E-02	1.005E-01	8.672E-02	5.125E-02	NOT IDENT.
HG-203	-1.102E-03	5.541E-02	4.870E-02	2.827E-02	NOT IDENT.
BI-207	4.227E-02	5.918E-02	5.299E-02	3.019E-02	FAIL ABUN
TL-207	-2.156E-01	8.087E-01	6.951E-01	4.126E-01	FAIL ABUN
PO-209	3.049E+00	8.606E+00	7.550E+00	4.391E+00	NOT IDENT.
BI-210	-7.636E+00	1.366E+01	1.190E+01	6.969E+00	NOT IDENT.
PB-210	-7.636E+00	1.366E+01	1.190E+01	6.969E+00	NOT IDENT.
PO-210	-7.636E+00	1.366E+01	1.190E+01	6.968E+00	NOT IDENT.
PB-211	-9.193E-01	1.334E+00	9.966E-01	6.807E-01	NOT IDENT.
BI-212	1.128E+00	5.895E-01	3.799E-01	3.008E-01	FAIL ABUN
PO-215	-2.156E-01	8.087E-01	6.951E-01	4.126E-01	FAIL ABUN
RN-219	1.663E-01	5.119E-01	4.481E-01	2.612E-01	FAIL ABUN
RN-220	1.956E+00	3.236E+01	2.739E+01	1.651E+01	NOT IDENT.
RA-223	-2.156E-01	8.087E-01	6.951E-01	4.126E-01	FAIL ABUN
AC-227	3.072E-01	4.887E-01	4.407E-01	2.493E-01	FAIL ABUN
TH-227	3.072E-01	4.895E-01	4.407E-01	2.497E-01	FAIL ABUN
TH-229	2.682E-03	6.611E-01	5.610E-01	3.373E-01	NOT IDENT.
PA-231	-1.484E-01	1.956E+00	1.713E+00	9.981E-01	NOT IDENT.
TH-231	-2.156E-01	8.087E-01	6.951E-01	4.126E-01	FAIL ABUN
U-231	2.617E+00	2.931E+00	2.328E+00	1.496E+00	FAIL ABUN
PA-233	-4.433E-02	7.993E-02	6.782E-02	4.078E-02	FAIL ABUN
PA-234	1.758E-01	3.161E-01	2.811E-01	1.613E-01	FAIL ABUN
PA-234M	2.620E+01	9.577E+00	7.050E+00	4.886E+00	FAIL ABUN
U-235	1.926E-01	2.828E-01	2.471E-01	1.443E-01	FAIL ABUN
NP-236	-5.535E-02	1.033E-01	8.655E-02	5.271E-02	NOT IDENT.
NP-237	4.887E-01	4.396E-01	3.414E-01	2.243E-01	NOT IDENT.
NP-239	-1.566E-01	2.615E-01	2.225E-01	1.334E-01	FAIL ABUN
AM-241	4.229E-01	3.559E-01	2.931E-01	1.816E-01	NOT IDENT.
CM-243	-1.998E-02	1.307E-01	1.138E-01	6.671E-02	FAIL ABUN
AM-246	-4.432E-02	1.711E-01	1.402E-01	8.730E-02	NOT IDENT.
CM-247	2.242E-02	4.570E-02	4.038E-02	2.332E-02	NOT IDENT.
CF-249	4.437E-02	5.049E-02	4.549E-02	2.576E-02	NOT IDENT.
CF-251	9.537E-02	1.625E-01	1.416E-01	8.291E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT          *
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ENERGY	MDA COUNTS
46.50	345.2754
46.50	345.2754
46.50	345.2754
48.70	334.1745
49.72	355.7921
51.35	366.3481
52.39	340.0746
52.97	329.8174
53.15	329.9136
53.44	342.5779
54.07	358.3365
56.28	402.1201
56.28	402.1224
57.37	0.0000
57.53	410.6509
57.53	410.6522
57.60	410.6950
57.98	386.1240
57.98	386.1240
59.32	362.0516
59.32	362.0516
59.40	362.0957
59.54	362.1718
59.72	362.2706
60.01	359.3175
61.10	419.1090
61.14	419.1336
61.30	436.3772
63.00	472.6253
63.29	472.8247
63.29	472.8247
63.58	473.0246
64.28	524.3765
65.12	495.2337
65.20	495.2910
65.20	495.2910
66.05	477.0600
66.72	491.6492
66.83	491.7265
66.91	491.7829
67.20	491.9835
67.20	491.9835
67.75	487.6426
67.85	491.6458
68.90	530.4411
68.90	530.4411
69.30	524.1644
69.67	508.6619
70.82	499.1928
70.82	499.1928
70.83	499.2005
72.80	498.9474
72.87	498.9945
72.87	498.9945
74.67	532.9420
74.81	533.0403
74.81	533.0403
74.81	533.0403
74.81	533.0403
74.81	533.0403
74.81	533.0403
74.97	533.1530
75.28	533.3701
75.70	533.6630
77.11	578.2521
77.11	578.2521

77.11	578.2521
77.11	578.2521
77.11	578.2521
77.11	578.2521
77.11	578.2521
78.38	547.2885
79.62	570.5289
79.80	647.3870
79.80	647.3870
80.11	647.6416
80.18	647.6984
80.30	682.9863
80.30	682.9863
80.57	683.2183
81.00	656.3729
81.07	656.4304
81.07	656.4304
81.07	656.4304
81.07	656.4304
82.60	615.2922
83.37	732.5731
83.78	732.9462
83.78	732.9462
83.78	732.9462
83.78	732.9462
84.21	718.2676
84.90	635.4247
85.43	584.8615
86.29	565.5997
86.50	643.1099
86.54	643.1391
86.59	643.1781
86.72	643.2804
86.79	661.0674
86.94	696.6686
87.30	696.9692
87.30	696.9692
87.30	696.9692
87.30	696.9692
87.30	696.9692
87.30	696.9692
87.30	696.9692
87.57	689.1265
87.88	686.1530
88.03	686.2775
88.36	652.6238
88.47	652.7101
89.95	831.8870
91.11	629.0212
92.29	629.8882
92.38	629.9545
92.38	629.9545
93.35	630.6605
94.00	631.1343
94.67	462.1674
94.67	462.1708
94.90	480.1978
94.90	480.1978
94.90	480.1978
94.90	480.1978
95.87	521.4688
95.87	521.4688
96.73	477.9366
97.43	381.9967
98.44	397.1368
98.44	397.1383
98.88	413.6837
99.55	389.9930
99.55	389.9930
99.86	379.9937
100.00	380.0532
100.10	380.0957
103.18	476.4308
103.76	425.3598
105.00	412.5538
105.31	428.1288
108.00	481.9928
109.28	516.7484

111.00	477.2967
111.00	477.2967
111.76	448.6604
112.95	432.6114
115.19	462.7172
116.30	450.7449
117.00	445.8535
117.00	445.8535
117.66	446.1490
121.11	396.4273
121.62	394.5324
121.78	409.2476
122.06	405.1731
122.32	406.3222
122.32	406.3222
122.32	406.3222
122.32	406.3222
123.07	347.9323
127.23	395.6281
129.76	349.1148
131.20	392.8915
133.02	406.2539
133.54	397.9825
135.34	419.8466
136.00	382.9703
136.25	373.5085
136.48	340.6854
140.51	442.0583
140.51	0.0000
142.18	373.3784
142.65	354.3230
143.76	376.0383
144.24	387.9529
144.24	387.9529
144.24	387.9529
144.24	387.9529
145.22	431.0746
145.44	422.5987
147.16	451.0962
152.43	397.1778
152.70	389.7317
153.22	378.0577
154.21	338.4881
154.21	338.4881
154.21	338.4881
154.21	338.4881
155.03	323.6206
156.02	359.5187
158.56	360.2834
159.00	0.0000
159.00	374.4831
160.31	372.7227
161.27	336.1511
162.32	344.0366
162.64	350.6395
163.35	353.0165
163.89	348.8260
165.85	373.3244
167.43	396.6865
171.28	331.2236
171.86	335.7508
172.10	346.7526
176.55	301.8597
176.60	312.8494
181.06	350.7156
184.41	365.7447
185.71	340.4585
186.00	340.5314
190.27	321.2087
192.34	341.2500
193.63	324.6727
197.04	346.6576
198.01	329.0549
198.60	338.1218
200.40	351.9669
201.83	378.0529
202.84	346.6635
205.31	288.8370

208.36	372.1578
208.81	348.8945
209.75	303.6820
209.75	303.6820
210.97	300.1872
215.65	287.6036
216.55	276.3725
218.09	292.3047
222.10	309.4288
223.80	291.6116
226.40	296.6652
227.00	305.8863
227.08	305.9048
227.20	305.9273
228.16	320.6994
228.18	320.7037
228.18	320.7037
231.56	0.0000
235.69	315.8675
236.00	315.9306
236.00	315.9306
238.63	251.3361
238.63	251.3361
238.63	251.3361
238.63	251.3361
239.00	251.3947
240.98	251.7124
241.98	251.8730
241.98	251.8730
241.98	251.8730
244.69	252.3044
245.39	213.4164
247.94	238.3623
248.90	227.7331
249.79	187.8302
252.40	239.6398
252.85	246.1848
252.85	246.1848
254.15	0.0000
256.20	233.7060
256.20	233.7060
260.50	253.8447
260.90	0.0000
262.80	258.8502
264.65	207.7370
268.24	231.9789
268.79	227.3824
269.46	216.5653
269.46	216.5653
269.46	216.5653
269.46	216.5653
271.23	243.3057
273.65	281.1365
276.40	236.2201
277.35	225.3926
277.60	231.2982
277.60	231.2982
278.00	239.0479
278.60	234.0150
279.20	250.0796
279.53	258.5880
280.46	253.0839
281.68	241.0219
283.67	224.3278
284.30	210.2657
285.00	191.4846
285.90	0.0000
286.10	201.0421
286.10	201.0421
287.40	216.3032
288.45	0.0000
290.67	189.2603
290.80	189.2749
291.72	189.3726
293.26	0.0000
293.70	170.6243
295.21	191.3224
295.21	191.3224

295.21	191.3224
295.96	199.3103
296.50	199.3718
297.23	199.4513
298.57	199.6000
299.80	198.1481
299.80	198.1481
300.09	187.0830
300.09	187.0830
300.09	187.0830
300.09	187.0830
300.12	187.0854
301.29	212.5892
302.84	228.6475
303.76	208.1123
303.91	208.1283
304.40	209.7734
304.40	209.7734
304.84	206.6453
306.84	187.7720
308.46	172.9664
311.98	198.1863
316.51	143.9612
318.01	171.9292
319.02	183.5531
319.41	186.4763
320.08	191.3480
323.87	188.8390
323.87	188.8390
323.87	188.8390
323.87	188.8390
325.23	181.2598
328.77	211.5387
333.44	203.3324
334.20	203.4119
334.20	203.4119
334.30	198.5787
338.28	200.9229
338.28	200.9229
338.28	200.9229
338.28	200.9229
338.32	200.9280
338.32	200.9280
338.32	200.9280
340.50	178.1502
340.57	178.1570
344.27	155.7734
345.85	185.1271
350.59	0.0000
351.07	138.7169
351.92	138.7759
351.92	138.7759
351.92	138.7759
355.39	0.0000
356.01	156.6816
364.48	148.4803
366.43	137.7920
367.43	162.4763
367.94	0.0000
369.80	151.8175
374.96	132.4248
383.85	146.8727
387.95	143.1756
388.63	143.2195
391.69	175.2932
391.69	175.2932
392.90	177.3851
398.62	164.8590
400.65	175.0107
401.10	166.0446
401.81	145.0850
402.60	141.1343
404.84	179.3518
410.95	144.6768
411.60	148.7389
413.65	168.9926
414.70	169.0705
415.30	157.0359

415.76	152.0341
417.63	0.0000
418.52	143.1458
423.70	148.5217
427.08	126.4801
427.89	114.3780
432.53	147.0621
433.93	124.8243
439.47	128.1718
439.56	128.1764
439.89	134.2977
443.98	138.6081
444.90	134.5830
445.03	134.5910
445.03	134.5910
445.03	134.5910
453.90	113.5989
463.38	126.3738
468.07	138.9683
473.00	135.1209
475.06	132.1359
475.35	125.9570
476.78	121.8978
477.59	116.7699
477.96	125.0560
482.03	125.2598
484.57	113.9867
487.03	99.5766
490.36	0.0000
492.35	0.0000
497.08	101.0117
507.63	0.0000
510.53	0.0000
510.84	110.9733
511.00	110.9798
511.85	111.0153
511.85	111.0153
513.99	94.3358
513.99	94.3358
520.41	102.4464
520.65	99.2451
527.90	0.0000
528.96	0.0000
529.64	101.2219
529.87	0.0000
531.02	113.9326
537.32	94.1084
543.00	99.6042
546.56	0.0000
549.76	106.2231
552.65	106.3354
555.20	103.2401
563.23	106.7407
563.90	103.5622
568.70	85.5586
569.32	84.5084
569.50	87.7236
569.67	90.9371
573.80	117.8552
574.00	111.4344
574.64	111.4598
578.91	107.3340
579.30	0.0000
583.14	110.7175
585.48	109.3736
591.81	106.2771
592.07	102.4358
593.00	106.7827
595.88	90.6937
600.56	110.3049
602.52	0.0000
602.71	111.8301
602.71	111.8301
603.60	110.0586
604.41	102.8695
604.70	104.6860
609.31	109.5490

609.31	109.5490
609.31	109.5490
609.31	109.5490
610.33	88.6111
612.46	76.0071
614.37	92.3524
618.01	84.8517
621.84	77.3356
621.84	77.3356
631.29	77.5782
633.02	79.8081
633.10	76.5300
634.78	68.9155
635.90	65.6587
636.97	79.9115
645.85	85.6343
646.12	92.2277
656.30	91.2743
657.75	80.2958
657.90	0.0000
661.65	116.6522
661.65	116.6522
664.57	0.0000
666.33	82.0933
666.33	82.0933
675.00	72.9519
677.61	71.1645
685.20	75.9658
692.80	83.5730
695.00	90.1343
696.49	93.8943
696.49	93.8943
697.00	86.4704
697.49	92.0632
698.33	84.6460
698.50	90.2310
699.00	84.6627
702.63	94.0710
706.10	81.1182
706.58	0.0000
706.67	77.4022
709.31	76.5297
711.68	73.7828
713.82	80.3730
717.42	72.0402
720.50	54.5824
721.93	0.0000
722.20	70.6713
722.78	75.5029
722.78	75.5029
722.89	75.5062
722.95	75.5079
723.30	75.5144
724.18	57.8571
727.18	68.4984
733.00	77.3454
735.90	92.8232
739.58	66.8673
742.81	74.4724
744.21	88.6490
747.13	79.2866
751.79	76.5588
752.31	75.6250
753.82	73.7661
755.35	78.5302
756.15	73.8169
756.87	72.8846
763.93	82.9248
765.79	74.8350
766.42	89.4939
766.84	89.5035
776.49	79.9600
778.00	90.4696
778.57	90.4850
778.89	94.3030
783.80	60.0943
785.46	69.6658
792.07	106.5386

795.84	66.9979
796.30	59.0763
798.80	83.7484
801.93	63.9160
805.60	59.5024
810.29	75.9173
810.76	63.4326
815.85	59.6715
817.79	63.5548
818.51	55.8630
819.60	55.8795
826.30	60.8069
828.27	0.0000
831.60	86.0268
831.96	85.0674
834.83	62.8828
836.80	0.0000
846.75	69.8789
848.13	62.1367
856.28	0.0000
856.80	94.3950
860.37	55.5214
867.32	73.1888
867.82	65.3902
871.10	56.6548
873.19	47.8894
874.81	59.6435
875.33	0.0000
876.40	58.6902
879.36	55.7986
880.27	52.8739
880.51	51.8980
881.50	43.0959
883.24	51.9347
884.67	51.9541
889.25	57.9041
896.60	58.9966
898.02	64.9204
899.00	71.8237
903.28	78.7972
911.07	63.1628
911.07	63.1628
911.07	63.1628
919.63	59.3433
920.93	66.4863
925.00	50.5103
925.24	55.4657
926.50	61.4273
935.52	57.5941
937.48	54.6408
944.10	59.7064
946.00	43.8049
949.00	40.8490
962.29	87.3894
964.01	75.4270
966.15	72.0352
968.20	65.0648
969.11	49.7750
969.11	49.7750
969.11	49.7750
977.42	47.0599
980.50	51.2023
983.50	54.2527
989.30	68.4137
996.32	55.2835
1001.03	59.5246
1001.68	59.5342
1004.76	60.5872
1021.30	0.0000
1024.50	0.0000
1034.80	43.7261
1036.00	41.7040
1037.82	50.8789
1038.57	54.9602
1038.76	0.0000
1045.16	53.0050
1046.59	59.1399
1048.07	65.2786

1050.47	47.9658
1050.47	47.9658
1062.04	49.1152
1063.62	46.0620
1076.63	45.1709
1077.35	61.6064
1078.86	62.6531
1085.78	44.2335
1099.22	63.9703
1112.02	62.0801
1112.84	47.8998
1115.52	44.3778
1120.29	55.9731
1120.29	55.9731
1120.29	55.9731
1120.29	55.9731
1120.51	55.9753
1121.28	55.9863
1124.00	0.0000
1129.67	64.0999
1131.51	0.0000
1147.95	0.0000
1167.94	69.1152
1173.22	75.4805
1175.09	60.8273
1177.93	60.8651
1189.05	56.7993
1204.90	72.8156
1205.75	0.0000
1213.00	81.3927
1221.42	81.5336
1230.97	81.8419
1235.34	65.5313
1236.41	0.0000
1238.25	69.2143
1246.25	55.3389
1260.41	0.0000
1271.85	36.3685
1274.45	49.2288
1274.54	53.5116
1291.56	39.7310
1298.22	0.0000
1312.09	44.2015
1325.50	37.8312
1325.50	37.8312
1332.49	31.3883
1333.61	28.1466
1360.21	25.1807
1362.66	0.0000
1365.15	19.6033
1368.21	27.6053
1368.53	0.0000
1376.25	18.7081
1384.27	16.3940
1394.10	21.5858
1395.20	25.3455
1407.95	31.9912
1434.06	24.5799
1436.60	13.2417
1457.56	0.0000
1460.81	21.8489
1489.15	35.3250
1509.49	19.1622
1596.49	17.0172
1620.62	14.6448
1678.03	0.0000
1691.02	16.7877
1691.02	16.7877
1706.46	0.0000
1750.46	0.0000
1764.49	8.9906
1764.49	8.9906
1764.49	8.9906
1764.49	8.9906
1770.23	12.2479
1771.40	63.0000
1791.20	0.0000
1808.65	8.0455

1836.01

12.1180

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978008

Total Uranium Activity	4.2951E+01	ug/g
Total Uranium Counting Unc.	1.4810E+01	ug/g
Total Uranium Tpu	7.5563E-06	ug/g
Total Uranium Mda	6.4567E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 948721                          SAMPLE ID   : G245978008
*  ANALYST       : MXR1                             DETECTOR    : GAM15
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 14-FEB-2010 12:01:03.48          SAMPLE ALQT  : 134.060 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.059E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.469E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.096E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.989E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 14:02:36.13

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978009.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:01:43
Sample ID          : G245978009      Sample quantity   : 1.11440E+02 GRAM
Detector name      : GAM22           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:02.17 0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID          : 948721           Detector SN#     :
Matrix Spike ID    :                 LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.03*	147	601	0.99	126.31	123	9	2.04E-02	32.0	
2	3	74.82	487	666	1.15	149.88	145	22	6.76E-02	9.7	7.00E-01
3	3	77.11	787	521	1.02	154.44	145	22	1.09E-01	6.0	
4	5	87.20*	349	614	1.32	174.61	171	21	4.85E-02	13.2	1.32E+00
5	5	89.97	217	499	1.24	180.14	171	21	3.01E-02	18.5	
6	5	92.80*	361	575	1.48	185.79	171	21	5.01E-02	14.4	
7	0	128.68	156	618	1.79	257.48	252	11	2.17E-02	31.9	
8	0	185.91*	199	490	1.31	371.84	368	9	2.77E-02	22.4	
9	0	209.12	137	451	1.07	418.20	415	9	1.91E-02	29.0	
10	4	238.65*	1910	261	1.29	477.22	470	19	2.65E-01	2.8	1.50E+00
11	4	241.56	474	346	2.07	483.04	470	19	6.58E-02	12.4	
12	0	270.15*	213	278	1.98	540.16	534	11	2.96E-02	17.0	
13	0	277.88	102	274	1.35	555.61	551	10	1.42E-02	32.1	
14	2	295.19*	584	188	1.37	590.19	585	22	8.11E-02	6.0	1.37E+00
15	2	299.96*	128	282	1.84	599.73	585	22	1.77E-02	26.7	
16	0	328.65	173	290	1.50	657.06	651	14	2.41E-02	22.3	
17	0	338.28*	415	271	1.45	676.31	672	12	5.76E-02	9.6	
18	0	351.94*	1048	268	1.28	703.62	698	13	1.46E-01	4.5	
19	0	463.14	94	148	1.67	925.86	921	9	1.31E-02	25.5	
20	0	510.81*	211	211	2.15	1021.12	1014	15	2.94E-02	19.2	
21	0	583.10*	622	223	1.82	1165.62	1156	19	8.64E-02	7.2	
22	0	609.39*	666	215	1.38	1218.16	1212	14	9.25E-02	6.3	
23	0	661.94	128	205	1.04	1323.21	1312	21	1.78E-02	29.2	
24	0	727.50*	141	129	1.68	1454.27	1446	14	1.95E-02	19.4	
25	0	795.18	76	76	1.68	1589.57	1584	11	1.05E-02	25.3	
26	0	861.56	94	151	2.26	1722.27	1710	21	1.30E-02	34.4	
27	0	911.16*	464	86	1.85	1821.44	1812	16	6.44E-02	6.6	
28	0	934.35*	42	81	1.45	1867.80	1863	13	5.80E-03	48.4	
29	4	964.94	64	126	2.59	1928.96	1920	27	8.90E-03	43.0	1.22E+00
30	4	969.05*	235	85	1.90	1937.18	1920	27	3.27E-02	10.3	
31	0	1120.24*	151	109	2.23	2239.50	2232	16	2.09E-02	18.3	
32	0	1460.73*	1765	70	2.56	2920.48	2908	21	2.45E-01	2.7	
33	0	1764.82*	144	47	2.32	3528.83	3516	26	2.00E-02	15.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 14:02:39

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:01:43
Sample ID        : G245978009 Sample quantity : 111.44 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA22 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.17 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.918E+01	3.095E+00	4.533E-01	4.153E-02	64.373
CD-109	+	88.03	*	4.340E+00	1.215E+00	1.289E+00	1.224E-01	3.366
SN-126	+	64.28		1.203E+00	7.898E-01	7.719E-01	1.121E-01	1.558
	+	86.94		1.766E+00	8.687E-01	5.298E-01	2.200E-01	3.333
	+	87.57	*	4.248E-01	1.189E-01	1.267E-01	1.196E-02	3.353
BA-137M	+	661.65	*	1.340E-01	7.964E-02	5.982E-02	6.308E-03	2.241
CS-137	+	661.65	*	1.417E-01	8.419E-02	6.323E-02	6.676E-03	2.241
HG-203		70.83		6.088E-01	1.187E+00	1.771E+00	2.325E-01	0.344
		72.87		1.430E+00	7.453E-01	1.140E+00	1.460E-01	1.255
		82.60		-4.594E-01	1.637E+00	1.841E+00	2.562E-01	-0.250
	+	279.20	*	9.427E-02	6.199E-02	6.718E-02	9.508E-03	1.403
TL-208	+	277.35		8.194E-01	5.433E-01	6.416E-01	1.058E-01	1.277
	+	510.84		7.668E-01	3.111E-01	2.045E-01	2.665E-02	3.750
	+	583.14	*	6.331E-01	1.142E-01	6.061E-02	6.573E-03	10.445
	+	860.37		8.689E-01	6.068E-01	4.500E-01	5.244E-02	1.931
BI-211		72.87		6.888E+00	3.523E+00	5.490E+00	4.394E-01	1.255
	+	351.07	*	5.050E+00	7.456E-01	3.217E-01	3.753E-02	15.700
PB-212	+	74.81		2.485E+00	5.728E-01	5.762E-01	7.150E-02	4.313
	+	77.11		2.280E+00	3.332E-01	3.281E-01	2.744E-02	6.948
	+	87.30		1.965E+00	5.839E-01	5.874E-01	8.067E-02	3.344
	+	238.63	*	2.150E+00	3.084E-01	9.442E-02	1.247E-02	22.773
	+	300.09		2.129E+00	1.180E+00	1.238E+00	1.805E-01	1.719
PO-212	+	74.81		2.485E+00	5.728E-01	5.762E-01	7.150E-02	4.313
	+	77.11		2.280E+00	3.332E-01	3.281E-01	2.744E-02	6.948
	+	87.30		1.965E+00	5.839E-01	5.874E-01	8.067E-02	3.344
	+	115.19		3.651E+00	3.819E+00	6.283E+00	5.205E-01	0.581
	+	238.63	*	2.150E+00	3.084E-01	9.442E-02	1.247E-02	22.773
	+	300.09		2.129E+00	1.180E+00	1.238E+00	1.805E-01	1.719
BI-214	+	609.31	*	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
	+	1120.29		1.431E+00	5.460E-01	4.383E-01	4.843E-02	3.265
	+	1764.49		1.791E+00	5.898E-01	3.397E-01	2.830E-02	5.271
PB-214	+	74.81		4.282E+00	9.564E-01	9.929E-01	1.094E-01	4.313
	+	77.11		3.908E+00	6.441E-01	5.625E-01	6.363E-02	6.948
	+	87.30		3.366E+00	9.771E-01	1.006E+00	1.224E-01	3.344

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		3.197E+00	9.059E-01	5.677E-01	7.807E-02	5.631
	+	295.21		1.717E+00	3.277E-01	2.173E-01	3.235E-02	7.900
	+	351.92	*	1.757E+00	2.751E-01	1.124E-01	1.432E-02	15.635
	+	74.81		4.282E+00	9.564E-01	9.929E-01	1.094E-01	4.313
	+	77.11		3.908E+00	6.441E-01	5.625E-01	6.363E-02	6.948
	+	87.30		3.366E+00	9.771E-01	1.006E+00	1.224E-01	3.344
PO-216	+	241.98		3.197E+00	9.059E-01	5.677E-01	7.807E-02	5.631
	+	295.21		1.717E+00	3.277E-01	2.173E-01	3.235E-02	7.900
	+	351.92	*	1.757E+00	2.751E-01	1.124E-01	1.432E-02	15.635
	+	74.81		2.485E+00	5.728E-01	5.762E-01	7.150E-02	4.313
	+	77.11		2.280E+00	3.332E-01	3.281E-01	2.744E-02	6.948
	+	87.30		1.965E+00	5.839E-01	5.874E-01	8.067E-02	3.344
PO-218	+	238.63	*	2.150E+00	3.084E-01	9.442E-02	1.247E-02	22.773
	+	300.09		2.129E+00	1.180E+00	1.238E+00	1.805E-01	1.719
	+	74.81		4.282E+00	9.564E-01	9.929E-01	1.094E-01	4.313
	+	77.11		3.908E+00	6.441E-01	5.625E-01	6.363E-02	6.948
	+	87.30		3.366E+00	9.771E-01	1.006E+00	1.224E-01	3.344
	+	241.98		3.197E+00	9.059E-01	5.677E-01	7.807E-02	5.631
RA-224	+	295.21		1.717E+00	3.277E-01	2.173E-01	3.235E-02	7.900
	+	351.92	*	1.757E+00	2.751E-01	1.124E-01	1.432E-02	15.635
	+	240.98	*	6.062E+00	1.684E+00	1.073E+00	1.344E-01	5.648
RA-226	+	609.31	*	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
	+	1120.29		1.431E+00	5.460E-01	4.383E-01	4.843E-02	3.265
	+	1764.49		1.791E+00	5.898E-01	3.397E-01	2.830E-02	5.271
AC-228	+	338.32		2.217E+00	1.024E+00	3.943E-01	1.659E-01	5.623
	+	911.07	*	2.023E+00	3.795E-01	2.067E-01	2.739E-02	9.783
	+	969.11		1.804E+00	5.732E-01	3.698E-01	8.930E-02	4.878
RA-228	+	338.32		2.217E+00	1.024E+00	3.943E-01	1.659E-01	5.623
	+	911.07	*	2.023E+00	3.795E-01	2.067E-01	2.739E-02	9.783
	+	969.11		1.804E+00	5.732E-01	3.698E-01	8.930E-02	4.878
TH-228	+	74.81		2.530E+00	5.338E-01	5.867E-01	4.834E-02	4.313
	+	77.11		2.321E+00	3.392E-01	3.340E-01	2.793E-02	6.948
	+	87.30		2.000E+00	5.598E-01	5.980E-01	5.628E-02	3.344
TH-230	+	238.63	*	2.189E+00	3.140E-01	9.612E-02	1.270E-02	22.773
	+	300.09		2.167E+00	1.744E+00	1.260E+00	7.582E-01	1.719
	+	609.31	*	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
	+	1120.29		1.431E+00	5.460E-01	4.383E-01	4.843E-02	3.265
	+	1764.49		1.791E+00	5.898E-01	3.397E-01	2.830E-02	5.271
	+	338.32		2.217E+00	4.992E-01	3.943E-01	4.689E-02	5.623
TH-232	+	911.07	*	2.023E+00	3.795E-01	2.067E-01	2.739E-02	9.783
	+	969.11		1.804E+00	5.732E-01	3.698E-01	8.930E-02	4.878
	+	63.29	*	3.038E+00	2.017E+00	1.978E+00	3.443E-01	1.536
TH-234	+	92.38		2.857E+00	9.744E-01	8.356E-01	1.531E-01	3.420
	+	609.31	*	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
	+	1120.29		1.431E+00	5.460E-01	4.383E-01	4.843E-02	3.265
U-234	+	1764.49		1.791E+00	5.898E-01	3.397E-01	2.830E-02	5.271
	+	86.50	*	1.247E+00	4.338E-01	4.180E-01	9.464E-02	2.984
	+	95.87		-2.860E-01	1.053E+00	1.489E+00	3.683E-01	-0.192
U-238	+	63.29	*	3.038E+00	2.017E+00	1.978E+00	3.443E-01	1.536

Sample ID : G245978009

Acquisition date : 14-FEB-2010 12:01:43

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	92.38		2.857E+00	8.620E-01	8.356E-01	7.614E-02	3.420
AM-243	+	74.67	*	4.029E-01	8.489E-02	9.368E-02	7.636E-03	4.301
	+	86.72		4.678E+01	1.309E+01	1.564E+01	1.462E+00	2.990
		117.66		-3.173E+00	4.231E+00	6.516E+00	5.382E-01	-0.487
		142.18		-7.540E+00	1.805E+01	3.000E+01	2.649E+00	-0.251
ANH-511	+	511.00	*	1.656E-01	6.576E-02	4.419E-02	4.427E-03	3.749

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	1.751E-01	3.396E-01	5.639E-01	5.886E-02	0.310
NA-22		1274.54	*	-4.286E-02	4.502E-02	6.910E-02	5.955E-03	-0.620
NA-24		1368.53	*	-9.971E+00	4.502E-02	Half-Life too short		
AL-26		1129.67		-6.549E-01	1.961E+00	2.806E+00	2.444E-01	-0.233
		1808.65	*	1.519E-04	2.752E-02	4.529E-02	3.704E-03	0.003
TI-44		67.85		-4.419E-02	4.947E-02	7.003E-02	5.345E-03	-0.631
	+	78.38	*	4.208E-01	6.149E-02	7.892E-02	6.691E-03	5.332
SC-46		889.25	*	4.470E-03	4.054E-02	6.773E-02	7.581E-03	0.066
	+	1120.51		2.509E-01	9.427E-02	1.287E-01	1.138E-02	1.950
V-48		944.10		-2.374E-01	1.087E+00	1.652E+00	1.792E-01	-0.144
		983.50	*	-4.344E-02	7.691E-02	1.207E-01	1.266E-02	-0.360
		1312.09		-2.529E-02	8.956E-02	1.443E-01	1.272E-02	-0.175
CR-51		320.08	*	-3.626E-01	4.097E-01	6.542E-01	8.471E-02	-0.554
MN-52		744.21		-2.928E-01	3.495E-01	5.335E-01	5.797E-02	-0.549
		848.13		9.052E-01	9.578E+00	1.605E+01	1.787E+00	0.056
	+	935.52		5.105E-01	4.974E-01	6.697E-01	7.312E-02	0.762
		1246.25		-7.765E+00	1.058E+01	1.668E+01	1.410E+00	-0.465
		1333.61		-1.975E+00	7.363E+00	1.186E+01	1.057E+00	-0.167
		1434.06	*	1.675E-01	3.147E-01	5.423E-01	4.846E-02	0.309
MN-54		834.83	*	1.605E-02	3.861E-02	6.587E-02	7.317E-03	0.244
CO-56		846.75	*	1.763E-02	3.957E-02	6.771E-02	7.538E-03	0.260
		977.42		1.863E+00	3.244E+00	4.828E+00	5.092E-01	0.386
		1037.82		-2.621E-01	3.217E-01	4.921E-01	5.074E-02	-0.533
		1175.09		9.095E-01	2.374E+00	4.051E+00	3.262E-01	0.225
		1238.25		1.244E-01	9.725E-02	1.717E-01	1.488E-02	0.725
		1360.21		1.768E-01	9.942E-01	1.661E+00	1.484E-01	0.106
		1771.40		1.203E-01	2.617E-01	3.971E-01	3.299E-02	0.303
CO-57		122.06	*	-1.721E-02	2.836E-02	4.381E-02	3.613E-03	-0.393
		136.48		9.537E-02	2.150E-01	3.684E-01	3.418E-02	0.259
CO-58		810.76	*	-5.467E-03	3.915E-02	6.492E-02	7.189E-03	-0.084
FE-59		142.65		-1.454E+00	3.024E+00	4.877E+00	4.316E-01	-0.298
		192.34		-4.001E-01	1.073E+00	1.744E+00	2.590E-01	-0.229
		1099.22	*	-3.190E-03	9.437E-02	1.529E-01	1.499E-02	-0.021
		1291.56		-1.107E-01	1.353E-01	2.095E-01	2.065E-02	-0.529
CO-60		1173.22		-3.803E-03	4.711E-02	7.823E-02	6.291E-03	-0.049
		1332.49	*	8.583E-04	3.968E-02	6.550E-02	5.841E-03	0.013
ZN-65		1115.52	*	7.855E-02	1.065E-01	1.572E-01	1.403E-02	0.500
GE-68		1077.35	*	9.955E-01	1.241E+00	2.131E+00	2.009E-01	0.467

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-73		53.44	*	-9.985E-02	8.152E-01	1.317E+00	9.954E-02	-0.076
AS-74		595.88	*	-4.366E-02	1.067E-01	1.728E-01	1.791E-02	-0.253
		634.78		-3.622E-01	3.995E-01	6.190E-01	6.487E-02	-0.585
SE-75		66.05		-2.682E+00	5.223E+00	7.445E+00	7.103E-01	-0.360
		96.73		-5.616E-01	8.903E-01	1.233E+00	1.698E-01	-0.455
		121.11		9.970E-02	1.511E-01	2.454E-01	2.682E-02	0.406
		136.00		1.118E-02	4.038E-02	6.888E-02	5.977E-03	0.162
		198.60		-1.111E+00	2.053E+00	3.215E+00	3.757E-01	-0.346
		264.65	*	4.578E-02	5.287E-02	7.774E-02	1.046E-02	0.589
		279.53		1.604E-01	1.335E-01	1.975E-01	2.803E-02	0.812
		303.91		-2.403E+00	2.538E+00	3.463E+00	5.277E-01	-0.694
		400.65		-8.108E-02	2.647E-01	4.276E-01	5.005E-02	-0.190
BR-77	+	87.88		2.165E+03	6.061E+02	8.248E+02	7.818E+01	2.625
		200.40		-1.265E+02	4.178E+02	6.792E+02	7.468E+01	-0.186
	+	239.00		8.008E+02	1.091E+02	9.512E+01	1.183E+01	8.419
		249.79		-5.034E+00	1.677E+02	2.705E+02	3.478E+01	-0.019
		281.68		-4.580E+01	2.477E+02	3.408E+02	4.747E+01	-0.134
		297.23		1.050E+03	2.105E+02	3.121E+02	4.197E+01	3.365
		303.76		-4.752E+02	4.917E+02	6.716E+02	8.883E+01	-0.708
		439.47		-1.407E+02	3.359E+02	5.339E+02	5.139E+01	-0.264
		484.57		-9.759E+01	5.455E+02	8.709E+02	8.609E+01	-0.112
		520.65	*	-1.365E+01	2.412E+01	3.919E+01	3.944E+00	-0.348
		574.64		-2.668E+02	6.035E+02	8.344E+02	8.587E+01	-0.320
		578.91		3.254E+02	2.365E+02	3.695E+02	3.808E+01	0.881
		585.48		5.076E+03	8.280E+02	1.249E+03	1.290E+02	4.064
		755.35		3.387E+02	3.858E+02	6.578E+02	7.172E+01	0.515
		817.79		1.904E+01	3.032E+02	5.089E+02	5.635E+01	0.037
SR-82		698.33		-2.650E+01	3.599E+01	5.587E+01	5.978E+00	-0.474
		776.49	*	-2.069E-03	4.557E-01	7.365E-01	8.077E-02	-0.003
		1395.20		-8.906E+00	1.170E+01	1.770E+01	1.582E+00	-0.503
RB-83		520.41	*	-4.651E-02	7.003E-02	1.131E-01	1.138E-02	-0.411
		529.64		-6.932E-02	1.113E-01	1.800E-01	1.819E-02	-0.385
		552.65		1.703E-02	1.943E-01	3.259E-01	3.326E-02	0.052
RB-84		881.50	*	4.963E-02	7.347E-02	1.270E-01	1.420E-02	0.391
KR-85		513.99	*	2.695E+01	9.084E+00	1.456E+01	1.461E+00	1.851
SR-85		513.99	*	1.425E-01	4.801E-02	7.697E-02	7.724E-03	1.851
RB-86		1076.63	*	4.375E-01	8.729E-01	1.471E+00	1.388E-01	0.297
Y-88		898.02		-9.514E-03	4.097E-02	6.679E-02	7.504E-03	-0.142
		1836.01	*	-1.854E-02	3.133E-02	4.676E-02	3.781E-03	-0.396
ZR-88		392.90	*	1.805E-02	3.222E-02	5.435E-02	5.060E-03	0.332
Y-91		1204.90	*	-5.339E+00	2.011E+01	3.294E+01	2.708E+00	-0.162
NB-94		702.63	*	1.729E-02	3.317E-02	5.576E-02	5.975E-03	0.310
		871.10		7.346E-03	3.638E-02	5.766E-02	6.441E-03	0.127
NB-95		765.79	*	8.104E-02	4.763E-02	8.302E-02	9.078E-03	0.976
NB-95M		235.69	*	3.223E-01	1.582E-01	2.395E-01	3.166E-02	1.346
ZR-95		724.18		9.825E-02	1.251E-01	1.842E-01	2.100E-02	0.533
		756.15	*	8.133E-02	7.360E-02	1.267E-01	1.471E-02	0.642
NB-97		657.90	*	3.206E-01	7.360E-02	Half-Life too short		
		1024.50		-8.219E+01	7.360E-02	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	254.15			-7.528E+01	7.360E-02	Half-Life	too short	
	355.39			4.927E+01	7.360E-02	Half-Life	too short	
	507.63	*		1.135E+02	7.360E-02	Half-Life	too short	
	602.52			-9.321E+01	7.360E-02	Half-Life	too short	
	1021.30			-6.983E+01	7.360E-02	Half-Life	too short	
	1147.95			-1.863E+01	7.360E-02	Half-Life	too short	
	1362.66			5.743E+01	7.360E-02	Half-Life	too short	
	1750.46			2.146E+01	7.360E-02	Half-Life	too short	
MO-99	140.51			-4.189E+01	5.874E+01	9.223E+01	2.558E+01	-0.454
	181.06			-3.443E+01	4.414E+01	6.113E+01	1.170E+01	-0.563
	366.43			-1.486E+02	1.785E+02	2.820E+02	2.991E+01	-0.527
	739.58	*		2.191E+01	2.408E+01	4.096E+01	6.780E+00	0.535
	778.00			-8.245E+01	8.058E+01	1.212E+02	1.330E+01	-0.680
TC-99M	140.51	*		-8.519E+13	8.058E+01	Half-Life	too short	
RH-101	+	127.23		9.144E-02	5.887E-02	6.050E-02	5.057E-03	1.511
	198.01	*		-1.491E-02	3.692E-02	5.817E-02	6.346E-03	-0.256
	325.23			1.941E-01	2.604E-01	3.937E-01	4.894E-02	0.493
RH-102	418.52			-4.909E-02	3.163E-01	5.133E-01	4.871E-02	-0.096
	475.06	*		8.203E-03	3.003E-02	4.927E-02	4.845E-03	0.167
	631.29			-3.996E-03	5.370E-02	8.815E-02	9.230E-03	-0.045
	697.49			-2.750E-02	7.555E-02	1.206E-01	1.289E-02	-0.228
	766.84			2.197E-01	1.174E-01	2.056E-01	2.248E-02	1.069
	1046.59			2.771E-02	1.156E-01	1.920E-01	1.883E-02	0.144
	1112.84			-4.682E-02	2.556E-01	3.452E-01	3.089E-02	-0.136
RU-103	497.08	*		-4.674E-03	4.444E-02	7.110E-02	1.067E-02	-0.066
	+	610.33		1.444E+01	3.131E+00	2.993E+00	5.290E-01	4.826
RH-106	+	511.85		8.318E-01	3.302E-01	4.549E-01	4.559E-02	1.829
	621.84	*		5.874E-02	3.272E-01	5.455E-01	7.966E-02	0.108
	1050.47			-2.474E-01	2.383E+00	3.860E+00	3.768E-01	-0.064
RU-106	+	511.85		8.318E-01	3.302E-01	4.549E-01	4.559E-02	1.829
	621.84	*		5.874E-02	3.271E-01	5.455E-01	5.698E-02	0.108
	1050.47			-2.474E-01	2.383E+00	3.860E+00	3.768E-01	-0.064
AG-108M	433.93	*		-5.243E-04	3.362E-02	5.476E-02	5.420E-03	-0.010
	614.37			-1.461E-02	4.314E-02	5.949E-02	6.368E-03	-0.246
	722.95			1.032E-02	5.071E-02	7.189E-02	7.954E-03	0.144
AG-110M	657.75	*		3.347E-03	4.190E-02	5.948E-02	6.392E-03	0.056
	677.61			6.689E-02	3.095E-01	5.135E-01	5.553E-02	0.130
	706.67			1.437E-01	2.111E-01	3.574E-01	3.904E-02	0.402
	763.93			-1.929E-01	1.822E-01	2.743E-01	3.051E-02	-0.703
	884.67			-1.756E-02	5.071E-02	8.218E-02	9.372E-03	-0.214
	937.48			1.045E-01	1.248E-01	1.899E-01	2.118E-02	0.550
	1384.27			-2.959E-01	1.845E-01	2.571E-01	2.358E-02	-1.151
IN-111	171.28			1.775E-01	2.188E+00	3.649E+00	3.643E-01	0.049
	245.39	*		8.110E-01	2.625E+00	3.774E+00	4.788E-01	0.215
IN-113M	391.69	*		1.097E-03	4.685E-02	7.715E-02	7.368E-03	0.014
SN-113	391.69	*		1.097E-03	4.685E-02	7.715E-02	7.368E-03	0.014
IN-114M	190.27	*		1.532E-01	2.296E-01	3.428E-01	3.645E-02	0.447
CD-115	260.90			-1.569E-04	2.296E-01	Half-Life	too short	
	492.35			2.565E-05	2.296E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M		527.90	*	-1.018E-05	2.296E-01	Half-Life	too short	
		156.02		5.392E-01	2.812E+00	4.739E+00	4.443E-01	0.114
		158.56	*	-5.229E-02	6.801E-02	1.106E-01	1.048E-02	-0.473
SB-122		563.90	*	3.141E-01	4.321E+00	7.226E+00	7.406E-01	0.043
		692.80		6.031E+01	9.129E+01	1.547E+02	1.652E+01	0.390
I-123		159.00	*	-3.176E+01	9.129E+01	Half-Life	too short	
		528.96		-1.168E+04	9.129E+01	Half-Life	too short	
TE-123M		159.00	*	-4.128E-03	3.061E-02	5.097E-02	4.867E-03	-0.081
I-124		602.71	*	-3.743E-01	1.322E+00	1.842E+00	1.913E-01	-0.203
		722.78		1.179E+00	8.517E+00	1.201E+01	1.296E+00	0.098
		1325.50		-1.797E-01	6.273E+01	9.741E+01	8.651E+00	-0.002
		1376.25		1.100E+02	5.631E+01	1.038E+02	9.276E+00	1.060
		1509.49		1.746E+01	2.741E+01	4.711E+01	4.187E+00	0.371
		1691.02		3.054E+00	6.328E+00	1.104E+01	9.445E-01	0.277
		602.71		-1.394E-02	4.923E-02	6.859E-02	7.125E-03	-0.203
		645.85		-1.656E-01	5.287E-01	8.533E-01	9.333E-02	-0.194
		709.31		-1.563E+00	2.924E+00	4.604E+00	4.946E-01	-0.339
		713.82		-8.346E-01	1.719E+00	2.709E+00	3.699E-01	-0.308
SB-124		722.78		6.363E-02	4.598E-01	6.484E-01	7.095E-02	0.098
	+	968.20		1.920E+01	4.459E+00	7.527E+00	8.003E-01	2.551
		1045.16		8.195E-01	2.556E+00	4.267E+00	4.192E-01	0.192
		1325.50		-1.036E-02	3.617E+00	5.617E+00	4.988E-01	-0.002
		1368.21		-3.264E-01	1.943E+00	3.147E+00	4.305E-01	-0.104
		1436.60		-8.863E-01	3.780E+00	6.030E+00	5.388E-01	-0.147
		1691.02	*	3.889E-02	8.059E-02	1.406E-01	1.251E-02	0.277
		427.89	*	1.295E-02	9.523E-02	1.565E-01	1.519E-02	0.083
	+	463.38		6.787E-01	3.526E-01	5.546E-01	5.751E-02	1.224
		600.56		4.149E-02	1.903E-01	3.120E-01	3.405E-02	0.133
TE-125M		635.90		-1.892E-01	2.832E-01	4.376E-01	4.841E-02	-0.432
		109.28	*	-1.104E+00	1.039E+01	1.654E+01	1.676E+00	-0.067
		388.63		2.557E-02	2.447E-01	4.049E-01	3.833E-02	0.063
I-126		666.33	*	1.518E-01	2.436E-01	3.604E-01	3.808E-02	0.421
		753.82		3.144E-01	1.738E+00	2.851E+00	3.107E-01	0.110
SB-126		223.80		-2.982E+00	5.234E+00	8.324E+00	9.876E-01	-0.358
		278.60		6.365E+00	4.183E+00	5.310E+00	7.422E-01	1.199
	+	296.50		2.008E+01	3.622E+00	4.538E+00	6.114E-01	4.424
		414.70		-8.213E-02	9.915E-02	1.554E-01	1.471E-02	-0.529
		415.30		-2.542E+00	8.107E+00	1.306E+01	1.237E+00	-0.195
		555.20		4.769E-01	4.512E+00	7.571E+00	7.734E-01	0.063
		573.80		-1.687E-01	1.449E+00	2.144E+00	2.206E-01	-0.079
		593.00		-5.710E-01	1.149E+00	1.808E+00	1.872E-01	-0.316
		656.30		-4.298E-01	4.549E+00	6.361E+00	6.700E-01	-0.068
		666.33		6.386E-02	1.025E-01	1.516E-01	1.602E-02	0.421
		675.00		5.222E-01	2.330E+00	3.870E+00	4.104E-01	0.135
		695.00		2.707E-02	8.967E-02	1.491E-01	1.594E-02	0.182
		697.00		-1.900E-01	3.108E-01	4.873E-01	5.211E-02	-0.390
		720.50	*	3.374E-02	2.096E-01	2.963E-01	3.195E-02	0.114
		856.80		8.729E-01	6.288E-01	9.969E-01	1.111E-01	0.876
		989.30		5.837E-01	1.450E+00	2.447E+00	2.552E-01	0.239

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1034.80			4.962E+00	9.989E+00	1.691E+01	1.681E+00	0.293
	1213.00			1.911E+00	5.702E+00	9.665E+00	7.991E-01	0.198
	61.10			5.668E+01	9.626E+01	1.468E+02	1.626E+01	0.386
	252.40			-6.352E+00	8.272E+00	1.213E+01	5.261E+00	-0.524
	290.80			1.222E+01	4.009E+01	5.990E+01	9.615E+00	0.204
	411.60			1.190E+01	2.239E+01	3.742E+01	6.297E+00	0.318
	444.90			-6.967E+00	1.637E+01	2.594E+01	3.640E+00	-0.269
	473.00			-4.150E-01	2.872E+00	4.606E+00	6.653E-01	-0.090
	543.00			1.107E+01	2.859E+01	4.865E+01	7.802E+00	0.228
	603.60			2.878E+00	2.364E+01	3.397E+01	4.935E+00	0.085
	685.20	*		3.093E-01	2.291E+00	3.779E+00	5.203E-01	0.082
	698.50			-2.008E+01	2.494E+01	3.824E+01	6.748E+00	-0.525
	722.20			3.214E+01	5.904E+01	8.598E+01	1.178E+01	0.374
	783.80			1.155E+01	6.771E+00	1.167E+01	1.736E+00	0.990
XE-127	57.60			-4.092E+00	6.016E+00	9.768E+00	7.016E-01	-0.419
	145.22			3.179E-01	7.965E-01	1.322E+00	1.182E-01	0.240
	172.10			7.140E-03	1.359E-01	2.265E-01	2.266E-02	0.032
	202.84	*		3.487E-02	5.463E-02	9.150E-02	1.014E-02	0.381
I-131	374.96			-9.976E-02	2.210E-01	3.567E-01	3.631E-02	-0.280
	80.18			-9.983E+00	6.001E+00	9.174E+00	8.007E-01	-1.088
	284.30			-8.177E-01	2.120E+00	3.194E+00	4.520E-01	-0.256
	364.48	*		-4.351E-02	1.438E-01	2.342E-01	2.599E-02	-0.186
TE-132	636.97			2.996E-01	2.018E+00	3.286E+00	3.583E-01	0.091
	722.89			1.976E+00	1.094E+01	1.548E+01	1.680E+00	0.128
	49.72			-6.417E+00	3.262E+01	5.437E+01	6.099E+00	-0.118
	111.76			-3.330E+01	6.019E+01	9.189E+01	1.052E+01	-0.362
BA-133	116.30			-3.375E+01	5.632E+01	8.732E+01	9.959E+00	-0.387
	228.16	*		1.063E+00	1.412E+00	2.341E+00	4.287E-01	0.454
	53.15			-9.183E-01	3.431E+00	5.513E+00	4.183E-01	-0.167
	79.62			-1.992E+00	1.342E+00	2.033E+00	3.093E-01	-0.980
I-133	81.00			-1.926E-01	1.026E-01	1.497E-01	2.385E-02	-1.287
	+ 276.40			8.102E-01	5.407E-01	6.868E-01	1.243E-01	1.180
	302.84			-1.057E-01	1.704E-01	2.389E-01	3.984E-02	-0.442
	356.01	*		1.647E-02	4.655E-02	6.861E-02	1.025E-02	0.240
CS-134	383.85			-2.902E-01	3.036E-01	4.716E-01	6.311E-02	-0.615
	+ 510.53			1.692E+01	3.036E-01	Half-Life	too short	
	529.87	*		-1.960E-02	3.036E-01	Half-Life	too short	
	706.58			2.807E+00	3.036E-01	Half-Life	too short	
	856.28			2.257E+00	3.036E-01	Half-Life	too short	
	875.33			-7.868E-01	3.036E-01	Half-Life	too short	
	1236.41			1.968E+01	3.036E-01	Half-Life	too short	
	1298.22			3.669E+00	3.036E-01	Half-Life	too short	
	475.35			1.491E+00	1.921E+00	3.234E+00	3.181E-01	0.461
	563.23			1.660E-01	3.566E-01	6.082E-01	6.274E-02	0.273
	569.32			1.441E-01	2.074E-01	3.564E-01	3.695E-02	0.404
	604.70			-1.809E-02	4.227E-02	5.822E-02	6.062E-03	-0.311
	+ 795.84	*		1.080E-01	5.584E-02	8.646E-02	9.570E-03	1.249
	801.93			-2.396E-01	4.647E-01	6.142E-01	6.802E-02	-0.390
	1038.57			-2.272E+00	3.856E+00	6.012E+00	5.953E-01	-0.378

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135	1167.94			1.365E+00	2.526E+00	4.354E+00	3.538E-01	0.314
	1365.15			3.634E-01	1.323E+00	2.154E+00	2.006E-01	0.169
	268.24	*		2.690E-01	2.053E-01	2.984E-01	4.317E-02	0.902
	288.45			2.068E+13	2.053E-01	Half-Life	too short	
	417.63			1.788E+13	2.053E-01	Half-Life	too short	
	546.56			-3.942E+12	2.053E-01	Half-Life	too short	
	836.80			2.695E+12	2.053E-01	Half-Life	too short	
	1038.76			-1.177E+13	2.053E-01	Half-Life	too short	
	1124.00			1.766E+14	2.053E-01	Half-Life	too short	
	1131.51			-2.711E+12	2.053E-01	Half-Life	too short	
	1260.41	*		-6.431E+12	2.053E-01	Half-Life	too short	
	1457.56			1.513E+15	2.053E-01	Half-Life	too short	
	1678.03			-2.445E+12	2.053E-01	Half-Life	too short	
	1706.46			1.303E+13	2.053E-01	Half-Life	too short	
CS-136	1791.20			6.278E+12	2.053E-01	Half-Life	too short	
	66.91			-4.379E-01	9.717E-01	1.387E+00	2.063E-01	-0.316
	86.29	+		6.453E+00	1.908E+00	2.461E+00	3.277E-01	2.622
	153.22			1.210E+00	8.437E-01	1.462E+00	1.493E-01	0.828
	163.89			-8.554E-02	1.346E+00	2.242E+00	2.388E-01	-0.038
	176.55			3.297E-01	4.589E-01	7.784E-01	8.240E-02	0.424
	273.65			5.014E-02	8.597E-01	8.643E-01	1.223E-01	0.058
	340.57			7.025E-01	2.117E-01	3.248E-01	3.892E-02	2.163
	818.51			4.495E-02	8.527E-02	1.470E-01	1.629E-02	0.306
	1048.07	*		3.219E-02	1.285E-01	2.134E-01	2.159E-02	0.151
CE-139 BA-140	1235.34			1.863E+00	7.323E-01	1.323E+00	1.546E-01	1.408
	165.85	*		2.088E-02	3.239E-02	5.507E-02	5.401E-03	0.379
	162.64			1.007E-01	9.447E-01	1.583E+00	1.601E-01	0.064
	304.84			-8.548E-01	1.754E+00	2.463E+00	7.327E-01	-0.347
LA-140	423.70			3.957E-01	2.358E+00	3.879E+00	1.267E+00	0.102
	537.32	*		-2.605E-01	3.189E-01	4.899E-01	1.644E-01	-0.532
	328.77	+		1.347E+00	6.243E-01	6.618E-01	8.360E-02	2.036
	432.53			-5.427E-01	2.518E+00	4.019E+00	4.003E-01	-0.135
	487.03			1.051E-01	1.650E-01	2.753E-01	2.853E-02	0.382
	751.79			1.575E+00	1.935E+00	3.295E+00	3.834E-01	0.478
	815.85			-1.646E-01	3.765E-01	6.114E-01	7.250E-02	-0.269
	867.82			9.511E-01	1.855E+00	2.764E+00	3.185E-01	0.344
	919.63			-1.332E+00	3.400E+00	5.097E+00	6.468E-01	-0.261
	925.24			1.820E-01	1.281E+00	2.099E+00	2.399E-01	0.087
CE-141 CE-143	1596.49	*		-1.146E-01	1.109E-01	1.660E-01	1.455E-02	-0.690
	145.44	*		2.652E-02	7.027E-02	1.196E-01	1.089E-02	0.222
	57.37			-2.984E-03	7.027E-02	Half-Life	too short	
	231.56			-8.415E-03	7.027E-02	Half-Life	too short	
CE-144	293.26	*		4.305E-03	7.027E-02	Half-Life	too short	
	350.59	+		1.713E-01	7.027E-02	Half-Life	too short	
	490.36			-1.143E-03	7.027E-02	Half-Life	too short	
	664.57			6.352E-03	7.027E-02	Half-Life	too short	
	721.93			3.538E-03	7.027E-02	Half-Life	too short	
	80.11			-3.600E+00	2.169E+00	3.318E+00	2.868E-01	-1.085
	133.54	*		-1.298E-01	2.369E-01	3.439E-01	5.339E-02	-0.377

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-144		476.78		6.533E-02	6.900E-02	1.169E-01	1.234E-02	0.559
		618.01		-2.479E-02	3.438E-02	5.146E-02	5.471E-03	-0.482
		696.49	*	-2.072E-02	3.418E-02	5.362E-02	5.735E-03	-0.386
		778.57		-2.847E+00	2.623E+00	3.925E+00	4.308E-01	-0.725
PR-144		696.49	*	-1.406E+00	2.320E+00	3.639E+00	3.891E-01	-0.386
		1489.15		-1.350E+01	1.203E+01	1.696E+01	1.510E+00	-0.796
PM-146		453.90	*	1.967E-02	4.598E-02	7.623E-02	8.858E-03	0.258
		633.02		-6.692E-01	1.377E+00	2.163E+00	8.184E-01	-0.309
		735.90		-7.721E-02	1.551E-01	2.351E-01	6.899E-02	-0.328
		747.13		-6.700E-02	8.913E-02	1.360E-01	2.112E-02	-0.493
ND-147	+	91.11		1.060E+00	4.065E-01	6.472E-01	6.395E-02	1.638
		319.41		-3.527E+00	4.150E+00	6.650E+00	8.418E-01	-0.530
		439.89		-6.934E-01	7.027E+00	1.138E+01	1.096E+00	-0.061
		531.02	*	5.365E-02	6.732E-01	1.132E+00	1.795E-01	0.047
PM-149		285.90	*	-4.669E-05	6.732E-01	Half-Life	too short	
EU-152		121.78		-1.999E-02	8.098E-02	1.271E-01	1.220E-02	-0.157
		244.69		3.923E-01	4.024E-01	5.959E-01	7.545E-02	0.658
		344.27	*	-1.029E-02	1.194E-01	1.617E-01	1.943E-02	-0.064
		443.98		1.000E-01	9.378E-01	1.535E+00	1.481E-01	0.065
		778.89		-2.062E-01	2.974E-01	4.587E-01	5.034E-02	-0.450
		867.32		6.648E-01	9.432E-01	1.428E+00	1.595E-01	0.465
	+	964.01		5.652E-01	4.895E-01	5.388E-01	5.749E-02	1.049
		1085.78		-1.026E-01	4.026E-01	6.424E-01	5.986E-02	-0.160
		1112.02		3.017E-02	3.570E-01	4.969E-01	4.453E-02	0.061
		1407.95		1.093E-01	2.013E-01	3.442E-01	3.077E-02	0.318
GD-153		69.67		-1.131E+00	1.799E+00	2.562E+00	1.988E-01	-0.442
		83.37		2.071E+00	2.112E+01	2.436E+01	2.187E+00	0.085
		97.43	*	-1.225E-02	9.104E-02	1.298E-01	1.141E-02	-0.094
		103.18		-1.042E-01	1.190E-01	1.843E-01	1.575E-02	-0.566
EU-154		123.07		-6.474E-02	6.556E-02	8.683E-02	9.632E-03	-0.746
		247.94		3.223E-01	4.109E-01	6.595E-01	9.801E-02	0.489
		591.81		6.987E-02	7.074E-01	1.059E+00	1.377E-01	0.066
		723.30		7.250E-02	2.149E-01	3.077E-01	3.549E-02	0.236
		756.87		6.385E-01	7.846E-01	1.330E+00	1.824E-01	0.480
		873.19		-1.057E-01	2.987E-01	4.841E-01	6.854E-02	-0.218
		996.32		-3.659E-01	3.742E-01	5.602E-01	1.046E-01	-0.653
		1004.76		-1.474E-01	2.160E-01	3.355E-01	4.332E-02	-0.439
		1274.45	*	-1.212E-01	1.258E-01	1.923E-01	2.174E-02	-0.630
EU-155		48.70		-4.294E-01	2.223E+00	3.710E+00	3.021E-01	-0.116
		60.01		5.052E+00	4.887E+00	7.614E+00	5.407E-01	0.664
	+	86.54		5.122E-01	1.435E-01	1.981E-01	1.863E-02	2.585
		105.31	*	2.278E-01	1.213E-01	2.047E-01	1.757E-02	1.113
TB-160	+	86.79		1.405E+00	3.932E-01	5.435E-01	5.083E-02	2.585
		197.04		-4.674E-01	6.459E-01	1.004E+00	1.092E-01	-0.466
		215.65		2.054E-02	8.590E-01	1.357E+00	1.569E-01	0.015
	+	298.57		3.184E-01	1.755E-01	2.206E-01	2.956E-02	1.444
		879.36	*	9.669E-02	1.422E-01	2.459E-01	2.749E-02	0.393
		962.29		6.965E-01	6.267E-01	9.610E-01	1.027E-01	0.725
	+	966.15		3.988E-01	3.454E-01	5.503E-01	5.861E-02	0.725

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HO-166M	1177.93			8.449E-02	3.782E-01	6.393E-01	5.159E-02	0.132
	1271.85			-1.709E-01	7.214E-01	1.173E+00	1.008E-01	-0.146
	80.57			-4.718E-01	2.756E-01	4.202E-01	3.651E-02	-1.123
	184.41			1.086E-01	4.738E-02	7.474E-02	7.792E-03	1.452
	280.46			4.457E-02	9.782E-02	1.403E-01	1.959E-02	0.318
	410.95			1.873E-01	2.664E-01	4.495E-01	4.243E-02	0.417
TM-171	711.68	*		-1.241E-02	6.099E-02	9.816E-02	1.055E-02	-0.126
	752.31			4.745E-02	2.755E-01	4.517E-01	4.920E-02	0.105
	810.29			3.742E-03	5.760E-02	9.677E-02	1.070E-02	0.039
	51.35			-3.383E+00	2.795E+01	4.665E+01	3.639E+00	-0.073
	52.39			-6.245E+00	1.518E+01	2.428E+01	1.863E+00	-0.257
	59.40			1.722E+01	2.727E+01	4.179E+01	2.954E+00	0.412
LU-176	66.72	*		-1.741E+01	3.029E+01	4.305E+01	3.253E+00	-0.405
	88.36	+		1.008E+00	2.820E-01	3.829E-01	3.621E-02	2.631
	201.83			8.594E-04	3.131E-02	5.150E-02	5.690E-03	0.017
	306.84	*		3.147E-03	2.853E-02	4.387E-02	5.756E-03	0.072
LU-177	401.10			8.210E-01	6.741E+00	1.113E+01	1.043E+00	0.074
	112.95			-1.097E+00	2.444E+00	3.751E+00	3.118E-01	-0.292
LU-177M	208.36	*		3.773E+00	2.233E+00	2.953E+00	3.334E-01	1.278
	52.97			-7.037E-01	1.576E+00	2.515E+00	1.914E-01	-0.280
HF-181	54.07			-8.246E-02	8.276E-01	1.338E+00	1.002E-01	-0.062
	61.30			1.111E+00	1.504E+00	2.309E+00	1.661E-01	0.481
	121.62			-6.691E-02	4.215E-01	6.641E-01	5.470E-02	-0.101
	147.16			-2.451E-01	7.042E-01	1.171E+00	1.056E-01	-0.209
	171.86			9.553E-03	5.243E-01	8.726E-01	8.727E-02	0.011
	218.09			-5.130E-01	9.396E-01	1.499E+00	1.747E-01	-0.342
	268.79	+		3.637E+00	1.330E+00	1.607E+00	2.185E-01	2.263
	319.02			-9.190E-02	2.690E-01	4.432E-01	5.616E-02	-0.207
	367.43			-1.051E+00	9.351E-01	1.449E+00	1.530E-01	-0.726
	413.65	*		-2.726E-01	2.035E-01	3.095E-01	2.927E-02	-0.881
	56.28			-5.628E-01	9.194E-01	1.498E+00	1.091E-01	-0.376
	57.53			-3.567E-01	5.032E-01	8.161E-01	5.866E-02	-0.437
W-181	65.20			-4.176E-01	1.059E+00	1.521E+00	1.134E-01	-0.275
	133.02			-2.981E-02	7.808E-02	1.147E-01	9.773E-03	-0.260
	136.25			1.972E-01	4.881E-01	8.357E-01	7.209E-02	0.236
	345.85			-2.568E-01	2.794E-01	3.227E-01	3.732E-02	-0.796
	482.03	*		-5.033E-02	4.585E-02	6.873E-02	6.785E-03	-0.732
	56.28			-2.135E-01	3.490E-01	5.687E-01	4.143E-02	-0.375
TA-182	57.53			-1.355E-01	1.912E-01	3.101E-01	2.229E-02	-0.437
	65.20	*		-1.574E-01	3.991E-01	5.731E-01	4.273E-02	-0.275
	67.75			-1.094E-01	1.201E-01	1.699E-01	1.295E-02	-0.644
	100.10			1.041E-01	1.877E-01	3.078E-01	2.667E-02	0.338
	152.43			1.289E-01	3.694E-01	6.263E-01	5.779E-02	0.206
	222.10			3.973E-01	3.839E-01	6.457E-01	7.620E-02	0.615
	1001.68			6.470E-01	2.078E+00	3.359E+00	3.462E-01	0.193
	1121.28	+		6.886E-01	2.587E-01	3.529E-01	3.116E-02	1.952
	1189.05			-3.987E-02	3.029E-01	5.005E-01	4.070E-02	-0.080
	1221.42	*		3.336E-02	2.031E-01	3.408E-01	2.834E-02	0.098
	1230.97			-1.065E+00	5.301E-01	7.638E-01	6.392E-02	-1.395

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RE-183		57.98		2.984E-02	1.887E-01	3.159E-01	2.261E-02	0.094
		59.32		7.843E-02	1.153E-01	1.771E-01	1.252E-02	0.443
		67.20		-5.439E-02	2.188E-01	3.156E-01	2.395E-02	-0.172
		162.32	*	4.665E-02	1.215E-01	2.054E-01	1.982E-02	0.227
	+	208.81		2.591E+00	1.533E+00	2.037E+00	2.302E-01	1.272
RE-184		291.72		-4.553E-01	1.104E+00	1.580E+00	2.152E-01	-0.288
		57.98		1.081E-01	6.837E-01	1.145E+00	8.192E-02	0.094
		59.32		2.840E-01	4.175E-01	6.411E-01	4.535E-02	0.443
		67.20		-1.970E-01	7.925E-01	1.143E+00	8.677E-02	-0.172
		161.27		7.396E-02	3.855E-01	6.482E-01	6.223E-02	0.114
		216.55		-6.972E-02	2.920E-01	4.727E-01	5.480E-02	-0.147
		252.85	*	-2.329E-01	2.549E-01	3.916E-01	5.082E-02	-0.595
		318.01		-2.155E-01	4.634E-01	7.586E-01	9.642E-02	-0.284
		792.07		-6.291E-01	1.295E+00	1.705E+00	1.877E-01	-0.369
		903.28		-4.291E-01	1.106E+00	1.499E+00	1.674E-01	-0.286
		920.93		-1.040E-01	4.533E-01	7.228E-01	7.975E-02	-0.144
OS-185		59.72		2.927E-01	2.967E-01	4.617E-01	3.268E-02	0.634
		61.14		9.821E-02	1.662E-01	2.537E-01	1.823E-02	0.387
		69.30		-1.712E-01	3.053E-01	4.656E-01	3.601E-02	-0.368
		592.07		4.962E-01	2.844E+00	4.424E+00	4.580E-01	0.112
		646.12	*	-6.280E-03	4.474E-02	7.300E-02	7.672E-03	-0.086
		717.42		5.885E-01	9.708E-01	1.603E+00	1.727E-01	0.367
		874.81		-2.951E-01	5.990E-01	9.610E-01	1.074E-01	-0.307
		880.27		4.247E-01	7.796E-01	1.338E+00	1.497E-01	0.317
		155.03	*	2.800E-01	1.917E-01	3.330E-01	3.108E-02	0.841
RE-188		477.96		2.296E-01	3.268E+00	5.301E+00	5.221E-01	0.043
		633.10		-1.671E+00	2.832E+00	4.489E+00	4.703E-01	-0.372
	+	63.58		1.257E+02	8.103E+01	9.570E+01	7.032E+00	1.313
W-188		227.08		1.076E+01	1.444E+01	2.408E+01	2.886E+00	0.447
		290.67	*	3.162E+00	8.524E+00	1.278E+01	1.746E+00	0.247
	+	295.96		1.345E+00	2.430E-01	3.071E-01	4.155E-02	4.378
IR-192		308.46		7.767E-02	1.037E-01	1.784E-01	2.335E-02	0.435
		316.51	*	3.246E-02	3.672E-02	6.338E-02	8.100E-03	0.512
		468.07		6.295E-03	7.610E-02	1.070E-01	1.107E-02	0.059
		604.41		-9.892E-02	5.695E-01	8.001E-01	1.140E-01	-0.124
		612.46		5.197E+00	1.179E+00	1.863E+00	2.142E-01	2.789
		65.12		-1.140E-01	1.864E-01	2.651E-01	1.975E-02	-0.430
AU-195		66.83		-5.083E-02	1.011E-01	1.442E-01	1.091E-02	-0.353
	+	75.70		1.318E+00	2.777E-01	4.710E-01	3.880E-02	2.799
		98.88	*	1.182E-01	2.361E-01	3.867E-01	3.372E-02	0.306
	+	129.76		8.134E+00	5.237E+00	5.535E+00	4.665E-01	1.470
TL-200		367.94	*	-4.038E-03	5.237E+00	Half-Life	too short	
		579.30		5.887E-02	5.237E+00	Half-Life	too short	
		828.27		-1.162E-02	5.237E+00	Half-Life	too short	
		1205.75		-2.686E-03	5.237E+00	Half-Life	too short	
TL-201		68.90		-8.992E+00	8.900E+00	1.401E+01	1.080E+00	-0.642
		70.82		2.855E+00	5.634E+00	8.415E+00	6.603E-01	0.339
		80.30		-1.650E+01	9.829E+00	1.502E+01	1.301E+00	-1.099
		135.34		-1.093E+01	4.922E+01	8.264E+01	7.105E+00	-0.132

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TL-202		167.43	*	-3.498E+00	1.457E+01	2.407E+01	2.373E+00	-0.145
		68.90		-4.938E-01	4.888E-01	7.693E-01	5.929E-02	-0.642
		70.82		1.563E-01	3.085E-01	4.609E-01	3.616E-02	0.339
		80.30		-9.039E-01	5.385E-01	8.227E-01	7.127E-02	-1.099
BI-207		439.56	*	-1.662E-02	8.154E-02	1.312E-01	1.263E-02	-0.127
		72.80		3.558E-01	2.040E-01	3.165E-01	2.532E-02	1.124
	+	74.97		7.233E-01	1.524E-01	2.321E-01	1.898E-02	3.116
		84.90		4.497E-01	2.586E-01	3.259E-01	2.979E-02	1.380
		569.67		3.308E-02	3.224E-02	5.612E-02	5.764E-03	0.589
		1063.62	*	3.665E-02	5.489E-02	9.334E-02	8.961E-03	0.393
TL-207		1770.23		1.099E+00	5.898E-01	1.048E+00	8.709E-02	1.049
		81.07		-4.340E-01	2.191E-01	3.291E-01	2.876E-02	-1.319
		83.78		1.856E-02	1.789E-01	2.064E-01	1.861E-02	0.090
		94.90		5.332E-01	2.578E-01	3.996E-01	3.572E-02	1.334
		122.32		-1.233E+00	1.946E+00	3.001E+00	2.671E-01	-0.411
		144.24		2.597E-01	7.388E-01	1.225E+00	1.212E-01	0.212
		154.21		6.328E-01	4.301E-01	7.463E-01	7.538E-02	0.848
	+	269.46		8.409E-01	3.078E-01	3.876E-01	5.324E-02	2.169
		323.87	*	3.615E-01	7.501E-01	1.118E+00	2.223E-01	0.323
	+	338.28		9.258E+00	2.238E+00	2.626E+00	3.884E-01	3.526
		445.03		-9.656E-01	2.269E+00	3.595E+00	4.620E-01	-0.269
		260.50		-4.719E+00	1.049E+01	1.651E+01	2.191E+00	-0.286
PO-209		262.80		-1.481E+01	3.002E+01	4.534E+01	6.058E+00	-0.327
		896.60	*	2.171E+00	7.230E+00	1.222E+01	1.369E+00	0.178
		46.50	*	-9.382E-01	3.236E+00	5.265E+00	4.891E-01	-0.178
BI-210		46.50	*	-9.382E-01	3.236E+00	5.265E+00	4.891E-01	-0.178
PB-210		46.50	*	-9.382E-01	3.236E+00	5.265E+00	4.891E-01	-0.178
PO-210		46.50	*	-9.382E-01	3.236E+00	5.265E+00	4.891E-01	-0.178
PB-211		404.84	*	-5.783E-01	1.062E+00	1.591E+00	9.986E-01	-0.364
		427.08		1.871E-01	2.173E+00	3.557E+00	2.215E+00	0.053
BI-212		831.96		4.339E-01	1.270E+00	2.113E+00	1.332E+00	0.205
	+	727.18	*	1.202E+00	4.883E-01	6.383E-01	7.624E-02	1.883
		785.46		3.803E+00	1.925E+00	3.395E+00	3.731E-01	1.120
		1620.62		4.597E-01	1.369E+00	2.349E+00	2.047E-01	0.196
PO-215		81.07		-4.340E-01	2.191E-01	3.291E-01	2.876E-02	-1.319
		83.78		1.856E-02	1.789E-01	2.064E-01	1.861E-02	0.090
		94.90		5.332E-01	2.578E-01	3.996E-01	3.572E-02	1.334
		122.32		-1.233E+00	1.946E+00	3.001E+00	2.671E-01	-0.411
		144.24		2.597E-01	7.388E-01	1.225E+00	1.212E-01	0.212
		154.21		6.328E-01	4.301E-01	7.463E-01	7.538E-02	0.848
	+	269.46		8.409E-01	3.078E-01	3.876E-01	5.324E-02	2.169
		323.87	*	3.615E-01	7.501E-01	1.118E+00	2.223E-01	0.323
	+	338.28		9.258E+00	2.238E+00	2.626E+00	3.884E-01	3.526
		445.03		-9.656E-01	2.269E+00	3.595E+00	4.620E-01	-0.269
	+	271.23		1.079E+00	3.991E-01	4.841E-01	7.172E-02	2.228
		401.81	*	1.430E-01	4.154E-01	6.925E-01	1.071E-01	0.207
RN-219		549.76	*	-2.346E+01	2.539E+01	3.997E+01	4.074E+00	-0.587
RN-220		81.07		-4.340E-01	2.191E-01	3.291E-01	2.876E-02	-1.319
RA-223		83.78		1.856E-02	1.789E-01	2.064E-01	1.861E-02	0.090
		94.90		5.332E-01	2.578E-01	3.996E-01	3.572E-02	1.334

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-1.233E+00	1.946E+00	3.001E+00	2.671E-01	-0.411
		144.24		2.597E-01	7.388E-01	1.225E+00	1.212E-01	0.212
		154.21		6.328E-01	4.301E-01	7.463E-01	7.538E-02	0.848
	+	269.46		8.409E-01	3.078E-01	3.876E-01	5.324E-02	2.169
		323.87	*	3.615E-01	7.501E-01	1.118E+00	2.223E-01	0.323
	+	338.28		9.258E+00	2.238E+00	2.626E+00	3.884E-01	3.526
		445.03		-9.656E-01	2.269E+00	3.595E+00	4.620E-01	-0.269
		79.80		-2.766E+00	1.754E+00	2.552E+00	5.486E-01	-1.084
		236.00		1.520E+00	3.813E-01	5.257E-01	7.931E-02	2.891
		256.20	*	2.863E-01	4.147E-01	6.829E-01	1.246E-01	0.419
		286.10		-4.753E-01	1.641E+00	2.580E+00	4.397E-01	-0.184
	+	299.80		3.945E+00	2.255E+00	2.691E+00	5.450E-01	1.466
TH-227		304.40		-1.692E+00	2.222E+00	3.059E+00	6.417E-01	-0.553
		334.20		2.044E+00	3.634E+00	3.770E+00	7.980E-01	0.542
		79.80		-2.766E+00	1.757E+00	2.552E+00	5.557E-01	-1.084
	+	94.00		1.104E+01	3.997E+00	3.971E+00	8.708E-01	2.781
		236.00		1.520E+00	3.730E-01	5.257E-01	7.442E-02	2.891
		256.20	*	2.863E-01	4.156E-01	6.829E-01	1.406E-01	0.419
		286.10		-4.753E-01	1.708E+00	2.580E+00	2.605E+00	-0.184
	+	299.80		3.945E+00	2.255E+00	2.691E+00	5.450E-01	1.466
		304.40		-1.692E+00	2.222E+00	3.059E+00	6.417E-01	-0.553
		334.20		2.044E+00	3.634E+00	3.770E+00	7.980E-01	0.542
		85.43		3.805E-01	2.732E-01	3.366E-01	3.097E-02	1.130
	+	88.47		5.800E-01	1.623E-01	2.195E-01	2.073E-02	2.642
PA-231		100.00		5.788E-02	1.933E-01	3.142E-01	2.724E-02	0.184
		193.63	*	-1.269E-01	5.488E-01	8.969E-01	9.643E-02	-0.142
		210.97		2.332E+00	9.985E-01	1.536E+00	1.748E-01	1.519
		283.67	*	-1.291E-01	1.733E+00	2.541E+00	4.745E-01	-0.051
	+	301.29		1.578E+00	8.803E-01	1.052E+00	1.673E-01	1.500
		81.07		-4.340E-01	2.191E-01	3.291E-01	2.876E-02	-1.319
		83.78		1.856E-02	1.789E-01	2.064E-01	1.861E-02	0.090
		94.90		5.332E-01	2.578E-01	3.996E-01	3.572E-02	1.334
		122.32		-1.233E+00	1.946E+00	3.001E+00	2.671E-01	-0.411
		144.24		2.597E-01	7.388E-01	1.225E+00	1.212E-01	0.212
		154.21		6.328E-01	4.301E-01	7.463E-01	7.538E-02	0.848
	+	269.46		8.409E-01	3.078E-01	3.876E-01	5.324E-02	2.169
U-231		323.87	*	3.615E-01	7.501E-01	1.118E+00	2.223E-01	0.323
	+	338.28		9.258E+00	2.238E+00	2.626E+00	3.884E-01	3.526
		445.03		-9.656E-01	2.269E+00	3.595E+00	4.620E-01	-0.269
		84.21		3.068E+00	1.239E+01	1.441E+01	1.306E+00	0.213
	+	92.29		1.755E+01	5.295E+00	6.884E+00	6.277E-01	2.550
		95.87	*	-5.216E-01	1.916E+00	2.717E+00	2.412E-01	-0.192
		108.00		-5.108E+00	3.703E+00	5.580E+00	4.691E-01	-0.915
	+	75.28		2.110E+01	5.192E+00	7.053E+00	1.066E+00	2.992
	+	86.59		8.316E+00	3.143E+00	3.222E+00	8.718E-01	2.581
	+	300.12		1.100E+00	6.206E-01	7.513E-01	1.355E-01	1.464
		311.98	*	-5.007E-02	6.807E-02	1.101E-01	1.442E-02	-0.455
		340.50		3.134E+00	1.135E+00	1.376E+00	3.461E-01	2.278
PA-233		398.62		-1.512E+00	2.147E+00	3.335E+00	8.965E-01	-0.453

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	1.187E+00	1.813E+00	3.028E+00	6.632E-01	0.392
		63.00	3.541E+00	2.328E+00	2.737E+00	4.055E-01	1.294
		94.67	5.490E-01	1.984E-01	3.021E-01	3.817E-02	1.817
		98.44	9.233E-02	1.105E-01	1.558E-01	8.694E-02	0.593
		99.86	1.769E-01	4.904E-01	7.990E-01	6.932E-02	0.221
		111.00	-3.780E-02	1.993E-01	3.158E-01	3.756E-02	-0.120
		131.20	1.308E-01	1.186E-01	1.857E-01	1.573E-02	0.704
		152.70	3.025E-01	3.566E-01	6.075E-01	1.055E-01	0.498
		186.00	4.409E+00	2.422E+00	2.800E+00	8.898E-01	1.575
		226.40	6.992E-02	4.401E-01	7.208E-01	1.124E-01	0.097
		227.20	3.557E-01	4.754E-01	7.926E-01	9.506E-02	0.449
		248.90	6.438E-01	9.001E-01	1.476E+00	3.592E-01	0.436
		293.70	8.239E+00	1.933E+00	1.797E+00	3.635E-01	4.584
		369.80	4.045E-01	8.992E-01	1.510E+00	3.406E-01	0.268
		568.70	1.572E-01	1.026E+00	1.721E+00	1.767E-01	0.091
		569.50	2.779E-01	2.851E-01	4.953E-01	5.087E-02	0.561
		574.00	-5.602E-01	1.791E+00	2.612E+00	2.687E-01	-0.215
		699.00	-7.593E-01	7.148E-01	1.062E+00	2.135E-01	-0.715
		706.10	1.037E+00	1.129E+00	1.778E+00	8.010E-01	0.583
		733.00	-3.045E-01	4.360E-01	5.566E-01	1.288E-01	-0.547
		742.81	2.642E-01	1.400E+00	2.282E+00	1.542E+00	0.116
		796.30	2.093E+00	1.208E+00	1.676E+00	4.678E-01	1.249
		805.60	4.511E-01	9.674E-01	1.648E+00	5.179E-01	0.274
		819.60	-3.835E-02	1.241E+00	2.070E+00	8.003E-01	-0.019
		826.30	-2.559E-01	8.528E-01	1.385E+00	6.272E-01	-0.185
		831.60	-1.149E-01	6.642E-01	1.066E+00	3.267E-01	-0.108
		876.40	-4.821E-01	9.813E-01	1.353E+00	1.394E+00	-0.356
		880.51	2.029E-01	2.737E-01	4.751E-01	5.313E-02	0.427
		883.24	-9.953E-02	3.000E-01	4.745E-01	3.208E-01	-0.210
		899.00	-2.445E-01	7.989E-01	1.283E+00	5.683E-01	-0.191
		925.00	2.026E-01	1.154E+00	1.895E+00	2.085E-01	0.107
		926.50	-2.840E-02	1.866E-01	2.775E-01	7.266E-02	-0.102
		946.00	* -8.793E-02	3.041E-01	4.906E-01	9.752E-02	-0.179
		949.00	3.170E-01	4.551E-01	7.822E-01	8.451E-02	0.405
		980.50	1.175E-01	7.014E-01	1.146E+00	1.205E-01	0.103
		1394.10	-9.345E-02	1.145E+00	1.861E+00	1.212E+00	-0.050
PA-234M	+	766.42	1.838E+01	1.534E+01	2.126E+01	1.088E+01	0.864
		1001.03	* -1.748E+00	4.800E+00	7.408E+00	8.490E-01	-0.236
U-235	+	89.95	3.520E+00	1.701E+00	1.931E+00	5.999E-01	1.822
		93.35	3.435E+00	1.383E+00	1.329E+00	3.742E-01	2.585
		105.00	1.958E+00	1.315E+00	1.998E+00	5.956E-01	0.980
		143.76	* -1.780E-02	2.276E-01	3.724E-01	6.569E-02	-0.048
		163.35	-2.086E-02	5.115E-01	8.528E-01	1.670E-01	-0.024
NP-236	+	185.71	1.633E-01	7.516E-02	1.034E-01	1.083E-02	1.580
		205.31	1.151E-01	6.488E-01	9.319E-01	1.898E-01	0.124
		94.67	4.197E-01	1.460E-01	2.294E-01	2.054E-02	1.829
		98.44	6.979E-02	7.414E-02	1.178E-01	1.030E-02	0.593
		111.00	-2.859E-02	1.507E-01	2.389E-01	1.993E-02	-0.120
		160.31	* 1.080E-02	8.501E-02	1.427E-01	1.364E-02	0.076

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		7.336E-02	1.633E-01	2.669E-01	2.319E-02	0.275
		117.00	*	-1.654E-01	2.119E-01	3.261E-01	2.695E-02	-0.507
	+	209.75		1.987E+00	1.175E+00	1.577E+00	1.788E-01	1.260
		228.18		1.868E-01	2.485E-01	4.143E-01	4.985E-02	0.451
	+	277.60		3.952E-01	2.597E-01	3.369E-01	4.696E-02	1.173
		334.30		1.223E+00	2.052E+00	2.146E+00	2.588E-01	0.570
AM-241		59.54	*	8.588E-02	1.574E-01	2.403E-01	1.878E-02	0.357
CM-243		99.55		7.550E-02	1.681E-01	2.747E-01	2.387E-02	0.275
		103.76	*	2.835E-02	1.065E-01	1.724E-01	1.470E-02	0.164
		117.00		-1.702E-01	2.181E-01	3.356E-01	2.774E-02	-0.507
	+	209.75		1.959E+00	1.159E+00	1.554E+00	1.763E-01	1.260
		228.18		1.888E-01	2.512E-01	4.187E-01	5.038E-02	0.451
	+	277.60		3.985E-01	2.619E-01	3.397E-01	4.736E-02	1.173
AM-246		798.80		-4.723E-03	1.580E-01	2.169E-01	2.392E-02	-0.022
		1036.00		-3.421E-03	2.939E-01	4.798E-01	4.765E-02	-0.007
		1062.04		1.988E-01	2.404E-01	4.125E-01	3.968E-02	0.482
		1078.86	*	5.112E-02	1.384E-01	2.312E-01	2.175E-02	0.221
CM-247	+	278.00		1.639E+00	1.077E+00	1.383E+00	1.930E-01	1.185
		287.40		4.328E-01	1.324E+00	2.143E+00	2.948E-01	0.202
		402.60	*	1.757E-02	3.812E-02	6.390E-02	5.995E-03	0.275
CF-249		252.85		-8.635E-01	9.452E-01	1.452E+00	1.884E-01	-0.595
		333.44		2.934E-01	2.582E-01	2.867E-01	3.469E-02	1.023
		387.95	*	1.767E-02	4.038E-02	6.784E-02	6.448E-03	0.260
CF-251		176.60	*	9.890E-02	1.360E-01	2.307E-01	2.344E-02	0.429
		227.00		3.011E-01	4.204E-01	7.004E-01	8.395E-02	0.430
		285.00		-7.971E-01	1.872E+00	2.923E+00	4.043E-01	-0.273

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978009      *
* Acquisition date   : 14-FEB-2010 12:01:43 Detector SN#      :             *
* Detector ID        : GAM22                      Sensitivity    : 5.000      *
* Geometry           : CAN                      Energy tolerance : 1.500      *
* Elapsed live time  : 0 02:00:00.00           Abundance limit  : 75.000      *
* Elapsed real time  : 0 02:00:02.17           Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245978009           Analyst initials: MXRl          *
* Batch Number       : 948721              Sample Quantity  : 1.1144E+02 GRAM *
* Recovery           : 1.00000             Carrier Weight   : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope        :
* MSD DPM             : 0.000              MSD Isotope       :
* LCS DPM             : 0.000              LCS Isotope       :
* LCSD DPM            : 0.000              LCSD Isotope      :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.918E+01	3.033E+00	4.510E-01	0.000E+00
CD-109	4.340E+00	1.191E+00	1.312E+00	0.000E+00
SN-126	4.248E-01	1.165E-01	1.289E-01	0.000E+00
BA-137M	1.340E-01	7.804E-02	5.989E-02	0.000E+00
CS-137	1.417E-01	8.250E-02	6.331E-02	0.000E+00
HG-203	9.427E-02	6.075E-02	6.772E-02	0.000E+00
TL-208	6.331E-01	1.120E-01	6.075E-02	0.000E+00
BI-211	5.050E+00	7.307E-01	3.237E-01	0.000E+00
PB-212	2.150E+00	3.022E-01	9.530E-02	0.000E+00
PO-212	2.150E+00	3.022E-01	9.530E-02	0.000E+00
BI-214	1.271E+00	2.131E-01	1.121E-01	0.000E+00
PB-214	1.757E+00	2.696E-01	1.131E-01	0.000E+00
PO-214	1.757E+00	2.696E-01	1.131E-01	0.000E+00
PO-216	2.150E+00	3.022E-01	9.530E-02	0.000E+00
PO-218	1.757E+00	2.696E-01	1.131E-01	0.000E+00
RA-224	6.062E+00	1.650E+00	1.083E+00	0.000E+00
RA-226	1.271E+00	2.131E-01	1.121E-01	0.000E+00
AC-228	2.023E+00	3.719E-01	2.065E-01	0.000E+00
RA-228	2.023E+00	3.719E-01	2.065E-01	0.000E+00
TH-228	2.189E+00	3.077E-01	9.702E-02	0.000E+00
TH-230	1.271E+00	2.131E-01	1.121E-01	0.000E+00
TH-232	2.023E+00	3.719E-01	2.065E-01	0.000E+00
TH-234	3.038E+00	1.976E+00	2.017E+00	0.000E+00
U-234	1.271E+00	2.131E-01	1.121E-01	0.000E+00
NP-237	1.247E+00	4.251E-01	4.252E-01	0.000E+00
U-238	3.038E+00	1.976E+00	2.017E+00	0.000E+00
AM-243	4.029E-01	8.319E-02	9.541E-02	0.000E+00
ANH-511	1.656E-01	6.444E-02	4.433E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	1.751E-01	3.328E-01	5.661E-01	0.000E+00	NOT IDENT.
NA-22	-4.286E-02	4.412E-02	6.882E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.961E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.519E-04	2.696E-02	4.498E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.026E-02	8.034E-02	0.000E+00	FAIL ABUN
SC-46	4.470E-03	3.973E-02	6.765E-02	0.000E+00	FAIL ABUN
V-48	-4.344E-02	7.537E-02	1.205E-01	0.000E+00	NOT IDENT.
CR-51	-3.626E-01	4.015E-01	6.588E-01	0.000E+00	NOT IDENT.
MN-52	1.675E-01	3.084E-01	5.396E-01	0.000E+00	FAIL ABUN
MN-54	1.605E-02	3.784E-02	6.582E-02	0.000E+00	NOT IDENT.
CO-56	1.763E-02	3.878E-02	6.766E-02	0.000E+00	NOT IDENT.
CO-57	-1.721E-02	2.779E-02	4.445E-02	0.000E+00	NOT IDENT.
CO-58	-5.467E-03	3.837E-02	6.490E-02	0.000E+00	NOT IDENT.
FE-59	-3.190E-03	9.248E-02	1.525E-01	0.000E+00	NOT IDENT.
CO-60	8.583E-04	3.889E-02	6.521E-02	0.000E+00	NOT IDENT.
ZN-65	7.855E-02	1.044E-01	1.568E-01	0.000E+00	NOT IDENT.
GE-68	9.955E-01	1.216E+00	2.125E+00	0.000E+00	NOT IDENT.
AS-73	-9.985E-02	7.989E-01	1.345E+00	0.000E+00	NOT IDENT.
AS-74	-4.366E-02	1.045E-01	1.731E-01	0.000E+00	NOT IDENT.
SE-75	4.578E-02	5.181E-02	7.840E-02	0.000E+00	NOT IDENT.
BR-77	-1.365E+01	2.364E+01	3.931E+01	0.000E+00	FAIL ABUN
SR-82	-2.069E-03	4.466E-01	7.364E-01	0.000E+00	NOT IDENT.
RB-83	-4.651E-02	6.863E-02	1.134E-01	0.000E+00	NOT IDENT.
RB-84	4.963E-02	7.200E-02	1.269E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.903E+00	1.461E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.705E-02	7.722E-02	0.000E+00	NOT IDENT.
RB-86	4.375E-01	8.554E-01	1.467E+00	0.000E+00	NOT IDENT.
Y-88	-1.854E-02	3.070E-02	4.644E-02	0.000E+00	NOT IDENT.
ZR-88	1.805E-02	3.157E-02	5.464E-02	0.000E+00	NOT IDENT.
Y-91	-5.339E+00	1.971E+01	3.282E+01	0.000E+00	NOT IDENT.
NB-94	1.729E-02	3.251E-02	5.580E-02	0.000E+00	NOT IDENT.
NB-95	8.104E-02	4.667E-02	8.302E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.551E-01	2.418E-01	0.000E+00	NOT IDENT.
ZR-95	8.133E-02	7.212E-02	1.268E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.951E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.043E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.191E+01	2.360E+01	4.097E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.183E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.491E-02	3.618E-02	5.880E-02	0.000E+00	FAIL ABUN
RH-102	8.203E-03	2.942E-02	4.946E-02	0.000E+00	NOT IDENT.
RU-103	-4.674E-03	4.355E-02	7.135E-02	0.000E+00	FAIL ABUN
RH-106	5.874E-02	3.206E-01	5.465E-01	0.000E+00	FAIL ABUN
RU-106	5.874E-02	3.206E-01	5.465E-01	0.000E+00	FAIL ABUN
AG-108M	-5.243E-04	3.295E-02	5.501E-02	0.000E+00	NOT IDENT.
AG-110M	3.347E-03	4.107E-02	5.955E-02	0.000E+00	NOT IDENT.
IN-111	8.110E-01	2.572E+00	3.808E+00	0.000E+00	NOT IDENT.
IN-113M	1.097E-03	4.591E-02	7.756E-02	0.000E+00	NOT IDENT.
SN-113	1.097E-03	4.591E-02	7.756E-02	0.000E+00	NOT IDENT.
IN-114M	1.532E-01	2.251E-01	3.466E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.676E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-5.229E-02	6.665E-02	1.119E-01	0.000E+00	NOT IDENT.
SB-122	3.141E-01	4.234E+00	7.244E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.308E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-4.128E-03	3.000E-02	5.161E-02	0.000E+00	NOT IDENT.
I-124	-3.743E-01	1.295E+00	1.845E+00	0.000E+00	NOT IDENT.
SB-124	3.889E-02	7.898E-02	1.398E-01	0.000E+00	FAIL ABUN
SB-125	1.295E-02	9.332E-02	1.572E-01	0.000E+00	FAIL ABUN
TE-125M	-1.104E+00	1.018E+01	1.680E+01	0.000E+00	NOT IDENT.
I-126	1.518E-01	2.387E-01	3.608E-01	0.000E+00	NOT IDENT.
SB-126	3.374E-02	2.054E-01	2.964E-01	0.000E+00	FAIL ABUN
SB-127	3.093E-01	2.245E+00	3.783E+00	0.000E+00	NOT IDENT.
XE-127	3.487E-02	5.353E-02	9.247E-02	0.000E+00	NOT IDENT.
I-131	-4.351E-02	1.409E-01	2.356E-01	0.000E+00	NOT IDENT.
TE-132	1.063E+00	1.383E+00	2.363E+00	0.000E+00	NOT IDENT.
BA-133	1.647E-02	4.562E-02	6.903E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.028E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.473E-02	8.644E-02	0.000E+00	FAIL ABUN
CS-135	2.690E-01	2.012E-01	3.009E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.620E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.219E-02	1.260E-01	2.129E-01	0.000E+00	FAIL ABUN
CE-139	2.088E-02	3.174E-02	5.574E-02	0.000E+00	NOT IDENT.
BA-140	-2.605E-01	3.126E-01	4.913E-01	0.000E+00	NOT IDENT.
LA-140	-1.146E-01	1.087E-01	1.650E-01	0.000E+00	FAIL ABUN
CE-141	2.652E-02	6.886E-02	1.212E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.334E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.298E-01	2.321E-01	3.487E-01	0.000E+00	NOT IDENT.
PM-144	-2.072E-02	3.350E-02	5.367E-02	0.000E+00	NOT IDENT.

PR-144	-1.406E+00	2.273E+00	3.642E+00	0.000E+00	NOT IDENT.
PM-146	1.967E-02	4.506E-02	7.655E-02	0.000E+00	NOT IDENT.
ND-147	5.365E-02	6.597E-01	1.136E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.347E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.029E-02	1.170E-01	1.627E-01	0.000E+00	FAIL ABUN
GD-153	-1.225E-02	8.922E-02	1.319E-01	0.000E+00	NOT IDENT.
EU-154	-1.212E-01	1.232E-01	1.915E-01	0.000E+00	NOT IDENT.
EU-155	0.000E+00	1.189E-01	2.079E-01	0.000E+00	FAIL ABUN
TB-160	9.669E-02	1.394E-01	2.456E-01	0.000E+00	FAIL ABUN
HO-166M	-1.241E-02	5.977E-02	9.822E-02	0.000E+00	NOT IDENT.
TM-171	-1.741E+01	2.969E+01	4.388E+01	0.000E+00	NOT IDENT.
LU-176	3.147E-03	2.795E-02	4.419E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.188E+00	2.984E+00	0.000E+00	FAIL ABUN
LU-177M	-2.726E-01	1.995E-01	3.110E-01	0.000E+00	FAIL ABUN
HF-181	-5.033E-02	4.493E-02	6.899E-02	0.000E+00	NOT IDENT.
W-181	-1.574E-01	3.911E-01	5.843E-01	0.000E+00	NOT IDENT.
TA-182	3.336E-02	1.990E-01	3.396E-01	0.000E+00	FAIL ABUN
RE-183	4.665E-02	1.191E-01	2.080E-01	0.000E+00	FAIL ABUN
RE-184	-2.329E-01	2.498E-01	3.951E-01	0.000E+00	NOT IDENT.
OS-185	-6.280E-03	4.384E-02	7.310E-02	0.000E+00	NOT IDENT.
RE-188	2.800E-01	1.879E-01	3.372E-01	0.000E+00	NOT IDENT.
W-188	3.162E+00	8.354E+00	1.288E+01	0.000E+00	FAIL ABUN
IR-192	3.246E-02	3.599E-02	6.383E-02	0.000E+00	FAIL ABUN
AU-195	1.182E-01	2.313E-01	3.929E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.927E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.498E+00	1.428E+01	2.436E+01	0.000E+00	NOT IDENT.
TL-202	-1.662E-02	7.990E-02	1.318E-01	0.000E+00	NOT IDENT.
BI-207	3.665E-02	5.379E-02	9.310E-02	0.000E+00	FAIL ABUN
TL-207	3.615E-01	7.351E-01	1.126E+00	0.000E+00	FAIL ABUN
PO-209	2.171E+00	7.086E+00	1.220E+01	0.000E+00	NOT IDENT.
BI-210	-9.382E-01	3.172E+00	5.381E+00	0.000E+00	NOT IDENT.
PB-210	-9.382E-01	3.172E+00	5.381E+00	0.000E+00	NOT IDENT.
PO-210	-9.382E-01	3.171E+00	5.381E+00	0.000E+00	NOT IDENT.
PB-211	-5.783E-01	1.040E+00	1.599E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.785E-01	6.386E-01	0.000E+00	FAIL ABUN
PO-215	3.615E-01	7.351E-01	1.126E+00	0.000E+00	FAIL ABUN
RN-219	1.430E-01	4.071E-01	6.961E-01	0.000E+00	FAIL ABUN
RN-220	-2.346E+01	2.488E+01	4.007E+01	0.000E+00	NOT IDENT.
RA-223	3.615E-01	7.351E-01	1.126E+00	0.000E+00	FAIL ABUN
AC-227	2.863E-01	4.064E-01	6.889E-01	0.000E+00	FAIL ABUN
TH-227	2.863E-01	4.073E-01	6.889E-01	0.000E+00	FAIL ABUN
TH-229	-1.269E-01	5.378E-01	9.067E-01	0.000E+00	FAIL ABUN
PA-231	-1.291E-01	1.698E+00	2.561E+00	0.000E+00	FAIL ABUN
TH-231	3.615E-01	7.351E-01	1.126E+00	0.000E+00	FAIL ABUN
U-231	-5.216E-01	1.878E+00	2.761E+00	0.000E+00	FAIL ABUN
PA-233	-5.007E-02	6.671E-02	1.109E-01	0.000E+00	FAIL ABUN
PA-234	-8.793E-02	2.980E-01	4.899E-01	0.000E+00	FAIL ABUN
PA-234M	-1.748E+00	4.704E+00	7.393E+00	0.000E+00	NOT IDENT.
U-235	-1.780E-02	2.230E-01	3.773E-01	0.000E+00	FAIL ABUN
NP-236	1.080E-02	8.331E-02	1.445E-01	0.000E+00	NOT IDENT.
NP-239	-1.654E-01	2.077E-01	3.310E-01	0.000E+00	FAIL ABUN
AM-241	8.588E-02	1.542E-01	2.451E-01	0.000E+00	NOT IDENT.
CM-243	2.835E-02	1.043E-01	1.751E-01	0.000E+00	FAIL ABUN
AM-246	5.112E-02	1.356E-01	2.306E-01	0.000E+00	NOT IDENT.
CM-247	1.757E-02	3.736E-02	6.423E-02	0.000E+00	FAIL ABUN
CF-249	1.767E-02	3.958E-02	6.821E-02	0.000E+00	NOT IDENT.
CF-251	9.890E-02	1.333E-01	2.334E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 14:02:37.15

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                             *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978009.CNF;1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:01:43
Sample ID        : G245978009           Sample quantity  : 1.11440E+02 GRAM
Detector name    : GAM22                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:02.17 0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : MXR1
Abundance limit  : 75.00000             Sensitivity       : 5.00000
Batch ID        : 948721                Detector SN#      :
Matrix Spike ID  :                      LCS ID           : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1765	10.67*	1.909E+00	2.918E+01	2.918E+01	10.61
CD-109	88.03	349	3.72*	7.479E+00	4.225E+00	4.340E+00	27.99
SN-126	64.28	147	9.60	4.287E+00	1.203E+00	1.203E+00	65.68
	86.94	349	8.90	7.479E+00	1.766E+00	1.766E+00	49.19
	87.57	349	37.00*	7.479E+00	4.248E-01	4.248E-01	27.99
BA-137M	661.65	128	89.98*	3.589E+00	1.339E-01	1.340E-01	59.41
CS-137	661.65	128	85.12*	3.589E+00	1.415E-01	1.417E-01	59.42
HG-203	70.83	-----	4.75	5.596E+00	-----	Line Not Found	-----
	72.87	-----	8.00	5.897E+00	-----	Line Not Found	-----
	82.60	-----	3.55	7.070E+00	-----	Line Not Found	-----
	279.20	102	77.30*	6.175E+00	7.208E-02	9.427E-02	65.75
TL-208	277.35	102	6.80	6.175E+00	8.194E-01	8.194E-01	66.31
	510.84	211	21.60	4.299E+00	7.668E-01	7.668E-01	40.57
	583.14	622	84.20*	3.931E+00	6.331E-01	6.331E-01	18.04
	860.37	94	12.46	2.920E+00	8.689E-01	8.689E-01	69.84
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	1048	12.94*	5.401E+00	5.050E+00	5.050E+00	14.76
PB-212	74.81	487	10.70	6.168E+00	2.485E+00	2.485E+00	23.05
	77.11	787	18.00	6.461E+00	2.280E+00	2.280E+00	14.61
	87.30	349	8.00	7.479E+00	1.965E+00	1.965E+00	29.72
	238.63	1910	44.60*	6.710E+00	2.150E+00	2.150E+00	14.34
	300.09	128	3.41	5.917E+00	2.129E+00	2.129E+00	55.42
PO-212	74.81	487	10.70	6.168E+00	2.485E+00	2.485E+00	23.05
	77.11	787	18.00	6.461E+00	2.280E+00	2.280E+00	14.61
	87.30	349	8.00	7.479E+00	1.965E+00	1.965E+00	29.72
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	1910	44.60*	6.710E+00	2.150E+00	2.150E+00	14.34
	300.09	128	3.41	5.917E+00	2.129E+00	2.129E+00	55.42
BI-214	609.31	666	46.30*	3.811E+00	1.271E+00	1.271E+00	17.11
	1120.29	151	15.10	2.346E+00	1.431E+00	1.431E+00	38.14
	1764.49	144	15.80	1.716E+00	1.791E+00	1.791E+00	32.94
PB-214	74.81	487	6.21	6.168E+00	4.282E+00	4.282E+00	22.33

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	787	10.50	6.461E+00	3.908E+00	3.908E+00	16.48
	87.30	349	4.67	7.479E+00	3.366E+00	3.366E+00	29.03
	241.98	474	7.49	6.666E+00	3.197E+00	3.197E+00	28.34
	295.21	584	19.20	5.971E+00	1.716E+00	1.717E+00	19.09
	351.92	1048	37.20*	5.401E+00	1.757E+00	1.757E+00	15.66
	74.81	487	6.21	6.168E+00	4.282E+00	4.282E+00	22.33
	77.11	787	10.50	6.461E+00	3.908E+00	3.908E+00	16.48
	87.30	349	4.67	7.479E+00	3.366E+00	3.366E+00	29.03
	241.98	474	7.49	6.666E+00	3.197E+00	3.197E+00	28.34
	295.21	584	19.20	5.971E+00	1.716E+00	1.717E+00	19.09
PO-216	351.92	1048	37.20*	5.401E+00	1.757E+00	1.757E+00	15.66
	74.81	487	10.70	6.168E+00	2.485E+00	2.485E+00	23.05
	77.11	787	18.00	6.461E+00	2.280E+00	2.280E+00	14.61
	87.30	349	8.00	7.479E+00	1.965E+00	1.965E+00	29.72
	238.63	1910	44.60*	6.710E+00	2.150E+00	2.150E+00	14.34
PO-218	300.09	128	3.41	5.917E+00	2.129E+00	2.129E+00	55.42
	74.81	487	6.21	6.168E+00	4.282E+00	4.282E+00	22.33
	77.11	787	10.50	6.461E+00	3.908E+00	3.908E+00	16.48
	87.30	349	4.67	7.479E+00	3.366E+00	3.366E+00	29.03
	241.98	474	7.49	6.666E+00	3.197E+00	3.197E+00	28.34
RA-224	295.21	584	19.20	5.971E+00	1.716E+00	1.717E+00	19.09
	351.92	1048	37.20*	5.401E+00	1.757E+00	1.757E+00	15.66
RA-226	240.98	474	3.95*	6.666E+00	6.062E+00	6.062E+00	27.77
	609.31	666	46.30*	3.811E+00	1.271E+00	1.271E+00	17.11
AC-228	1120.29	151	15.10	2.346E+00	1.431E+00	1.431E+00	38.14
	1764.49	144	15.80	1.716E+00	1.791E+00	1.791E+00	32.94
	338.32	415	11.40	5.526E+00	2.217E+00	2.217E+00	46.21
RA-228	911.07	464	27.70*	2.788E+00	2.023E+00	2.023E+00	18.76
	969.11	235	16.60	2.649E+00	1.804E+00	1.804E+00	31.78
	338.32	415	11.40	5.526E+00	2.217E+00	2.217E+00	46.21
TH-228	911.07	464	27.70*	2.788E+00	2.023E+00	2.023E+00	18.76
	969.11	235	16.60	2.649E+00	1.804E+00	1.804E+00	31.78
	74.81	487	10.70	6.168E+00	2.485E+00	2.530E+00	21.10
TH-230	77.11	787	18.00	6.461E+00	2.280E+00	2.321E+00	14.61
	87.30	349	8.00	7.479E+00	1.965E+00	2.000E+00	27.99
	238.63	1910	44.60*	6.710E+00	2.150E+00	2.189E+00	14.34
	300.09	128	3.41	5.917E+00	2.129E+00	2.167E+00	80.48
	609.31	666	46.30*	3.811E+00	1.271E+00	1.271E+00	17.11
TH-232	1120.29	151	15.10	2.346E+00	1.431E+00	1.431E+00	38.14
	1764.49	144	15.80	1.716E+00	1.791E+00	1.791E+00	32.94
	338.32	415	11.40	5.526E+00	2.217E+00	2.217E+00	22.52
TH-234	911.07	464	27.70*	2.788E+00	2.023E+00	2.023E+00	18.76
	969.11	235	16.60	2.649E+00	1.804E+00	1.804E+00	31.78
	63.29	147	3.80*	4.287E+00	3.038E+00	3.038E+00	66.38
U-234	92.38	361	5.41	7.866E+00	2.857E+00	2.857E+00	34.10
	609.31	666	46.30*	3.811E+00	1.271E+00	1.271E+00	17.11
	1120.29	151	15.10	2.346E+00	1.431E+00	1.431E+00	38.14
NP-237	1764.49	144	15.80	1.716E+00	1.791E+00	1.791E+00	32.94
	86.50	349	12.60*	7.479E+00	1.247E+00	1.247E+00	34.77

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	95.87	-----	2.60	8.032E+00	-----	Line Not Found	-----
U-238	63.29	147	3.80*	4.287E+00	3.038E+00	3.038E+00	66.38
	92.38	361	5.41	7.866E+00	2.857E+00	2.857E+00	30.17
AM-243	74.67	487	66.00*	6.168E+00	4.029E-01	4.029E-01	21.07
	86.72	349	0.34	7.479E+00	4.678E+01	4.678E+01	27.99
	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
ANH-511	511.00	211	100.00*	4.299E+00	1.656E-01	1.656E-01	39.70

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 0
Number of lines tentatively identified by NID 33 100.00%

Nuclide Type :

Nuclide	Hlfe	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.918E+01	2.918E+01	0.310E+01	10.61	
CD-109	464.00D	1.03	4.225E+00	4.340E+00	1.215E+00	27.99	
SN-126	1.00E+05Y	1.00	4.248E-01	4.248E-01	1.189E-01	27.99	
BA-137M	30.17Y	1.00	1.339E-01	1.340E-01	0.796E-01	59.41	
CS-137	30.17Y	1.00	1.415E-01	1.417E-01	0.842E-01	59.42	
HG-203	46.60D	1.31	7.208E-02	9.427E-02	6.199E-02	65.75	
TL-208	1.41E+10Y	1.00	6.331E-01	6.331E-01	1.142E-01	18.04	
BI-211	7.04E+08Y	1.00	5.050E+00	5.050E+00	0.746E+00	14.76	
PB-212	1.41E+10Y	1.00	2.150E+00	2.150E+00	0.308E+00	14.34	
PO-212	1.41E+10Y	1.00	2.150E+00	2.150E+00	0.308E+00	14.34	
BI-214	1600.00Y	1.00	1.271E+00	1.271E+00	0.217E+00	17.11	
PB-214	1600.00Y	1.00	1.757E+00	1.757E+00	0.275E+00	15.66	
PO-214	1600.00Y	1.00	1.757E+00	1.757E+00	0.275E+00	15.66	
PO-216	1.41E+10Y	1.00	2.150E+00	2.150E+00	0.308E+00	14.34	
PO-218	1600.00Y	1.00	1.757E+00	1.757E+00	0.275E+00	15.66	
RA-224	1.41E+10Y	1.00	6.062E+00	6.062E+00	1.684E+00	27.77	
RA-226	1600.00Y	1.00	1.271E+00	1.271E+00	0.217E+00	17.11	
AC-228	1.41E+10Y	1.00	2.023E+00	2.023E+00	0.380E+00	18.76	
RA-228	1.41E+10Y	1.00	2.023E+00	2.023E+00	0.380E+00	18.76	
TH-228	1.91Y	1.02	2.150E+00	2.189E+00	0.314E+00	14.34	
TH-230	4.47E+09Y	1.00	1.271E+00	1.271E+00	0.217E+00	17.11	
TH-232	1.41E+10Y	1.00	2.023E+00	2.023E+00	0.380E+00	18.76	
TH-234	4.47E+09Y	1.00	3.038E+00	3.038E+00	2.017E+00	66.38	
U-234	4.47E+09Y	1.00	1.271E+00	1.271E+00	0.217E+00	17.11	
NP-237	2.14E+06Y	1.00	1.247E+00	1.247E+00	0.434E+00	34.77	
U-238	4.47E+09Y	1.00	3.038E+00	3.038E+00	2.017E+00	66.38	
AM-243	7380.00Y	1.00	4.029E-01	4.029E-01	0.849E-01	21.07	
ANH-511	1.00E+09Y	1.00	1.656E-01	1.656E-01	0.658E-01	39.70	
Total Activity :			7.884E+01	7.902E+01			

Grand Total Activity : 7.884E+01 7.902E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
5	89.97	217	499	1.24	180.14	171	21	3.01E-02	37.0	7.68E+00	T
0	128.68	156	618	1.79	257.48	252	11	2.17E-02	63.8	8.53E+00	T
0	185.91	199	490	1.31	371.84	368	9	2.77E-02	44.8	7.61E+00	T
0	209.12	137	451	1.07	418.20	415	9	1.91E-02	58.1	7.19E+00	T
0	270.15	213	278	1.98	540.16	534	11	2.96E-02	33.9	6.27E+00	T
0	328.65	173	290	1.50	657.06	651	14	2.41E-02	44.6	5.62E+00	T
0	463.14	94	148	1.67	925.86	921	9	1.31E-02	50.9	4.58E+00	T
0	727.50	141	129	1.68	1454.27	1446	14	1.95E-02	38.8	3.34E+00	T
0	795.18	76	76	1.68	1589.57	1584	11	1.05E-02	50.5	3.12E+00	T
0	934.35	42	81	1.45	1867.80	1863	13	5.80E-03	96.8	2.73E+00	T
4	964.94	64	126	2.59	1928.96	1920	27	8.90E-03	85.9	2.66E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978009.CNF;1
* Acquisition date   : 14-FEB-2010 12:01:43  Detector SN#      :
* Detector ID        : GAM22                Sensitivity        : 5.00000
* Geometry           : CAN                  Energy tolerance    : 1.50000
* Elapsed live time  : 0 02:00:00.00        Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:02.17        Half life ratio   : 8.00000
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245978009           Analyst initials: MXR1
* Batch Number       : 948721              Sample Quantity  : 1.11440E+02 GRAM
*****
*
*                                     QC DATA                              *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A              LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.918E+01	3.095E+00	4.533E-01	4.153E-02	64.373
CD-109	4.340E+00	1.215E+00	1.289E+00	1.224E-01	3.366
SN-126	4.248E-01	1.189E-01	1.267E-01	1.196E-02	3.353
BA-137M	1.340E-01	7.964E-02	5.982E-02	6.308E-03	2.241
CS-137	1.417E-01	8.419E-02	6.323E-02	6.676E-03	2.241
HG-203	9.427E-02	6.199E-02	6.718E-02	9.508E-03	1.403
TL-208	6.331E-01	1.142E-01	6.061E-02	6.573E-03	10.445
BI-211	5.050E+00	7.456E-01	3.217E-01	3.753E-02	15.700
PB-212	2.150E+00	3.084E-01	9.442E-02	1.247E-02	22.773
PO-212	2.150E+00	3.084E-01	9.442E-02	1.247E-02	22.773
BI-214	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
PB-214	1.757E+00	2.751E-01	1.124E-01	1.432E-02	15.635
PO-214	1.757E+00	2.751E-01	1.124E-01	1.432E-02	15.635
PO-216	2.150E+00	3.084E-01	9.442E-02	1.247E-02	22.773
PO-218	1.757E+00	2.751E-01	1.124E-01	1.432E-02	15.635
RA-224	6.062E+00	1.684E+00	1.073E+00	1.344E-01	5.648
RA-226	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
AC-228	2.023E+00	3.795E-01	2.067E-01	2.739E-02	9.783

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	2.023E+00	3.795E-01	2.067E-01	2.739E-02	9.783
TH-228	2.189E+00	3.140E-01	9.612E-02	1.270E-02	22.773
TH-230	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
TH-232	2.023E+00	3.795E-01	2.067E-01	2.739E-02	9.783
TH-234	3.038E+00	2.017E+00	1.978E+00	3.443E-01	1.536
U-234	1.271E+00	2.175E-01	1.119E-01	1.301E-02	11.359
NP-237	1.247E+00	4.338E-01	4.180E-01	9.464E-02	2.984
U-238	3.038E+00	2.017E+00	1.978E+00	3.443E-01	1.536
AM-243	4.029E-01	8.489E-02	9.368E-02	7.636E-03	4.301
ANH-511	1.656E-01	6.576E-02	4.419E-02	4.427E-03	3.749

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.751E-01		3.396E-01	5.639E-01	5.886E-02	0.310
NA-22	-4.286E-02		4.502E-02	6.910E-02	5.955E-03	-0.620
NA-24	-9.971E+00		1.001E+01	Half-Life too short		
AL-26	1.519E-04		2.752E-02	4.529E-02	3.704E-03	0.003
TI-44	4.208E-01	+	6.149E-02	7.892E-02	6.691E-03	5.332
SC-46	4.470E-03		4.054E-02	6.773E-02	7.581E-03	0.066
V-48	-4.344E-02		7.691E-02	1.207E-01	1.266E-02	-0.360
CR-51	-3.626E-01		4.097E-01	6.542E-01	8.471E-02	-0.554
MN-52	1.675E-01		3.147E-01	5.423E-01	4.846E-02	0.309
MN-54	1.605E-02		3.861E-02	6.587E-02	7.317E-03	0.244
CO-56	1.763E-02		3.957E-02	6.771E-02	7.538E-03	0.260
CO-57	-1.721E-02		2.836E-02	4.381E-02	3.613E-03	-0.393
CO-58	-5.467E-03		3.915E-02	6.492E-02	7.189E-03	-0.084
FE-59	-3.190E-03		9.437E-02	1.529E-01	1.499E-02	-0.021
CO-60	8.583E-04		3.968E-02	6.550E-02	5.841E-03	0.013
ZN-65	7.855E-02		1.065E-01	1.572E-01	1.403E-02	0.500
GE-68	9.955E-01		1.241E+00	2.131E+00	2.009E-01	0.467
AS-73	-9.985E-02		8.152E-01	1.317E+00	9.954E-02	-0.076
AS-74	-4.366E-02		1.067E-01	1.728E-01	1.791E-02	-0.253
SE-75	4.578E-02		5.287E-02	7.774E-02	1.046E-02	0.589
BR-77	-1.365E+01		2.412E+01	3.919E+01	3.944E+00	-0.348
SR-82	-2.069E-03		4.557E-01	7.365E-01	8.077E-02	-0.003
RB-83	-4.651E-02		7.003E-02	1.131E-01	1.138E-02	-0.411
RB-84	4.963E-02		7.347E-02	1.270E-01	1.420E-02	0.391
KR-85	2.695E+01		9.084E+00	1.456E+01	1.461E+00	1.851
SR-85	1.425E-01		4.801E-02	7.697E-02	7.724E-03	1.851
RB-86	4.375E-01		8.729E-01	1.471E+00	1.388E-01	0.297
Y-88	-1.854E-02		3.133E-02	4.676E-02	3.781E-03	-0.396
ZR-88	1.805E-02		3.222E-02	5.435E-02	5.060E-03	0.332
Y-91	-5.339E+00		2.011E+01	3.294E+01	2.708E+00	-0.162
NB-94	1.729E-02		3.317E-02	5.576E-02	5.975E-03	0.310
NB-95	8.104E-02		4.763E-02	8.302E-02	9.078E-03	0.976
NB-95M	3.223E-01		1.582E-01	2.395E-01	3.166E-02	1.346

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	8.133E-02		7.360E-02	1.267E-01	1.471E-02	0.642
NB-97	3.206E-01		9.952E-01	Half-Life too short		
ZR-97	1.135E+02		2.063E+01	Half-Life too short		
MO-99	2.191E+01		2.408E+01	4.096E+01	6.780E+00	0.535
TC-99M	-8.519E+13		6.034E+13	Half-Life too short		
RH-101	-1.491E-02		3.692E-02	5.817E-02	6.346E-03	-0.256
RH-102	8.203E-03		3.003E-02	4.927E-02	4.845E-03	0.167
RU-103	-4.674E-03		4.444E-02	7.110E-02	1.067E-02	-0.066
RH-106	5.874E-02		3.272E-01	5.455E-01	7.966E-02	0.108
RU-106	5.874E-02		3.271E-01	5.455E-01	5.698E-02	0.108
AG-108M	-5.243E-04		3.362E-02	5.476E-02	5.420E-03	-0.010
AG-110M	3.347E-03		4.190E-02	5.948E-02	6.392E-03	0.056
IN-111	8.110E-01		2.625E+00	3.774E+00	4.788E-01	0.215
IN-113M	1.097E-03		4.685E-02	7.715E-02	7.368E-03	0.014
SN-113	1.097E-03		4.685E-02	7.715E-02	7.368E-03	0.014
IN-114M	1.532E-01		2.296E-01	3.428E-01	3.645E-02	0.447
CD-115	-1.018E-05		1.366E-05	Half-Life too short		
SN-117M	-5.229E-02		6.801E-02	1.106E-01	1.048E-02	-0.473
SB-122	3.141E-01		4.321E+00	7.226E+00	7.406E-01	0.043
I-123	-3.176E+01		1.177E+02	Half-Life too short		
TE-123M	-4.128E-03		3.061E-02	5.097E-02	4.867E-03	-0.081
I-124	-3.743E-01		1.322E+00	1.842E+00	1.913E-01	-0.203
SB-124	3.889E-02		8.059E-02	1.406E-01	1.251E-02	0.277
SB-125	1.295E-02		9.523E-02	1.565E-01	1.519E-02	0.083
TE-125M	-1.104E+00		1.039E+01	1.654E+01	1.676E+00	-0.067
I-126	1.518E-01		2.436E-01	3.604E-01	3.808E-02	0.421
SB-126	3.374E-02		2.096E-01	2.963E-01	3.195E-02	0.114
SB-127	3.093E-01		2.291E+00	3.779E+00	5.203E-01	0.082
XE-127	3.487E-02		5.463E-02	9.150E-02	1.014E-02	0.381
I-131	-4.351E-02		1.438E-01	2.342E-01	2.599E-02	-0.186
TE-132	1.063E+00		1.412E+00	2.341E+00	4.287E-01	0.454
BA-133	1.647E-02		4.655E-02	6.861E-02	1.025E-02	0.240
I-133	-1.960E-02		3.075E-02	Half-Life too short		
CS-134	1.080E-01	+	5.584E-02	8.646E-02	9.570E-03	1.249
CS-135	2.690E-01		2.053E-01	2.984E-01	4.317E-02	0.902
I-135	-6.431E+12		3.888E+12	Half-Life too short		
CS-136	3.219E-02		1.285E-01	2.134E-01	2.159E-02	0.151
CE-139	2.088E-02		3.239E-02	5.507E-02	5.401E-03	0.379
BA-140	-2.605E-01		3.189E-01	4.899E-01	1.644E-01	-0.532
LA-140	-1.146E-01		1.109E-01	1.660E-01	1.455E-02	-0.690
CE-141	2.652E-02		7.027E-02	1.196E-01	1.089E-02	0.222
CE-143	4.305E-03		6.807E-04	Half-Life too short		
CE-144	-1.298E-01		2.369E-01	3.439E-01	5.339E-02	-0.377
PM-144	-2.072E-02		3.418E-02	5.362E-02	5.735E-03	-0.386
PR-144	-1.406E+00		2.320E+00	3.639E+00	3.891E-01	-0.386
PM-146	1.967E-02		4.598E-02	7.623E-02	8.858E-03	0.258
ND-147	5.365E-02		6.732E-01	1.132E+00	1.795E-01	0.047
PM-149	-4.669E-05		1.198E-04	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-1.029E-02		1.194E-01	1.617E-01	1.943E-02	-0.064
GD-153	-1.225E-02		9.104E-02	1.298E-01	1.141E-02	-0.094
EU-154	-1.212E-01		1.258E-01	1.923E-01	2.174E-02	-0.630
EU-155	2.278E-01		1.213E-01	2.047E-01	1.757E-02	1.113
TB-160	9.669E-02		1.422E-01	2.459E-01	2.749E-02	0.393
HO-166M	-1.241E-02		6.099E-02	9.816E-02	1.055E-02	-0.126
TM-171	-1.741E+01		3.029E+01	4.305E+01	3.253E+00	-0.405
LU-176	3.147E-03		2.853E-02	4.387E-02	5.756E-03	0.072
LU-177	3.773E+00	+	2.233E+00	2.953E+00	3.334E-01	1.278
LU-177M	-2.726E-01		2.035E-01	3.095E-01	2.927E-02	-0.881
HF-181	-5.033E-02		4.585E-02	6.873E-02	6.785E-03	-0.732
W-181	-1.574E-01		3.991E-01	5.731E-01	4.273E-02	-0.275
TA-182	3.336E-02		2.031E-01	3.408E-01	2.834E-02	0.098
RE-183	4.665E-02		1.215E-01	2.054E-01	1.982E-02	0.227
RE-184	-2.329E-01		2.549E-01	3.916E-01	5.082E-02	-0.595
OS-185	-6.280E-03		4.474E-02	7.300E-02	7.672E-03	-0.086
RE-188	2.800E-01		1.917E-01	3.330E-01	3.108E-02	0.841
W-188	3.162E+00		8.524E+00	1.278E+01	1.746E+00	0.247
IR-192	3.246E-02		3.672E-02	6.338E-02	8.100E-03	0.512
AU-195	1.182E-01		2.361E-01	3.867E-01	3.372E-02	0.306
TL-200	-4.038E-03		1.493E-03	Half-Life too short		
TL-201	-3.498E+00		1.457E+01	2.407E+01	2.373E+00	-0.145
TL-202	-1.662E-02		8.154E-02	1.312E-01	1.263E-02	-0.127
BI-207	3.665E-02		5.489E-02	9.334E-02	8.961E-03	0.393
TL-207	3.615E-01		7.501E-01	1.118E+00	2.223E-01	0.323
PO-209	2.171E+00		7.230E+00	1.222E+01	1.369E+00	0.178
BI-210	-9.382E-01		3.236E+00	5.265E+00	4.891E-01	-0.178
PB-210	-9.382E-01		3.236E+00	5.265E+00	4.891E-01	-0.178
PO-210	-9.382E-01		3.236E+00	5.265E+00	4.427E-01	-0.178
PB-211	-5.783E-01		1.062E+00	1.591E+00	9.986E-01	-0.364
BI-212	1.202E+00	+	4.883E-01	6.383E-01	7.624E-02	1.883
PO-215	3.615E-01		7.501E-01	1.118E+00	2.223E-01	0.323
RN-219	1.430E-01		4.154E-01	6.925E-01	1.071E-01	0.207
RN-220	-2.346E+01		2.539E+01	3.997E+01	4.074E+00	-0.587
RA-223	3.615E-01		7.501E-01	1.118E+00	2.223E-01	0.323
AC-227	2.863E-01		4.147E-01	6.829E-01	1.246E-01	0.419
TH-227	2.863E-01		4.156E-01	6.829E-01	1.406E-01	0.419
TH-229	-1.269E-01		5.488E-01	8.969E-01	9.643E-02	-0.142
PA-231	-1.291E-01		1.733E+00	2.541E+00	4.745E-01	-0.051
TH-231	3.615E-01		7.501E-01	1.118E+00	2.223E-01	0.323
U-231	-5.216E-01		1.916E+00	2.717E+00	2.412E-01	-0.192
PA-233	-5.007E-02		6.807E-02	1.101E-01	1.442E-02	-0.455
PA-234	-8.793E-02		3.041E-01	4.906E-01	9.752E-02	-0.179
PA-234M	-1.748E+00		4.800E+00	7.408E+00	8.490E-01	-0.236
U-235	-1.780E-02		2.276E-01	3.724E-01	6.569E-02	-0.048
NP-236	1.080E-02		8.501E-02	1.427E-01	1.364E-02	0.076
NP-239	-1.654E-01		2.119E-01	3.261E-01	2.695E-02	-0.507
AM-241	8.588E-02		1.574E-01	2.403E-01	1.878E-02	0.357

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.835E-02		1.065E-01	1.724E-01	1.470E-02	0.164
AM-246	5.112E-02		1.384E-01	2.312E-01	2.175E-02	0.221
CM-247	1.757E-02		3.812E-02	6.390E-02	5.995E-03	0.275
CF-249	1.767E-02		4.038E-02	6.784E-02	6.448E-03	0.260
CF-251	9.890E-02		1.360E-01	2.307E-01	2.344E-02	0.429

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978009          *
* Acquisition date   : 14-FEB-2010 12:01:43 Detector SN# :                 *
* Detector ID        : GAM22 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance  : 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:02.17 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G245978009 Analyst initials: MXR1                  *
* Batch Number      : 948721 Sample Quantity : 1.1144E+02 GRAM           *
* Recovery          : 1.00000 Carrier Weight  : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 2-DEC-2009 16:47:28 MS Isotope :                   *
* MSD DPM           : 0.000 MSD Isotope :                               *
* LCS DPM           : 0.000 LCS Isotope :                               *
* LCSD DPM          : 0.000 LCSD Isotope :                               *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.918E+01	3.033E+00	2.256E-01	1.548E+00
CD-109	4.340E+00	1.191E+00	6.562E-01	6.074E-01
SN-126	4.248E-01	1.165E-01	6.448E-02	5.945E-02
BA-137M	1.340E-01	7.804E-02	2.996E-02	3.982E-02
CS-137	1.417E-01	8.250E-02	3.167E-02	4.209E-02
HG-203	9.427E-02	6.075E-02	3.388E-02	3.099E-02
TL-208	6.331E-01	1.120E-01	3.039E-02	5.712E-02
BI-211	5.050E+00	7.307E-01	1.619E-01	3.728E-01
PB-212	2.150E+00	3.022E-01	4.768E-02	1.542E-01
PO-212	2.150E+00	3.022E-01	4.768E-02	1.542E-01
BI-214	1.271E+00	2.131E-01	5.609E-02	1.087E-01
PB-214	1.757E+00	2.696E-01	5.656E-02	1.375E-01
PO-214	1.757E+00	2.696E-01	5.656E-02	1.375E-01
PO-216	2.150E+00	3.022E-01	4.768E-02	1.542E-01
PO-218	1.757E+00	2.696E-01	5.656E-02	1.375E-01
RA-224	6.062E+00	1.650E+00	5.420E-01	8.418E-01
RA-226	1.271E+00	2.131E-01	5.609E-02	1.087E-01
AC-228	2.023E+00	3.719E-01	1.033E-01	1.898E-01
RA-228	2.023E+00	3.719E-01	1.033E-01	1.898E-01
TH-228	2.189E+00	3.077E-01	4.854E-02	1.570E-01
TH-230	1.271E+00	2.131E-01	5.609E-02	1.087E-01
TH-232	2.023E+00	3.719E-01	1.033E-01	1.898E-01
TH-234	3.038E+00	1.976E+00	1.009E+00	1.008E+00
U-234	1.271E+00	2.131E-01	5.609E-02	1.087E-01
NP-237	1.247E+00	4.251E-01	2.127E-01	2.169E-01
U-238	3.038E+00	1.976E+00	1.009E+00	1.008E+00
AM-243	4.029E-01	8.319E-02	4.773E-02	4.244E-02
ANH-511	1.656E-01	6.444E-02	2.218E-02	3.288E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.751E-01	3.328E-01	2.832E-01	1.698E-01	NOT IDENT.
NA-22	-4.286E-02	4.412E-02	3.443E-02	2.251E-02	NOT IDENT.
NA-24	-9.971E+06	1.961E+07	0.000E+00	1.001E+07	SHORT HLIF
AL-26	1.519E-04	2.696E-02	2.250E-02	1.376E-02	NOT IDENT.
TI-44	4.208E-01	6.026E-02	4.020E-02	3.075E-02	FAIL ABUN
SC-46	4.470E-03	3.973E-02	3.384E-02	2.027E-02	FAIL ABUN
V-48	-4.344E-02	7.537E-02	6.029E-02	3.845E-02	NOT IDENT.
CR-51	-3.626E-01	4.015E-01	3.296E-01	2.048E-01	NOT IDENT.
MN-52	1.675E-01	3.084E-01	2.700E-01	1.573E-01	FAIL ABUN
MN-54	1.605E-02	3.784E-02	3.293E-02	1.930E-02	NOT IDENT.
CO-56	1.763E-02	3.878E-02	3.385E-02	1.979E-02	NOT IDENT.
CO-57	-1.721E-02	2.779E-02	2.224E-02	1.418E-02	NOT IDENT.
CO-58	-5.467E-03	3.837E-02	3.247E-02	1.958E-02	NOT IDENT.
FE-59	-3.190E-03	9.248E-02	7.628E-02	4.718E-02	NOT IDENT.
CO-60	8.583E-04	3.889E-02	3.263E-02	1.984E-02	NOT IDENT.
ZN-65	7.855E-02	1.044E-01	7.843E-02	5.325E-02	NOT IDENT.
GE-68	9.955E-01	1.216E+00	1.063E+00	6.204E-01	NOT IDENT.
AS-73	-9.985E-02	7.989E-01	6.730E-01	4.076E-01	NOT IDENT.
AS-74	-4.366E-02	1.045E-01	8.662E-02	5.334E-02	NOT IDENT.
SE-75	4.578E-02	5.181E-02	3.922E-02	2.643E-02	NOT IDENT.
BR-77	-1.365E+01	2.364E+01	1.967E+01	1.206E+01	FAIL ABUN
SR-82	-2.069E-03	4.466E-01	3.684E-01	2.278E-01	NOT IDENT.
RB-83	-4.651E-02	6.863E-02	5.674E-02	3.502E-02	NOT IDENT.
RB-84	4.963E-02	7.200E-02	6.347E-02	3.674E-02	NOT IDENT.
KR-85	2.695E+01	8.903E+00	7.310E+00	4.542E+00	NOT IDENT.
SR-85	1.425E-01	4.705E-02	3.863E-02	2.401E-02	NOT IDENT.
RB-86	4.375E-01	8.554E-01	7.339E-01	4.364E-01	NOT IDENT.
Y-88	-1.854E-02	3.070E-02	2.323E-02	1.566E-02	NOT IDENT.
ZR-88	1.805E-02	3.157E-02	2.734E-02	1.611E-02	NOT IDENT.
Y-91	-5.339E+00	1.971E+01	1.642E+01	1.006E+01	NOT IDENT.
NB-94	1.729E-02	3.251E-02	2.792E-02	1.659E-02	NOT IDENT.
NB-95	8.104E-02	4.667E-02	4.154E-02	2.381E-02	NOT IDENT.
NB-95M	3.223E-01	1.551E-01	1.210E-01	7.911E-02	NOT IDENT.
ZR-95	8.133E-02	7.212E-02	6.341E-02	3.680E-02	NOT IDENT.
NB-97	3.206E+05	1.951E+06	0.000E+00	9.952E+05	SHORT HLIF
ZR-97	1.135E+08	4.043E+07	0.000E+00	2.063E+07	SHORT HLIF
MO-99	2.191E+01	2.360E+01	2.050E+01	1.204E+01	NOT IDENT.
TC-99M	-8.519E+19	1.183E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.491E-02	3.618E-02	2.942E-02	1.846E-02	FAIL ABUN
RH-102	8.203E-03	2.942E-02	2.474E-02	1.501E-02	NOT IDENT.
RU-103	-4.674E-03	4.355E-02	3.569E-02	2.222E-02	FAIL ABUN
RH-106	5.874E-02	3.206E-01	2.734E-01	1.636E-01	FAIL ABUN
RU-106	5.874E-02	3.206E-01	2.734E-01	1.636E-01	FAIL ABUN
AG-108M	-5.243E-04	3.295E-02	2.752E-02	1.681E-02	NOT IDENT.
AG-110M	3.347E-03	4.107E-02	2.979E-02	2.095E-02	NOT IDENT.
IN-111	8.110E-01	2.572E+00	1.905E+00	1.312E+00	NOT IDENT.
IN-113M	1.097E-03	4.591E-02	3.881E-02	2.343E-02	NOT IDENT.
SN-113	1.097E-03	4.591E-02	3.881E-02	2.343E-02	NOT IDENT.
IN-114M	1.532E-01	2.251E-01	1.734E-01	1.148E-01	NOT IDENT.
CD-115	-1.018E+01	2.676E+01	0.000E+00	1.366E+01	SHORT HLIF
SN-117M	-5.229E-02	6.665E-02	5.600E-02	3.400E-02	NOT IDENT.
SB-122	3.141E-01	4.234E+00	3.624E+00	2.160E+00	NOT IDENT.
I-123	-3.176E+07	2.308E+08	0.000E+00	1.177E+08	SHORT HLIF
TE-123M	-4.128E-03	3.000E-02	2.582E-02	1.530E-02	NOT IDENT.
I-124	-3.743E-01	1.295E+00	9.232E-01	6.609E-01	NOT IDENT.
SB-124	3.889E-02	7.898E-02	6.992E-02	4.029E-02	FAIL ABUN
SB-125	1.295E-02	9.332E-02	7.867E-02	4.761E-02	FAIL ABUN
TE-125M	-1.104E+00	1.018E+01	8.404E+00	5.196E+00	NOT IDENT.
I-126	1.518E-01	2.387E-01	1.805E-01	1.218E-01	NOT IDENT.
SB-126	3.374E-02	2.054E-01	1.483E-01	1.048E-01	FAIL ABUN
SB-127	3.093E-01	2.245E+00	1.893E+00	1.145E+00	NOT IDENT.
XE-127	3.487E-02	5.353E-02	4.626E-02	2.731E-02	NOT IDENT.
I-131	-4.351E-02	1.409E-01	1.179E-01	7.189E-02	NOT IDENT.
TE-132	1.063E+00	1.383E+00	1.182E+00	7.058E-01	NOT IDENT.
BA-133	1.647E-02	4.562E-02	3.454E-02	2.327E-02	FAIL ABUN
I-133	-1.960E+04	6.028E+04	0.000E+00	3.075E+04	SHORT HLIF
CS-134	1.080E-01	5.473E-02	4.325E-02	2.792E-02	FAIL ABUN
CS-135	2.690E-01	2.012E-01	1.506E-01	1.027E-01	NOT IDENT.
I-135	-6.431E+18	7.620E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.219E-02	1.260E-01	1.065E-01	6.426E-02	FAIL ABUN
CE-139	2.088E-02	3.174E-02	2.789E-02	1.620E-02	NOT IDENT.
BA-140	-2.605E-01	3.126E-01	2.458E-01	1.595E-01	NOT IDENT.
LA-140	-1.146E-01	1.087E-01	8.257E-02	5.544E-02	FAIL ABUN
CE-141	2.652E-02	6.886E-02	6.064E-02	3.513E-02	NOT IDENT.
CE-143	4.305E+03	1.334E+03	0.000E+00	6.807E+02	SHORT HLIF
CE-144	-1.298E-01	2.321E-01	1.745E-01	1.184E-01	NOT IDENT.
PM-144	-2.072E-02	3.350E-02	2.685E-02	1.709E-02	NOT IDENT.

PR-144	-1.406E+00	2.273E+00	1.822E+00	1.160E+00	NOT IDENT.
PM-146	1.967E-02	4.506E-02	3.830E-02	2.299E-02	NOT IDENT.
ND-147	5.365E-02	6.597E-01	5.681E-01	3.366E-01	FAIL ABUN
PM-149	-4.669E+01	2.347E+02	0.000E+00	1.198E+02	SHORT HLIF
EU-152	-1.029E-02	1.170E-01	8.140E-02	5.969E-02	FAIL ABUN
GD-153	-1.225E-02	8.922E-02	6.600E-02	4.552E-02	NOT IDENT.
EU-154	-1.212E-01	1.232E-01	9.583E-02	6.288E-02	NOT IDENT.
EU-155	2.278E-01	1.189E-01	1.040E-01	6.067E-02	FAIL ABUN
TB-160	9.669E-02	1.394E-01	1.229E-01	7.111E-02	FAIL ABUN
HO-166M	-1.241E-02	5.977E-02	4.914E-02	3.050E-02	NOT IDENT.
TM-171	-1.741E+01	2.969E+01	2.195E+01	1.515E+01	NOT IDENT.
LU-176	3.147E-03	2.795E-02	2.211E-02	1.426E-02	FAIL ABUN
LU-177	3.773E+00	2.188E+00	1.493E+00	1.116E+00	FAIL ABUN
LU-177M	-2.172E-01	1.995E-01	1.556E-01	1.018E-01	FAIL ABUN
HF-181	-5.033E-02	4.493E-02	3.452E-02	2.292E-02	NOT IDENT.
W-181	-1.574E-01	3.911E-01	2.923E-01	1.996E-01	NOT IDENT.
TA-182	3.336E-02	1.990E-01	1.699E-01	1.015E-01	FAIL ABUN
RE-183	4.665E-02	1.191E-01	1.040E-01	6.077E-02	FAIL ABUN
RE-184	-2.329E-01	2.498E-01	1.977E-01	1.274E-01	NOT IDENT.
OS-185	-6.280E-03	4.384E-02	3.657E-02	2.237E-02	NOT IDENT.
RE-188	2.800E-01	1.879E-01	1.687E-01	9.586E-02	NOT IDENT.
W-188	3.162E+00	8.354E+00	6.446E+00	4.262E+00	FAIL ABUN
IR-192	3.246E-02	3.599E-02	3.193E-02	1.836E-02	FAIL ABUN
AU-195	1.182E-01	2.313E-01	1.966E-01	1.180E-01	FAIL ABUN
TL-200	-4.038E+03	2.927E+03	0.000E+00	1.493E+03	SHORT HLIF
TL-201	-3.498E+00	1.428E+01	1.219E+01	7.283E+00	NOT IDENT.
TL-202	-1.662E-02	7.990E-02	6.594E-02	4.077E-02	NOT IDENT.
BI-207	3.665E-02	5.379E-02	4.658E-02	2.745E-02	FAIL ABUN
TL-207	3.615E-01	7.351E-01	5.634E-01	3.751E-01	FAIL ABUN
PO-209	2.171E+00	7.086E+00	6.106E+00	3.615E+00	NOT IDENT.
BI-210	-9.382E-01	3.172E+00	2.692E+00	1.618E+00	NOT IDENT.
PB-210	-9.382E-01	3.172E+00	2.692E+00	1.618E+00	NOT IDENT.
PO-210	-9.382E-01	3.171E+00	2.692E+00	1.618E+00	NOT IDENT.
PB-211	-5.783E-01	1.040E+00	7.999E-01	5.308E-01	NOT IDENT.
BI-212	1.202E+00	4.785E-01	3.195E-01	2.442E-01	FAIL ABUN
PO-215	3.615E-01	7.351E-01	5.634E-01	3.751E-01	FAIL ABUN
RN-219	1.430E-01	4.071E-01	3.483E-01	2.077E-01	FAIL ABUN
RN-220	-2.346E+01	2.488E+01	2.005E+01	1.269E+01	NOT IDENT.
RA-223	3.615E-01	7.351E-01	5.634E-01	3.751E-01	FAIL ABUN
AC-227	2.863E-01	4.064E-01	3.446E-01	2.074E-01	FAIL ABUN
TH-227	2.863E-01	4.073E-01	3.446E-01	2.078E-01	FAIL ABUN
TH-229	-1.269E-01	5.378E-01	4.536E-01	2.744E-01	FAIL ABUN
PA-231	-1.291E-01	1.698E+00	1.281E+00	8.663E-01	FAIL ABUN
TH-231	3.615E-01	7.351E-01	5.634E-01	3.751E-01	FAIL ABUN
U-231	-5.216E-01	1.878E+00	1.381E+00	9.582E-01	FAIL ABUN
PA-233	-5.007E-02	6.671E-02	5.547E-02	3.403E-02	FAIL ABUN
PA-234	-8.793E-02	2.980E-01	2.451E-01	1.520E-01	FAIL ABUN
PA-234M	-1.748E+00	4.704E+00	3.699E+00	2.400E+00	NOT IDENT.
U-235	-1.780E-02	2.230E-01	1.888E-01	1.138E-01	FAIL ABUN
NP-236	1.080E-02	8.331E-02	7.229E-02	4.251E-02	NOT IDENT.
NP-239	-1.654E-01	2.077E-01	1.656E-01	1.060E-01	FAIL ABUN
AM-241	8.588E-02	1.542E-01	1.226E-01	7.869E-02	NOT IDENT.
CM-243	2.835E-02	1.043E-01	8.761E-02	5.323E-02	FAIL ABUN
AM-246	5.112E-02	1.356E-01	1.154E-01	6.918E-02	NOT IDENT.
CM-247	1.757E-02	3.736E-02	3.214E-02	1.906E-02	FAIL ABUN
CF-249	1.767E-02	3.958E-02	3.413E-02	2.019E-02	NOT IDENT.
CF-251	9.890E-02	1.333E-01	1.168E-01	6.799E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY	MDA COUNTS
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46.50	313.4010
46.50	313.4010
46.50	313.4010
48.70	327.5933
49.72	327.2899
51.35	325.0711
52.39	333.0539
52.97	335.7549
53.15	329.5010
53.44	328.0485
54.07	329.8692
56.28	374.4430
56.28	374.4470
57.37	0.0000
57.53	398.1795
57.53	398.1827
57.60	396.3971
57.98	363.7670
57.98	363.7670
59.32	368.1179
59.32	368.1179
59.40	368.2346
59.54	368.4395
59.72	337.1411
60.01	337.5283
61.10	376.4789
61.14	376.5371
61.30	376.7715
63.00	432.0393
63.29	432.5168
63.29	432.5168
63.58	432.9920
64.28	455.5507
65.12	473.0946
65.20	454.1891
65.20	454.1891
66.05	452.6781
66.72	456.7363
66.83	456.9208
66.91	457.0556
67.20	448.6825
67.20	448.6825
67.75	504.2935
67.85	504.4769
68.90	509.8450
68.90	509.8450
69.30	494.9064
69.67	503.3021
70.82	482.9105
70.82	482.9105
70.83	482.9278
72.80	535.9040
72.87	536.0344
72.87	536.0344
74.67	588.8001
74.81	589.0759
74.81	589.0759
74.81	589.0759
74.81	589.0759
74.81	589.0759
74.81	589.0759
74.81	589.0759
74.97	589.3931
75.28	590.0040
75.70	590.8284
77.11	593.5831
77.11	593.5831

77.11	593.5831
77.11	593.5831
77.11	593.5831
77.11	593.5831
77.11	593.5831
78.38	596.0443
79.62	598.4284
79.80	598.7723
79.80	598.7723
80.11	599.3654
80.18	599.4988
80.30	599.7272
80.30	599.7272
80.57	600.2402
81.00	601.0586
81.07	601.1920
81.07	601.1920
81.07	601.1920
81.07	601.1920
82.60	534.6577
83.37	529.6988
83.78	536.6129
83.78	536.6129
83.78	536.6129
83.78	536.6129
84.21	537.3242
84.90	450.8020
85.43	539.3267
86.29	622.4661
86.50	622.8589
86.54	622.9344
86.59	623.0281
86.72	623.2728
86.79	503.7573
86.94	503.9868
87.30	504.5288
87.30	504.5288
87.30	504.5288
87.30	504.5288
87.30	504.5288
87.30	504.5288
87.57	504.9341
87.88	505.4004
88.03	505.6250
88.36	506.1182
88.47	506.2842
89.95	508.4863
91.11	510.2026
92.29	511.9360
92.38	512.0679
92.38	512.0679
93.35	513.4814
94.00	514.4263
94.67	378.4900
94.67	378.4954
94.90	378.7392
94.90	378.7392
94.90	378.7392
94.90	378.7392
95.87	412.0851
95.87	412.0851
96.73	422.7888
97.43	407.3714
98.44	367.1577
98.44	367.1594
98.88	392.1483
99.55	395.0372
99.55	395.0372
99.86	399.7225
100.00	399.8737
100.10	384.7274
103.18	480.1826
103.76	428.0904
105.00	400.7682
105.31	390.0401
108.00	487.3031
109.28	421.9085

111.00	419.2396
111.00	419.2396
111.76	422.2752
112.95	431.3971
115.19	369.1974
116.30	431.5028
117.00	436.7734
117.00	436.7734
117.66	432.9021
121.11	368.6582
121.62	401.2893
121.78	401.4366
122.06	417.8097
122.32	418.0589
122.32	418.0589
122.32	418.0589
122.32	418.0589
123.07	432.6248
127.23	396.5321
129.76	379.4370
131.20	356.6676
133.02	396.2896
133.54	405.2353
135.34	391.1499
136.00	379.2340
136.25	379.4355
136.48	381.4030
140.51	432.2512
140.51	0.0000
142.18	426.5235
142.65	419.7105
143.76	419.7531
144.24	406.5774
144.24	406.5774
144.24	406.5774
144.24	406.5774
145.22	403.7532
145.44	418.4565
147.16	448.1310
152.43	427.0172
152.70	419.8740
153.22	403.7044
154.21	388.7743
154.21	388.7743
154.21	388.7743
154.21	388.7743
155.03	389.3845
156.02	420.6996
158.56	432.9646
159.00	0.0000
159.00	407.2270
160.31	406.3556
161.27	408.0149
162.32	405.0527
162.64	413.7369
163.35	424.6087
163.89	422.2050
165.85	387.8524
167.43	417.3505
171.28	393.5367
171.86	393.9368
172.10	394.1038
176.55	371.1987
176.60	371.2311
181.06	441.8926
184.41	403.8370
185.71	435.5673
186.00	435.7783
190.27	371.5272
192.34	404.7543
193.63	397.6786
197.04	398.8401
198.01	390.4807
198.60	396.8218
200.40	415.9365
201.83	399.8250
202.84	387.3989
205.31	385.2387

208.36	391.8793
208.81	382.4226
209.75	375.2534
209.75	375.2534
210.97	362.5247
215.65	364.8034
216.55	373.9167
218.09	378.8618
222.10	327.3561
223.80	380.9431
226.40	354.2917
227.00	337.9532
227.08	337.9904
227.20	340.1277
228.16	337.4596
228.18	337.4695
228.18	337.4695
231.56	0.0000
235.69	318.2477
236.00	328.4912
236.00	328.4912
238.63	325.4336
238.63	325.4336
238.63	325.4336
238.63	325.4336
239.00	325.5957
240.98	326.4604
241.98	326.8975
241.98	326.8975
241.98	326.8975
244.69	296.5434
245.39	307.0525
247.94	289.7427
248.90	284.9020
249.79	306.6767
252.40	309.8650
252.85	316.5022
252.85	316.5022
254.15	0.0000
256.20	280.0198
256.20	280.0198
260.50	306.5442
260.90	0.0000
262.80	300.2624
264.65	241.2608
268.24	282.7130
268.79	282.9056
269.46	279.1806
269.46	279.1806
269.46	279.1806
269.46	279.1806
271.23	292.9994
273.65	278.3897
276.40	279.3087
277.35	296.4902
277.60	283.0346
277.60	283.0346
278.00	283.1708
278.60	243.5897
279.20	243.7637
279.53	243.8573
280.46	236.9972
281.68	260.5366
283.67	254.8823
284.30	271.0520
285.00	273.1932
285.90	0.0000
286.10	270.1799
286.10	270.1799
287.40	259.3569
288.45	0.0000
290.67	249.4390
290.80	249.4762
291.72	279.8287
293.26	0.0000
293.70	269.9021
295.21	252.8438
295.21	252.8438

295.21	252.8438
295.96	253.0583
296.50	253.2116
297.23	253.4193
298.57	253.8008
299.80	254.1481
299.80	254.1481
300.09	254.2333
300.09	254.2333
300.09	254.2333
300.09	254.2333
300.12	254.2401
301.29	237.2341
302.84	286.3910
303.76	288.2065
303.91	288.2527
304.40	279.2545
304.40	279.2545
304.84	268.7015
306.84	262.2977
308.46	242.7917
311.98	279.7202
316.51	225.4216
318.01	250.8706
319.02	252.0677
319.41	268.9231
320.08	260.7295
323.87	222.8178
323.87	222.8178
323.87	222.8178
323.87	222.8178
325.23	237.1753
328.77	249.0101
333.44	174.6728
334.20	198.4310
334.20	198.4310
334.30	198.4515
338.28	251.4362
338.28	251.4362
338.28	251.4362
338.28	251.4362
338.32	251.4492
338.32	251.4492
338.32	251.4492
340.50	226.6407
340.57	226.6552
344.27	227.1749
345.85	260.5149
350.59	0.0000
351.07	206.6016
351.92	207.7339
351.92	207.7339
351.92	207.7339
355.39	0.0000
356.01	181.8456
364.48	195.6536
366.43	224.2949
367.43	228.4099
367.94	0.0000
369.80	211.3066
374.96	232.9671
383.85	218.0208
387.95	194.9545
388.63	208.0126
391.69	210.5776
391.69	210.5776
392.90	193.8200
398.62	212.8747
400.65	209.2289
401.10	197.2370
401.81	192.3243
402.60	199.5106
404.84	239.2711
410.95	220.2343
411.60	222.3871
413.65	276.6883
414.70	254.5380
415.30	235.3115

415.76	206.8707
417.63	0.0000
418.52	226.7587
423.70	201.0723
427.08	198.5506
427.89	188.3881
432.53	186.0073
433.93	185.1859
439.47	186.0206
439.56	177.7193
439.89	177.7674
443.98	162.7069
444.90	177.4396
445.03	177.4583
445.03	177.4583
445.03	177.4583
445.03	177.4583
453.90	180.8100
463.38	169.4414
468.07	155.8817
473.00	171.7582
475.06	166.6831
475.35	149.6216
476.78	149.7822
477.59	158.4370
477.96	171.3320
482.03	186.8907
484.57	171.1036
487.03	154.1649
490.36	0.0000
492.35	0.0000
497.08	169.4234
507.63	0.0000
510.53	0.0000
510.84	146.9747
511.00	146.9911
511.85	144.5175
511.85	144.5175
513.99	148.4011
513.99	148.4011
520.41	172.0748
520.65	172.1053
527.90	0.0000
528.96	0.0000
529.64	182.4390
529.87	0.0000
531.02	158.5139
537.32	179.6771
543.00	158.8735
546.56	0.0000
549.76	163.3480
552.65	142.0294
555.20	143.2113
563.23	149.6487
563.90	160.1395
568.70	168.2422
569.32	164.5035
569.50	156.9165
569.67	156.9333
573.80	181.6672
574.00	188.8436
574.64	189.7421
578.91	145.9753
579.30	0.0000
583.14	164.0455
585.48	166.3478
591.81	156.2618
592.07	154.3555
593.00	168.4872
595.88	175.0307
600.56	173.5111
602.52	0.0000
602.71	191.4474
602.71	191.4474
603.60	183.2234
604.41	191.6479
604.70	206.6811
609.31	158.9310

609.31	158.9310
609.31	158.9310
609.31	158.9310
610.33	130.4579
612.46	150.7230
614.37	152.5723
618.01	165.8471
621.84	147.3663
621.84	147.3663
631.29	136.3379
633.02	141.4231
633.10	144.3960
634.78	154.4385
635.90	153.5494
636.97	132.8304
645.85	148.4634
646.12	147.4911
656.30	140.9089
657.75	147.9055
657.90	0.0000
661.65	151.8233
661.65	151.8233
664.57	0.0000
666.33	133.0715
666.33	133.0715
675.00	131.6927
677.61	130.8687
685.20	132.4386
692.80	129.9197
695.00	133.1474
696.49	149.6565
696.49	149.6565
697.00	149.6981
697.49	145.6344
698.33	149.8051
698.50	149.8199
699.00	157.0435
702.63	131.6406
706.10	120.5515
706.58	0.0000
706.67	129.8657
709.31	151.7224
711.68	139.5126
713.82	144.8450
717.42	131.1745
720.50	149.5107
721.93	0.0000
722.20	135.3909
722.78	151.4715
722.78	151.4715
722.89	151.4804
722.95	151.4833
723.30	153.2955
724.18	165.8476
727.18	116.0964
733.00	134.3628
735.90	134.7299
739.58	108.0062
742.81	126.0425
744.21	142.9478
747.13	127.3710
751.79	103.4052
752.31	123.4865
753.82	125.6918
755.35	110.9900
756.15	106.8050
756.87	114.2490
763.93	181.5379
765.79	131.7626
766.42	138.1805
766.84	129.7044
776.49	149.5547
778.00	174.2520
778.57	173.2324
778.89	163.6333
783.80	117.9291
785.46	110.5146
792.07	162.3820

795.84	98.1297
796.30	97.9979
798.80	114.7774
801.93	115.1822
805.60	107.7224
810.29	114.4781
810.76	116.3657
815.85	124.1100
817.79	112.0815
818.51	105.5789
819.60	118.7192
826.30	129.4087
828.27	0.0000
831.60	132.5465
831.96	126.9274
834.83	132.7457
836.80	0.0000
846.75	106.0215
848.13	112.7184
856.28	0.0000
856.80	94.8568
860.37	109.5332
867.32	96.9776
867.82	100.3436
871.10	107.1895
873.19	114.9526
874.81	116.9514
875.33	0.0000
876.40	120.8716
879.36	97.0159
880.27	97.0547
880.51	92.2600
881.50	96.1461
883.24	118.3497
884.67	117.4620
889.25	109.0155
896.60	98.7182
898.02	106.5261
899.00	102.6949
903.28	103.6133
911.07	103.9595
911.07	103.9595
911.07	103.9595
919.63	106.9827
920.93	103.2121
925.00	94.9489
925.24	92.8489
926.50	101.5549
935.52	82.6538
937.48	87.8913
944.10	109.3409
946.00	111.6738
949.00	99.9379
962.29	111.4277
964.01	107.5216
966.15	107.6158
968.20	107.7043
969.11	107.7458
969.11	107.7458
969.11	107.7458
977.42	78.8269
980.50	87.4240
983.50	100.3418
989.30	90.5164
996.32	119.0083
1001.03	102.0515
1001.68	83.8858
1004.76	116.3677
1021.30	0.0000
1024.50	0.0000
1034.80	83.9448
1036.00	95.2478
1037.82	111.7105
1038.57	105.5937
1038.76	0.0000
1045.16	95.5786
1046.59	97.6871
1048.07	100.8301

1050.47	107.0977
1050.47	107.0977
1062.04	97.2195
1063.62	99.3482
1076.63	90.4682
1077.35	85.2918
1078.86	88.4626
1085.78	104.3352
1099.22	99.6055
1112.02	95.8496
1112.84	101.4096
1115.52	103.3525
1120.29	98.2449
1120.29	98.2449
1120.29	98.2449
1120.29	98.2449
1120.51	98.2546
1121.28	96.1670
1124.00	0.0000
1129.67	120.1948
1131.51	0.0000
1147.95	0.0000
1167.94	108.0827
1173.22	128.0479
1175.09	116.8252
1177.93	116.9387
1189.05	112.6447
1204.90	135.1314
1205.75	0.0000
1213.00	128.8161
1221.42	128.2177
1230.97	190.0481
1235.34	102.8497
1236.41	0.0000
1238.25	122.1902
1246.25	128.2917
1260.41	0.0000
1271.85	93.3633
1274.45	110.9594
1274.54	110.9628
1291.56	105.6863
1298.22	0.0000
1312.09	78.7866
1325.50	75.1558
1325.50	75.1558
1332.49	71.3518
1333.61	76.3326
1360.21	56.9600
1362.66	0.0000
1365.15	56.0427
1368.21	71.1192
1368.53	0.0000
1376.25	62.2516
1384.27	96.6182
1394.10	54.5043
1395.20	63.6075
1407.95	65.8708
1434.06	40.8398
1436.60	52.1097
1457.56	0.0000
1460.81	34.7488
1489.15	55.9891
1509.49	53.1727
1596.49	69.2276
1620.62	47.7105
1678.03	0.0000
1691.02	31.0755
1691.02	31.0755
1706.46	0.0000
1750.46	0.0000
1764.49	34.5927
1764.49	34.5927
1764.49	34.5927
1764.49	34.5927
1770.23	23.1588
1771.40	24.9471
1791.20	0.0000
1808.65	23.9655

1836.01

28.1352

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978009

Total Uranium Activity	9.0302E+00	ug/g
Total Uranium Counting Unc.	5.8808E+00	ug/g
Total Uranium Tpu	3.0004E-06	ug/g
Total Uranium Mda	3.0032E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978009                *
*  ANALYST       : MXR1                  DETECTOR    : GAM22                  *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE: 14-FEB-2010 12:01:43.69  SAMPLE ALQT: 111.440 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.061E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.392E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.477E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.202E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 14:18:14.19

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978010.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:17:41
Sample ID          : G245978010      Sample quantity      : 1.65200E+02 GRAM
Detector name      : GAM18            Detector geometry   : CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time   : 0 02:00:01.67  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials    : MXR1
Abundance limit    : 75.00000          Sensitivity          : 5.00000
Batch ID           : 948721            Detector SN#         :
Matrix Spike ID    :                   LCS ID              : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.54*	151	575	0.88	126.20	122	9	2.09E-02	30.3	
2	3	75.05	305	523	1.18	149.22	144	14	4.24E-02	13.7	1.87E+00
3	3	77.19	459	453	0.95	153.49	144	14	6.37E-02	8.7	
4	0	87.38	200	419	1.31	173.88	171	6	2.78E-02	17.7	
5	0	93.04*	419	705	1.32	185.19	181	10	5.81E-02	13.4	
6	0	153.99	102	385	0.92	307.03	304	9	1.42E-02	35.7	
7	0	185.90*	251	498	0.97	370.83	365	12	3.49E-02	19.4	
8	0	209.40*	102	318	1.32	417.82	413	9	1.42E-02	33.7	
9	4	238.74*	1327	265	1.13	476.48	472	17	1.84E-01	3.5	2.43E+00
10	4	241.65	308	314	1.61	482.29	472	17	4.28E-02	15.3	
11	0	270.09	69	256	0.71	539.15	535	9	9.58E-03	43.5	
12	0	295.30*	478	241	1.34	589.56	585	11	6.64E-02	7.9	
13	0	300.20	70	179	1.37	599.35	596	8	9.76E-03	35.0	
14	0	338.48*	232	292	1.40	675.90	670	12	3.23E-02	16.4	
15	0	351.81*	785	264	1.41	702.54	696	15	1.09E-01	5.9	
16	0	463.13	109	148	1.19	925.13	918	14	1.52E-02	25.7	
17	0	510.77*	112	239	2.30	1020.38	1012	16	1.55E-02	37.2	
18	0	583.01*	481	166	1.30	1164.81	1159	14	6.68E-02	7.4	
19	0	609.22*	537	140	1.72	1217.22	1211	11	7.46E-02	6.3	
20	0	727.18*	104	108	1.33	1453.09	1448	11	1.45E-02	22.3	
21	0	767.25*	102	110	1.55	1533.20	1524	17	1.42E-02	25.9	
22	0	910.84*	356	106	1.65	1820.32	1811	17	4.95E-02	8.7	
23	4	964.01	90	48	3.09	1926.65	1919	26	1.25E-02	21.6	2.53E+00
24	4	968.73*	218	48	2.15	1936.08	1919	26	3.03E-02	9.7	
25	0	1119.79*	163	98	1.85	2238.15	2230	15	2.26E-02	15.6	
26	0	1377.61	34	16	0.99	2753.72	2749	9	4.75E-03	27.0	
27	0	1460.11*	2154	44	2.22	2918.70	2907	21	2.99E-01	2.3	
28	0	1728.87	36	9	2.31	3456.19	3449	12	5.05E-03	23.3	
29	0	1763.79*	109	13	2.22	3526.02	3516	17	1.52E-02	12.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 14:18:19

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:17:41
Sample ID         : G245978010 Sample quantity : 165.20 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.67 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated : Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.423E+01	2.149E+00	2.937E-01	2.229E-02	82.500
NB-95	+	765.79	*	8.863E-02	4.664E-02	4.073E-02	3.725E-03	2.176
CD-109	+	88.03	*	1.946E+00	7.106E-01	1.090E+00	1.008E-01	1.785
SN-126	+	64.28		1.142E+00	7.117E-01	6.554E-01	9.688E-02	1.743
	+	86.94		7.917E-01	4.314E-01	4.253E-01	1.764E-01	1.861
	+	87.57	*	1.904E-01	6.954E-02	1.038E-01	9.564E-03	1.835
RE-188	+	155.03	*	2.285E-01	1.638E-01	1.956E-01	1.047E-02	1.168
		477.96		-1.126E+00	1.982E+00	3.157E+00	2.012E-01	-0.357
		633.10		6.400E-01	1.815E+00	2.991E+00	2.224E-01	0.214
TL-208		277.35		1.860E-01	2.385E-01	4.010E-01	4.212E-02	0.464
	+	510.84		2.728E-01	2.053E-01	1.465E-01	1.558E-02	1.862
	+	583.14	*	3.298E-01	5.543E-02	3.376E-02	2.647E-03	9.768
		860.37		6.082E-01	2.076E-01	3.805E-01	4.256E-02	1.598
BI-211		72.87		-1.413E+00	2.634E+00	3.810E+00	3.146E-01	-0.371
	+	351.07	*	2.530E+00	3.380E-01	1.967E-01	1.263E-02	12.860
PB-212	+	74.81		1.311E+00	3.958E-01	4.235E-01	5.308E-02	3.096
	+	77.11		1.105E+00	2.134E-01	2.369E-01	2.008E-02	4.662
	+	87.30		8.808E-01	3.335E-01	4.819E-01	6.545E-02	1.828
	+	238.63	*	9.954E-01	9.896E-02	5.737E-02	4.098E-03	17.351
	+	300.09		7.823E-01	5.516E-01	7.726E-01	6.344E-02	1.013
PO-212	+	74.81		1.311E+00	3.958E-01	4.235E-01	5.308E-02	3.096
	+	77.11		1.105E+00	2.134E-01	2.369E-01	2.008E-02	4.662
	+	87.30		8.808E-01	3.335E-01	4.819E-01	6.545E-02	1.828
	+	115.19		7.346E-01	2.471E+00	4.027E+00	2.537E-01	0.182
	+	238.63	*	9.954E-01	9.896E-02	5.737E-02	4.098E-03	17.351
	+	300.09		7.823E-01	5.516E-01	7.726E-01	6.344E-02	1.013
BI-214	+	609.31	*	6.911E-01	1.063E-01	6.698E-02	5.984E-03	10.317
	+	1120.29		1.050E+00	3.436E-01	3.054E-01	2.924E-02	3.438
	+	1764.49		9.271E-01	2.432E-01	1.822E-01	1.108E-02	5.089
PB-214	+	74.81		2.259E+00	6.697E-01	7.297E-01	8.146E-02	3.096
	+	77.11		1.893E+00	3.932E-01	4.062E-01	4.629E-02	4.662
	+	87.30		1.509E+00	5.631E-01	8.255E-01	9.903E-02	1.828
	+	241.98		1.385E+00	4.370E-01	3.448E-01	2.727E-02	4.018
	+	295.21		9.366E-01	1.686E-01	1.361E-01	1.155E-02	6.881

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	8.800E-01	1.262E-01	6.855E-02	5.671E-03	12.836
	+	74.81		2.259E+00	6.697E-01	7.297E-01	8.146E-02	3.096
	+	77.11		1.893E+00	3.932E-01	4.062E-01	4.629E-02	4.662
	+	87.30		1.509E+00	5.631E-01	8.255E-01	9.903E-02	1.828
	+	241.98		1.385E+00	4.370E-01	3.448E-01	2.727E-02	4.018
	+	295.21		9.366E-01	1.686E-01	1.361E-01	1.155E-02	6.881
PO-216	+	351.92	*	8.800E-01	1.262E-01	6.855E-02	5.671E-03	12.836
	+	74.81		1.311E+00	3.958E-01	4.235E-01	5.308E-02	3.096
	+	77.11		1.105E+00	2.134E-01	2.369E-01	2.008E-02	4.662
	+	87.30		8.808E-01	3.335E-01	4.819E-01	6.545E-02	1.828
	+	238.63	*	9.954E-01	9.896E-02	5.737E-02	4.098E-03	17.351
	+	300.09		7.823E-01	5.516E-01	7.726E-01	6.344E-02	1.013
PO-218	+	74.81		2.259E+00	6.697E-01	7.297E-01	8.146E-02	3.096
	+	77.11		1.893E+00	3.932E-01	4.062E-01	4.629E-02	4.662
	+	87.30		1.509E+00	5.631E-01	8.255E-01	9.903E-02	1.828
	+	241.98		1.385E+00	4.370E-01	3.448E-01	2.727E-02	4.018
	+	295.21		9.366E-01	1.686E-01	1.361E-01	1.155E-02	6.881
	+	351.92	*	8.800E-01	1.262E-01	6.855E-02	5.671E-03	12.836
RA-224	+	240.98	*	2.627E+00	8.155E-01	6.520E-01	3.632E-02	4.029
RA-226	+	609.31	*	6.911E-01	1.063E-01	6.698E-02	5.984E-03	10.317
	+	1120.29		1.050E+00	3.436E-01	3.054E-01	2.924E-02	3.438
	+	1764.49		9.271E-01	2.432E-01	1.822E-01	1.108E-02	5.089
AC-228	+	338.32		8.301E-01	4.341E-01	2.436E-01	9.929E-02	3.408
	+	911.07	*	1.051E+00	2.291E-01	1.345E-01	1.782E-02	7.815
	+	969.11		1.130E+00	3.479E-01	2.353E-01	5.634E-02	4.803
RA-228	+	338.32		8.301E-01	4.341E-01	2.436E-01	9.929E-02	3.408
	+	911.07	*	1.051E+00	2.291E-01	1.345E-01	1.782E-02	7.815
	+	969.11		1.130E+00	3.479E-01	2.353E-01	5.634E-02	4.803
TH-228	+	74.81		1.335E+00	3.834E-01	4.312E-01	3.633E-02	3.096
	+	77.11		1.125E+00	2.172E-01	2.412E-01	2.045E-02	4.662
	+	87.30		8.967E-01	3.275E-01	4.906E-01	4.509E-02	1.828
	+	238.63	*	1.013E+00	1.008E-01	5.841E-02	4.172E-03	17.351
	+	300.09		7.964E-01	7.290E-01	7.866E-01	4.636E-01	1.013
	+	609.31	*	6.911E-01	1.063E-01	6.698E-02	5.983E-03	10.317
TH-230	+	1120.29		1.050E+00	3.436E-01	3.054E-01	2.924E-02	3.438
	+	1764.49		9.271E-01	2.432E-01	1.822E-01	1.108E-02	5.089
	+	338.32		8.301E-01	2.762E-01	2.436E-01	1.409E-02	3.408
TH-232	+	911.07	*	1.051E+00	2.291E-01	1.345E-01	1.782E-02	7.815
	+	969.11		1.130E+00	3.479E-01	2.353E-01	5.634E-02	4.803
	+	63.29	*	2.885E+00	1.819E+00	1.663E+00	2.933E-01	1.735
TH-234	+	92.38		2.524E+00	8.127E-01	6.182E-01	1.114E-01	4.083
	+	609.31	*	6.911E-01	1.063E-01	6.698E-02	5.983E-03	10.317
	+	1120.29		1.050E+00	3.436E-01	3.054E-01	2.924E-02	3.438
NP-237	+	1764.49		9.271E-01	2.432E-01	1.822E-01	1.108E-02	5.089
	+	86.50	*	5.592E-01	2.346E-01	2.898E-01	6.538E-02	1.930
	+	95.87		-5.335E-01	7.748E-01	1.072E+00	2.618E-01	-0.498
U-238	+	63.29	*	2.885E+00	1.819E+00	1.663E+00	2.933E-01	1.735
	+	92.38		2.524E+00	7.067E-01	6.182E-01	5.254E-02	4.083
	+	74.67	*	2.126E-01	6.101E-02	6.893E-02	5.752E-03	3.084

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		2.097E+01	7.658E+00	1.130E+01	1.033E+00	1.855
		117.66		-7.283E-01	2.672E+00	4.249E+00	2.613E-01	-0.171
		142.18		7.677E-01	1.224E+01	1.930E+01	1.063E+00	0.040
ANH-511	+	511.00	*	5.893E-02	4.406E-02	3.165E-02	2.090E-03	1.862

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-2.370E-02	2.042E-01	3.344E-01	2.423E-02	-0.071
NA-22		1274.54	*	-2.703E-02	3.023E-02	4.619E-02	3.143E-03	-0.585
NA-24		1368.53	*	-7.317E-01	3.023E-02	Half-Life	too short	
AL-26		1129.67		-2.536E-01	1.048E+00	1.676E+00	1.119E-01	-0.151
		1808.65	*	7.630E-03	1.763E-02	3.079E-02	1.798E-03	0.248
TI-44		67.85		-7.275E-02	4.180E-02	5.652E-02	4.545E-03	-1.287
	+	78.38	*	2.038E-01	3.938E-02	5.606E-02	4.793E-03	3.636
SC-46		889.25	*	-1.552E-02	2.643E-02	4.122E-02	4.598E-03	-0.377
	+	1120.51		1.841E-01	5.899E-02	8.283E-02	5.723E-03	2.223
V-48		944.10		-2.389E-01	6.652E-01	1.051E+00	1.112E-01	-0.227
		983.50	*	-8.830E-04	5.386E-02	8.709E-02	8.614E-03	-0.010
		1312.09		2.721E-02	5.760E-02	9.810E-02	7.145E-03	0.277
CR-51		320.08	*	-9.812E-02	2.563E-01	4.041E-01	2.602E-02	-0.243
MN-52		744.21		5.037E-02	2.037E-01	3.440E-01	3.033E-02	0.146
		848.13		-1.655E+00	6.099E+00	9.810E+00	1.026E+00	-0.169
		935.52		4.363E-01	2.533E-01	4.516E-01	4.844E-02	0.966
		1246.25		5.905E+00	6.905E+00	1.199E+01	7.711E-01	0.492
		1333.61		-3.695E+00	5.160E+00	7.777E+00	5.875E-01	-0.475
		1434.06	*	2.522E-01	2.060E-01	3.768E-01	2.777E-02	0.669
MN-54		834.83	*	2.296E-02	2.345E-02	4.083E-02	4.183E-03	0.562
CO-56		846.75	*	6.547E-03	2.558E-02	4.274E-02	4.462E-03	0.153
		977.42		-4.433E-01	2.224E+00	3.145E+00	3.146E-01	-0.141
		1037.82		3.207E-02	2.036E-01	3.444E-01	3.191E-02	0.093
		1175.09		1.138E-01	1.502E+00	2.499E+00	1.387E-01	0.046
		1238.25		8.310E-02	5.890E-02	1.048E-01	6.984E-03	0.793
		1360.21		9.996E-02	6.077E-01	1.009E+00	7.579E-02	0.099
		1771.40		-9.163E-01	2.344E-01	1.989E-01	1.202E-02	-4.607
CO-57		122.06	*	-1.102E-02	1.867E-02	2.922E-02	1.731E-03	-0.377
		136.48		1.347E-02	1.419E-01	2.268E-01	1.485E-02	0.059
CO-58		810.76	*	9.692E-03	2.369E-02	4.019E-02	3.968E-03	0.241
FE-59		142.65		1.503E+00	1.981E+00	3.211E+00	1.767E-01	0.468
		192.34		1.336E-01	6.316E-01	1.031E+00	1.196E-01	0.130
		1099.22	*	-9.063E-02	6.068E-02	8.896E-02	7.322E-03	-1.019
		1291.56		7.915E-02	8.762E-02	1.530E-01	1.286E-02	0.517
CO-60		1173.22		2.511E-03	2.938E-02	4.890E-02	2.703E-03	0.051
		1332.49	*	-7.955E-04	2.670E-02	4.353E-02	3.289E-03	-0.018
ZN-65		1115.52	*	9.625E-02	6.605E-02	1.066E-01	7.506E-03	0.903
GE-68		1077.35	*	2.441E-01	7.741E-01	1.320E+00	1.049E-01	0.185
AS-73		53.44	*	2.352E-01	8.427E-01	1.432E+00	1.135E-01	0.164
AS-74		595.88	*	-5.370E-02	6.382E-02	9.678E-02	6.953E-03	-0.555

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75	634.78			1.709E-01	2.499E-01	4.205E-01	3.130E-02	0.407
	66.05			1.203E+00	4.151E+00	6.269E+00	6.209E-01	0.192
	96.73			-4.051E-01	6.235E-01	8.724E-01	1.151E-01	-0.464
	121.11			1.775E-02	9.959E-02	1.610E-01	1.503E-02	0.110
	136.00			-2.095E-03	2.696E-02	4.281E-02	2.438E-03	-0.049
	198.60			-3.434E-01	1.221E+00	1.979E+00	1.343E-01	-0.174
	264.65	*		-1.407E-02	3.032E-02	4.457E-02	2.549E-03	-0.316
	279.53			-2.094E-02	7.170E-02	1.151E-01	7.112E-03	-0.182
	303.91			7.319E-01	1.464E+00	2.143E+00	2.039E-01	0.341
	400.65			2.151E-02	1.544E-01	2.602E-01	2.370E-02	0.083
BR-77	87.88		+	9.740E+02	3.557E+02	5.629E+02	5.201E+01	1.730
	200.40			1.153E+02	2.502E+02	4.243E+02	2.286E+01	0.272
	239.00		+	3.719E+02	3.300E+01	5.374E+01	2.990E+00	6.920
	249.79			-5.949E+01	9.540E+01	1.519E+02	8.514E+00	-0.392
	281.68			-4.539E+01	1.355E+02	2.169E+02	1.238E+01	-0.209
	297.23			5.030E+02	1.297E+02	1.790E+02	1.028E+01	2.810
	303.76			1.370E+02	2.850E+02	4.169E+02	2.398E+01	0.329
	439.47			1.126E+02	2.014E+02	3.446E+02	2.101E+01	0.327
	484.57			-1.026E+02	3.239E+02	5.232E+02	3.358E+01	-0.196
	520.65	*		5.792E+00	1.412E+01	2.373E+01	1.583E+00	0.244
SR-82	574.64			-3.672E+02	2.961E+02	4.375E+02	3.081E+01	-0.839
	578.91			6.551E+01	1.410E+02	2.057E+02	1.454E+01	0.318
	585.48			2.512E+03	3.992E+02	7.048E+02	5.014E+01	3.564
	755.35			5.497E+01	2.311E+02	3.894E+02	3.500E+01	0.141
	817.79			-4.064E+01	1.837E+02	2.974E+02	2.964E+01	-0.137
	698.33			-1.074E+01	2.389E+01	3.884E+01	3.162E+00	-0.276
	776.49	*		-6.298E-02	2.579E-01	4.100E-01	3.818E-02	-0.154
	1395.20			-2.675E+00	7.067E+00	1.101E+01	8.202E-01	-0.243
	520.41	*		1.877E-02	4.118E-02	6.941E-02	4.629E-03	0.270
	529.64			-2.536E-02	6.552E-02	1.044E-01	7.028E-03	-0.243
RB-83	552.65			-2.264E-02	1.230E-01	1.978E-01	1.363E-02	-0.114
	881.50	*		-9.225E-03	4.921E-02	7.940E-02	8.751E-03	-0.116
RB-84	513.99	*		1.870E+01	5.523E+00	9.453E+00	6.263E-01	1.979
KR-85	513.99	*		9.887E-02	2.919E-02	4.997E-02	3.310E-03	1.979
SR-85	1076.63	*		6.120E-03	5.387E-01	8.994E-01	7.160E-02	0.007
RB-86	898.02			1.802E-03	2.749E-02	4.510E-02	5.113E-03	0.040
Y-88	1836.01	*		-2.120E-02	2.084E-02	2.839E-02	1.617E-03	-0.747
ZR-88	392.90	*		-5.523E-03	1.864E-02	3.074E-02	1.768E-03	-0.180
Y-91	1204.90	*		1.874E+00	1.252E+01	2.088E+01	1.235E+00	0.090
NB-94	702.63	*		4.357E-03	2.062E-02	3.486E-02	2.860E-03	0.125
NB-95M	871.10			-3.735E-03	2.159E-02	3.489E-02	3.784E-03	-0.107
	235.69	*		5.523E-02	8.751E-02	1.311E-01	9.620E-03	0.421
ZR-95	724.18			1.362E-01	7.054E-02	1.155E-01	1.071E-02	1.179
NB-97	756.15	*		-5.381E-03	4.463E-02	7.342E-02	7.224E-03	-0.073
	657.90	*		-5.912E-01	4.463E-02	Half-Life	too short	
ZR-97	1024.50			3.856E+01	4.463E-02	Half-Life	too short	
	254.15			-2.121E+01	4.463E-02	Half-Life	too short	
	355.39			-1.888E+01	4.463E-02	Half-Life	too short	
	507.63	*		4.836E+01	4.463E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	602.52		-7.393E+01	4.463E-02	Half-Life	too short	
	1021.30		-4.769E+00	4.463E-02	Half-Life	too short	
	1147.95		2.281E+01	4.463E-02	Half-Life	too short	
	1362.66		-3.778E+01	4.463E-02	Half-Life	too short	
	1750.46		3.548E+01	4.463E-02	Half-Life	too short	
MO-99	140.51		-4.611E+01	4.165E+01	5.980E+01	1.608E+01	-0.771
	181.06		-1.259E+00	2.442E+01	3.605E+01	6.121E+00	-0.035
	366.43		-2.162E+01	1.020E+02	1.700E+02	9.819E+00	-0.127
	739.58	*	-1.295E+00	1.414E+01	2.335E+01	3.562E+00	-0.055
	778.00		-1.313E+01	4.304E+01	6.967E+01	6.505E+00	-0.188
TC-99M	140.51	*	-9.642E+13	4.304E+01	Half-Life	too short	
RH-101	127.23		-3.286E-02	2.353E-02	3.543E-02	2.047E-03	-0.927
	198.01	*	-8.970E-03	2.210E-02	3.567E-02	1.917E-03	-0.251
	325.23		-2.066E-01	1.485E-01	2.208E-01	1.276E-02	-0.936
RH-102	418.52		-2.307E-02	1.740E-01	2.880E-01	1.711E-02	-0.080
	475.06	*	1.194E-02	1.788E-02	3.062E-02	1.945E-03	0.390
	631.29		3.261E-02	3.337E-02	5.724E-02	4.248E-02	0.570
	697.49		1.993E-03	4.917E-02	8.232E-02	6.692E-03	0.024
	+ 766.84		2.165E-01	1.139E-01	1.303E-01	1.194E-02	1.662
	1046.59		-1.675E-02	7.403E-02	1.219E-01	1.051E-02	-0.137
	1112.84		1.231E-02	1.622E-01	2.327E-01	1.652E-02	0.053
RU-103	497.08	*	7.835E-04	2.504E-02	4.124E-02	5.354E-03	0.019
	+ 610.33		7.853E+00	1.597E+00	1.821E+00	2.920E-01	4.312
RH-106	+ 511.85		2.960E-01	2.213E-01	2.779E-01	1.837E-02	1.065
	621.84	*	1.843E-01	1.956E-01	3.335E-01	4.196E-02	0.553
	1050.47		1.319E+00	1.458E+00	2.582E+00	2.206E-01	0.511
RU-106	+ 511.85		2.960E-01	2.213E-01	2.779E-01	1.837E-02	1.065
	621.84	*	1.843E-01	1.947E-01	3.335E-01	2.454E-02	0.553
	1050.47		1.319E+00	1.458E+00	2.582E+00	2.206E-01	0.511
AG-108M	433.93	*	-6.782E-03	1.960E-02	3.193E-02	2.086E-03	-0.212
	614.37		6.417E-03	2.716E-02	3.863E-02	2.976E-03	0.166
	722.95		1.040E-02	2.880E-02	4.265E-02	3.772E-03	0.244
AG-110M	657.75	*	-1.278E-02	2.190E-02	3.543E-02	2.795E-03	-0.361
	677.61		1.902E-01	1.911E-01	3.380E-01	2.742E-02	0.563
	706.67		4.167E-02	1.252E-01	2.131E-01	1.814E-02	0.196
	763.93		1.121E-01	1.116E-01	1.736E-01	1.623E-02	0.646
	884.67		2.396E-03	3.203E-02	5.266E-02	5.946E-03	0.046
	937.48		-5.848E-02	7.561E-02	1.155E-01	1.265E-02	-0.506
	1384.27		5.252E-02	1.098E-01	1.685E-01	1.306E-02	0.312
IN-111	171.28		1.101E+00	1.307E+00	2.268E+00	1.193E-01	0.486
	245.39	*	5.711E-01	1.454E+00	2.150E+00	1.202E-01	0.266
IN-113M	391.69	*	-1.799E-02	2.743E-02	4.435E-02	2.721E-03	-0.406
SN-113	391.69	*	-1.799E-02	2.743E-02	4.435E-02	2.721E-03	-0.406
IN-114M	190.27	*	-1.852E-02	1.304E-01	1.907E-01	1.018E-02	-0.097
CD-115	260.90		-1.183E-04	1.304E-01	Half-Life	too short	
	492.35		-1.806E-05	1.304E-01	Half-Life	too short	
	527.90	*	5.500E-06	1.304E-01	Half-Life	too short	
SN-117M	156.02		8.083E-01	1.977E+00	3.019E+00	1.612E-01	0.268
	158.56	*	4.861E-02	4.563E-02	7.178E-02	3.815E-03	0.677

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		8.039E-01	2.530E+00	4.201E+00	2.928E-01	0.191
	692.80			2.752E+01	5.720E+01	9.824E+01	7.920E+00	0.280
I-123	159.00	*		1.070E+02	5.720E+01	Half-Life	too short	
	528.96			-8.332E+02	5.720E+01	Half-Life	too short	
TE-123M	159.00	*		1.372E-02	2.099E-02	3.240E-02	1.748E-03	0.423
I-124	602.71	*		-4.276E-01	7.972E-01	1.053E+00	7.614E-02	-0.406
	722.78			1.092E+00	4.822E+00	7.060E+00	6.000E-01	0.155
	1325.50			-8.726E+00	3.667E+01	5.871E+01	4.381E+00	-0.149
+	1376.25			4.849E+01	2.645E+01	5.399E+01	4.043E+00	0.898
	1509.49			1.408E+01	1.514E+01	2.757E+01	1.975E+00	0.511
	1691.02			-5.146E-01	2.896E+00	4.631E+00	2.987E-01	-0.111
SB-124	602.71			-1.590E-02	2.964E-02	3.915E-02	2.831E-03	-0.406
	645.85			3.609E-02	3.251E-01	5.263E-01	4.266E-02	0.069
	709.31			-3.116E-02	1.701E+00	2.834E+00	2.352E-01	-0.011
	713.82			-5.294E-01	1.006E+00	1.615E+00	1.915E-01	-0.328
	722.78			5.884E-02	2.599E-01	3.805E-01	3.305E-02	0.155
+	968.20			1.203E+01	2.628E+00	4.368E+00	4.442E-01	2.753
	1045.16			1.016E-01	1.605E+00	2.697E+00	2.336E-01	0.038
	1325.50			-5.023E-01	2.111E+00	3.379E+00	2.522E-01	-0.149
	1368.21			-1.726E-01	1.098E+00	1.724E+00	2.205E-01	-0.100
	1436.60			-1.982E+00	2.497E+00	3.682E+00	2.711E-01	-0.538
	1691.02	*		-6.542E-03	3.682E-02	5.887E-02	4.062E-03	-0.111
SB-125	427.89	*		1.778E-03	5.390E-02	8.986E-02	5.615E-03	0.020
+	463.38			5.276E-01	2.733E-01	3.218E-01	2.307E-02	1.639
	600.56			-9.236E-02	1.174E-01	1.768E-01	1.409E-02	-0.522
	635.90			-1.186E-02	1.725E-01	2.761E-01	2.277E-02	-0.043
TE-125M	109.28	*		2.453E+00	6.802E+00	1.114E+01	9.806E-01	0.220
I-126	388.63			7.714E-02	1.454E-01	2.502E-01	1.438E-02	0.308
	666.33	*		-1.511E-01	1.340E-01	2.088E-01	1.605E-02	-0.724
	753.82			-3.080E-01	1.051E+00	1.709E+00	1.532E-01	-0.180
SB-126	223.80			-1.499E+00	3.120E+00	5.064E+00	2.783E-01	-0.296
	278.60			4.393E-01	1.872E+00	3.081E+00	1.756E-01	0.143
+	296.50			1.096E+01	1.850E+00	2.717E+00	1.559E-01	4.035
	414.70			-1.669E-02	5.209E-02	8.535E-02	5.048E-03	-0.195
	415.30			-7.879E-01	4.285E+00	7.074E+00	4.187E-01	-0.111
	555.20			-1.914E-01	2.728E+00	4.420E+00	3.054E-01	-0.043
	573.80			-2.967E-01	7.305E-01	1.153E+00	8.109E-02	-0.257
	593.00			3.412E-01	6.282E-01	1.055E+00	7.563E-02	0.323
	656.30			-2.885E+00	2.389E+00	3.687E+00	2.797E-01	-0.783
	666.33			-6.357E-02	5.639E-02	8.784E-02	6.753E-03	-0.724
	675.00			-1.532E-01	1.448E+00	2.410E+00	1.882E-01	-0.064
	695.00			6.416E-02	5.846E-02	1.033E-01	8.365E-03	0.621
	697.00			5.671E-02	2.017E-01	3.422E-01	2.780E-02	0.166
	720.50	*		9.468E-03	1.129E-01	1.699E-01	1.438E-02	0.056
	856.80			-3.006E-01	3.898E-01	6.053E-01	6.419E-02	-0.497
	989.30			5.172E-01	9.774E-01	1.643E+00	1.607E-01	0.315
	1034.80			1.655E+00	6.793E+00	1.115E+01	9.900E-01	0.148
	1213.00			3.664E+00	3.782E+00	6.595E+00	3.965E-01	0.556
SB-127	61.10			-6.763E+01	8.950E+01	1.287E+02	1.472E+01	-0.525

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	252.40			1.198E+00	4.557E+00	7.524E+00	3.143E+00	0.159
	290.80			-1.244E+01	2.602E+01	3.566E+01	3.638E+00	-0.349
	411.60			4.614E+00	1.192E+01	2.029E+01	3.068E+00	0.227
	444.90			-1.346E+00	9.937E+00	1.635E+01	1.945E+00	-0.082
	473.00			-2.444E-01	1.738E+00	2.844E+00	3.511E-01	-0.086
	543.00			-6.498E+00	1.567E+01	2.475E+01	3.505E+00	-0.263
	603.60			-1.156E+01	1.515E+01	1.956E+01	2.439E+00	-0.591
	685.20	*		9.360E-01	1.322E+00	2.305E+00	2.723E-01	0.406
	698.50			-8.285E+00	1.653E+01	2.671E+01	4.334E+00	-0.310
	722.20			1.136E+01	3.374E+01	4.990E+01	5.975E+00	0.228
	783.80			4.033E+00	3.698E+00	6.480E+00	8.927E-01	0.622
XE-127	57.60			7.885E-01	5.781E+00	9.735E+00	7.503E-01	0.081
	145.22			2.921E-02	5.066E-01	8.052E-01	4.402E-02	0.036
	172.10			9.213E-03	8.120E-02	1.374E-01	7.234E-03	0.067
	202.84	*		-7.737E-03	3.300E-02	5.453E-02	2.943E-03	-0.142
	374.96			1.127E-01	1.186E-01	2.092E-01	1.206E-02	0.539
I-131	80.18			-2.926E+00	4.836E+00	6.917E+00	6.046E-01	-0.423
	284.30			2.809E-02	1.261E+00	2.053E+00	1.314E-01	0.014
	364.48	*		2.935E-03	8.568E-02	1.447E-01	9.382E-03	0.020
	636.97			-1.167E+00	1.295E+00	1.946E+00	1.564E-01	-0.600
	722.89			1.948E+00	6.206E+00	9.156E+00	7.855E-01	0.213
TE-132	49.72			-5.505E+00	3.867E+01	6.491E+01	7.179E+00	-0.085
	111.76			-5.226E+00	3.878E+01	6.224E+01	6.357E+00	-0.084
	116.30			-2.597E+00	3.595E+01	5.769E+01	5.786E+00	-0.045
	228.16	*		4.016E-01	8.652E-01	1.452E+00	2.161E-01	0.276
BA-133	53.15			7.932E-01	3.573E+00	6.058E+00	4.807E-01	0.131
	79.62			-1.121E+00	1.093E+00	1.516E+00	2.309E-01	-0.739
	81.00			2.836E-02	7.777E-02	1.162E-01	1.851E-02	0.244
	276.40			1.009E-01	2.370E-01	3.931E-01	5.077E-02	0.257
	302.84			8.514E-02	9.895E-02	1.479E-01	1.720E-02	0.576
	356.01	*		-2.838E-03	2.917E-02	4.023E-02	4.648E-03	-0.071
	383.85			6.525E-02	1.787E-01	3.054E-01	3.313E-02	0.214
I-133	510.53	+		6.075E+00	1.787E-01	Half-Life	too short	
	529.87	*		-1.593E-02	1.787E-01	Half-Life	too short	
	706.58			8.576E-01	1.787E-01	Half-Life	too short	
	856.28			-5.324E+00	1.787E-01	Half-Life	too short	
	875.33			5.505E-01	1.787E-01	Half-Life	too short	
	1236.41			4.645E+00	1.787E-01	Half-Life	too short	
	1298.22			-2.233E-01	1.787E-01	Half-Life	too short	
CS-134	475.35			1.161E+00	1.161E+00	2.023E+00	1.285E-01	0.574
	563.23			2.755E-02	2.114E-01	3.468E-01	2.450E-02	0.079
	569.32			8.939E-02	1.212E-01	2.020E-01	1.444E-02	0.443
	604.70			-4.758E-03	2.533E-02	3.464E-02	2.518E-03	-0.137
	795.84	*		3.743E-02	3.163E-02	5.408E-02	5.231E-03	0.692
	801.93			-5.410E-02	2.531E-01	4.086E-01	3.986E-02	-0.132
	1038.57			6.666E-01	2.399E+00	4.094E+00	3.602E-01	0.163
	1167.94			9.729E-01	1.669E+00	2.866E+00	1.625E-01	0.339
	1365.15			-5.437E-02	7.198E-01	1.164E+00	9.262E-02	-0.047
CS-135	268.24	*		1.784E-01	1.146E-01	1.785E-01	1.349E-02	1.000

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135	288.45			-7.954E+11	1.146E-01	Half-Life	too short	
	417.63			-8.824E+12	1.146E-01	Half-Life	too short	
	546.56			-1.096E+12	1.146E-01	Half-Life	too short	
	836.80			1.917E+13	1.146E-01	Half-Life	too short	
	1038.76			-3.295E+12	1.146E-01	Half-Life	too short	
	1124.00			7.495E+13	1.146E-01	Half-Life	too short	
	1131.51			-1.196E+12	1.146E-01	Half-Life	too short	
	1260.41	*		-3.866E+12	1.146E-01	Half-Life	too short	
	1457.56			1.388E+15	1.146E-01	Half-Life	too short	
	1678.03			-4.474E+12	1.146E-01	Half-Life	too short	
	1706.46			-8.581E+12	1.146E-01	Half-Life	too short	
	1791.20			-4.752E+12	1.146E-01	Half-Life	too short	
	66.91			-6.056E-01	8.016E-01	1.144E+00	1.727E-01	-0.530
CS-136	+	86.29		2.895E+00	1.092E+00	1.672E+00	2.205E-01	1.731
	+	153.22		9.928E-01	7.129E-01	8.668E-01	5.970E-02	1.145
		163.89		3.784E-01	8.185E-01	1.388E+00	9.487E-02	0.273
		176.55		-6.635E-03	2.691E-01	4.523E-01	2.743E-02	-0.015
		273.65		-3.330E-01	3.879E-01	5.222E-01	3.404E-02	-0.638
		340.57		3.302E-01	1.152E-01	1.872E-01	1.153E-02	1.764
		818.51		1.601E-02	4.987E-02	8.410E-02	8.400E-03	0.190
		1048.07	*	1.219E-02	8.006E-02	1.353E-01	1.213E-02	0.090
		1235.34		4.812E-01	4.417E-01	7.710E-01	7.929E-02	0.624
		661.65	*	2.842E-02	2.304E-02	4.109E-02	3.132E-03	0.692
BA-137M		661.65	*	3.004E-02	2.435E-02	4.344E-02	3.319E-03	0.692
CE-139		165.85	*	2.382E-03	1.929E-02	3.273E-02	1.718E-03	0.073
BA-140		162.64		-2.838E-01	5.789E-01	9.495E-01	5.756E-02	-0.299
		304.84		2.766E-01	1.046E+00	1.503E+00	4.099E-01	0.184
LA-140		423.70		-2.344E-01	1.332E+00	2.194E+00	6.979E-01	-0.107
		537.32	*	3.288E-02	1.743E-01	2.877E-01	9.410E-02	0.114
		328.77		3.773E-01	2.246E-01	3.884E-01	2.516E-02	0.971
		432.53		1.676E-01	1.419E+00	2.376E+00	1.575E-01	0.071
		487.03		4.114E-02	9.624E-02	1.625E-01	1.159E-02	0.253
		751.79		5.742E-01	1.216E+00	2.078E+00	2.042E-01	0.276
		815.85		-4.467E-02	2.156E-01	3.492E-01	3.775E-02	-0.128
		867.82		-6.866E-01	1.020E+00	1.581E+00	1.764E-01	-0.434
		919.63		5.319E-01	2.268E+00	3.588E+00	4.532E-01	0.148
		925.24		-5.003E-01	8.523E-01	1.321E+00	1.496E-01	-0.379
		1596.49	*	-1.960E-02	5.675E-02	9.025E-02	6.191E-03	-0.217
		145.44	*	8.301E-04	4.621E-02	7.332E-02	4.186E-03	0.011
CE-141		57.37		1.973E-03	4.621E-02	Half-Life	too short	
CE-143		231.56		-3.014E-03	4.621E-02	Half-Life	too short	
		293.26	*	2.182E-03	4.621E-02	Half-Life	too short	
	+	350.59		8.631E-02	4.621E-02	Half-Life	too short	
		490.36		-3.020E-03	4.621E-02	Half-Life	too short	
		664.57		-3.442E-04	4.621E-02	Half-Life	too short	
CE-144		721.93		1.432E-03	4.621E-02	Half-Life	too short	
		80.11		-1.102E+00	1.746E+00	2.495E+00	2.160E-01	-0.442
PM-144		133.54	*	-3.969E-02	1.378E-01	2.169E-01	3.067E-02	-0.183
		476.78		9.573E-03	4.170E-02	6.970E-02	5.173E-03	0.137

---- Non-Identified Nuclides ----

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		618.01		6.708E-04	2.043E-02	3.302E-02	2.514E-03	0.020
		696.49	*	4.621E-03	2.229E-02	3.767E-02	3.059E-03	0.123
		778.57		-6.742E-01	1.415E+00	2.262E+00	2.115E-01	-0.298
PR-144		696.49	*	3.136E-01	1.513E+00	2.557E+00	2.075E-01	0.123
		1489.15		-6.031E+00	6.972E+00	9.903E+00	7.155E-01	-0.609
PM-146		453.90	*	-8.157E-04	2.539E-02	4.197E-02	3.734E-03	-0.019
		633.02		5.042E-01	8.812E-01	1.442E+00	5.352E-01	0.350
		735.90		-3.182E-03	8.701E-02	1.443E-01	4.130E-02	-0.022
		747.13		-3.567E-02	5.535E-02	8.741E-02	1.240E-02	-0.408
ND-147		91.11		6.758E-01	3.694E-01	4.657E-01	4.381E-02	1.451
		319.41		-8.752E-01	2.551E+00	4.032E+00	2.329E-01	-0.217
		439.89		1.329E+00	4.239E+00	7.160E+00	4.370E-01	0.186
		531.02	*	-1.129E-01	4.138E-01	6.639E-01	9.264E-02	-0.170
PM-149		285.90	*	-4.635E-06	4.138E-01	Half-Life too short		
EU-152		121.78		-5.531E-03	5.324E-02	8.507E-02	6.556E-03	-0.065
		244.69		1.033E-01	2.276E-01	3.376E-01	1.886E-02	0.306
		344.27	*	-2.403E-02	7.432E-02	9.337E-02	6.093E-03	-0.257
		443.98		1.739E-02	5.753E-01	9.563E-01	5.861E-02	0.018
		778.89		-5.554E-02	1.625E-01	2.623E-01	2.453E-02	-0.212
		867.32		-6.520E-01	5.347E-01	7.873E-01	8.488E-02	-0.828
	+	964.01		5.387E-01	2.391E-01	3.551E-01	3.637E-02	1.517
		1085.78		-3.748E-02	2.653E-01	4.379E-01	3.393E-02	-0.086
		1112.02		-3.973E-02	2.320E-01	3.242E-01	2.308E-02	-0.123
		1407.95		1.374E-01	1.190E-01	2.139E-01	1.589E-02	0.642
GD-153		69.67		1.132E-01	1.341E+00	2.130E+00	1.729E-01	0.053
		83.37		9.386E+00	1.192E+01	1.797E+01	1.596E+00	0.522
		97.43	*	-9.159E-03	6.344E-02	9.148E-02	7.153E-03	-0.100
		103.18		-6.391E-03	7.654E-02	1.237E-01	8.924E-03	-0.052
EU-154		123.07		1.163E-02	3.779E-02	6.133E-02	5.800E-03	0.190
		247.94		-6.572E-02	2.421E-01	3.624E-01	3.414E-02	-0.181
		591.81		-7.207E-02	3.728E-01	5.781E-01	6.149E-02	-0.125
		723.30		7.219E-02	1.231E-01	1.855E-01	1.748E-02	0.389
		756.87		2.429E-02	4.662E-01	7.594E-01	9.310E-02	0.032
		873.19		-9.712E-03	1.926E-01	3.142E-01	4.376E-02	-0.031
		996.32		-2.496E-01	2.567E-01	3.780E-01	6.912E-02	-0.660
		1004.76		-1.753E-01	1.493E-01	2.172E-01	2.670E-02	-0.807
		1274.45	*	-9.507E-02	8.594E-02	1.285E-01	1.284E-02	-0.740
EU-155		48.70		7.360E-01	2.731E+00	4.657E+00	3.532E-01	0.158
		60.01		-6.846E-01	4.646E+00	6.922E+00	5.282E-01	-0.099
	+	86.54		2.296E-01	8.390E-02	1.348E-01	1.242E-02	1.703
		105.31	*	8.888E-03	7.785E-02	1.267E-01	9.057E-03	0.070
TB-160	+	86.79		6.299E-01	2.300E-01	3.716E-01	3.399E-02	1.695
		197.04		5.048E-02	3.662E-01	6.147E-01	3.301E-02	0.082
		215.65		3.144E-01	4.771E-01	8.125E-01	4.435E-02	0.387
		298.57		1.381E-01	1.074E-01	1.259E-01	7.229E-03	1.097
		879.36	*	-9.116E-03	9.769E-02	1.588E-01	1.744E-02	-0.057
		962.29		3.498E-01	4.217E-01	6.265E-01	6.437E-02	0.558
		966.15		8.847E-01	1.923E-01	3.425E-01	3.495E-02	2.583
		1177.93		9.304E-03	2.390E-01	3.965E-01	2.214E-02	0.023

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			-8.097E-02	4.909E-01	7.961E-01	5.380E-02	-0.102
	80.57			3.402E-02	2.191E-01	3.250E-01	2.823E-02	0.105
	184.41		+	1.036E-01	4.048E-02	4.498E-02	2.390E-03	2.302
	280.46			-1.832E-02	5.502E-02	8.811E-02	5.026E-03	-0.208
	410.95			1.288E-01	1.430E-01	2.497E-01	1.470E-02	0.516
	711.68		*	3.013E-03	3.507E-02	5.881E-02	4.902E-03	0.051
TM-171	752.31			4.140E-02	1.658E-01	2.797E-01	2.501E-02	0.148
	810.29			7.088E-03	3.430E-02	5.739E-02	5.651E-03	0.123
	51.35			-1.767E+01	3.146E+01	5.183E+01	4.108E+00	-0.341
	52.39			4.067E+00	1.605E+01	2.727E+01	2.166E+00	0.149
	59.40			-8.535E-02	2.525E+01	3.791E+01	2.878E+00	-0.002
	66.72		*	-4.130E-01	2.423E+01	3.605E+01	2.882E+00	-0.011
LU-176	88.36		+	4.517E-01	1.649E-01	2.604E-01	2.391E-02	1.734
	201.83			-2.494E-03	1.912E-02	3.172E-02	1.711E-03	-0.079
	306.84		*	-1.890E-03	1.530E-02	2.457E-02	1.414E-03	-0.077
LU-177	401.10			2.202E+00	3.889E+00	6.699E+00	3.894E-01	0.329
	112.95			8.097E-01	1.513E+00	2.491E+00	1.605E-01	0.325
	208.36		+	1.877E+00	1.268E+00	1.659E+00	8.999E-02	1.131
LU-177M	52.97			2.964E-01	1.654E+00	2.801E+00	2.224E-01	0.106
	54.07			5.484E-02	8.586E-01	1.447E+00	1.144E-01	0.038
	61.30			-8.131E-01	1.390E+00	2.022E+00	1.563E-01	-0.402
	121.62			-1.075E-02	2.771E-01	4.440E-01	2.633E-02	-0.024
	147.16			-4.641E-01	4.724E-01	7.167E-01	3.900E-02	-0.648
	171.86			1.032E-01	3.128E-01	5.336E-01	2.809E-02	0.193
	218.09			-8.858E-02	5.317E-01	8.756E-01	4.789E-02	-0.101
	268.79		+	7.849E-01	6.848E-01	9.332E-01	5.292E-02	0.841
	319.02			-8.063E-02	1.680E-01	2.636E-01	1.521E-02	-0.306
	367.43			1.548E-01	5.234E-01	8.951E-01	5.169E-02	0.173
	413.65		*	-1.185E-01	1.086E-01	1.701E-01	1.005E-02	-0.697
	56.28			1.724E-01	9.270E-01	1.566E+00	1.220E-01	0.110
	57.53			2.206E-01	4.783E-01	8.145E-01	6.281E-02	0.271
	65.20			1.196E-01	8.910E-01	1.337E+00	1.060E-01	0.089
	133.02			-3.796E-02	4.727E-02	7.273E-02	4.114E-03	-0.522
HF-181	136.25			-9.180E-02	3.280E-01	5.161E-01	2.890E-02	-0.178
	345.85			-4.576E-02	1.447E-01	1.967E-01	1.138E-02	-0.233
	482.03		*	-1.636E-03	2.724E-02	4.474E-02	2.864E-03	-0.037
	56.28			6.463E-02	3.518E-01	5.941E-01	4.628E-02	0.109
	57.53			8.383E-02	1.817E-01	3.094E-01	2.386E-02	0.271
	65.20		*	4.506E-02	3.358E-01	5.038E-01	3.996E-02	0.089
W-181	67.75			-1.656E-01	1.007E-01	1.369E-01	1.100E-02	-1.210
	100.10			4.145E-02	1.285E-01	2.113E-01	1.589E-02	0.196
	152.43			4.797E-02	2.610E-01	3.700E-01	1.990E-02	0.130
TA-182	222.10			-2.556E-02	2.202E-01	3.629E-01	1.992E-02	-0.070
	1001.68			1.875E+00	1.460E+00	2.523E+00	2.409E-01	0.743
	1121.28		+	5.053E-01	1.619E-01	2.248E-01	1.549E-02	2.248
	1189.05			-1.898E-02	2.130E-01	3.501E-01	2.002E-02	-0.054
	1221.42		*	6.351E-03	1.380E-01	2.282E-01	1.396E-02	0.028
	1230.97			-4.306E-01	3.189E-01	4.762E-01	2.970E-02	-0.904
RE-183	57.98			5.042E-02	1.826E-01	3.088E-01	2.373E-02	0.163

---- Non-Identified Nuclides ----

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RE-184		59.32		-4.883E-03	1.065E-01	1.597E-01	1.213E-02	-0.031	
		67.20		-1.570E-01	1.797E-01	2.559E-01	2.051E-02	-0.614	
		162.32	*	-5.385E-02	7.453E-02	1.212E-01	6.397E-03	-0.444	
	+	208.81		1.287E+00	8.697E-01	1.132E+00	6.144E-02	1.137	
		291.72		-4.425E-01	7.023E-01	9.524E-01	5.457E-02	-0.465	
		57.98		1.827E-01	6.615E-01	1.119E+00	8.598E-02	0.163	
		59.32		-1.768E-02	3.857E-01	5.781E-01	4.392E-02	-0.031	
		67.20		-5.687E-01	6.510E-01	9.268E-01	7.429E-02	-0.614	
		161.27		-2.219E-01	2.338E-01	3.818E-01	2.019E-02	-0.581	
		216.55		1.393E-01	1.668E-01	2.858E-01	1.561E-02	0.488	
OS-185		252.85	*	-2.830E-02	1.468E-01	2.386E-01	1.340E-02	-0.119	
		318.01		-1.454E-01	2.887E-01	4.522E-01	2.610E-02	-0.322	
		792.07		7.094E-01	6.513E-01	1.141E+00	1.091E-01	0.622	
		903.28		-3.246E-01	7.581E-01	1.009E+00	1.133E-01	-0.322	
		920.93		1.177E-01	2.990E-01	5.007E-01	5.487E-02	0.235	
		59.72		8.335E-02	2.801E-01	4.266E-01	3.245E-02	0.195	
		61.14		-1.120E-01	1.541E-01	2.226E-01	1.717E-02	-0.503	
		69.30		-3.308E-02	2.420E-01	3.813E-01	3.089E-02	-0.087	
		592.07		8.487E-02	1.495E+00	2.430E+00	1.740E-01	0.035	
		646.12	*	-3.946E-03	2.728E-02	4.336E-02	3.261E-03	-0.091	
W-188		717.42		-1.500E-01	5.444E-01	8.902E-01	7.495E-02	-0.169	
		874.81		2.282E-01	3.928E-01	6.679E-01	7.285E-02	0.342	
		880.27		5.689E-02	5.254E-01	8.660E-01	9.526E-02	0.066	
	+	63.58		1.194E+02	7.287E+01	8.535E+01	6.706E+00	1.399	
		227.08		-3.403E-01	8.960E+00	1.479E+01	8.153E-01	-0.023	
		290.67	*	-2.106E+00	5.524E+00	7.632E+00	4.372E-01	-0.276	
	IR-192	+	295.96		7.338E-01	1.241E-01	1.855E-01	1.082E-02	3.956
			308.46		-3.217E-02	5.992E-02	9.385E-02	5.468E-03	-0.343
			316.51	*	-3.301E-03	2.253E-02	3.604E-02	2.090E-03	-0.092
			468.07		2.951E-02	4.247E-02	6.463E-02	4.605E-03	0.457
		604.41		-8.653E-02	3.522E-01	4.789E-01	5.819E-02	-0.181	
AU-195		612.46		1.490E+00	5.824E-01	9.477E-01	8.314E-02	1.573	
		65.12		3.501E-02	1.553E-01	2.340E-01	1.855E-02	0.150	
		66.83		-6.109E-02	8.336E-02	1.197E-01	9.574E-03	-0.510	
	+	75.70		6.955E-01	1.996E-01	3.189E-01	2.678E-02	2.181	
		98.88	*	1.500E-01	1.622E-01	2.724E-01	2.084E-02	0.551	
TL-200		129.76		2.439E+00	2.040E+00	3.404E+00	1.948E-01	0.716	
		367.94	*	7.183E-04	2.040E+00	Half-Life	too short		
		579.30		1.787E-02	2.040E+00	Half-Life	too short		
		828.27		3.907E-03	2.040E+00	Half-Life	too short		
		1205.75		3.360E-03	2.040E+00	Half-Life	too short		
TL-201		68.90		-2.531E+00	7.057E+00	1.157E+01	9.350E-01	-0.219	
		70.82		5.963E+00	4.387E+00	6.871E+00	5.610E-01	0.868	
		80.30		-6.554E-01	7.789E+00	1.143E+01	9.909E-01	-0.057	
		135.34		-2.976E+01	3.363E+01	5.147E+01	2.890E+00	-0.578	
TL-202		167.43	*	-1.339E+01	8.717E+00	1.383E+01	7.261E-01	-0.968	
		68.90		-1.387E-01	3.868E-01	6.340E-01	5.125E-02	-0.219	
		70.82		3.260E-01	2.398E-01	3.756E-01	3.067E-02	0.868	
		80.30		-3.584E-02	4.259E-01	6.249E-01	5.419E-02	-0.057	

---- Non-Identified Nuclides ----

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HG-203		439.56	*	2.553E-02	4.924E-02	8.410E-02	5.127E-03	0.304
		70.83		1.248E+00	9.297E-01	1.442E+00	1.920E-01	0.865
		72.87		-2.934E-01	5.477E-01	7.911E-01	1.026E-01	-0.371
		82.60		-2.766E-01	8.489E-01	1.379E+00	1.913E-01	-0.201
BI-207		279.20	*	5.496E-03	2.730E-02	4.486E-02	2.721E-03	0.123
		72.80		-1.029E-01	1.534E-01	2.204E-01	1.819E-02	-0.467
	+	74.97		3.816E-01	1.095E-01	1.588E-01	1.327E-02	2.404
		84.90		5.447E-02	1.536E-01	2.273E-01	2.045E-02	0.240
TL-207		569.67		3.230E-03	1.909E-02	3.074E-02	2.154E-03	0.105
		1063.62	*	-1.470E-02	3.375E-02	5.317E-02	4.389E-03	-0.277
		1770.23		-1.828E-01	3.042E-01	3.608E-01	2.183E-02	-0.507
		81.07		5.363E-02	1.710E-01	2.552E-01	2.226E-02	0.210
		83.78		-2.691E-02	1.035E-01	1.493E-01	1.331E-02	-0.180
		94.90		4.464E-01	1.836E-01	2.923E-01	2.379E-02	1.527
		122.32		-7.677E-01	1.281E+00	2.003E+00	1.360E-01	-0.383
		144.24		-7.766E-02	4.816E-01	7.519E-01	5.247E-02	-0.103
	+	154.21		5.129E-01	3.681E-01	4.647E-01	3.092E-02	1.104
	+	269.46		1.815E-01	1.584E-01	2.154E-01	1.280E-02	0.842
		323.87	*	-4.586E-01	4.428E-01	6.633E-01	1.095E-01	-0.691
	+	338.28		3.467E+00	1.193E+00	1.511E+00	1.590E-01	2.295
PO-209		445.03		-1.056E-01	1.375E+00	2.270E+00	2.375E-01	-0.046
		260.50		-1.592E+00	6.091E+00	9.846E+00	5.557E-01	-0.162
		262.80		-1.121E+01	1.662E+01	2.627E+01	1.484E+00	-0.427
		896.60	*	-6.972E-01	4.830E+00	7.804E+00	8.802E-01	-0.089
BI-210		46.50	*	1.622E+00	4.162E+00	6.978E+00	5.399E-01	0.232
PB-210		46.50	*	1.622E+00	4.162E+00	6.978E+00	5.399E-01	0.232
PO-210		46.50	*	1.622E+00	4.161E+00	6.978E+00	4.642E-01	0.232
PB-211		404.84	*	-8.008E-01	7.380E-01	8.333E-01	5.195E-01	-0.961
		427.08		-6.739E-03	1.216E+00	2.024E+00	1.251E+00	-0.003
		831.96		-5.651E-01	8.339E-01	1.174E+00	7.387E-01	-0.481
	+	727.18	*	6.025E-01	2.749E-01	4.062E-01	4.045E-02	1.483
		785.46		2.619E-02	1.108E+00	1.795E+00	1.697E-01	0.015
PO-215		1620.62		1.400E+00	7.753E-01	1.524E+00	1.031E-01	0.919
		81.07		5.363E-02	1.710E-01	2.552E-01	2.226E-02	0.210
		83.78		-2.691E-02	1.035E-01	1.493E-01	1.331E-02	-0.180
		94.90		4.464E-01	1.836E-01	2.923E-01	2.379E-02	1.527
		122.32		-7.677E-01	1.281E+00	2.003E+00	1.360E-01	-0.383
		144.24		-7.766E-02	4.816E-01	7.519E-01	5.247E-02	-0.103
	+	154.21		5.129E-01	3.681E-01	4.647E-01	3.092E-02	1.104
	+	269.46		1.815E-01	1.584E-01	2.154E-01	1.280E-02	0.842
		323.87	*	-4.586E-01	4.428E-01	6.633E-01	1.095E-01	-0.691
	+	338.28		3.467E+00	1.193E+00	1.511E+00	1.590E-01	2.295
		445.03		-1.056E-01	1.375E+00	2.270E+00	2.375E-01	-0.046
	+	271.23		2.328E-01	2.036E-01	2.737E-01	2.194E-02	0.851
RN-219		401.81	*	2.029E-01	2.407E-01	4.179E-01	5.689E-02	0.485
RN-220		549.76	*	9.594E+00	1.584E+01	2.680E+01	1.842E+00	0.358
RA-223		81.07		5.363E-02	1.710E-01	2.552E-01	2.226E-02	0.210
		83.78		-2.691E-02	1.035E-01	1.493E-01	1.331E-02	-0.180
		94.90		4.464E-01	1.836E-01	2.923E-01	2.379E-02	1.527

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-7.677E-01	1.281E+00	2.003E+00	1.360E-01	-0.383
		144.24		-7.766E-02	4.816E-01	7.519E-01	5.247E-02	-0.103
	+	154.21		5.129E-01	3.681E-01	4.647E-01	3.092E-02	1.104
	+	269.46		1.815E-01	1.584E-01	2.154E-01	1.280E-02	0.842
		323.87	*	-4.586E-01	4.428E-01	6.633E-01	1.095E-01	-0.691
	+	338.28		3.467E+00	1.193E+00	1.511E+00	1.590E-01	2.295
		445.03		-1.056E-01	1.375E+00	2.270E+00	2.375E-01	-0.046
		79.80		-9.998E-01	1.356E+00	1.905E+00	4.098E-01	-0.525
		236.00		3.477E-01	1.700E-01	2.668E-01	2.752E-02	1.303
		256.20	*	-7.892E-02	2.452E-01	3.955E-01	5.493E-02	-0.200
		286.10		5.646E-03	1.003E+00	1.630E+00	1.878E-01	0.003
	+	299.80		1.450E+00	1.042E+00	1.542E+00	2.509E-01	0.940
TH-227		304.40		5.388E-01	1.306E+00	1.896E+00	3.277E-01	0.284
		334.20		4.995E-01	1.683E+00	2.404E+00	4.407E-01	0.208
		79.80		-9.998E-01	1.356E+00	1.905E+00	4.151E-01	-0.525
	+	94.00		9.753E+00	3.356E+00	3.037E+00	6.572E-01	3.211
		236.00		3.477E-01	1.691E-01	2.668E-01	2.374E-02	1.303
		256.20	*	-7.892E-02	2.453E-01	3.955E-01	6.660E-02	-0.200
TH-229		286.10		5.646E-03	1.003E+00	1.630E+00	1.633E+00	0.003
	+	299.80		1.450E+00	1.042E+00	1.542E+00	2.509E-01	0.940
		304.40		5.388E-01	1.306E+00	1.896E+00	3.277E-01	0.284
		334.20		4.995E-01	1.683E+00	2.404E+00	4.407E-01	0.208
		85.43		1.796E-01	1.501E-01	2.291E-01	2.071E-02	0.784
	+	88.47		2.600E-01	9.495E-02	1.491E-01	1.366E-02	1.743
PA-231		100.00		5.099E-02	1.314E-01	2.167E-01	1.631E-02	0.235
		193.63	*	4.823E-02	3.169E-01	5.330E-01	2.854E-02	0.090
		210.97		7.866E-01	5.265E-01	8.170E-01	4.441E-02	0.963
		283.67	*	1.755E-01	9.953E-01	1.632E+00	2.243E-01	0.108
TH-231	+	301.29		5.799E-01	4.106E-01	6.309E-01	6.576E-02	0.919
		81.07		5.363E-02	1.710E-01	2.552E-01	2.226E-02	0.210
		83.78		-2.691E-02	1.035E-01	1.493E-01	1.331E-02	-0.180
		94.90		4.464E-01	1.836E-01	2.923E-01	2.379E-02	1.527
		122.32		-7.677E-01	1.281E+00	2.003E+00	1.360E-01	-0.383
U-231		144.24		-7.766E-02	4.816E-01	7.519E-01	5.247E-02	-0.103
	+	154.21		5.129E-01	3.681E-01	4.647E-01	3.092E-02	1.104
	+	269.46		1.815E-01	1.584E-01	2.154E-01	1.280E-02	0.842
		323.87	*	-4.586E-01	4.428E-01	6.633E-01	1.095E-01	-0.691
	+	338.28		3.467E+00	1.193E+00	1.511E+00	1.590E-01	2.295
		445.03		-1.056E-01	1.375E+00	2.270E+00	2.375E-01	-0.046
		84.21		-1.844E+00	7.185E+00	1.036E+01	9.267E-01	-0.178
	+	92.29		1.553E+01	4.349E+00	5.343E+00	4.549E-01	2.907
		95.87	*	-9.749E-01	1.398E+00	1.959E+00	1.569E-01	-0.498
		108.00		1.260E+00	2.362E+00	3.898E+00	2.650E-01	0.323
	+	75.28		1.113E+01	3.495E+00	4.712E+00	7.169E-01	2.363
	+	86.59		3.728E+00	1.658E+00	2.195E+00	5.925E-01	1.698
PA-233	+	300.12		4.042E-01	2.882E-01	4.304E-01	5.774E-02	0.939
		311.98	*	-7.248E-03	3.951E-02	6.311E-02	3.866E-03	-0.115
		340.50		1.495E+00	5.875E-01	7.945E-01	1.824E-01	1.882
		398.62		3.401E-01	1.252E+00	2.120E+00	5.481E-01	0.160

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76	1.068E-01	9.696E-01	1.627E+00	3.355E-01	0.066
		63.00	3.363E+00	2.098E+00	2.451E+00	3.695E-01	1.372
		94.67	4.485E-01	1.434E-01	2.222E-01	2.687E-02	2.019
		98.44	2.114E-02	6.924E-02	1.072E-01	5.965E-02	0.197
		99.86	1.588E-01	3.340E-01	5.525E-01	4.168E-02	0.287
		111.00	-1.565E-01	1.337E-01	2.040E-01	2.189E-02	-0.767
		131.20	4.099E-02	7.288E-02	1.190E-01	6.774E-03	0.344
		152.70	4.209E-01	3.079E-01	3.578E-01	5.602E-02	1.176
		186.00	3.728E+00	1.837E+00	1.729E+00	5.267E-01	2.156
		226.40	9.686E-02	2.724E-01	4.563E-01	5.210E-02	0.212
		227.20	-3.520E-02	2.944E-01	4.846E-01	2.671E-02	-0.073
		248.90	-3.333E-01	5.188E-01	8.185E-01	1.754E-01	-0.407
		293.70	3.563E+00	8.195E-01	1.070E+00	1.719E-01	3.328
		369.80	-1.366E-01	4.913E-01	8.133E-01	1.693E-01	-0.168
		568.70	3.644E-01	6.217E-01	1.027E+00	7.191E-02	0.355
		569.50	3.043E-02	1.695E-01	2.731E-01	1.913E-02	0.111
		574.00	-5.421E-01	8.970E-01	1.395E+00	9.815E-02	-0.389
		699.00	-6.968E-02	4.507E-01	7.454E-01	1.407E-01	-0.093
		706.10	1.569E-01	6.280E-01	1.058E+00	4.709E-01	0.148
		733.00	1.248E-01	2.514E-01	3.756E-01	8.342E-02	0.332
		742.81	5.734E-01	8.854E-01	1.388E+00	9.337E-01	0.413
		796.30	6.292E-01	6.363E-01	1.044E+00	2.860E-01	0.602
		805.60	-6.228E-03	6.021E-01	9.923E-01	3.075E-01	-0.006
		819.60	1.207E-02	7.210E-01	1.189E+00	4.560E-01	0.010
		826.30	2.685E-01	5.131E-01	8.523E-01	3.840E-01	0.315
		831.60	-4.550E-01	4.141E-01	5.880E-01	1.784E-01	-0.774
		876.40	3.402E-01	6.423E-01	9.207E-01	9.485E-01	0.369
		880.51	-1.277E-02	1.864E-01	3.035E-01	3.340E-02	-0.042
		883.24	-5.672E-03	1.894E-01	3.091E-01	2.089E-01	-0.018
		899.00	1.460E-01	5.446E-01	9.001E-01	3.989E-01	0.162
		925.00	-4.177E-01	7.586E-01	1.180E+00	1.286E-01	-0.354
		926.50	-6.832E-02	1.124E-01	1.718E-01	4.490E-02	-0.398
		946.00	* -1.117E-01	2.067E-01	3.207E-01	6.326E-02	-0.348
		949.00	3.894E-01	2.998E-01	5.267E-01	5.532E-02	0.739
		980.50	-1.895E-01	4.859E-01	7.625E-01	7.585E-02	-0.249
		1394.10	1.097E-01	6.882E-01	1.134E+00	7.367E-01	0.097
PA-234M	+	766.42	2.274E+01	1.650E+01	1.395E+01	7.089E+00	1.630
		1001.03	* 5.506E+00	3.236E+00	5.688E+00	6.136E-01	0.968
U-235		89.95	-1.571E-01	1.173E+00	1.340E+00	4.145E-01	-0.117
	+	93.35	3.034E+00	1.173E+00	1.027E+00	2.869E-01	2.955
		105.00	3.591E-02	7.646E-01	1.241E+00	3.652E-01	0.029
		143.76	* 4.173E-02	1.459E-01	2.317E-01	3.753E-02	0.180
		163.35	3.190E-02	3.112E-01	5.215E-01	9.292E-02	0.061
	+	185.71	1.381E-01	5.397E-02	6.430E-02	3.420E-03	2.147
		205.31	-2.754E-01	4.005E-01	5.570E-01	9.949E-02	-0.494
NP-236		94.67	3.432E-01	1.046E-01	1.688E-01	1.379E-02	2.033
		98.44	1.596E-02	5.159E-02	8.102E-02	6.239E-03	0.197
		111.00	-1.184E-01	1.006E-01	1.543E-01	1.015E-02	-0.767
		160.31	* -3.290E-02	5.366E-02	8.580E-02	4.545E-03	-0.383

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.244E-01	1.112E-01	1.879E-01	1.424E-02	0.662
		117.00	*	2.487E-02	1.336E-01	2.166E-01	1.340E-02	0.115
	+	209.75		9.870E-01	6.667E-01	8.512E-01	4.623E-02	1.159
		228.18		7.144E-02	1.526E-01	2.567E-01	1.416E-02	0.278
		277.60		9.622E-02	1.151E-01	1.945E-01	1.108E-02	0.495
		334.30		3.269E-01	9.546E-01	1.369E+00	7.919E-02	0.239
AM-241		59.54	*	1.032E-02	1.462E-01	2.203E-01	1.827E-02	0.047
CM-243		99.55		1.280E-01	1.145E-01	1.934E-01	1.466E-02	0.662
		103.76	*	2.298E-02	6.894E-02	1.132E-01	8.104E-03	0.203
		117.00		2.559E-02	1.374E-01	2.228E-01	1.379E-02	0.115
	+	209.75		9.732E-01	6.573E-01	8.393E-01	4.558E-02	1.159
		228.18		7.220E-02	1.542E-01	2.594E-01	1.431E-02	0.278
		277.60		9.703E-02	1.161E-01	1.961E-01	1.117E-02	0.495
AM-246		798.80		-1.360E-01	9.428E-02	1.394E-01	1.347E-02	-0.976
		1036.00		5.319E-02	1.834E-01	3.134E-01	2.774E-02	0.170
		1062.04		2.128E-02	1.456E-01	2.396E-01	1.987E-02	0.089
		1078.86	*	3.463E-02	8.696E-02	1.492E-01	1.180E-02	0.232
CM-247		278.00		3.964E-01	4.758E-01	8.036E-01	4.578E-02	0.493
		287.40		1.816E-02	8.078E-01	1.314E+00	7.515E-02	0.014
		402.60	*	1.372E-02	2.126E-02	3.677E-02	2.141E-03	0.373
CF-249		252.85		-1.049E-01	5.443E-01	8.848E-01	4.970E-02	-0.119
		333.44		-1.457E-02	1.296E-01	1.801E-01	1.041E-02	-0.081
		387.95	*	1.234E-02	2.442E-02	4.198E-02	2.413E-03	0.294
CF-251		176.60	*	-9.684E-04	7.970E-02	1.340E-01	7.078E-03	-0.007
		227.00		-5.648E-03	2.614E-01	4.318E-01	2.380E-02	-0.013
		285.00		-2.734E-01	1.153E+00	1.853E+00	1.059E-01	-0.147

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     *
*                               GEL Laboratories LLC                       *
*                               2040 Savage Road                           *
*                               Charleston, SC 29414                       *
*                               *                                           *
*****
*                               DETECTOR DATA                             *
*                               *                                           *
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978010    *
* Acquisition date   : 14-FEB-2010 12:17:41 Detector SN#      :          *
* Detector ID        : GAM18 Sensitivity      : 5.000          *
* Geometry           : CAN Energy tolerance: 1.500          *
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time: 0 02:00:01.67 Half life ratio : 8.000    *
*****
*                               SAMPLE DATA                               *
*                               *                                           *
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID      *
* Sample ID          : G245978010 Analyst initials: MXR1         *
* Batch Number       : 948721 Sample Quantity : 1.6520E+02 GRAM    *
* Recovery           : 1.00000 Carrier Weight : 0.00000          *
*****
*                               QC DATA                                   *
*                               *                                           *
* Standard Weight    : 0.00000                                           *
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope          :          *
* MSD DPM            : 0.000 MSD Isotope          :          *
* LCS DPM            : 0.000 LCS Isotope          :          *
* LCSD DPM           : 0.000 LCSD Isotope         :          *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.423E+01	2.106E+00	2.971E-01	0.000E+00
NB-95	8.863E-02	4.570E-02	4.206E-02	0.000E+00
CD-109	1.946E+00	6.964E-01	1.199E+00	0.000E+00
SN-126	1.904E-01	6.815E-02	1.142E-01	0.000E+00
RE-188	2.285E-01	1.605E-01	2.119E-01	0.000E+00
TL-208	3.298E-01	5.432E-02	3.516E-02	0.000E+00
BI-211	2.530E+00	3.312E-01	2.080E-01	0.000E+00
PB-212	9.954E-01	9.698E-02	6.136E-02	0.000E+00
PO-212	9.954E-01	9.698E-02	6.136E-02	0.000E+00
BI-214	6.911E-01	1.041E-01	6.966E-02	0.000E+00
PB-214	8.800E-01	1.237E-01	7.249E-02	0.000E+00
PO-214	8.800E-01	1.237E-01	7.249E-02	0.000E+00
PO-216	9.954E-01	9.698E-02	6.136E-02	0.000E+00
PO-218	8.800E-01	1.237E-01	7.249E-02	0.000E+00
RA-224	2.627E+00	7.992E-01	6.973E-01	0.000E+00
RA-226	6.911E-01	1.041E-01	6.966E-02	0.000E+00
AC-228	1.051E+00	2.246E-01	1.381E-01	0.000E+00
RA-228	1.051E+00	2.246E-01	1.381E-01	0.000E+00
TH-228	1.013E+00	9.874E-02	6.247E-02	0.000E+00
TH-230	6.911E-01	1.041E-01	6.966E-02	0.000E+00
TH-232	1.051E+00	2.246E-01	1.381E-01	0.000E+00
TH-234	2.885E+00	1.783E+00	1.847E+00	0.000E+00
U-234	6.911E-01	1.041E-01	6.966E-02	0.000E+00
NP-237	5.592E-01	2.299E-01	3.190E-01	0.000E+00
U-238	2.885E+00	1.783E+00	1.847E+00	0.000E+00
AM-243	2.126E-01	5.979E-02	7.619E-02	0.000E+00
ANH-511	5.893E-02	4.318E-02	3.310E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-2.370E-02	2.001E-01	3.504E-01	0.000E+00	NOT IDENT.
NA-22	-2.703E-02	2.963E-02	4.693E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.096E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	7.630E-03	1.727E-02	3.093E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.859E-02	6.188E-02	0.000E+00	FAIL ABUN
SC-46	-1.552E-02	2.590E-02	4.237E-02	0.000E+00	FAIL ABUN
V-48	-8.830E-04	5.278E-02	8.922E-02	0.000E+00	NOT IDENT.
CR-51	-9.812E-02	2.512E-01	4.286E-01	0.000E+00	NOT IDENT.
MN-52	2.522E-01	2.019E-01	3.814E-01	0.000E+00	NOT IDENT.
MN-54	2.296E-02	2.298E-02	4.205E-02	0.000E+00	NOT IDENT.
CO-56	6.547E-03	2.507E-02	4.399E-02	0.000E+00	NOT IDENT.
CO-57	-1.102E-02	1.829E-02	3.186E-02	0.000E+00	NOT IDENT.
CO-58	9.692E-03	2.322E-02	4.143E-02	0.000E+00	NOT IDENT.
FE-59	-9.063E-02	5.947E-02	9.081E-02	0.000E+00	NOT IDENT.
CO-60	-7.955E-04	2.616E-02	4.417E-02	0.000E+00	NOT IDENT.
ZN-65	9.625E-02	6.473E-02	1.087E-01	0.000E+00	NOT IDENT.
GE-68	2.441E-01	7.586E-01	1.349E+00	0.000E+00	NOT IDENT.
AS-73	2.352E-01	8.259E-01	1.597E+00	0.000E+00	NOT IDENT.
AS-74	-5.370E-02	6.255E-02	1.007E-01	0.000E+00	NOT IDENT.
SE-75	-1.407E-02	2.971E-02	4.753E-02	0.000E+00	NOT IDENT.
BR-77	5.792E+00	1.383E+01	2.480E+01	0.000E+00	FAIL ABUN
SR-82	-6.298E-02	2.528E-01	4.232E-01	0.000E+00	NOT IDENT.
RB-83	1.877E-02	4.036E-02	7.254E-02	0.000E+00	NOT IDENT.
RB-84	-9.225E-03	4.823E-02	8.163E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	5.413E+00	9.883E+00	0.000E+00	NOT IDENT.
SR-85	0.000E+00	2.861E-02	5.224E-02	0.000E+00	NOT IDENT.
RB-86	6.120E-03	5.279E-01	9.188E-01	0.000E+00	NOT IDENT.
Y-88	-2.120E-02	2.043E-02	2.850E-02	0.000E+00	NOT IDENT.
ZR-88	-5.523E-03	1.827E-02	3.240E-02	0.000E+00	NOT IDENT.
Y-91	1.874E+00	1.227E+01	2.126E+01	0.000E+00	NOT IDENT.
NB-94	4.357E-03	2.021E-02	3.609E-02	0.000E+00	NOT IDENT.
NB-95M	5.523E-02	8.576E-02	1.403E-01	0.000E+00	NOT IDENT.
ZR-95	-5.381E-03	4.374E-02	7.585E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.027E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.265E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.295E+00	1.386E+01	2.413E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	8.745E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.970E-03	2.166E-02	3.836E-02	0.000E+00	NOT IDENT.
RH-102	1.194E-02	1.752E-02	3.209E-02	0.000E+00	FAIL ABUN
RU-103	7.835E-04	2.454E-02	4.315E-02	0.000E+00	FAIL ABUN
RH-106	1.843E-01	1.917E-01	3.466E-01	0.000E+00	FAIL ABUN
RU-106	1.843E-01	1.908E-01	3.466E-01	0.000E+00	FAIL ABUN
AG-108M	-6.782E-03	1.921E-02	3.355E-02	0.000E+00	NOT IDENT.
AG-110M	-1.278E-02	2.146E-02	3.676E-02	0.000E+00	NOT IDENT.
IN-111	5.711E-01	1.425E+00	2.298E+00	0.000E+00	NOT IDENT.
IN-113M	-1.799E-02	2.688E-02	4.675E-02	0.000E+00	NOT IDENT.
SN-113	-1.799E-02	2.688E-02	4.675E-02	0.000E+00	NOT IDENT.
IN-114M	-1.852E-02	1.277E-01	2.053E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	1.562E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	4.861E-02	4.472E-02	7.769E-02	0.000E+00	NOT IDENT.
SB-122	8.039E-01	2.480E+00	4.380E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.604E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.372E-02	2.057E-02	3.506E-02	0.000E+00	NOT IDENT.
I-124	-4.276E-01	7.812E-01	1.095E+00	0.000E+00	FAIL ABUN
SB-124	-6.542E-03	3.608E-02	5.926E-02	0.000E+00	FAIL ABUN
SB-125	1.778E-03	5.282E-02	9.447E-02	0.000E+00	FAIL ABUN
TE-125M	2.453E+00	6.666E+00	1.219E+01	0.000E+00	NOT IDENT.
I-126	-1.511E-01	1.314E-01	2.166E-01	0.000E+00	NOT IDENT.
SB-126	9.468E-03	1.106E-01	1.757E-01	0.000E+00	FAIL ABUN
SB-127	9.360E-01	1.295E+00	2.389E+00	0.000E+00	NOT IDENT.
XE-127	-7.737E-03	3.234E-02	5.860E-02	0.000E+00	NOT IDENT.
I-131	2.935E-03	8.397E-02	1.528E-01	0.000E+00	NOT IDENT.
TE-132	4.016E-01	8.479E-01	1.556E+00	0.000E+00	NOT IDENT.
BA-133	-2.838E-03	2.859E-02	4.253E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.651E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.743E-02	3.100E-02	5.578E-02	0.000E+00	NOT IDENT.
CS-135	1.784E-01	1.123E-01	1.902E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.284E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.219E-02	7.846E-02	1.383E-01	0.000E+00	FAIL ABUN
BA-137M	2.842E-02	2.258E-02	4.262E-02	0.000E+00	NOT IDENT.
CS-137	3.004E-02	2.387E-02	4.506E-02	0.000E+00	NOT IDENT.
CE-139	2.382E-03	1.890E-02	3.538E-02	0.000E+00	NOT IDENT.
BA-140	3.288E-02	1.708E-01	3.003E-01	0.000E+00	NOT IDENT.
LA-140	-1.960E-02	5.562E-02	9.102E-02	0.000E+00	NOT IDENT.
CE-141	8.301E-04	4.529E-02	7.955E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.588E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.969E-02	1.351E-01	2.359E-01	0.000E+00	NOT IDENT.
PM-144	4.621E-03	2.184E-02	3.902E-02	0.000E+00	NOT IDENT.

PR-144	3.136E-01	1.483E+00	2.648E+00	0.000E+00	NOT IDENT.
PM-146	-8.157E-04	2.488E-02	4.404E-02	0.000E+00	NOT IDENT.
ND-147	-1.129E-01	4.055E-01	6.934E-01	0.000E+00	NOT IDENT.
PM-149	0.000E+00	1.451E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.403E-02	7.284E-02	9.880E-02	0.000E+00	FAIL ABUN
GD-153	-9.159E-03	6.217E-02	1.004E-01	0.000E+00	NOT IDENT.
EU-154	-9.507E-02	8.422E-02	1.306E-01	0.000E+00	NOT IDENT.
EU-155	8.888E-03	7.630E-02	1.387E-01	0.000E+00	FAIL ABUN
TB-160	-9.116E-03	9.574E-02	1.633E-01	0.000E+00	FAIL ABUN
HO-166M	3.013E-03	3.437E-02	6.087E-02	0.000E+00	FAIL ABUN
TM-171	-4.130E-01	2.374E+01	3.997E+01	0.000E+00	NOT IDENT.
LU-176	-1.890E-03	1.500E-02	2.608E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.242E+00	1.782E+00	0.000E+00	FAIL ABUN
LU-177M	-1.185E-01	1.064E-01	1.790E-01	0.000E+00	FAIL ABUN
HF-181	-1.636E-03	2.670E-02	4.686E-02	0.000E+00	NOT IDENT.
W-181	4.506E-02	3.291E-01	5.590E-01	0.000E+00	NOT IDENT.
TA-182	6.351E-03	1.353E-01	2.322E-01	0.000E+00	FAIL ABUN
RE-183	-5.385E-02	7.304E-02	1.311E-01	0.000E+00	FAIL ABUN
RE-184	-2.830E-02	1.438E-01	2.548E-01	0.000E+00	NOT IDENT.
OS-185	-3.946E-03	2.673E-02	4.501E-02	0.000E+00	NOT IDENT.
W-188	-2.106E+00	5.413E+00	8.117E+00	0.000E+00	FAIL ABUN
IR-192	-3.301E-03	2.208E-02	3.823E-02	0.000E+00	FAIL ABUN
AU-195	1.500E-01	1.589E-01	2.988E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.616E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.339E+01	8.542E+00	1.495E+01	0.000E+00	NOT IDENT.
TL-202	2.553E-02	4.826E-02	8.834E-02	0.000E+00	NOT IDENT.
HG-203	5.496E-03	2.675E-02	4.777E-02	0.000E+00	NOT IDENT.
BI-207	-1.470E-02	3.308E-02	5.434E-02	0.000E+00	FAIL ABUN
TL-207	-4.586E-01	4.339E-01	7.032E-01	0.000E+00	FAIL ABUN
PO-209	-6.972E-01	4.734E+00	8.019E+00	0.000E+00	NOT IDENT.
BI-210	1.622E+00	4.079E+00	7.813E+00	0.000E+00	NOT IDENT.
PB-210	1.622E+00	4.079E+00	7.813E+00	0.000E+00	NOT IDENT.
PO-210	1.622E+00	4.079E+00	7.813E+00	0.000E+00	NOT IDENT.
PB-211	-8.008E-01	7.232E-01	8.775E-01	0.000E+00	NOT IDENT.
BI-212	0.000E+00	2.694E-01	4.201E-01	0.000E+00	FAIL ABUN
PO-215	-4.586E-01	4.339E-01	7.032E-01	0.000E+00	FAIL ABUN
RN-219	2.029E-01	2.359E-01	4.402E-01	0.000E+00	FAIL ABUN
RN-220	9.594E+00	1.552E+01	2.796E+01	0.000E+00	NOT IDENT.
RA-223	-4.586E-01	4.339E-01	7.032E-01	0.000E+00	FAIL ABUN
AC-227	-7.892E-02	2.403E-01	4.221E-01	0.000E+00	FAIL ABUN
TH-227	-7.892E-02	2.404E-01	4.221E-01	0.000E+00	FAIL ABUN
TH-229	4.823E-02	3.106E-01	5.736E-01	0.000E+00	FAIL ABUN
PA-231	1.755E-01	9.754E-01	1.737E+00	0.000E+00	FAIL ABUN
TH-231	-4.586E-01	4.339E-01	7.032E-01	0.000E+00	FAIL ABUN
U-231	-9.749E-01	1.370E+00	2.150E+00	0.000E+00	FAIL ABUN
PA-233	-7.248E-03	3.872E-02	6.698E-02	0.000E+00	FAIL ABUN
PA-234	-1.117E-01	2.026E-01	3.290E-01	0.000E+00	FAIL ABUN
PA-234M	5.506E+00	3.171E+00	5.824E+00	0.000E+00	FAIL ABUN
U-235	4.173E-02	1.429E-01	2.515E-01	0.000E+00	FAIL ABUN
NP-236	-3.290E-02	5.259E-02	9.283E-02	0.000E+00	NOT IDENT.
NP-239	2.487E-02	1.309E-01	2.364E-01	0.000E+00	FAIL ABUN
AM-241	1.032E-02	1.433E-01	2.451E-01	0.000E+00	NOT IDENT.
CM-243	2.298E-02	6.756E-02	1.240E-01	0.000E+00	FAIL ABUN
AM-246	3.463E-02	8.522E-02	1.524E-01	0.000E+00	NOT IDENT.
CM-247	1.372E-02	2.084E-02	3.872E-02	0.000E+00	NOT IDENT.
CF-249	1.234E-02	2.394E-02	4.426E-02	0.000E+00	NOT IDENT.
CF-251	-9.684E-04	7.810E-02	1.446E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978010.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:17:41
Sample ID          : G245978010 Sample quantity : 1.65200E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.67 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 948721 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	2154	10.67*	1.893E+00	2.423E+01	2.423E+01	8.87
NB-95	765.79	102	99.81*	3.199E+00	7.289E-02	8.863E-02	52.62
CD-109	88.03	200	3.72*	6.456E+00	1.894E+00	1.946E+00	36.52
SN-126	64.28	151	9.60	3.121E+00	1.142E+00	1.142E+00	62.31
	86.94	200	8.90	6.456E+00	7.917E-01	7.917E-01	54.49
	87.57	200	37.00*	6.456E+00	1.904E-01	1.904E-01	36.52
RE-188	155.03	102	15.00*	8.126E+00	1.908E-01	2.285E-01	71.67
	477.96	-----	1.04	4.504E+00	-----	Line Not Found	-----
	633.10	-----	1.26	3.707E+00	-----	Line Not Found	-----
TL-208	277.35	-----	6.80	6.258E+00	-----	Line Not Found	-----
	510.84	112	21.60	4.310E+00	2.728E-01	2.728E-01	75.23
	583.14	481	84.20*	3.934E+00	3.298E-01	3.298E-01	16.81
	860.37	-----	12.46	2.915E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	785	12.94*	5.452E+00	2.530E+00	2.530E+00	13.36
PB-212	74.81	305	10.70	4.944E+00	1.311E+00	1.311E+00	30.18
	77.11	459	18.00	5.245E+00	1.105E+00	1.105E+00	19.32
	87.30	200	8.00	6.456E+00	8.808E-01	8.808E-01	37.86
	238.63	1327	44.60*	6.792E+00	9.954E-01	9.954E-01	9.94
	300.09	70	3.41	5.983E+00	7.823E-01	7.823E-01	70.52
PO-212	74.81	305	10.70	4.944E+00	1.311E+00	1.311E+00	30.18
	77.11	459	18.00	5.245E+00	1.105E+00	1.105E+00	19.32
	87.30	200	8.00	6.456E+00	8.808E-01	8.808E-01	37.86
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1327	44.60*	6.792E+00	9.954E-01	9.954E-01	9.94
	300.09	70	3.41	5.983E+00	7.823E-01	7.823E-01	70.52
BI-214	609.31	537	46.30*	3.812E+00	6.911E-01	6.911E-01	15.38
	1120.29	163	15.10	2.335E+00	1.050E+00	1.050E+00	32.72
	1764.49	109	15.80	1.695E+00	9.271E-01	9.271E-01	26.23
PB-214	74.81	305	6.21	4.944E+00	2.259E+00	2.259E+00	29.64
	77.11	459	10.50	5.245E+00	1.893E+00	1.893E+00	20.77
	87.30	200	4.67	6.456E+00	1.509E+00	1.509E+00	37.32

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	308	7.49	6.749E+00	1.385E+00	1.385E+00	31.54
	295.21	478	19.20	6.040E+00	9.366E-01	9.366E-01	18.00
	351.92	785	37.20*	5.452E+00	8.800E-01	8.800E-01	14.34
	74.81	305	6.21	4.944E+00	2.259E+00	2.259E+00	29.64
	77.11	459	10.50	5.245E+00	1.893E+00	1.893E+00	20.77
	87.30	200	4.67	6.456E+00	1.509E+00	1.509E+00	37.32
PO-216	241.98	308	7.49	6.749E+00	1.385E+00	1.385E+00	31.54
	295.21	478	19.20	6.040E+00	9.366E-01	9.366E-01	18.00
	351.92	785	37.20*	5.452E+00	8.800E-01	8.800E-01	14.34
	74.81	305	10.70	4.944E+00	1.311E+00	1.311E+00	30.18
	77.11	459	18.00	5.245E+00	1.105E+00	1.105E+00	19.32
	87.30	200	8.00	6.456E+00	8.808E-01	8.808E-01	37.86
PO-218	238.63	1327	44.60*	6.792E+00	9.954E-01	9.954E-01	9.94
	300.09	70	3.41	5.983E+00	7.823E-01	7.823E-01	70.52
	74.81	305	6.21	4.944E+00	2.259E+00	2.259E+00	29.64
	77.11	459	10.50	5.245E+00	1.893E+00	1.893E+00	20.77
	87.30	200	4.67	6.456E+00	1.509E+00	1.509E+00	37.32
	241.98	308	7.49	6.749E+00	1.385E+00	1.385E+00	31.54
RA-224	295.21	478	19.20	6.040E+00	9.366E-01	9.366E-01	18.00
	351.92	785	37.20*	5.452E+00	8.800E-01	8.800E-01	14.34
	240.98	308	3.95*	6.749E+00	2.627E+00	2.627E+00	31.04
	609.31	537	46.30*	3.812E+00	6.911E-01	6.911E-01	15.38
	1120.29	163	15.10	2.335E+00	1.050E+00	1.050E+00	32.72
	1764.49	109	15.80	1.695E+00	9.271E-01	9.271E-01	26.23
AC-228	338.32	232	11.40	5.579E+00	8.301E-01	8.301E-01	52.30
	911.07	356	27.70*	2.780E+00	1.051E+00	1.051E+00	21.80
	969.11	218	16.60	2.639E+00	1.130E+00	1.130E+00	30.78
	338.32	232	11.40	5.579E+00	8.301E-01	8.301E-01	52.30
	911.07	356	27.70*	2.780E+00	1.051E+00	1.051E+00	21.80
	969.11	218	16.60	2.639E+00	1.130E+00	1.130E+00	30.78
TH-228	74.81	305	10.70	4.944E+00	1.311E+00	1.335E+00	28.72
	77.11	459	18.00	5.245E+00	1.105E+00	1.125E+00	19.32
	87.30	200	8.00	6.456E+00	8.808E-01	8.967E-01	36.52
	238.63	1327	44.60*	6.792E+00	9.954E-01	1.013E+00	9.94
	300.09	70	3.41	5.983E+00	7.823E-01	7.964E-01	91.53
	609.31	537	46.30*	3.812E+00	6.911E-01	6.911E-01	15.38
TH-230	1120.29	163	15.10	2.335E+00	1.050E+00	1.050E+00	32.72
	1764.49	109	15.80	1.695E+00	9.271E-01	9.271E-01	26.23
	338.32	232	11.40	5.579E+00	8.301E-01	8.301E-01	33.27
	911.07	356	27.70*	2.780E+00	1.051E+00	1.051E+00	21.80
	969.11	218	16.60	2.639E+00	1.130E+00	1.130E+00	30.78
	63.29	151	3.80*	3.121E+00	2.885E+00	2.885E+00	63.05
U-234	92.38	419	5.41	6.966E+00	2.524E+00	2.524E+00	32.20
	609.31	537	46.30*	3.812E+00	6.911E-01	6.911E-01	15.38
	1120.29	163	15.10	2.335E+00	1.050E+00	1.050E+00	32.72
	1764.49	109	15.80	1.695E+00	9.271E-01	9.271E-01	26.23
	86.50	200	12.60*	6.456E+00	5.592E-01	5.592E-01	41.94
	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
U-238	63.29	151	3.80*	3.121E+00	2.885E+00	2.885E+00	63.05

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	419	5.41	6.966E+00	2.524E+00	2.524E+00	28.00
AM-243	74.67	305	66.00*	4.944E+00	2.126E-01	2.126E-01	28.70
	86.72	200	0.34	6.456E+00	2.097E+01	2.097E+01	36.52
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	112	100.00*	4.310E+00	5.893E-02	5.893E-02	74.77

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 1
Number of lines tentatively identified by NID 28 96.55%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.423E+01	2.423E+01	0.215E+01	8.87	
NB-95	64.02D	1.22	7.289E-02	8.863E-02	4.664E-02	52.62	
CD-109	464.00D	1.03	1.894E+00	1.946E+00	0.711E+00	36.52	
SN-126	1.00E+05Y	1.00	1.904E-01	1.904E-01	0.695E-01	36.52	
RE-188	69.40D	1.20	1.908E-01	2.285E-01	1.638E-01	71.67	
TL-208	1.41E+10Y	1.00	3.298E-01	3.298E-01	0.554E-01	16.81	
BI-211	7.04E+08Y	1.00	2.530E+00	2.530E+00	0.338E+00	13.36	
PB-212	1.41E+10Y	1.00	9.954E-01	9.954E-01	0.990E-01	9.94	
PO-212	1.41E+10Y	1.00	9.954E-01	9.954E-01	0.990E-01	9.94	
BI-214	1600.00Y	1.00	6.911E-01	6.911E-01	1.063E-01	15.38	
PB-214	1600.00Y	1.00	8.800E-01	8.800E-01	1.262E-01	14.34	
PO-214	1600.00Y	1.00	8.800E-01	8.800E-01	1.262E-01	14.34	
PO-216	1.41E+10Y	1.00	9.954E-01	9.954E-01	0.990E-01	9.94	
PO-218	1600.00Y	1.00	8.800E-01	8.800E-01	1.262E-01	14.34	
RA-224	1.41E+10Y	1.00	2.627E+00	2.627E+00	0.815E+00	31.04	
RA-226	1600.00Y	1.00	6.911E-01	6.911E-01	1.063E-01	15.38	
AC-228	1.41E+10Y	1.00	1.051E+00	1.051E+00	0.229E+00	21.80	
RA-228	1.41E+10Y	1.00	1.051E+00	1.051E+00	0.229E+00	21.80	
TH-228	1.91Y	1.02	9.954E-01	1.013E+00	0.101E+00	9.94	
TH-230	4.47E+09Y	1.00	6.911E-01	6.911E-01	1.063E-01	15.38	
TH-232	1.41E+10Y	1.00	1.051E+00	1.051E+00	0.229E+00	21.80	
TH-234	4.47E+09Y	1.00	2.885E+00	2.885E+00	1.819E+00	63.05	
U-234	4.47E+09Y	1.00	6.911E-01	6.911E-01	1.063E-01	15.38	
NP-237	2.14E+06Y	1.00	5.592E-01	5.592E-01	2.346E-01	41.94	
U-238	4.47E+09Y	1.00	2.885E+00	2.885E+00	1.819E+00	63.05	
AM-243	7380.00Y	1.00	2.126E-01	2.126E-01	0.610E-01	28.70	
ANH-511	1.00E+09Y	1.00	5.893E-02	5.893E-02	4.406E-02	74.77	
Total Activity :			5.121E+01	5.133E+01			

Grand Total Activity : 5.121E+01 5.133E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978010

Page : 5
Acquisition date : 14-FEB-2010 12:17:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.90	251	498	0.97	370.83	365	12	3.49E-02	38.7	7.65E+00	T
0	209.40	102	318	1.32	417.82	413	9	1.42E-02	67.3	7.26E+00	T
0	270.09	69	256	0.71	539.15	535	9	9.58E-03	87.1	6.35E+00	T
0	463.13	109	148	1.19	925.13	918	14	1.52E-02	51.3	4.60E+00	T
0	727.18	104	108	1.33	1453.09	1448	11	1.45E-02	44.5	3.34E+00	T
4	964.01	90	48	3.09	1926.65	1919	26	1.25E-02	43.2	2.65E+00	T
0	1377.61	34	16	0.99	2753.72	2749	9	4.75E-03	54.0	1.98E+00	T
0	1728.87	36	9	2.31	3456.19	3449	12	5.05E-03	46.7	1.71E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978010.CNF;1
* Acquisition date   : 14-FEB-2010 12:17:41  Detector SN#      :
* Detector ID        : GAM18                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit   : 75.00000
* Elapsed real time  : 0 02:00:01.67          Half life ratio  : 8.00000
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245978010            Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity  : 1.65200E+02 GRAM
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23.2MS Isotope      :
* MSD ID              :                          MSD Isotope   :
* LCS ID              : 1032-A                    LCS Isotope   :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.423E+01	2.149E+00	2.937E-01	2.229E-02	82.500
NB-95	8.863E-02	4.664E-02	4.073E-02	3.725E-03	2.176
CD-109	1.946E+00	7.106E-01	1.090E+00	1.008E-01	1.785
SN-126	1.904E-01	6.954E-02	1.038E-01	9.564E-03	1.835
RE-188	2.285E-01	1.638E-01	1.956E-01	1.047E-02	1.168
TL-208	3.298E-01	5.543E-02	3.376E-02	2.647E-03	9.768
BI-211	2.530E+00	3.380E-01	1.967E-01	1.263E-02	12.860
PB-212	9.954E-01	9.896E-02	5.737E-02	4.098E-03	17.351
PO-212	9.954E-01	9.896E-02	5.737E-02	4.098E-03	17.351
BI-214	6.911E-01	1.063E-01	6.698E-02	5.984E-03	10.317
PB-214	8.800E-01	1.262E-01	6.855E-02	5.671E-03	12.836
PO-214	8.800E-01	1.262E-01	6.855E-02	5.671E-03	12.836
PO-216	9.954E-01	9.896E-02	5.737E-02	4.098E-03	17.351
PO-218	8.800E-01	1.262E-01	6.855E-02	5.671E-03	12.836
RA-224	2.627E+00	8.155E-01	6.520E-01	3.632E-02	4.029
RA-226	6.911E-01	1.063E-01	6.698E-02	5.984E-03	10.317
AC-228	1.051E+00	2.291E-01	1.345E-01	1.782E-02	7.815
RA-228	1.051E+00	2.291E-01	1.345E-01	1.782E-02	7.815

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.013E+00	1.008E-01	5.841E-02	4.172E-03	17.351
TH-230	6.911E-01	1.063E-01	6.698E-02	5.983E-03	10.317
TH-232	1.051E+00	2.291E-01	1.345E-01	1.782E-02	7.815
TH-234	2.885E+00	1.819E+00	1.663E+00	2.933E-01	1.735
U-234	6.911E-01	1.063E-01	6.698E-02	5.983E-03	10.317
NP-237	5.592E-01	2.346E-01	2.898E-01	6.538E-02	1.930
U-238	2.885E+00	1.819E+00	1.663E+00	2.933E-01	1.735
AM-243	2.126E-01	6.101E-02	6.893E-02	5.752E-03	3.084
ANH-511	5.893E-02	4.406E-02	3.165E-02	2.090E-03	1.862

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.370E-02		2.042E-01	3.344E-01	2.423E-02	-0.071
NA-22	-2.703E-02		3.023E-02	4.619E-02	3.143E-03	-0.585
NA-24	-7.317E-01		5.592E+00	Half-Life too short		
AL-26	7.630E-03		1.763E-02	3.079E-02	1.798E-03	0.248
TI-44	2.038E-01	+	3.938E-02	5.606E-02	4.793E-03	3.636
SC-46	-1.552E-02		2.643E-02	4.122E-02	4.598E-03	-0.377
V-48	-8.830E-04		5.386E-02	8.709E-02	8.614E-03	-0.010
CR-51	-9.812E-02		2.563E-01	4.041E-01	2.602E-02	-0.243
MN-52	2.522E-01		2.060E-01	3.768E-01	2.777E-02	0.669
MN-54	2.296E-02		2.345E-02	4.083E-02	4.183E-03	0.562
CO-56	6.547E-03		2.558E-02	4.274E-02	4.462E-03	0.153
CO-57	-1.102E-02		1.867E-02	2.922E-02	1.731E-03	-0.377
CO-58	9.692E-03		2.369E-02	4.019E-02	3.968E-03	0.241
FE-59	-9.063E-02		6.068E-02	8.896E-02	7.322E-03	-1.019
CO-60	-7.955E-04		2.670E-02	4.353E-02	3.289E-03	-0.018
ZN-65	9.625E-02		6.605E-02	1.066E-01	7.506E-03	0.903
GE-68	2.441E-01		7.741E-01	1.320E+00	1.049E-01	0.185
AS-73	2.352E-01		8.427E-01	1.432E+00	1.135E-01	0.164
AS-74	-5.370E-02		6.382E-02	9.678E-02	6.953E-03	-0.555
SE-75	-1.407E-02		3.032E-02	4.457E-02	2.549E-03	-0.316
BR-77	5.792E+00		1.412E+01	2.373E+01	1.583E+00	0.244
SR-82	-6.298E-02		2.579E-01	4.100E-01	3.818E-02	-0.154
RB-83	1.877E-02		4.118E-02	6.941E-02	4.629E-03	0.270
RB-84	-9.225E-03		4.921E-02	7.940E-02	8.751E-03	-0.116
KR-85	1.870E+01		5.523E+00	9.453E+00	6.263E-01	1.979
SR-85	9.887E-02		2.919E-02	4.997E-02	3.310E-03	1.979
RB-86	6.120E-03		5.387E-01	8.994E-01	7.160E-02	0.007
Y-88	-2.120E-02		2.084E-02	2.839E-02	1.617E-03	-0.747
ZR-88	-5.523E-03		1.864E-02	3.074E-02	1.768E-03	-0.180
Y-91	1.874E+00		1.252E+01	2.088E+01	1.235E+00	0.090
NB-94	4.357E-03		2.062E-02	3.486E-02	2.860E-03	0.125
NB-95M	5.523E-02		8.751E-02	1.311E-01	9.620E-03	0.421
ZR-95	-5.381E-03		4.463E-02	7.342E-02	7.224E-03	-0.073
NB-97	-5.912E-01		5.242E-01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	4.836E+01		1.156E+01	Half-Life too short		
MO-99	-1.295E+00		1.414E+01	2.335E+01	3.562E+00	-0.055
TC-99M	-9.642E+13		4.462E+13	Half-Life too short		
RH-101	-8.970E-03		2.210E-02	3.567E-02	1.917E-03	-0.251
RH-102	1.194E-02		1.788E-02	3.062E-02	1.945E-03	0.390
RU-103	7.835E-04		2.504E-02	4.124E-02	5.354E-03	0.019
RH-106	1.843E-01		1.956E-01	3.335E-01	4.196E-02	0.553
RU-106	1.843E-01		1.947E-01	3.335E-01	2.454E-02	0.553
AG-108M	-6.782E-03		1.960E-02	3.193E-02	2.086E-03	-0.212
AG-110M	-1.278E-02		2.190E-02	3.543E-02	2.795E-03	-0.361
IN-111	5.711E-01		1.454E+00	2.150E+00	1.202E-01	0.266
IN-113M	-1.799E-02		2.743E-02	4.435E-02	2.721E-03	-0.406
SN-113	-1.799E-02		2.743E-02	4.435E-02	2.721E-03	-0.406
IN-114M	-1.852E-02		1.304E-01	1.907E-01	1.018E-02	-0.097
CD-115	5.500E-06		7.969E-06	Half-Life too short		
SN-117M	4.861E-02		4.563E-02	7.178E-02	3.815E-03	0.677
SB-122	8.039E-01		2.530E+00	4.201E+00	2.928E-01	0.191
I-123	1.070E+02		8.185E+01	Half-Life too short		
TE-123M	1.372E-02		2.099E-02	3.240E-02	1.748E-03	0.423
I-124	-4.276E-01		7.972E-01	1.053E+00	7.614E-02	-0.406
SB-124	-6.542E-03		3.682E-02	5.887E-02	4.062E-03	-0.111
SB-125	1.778E-03		5.390E-02	8.986E-02	5.615E-03	0.020
TE-125M	2.453E+00		6.802E+00	1.114E+01	9.806E-01	0.220
I-126	-1.511E-01		1.340E-01	2.088E-01	1.605E-02	-0.724
SB-126	9.468E-03		1.129E-01	1.699E-01	1.438E-02	0.056
SB-127	9.360E-01		1.322E+00	2.305E+00	2.723E-01	0.406
XE-127	-7.737E-03		3.300E-02	5.453E-02	2.943E-03	-0.142
I-131	2.935E-03		8.568E-02	1.447E-01	9.382E-03	0.020
TE-132	4.016E-01		8.652E-01	1.452E+00	2.161E-01	0.276
BA-133	-2.838E-03		2.917E-02	4.023E-02	4.648E-03	-0.071
I-133	-1.593E-02		1.863E-02	Half-Life too short		
CS-134	3.743E-02		3.163E-02	5.408E-02	5.231E-03	0.692
CS-135	1.784E-01		1.146E-01	1.785E-01	1.349E-02	1.000
I-135	-3.866E+12		2.696E+12	Half-Life too short		
CS-136	1.219E-02		8.006E-02	1.353E-01	1.213E-02	0.090
BA-137M	2.842E-02		2.304E-02	4.109E-02	3.132E-03	0.692
CS-137	3.004E-02		2.435E-02	4.344E-02	3.319E-03	0.692
CE-139	2.382E-03		1.929E-02	3.273E-02	1.718E-03	0.073
BA-140	3.288E-02		1.743E-01	2.877E-01	9.410E-02	0.114
LA-140	-1.960E-02		5.675E-02	9.025E-02	6.191E-03	-0.217
CE-141	8.301E-04		4.621E-02	7.332E-02	4.186E-03	0.011
CE-143	2.182E-03		3.361E-04	Half-Life too short		
CE-144	-3.969E-02		1.378E-01	2.169E-01	3.067E-02	-0.183
PM-144	4.621E-03		2.229E-02	3.767E-02	3.059E-03	0.123
PR-144	3.136E-01		1.513E+00	2.557E+00	2.075E-01	0.123
PM-146	-8.157E-04		2.539E-02	4.197E-02	3.734E-03	-0.019
ND-147	-1.129E-01		4.138E-01	6.639E-01	9.264E-02	-0.170
PM-149	-4.635E-06		7.403E-05	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-2.403E-02		7.432E-02	9.337E-02	6.093E-03	-0.257
GD-153	-9.159E-03		6.344E-02	9.148E-02	7.153E-03	-0.100
EU-154	-9.507E-02		8.594E-02	1.285E-01	1.284E-02	-0.740
EU-155	8.888E-03		7.785E-02	1.267E-01	9.057E-03	0.070
TB-160	-9.116E-03		9.769E-02	1.588E-01	1.744E-02	-0.057
HO-166M	3.013E-03		3.507E-02	5.881E-02	4.902E-03	0.051
TM-171	-4.130E-01		2.423E+01	3.605E+01	2.882E+00	-0.011
LU-176	-1.890E-03		1.530E-02	2.457E-02	1.414E-03	-0.077
LU-177	1.877E+00	+	1.268E+00	1.659E+00	8.999E-02	1.131
LU-177M	-1.185E-01		1.086E-01	1.701E-01	1.005E-02	-0.697
HF-181	-1.636E-03		2.724E-02	4.474E-02	2.864E-03	-0.037
W-181	4.506E-02		3.358E-01	5.038E-01	3.996E-02	0.089
TA-182	6.351E-03		1.380E-01	2.282E-01	1.396E-02	0.028
RE-183	-5.385E-02		7.453E-02	1.212E-01	6.397E-03	-0.444
RE-184	-2.830E-02		1.468E-01	2.386E-01	1.340E-02	-0.119
OS-185	-3.946E-03		2.728E-02	4.336E-02	3.261E-03	-0.091
W-188	-2.106E+00		5.524E+00	7.632E+00	4.372E-01	-0.276
IR-192	-3.301E-03		2.253E-02	3.604E-02	2.090E-03	-0.092
AU-195	1.500E-01		1.622E-01	2.724E-01	2.084E-02	0.551
TL-200	7.183E-04		8.247E-04	Half-Life too short		
TL-201	-1.339E+01		8.717E+00	1.383E+01	7.261E-01	-0.968
TL-202	2.553E-02		4.924E-02	8.410E-02	5.127E-03	0.304
HG-203	5.496E-03		2.730E-02	4.486E-02	2.721E-03	0.123
BI-207	-1.470E-02		3.375E-02	5.317E-02	4.389E-03	-0.277
TL-207	-4.586E-01		4.428E-01	6.633E-01	1.095E-01	-0.691
PO-209	-6.972E-01		4.830E+00	7.804E+00	8.802E-01	-0.089
BI-210	1.622E+00		4.162E+00	6.978E+00	5.399E-01	0.232
PB-210	1.622E+00		4.162E+00	6.978E+00	5.399E-01	0.232
PO-210	1.622E+00		4.161E+00	6.978E+00	4.642E-01	0.232
PB-211	-8.008E-01		7.380E-01	8.333E-01	5.195E-01	-0.961
BI-212	6.025E-01	+	2.749E-01	4.062E-01	4.045E-02	1.483
PO-215	-4.586E-01		4.428E-01	6.633E-01	1.095E-01	-0.691
RN-219	2.029E-01		2.407E-01	4.179E-01	5.689E-02	0.485
RN-220	9.594E+00		1.584E+01	2.680E+01	1.842E+00	0.358
RA-223	-4.586E-01		4.428E-01	6.633E-01	1.095E-01	-0.691
AC-227	-7.892E-02		2.452E-01	3.955E-01	5.493E-02	-0.200
TH-227	-7.892E-02		2.453E-01	3.955E-01	6.660E-02	-0.200
TH-229	4.823E-02		3.169E-01	5.330E-01	2.854E-02	0.090
PA-231	1.755E-01		9.953E-01	1.632E+00	2.243E-01	0.108
TH-231	-4.586E-01		4.428E-01	6.633E-01	1.095E-01	-0.691
U-231	-9.749E-01		1.398E+00	1.959E+00	1.569E-01	-0.498
PA-233	-7.248E-03		3.951E-02	6.311E-02	3.866E-03	-0.115
PA-234	-1.117E-01		2.067E-01	3.207E-01	6.326E-02	-0.348
PA-234M	5.506E+00		3.236E+00	5.688E+00	6.136E-01	0.968
U-235	4.173E-02		1.459E-01	2.317E-01	3.753E-02	0.180
NP-236	-3.290E-02		5.366E-02	8.580E-02	4.545E-03	-0.383
NP-239	2.487E-02		1.336E-01	2.166E-01	1.340E-02	0.115
AM-241	1.032E-02		1.462E-01	2.203E-01	1.827E-02	0.047

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.298E-02		6.894E-02	1.132E-01	8.104E-03	0.203
AM-246	3.463E-02		8.696E-02	1.492E-01	1.180E-02	0.232
CM-247	1.372E-02		2.126E-02	3.677E-02	2.141E-03	0.373
CF-249	1.234E-02		2.442E-02	4.198E-02	2.413E-03	0.294
CF-251	-9.684E-04		7.970E-02	1.340E-01	7.078E-03	-0.007

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978010
* Acquisition date   : 14-FEB-2010 12:17:41 Detector SN#      :
* Detector ID        : GAM18 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.67 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978010 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.6520E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 23-APR-2009 11:59:23 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope      :
* LCS DPM             : 0.000 LCS Isotope      :
* LCSD DPM            : 0.000 LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.423E+01	2.106E+00	1.486E-01	1.075E+00
NB-95	8.863E-02	4.570E-02	2.104E-02	2.332E-02
CD-109	1.946E+00	6.964E-01	6.000E-01	3.553E-01
SN-126	1.904E-01	6.815E-02	5.715E-02	3.477E-02
RE-188	2.285E-01	1.605E-01	1.060E-01	8.188E-02
TL-208	3.298E-01	5.432E-02	1.759E-02	2.772E-02
BI-211	2.530E+00	3.312E-01	1.041E-01	1.690E-01
PB-212	9.954E-01	9.698E-02	3.070E-02	4.948E-02
PO-212	9.954E-01	9.698E-02	3.070E-02	4.948E-02
BI-214	6.911E-01	1.041E-01	3.485E-02	5.313E-02
PB-214	8.800E-01	1.237E-01	3.627E-02	6.311E-02
PO-214	8.800E-01	1.237E-01	3.627E-02	6.311E-02
PO-216	9.954E-01	9.698E-02	3.070E-02	4.948E-02
PO-218	8.800E-01	1.237E-01	3.627E-02	6.311E-02
RA-224	2.627E+00	7.992E-01	3.488E-01	4.077E-01
RA-226	6.911E-01	1.041E-01	3.485E-02	5.313E-02
AC-228	1.051E+00	2.246E-01	6.911E-02	1.146E-01
RA-228	1.051E+00	2.246E-01	6.911E-02	1.146E-01
TH-228	1.013E+00	9.874E-02	3.126E-02	5.038E-02
TH-230	6.911E-01	1.041E-01	3.485E-02	5.313E-02
TH-232	1.051E+00	2.246E-01	6.911E-02	1.146E-01
TH-234	2.885E+00	1.783E+00	9.240E-01	9.096E-01
U-234	6.911E-01	1.041E-01	3.485E-02	5.313E-02
NP-237	5.592E-01	2.299E-01	1.596E-01	1.173E-01
U-238	2.885E+00	1.783E+00	9.240E-01	9.096E-01
AM-243	2.126E-01	5.979E-02	3.812E-02	3.051E-02
ANH-511	5.893E-02	4.318E-02	1.656E-02	2.203E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-2.370E-02	2.001E-01	1.753E-01	1.021E-01	NOT IDENT.
NA-22	-2.703E-02	2.963E-02	2.348E-02	1.512E-02	NOT IDENT.
NA-24	-7.317E+05	1.096E+07	0.000E+00	5.592E+06	SHORT HLIF
AL-26	7.630E-03	1.727E-02	1.547E-02	8.813E-03	NOT IDENT.
TI-44	2.038E-01	3.859E-02	3.096E-02	1.969E-02	FAIL ABUN
SC-46	-1.552E-02	2.590E-02	2.120E-02	1.321E-02	FAIL ABUN
V-48	-8.830E-04	5.278E-02	4.464E-02	2.693E-02	NOT IDENT.
CR-51	-9.812E-02	2.512E-01	2.144E-01	1.281E-01	NOT IDENT.
MN-52	2.522E-01	2.019E-01	1.908E-01	1.030E-01	NOT IDENT.
MN-54	2.296E-02	2.298E-02	2.104E-02	1.172E-02	NOT IDENT.
CO-56	6.547E-03	2.507E-02	2.201E-02	1.279E-02	NOT IDENT.
CO-57	-1.102E-02	1.829E-02	1.594E-02	9.333E-03	NOT IDENT.
CO-58	9.692E-03	2.322E-02	2.073E-02	1.185E-02	NOT IDENT.
FE-59	-9.063E-02	5.947E-02	4.543E-02	3.034E-02	NOT IDENT.
CO-60	-7.955E-04	2.616E-02	2.210E-02	1.335E-02	NOT IDENT.
ZN-65	9.625E-02	6.473E-02	5.440E-02	3.302E-02	NOT IDENT.
GE-68	2.441E-01	7.586E-01	6.748E-01	3.871E-01	NOT IDENT.
AS-73	2.352E-01	8.259E-01	7.988E-01	4.214E-01	NOT IDENT.
AS-74	-5.370E-02	6.255E-02	5.039E-02	3.191E-02	NOT IDENT.
SE-75	-1.407E-02	2.971E-02	2.378E-02	1.516E-02	NOT IDENT.
BR-77	5.792E+00	1.383E+01	1.240E+01	7.058E+00	FAIL ABUN
SR-82	-6.298E-02	2.528E-01	2.117E-01	1.290E-01	NOT IDENT.
RB-83	1.877E-02	4.036E-02	3.629E-02	2.059E-02	NOT IDENT.
RB-84	-9.225E-03	4.823E-02	4.084E-02	2.461E-02	NOT IDENT.
KR-85	1.870E+01	5.413E+00	4.944E+00	2.762E+00	NOT IDENT.
SR-85	9.887E-02	2.861E-02	2.613E-02	1.460E-02	NOT IDENT.
RB-86	6.120E-03	5.279E-01	4.597E-01	2.693E-01	NOT IDENT.
Y-88	-2.120E-02	2.043E-02	1.426E-02	1.042E-02	NOT IDENT.
ZR-88	-5.523E-03	1.827E-02	1.621E-02	9.321E-03	NOT IDENT.
Y-91	1.874E+00	1.227E+01	1.063E+01	6.262E+00	NOT IDENT.
NB-94	4.357E-03	2.021E-02	1.806E-02	1.031E-02	NOT IDENT.
NB-95M	5.523E-02	8.576E-02	7.019E-02	4.376E-02	NOT IDENT.
ZR-95	-5.381E-03	4.374E-02	3.795E-02	2.232E-02	NOT IDENT.
NB-97	-5.912E+05	1.027E+06	0.000E+00	5.242E+05	SHORT HLIF
ZR-97	4.836E+07	2.265E+07	0.000E+00	1.156E+07	SHORT HLIF
MO-99	-1.295E+00	1.386E+01	1.207E+01	7.070E+00	NOT IDENT.
TC-99M	-9.642E+19	8.745E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-8.970E-03	2.166E-02	1.919E-02	1.105E-02	NOT IDENT.
RH-102	1.194E-02	1.752E-02	1.605E-02	8.941E-03	FAIL ABUN
RU-103	7.835E-04	2.454E-02	2.159E-02	1.252E-02	FAIL ABUN
RH-106	1.843E-01	1.917E-01	1.734E-01	9.780E-02	FAIL ABUN
RU-106	1.843E-01	1.908E-01	1.734E-01	9.735E-02	FAIL ABUN
AG-108M	-6.782E-03	1.921E-02	1.679E-02	9.801E-03	NOT IDENT.
AG-110M	-1.278E-02	2.146E-02	1.839E-02	1.095E-02	NOT IDENT.
IN-111	5.711E-01	1.425E+00	1.150E+00	7.270E-01	NOT IDENT.
IN-113M	-1.799E-02	2.688E-02	2.339E-02	1.371E-02	NOT IDENT.
SN-113	-1.799E-02	2.688E-02	2.339E-02	1.371E-02	NOT IDENT.
IN-114M	-1.852E-02	1.277E-01	1.027E-01	6.518E-02	NOT IDENT.
CD-115	5.500E+00	1.562E+01	0.000E+00	7.969E+00	SHORT HLIF
SN-117M	4.861E-02	4.472E-02	3.887E-02	2.281E-02	NOT IDENT.
SB-122	8.039E-01	2.480E+00	2.191E+00	1.265E+00	NOT IDENT.
I-123	1.070E+08	1.604E+08	0.000E+00	8.185E+07	SHORT HLIF
TE-123M	1.372E-02	2.057E-02	1.754E-02	1.049E-02	NOT IDENT.
I-124	-4.276E-01	7.812E-01	5.481E-01	3.986E-01	FAIL ABUN
SB-124	-6.542E-03	3.608E-02	2.965E-02	1.841E-02	FAIL ABUN
SB-125	1.778E-03	5.282E-02	4.726E-02	2.695E-02	FAIL ABUN
TE-125M	2.453E+00	6.666E+00	6.098E+00	3.401E+00	NOT IDENT.
I-126	-1.511E-01	1.314E-01	1.083E-01	6.702E-02	NOT IDENT.
SB-126	9.468E-03	1.106E-01	8.793E-02	5.645E-02	FAIL ABUN
SB-127	9.360E-01	1.295E+00	1.195E+00	6.609E-01	NOT IDENT.
XE-127	-7.737E-03	3.234E-02	2.932E-02	1.650E-02	NOT IDENT.
I-131	2.935E-03	8.397E-02	7.645E-02	4.284E-02	NOT IDENT.
TE-132	4.016E-01	8.479E-01	7.783E-01	4.326E-01	NOT IDENT.
BA-133	-2.838E-03	2.859E-02	2.128E-02	1.458E-02	NOT IDENT.
I-133	-1.593E+04	3.651E+04	0.000E+00	1.863E+04	SHORT HLIF
CS-134	3.743E-02	3.100E-02	2.791E-02	1.582E-02	NOT IDENT.
CS-135	1.784E-01	1.123E-01	9.517E-02	5.731E-02	NOT IDENT.
I-135	-3.866E+18	5.284E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.219E-02	7.846E-02	6.920E-02	4.003E-02	FAIL ABUN
BA-137M	2.842E-02	2.258E-02	2.132E-02	1.152E-02	NOT IDENT.
CS-137	3.004E-02	2.387E-02	2.254E-02	1.218E-02	NOT IDENT.
CE-139	2.382E-03	1.890E-02	1.770E-02	9.644E-03	NOT IDENT.
BA-140	3.288E-02	1.708E-01	1.503E-01	8.713E-02	NOT IDENT.
LA-140	-1.960E-02	5.562E-02	4.554E-02	2.838E-02	NOT IDENT.
CE-141	8.301E-04	4.529E-02	3.980E-02	2.311E-02	NOT IDENT.
CE-143	2.182E+03	6.588E+02	0.000E+00	3.361E+02	SHORT HLIF
CE-144	-3.969E-02	1.351E-01	1.180E-01	6.892E-02	NOT IDENT.
PM-144	4.621E-03	2.184E-02	1.952E-02	1.115E-02	NOT IDENT.

PR-144	3.136E-01	1.483E+00	1.325E+00	7.564E-01	NOT IDENT.
PM-146	-8.157E-04	2.488E-02	2.203E-02	1.269E-02	NOT IDENT.
ND-147	-1.129E-01	4.055E-01	3.469E-01	2.069E-01	NOT IDENT.
PM-149	-4.635E+00	1.451E+02	0.000E+00	7.403E+01	SHORT HLIF
EU-152	-2.403E-02	7.284E-02	4.943E-02	3.716E-02	FAIL ABUN
GD-153	-9.159E-03	6.217E-02	5.022E-02	3.172E-02	NOT IDENT.
EU-154	-9.507E-02	8.422E-02	6.533E-02	4.297E-02	NOT IDENT.
EU-155	8.888E-03	7.630E-02	6.939E-02	3.893E-02	FAIL ABUN
TB-160	-9.116E-03	9.574E-02	8.168E-02	4.885E-02	FAIL ABUN
HO-166M	3.013E-03	3.437E-02	3.045E-02	1.754E-02	FAIL ABUN
TM-171	-4.130E-01	2.374E+01	2.000E+01	1.211E+01	NOT IDENT.
LU-176	-1.890E-03	1.500E-02	1.305E-02	7.651E-03	FAIL ABUN
LU-177	1.877E+00	1.242E+00	8.913E-01	6.339E-01	FAIL ABUN
LU-177M	-1.185E-01	1.064E-01	8.955E-02	5.429E-02	FAIL ABUN
HF-181	-1.636E-03	2.670E-02	2.345E-02	1.362E-02	NOT IDENT.
W-181	4.506E-02	3.291E-01	2.796E-01	1.679E-01	NOT IDENT.
TA-182	6.351E-03	1.353E-01	1.162E-01	6.901E-02	FAIL ABUN
RE-183	-5.385E-02	7.304E-02	6.558E-02	3.727E-02	FAIL ABUN
RE-184	-2.830E-02	1.438E-01	1.275E-01	7.339E-02	NOT IDENT.
OS-185	-3.946E-03	2.673E-02	2.252E-02	1.364E-02	NOT IDENT.
W-188	-2.106E+00	5.413E+00	4.061E+00	2.762E+00	FAIL ABUN
IR-192	-3.301E-03	2.208E-02	1.913E-02	1.127E-02	FAIL ABUN
AU-195	1.500E-01	1.589E-01	1.495E-01	8.108E-02	FAIL ABUN
TL-200	7.183E+02	1.616E+03	0.000E+00	8.247E+02	SHORT HLIF
TL-201	-1.339E+01	8.542E+00	7.478E+00	4.358E+00	NOT IDENT.
TL-202	2.553E-02	4.826E-02	4.420E-02	2.462E-02	NOT IDENT.
HG-203	5.496E-03	2.675E-02	2.390E-02	1.365E-02	NOT IDENT.
BI-207	-1.470E-02	3.308E-02	2.718E-02	1.688E-02	FAIL ABUN
TL-207	-4.586E-01	4.339E-01	3.518E-01	2.214E-01	FAIL ABUN
PO-209	-6.972E-01	4.734E+00	4.012E+00	2.415E+00	NOT IDENT.
BI-210	1.622E+00	4.079E+00	3.909E+00	2.081E+00	NOT IDENT.
PB-210	1.622E+00	4.079E+00	3.909E+00	2.081E+00	NOT IDENT.
PO-210	1.622E+00	4.079E+00	3.909E+00	2.081E+00	NOT IDENT.
PB-211	-8.008E-01	7.232E-01	4.390E-01	3.690E-01	NOT IDENT.
BI-212	6.025E-01	2.694E-01	2.102E-01	1.374E-01	FAIL ABUN
PO-215	-4.586E-01	4.339E-01	3.518E-01	2.214E-01	FAIL ABUN
RN-219	2.029E-01	2.359E-01	2.202E-01	1.203E-01	FAIL ABUN
RN-220	9.594E+00	1.552E+01	1.399E+01	7.921E+00	NOT IDENT.
RA-223	-4.586E-01	4.339E-01	3.518E-01	2.214E-01	FAIL ABUN
AC-227	-7.892E-02	2.403E-01	2.112E-01	1.226E-01	FAIL ABUN
TH-227	-7.892E-02	2.404E-01	2.112E-01	1.226E-01	FAIL ABUN
TH-229	4.823E-02	3.106E-01	2.870E-01	1.585E-01	FAIL ABUN
PA-231	1.755E-01	9.754E-01	8.688E-01	4.977E-01	FAIL ABUN
TH-231	-4.586E-01	4.339E-01	3.518E-01	2.214E-01	FAIL ABUN
U-231	-9.749E-01	1.370E+00	1.076E+00	6.989E-01	FAIL ABUN
PA-233	-7.248E-03	3.872E-02	3.351E-02	1.975E-02	FAIL ABUN
PA-234	-1.117E-01	2.026E-01	1.646E-01	1.034E-01	FAIL ABUN
PA-234M	5.506E+00	3.171E+00	2.914E+00	1.618E+00	FAIL ABUN
U-235	4.173E-02	1.429E-01	1.258E-01	7.293E-02	FAIL ABUN
NP-236	-3.290E-02	5.259E-02	4.644E-02	2.683E-02	NOT IDENT.
NP-239	2.487E-02	1.309E-01	1.183E-01	6.679E-02	FAIL ABUN
AM-241	1.032E-02	1.433E-01	1.226E-01	7.311E-02	NOT IDENT.
CM-243	2.298E-02	6.756E-02	6.204E-02	3.447E-02	FAIL ABUN
AM-246	3.463E-02	8.522E-02	7.623E-02	4.348E-02	NOT IDENT.
CM-247	1.372E-02	2.084E-02	1.937E-02	1.063E-02	NOT IDENT.
CF-249	1.234E-02	2.394E-02	2.215E-02	1.221E-02	NOT IDENT.
CF-251	-9.684E-04	7.810E-02	7.236E-02	3.985E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
46.50	297.7102
46.50	297.7102
46.50	297.7102
48.70	321.8738
49.72	323.1958
51.35	324.3760
52.39	314.7988
52.97	320.9539
53.15	315.7148
53.44	315.1525
54.07	333.2504
56.28	329.5451
56.28	329.5487
57.37	0.0000
57.53	315.3263
57.53	315.3280
57.60	331.1292
57.98	326.9507
57.98	326.9507
59.32	335.0244
59.32	335.0244
59.40	335.1187
59.54	335.2835
59.72	324.3118
60.01	344.2315
61.10	376.4385
61.14	376.4906
61.30	376.6982
63.00	339.3018
63.29	339.6332
63.29	339.6332
63.58	339.9637
64.28	373.4164
65.12	377.3038
65.20	377.4034
65.20	377.4034
66.05	334.1845
66.72	353.5172
66.83	396.5983
66.91	396.6997
67.20	398.5051
67.20	398.5051
67.75	436.5454
67.85	446.7422
68.90	407.4008
68.90	407.4008
69.30	404.0680
69.67	406.8539
70.82	369.7434
70.82	369.7434
70.83	369.7551
72.80	484.3296
72.87	484.4335
72.87	484.4335
74.67	443.0556
74.81	443.2411
74.81	443.2411
74.81	443.2411
74.81	443.2411
74.81	443.2411
74.81	443.2411
74.81	443.2411
74.97	443.4519
75.28	443.8620
75.70	444.4150
77.11	446.2583
77.11	446.2583

77.11	446.2583
77.11	446.2583
77.11	446.2583
77.11	446.2583
77.11	446.2583
78.38	415.2768
79.62	482.2476
79.80	455.6895
79.80	455.6895
80.11	456.0911
80.18	456.1822
80.30	428.0016
80.30	428.0016
80.57	428.3301
81.00	407.9296
81.07	408.0108
81.07	408.0108
81.07	408.0108
81.07	408.0108
82.60	461.2908
83.37	395.5876
83.78	456.2731
83.78	456.2731
83.78	456.2731
83.78	456.2731
84.21	462.8422
84.90	436.5251
85.43	408.4133
86.29	483.6548
86.50	483.9273
86.54	483.9784
86.59	484.0442
86.72	527.2194
86.79	527.3148
86.94	527.5295
87.30	553.3760
87.30	553.3760
87.30	553.3760
87.30	553.3760
87.30	553.3760
87.30	553.3760
87.57	553.7731
87.88	592.8013
88.03	593.0389
88.36	536.6394
88.47	536.7952
89.95	538.8845
91.11	540.5093
92.29	478.4909
92.38	478.6023
92.38	478.6023
93.35	479.7851
94.00	480.5767
94.67	328.4955
94.67	328.5004
94.90	328.6896
94.90	328.6896
94.90	328.6896
94.90	328.6896
95.87	402.5337
95.87	402.5337
96.73	376.9194
97.43	360.4053
98.44	341.5899
98.44	341.5899
98.88	325.6729
99.55	316.7932
99.55	316.7932
99.86	337.9566
100.00	338.0716
100.10	338.1554
103.18	358.5730
103.76	336.8850
105.00	359.0443
105.31	356.1250
108.00	341.2695
109.28	340.1232

111.00	391.9042
111.00	391.9042
111.76	354.9236
112.95	321.3510
115.19	326.1798
116.30	342.1721
117.00	329.6324
117.00	329.6324
117.66	340.9937
121.11	341.2936
121.62	353.7418
121.78	353.8597
122.06	373.8586
122.32	374.0591
122.32	374.0591
122.32	374.0591
122.32	374.0591
123.07	351.5023
127.23	425.6182
129.76	337.3069
131.20	329.3085
133.02	354.0898
133.54	321.8140
135.34	352.2949
136.00	322.2137
136.25	334.8096
136.48	316.8514
140.51	394.5295
140.51	0.0000
142.18	335.1360
142.65	321.6905
143.76	328.0836
144.24	353.6310
144.24	353.6310
144.24	353.6310
144.24	353.6310
145.22	350.8133
145.44	350.9560
147.16	398.2184
152.43	325.0714
152.70	353.2010
153.22	355.6248
154.21	345.3692
154.21	345.3692
154.21	345.3692
154.21	345.3692
155.03	353.9382
156.02	354.5442
158.56	296.7429
159.00	0.0000
159.00	313.9327
160.31	357.3491
161.27	364.6452
162.32	347.5125
162.64	340.5834
163.35	325.8515
163.89	312.7781
165.85	321.8390
167.43	367.4898
171.28	294.9267
171.86	308.7425
172.10	316.0847
176.55	307.4059
176.60	307.4291
181.06	301.8710
184.41	301.9446
185.71	281.3231
186.00	281.4465
190.27	292.7177
192.34	288.4999
193.63	295.8452
197.04	313.2524
198.01	331.5327
198.60	326.1729
200.40	322.3001
201.83	347.5044
202.84	348.9442
205.31	358.3127

208.36	349.1579
208.81	318.4788
209.75	270.3874
209.75	270.3874
210.97	246.3563
215.65	263.7024
216.55	257.2751
218.09	275.1849
222.10	277.6146
223.80	314.2246
226.40	309.4276
227.00	323.3432
227.08	323.3760
227.20	326.3579
228.16	303.2807
228.18	303.2878
228.18	303.2878
231.56	0.0000
235.69	270.2309
236.00	273.4971
236.00	273.4971
238.63	270.6256
238.63	270.6256
238.63	270.6256
238.63	270.6256
239.00	270.7485
240.98	271.4087
241.98	271.7420
241.98	271.7420
241.98	271.7420
244.69	233.2917
245.39	217.4971
247.94	237.9508
248.90	250.9384
249.79	242.1620
252.40	221.7473
252.85	234.9750
252.85	234.9750
254.15	0.0000
256.20	252.1013
256.20	252.1013
260.50	239.1165
260.90	0.0000
262.80	236.6906
264.65	234.4634
268.24	216.8042
268.79	220.2265
269.46	238.4818
269.46	238.4818
269.46	238.4818
269.46	238.4818
271.23	245.5481
273.65	277.6060
276.40	238.2579
277.35	226.0632
277.60	226.1231
277.60	226.1231
278.00	224.1475
278.60	242.9871
279.20	235.8707
279.53	250.5060
280.46	246.6014
281.68	241.7174
283.67	225.5317
284.30	232.9972
285.00	239.4478
285.90	0.0000
286.10	230.3058
286.10	230.3058
287.40	231.6764
288.45	0.0000
290.67	233.9517
290.80	233.9856
291.72	242.6379
293.26	0.0000
293.70	222.8789
295.21	223.2334
295.21	223.2334

295.21	223.2334
295.96	223.4074
296.50	182.0440
297.23	182.1805
298.57	182.4351
299.80	222.5977
299.80	222.5977
300.09	222.6648
300.09	222.6648
300.09	222.6648
300.09	222.6648
300.12	222.6712
301.29	195.7078
302.84	178.9742
303.76	182.5557
303.91	182.5818
304.40	187.7949
304.40	187.7949
304.84	191.2969
306.84	193.6078
308.46	192.8540
311.98	189.2344
316.51	197.6459
318.01	204.4289
319.02	207.8789
319.41	204.7087
320.08	205.9251
323.87	239.3225
323.87	239.3225
323.87	239.3225
323.87	239.3225
325.23	254.8842
328.77	185.8026
333.44	226.5909
334.20	202.1428
334.20	202.1428
334.30	202.1625
338.28	215.0487
338.28	215.0487
338.28	215.0487
338.28	215.0487
338.32	215.0576
338.32	215.0576
338.32	215.0576
340.50	189.1936
340.57	189.2066
344.27	181.8699
345.85	186.5750
350.59	0.0000
351.07	172.9583
351.92	173.0931
351.92	173.0931
351.92	173.0931
355.39	0.0000
356.01	156.0201
364.48	155.3900
366.43	161.0865
367.43	145.8296
367.94	0.0000
369.80	158.8373
374.96	132.1957
383.85	155.2440
387.95	163.1524
388.63	161.4008
391.69	179.3790
391.69	179.3790
392.90	164.7499
398.62	156.2265
400.65	157.4143
401.10	143.4971
401.81	137.9849
402.60	139.0054
404.84	182.2507
410.95	140.8795
411.60	146.5909
413.65	184.4773
414.70	157.3127
415.30	150.7910

415.76	147.0746
417.63	0.0000
418.52	158.7305
423.70	153.6825
427.08	145.5237
427.89	140.8566
432.53	138.4916
433.93	151.0701
439.47	137.3024
439.56	137.3111
439.89	142.1483
443.98	142.5837
444.90	146.5375
445.03	145.5882
445.03	145.5882
445.03	145.5882
445.03	145.5882
453.90	133.9284
463.38	120.1953
468.07	104.5859
473.00	144.6385
475.06	129.0827
475.35	121.2253
476.78	138.1184
477.59	142.1455
477.96	156.0057
482.03	138.6277
484.57	140.8560
487.03	123.2114
490.36	0.0000
492.35	0.0000
497.08	122.0611
507.63	0.0000
510.53	0.0000
510.84	166.6154
511.00	166.6325
511.85	168.4113
511.85	168.4113
513.99	123.1132
513.99	123.1132
520.41	109.7455
520.65	109.7640
527.90	0.0000
528.96	0.0000
529.64	130.8500
529.87	0.0000
531.02	130.9656
537.32	107.8685
543.00	110.3176
546.56	0.0000
549.76	111.8232
552.65	123.4334
555.20	112.2003
563.23	114.8447
563.90	110.7126
568.70	112.0862
569.32	105.8404
569.50	118.4265
569.67	118.4403
573.80	125.0401
574.00	129.2581
574.64	141.9247
578.91	121.2076
579.30	0.0000
583.14	112.0039
585.48	98.7565
591.81	110.9263
592.07	105.1609
593.00	96.7142
595.88	124.5582
600.56	139.8400
602.52	0.0000
602.71	133.6029
602.71	133.6029
603.60	153.2750
604.41	139.0835
604.70	137.3223
609.31	125.1689

609.31	125.1689
609.31	125.1689
609.31	125.1689
610.33	116.2970
612.46	123.6025
614.37	120.1507
618.01	125.0710
621.84	97.2466
621.84	97.2466
631.29	94.5042
633.02	104.3789
633.10	110.9076
634.78	104.4820
635.90	118.7025
636.97	137.2988
645.85	111.6870
646.12	114.9899
656.30	137.6465
657.75	135.9166
657.90	0.0000
661.65	116.8766
661.65	116.8766
664.57	0.0000
666.33	152.2235
666.33	152.2235
675.00	121.4106
677.61	101.1585
685.20	91.3108
692.80	118.7938
695.00	115.1824
696.49	133.0759
696.49	133.0759
697.00	130.2984
697.49	135.0205
698.33	147.2705
698.50	147.2833
699.00	135.1230
702.63	121.2708
706.10	112.0661
706.58	0.0000
706.67	109.2739
709.31	111.3044
711.68	101.9927
713.82	115.3381
717.42	110.8110
720.50	109.5572
721.93	0.0000
722.20	104.1563
722.78	110.6992
722.78	110.6992
722.89	110.7040
722.95	110.7063
723.30	112.3560
724.18	101.0008
727.18	119.9117
733.00	91.6230
735.90	98.4422
739.58	99.5757
742.81	87.2657
744.21	97.8787
747.13	112.4321
751.79	98.2356
752.31	101.1505
753.82	111.8275
755.35	99.3684
756.15	108.0921
756.87	99.0008
763.93	91.3316
765.79	102.7694
766.42	102.7996
766.84	102.8190
776.49	108.4225
778.00	107.2563
778.57	111.1866
778.89	109.2520
783.80	88.9690
785.46	104.6925
792.07	105.0103

795.84	101.2586
796.30	105.2128
798.80	148.6468
801.93	94.6387
805.60	96.7698
810.29	84.1094
810.76	83.1387
815.85	84.3186
817.79	90.3502
818.51	78.4600
819.60	84.4604
826.30	84.7112
828.27	0.0000
831.60	120.8695
831.96	114.8947
834.83	94.0306
836.80	0.0000
846.75	96.5293
848.13	101.6185
856.28	0.0000
856.80	140.3716
860.37	73.8332
867.32	114.6254
867.82	102.4754
871.10	95.5051
873.19	97.6230
874.81	91.5839
875.33	0.0000
876.40	87.5712
879.36	109.0899
880.27	99.9520
880.51	103.0220
881.50	104.0856
883.24	101.0967
884.67	94.0046
889.25	107.4930
896.60	99.6030
898.02	97.6073
899.00	93.5346
903.28	104.1410
911.07	96.0614
911.07	96.0614
911.07	96.0614
919.63	95.7706
920.93	90.2214
925.00	99.7168
925.24	99.7266
926.50	97.6987
935.52	84.4887
937.48	115.8712
944.10	100.4746
946.00	112.0701
949.00	81.7927
962.29	104.8013
964.01	94.9274
966.15	95.0061
968.20	95.0793
969.11	95.1141
969.11	95.1141
969.11	95.1141
977.42	95.4163
980.50	99.7736
983.50	96.6986
989.30	85.1969
996.32	118.5224
1001.03	71.6673
1001.68	81.3128
1004.76	123.1819
1021.30	0.0000
1024.50	0.0000
1034.80	85.5576
1036.00	80.7979
1037.82	90.1425
1038.57	82.7298
1038.76	0.0000
1045.16	89.4509
1046.59	97.8882
1048.07	90.4774

1050.47	77.4854
1050.47	77.4854
1062.04	80.6160
1063.62	90.9781
1076.63	84.8019
1077.35	81.9934
1078.86	79.2100
1085.78	102.0862
1099.22	113.0068
1112.02	96.8094
1112.84	91.8289
1115.52	81.8860
1120.29	103.7773
1120.29	103.7773
1120.29	103.7773
1120.29	103.7773
1120.51	103.7849
1121.28	78.6957
1124.00	0.0000
1129.67	90.9318
1131.51	0.0000
1147.95	0.0000
1167.94	100.0866
1173.22	104.1526
1175.09	104.2160
1177.93	102.3633
1189.05	118.3835
1204.90	106.1995
1205.75	0.0000
1213.00	110.4180
1221.42	128.4992
1230.97	142.7645
1235.34	108.2131
1236.41	0.0000
1238.25	103.3398
1246.25	93.6361
1260.41	0.0000
1271.85	91.3586
1274.45	112.5273
1274.54	106.5028
1291.56	72.7107
1298.22	0.0000
1312.09	60.9626
1325.50	68.3413
1325.50	68.3413
1332.49	69.5036
1333.61	70.5474
1360.21	45.3320
1362.66	0.0000
1365.15	44.3647
1368.21	46.7058
1368.53	0.0000
1376.25	53.8191
1384.27	41.9538
1394.10	39.5268
1395.20	46.8222
1407.95	41.7662
1434.06	30.4979
1436.60	53.6717
1457.56	0.0000
1460.81	31.5129
1489.15	39.4880
1509.49	32.8584
1596.49	35.5095
1620.62	19.3085
1678.03	0.0000
1691.02	16.6908
1691.02	16.6908
1706.46	0.0000
1750.46	0.0000
1764.49	21.3021
1764.49	21.3021
1764.49	21.3021
1764.49	21.3021
1770.23	24.8843
1771.40	108.0099
1791.20	0.0000
1808.65	18.1516

1836.01

29.4204

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978010

Total Uranium Activity	8.6036E+00	ug/g
Total Uranium Counting Unc.	5.3046E+00	ug/g
Total Uranium Tpu	2.7064E-06	ug/g
Total Uranium Mda	2.7496E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 948721                          SAMPLE ID   : G245978010
*  ANALYST       : MXR1                             DETECTOR    : GAM18
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 14-FEB-2010 12:17:41.84          SAMPLE ALQT  : 165.200 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 6.380E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 8.448E-01
GROSS GAMMA MDA     (pCi/GRAM ) : 1.541E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 7.468E-01

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 14:19:15.13

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978011.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:18:10
Sample ID     : G245978011 Sample quantity : 1.43560E+02 GRAM
Detector name : GAM23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.75 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 948721 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.32*	99	440	1.33	126.64	123	9	1.38E-02	40.1	
2	3	74.71*	385	431	1.18	149.42	143	16	5.34E-02	10.4	3.18E+00
3	3	76.96	619	409	1.20	153.93	143	16	8.59E-02	7.0	
4	0	87.22	138	515	0.95	174.45	169	8	1.92E-02	29.6	
5	4	89.84	155	227	1.08	179.69	177	14	2.15E-02	15.1	2.10E-01
6	4	92.83*	300	511	1.89	185.65	177	14	4.16E-02	16.8	
7	0	185.78*	255	305	1.47	371.55	366	11	3.54E-02	15.3	
8	0	208.80	131	269	1.73	417.60	414	10	1.81E-02	25.3	
9	3	238.32*	1215	196	1.12	476.63	469	19	1.69E-01	3.5	1.36E+00
10	3	241.34	338	267	1.77	482.68	469	19	4.70E-02	13.6	
11	0	269.78	118	171	1.55	539.56	535	10	1.63E-02	22.7	
12	0	294.83*	350	270	1.27	589.67	583	13	4.86E-02	11.1	
13	0	299.97	80	192	1.16	599.95	595	10	1.11E-02	34.6	
14	0	327.21	51	214	0.67	654.42	651	11	7.15E-03	56.5	
15	0	337.76	282	190	1.54	675.53	668	13	3.92E-02	11.7	
16	0	351.45*	633	123	1.35	702.90	697	11	8.80E-02	5.3	
17	0	462.34*	80	94	1.11	924.68	919	11	1.12E-02	26.3	
18	0	510.37*	157	149	1.93	1020.74	1011	18	2.18E-02	21.6	
19	0	582.58*	400	94	1.81	1165.16	1158	15	5.56E-02	7.3	
20	0	608.66*	468	88	1.33	1217.32	1209	16	6.50E-02	6.5	
21	0	726.49	100	59	1.81	1452.99	1446	14	1.38E-02	19.2	
22	6	767.08	45	52	2.16	1534.17	1530	23	6.21E-03	31.2	5.09E+00
23	6	771.78*	33	101	3.20	1543.56	1530	23	4.64E-03	76.9	
24	0	910.43*	243	105	1.68	1820.86	1813	17	3.37E-02	11.8	
25	0	968.72	78	113	0.88	1937.45	1928	13	1.09E-02	29.9	
26	0	1119.74	94	62	1.68	2239.49	2233	14	1.30E-02	20.0	
27	0	1388.51	11	41	7.95	2777.01	2760	24	1.49E-03	162.0	
28	0	1459.64*	998	20	2.72	2919.27	2909	19	1.39E-01	3.4	
29	0	1763.17*	79	4	1.54	3526.34	3519	15	1.09E-02	12.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 14:19:19

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:18:10
Sample ID        : G245978011 Sample quantity : 143.56 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.75 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.453E+01	2.466E+00	5.803E-01	4.341E-02	42.266
NB-95	+	765.79	*	7.973E-02	5.010E-02	6.807E-02	4.574E-03	1.171
CD-109	+	88.03	*	1.913E+00	1.149E+00	1.365E+00	1.332E-01	1.402
SN-126	+	64.28		1.040E+00	8.492E-01	9.942E-01	1.513E-01	1.046
	+	86.94		7.785E-01	5.638E-01	6.725E-01	2.797E-01	1.158
	+	87.57	*	1.873E-01	1.125E-01	1.344E-01	1.307E-02	1.394
TL-208		277.35		3.616E-01	3.907E-01	6.504E-01	6.873E-02	0.556
	+	510.84		7.465E-01	3.313E-01	2.253E-01	2.289E-02	3.313
	+	583.14	*	5.460E-01	8.762E-02	6.020E-02	3.908E-03	9.070
		860.37		2.525E-01	3.248E-01	5.719E-01	5.169E-02	0.442
BI-211		72.87		1.116E+01	4.137E+00	6.486E+00	5.721E-01	1.721
	+	351.07	*	3.718E+00	4.617E-01	3.256E-01	2.121E-02	11.420
PB-212	+	74.81		2.324E+00	5.687E-01	6.083E-01	7.847E-02	3.820
	+	77.11		2.093E+00	3.493E-01	3.408E-01	3.067E-02	6.141
	+	87.30		8.661E-01	5.274E-01	6.236E-01	8.691E-02	1.389
	+	238.63	*	1.536E+00	1.541E-01	9.142E-02	6.573E-03	16.802
	+	300.09		1.568E+00	1.092E+00	1.111E+00	9.228E-02	1.411
PO-212	+	74.81		2.324E+00	5.687E-01	6.083E-01	7.847E-02	3.820
	+	77.11		2.093E+00	3.493E-01	3.408E-01	3.067E-02	6.141
	+	87.30		8.661E-01	5.274E-01	6.236E-01	8.691E-02	1.389
		115.19		-1.023E+00	3.653E+00	5.954E+00	3.798E-01	-0.172
	+	238.63	*	1.536E+00	1.541E-01	9.142E-02	6.573E-03	16.802
	+	300.09		1.568E+00	1.092E+00	1.111E+00	9.228E-02	1.411
BI-214	+	609.31	*	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
	+	1120.29		1.291E+00	5.301E-01	4.195E-01	3.899E-02	3.077
	+	1764.49		1.490E+00	3.924E-01	2.563E-01	1.594E-02	5.813
PB-214	+	74.81		4.004E+00	9.530E-01	1.048E+00	1.213E-01	3.820
	+	77.11		3.588E+00	6.582E-01	5.843E-01	6.889E-02	6.141
	+	87.30		1.484E+00	8.986E-01	1.068E+00	1.324E-01	1.389
	+	241.98		2.569E+00	7.283E-01	5.207E-01	4.142E-02	4.933
	+	295.21		1.208E+00	2.880E-01	2.137E-01	1.832E-02	5.651
	+	351.92	*	1.293E+00	1.742E-01	1.164E-01	9.719E-03	11.107
PO-214	+	74.81		4.004E+00	9.530E-01	1.048E+00	1.213E-01	3.820
	+	77.11		3.588E+00	6.582E-01	5.843E-01	6.889E-02	6.141

Sample ID : G245978011

Acquisition date : 14-FEB-2010 12:18:10

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	87.30		1.484E+00	8.986E-01	1.068E+00	1.324E-01	1.389
	+	241.98		2.569E+00	7.283E-01	5.207E-01	4.142E-02	4.933
	+	295.21		1.208E+00	2.880E-01	2.137E-01	1.832E-02	5.651
	+	351.92	*	1.293E+00	1.742E-01	1.164E-01	9.719E-03	11.107
	+	74.81		2.324E+00	5.687E-01	6.083E-01	7.847E-02	3.820
	+	77.11		2.093E+00	3.493E-01	3.408E-01	3.067E-02	6.141
	+	87.30		8.661E-01	5.274E-01	6.236E-01	8.691E-02	1.389
PO-218	+	238.63	*	1.536E+00	1.541E-01	9.142E-02	6.573E-03	16.802
	+	300.09		1.568E+00	1.092E+00	1.111E+00	9.228E-02	1.411
	+	74.81		4.004E+00	9.530E-01	1.048E+00	1.213E-01	3.820
	+	77.11		3.588E+00	6.582E-01	5.843E-01	6.889E-02	6.141
	+	87.30		1.484E+00	8.986E-01	1.068E+00	1.324E-01	1.389
	+	241.98		2.569E+00	7.283E-01	5.207E-01	4.142E-02	4.933
	+	295.21		1.208E+00	2.880E-01	2.137E-01	1.832E-02	5.651
RA-224	+	351.92	*	1.293E+00	1.742E-01	1.164E-01	9.719E-03	11.107
	+	240.98	*	4.871E+00	1.354E+00	1.040E+00	5.862E-02	4.682
	+	609.31	*	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
RA-226	+	1120.29		1.291E+00	5.301E-01	4.195E-01	3.899E-02	3.077
	+	1764.49		1.490E+00	3.924E-01	2.563E-01	1.594E-02	5.813
	+	338.32		1.822E+00	8.573E-01	3.857E-01	1.573E-01	4.725
AC-228	+	911.07	*	1.500E+00	3.945E-01	2.416E-01	2.788E-02	6.211
	+	969.11		8.563E-01	5.503E-01	3.983E-01	9.274E-02	2.150
	+	338.32		1.822E+00	8.573E-01	3.857E-01	1.573E-01	4.725
RA-228	+	911.07	*	1.500E+00	3.945E-01	2.416E-01	2.788E-02	6.211
	+	969.11		8.563E-01	5.503E-01	3.983E-01	9.274E-02	2.150
	+	74.81		2.366E+00	5.358E-01	6.193E-01	5.551E-02	3.820
TH-228	+	77.11		2.131E+00	3.556E-01	3.470E-01	3.122E-02	6.141
	+	87.30		8.818E-01	5.297E-01	6.349E-01	6.163E-02	1.389
	+	238.63	*	1.564E+00	1.569E-01	9.307E-02	6.692E-03	16.802
TH-230	+	300.09		1.596E+00	1.451E+00	1.131E+00	6.669E-01	1.411
	+	609.31	*	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
	+	1120.29		1.291E+00	5.301E-01	4.195E-01	3.899E-02	3.077
TH-232	+	1764.49		1.490E+00	3.924E-01	2.563E-01	1.594E-02	5.813
	+	338.32		1.822E+00	4.408E-01	3.857E-01	2.278E-02	4.725
	+	911.07	*	1.500E+00	3.945E-01	2.416E-01	2.788E-02	6.211
TH-234	+	969.11		8.563E-01	5.503E-01	3.983E-01	9.274E-02	2.150
	+	63.29	*	2.628E+00	2.160E+00	2.549E+00	4.594E-01	1.031
	+	92.38		2.588E+00	9.874E-01	7.476E-01	1.363E-01	3.462
U-234	+	609.31	*	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
	+	1120.29		1.291E+00	5.301E-01	4.195E-01	3.899E-02	3.077
	+	1764.49		1.490E+00	3.924E-01	2.563E-01	1.594E-02	5.813
NP-237	+	86.50	*	5.499E-01	3.493E-01	4.256E-01	9.693E-02	1.292
	+	95.87		-1.186E+00	1.146E+00	1.526E+00	3.746E-01	-0.777
U-238	+	63.29	*	2.628E+00	2.160E+00	2.549E+00	4.594E-01	1.031
	+	92.38		2.588E+00	8.976E-01	7.476E-01	6.681E-02	3.462
AM-243	+	74.67	*	3.768E-01	8.521E-02	9.900E-02	8.798E-03	3.806
	+	86.72		2.062E+01	1.239E+01	1.522E+01	1.469E+00	1.355
	+	117.66		-1.441E+00	3.855E+00	6.253E+00	3.872E-01	-0.230
	+	142.18		1.180E+01	1.871E+01	3.079E+01	1.677E+00	0.383

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	1.613E-01	7.030E-02	4.868E-02	2.828E-03	3.312

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-1.964E-01	3.524E-01	5.580E-01	3.792E-02	-0.352
NA-22		1274.54	*	-4.821E-02	4.696E-02	6.761E-02	4.541E-03	-0.713
NA-24		1368.53	*	-1.396E+01	4.696E-02	Half-Life	too short	
AL-26		1129.67		-1.308E-01	1.718E+00	2.801E+00	1.784E-01	-0.047
		1808.65	*	-1.711E-02	2.811E-02	4.005E-02	2.407E-03	-0.427
TI-44		67.85		-4.094E-03	6.364E-02	8.703E-02	7.579E-03	-0.047
	+	78.38	*	3.863E-01	6.446E-02	8.591E-02	7.788E-03	4.496
SC-46		889.25	*	2.641E-02	4.010E-02	7.063E-02	6.310E-03	0.374
	+	1120.51		2.263E-01	9.173E-02	1.331E-01	8.670E-03	1.701
V-48		944.10		-4.907E-01	1.088E+00	1.732E+00	1.509E-01	-0.283
		983.50	*	7.058E-02	8.148E-02	1.454E-01	1.210E-02	0.485
		1312.09		-4.846E-02	9.798E-02	1.499E-01	1.067E-02	-0.323
CR-51		320.08	*	-6.757E-02	3.958E-01	6.577E-01	4.313E-02	-0.103
MN-52		744.21		-1.111E-02	3.431E-01	5.499E-01	3.501E-02	-0.020
		848.13		-7.473E+00	9.385E+00	1.447E+01	1.181E+00	-0.516
		935.52		3.283E-01	3.922E-01	6.949E-01	6.109E-02	0.472
		1246.25		-7.062E+00	1.189E+01	1.831E+01	1.172E+00	-0.386
		1333.61		1.302E+00	7.260E+00	1.207E+01	8.857E-01	0.108
		1434.06	*	7.881E-02	3.564E-01	5.944E-01	4.301E-02	0.133
MN-54		834.83	*	3.506E-02	4.152E-02	7.348E-02	5.818E-03	0.477
CO-56		846.75	*	-3.094E-02	3.824E-02	5.879E-02	4.782E-03	-0.526
		977.42		-2.448E+00	2.792E+00	4.165E+00	3.492E-01	-0.588
		1037.82		-8.413E-02	3.042E-01	4.874E-01	3.995E-02	-0.173
		1175.09		-1.497E+00	2.335E+00	3.577E+00	2.025E-01	-0.419
		1238.25		2.301E-01	1.113E-01	2.060E-01	1.370E-02	1.117
		1360.21		9.920E-02	9.466E-01	1.560E+00	1.142E-01	0.064
		1771.40		-3.020E-01	2.514E-01	3.157E-01	1.953E-02	-0.957
CO-57		122.06	*	1.670E-03	2.633E-02	4.340E-02	2.559E-03	0.038
		136.48		-6.447E-02	2.261E-01	3.666E-01	2.384E-02	-0.176
CO-58		810.76	*	-1.033E-02	4.008E-02	6.562E-02	4.930E-03	-0.157
FE-59		142.65		2.399E+00	3.017E+00	4.992E+00	2.715E-01	0.481
		192.34		5.220E-01	1.035E+00	1.653E+00	1.913E-01	0.316
		1099.22	*	1.918E-02	1.055E-01	1.764E-01	1.359E-02	0.109
		1291.56		-1.521E-01	1.342E-01	1.875E-01	1.556E-02	-0.811
CO-60		1173.22		-3.815E-02	4.692E-02	7.065E-02	3.985E-03	-0.540
		1332.49	*	2.027E-02	3.983E-02	6.878E-02	5.049E-03	0.295
ZN-65		1115.52	*	1.007E-01	1.130E-01	1.768E-01	1.168E-02	0.570
GE-68		1077.35	*	6.980E-01	1.359E+00	2.341E+00	1.675E-01	0.298
AS-73		53.44	*	7.232E-02	1.105E+00	1.862E+00	1.644E-01	0.039
AS-74		595.88	*	-6.854E-02	1.054E-01	1.625E-01	8.965E-03	-0.422
		634.78		2.916E-01	4.234E-01	6.848E-01	3.625E-02	0.426
SE-75		66.05		4.778E-01	6.273E+00	9.270E+00	9.729E-01	0.052
		96.73		-8.003E-01	9.092E-01	1.253E+00	1.680E-01	-0.639

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-3.755E-02	1.426E-01	2.321E-01	2.164E-02	-0.162
		136.00		-1.741E-02	4.327E-02	6.984E-02	3.944E-03	-0.249
		198.60		6.231E-01	1.955E+00	3.202E+00	2.162E-01	0.195
		264.65	*	-1.520E-02	5.253E-02	7.152E-02	4.163E-03	-0.213
		279.53		4.144E-03	1.096E-01	1.852E-01	1.165E-02	0.022
		303.91		3.102E-01	2.273E+00	3.361E+00	3.225E-01	0.092
		400.65		-2.673E-01	2.674E-01	4.151E-01	3.777E-02	-0.644
BR-77	+	87.88		9.578E+02	5.754E+02	8.313E+02	8.112E+01	1.152
		200.40		2.951E+02	4.245E+02	7.047E+02	3.770E+01	0.419
	+	239.00		5.740E+02	5.153E+01	8.815E+01	4.956E+00	6.511
		249.79		9.936E+01	1.528E+02	2.532E+02	1.440E+01	0.392
		281.68		-1.887E+02	2.067E+02	3.325E+02	1.938E+01	-0.568
		297.23		5.411E+02	2.202E+02	2.756E+02	1.619E+01	1.963
		303.76		5.709E+01	4.429E+02	6.546E+02	3.853E+01	0.087
		439.47		2.034E+02	3.309E+02	5.687E+02	3.327E+01	0.358
		484.57		6.104E+02	5.723E+02	1.004E+03	5.872E+01	0.608
		520.65	*	2.262E+01	2.380E+01	4.171E+01	2.414E+00	0.542
		574.64		-4.826E+01	5.155E+02	7.853E+02	4.408E+01	-0.061
		578.91		2.891E+02	2.251E+02	3.601E+02	2.014E+01	0.803
		585.48		1.844E+03	5.594E+02	9.790E+02	5.448E+01	1.883
		755.35		2.025E+02	4.365E+02	7.276E+02	4.764E+01	0.278
		817.79		6.240E+01	2.927E+02	4.994E+02	3.802E+01	0.125
SR-82		698.33		-1.003E+01	4.096E+01	6.483E+01	3.662E+00	-0.155
		776.49	*	-1.359E-01	4.667E-01	6.517E-01	4.496E-02	-0.208
		1395.20		-1.256E+01	1.528E+01	1.741E+01	1.269E+00	-0.721
RB-83		520.41	*	6.578E-02	6.920E-02	1.213E-01	7.021E-03	0.542
		529.64		7.227E-02	1.137E-01	1.945E-01	1.122E-02	0.371
		552.65		-2.023E-02	2.121E-01	3.443E-01	1.961E-02	-0.059
RB-84		881.50	*	3.457E-02	7.245E-02	1.260E-01	1.107E-02	0.274
KR-85		513.99	*	8.904E+00	8.141E+00	1.273E+01	7.385E-01	0.700
SR-85		513.99	*	4.706E-02	4.303E-02	6.727E-02	3.904E-03	0.700
RB-86		1076.63	*	4.271E-01	9.630E-01	1.649E+00	1.182E-01	0.259
Y-88		898.02		-2.286E-02	4.365E-02	6.914E-02	6.322E-03	-0.331
		1836.01	*	7.768E-03	3.494E-02	6.017E-02	3.543E-03	0.129
ZR-88		392.90	*	8.947E-03	3.219E-02	5.436E-02	3.139E-03	0.165
Y-91		1204.90	*	4.758E+00	2.133E+01	3.557E+01	2.122E+00	0.134
NB-94		702.63	*	5.797E-03	3.791E-02	6.187E-02	3.535E-03	0.094
		871.10		6.174E-03	3.148E-02	5.351E-02	4.595E-03	0.115
NB-95M		235.69	*	6.939E-01	1.797E-01	2.903E-01	2.141E-02	2.391
ZR-95		724.18		1.660E-01	1.205E-01	1.914E-01	1.353E-02	0.867
		756.15	*	3.805E-02	8.233E-02	1.372E-01	1.053E-02	0.277
NB-97		657.90	*	-1.432E+00	8.233E-02	Half-Life	too short	
		1024.50		1.064E+02	8.233E-02	Half-Life	too short	
ZR-97		254.15		-1.267E+02	8.233E-02	Half-Life	too short	
		355.39		4.317E+01	8.233E-02	Half-Life	too short	
		507.63	*	9.529E+01	8.233E-02	Half-Life	too short	
		602.52		5.619E+01	8.233E-02	Half-Life	too short	
		1021.30		7.501E+00	8.233E-02	Half-Life	too short	
		1147.95		-2.918E+01	8.233E-02	Half-Life	too short	

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1362.66			5.976E+01	8.233E-02	Half-Life	too short	
	1750.46			-7.662E+00	8.233E-02	Half-Life	too short	
	140.51			-1.230E+01	5.943E+01	9.515E+01	2.558E+01	-0.129
	181.06			1.493E+01	4.006E+01	5.800E+01	9.830E+00	0.257
	366.43			3.600E+01	1.724E+02	2.909E+02	1.705E+01	0.124
	739.58	*		1.572E+01	2.445E+01	4.147E+01	5.804E+00	0.379
TC-99M	778.00			-6.451E+01	8.595E+01	1.132E+02	7.839E+00	-0.570
	140.51	*		-2.573E+13	8.595E+01	Half-Life	too short	
	127.23			-6.130E-03	3.376E-02	5.508E-02	3.163E-03	-0.111
RH-101	198.01	*		1.199E-02	3.512E-02	5.759E-02	3.070E-03	0.208
	325.23			3.114E-01	2.558E-01	4.044E-01	2.389E-02	0.770
RH-102	418.52			1.249E-01	2.856E-01	4.861E-01	2.832E-02	0.257
	475.06	*		1.649E-02	2.960E-02	5.057E-02	2.960E-03	0.326
	631.29			-8.503E-03	5.436E-02	8.702E-02	4.626E-03	-0.098
+	697.49			2.109E-02	8.359E-02	1.376E-01	7.753E-03	0.153
	766.84			1.948E-01	1.224E-01	1.974E-01	1.330E-02	0.987
	1046.59			-4.289E-02	1.240E-01	1.979E-01	1.499E-02	-0.217
RU-103	1112.84			-3.532E-02	2.741E-01	3.798E-01	2.520E-02	-0.093
	497.08	*		-8.801E-03	4.420E-02	7.160E-02	9.064E-03	-0.123
RH-106	610.33			1.181E+01	2.310E+00	2.986E+00	4.565E-01	3.956
	511.85	+		8.098E-01	3.530E-01	4.181E-01	2.428E-02	1.937
RU-106	621.84	*		7.486E-02	3.001E-01	4.980E-01	5.743E-02	0.150
	1050.47	+		6.716E-01	2.559E+00	4.319E+00	3.249E-01	0.155
	511.85			8.098E-01	3.530E-01	4.181E-01	2.428E-02	1.937
AG-108M	621.84	*		7.486E-02	3.000E-01	4.980E-01	2.676E-02	0.150
	1050.47			6.716E-01	2.559E+00	4.319E+00	3.249E-01	0.155
	433.93	*		-7.040E-03	3.206E-02	5.225E-02	3.313E-03	-0.135
AG-110M	614.37			1.929E-02	3.727E-02	5.588E-02	3.320E-03	0.345
	722.95			2.141E-02	4.599E-02	6.763E-02	4.397E-03	0.317
	657.75	*		-2.908E-02	3.634E-02	5.473E-02	3.041E-03	-0.531
	677.61			-2.356E-02	3.255E-01	5.229E-01	2.993E-02	-0.045
	706.67			-9.366E-02	2.267E-01	3.529E-01	2.162E-02	-0.265
	763.93			-4.174E-02	2.044E-01	2.748E-01	1.924E-02	-0.152
	884.67			-5.617E-03	5.023E-02	8.286E-02	7.554E-03	-0.068
	937.48			-1.669E-01	1.229E-01	1.775E-01	1.611E-02	-0.940
	1384.27			1.038E-02	1.771E-01	2.893E-01	2.194E-02	0.036
IN-111	171.28			1.116E+00	2.149E+00	3.567E+00	1.830E-01	0.313
	245.39	*		2.346E-01	2.373E+00	3.344E+00	1.893E-01	0.070
IN-113M	391.69	*		-9.727E-04	4.663E-02	7.742E-02	4.770E-03	-0.013
SN-113	391.69	*		-9.727E-04	4.663E-02	7.742E-02	4.770E-03	-0.013
IN-114M	190.27	*		8.816E-02	2.144E-01	3.112E-01	1.640E-02	0.283
CD-115	260.90			-8.826E-05	2.144E-01	Half-Life	too short	
	492.35			-1.551E-05	2.144E-01	Half-Life	too short	
	527.90	*		7.160E-07	2.144E-01	Half-Life	too short	
SN-117M	156.02			9.852E-01	2.681E+00	4.436E+00	2.321E-01	0.222
	158.56	*		-7.182E-03	6.363E-02	1.033E-01	5.366E-03	-0.070
SB-122	563.90	*		2.760E+00	4.590E+00	7.812E+00	4.419E-01	0.353
	692.80			-9.121E+00	9.663E+01	1.548E+02	8.614E+00	-0.059
I-123	159.00	*		-9.189E+01	9.663E+01	Half-Life	too short	

---- Non-Identified Nuclides ----

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	528.96			1.463E+04	9.663E+01	Half-Life	too short	
TE-123M	159.00	*		-1.178E-02	2.916E-02	4.674E-02	2.466E-03	-0.252
I-124	602.71	*		5.105E-01	1.229E+00	1.806E+00	9.899E-02	0.283
	722.78			2.936E+00	7.713E+00	1.123E+01	6.769E-01	0.261
	1325.50			1.873E+01	5.670E+01	9.593E+01	6.967E+00	0.195
	1376.25			6.081E+01	6.513E+01	1.036E+02	7.569E+00	0.587
	1509.49			1.469E+01	2.964E+01	5.082E+01	3.604E+00	0.289
	1691.02			-1.014E+00	5.703E+00	9.145E+00	5.969E-01	-0.111
SB-124	602.71			1.898E-02	4.569E-02	6.715E-02	3.682E-03	0.283
	645.85			2.475E-01	5.153E-01	8.693E-01	5.247E-02	0.285
	709.31			-1.702E+00	3.018E+00	4.626E+00	2.690E-01	-0.368
	713.82			1.058E+00	1.739E+00	2.945E+00	3.021E-01	0.359
	722.78			1.582E-01	4.157E-01	6.054E-01	3.807E-02	0.261
	+ 968.20			9.115E+00	5.514E+00	7.079E+00	6.002E-01	1.288
	1045.16			-3.810E-01	2.687E+00	4.374E+00	3.321E-01	-0.087
	1325.50			1.078E+00	3.263E+00	5.521E+00	4.010E-01	0.195
	1368.21			-1.407E+00	1.828E+00	2.608E+00	3.307E-01	-0.540
	1436.60			1.416E+00	4.263E+00	7.203E+00	5.209E-01	0.197
	1691.02	*		-1.289E-02	7.249E-02	1.162E-01	8.105E-03	-0.111
SB-125	427.89	*		9.034E-03	9.332E-02	1.554E-01	9.456E-03	0.058
	+ 463.38			7.446E-01	3.954E-01	5.524E-01	3.763E-02	1.348
	600.56			1.132E-01	1.991E-01	3.096E-01	1.995E-02	0.366
	635.90			2.826E-01	2.766E-01	4.850E-01	3.084E-02	0.583
TE-125M	109.28	*		-7.290E-01	1.036E+01	1.705E+01	1.523E+00	-0.043
I-126	388.63			-4.018E-02	2.390E-01	3.935E-01	2.276E-02	-0.102
	666.33	*		4.575E-02	2.301E-01	3.781E-01	1.957E-02	0.121
	753.82			1.364E+00	1.924E+00	3.268E+00	2.132E-01	0.417
SB-126	223.80			2.460E+00	5.158E+00	8.474E+00	4.680E-01	0.290
	278.60			2.536E+00	2.856E+00	5.003E+00	2.910E-01	0.507
	296.50			1.308E+01	3.135E+00	4.293E+00	2.520E-01	3.046
	414.70			-1.838E-02	9.100E-02	1.490E-01	8.673E-03	-0.123
	415.30			-3.111E+00	7.579E+00	1.224E+01	7.127E-01	-0.254
	555.20			-1.289E+00	4.847E+00	7.759E+00	4.414E-01	-0.166
	573.80			-5.343E-01	1.288E+00	1.973E+00	1.108E-01	-0.271
	593.00			-6.738E-01	1.134E+00	1.758E+00	9.723E-02	-0.383
	656.30			-1.244E+00	3.957E+00	6.233E+00	3.209E-01	-0.200
	666.33			1.924E-02	9.680E-02	1.590E-01	8.230E-03	0.121
	675.00			7.726E-01	2.516E+00	4.169E+00	2.210E-01	0.185
	695.00			-1.353E-02	9.683E-02	1.545E-01	8.650E-03	-0.088
	697.00			2.988E-02	3.456E-01	5.616E-01	3.161E-02	0.053
	720.50	*		-2.975E-02	1.827E-01	2.478E-01	1.484E-02	-0.120
	856.80			3.487E-01	6.005E-01	1.047E+00	8.708E-02	0.333
	989.30			-8.535E-01	1.707E+00	2.701E+00	2.230E-01	-0.316
	1034.80			5.933E-01	9.871E+00	1.640E+01	1.267E+00	0.036
SB-127	1213.00			7.240E-01	6.148E+00	1.015E+01	6.142E-01	0.071
	61.10			1.506E+02	1.262E+02	1.950E+02	2.362E+01	0.772
	252.40			-2.323E+00	7.427E+00	1.159E+01	4.842E+00	-0.200
	290.80			-8.151E+00	3.993E+01	5.772E+01	5.931E+00	-0.141
	411.60			2.389E+01	2.071E+01	3.617E+01	5.459E+00	0.661

---- Non-Identified Nuclides ----

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	444.90			-1.827E+00	1.608E+01	2.635E+01	3.096E+00	-0.069
	473.00			1.262E+00	2.835E+00	4.808E+00	5.819E-01	0.263
	543.00			5.972E+00	3.046E+01	5.050E+01	6.901E+00	0.118
	603.60			3.424E+00	2.260E+01	3.228E+01	3.724E+00	0.106
	685.20	*		9.685E-01	2.359E+00	3.941E+00	4.057E-01	0.246
	698.50			-1.079E+01	2.862E+01	4.474E+01	6.769E+00	-0.241
	722.20			8.998E+00	5.431E+01	7.704E+01	7.987E+00	0.117
	783.80			1.020E+01	6.576E+00	1.204E+01	1.476E+00	0.847
XE-127	57.60			-1.994E+00	8.402E+00	1.331E+01	1.166E+00	-0.150
	145.22			9.899E-02	7.417E-01	1.219E+00	6.578E-02	0.081
	172.10			7.148E-02	1.319E-01	2.191E-01	1.125E-02	0.326
	202.84	*		2.450E-02	5.785E-02	9.184E-02	4.930E-03	0.267
	374.96			5.392E-04	2.017E-01	3.361E-01	1.961E-02	0.002
I-131	80.18			5.172E-01	7.226E+00	1.061E+01	9.808E-01	0.049
	284.30			-6.035E-01	1.872E+00	3.105E+00	2.022E-01	-0.194
	364.48	*		-1.271E-02	1.492E-01	2.476E-01	1.625E-02	-0.051
	636.97			7.473E-01	2.027E+00	3.387E+00	2.055E-01	0.221
	722.89			4.322E+00	9.918E+00	1.454E+01	8.923E-01	0.297
TE-132	49.72			-7.834E+01	5.267E+01	8.234E+01	9.468E+00	-0.951
	111.76			5.371E-01	5.801E+01	9.569E+01	9.854E+00	0.006
	116.30			1.515E+01	5.216E+01	8.681E+01	8.741E+00	0.175
	228.16	*		-2.952E-01	1.370E+00	2.181E+00	3.247E-01	-0.135
BA-133	53.15			5.160E-01	4.706E+00	7.941E+00	7.004E-01	0.065
	79.62			6.785E-01	1.581E+00	2.353E+00	3.652E-01	0.288
	81.00			-3.590E-02	1.423E-01	1.730E-01	2.805E-02	-0.207
	276.40			5.021E-01	4.007E-01	6.525E-01	8.462E-02	0.769
	302.84			-3.949E-02	1.583E-01	2.274E-01	2.660E-02	-0.174
	356.01	*		1.324E-02	4.899E-02	7.263E-02	8.427E-03	0.182
	383.85			1.190E-03	2.979E-01	4.957E-01	5.390E-02	0.002
I-133	510.53	+		1.663E+01	2.979E-01	Half-Life	too short	
	529.87	*		4.513E-02	2.979E-01	Half-Life	too short	
	706.58			-1.647E+00	2.979E-01	Half-Life	too short	
	856.28			-1.159E+00	2.979E-01	Half-Life	too short	
	875.33			-1.066E+00	2.979E-01	Half-Life	too short	
	1236.41			1.205E+01	2.979E-01	Half-Life	too short	
	1298.22			-3.402E-01	2.979E-01	Half-Life	too short	
CS-134	475.35			2.761E-01	1.972E+00	3.279E+00	1.919E-01	0.084
	563.23			2.354E-02	3.903E-01	6.400E-01	3.701E-02	0.037
	569.32			3.919E-02	2.105E-01	3.409E-01	1.982E-02	0.115
	604.70			-7.417E-03	4.093E-02	5.640E-02	3.105E-03	-0.131
	795.84	*		1.539E-02	4.869E-02	8.354E-02	6.101E-03	0.184
	801.93			-8.676E-02	4.122E-01	6.736E-01	4.978E-02	-0.129
	1038.57			-3.733E-01	3.692E+00	6.030E+00	4.629E-01	-0.062
	1167.94			2.499E+00	2.493E+00	4.468E+00	2.561E-01	0.559
	1365.15			-1.080E+00	1.233E+00	1.693E+00	1.317E-01	-0.638
CS-135	268.24	*		3.377E-01	1.859E-01	2.893E-01	2.210E-02	1.167
I-135	288.45			-8.389E+12	1.859E-01	Half-Life	too short	
	417.63			4.967E+12	1.859E-01	Half-Life	too short	
	546.56			-1.542E+12	1.859E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

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	836.80			4.047E+13	1.859E-01	Half-Life	too short	
	1038.76			1.225E+11	1.859E-01	Half-Life	too short	
	1124.00			4.194E+12	1.859E-01	Half-Life	too short	
	1131.51			-4.292E+12	1.859E-01	Half-Life	too short	
	1260.41	*		3.623E+12	1.859E-01	Half-Life	too short	
	1457.56			1.395E+15	1.859E-01	Half-Life	too short	
	1678.03			-4.678E+12	1.859E-01	Half-Life	too short	
	1706.46			9.933E+12	1.859E-01	Half-Life	too short	
	1791.20			3.136E+12	1.859E-01	Half-Life	too short	
CS-136	66.91			-3.446E-01	1.170E+00	1.698E+00	2.628E-01	-0.203
	86.29	+		2.846E+00	1.731E+00	2.438E+00	3.302E-01	1.167
	153.22			6.709E-01	8.031E-01	1.330E+00	9.057E-02	0.505
	163.89			-5.850E-01	1.248E+00	1.992E+00	1.340E-01	-0.294
	176.55			-1.978E-01	4.383E-01	6.980E-01	4.164E-02	-0.283
	273.65			-8.399E-01	6.576E-01	8.253E-01	5.462E-02	-1.018
	340.57			3.510E-01	1.778E-01	2.900E-01	1.818E-02	1.210
	818.51			-1.427E-03	7.986E-02	1.334E-01	1.019E-02	-0.011
	1048.07	*		5.899E-02	1.351E-01	2.317E-01	1.847E-02	0.255
	1235.34			6.772E-01	8.469E-01	1.456E+00	1.497E-01	0.465
BA-137M	661.65	*		-2.282E-02	3.628E-02	5.552E-02	2.836E-03	-0.411
CS-137	661.65	*		-2.412E-02	3.835E-02	5.868E-02	3.014E-03	-0.411
CE-139	165.85	*		-1.400E-02	3.128E-02	4.944E-02	2.521E-03	-0.283
BA-140	162.64			2.382E-01	8.599E-01	1.417E+00	8.423E-02	0.168
	304.84			-2.624E-01	1.664E+00	2.404E+00	6.565E-01	-0.109
	423.70			-5.397E-01	2.202E+00	3.577E+00	1.137E+00	-0.151
	537.32	*		-1.001E-01	3.264E-01	5.197E-01	1.690E-01	-0.193
LA-140	328.77			4.583E-01	4.294E-01	6.679E-01	4.405E-02	0.686
	432.53			3.332E-01	2.341E+00	3.910E+00	2.521E-01	0.085
	487.03			7.985E-02	1.679E-01	2.850E-01	1.882E-02	0.280
	751.79			9.089E-01	2.193E+00	3.646E+00	2.797E-01	0.249
	815.85			-1.846E-01	3.577E-01	5.695E-01	4.949E-02	-0.324
	867.82			-1.345E+00	1.606E+00	2.459E+00	2.210E-01	-0.547
	919.63			1.597E+00	3.440E+00	5.717E+00	6.232E-01	0.279
	925.24			-9.548E-01	1.398E+00	2.155E+00	2.027E-01	-0.443
	1596.49	*		-1.461E-01	9.460E-02	1.125E-01	7.716E-03	-1.299
CE-141	145.44	*		-9.414E-03	6.787E-02	1.104E-01	6.225E-03	-0.085
CE-143	57.37			-2.277E-03	6.787E-02	Half-Life	too short	
	231.56			2.420E-03	6.787E-02	Half-Life	too short	
	293.26	*		4.666E-03	6.787E-02	Half-Life	too short	
	350.59	+		1.269E-01	6.787E-02	Half-Life	too short	
	490.36			-9.045E-03	6.787E-02	Half-Life	too short	
	664.57			-5.556E-04	6.787E-02	Half-Life	too short	
	721.93			2.065E-03	6.787E-02	Half-Life	too short	
CE-144	80.11			2.043E-01	2.612E+00	3.836E+00	3.516E-01	0.053
	133.54	*		-3.536E-02	2.226E-01	3.628E-01	5.124E-02	-0.097
PM-144	476.78			-3.056E-02	7.113E-02	1.137E-01	7.944E-03	-0.269
	618.01			-5.265E-04	3.012E-02	4.887E-02	2.820E-03	-0.011
	696.49	*		-3.557E-03	3.794E-02	6.077E-02	3.420E-03	-0.059
	778.57			-3.423E+00	2.923E+00	3.636E+00	2.523E-01	-0.941

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PR-144	696.49	*		-2.414E-01	2.575E+00	4.125E+00	2.318E-01	-0.059
	1489.15			-5.635E+00	1.087E+01	1.576E+01	1.125E+00	-0.358
PM-146	453.90	*		-8.288E-03	4.487E-02	7.316E-02	6.336E-03	-0.113
	633.02			-2.868E-01	1.522E+00	2.287E+00	8.406E-01	-0.125
	735.90			4.002E-02	1.493E-01	2.455E-01	6.869E-02	0.163
	747.13			-2.255E-02	9.288E-02	1.458E-01	1.867E-02	-0.155
ND-147	91.11	+		8.352E-01	2.664E-01	6.810E-01	6.696E-02	1.226
	319.41			4.931E-01	3.883E+00	6.556E+00	3.874E-01	0.075
	439.89			3.725E+00	7.008E+00	1.198E+01	7.015E-01	0.311
	531.02	*		4.032E-02	7.379E-01	1.213E+00	1.639E-01	0.033
PM-149	285.90	*		1.179E-04	7.379E-01	Half-Life	too short	
EU-152	121.78			-9.099E-04	7.565E-02	1.244E-01	9.562E-03	-0.007
	244.69			1.381E-01	3.654E-01	5.251E-01	2.970E-02	0.263
	344.27	*		3.199E-02	1.093E-01	1.626E-01	1.078E-02	0.197
	443.98			-3.296E-01	9.450E-01	1.524E+00	8.921E-02	-0.216
	778.89			-3.857E-01	3.362E-01	4.199E-01	2.913E-02	-0.919
	867.32			-2.455E-01	8.101E-01	1.313E+00	1.118E-01	-0.187
	964.01			3.582E-01	3.799E-01	5.920E-01	5.045E-02	0.605
	1085.78			3.267E-01	4.162E-01	7.345E-01	5.169E-02	0.445
	1112.02			6.549E-03	3.673E-01	5.412E-01	3.597E-02	0.012
	1407.95			2.096E-01	2.063E-01	3.738E-01	2.719E-02	0.561
GD-153	69.67			5.705E-01	2.090E+00	3.109E+00	2.717E-01	0.183
	83.37			3.755E+00	1.832E+01	2.702E+01	2.537E+00	0.139
	97.43	*		2.689E-02	8.977E-02	1.326E-01	1.083E-02	0.203
	103.18			-1.550E-01	1.147E-01	1.776E-01	1.327E-02	-0.873
EU-154	123.07			1.281E-02	5.384E-02	8.930E-02	8.430E-03	0.143
	247.94			-1.349E-01	3.772E-01	5.703E-01	5.398E-02	-0.237
	591.81			-2.259E-01	6.472E-01	1.025E+00	9.856E-02	-0.220
	723.30			1.441E-01	1.966E-01	2.973E-01	2.162E-02	0.485
	756.87			1.625E-01	8.739E-01	1.425E+00	1.510E-01	0.114
	873.19			1.469E-01	2.748E-01	4.809E-01	5.891E-02	0.305
	996.32			-1.006E-01	3.908E-01	6.308E-01	1.107E-01	-0.159
	1004.76			-2.596E-02	2.062E-01	3.368E-01	3.789E-02	-0.077
	1274.45	*		-1.356E-01	1.312E-01	1.881E-01	1.868E-02	-0.721
EU-155	48.70			-8.810E-01	3.603E+00	6.011E+00	4.848E-01	-0.147
	60.01			4.044E+00	6.638E+00	9.975E+00	8.663E-01	0.405
	86.54	+		2.258E-01	1.357E-01	1.927E-01	1.873E-02	1.172
	105.31	*		6.112E-02	1.136E-01	1.912E-01	1.410E-02	0.320
TB-160	86.79	+		6.194E-01	3.721E-01	5.253E-01	5.076E-02	1.179
	197.04			-9.035E-02	6.024E-01	9.683E-01	5.154E-02	-0.093
	215.65			2.091E-01	8.560E-01	1.347E+00	7.359E-02	0.155
	298.57	+		2.346E-01	1.629E-01	2.210E-01	1.299E-02	1.061
	879.36	*		3.943E-02	1.418E-01	2.423E-01	2.119E-02	0.163
	962.29			8.896E-01	6.854E-01	1.109E+00	9.471E-02	0.802
	966.15			6.573E-01	3.462E-01	5.616E-01	4.773E-02	1.170
	1177.93			-7.901E-02	3.977E-01	6.395E-01	3.638E-02	-0.124
	1271.85			-4.211E-01	7.491E-01	1.128E+00	7.526E-02	-0.373
HO-166M	80.57			-1.128E-01	3.588E-01	4.815E-01	4.428E-02	-0.234
	184.41	+		1.684E-01	5.219E-02	6.884E-02	3.598E-03	2.447

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-8.288E-02	8.281E-02	1.326E-01	7.724E-03	-0.625
		410.95		3.707E-01	2.535E-01	4.536E-01	2.637E-02	0.817
		711.68	*	-3.378E-03	6.220E-02	9.979E-02	5.840E-03	-0.034
		752.31		1.780E-01	2.978E-01	5.025E-01	3.265E-02	0.354
		810.29		-2.383E-03	5.846E-02	9.758E-02	7.299E-03	-0.024
		51.35		-1.821E+01	4.170E+01	6.891E+01	5.990E+00	-0.264
		52.39		-3.820E+00	2.108E+01	3.519E+01	3.092E+00	-0.109
		59.40		2.705E+01	3.631E+01	5.489E+01	4.768E+00	0.493
		66.72	*	-1.464E+01	3.695E+01	5.339E+01	4.643E+00	-0.274
		88.36		4.442E-01	2.668E-01	3.933E-01	3.812E-02	1.129
LU-176	+	201.83		1.894E-03	3.230E-02	5.232E-02	2.804E-03	0.036
		306.84	*	3.750E-03	2.480E-02	4.094E-02	2.412E-03	0.092
		401.10		-6.217E+00	6.746E+00	1.055E+01	6.110E-01	-0.589
LU-177		112.95		4.524E-01	2.258E+00	3.749E+00	2.458E-01	0.121
	+	208.36	*	3.935E+00	1.999E+00	2.706E+00	1.464E-01	1.454
LU-177M		52.97		-1.411E-01	2.181E+00	3.656E+00	3.222E-01	-0.039
		54.07		3.388E-01	1.121E+00	1.904E+00	1.683E-01	0.178
		61.30		2.319E+00	1.982E+00	3.071E+00	2.667E-01	0.755
		121.62		-1.288E-01	3.968E-01	6.443E-01	3.809E-02	-0.200
		147.16		-5.730E-01	6.651E-01	1.049E+00	5.625E-02	-0.546
		171.86		3.484E-01	5.123E-01	8.554E-01	4.392E-02	0.407
		218.09		4.026E-01	9.223E-01	1.514E+00	8.302E-02	0.266
	+	268.79		2.314E+00	1.060E+00	1.487E+00	8.592E-02	1.556
		319.02		1.867E-02	2.545E-01	4.285E-01	2.531E-02	0.044
		367.43		3.023E-01	8.865E-01	1.508E+00	8.830E-02	0.200
HF-181		413.65	*	-1.836E-01	1.916E-01	2.992E-01	1.741E-02	-0.614
		56.28		-7.379E-01	1.266E+00	2.078E+00	1.829E-01	-0.355
		57.53		-1.516E-01	7.009E-01	1.111E+00	9.736E-02	-0.136
		65.20		2.454E-01	1.299E+00	1.930E+00	1.677E-01	0.127
		133.02		-4.240E-02	7.510E-02	1.206E-01	6.769E-03	-0.352
		136.25		-1.925E-01	5.182E-01	8.374E-01	4.648E-02	-0.230
		345.85		-2.806E-02	2.241E-01	3.225E-01	1.902E-02	-0.087
		482.03	*	-9.560E-03	4.886E-02	7.940E-02	4.644E-03	-0.120
		56.28		-2.801E-01	4.806E-01	7.886E-01	6.944E-02	-0.355
		57.53		-5.773E-02	2.663E-01	4.221E-01	3.698E-02	-0.137
W-181		65.20	*	9.247E-02	4.897E-01	7.274E-01	6.319E-02	0.127
		67.75		-1.038E-02	1.547E-01	2.116E-01	1.842E-02	-0.049
		100.10		1.369E-01	1.860E-01	3.153E-01	2.468E-02	0.434
TA-182		152.43		2.800E-01	3.582E-01	5.923E-01	3.130E-02	0.473
		222.10		1.184E-01	3.842E-01	6.270E-01	3.455E-02	0.189
		1001.68		6.748E-01	2.078E+00	3.539E+00	2.874E-01	0.191
		1121.28		5.685E-01	1.944E-01	3.521E-01	2.290E-02	1.615
		1189.05		-1.770E-01	3.584E-01	5.611E-01	3.256E-02	-0.316
		1221.42	*	2.180E-01	2.319E-01	4.064E-01	2.494E-02	0.536
		1230.97		-2.357E-01	5.594E-01	8.817E-01	5.500E-02	-0.267
		57.98		2.902E-02	2.745E-01	4.239E-01	3.707E-02	0.068
		59.32		1.143E-01	1.535E-01	2.320E-01	2.016E-02	0.493
		67.20		-6.235E-02	2.642E-01	3.846E-01	3.346E-02	-0.162
RE-183		162.32	*	1.363E-02	1.126E-01	1.843E-01	9.479E-03	0.074

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.699E+00	1.371E+00	1.852E+00	1.002E-01	1.458
		291.72		1.836E-01	1.088E+00	1.614E+00	9.459E-02	0.114
		57.98		1.052E-01	9.947E-01	1.536E+00	1.343E-01	0.068
		59.32		4.140E-01	5.556E-01	8.399E-01	7.300E-02	0.493
		67.20		-2.258E-01	9.568E-01	1.393E+00	1.212E-01	-0.162
		161.27		5.269E-02	3.529E-01	5.786E-01	2.985E-02	0.091
		216.55		3.917E-02	2.911E-01	4.719E-01	2.581E-02	0.083
		252.85	*	-9.829E-02	2.385E-01	3.732E-01	2.128E-02	-0.263
		318.01		2.079E-02	4.561E-01	7.669E-01	4.528E-02	0.027
		792.07		1.565E+00	1.059E+00	1.954E+00	1.400E-01	0.801
OS-185		903.28		1.625E-01	1.220E+00	1.779E+00	1.612E-01	0.091
		920.93		1.635E-02	4.691E-01	7.825E-01	6.979E-02	0.021
		59.72		2.580E-01	4.060E-01	6.108E-01	5.304E-02	0.422
		61.14		2.170E-01	2.191E-01	3.373E-01	2.930E-02	0.643
		69.30		-1.061E-01	4.168E-01	5.639E-01	4.923E-02	-0.188
		592.07		-1.078E+00	2.687E+00	4.236E+00	2.344E-01	-0.254
		646.12	*	1.991E-02	4.389E-02	7.385E-02	3.854E-03	0.270
		717.42		-1.695E-01	9.049E-01	1.433E+00	8.512E-02	-0.118
		874.81		-2.440E-01	5.818E-01	9.308E-01	8.059E-02	-0.262
		880.27		5.253E-01	7.683E-01	1.359E+00	1.191E-01	0.387
RE-188		155.03	*	1.636E-01	1.830E-01	3.085E-01	1.619E-02	0.530
		477.96		-1.144E+00	3.320E+00	5.339E+00	3.124E-01	-0.214
		633.10		-6.335E-01	3.154E+00	4.744E+00	2.516E-01	-0.134
W-188	+	63.58		1.087E+02	8.771E+01	1.112E+02	9.662E+00	0.977
		227.08		-8.458E+00	1.441E+01	2.255E+01	1.250E+00	-0.375
IR-192	+	290.67	*	-1.828E+00	8.445E+00	1.220E+01	7.143E-01	-0.150
		295.96		9.463E-01	2.180E-01	2.937E-01	1.750E-02	3.222
		308.46		5.864E-03	9.920E-02	1.671E-01	9.959E-03	0.035
		316.51	*	-3.448E-02	3.498E-02	5.545E-02	3.290E-03	-0.622
		468.07		-4.114E-02	7.500E-02	1.008E-01	6.790E-03	-0.408
		604.41		-2.152E-01	5.607E-01	7.544E-01	8.439E-02	-0.285
		612.46		8.430E-01	7.247E-01	1.156E+00	8.427E-02	0.729
AU-195		65.12		5.510E-02	2.262E-01	3.368E-01	2.926E-02	0.164
		66.83		-5.162E-02	1.229E-01	1.774E-01	1.543E-02	-0.291
	+	75.70		1.233E+00	2.788E-01	5.319E-01	4.750E-02	2.318
		98.88	*	3.176E-01	2.397E-01	4.014E-01	3.203E-02	0.791
TL-200		129.76		1.425E+00	3.034E+00	5.063E+00	2.878E-01	0.281
		367.94	*	-7.198E-04	3.034E+00	Half-Life	too short	
		579.30		5.958E-02	3.034E+00	Half-Life	too short	
		828.27		-1.460E-02	3.034E+00	Half-Life	too short	
TL-201		1205.75		-2.555E-03	3.034E+00	Half-Life	too short	
		68.90		1.090E+00	1.398E+01	1.747E+01	1.524E+00	0.062
		70.82		1.729E+00	6.503E+00	9.666E+00	8.470E-01	0.179
		80.30		6.879E-01	1.185E+01	1.738E+01	1.596E+00	0.040
TL-202		135.34		1.179E+01	5.281E+01	8.727E+01	4.859E+00	0.135
		167.43	*	9.278E-01	1.409E+01	2.275E+01	1.161E+00	0.041
		68.90		5.975E-02	7.665E-01	9.575E-01	8.352E-02	0.062
		70.82		9.449E-02	3.555E-01	5.283E-01	4.629E-02	0.179
		80.30		3.761E-02	6.477E-01	9.506E-01	8.724E-02	0.040

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203	439.56	*		5.037E-02	8.114E-02	1.395E-01	8.162E-03	0.361
	70.83			3.567E-01	1.365E+00	2.028E+00	2.777E-01	0.176
	72.87			2.318E+00	8.899E-01	1.347E+00	1.796E-01	1.721
	82.60			-3.775E-01	1.706E+00	2.077E+00	2.950E-01	-0.182
BI-207	279.20	*		2.282E-02	4.214E-02	7.277E-02	4.495E-03	0.314
	72.80			5.817E-01	2.385E-01	3.727E-01	3.287E-02	1.561
	74.97		+	6.764E-01	1.530E-01	2.669E-01	2.375E-02	2.534
	84.90			1.467E-01	2.374E-01	3.474E-01	3.303E-02	0.422
TL-207	569.67			3.287E-03	3.305E-02	5.320E-02	2.997E-03	0.062
	1063.62	*		-1.810E-02	5.436E-02	8.665E-02	6.366E-03	-0.209
	1770.23			-1.730E+00	6.763E-01	6.450E-01	3.994E-02	-2.683
	81.07			-7.548E-02	3.137E-01	3.818E-01	3.523E-02	-0.198
PO-209	83.78			-5.738E-02	1.563E-01	2.249E-01	2.118E-02	-0.255
	94.90			4.637E-01	2.651E-01	4.130E-01	3.523E-02	1.123
	122.32			5.821E-01	1.801E+00	2.998E+00	2.028E-01	0.194
	144.24			8.676E-02	7.150E-01	1.154E+00	7.993E-02	0.075
BI-210	154.21			3.138E-01	4.101E-01	6.882E-01	4.523E-02	0.456
	269.46		+	5.350E-01	2.452E-01	3.465E-01	2.094E-02	1.544
	323.87	*		-4.340E-01	7.751E-01	1.079E+00	1.785E-01	-0.402
	338.28		+	7.609E+00	1.959E+00	2.552E+00	2.702E-01	2.982
PB-210	445.03			-3.140E-01	2.219E+00	3.631E+00	3.740E-01	-0.086
	260.50			-2.012E+00	1.018E+01	1.610E+01	9.245E-01	-0.125
	262.80			-5.047E+00	2.752E+01	4.355E+01	2.505E+00	-0.116
	896.60	*		-1.439E+00	7.436E+00	1.216E+01	1.104E+00	-0.118
BI-210	46.50	*		5.266E+00	5.562E+00	9.594E+00	7.471E-01	0.549
PB-210	46.50	*		5.266E+00	5.562E+00	9.594E+00	7.471E-01	0.549
PO-210	46.50	*		5.266E+00	5.558E+00	9.594E+00	6.437E-01	0.549
PB-211	404.84	*		-1.072E-01	9.457E-01	1.555E+00	9.694E-01	-0.069
BI-212	427.08			9.076E-01	2.162E+00	3.551E+00	2.195E+00	0.256
	831.96			-1.248E-02	1.262E+00	2.109E+00	1.320E+00	-0.006
	727.18	*	+	1.177E+00	4.618E-01	6.448E-01	5.118E-02	1.825
	785.46			2.708E+00	1.872E+00	3.447E+00	2.431E-01	0.785
PO-215	1620.62			1.475E+00	1.279E+00	2.473E+00	1.677E-01	0.597
	81.07			-7.548E-02	3.137E-01	3.818E-01	3.523E-02	-0.198
	83.78			-5.738E-02	1.563E-01	2.249E-01	2.118E-02	-0.255
	94.90			4.637E-01	2.651E-01	4.130E-01	3.523E-02	1.123
RN-219	122.32			5.821E-01	1.801E+00	2.998E+00	2.028E-01	0.194
	144.24			8.676E-02	7.150E-01	1.154E+00	7.993E-02	0.075
	154.21			3.138E-01	4.101E-01	6.882E-01	4.523E-02	0.456
	269.46		+	5.350E-01	2.452E-01	3.465E-01	2.094E-02	1.544
RA-223	323.87	*		-4.340E-01	7.751E-01	1.079E+00	1.785E-01	-0.402
	338.28		+	7.609E+00	1.959E+00	2.552E+00	2.702E-01	2.982
	445.03			-3.140E-01	2.219E+00	3.631E+00	3.740E-01	-0.086
	271.23		+	6.864E-01	3.167E-01	4.435E-01	3.591E-02	1.548
RN-220	401.81	*		-3.584E-01	4.089E-01	6.364E-01	8.657E-02	-0.563
RA-223	549.76	*		7.004E+00	2.761E+01	4.597E+01	2.624E+00	0.152
RA-223	81.07			-7.548E-02	3.137E-01	3.818E-01	3.523E-02	-0.198
	83.78			-5.738E-02	1.563E-01	2.249E-01	2.118E-02	-0.255
	94.90			4.637E-01	2.651E-01	4.130E-01	3.523E-02	1.123

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		5.821E-01	1.801E+00	2.998E+00	2.028E-01	0.194
		144.24		8.676E-02	7.150E-01	1.154E+00	7.993E-02	0.075
		154.21		3.138E-01	4.101E-01	6.882E-01	4.523E-02	0.456
	+	269.46		5.350E-01	2.452E-01	3.465E-01	2.094E-02	1.544
		323.87	*	-4.340E-01	7.751E-01	1.079E+00	1.785E-01	-0.402
	+	338.28		7.609E+00	1.959E+00	2.552E+00	2.702E-01	2.982
		445.03		-3.140E-01	2.219E+00	3.631E+00	3.740E-01	-0.086
		79.80		6.819E-01	1.998E+00	2.960E+00	6.430E-01	0.230
		236.00		2.462E+00	4.281E-01	6.304E-01	6.522E-02	3.906
		256.20	*	3.928E-01	3.934E-01	6.566E-01	9.144E-02	0.598
		286.10		8.355E-01	1.485E+00	2.565E+00	2.971E-01	0.326
	+	299.80		2.906E+00	2.065E+00	2.702E+00	4.408E-01	1.075
		304.40		-2.049E-01	2.029E+00	2.947E+00	5.106E-01	-0.070
		334.20		-3.483E-01	3.372E+00	3.826E+00	7.027E-01	-0.091
TH-227		79.80		6.819E-01	1.998E+00	2.960E+00	6.511E-01	0.230
	+	94.00		1.000E+01	4.004E+00	3.836E+00	8.362E-01	2.607
		236.00		2.462E+00	4.083E-01	6.304E-01	5.631E-02	3.906
		256.20	*	3.928E-01	3.952E-01	6.566E-01	1.108E-01	0.598
		286.10		8.355E-01	1.702E+00	2.565E+00	2.570E+00	0.326
	+	299.80		2.906E+00	2.065E+00	2.702E+00	4.408E-01	1.075
TH-229		304.40		-2.049E-01	2.029E+00	2.947E+00	5.106E-01	-0.070
		334.20		-3.483E-01	3.372E+00	3.826E+00	7.027E-01	-0.091
		85.43		2.775E-01	2.418E-01	3.599E-01	3.436E-02	0.771
	+	88.47		2.557E-01	1.536E-01	2.258E-01	2.184E-02	1.132
		100.00		1.375E-01	1.896E-01	3.215E-01	2.520E-02	0.428
		193.63	*	-1.145E-01	5.116E-01	8.197E-01	4.342E-02	-0.140
PA-231		210.97		6.519E-01	8.949E-01	1.315E+00	7.139E-02	0.496
	+	283.67	*	-5.765E-01	1.487E+00	2.454E+00	3.385E-01	-0.235
TH-231		301.29		1.162E+00	8.132E-01	1.046E+00	1.098E-01	1.111
		81.07		-7.548E-02	3.137E-01	3.818E-01	3.523E-02	-0.198
		83.78		-5.738E-02	1.563E-01	2.249E-01	2.118E-02	-0.255
		94.90		4.637E-01	2.651E-01	4.130E-01	3.523E-02	1.123
		122.32		5.821E-01	1.801E+00	2.998E+00	2.028E-01	0.194
		144.24		8.676E-02	7.150E-01	1.154E+00	7.993E-02	0.075
U-231		154.21		3.138E-01	4.101E-01	6.882E-01	4.523E-02	0.456
	+	269.46		5.350E-01	2.452E-01	3.465E-01	2.094E-02	1.544
		323.87	*	-4.340E-01	7.751E-01	1.079E+00	1.785E-01	-0.402
	+	338.28		7.609E+00	1.959E+00	2.552E+00	2.702E-01	2.982
		445.03		-3.140E-01	2.219E+00	3.631E+00	3.740E-01	-0.086
		84.21		-1.127E+00	1.065E+01	1.549E+01	1.465E+00	-0.073
	+	92.29		1.593E+01	5.524E+00	6.731E+00	6.025E-01	2.366
		95.87	*	-2.166E+00	2.033E+00	2.788E+00	2.339E-01	-0.777
		108.00		4.509E-01	3.520E+00	5.837E+00	4.079E-01	0.077
	+	75.28		1.974E+01	5.119E+00	8.277E+00	1.284E+00	2.384
PA-233	+	86.59		3.666E+00	2.391E+00	3.127E+00	8.494E-01	1.172
	+	300.12		8.101E-01	5.709E-01	7.498E-01	1.010E-01	1.081
		311.98	*	2.230E-02	6.384E-02	1.091E-01	6.819E-03	0.204
		340.50		1.669E+00	8.368E-01	1.238E+00	2.846E-01	1.348
		398.62		6.306E-01	2.106E+00	3.550E+00	9.178E-01	0.178

Sample ID : G245978011

Acquisition date : 14-FEB-2010 12:18:10

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		-6.576E-01	1.708E+00	2.756E+00	5.675E-01	-0.239
		63.00		3.064E+00	2.503E+00	3.194E+00	4.963E-01	0.959
		94.67		4.935E-01	1.984E-01	3.075E-01	3.802E-02	1.605
		98.44		1.688E-01	1.362E-01	1.627E-01	9.062E-02	1.037
		99.86		3.408E-01	4.800E-01	8.133E-01	6.389E-02	0.419
		111.00		2.012E-02	1.953E-01	3.232E-01	3.496E-02	0.062
		131.20		1.761E-02	1.118E-01	1.844E-01	1.042E-02	0.095
		152.70		2.521E-01	3.414E-01	5.605E-01	8.757E-02	0.450
		186.00		6.063E+00	2.615E+00	2.537E+00	7.726E-01	2.390
		226.40		-2.204E-02	4.368E-01	7.011E-01	8.015E-02	-0.031
		227.20		-2.753E-01	4.729E-01	7.402E-01	4.105E-02	-0.372
		248.90		-1.059E-01	8.324E-01	1.324E+00	2.842E-01	-0.080
		293.70		5.798E+00	1.593E+00	1.778E+00	2.863E-01	3.261
		369.80		1.299E-02	8.291E-01	1.383E+00	2.882E-01	0.009
		568.70		5.976E-02	1.092E+00	1.753E+00	9.885E-02	0.034
		569.50		2.569E-02	2.930E-01	4.712E-01	2.655E-02	0.055
		574.00		-1.399E-01	1.529E+00	2.408E+00	1.352E-01	-0.058
		699.00		-1.748E-01	8.135E-01	1.290E+00	2.314E-01	-0.135
		706.10		4.363E-01	1.128E+00	1.850E+00	8.162E-01	0.236
		733.00		-3.469E-01	4.486E-01	5.469E-01	1.169E-01	-0.634
		742.81		-4.855E-02	1.358E+00	2.175E+00	1.456E+00	-0.022
		796.30		-1.281E-02	9.635E-01	1.614E+00	4.299E-01	-0.008
		805.60		4.674E-01	1.028E+00	1.769E+00	5.364E-01	0.264
		819.60		-4.319E-01	1.183E+00	1.894E+00	7.164E-01	-0.228
		826.30		3.687E-01	7.995E-01	1.364E+00	6.081E-01	0.270
		831.60		-3.723E-01	6.616E-01	1.040E+00	3.081E-01	-0.358
		876.40		-3.724E-01	8.958E-01	1.291E+00	1.327E+00	-0.288
		880.51		1.219E-01	2.776E-01	4.809E-01	4.216E-02	0.254
		883.24		-9.526E-02	2.920E-01	4.600E-01	3.093E-01	-0.207
		899.00		-5.684E-01	8.743E-01	1.306E+00	5.723E-01	-0.435
		925.00		-5.842E-01	1.235E+00	1.945E+00	1.728E-01	-0.300
		926.50		-1.859E-01	1.979E-01	2.894E-01	7.341E-02	-0.642
		946.00	*	-1.251E-01	3.395E-01	5.446E-01	1.024E-01	-0.230
		949.00		6.990E-01	4.907E-01	9.028E-01	7.825E-02	0.774
		980.50		-1.164E+00	7.340E-01	9.988E-01	8.341E-02	-1.166
		1394.10		-5.942E-01	1.459E+00	1.768E+00	1.148E+00	-0.336
PA-234M	+	766.42		2.045E+01	1.642E+01	2.126E+01	1.073E+01	0.962
		1001.03	*	1.877E+00	4.671E+00	8.004E+00	7.637E-01	0.234
U-235	+	89.95		2.771E+00	1.202E+00	2.059E+00	6.399E-01	1.346
	+	93.35		3.111E+00	1.361E+00	1.261E+00	3.539E-01	2.468
		105.00		4.773E-01	1.136E+00	1.873E+00	5.522E-01	0.255
		143.76	*	8.855E-02	2.215E-01	3.608E-01	5.835E-02	0.245
		163.35		-1.293E-01	4.698E-01	7.555E-01	1.343E-01	-0.171
	+	185.71		2.246E-01	6.958E-02	9.471E-02	4.959E-03	2.371
		205.31		-1.350E-01	6.505E-01	9.062E-01	1.618E-01	-0.149
NP-236		94.67		3.764E-01	1.469E-01	2.334E-01	2.000E-02	1.613
		98.44		1.276E-01	7.521E-02	1.230E-01	9.883E-03	1.038
		111.00		1.522E-02	1.477E-01	2.445E-01	1.643E-02	0.062
		160.31	*	-4.100E-02	7.913E-02	1.261E-01	6.522E-03	-0.325

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		1.597E-01	1.592E-01	2.722E-01	2.149E-02	0.587
		117.00	*	9.791E-03	1.927E-01	3.180E-01	1.984E-02	0.031
	+	209.75		2.069E+00	1.051E+00	1.384E+00	7.502E-02	1.495
		228.18		-5.275E-02	2.419E-01	3.852E-01	2.139E-02	-0.137
		277.60		1.418E-01	1.883E-01	3.120E-01	1.814E-02	0.454
		334.30		-2.620E-01	1.908E+00	2.156E+00	1.274E-01	-0.122
AM-241		59.54	*	1.317E-01	2.106E-01	3.166E-01	2.946E-02	0.416
CM-243		99.55		1.644E-01	1.639E-01	2.801E-01	2.212E-02	0.587
		103.76	*	-2.600E-03	1.023E-01	1.672E-01	1.239E-02	-0.016
		117.00		1.007E-02	1.983E-01	3.272E-01	2.042E-02	0.031
	+	209.75		2.040E+00	1.036E+00	1.365E+00	7.397E-02	1.495
		228.18		-5.332E-02	2.445E-01	3.893E-01	2.161E-02	-0.137
		277.60		1.429E-01	1.899E-01	3.146E-01	1.829E-02	0.454
AM-246		798.80		-1.921E-01	1.469E-01	2.188E-01	1.593E-02	-0.878
		1036.00		-9.368E-02	2.909E-01	4.640E-01	3.576E-02	-0.202
		1062.04		-5.001E-02	2.358E-01	3.806E-01	2.804E-02	-0.131
		1078.86	*	5.374E-02	1.571E-01	2.666E-01	1.902E-02	0.202
CM-247		278.00		7.613E-01	7.282E-01	1.284E+00	7.465E-02	0.593
		287.40		5.062E-01	1.257E+00	2.048E+00	1.198E-01	0.247
CF-249		402.60	*	1.078E-02	3.621E-02	6.121E-02	3.548E-03	0.176
		252.85		-3.645E-01	8.843E-01	1.384E+00	7.891E-02	-0.263
		333.44		1.527E-01	2.649E-01	2.827E-01	1.670E-02	0.540
CF-251		387.95	*	7.573E-03	3.971E-02	6.678E-02	3.864E-03	0.113
		176.60	*	-5.884E-02	1.298E-01	2.066E-01	1.068E-02	-0.285
		227.00		-2.643E-01	4.209E-01	6.574E-01	3.645E-02	-0.402
		285.00		-2.711E-01	1.699E+00	2.840E+00	1.659E-01	-0.095

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978011      *
* Acquisition date   : 14-FEB-2010 12:18:10 Detector SN# :                  *
* Detector ID        : GAM23 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000            *
* Elapsed real time  : 0 02:00:01.75 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245978011 Analyst initials: MXR1                 *
* Batch Number       : 948721 Sample Quantity : 1.4356E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.453E+01	2.417E+00	5.831E-01	0.000E+00
NB-95	7.973E-02	4.910E-02	6.941E-02	0.000E+00
CD-109	1.913E+00	1.126E+00	1.457E+00	0.000E+00
SN-126	1.873E-01	1.102E-01	1.435E-01	0.000E+00
TL-208	5.460E-01	8.587E-02	6.175E-02	0.000E+00
BI-211	3.718E+00	4.524E-01	3.377E-01	0.000E+00
PB-212	1.536E+00	1.511E-01	9.561E-02	0.000E+00
PO-212	1.536E+00	1.511E-01	9.561E-02	0.000E+00
BI-214	1.204E+00	1.781E-01	1.027E-01	0.000E+00
PB-214	1.293E+00	1.707E-01	1.208E-01	0.000E+00
PO-214	1.293E+00	1.707E-01	1.208E-01	0.000E+00
PO-216	1.536E+00	1.511E-01	9.561E-02	0.000E+00
PO-218	1.293E+00	1.707E-01	1.208E-01	0.000E+00
RA-224	4.871E+00	1.327E+00	1.088E+00	0.000E+00
RA-226	1.204E+00	1.781E-01	1.027E-01	0.000E+00
AC-228	1.500E+00	3.866E-01	2.454E-01	0.000E+00
RA-228	1.500E+00	3.866E-01	2.454E-01	0.000E+00
TH-228	1.564E+00	1.538E-01	9.734E-02	0.000E+00
TH-230	1.204E+00	1.781E-01	1.027E-01	0.000E+00
TH-232	1.500E+00	3.866E-01	2.454E-01	0.000E+00
TH-234	2.628E+00	2.117E+00	2.740E+00	0.000E+00
U-234	1.204E+00	1.781E-01	1.027E-01	0.000E+00
NP-237	5.499E-01	3.423E-01	4.546E-01	0.000E+00
U-238	2.628E+00	2.117E+00	2.740E+00	0.000E+00
AM-243	3.768E-01	8.351E-02	1.061E-01	0.000E+00
ANH-511	1.613E-01	6.889E-02	5.008E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.964E-01	3.454E-01	5.749E-01	0.000E+00 NOT IDENT.

NA-22	-4.821E-02	4.602E-02	6.816E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.851E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.711E-02	2.755E-02	4.005E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.317E-02	9.194E-02	0.000E+00	FAIL ABUN
SC-46	2.641E-02	3.930E-02	7.178E-02	0.000E+00	FAIL ABUN
V-48	7.058E-02	7.985E-02	1.475E-01	0.000E+00	NOT IDENT.
CR-51	-6.757E-02	3.879E-01	6.835E-01	0.000E+00	NOT IDENT.
MN-52	7.881E-02	3.493E-01	5.976E-01	0.000E+00	NOT IDENT.
MN-54	3.506E-02	4.069E-02	7.478E-02	0.000E+00	NOT IDENT.
CO-56	-3.094E-02	3.747E-02	5.981E-02	0.000E+00	NOT IDENT.
CO-57	1.670E-03	2.580E-02	4.603E-02	0.000E+00	NOT IDENT.
CO-58	-1.033E-02	3.928E-02	6.682E-02	0.000E+00	NOT IDENT.
FE-59	1.918E-02	1.034E-01	1.784E-01	0.000E+00	NOT IDENT.
CO-60	2.027E-02	3.903E-02	6.926E-02	0.000E+00	NOT IDENT.
ZN-65	1.007E-01	1.108E-01	1.787E-01	0.000E+00	NOT IDENT.
GE-68	6.980E-01	1.331E+00	2.369E+00	0.000E+00	NOT IDENT.
AS-73	7.232E-02	1.083E+00	2.008E+00	0.000E+00	NOT IDENT.
AS-74	-6.854E-02	1.033E-01	1.667E-01	0.000E+00	NOT IDENT.
SE-75	-1.520E-02	5.148E-02	7.463E-02	0.000E+00	NOT IDENT.
BR-77	2.262E+01	2.332E+01	4.289E+01	0.000E+00	FAIL ABUN
SR-82	-1.359E-01	4.573E-01	6.643E-01	0.000E+00	NOT IDENT.
RB-83	6.578E-02	6.782E-02	1.247E-01	0.000E+00	NOT IDENT.
RB-84	3.457E-02	7.100E-02	1.280E-01	0.000E+00	NOT IDENT.
KR-85	8.904E+00	7.979E+00	1.309E+01	0.000E+00	NOT IDENT.
SR-85	4.706E-02	4.217E-02	6.920E-02	0.000E+00	NOT IDENT.
RB-86	4.271E-01	9.437E-01	1.668E+00	0.000E+00	NOT IDENT.
Y-88	7.768E-03	3.424E-02	6.015E-02	0.000E+00	NOT IDENT.
ZR-88	8.947E-03	3.155E-02	5.625E-02	0.000E+00	NOT IDENT.
Y-91	4.758E+00	2.091E+01	3.590E+01	0.000E+00	NOT IDENT.
NB-94	5.797E-03	3.715E-02	6.321E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.761E-01	3.036E-01	0.000E+00	NOT IDENT.
ZR-95	3.805E-02	8.068E-02	1.400E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.700E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.051E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.572E+01	2.396E+01	4.232E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.220E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.199E-02	3.441E-02	6.046E-02	0.000E+00	NOT IDENT.
RH-102	1.649E-02	2.901E-02	5.211E-02	0.000E+00	FAIL ABUN
RU-103	-8.801E-03	4.332E-02	7.370E-02	0.000E+00	NOT IDENT.
RH-106	7.486E-02	2.941E-01	5.101E-01	0.000E+00	FAIL ABUN
RU-106	7.486E-02	2.940E-01	5.101E-01	0.000E+00	FAIL ABUN
AG-108M	-7.040E-03	3.142E-02	5.395E-02	0.000E+00	NOT IDENT.
AG-110M	-2.908E-02	3.561E-02	5.599E-02	0.000E+00	NOT IDENT.
IN-111	2.346E-01	2.326E+00	3.495E+00	0.000E+00	NOT IDENT.
IN-113M	-9.727E-04	4.570E-02	8.012E-02	0.000E+00	NOT IDENT.
SN-113	-9.727E-04	4.570E-02	8.012E-02	0.000E+00	NOT IDENT.
IN-114M	8.816E-02	2.102E-01	3.270E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.775E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-7.182E-03	6.235E-02	1.089E-01	0.000E+00	NOT IDENT.
SB-122	2.760E+00	4.498E+00	8.020E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.230E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.178E-02	2.858E-02	4.929E-02	0.000E+00	NOT IDENT.
I-124	5.105E-01	1.205E+00	1.852E+00	0.000E+00	NOT IDENT.
SB-124	-1.289E-02	7.104E-02	1.164E-01	0.000E+00	FAIL ABUN
SB-125	9.034E-03	9.145E-02	1.605E-01	0.000E+00	FAIL ABUN
TE-125M	-7.290E-01	1.015E+01	1.813E+01	0.000E+00	NOT IDENT.
I-126	4.575E-02	2.255E-01	3.867E-01	0.000E+00	NOT IDENT.
SB-126	-2.975E-02	1.790E-01	2.530E-01	0.000E+00	NOT IDENT.
SB-127	9.685E-01	2.311E+00	4.028E+00	0.000E+00	NOT IDENT.
XE-127	2.450E-02	5.669E-02	9.638E-02	0.000E+00	NOT IDENT.
I-131	-1.271E-02	1.462E-01	2.566E-01	0.000E+00	NOT IDENT.
TE-132	-2.952E-01	1.343E+00	2.283E+00	0.000E+00	NOT IDENT.
BA-133	1.324E-02	4.801E-02	7.531E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.313E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.539E-02	4.771E-02	8.511E-02	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.822E-01	3.018E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.431E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.899E-02	1.324E-01	2.346E-01	0.000E+00	FAIL ABUN
BA-137M	-2.282E-02	3.555E-02	5.679E-02	0.000E+00	NOT IDENT.
CS-137	-2.412E-02	3.758E-02	6.003E-02	0.000E+00	NOT IDENT.
CE-139	-1.400E-02	3.066E-02	5.210E-02	0.000E+00	NOT IDENT.
BA-140	-1.001E-01	3.198E-01	5.341E-01	0.000E+00	NOT IDENT.
LA-140	-1.461E-01	9.271E-02	1.128E-01	0.000E+00	NOT IDENT.
CE-141	-9.414E-03	6.651E-02	1.166E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.291E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.536E-02	2.181E-01	3.841E-01	0.000E+00	NOT IDENT.
PM-144	-3.557E-03	3.718E-02	6.210E-02	0.000E+00	NOT IDENT.
PR-144	-2.414E-01	2.523E+00	4.215E+00	0.000E+00	NOT IDENT.

PM-146	-8.288E-03	4.397E-02	7.546E-02	0.000E+00	NOT IDENT.
ND-147	4.032E-02	7.232E-01	1.247E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.156E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	3.199E-02	1.071E-01	1.687E-01	0.000E+00	NOT IDENT.
GD-153	2.689E-02	8.797E-02	1.412E-01	0.000E+00	NOT IDENT.
EU-154	-1.356E-01	1.286E-01	1.896E-01	0.000E+00	NOT IDENT.
EU-155	6.112E-02	1.114E-01	2.034E-01	0.000E+00	FAIL ABUN
TB-160	3.943E-02	1.389E-01	2.463E-01	0.000E+00	FAIL ABUN
HO-166M	-3.378E-03	6.096E-02	1.019E-01	0.000E+00	FAIL ABUN
TM-171	-1.464E+01	3.621E+01	5.732E+01	0.000E+00	NOT IDENT.
LU-176	3.750E-03	2.430E-02	4.258E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.959E+00	2.838E+00	0.000E+00	FAIL ABUN
LU-177M	-1.836E-01	1.878E-01	3.092E-01	0.000E+00	FAIL ABUN
HF-181	-9.560E-03	4.788E-02	8.179E-02	0.000E+00	NOT IDENT.
W-181	9.247E-02	4.799E-01	7.813E-01	0.000E+00	NOT IDENT.
TA-182	2.180E-01	2.272E-01	4.101E-01	0.000E+00	NOT IDENT.
RE-183	1.363E-02	1.103E-01	1.943E-01	0.000E+00	FAIL ABUN
RE-184	-9.829E-02	2.337E-01	3.898E-01	0.000E+00	NOT IDENT.
OS-185	1.991E-02	4.301E-02	7.558E-02	0.000E+00	NOT IDENT.
RE-188	1.636E-01	1.793E-01	3.255E-01	0.000E+00	NOT IDENT.
W-188	-1.828E+00	8.276E+00	1.270E+01	0.000E+00	FAIL ABUN
IR-192	-3.448E-02	3.428E-02	5.765E-02	0.000E+00	FAIL ABUN
AU-195	3.176E-01	2.349E-01	4.275E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.808E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	9.278E-01	1.381E+01	2.397E+01	0.000E+00	NOT IDENT.
TL-202	5.037E-02	7.952E-02	1.440E-01	0.000E+00	NOT IDENT.
HG-203	2.282E-02	4.130E-02	7.585E-02	0.000E+00	NOT IDENT.
BI-207	-1.810E-02	5.327E-02	8.771E-02	0.000E+00	FAIL ABUN
TL-207	-4.340E-01	7.596E-01	1.121E+00	0.000E+00	FAIL ABUN
PO-209	-1.439E+00	7.287E+00	1.235E+01	0.000E+00	NOT IDENT.
BI-210	5.266E+00	5.451E+00	1.038E+01	0.000E+00	NOT IDENT.
PB-210	5.266E+00	5.451E+00	1.038E+01	0.000E+00	NOT IDENT.
PO-210	5.266E+00	5.447E+00	1.038E+01	0.000E+00	NOT IDENT.
PB-211	-1.072E-01	9.267E-01	1.608E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.526E-01	6.582E-01	0.000E+00	FAIL ABUN
PO-215	-4.340E-01	7.596E-01	1.121E+00	0.000E+00	FAIL ABUN
RN-219	-3.584E-01	4.007E-01	6.582E-01	0.000E+00	FAIL ABUN
RN-220	7.004E+00	2.706E+01	4.722E+01	0.000E+00	NOT IDENT.
RA-223	-4.340E-01	7.596E-01	1.121E+00	0.000E+00	FAIL ABUN
AC-227	3.928E-01	3.856E-01	6.856E-01	0.000E+00	FAIL ABUN
TH-227	3.928E-01	3.873E-01	6.856E-01	0.000E+00	FAIL ABUN
TH-229	-1.145E-01	5.013E-01	8.611E-01	0.000E+00	FAIL ABUN
PA-231	-5.765E-01	1.457E+00	2.557E+00	0.000E+00	FAIL ABUN
TH-231	-4.340E-01	7.596E-01	1.121E+00	0.000E+00	FAIL ABUN
U-231	-2.166E+00	1.992E+00	2.972E+00	0.000E+00	FAIL ABUN
PA-233	2.230E-02	6.256E-02	1.134E-01	0.000E+00	FAIL ABUN
PA-234	-1.251E-01	3.327E-01	5.527E-01	0.000E+00	FAIL ABUN
PA-234M	1.877E+00	4.577E+00	8.112E+00	0.000E+00	FAIL ABUN
U-235	8.855E-02	2.171E-01	3.813E-01	0.000E+00	FAIL ABUN
NP-236	-4.100E-02	7.754E-02	1.330E-01	0.000E+00	NOT IDENT.
NP-239	9.791E-03	1.888E-01	3.375E-01	0.000E+00	FAIL ABUN
AM-241	1.317E-01	2.063E-01	3.407E-01	0.000E+00	NOT IDENT.
CM-243	-2.600E-03	1.002E-01	1.779E-01	0.000E+00	FAIL ABUN
AM-246	5.374E-02	1.539E-01	2.697E-01	0.000E+00	NOT IDENT.
CM-247	1.078E-02	3.549E-02	6.330E-02	0.000E+00	NOT IDENT.
CF-249	7.573E-03	3.892E-02	6.912E-02	0.000E+00	NOT IDENT.
CF-251	-5.884E-02	1.272E-01	2.174E-01	0.000E+00	NOT IDENT.

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978011.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 12:18:10
Sample ID          : G245978011 Sample quantity : 1.43560E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.75 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 948721 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	998	10.67*	9.973E-01	2.453E+01	2.453E+01	10.06
NB-95	765.79	45	99.81*	1.788E+00	6.557E-02	7.973E-02	62.84
CD-109	88.03	138	3.72*	5.226E+00	1.863E+00	1.913E+00	60.07
SN-126	64.28	99	9.60	2.594E+00	1.040E+00	1.040E+00	81.63
	86.94	138	8.90	5.226E+00	7.785E-01	7.785E-01	72.42
	87.57	138	37.00*	5.226E+00	1.873E-01	1.873E-01	60.07
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	157	21.60	2.546E+00	7.465E-01	7.465E-01	44.38
	583.14	400	84.20*	2.278E+00	5.460E-01	5.460E-01	16.05
	860.37	-----	12.46	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	633	12.94*	3.442E+00	3.718E+00	3.718E+00	12.42
PB-212	74.81	385	10.70	4.044E+00	2.324E+00	2.324E+00	24.47
	77.11	619	18.00	4.294E+00	2.093E+00	2.093E+00	16.69
	87.30	138	8.00	5.226E+00	8.661E-01	8.661E-01	60.90
	238.63	1215	44.60*	4.638E+00	1.536E+00	1.536E+00	10.04
	300.09	80	3.41	3.897E+00	1.568E+00	1.568E+00	69.67
PO-212	74.81	385	10.70	4.044E+00	2.324E+00	2.324E+00	24.47
	77.11	619	18.00	4.294E+00	2.093E+00	2.093E+00	16.69
	87.30	138	8.00	5.226E+00	8.661E-01	8.661E-01	60.90
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	1215	44.60*	4.638E+00	1.536E+00	1.536E+00	10.04
	300.09	80	3.41	3.897E+00	1.568E+00	1.568E+00	69.67
BI-214	609.31	468	46.30*	2.194E+00	1.204E+00	1.204E+00	15.09
	1120.29	94	15.10	1.258E+00	1.291E+00	1.291E+00	41.07
	1764.49	79	15.80	8.744E-01	1.490E+00	1.490E+00	26.33
PB-214	74.81	385	6.21	4.044E+00	4.004E+00	4.004E+00	23.80
	77.11	619	10.50	4.294E+00	3.588E+00	3.588E+00	18.34
	87.30	138	4.67	5.226E+00	1.484E+00	1.484E+00	60.56
	241.98	338	7.49	4.596E+00	2.569E+00	2.569E+00	28.35
	295.21	350	19.20	3.949E+00	1.208E+00	1.208E+00	23.85
	351.92	633	37.20*	3.442E+00	1.293E+00	1.293E+00	13.47

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	385	6.21	4.044E+00	4.004E+00	4.004E+00	23.80
	77.11	619	10.50	4.294E+00	3.588E+00	3.588E+00	18.34
	87.30	138	4.67	5.226E+00	1.484E+00	1.484E+00	60.56
	241.98	338	7.49	4.596E+00	2.569E+00	2.569E+00	28.35
	295.21	350	19.20	3.949E+00	1.208E+00	1.208E+00	23.85
	351.92	633	37.20*	3.442E+00	1.293E+00	1.293E+00	13.47
PO-216	74.81	385	10.70	4.044E+00	2.324E+00	2.324E+00	24.47
	77.11	619	18.00	4.294E+00	2.093E+00	2.093E+00	16.69
	87.30	138	8.00	5.226E+00	8.661E-01	8.661E-01	60.90
	238.63	1215	44.60*	4.638E+00	1.536E+00	1.536E+00	10.04
	300.09	80	3.41	3.897E+00	1.568E+00	1.568E+00	69.67
	74.81	385	6.21	4.044E+00	4.004E+00	4.004E+00	23.80
PO-218	77.11	619	10.50	4.294E+00	3.588E+00	3.588E+00	18.34
	87.30	138	4.67	5.226E+00	1.484E+00	1.484E+00	60.56
	241.98	338	7.49	4.596E+00	2.569E+00	2.569E+00	28.35
	295.21	350	19.20	3.949E+00	1.208E+00	1.208E+00	23.85
	351.92	633	37.20*	3.442E+00	1.293E+00	1.293E+00	13.47
	240.98	338	3.95*	4.596E+00	4.871E+00	4.871E+00	27.79
RA-224	609.31	468	46.30*	2.194E+00	1.204E+00	1.204E+00	15.09
RA-226	1120.29	94	15.10	1.258E+00	1.291E+00	1.291E+00	41.07
	1764.49	79	15.80	8.744E-01	1.490E+00	1.490E+00	26.33
AC-228	338.32	282	11.40	3.551E+00	1.822E+00	1.822E+00	47.05
	911.07	243	27.70*	1.527E+00	1.500E+00	1.500E+00	26.29
	969.11	78	16.60	1.441E+00	8.563E-01	8.563E-01	64.26
RA-228	338.32	282	11.40	3.551E+00	1.822E+00	1.822E+00	47.05
	911.07	243	27.70*	1.527E+00	1.500E+00	1.500E+00	26.29
	969.11	78	16.60	1.441E+00	8.563E-01	8.563E-01	64.26
TH-228	74.81	385	10.70	4.044E+00	2.324E+00	2.366E+00	22.64
	77.11	619	18.00	4.294E+00	2.093E+00	2.131E+00	16.69
	87.30	138	8.00	5.226E+00	8.661E-01	8.818E-01	60.07
	238.63	1215	44.60*	4.638E+00	1.536E+00	1.564E+00	10.04
TH-230	300.09	80	3.41	3.897E+00	1.568E+00	1.596E+00	90.88
	609.31	468	46.30*	2.194E+00	1.204E+00	1.204E+00	15.09
	1120.29	94	15.10	1.258E+00	1.291E+00	1.291E+00	41.07
TH-232	1764.49	79	15.80	8.744E-01	1.490E+00	1.490E+00	26.33
	338.32	282	11.40	3.551E+00	1.822E+00	1.822E+00	24.19
	911.07	243	27.70*	1.527E+00	1.500E+00	1.500E+00	26.29
TH-234	969.11	78	16.60	1.441E+00	8.563E-01	8.563E-01	64.26
	63.29	99	3.80*	2.594E+00	2.628E+00	2.628E+00	82.20
	92.38	300	5.41	5.595E+00	2.588E+00	2.588E+00	38.15
U-234	609.31	468	46.30*	2.194E+00	1.204E+00	1.204E+00	15.09
	1120.29	94	15.10	1.258E+00	1.291E+00	1.291E+00	41.07
	1764.49	79	15.80	8.744E-01	1.490E+00	1.490E+00	26.33
NP-237	86.50	138	12.60*	5.226E+00	5.499E-01	5.499E-01	63.51
	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	99	3.80*	2.594E+00	2.628E+00	2.628E+00	82.20
	92.38	300	5.41	5.595E+00	2.588E+00	2.588E+00	34.68
AM-243	74.67	385	66.00*	4.044E+00	3.768E-01	3.768E-01	22.62
	86.72	138	0.34	5.226E+00	2.062E+01	2.062E+01	60.07

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	157	100.00*	2.546E+00	1.613E-01	1.613E-01	43.59

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 3
Number of lines tentatively identified by NID 26 89.66%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.453E+01	2.453E+01	0.247E+01	10.06	
NB-95	64.02D	1.22	6.557E-02	7.973E-02	5.010E-02	62.84	
CD-109	464.00D	1.03	1.863E+00	1.913E+00	1.149E+00	60.07	
SN-126	1.00E+05Y	1.00	1.873E-01	1.873E-01	1.125E-01	60.07	
TL-208	1.41E+10Y	1.00	5.460E-01	5.460E-01	0.876E-01	16.05	
BI-211	7.04E+08Y	1.00	3.718E+00	3.718E+00	0.462E+00	12.42	
PB-212	1.41E+10Y	1.00	1.536E+00	1.536E+00	0.154E+00	10.04	
PO-212	1.41E+10Y	1.00	1.536E+00	1.536E+00	0.154E+00	10.04	
BI-214	1600.00Y	1.00	1.204E+00	1.204E+00	0.182E+00	15.09	
PB-214	1600.00Y	1.00	1.293E+00	1.293E+00	0.174E+00	13.47	
PO-214	1600.00Y	1.00	1.293E+00	1.293E+00	0.174E+00	13.47	
PO-216	1.41E+10Y	1.00	1.536E+00	1.536E+00	0.154E+00	10.04	
PO-218	1600.00Y	1.00	1.293E+00	1.293E+00	0.174E+00	13.47	
RA-224	1.41E+10Y	1.00	4.871E+00	4.871E+00	1.354E+00	27.79	
RA-226	1600.00Y	1.00	1.204E+00	1.204E+00	0.182E+00	15.09	
AC-228	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.394E+00	26.29	
RA-228	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.394E+00	26.29	
TH-228	1.91Y	1.02	1.536E+00	1.564E+00	0.157E+00	10.04	
TH-230	4.47E+09Y	1.00	1.204E+00	1.204E+00	0.182E+00	15.09	
TH-232	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.394E+00	26.29	
TH-234	4.47E+09Y	1.00	2.628E+00	2.628E+00	2.160E+00	82.20	
U-234	4.47E+09Y	1.00	1.204E+00	1.204E+00	0.182E+00	15.09	
NP-237	2.14E+06Y	1.00	5.499E-01	5.499E-01	3.493E-01	63.51	
U-238	4.47E+09Y	1.00	2.628E+00	2.628E+00	2.160E+00	82.20	
AM-243	7380.00Y	1.00	3.768E-01	3.768E-01	0.852E-01	22.62	
ANH-511	1.00E+09Y	1.00	1.613E-01	1.613E-01	0.703E-01	43.59	

Total Activity : 6.146E+01 6.156E+01

Grand Total Activity : 6.146E+01 6.156E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978011

Page : 5
Acquisition date : 14-FEB-2010 12:18:10

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	89.84	155	227	1.08	179.69	177	14	2.15E-02	30.3	5.41E+00	T
0	185.78	255	305	1.47	371.55	366	11	3.54E-02	30.5	5.49E+00	T
0	208.80	131	269	1.73	417.60	414	10	1.81E-02	50.5	5.09E+00	T
0	269.78	118	171	1.55	539.56	535	10	1.63E-02	45.4	4.23E+00	T
0	327.21	51	214	0.67	654.42	651	11	7.15E-03	****	3.64E+00	
0	462.34	80	94	1.11	924.68	919	11	1.12E-02	52.7	2.76E+00	T
0	726.49	100	59	1.81	1452.99	1446	14	1.38E-02	38.4	1.88E+00	T
6	771.78	33	101	3.20	1543.56	1530	23	4.64E-03	****	1.78E+00	
0	1388.51	11	41	7.95	2777.01	2760	24	1.49E-03	****	1.04E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978011.CNF;1
* Acquisition date   : 14-FEB-2010 12:18:10  Detector SN#      :
* Detector ID        : GAM23                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:01.75          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245978011            Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity  : 1.43560E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00.62MS Isotope      :
* MSD ID             :                               MSD Isotope :
* LCS ID             : 1032-A                          LCS Isotope  :
*****

```

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.453E+01	2.466E+00	5.803E-01	4.341E-02	42.266
NB-95	7.973E-02	5.010E-02	6.807E-02	4.574E-03	1.171
CD-109	1.913E+00	1.149E+00	1.365E+00	1.332E-01	1.402
SN-126	1.873E-01	1.125E-01	1.344E-01	1.307E-02	1.394
TL-208	5.460E-01	8.762E-02	6.020E-02	3.908E-03	9.070
BI-211	3.718E+00	4.617E-01	3.256E-01	2.121E-02	11.420
PB-212	1.536E+00	1.541E-01	9.142E-02	6.573E-03	16.802
PO-212	1.536E+00	1.541E-01	9.142E-02	6.573E-03	16.802
BI-214	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
PB-214	1.293E+00	1.742E-01	1.164E-01	9.719E-03	11.107
PO-214	1.293E+00	1.742E-01	1.164E-01	9.719E-03	11.107
PO-216	1.536E+00	1.541E-01	9.142E-02	6.573E-03	16.802
PO-218	1.293E+00	1.742E-01	1.164E-01	9.719E-03	11.107
RA-224	4.871E+00	1.354E+00	1.040E+00	5.862E-02	4.682
RA-226	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
AC-228	1.500E+00	3.945E-01	2.416E-01	2.788E-02	6.211
RA-228	1.500E+00	3.945E-01	2.416E-01	2.788E-02	6.211
TH-228	1.564E+00	1.569E-01	9.307E-02	6.692E-03	16.802

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
TH-232	1.500E+00	3.945E-01	2.416E-01	2.788E-02	6.211
TH-234	2.628E+00	2.160E+00	2.549E+00	4.594E-01	1.031
U-234	1.204E+00	1.817E-01	1.002E-01	7.534E-03	12.014
NP-237	5.499E-01	3.493E-01	4.256E-01	9.693E-02	1.292
U-238	2.628E+00	2.160E+00	2.549E+00	4.594E-01	1.031
AM-243	3.768E-01	8.521E-02	9.900E-02	8.798E-03	3.806
ANH-511	1.613E-01	7.030E-02	4.868E-02	2.828E-03	3.312

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.964E-01		3.524E-01	5.580E-01	3.792E-02	-0.352
NA-22	-4.821E-02		4.696E-02	6.761E-02	4.541E-03	-0.713
NA-24	-1.396E+01		9.443E+00	Half-Life too short		
AL-26	-1.711E-02		2.811E-02	4.005E-02	2.407E-03	-0.427
TI-44	3.863E-01	+	6.446E-02	8.591E-02	7.788E-03	4.496
SC-46	2.641E-02		4.010E-02	7.063E-02	6.310E-03	0.374
V-48	7.058E-02		8.148E-02	1.454E-01	1.210E-02	0.485
CR-51	-6.757E-02		3.958E-01	6.577E-01	4.313E-02	-0.103
MN-52	7.881E-02		3.564E-01	5.944E-01	4.301E-02	0.133
MN-54	3.506E-02		4.152E-02	7.348E-02	5.818E-03	0.477
CO-56	-3.094E-02		3.824E-02	5.879E-02	4.782E-03	-0.526
CO-57	1.670E-03		2.633E-02	4.340E-02	2.559E-03	0.038
CO-58	-1.033E-02		4.008E-02	6.562E-02	4.930E-03	-0.157
FE-59	1.918E-02		1.055E-01	1.764E-01	1.359E-02	0.109
CO-60	2.027E-02		3.983E-02	6.878E-02	5.049E-03	0.295
ZN-65	1.007E-01		1.130E-01	1.768E-01	1.168E-02	0.570
GE-68	6.980E-01		1.359E+00	2.341E+00	1.675E-01	0.298
AS-73	7.232E-02		1.105E+00	1.862E+00	1.644E-01	0.039
AS-74	-6.854E-02		1.054E-01	1.625E-01	8.965E-03	-0.422
SE-75	-1.520E-02		5.253E-02	7.152E-02	4.163E-03	-0.213
BR-77	2.262E+01		2.380E+01	4.171E+01	2.414E+00	0.542
SR-82	-1.359E-01		4.667E-01	6.517E-01	4.496E-02	-0.208
RB-83	6.578E-02		6.920E-02	1.213E-01	7.021E-03	0.542
RB-84	3.457E-02		7.245E-02	1.260E-01	1.107E-02	0.274
KR-85	8.904E+00		8.141E+00	1.273E+01	7.385E-01	0.700
SR-85	4.706E-02		4.303E-02	6.727E-02	3.904E-03	0.700
RB-86	4.271E-01		9.630E-01	1.649E+00	1.182E-01	0.259
Y-88	7.768E-03		3.494E-02	6.017E-02	3.543E-03	0.129
ZR-88	8.947E-03		3.219E-02	5.436E-02	3.139E-03	0.165
Y-91	4.758E+00		2.133E+01	3.557E+01	2.122E+00	0.134
NB-94	5.797E-03		3.791E-02	6.187E-02	3.535E-03	0.094
NB-95M	6.939E-01		1.797E-01	2.903E-01	2.141E-02	2.391
ZR-95	3.805E-02		8.233E-02	1.372E-01	1.053E-02	0.277
NB-97	-1.432E+00		8.674E-01	Half-Life too short		
ZR-97	9.529E+01		2.067E+01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1.572E+01		2.445E+01	4.147E+01	5.804E+00	0.379
TC-99M	-2.573E+13		6.224E+13	Half-Life too short		
RH-101	1.199E-02		3.512E-02	5.759E-02	3.070E-03	0.208
RH-102	1.649E-02		2.960E-02	5.057E-02	2.960E-03	0.326
RU-103	-8.801E-03		4.420E-02	7.160E-02	9.064E-03	-0.123
RH-106	7.486E-02		3.001E-01	4.980E-01	5.743E-02	0.150
RU-106	7.486E-02		3.000E-01	4.980E-01	2.676E-02	0.150
AG-108M	-7.040E-03		3.206E-02	5.225E-02	3.313E-03	-0.135
AG-110M	-2.908E-02		3.634E-02	5.473E-02	3.041E-03	-0.531
IN-111	2.346E-01		2.373E+00	3.344E+00	1.893E-01	0.070
IN-113M	-9.727E-04		4.663E-02	7.742E-02	4.770E-03	-0.013
SN-113	-9.727E-04		4.663E-02	7.742E-02	4.770E-03	-0.013
IN-114M	8.816E-02		2.144E-01	3.112E-01	1.640E-02	0.283
CD-115	7.160E-07		1.416E-05	Half-Life too short		
SN-117M	-7.182E-03		6.363E-02	1.033E-01	5.366E-03	-0.070
SB-122	2.760E+00		4.590E+00	7.812E+00	4.419E-01	0.353
I-123	-9.189E+01		1.138E+02	Half-Life too short		
TE-123M	-1.178E-02		2.916E-02	4.674E-02	2.466E-03	-0.252
I-124	5.105E-01		1.229E+00	1.806E+00	9.899E-02	0.283
SB-124	-1.289E-02		7.249E-02	1.162E-01	8.105E-03	-0.111
SB-125	9.034E-03		9.332E-02	1.554E-01	9.456E-03	0.058
TE-125M	-7.290E-01		1.036E+01	1.705E+01	1.523E+00	-0.043
I-126	4.575E-02		2.301E-01	3.781E-01	1.957E-02	0.121
SB-126	-2.975E-02		1.827E-01	2.478E-01	1.484E-02	-0.120
SB-127	9.685E-01		2.359E+00	3.941E+00	4.057E-01	0.246
XE-127	2.450E-02		5.785E-02	9.184E-02	4.930E-03	0.267
I-131	-1.271E-02		1.492E-01	2.476E-01	1.625E-02	-0.051
TE-132	-2.952E-01		1.370E+00	2.181E+00	3.247E-01	-0.135
BA-133	1.324E-02		4.899E-02	7.263E-02	8.427E-03	0.182
I-133	4.513E-02		3.221E-02	Half-Life too short		
CS-134	1.539E-02		4.869E-02	8.354E-02	6.101E-03	0.184
CS-135	3.377E-01		1.859E-01	2.893E-01	2.210E-02	1.167
I-135	3.623E+12		4.302E+12	Half-Life too short		
CS-136	5.899E-02		1.351E-01	2.317E-01	1.847E-02	0.255
BA-137M	-2.282E-02		3.628E-02	5.552E-02	2.836E-03	-0.411
CS-137	-2.412E-02		3.835E-02	5.868E-02	3.014E-03	-0.411
CE-139	-1.400E-02		3.128E-02	4.944E-02	2.521E-03	-0.283
BA-140	-1.001E-01		3.264E-01	5.197E-01	1.690E-01	-0.193
LA-140	-1.461E-01		9.460E-02	1.125E-01	7.716E-03	-1.299
CE-141	-9.414E-03		6.787E-02	1.104E-01	6.225E-03	-0.085
CE-143	4.666E-03		6.588E-04	Half-Life too short		
CE-144	-3.536E-02		2.226E-01	3.628E-01	5.124E-02	-0.097
PM-144	-3.557E-03		3.794E-02	6.077E-02	3.420E-03	-0.059
PR-144	-2.414E-01		2.575E+00	4.125E+00	2.318E-01	-0.059
PM-146	-8.288E-03		4.487E-02	7.316E-02	6.336E-03	-0.113
ND-147	4.032E-02		7.379E-01	1.213E+00	1.639E-01	0.033
PM-149	1.179E-04		1.100E-04	Half-Life too short		
EU-152	3.199E-02		1.093E-01	1.626E-01	1.078E-02	0.197

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	2.689E-02		8.977E-02	1.326E-01	1.083E-02	0.203
EU-154	-1.356E-01		1.312E-01	1.881E-01	1.868E-02	-0.721
EU-155	6.112E-02		1.136E-01	1.912E-01	1.410E-02	0.320
TB-160	3.943E-02		1.418E-01	2.423E-01	2.119E-02	0.163
HO-166M	-3.378E-03		6.220E-02	9.979E-02	5.840E-03	-0.034
TM-171	-1.464E+01		3.695E+01	5.339E+01	4.643E+00	-0.274
LU-176	3.750E-03		2.480E-02	4.094E-02	2.412E-03	0.092
LU-177	3.935E+00	+	1.999E+00	2.706E+00	1.464E-01	1.454
LU-177M	-1.836E-01		1.916E-01	2.992E-01	1.741E-02	-0.614
HF-181	-9.560E-03		4.886E-02	7.940E-02	4.644E-03	-0.120
W-181	9.247E-02		4.897E-01	7.274E-01	6.319E-02	0.127
TA-182	2.180E-01		2.319E-01	4.064E-01	2.494E-02	0.536
RE-183	1.363E-02		1.126E-01	1.843E-01	9.479E-03	0.074
RE-184	-9.829E-02		2.385E-01	3.732E-01	2.128E-02	-0.263
OS-185	1.991E-02		4.389E-02	7.385E-02	3.854E-03	0.270
RE-188	1.636E-01		1.830E-01	3.085E-01	1.619E-02	0.530
W-188	-1.828E+00		8.445E+00	1.220E+01	7.143E-01	-0.150
IR-192	-3.448E-02		3.498E-02	5.545E-02	3.290E-03	-0.622
AU-195	3.176E-01		2.397E-01	4.014E-01	3.203E-02	0.791
TL-200	-7.198E-04		1.433E-03	Half-Life too short		
TL-201	9.278E-01		1.409E+01	2.275E+01	1.161E+00	0.041
TL-202	5.037E-02		8.114E-02	1.395E-01	8.162E-03	0.361
HG-203	2.282E-02		4.214E-02	7.277E-02	4.495E-03	0.314
BI-207	-1.810E-02		5.436E-02	8.665E-02	6.366E-03	-0.209
TL-207	-4.340E-01		7.751E-01	1.079E+00	1.785E-01	-0.402
PO-209	-1.439E+00		7.436E+00	1.216E+01	1.104E+00	-0.118
BI-210	5.266E+00		5.562E+00	9.594E+00	7.471E-01	0.549
PB-210	5.266E+00		5.562E+00	9.594E+00	7.471E-01	0.549
PO-210	5.266E+00		5.558E+00	9.594E+00	6.437E-01	0.549
PB-211	-1.072E-01		9.457E-01	1.555E+00	9.694E-01	-0.069
BI-212	1.177E+00	+	4.618E-01	6.448E-01	5.118E-02	1.825
PO-215	-4.340E-01		7.751E-01	1.079E+00	1.785E-01	-0.402
RN-219	-3.584E-01		4.089E-01	6.364E-01	8.657E-02	-0.563
RN-220	7.004E+00		2.761E+01	4.597E+01	2.624E+00	0.152
RA-223	-4.340E-01		7.751E-01	1.079E+00	1.785E-01	-0.402
AC-227	3.928E-01		3.934E-01	6.566E-01	9.144E-02	0.598
TH-227	3.928E-01		3.952E-01	6.566E-01	1.108E-01	0.598
TH-229	-1.145E-01		5.116E-01	8.197E-01	4.342E-02	-0.140
PA-231	-5.765E-01		1.487E+00	2.454E+00	3.385E-01	-0.235
TH-231	-4.340E-01		7.751E-01	1.079E+00	1.785E-01	-0.402
U-231	-2.166E+00		2.033E+00	2.788E+00	2.339E-01	-0.777
PA-233	2.230E-02		6.384E-02	1.091E-01	6.819E-03	0.204
PA-234	-1.251E-01		3.395E-01	5.446E-01	1.024E-01	-0.230
PA-234M	1.877E+00		4.671E+00	8.004E+00	7.637E-01	0.234
U-235	8.855E-02		2.215E-01	3.608E-01	5.835E-02	0.245
NP-236	-4.100E-02		7.913E-02	1.261E-01	6.522E-03	-0.325
NP-239	9.791E-03		1.927E-01	3.180E-01	1.984E-02	0.031
AM-241	1.317E-01		2.106E-01	3.166E-01	2.946E-02	0.416

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.600E-03		1.023E-01	1.672E-01	1.239E-02	-0.016
AM-246	5.374E-02		1.571E-01	2.666E-01	1.902E-02	0.202
CM-247	1.078E-02		3.621E-02	6.121E-02	3.548E-03	0.176
CF-249	7.573E-03		3.971E-02	6.678E-02	3.864E-03	0.113
CF-251	-5.884E-02		1.298E-01	2.066E-01	1.068E-02	-0.285

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 Savage Road      *
*               Charleston, SC 29414  *
*                                     *
*****
*               DETECTOR DATA        *
*                                     *
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978011 *
* Acquisition date   : 14-FEB-2010 12:18:10 Detector SN#      : *
* Detector ID        : GAM23          Sensitivity             : 5.000 *
* Geometry           : CAN            Energy tolerance:       : 1.500 *
* Elapsed live time  : 0 02:00:00.00 Abundance limit :       : 75.000 *
* Elapsed real time  : 0 02:00:01.75 Half life ratio :       : 8.000 *
*****
*                                     *
*               SAMPLE DATA          *
*                                     *
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID *
* Sample ID          : G245978011    Analyst initials: MXR1  *
* Batch Number       : 948721        Sample Quantity : 1.4356E+02 GRAM *
* Recovery           : 1.00000        Carrier Weight  : 0.00000 *
*****
*                                     *
*               QC DATA              *
*                                     *
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope       : *
* MSD DPM             : 0.000         MSD Isotope           : *
* LCS DPM             : 0.000         LCS Isotope           : *
* LCSD DPM            : 0.000         LCSD Isotope          : *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.453E+01	2.417E+00	2.917E-01	1.233E+00
NB-95	7.973E-02	4.910E-02	3.473E-02	2.505E-02
CD-109	1.913E+00	1.126E+00	7.289E-01	5.747E-01
SN-126	1.873E-01	1.102E-01	7.177E-02	5.624E-02
TL-208	5.460E-01	8.587E-02	3.089E-02	4.381E-02
BI-211	3.718E+00	4.524E-01	1.689E-01	2.308E-01
PB-212	1.536E+00	1.511E-01	4.783E-02	7.707E-02
PO-212	1.536E+00	1.511E-01	4.783E-02	7.707E-02
BI-214	1.204E+00	1.781E-01	5.138E-02	9.085E-02
PB-214	1.293E+00	1.707E-01	6.042E-02	8.710E-02
PO-214	1.293E+00	1.707E-01	6.042E-02	8.710E-02
PO-216	1.536E+00	1.511E-01	4.783E-02	7.707E-02
PO-218	1.293E+00	1.707E-01	6.042E-02	8.710E-02
RA-224	4.871E+00	1.327E+00	5.443E-01	6.769E-01
RA-226	1.204E+00	1.781E-01	5.138E-02	9.085E-02
AC-228	1.500E+00	3.866E-01	1.228E-01	1.972E-01
RA-228	1.500E+00	3.866E-01	1.228E-01	1.972E-01
TH-228	1.564E+00	1.538E-01	4.870E-02	7.847E-02
TH-230	1.204E+00	1.781E-01	5.138E-02	9.085E-02
TH-232	1.500E+00	3.866E-01	1.228E-01	1.972E-01
TH-234	2.628E+00	2.117E+00	1.371E+00	1.080E+00
U-234	1.204E+00	1.781E-01	5.138E-02	9.085E-02
NP-237	5.499E-01	3.423E-01	2.274E-01	1.746E-01
U-238	2.628E+00	2.117E+00	1.371E+00	1.080E+00
AM-243	3.768E-01	8.351E-02	5.306E-02	4.261E-02
ANH-511	1.613E-01	6.889E-02	2.506E-02	3.515E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.964E-01	3.454E-01	2.876E-01	1.762E-01 NOT IDENT.

NA-22	-4.821E-02	4.602E-02	3.410E-02	2.348E-02	NOT IDENT.
NA-24	-1.396E+07	1.851E+07	0.000E+00	9.443E+06	SHORT HLIF
AL-26	-1.711E-02	2.755E-02	2.004E-02	1.405E-02	NOT IDENT.
TI-44	3.863E-01	6.317E-02	4.600E-02	3.223E-02	FAIL ABUN
SC-46	2.641E-02	3.930E-02	3.591E-02	2.005E-02	FAIL ABUN
V-48	7.058E-02	7.985E-02	7.377E-02	4.074E-02	NOT IDENT.
CR-51	-6.757E-02	3.879E-01	3.420E-01	1.979E-01	NOT IDENT.
MN-52	7.881E-02	3.493E-01	2.990E-01	1.782E-01	NOT IDENT.
MN-54	3.506E-02	4.069E-02	3.741E-02	2.076E-02	NOT IDENT.
CO-56	-3.094E-02	3.747E-02	2.992E-02	1.912E-02	NOT IDENT.
CO-57	1.670E-03	2.580E-02	2.303E-02	1.316E-02	NOT IDENT.
CO-58	-1.033E-02	3.928E-02	3.343E-02	2.004E-02	NOT IDENT.
FE-59	1.918E-02	1.034E-01	8.926E-02	5.276E-02	NOT IDENT.
CO-60	2.027E-02	3.903E-02	3.465E-02	1.992E-02	NOT IDENT.
ZN-65	1.007E-01	1.108E-01	8.942E-02	5.652E-02	NOT IDENT.
GE-68	6.980E-01	1.331E+00	1.185E+00	6.793E-01	NOT IDENT.
AS-73	7.232E-02	1.083E+00	1.005E+00	5.527E-01	NOT IDENT.
AS-74	-6.854E-02	1.033E-01	8.338E-02	5.270E-02	NOT IDENT.
SE-75	-1.520E-02	5.148E-02	3.734E-02	2.627E-02	NOT IDENT.
BR-77	2.262E+01	2.332E+01	2.146E+01	1.190E+01	FAIL ABUN
SR-82	-1.359E-01	4.573E-01	3.324E-01	2.333E-01	NOT IDENT.
RB-83	6.578E-02	6.782E-02	6.240E-02	3.460E-02	NOT IDENT.
RB-84	3.457E-02	7.100E-02	6.405E-02	3.623E-02	NOT IDENT.
KR-85	8.904E+00	7.979E+00	6.550E+00	4.071E+00	NOT IDENT.
SR-85	4.706E-02	4.217E-02	3.462E-02	2.152E-02	NOT IDENT.
RB-86	4.271E-01	9.437E-01	8.347E-01	4.815E-01	NOT IDENT.
Y-88	7.768E-03	3.424E-02	3.009E-02	1.747E-02	NOT IDENT.
ZR-88	8.947E-03	3.155E-02	2.814E-02	1.609E-02	NOT IDENT.
Y-91	4.758E+00	2.091E+01	1.796E+01	1.067E+01	NOT IDENT.
NB-94	5.797E-03	3.715E-02	3.162E-02	1.896E-02	NOT IDENT.
NB-95M	6.939E-01	1.761E-01	1.519E-01	8.985E-02	NOT IDENT.
ZR-95	3.805E-02	8.068E-02	7.003E-02	4.117E-02	NOT IDENT.
NB-97	-1.432E+06	1.700E+06	0.000E+00	8.674E+05	SHORT HLIF
ZR-97	9.529E+07	4.051E+07	0.000E+00	2.067E+07	SHORT HLIF
MO-99	1.572E+01	2.396E+01	2.117E+01	1.223E+01	NOT IDENT.
TC-99M	-2.573E+19	1.220E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.199E-02	3.441E-02	3.025E-02	1.756E-02	NOT IDENT.
RH-102	1.649E-02	2.901E-02	2.607E-02	1.480E-02	FAIL ABUN
RU-103	-8.801E-03	4.332E-02	3.687E-02	2.210E-02	NOT IDENT.
RH-106	7.486E-02	2.941E-01	2.552E-01	1.500E-01	FAIL ABUN
RU-106	7.486E-02	2.940E-01	2.552E-01	1.500E-01	FAIL ABUN
AG-108M	-7.040E-03	3.142E-02	2.699E-02	1.603E-02	NOT IDENT.
AG-110M	-2.908E-02	3.561E-02	2.801E-02	1.817E-02	NOT IDENT.
IN-111	2.346E-01	2.326E+00	1.748E+00	1.187E+00	NOT IDENT.
IN-113M	-9.727E-04	4.570E-02	4.008E-02	2.332E-02	NOT IDENT.
SN-113	-9.727E-04	4.570E-02	4.008E-02	2.332E-02	NOT IDENT.
IN-114M	8.816E-02	2.102E-01	1.636E-01	1.072E-01	NOT IDENT.
CD-115	7.160E-01	2.775E+01	0.000E+00	1.416E+01	SHORT HLIF
SN-117M	-7.182E-03	6.235E-02	5.449E-02	3.181E-02	NOT IDENT.
SB-122	2.760E+00	4.498E+00	4.012E+00	2.295E+00	NOT IDENT.
I-123	-9.189E+07	2.230E+08	0.000E+00	1.138E+08	SHORT HLIF
TE-123M	-1.178E-02	2.858E-02	2.466E-02	1.458E-02	NOT IDENT.
I-124	5.105E-01	1.205E+00	9.264E-01	6.146E-01	NOT IDENT.
SB-124	-1.289E-02	7.104E-02	5.824E-02	3.625E-02	FAIL ABUN
SB-125	9.034E-03	9.145E-02	8.032E-02	4.666E-02	FAIL ABUN
TE-125M	-7.290E-01	1.015E+01	9.070E+00	5.181E+00	NOT IDENT.
I-126	4.575E-02	2.255E-01	1.935E-01	1.151E-01	NOT IDENT.
SB-126	-2.975E-02	1.790E-01	1.266E-01	9.135E-02	NOT IDENT.
SB-127	9.685E-01	2.311E+00	2.015E+00	1.179E+00	NOT IDENT.
XE-127	2.450E-02	5.669E-02	4.822E-02	2.892E-02	NOT IDENT.
I-131	-1.271E-02	1.462E-01	1.284E-01	7.460E-02	NOT IDENT.
TE-132	-2.952E-01	1.343E+00	1.142E+00	6.851E-01	NOT IDENT.
BA-133	1.324E-02	4.801E-02	3.768E-02	2.449E-02	NOT IDENT.
I-133	4.513E+04	6.313E+04	0.000E+00	3.221E+04	SHORT HLIF
CS-134	1.539E-02	4.771E-02	4.258E-02	2.434E-02	NOT IDENT.
CS-135	3.377E-01	1.822E-01	1.510E-01	9.294E-02	NOT IDENT.
I-135	3.623E+18	8.431E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.899E-02	1.324E-01	1.174E-01	6.757E-02	FAIL ABUN
BA-137M	-2.282E-02	3.555E-02	2.841E-02	1.814E-02	NOT IDENT.
CS-137	-2.412E-02	3.758E-02	3.003E-02	1.917E-02	NOT IDENT.
CE-139	-1.400E-02	3.066E-02	2.607E-02	1.564E-02	NOT IDENT.
BA-140	-1.001E-01	3.198E-01	2.672E-01	1.632E-01	NOT IDENT.
LA-140	-1.461E-01	9.271E-02	5.643E-02	4.730E-02	NOT IDENT.
CE-141	-9.414E-03	6.651E-02	5.836E-02	3.393E-02	NOT IDENT.
CE-143	4.666E+03	1.291E+03	0.000E+00	6.588E+02	SHORT HLIF
CE-144	-3.536E-02	2.181E-01	1.922E-01	1.113E-01	NOT IDENT.
PM-144	-3.557E-03	3.718E-02	3.107E-02	1.897E-02	NOT IDENT.
PR-144	-2.414E-01	2.523E+00	2.109E+00	1.287E+00	NOT IDENT.

PM-146	-8.288E-03	4.397E-02	3.775E-02	2.244E-02	NOT IDENT.
ND-147	4.032E-02	7.232E-01	6.240E-01	3.690E-01	FAIL ABUN
PM-149	1.179E+02	2.156E+02	0.000E+00	1.100E+02	SHORT HLIF
EU-152	3.199E-02	1.071E-01	8.442E-02	5.465E-02	NOT IDENT.
GD-153	2.689E-02	8.797E-02	7.065E-02	4.488E-02	NOT IDENT.
EU-154	-1.356E-01	1.286E-01	9.487E-02	6.561E-02	NOT IDENT.
EU-155	6.112E-02	1.114E-01	1.017E-01	5.682E-02	FAIL ABUN
TB-160	3.943E-02	1.389E-01	1.232E-01	7.088E-02	FAIL ABUN
HO-166M	-3.378E-03	6.096E-02	5.099E-02	3.110E-02	FAIL ABUN
TM-171	-1.464E+01	3.621E+01	2.868E+01	1.847E+01	NOT IDENT.
LU-176	3.750E-03	2.430E-02	2.130E-02	1.240E-02	FAIL ABUN
LU-177	3.935E+00	1.959E+00	1.420E+00	9.995E-01	FAIL ABUN
LU-177M	-1.836E-01	1.878E-01	1.547E-01	9.580E-02	FAIL ABUN
HF-181	-9.560E-03	4.788E-02	4.092E-02	2.443E-02	NOT IDENT.
W-181	9.247E-02	4.799E-01	3.909E-01	2.448E-01	NOT IDENT.
TA-182	2.180E-01	2.272E-01	2.052E-01	1.159E-01	NOT IDENT.
RE-183	1.363E-02	1.103E-01	9.720E-02	5.628E-02	FAIL ABUN
RE-184	-9.829E-02	2.337E-01	1.950E-01	1.192E-01	NOT IDENT.
OS-185	1.991E-02	4.301E-02	3.781E-02	2.194E-02	NOT IDENT.
RE-188	1.636E-01	1.793E-01	1.629E-01	9.149E-02	NOT IDENT.
W-188	-1.828E+00	8.276E+00	6.355E+00	4.222E+00	FAIL ABUN
IR-192	-3.448E-02	3.428E-02	2.884E-02	1.749E-02	FAIL ABUN
AU-195	3.176E-01	2.349E-01	2.139E-01	1.199E-01	FAIL ABUN
TL-200	-7.198E+02	2.808E+03	0.000E+00	1.433E+03	SHORT HLIF
TL-201	9.278E-01	1.381E+01	1.199E+01	7.044E+00	NOT IDENT.
TL-202	5.037E-02	7.952E-02	7.204E-02	4.057E-02	NOT IDENT.
HG-203	2.282E-02	4.130E-02	3.795E-02	2.107E-02	NOT IDENT.
BI-207	-1.810E-02	5.327E-02	4.388E-02	2.718E-02	FAIL ABUN
TL-207	-4.340E-01	7.596E-01	5.607E-01	3.876E-01	FAIL ABUN
PO-209	-1.439E+00	7.287E+00	6.181E+00	3.718E+00	NOT IDENT.
BI-210	5.266E+00	5.451E+00	5.191E+00	2.781E+00	NOT IDENT.
PB-210	5.266E+00	5.451E+00	5.191E+00	2.781E+00	NOT IDENT.
PO-210	5.266E+00	5.447E+00	5.191E+00	2.779E+00	NOT IDENT.
PB-211	-1.072E-01	9.267E-01	8.044E-01	4.728E-01	NOT IDENT.
BI-212	1.177E+00	4.526E-01	3.293E-01	2.309E-01	FAIL ABUN
PO-215	-4.340E-01	7.596E-01	5.607E-01	3.876E-01	FAIL ABUN
RN-219	-3.584E-01	4.007E-01	3.293E-01	2.045E-01	FAIL ABUN
RN-220	7.004E+00	2.706E+01	2.362E+01	1.381E+01	NOT IDENT.
RA-223	-4.340E-01	7.596E-01	5.607E-01	3.876E-01	FAIL ABUN
AC-227	3.928E-01	3.856E-01	3.430E-01	1.967E-01	FAIL ABUN
TH-227	3.928E-01	3.873E-01	3.430E-01	1.976E-01	FAIL ABUN
TH-229	-1.145E-01	5.013E-01	4.308E-01	2.558E-01	FAIL ABUN
PA-231	-5.765E-01	1.457E+00	1.279E+00	7.433E-01	FAIL ABUN
TH-231	-4.340E-01	7.596E-01	5.607E-01	3.876E-01	FAIL ABUN
U-231	-2.166E+00	1.992E+00	1.487E+00	1.017E+00	FAIL ABUN
PA-233	2.230E-02	6.256E-02	5.674E-02	3.192E-02	FAIL ABUN
PA-234	-1.251E-01	3.327E-01	2.765E-01	1.698E-01	FAIL ABUN
PA-234M	1.877E+00	4.577E+00	4.059E+00	2.335E+00	FAIL ABUN
U-235	8.855E-02	2.171E-01	1.908E-01	1.108E-01	FAIL ABUN
NP-236	-4.100E-02	7.754E-02	6.653E-02	3.956E-02	NOT IDENT.
NP-239	9.791E-03	1.888E-01	1.688E-01	9.635E-02	FAIL ABUN
AM-241	1.317E-01	2.063E-01	1.704E-01	1.053E-01	NOT IDENT.
CM-243	-2.600E-03	1.002E-01	8.902E-02	5.114E-02	FAIL ABUN
AM-246	5.374E-02	1.539E-01	1.349E-01	7.853E-02	NOT IDENT.
CM-247	1.078E-02	3.549E-02	3.167E-02	1.811E-02	NOT IDENT.
CF-249	7.573E-03	3.892E-02	3.458E-02	1.985E-02	NOT IDENT.
CF-251	-5.884E-02	1.272E-01	1.088E-01	6.488E-02	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY	MDA COUNTS
46.50	291.8076
46.50	291.8076
46.50	291.8076
48.70	325.6190
49.72	358.9180
51.35	312.5526
52.39	310.3714
52.97	313.4181
53.15	304.3733
53.44	303.6074
54.07	305.7594
56.28	355.5721
56.28	355.5735
57.37	0.0000
57.53	350.3769
57.53	350.3776
57.60	352.5207
57.98	339.0479
57.98	339.0479
59.32	330.9086
59.32	330.9086
59.40	330.9503
59.54	336.9346
59.72	335.5524
60.01	335.7055
61.10	336.2777
61.14	351.1134
61.30	351.2009
63.00	399.6646
63.29	425.4811
63.29	425.4811
63.58	425.6693
64.28	457.0092
65.12	436.7191
65.20	436.7710
65.20	436.7710
66.05	425.3848
66.72	458.6731
66.83	458.7499
66.91	449.8374
67.20	450.0284
67.20	450.0284
67.75	447.0237
67.85	447.0893
68.90	457.1407
68.90	457.1407
69.30	472.4019
69.67	441.1454
70.82	452.3892
70.82	452.3892
70.83	452.3965
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72.87	461.2375
72.87	461.2375
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74.81	471.3607
74.81	471.3607
74.81	471.3607
74.81	471.3607
74.81	471.3607
74.81	471.3607
74.97	471.4635
75.28	471.6653
75.70	471.9355
77.11	472.8416
77.11	472.8416

77.11	472.8416
77.11	472.8416
77.11	472.8416
77.11	472.8416
77.11	472.8416
78.38	444.9848
79.62	474.6232
79.80	474.7355
79.80	474.7355
80.11	491.6760
80.18	491.7213
80.30	491.7982
80.30	491.7982
80.57	512.1553
81.00	505.4597
81.07	505.5063
81.07	505.5063
81.07	505.5063
81.07	505.5063
82.60	524.3335
83.37	505.9993
83.78	538.3877
83.78	538.3877
83.78	538.3877
83.78	538.3877
84.21	518.7917
84.90	494.7416
85.43	518.0659
86.29	514.0279
86.50	520.3042
86.54	520.3290
86.59	520.3621
86.72	475.9268
86.79	475.9666
86.94	656.4985
87.30	460.9094
87.30	460.9094
87.30	460.9094
87.30	460.9094
87.30	460.9094
87.30	460.9094
87.57	461.0651
87.88	461.2445
88.03	461.3306
88.36	461.5192
88.47	461.5833
89.95	651.2545
91.11	342.6854
92.29	343.1773
92.38	343.2152
92.38	343.2152
93.35	321.9480
94.00	323.7484
94.67	342.6087
94.67	342.6107
94.90	358.2122
94.90	358.2122
94.90	358.2122
94.90	358.2122
95.87	420.7249
95.87	420.7249
96.73	391.6259
97.43	339.0656
98.44	302.3520
98.44	302.3532
98.88	319.3853
99.55	326.4558
99.55	326.4558
99.86	340.2199
100.00	340.2745
100.10	340.3157
103.18	418.8194
103.76	365.2382
105.00	362.8059
105.31	360.9697
108.00	382.7082
109.28	398.0235

111.00	377.0542
111.00	377.0542
111.76	381.3146
112.95	356.0847
115.19	358.9178
116.30	336.5067
117.00	332.7802
117.00	332.7802
117.66	342.9509
121.11	344.1761
121.62	352.3415
121.78	337.4236
122.06	337.5204
122.32	328.6197
122.32	328.6197
122.32	328.6197
122.32	328.6197
123.07	339.8664
127.23	382.4439
129.76	370.3191
131.20	372.8568
133.02	407.8374
133.54	385.8237
135.34	371.3148
136.00	391.7950
136.25	387.8389
136.48	381.8465
140.51	385.3325
140.51	0.0000
142.18	346.2178
142.65	343.3121
143.76	344.6841
144.24	349.9373
144.24	349.9373
144.24	349.9373
144.24	349.9373
145.22	339.0188
145.44	347.2580
147.16	355.9863
152.43	308.3382
152.70	310.4675
153.22	308.5533
154.21	323.2328
154.21	323.2328
154.21	323.2328
154.21	323.2328
155.03	319.3469
156.02	320.6547
158.56	309.9976
159.00	0.0000
159.00	321.4851
160.31	314.6040
161.27	291.0418
162.32	300.6312
162.64	286.1959
163.35	309.1950
163.89	317.6414
165.85	319.2077
167.43	307.1356
171.28	307.0724
171.86	299.9057
172.10	299.9648
176.55	311.5428
176.60	311.5541
181.06	282.9811
184.41	327.6402
185.71	301.1360
186.00	301.2056
190.27	269.7565
192.34	269.4553
193.63	284.9074
197.04	309.0919
198.01	308.2509
198.60	311.5867
200.40	322.6929
201.83	345.4966
202.84	335.2037
205.31	338.0190

208.36	326.7341
208.81	321.6802
209.75	275.4199
209.75	275.4199
210.97	277.3850
215.65	283.9945
216.55	288.6538
218.09	270.5688
222.10	278.9271
223.80	270.5637
226.40	279.7565
227.00	298.3852
227.08	296.2238
227.20	296.2487
228.16	273.5546
228.18	273.5584
228.18	273.5584
231.56	0.0000
235.69	271.6644
236.00	269.9681
236.00	269.9681
238.63	241.4659
238.63	241.4659
238.63	241.4659
238.63	241.4659
239.00	241.5247
240.98	241.8419
241.98	216.4812
241.98	216.4812
241.98	216.4812
244.69	197.4711
245.39	194.0334
247.94	208.2368
248.90	206.6299
249.79	180.2138
252.40	202.6652
252.85	207.1550
252.85	207.1550
254.15	0.0000
256.20	182.0626
256.20	182.0626
260.50	214.8368
260.90	0.0000
262.80	200.6543
264.65	198.2065
268.24	173.5912
268.79	175.4406
269.46	182.6761
269.46	182.6761
269.46	182.6761
269.46	182.6761
271.23	206.1830
273.65	258.5566
276.40	179.8511
277.35	187.8266
277.60	192.3541
277.60	192.3541
278.00	179.1243
278.60	185.4905
279.20	190.9630
279.53	200.9096
280.46	210.9371
281.68	210.1892
283.67	186.9545
284.30	187.0252
285.00	181.6778
285.90	0.0000
286.10	165.5154
286.10	165.5154
287.40	168.5844
288.45	0.0000
290.67	187.4229
290.80	187.4355
291.72	189.0488
293.26	0.0000
293.70	177.1544
295.21	177.3067
295.21	177.3067

295.21	177.3067
295.96	191.0303
296.50	191.0892
297.23	191.1687
298.57	191.3148
299.80	162.5811
299.80	162.5811
300.09	147.4103
300.09	147.4103
300.09	147.4103
300.09	147.4103
300.12	147.4123
301.29	161.1975
302.84	175.0385
303.76	155.3325
303.91	155.3450
304.40	163.0056
304.40	163.0056
304.84	172.1875
306.84	160.6873
308.46	170.4016
311.98	158.8022
316.51	176.6836
318.01	163.9373
319.02	152.9684
319.41	153.0009
320.08	163.2000
323.87	183.2477
323.87	183.2477
323.87	183.2477
323.87	183.2477
325.23	151.0195
328.77	186.8198
333.44	134.6595
334.20	173.4254
334.20	173.4254
334.30	173.4346
338.28	164.4885
338.28	164.4885
338.28	164.4885
338.28	164.4885
338.32	164.4906
338.32	164.4906
338.32	164.4906
340.50	160.0197
340.57	160.0238
344.27	141.6543
345.85	144.8849
350.59	0.0000
351.07	142.4647
351.92	150.0273
351.92	150.0273
351.92	150.0273
355.39	0.0000
356.01	137.8115
364.48	138.7151
366.43	126.5721
367.43	120.0190
367.94	0.0000
369.80	126.7831
374.96	124.2597
383.85	128.6093
387.95	126.9540
388.63	134.6333
391.69	137.6982
391.69	137.6982
392.90	130.1230
398.62	123.7594
400.65	150.7656
401.10	145.0352
401.81	138.3574
402.60	118.2238
404.84	133.7417
410.95	112.8924
411.60	107.1356
413.65	159.4047
414.70	132.4177
415.30	135.3550

415.76	134.4170
417.63	0.0000
418.52	110.3791
423.70	117.4314
427.08	111.7783
427.89	115.7083
432.53	103.2814
433.93	110.1695
439.47	99.6891
439.56	99.6928
439.89	102.6403
443.98	110.6578
444.90	104.8240
445.03	104.8305
445.03	104.8305
445.03	104.8305
445.03	104.8305
453.90	116.0511
463.38	75.7065
468.07	102.2410
473.00	95.1820
475.06	95.2629
475.35	105.1991
476.78	117.1775
477.59	120.1980
477.96	115.2481
482.03	121.4132
484.57	96.6341
487.03	98.7269
490.36	0.0000
492.35	0.0000
497.08	104.1371
507.63	0.0000
510.53	0.0000
510.84	103.7035
511.00	103.7098
511.85	82.2578
511.85	82.2578
513.99	94.0876
513.99	94.0876
520.41	73.7753
520.65	73.7824
527.90	0.0000
528.96	0.0000
529.64	89.2547
529.87	0.0000
531.02	104.5239
537.32	104.7753
543.00	99.9045
546.56	0.0000
549.76	91.9841
552.65	94.1293
555.20	94.2191
563.23	101.6901
563.90	89.3874
568.70	96.7493
569.32	89.5658
569.50	92.6609
569.67	92.6653
573.80	95.0974
574.00	85.9375
574.64	86.3876
578.91	68.8721
579.30	0.0000
583.14	90.0161
585.48	89.7474
591.81	92.3723
592.07	92.3810
593.00	94.4880
595.88	95.6229
600.56	81.8018
602.52	0.0000
602.71	81.6151
602.71	81.6151
603.60	88.5901
604.41	102.5154
604.70	102.5250
609.31	69.9689

609.31	69.9689
609.31	69.9689
609.31	69.9689
610.33	62.6807
612.46	55.7578
614.37	54.0520
618.01	69.1340
621.84	63.9800
621.84	63.9800
631.29	74.7112
633.02	77.9132
633.10	77.9150
634.78	61.1039
635.90	63.2344
636.97	71.6922
645.85	65.5617
646.12	67.6828
656.30	78.5238
657.75	89.1782
657.90	0.0000
661.65	86.1040
661.65	86.1040
664.57	0.0000
666.33	87.3012
666.33	87.3012
675.00	77.9386
677.61	78.0045
685.20	68.5547
692.80	82.6810
695.00	84.8884
696.49	90.3041
696.49	90.3041
697.00	88.1680
697.49	84.9559
698.33	95.7337
698.50	98.9674
699.00	100.0590
702.63	92.6327
706.10	77.6373
706.58	0.0000
706.67	89.5148
709.31	85.2722
711.68	73.4536
713.82	64.8545
717.42	68.1741
720.50	61.3787
721.93	0.0000
722.20	61.4113
722.78	61.4216
722.78	61.4216
722.89	61.4244
722.95	61.4258
723.30	61.4327
724.18	70.4860
727.18	54.2700
733.00	76.1130
735.90	60.9451
739.58	57.7436
742.81	63.2534
744.21	64.3714
747.13	67.7050
751.79	71.0795
752.31	67.8095
753.82	71.1239
755.35	75.5344
756.15	74.4580
756.87	78.8555
763.93	76.8257
765.79	67.7174
766.42	69.5600
766.84	71.4000
776.49	67.6689
778.00	81.8684
778.57	92.9036
778.89	92.9118
783.80	58.8763
785.46	59.8253
792.07	59.0182

795.84	72.9294
796.30	80.3253
798.80	90.5471
801.93	67.5093
805.60	61.0989
810.29	61.1808
810.76	63.9702
815.85	59.4206
817.79	51.0925
818.51	51.1026
819.60	57.6242
826.30	49.3521
828.27	0.0000
831.60	76.4696
831.96	69.9493
834.83	70.9392
836.80	0.0000
846.75	61.8079
848.13	63.7057
856.28	0.0000
856.80	65.7347
860.37	69.5587
867.32	57.4469
867.82	64.0474
871.10	45.2500
873.19	41.5024
874.81	56.6199
875.33	0.0000
876.40	56.6431
879.36	51.0194
880.27	44.4173
880.51	49.1457
881.50	47.2677
883.24	57.6926
884.67	56.7688
889.25	47.3653
896.60	56.9495
898.02	64.5662
899.00	62.6833
903.28	60.3095
911.07	70.5042
911.07	70.5042
911.07	70.5042
919.63	49.2715
920.93	55.4016
925.00	60.2404
925.24	63.1130
926.50	71.7438
935.52	54.6517
937.48	80.5786
944.10	65.3410
946.00	71.1410
949.00	47.1428
962.29	62.8832
964.01	72.8428
966.15	109.3240
968.20	59.6614
969.11	61.3329
969.11	61.3329
969.11	61.3329
977.42	51.3545
980.50	65.9386
983.50	42.6984
989.30	71.9133
996.32	61.3286
1001.03	46.7803
1001.68	46.7871
1004.76	49.7487
1021.30	0.0000
1024.50	0.0000
1034.80	43.2319
1036.00	49.1394
1037.82	47.1953
1038.57	45.2363
1038.76	0.0000
1045.16	56.1418
1046.59	61.0868
1048.07	52.2366

1050.47	57.1976
1050.47	57.1976
1062.04	54.3868
1063.62	56.3854
1076.63	53.5781
1077.35	51.6022
1078.86	55.5898
1085.78	44.7418
1099.22	58.8416
1112.02	55.5113
1112.84	58.3094
1115.52	54.9107
1120.29	42.9461
1120.29	42.9461
1120.29	42.9461
1120.29	42.9461
1120.51	42.9478
1121.28	44.6730
1124.00	0.0000
1129.67	53.2200
1131.51	0.0000
1147.95	0.0000
1167.94	41.5172
1173.22	65.8966
1175.09	60.8521
1177.93	62.9183
1189.05	76.2939
1204.90	64.3022
1205.75	0.0000
1213.00	69.5246
1221.42	65.5521
1230.97	85.1817
1235.34	87.3138
1236.41	0.0000
1238.25	65.7813
1246.25	70.0088
1260.41	0.0000
1271.85	46.5729
1274.45	57.9870
1274.54	57.9893
1291.56	51.9531
1298.22	0.0000
1312.09	44.8634
1325.50	30.3370
1325.50	30.3370
1332.49	28.2843
1333.61	30.3853
1360.21	23.1709
1362.66	0.0000
1365.15	31.6260
1368.21	32.7004
1368.53	0.0000
1376.25	32.5999
1384.27	31.7432
1394.10	29.0759
1395.20	36.3532
1407.95	25.5078
1434.06	24.5648
1436.60	25.6445
1457.56	0.0000
1460.81	25.7598
1489.15	19.4194
1509.49	27.0691
1596.49	28.2683
1620.62	12.2999
1678.03	0.0000
1691.02	13.4019
1691.02	13.4019
1706.46	0.0000
1750.46	0.0000
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1770.23	49.4454
1771.40	22.3029
1791.20	0.0000
1808.65	13.6553

1836.01

11.7539

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978011

Total Uranium Activity	7.8598E+00	ug/g
Total Uranium Counting Unc.	6.2991E+00	ug/g
Total Uranium Tpu	3.2138E-06	ug/g
Total Uranium Mda	4.0787E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978011                *
*  ANALYST       : MXR1                  DETECTOR    : GAM23                    *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE : 14-FEB-2010 12:18:10.42  SAMPLE ALQT: 143.560 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.299E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.321E+00
GROSS GAMMA MDA (pCi/GRAM )     : 2.801E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.358E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:12:24.82

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978012.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:11:08
Sample ID          : G245978012      Sample quantity      : 1.42780E+02 GRAM
Detector name      : GAM01           Detector geometry    : CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time  : 0 02:00:01.22  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials   : MXR1
Abundance limit    : 75.00000        Sensitivity        : 5.00000
Batch ID           : 948721          Detector SN#       :
Matrix Spike ID    :                 LCS ID              : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.25*	262	651	1.06	127.24	121	12	3.64E-02	20.8	
2	2	72.87	152	334	1.30	146.45	144	15	2.11E-02	21.4	5.44E+00
3	2	74.93	413	465	1.31	150.57	144	15	5.73E-02	11.0	
4	2	77.16	542	426	1.21	155.03	144	15	7.52E-02	8.1	
5	0	87.07	160	625	1.21	174.84	172	8	2.22E-02	28.1	
6	0	93.05*	571	824	1.49	186.79	182	11	7.92E-02	11.0	
7	0	186.11*	339	344	1.41	372.82	368	11	4.71E-02	12.4	
8	0	209.86	106	262	1.15	420.29	417	9	1.47E-02	29.5	
9	4	238.98*	1156	184	1.24	478.49	473	21	1.61E-01	3.6	2.96E+00
10	4	242.08	263	227	1.88	484.68	473	21	3.65E-02	16.4	
11	0	270.59	84	251	1.44	541.68	537	11	1.17E-02	38.1	
12	1	295.64	375	165	1.46	591.75	587	21	5.21E-02	8.0	9.06E-01
13	1	300.40	98	143	1.47	601.27	587	21	1.36E-02	25.2	
14	0	327.93	86	157	1.70	656.29	652	10	1.19E-02	29.2	
15	0	338.66	264	210	1.45	677.75	672	12	3.67E-02	12.6	
16	0	352.29*	631	162	1.41	704.99	700	13	8.76E-02	5.9	
17	0	410.51	89	176	3.69	821.36	814	16	1.23E-02	35.2	
18	1	463.37*	65	88	1.61	927.01	921	26	9.07E-03	29.9	1.07E+00
19	1	470.52	39	74	1.61	941.29	921	26	5.39E-03	46.2	
20	0	511.44*	107	140	1.73	1023.09	1016	17	1.48E-02	30.3	
21	0	583.36*	344	96	1.32	1166.85	1161	13	4.77E-02	8.1	
22	0	609.58*	394	122	1.37	1219.24	1212	14	5.47E-02	8.0	
23	0	663.61	36	115	1.55	1327.24	1320	15	4.97E-03	66.9	
24	0	727.36	111	53	1.63	1454.65	1448	14	1.54E-02	16.8	
25	0	768.18	54	80	1.61	1536.24	1527	14	7.55E-03	37.5	
26	0	861.36	51	57	1.36	1722.49	1715	11	7.13E-03	31.8	
27	0	911.59*	229	38	1.39	1822.87	1816	14	3.17E-02	9.0	
28	0	964.49	55	42	0.95	1928.60	1923	11	7.67E-03	26.8	
29	0	969.38*	126	72	1.56	1938.38	1934	13	1.76E-02	16.8	
30	0	1001.13*	67	37	3.10	2001.82	1994	15	9.36E-03	24.1	
31	0	1120.45*	103	39	1.67	2240.30	2234	13	1.43E-02	16.4	
32	0	1378.67	34	49	1.78	2756.35	2749	18	4.68E-03	50.1	
33	0	1409.47	12	22	1.57	2817.92	2810	9	1.73E-03	73.8	
34	0	1461.05*	894	12	2.04	2920.99	2913	16	1.24E-01	3.5	
35	0	1765.63*	75	12	1.62	3529.65	3521	18	1.04E-02	17.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 15:12:27

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978012.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:11:08
Sample ID        : G245978012 Sample quantity : 142.78 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA1 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.329E+01	2.630E+00	4.481E-01	3.983E-02	51.983
CD-109	+	88.03	*	2.242E+00	1.279E+00	1.712E+00	1.620E-01	1.309
SN-126	+	64.28		2.587E+00	1.142E+00	8.390E-01	1.235E-01	3.083
	+	86.94		9.120E-01	6.379E-01	6.396E-01	2.656E-01	1.426
	+	87.57	*	2.194E-01	1.252E-01	1.574E-01	1.482E-02	1.394
TL-208		277.35		1.878E-01	4.036E-01	6.586E-01	8.371E-02	0.285
	+	510.84		5.432E-01	3.354E-01	2.151E-01	2.557E-02	2.525
	+	583.14	*	5.009E-01	9.283E-02	5.926E-02	5.382E-03	8.453
	+	860.37		7.123E-01	4.584E-01	4.450E-01	4.265E-02	1.601
BI-211	+	72.87		7.961E+00	3.463E+00	5.403E+00	4.431E-01	1.473
	+	351.07	*	3.974E+00	5.940E-01	3.400E-01	3.093E-02	11.688
PB-212	+	74.81		2.437E+00	6.174E-01	5.899E-01	7.383E-02	4.131
	+	77.11		1.804E+00	3.292E-01	3.328E-01	2.825E-02	5.421
	+	87.30		1.015E+00	5.878E-01	7.300E-01	1.001E-01	1.390
	+	238.63	*	1.568E+00	1.942E-01	9.133E-02	9.247E-03	17.163
	+	300.09		2.062E+00	1.061E+00	1.302E+00	1.407E-01	1.584
PO-212	+	74.81		2.437E+00	6.174E-01	5.899E-01	7.383E-02	4.131
	+	77.11		1.804E+00	3.292E-01	3.328E-01	2.825E-02	5.421
	+	87.30		1.015E+00	5.878E-01	7.300E-01	1.001E-01	1.390
		115.19		8.873E-01	3.851E+00	6.180E+00	5.369E-01	0.144
	+	238.63	*	1.568E+00	1.942E-01	9.133E-02	9.247E-03	17.163
	+	300.09		2.062E+00	1.061E+00	1.302E+00	1.407E-01	1.584
BI-214	+	609.31	*	1.084E+00	2.040E-01	1.111E-01	1.096E-02	9.760
	+	1120.29		1.506E+00	5.182E-01	4.304E-01	4.605E-02	3.499
	+	1764.49		1.511E+00	5.285E-01	2.694E-01	2.259E-02	5.610
PB-214	+	74.81		4.199E+00	1.037E+00	1.016E+00	1.133E-01	4.131
	+	77.11		3.093E+00	6.115E-01	5.706E-01	6.507E-02	5.421
	+	87.30		1.738E+00	1.001E+00	1.251E+00	1.519E-01	1.390
	+	241.98		2.141E+00	7.403E-01	5.502E-01	5.877E-02	3.892
	+	295.21		1.389E+00	2.690E-01	2.279E-01	2.517E-02	6.093
	+	351.92	*	1.382E+00	2.188E-01	1.193E-01	1.250E-02	11.583
PO-214	+	74.81		4.199E+00	1.037E+00	1.016E+00	1.133E-01	4.131
	+	77.11		3.093E+00	6.115E-01	5.706E-01	6.507E-02	5.421
	+	87.30		1.738E+00	1.001E+00	1.251E+00	1.519E-01	1.390

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.141E+00	7.403E-01	5.502E-01	5.877E-02	3.892
	+	295.21		1.389E+00	2.690E-01	2.279E-01	2.517E-02	6.093
	+	351.92	*	1.382E+00	2.188E-01	1.193E-01	1.250E-02	11.583
	+	74.81		2.437E+00	6.174E-01	5.899E-01	7.383E-02	4.131
	+	77.11		1.804E+00	3.292E-01	3.328E-01	2.825E-02	5.421
	+	87.30		1.015E+00	5.878E-01	7.300E-01	1.001E-01	1.390
	+	238.63	*	1.568E+00	1.942E-01	9.133E-02	9.247E-03	17.163
PO-218	+	300.09		2.062E+00	1.061E+00	1.302E+00	1.407E-01	1.584
	+	74.81		4.199E+00	1.037E+00	1.016E+00	1.133E-01	4.131
	+	77.11		3.093E+00	6.115E-01	5.706E-01	6.507E-02	5.421
	+	87.30		1.738E+00	1.001E+00	1.251E+00	1.519E-01	1.390
	+	241.98		2.141E+00	7.403E-01	5.502E-01	5.877E-02	3.892
	+	295.21		1.389E+00	2.690E-01	2.279E-01	2.517E-02	6.093
	+	351.92	*	1.382E+00	2.188E-01	1.193E-01	1.250E-02	11.583
RA-224	+	240.98	*	4.061E+00	1.385E+00	1.040E+00	9.448E-02	3.906
RA-226	+	609.31	*	1.084E+00	2.040E-01	1.111E-01	1.096E-02	9.760
AC-228	+	1120.29		1.506E+00	5.182E-01	4.304E-01	4.605E-02	3.499
	+	1764.49		1.511E+00	5.284E-01	2.694E-01	2.259E-02	5.610
	+	338.32		1.830E+00	8.851E-01	4.020E-01	1.660E-01	4.552
	+	911.07	*	1.503E+00	3.212E-01	1.808E-01	2.093E-02	8.312
	+	969.11		1.468E+00	6.021E-01	4.451E-01	1.045E-01	3.299
	+	338.32		1.830E+00	8.851E-01	4.020E-01	1.660E-01	4.552
	+	911.07	*	1.503E+00	3.212E-01	1.808E-01	2.093E-02	8.312
TH-228	+	969.11		1.468E+00	6.021E-01	4.451E-01	1.045E-01	3.299
	+	74.81		2.481E+00	5.849E-01	6.006E-01	5.045E-02	4.131
	+	77.11		1.837E+00	3.351E-01	3.389E-01	2.876E-02	5.421
	+	87.30		1.033E+00	5.895E-01	7.432E-01	6.980E-02	1.390
	+	238.63	*	1.596E+00	1.978E-01	9.299E-02	9.415E-03	17.163
	+	300.09		2.099E+00	1.634E+00	1.325E+00	7.865E-01	1.584
	+	609.31	*	1.084E+00	2.040E-01	1.111E-01	1.095E-02	9.760
TH-230	+	1120.29		1.506E+00	5.182E-01	4.304E-01	4.605E-02	3.499
TH-232	+	1764.49		1.511E+00	5.284E-01	2.694E-01	2.259E-02	5.610
	+	338.32		1.830E+00	4.880E-01	4.020E-01	3.539E-02	4.552
	+	911.07	*	1.503E+00	3.212E-01	1.808E-01	2.093E-02	8.312
	+	969.11		1.468E+00	6.021E-01	4.451E-01	1.045E-01	3.299
	+	63.29	*	6.535E+00	2.952E+00	2.216E+00	3.895E-01	2.949
	+	92.38		5.030E+00	1.443E+00	9.077E-01	1.664E-01	5.541
	+	609.31	*	1.084E+00	2.040E-01	1.111E-01	1.095E-02	9.760
U-234	+	1120.29		1.506E+00	5.182E-01	4.304E-01	4.605E-02	3.499
NP-237	+	1764.49		1.511E+00	5.284E-01	2.694E-01	2.259E-02	5.610
	+	86.50	*	6.442E-01	3.909E-01	4.411E-01	9.985E-02	1.460
	+	95.87		1.050E-01	1.154E+00	1.650E+00	4.083E-01	0.064
	+	63.29	*	6.535E+00	2.952E+00	2.216E+00	3.895E-01	2.949
	+	92.38		5.030E+00	1.201E+00	9.077E-01	8.289E-02	5.541
	+	74.67	*	3.951E-01	9.303E-02	9.596E-02	7.979E-03	4.117
	+	86.72		2.416E+01	1.379E+01	1.699E+01	1.585E+00	1.422
AM-243	+	117.66		-2.877E+00	4.055E+00	6.222E+00	5.424E-01	-0.462
	+	142.18		9.446E+00	1.778E+01	3.068E+01	2.624E+00	0.308
	+	511.00	*	1.173E-01	7.177E-02	4.648E-02	3.939E-03	2.524

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	9.173E-02	3.585E-01	5.861E-01	5.332E-02	0.157
NA-22		1274.54	*	-5.628E-02	4.349E-02	6.107E-02	5.128E-03	-0.922
NA-24		1368.53	*	-1.339E+01	4.349E-02	Half-Life	too short	
AL-26		1129.67		-1.160E+00	1.746E+00	2.588E+00	2.161E-01	-0.448
		1808.65	*	-6.609E-03	3.276E-02	5.104E-02	4.229E-03	-0.129
TI-44		67.85		-4.264E-02	5.697E-02	7.902E-02	6.266E-03	-0.540
	+	78.38	*	3.330E-01	6.075E-02	7.943E-02	6.816E-03	4.192
SC-46		889.25	*	5.239E-03	4.299E-02	7.111E-02	6.428E-03	0.074
	+	1120.51		2.642E-01	8.919E-02	1.429E-01	1.201E-02	1.848
V-48		944.10		-5.653E-01	9.675E-01	1.464E+00	1.319E-01	-0.386
		983.50	*	-4.186E-02	8.670E-02	1.334E-01	1.191E-02	-0.314
		1312.09		3.908E-02	8.743E-02	1.534E-01	1.301E-02	0.255
CR-51		320.08	*	-4.078E-02	4.390E-01	7.156E-01	6.731E-02	-0.057
MN-52		744.21		3.656E-02	3.616E-01	6.029E-01	5.172E-02	0.061
		848.13		-3.594E+00	9.886E+00	1.561E+01	1.395E+00	-0.230
		935.52		6.304E-01	3.671E-01	6.915E-01	6.237E-02	0.912
		1246.25		-4.291E+00	1.079E+01	1.734E+01	1.442E+00	-0.247
		1333.61		6.333E+00	7.061E+00	1.301E+01	1.109E+00	0.487
		1434.06	*	-2.834E-01	3.737E-01	5.508E-01	4.755E-02	-0.515
MN-54		834.83	*	1.346E-04	3.722E-02	6.112E-02	5.440E-03	0.002
CO-56		846.75	*	3.045E-02	3.973E-02	6.989E-02	6.245E-03	0.436
		977.42		1.654E+00	3.430E+00	5.442E+00	4.866E-01	0.304
		1037.82		-4.759E-02	3.406E-01	5.426E-01	5.002E-02	-0.088
		1175.09		1.861E+00	2.417E+00	4.321E+00	3.500E-01	0.431
		1238.25		8.197E-02	1.028E-01	1.807E-01	1.545E-02	0.454
		1360.21		4.999E-01	1.070E+00	1.880E+00	1.609E-01	0.266
		1771.40		6.555E-02	2.018E-01	3.181E-01	2.663E-02	0.206
CO-57		122.06	*	2.072E-02	2.735E-02	4.473E-02	3.938E-03	0.463
		136.48		5.773E-02	2.137E-01	3.661E-01	3.382E-02	0.158
CO-58		810.76	*	-6.793E-03	4.167E-02	6.745E-02	5.967E-03	-0.101
FE-59		142.65		9.947E-01	2.996E+00	5.072E+00	4.337E-01	0.196
		192.34		3.372E-01	1.038E+00	1.705E+00	2.303E-01	0.198
		1099.22	*	-1.195E-02	1.140E-01	1.818E-01	1.675E-02	-0.066
		1291.56		-5.999E-02	1.278E-01	2.014E-01	1.937E-02	-0.298
CO-60		1173.22		3.528E-02	4.868E-02	8.660E-02	7.009E-03	0.407
		1332.49	*	3.602E-02	3.846E-02	7.110E-02	6.061E-03	0.507
ZN-65		1115.52	*	-4.997E-02	1.085E-01	1.394E-01	1.176E-02	-0.359
GE-68		1077.35	*	1.048E+00	1.262E+00	2.218E+00	1.910E-01	0.472
AS-73		53.44	*	4.321E-02	1.007E+00	1.642E+00	1.329E-01	0.026
AS-74		595.88	*	3.771E-02	9.649E-02	1.666E-01	1.404E-02	0.226
		634.78		1.186E-01	3.998E-01	6.829E-01	5.673E-02	0.174
SE-75		66.05		-2.715E+00	5.871E+00	8.266E+00	8.105E-01	-0.328
		96.73		-1.106E+00	9.799E-01	1.293E+00	1.786E-01	-0.856
		121.11		-1.173E-02	1.517E-01	2.399E-01	2.721E-02	-0.049
		136.00		-3.921E-03	4.105E-02	6.945E-02	6.011E-03	-0.056
		198.60		-5.024E-01	1.885E+00	3.067E+00	2.984E-01	-0.164
		264.65	*	-1.997E-02	4.877E-02	7.264E-02	6.673E-03	-0.275
		279.53		8.286E-02	1.137E-01	1.941E-01	1.834E-02	0.427
		303.91		-1.469E+00	2.533E+00	3.471E+00	4.101E-01	-0.423

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		1.955E-01	2.786E-01	4.707E-01	5.044E-02	0.415
		87.88		1.134E+03	6.472E+02	8.598E+02	8.127E+01	1.319
	+	200.40		-4.280E+01	3.885E+02	6.470E+02	5.707E+01	-0.066
		239.00		5.920E+02	6.839E+01	8.917E+01	8.095E+00	6.640
		249.79		3.312E+01	1.726E+02	2.683E+02	2.447E+01	0.123
		281.68		-2.921E+02	2.246E+02	3.417E+02	3.123E+01	-0.855
		297.23		7.865E+02	1.775E+02	3.161E+02	2.875E+01	2.488
		303.76		-2.930E+02	4.983E+02	6.831E+02	6.194E+01	-0.429
		439.47		3.061E+02	3.615E+02	6.161E+02	5.108E+01	0.497
		484.57		-2.397E+02	5.689E+02	8.797E+02	7.417E+01	-0.272
		520.65	*	1.201E+01	2.594E+01	4.294E+01	3.643E+00	0.280
		574.64		-1.906E+02	5.386E+02	8.814E+02	7.461E+01	-0.216
		578.91		8.105E+00	2.425E+02	3.554E+02	3.006E+01	0.023
		585.48		3.303E+03	6.972E+02	1.238E+03	1.046E+02	2.667
SR-82		755.35		2.431E+01	4.188E+02	6.951E+02	5.994E+01	0.035
		817.79		1.378E+02	3.090E+02	5.297E+02	4.687E+01	0.260
		698.33		1.855E+01	4.166E+01	7.130E+01	5.970E+00	0.260
		776.49	*	1.526E-01	4.287E-01	7.285E-01	6.343E-02	0.210
		1395.20		-6.246E+00	1.375E+01	2.150E+01	1.849E+00	-0.290
		520.41	*	2.917E-02	7.422E-02	1.223E-01	1.037E-02	0.239
RB-83		529.64		4.271E-03	1.047E-01	1.770E-01	1.503E-02	0.024
		552.65		-5.102E-02	2.132E-01	3.524E-01	2.991E-02	-0.145
RB-84		881.50	*	-9.763E-02	7.618E-02	1.061E-01	9.569E-03	-0.921
KR-85		513.99	*	1.583E+01	8.826E+00	1.426E+01	1.209E+00	1.110
SR-85		513.99	*	8.368E-02	4.667E-02	7.541E-02	6.394E-03	1.110
RB-86		1076.63	*	8.906E-01	8.696E-01	1.558E+00	1.342E-01	0.572
Y-88		898.02		8.798E-03	4.581E-02	7.621E-02	6.934E-03	0.115
		1836.01	*	-5.030E-03	2.927E-02	4.537E-02	3.731E-03	-0.111
ZR-88		392.90	*	-3.223E-02	3.452E-02	5.229E-02	4.210E-03	-0.616
Y-91		1204.90	*	-4.009E+00	2.005E+01	3.298E+01	2.702E+00	-0.122
NB-94		702.63	*	7.448E-03	3.776E-02	6.353E-02	5.333E-03	0.117
		871.10		-1.743E-02	3.404E-02	5.259E-02	4.732E-03	-0.331
NB-95		765.79	*	2.405E-02	4.786E-02	8.195E-02	7.101E-03	0.293
NB-95M		235.69	*	8.357E-02	1.419E-01	2.146E-01	2.201E-02	0.390
ZR-95		724.18		2.336E-02	1.090E-01	1.606E-01	1.486E-02	0.145
		756.15	*	-9.338E-03	7.979E-02	1.305E-01	1.240E-02	-0.072
NB-97		657.90	*	4.557E-01	7.979E-02	Half-Life	too short	
		1024.50		5.191E+01	7.979E-02	Half-Life	too short	
ZR-97		254.15		-1.498E+01	7.979E-02	Half-Life	too short	
		355.39		-3.649E+01	7.979E-02	Half-Life	too short	
		507.63	*	-7.171E-01	7.979E-02	Half-Life	too short	
		602.52		-3.041E+00	7.979E-02	Half-Life	too short	
		1021.30		-1.860E+02	7.979E-02	Half-Life	too short	
		1147.95		-5.606E+01	7.979E-02	Half-Life	too short	
		1362.66		1.255E+02	7.979E-02	Half-Life	too short	
		1750.46		1.064E+01	7.979E-02	Half-Life	too short	
MO-99		140.51		-9.391E+00	5.622E+01	9.469E+01	2.620E+01	-0.099
		181.06		-9.559E+00	4.060E+01	5.928E+01	1.085E+01	-0.161
		366.43		7.888E+01	1.729E+02	2.901E+02	2.454E+01	0.272

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		-1.907E+01	2.518E+01	3.850E+01	5.833E+00	-0.495
	778.00			1.955E+01	7.018E+01	1.187E+02	1.034E+01	0.165
TC-99M	140.51	*		-2.155E+13	7.018E+01	Half-Life	too short	
RH-101	127.23			5.682E-03	3.483E-02	5.553E-02	4.830E-03	0.102
	198.01	*		-1.647E-02	3.465E-02	5.591E-02	4.920E-03	-0.295
	325.23			-1.666E-02	2.592E-01	3.698E-01	3.300E-02	-0.045
RH-102	418.52			-6.788E-02	3.244E-01	4.977E-01	4.079E-02	-0.136
	475.06	*		-1.660E-02	3.506E-02	4.637E-02	3.899E-03	-0.358
	631.29			-3.015E-02	5.550E-02	8.843E-02	7.358E-03	-0.341
	697.49			4.534E-02	8.312E-02	1.434E-01	1.201E-02	0.316
	766.84	+		2.521E-01	1.904E-01	2.251E-01	1.951E-02	1.120
	1046.59			-1.423E-01	1.268E-01	1.784E-01	1.559E-02	-0.798
	1112.84			5.706E-02	2.594E-01	3.889E-01	3.283E-02	0.147
RU-103	497.08	*		2.593E-03	4.153E-02	6.681E-02	9.395E-03	0.039
	610.33	+		1.233E+01	2.841E+00	3.231E+00	5.353E-01	3.815
RH-106	511.85	+		5.893E-01	3.605E-01	4.438E-01	3.762E-02	1.328
	621.84	*		6.479E-02	3.117E-01	5.295E-01	6.983E-02	0.122
	1050.47			1.958E+00	2.432E+00	4.253E+00	3.709E-01	0.460
RU-106	511.85	+		5.893E-01	3.605E-01	4.438E-01	3.762E-02	1.328
	621.84	*		6.479E-02	3.117E-01	5.295E-01	4.423E-02	0.122
	1050.47			1.958E+00	2.432E+00	4.253E+00	3.709E-01	0.460
AG-108M	433.93	*		-7.084E-03	3.360E-02	5.330E-02	4.597E-03	-0.133
	614.37			-2.248E-02	4.253E-02	5.792E-02	5.053E-03	-0.388
	722.95			-1.012E-02	4.487E-02	6.255E-02	5.523E-03	-0.162
AG-110M	657.75	*		1.148E-02	3.912E-02	5.860E-02	4.968E-03	0.196
	677.61			1.189E-02	3.084E-01	5.145E-01	4.386E-02	0.023
	706.67			-2.672E-01	2.226E-01	3.300E-01	2.857E-02	-0.810
	763.93			-6.133E-02	1.880E-01	2.575E-01	2.292E-02	-0.238
	884.67			-3.250E-02	5.004E-02	7.589E-02	7.054E-03	-0.428
	937.48			-6.567E-02	1.154E-01	1.763E-01	1.642E-02	-0.372
	1384.27			9.642E-02	1.924E-01	3.006E-01	2.655E-02	0.321
IN-111	171.28			-1.263E+00	2.152E+00	3.537E+00	3.028E-01	-0.357
	245.39	*		1.350E+00	2.408E+00	3.643E+00	3.317E-01	0.370
IN-113M	391.69	*		-1.036E-02	4.832E-02	7.721E-02	6.431E-03	-0.134
SN-113	391.69	*		-1.036E-02	4.832E-02	7.721E-02	6.431E-03	-0.134
IN-114M	190.27	*		-1.610E-01	2.202E-01	3.110E-01	2.716E-02	-0.518
CD-115	260.90			2.135E-04	2.202E-01	Half-Life	too short	
	492.35			-1.204E-05	2.202E-01	Half-Life	too short	
	527.90	*		-2.505E-05	2.202E-01	Half-Life	too short	
SN-117M	156.02			4.716E-01	2.644E+00	4.496E+00	3.829E-01	0.105
	158.56	*		1.183E-03	6.434E-02	1.087E-01	9.256E-03	0.011
SB-122	563.90	*		2.060E+00	4.480E+00	7.766E+00	6.584E-01	0.265
	692.80			-2.337E+00	9.029E+01	1.496E+02	1.249E+01	-0.016
I-123	159.00	*		1.027E+02	9.029E+01	Half-Life	too short	
	528.96			-2.882E+03	9.029E+01	Half-Life	too short	
TE-123M	159.00	*		1.257E-02	2.910E-02	4.990E-02	4.275E-03	0.252
I-124	602.71	*		-9.555E-02	1.175E+00	1.695E+00	1.426E-01	-0.056
	722.78			-1.648E+00	7.627E+00	1.065E+01	9.035E-01	-0.155
	1325.50			-4.552E+01	5.613E+01	8.324E+01	7.082E+00	-0.547

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25		1.420E+02	6.383E+01	1.195E+02	1.026E+01	1.188
		1509.49		1.828E+01	2.392E+01	4.401E+01	3.810E+00	0.415
		1691.02		-1.282E+00	6.127E+00	9.581E+00	8.163E-01	-0.134
		602.71		-3.532E-03	4.344E-02	6.268E-02	5.271E-03	-0.056
		645.85		1.617E-01	4.959E-01	8.494E-01	7.476E-02	0.190
		709.31		3.561E+00	2.834E+00	5.157E+00	4.345E-01	0.690
		713.82		-2.254E+00	1.707E+00	2.449E+00	2.917E-01	-0.921
		722.78		-8.831E-02	4.087E-01	5.705E-01	4.950E-02	-0.155
	+	968.20		1.564E+01	5.441E+00	8.230E+00	7.376E-01	1.900
		1045.16		-2.788E+00	2.808E+00	4.062E+00	3.550E-01	-0.686
		1325.50		-2.605E+00	3.212E+00	4.764E+00	4.054E-01	-0.547
		1368.21		-1.480E+00	1.742E+00	2.499E+00	3.360E-01	-0.592
		1436.60		-8.560E-01	3.978E+00	6.376E+00	5.505E-01	-0.134
		1691.02	*	-1.621E-02	7.744E-02	1.211E-01	1.074E-02	-0.134
SB-125		427.89	*	1.063E-02	9.689E-02	1.576E-01	1.326E-02	0.067
	+	463.38		6.477E-01	3.913E-01	5.703E-01	5.173E-02	1.136
		600.56		-5.890E-02	1.717E-01	2.796E-01	2.535E-02	-0.211
		635.90		1.925E-01	2.598E-01	4.593E-01	4.144E-02	0.419
TE-125M		109.28	*	-1.654E+00	1.041E+01	1.646E+01	1.707E+00	-0.101
		388.63		2.813E-01	2.422E-01	4.218E-01	3.416E-02	0.667
I-126		666.33	*	1.619E-01	2.571E-01	3.964E-01	3.257E-02	0.408
		753.82		8.103E-01	1.867E+00	3.191E+00	2.750E-01	0.254
SB-126		223.80		-1.911E+00	5.071E+00	8.304E+00	7.471E-01	-0.230
		278.60		5.034E+00	2.975E+00	5.264E+00	4.814E-01	0.956
	+	296.50		1.629E+01	2.987E+00	4.530E+00	4.122E-01	3.595
		414.70		1.551E-01	1.037E-01	1.661E-01	1.358E-02	0.934
		415.30		6.304E+00	9.271E+00	1.343E+01	1.098E+00	0.470
		555.20		-2.013E-01	4.644E+00	7.784E+00	6.605E-01	-0.026
		573.80		6.179E-01	1.306E+00	2.262E+00	1.915E-01	0.273
		593.00		-6.382E-01	1.057E+00	1.681E+00	1.417E-01	-0.380
		656.30		4.228E-01	4.462E+00	6.826E+00	5.609E-01	0.062
		666.33		6.812E-02	1.082E-01	1.668E-01	1.370E-02	0.408
		675.00		-1.011E+00	2.392E+00	3.835E+00	3.167E-01	-0.264
		695.00		-5.075E-02	9.570E-02	1.519E-01	1.269E-02	-0.334
		697.00		2.455E-01	3.392E-01	5.925E-01	4.958E-02	0.414
		720.50	*	-6.981E-02	2.049E-01	2.822E-01	2.392E-02	-0.247
SB-127		856.80		-1.551E-01	6.653E-01	9.126E-01	8.179E-02	-0.170
		989.30		1.338E-01	1.526E+00	2.501E+00	2.229E-01	0.054
		1034.80		-3.265E+00	1.087E+01	1.698E+01	1.491E+00	-0.192
		1213.00		-1.977E+00	5.592E+00	9.058E+00	7.444E-01	-0.218
		61.10		9.378E+01	1.191E+02	1.786E+02	2.033E+01	0.525
		252.40		5.129E-01	7.458E+00	1.240E+01	5.255E+00	0.041
		290.80		-2.499E+01	4.523E+01	6.256E+01	7.782E+00	-0.399
	+	411.60		6.170E+01	4.451E+01	4.089E+01	6.604E+00	1.509
		444.90		7.102E+00	1.732E+01	2.871E+01	3.778E+00	0.247
		473.00		-1.688E+00	3.372E+00	4.436E+00	6.003E-01	-0.381
		543.00		-3.158E+00	2.614E+01	4.358E+01	6.556E+00	-0.072
		603.60		4.668E+00	2.071E+01	3.092E+01	4.080E+00	0.151
		685.20	*	8.241E-01	2.305E+00	3.942E+00	4.757E-01	0.209

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		1.884E+01	2.912E+01	5.029E+01	8.222E+00	0.375
		722.20		-1.194E+01	5.609E+01	7.838E+01	9.391E+00	-0.152
		783.80		-3.041E-01	6.563E+00	1.077E+01	1.435E+00	-0.028
		57.60		6.683E+00	8.050E+00	1.217E+01	9.346E-01	0.549
		145.22		7.507E-02	7.673E-01	1.288E+00	1.100E-01	0.058
		172.10		2.101E-03	1.318E-01	2.220E-01	1.902E-02	0.009
I-131		202.84	*	4.747E-03	5.028E-02	8.442E-02	7.464E-03	0.056
		374.96		6.894E-02	2.070E-01	3.441E-01	2.865E-02	0.200
		80.18		-1.129E+00	7.054E+00	1.003E+01	8.833E-01	-0.112
		284.30		-1.684E-01	2.097E+00	3.441E+00	3.297E-01	-0.049
		364.48	*	-1.527E-01	1.508E-01	2.269E-01	2.038E-02	-0.673
		636.97		-4.383E-02	1.870E+00	3.114E+00	2.747E-01	-0.014
TE-132		722.89		-2.241E+00	9.727E+00	1.355E+01	1.161E+00	-0.165
		49.72		-1.689E+01	4.446E+01	7.132E+01	8.255E+00	-0.237
		111.76		-2.443E+01	6.222E+01	9.588E+01	1.123E+01	-0.255
		116.30		1.652E+00	5.466E+01	8.697E+01	1.021E+01	0.019
		228.16	*	5.923E-01	1.396E+00	2.359E+00	3.894E-01	0.251
		53.15		1.556E+00	4.236E+00	7.002E+00	5.689E-01	0.222
BA-133		79.62		-3.341E-01	1.553E+00	2.203E+00	3.361E-01	-0.152
		81.00		-1.006E-01	1.228E-01	1.678E-01	2.681E-02	-0.600
		276.40		2.372E-01	4.329E-01	6.492E-01	9.587E-02	0.365
		302.84		5.113E-02	1.687E-01	2.485E-01	3.376E-02	0.206
		356.01	*	-1.744E-02	5.069E-02	6.996E-02	9.227E-03	-0.249
		383.85		-2.253E-01	3.134E-01	4.814E-01	5.925E-02	-0.468
I-133	+	510.53		1.246E+01	3.134E-01	Half-Life	too short	
		529.87	*	3.653E-03	3.134E-01	Half-Life	too short	
		706.58		-5.199E+00	3.134E-01	Half-Life	too short	
		856.28		1.129E+00	3.134E-01	Half-Life	too short	
		875.33		-4.073E-01	3.134E-01	Half-Life	too short	
		1236.41		5.064E+00	3.134E-01	Half-Life	too short	
CS-134		1298.22		1.106E+00	3.134E-01	Half-Life	too short	
		475.35		-1.747E-01	2.260E+00	3.135E+00	2.637E-01	-0.056
		563.23		7.319E-02	3.727E-01	6.349E-01	5.436E-02	0.115
		569.32		-5.105E-02	2.008E-01	3.308E-01	2.842E-02	-0.154
		604.70		2.727E-02	3.532E-02	5.572E-02	4.695E-03	0.489
		795.84	*	9.032E-02	5.271E-02	9.619E-02	8.501E-03	0.939
CS-135		801.93		-1.407E-01	4.153E-01	6.645E-01	5.877E-02	-0.212
		1038.57		-2.217E+00	4.262E+00	6.502E+00	5.699E-01	-0.341
		1167.94		1.235E+00	2.600E+00	4.548E+00	3.696E-01	0.272
		1365.15		4.758E-01	1.202E+00	2.104E+00	1.886E-01	0.226
		268.24	*	6.490E-02	1.752E-01	2.608E-01	2.720E-02	0.249
		288.45		-1.073E+13	1.752E-01	Half-Life	too short	
I-135		417.63		-6.220E+12	1.752E-01	Half-Life	too short	
		546.56		-6.459E+11	1.752E-01	Half-Life	too short	
		836.80		-2.025E+12	1.752E-01	Half-Life	too short	
		1038.76		-2.086E+13	1.752E-01	Half-Life	too short	
		1124.00		9.534E+13	1.752E-01	Half-Life	too short	
		1131.51		-5.621E+12	1.752E-01	Half-Life	too short	
		1260.41	*	2.841E+12	1.752E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		4.326E+14	1.752E-01	Half-Life	too short	
		1678.03		-2.186E+12	1.752E-01	Half-Life	too short	
		1706.46		-5.416E+12	1.752E-01	Half-Life	too short	
		1791.20		1.439E+13	1.752E-01	Half-Life	too short	
		66.91		-1.244E+00	1.140E+00	1.534E+00	2.308E-01	-0.811
	+	86.29		3.341E+00	1.933E+00	2.555E+00	3.400E-01	1.308
		153.22		1.015E+00	7.522E-01	1.325E+00	1.265E-01	0.766
		163.89		3.753E-01	1.271E+00	2.166E+00	2.072E-01	0.173
		176.55		2.340E-01	4.582E-01	7.843E-01	7.144E-02	0.298
		273.65		-5.913E-01	6.428E-01	8.680E-01	8.411E-02	-0.681
		340.57		7.398E-01	2.032E-01	3.422E-01	3.090E-02	2.162
		818.51		5.439E-02	8.375E-02	1.463E-01	1.297E-02	0.372
		1048.07	*	-6.998E-02	1.352E-01	2.059E-01	1.873E-02	-0.340
		1235.34		4.350E-01	7.213E-01	1.262E+00	1.465E-01	0.345
BA-137M		661.65	*	4.539E-02	4.334E-02	6.940E-02	5.685E-03	0.654
CS-137		661.65	*	4.798E-02	4.582E-02	7.336E-02	6.022E-03	0.654
CE-139		165.85	*	-1.076E-03	3.128E-02	5.267E-02	4.485E-03	-0.020
BA-140		162.64		-4.246E-01	8.997E-01	1.489E+00	1.343E-01	-0.285
		304.84		1.950E-01	1.740E+00	2.526E+00	7.115E-01	0.077
		423.70		-7.717E-01	2.435E+00	3.823E+00	1.235E+00	-0.202
LA-140	+	537.32	*	1.149E-01	2.830E-01	4.874E-01	1.614E-01	0.236
		328.77		8.612E-01	5.096E-01	6.860E-01	6.423E-02	1.255
		432.53		5.601E-01	2.470E+00	4.051E+00	3.523E-01	0.138
		487.03		-2.607E-02	1.606E-01	2.536E-01	2.278E-02	-0.103
		751.79		-5.671E-01	2.234E+00	3.612E+00	3.443E-01	-0.157
		815.85		-2.426E-01	3.724E-01	5.694E-01	5.588E-02	-0.426
		867.82		1.440E-01	1.671E+00	2.688E+00	2.534E-01	0.054
		919.63		1.772E+00	3.216E+00	5.424E+00	5.961E-01	0.327
		925.24		-1.065E+00	1.319E+00	1.946E+00	1.858E-01	-0.547
		1596.49	*	-5.089E-03	1.147E-01	1.871E-01	1.615E-02	-0.027
CE-141		145.44	*	3.006E-02	6.780E-02	1.165E-01	1.014E-02	0.258
CE-143		57.37		3.248E-03	6.780E-02	Half-Life	too short	
		231.56		-9.225E-03	6.780E-02	Half-Life	too short	
		293.26	*	1.662E-03	6.780E-02	Half-Life	too short	
		350.59		1.044E-01	6.780E-02	Half-Life	too short	
		490.36		-2.202E-03	6.780E-02	Half-Life	too short	
	+	664.57		8.605E-03	6.780E-02	Half-Life	too short	
		721.93		-1.155E-03	6.780E-02	Half-Life	too short	
CE-144		80.11		-5.097E-01	2.538E+00	3.603E+00	3.142E-01	-0.141
		133.54	*	-9.393E-02	2.314E-01	3.586E-01	5.582E-02	-0.262
PM-144		476.78		-3.757E-02	8.214E-02	1.162E-01	1.074E-02	-0.323
		618.01		-1.096E-02	3.121E-02	5.064E-02	4.361E-03	-0.216
		696.49	*	2.987E-02	3.655E-02	6.429E-02	5.381E-03	0.465
		778.57		-7.404E-01	2.241E+00	3.574E+00	3.116E-01	-0.207
PR-144		696.49	*	2.027E+00	2.480E+00	4.363E+00	3.650E-01	0.465
		1489.15		-1.047E+01	9.761E+00	1.214E+01	1.050E+00	-0.863
PM-146		453.90	*	4.460E-02	4.713E-02	8.060E-02	8.466E-03	0.553
		633.02		1.037E+00	1.445E+00	2.461E+00	9.181E-01	0.421
		735.90		5.075E-02	1.480E-01	2.512E-01	7.180E-02	0.202

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	747.13			-4.215E-02	1.002E-01	1.594E-01	2.235E-02	-0.264
	91.11			1.746E+00	6.149E-01	7.708E-01	7.620E-02	2.265
	319.41			-1.319E-01	4.339E+00	7.098E+00	6.368E-01	-0.019
	439.89			7.254E+00	7.560E+00	1.297E+01	1.076E+00	0.559
PM-149	531.02	*		4.074E-01	6.534E-01	1.147E+00	1.706E-01	0.355
	285.90	*		2.934E-04	6.534E-01	Half-Life too short		
EU-152	121.78			5.026E-02	7.843E-02	1.277E-01	1.286E-02	0.394
	244.69			5.168E-01	3.806E-01	5.994E-01	5.455E-02	0.862
	344.27	*		-2.034E-02	1.141E-01	1.605E-01	1.484E-02	-0.127
	443.98			-2.711E-01	1.033E+00	1.631E+00	1.355E-01	-0.166
	778.89			-2.091E-01	2.646E-01	4.019E-01	3.502E-02	-0.520
	867.32			-3.855E-02	8.972E-01	1.377E+00	1.238E-01	-0.028
	964.01	+		7.371E-01	3.999E-01	5.977E-01	5.362E-02	1.233
	1085.78			2.698E-01	4.051E-01	7.002E-01	6.003E-02	0.385
	1112.02			5.057E-02	3.368E-01	5.363E-01	4.530E-02	0.094
	1407.95			2.890E-01	2.009E-01	3.865E-01	3.329E-02	0.748
GD-153	69.67			2.106E+00	1.986E+00	2.986E+00	2.395E-01	0.705
	83.37			1.789E+01	1.857E+01	2.740E+01	2.467E+00	0.653
	97.43	*		-1.520E-02	9.657E-02	1.351E-01	1.200E-02	-0.113
EU-154	103.18			-1.170E-01	1.148E-01	1.745E-01	1.522E-02	-0.670
	123.07			3.099E-02	5.581E-02	9.047E-02	1.039E-02	0.342
	247.94			2.922E-02	4.055E-01	5.939E-01	7.038E-02	0.049
	591.81			3.999E-02	6.002E-01	1.011E+00	1.166E-01	0.040
	723.30			-6.140E-02	1.913E-01	2.633E-01	2.478E-02	-0.233
	756.87			-5.995E-03	8.200E-01	1.353E+00	1.622E-01	-0.004
	873.19			3.561E-03	2.943E-01	4.822E-01	6.036E-02	0.007
	996.32			1.656E-01	4.146E-01	6.158E-01	1.102E-01	0.269
	1004.76			8.270E-02	2.491E-01	3.662E-01	4.331E-02	0.226
	1274.45	*		-1.368E-01	1.194E-01	1.705E-01	1.899E-02	-0.802
EU-155	48.70			-6.947E-01	3.024E+00	4.888E+00	4.183E-01	-0.142
	60.01			-2.144E+00	6.212E+00	8.833E+00	6.677E-01	-0.243
TB-160	86.54	+		2.645E-01	1.510E-01	2.016E-01	1.894E-02	1.312
	105.31	*		8.140E-03	1.159E-01	1.854E-01	1.630E-02	0.044
HO-166M	86.79	+		7.259E-01	4.142E-01	5.550E-01	5.183E-02	1.308
	197.04			2.132E-01	5.880E-01	9.984E-01	8.777E-02	0.213
	215.65			4.063E-01	8.457E-01	1.341E+00	1.199E-01	0.303
	298.57			1.230E-01	1.249E-01	2.144E-01	1.949E-02	0.574
	879.36	*		1.016E-01	1.491E-01	2.597E-01	2.342E-02	0.391
	962.29			3.042E-01	6.404E-01	9.556E-01	8.576E-02	0.318
	966.15			6.458E-01	4.227E-01	5.128E-01	4.598E-02	1.259
	1177.93			-1.805E-01	3.709E-01	5.926E-01	4.806E-02	-0.305
	1271.85			6.615E-01	7.246E-01	1.321E+00	1.107E-01	0.501
	80.57			-8.042E-02	3.286E-01	4.654E-01	4.076E-02	-0.173
HO-166M	184.41			1.571E-01	4.292E-02	7.105E-02	6.166E-03	2.211
	280.46			-1.002E-01	8.866E-02	1.365E-01	1.248E-02	-0.734
	410.95	+		7.275E-01	5.150E-01	4.875E-01	3.976E-02	1.492
	711.68	*		1.557E-02	6.127E-02	1.037E-01	8.750E-03	0.150
	752.31			-7.660E-02	3.030E-01	4.899E-01	4.219E-02	-0.156
	810.29			-1.126E-02	5.972E-02	9.640E-02	8.507E-03	-0.117

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		8.857E+00	3.678E+01	6.055E+01	5.039E+00	0.146
		52.39		8.369E+00	1.894E+01	3.140E+01	2.577E+00	0.267
		59.40		4.815E+00	3.299E+01	4.817E+01	3.630E+00	0.100
		66.72	*	-2.111E+01	3.444E+01	4.812E+01	3.790E+00	-0.439
LU-176	+	88.36		5.203E-01	2.969E-01	3.922E-01	3.699E-02	1.327
		201.83		-2.085E-02	2.957E-02	4.792E-02	4.232E-03	-0.435
		306.84	*	8.252E-03	2.835E-02	4.393E-02	3.976E-03	0.188
		401.10		6.454E+00	7.247E+00	1.238E+01	1.003E+00	0.521
LU-177		112.95		1.004E+00	2.441E+00	3.888E+00	3.372E-01	0.258
		208.36	*	1.405E+00	1.811E+00	2.766E+00	2.458E-01	0.508
LU-177M		52.97		8.977E-01	1.953E+00	3.239E+00	2.638E-01	0.277
		54.07		-2.740E-01	1.023E+00	1.646E+00	1.321E-01	-0.166
HF-181		61.30		1.862E+00	1.846E+00	2.798E+00	2.134E-01	0.665
		121.62		7.193E-02	4.135E-01	6.609E-01	5.805E-02	0.109
		147.16		-4.319E-01	6.557E-01	1.081E+00	9.225E-02	-0.399
		171.86		-8.468E-02	5.048E-01	8.441E-01	7.230E-02	-0.100
		218.09		-1.349E-01	8.826E-01	1.462E+00	1.309E-01	-0.092
		268.79		1.137E+00	9.356E-01	1.461E+00	1.337E-01	0.778
		319.02		-1.779E-02	2.851E-01	4.655E-01	4.177E-02	-0.038
		367.43		2.286E-01	8.977E-01	1.486E+00	1.255E-01	0.154
		413.65	*	9.045E-02	2.203E-01	3.228E-01	2.638E-02	0.280
		56.28		-2.698E-01	1.154E+00	1.858E+00	1.449E-01	-0.145
		57.53		5.696E-01	6.730E-01	1.018E+00	7.826E-02	0.559
		65.20		5.140E-01	1.232E+00	1.813E+00	1.415E-01	0.284
		133.02		-4.299E-02	7.805E-02	1.203E-01	1.038E-02	-0.357
		136.25		1.271E-01	4.872E-01	8.345E-01	7.171E-02	0.152
		345.85		-1.422E-01	2.188E-01	3.287E-01	2.867E-02	-0.432
W-181		482.03	*	1.872E-02	4.830E-02	7.968E-02	6.714E-03	0.235
		56.28		-1.010E-01	4.378E-01	7.052E-01	5.500E-02	-0.143
		57.53		2.164E-01	2.556E-01	3.867E-01	2.972E-02	0.560
		65.20	*	1.936E-01	4.641E-01	6.830E-01	5.332E-02	0.284
TA-182		67.75		-2.151E-01	1.439E-01	1.912E-01	1.515E-02	-1.125
		100.10		1.353E-01	1.948E-01	3.194E-01	2.809E-02	0.424
		152.43		-1.230E-01	3.347E-01	5.577E-01	4.751E-02	-0.221
		222.10		-1.967E-01	3.702E-01	6.018E-01	5.407E-02	-0.327
RE-183	+	1001.68		7.142E+00	3.495E+00	4.717E+00	4.189E-01	1.514
		1121.28		7.248E-01	2.447E-01	3.819E-01	3.207E-02	1.898
		1189.05		2.496E-01	3.058E-01	5.505E-01	4.483E-02	0.453
		1221.42	*	8.801E-02	2.035E-01	3.535E-01	2.913E-02	0.249
		1230.97		-8.931E-03	4.619E-01	7.715E-01	6.380E-02	-0.012
		57.98		2.284E-01	2.546E-01	3.860E-01	2.952E-02	0.592
		59.32		2.221E-02	1.395E-01	2.038E-01	1.537E-02	0.109
		67.20		-2.861E-01	2.544E-01	3.452E-01	2.727E-02	-0.829
		162.32	*	-5.295E-02	1.155E-01	1.913E-01	1.629E-02	-0.277
		208.81		2.346E+00	1.399E+00	1.883E+00	1.674E-01	1.246
RE-184	+	291.72		-1.074E-01	1.162E+00	1.667E+00	1.520E-01	-0.064
		57.98		8.274E-01	9.222E-01	1.398E+00	1.069E-01	0.592
		59.32		8.039E-02	5.049E-01	7.376E-01	5.564E-02	0.109
		67.20		-1.036E+00	9.215E-01	1.250E+00	9.875E-02	-0.829

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		-4.369E-02	3.645E-01	6.123E-01	5.213E-02	-0.071
		216.55		-1.019E-01	2.763E-01	4.531E-01	4.054E-02	-0.225
		252.85	*	-5.347E-03	2.391E-01	3.956E-01	3.611E-02	-0.014
		318.01		3.478E-01	4.834E-01	8.228E-01	7.389E-02	0.423
		792.07		-1.125E+00	1.146E+00	1.726E+00	1.513E-01	-0.652
		903.28		5.338E-01	1.024E+00	1.719E+00	1.556E-01	0.311
		920.93		-7.272E-02	4.455E-01	7.132E-01	6.446E-02	-0.102
		59.72		-1.097E-01	3.779E-01	5.391E-01	4.066E-02	-0.204
		61.14		1.700E-01	2.040E-01	3.071E-01	2.340E-02	0.554
		69.30		3.889E-01	3.620E-01	5.447E-01	4.358E-02	0.714
		592.07		-9.223E-02	2.513E+00	4.199E+00	3.541E-01	-0.022
		646.12	*	4.339E-03	4.243E-02	7.134E-02	5.894E-03	0.061
		717.42		7.570E-01	9.082E-01	1.608E+00	1.360E-01	0.471
		874.81		-3.653E-01	6.050E-01	9.247E-01	8.329E-02	-0.395
RE-188		880.27		2.048E-01	7.973E-01	1.338E+00	1.207E-01	0.153
		155.03	*	1.378E-01	1.770E-01	3.070E-01	2.614E-02	0.449
		477.96		1.776E+00	3.374E+00	5.624E+00	4.734E-01	0.316
W-188	+	633.10		2.071E+00	2.913E+00	5.126E+00	4.261E-01	0.404
		63.58		2.705E+02	1.145E+02	1.208E+02	9.346E+00	2.238
IR-192		227.08		1.081E+01	1.430E+01	2.450E+01	2.209E+00	0.441
		290.67	*	-5.364E+00	9.498E+00	1.314E+01	1.198E+00	-0.408
	+	295.96		1.088E+00	1.999E-01	3.048E-01	2.792E-02	3.570
		308.46		6.586E-02	1.063E-01	1.801E-01	1.636E-02	0.366
AU-195		316.51	*	6.481E-03	3.744E-02	6.199E-02	5.585E-03	0.105
		468.07		2.010E-02	6.551E-02	1.078E-01	9.733E-03	0.186
		604.41		2.915E-01	5.047E-01	7.791E-01	1.003E-01	0.374
		612.46		3.003E+00	9.679E-01	1.710E+00	1.658E-01	1.756
		65.12		1.340E-01	2.154E-01	3.197E-01	2.495E-02	0.419
		66.83		-1.268E-01	1.177E-01	1.602E-01	1.262E-02	-0.791
TL-200	+	75.70		1.293E+00	3.044E-01	4.804E-01	4.028E-02	2.691
		98.88	*	2.301E-01	2.575E-01	4.024E-01	3.553E-02	0.572
		129.76		2.130E+00	3.215E+00	5.218E+00	4.520E-01	0.408
		367.94	*	3.018E-03	3.215E+00	Half-Life	too short	
TL-201		579.30		9.106E-03	3.215E+00	Half-Life	too short	
		828.27		4.099E-03	3.215E+00	Half-Life	too short	
		1205.75		5.061E-03	3.215E+00	Half-Life	too short	
		68.90		8.115E+00	1.199E+01	1.634E+01	1.304E+00	0.497
TL-202		70.82		5.610E+00	6.213E+00	9.277E+00	7.498E-01	0.605
		80.30		-7.409E+00	1.197E+01	1.663E+01	1.453E+00	-0.445
		135.34		2.524E+01	5.382E+01	8.670E+01	7.457E+00	0.291
		167.43	*	3.983E+00	1.412E+01	2.404E+01	2.049E+00	0.166
		68.90		4.420E-01	6.531E-01	8.901E-01	7.104E-02	0.497
HG-203		70.82		3.047E-01	3.375E-01	5.039E-01	4.073E-02	0.605
		80.30		-4.026E-01	6.503E-01	9.038E-01	7.895E-02	-0.445
		439.56	*	7.653E-02	8.801E-02	1.502E-01	1.245E-02	0.510
		70.83		1.182E+00	1.300E+00	1.933E+00	2.566E-01	0.611
	+	72.87		1.654E+00	7.382E-01	1.208E+00	1.563E-01	1.369
		82.60		3.412E-01	1.347E+00	2.079E+00	2.899E-01	0.164
		279.20	*	6.629E-02	4.365E-02	7.680E-02	7.201E-03	0.863

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207	+	72.80		4.643E-01	2.019E-01	3.345E-01	2.742E-02	1.388
	+	74.97		7.093E-01	1.670E-01	2.448E-01	2.040E-02	2.898
		84.90		2.239E-01	2.371E-01	3.491E-01	3.195E-02	0.641
		569.67		-6.511E-03	3.134E-02	5.183E-02	4.390E-03	-0.126
		1063.62	*	2.822E-02	5.714E-02	9.689E-02	8.399E-03	0.291
TL-207		1770.23		3.519E-01	4.418E-01	7.784E-01	6.518E-02	0.452
		81.07		-2.920E-01	2.726E-01	3.697E-01	3.254E-02	-0.790
		83.78		1.029E-01	1.576E-01	2.298E-01	2.078E-02	0.448
		94.90		1.154E+00	3.002E-01	4.757E-01	4.277E-02	2.426
		122.32		1.987E+00	1.866E+00	3.083E+00	2.901E-01	0.644
		144.24		2.682E-01	7.104E-01	1.204E+00	1.152E-01	0.223
		154.21		5.579E-01	3.909E-01	6.896E-01	6.473E-02	0.809
	+	269.46		4.099E-01	3.147E-01	3.618E-01	3.371E-02	1.133
		323.87	*	8.022E-02	7.752E-01	1.121E+00	2.003E-01	0.072
	+	338.28		7.642E+00	2.146E+00	2.700E+00	3.360E-01	2.830
PO-209		445.03		8.965E-01	2.374E+00	3.927E+00	4.661E-01	0.228
		260.50		5.164E+00	9.896E+00	1.678E+01	1.535E+00	0.308
		262.80		1.706E+00	2.708E+01	4.492E+01	4.109E+00	0.038
		896.60	*	-6.128E-01	8.026E+00	1.301E+01	1.179E+00	-0.047
		46.50	*	9.733E-01	4.488E+00	7.265E+00	6.858E-01	0.134
PB-210		46.50	*	9.733E-01	4.488E+00	7.265E+00	6.858E-01	0.134
PO-210		46.50	*	9.733E-01	4.487E+00	7.265E+00	6.228E-01	0.134
PB-211		404.84	*	-6.390E-01	1.236E+00	1.570E+00	9.827E-01	-0.407
		427.08		8.261E-02	2.156E+00	3.489E+00	2.166E+00	0.024
		831.96		2.157E-01	1.200E+00	1.992E+00	1.249E+00	0.108
BI-212	+	727.18	*	1.397E+00	4.892E-01	7.043E-01	6.979E-02	1.983
		785.46		2.677E+00	1.896E+00	3.454E+00	3.019E-01	0.775
		1620.62		1.452E+00	1.273E+00	2.458E+00	2.116E-01	0.591
PO-215		81.07		-2.920E-01	2.726E-01	3.697E-01	3.254E-02	-0.790
		83.78		1.029E-01	1.576E-01	2.298E-01	2.078E-02	0.448
		94.90		1.154E+00	3.002E-01	4.757E-01	4.277E-02	2.426
		122.32		1.987E+00	1.866E+00	3.083E+00	2.901E-01	0.644
		144.24		2.682E-01	7.104E-01	1.204E+00	1.152E-01	0.223
		154.21		5.579E-01	3.909E-01	6.896E-01	6.473E-02	0.809
	+	269.46		4.099E-01	3.147E-01	3.618E-01	3.371E-02	1.133
		323.87	*	8.022E-02	7.752E-01	1.121E+00	2.003E-01	0.072
	+	338.28		7.642E+00	2.146E+00	2.700E+00	3.360E-01	2.830
		445.03		8.965E-01	2.374E+00	3.927E+00	4.661E-01	0.228
RN-219	+	271.23		5.260E-01	4.048E-01	4.802E-01	5.167E-02	1.095
		401.81	*	2.535E-01	4.476E-01	7.489E-01	1.104E-01	0.338
RN-220		549.76	*	7.897E+00	2.760E+01	4.734E+01	4.019E+00	0.167
RA-223		81.07		-2.920E-01	2.726E-01	3.697E-01	3.254E-02	-0.790
		83.78		1.029E-01	1.576E-01	2.298E-01	2.078E-02	0.448
		94.90		1.154E+00	3.002E-01	4.757E-01	4.277E-02	2.426
		122.32		1.987E+00	1.866E+00	3.083E+00	2.901E-01	0.644
		144.24		2.682E-01	7.104E-01	1.204E+00	1.152E-01	0.223
		154.21		5.579E-01	3.909E-01	6.896E-01	6.473E-02	0.809
	+	269.46		4.099E-01	3.147E-01	3.618E-01	3.371E-02	1.133
		323.87	*	8.022E-02	7.752E-01	1.121E+00	2.003E-01	0.072

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		7.642E+00	2.146E+00	2.700E+00	3.360E-01	2.830
		445.03		8.965E-01	2.374E+00	3.927E+00	4.661E-01	0.228
		79.80		-4.002E-01	1.955E+00	2.772E+00	5.970E-01	-0.144
		236.00		2.980E-02	2.649E-01	3.897E-01	4.895E-02	0.076
		256.20	*	-4.374E-01	3.904E-01	5.982E-01	9.358E-02	-0.731
TH-227		286.10		2.134E+00	1.681E+00	2.905E+00	3.934E-01	0.735
	+	299.80		3.821E+00	2.039E+00	2.756E+00	4.885E-01	1.386
		304.40		-1.204E+00	2.244E+00	3.078E+00	5.741E-01	-0.391
		334.20		2.365E-01	2.970E+00	3.986E+00	7.777E-01	0.059
		79.80		-4.002E-01	1.955E+00	2.772E+00	6.046E-01	-0.144
TH-229	+	94.00		1.944E+01	6.054E+00	5.035E+00	1.105E+00	3.860
		236.00		2.980E-02	2.649E-01	3.897E-01	4.453E-02	0.076
		256.20	*	-4.374E-01	3.926E-01	5.982E-01	1.096E-01	-0.731
		286.10		2.134E+00	2.708E+00	2.905E+00	2.917E+00	0.735
	+	299.80		3.821E+00	2.039E+00	2.756E+00	4.885E-01	1.386
TH-229		304.40		-1.204E+00	2.244E+00	3.078E+00	5.741E-01	-0.391
		334.20		2.365E-01	2.970E+00	3.986E+00	7.777E-01	0.059
		85.43		3.754E-01	2.368E-01	3.553E-01	3.270E-02	1.057
	+	88.47		2.995E-01	1.709E-01	2.253E-01	2.123E-02	1.329
		100.00		1.195E-01	2.001E-01	3.270E-01	2.876E-02	0.365
PA-231		193.63	*	1.362E-01	5.093E-01	8.625E-01	7.556E-02	0.158
	+	210.97		1.784E+00	1.064E+00	1.374E+00	1.223E-01	1.299
		283.67	*	-1.227E+00	1.639E+00	2.575E+00	3.987E-01	-0.477
	+	301.29		1.529E+00	7.929E-01	1.102E+00	1.385E-01	1.387
		81.07		-2.920E-01	2.726E-01	3.697E-01	3.254E-02	-0.790
TH-231		83.78		1.029E-01	1.576E-01	2.298E-01	2.078E-02	0.448
		94.90		1.154E+00	3.002E-01	4.757E-01	4.277E-02	2.426
		122.32		1.987E+00	1.866E+00	3.083E+00	2.901E-01	0.644
		144.24		2.682E-01	7.104E-01	1.204E+00	1.152E-01	0.223
		154.21		5.579E-01	3.909E-01	6.896E-01	6.473E-02	0.809
U-231	+	269.46		4.099E-01	3.147E-01	3.618E-01	3.371E-02	1.133
		323.87	*	8.022E-02	7.752E-01	1.121E+00	2.003E-01	0.072
	+	338.28		7.642E+00	2.146E+00	2.700E+00	3.360E-01	2.830
		445.03		8.965E-01	2.374E+00	3.927E+00	4.661E-01	0.228
		84.21		6.231E+00	1.100E+01	1.599E+01	1.452E+00	0.390
PA-233	+	92.29		3.114E+01	7.436E+00	8.873E+00	8.107E-01	3.510
		95.87	*	1.931E-01	2.121E+00	3.033E+00	2.713E-01	0.064
		108.00		-1.131E+00	3.602E+00	5.661E+00	4.908E-01	-0.200
	+	75.28		2.069E+01	5.536E+00	7.318E+00	1.112E+00	2.828
	+	86.59		4.295E+00	2.682E+00	3.276E+00	8.862E-01	1.311
PA-234	+	300.12		1.065E+00	5.599E-01	7.720E-01	1.169E-01	1.380
		311.98	*	-3.885E-02	6.385E-02	1.006E-01	9.313E-03	-0.386
		340.50		3.222E+00	1.113E+00	1.442E+00	3.445E-01	2.235
		398.62		-1.723E+00	2.353E+00	3.554E+00	9.405E-01	-0.485
		415.76		4.925E-01	2.106E+00	2.927E+00	6.258E-01	0.168
PA-234	+	63.00		7.617E+00	3.370E+00	3.497E+00	5.251E-01	2.178
		94.67		1.088E+00	2.526E-01	3.673E-01	4.654E-02	2.963
		98.44		1.052E-01	1.234E-01	1.612E-01	8.997E-02	0.653
		99.86		2.550E-01	5.164E-01	8.306E-01	7.309E-02	0.307

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		1.628E-02	2.004E-01	3.201E-01	3.879E-02	0.051
		131.20		4.026E-02	1.186E-01	1.902E-01	1.644E-02	0.212
		152.70		8.352E-02	3.181E-01	5.426E-01	9.221E-02	0.154
	+	186.00		8.634E+00	3.445E+00	3.005E+00	9.387E-01	2.873
		226.40		2.864E-01	4.394E-01	7.485E-01	1.008E-01	0.383
		227.20		3.301E-01	4.680E-01	8.004E-01	7.218E-02	0.412
		248.90		2.325E-01	9.547E-01	1.412E+00	3.193E-01	0.165
		293.70		3.246E+00	1.074E+00	1.578E+00	2.770E-01	2.056
		369.80		-5.021E-01	8.857E-01	1.374E+00	2.981E-01	-0.365
		568.70		-8.476E-01	1.031E+00	1.623E+00	1.375E-01	-0.522
		569.50		-6.520E-02	2.775E-01	4.579E-01	3.879E-02	-0.142
		574.00		-2.448E-01	1.637E+00	2.719E+00	2.302E-01	-0.090
		699.00		2.274E-01	8.269E-01	1.397E+00	2.650E-01	0.163
		706.10		-8.885E-01	1.179E+00	1.723E+00	7.676E-01	-0.516
		733.00		1.401E-01	4.156E-01	6.211E-01	1.377E-01	0.226
		742.81		1.189E+00	1.611E+00	2.481E+00	1.667E+00	0.479
		796.30		1.657E+00	1.073E+00	1.820E+00	4.931E-01	0.910
		805.60		1.041E+00	1.102E+00	1.883E+00	5.781E-01	0.553
		819.60		2.384E-01	1.228E+00	2.052E+00	7.813E-01	0.116
		826.30		-1.124E-01	7.964E-01	1.286E+00	5.762E-01	-0.087
		831.60		-1.492E-02	6.284E-01	1.029E+00	3.080E-01	-0.014
		876.40		2.637E-01	9.349E-01	1.506E+00	1.548E+00	0.175
		880.51		-1.476E-02	2.852E-01	4.641E-01	4.186E-02	-0.032
		883.24		1.348E-02	2.761E-01	4.537E-01	3.052E-01	0.030
		899.00		1.668E-01	9.005E-01	1.493E+00	6.538E-01	0.112
		925.00		-9.435E-01	1.169E+00	1.725E+00	1.558E-01	-0.547
		926.50		5.024E-02	1.633E-01	2.747E-01	6.984E-02	0.183
		946.00	*	-4.749E-02	2.915E-01	4.655E-01	8.818E-02	-0.102
		949.00		1.759E-01	4.459E-01	7.556E-01	6.799E-02	0.233
		980.50		2.661E-01	7.513E-01	1.266E+00	1.131E-01	0.210
PA-234M		1394.10		2.671E-02	1.304E+00	2.169E+00	1.412E+00	0.012
		766.42		1.438E+01	1.483E+01	2.299E+01	1.167E+01	0.625
+	1001.03	*		1.593E+01	7.836E+00	1.077E+01	1.098E+00	1.480
U-235		89.95		-2.633E+00	2.125E+00	2.007E+00	6.234E-01	-1.312
+		93.35		6.047E+00	2.164E+00	1.706E+00	4.807E-01	3.543
		105.00		8.725E-01	1.142E+00	1.832E+00	5.471E-01	0.476
		143.76	*	1.041E-01	2.223E-01	3.768E-01	6.583E-02	0.276
		163.35		-1.291E-01	4.810E-01	8.019E-01	1.526E-01	-0.161
+		185.71		3.198E-01	8.409E-02	1.107E-01	9.619E-03	2.889
		205.31		1.520E-01	6.055E-01	9.029E-01	1.733E-01	0.168
NP-236		94.67		8.304E-01	1.772E-01	2.790E-01	2.512E-02	2.976
		98.44		7.949E-02	8.231E-02	1.218E-01	1.078E-02	0.652
		111.00		1.231E-02	1.516E-01	2.421E-01	2.098E-02	0.051
		160.31	*	5.885E-03	8.057E-02	1.364E-01	1.161E-02	0.043
NP-239		99.55		1.502E-01	1.700E-01	2.772E-01	2.442E-02	0.542
		117.00	*	-2.530E-02	2.024E-01	3.198E-01	2.785E-02	-0.079
+		209.75		1.798E+00	1.072E+00	1.428E+00	1.270E-01	1.259
		228.18		1.001E-01	2.441E-01	4.129E-01	3.726E-02	0.242
		277.60		1.351E-01	1.874E-01	3.195E-01	2.922E-02	0.423

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		1.803E-01	1.685E+00	2.267E+00	2.005E-01	0.080
AM-241		59.54	*	-5.905E-02	1.953E-01	2.784E-01	2.294E-02	-0.212
CM-243		99.55		1.546E-01	1.750E-01	2.853E-01	2.513E-02	0.542
		103.76	*	6.388E-02	1.019E-01	1.666E-01	1.452E-02	0.383
		117.00		-2.604E-02	2.083E-01	3.291E-01	2.866E-02	-0.079
	+	209.75		1.772E+00	1.057E+00	1.408E+00	1.253E-01	1.259
		228.18		1.012E-01	2.467E-01	4.173E-01	3.766E-02	0.242
		277.60		1.362E-01	1.889E-01	3.222E-01	2.947E-02	0.423
AM-246		798.80		-2.899E-01	1.562E-01	2.098E-01	1.843E-02	-1.382
		1036.00		-4.804E-02	3.163E-01	5.032E-01	4.414E-02	-0.095
		1062.04		1.186E-01	2.465E-01	4.177E-01	3.623E-02	0.284
		1078.86	*	-5.931E-02	1.476E-01	2.271E-01	1.954E-02	-0.261
CM-247		278.00		8.605E-01	7.716E-01	1.337E+00	1.223E-01	0.644
		287.40		8.824E-01	1.368E+00	2.321E+00	2.119E-01	0.380
		402.60	*	6.153E-03	4.209E-02	6.646E-02	5.390E-03	0.093
CF-249		252.85		-1.983E-02	8.863E-01	1.467E+00	1.339E-01	-0.014
		333.44		4.313E-02	2.810E-01	2.961E-01	2.621E-02	0.146
		387.95	*	3.018E-02	4.167E-02	7.071E-02	5.736E-03	0.427
CF-251		176.60	*	7.080E-02	1.355E-01	2.320E-01	1.997E-02	0.305
		227.00		2.658E-01	4.197E-01	7.158E-01	6.454E-02	0.371
		285.00		9.397E-01	1.887E+00	3.185E+00	2.909E-01	0.295

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978012      *
* Acquisition date   : 14-FEB-2010 13:11:08 Detector SN#      :             *
* Detector ID        : GAM01 Sensitivity      : 5.000           *
* Geometry           : CAN Energy tolerance: 1.500           *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:01.22 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID      *
* Sample ID          : G245978012 Analyst initials: MXR1          *
* Batch Number       : 948721 Sample Quantity : 1.4278E+02 GRAM   *
* Recovery           : 1.00000 Carrier Weight : 0.00000          *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                           *
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52 MS Isotope      :             *
* MSD DPM             : 0.000 MSD Isotope      :             *
* LCS DPM             : 0.000 LCS Isotope      :             *
* LCSD DPM            : 0.000 LCSD Isotope     :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.329E+01	2.577E+00	4.501E-01	0.000E+00
CD-109	2.242E+00	1.254E+00	1.826E+00	0.000E+00
SN-126	2.194E-01	1.227E-01	1.678E-01	0.000E+00
TL-208	5.009E-01	9.098E-02	6.076E-02	0.000E+00
BI-211	3.974E+00	5.821E-01	3.524E-01	0.000E+00
PB-212	1.568E+00	1.904E-01	9.543E-02	0.000E+00
PO-212	1.568E+00	1.904E-01	9.543E-02	0.000E+00
BI-214	1.084E+00	1.999E-01	1.138E-01	0.000E+00
PB-214	1.382E+00	2.145E-01	1.237E-01	0.000E+00
PO-214	1.382E+00	2.145E-01	1.237E-01	0.000E+00
PO-216	1.568E+00	1.904E-01	9.543E-02	0.000E+00
PO-218	1.382E+00	2.145E-01	1.237E-01	0.000E+00
RA-224	4.061E+00	1.357E+00	1.086E+00	0.000E+00
RA-226	1.084E+00	1.999E-01	1.138E-01	0.000E+00
AC-228	1.503E+00	3.148E-01	1.835E-01	0.000E+00
RA-228	1.503E+00	3.148E-01	1.835E-01	0.000E+00
TH-228	1.596E+00	1.938E-01	9.717E-02	0.000E+00
TH-230	1.084E+00	1.999E-01	1.138E-01	0.000E+00
TH-232	1.503E+00	3.148E-01	1.835E-01	0.000E+00
TH-234	6.535E+00	2.893E+00	2.379E+00	0.000E+00
U-234	1.084E+00	1.999E-01	1.138E-01	0.000E+00
NP-237	6.442E-01	3.831E-01	4.706E-01	0.000E+00
U-238	6.535E+00	2.893E+00	2.379E+00	0.000E+00
AM-243	3.951E-01	9.117E-02	1.027E-01	0.000E+00
ANH-511	1.173E-01	7.034E-02	4.779E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.173E-02	3.513E-01	6.035E-01	0.000E+00 NOT IDENT.
NA-22	-5.628E-02	4.262E-02	6.154E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	1.754E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-6.609E-03	3.210E-02	5.103E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.953E-02	8.490E-02	0.000E+00	FAIL ABUN
SC-46	5.239E-03	4.213E-02	7.224E-02	0.000E+00	FAIL ABUN
V-48	-4.186E-02	8.496E-02	1.352E-01	0.000E+00	NOT IDENT.
CR-51	-4.078E-02	4.303E-01	7.431E-01	0.000E+00	NOT IDENT.
MN-52	-2.834E-01	3.663E-01	5.536E-01	0.000E+00	NOT IDENT.
MN-54	1.346E-04	3.648E-02	6.217E-02	0.000E+00	NOT IDENT.
CO-56	3.045E-02	3.893E-02	7.107E-02	0.000E+00	NOT IDENT.
CO-57	2.072E-02	2.681E-02	4.739E-02	0.000E+00	NOT IDENT.
CO-58	-6.793E-03	4.084E-02	6.866E-02	0.000E+00	NOT IDENT.
FE-59	-1.195E-02	1.117E-01	1.838E-01	0.000E+00	NOT IDENT.
CO-60	3.602E-02	3.769E-02	7.158E-02	0.000E+00	NOT IDENT.
ZN-65	-4.997E-02	1.063E-01	1.408E-01	0.000E+00	NOT IDENT.
GE-68	1.048E+00	1.237E+00	2.243E+00	0.000E+00	NOT IDENT.
AS-73	4.321E-02	9.864E-01	1.769E+00	0.000E+00	NOT IDENT.
AS-74	3.771E-02	9.456E-02	1.707E-01	0.000E+00	NOT IDENT.
SE-75	-1.997E-02	4.779E-02	7.574E-02	0.000E+00	NOT IDENT.
BR-77	1.201E+01	2.542E+01	4.414E+01	0.000E+00	FAIL ABUN
SR-82	1.526E-01	4.201E-01	7.423E-01	0.000E+00	NOT IDENT.
RB-83	2.917E-02	7.274E-02	1.257E-01	0.000E+00	NOT IDENT.
RB-84	-9.763E-02	7.466E-02	1.078E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.650E+00	1.466E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.574E-02	7.753E-02	0.000E+00	NOT IDENT.
RB-86	8.906E-01	8.522E-01	1.576E+00	0.000E+00	NOT IDENT.
Y-88	-5.030E-03	2.868E-02	4.534E-02	0.000E+00	NOT IDENT.
ZR-88	-3.223E-02	3.383E-02	5.407E-02	0.000E+00	NOT IDENT.
Y-91	-4.009E+00	1.965E+01	3.328E+01	0.000E+00	NOT IDENT.
NB-94	7.448E-03	3.700E-02	6.487E-02	0.000E+00	NOT IDENT.
NB-95	2.405E-02	4.690E-02	8.352E-02	0.000E+00	NOT IDENT.
NB-95M	8.357E-02	1.391E-01	2.243E-01	0.000E+00	NOT IDENT.
ZR-95	-9.338E-03	7.819E-02	1.330E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.893E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.684E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.907E+01	2.467E+01	3.927E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.265E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.647E-02	3.396E-02	5.865E-02	0.000E+00	NOT IDENT.
RH-102	-1.660E-02	3.435E-02	4.775E-02	0.000E+00	FAIL ABUN
RU-103	2.593E-03	4.070E-02	6.873E-02	0.000E+00	FAIL ABUN
RH-106	6.479E-02	3.055E-01	5.421E-01	0.000E+00	FAIL ABUN
RU-106	6.479E-02	3.054E-01	5.421E-01	0.000E+00	FAIL ABUN
AG-108M	-7.084E-03	3.293E-02	5.500E-02	0.000E+00	NOT IDENT.
AG-110M	1.148E-02	3.834E-02	5.992E-02	0.000E+00	NOT IDENT.
IN-111	1.350E+00	2.360E+00	3.805E+00	0.000E+00	NOT IDENT.
IN-113M	-1.036E-02	4.735E-02	7.984E-02	0.000E+00	NOT IDENT.
SN-113	-1.036E-02	4.735E-02	7.984E-02	0.000E+00	NOT IDENT.
IN-114M	-1.610E-01	2.158E-01	3.265E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.556E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.183E-03	6.305E-02	1.146E-01	0.000E+00	NOT IDENT.
SB-122	2.060E+00	4.391E+00	7.968E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.331E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.257E-02	2.852E-02	5.258E-02	0.000E+00	NOT IDENT.
I-124	-9.555E-02	1.152E+00	1.737E+00	0.000E+00	NOT IDENT.
SB-124	-1.621E-02	7.589E-02	1.213E-01	0.000E+00	FAIL ABUN
SB-125	1.063E-02	9.495E-02	1.627E-01	0.000E+00	FAIL ABUN
TE-125M	-1.654E+00	1.020E+01	1.748E+01	0.000E+00	NOT IDENT.
I-126	1.619E-01	2.520E-01	4.053E-01	0.000E+00	NOT IDENT.
SB-126	-6.981E-02	2.008E-01	2.880E-01	0.000E+00	FAIL ABUN
SB-127	8.241E-01	2.259E+00	4.027E+00	0.000E+00	FAIL ABUN
XE-127	4.747E-03	4.928E-02	8.851E-02	0.000E+00	NOT IDENT.
I-131	-1.527E-01	1.478E-01	2.350E-01	0.000E+00	NOT IDENT.
TE-132	5.923E-01	1.368E+00	2.467E+00	0.000E+00	NOT IDENT.
BA-133	-1.744E-02	4.968E-02	7.249E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	5.998E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.032E-02	5.166E-02	9.796E-02	0.000E+00	NOT IDENT.
CS-135	6.490E-02	1.717E-01	2.719E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.066E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.998E-02	1.325E-01	2.084E-01	0.000E+00	FAIL ABUN
BA-137M	4.539E-02	4.248E-02	7.096E-02	0.000E+00	NOT IDENT.
CS-137	4.798E-02	4.490E-02	7.501E-02	0.000E+00	NOT IDENT.
CE-139	-1.076E-03	3.066E-02	5.545E-02	0.000E+00	NOT IDENT.
BA-140	1.149E-01	2.773E-01	5.006E-01	0.000E+00	NOT IDENT.
LA-140	-5.089E-03	1.124E-01	1.876E-01	0.000E+00	FAIL ABUN
CE-141	3.006E-02	6.644E-02	1.230E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.993E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-9.393E-02	2.268E-01	3.792E-01	0.000E+00	NOT IDENT.
PM-144	2.987E-02	3.581E-02	6.566E-02	0.000E+00	NOT IDENT.
PR-144	2.027E+00	2.431E+00	4.456E+00	0.000E+00	NOT IDENT.

PM-146	4.460E-02	4.619E-02	8.308E-02	0.000E+00	NOT IDENT.
ND-147	4.074E-01	6.403E-01	1.179E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.463E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-2.034E-02	1.118E-01	1.664E-01	0.000E+00	FAIL ABUN
GD-153	-1.520E-02	9.464E-02	1.438E-01	0.000E+00	NOT IDENT.
EU-154	-1.368E-01	1.170E-01	1.718E-01	0.000E+00	NOT IDENT.
EU-155	8.140E-03	1.136E-01	1.970E-01	0.000E+00	FAIL ABUN
TB-160	1.016E-01	1.461E-01	2.638E-01	0.000E+00	FAIL ABUN
HO-166M	1.557E-02	6.005E-02	1.059E-01	0.000E+00	FAIL ABUN
TM-171	-2.111E+01	3.376E+01	5.160E+01	0.000E+00	NOT IDENT.
LU-176	8.252E-03	2.779E-02	4.567E-02	0.000E+00	FAIL ABUN
LU-177	1.405E+00	1.775E+00	2.899E+00	0.000E+00	NOT IDENT.
LU-177M	9.045E-02	2.159E-01	3.335E-01	0.000E+00	NOT IDENT.
HF-181	1.872E-02	4.734E-02	8.203E-02	0.000E+00	NOT IDENT.
W-181	1.936E-01	4.548E-01	7.328E-01	0.000E+00	NOT IDENT.
TA-182	8.801E-02	1.994E-01	3.565E-01	0.000E+00	FAIL ABUN
RE-183	-5.295E-02	1.132E-01	2.015E-01	0.000E+00	FAIL ABUN
RE-184	-5.347E-03	2.343E-01	4.129E-01	0.000E+00	NOT IDENT.
OS-185	4.339E-03	4.158E-02	7.298E-02	0.000E+00	NOT IDENT.
RE-188	1.378E-01	1.734E-01	3.236E-01	0.000E+00	NOT IDENT.
W-188	-5.364E+00	9.308E+00	1.367E+01	0.000E+00	FAIL ABUN
IR-192	6.481E-03	3.669E-02	6.439E-02	0.000E+00	FAIL ABUN
AU-195	2.301E-01	2.524E-01	4.281E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.816E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.983E+00	1.384E+01	2.530E+01	0.000E+00	NOT IDENT.
TL-202	7.653E-02	8.625E-02	1.549E-01	0.000E+00	NOT IDENT.
HG-203	6.629E-02	4.278E-02	7.999E-02	0.000E+00	FAIL ABUN
BI-207	2.822E-02	5.600E-02	9.803E-02	0.000E+00	FAIL ABUN
TL-207	8.022E-02	7.597E-01	1.164E+00	0.000E+00	FAIL ABUN
PO-209	-6.128E-01	7.866E+00	1.322E+01	0.000E+00	NOT IDENT.
BI-210	9.733E-01	4.398E+00	7.847E+00	0.000E+00	NOT IDENT.
PB-210	9.733E-01	4.398E+00	7.847E+00	0.000E+00	NOT IDENT.
PO-210	9.733E-01	4.398E+00	7.847E+00	0.000E+00	NOT IDENT.
PB-211	-6.390E-01	1.211E+00	1.622E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.795E-01	7.186E-01	0.000E+00	FAIL ABUN
PO-215	8.022E-02	7.597E-01	1.164E+00	0.000E+00	FAIL ABUN
RN-219	2.535E-01	4.386E-01	7.740E-01	0.000E+00	FAIL ABUN
RN-220	7.897E+00	2.705E+01	4.860E+01	0.000E+00	NOT IDENT.
RA-223	8.022E-02	7.597E-01	1.164E+00	0.000E+00	FAIL ABUN
AC-227	-4.374E-01	3.826E-01	6.242E-01	0.000E+00	FAIL ABUN
TH-227	-4.374E-01	3.848E-01	6.242E-01	0.000E+00	FAIL ABUN
TH-229	1.362E-01	4.991E-01	9.052E-01	0.000E+00	FAIL ABUN
PA-231	-1.227E+00	1.606E+00	2.681E+00	0.000E+00	FAIL ABUN
TH-231	8.022E-02	7.597E-01	1.164E+00	0.000E+00	FAIL ABUN
U-231	1.931E-01	2.078E+00	3.229E+00	0.000E+00	FAIL ABUN
PA-233	-3.885E-02	6.257E-02	1.046E-01	0.000E+00	FAIL ABUN
PA-234	-4.749E-02	2.856E-01	4.722E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	7.679E+00	1.091E+01	0.000E+00	FAIL ABUN
U-235	1.041E-01	2.178E-01	3.979E-01	0.000E+00	FAIL ABUN
NP-236	5.885E-03	7.896E-02	1.437E-01	0.000E+00	NOT IDENT.
NP-239	-2.530E-02	1.984E-01	3.391E-01	0.000E+00	FAIL ABUN
AM-241	-5.905E-02	1.914E-01	2.992E-01	0.000E+00	NOT IDENT.
CM-243	6.388E-02	9.984E-02	1.771E-01	0.000E+00	FAIL ABUN
AM-246	-5.931E-02	1.447E-01	2.297E-01	0.000E+00	NOT IDENT.
CM-247	6.153E-03	4.125E-02	6.869E-02	0.000E+00	NOT IDENT.
CF-249	3.018E-02	4.083E-02	7.314E-02	0.000E+00	NOT IDENT.
CF-251	7.080E-02	1.327E-01	2.439E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:12:25.76

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978012.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:11:08
Sample ID          : G245978012 Sample quantity : 1.42780E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.22 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 948721 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	894	10.67*	9.455E-01	2.329E+01	2.329E+01	11.29
CD-109	88.03	160	3.72*	5.179E+00	2.182E+00	2.242E+00	57.06
SN-126	64.28	262	9.60	2.772E+00	2.587E+00	2.587E+00	44.13
	86.94	160	8.90	5.179E+00	9.120E-01	9.120E-01	69.95
	87.57	160	37.00*	5.179E+00	2.194E-01	2.194E-01	57.06
TL-208	277.35	-----	6.80	3.885E+00	-----	Line Not Found	-----
	510.84	107	21.60	2.391E+00	5.432E-01	5.432E-01	61.74
	583.14	344	84.20*	2.143E+00	5.009E-01	5.009E-01	18.53
	860.37	51	12.46	1.521E+00	7.123E-01	7.123E-01	64.36
BI-211	72.87	152	1.27	3.943E+00	7.961E+00	7.961E+00	43.50
	351.07	631	12.94*	3.225E+00	3.974E+00	3.974E+00	14.95
PB-212	74.81	413	10.70	4.163E+00	2.437E+00	2.437E+00	25.34
	77.11	542	18.00	4.385E+00	1.804E+00	1.804E+00	18.24
	87.30	160	8.00	5.179E+00	1.015E+00	1.015E+00	57.93
	238.63	1156	44.60*	4.346E+00	1.568E+00	1.568E+00	12.39
	300.09	98	3.41	3.653E+00	2.062E+00	2.062E+00	51.47
PO-212	74.81	413	10.70	4.163E+00	2.437E+00	2.437E+00	25.34
	77.11	542	18.00	4.385E+00	1.804E+00	1.804E+00	18.24
	87.30	160	8.00	5.179E+00	1.015E+00	1.015E+00	57.93
	115.19	-----	0.60	6.043E+00	-----	Line Not Found	-----
	238.63	1156	44.60*	4.346E+00	1.568E+00	1.568E+00	12.39
	300.09	98	3.41	3.653E+00	2.062E+00	2.062E+00	51.47
BI-214	609.31	394	46.30*	2.064E+00	1.084E+00	1.084E+00	18.82
	1120.29	103	15.10	1.193E+00	1.506E+00	1.506E+00	34.41
	1764.49	75	15.80	8.254E-01	1.511E+00	1.511E+00	34.97
PB-214	74.81	413	6.21	4.163E+00	4.199E+00	4.199E+00	24.69
	77.11	542	10.50	4.385E+00	3.093E+00	3.093E+00	19.77
	87.30	160	4.67	5.179E+00	1.738E+00	1.738E+00	57.58
	241.98	263	7.49	4.305E+00	2.141E+00	2.141E+00	34.57
	295.21	375	19.20	3.699E+00	1.389E+00	1.389E+00	19.37
	351.92	631	37.20*	3.225E+00	1.382E+00	1.382E+00	15.83
PO-214	74.81	413	6.21	4.163E+00	4.199E+00	4.199E+00	24.69

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	542	10.50	4.385E+00	3.093E+00	3.093E+00	19.77
	87.30	160	4.67	5.179E+00	1.738E+00	1.738E+00	57.58
	241.98	263	7.49	4.305E+00	2.141E+00	2.141E+00	34.57
	295.21	375	19.20	3.699E+00	1.389E+00	1.389E+00	19.37
	351.92	631	37.20*	3.225E+00	1.382E+00	1.382E+00	15.83
PO-216	74.81	413	10.70	4.163E+00	2.437E+00	2.437E+00	25.34
	77.11	542	18.00	4.385E+00	1.804E+00	1.804E+00	18.24
	87.30	160	8.00	5.179E+00	1.015E+00	1.015E+00	57.93
	238.63	1156	44.60*	4.346E+00	1.568E+00	1.568E+00	12.39
	300.09	98	3.41	3.653E+00	2.062E+00	2.062E+00	51.47
PO-218	74.81	413	6.21	4.163E+00	4.199E+00	4.199E+00	24.69
	77.11	542	10.50	4.385E+00	3.093E+00	3.093E+00	19.77
	87.30	160	4.67	5.179E+00	1.738E+00	1.738E+00	57.58
	241.98	263	7.49	4.305E+00	2.141E+00	2.141E+00	34.57
	295.21	375	19.20	3.699E+00	1.389E+00	1.389E+00	19.37
	351.92	631	37.20*	3.225E+00	1.382E+00	1.382E+00	15.83
RA-224	240.98	263	3.95*	4.305E+00	4.061E+00	4.061E+00	34.11
RA-226	609.31	394	46.30*	2.064E+00	1.084E+00	1.084E+00	18.82
	1120.29	103	15.10	1.193E+00	1.506E+00	1.506E+00	34.41
	1764.49	75	15.80	8.254E-01	1.511E+00	1.511E+00	34.97
AC-228	338.32	264	11.40	3.327E+00	1.830E+00	1.830E+00	48.37
	911.07	229	27.70*	1.444E+00	1.503E+00	1.503E+00	21.38
	969.11	126	16.60	1.364E+00	1.468E+00	1.468E+00	41.00
RA-228	338.32	264	11.40	3.327E+00	1.830E+00	1.830E+00	48.37
	911.07	229	27.70*	1.444E+00	1.503E+00	1.503E+00	21.38
	969.11	126	16.60	1.364E+00	1.468E+00	1.468E+00	41.00
TH-228	74.81	413	10.70	4.163E+00	2.437E+00	2.481E+00	23.58
	77.11	542	18.00	4.385E+00	1.804E+00	1.837E+00	18.24
	87.30	160	8.00	5.179E+00	1.015E+00	1.033E+00	57.06
	238.63	1156	44.60*	4.346E+00	1.568E+00	1.596E+00	12.39
	300.09	98	3.41	3.653E+00	2.062E+00	2.099E+00	77.81
TH-230	609.31	394	46.30*	2.064E+00	1.084E+00	1.084E+00	18.82
	1120.29	103	15.10	1.193E+00	1.506E+00	1.506E+00	34.41
	1764.49	75	15.80	8.254E-01	1.511E+00	1.511E+00	34.97
TH-232	338.32	264	11.40	3.327E+00	1.830E+00	1.830E+00	26.67
	911.07	229	27.70*	1.444E+00	1.503E+00	1.503E+00	21.38
	969.11	126	16.60	1.364E+00	1.468E+00	1.468E+00	41.00
TH-234	63.29	262	3.80*	2.772E+00	6.535E+00	6.535E+00	45.17
	92.38	571	5.41	5.512E+00	5.030E+00	5.030E+00	28.69
U-234	609.31	394	46.30*	2.064E+00	1.084E+00	1.084E+00	18.82
	1120.29	103	15.10	1.193E+00	1.506E+00	1.506E+00	34.41
	1764.49	75	15.80	8.254E-01	1.511E+00	1.511E+00	34.97
NP-237	86.50	160	12.60*	5.179E+00	6.442E-01	6.442E-01	60.68
	95.87	-----	2.60	5.636E+00	-----	Line Not Found	-----
U-238	63.29	262	3.80*	2.772E+00	6.535E+00	6.535E+00	45.17
	92.38	571	5.41	5.512E+00	5.030E+00	5.030E+00	23.88
AM-243	74.67	413	66.00*	4.163E+00	3.951E-01	3.951E-01	23.55
	86.72	160	0.34	5.179E+00	2.416E+01	2.416E+01	57.06
	117.66	-----	0.55	6.054E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
ANH-511	511.00	107	100.00*	2.391E+00	1.173E-01	1.173E-01	61.17

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G245978012

Page : 4
Acquisition date : 14-FEB-2010 13:11:08

Total number of lines in spectrum 35
Number of unidentified lines 3
Number of lines tentatively identified by NID 32 91.43%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.329E+01	2.329E+01	0.263E+01	11.29	
CD-109	464.00D	1.03	2.182E+00	2.242E+00	1.279E+00	57.06	
SN-126	1.00E+05Y	1.00	2.194E-01	2.194E-01	1.252E-01	57.06	
TL-208	1.41E+10Y	1.00	5.009E-01	5.009E-01	0.928E-01	18.53	
BI-211	7.04E+08Y	1.00	3.974E+00	3.974E+00	0.594E+00	14.95	
PB-212	1.41E+10Y	1.00	1.568E+00	1.568E+00	0.194E+00	12.39	
PO-212	1.41E+10Y	1.00	1.568E+00	1.568E+00	0.194E+00	12.39	
BI-214	1600.00Y	1.00	1.084E+00	1.084E+00	0.204E+00	18.82	
PB-214	1600.00Y	1.00	1.382E+00	1.382E+00	0.219E+00	15.83	
PO-214	1600.00Y	1.00	1.382E+00	1.382E+00	0.219E+00	15.83	
PO-216	1.41E+10Y	1.00	1.568E+00	1.568E+00	0.194E+00	12.39	
PO-218	1600.00Y	1.00	1.382E+00	1.382E+00	0.219E+00	15.83	
RA-224	1.41E+10Y	1.00	4.061E+00	4.061E+00	1.385E+00	34.11	
RA-226	1600.00Y	1.00	1.084E+00	1.084E+00	0.204E+00	18.82	
AC-228	1.41E+10Y	1.00	1.503E+00	1.503E+00	0.321E+00	21.38	
RA-228	1.41E+10Y	1.00	1.503E+00	1.503E+00	0.321E+00	21.38	
TH-228	1.91Y	1.02	1.568E+00	1.596E+00	0.198E+00	12.39	
TH-230	4.47E+09Y	1.00	1.084E+00	1.084E+00	0.204E+00	18.82	
TH-232	1.41E+10Y	1.00	1.503E+00	1.503E+00	0.321E+00	21.38	
TH-234	4.47E+09Y	1.00	6.535E+00	6.535E+00	2.952E+00	45.17	
U-234	4.47E+09Y	1.00	1.084E+00	1.084E+00	0.204E+00	18.82	
NP-237	2.14E+06Y	1.00	6.442E-01	6.442E-01	3.909E-01	60.68	
U-238	4.47E+09Y	1.00	6.535E+00	6.535E+00	2.952E+00	45.17	
AM-243	7380.00Y	1.00	3.951E-01	3.951E-01	0.930E-01	23.55	
ANH-511	1.00E+09Y	1.00	1.173E-01	1.173E-01	0.718E-01	61.17	
Total Activity :			6.772E+01	6.780E+01			

Grand Total Activity : 6.772E+01 6.780E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	186.11	339	344	1.41	372.82	368	11	4.71E-02	24.8	5.16E+00	T
0	209.86	106	262	1.15	420.29	417	9	1.47E-02	59.0	4.77E+00	T
0	270.59	84	251	1.44	541.68	537	11	1.17E-02	76.2	3.96E+00	T
0	327.93	86	157	1.70	656.29	652	10	1.19E-02	58.4	3.41E+00	T
0	410.51	89	176	3.69	821.36	814	16	1.23E-02	70.3	2.86E+00	T
1	463.37	65	88	1.61	927.01	921	26	9.07E-03	59.7	2.59E+00	T
1	470.52	39	74	1.61	941.29	921	26	5.39E-03	92.4	2.56E+00	T
0	663.61	36	115	1.55	1327.24	1320	15	4.97E-03	****	1.92E+00	T
0	727.36	111	53	1.63	1454.65	1448	14	1.54E-02	33.6	1.77E+00	T
0	768.18	54	80	1.61	1536.24	1527	14	7.55E-03	75.0	1.69E+00	T
0	964.49	55	42	0.95	1928.60	1923	11	7.67E-03	53.5	1.37E+00	T
0	1001.13	67	37	3.10	2001.82	1994	15	9.36E-03	48.1	1.32E+00	T
0	1378.67	34	49	1.78	2756.35	2749	18	4.68E-03	****	9.92E-01	
0	1409.47	12	22	1.57	2817.92	2810	9	1.73E-03	****	9.74E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978012.CNF;1
* Acquisition date   : 14-FEB-2010 13:11:08   Detector SN#      :
* Detector ID        : GAM01                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:01.22          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G245978012             Analyst initials  : MXR1
* Batch Number       : 948721                 Sample Quantity   : 1.42780E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52.7MS Isotope      :
* MSD ID             :                          MSD Isotope    :
* LCS ID             : 1032-A                    LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.329E+01	2.630E+00	4.481E-01	3.983E-02	51.983
CD-109	2.242E+00	1.279E+00	1.712E+00	1.620E-01	1.309
SN-126	2.194E-01	1.252E-01	1.574E-01	1.482E-02	1.394
TL-208	5.009E-01	9.283E-02	5.926E-02	5.382E-03	8.453
BI-211	3.974E+00	5.940E-01	3.400E-01	3.093E-02	11.688
PB-212	1.568E+00	1.942E-01	9.133E-02	9.247E-03	17.163
PO-212	1.568E+00	1.942E-01	9.133E-02	9.247E-03	17.163
BI-214	1.084E+00	2.040E-01	1.111E-01	1.096E-02	9.760
PB-214	1.382E+00	2.188E-01	1.193E-01	1.250E-02	11.583
PO-214	1.382E+00	2.188E-01	1.193E-01	1.250E-02	11.583
PO-216	1.568E+00	1.942E-01	9.133E-02	9.247E-03	17.163
PO-218	1.382E+00	2.188E-01	1.193E-01	1.250E-02	11.583
RA-224	4.061E+00	1.385E+00	1.040E+00	9.448E-02	3.906
RA-226	1.084E+00	2.040E-01	1.111E-01	1.096E-02	9.760
AC-228	1.503E+00	3.212E-01	1.808E-01	2.093E-02	8.312
RA-228	1.503E+00	3.212E-01	1.808E-01	2.093E-02	8.312
TH-228	1.596E+00	1.978E-01	9.299E-02	9.415E-03	17.163
TH-230	1.084E+00	2.040E-01	1.111E-01	1.095E-02	9.760

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.503E+00	3.212E-01	1.808E-01	2.093E-02	8.312
TH-234	6.535E+00	2.952E+00	2.216E+00	3.895E-01	2.949
U-234	1.084E+00	2.040E-01	1.111E-01	1.095E-02	9.760
NP-237	6.442E-01	3.909E-01	4.411E-01	9.985E-02	1.460
U-238	6.535E+00	2.952E+00	2.216E+00	3.895E-01	2.949
AM-243	3.951E-01	9.303E-02	9.596E-02	7.979E-03	4.117
ANH-511	1.173E-01	7.177E-02	4.648E-02	3.939E-03	2.524

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.173E-02		3.585E-01	5.861E-01	5.332E-02	0.157
NA-22	-5.628E-02		4.349E-02	6.107E-02	5.128E-03	-0.922
NA-24	-1.339E+01		8.947E+00	Half-Life too short		
AL-26	-6.609E-03		3.276E-02	5.104E-02	4.229E-03	-0.129
TI-44	3.330E-01	+	6.075E-02	7.943E-02	6.816E-03	4.192
SC-46	5.239E-03		4.299E-02	7.111E-02	6.428E-03	0.074
V-48	-4.186E-02		8.670E-02	1.334E-01	1.191E-02	-0.314
CR-51	-4.078E-02		4.390E-01	7.156E-01	6.731E-02	-0.057
MN-52	-2.834E-01		3.737E-01	5.508E-01	4.755E-02	-0.515
MN-54	1.346E-04		3.722E-02	6.112E-02	5.440E-03	0.002
CO-56	3.045E-02		3.973E-02	6.989E-02	6.245E-03	0.436
CO-57	2.072E-02		2.735E-02	4.473E-02	3.938E-03	0.463
CO-58	-6.793E-03		4.167E-02	6.745E-02	5.967E-03	-0.101
FE-59	-1.195E-02		1.140E-01	1.818E-01	1.675E-02	-0.066
CO-60	3.602E-02		3.846E-02	7.110E-02	6.061E-03	0.507
ZN-65	-4.997E-02		1.085E-01	1.394E-01	1.176E-02	-0.359
GE-68	1.048E+00		1.262E+00	2.218E+00	1.910E-01	0.472
AS-73	4.321E-02		1.007E+00	1.642E+00	1.329E-01	0.026
AS-74	3.771E-02		9.649E-02	1.666E-01	1.404E-02	0.226
SE-75	-1.997E-02		4.877E-02	7.264E-02	6.673E-03	-0.275
BR-77	1.201E+01		2.594E+01	4.294E+01	3.643E+00	0.280
SR-82	1.526E-01		4.287E-01	7.285E-01	6.343E-02	0.210
RB-83	2.917E-02		7.422E-02	1.223E-01	1.037E-02	0.239
RB-84	-9.763E-02		7.618E-02	1.061E-01	9.569E-03	-0.921
KR-85	1.583E+01		8.826E+00	1.426E+01	1.209E+00	1.110
SR-85	8.368E-02		4.667E-02	7.541E-02	6.394E-03	1.110
RB-86	8.906E-01		8.696E-01	1.558E+00	1.342E-01	0.572
Y-88	-5.030E-03		2.927E-02	4.537E-02	3.731E-03	-0.111
ZR-88	-3.223E-02		3.452E-02	5.229E-02	4.210E-03	-0.616
Y-91	-4.009E+00		2.005E+01	3.298E+01	2.702E+00	-0.122
NB-94	7.448E-03		3.776E-02	6.353E-02	5.333E-03	0.117
NB-95	2.405E-02		4.786E-02	8.195E-02	7.101E-03	0.293
NB-95M	8.357E-02		1.419E-01	2.146E-01	2.201E-02	0.390
ZR-95	-9.338E-03		7.979E-02	1.305E-01	1.240E-02	-0.072
NB-97	4.557E-01		9.656E-01	Half-Life too short		
ZR-97	-7.171E-01		1.880E+01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-1.907E+01		2.518E+01	3.850E+01	5.833E+00	-0.495
TC-99M	-2.155E+13		6.456E+13	Half-Life too short		
RH-101	-1.647E-02		3.465E-02	5.591E-02	4.920E-03	-0.295
RH-102	-1.660E-02		3.506E-02	4.637E-02	3.899E-03	-0.358
RU-103	2.593E-03		4.153E-02	6.681E-02	9.395E-03	0.039
RH-106	6.479E-02		3.117E-01	5.295E-01	6.983E-02	0.122
RU-106	6.479E-02		3.117E-01	5.295E-01	4.423E-02	0.122
AG-108M	-7.084E-03		3.360E-02	5.330E-02	4.597E-03	-0.133
AG-110M	1.148E-02		3.912E-02	5.860E-02	4.968E-03	0.196
IN-111	1.350E+00		2.408E+00	3.643E+00	3.317E-01	0.370
IN-113M	-1.036E-02		4.832E-02	7.721E-02	6.431E-03	-0.134
SN-113	-1.036E-02		4.832E-02	7.721E-02	6.431E-03	-0.134
IN-114M	-1.610E-01		2.202E-01	3.110E-01	2.716E-02	-0.518
CD-115	-2.505E-05		1.304E-05	Half-Life too short		
SN-117M	1.183E-03		6.434E-02	1.087E-01	9.256E-03	0.011
SB-122	2.060E+00		4.480E+00	7.766E+00	6.584E-01	0.265
I-123	1.027E+02		1.189E+02	Half-Life too short		
TE-123M	1.257E-02		2.910E-02	4.990E-02	4.275E-03	0.252
I-124	-9.555E-02		1.175E+00	1.695E+00	1.426E-01	-0.056
SB-124	-1.621E-02		7.744E-02	1.211E-01	1.074E-02	-0.134
SB-125	1.063E-02		9.689E-02	1.576E-01	1.326E-02	0.067
TE-125M	-1.654E+00		1.041E+01	1.646E+01	1.707E+00	-0.101
I-126	1.619E-01		2.571E-01	3.964E-01	3.257E-02	0.408
SB-126	-6.981E-02		2.049E-01	2.822E-01	2.392E-02	-0.247
SB-127	8.241E-01		2.305E+00	3.942E+00	4.757E-01	0.209
XE-127	4.747E-03		5.028E-02	8.442E-02	7.464E-03	0.056
I-131	-1.527E-01		1.508E-01	2.269E-01	2.038E-02	-0.673
TE-132	5.923E-01		1.396E+00	2.359E+00	3.894E-01	0.251
BA-133	-1.744E-02		5.069E-02	6.996E-02	9.227E-03	-0.249
I-133	3.653E-03		3.060E-02	Half-Life too short		
CS-134	9.032E-02		5.271E-02	9.619E-02	8.501E-03	0.939
CS-135	6.490E-02		1.752E-01	2.608E-01	2.720E-02	0.249
I-135	2.841E+12		4.115E+12	Half-Life too short		
CS-136	-6.998E-02		1.352E-01	2.059E-01	1.873E-02	-0.340
BA-137M	4.539E-02		4.334E-02	6.940E-02	5.685E-03	0.654
CS-137	4.798E-02		4.582E-02	7.336E-02	6.022E-03	0.654
CE-139	-1.076E-03		3.128E-02	5.267E-02	4.485E-03	-0.020
BA-140	1.149E-01		2.830E-01	4.874E-01	1.614E-01	0.236
LA-140	-5.089E-03		1.147E-01	1.871E-01	1.615E-02	-0.027
CE-141	3.006E-02		6.780E-02	1.165E-01	1.014E-02	0.258
CE-143	1.662E-03		4.078E-04	Half-Life too short		
CE-144	-9.393E-02		2.314E-01	3.586E-01	5.582E-02	-0.262
PM-144	2.987E-02		3.655E-02	6.429E-02	5.381E-03	0.465
PR-144	2.027E+00		2.480E+00	4.363E+00	3.650E-01	0.465
PM-146	4.460E-02		4.713E-02	8.060E-02	8.466E-03	0.553
ND-147	4.074E-01		6.534E-01	1.147E+00	1.706E-01	0.355
PM-149	2.934E-04		1.257E-04	Half-Life too short		
EU-152	-2.034E-02		1.141E-01	1.605E-01	1.484E-02	-0.127

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.520E-02		9.657E-02	1.351E-01	1.200E-02	-0.113
EU-154	-1.368E-01		1.194E-01	1.705E-01	1.899E-02	-0.802
EU-155	8.140E-03		1.159E-01	1.854E-01	1.630E-02	0.044
TB-160	1.016E-01		1.491E-01	2.597E-01	2.342E-02	0.391
HO-166M	1.557E-02		6.127E-02	1.037E-01	8.750E-03	0.150
TM-171	-2.111E+01		3.444E+01	4.812E+01	3.790E+00	-0.439
LU-176	8.252E-03		2.835E-02	4.393E-02	3.976E-03	0.188
LU-177	1.405E+00		1.811E+00	2.766E+00	2.458E-01	0.508
LU-177M	9.045E-02		2.203E-01	3.228E-01	2.638E-02	0.280
HF-181	1.872E-02		4.830E-02	7.968E-02	6.714E-03	0.235
W-181	1.936E-01		4.641E-01	6.830E-01	5.332E-02	0.284
TA-182	8.801E-02		2.035E-01	3.535E-01	2.913E-02	0.249
RE-183	-5.295E-02		1.155E-01	1.913E-01	1.629E-02	-0.277
RE-184	-5.347E-03		2.391E-01	3.956E-01	3.611E-02	-0.014
OS-185	4.339E-03		4.243E-02	7.134E-02	5.894E-03	0.061
RE-188	1.378E-01		1.770E-01	3.070E-01	2.614E-02	0.449
W-188	-5.364E+00		9.498E+00	1.314E+01	1.198E+00	-0.408
IR-192	6.481E-03		3.744E-02	6.199E-02	5.585E-03	0.105
AU-195	2.301E-01		2.575E-01	4.024E-01	3.553E-02	0.572
TL-200	3.018E-03		1.437E-03	Half-Life too short		
TL-201	3.983E+00		1.412E+01	2.404E+01	2.049E+00	0.166
TL-202	7.653E-02		8.801E-02	1.502E-01	1.245E-02	0.510
HG-203	6.629E-02		4.365E-02	7.680E-02	7.201E-03	0.863
BI-207	2.822E-02		5.714E-02	9.689E-02	8.399E-03	0.291
TL-207	8.022E-02		7.752E-01	1.121E+00	2.003E-01	0.072
PO-209	-6.128E-01		8.026E+00	1.301E+01	1.179E+00	-0.047
BI-210	9.733E-01		4.488E+00	7.265E+00	6.858E-01	0.134
PB-210	9.733E-01		4.488E+00	7.265E+00	6.858E-01	0.134
PO-210	9.733E-01		4.487E+00	7.265E+00	6.228E-01	0.134
PB-211	-6.390E-01		1.236E+00	1.570E+00	9.827E-01	-0.407
BI-212	1.397E+00	+	4.892E-01	7.043E-01	6.979E-02	1.983
PO-215	8.022E-02		7.752E-01	1.121E+00	2.003E-01	0.072
RN-219	2.535E-01		4.476E-01	7.489E-01	1.104E-01	0.338
RN-220	7.897E+00		2.760E+01	4.734E+01	4.019E+00	0.167
RA-223	8.022E-02		7.752E-01	1.121E+00	2.003E-01	0.072
AC-227	-4.374E-01		3.904E-01	5.982E-01	9.358E-02	-0.731
TH-227	-4.374E-01		3.926E-01	5.982E-01	1.096E-01	-0.731
TH-229	1.362E-01		5.093E-01	8.625E-01	7.556E-02	0.158
PA-231	-1.227E+00		1.639E+00	2.575E+00	3.987E-01	-0.477
TH-231	8.022E-02		7.752E-01	1.121E+00	2.003E-01	0.072
U-231	1.931E-01		2.121E+00	3.033E+00	2.713E-01	0.064
PA-233	-3.885E-02		6.385E-02	1.006E-01	9.313E-03	-0.386
PA-234	-4.749E-02		2.915E-01	4.655E-01	8.818E-02	-0.102
PA-234M	1.593E+01	+	7.836E+00	1.077E+01	1.098E+00	1.480
U-235	1.041E-01		2.223E-01	3.768E-01	6.583E-02	0.276
NP-236	5.885E-03		8.057E-02	1.364E-01	1.161E-02	0.043
NP-239	-2.530E-02		2.024E-01	3.198E-01	2.785E-02	-0.079
AM-241	-5.905E-02		1.953E-01	2.784E-01	2.294E-02	-0.212

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.388E-02		1.019E-01	1.666E-01	1.452E-02	0.383
AM-246	-5.931E-02		1.476E-01	2.271E-01	1.954E-02	-0.261
CM-247	6.153E-03		4.209E-02	6.646E-02	5.390E-03	0.093
CF-249	3.018E-02		4.167E-02	7.071E-02	5.736E-03	0.427
CF-251	7.080E-02		1.355E-01	2.320E-01	1.997E-02	0.305

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978012
* Acquisition date   : 14-FEB-2010 13:11:08 Detector SN#      :
* Detector ID        : GAM01 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.22 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978012 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.4278E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 12-JAN-2010 15:15:52 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope      :
* LCS DPM             : 0.000 LCS Isotope      :
* LCSD DPM            : 0.000 LCSD Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.329E+01	2.577E+00	2.252E-01	1.315E+00
CD-109	2.242E+00	1.254E+00	9.135E-01	6.396E-01
SN-126	2.194E-01	1.227E-01	8.396E-02	6.259E-02
TL-208	5.009E-01	9.098E-02	3.040E-02	4.642E-02
BI-211	3.974E+00	5.821E-01	1.763E-01	2.970E-01
PB-212	1.568E+00	1.904E-01	4.775E-02	9.712E-02
PO-212	1.568E+00	1.904E-01	4.775E-02	9.712E-02
BI-214	1.084E+00	1.999E-01	5.692E-02	1.020E-01
PB-214	1.382E+00	2.145E-01	6.188E-02	1.094E-01
PO-214	1.382E+00	2.145E-01	6.188E-02	1.094E-01
PO-216	1.568E+00	1.904E-01	4.775E-02	9.712E-02
PO-218	1.382E+00	2.145E-01	6.188E-02	1.094E-01
RA-224	4.061E+00	1.357E+00	5.434E-01	6.926E-01
RA-226	1.084E+00	1.999E-01	5.692E-02	1.020E-01
AC-228	1.503E+00	3.148E-01	9.182E-02	1.606E-01
RA-228	1.503E+00	3.148E-01	9.182E-02	1.606E-01
TH-228	1.596E+00	1.938E-01	4.861E-02	9.888E-02
TH-230	1.084E+00	1.999E-01	5.692E-02	1.020E-01
TH-232	1.503E+00	3.148E-01	9.182E-02	1.606E-01
TH-234	6.535E+00	2.893E+00	1.190E+00	1.476E+00
U-234	1.084E+00	1.999E-01	5.692E-02	1.020E-01
NP-237	6.442E-01	3.831E-01	2.354E-01	1.955E-01
U-238	6.535E+00	2.893E+00	1.190E+00	1.476E+00
AM-243	3.951E-01	9.117E-02	5.136E-02	4.652E-02
ANH-511	1.173E-01	7.034E-02	2.391E-02	3.589E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	9.173E-02	3.513E-01	3.019E-01	1.793E-01 NOT IDENT.
NA-22	-5.628E-02	4.262E-02	3.079E-02	2.174E-02 NOT IDENT.

NA-24	-1.339E+07	1.754E+07	0.000E+00	8.947E+06	SHORT HLIF
AL-26	-6.609E-03	3.210E-02	2.553E-02	1.638E-02	NOT IDENT.
TI-44	3.330E-01	5.953E-02	4.248E-02	3.037E-02	FAIL ABUN
SC-46	5.239E-03	4.213E-02	3.614E-02	2.150E-02	FAIL ABUN
V-48	-4.186E-02	8.496E-02	6.764E-02	4.335E-02	NOT IDENT.
CR-51	-4.078E-02	4.303E-01	3.718E-01	2.195E-01	NOT IDENT.
MN-52	-2.834E-01	3.663E-01	2.769E-01	1.869E-01	NOT IDENT.
MN-54	1.346E-04	3.648E-02	3.110E-02	1.861E-02	NOT IDENT.
CO-56	3.045E-02	3.893E-02	3.556E-02	1.986E-02	NOT IDENT.
CO-57	2.072E-02	2.681E-02	2.371E-02	1.368E-02	NOT IDENT.
CO-58	-6.793E-03	4.084E-02	3.435E-02	2.083E-02	NOT IDENT.
FE-59	-1.195E-02	1.117E-01	9.194E-02	5.699E-02	NOT IDENT.
CO-60	3.602E-02	3.769E-02	3.581E-02	1.923E-02	NOT IDENT.
ZN-65	-4.997E-02	1.063E-01	7.047E-02	5.423E-02	NOT IDENT.
GE-68	1.048E+00	1.237E+00	1.122E+00	6.311E-01	NOT IDENT.
AS-73	4.321E-02	9.864E-01	8.848E-01	5.033E-01	NOT IDENT.
AS-74	3.771E-02	9.456E-02	8.540E-02	4.825E-02	NOT IDENT.
SE-75	-1.997E-02	4.779E-02	3.789E-02	2.438E-02	NOT IDENT.
BR-77	1.201E+01	2.542E+01	2.208E+01	1.297E+01	FAIL ABUN
SR-82	1.526E-01	4.201E-01	3.714E-01	2.143E-01	NOT IDENT.
RB-83	2.917E-02	7.274E-02	6.286E-02	3.711E-02	NOT IDENT.
RB-84	-9.763E-02	7.466E-02	5.391E-02	3.809E-02	NOT IDENT.
KR-85	1.583E+01	8.650E+00	7.335E+00	4.413E+00	NOT IDENT.
SR-85	8.368E-02	4.574E-02	3.879E-02	2.334E-02	NOT IDENT.
RB-86	8.906E-01	8.522E-01	7.883E-01	4.348E-01	NOT IDENT.
Y-88	-5.030E-03	2.868E-02	2.268E-02	1.463E-02	NOT IDENT.
ZR-88	-3.223E-02	3.383E-02	2.705E-02	1.726E-02	NOT IDENT.
Y-91	-4.009E+00	1.965E+01	1.665E+01	1.002E+01	NOT IDENT.
NB-94	7.448E-03	3.700E-02	3.245E-02	1.888E-02	NOT IDENT.
NB-95	2.405E-02	4.690E-02	4.179E-02	2.393E-02	NOT IDENT.
NB-95M	8.357E-02	1.391E-01	1.122E-01	7.096E-02	NOT IDENT.
ZR-95	-9.338E-03	7.819E-02	6.655E-02	3.989E-02	NOT IDENT.
NB-97	4.557E+05	1.893E+06	0.000E+00	9.656E+05	SHORT HLIF
ZR-97	-7.171E+05	3.684E+07	0.000E+00	1.880E+07	SHORT HLIF
MO-99	-1.907E+01	2.467E+01	1.965E+01	1.259E+01	NOT IDENT.
TC-99M	-2.155E+19	1.265E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.647E-02	3.396E-02	2.934E-02	1.732E-02	NOT IDENT.
RH-102	-1.660E-02	3.435E-02	2.389E-02	1.753E-02	FAIL ABUN
RU-103	2.593E-03	4.070E-02	3.439E-02	2.076E-02	FAIL ABUN
RH-106	6.479E-02	3.055E-01	2.712E-01	1.559E-01	FAIL ABUN
RU-106	6.479E-02	3.054E-01	2.712E-01	1.558E-01	FAIL ABUN
AG-108M	-7.084E-03	3.293E-02	2.752E-02	1.680E-02	NOT IDENT.
AG-110M	1.148E-02	3.834E-02	2.998E-02	1.956E-02	NOT IDENT.
IN-111	1.350E+00	2.360E+00	1.904E+00	1.204E+00	NOT IDENT.
IN-113M	-1.036E-02	4.735E-02	3.994E-02	2.416E-02	NOT IDENT.
SN-113	-1.036E-02	4.735E-02	3.994E-02	2.416E-02	NOT IDENT.
IN-114M	-1.610E-01	2.158E-01	1.634E-01	1.101E-01	NOT IDENT.
CD-115	-2.505E+01	2.556E+01	0.000E+00	1.304E+01	SHORT HLIF
SN-117M	1.183E-03	6.305E-02	5.732E-02	3.217E-02	NOT IDENT.
SB-122	2.060E+00	4.391E+00	3.986E+00	2.240E+00	NOT IDENT.
I-123	1.027E+08	2.331E+08	0.000E+00	1.189E+08	SHORT HLIF
TE-123M	1.257E-02	2.852E-02	2.631E-02	1.455E-02	NOT IDENT.
I-124	-9.555E-02	1.152E+00	8.690E-01	5.876E-01	NOT IDENT.
SB-124	-1.621E-02	7.589E-02	6.067E-02	3.872E-02	FAIL ABUN
SB-125	1.063E-02	9.495E-02	8.138E-02	4.845E-02	FAIL ABUN
TE-125M	-1.654E+00	1.020E+01	8.743E+00	5.203E+00	NOT IDENT.
I-126	1.619E-01	2.520E-01	2.028E-01	1.286E-01	NOT IDENT.
SB-126	-6.981E-02	2.008E-01	1.441E-01	1.025E-01	FAIL ABUN
SB-127	8.241E-01	2.259E+00	2.015E+00	1.153E+00	FAIL ABUN
XE-127	4.747E-03	4.928E-02	4.428E-02	2.514E-02	NOT IDENT.
I-131	-1.527E-01	1.478E-01	1.175E-01	7.539E-02	NOT IDENT.
TE-132	5.923E-01	1.368E+00	1.234E+00	6.979E-01	NOT IDENT.
BA-133	-1.744E-02	4.968E-02	3.627E-02	2.535E-02	NOT IDENT.
I-133	3.653E+03	5.998E+04	0.000E+00	3.060E+04	SHORT HLIF
CS-134	9.032E-02	5.166E-02	4.901E-02	2.636E-02	NOT IDENT.
CS-135	6.490E-02	1.717E-01	1.360E-01	8.759E-02	NOT IDENT.
I-135	2.841E+18	8.066E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-6.998E-02	1.325E-01	1.043E-01	6.761E-02	FAIL ABUN
BA-137M	4.539E-02	4.248E-02	3.550E-02	2.167E-02	NOT IDENT.
CS-137	4.798E-02	4.490E-02	3.753E-02	2.291E-02	NOT IDENT.
CE-139	-1.076E-03	3.066E-02	2.774E-02	1.564E-02	NOT IDENT.
BA-140	1.149E-01	2.773E-01	2.504E-01	1.415E-01	NOT IDENT.
LA-140	-5.089E-03	1.124E-01	9.387E-02	5.733E-02	FAIL ABUN
CE-141	3.006E-02	6.644E-02	6.156E-02	3.390E-02	NOT IDENT.
CE-143	1.662E+03	7.993E+02	0.000E+00	4.078E+02	SHORT HLIF
CE-144	-9.393E-02	2.268E-01	1.897E-01	1.157E-01	NOT IDENT.
PM-144	2.987E-02	3.581E-02	3.285E-02	1.827E-02	NOT IDENT.
PR-144	2.027E+00	2.431E+00	2.229E+00	1.240E+00	NOT IDENT.

PM-146	4.460E-02	4.619E-02	4.156E-02	2.357E-02	NOT IDENT.
ND-147	4.074E-01	6.403E-01	5.896E-01	3.267E-01	NOT IDENT.
PM-149	2.934E+02	2.463E+02	0.000E+00	1.257E+02	SHORT HLIF
EU-152	-2.034E-02	1.118E-01	8.325E-02	5.704E-02	FAIL ABUN
GD-153	-1.520E-02	9.464E-02	7.196E-02	4.829E-02	NOT IDENT.
EU-154	-1.368E-01	1.170E-01	8.597E-02	5.972E-02	NOT IDENT.
EU-155	8.140E-03	1.136E-01	9.854E-02	5.795E-02	FAIL ABUN
TB-160	1.016E-01	1.461E-01	1.320E-01	7.455E-02	FAIL ABUN
HO-166M	1.557E-02	6.005E-02	5.297E-02	3.064E-02	FAIL ABUN
TM-171	-2.111E+01	3.376E+01	2.582E+01	1.722E+01	NOT IDENT.
LU-176	8.252E-03	2.779E-02	2.285E-02	1.418E-02	FAIL ABUN
LU-177	1.405E+00	1.775E+00	1.450E+00	9.057E-01	NOT IDENT.
LU-177M	9.045E-02	2.159E-01	1.668E-01	1.101E-01	NOT IDENT.
HF-181	1.872E-02	4.734E-02	4.104E-02	2.415E-02	NOT IDENT.
W-181	1.936E-01	4.548E-01	3.666E-01	2.321E-01	NOT IDENT.
TA-182	8.801E-02	1.994E-01	1.784E-01	1.018E-01	FAIL ABUN
RE-183	-5.295E-02	1.132E-01	1.008E-01	5.775E-02	FAIL ABUN
RE-184	-5.347E-03	2.343E-01	2.066E-01	1.195E-01	NOT IDENT.
OS-185	4.339E-03	4.158E-02	3.651E-02	2.121E-02	NOT IDENT.
RE-188	1.378E-01	1.734E-01	1.619E-01	8.848E-02	NOT IDENT.
W-188	-5.364E+00	9.308E+00	6.840E+00	4.749E+00	FAIL ABUN
IR-192	6.481E-03	3.669E-02	3.221E-02	1.872E-02	FAIL ABUN
AU-195	2.301E-01	2.524E-01	2.142E-01	1.288E-01	FAIL ABUN
TL-200	3.018E+03	2.816E+03	0.000E+00	1.437E+03	SHORT HLIF
TL-201	3.983E+00	1.384E+01	1.266E+01	7.059E+00	NOT IDENT.
TL-202	7.653E-02	8.625E-02	7.750E-02	4.401E-02	NOT IDENT.
HG-203	6.629E-02	4.278E-02	4.002E-02	2.183E-02	FAIL ABUN
BI-207	2.822E-02	5.600E-02	4.904E-02	2.857E-02	FAIL ABUN
TL-207	8.022E-02	7.597E-01	5.825E-01	3.876E-01	FAIL ABUN
PO-209	-6.128E-01	7.866E+00	6.613E+00	4.013E+00	NOT IDENT.
BI-210	9.733E-01	4.398E+00	3.926E+00	2.244E+00	NOT IDENT.
PB-210	9.733E-01	4.398E+00	3.926E+00	2.244E+00	NOT IDENT.
PO-210	9.733E-01	4.398E+00	3.926E+00	2.244E+00	NOT IDENT.
PB-211	-6.390E-01	1.211E+00	8.116E-01	6.181E-01	NOT IDENT.
BI-212	1.397E+00	4.795E-01	3.595E-01	2.446E-01	FAIL ABUN
PO-215	8.022E-02	7.597E-01	5.825E-01	3.876E-01	FAIL ABUN
RN-219	2.535E-01	4.386E-01	3.872E-01	2.238E-01	FAIL ABUN
RN-220	7.897E+00	2.705E+01	2.431E+01	1.380E+01	NOT IDENT.
RA-223	8.022E-02	7.597E-01	5.825E-01	3.876E-01	FAIL ABUN
AC-227	-4.374E-01	3.826E-01	3.123E-01	1.952E-01	FAIL ABUN
TH-227	-4.374E-01	3.848E-01	3.123E-01	1.963E-01	FAIL ABUN
TH-229	1.362E-01	4.991E-01	4.529E-01	2.546E-01	FAIL ABUN
PA-231	-1.227E+00	1.606E+00	1.341E+00	8.196E-01	FAIL ABUN
TH-231	8.022E-02	7.597E-01	5.825E-01	3.876E-01	FAIL ABUN
U-231	1.931E-01	2.078E+00	1.615E+00	1.060E+00	FAIL ABUN
PA-233	-3.885E-02	6.257E-02	5.231E-02	3.192E-02	FAIL ABUN
PA-234	-4.749E-02	2.856E-01	2.363E-01	1.457E-01	FAIL ABUN
PA-234M	1.593E+01	7.679E+00	5.458E+00	3.918E+00	FAIL ABUN
U-235	1.041E-01	2.178E-01	1.991E-01	1.111E-01	FAIL ABUN
NP-236	5.885E-03	7.896E-02	7.187E-02	4.028E-02	NOT IDENT.
NP-239	-2.530E-02	1.984E-01	1.696E-01	1.012E-01	FAIL ABUN
AM-241	-5.905E-02	1.914E-01	1.497E-01	9.764E-02	NOT IDENT.
CM-243	6.388E-02	9.984E-02	8.861E-02	5.094E-02	FAIL ABUN
AM-246	-5.931E-02	1.447E-01	1.149E-01	7.381E-02	NOT IDENT.
CM-247	6.153E-03	4.125E-02	3.436E-02	2.105E-02	NOT IDENT.
CF-249	3.018E-02	4.083E-02	3.659E-02	2.083E-02	NOT IDENT.
CF-251	7.080E-02	1.327E-01	1.220E-01	6.773E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	283.5450
46.50	283.5450
46.50	283.5450
48.70	306.4493
49.72	311.2125
51.35	291.5605
52.39	295.2718
52.97	295.6095
53.15	295.7132
53.44	307.3013
54.07	321.1906
56.28	335.0771
56.28	335.0787
57.37	0.0000
57.53	301.3385
57.53	301.3396
57.60	301.3777
57.98	298.4492
57.98	298.4492
59.32	338.5555
59.32	338.5555
59.40	338.6047
59.54	365.4719
59.72	365.5922
60.01	368.9385
61.10	345.9703
61.14	345.9949
61.30	346.0948
63.00	365.6368
63.29	365.8238
63.29	365.8238
63.58	366.0108
64.28	366.4596
65.12	394.5722
65.20	394.6270
65.20	394.6270
66.05	388.8303
66.72	406.8245
66.83	438.8163
66.91	438.8750
67.20	439.0911
67.20	439.0911
67.75	477.8566
67.85	447.5681
68.90	371.4970
68.90	371.4970
69.30	373.3472
69.67	373.5782
70.82	382.3195
70.82	382.3195
70.83	382.3249
72.80	489.9180
72.87	489.9736
72.87	489.9736
74.67	459.0602
74.81	459.1642
74.81	459.1642
74.81	459.1642
74.81	459.1642
74.81	459.1642
74.81	459.1642
74.97	459.2791
75.28	459.5066
75.70	459.8099
77.11	460.8283
77.11	460.8283

77.11	460.8283
77.11	460.8283
77.11	460.8283
77.11	460.8283
77.11	460.8283
78.38	463.3642
79.62	460.9891
79.80	454.5989
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80.18	454.8608
80.30	492.4481
80.30	492.4481
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81.07	533.8374
81.07	533.8374
81.07	533.8374
82.60	485.6502
83.37	455.4087
83.78	475.3564
83.78	475.3564
83.78	475.3564
83.78	475.3564
84.21	483.8606
84.90	472.8582
85.43	466.6547
86.29	546.2098
86.50	546.3770
86.54	546.4074
86.59	579.3665
86.72	579.4766
86.79	579.5330
86.94	579.6592
87.30	615.5513
87.30	615.5513
87.30	615.5513
87.30	615.5513
87.30	615.5513
87.30	615.5513
87.30	615.5513
87.57	615.7907
87.88	705.7697
88.03	705.9231
88.36	610.5486
88.47	610.6445
89.95	707.8595
91.11	609.6235
92.29	484.5206
92.38	484.5829
92.38	484.5829
93.35	485.2357
94.00	485.6701
94.67	331.2912
94.67	331.2927
94.90	319.7402
94.90	319.7402
94.90	319.7402
94.90	319.7402
95.87	385.1968
95.87	385.1968
96.73	412.3595
97.43	352.5901
98.44	302.8690
98.44	302.8704
98.88	312.0897
99.55	313.9325
99.55	313.9325
99.86	335.2966
100.00	335.3592
100.10	327.5789
103.18	367.0684
103.76	306.6834
105.00	304.9232
105.31	336.5620
108.00	351.2702
109.28	346.1784

111.00	340.1199
111.00	340.1199
111.76	360.8652
112.95	328.4368
115.19	325.9162
116.30	314.9431
117.00	315.2070
117.00	315.2070
117.66	328.0294
121.11	323.6328
121.62	310.0465
121.78	288.2827
122.06	288.3765
122.32	275.8228
122.32	275.8228
122.32	275.8228
122.32	275.8228
123.07	297.9182
127.23	331.7072
129.76	340.7689
131.20	344.8021
133.02	365.2729
133.54	351.5161
135.34	307.8926
136.00	330.8711
136.25	312.5752
136.48	312.6528
140.51	340.3995
140.51	0.0000
142.18	314.5676
142.65	319.1335
143.76	312.4454
144.24	306.4207
144.24	306.4207
144.24	306.4207
144.24	306.4207
145.22	313.8074
145.44	313.8778
147.16	325.0674
152.43	300.1072
152.70	286.8279
153.22	254.8933
154.21	255.1486
154.21	255.1486
154.21	255.1486
154.21	255.1486
155.03	283.0367
156.02	298.5084
158.56	295.6762
159.00	0.0000
159.00	282.3589
160.31	294.3897
161.27	300.0552
162.32	312.9510
162.64	313.0492
163.35	306.0628
163.89	290.9100
165.85	304.9948
167.43	293.7056
171.28	311.1002
171.86	294.0255
172.10	294.0922
176.55	294.3945
176.60	294.4068
181.06	285.5374
184.41	248.2105
185.71	262.8336
186.00	262.9013
190.27	293.7849
192.34	258.8193
193.63	253.5554
197.04	263.5784
198.01	274.0147
198.60	258.3535
200.40	264.3324
201.83	287.9453
202.84	260.2108
205.31	269.1584

208.36	295.3196
208.81	295.4303
209.75	286.6516
209.75	286.6516
210.97	259.8970
215.65	233.7374
216.55	253.7144
218.09	243.6387
222.10	259.5717
223.80	261.8138
226.40	246.1856
227.00	248.2021
227.08	241.5608
227.20	241.5841
228.16	245.5697
228.18	245.5736
228.18	245.5736
231.56	0.0000
235.69	222.0967
236.00	252.7912
236.00	252.7912
238.63	210.1162
238.63	210.1162
238.63	210.1162
238.63	210.1162
239.00	210.1746
240.98	210.4854
241.98	210.6425
241.98	210.6425
241.98	210.6425
244.69	181.9594
245.39	177.4246
247.94	179.3030
248.90	188.7083
249.79	189.6043
252.40	184.1480
252.85	187.1160
252.85	187.1160
254.15	0.0000
256.20	205.0598
256.20	205.0598
260.50	175.4681
260.90	0.0000
262.80	176.7274
264.65	182.4967
268.24	169.3617
268.79	169.4276
269.46	153.8117
269.46	153.8117
269.46	153.8117
269.46	153.8117
271.23	170.8910
273.65	228.2334
276.40	178.1957
277.35	183.7218
277.60	176.5664
277.60	176.5664
278.00	164.7729
278.60	147.0743
279.20	148.1209
279.53	165.9313
280.46	202.6039
281.68	207.7153
283.67	194.1248
284.30	189.2513
285.00	173.4779
285.90	0.0000
286.10	158.7256
286.10	158.7256
287.40	180.7031
288.45	0.0000
290.67	205.3701
290.80	205.3890
291.72	186.3945
293.26	0.0000
293.70	185.0421
295.21	175.6428
295.21	175.6428

295.21	175.6428
295.96	175.7261
296.50	175.7878
297.23	175.8711
298.57	176.0242
299.80	176.1611
299.80	176.1611
300.09	176.1960
300.09	176.1960
300.09	176.1960
300.09	176.1960
300.12	176.1987
301.29	176.3303
302.84	158.8544
303.76	173.3959
303.91	173.4144
304.40	173.4671
304.40	173.4671
304.84	154.2352
306.84	155.5045
308.46	151.9723
311.98	147.2632
316.51	148.6913
318.01	140.7286
319.02	162.0898
319.41	161.1156
320.08	165.2360
323.87	146.3137
323.87	146.3137
323.87	146.3137
323.87	146.3137
325.23	149.6887
328.77	150.0076
333.44	151.2452
334.20	155.4048
334.20	155.4048
334.30	155.4141
338.28	155.7805
338.28	155.7805
338.28	155.7805
338.28	155.7805
338.32	155.7828
338.32	155.7828
338.32	155.7828
340.50	119.8601
340.57	119.8654
344.27	136.5812
345.85	149.4128
350.59	0.0000
351.07	135.4662
351.92	137.3917
351.92	137.3917
351.92	137.3917
355.39	0.0000
356.01	132.5352
364.48	130.0488
366.43	99.9873
367.43	103.1693
367.94	0.0000
369.80	127.3055
374.96	103.5983
383.85	128.2865
387.95	107.4910
388.63	93.8264
391.69	125.6567
391.69	125.6567
392.90	142.6444
398.62	140.9553
400.65	110.3381
401.10	110.3651
401.81	115.7127
402.60	126.2295
404.84	136.0977
410.95	125.8611
411.60	125.9044
413.65	114.5003
414.70	85.4944
415.30	92.3616

415.76	100.9381
417.63	0.0000
418.52	119.9246
423.70	119.1655
427.08	104.3117
427.89	103.2788
432.53	93.8128
433.93	100.3508
439.47	93.0521
439.56	93.0560
439.89	91.9882
443.98	108.4381
444.90	92.2139
445.03	92.2191
445.03	92.2191
445.03	92.2191
445.03	92.2191
453.90	89.3459
463.38	76.6148
468.07	76.7836
473.00	94.9918
475.06	96.8435
475.35	89.8115
476.78	110.1364
477.59	92.5492
477.96	87.0548
482.03	90.5296
484.57	96.1625
487.03	81.8849
490.36	0.0000
492.35	0.0000
497.08	73.3648
507.63	0.0000
510.53	0.0000
510.84	82.7616
511.00	82.7673
511.85	82.7978
511.85	82.7978
513.99	82.4271
513.99	82.4271
520.41	77.4923
520.65	77.5008
527.90	0.0000
528.96	0.0000
529.64	76.6743
529.87	0.0000
531.02	67.6923
537.32	64.2553
543.00	70.7599
546.56	0.0000
549.76	84.6059
552.65	90.1731
555.20	77.5023
563.23	84.1634
563.90	78.6955
568.70	97.1856
569.32	87.1235
569.50	87.1305
569.67	87.1351
573.80	83.6063
574.00	97.3953
574.64	100.1783
578.91	88.9966
579.30	0.0000
583.14	76.5420
585.48	86.1533
591.81	69.4043
592.07	71.2626
593.00	76.8419
595.88	63.0262
600.56	78.9280
602.52	0.0000
602.71	74.3477
602.71	74.3477
603.60	68.1753
604.41	68.1968
604.70	62.0052
609.31	75.4708

609.31	75.4708
609.31	75.4708
609.31	75.4708
610.33	75.5005
612.46	62.1908
614.37	77.7954
618.01	72.9193
621.84	64.5991
621.84	64.5991
631.29	77.0452
633.02	60.1719
633.10	61.1136
634.78	64.9149
635.90	53.6490
636.97	60.2609
645.85	57.6268
646.12	62.3568
656.30	71.8029
657.75	61.6738
657.90	0.0000
661.65	66.5137
661.65	66.5137
664.57	0.0000
666.33	71.3855
666.33	71.3855
675.00	73.5185
677.61	64.0295
685.20	60.3699
692.80	65.3354
695.00	81.7336
696.49	66.3822
696.49	66.3822
697.00	70.2429
697.49	74.1050
698.33	82.7918
698.50	79.9078
699.00	89.5511
702.63	84.8439
706.10	86.8755
706.58	0.0000
706.67	89.7895
709.31	49.2842
711.68	62.8656
713.82	78.3976
717.42	52.3296
720.50	74.3738
721.93	0.0000
722.20	64.7103
722.78	61.4871
722.78	61.4871
722.89	61.4887
722.95	61.4902
723.30	64.7347
724.18	64.7542
727.18	55.4205
733.00	53.5820
735.90	54.6096
739.58	71.2748
742.81	52.7805
744.21	64.5401
747.13	75.3701
751.79	76.4670
752.31	75.4999
753.82	64.7464
755.35	67.7231
756.15	71.6669
756.87	66.7748
763.93	65.6169
765.79	73.8647
766.42	73.8794
766.84	73.8885
776.49	58.3086
778.00	52.4048
778.57	57.3585
778.89	65.2765
783.80	69.3420
785.46	51.5392
792.07	90.3824

795.84	49.7205
796.30	49.7278
798.80	92.5663
801.93	58.7839
805.60	49.8743
810.29	55.9412
810.76	57.9476
815.85	56.0383
817.79	45.0571
818.51	41.0621
819.60	48.0879
826.30	49.1914
828.27	0.0000
831.60	55.3055
831.96	51.2889
834.83	56.3664
836.80	0.0000
846.75	41.4184
848.13	55.5841
856.28	0.0000
856.80	59.1067
860.37	47.6747
867.32	50.8228
867.82	47.4414
871.10	51.8965
873.19	45.8196
874.81	53.9912
875.33	0.0000
876.40	50.9595
879.36	43.8629
880.27	44.8948
880.51	48.9797
881.50	61.2422
883.24	42.8921
884.67	53.1261
889.25	52.1741
896.60	55.3619
898.02	53.3330
899.00	52.3223
903.28	42.2292
911.07	35.0027
911.07	35.0027
911.07	35.0027
919.63	36.6936
920.93	44.3920
925.00	51.6785
925.24	51.6821
926.50	36.1903
935.52	30.0627
937.48	54.9720
944.10	45.7220
946.00	43.6663
949.00	41.6221
962.29	53.9586
964.01	40.0525
966.15	67.9548
968.20	67.9929
969.11	68.0104
969.11	68.0104
969.11	68.0104
977.42	38.9510
980.50	41.9824
983.50	54.6216
989.30	44.1861
996.32	38.6477
1001.03	43.2692
1001.68	43.2772
1004.76	42.2559
1021.30	0.0000
1024.50	0.0000
1034.80	47.9136
1036.00	47.9290
1037.82	49.0165
1038.57	55.4227
1038.76	0.0000
1045.16	56.5842
1046.59	61.9450
1048.07	53.4204

1050.47	38.4873
1050.47	38.4873
1062.04	43.9609
1063.62	45.0516
1076.63	31.2104
1077.35	34.4453
1078.86	48.4563
1085.78	36.6745
1099.22	61.6897
1112.02	45.8404
1112.84	46.5402
1115.52	54.3311
1120.29	40.2520
1120.29	40.2520
1120.29	40.2520
1120.29	40.2520
1120.51	40.2556
1121.28	45.3410
1124.00	0.0000
1129.67	52.3383
1131.51	0.0000
1147.95	0.0000
1167.94	47.6857
1173.22	49.5813
1175.09	45.9290
1177.93	54.2322
1189.05	39.6284
1204.90	57.3480
1205.75	0.0000
1213.00	58.3832
1221.42	51.0657
1230.97	51.1776
1235.34	59.6120
1236.41	0.0000
1238.25	63.3792
1246.25	55.0892
1260.41	0.0000
1271.85	30.0495
1274.45	46.9808
1274.54	49.7996
1291.56	39.6125
1298.22	0.0000
1312.09	26.5257
1325.50	36.1028
1325.50	36.1028
1332.49	20.9329
1333.61	20.9383
1360.21	24.8849
1362.66	0.0000
1365.15	21.0780
1368.21	28.7610
1368.53	0.0000
1376.25	18.1090
1384.27	23.0859
1394.10	28.9160
1395.20	35.6706
1407.95	18.3653
1434.06	32.0681
1436.60	24.3062
1457.56	0.0000
1460.81	13.6770
1489.15	17.6836
1509.49	13.8080
1596.49	24.0635
1620.62	10.0712
1678.03	0.0000
1691.02	13.2592
1691.02	13.2592
1706.46	0.0000
1750.46	0.0000
1764.49	8.2640
1764.49	8.2640
1764.49	8.2640
1764.49	8.2640
1770.23	5.3178
1771.40	5.3188
1791.20	0.0000
1808.65	13.5300

1836.01

8.3639

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978012

Total Uranium Activity	1.9489E+01	ug/g
Total Uranium Counting Unc.	8.6071E+00	ug/g
Total Uranium Tpu	4.3914E-06	ug/g
Total Uranium Mda	3.5422E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978012                *
*  ANALYST       : MXR1                  DETECTOR    : GAM01                  *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 14-FEB-2010 13:11:08.36  SAMPLE ALQT: 142.780 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.150E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.448E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.898E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.890E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:13:27.42

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978013.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:11:39
Sample ID          : G245978013      Sample quantity    : 1.34680E+02 GRAM
Detector name      : GAM06            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.37  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 948721            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.09*	167	498	1.23	126.19	122	9	2.31E-02	25.8	
2	2	74.54	379	492	1.13	149.09	143	16	5.27E-02	11.0	2.05E+00
3	2	76.86*	572	463	1.20	153.72	143	16	7.95E-02	7.8	
4	1	84.10	149	385	1.40	168.20	164	29	2.07E-02	24.2	2.26E+00
5	1	86.98	288	381	1.41	173.96	164	29	4.00E-02	13.3	
6	1	89.54	207	376	1.41	179.08	164	29	2.87E-02	18.5	
7	1	92.48*	489	416	1.42	184.96	164	29	6.79E-02	9.2	
8	0	128.87	143	357	1.44	257.73	253	9	1.99E-02	25.3	
9	0	185.61*	230	254	1.25	371.22	367	9	3.20E-02	14.8	
10	0	208.78	130	320	1.07	417.56	413	10	1.80E-02	27.2	
11	2	238.44*	1213	172	1.19	476.88	471	18	1.69E-01	3.5	2.07E+00
12	2	241.24	232	245	1.77	482.49	471	18	3.23E-02	19.5	
13	0	269.86	109	213	1.84	539.72	535	10	1.52E-02	26.7	
14	0	295.04*	331	204	1.25	590.09	586	10	4.59E-02	10.0	
15	0	327.53	82	232	1.56	655.05	650	13	1.14E-02	39.7	
16	0	338.09	250	207	1.13	676.18	671	12	3.48E-02	13.1	
17	0	351.65*	564	206	1.34	703.30	696	15	7.84E-02	7.0	
18	0	462.97	61	135	1.20	925.94	919	12	8.47E-03	40.2	
19	0	510.84*	146	88	1.87	1021.68	1016	14	2.03E-02	18.8	
20	0	583.09*	364	119	1.48	1166.19	1159	15	5.05E-02	8.5	
21	0	609.13*	403	88	1.48	1218.25	1213	13	5.60E-02	7.0	
22	0	726.84*	95	76	1.11	1453.67	1447	14	1.32E-02	22.7	
23	0	794.93	82	31	1.65	1589.87	1584	13	1.14E-02	17.9	
24	0	910.80*	268	39	1.56	1821.60	1815	13	3.72E-02	7.9	
25	2	964.35	51	48	2.34	1928.69	1922	23	7.02E-03	31.8	1.37E+00
26	2	968.86*	149	27	2.04	1937.72	1922	23	2.07E-02	11.6	
27	0	1120.12	73	70	2.22	2240.25	2234	12	1.02E-02	25.5	
28	0	1377.87	36	23	1.71	2755.75	2750	15	4.93E-03	33.6	
29	0	1407.64	33	7	1.01	2815.29	2807	14	4.52E-03	24.7	
30	0	1460.64	1284	0	2.17	2921.27	2912	19	1.78E-01	2.8	
31	0	1764.81*	64	10	1.76	3529.62	3523	13	8.90E-03	16.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 15:13:32

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978013.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:11:39
Sample ID        : G245978013 Sample quantity : 134.68 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA6 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.37 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00
    
```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.485E+01	3.016E+00	4.135E-01	2.735E-02	84.276
CD-109	+	88.03	*	4.305E+00	1.219E+00	1.395E+00	1.377E-01	3.086
SN-126	+	64.28		1.774E+00	9.543E-01	1.042E+00	1.604E-01	1.702
	+	86.94		1.752E+00	8.647E-01	5.748E-01	2.392E-01	3.047
	+	87.57	*	4.213E-01	1.192E-01	1.372E-01	1.351E-02	3.070
TL-208		277.35		4.243E-01	4.697E-01	7.792E-01	8.299E-02	0.545
	+	510.84		7.841E-01	3.051E-01	2.426E-01	2.434E-02	3.233
	+	583.14	*	5.584E-01	1.015E-01	6.691E-02	4.229E-03	8.346
		860.37		5.715E-01	3.529E-01	6.547E-01	5.007E-02	0.873
BI-211		72.87		1.498E+01	4.690E+00	7.379E+00	6.625E-01	2.030
	+	351.07	*	3.749E+00	5.797E-01	3.824E-01	2.468E-02	9.804
PB-212	+	74.81		2.414E+00	6.181E-01	6.647E-01	8.641E-02	3.632
	+	77.11		2.049E+00	3.700E-01	3.749E-01	3.422E-02	5.465
	+	87.30		1.949E+00	5.849E-01	6.368E-01	8.923E-02	3.060
	+	238.63	*	1.737E+00	1.757E-01	1.051E-01	7.748E-03	16.523
		300.09		1.262E+00	9.912E-01	1.565E+00	1.310E-01	0.806
PO-212	+	74.81		2.414E+00	6.181E-01	6.647E-01	8.641E-02	3.632
	+	77.11		2.049E+00	3.700E-01	3.749E-01	3.422E-02	5.465
	+	87.30		1.949E+00	5.849E-01	6.368E-01	8.923E-02	3.060
		115.19		1.001E+00	4.410E+00	7.321E+00	4.832E-01	0.137
	+	238.63	*	1.737E+00	1.757E-01	1.051E-01	7.748E-03	16.523
		300.09		1.262E+00	9.912E-01	1.565E+00	1.310E-01	0.806
BI-214	+	609.31	*	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
	+	1120.29		1.119E+00	5.793E-01	6.369E-01	5.817E-02	1.757
	+	1764.49		1.345E+00	4.588E-01	3.595E-01	2.105E-02	3.741
PB-214	+	74.81		4.159E+00	1.038E+00	1.145E+00	1.338E-01	3.632
	+	77.11		3.512E+00	6.885E-01	6.426E-01	7.642E-02	5.465
	+	87.30		3.338E+00	9.792E-01	1.091E+00	1.362E-01	3.060
	+	241.98		1.998E+00	7.949E-01	6.330E-01	5.136E-02	3.156
	+	295.21		1.291E+00	2.803E-01	2.678E-01	2.315E-02	4.820
	+	351.92	*	1.304E+00	2.128E-01	1.333E-01	1.106E-02	9.783
PO-214	+	74.81		4.159E+00	1.038E+00	1.145E+00	1.338E-01	3.632
	+	77.11		3.512E+00	6.885E-01	6.426E-01	7.642E-02	5.465
	+	87.30		3.338E+00	9.792E-01	1.091E+00	1.362E-01	3.060

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		1.998E+00	7.949E-01	6.330E-01	5.136E-02	3.156
	+	295.21		1.291E+00	2.803E-01	2.678E-01	2.315E-02	4.820
	+	351.92	*	1.304E+00	2.128E-01	1.333E-01	1.106E-02	9.783
	+	74.81		2.414E+00	6.181E-01	6.647E-01	8.641E-02	3.632
	+	77.11		2.049E+00	3.700E-01	3.749E-01	3.422E-02	5.465
	+	87.30		1.949E+00	5.849E-01	6.368E-01	8.923E-02	3.060
PO-218	+	238.63	*	1.737E+00	1.757E-01	1.051E-01	7.748E-03	16.523
	+	300.09		1.262E+00	9.912E-01	1.565E+00	1.310E-01	0.806
	+	74.81		4.159E+00	1.038E+00	1.145E+00	1.338E-01	3.632
	+	77.11		3.512E+00	6.885E-01	6.426E-01	7.642E-02	5.465
	+	87.30		3.338E+00	9.792E-01	1.091E+00	1.362E-01	3.060
	+	241.98		1.998E+00	7.949E-01	6.330E-01	5.136E-02	3.156
RA-224	+	295.21		1.291E+00	2.803E-01	2.678E-01	2.315E-02	4.820
	+	351.92	*	1.304E+00	2.128E-01	1.333E-01	1.106E-02	9.783
	+	240.98	*	3.788E+00	1.492E+00	1.196E+00	7.011E-02	3.167
	+	609.31	*	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
	+	1120.29		1.119E+00	5.793E-01	6.369E-01	5.817E-02	1.757
	+	1764.49		1.345E+00	4.588E-01	3.595E-01	2.105E-02	3.741
AC-228	+	338.32		1.830E+00	8.874E-01	4.099E-01	1.672E-01	4.465
	+	911.07	*	1.845E+00	3.483E-01	2.278E-01	2.328E-02	8.101
	+	969.11		1.807E+00	5.876E-01	4.121E-01	9.398E-02	4.384
	+	338.32		1.830E+00	8.874E-01	4.099E-01	1.672E-01	4.465
	+	911.07	*	1.845E+00	3.483E-01	2.278E-01	2.328E-02	8.101
	+	969.11		1.807E+00	5.876E-01	4.121E-01	9.398E-02	4.384
TH-228	+	74.81		2.458E+00	5.866E-01	6.768E-01	6.162E-02	3.632
	+	77.11		2.086E+00	3.767E-01	3.817E-01	3.485E-02	5.465
	+	87.30		1.984E+00	5.615E-01	6.483E-01	6.365E-02	3.060
	+	238.63	*	1.768E+00	1.789E-01	1.070E-01	7.888E-03	16.523
	+	300.09		1.285E+00	1.257E+00	1.594E+00	9.396E-01	0.806
	+	609.31	*	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
TH-230	+	1120.29		1.119E+00	5.793E-01	6.369E-01	5.817E-02	1.757
	+	1764.49		1.345E+00	4.588E-01	3.594E-01	2.105E-02	3.741
	+	338.32		1.830E+00	4.920E-01	4.099E-01	2.411E-02	4.465
	+	911.07	*	1.845E+00	3.483E-01	2.278E-01	2.328E-02	8.101
	+	969.11		1.807E+00	5.876E-01	4.121E-01	9.398E-02	4.384
	+	63.29	*	4.481E+00	2.449E+00	2.673E+00	4.860E-01	1.676
TH-234	+	92.38		4.618E+00	1.200E+00	8.945E-01	1.638E-01	5.163
	+	609.31	*	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
	+	1120.29		1.119E+00	5.793E-01	6.369E-01	5.817E-02	1.757
	+	1764.49		1.345E+00	4.588E-01	3.594E-01	2.105E-02	3.741
	+	86.50	*	1.237E+00	4.334E-01	4.082E-01	9.316E-02	3.031
	+	95.87		-8.118E-01	1.285E+00	1.790E+00	4.407E-01	-0.453
U-238	+	63.29	*	4.481E+00	2.449E+00	2.673E+00	4.860E-01	1.676
	+	92.38		4.618E+00	9.499E-01	8.945E-01	8.132E-02	5.163
	+	74.67	*	3.914E-01	9.330E-02	1.081E-01	9.766E-03	3.619
	+	86.72		4.640E+01	1.313E+01	1.527E+01	1.491E+00	3.039
	+	117.66		-1.622E+00	4.561E+00	7.410E+00	4.750E-01	-0.219
	+	142.18		1.139E+01	2.066E+01	3.448E+01	1.969E+00	0.330
ANH-511	+	511.00	*	1.694E-01	6.437E-02	5.241E-02	2.930E-03	3.232

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	477.59	*		1.034E-01	3.552E-01	5.974E-01	3.946E-02	0.173
NA-22	1274.54	*		1.110E-02	5.483E-02	9.111E-02	5.626E-03	0.122
NA-24	1368.53	*		-5.273E+00	5.483E-02	Half-Life	too short	
AL-26	1129.67	*		4.951E-01	2.050E+00	3.439E+00	2.142E-01	0.144
	1808.65	*		3.434E-02	3.010E-02	6.087E-02	3.496E-03	0.564
TI-44	67.85	*		-5.047E-02	7.102E-02	9.387E-02	8.376E-03	-0.538
	78.38	*		3.047E-01	6.375E-02	8.968E-02	8.243E-03	3.398
SC-46	889.25	*		-2.065E-02	4.887E-02	7.843E-02	5.622E-03	-0.263
	+ 1120.51	*		1.962E-01	1.008E-01	1.510E-01	9.500E-03	1.299
V-48	944.10	*		-3.456E-01	1.248E+00	2.023E+00	1.444E-01	-0.171
	983.50	*		-5.602E-02	8.641E-02	1.333E-01	9.333E-03	-0.420
	1312.09	*		7.302E-02	1.041E-01	1.828E-01	1.141E-02	0.399
CR-51	320.08	*		-1.510E-02	4.498E-01	7.335E-01	4.833E-02	-0.021
MN-52	744.21	*		6.631E-02	4.293E-01	6.992E-01	3.988E-02	0.095
	848.13	*		7.957E+00	1.092E+01	1.934E+01	1.303E+00	0.411
	935.52	*		2.184E-01	3.997E-01	6.965E-01	4.990E-02	0.314
	1246.25	*		-1.585E+01	1.409E+01	2.067E+01	1.261E+00	-0.767
	1333.61	*		1.517E+00	8.821E+00	1.462E+01	9.185E-01	0.104
	1434.06	*		-1.183E-02	3.730E-01	6.002E-01	3.777E-02	-0.020
MN-54	834.83	*		-1.059E-02	4.777E-02	7.858E-02	5.186E-03	-0.135
CO-56	846.75	*		2.393E-02	4.698E-02	8.172E-02	5.494E-03	0.293
	977.42	*		1.738E+00	3.202E+00	5.384E+00	3.782E-01	0.323
	1037.82	*		4.835E-01	3.925E-01	7.137E-01	5.239E-02	0.677
	1175.09	*		-3.288E-02	2.974E+00	4.867E+00	2.882E-01	-0.007
	1238.25	*		1.860E-01	1.254E-01	2.247E-01	1.445E-02	0.828
	1360.21	*		-1.003E+00	1.200E+00	1.717E+00	1.080E-01	-0.584
	1771.40	*		-1.244E+00	4.458E-01	4.449E-01	2.597E-02	-2.797
CO-57	122.06	*		-2.551E-02	2.938E-02	4.661E-02	2.847E-03	-0.547
	136.48	*		1.777E-02	2.477E-01	4.071E-01	2.735E-02	0.044
CO-58	810.76	*		-6.273E-02	4.791E-02	7.104E-02	4.536E-03	-0.883
FE-59	142.65	*		2.443E+00	3.307E+00	5.556E+00	3.169E-01	0.440
	192.34	*		-5.890E-01	1.139E+00	1.798E+00	2.104E-01	-0.328
	1099.22	*		-1.218E-02	1.215E-01	1.981E-01	1.453E-02	-0.062
	1291.56	*		4.742E-02	1.490E-01	2.509E-01	1.942E-02	0.189
CO-60	1173.22	*		7.378E-03	5.753E-02	9.528E-02	5.637E-03	0.077
	1332.49	*		1.411E-02	4.710E-02	7.922E-02	4.977E-03	0.178
ZN-65	1115.52	*		-1.145E-02	1.240E-01	1.728E-01	1.095E-02	-0.066
GE-68	1077.35	*		6.342E-01	1.425E+00	2.446E+00	1.603E-01	0.259
AS-73	53.44	*		3.994E-01	1.191E+00	2.023E+00	1.850E-01	0.197
AS-74	595.88	*		-4.122E-02	1.149E-01	1.815E-01	9.651E-03	-0.227
	634.78	*		-1.539E-01	4.431E-01	6.967E-01	3.561E-02	-0.221
SE-75	66.05	*		-1.561E+00	6.744E+00	9.807E+00	1.050E+00	-0.159
	96.73	*		3.526E-01	1.031E+00	1.523E+00	2.060E-01	0.231
	121.11	*		-1.938E-01	1.595E-01	2.480E-01	2.347E-02	-0.782
	136.00	*		-5.846E-03	4.709E-02	7.682E-02	4.528E-03	-0.076
	198.60	*		9.232E-01	2.272E+00	3.626E+00	2.531E-01	0.255
	264.65	*		-3.577E-03	6.245E-02	8.662E-02	5.197E-03	-0.041
	279.53	*		3.246E-02	1.301E-01	2.218E-01	1.425E-02	0.146
	303.91	*		-1.852E+00	2.430E+00	3.918E+00	3.778E-01	-0.473

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	400.65		3.514E-01	3.146E-01	5.520E-01	4.945E-02	0.636
		87.88		2.178E+03	6.166E+02	9.694E+02	9.566E+01	2.247
		200.40		-1.639E+02	4.627E+02	7.365E+02	4.149E+01	-0.223
	+	239.00		6.560E+02	5.948E+01	9.968E+01	5.833E+00	6.581
		249.79		-1.238E+02	1.815E+02	2.799E+02	1.650E+01	-0.442
		281.68		-2.238E+02	2.448E+02	3.945E+02	2.355E+01	-0.567
		297.23		5.467E+02	1.974E+02	3.266E+02	1.951E+01	1.674
		303.76		-3.686E+02	4.777E+02	7.712E+02	4.603E+01	-0.478
		439.47		1.943E+02	3.948E+02	6.727E+02	3.785E+01	0.289
		484.57		1.250E+02	5.901E+02	9.860E+02	5.546E+01	0.127
		520.65	*	-2.580E+00	2.970E+01	4.839E+01	2.696E+00	-0.053
		574.64		-4.747E+02	6.137E+02	9.121E+02	4.933E+01	-0.520
		578.91		3.291E+02	2.611E+02	4.160E+02	2.243E+01	0.791
		585.48		3.823E+03	6.531E+02	1.268E+03	6.802E+01	3.015
		755.35		-1.022E+02	4.230E+02	6.633E+02	3.853E+01	-0.154
		817.79		-2.755E+01	3.673E+02	6.111E+02	3.927E+01	-0.045
SR-82		698.33		7.243E+00	4.403E+01	7.199E+01	3.795E+00	0.101
	*	776.49		-6.970E-01	4.918E-01	7.286E-01	4.383E-02	-0.957
RB-83		1395.20		5.146E+00	1.478E+01	2.498E+01	1.573E+00	0.206
	*	520.41		-8.834E-03	8.535E-02	1.389E-01	7.742E-03	-0.064
		529.64		3.904E-02	1.264E-01	2.116E-01	1.175E-02	0.184
		552.65		-2.077E-01	2.348E-01	3.566E-01	1.957E-02	-0.583
RB-84	*	881.50		-4.659E-02	8.393E-02	1.326E-01	9.396E-03	-0.351
KR-85	*	513.99		1.503E+01	8.841E+00	1.453E+01	8.114E-01	1.034
SR-85	*	513.99		7.947E-02	4.675E-02	7.682E-02	4.290E-03	1.034
RB-86	*	1076.63		-2.817E-01	1.034E+00	1.658E+00	1.087E-01	-0.170
Y-88	*	898.02		-4.439E-02	5.224E-02	8.048E-02	5.884E-03	-0.552
	*	1836.01		-3.152E-04	3.376E-02	5.568E-02	3.164E-03	-0.006
ZR-88	*	392.90		-7.281E-03	3.556E-02	5.837E-02	3.239E-03	-0.125
Y-91	*	1204.90		-1.396E+01	2.548E+01	3.975E+01	2.384E+00	-0.351
NB-94	*	702.63		1.155E-02	4.137E-02	6.818E-02	3.621E-03	0.169
		871.10		2.583E-03	3.989E-02	6.692E-02	4.668E-03	0.039
NB-95	*	765.79		9.447E-02	5.551E-02	9.992E-02	5.907E-03	0.945
NB-95M	*	235.69		6.783E-01	1.904E-01	3.078E-01	2.326E-02	2.203
ZR-95		724.18		1.256E-01	1.216E-01	1.894E-01	1.254E-02	0.663
	*	756.15		-2.928E-02	7.789E-02	1.203E-01	8.478E-03	-0.243
NB-97	*	657.90		-1.383E+00	7.789E-02	Half-Life	too short	
		1024.50		-1.764E+01	7.789E-02	Half-Life	too short	
ZR-97		254.15		-1.171E+02	7.789E-02	Half-Life	too short	
		355.39		4.848E+01	7.789E-02	Half-Life	too short	
	*	507.63		1.027E+02	7.789E-02	Half-Life	too short	
		602.52		8.984E-01	7.789E-02	Half-Life	too short	
		1021.30		1.423E+01	7.789E-02	Half-Life	too short	
		1147.95		4.568E+01	7.789E-02	Half-Life	too short	
		1362.66		-3.295E+01	7.789E-02	Half-Life	too short	
		1750.46		6.525E+01	7.789E-02	Half-Life	too short	
MO-99		140.51		-8.214E+01	6.826E+01	1.006E+02	2.709E+01	-0.817
		181.06		2.217E+01	4.749E+01	6.899E+01	1.176E+01	0.321
		366.43		4.174E+01	1.953E+02	3.297E+02	1.892E+01	0.127

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		1.217E+01	3.059E+01	5.076E+01	6.965E+00	0.240
	778.00			-6.740E+01	8.508E+01	1.338E+02	8.070E+00	-0.504
TC-99M	140.51	*		-1.887E+14	8.508E+01	Half-Life	too short	
RH-101	127.23			5.565E-02	4.423E-02	6.741E-02	4.025E-03	0.825
	198.01	*		3.130E-02	4.071E-02	6.590E-02	3.702E-03	0.475
	325.23			2.291E-01	2.935E-01	4.512E-01	2.675E-02	0.508
RH-102	418.52			-8.277E-02	3.157E-01	5.141E-01	2.879E-02	-0.161
	475.06	*		-8.847E-03	3.207E-02	5.177E-02	2.915E-03	-0.171
	631.29			3.219E-03	5.895E-02	9.614E-02	4.934E-03	0.033
	697.49			-2.547E-02	9.459E-02	1.494E-01	7.862E-03	-0.171
	766.84			2.448E-01	1.400E-01	2.518E-01	1.491E-02	0.972
	1046.59			8.222E-02	1.331E-01	2.321E-01	1.559E-02	0.354
	1112.84			1.663E-02	3.079E-01	4.377E-01	2.774E-02	0.038
RU-103	497.08	*		2.876E-03	4.671E-02	7.711E-02	9.685E-03	0.037
	+ 610.33			1.326E+01	2.747E+00	3.355E+00	5.106E-01	3.953
RH-106	+ 511.85			8.507E-01	3.233E-01	4.769E-01	2.666E-02	1.784
	621.84	*		2.593E-01	3.628E-01	6.215E-01	7.114E-02	0.417
	1050.47			-1.176E+00	2.894E+00	4.598E+00	3.081E-01	-0.256
RU-106	+ 511.85			8.507E-01	3.233E-01	4.769E-01	2.666E-02	1.784
	621.84	*		2.593E-01	3.618E-01	6.215E-01	3.223E-02	0.417
	1050.47			-1.176E+00	2.894E+00	4.598E+00	3.081E-01	-0.256
AG-108M	433.93	*		-1.330E-02	3.633E-02	5.861E-02	3.594E-03	-0.227
	614.37			4.353E-02	4.759E-02	7.372E-02	4.252E-03	0.591
	722.95			-5.387E-02	5.555E-02	6.712E-02	4.038E-03	-0.803
AG-110M	657.75	*		-2.596E-02	4.045E-02	6.185E-02	3.339E-03	-0.420
	677.61			1.662E-01	3.701E-01	6.202E-01	3.401E-02	0.268
	706.67			-4.076E-02	2.571E-01	4.092E-01	2.342E-02	-0.100
	763.93			-1.815E-01	2.138E-01	3.188E-01	1.991E-02	-0.569
	884.67			2.619E-02	5.671E-02	9.830E-02	7.326E-03	0.266
	937.48			-1.187E-01	1.287E-01	1.946E-01	1.466E-02	-0.610
	1384.27			3.794E-02	1.928E-01	2.788E-01	1.847E-02	0.136
IN-111	171.28			3.849E-01	2.364E+00	3.870E+00	2.104E-01	0.099
	245.39	*		2.775E+00	2.601E+00	3.926E+00	2.308E-01	0.707
IN-113M	391.69	*		4.824E-03	5.234E-02	8.747E-02	5.206E-03	0.055
SN-113	391.69	*		4.824E-03	5.234E-02	8.747E-02	5.206E-03	0.055
IN-114M	190.27	*		2.312E-01	2.372E-01	3.556E-01	1.979E-02	0.650
CD-115	260.90			-1.522E-04	2.372E-01	Half-Life	too short	
	492.35			4.378E-06	2.372E-01	Half-Life	too short	
	527.90	*		-2.503E-05	2.372E-01	Half-Life	too short	
SN-117M	156.02			-1.600E+00	3.265E+00	5.050E+00	2.790E-01	-0.317
	158.56	*		2.008E-02	7.453E-02	1.228E-01	6.746E-03	0.164
SB-122	563.90	*		3.638E-02	5.127E+00	8.376E+00	4.564E-01	0.004
	692.80			-1.443E+01	1.075E+02	1.717E+02	8.962E+00	-0.084
I-123	159.00	*		8.721E+01	1.075E+02	Half-Life	too short	
	528.96			4.417E+02	1.075E+02	Half-Life	too short	
TE-123M	159.00	*		1.066E-02	3.366E-02	5.557E-02	3.095E-03	0.192
I-124	602.71	*		2.841E-01	1.356E+00	1.952E+00	1.031E-01	0.146
	722.78			-8.932E+00	9.448E+00	1.147E+01	6.307E-01	-0.779
	1325.50			-3.452E+00	7.143E+01	1.155E+02	7.238E+00	-0.030

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25		4.973E+01	7.699E+01	1.173E+02	7.382E+00	0.424
		1509.49		3.284E+01	2.701E+01	5.137E+01	3.215E+00	0.639
		1691.02		1.019E+00	5.788E+00	9.971E+00	5.996E-01	0.102
		602.71		1.050E-02	5.013E-02	7.214E-02	3.815E-03	0.146
		645.85		1.625E-01	6.269E-01	1.037E+00	6.102E-02	0.157
		709.31		-9.147E-02	3.474E+00	5.589E+00	3.003E-01	-0.016
		713.82		-1.282E+00	2.079E+00	3.168E+00	3.167E-01	-0.405
		722.78		-4.786E-01	5.063E-01	6.145E-01	3.556E-02	-0.779
	+	968.20		1.924E+01	4.662E+00	8.470E+00	5.979E-01	2.271
		1045.16		-2.028E+00	3.096E+00	4.790E+00	3.222E-01	-0.423
		1325.50		-1.975E-01	4.088E+00	6.609E+00	4.143E-01	-0.030
		1368.21		-9.568E-01	2.236E+00	3.419E+00	4.144E-01	-0.280
SB-125		1436.60		3.910E+00	4.335E+00	7.955E+00	5.006E-01	0.491
		1691.02	*	1.288E-02	7.315E-02	1.260E-01	8.183E-03	0.102
		427.89	*	-2.409E-02	1.049E-01	1.710E-01	1.004E-02	-0.141
	+	463.38		6.381E-01	5.147E-01	6.480E-01	4.291E-02	0.985
		600.56		-4.061E-02	2.030E-01	3.252E-01	2.042E-02	-0.125
TE-125M		635.90		-2.521E-01	3.078E-01	4.625E-01	2.871E-02	-0.545
		109.28	*	-5.039E+00	1.175E+01	1.879E+01	1.710E+00	-0.268
I-126		388.63		1.706E-01	2.783E-01	4.787E-01	2.667E-02	0.356
		666.33	*	2.639E-01	2.607E-01	4.533E-01	2.257E-02	0.582
SB-126		753.82		9.943E-01	1.874E+00	3.161E+00	1.832E-01	0.315
		223.80		4.115E+00	5.643E+00	9.378E+00	5.417E-01	0.439
		278.60		3.043E+00	3.388E+00	5.926E+00	3.535E-01	0.513
	+	296.50		1.514E+01	3.149E+00	4.939E+00	2.950E-01	3.065
		414.70		2.294E-02	9.873E-02	1.661E-01	9.291E-03	0.138
		415.30		1.285E+00	8.126E+00	1.361E+01	7.615E-01	0.094
		555.20		-1.308E+00	5.289E+00	8.474E+00	4.643E-01	-0.154
		573.80		-1.113E+00	1.483E+00	2.282E+00	1.235E-01	-0.488
		593.00		3.602E-01	1.157E+00	1.934E+00	1.031E-01	0.186
		656.30		3.326E-01	4.334E+00	7.066E+00	3.515E-01	0.047
		666.33		1.110E-01	1.097E-01	1.907E-01	9.496E-03	0.582
		675.00		1.743E+00	2.784E+00	4.728E+00	2.392E-01	0.369
SB-127		695.00		-2.144E-02	1.082E-01	1.719E-01	9.007E-03	-0.125
		697.00		1.533E-02	3.796E-01	6.147E-01	3.233E-02	0.025
		720.50	*	8.478E-02	2.169E-01	3.161E-01	1.732E-02	0.268
		856.80		-2.851E-01	6.610E-01	1.064E+00	7.265E-02	-0.268
		989.30		2.755E-01	1.763E+00	2.961E+00	2.066E-01	0.093
		1034.80		5.956E-01	1.299E+01	2.154E+01	1.460E+00	0.028
		1213.00		1.691E+00	6.982E+00	1.164E+01	7.006E-01	0.145
		61.10		2.752E+02	1.414E+02	2.199E+02	2.732E+01	1.251
		252.40		7.330E+00	8.905E+00	1.402E+01	5.861E+00	0.523
		290.80		9.388E+00	4.486E+01	6.678E+01	6.916E+00	0.141
		411.60		1.481E+01	2.357E+01	4.038E+01	6.065E+00	0.367
		444.90		-5.297E+00	1.957E+01	3.175E+01	3.700E+00	-0.167
		473.00		-2.689E+00	3.240E+00	4.993E+00	5.997E-01	-0.539
		543.00		2.991E+01	3.179E+01	5.525E+01	7.508E+00	0.541
		603.60		3.507E+00	2.454E+01	3.504E+01	4.016E+00	0.100
		685.20	*	5.324E-01	2.614E+00	4.297E+00	4.364E-01	0.124

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		4.201E-01	3.088E+01	4.989E+01	7.484E+00	0.008
		722.20		-6.289E+01	6.795E+01	8.247E+01	8.319E+00	-0.763
		783.80		8.397E+00	6.675E+00	1.218E+01	1.432E+00	0.689
		57.60		-1.171E+01	9.313E+00	1.366E+01	1.258E+00	-0.857
		145.22		7.527E-01	8.380E-01	1.416E+00	8.020E-02	0.532
		172.10		-3.974E-02	1.457E-01	2.341E-01	1.274E-02	-0.170
I-131		202.84	*	-1.850E-02	6.331E-02	9.298E-02	5.253E-03	-0.199
		374.96		-4.699E-02	2.347E-01	3.862E-01	2.193E-02	-0.122
		80.18		2.691E+00	1.000E+01	1.084E+01	1.015E+00	0.248
		284.30		3.474E-01	2.165E+00	3.676E+00	2.438E-01	0.095
		364.48	*	-5.486E-02	1.656E-01	2.706E-01	1.748E-02	-0.203
		636.97		-1.056E+00	2.241E+00	3.484E+00	2.059E-01	-0.303
TE-132		722.89		-1.158E+01	1.205E+01	1.459E+01	8.200E-01	-0.794
		49.72		5.692E+00	5.346E+01	9.028E+01	1.058E+01	0.063
		111.76		-1.177E+01	6.800E+01	1.114E+02	1.165E+01	-0.106
		116.30		8.789E+00	6.338E+01	1.049E+02	1.072E+01	0.084
BA-133		228.16	*	-5.678E-01	1.486E+00	2.342E+00	3.511E-01	-0.242
		53.15		1.000E+00	5.100E+00	8.625E+00	7.873E-01	0.116
		79.62		1.178E+00	2.218E+00	2.446E+00	3.815E-01	0.482
		81.00		3.877E-03	1.642E-01	1.744E-01	2.840E-02	0.022
I-133		276.40		6.993E-01	4.800E-01	7.833E-01	1.021E-01	0.893
		302.84		-1.083E-01	1.651E-01	2.679E-01	3.146E-02	-0.404
		356.01	*	1.648E-02	5.456E-02	8.111E-02	9.376E-03	0.203
		383.85		-2.452E-03	3.535E-01	5.879E-01	6.333E-02	-0.004
	+	510.53		1.799E+01	3.535E-01	Half-Life	too short	
		529.87	*	4.805E-02	3.535E-01	Half-Life	too short	
		706.58		-7.990E-01	3.535E-01	Half-Life	too short	
		856.28		-6.271E+00	3.535E-01	Half-Life	too short	
		875.33		3.730E-01	3.535E-01	Half-Life	too short	
		1236.41		3.778E+00	3.535E-01	Half-Life	too short	
CS-134		1298.22		1.096E+00	3.535E-01	Half-Life	too short	
		475.35		-8.267E-02	2.079E+00	3.415E+00	1.923E-01	-0.024
		563.23		2.581E-01	4.082E-01	6.977E-01	3.894E-02	0.370
		569.32		4.659E-02	2.323E-01	3.846E-01	2.159E-02	0.121
		604.70		6.073E-03	4.057E-02	5.801E-02	3.081E-03	0.105
	+	795.84	*	1.839E-01	6.702E-02	1.037E-01	6.528E-03	1.773
CS-135		801.93		-5.133E-01	5.720E-01	7.530E-01	4.769E-02	-0.682
		1038.57		3.945E+00	4.705E+00	8.329E+00	5.631E-01	0.474
		1167.94		-7.350E-01	3.232E+00	5.194E+00	3.094E-01	-0.141
		1365.15		4.627E-01	1.384E+00	2.347E+00	1.601E-01	0.197
		268.24	*	3.718E-01	2.196E-01	3.381E-01	2.627E-02	1.100
		288.45		-4.769E+13	2.196E-01	Half-Life	too short	
I-135		417.63		-2.784E+13	2.196E-01	Half-Life	too short	
		546.56		-3.825E+12	2.196E-01	Half-Life	too short	
		836.80		2.798E+13	2.196E-01	Half-Life	too short	
		1038.76		1.431E+13	2.196E-01	Half-Life	too short	
		1124.00		9.765E+12	2.196E-01	Half-Life	too short	
		1131.51		-1.603E+13	2.196E-01	Half-Life	too short	
		1260.41	*	7.430E+12	2.196E-01	Half-Life	too short	

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		1.362E+15	2.196E-01	Half-Life	too short	
		1678.03		1.420E+12	2.196E-01	Half-Life	too short	
		1706.46		-5.346E+13	2.196E-01	Half-Life	too short	
		1791.20		7.007E+12	2.196E-01	Half-Life	too short	
		66.91		-8.150E-01	1.297E+00	1.846E+00	2.882E-01	-0.442
	+	86.29		6.417E+00	1.916E+00	2.757E+00	3.756E-01	2.327
		153.22		1.148E+00	9.314E-01	1.583E+00	1.114E-01	0.725
		163.89		3.925E-02	1.422E+00	2.318E+00	1.614E-01	0.017
		176.55		-3.963E-01	5.068E-01	7.951E-01	4.954E-02	-0.498
		273.65		-1.037E+00	7.872E-01	9.900E-01	6.691E-02	-1.047
		340.57		2.859E-01	1.956E-01	3.118E-01	1.945E-02	0.917
		818.51		-1.377E-02	1.040E-01	1.722E-01	1.110E-02	-0.080
		1048.07	*	2.223E-02	1.525E-01	2.549E-01	1.830E-02	0.087
		1235.34		-1.048E-01	9.567E-01	1.550E+00	1.573E-01	-0.068
BA-137M		661.65	*	-2.316E-02	4.169E-02	6.433E-02	3.177E-03	-0.360
CS-137		661.65	*	-2.449E-02	4.407E-02	6.800E-02	3.378E-03	-0.360
CE-139		165.85	*	-2.236E-02	3.508E-02	5.557E-02	3.005E-03	-0.402
BA-140		162.64		1.126E-01	1.009E+00	1.652E+00	1.026E-01	0.068
		304.84		-1.014E+00	1.711E+00	2.752E+00	7.519E-01	-0.369
		423.70		3.273E-01	2.548E+00	4.251E+00	1.350E+00	0.077
LA-140		537.32	*	4.927E-02	3.538E-01	5.845E-01	1.898E-01	0.084
	+	328.77		8.694E-01	6.920E-01	7.683E-01	5.072E-02	1.132
		432.53		-2.052E-01	2.693E+00	4.434E+00	2.769E-01	-0.046
		487.03		-1.460E-02	1.785E-01	2.919E-01	1.871E-02	-0.050
		751.79		3.407E-02	2.245E+00	3.613E+00	2.557E-01	0.009
		815.85		2.586E-01	4.307E-01	7.561E-01	5.815E-02	0.342
		867.82		7.617E-01	1.912E+00	3.294E+00	2.471E-01	0.231
		919.63		-5.662E-01	3.485E+00	5.701E+00	5.439E-01	-0.099
		925.24		-4.181E-01	1.363E+00	2.193E+00	1.718E-01	-0.191
		1596.49	*	5.001E-03	1.106E-01	1.858E-01	1.146E-02	0.027
CE-141		145.44	*	2.769E-02	7.719E-02	1.279E-01	7.548E-03	0.216
CE-143		57.37		-4.963E-03	7.719E-02	Half-Life	too short	
		231.56		-6.554E-03	7.719E-02	Half-Life	too short	
		293.26	*	4.464E-03	7.719E-02	Half-Life	too short	
	+	350.59		1.304E-01	7.719E-02	Half-Life	too short	
		490.36		4.136E-03	7.719E-02	Half-Life	too short	
		664.57		2.586E-03	7.719E-02	Half-Life	too short	
		721.93		-7.423E-03	7.719E-02	Half-Life	too short	
CE-144		80.11		1.091E+00	3.606E+00	3.918E+00	3.639E-01	0.279
		133.54	*	1.609E-01	2.749E-01	4.059E-01	5.772E-02	0.396
PM-144		476.78		1.854E-02	7.421E-02	1.244E-01	8.462E-03	0.149
		618.01		5.198E-03	3.724E-02	6.118E-02	3.422E-03	0.085
		696.49	*	7.167E-03	4.099E-02	6.711E-02	3.531E-03	0.107
		778.57		-2.934E-01	2.620E+00	4.359E+00	2.634E-01	-0.067
PR-144		696.49	*	4.864E-01	2.782E+00	4.554E+00	2.393E-01	0.107
		1489.15		-3.333E+00	1.248E+01	1.915E+01	1.201E+00	-0.174
PM-146		453.90	*	2.711E-02	5.048E-02	8.615E-02	7.332E-03	0.315
		633.02		-3.568E-03	1.477E+00	2.397E+00	8.802E-01	-0.001
		735.90		9.243E-03	1.852E-01	2.992E-01	8.331E-02	0.031

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	+	747.13		-6.471E-02	1.126E-01	1.713E-01	2.137E-02	-0.378
		91.11		2.796E+00	5.837E-01	8.491E-01	8.463E-02	3.293
		319.41		-2.726E-01	4.420E+00	7.389E+00	4.394E-01	-0.037
		439.89		1.477E+00	8.227E+00	1.376E+01	7.745E-01	0.107
		531.02	*	3.667E-01	7.828E-01	1.324E+00	1.776E-01	0.277
PM-149		285.90	*	2.387E-05	7.828E-01	Half-Life too short		
EU-152		121.78		-7.169E-02	8.479E-02	1.346E-01	1.057E-02	-0.533
		244.69		5.712E-01	3.943E-01	6.088E-01	3.577E-02	0.938
		344.27	*	5.933E-02	1.544E-01	1.855E-01	1.222E-02	0.320
		443.98		-5.027E-01	1.130E+00	1.813E+00	1.021E-01	-0.277
		778.89		-9.213E-02	2.959E-01	4.838E-01	2.922E-02	-0.190
		867.32		2.987E-02	9.974E-01	1.668E+00	1.157E-01	0.018
		964.01		7.070E-01	4.526E-01	6.637E-01	4.695E-02	1.065
		1085.78		-1.722E-01	4.518E-01	7.151E-01	4.652E-02	-0.241
		1112.02		-1.393E-01	4.231E-01	6.204E-01	3.936E-02	-0.225
		1407.95		4.427E-01	2.204E-01	3.743E-01	2.357E-02	1.182
GD-153	+	69.67		6.535E-02	2.334E+00	3.436E+00	3.067E-01	0.019
		83.37		4.016E+01	1.984E+01	2.893E+01	2.750E+00	1.388
		97.43	*	1.547E-01	1.022E-01	1.585E-01	1.325E-02	0.976
		103.18		-3.008E-02	1.230E-01	2.015E-01	1.548E-02	-0.149
EU-154		123.07		-1.728E-02	6.414E-02	9.635E-02	9.225E-03	-0.179
		247.94		-1.581E-01	4.394E-01	6.335E-01	6.079E-02	-0.250
		591.81		-8.024E-03	6.740E-01	1.067E+00	1.014E-01	-0.008
		723.30		-2.125E-01	2.414E-01	2.973E-01	2.034E-02	-0.715
		756.87		-1.747E-01	8.183E-01	1.286E+00	1.305E-01	-0.136
		873.19		-4.159E-01	3.655E-01	5.438E-01	6.070E-02	-0.765
		996.32		-4.700E-01	4.469E-01	6.545E-01	1.114E-01	-0.718
		1004.76		-5.014E-02	2.807E-01	4.575E-01	4.777E-02	-0.110
EU-155		1274.45	*	3.755E-02	1.536E-01	2.561E-01	2.452E-02	0.147
		48.70		-7.402E-01	3.694E+00	6.178E+00	5.173E-01	-0.120
		60.01		1.429E+00	7.087E+00	1.056E+01	9.673E-01	0.135
		86.54		5.080E-01	1.439E-01	2.161E-01	2.124E-02	2.351
TB-160	+	105.31	*	-8.812E-03	1.249E-01	2.058E-01	1.561E-02	-0.043
		86.79		1.394E+00	3.946E-01	5.924E-01	5.790E-02	2.353
		197.04		5.897E-01	7.062E-01	1.146E+00	6.429E-02	0.515
		215.65		2.235E-01	9.123E-01	1.487E+00	8.517E-02	0.150
		298.57		1.845E-01	1.499E-01	2.366E-01	1.413E-02	0.780
		879.36	*	-2.244E-02	1.651E-01	2.719E-01	1.921E-02	-0.083
		962.29		1.008E+00	7.288E-01	1.196E+00	8.469E-02	0.843
		966.15		1.319E+00	3.189E-01	6.279E-01	4.437E-02	2.101
		1177.93		1.770E-01	4.599E-01	7.782E-01	4.614E-02	0.227
		1271.85		4.051E-01	9.026E-01	1.536E+00	9.453E-02	0.264
HO-166M	+	80.57		3.399E-02	4.551E-01	4.855E-01	4.523E-02	0.070
		184.41		1.721E-01	5.182E-02	7.886E-02	4.356E-03	2.182
		280.46		-9.906E-02	9.865E-02	1.583E-01	9.449E-03	-0.626
		410.95		2.852E-01	2.796E-01	4.905E-01	2.741E-02	0.581
		711.68	*	2.134E-02	7.267E-02	1.200E-01	6.474E-03	0.178
		752.31		6.397E-04	3.088E-01	4.963E-01	2.869E-02	0.001
		810.29		-8.177E-02	7.086E-02	1.070E-01	6.795E-03	-0.764

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		51.35		-1.555E+01	4.470E+01	7.428E+01	6.661E+00	-0.209
		52.39		-3.863E+00	2.278E+01	3.808E+01	3.456E+00	-0.101
		59.40		-2.311E+01	3.876E+01	5.559E+01	5.109E+00	-0.416
		66.72	*	-9.576E+00	3.954E+01	5.748E+01	5.134E+00	-0.167
LU-176	+	88.36		6.970E-01	2.660E-01	4.469E-01	4.383E-02	1.560
		201.83		-2.724E-02	3.421E-02	5.333E-02	3.009E-03	-0.511
		306.84	*	-1.770E-02	2.747E-02	4.456E-02	2.658E-03	-0.397
		401.10		7.465E+00	8.014E+00	1.398E+01	7.785E-01	0.534
LU-177	+	112.95		2.436E+00	2.702E+00	4.582E+00	3.106E-01	0.532
		208.36	*	4.445E+00	2.427E+00	3.150E+00	1.791E-01	1.411
LU-177M	+	52.97		7.037E-03	2.354E+00	3.957E+00	3.608E-01	0.002
		54.07		6.042E-01	1.206E+00	2.056E+00	1.886E-01	0.294
		61.30		5.085E+00	2.194E+00	3.480E+00	3.164E-01	1.461
		121.62		-5.739E-01	4.465E-01	6.954E-01	4.259E-02	-0.825
		147.16		-1.142E+00	7.801E-01	1.198E+00	6.756E-02	-0.953
		171.86		-8.252E-02	5.651E-01	9.132E-01	4.968E-02	-0.090
		218.09		-6.420E-01	1.027E+00	1.606E+00	9.223E-02	-0.400
		268.79		2.434E+00	1.309E+00	1.774E+00	1.055E-01	1.372
		319.02		-4.982E-02	2.916E-01	4.846E-01	2.880E-02	-0.103
		367.43		1.351E-02	1.008E+00	1.681E+00	9.631E-02	0.008
		413.65	*	-8.179E-02	2.090E-01	3.382E-01	1.892E-02	-0.242
		56.28		-2.125E-01	1.334E+00	2.227E+00	2.050E-01	-0.095
HF-181		57.53		-7.425E-01	7.680E-01	1.144E+00	1.053E-01	-0.649
		65.20		2.068E-01	1.385E+00	2.049E+00	1.835E-01	0.101
		133.02		7.102E-02	9.035E-02	1.351E-01	7.915E-03	0.526
		136.25		-2.097E-02	5.669E-01	9.277E-01	5.383E-02	-0.023
		345.85		1.984E-01	2.637E-01	3.864E-01	2.260E-02	0.514
		482.03	*	-1.707E-03	4.914E-02	8.069E-02	4.540E-03	-0.021
W-181		56.28		-8.134E-02	5.060E-01	8.448E-01	7.777E-02	-0.096
		57.53		-2.817E-01	2.916E-01	4.345E-01	4.000E-02	-0.648
		65.20	*	7.789E-02	5.217E-01	7.718E-01	6.914E-02	0.101
TA-182		67.75		-1.191E-01	1.727E-01	2.286E-01	2.040E-02	-0.521
		100.10		1.746E-01	2.165E-01	3.563E-01	2.860E-02	0.490
		152.43		6.045E-01	4.114E-01	7.059E-01	3.932E-02	0.856
		222.10		-6.243E-03	4.266E-01	6.863E-01	3.958E-02	-0.009
		1001.68		3.847E+00	2.608E+00	4.794E+00	3.322E-01	0.802
		1121.28		5.384E-01	2.765E-01	4.100E-01	2.577E-02	1.313
		1189.05		1.052E-01	4.098E-01	6.849E-01	4.080E-02	0.154
		1221.42	*	2.428E-01	2.565E-01	4.498E-01	2.716E-02	0.540
RE-183		1230.97		6.988E-01	6.075E-01	1.080E+00	6.545E-02	0.647
		57.98		-3.271E-01	3.103E-01	4.340E-01	3.994E-02	-0.754
		59.32		-9.807E-02	1.638E-01	2.349E-01	2.159E-02	-0.418
		67.20		-1.644E-01	2.915E-01	4.175E-01	3.727E-02	-0.394
		162.32	*	-2.403E-02	1.316E-01	2.129E-01	1.159E-02	-0.113
		208.81		3.038E+00	1.659E+00	2.186E+00	1.243E-01	1.390
RE-184	+	291.72		-2.817E-03	1.217E+00	1.785E+00	1.067E-01	-0.002
		57.98		-1.185E+00	1.124E+00	1.572E+00	1.447E-01	-0.754
		59.32		-3.550E-01	5.928E-01	8.502E-01	7.815E-02	-0.418
		67.20		-5.953E-01	1.056E+00	1.512E+00	1.350E-01	-0.394

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		161.27		-3.890E-02	4.194E-01	6.808E-01	3.717E-02	-0.057
		216.55		-2.259E-01	3.192E-01	4.972E-01	2.851E-02	-0.454
		252.85	*	1.020E-01	2.729E-01	4.455E-01	2.631E-02	0.229
		318.01		-1.499E-01	4.959E-01	8.181E-01	4.864E-02	-0.183
		792.07		1.617E+00	1.235E+00	2.051E+00	1.265E-01	0.788
		903.28		6.980E-01	1.359E+00	2.140E+00	1.551E-01	0.326
		920.93		9.932E-02	4.589E-01	7.800E-01	5.620E-02	0.127
		59.72		-1.637E-02	4.291E-01	6.326E-01	5.805E-02	-0.026
		61.14		4.819E-01	2.402E-01	3.789E-01	3.448E-02	1.272
		69.30		2.172E-01	4.161E-01	6.246E-01	5.574E-02	0.348
		592.07		2.475E-01	2.719E+00	4.463E+00	2.381E-01	0.055
		646.12	*	5.802E-03	5.343E-02	8.735E-02	4.404E-03	0.066
		717.42		6.764E-01	1.078E+00	1.827E+00	9.958E-02	0.370
		874.81		-6.104E-02	6.853E-01	1.134E+00	7.953E-02	-0.054
		880.27		-3.067E-01	9.053E-01	1.463E+00	1.034E-01	-0.210
RE-188		155.03	*	7.222E-02	2.201E-01	3.519E-01	1.949E-02	0.205
		477.96		5.068E-01	3.432E+00	5.711E+00	3.215E-01	0.089
		633.10		1.400E-01	3.084E+00	5.025E+00	2.574E-01	0.028
W-188	+	63.58		1.854E+02	9.705E+01	1.235E+02	1.112E+01	1.501
		227.08		1.379E+00	1.538E+01	2.484E+01	1.439E+00	0.056
IR-192		290.67	*	2.266E+00	9.447E+00	1.409E+01	8.419E-01	0.161
	+	295.96		1.012E+00	2.107E-01	3.326E-01	2.017E-02	3.041
		308.46		-2.455E-02	1.078E-01	1.788E-01	1.078E-02	-0.137
AU-195		316.51	*	8.123E-04	3.928E-02	6.598E-02	3.944E-03	0.012
		468.07		5.715E-02	8.534E-02	1.299E-01	8.500E-03	0.440
		604.41		9.314E-02	5.630E-01	8.064E-01	8.944E-02	0.116
		612.46		1.481E+00	9.947E-01	1.592E+00	1.139E-01	0.930
		65.12		4.522E-02	2.408E-01	3.568E-01	3.196E-02	0.127
		66.83		-2.644E-02	1.318E-01	1.920E-01	1.715E-02	-0.138
	+	75.70		1.281E+00	3.053E-01	5.642E-01	5.117E-02	2.270
TL-200		98.88	*	2.708E-01	3.012E-01	4.557E-01	3.725E-02	0.594
	+	129.76		8.768E+00	4.461E+00	6.053E+00	3.583E-01	1.449
		367.94	*	-2.250E-03	4.461E+00	Half-Life	too short	
TL-201		579.30		4.558E-02	4.461E+00	Half-Life	too short	
		828.27		-2.140E-02	4.461E+00	Half-Life	too short	
		1205.75		-7.143E-03	4.461E+00	Half-Life	too short	
TL-202		68.90		8.432E+00	1.355E+01	1.913E+01	1.707E+00	0.441
		70.82		8.956E-01	7.393E+00	1.092E+01	9.759E-01	0.082
		80.30		3.400E+00	1.647E+01	1.776E+01	1.652E+00	0.191
		135.34		1.292E+01	5.862E+01	9.687E+01	5.635E+00	0.133
HG-203		167.43	*	1.876E+00	1.576E+01	2.578E+01	1.395E+00	0.073
		68.90		4.593E-01	7.382E-01	1.042E+00	9.298E-02	0.441
		70.82		4.865E-02	4.016E-01	5.930E-01	5.300E-02	0.082
		80.30		1.847E-01	8.950E-01	9.651E-01	8.976E-02	0.191
HG-203		439.56	*	4.496E-02	9.580E-02	1.630E-01	9.172E-03	0.276
		70.83		1.940E-01	1.540E+00	2.274E+00	3.140E-01	0.085
		72.87		3.112E+00	1.023E+00	1.533E+00	2.060E-01	2.030
	+	82.60		3.092E+00	1.563E+00	2.217E+00	3.166E-01	1.395
		279.20	*	1.412E-02	5.043E-02	8.606E-02	5.435E-03	0.164

Sample ID : G245978013

Acquisition date : 14-FEB-2010 13:11:39

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		8.044E-01	2.706E-01	4.253E-01	3.818E-02	1.891
	+	74.97		7.026E-01	1.675E-01	2.915E-01	2.636E-02	2.411
	+	84.90		5.151E-01	2.545E-01	3.980E-01	3.829E-02	1.294
		569.67		6.841E-03	3.668E-02	6.066E-02	3.293E-03	0.113
		1063.62	*	1.224E-02	6.057E-02	1.018E-01	6.747E-03	0.120
TL-207		1770.23		1.350E-01	5.739E-01	8.657E-01	5.057E-02	0.156
		81.07		1.302E-02	3.622E-01	3.851E-01	3.600E-02	0.034
	+	83.78		3.396E-01	1.678E-01	2.454E-01	2.340E-02	1.384
		94.90		2.954E-01	3.148E-01	4.754E-01	4.139E-02	0.621
		122.32		-1.285E+00	2.070E+00	3.197E+00	2.222E-01	-0.402
		144.24		1.272E+00	7.837E-01	1.351E+00	9.641E-02	0.941
		154.21		1.539E-01	5.006E-01	8.005E-01	5.448E-02	0.192
	+	269.46		5.627E-01	3.028E-01	4.161E-01	2.583E-02	1.352
		323.87	*	9.641E-02	8.387E-01	1.234E+00	2.044E-01	0.078
	+	338.28		7.643E+00	2.162E+00	2.869E+00	3.034E-01	2.664
		445.03		-7.279E-01	2.688E+00	4.362E+00	4.438E-01	-0.167
PO-209		260.50		-1.877E+00	1.187E+01	1.882E+01	1.116E+00	-0.100
		262.80		-3.328E+00	3.272E+01	5.204E+01	3.089E+00	-0.064
		896.60	*	-3.988E-01	8.670E+00	1.438E+01	1.042E+00	-0.028
		46.50	*	2.951E+00	5.568E+00	9.304E+00	7.661E-01	0.317
PB-210		46.50	*	2.951E+00	5.568E+00	9.304E+00	7.661E-01	0.317
PO-210		46.50	*	2.951E+00	5.567E+00	9.304E+00	6.721E-01	0.317
PB-211		404.84	*	-1.788E+00	1.580E+00	1.682E+00	1.048E+00	-1.063
		427.08		-1.660E-01	2.330E+00	3.837E+00	2.371E+00	-0.043
		831.96		2.671E-01	1.478E+00	2.490E+00	1.554E+00	0.107
BI-212	+	727.18	*	1.252E+00	5.763E-01	7.727E-01	5.811E-02	1.621
		785.46		4.817E-01	1.955E+00	3.343E+00	2.040E-01	0.144
		1620.62		1.730E+00	1.495E+00	2.872E+00	1.762E-01	0.602
PO-215		81.07		1.302E-02	3.622E-01	3.851E-01	3.600E-02	0.034
	+	83.78		3.396E-01	1.678E-01	2.454E-01	2.340E-02	1.384
		94.90		2.954E-01	3.148E-01	4.754E-01	4.139E-02	0.621
		122.32		-1.285E+00	2.070E+00	3.197E+00	2.222E-01	-0.402
		144.24		1.272E+00	7.837E-01	1.351E+00	9.641E-02	0.941
		154.21		1.539E-01	5.006E-01	8.005E-01	5.448E-02	0.192
	+	269.46		5.627E-01	3.028E-01	4.161E-01	2.583E-02	1.352
		323.87	*	9.641E-02	8.387E-01	1.234E+00	2.044E-01	0.078
	+	338.28		7.643E+00	2.162E+00	2.869E+00	3.034E-01	2.664
		445.03		-7.279E-01	2.688E+00	4.362E+00	4.438E-01	-0.167
	+	271.23		7.219E-01	3.904E-01	5.339E-01	4.386E-02	1.352
RN-219		401.81	*	2.728E-01	4.934E-01	8.426E-01	1.138E-01	0.324
RN-220		549.76	*	2.310E+01	2.914E+01	5.048E+01	2.775E+00	0.458
RA-223		81.07		1.302E-02	3.622E-01	3.851E-01	3.600E-02	0.034
	+	83.78		3.396E-01	1.678E-01	2.454E-01	2.340E-02	1.384
		94.90		2.954E-01	3.148E-01	4.754E-01	4.139E-02	0.621
		122.32		-1.285E+00	2.070E+00	3.197E+00	2.222E-01	-0.402
		144.24		1.272E+00	7.837E-01	1.351E+00	9.641E-02	0.941
		154.21		1.539E-01	5.006E-01	8.005E-01	5.448E-02	0.192
	+	269.46		5.627E-01	3.028E-01	4.161E-01	2.583E-02	1.352
		323.87	*	9.641E-02	8.387E-01	1.234E+00	2.044E-01	0.078

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227	+	338.28		7.643E+00	2.162E+00	2.869E+00	3.034E-01	2.664
		445.03		-7.279E-01	2.688E+00	4.362E+00	4.438E-01	-0.167
		79.80		1.122E+00	2.803E+00	3.059E+00	6.660E-01	0.367
		236.00		2.302E+00	4.362E-01	6.589E-01	6.901E-02	3.494
		256.20	*	9.424E-02	4.472E-01	7.235E-01	1.014E-01	0.130
		286.10		1.556E-01	1.707E+00	2.888E+00	3.364E-01	0.054
		299.80		2.150E+00	1.878E+00	2.908E+00	4.754E-01	0.739
TH-227		304.40		-1.744E+00	2.157E+00	3.444E+00	5.977E-01	-0.506
		334.20		-2.777E+00	4.652E+00	4.115E+00	7.556E-01	-0.675
		79.80		1.122E+00	2.803E+00	3.059E+00	6.743E-01	0.367
		94.00		1.471E+01	4.086E+00	4.805E+00	1.051E+00	3.061
		236.00		2.302E+00	4.194E-01	6.589E-01	5.984E-02	3.494
		256.20	*	9.424E-02	4.473E-01	7.235E-01	1.226E-01	0.130
		286.10		1.556E-01	1.714E+00	2.888E+00	2.894E+00	0.054
TH-229		299.80		2.150E+00	1.878E+00	2.908E+00	4.754E-01	0.739
		304.40		-1.744E+00	2.157E+00	3.444E+00	5.977E-01	-0.506
		334.20		-2.777E+00	4.652E+00	4.115E+00	7.556E-01	-0.675
	+	85.43		5.083E-01	2.512E-01	4.121E-01	3.982E-02	1.233
	+	88.47		4.012E-01	1.531E-01	2.549E-01	2.494E-02	1.574
		100.00		1.894E-01	2.213E-01	3.647E-01	2.932E-02	0.519
		193.63	*	-6.314E-01	5.989E-01	9.230E-01	5.157E-02	-0.684
PA-231		210.97		1.126E+00	1.073E+00	1.598E+00	9.113E-02	0.705
		283.67	*	9.442E-01	1.716E+00	2.959E+00	4.099E-01	0.319
TH-231		301.29		5.853E-01	7.122E-01	1.140E+00	1.203E-01	0.513
		81.07		1.302E-02	3.622E-01	3.851E-01	3.600E-02	0.034
	+	83.78		3.396E-01	1.678E-01	2.454E-01	2.340E-02	1.384
		94.90		2.954E-01	3.148E-01	4.754E-01	4.139E-02	0.621
		122.32		-1.285E+00	2.070E+00	3.197E+00	2.222E-01	-0.402
		144.24		1.272E+00	7.837E-01	1.351E+00	9.641E-02	0.941
		154.21		1.539E-01	5.006E-01	8.005E-01	5.448E-02	0.192
	+	269.46		5.627E-01	3.028E-01	4.161E-01	2.583E-02	1.352
		323.87	*	9.641E-02	8.387E-01	1.234E+00	2.044E-01	0.078
U-231	+	338.28		7.643E+00	2.162E+00	2.869E+00	3.034E-01	2.664
		445.03		-7.279E-01	2.688E+00	4.362E+00	4.438E-01	-0.167
	+	84.21		2.373E+01	1.172E+01	1.726E+01	1.651E+00	1.375
	+	92.29		2.859E+01	5.882E+00	8.434E+00	7.680E-01	3.391
		95.87	*	-1.493E+00	2.337E+00	3.292E+00	2.821E-01	-0.453
		108.00		-1.927E+00	3.905E+00	6.327E+00	4.560E-01	-0.305
	+	75.28		2.050E+01	5.537E+00	8.927E+00	1.392E+00	2.296
PA-233	+	86.59		8.248E+00	3.137E+00	3.502E+00	9.528E-01	2.355
		300.12		6.482E-01	5.165E-01	8.082E-01	1.092E-01	0.802
		311.98	*	5.090E-02	7.050E-02	1.227E-01	7.738E-03	0.415
		340.50		1.472E+00	8.894E-01	1.339E+00	3.078E-01	1.099
		398.62		6.986E-01	2.490E+00	4.192E+00	1.082E+00	0.167
		415.76		4.518E-02	1.833E+00	3.044E+00	6.249E-01	0.015
	+	63.00		5.223E+00	2.815E+00	3.620E+00	5.694E-01	1.443
PA-234		94.67		5.106E-01	2.337E-01	3.585E-01	4.477E-02	1.424
		98.44		2.070E-01	1.644E-01	1.850E-01	1.031E-01	1.119
		99.86		5.184E-01	5.619E-01	9.280E-01	7.476E-02	0.559

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-3.191E-03	2.288E-01	3.715E-01	4.069E-02	-0.009
		131.20		-3.712E-02	1.426E-01	2.024E-01	1.192E-02	-0.183
		152.70		6.164E-01	4.004E-01	6.712E-01	1.055E-01	0.918
	+	186.00		6.195E+00	2.633E+00	2.874E+00	8.766E-01	2.156
		226.40		1.832E-02	4.745E-01	7.647E-01	8.836E-02	0.024
		227.20		4.261E-02	5.043E-01	8.145E-01	4.720E-02	0.052
		248.90		-8.014E-01	9.452E-01	1.418E+00	3.051E-01	-0.565
	+	293.70		6.196E+00	1.589E+00	1.989E+00	3.211E-01	3.115
		369.80		-2.867E-02	9.520E-01	1.584E+00	3.294E-01	-0.018
		568.70		-2.132E-02	1.161E+00	1.893E+00	1.028E-01	-0.011
		569.50		4.504E-02	3.243E-01	5.346E-01	2.902E-02	0.084
		574.00		-1.488E+00	1.818E+00	2.781E+00	1.505E-01	-0.535
		699.00		-1.117E-02	8.724E-01	1.406E+00	2.506E-01	-0.008
		706.10		-1.500E-01	1.279E+00	2.040E+00	8.992E-01	-0.074
		733.00		1.517E-01	5.150E-01	7.386E-01	1.566E-01	0.205
		742.81		8.508E-01	1.808E+00	2.872E+00	1.922E+00	0.296
	+	796.30		3.565E+00	1.588E+00	1.964E+00	5.181E-01	1.815
		805.60		1.282E+00	1.269E+00	2.185E+00	6.572E-01	0.587
		819.60		-4.348E-01	1.481E+00	2.404E+00	9.037E-01	-0.181
		826.30		-5.618E-01	1.005E+00	1.551E+00	6.884E-01	-0.362
		831.60		-1.977E-02	7.611E-01	1.270E+00	3.724E-01	-0.016
		876.40		8.427E-01	1.275E+00	1.684E+00	1.729E+00	0.500
		880.51		-1.118E-01	3.147E-01	5.073E-01	3.589E-02	-0.220
		883.24		-2.963E-02	3.306E-01	5.457E-01	3.659E-01	-0.054
		899.00		-5.671E-01	1.066E+00	1.648E+00	7.163E-01	-0.344
		925.00		-1.717E-01	1.177E+00	1.927E+00	1.386E-01	-0.089
		926.50		1.582E-02	1.871E-01	3.136E-01	7.785E-02	0.050
		946.00	*	1.473E-01	3.700E-01	6.332E-01	1.148E-01	0.233
		949.00		3.916E-01	5.485E-01	9.630E-01	6.860E-02	0.407
		980.50		-9.471E-01	7.824E-01	1.121E+00	7.862E-02	-0.845
PA-234M		1394.10		1.365E+00	1.661E+00	2.559E+00	1.659E+00	0.534
		766.42		3.159E+01	2.126E+01	2.637E+01	1.328E+01	1.198
		1001.03	*	5.807E+00	5.771E+00	1.029E+01	8.792E-01	0.564
U-235	+	89.95		4.027E+00	1.946E+00	2.370E+00	7.374E-01	1.699
	+	93.35		5.552E+00	1.870E+00	1.600E+00	4.501E-01	3.469
		105.00		6.206E-01	1.230E+00	2.046E+00	6.043E-01	0.303
		143.76	*	3.373E-01	2.457E-01	4.126E-01	6.711E-02	0.817
		163.35		1.364E-01	5.386E-01	8.854E-01	1.582E-01	0.154
	+	185.71		2.294E-01	6.910E-02	1.065E-01	5.891E-03	2.155
		205.31		2.097E-01	6.739E-01	9.676E-01	1.736E-01	0.217
NP-236		94.67		3.920E-01	1.740E-01	2.724E-01	2.381E-02	1.439
		98.44		1.565E-01	8.947E-02	1.399E-01	1.151E-02	1.119
		111.00		-2.414E-03	1.731E-01	2.810E-01	1.950E-02	-0.009
		160.31	*	1.886E-02	9.195E-02	1.511E-01	8.267E-03	0.125
NP-239		99.55		2.151E-01	1.946E-01	3.115E-01	2.521E-02	0.690
		117.00	*	6.434E-02	2.296E-01	3.818E-01	2.466E-02	0.169
	+	209.75		2.328E+00	1.271E+00	1.673E+00	9.524E-02	1.392
		228.18		-1.014E-01	2.601E-01	4.102E-01	2.379E-02	-0.247
		277.60		2.365E-01	2.242E-01	3.757E-01	2.241E-02	0.629

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-1.614E+00	2.621E+00	2.324E+00	1.371E-01	-0.695
AM-241		59.54	*	-1.157E-01	2.246E-01	3.235E-01	3.162E-02	-0.358
CM-243		99.55		2.214E-01	2.003E-01	3.206E-01	2.594E-02	0.690
		103.76	*	9.114E-02	1.101E-01	1.870E-01	1.425E-02	0.487
		117.00		6.621E-02	2.362E-01	3.929E-01	2.538E-02	0.169
	+	209.75		2.296E+00	1.254E+00	1.649E+00	9.390E-02	1.392
		228.18		-1.024E-01	2.629E-01	4.146E-01	2.405E-02	-0.247
		277.60		2.384E-01	2.261E-01	3.788E-01	2.260E-02	0.629
AM-246		798.80		-1.979E-01	1.729E-01	2.105E-01	1.313E-02	-0.940
		1036.00		3.434E-02	3.742E-01	6.228E-01	4.218E-02	0.055
		1062.04		7.799E-02	2.694E-01	4.560E-01	3.028E-02	0.171
		1078.86	*	1.189E-01	1.569E-01	2.773E-01	1.815E-02	0.429
CM-247		278.00		8.257E-01	8.811E-01	1.543E+00	9.201E-02	0.535
		287.40		-3.648E-01	1.382E+00	2.298E+00	1.373E-01	-0.159
		402.60	*	2.399E-02	4.383E-02	7.500E-02	4.179E-03	0.320
CF-249		252.85		3.783E-01	1.012E+00	1.652E+00	9.756E-02	0.229
		333.44		-1.990E-01	3.428E-01	3.059E-01	1.805E-02	-0.650
		387.95	*	1.886E-02	4.681E-02	7.961E-02	4.440E-03	0.237
CF-251		176.60	*	-1.168E-01	1.497E-01	2.350E-01	1.286E-02	-0.497
		227.00		6.230E-02	4.481E-01	7.255E-01	4.203E-02	0.086
		285.00		3.249E-01	1.962E+00	3.332E+00	1.990E-01	0.098

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978013      *
* Acquisition date   : 14-FEB-2010 13:11:39 Detector SN#      :              *
* Detector ID        : GAM06                      Sensitivity    : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000        *
* Elapsed real time  : 0 02:00:01.37             Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245978013              Analyst initials: MXR1         *
* Batch Number       : 948721                  Sample Quantity : 1.3468E+02 GRAM *
* Recovery            : 1.00000                 Carrier Weight  : 0.00000        *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope        :
* MSD DPM             : 0.000                      MSD Isotope   :
* LCS DPM             : 0.000                      LCS Isotope   :
* LCSD DPM            : 0.000                      LCSD Isotope  :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.485E+01	2.956E+00	4.144E-01	0.000E+00
CD-109	4.305E+00	1.194E+00	1.470E+00	0.000E+00
SN-126	4.213E-01	1.169E-01	1.447E-01	0.000E+00
TL-208	5.584E-01	9.943E-02	6.820E-02	0.000E+00
BI-211	3.749E+00	5.681E-01	3.934E-01	0.000E+00
PB-212	1.737E+00	1.722E-01	1.089E-01	0.000E+00
PO-212	1.737E+00	1.722E-01	1.089E-01	0.000E+00
BI-214	1.167E+00	1.813E-01	1.277E-01	0.000E+00
PB-214	1.304E+00	2.086E-01	1.371E-01	0.000E+00
PO-214	1.304E+00	2.086E-01	1.371E-01	0.000E+00
PO-216	1.737E+00	1.722E-01	1.089E-01	0.000E+00
PO-218	1.304E+00	2.086E-01	1.371E-01	0.000E+00
RA-224	3.788E+00	1.462E+00	1.239E+00	0.000E+00
RA-226	1.167E+00	1.813E-01	1.277E-01	0.000E+00
AC-228	1.845E+00	3.413E-01	2.303E-01	0.000E+00
RA-228	1.845E+00	3.413E-01	2.303E-01	0.000E+00
TH-228	1.768E+00	1.753E-01	1.108E-01	0.000E+00
TH-230	1.167E+00	1.813E-01	1.277E-01	0.000E+00
TH-232	1.845E+00	3.413E-01	2.303E-01	0.000E+00
TH-234	4.481E+00	2.400E+00	2.833E+00	0.000E+00
U-234	1.167E+00	1.813E-01	1.277E-01	0.000E+00
NP-237	1.237E+00	4.247E-01	4.304E-01	0.000E+00
U-238	4.481E+00	2.400E+00	2.833E+00	0.000E+00
AM-243	3.914E-01	9.143E-02	1.143E-01	0.000E+00
ANH-511	1.694E-01	6.308E-02	5.355E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.034E-01	3.481E-01	6.111E-01	0.000E+00 NOT IDENT.
NA-22	1.110E-02	5.373E-02	9.154E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	2.292E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	3.434E-02	2.950E-02	6.075E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.248E-02	9.470E-02	0.000E+00	NOT IDENT.
SC-46	-2.065E-02	4.789E-02	7.933E-02	0.000E+00	FAIL ABUN
V-48	-5.602E-02	8.468E-02	1.346E-01	0.000E+00	NOT IDENT.
CR-51	-1.510E-02	4.408E-01	7.559E-01	0.000E+00	NOT IDENT.
MN-52	-1.183E-02	3.656E-01	6.017E-01	0.000E+00	NOT IDENT.
MN-54	-1.059E-02	4.681E-02	7.957E-02	0.000E+00	NOT IDENT.
CO-56	2.393E-02	4.604E-02	8.274E-02	0.000E+00	NOT IDENT.
CO-57	-2.551E-02	2.879E-02	4.885E-02	0.000E+00	NOT IDENT.
CO-58	-6.273E-02	4.695E-02	7.198E-02	0.000E+00	NOT IDENT.
FE-59	-1.218E-02	1.190E-01	1.996E-01	0.000E+00	NOT IDENT.
CO-60	1.411E-02	4.616E-02	7.953E-02	0.000E+00	NOT IDENT.
ZN-65	-1.145E-02	1.215E-01	1.741E-01	0.000E+00	NOT IDENT.
GE-68	6.342E-01	1.396E+00	2.465E+00	0.000E+00	NOT IDENT.
AS-73	3.994E-01	1.168E+00	2.150E+00	0.000E+00	NOT IDENT.
AS-74	-4.122E-02	1.126E-01	1.849E-01	0.000E+00	NOT IDENT.
SE-75	-3.577E-03	6.120E-02	8.956E-02	0.000E+00	NOT IDENT.
BR-77	-2.580E+00	2.910E+01	4.943E+01	0.000E+00	FAIL ABUN
SR-82	-6.970E-01	4.819E-01	7.388E-01	0.000E+00	NOT IDENT.
RB-83	-8.834E-03	8.365E-02	1.419E-01	0.000E+00	NOT IDENT.
RB-84	-4.659E-02	8.225E-02	1.342E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.664E+00	1.484E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.582E-02	7.849E-02	0.000E+00	NOT IDENT.
RB-86	-2.817E-01	1.013E+00	1.671E+00	0.000E+00	NOT IDENT.
Y-88	-3.152E-04	3.309E-02	5.556E-02	0.000E+00	NOT IDENT.
ZR-88	-7.281E-03	3.485E-02	5.993E-02	0.000E+00	NOT IDENT.
Y-91	-1.396E+01	2.497E+01	3.998E+01	0.000E+00	NOT IDENT.
NB-94	1.155E-02	4.054E-02	6.927E-02	0.000E+00	NOT IDENT.
NB-95	9.447E-02	5.440E-02	1.013E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.866E-01	3.189E-01	0.000E+00	NOT IDENT.
ZR-95	-2.928E-02	7.634E-02	1.220E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.959E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.228E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.217E+01	2.998E+01	5.151E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.582E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.130E-02	3.990E-02	6.849E-02	0.000E+00	NOT IDENT.
RH-102	-8.847E-03	3.143E-02	5.297E-02	0.000E+00	NOT IDENT.
RU-103	2.876E-03	4.577E-02	7.883E-02	0.000E+00	FAIL ABUN
RH-106	2.593E-01	3.555E-01	6.328E-01	0.000E+00	FAIL ABUN
RU-106	2.593E-01	3.546E-01	6.328E-01	0.000E+00	FAIL ABUN
AG-108M	-1.330E-02	3.561E-02	6.006E-02	0.000E+00	NOT IDENT.
AG-110M	-2.596E-02	3.964E-02	6.291E-02	0.000E+00	NOT IDENT.
IN-111	2.775E+00	2.549E+00	4.065E+00	0.000E+00	NOT IDENT.
IN-113M	4.824E-03	5.129E-02	8.981E-02	0.000E+00	NOT IDENT.
SN-113	4.824E-03	5.129E-02	8.981E-02	0.000E+00	NOT IDENT.
IN-114M	2.312E-01	2.325E-01	3.698E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.147E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.008E-02	7.304E-02	1.281E-01	0.000E+00	NOT IDENT.
SB-122	3.638E-02	5.024E+00	8.543E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.698E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.066E-02	3.299E-02	5.797E-02	0.000E+00	NOT IDENT.
I-124	2.841E-01	1.329E+00	1.988E+00	0.000E+00	NOT IDENT.
SB-124	1.288E-02	7.169E-02	1.259E-01	0.000E+00	FAIL ABUN
SB-125	-2.409E-02	1.028E-01	1.753E-01	0.000E+00	FAIL ABUN
TE-125M	-5.039E+00	1.152E+01	1.973E+01	0.000E+00	NOT IDENT.
I-126	2.639E-01	2.555E-01	4.609E-01	0.000E+00	NOT IDENT.
SB-126	8.478E-02	2.125E-01	3.210E-01	0.000E+00	FAIL ABUN
SB-127	5.324E-01	2.561E+00	4.367E+00	0.000E+00	NOT IDENT.
XE-127	-1.850E-02	6.204E-02	9.659E-02	0.000E+00	NOT IDENT.
I-131	-5.486E-02	1.623E-01	2.782E-01	0.000E+00	NOT IDENT.
TE-132	-5.678E-01	1.457E+00	2.428E+00	0.000E+00	NOT IDENT.
BA-133	1.648E-02	5.347E-02	8.342E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.134E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.568E-02	1.051E-01	0.000E+00	FAIL ABUN
CS-135	0.000E+00	2.152E-01	3.495E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.149E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.223E-02	1.494E-01	2.570E-01	0.000E+00	FAIL ABUN
BA-137M	-2.316E-02	4.086E-02	6.542E-02	0.000E+00	NOT IDENT.
CS-137	-2.449E-02	4.319E-02	6.916E-02	0.000E+00	NOT IDENT.
CE-139	-2.236E-02	3.438E-02	5.793E-02	0.000E+00	NOT IDENT.
BA-140	4.927E-02	3.467E-01	5.967E-01	0.000E+00	NOT IDENT.
LA-140	5.001E-03	1.084E-01	1.859E-01	0.000E+00	FAIL ABUN
CE-141	2.769E-02	7.565E-02	1.337E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.334E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.609E-01	2.694E-01	4.247E-01	0.000E+00	NOT IDENT.
PM-144	7.167E-03	4.018E-02	6.818E-02	0.000E+00	NOT IDENT.
PR-144	4.864E-01	2.727E+00	4.627E+00	0.000E+00	NOT IDENT.

PM-146	2.711E-02	4.947E-02	8.821E-02	0.000E+00	NOT IDENT.
ND-147	3.667E-01	7.671E-01	1.351E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.521E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	5.933E-02	1.513E-01	1.909E-01	0.000E+00	FAIL ABUN
GD-153	1.547E-01	1.002E-01	1.667E-01	0.000E+00	FAIL ABUN
EU-154	3.755E-02	1.505E-01	2.574E-01	0.000E+00	NOT IDENT.
EU-155	-8.812E-03	1.224E-01	2.162E-01	0.000E+00	FAIL ABUN
TB-160	-2.244E-02	1.618E-01	2.751E-01	0.000E+00	FAIL ABUN
HO-166M	2.134E-02	7.122E-02	1.219E-01	0.000E+00	FAIL ABUN
TM-171	-9.576E+00	3.875E+01	6.086E+01	0.000E+00	NOT IDENT.
LU-176	-1.770E-02	2.692E-02	4.595E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.379E+00	3.271E+00	0.000E+00	FAIL ABUN
LU-177M	-8.179E-02	2.048E-01	3.469E-01	0.000E+00	FAIL ABUN
HF-181	-1.707E-03	4.816E-02	8.253E-02	0.000E+00	NOT IDENT.
W-181	7.789E-02	5.113E-01	8.176E-01	0.000E+00	NOT IDENT.
TA-182	2.428E-01	2.514E-01	4.522E-01	0.000E+00	FAIL ABUN
RE-183	-2.403E-02	1.290E-01	2.220E-01	0.000E+00	FAIL ABUN
RE-184	1.020E-01	2.674E-01	4.610E-01	0.000E+00	NOT IDENT.
OS-185	5.802E-03	5.236E-02	8.887E-02	0.000E+00	NOT IDENT.
RE-188	7.222E-02	2.157E-01	3.673E-01	0.000E+00	NOT IDENT.
W-188	2.266E+00	9.258E+00	1.455E+01	0.000E+00	FAIL ABUN
IR-192	8.123E-04	3.850E-02	6.800E-02	0.000E+00	FAIL ABUN
AU-195	2.708E-01	2.951E-01	4.794E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.272E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.876E+00	1.545E+01	2.687E+01	0.000E+00	NOT IDENT.
TL-202	4.496E-02	9.389E-02	1.670E-01	0.000E+00	NOT IDENT.
HG-203	1.412E-02	4.942E-02	8.889E-02	0.000E+00	FAIL ABUN
BI-207	1.224E-02	5.936E-02	1.026E-01	0.000E+00	FAIL ABUN
TL-207	9.641E-02	8.220E-01	1.271E+00	0.000E+00	FAIL ABUN
PO-209	-3.988E-01	8.497E+00	1.454E+01	0.000E+00	NOT IDENT.
BI-210	2.951E+00	5.457E+00	9.912E+00	0.000E+00	NOT IDENT.
PB-210	2.951E+00	5.457E+00	9.912E+00	0.000E+00	NOT IDENT.
PO-210	2.951E+00	5.456E+00	9.912E+00	0.000E+00	NOT IDENT.
PB-211	-1.788E+00	1.548E+00	1.726E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.647E-01	7.844E-01	0.000E+00	FAIL ABUN
PO-215	9.641E-02	8.220E-01	1.271E+00	0.000E+00	FAIL ABUN
RN-219	2.728E-01	4.836E-01	8.647E-01	0.000E+00	FAIL ABUN
RN-220	2.310E+01	2.856E+01	5.152E+01	0.000E+00	NOT IDENT.
RA-223	9.641E-02	8.220E-01	1.271E+00	0.000E+00	FAIL ABUN
AC-227	9.424E-02	4.383E-01	7.485E-01	0.000E+00	NOT IDENT.
TH-227	9.424E-02	4.384E-01	7.485E-01	0.000E+00	NOT IDENT.
TH-229	-6.314E-01	5.869E-01	9.596E-01	0.000E+00	FAIL ABUN
PA-231	9.442E-01	1.682E+00	3.056E+00	0.000E+00	NOT IDENT.
TH-231	9.641E-02	8.220E-01	1.271E+00	0.000E+00	FAIL ABUN
U-231	-1.493E+00	2.290E+00	3.465E+00	0.000E+00	FAIL ABUN
PA-233	5.090E-02	6.909E-02	1.265E-01	0.000E+00	FAIL ABUN
PA-234	1.473E-01	3.626E-01	6.397E-01	0.000E+00	FAIL ABUN
PA-234M	5.807E+00	5.656E+00	1.038E+01	0.000E+00	NOT IDENT.
U-235	3.373E-01	2.408E-01	4.312E-01	0.000E+00	FAIL ABUN
NP-236	1.886E-02	9.011E-02	1.576E-01	0.000E+00	NOT IDENT.
NP-239	6.434E-02	2.250E-01	4.004E-01	0.000E+00	FAIL ABUN
AM-241	-1.157E-01	2.201E-01	3.432E-01	0.000E+00	NOT IDENT.
CM-243	9.114E-02	1.079E-01	1.966E-01	0.000E+00	FAIL ABUN
AM-246	1.189E-01	1.538E-01	2.795E-01	0.000E+00	NOT IDENT.
CM-247	2.399E-02	4.295E-02	7.697E-02	0.000E+00	NOT IDENT.
CF-249	1.886E-02	4.587E-02	8.175E-02	0.000E+00	NOT IDENT.
CF-251	-1.168E-01	1.467E-01	2.447E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:13:28.88

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978013.CNF;1
Sample date     : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:11:39
Sample ID       : G245978013 Sample quantity : 1.34680E+02 GRAM
Detector name   : GAM06 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.37 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID        : 948721 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1284	10.67*	9.624E-01	3.485E+01	3.485E+01	8.65
CD-109	88.03	288	3.72*	5.143E+00	4.191E+00	4.305E+00	28.30
SN-126	64.28	167	9.60	2.727E+00	1.774E+00	1.774E+00	53.81
	86.94	288	8.90	5.143E+00	1.752E+00	1.752E+00	49.37
	87.57	288	37.00*	5.143E+00	4.213E-01	4.213E-01	28.30
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	146	21.60	2.406E+00	7.841E-01	7.841E-01	38.91
	583.14	364	84.20*	2.158E+00	5.584E-01	5.584E-01	18.17
	860.37	-----	12.46	1.539E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	564	12.94*	3.243E+00	3.749E+00	3.749E+00	15.46
PB-212	74.81	379	10.70	4.092E+00	2.414E+00	2.414E+00	25.61
	77.11	572	18.00	4.325E+00	2.049E+00	2.049E+00	18.06
	87.30	288	8.00	5.143E+00	1.949E+00	1.949E+00	30.02
	238.63	1213	44.60*	4.367E+00	1.737E+00	1.737E+00	10.12
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PO-212	74.81	379	10.70	4.092E+00	2.414E+00	2.414E+00	25.61
	77.11	572	18.00	4.325E+00	2.049E+00	2.049E+00	18.06
	87.30	288	8.00	5.143E+00	1.949E+00	1.949E+00	30.02
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	1213	44.60*	4.367E+00	1.737E+00	1.737E+00	10.12
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
BI-214	609.31	403	46.30*	2.080E+00	1.167E+00	1.167E+00	15.86
	1120.29	73	15.10	1.211E+00	1.119E+00	1.119E+00	51.78
	1764.49	64	15.80	8.403E-01	1.345E+00	1.345E+00	34.12
PB-214	74.81	379	6.21	4.092E+00	4.159E+00	4.159E+00	24.96
	77.11	572	10.50	4.325E+00	3.512E+00	3.512E+00	19.60
	87.30	288	4.67	5.143E+00	3.338E+00	3.338E+00	29.33
	241.98	232	7.49	4.329E+00	1.998E+00	1.998E+00	39.78
	295.21	331	19.20	3.718E+00	1.291E+00	1.291E+00	21.72
	351.92	564	37.20*	3.243E+00	1.304E+00	1.304E+00	16.32
PO-214	74.81	379	6.21	4.092E+00	4.159E+00	4.159E+00	24.96

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	572	10.50	4.325E+00	3.512E+00	3.512E+00	19.60
	87.30	288	4.67	5.143E+00	3.338E+00	3.338E+00	29.33
	241.98	232	7.49	4.329E+00	1.998E+00	1.998E+00	39.78
	295.21	331	19.20	3.718E+00	1.291E+00	1.291E+00	21.72
	351.92	564	37.20*	3.243E+00	1.304E+00	1.304E+00	16.32
PO-216	74.81	379	10.70	4.092E+00	2.414E+00	2.414E+00	25.61
	77.11	572	18.00	4.325E+00	2.049E+00	2.049E+00	18.06
	87.30	288	8.00	5.143E+00	1.949E+00	1.949E+00	30.02
	238.63	1213	44.60*	4.367E+00	1.737E+00	1.737E+00	10.12
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PO-218	74.81	379	6.21	4.092E+00	4.159E+00	4.159E+00	24.96
	77.11	572	10.50	4.325E+00	3.512E+00	3.512E+00	19.60
	87.30	288	4.67	5.143E+00	3.338E+00	3.338E+00	29.33
	241.98	232	7.49	4.329E+00	1.998E+00	1.998E+00	39.78
	295.21	331	19.20	3.718E+00	1.291E+00	1.291E+00	21.72
	351.92	564	37.20*	3.243E+00	1.304E+00	1.304E+00	16.32
RA-224	240.98	232	3.95*	4.329E+00	3.788E+00	3.788E+00	39.39
RA-226	609.31	403	46.30*	2.080E+00	1.167E+00	1.167E+00	15.86
	1120.29	73	15.10	1.211E+00	1.119E+00	1.119E+00	51.78
	1764.49	64	15.80	8.403E-01	1.345E+00	1.345E+00	34.12
AC-228	338.32	250	11.40	3.344E+00	1.830E+00	1.830E+00	48.49
	911.07	268	27.70*	1.462E+00	1.845E+00	1.845E+00	18.87
	969.11	149	16.60	1.382E+00	1.807E+00	1.807E+00	32.52
RA-228	338.32	250	11.40	3.344E+00	1.830E+00	1.830E+00	48.49
	911.07	268	27.70*	1.462E+00	1.845E+00	1.845E+00	18.87
	969.11	149	16.60	1.382E+00	1.807E+00	1.807E+00	32.52
TH-228	74.81	379	10.70	4.092E+00	2.414E+00	2.414E+00	23.87
	77.11	572	18.00	4.325E+00	2.049E+00	2.049E+00	18.06
	87.30	288	8.00	5.143E+00	1.949E+00	1.949E+00	28.30
	238.63	1213	44.60*	4.367E+00	1.737E+00	1.737E+00	10.12
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
TH-230	609.31	403	46.30*	2.080E+00	1.167E+00	1.167E+00	15.86
	1120.29	73	15.10	1.211E+00	1.119E+00	1.119E+00	51.78
	1764.49	64	15.80	8.403E-01	1.345E+00	1.345E+00	34.12
TH-232	338.32	250	11.40	3.344E+00	1.830E+00	1.830E+00	26.88
	911.07	268	27.70*	1.462E+00	1.845E+00	1.845E+00	18.87
	969.11	149	16.60	1.382E+00	1.807E+00	1.807E+00	32.52
TH-234	63.29	167	3.80*	2.727E+00	4.481E+00	4.481E+00	54.66
	92.38	489	5.41	5.458E+00	4.618E+00	4.618E+00	26.00
U-234	609.31	403	46.30*	2.080E+00	1.167E+00	1.167E+00	15.86
	1120.29	73	15.10	1.211E+00	1.119E+00	1.119E+00	51.78
	1764.49	64	15.80	8.403E-01	1.345E+00	1.345E+00	34.12
NP-237	86.50	288	12.60*	5.143E+00	1.237E+00	1.237E+00	35.03
	95.87	-----	2.60	5.611E+00	-----	Line Not Found	-----
U-238	63.29	167	3.80*	2.727E+00	4.481E+00	4.481E+00	54.66
	92.38	489	5.41	5.458E+00	4.618E+00	4.618E+00	20.57
AM-243	74.67	379	66.00*	4.092E+00	3.914E-01	3.914E-01	23.84
	86.72	288	0.34	5.143E+00	4.640E+01	4.640E+01	28.30
	117.66	-----	0.55	6.042E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
ANH-511	511.00	146	100.00*	2.406E+00	1.694E-01	1.694E-01	38.00

Flag: "*" = Keyline

Total number of lines in spectrum 31
Number of unidentified lines 1
Number of lines tentatively identified by NID 30 96.77%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.485E+01	3.485E+01	0.302E+01	8.65	
CD-109	464.00D	1.03	4.191E+00	4.305E+00	1.219E+00	28.30	
SN-126	1.00E+05Y	1.00	4.213E-01	4.213E-01	1.192E-01	28.30	
TL-208	1.41E+10Y	1.00	5.584E-01	5.584E-01	1.015E-01	18.17	
BI-211	7.04E+08Y	1.00	3.749E+00	3.749E+00	0.580E+00	15.46	
PB-212	1.41E+10Y	1.00	1.737E+00	1.737E+00	0.176E+00	10.12	
PO-212	1.41E+10Y	1.00	1.737E+00	1.737E+00	0.176E+00	10.12	
BI-214	1600.00Y	1.00	1.167E+00	1.167E+00	0.185E+00	15.86	
PB-214	1600.00Y	1.00	1.304E+00	1.304E+00	0.213E+00	16.32	
PO-214	1600.00Y	1.00	1.304E+00	1.304E+00	0.213E+00	16.32	
PO-216	1.41E+10Y	1.00	1.737E+00	1.737E+00	0.176E+00	10.12	
PO-218	1600.00Y	1.00	1.304E+00	1.304E+00	0.213E+00	16.32	
RA-224	1.41E+10Y	1.00	3.788E+00	3.788E+00	1.492E+00	39.39	
RA-226	1600.00Y	1.00	1.167E+00	1.167E+00	0.185E+00	15.86	
AC-228	1.41E+10Y	1.00	1.845E+00	1.845E+00	0.348E+00	18.87	
RA-228	1.41E+10Y	1.00	1.845E+00	1.845E+00	0.348E+00	18.87	
TH-228	1.91Y	1.02	1.737E+00	1.768E+00	0.179E+00	10.12	
TH-230	4.47E+09Y	1.00	1.167E+00	1.167E+00	0.185E+00	15.86	
TH-232	1.41E+10Y	1.00	1.845E+00	1.845E+00	0.348E+00	18.87	
TH-234	4.47E+09Y	1.00	4.481E+00	4.481E+00	2.449E+00	54.66	
U-234	4.47E+09Y	1.00	1.167E+00	1.167E+00	0.185E+00	15.86	
NP-237	2.14E+06Y	1.00	1.237E+00	1.237E+00	0.433E+00	35.03	
U-238	4.47E+09Y	1.00	4.481E+00	4.481E+00	2.449E+00	54.66	
AM-243	7380.00Y	1.00	3.914E-01	3.914E-01	0.933E-01	23.84	
ANH-511	1.00E+09Y	1.00	1.694E-01	1.694E-01	0.644E-01	38.00	
Total Activity :			7.938E+01	7.953E+01			

Grand Total Activity : 7.938E+01 7.953E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	84.10	149	385	1.40	168.20	164	29	2.07E-02	48.5	4.94E+00	T
1	89.54	207	376	1.41	179.08	164	29	2.87E-02	36.9	5.30E+00	T
0	128.87	143	357	1.44	257.73	253	9	1.99E-02	50.5	6.02E+00	T
0	185.61	230	254	1.25	371.22	367	9	3.20E-02	29.6	5.18E+00	T
0	208.78	130	320	1.07	417.56	413	10	1.80E-02	54.3	4.80E+00	T
0	269.86	109	213	1.84	539.72	535	10	1.52E-02	53.5	3.98E+00	T
0	327.53	82	232	1.56	655.05	650	13	1.14E-02	79.3	3.43E+00	T
0	462.97	61	135	1.20	925.94	919	12	8.47E-03	80.4	2.61E+00	T
0	726.84	95	76	1.11	1453.67	1447	14	1.32E-02	45.4	1.79E+00	T
0	794.93	82	31	1.65	1589.87	1584	13	1.14E-02	35.9	1.65E+00	T
2	964.35	51	48	2.34	1928.69	1922	23	7.02E-03	63.6	1.39E+00	T
0	1377.87	36	23	1.71	2755.75	2750	15	4.93E-03	67.2	1.01E+00	
0	1407.64	33	7	1.01	2815.29	2807	14	4.52E-03	49.4	9.92E-01	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978013.CNF;1
* Acquisition date   : 14-FEB-2010 13:11:39  Detector SN#      :
* Detector ID        : GAM06                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.37          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245978013            Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity : 1.34680E+02 GRAM
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS Isotope      :
* MSD ID              :                          MSD Isotope   :
* LCS ID              : 1032-A                    LCS Isotope   :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.485E+01	3.016E+00	4.135E-01	2.735E-02	84.276
CD-109	4.305E+00	1.219E+00	1.395E+00	1.377E-01	3.086
SN-126	4.213E-01	1.192E-01	1.372E-01	1.351E-02	3.070
TL-208	5.584E-01	1.015E-01	6.691E-02	4.229E-03	8.346
BI-211	3.749E+00	5.797E-01	3.824E-01	2.468E-02	9.804
PB-212	1.737E+00	1.757E-01	1.051E-01	7.748E-03	16.523
PO-212	1.737E+00	1.757E-01	1.051E-01	7.748E-03	16.523
BI-214	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
PB-214	1.304E+00	2.128E-01	1.333E-01	1.106E-02	9.783
PO-214	1.304E+00	2.128E-01	1.333E-01	1.106E-02	9.783
PO-216	1.737E+00	1.757E-01	1.051E-01	7.748E-03	16.523
PO-218	1.304E+00	2.128E-01	1.333E-01	1.106E-02	9.783
RA-224	3.788E+00	1.492E+00	1.196E+00	7.011E-02	3.167
RA-226	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
AC-228	1.845E+00	3.483E-01	2.278E-01	2.328E-02	8.101
RA-228	1.845E+00	3.483E-01	2.278E-01	2.328E-02	8.101
TH-228	1.768E+00	1.789E-01	1.070E-01	7.888E-03	16.523
TH-230	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.845E+00	3.483E-01	2.278E-01	2.328E-02	8.101
TH-234	4.481E+00	2.449E+00	2.673E+00	4.860E-01	1.676
U-234	1.167E+00	1.850E-01	1.253E-01	9.249E-03	9.308
NP-237	1.237E+00	4.334E-01	4.082E-01	9.316E-02	3.031
U-238	4.481E+00	2.449E+00	2.673E+00	4.860E-01	1.676
AM-243	3.914E-01	9.330E-02	1.081E-01	9.766E-03	3.619
ANH-511	1.694E-01	6.437E-02	5.241E-02	2.930E-03	3.232

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.034E-01		3.552E-01	5.974E-01	3.946E-02	0.173
NA-22	1.110E-02		5.483E-02	9.111E-02	5.626E-03	0.122
NA-24	-5.273E+00		1.169E+01	Half-Life too short		
AL-26	3.434E-02		3.010E-02	6.087E-02	3.496E-03	0.564
TI-44	3.047E-01		6.375E-02	8.968E-02	8.243E-03	3.398
SC-46	-2.065E-02		4.887E-02	7.843E-02	5.622E-03	-0.263
V-48	-5.602E-02		8.641E-02	1.333E-01	9.333E-03	-0.420
CR-51	-1.510E-02		4.498E-01	7.335E-01	4.833E-02	-0.021
MN-52	-1.183E-02		3.730E-01	6.002E-01	3.777E-02	-0.020
MN-54	-1.059E-02		4.777E-02	7.858E-02	5.186E-03	-0.135
CO-56	2.393E-02		4.698E-02	8.172E-02	5.494E-03	0.293
CO-57	-2.551E-02		2.938E-02	4.661E-02	2.847E-03	-0.547
CO-58	-6.273E-02		4.791E-02	7.104E-02	4.536E-03	-0.883
FE-59	-1.218E-02		1.215E-01	1.981E-01	1.453E-02	-0.062
CO-60	1.411E-02		4.710E-02	7.922E-02	4.977E-03	0.178
ZN-65	-1.145E-02		1.240E-01	1.728E-01	1.095E-02	-0.066
GE-68	6.342E-01		1.425E+00	2.446E+00	1.603E-01	0.259
AS-73	3.994E-01		1.191E+00	2.023E+00	1.850E-01	0.197
AS-74	-4.122E-02		1.149E-01	1.815E-01	9.651E-03	-0.227
SE-75	-3.577E-03		6.245E-02	8.662E-02	5.197E-03	-0.041
BR-77	-2.580E+00		2.970E+01	4.839E+01	2.696E+00	-0.053
SR-82	-6.970E-01		4.918E-01	7.286E-01	4.383E-02	-0.957
RB-83	-8.834E-03		8.535E-02	1.389E-01	7.742E-03	-0.064
RB-84	-4.659E-02		8.393E-02	1.326E-01	9.396E-03	-0.351
KR-85	1.503E+01		8.841E+00	1.453E+01	8.114E-01	1.034
SR-85	7.947E-02		4.675E-02	7.682E-02	4.290E-03	1.034
RB-86	-2.817E-01		1.034E+00	1.658E+00	1.087E-01	-0.170
Y-88	-3.152E-04		3.376E-02	5.568E-02	3.164E-03	-0.006
ZR-88	-7.281E-03		3.556E-02	5.837E-02	3.239E-03	-0.125
Y-91	-1.396E+01		2.548E+01	3.975E+01	2.384E+00	-0.351
NB-94	1.155E-02		4.137E-02	6.818E-02	3.621E-03	0.169
NB-95	9.447E-02		5.551E-02	9.992E-02	5.907E-03	0.945
NB-95M	6.783E-01		1.904E-01	3.078E-01	2.326E-02	2.203
ZR-95	-2.928E-02		7.789E-02	1.203E-01	8.478E-03	-0.243
NB-97	-1.383E+00		9.997E-01	Half-Life too short		
ZR-97	1.027E+02		2.157E+01	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1.217E+01		3.059E+01	5.076E+01	6.965E+00	0.240
TC-99M	-1.887E+14		8.071E+13	Half-Life too short		
RH-101	3.130E-02		4.071E-02	6.590E-02	3.702E-03	0.475
RH-102	-8.847E-03		3.207E-02	5.177E-02	2.915E-03	-0.171
RU-103	2.876E-03		4.671E-02	7.711E-02	9.685E-03	0.037
RH-106	2.593E-01		3.628E-01	6.215E-01	7.114E-02	0.417
RU-106	2.593E-01		3.618E-01	6.215E-01	3.223E-02	0.417
AG-108M	-1.330E-02		3.633E-02	5.861E-02	3.594E-03	-0.227
AG-110M	-2.596E-02		4.045E-02	6.185E-02	3.339E-03	-0.420
IN-111	2.775E+00		2.601E+00	3.926E+00	2.308E-01	0.707
IN-113M	4.824E-03		5.234E-02	8.747E-02	5.206E-03	0.055
SN-113	4.824E-03		5.234E-02	8.747E-02	5.206E-03	0.055
IN-114M	2.312E-01		2.372E-01	3.556E-01	1.979E-02	0.650
CD-115	-2.503E-05		1.606E-05	Half-Life too short		
SN-117M	2.008E-02		7.453E-02	1.228E-01	6.746E-03	0.164
SB-122	3.638E-02		5.127E+00	8.376E+00	4.564E-01	0.004
I-123	8.721E+01		1.377E+02	Half-Life too short		
TE-123M	1.066E-02		3.366E-02	5.557E-02	3.095E-03	0.192
I-124	2.841E-01		1.356E+00	1.952E+00	1.031E-01	0.146
SB-124	1.288E-02		7.315E-02	1.260E-01	8.183E-03	0.102
SB-125	-2.409E-02		1.049E-01	1.710E-01	1.004E-02	-0.141
TE-125M	-5.039E+00		1.175E+01	1.879E+01	1.710E+00	-0.268
I-126	2.639E-01		2.607E-01	4.533E-01	2.257E-02	0.582
SB-126	8.478E-02		2.169E-01	3.161E-01	1.732E-02	0.268
SB-127	5.324E-01		2.614E+00	4.297E+00	4.364E-01	0.124
XE-127	-1.850E-02		6.331E-02	9.298E-02	5.253E-03	-0.199
I-131	-5.486E-02		1.656E-01	2.706E-01	1.748E-02	-0.203
TE-132	-5.678E-01		1.486E+00	2.342E+00	3.511E-01	-0.242
BA-133	1.648E-02		5.456E-02	8.111E-02	9.376E-03	0.203
I-133	4.805E-02		3.640E-02	Half-Life too short		
CS-134	1.839E-01	+	6.702E-02	1.037E-01	6.528E-03	1.773
CS-135	3.718E-01		2.196E-01	3.381E-01	2.627E-02	1.100
I-135	7.430E+12		5.862E+12	Half-Life too short		
CS-136	2.223E-02		1.525E-01	2.549E-01	1.830E-02	0.087
BA-137M	-2.316E-02		4.169E-02	6.433E-02	3.177E-03	-0.360
CS-137	-2.449E-02		4.407E-02	6.800E-02	3.378E-03	-0.360
CE-139	-2.236E-02		3.508E-02	5.557E-02	3.005E-03	-0.402
BA-140	4.927E-02		3.538E-01	5.845E-01	1.898E-01	0.084
LA-140	5.001E-03		1.106E-01	1.858E-01	1.146E-02	0.027
CE-141	2.769E-02		7.719E-02	1.279E-01	7.548E-03	0.216
CE-143	4.464E-03		6.808E-04	Half-Life too short		
CE-144	1.609E-01		2.749E-01	4.059E-01	5.772E-02	0.396
PM-144	7.167E-03		4.099E-02	6.711E-02	3.531E-03	0.107
PR-144	4.864E-01		2.782E+00	4.554E+00	2.393E-01	0.107
PM-146	2.711E-02		5.048E-02	8.615E-02	7.332E-03	0.315
ND-147	3.667E-01		7.828E-01	1.324E+00	1.776E-01	0.277
PM-149	2.387E-05		1.286E-04	Half-Life too short		
EU-152	5.933E-02		1.544E-01	1.855E-01	1.222E-02	0.320

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.547E-01		1.022E-01	1.585E-01	1.325E-02	0.976
EU-154	3.755E-02		1.536E-01	2.561E-01	2.452E-02	0.147
EU-155	-8.812E-03		1.249E-01	2.058E-01	1.561E-02	-0.043
TB-160	-2.244E-02		1.651E-01	2.719E-01	1.921E-02	-0.083
HO-166M	2.134E-02		7.267E-02	1.200E-01	6.474E-03	0.178
TM-171	-9.576E+00		3.954E+01	5.748E+01	5.134E+00	-0.167
LU-176	-1.770E-02		2.747E-02	4.456E-02	2.658E-03	-0.397
LU-177	4.445E+00	+	2.427E+00	3.150E+00	1.791E-01	1.411
LU-177M	-8.179E-02		2.090E-01	3.382E-01	1.892E-02	-0.242
HF-181	-1.707E-03		4.914E-02	8.069E-02	4.540E-03	-0.021
W-181	7.789E-02		5.217E-01	7.718E-01	6.914E-02	0.101
TA-182	2.428E-01		2.565E-01	4.498E-01	2.716E-02	0.540
RE-183	-2.403E-02		1.316E-01	2.129E-01	1.159E-02	-0.113
RE-184	1.020E-01		2.729E-01	4.455E-01	2.631E-02	0.229
OS-185	5.802E-03		5.343E-02	8.735E-02	4.404E-03	0.066
RE-188	7.222E-02		2.201E-01	3.519E-01	1.949E-02	0.205
W-188	2.266E+00		9.447E+00	1.409E+01	8.419E-01	0.161
IR-192	8.123E-04		3.928E-02	6.598E-02	3.944E-03	0.012
AU-195	2.708E-01		3.012E-01	4.557E-01	3.725E-02	0.594
TL-200	-2.250E-03		1.669E-03	Half-Life too short		
TL-201	1.876E+00		1.576E+01	2.578E+01	1.395E+00	0.073
TL-202	4.496E-02		9.580E-02	1.630E-01	9.172E-03	0.276
HG-203	1.412E-02		5.043E-02	8.606E-02	5.435E-03	0.164
BI-207	1.224E-02		6.057E-02	1.018E-01	6.747E-03	0.120
TL-207	9.641E-02		8.387E-01	1.234E+00	2.044E-01	0.078
PO-209	-3.988E-01		8.670E+00	1.438E+01	1.042E+00	-0.028
BI-210	2.951E+00		5.568E+00	9.304E+00	7.661E-01	0.317
PB-210	2.951E+00		5.568E+00	9.304E+00	7.661E-01	0.317
PO-210	2.951E+00		5.567E+00	9.304E+00	6.721E-01	0.317
PB-211	-1.788E+00		1.580E+00	1.682E+00	1.048E+00	-1.063
BI-212	1.252E+00	+	5.763E-01	7.727E-01	5.811E-02	1.621
PO-215	9.641E-02		8.387E-01	1.234E+00	2.044E-01	0.078
RN-219	2.728E-01		4.934E-01	8.426E-01	1.138E-01	0.324
RN-220	2.310E+01		2.914E+01	5.048E+01	2.775E+00	0.458
RA-223	9.641E-02		8.387E-01	1.234E+00	2.044E-01	0.078
AC-227	9.424E-02		4.472E-01	7.235E-01	1.014E-01	0.130
TH-227	9.424E-02		4.473E-01	7.235E-01	1.226E-01	0.130
TH-229	-6.314E-01		5.989E-01	9.230E-01	5.157E-02	-0.684
PA-231	9.442E-01		1.716E+00	2.959E+00	4.099E-01	0.319
TH-231	9.641E-02		8.387E-01	1.234E+00	2.044E-01	0.078
U-231	-1.493E+00		2.337E+00	3.292E+00	2.821E-01	-0.453
PA-233	5.090E-02		7.050E-02	1.227E-01	7.738E-03	0.415
PA-234	1.473E-01		3.700E-01	6.332E-01	1.148E-01	0.233
PA-234M	5.807E+00		5.771E+00	1.029E+01	8.792E-01	0.564
U-235	3.373E-01		2.457E-01	4.126E-01	6.711E-02	0.817
NP-236	1.886E-02		9.195E-02	1.511E-01	8.267E-03	0.125
NP-239	6.434E-02		2.296E-01	3.818E-01	2.466E-02	0.169
AM-241	-1.157E-01		2.246E-01	3.235E-01	3.162E-02	-0.358

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.114E-02		1.101E-01	1.870E-01	1.425E-02	0.487
AM-246	1.189E-01		1.569E-01	2.773E-01	1.815E-02	0.429
CM-247	2.399E-02		4.383E-02	7.500E-02	4.179E-03	0.320
CF-249	1.886E-02		4.681E-02	7.961E-02	4.440E-03	0.237
CF-251	-1.168E-01		1.497E-01	2.350E-01	1.286E-02	-0.497

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978013            *
* Acquisition date   : 14-FEB-2010 13:11:39 Detector SN# :                  *
* Detector ID        : GAM06                      Sensitivity      : 5.000    *
* Geometry           : CAN                        Energy tolerance: 1.500    *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:01.37             Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245978013             Analyst initials: MXR1         *
* Batch Number       : 948721                 Sample Quantity : 1.3468E+02 GRAM *
* Recovery           : 1.00000                Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope      :                  *
* MSD DPM             : 0.000                  MSD Isotope   :                  *
* LCS DPM             : 0.000                  LCS Isotope    :                  *
* LCSD DPM            : 0.000                  LCSD Isotope   :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.485E+01	2.956E+00	2.073E-01	1.508E+00
CD-109	4.305E+00	1.194E+00	7.356E-01	6.093E-01
SN-126	4.213E-01	1.169E-01	7.237E-02	5.962E-02
TL-208	5.584E-01	9.943E-02	3.412E-02	5.073E-02
BI-211	3.749E+00	5.681E-01	1.968E-01	2.898E-01
PB-212	1.737E+00	1.722E-01	5.447E-02	8.784E-02
PO-212	1.737E+00	1.722E-01	5.447E-02	8.784E-02
BI-214	1.167E+00	1.813E-01	6.387E-02	9.252E-02
PB-214	1.304E+00	2.086E-01	6.861E-02	1.064E-01
PO-214	1.304E+00	2.086E-01	6.861E-02	1.064E-01
PO-216	1.737E+00	1.722E-01	5.447E-02	8.784E-02
PO-218	1.304E+00	2.086E-01	6.861E-02	1.064E-01
RA-224	3.788E+00	1.462E+00	6.198E-01	7.461E-01
RA-226	1.167E+00	1.813E-01	6.387E-02	9.252E-02
AC-228	1.845E+00	3.413E-01	1.152E-01	1.742E-01
RA-228	1.845E+00	3.413E-01	1.152E-01	1.742E-01
TH-228	1.768E+00	1.753E-01	5.546E-02	8.943E-02
TH-230	1.167E+00	1.813E-01	6.386E-02	9.252E-02
TH-232	1.845E+00	3.413E-01	1.152E-01	1.742E-01
TH-234	4.481E+00	2.400E+00	1.418E+00	1.225E+00
U-234	1.167E+00	1.813E-01	6.386E-02	9.252E-02
NP-237	1.237E+00	4.247E-01	2.153E-01	2.167E-01
U-238	4.481E+00	2.400E+00	1.418E+00	1.225E+00
AM-243	3.914E-01	9.143E-02	5.718E-02	4.665E-02
ANH-511	1.694E-01	6.308E-02	2.679E-02	3.218E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.034E-01	3.481E-01	3.057E-01	1.776E-01 NOT IDENT.
NA-22	1.110E-02	5.373E-02	4.580E-02	2.741E-02 NOT IDENT.

NA-24	-5.273E+06	2.292E+07	0.000E+00	1.169E+07	SHORT HLIF
AL-26	3.434E-02	2.950E-02	3.040E-02	1.505E-02	NOT IDENT.
TI-44	3.047E-01	6.248E-02	4.738E-02	3.188E-02	NOT IDENT.
SC-46	-2.065E-02	4.789E-02	3.969E-02	2.443E-02	FAIL ABUN
V-48	-5.602E-02	8.468E-02	6.733E-02	4.320E-02	NOT IDENT.
CR-51	-1.510E-02	4.408E-01	3.782E-01	2.249E-01	NOT IDENT.
MN-52	-1.183E-02	3.656E-01	3.010E-01	1.865E-01	NOT IDENT.
MN-54	-1.059E-02	4.681E-02	3.981E-02	2.388E-02	NOT IDENT.
CO-56	2.393E-02	4.604E-02	4.139E-02	2.349E-02	NOT IDENT.
CO-57	-2.551E-02	2.879E-02	2.444E-02	1.469E-02	NOT IDENT.
CO-58	-6.273E-02	4.695E-02	3.601E-02	2.395E-02	NOT IDENT.
FE-59	-1.218E-02	1.190E-01	9.984E-02	6.074E-02	NOT IDENT.
CO-60	1.411E-02	4.616E-02	3.979E-02	2.355E-02	NOT IDENT.
ZN-65	-1.145E-02	1.215E-01	8.709E-02	6.201E-02	NOT IDENT.
GE-68	6.342E-01	1.396E+00	1.233E+00	7.123E-01	NOT IDENT.
AS-73	3.994E-01	1.168E+00	1.076E+00	5.957E-01	NOT IDENT.
AS-74	-4.122E-02	1.126E-01	9.252E-02	5.743E-02	NOT IDENT.
SE-75	-3.577E-03	6.120E-02	4.481E-02	3.122E-02	NOT IDENT.
BR-77	-2.580E+00	2.910E+01	2.473E+01	1.485E+01	FAIL ABUN
SR-82	-6.970E-01	4.819E-01	3.696E-01	2.459E-01	NOT IDENT.
RB-83	-8.834E-03	8.365E-02	7.100E-02	4.268E-02	NOT IDENT.
RB-84	-4.659E-02	8.225E-02	6.712E-02	4.197E-02	NOT IDENT.
KR-85	1.503E+01	8.664E+00	7.426E+00	4.421E+00	NOT IDENT.
SR-85	7.947E-02	4.582E-02	3.927E-02	2.338E-02	NOT IDENT.
RB-86	-2.817E-01	1.013E+00	8.360E-01	5.169E-01	NOT IDENT.
Y-88	-3.152E-04	3.309E-02	2.779E-02	1.688E-02	NOT IDENT.
ZR-88	-7.281E-03	3.485E-02	2.998E-02	1.778E-02	NOT IDENT.
Y-91	-1.396E+01	2.497E+01	2.000E+01	1.274E+01	NOT IDENT.
NB-94	1.155E-02	4.054E-02	3.465E-02	2.068E-02	NOT IDENT.
NB-95	9.447E-02	5.440E-02	5.070E-02	2.775E-02	NOT IDENT.
NB-95M	6.783E-01	1.866E-01	1.596E-01	9.518E-02	NOT IDENT.
ZR-95	-2.928E-02	7.634E-02	6.105E-02	3.895E-02	NOT IDENT.
NB-97	-1.383E+06	1.959E+06	0.000E+00	9.997E+05	SHORT HLIF
ZR-97	1.027E+08	4.228E+07	0.000E+00	2.157E+07	SHORT HLIF
MO-99	1.217E+01	2.998E+01	2.577E+01	1.530E+01	NOT IDENT.
TC-99M	-1.887E+20	1.582E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.130E-02	3.990E-02	3.426E-02	2.036E-02	NOT IDENT.
RH-102	-8.847E-03	3.143E-02	2.650E-02	1.604E-02	NOT IDENT.
RU-103	2.876E-03	4.577E-02	3.944E-02	2.335E-02	FAIL ABUN
RH-106	2.593E-01	3.555E-01	3.166E-01	1.814E-01	FAIL ABUN
RU-106	2.593E-01	3.546E-01	3.166E-01	1.809E-01	FAIL ABUN
AG-108M	-1.330E-02	3.561E-02	3.005E-02	1.817E-02	NOT IDENT.
AG-110M	-2.596E-02	3.964E-02	3.147E-02	2.023E-02	NOT IDENT.
IN-111	2.775E+00	2.549E+00	2.034E+00	1.301E+00	NOT IDENT.
IN-113M	4.824E-03	5.129E-02	4.493E-02	2.617E-02	NOT IDENT.
SN-113	4.824E-03	5.129E-02	4.493E-02	2.617E-02	NOT IDENT.
IN-114M	2.312E-01	2.325E-01	1.850E-01	1.186E-01	NOT IDENT.
CD-115	-2.503E+01	3.147E+01	0.000E+00	1.606E+01	SHORT HLIF
SN-117M	2.008E-02	7.304E-02	6.410E-02	3.727E-02	NOT IDENT.
SB-122	3.638E-02	5.024E+00	4.274E+00	2.563E+00	NOT IDENT.
I-123	8.721E+07	2.698E+08	0.000E+00	1.377E+08	SHORT HLIF
TE-123M	1.066E-02	3.299E-02	2.900E-02	1.683E-02	NOT IDENT.
I-124	2.841E-01	1.329E+00	9.947E-01	6.781E-01	NOT IDENT.
SB-124	1.288E-02	7.169E-02	6.301E-02	3.657E-02	FAIL ABUN
SB-125	-2.409E-02	1.028E-01	8.772E-02	5.244E-02	FAIL ABUN
TE-125M	-5.039E+00	1.152E+01	9.870E+00	5.877E+00	NOT IDENT.
I-126	2.639E-01	2.555E-01	2.306E-01	1.304E-01	NOT IDENT.
SB-126	8.478E-02	2.125E-01	1.606E-01	1.084E-01	FAIL ABUN
SB-127	5.324E-01	2.561E+00	2.185E+00	1.307E+00	NOT IDENT.
XE-127	-1.850E-02	6.204E-02	4.832E-02	3.165E-02	NOT IDENT.
I-131	-5.486E-02	1.623E-01	1.392E-01	8.279E-02	NOT IDENT.
TE-132	-5.678E-01	1.457E+00	1.215E+00	7.432E-01	NOT IDENT.
BA-133	1.648E-02	5.347E-02	4.174E-02	2.728E-02	NOT IDENT.
I-133	4.805E+04	7.134E+04	0.000E+00	3.640E+04	SHORT HLIF
CS-134	1.839E-01	6.568E-02	5.260E-02	3.351E-02	FAIL ABUN
CS-135	3.718E-01	2.152E-01	1.749E-01	1.098E-01	NOT IDENT.
I-135	7.430E+18	1.149E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.223E-02	1.494E-01	1.286E-01	7.623E-02	FAIL ABUN
BA-137M	-2.316E-02	4.086E-02	3.273E-02	2.085E-02	NOT IDENT.
CS-137	-2.449E-02	4.319E-02	3.460E-02	2.204E-02	NOT IDENT.
CE-139	-2.236E-02	3.438E-02	2.898E-02	1.754E-02	NOT IDENT.
BA-140	4.927E-02	3.467E-01	2.985E-01	1.769E-01	NOT IDENT.
LA-140	5.001E-03	1.084E-01	9.299E-02	5.531E-02	FAIL ABUN
CE-141	2.769E-02	7.565E-02	6.687E-02	3.859E-02	NOT IDENT.
CE-143	4.464E+03	1.334E+03	0.000E+00	6.808E+02	SHORT HLIF
CE-144	1.609E-01	2.694E-01	2.125E-01	1.374E-01	NOT IDENT.
PM-144	7.167E-03	4.018E-02	3.411E-02	2.050E-02	NOT IDENT.
PR-144	4.864E-01	2.727E+00	2.315E+00	1.391E+00	NOT IDENT.

PM-146	2.711E-02	4.947E-02	4.413E-02	2.524E-02	NOT IDENT.
ND-147	3.667E-01	7.671E-01	6.761E-01	3.914E-01	FAIL ABUN
PM-149	2.387E+01	2.521E+02	0.000E+00	1.286E+02	SHORT HLIF
EU-152	5.933E-02	1.513E-01	9.549E-02	7.718E-02	FAIL ABUN
GD-153	1.547E-01	1.002E-01	8.342E-02	5.111E-02	FAIL ABUN
EU-154	3.755E-02	1.505E-01	1.288E-01	7.678E-02	NOT IDENT.
EU-155	-8.812E-03	1.224E-01	1.082E-01	6.246E-02	FAIL ABUN
TB-160	-2.244E-02	1.618E-01	1.376E-01	8.255E-02	FAIL ABUN
HO-166M	2.134E-02	7.122E-02	6.097E-02	3.634E-02	FAIL ABUN
TM-171	-9.576E+00	3.875E+01	3.045E+01	1.977E+01	NOT IDENT.
LU-176	-1.770E-02	2.692E-02	2.299E-02	1.374E-02	FAIL ABUN
LU-177	4.445E+00	2.379E+00	1.636E+00	1.214E+00	FAIL ABUN
LU-177M	-8.179E-02	2.048E-01	1.736E-01	1.045E-01	FAIL ABUN
HF-181	-1.707E-03	4.816E-02	4.129E-02	2.457E-02	NOT IDENT.
W-181	7.789E-02	5.113E-01	4.091E-01	2.609E-01	NOT IDENT.
TA-182	2.428E-01	2.514E-01	2.263E-01	1.282E-01	FAIL ABUN
RE-183	-2.403E-02	1.290E-01	1.111E-01	6.582E-02	FAIL ABUN
RE-184	1.020E-01	2.674E-01	2.306E-01	1.364E-01	NOT IDENT.
OS-185	5.802E-03	5.236E-02	4.446E-02	2.672E-02	NOT IDENT.
RE-188	7.222E-02	2.157E-01	1.838E-01	1.100E-01	NOT IDENT.
W-188	2.266E+00	9.258E+00	7.278E+00	4.724E+00	FAIL ABUN
IR-192	8.123E-04	3.850E-02	3.402E-02	1.964E-02	FAIL ABUN
AU-195	2.708E-01	2.951E-01	2.398E-01	1.506E-01	FAIL ABUN
TL-200	-2.250E+03	3.272E+03	0.000E+00	1.669E+03	SHORT HLIF
TL-201	1.876E+00	1.545E+01	1.344E+01	7.881E+00	NOT IDENT.
TL-202	4.496E-02	9.389E-02	8.356E-02	4.790E-02	NOT IDENT.
HG-203	1.412E-02	4.942E-02	4.447E-02	2.521E-02	FAIL ABUN
BI-207	1.224E-02	5.936E-02	5.132E-02	3.029E-02	FAIL ABUN
TL-207	9.641E-02	8.220E-01	6.361E-01	4.194E-01	FAIL ABUN
PO-209	-3.988E-01	8.497E+00	7.276E+00	4.335E+00	NOT IDENT.
BI-210	2.951E+00	5.457E+00	4.959E+00	2.784E+00	NOT IDENT.
PB-210	2.951E+00	5.457E+00	4.959E+00	2.784E+00	NOT IDENT.
PO-210	2.951E+00	5.456E+00	4.959E+00	2.784E+00	NOT IDENT.
PB-211	-1.788E+00	1.548E+00	8.634E-01	7.900E-01	NOT IDENT.
BI-212	1.252E+00	5.647E-01	3.925E-01	2.881E-01	FAIL ABUN
PO-215	9.641E-02	8.220E-01	6.361E-01	4.194E-01	FAIL ABUN
RN-219	2.728E-01	4.836E-01	4.326E-01	2.467E-01	FAIL ABUN
RN-220	2.310E+01	2.856E+01	2.577E+01	1.457E+01	NOT IDENT.
RA-223	9.641E-02	8.220E-01	6.361E-01	4.194E-01	FAIL ABUN
AC-227	9.424E-02	4.383E-01	3.744E-01	2.236E-01	NOT IDENT.
TH-227	9.424E-02	4.384E-01	3.744E-01	2.237E-01	NOT IDENT.
TH-229	-6.314E-01	5.869E-01	4.801E-01	2.995E-01	FAIL ABUN
PA-231	9.442E-01	1.682E+00	1.529E+00	8.581E-01	NOT IDENT.
TH-231	9.641E-02	8.220E-01	6.361E-01	4.194E-01	FAIL ABUN
U-231	-1.493E+00	2.290E+00	1.733E+00	1.168E+00	FAIL ABUN
PA-233	5.090E-02	6.909E-02	6.327E-02	3.525E-02	FAIL ABUN
PA-234	1.473E-01	3.626E-01	3.200E-01	1.850E-01	FAIL ABUN
PA-234M	5.807E+00	5.656E+00	5.194E+00	2.886E+00	NOT IDENT.
U-235	3.373E-01	2.408E-01	2.157E-01	1.229E-01	FAIL ABUN
NP-236	1.886E-02	9.011E-02	7.885E-02	4.597E-02	NOT IDENT.
NP-239	6.434E-02	2.250E-01	2.003E-01	1.148E-01	FAIL ABUN
AM-241	-1.157E-01	2.201E-01	1.717E-01	1.123E-01	NOT IDENT.
CM-243	9.114E-02	1.079E-01	9.834E-02	5.504E-02	FAIL ABUN
AM-246	1.189E-01	1.538E-01	1.398E-01	7.847E-02	NOT IDENT.
CM-247	2.399E-02	4.295E-02	3.851E-02	2.191E-02	NOT IDENT.
CF-249	1.886E-02	4.587E-02	4.090E-02	2.341E-02	NOT IDENT.
CF-251	-1.168E-01	1.467E-01	1.224E-01	7.486E-02	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY	MDA COUNTS
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46.50	387.5710
46.50	387.5710
46.50	387.5710
48.70	424.4839
49.72	404.3507
51.35	419.1667
52.39	418.0885
52.97	415.7587
53.15	405.8311
53.44	392.3120
54.07	391.8114
56.28	414.3747
56.28	414.3764
57.37	0.0000
57.53	445.5995
57.53	445.6004
57.60	462.8369
57.98	455.5034
57.98	455.5034
59.32	443.1812
59.32	443.1812
59.40	443.2370
59.54	443.3350
59.72	421.2882
60.01	421.4805
61.10	389.6081
61.14	392.5952
61.30	392.6930
63.00	465.2230
63.29	465.4280
63.29	465.4280
63.58	480.3186
64.28	494.2249
65.12	472.4914
65.20	472.5475
65.20	472.5475
66.05	471.6547
66.72	488.5540
66.83	488.6359
66.91	521.5723
67.20	520.2986
67.20	520.2986
67.75	546.1544
67.85	546.2346
68.90	470.2554
68.90	470.2554
69.30	487.3988
69.67	525.1730
70.82	541.0635
70.82	541.0635
70.83	541.0723
72.80	533.5366
72.87	533.5885
72.87	533.5885
74.67	510.9353
74.81	511.0343
74.81	511.0343
74.81	511.0343
74.81	511.0343
74.81	511.0343
74.81	511.0343
74.81	511.0343
74.97	511.1458
75.28	511.3645
75.70	511.6576
77.11	512.6400
77.11	512.6400

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79.62	433.5500
79.80	433.6526
79.80	433.6526
80.11	430.0262
80.18	430.0659
80.30	430.1331
80.30	430.1331
80.57	430.2866
81.00	430.5297
81.07	430.5694
81.07	430.5694
81.07	430.5694
81.07	430.5694
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83.78	410.1000
83.78	410.1000
84.21	410.3275
84.90	410.6891
85.43	410.9657
86.29	411.4141
86.50	411.5238
86.54	411.5434
86.59	411.5696
86.72	411.6383
86.79	411.6727
86.94	411.7513
87.30	411.9378
87.30	411.9378
87.30	411.9378
87.30	411.9378
87.30	411.9378
87.30	411.9378
87.57	412.0769
87.88	412.2373
88.03	412.3142
88.36	412.4828
88.47	412.5400
89.95	413.2961
91.11	413.8853
92.29	414.4793
92.38	414.5251
92.38	414.5251
93.35	415.0112
94.00	415.3352
94.67	423.2225
94.67	423.2250
94.90	457.4571
94.90	457.4571
94.90	457.4571
94.90	457.4571
95.87	448.6697
95.87	448.6697
96.73	393.1800
97.43	331.2888
98.44	320.7786
98.44	320.7799
98.88	363.0087
99.55	346.9202
99.55	346.9202
99.86	355.3996
100.00	355.4566
100.10	355.4997
103.18	380.6559
103.76	333.9041
105.00	353.9809
105.31	374.7023
108.00	396.4818
109.28	399.9939

111.00	397.7823
111.00	397.7823
111.76	423.7926
112.95	388.7259
115.19	407.5006
116.30	400.0360
117.00	374.5020
117.00	374.5020
117.66	385.6955
121.11	366.1236
121.62	381.2874
121.78	360.3844
122.06	360.4877
122.32	348.1685
122.32	348.1685
122.32	348.1685
122.32	348.1685
123.07	343.8648
127.23	364.5765
129.76	359.0485
131.20	382.1278
133.02	327.8851
133.54	339.3633
135.34	357.1502
136.00	361.4233
136.25	359.4852
136.48	354.4995
140.51	402.6165
140.51	0.0000
142.18	353.3458
142.65	344.3308
143.76	310.0117
144.24	305.0474
144.24	305.0474
144.24	305.0474
144.24	305.0474
145.22	320.6383
145.44	341.1299
147.16	399.9731
152.43	323.7551
152.70	321.7759
153.22	337.3516
154.21	367.4971
154.21	367.4971
154.21	367.4971
154.21	367.4971
155.03	354.3721
156.02	370.1448
158.56	323.4308
159.00	0.0000
159.00	318.3840
160.31	315.6389
161.27	329.3641
162.32	330.6943
162.64	313.1563
163.35	306.0823
163.89	310.3752
165.85	333.7644
167.43	309.2179
171.28	294.5389
171.86	306.1755
172.10	306.2359
176.55	332.5221
176.60	332.5341
181.06	303.1941
184.41	319.1959
185.71	306.4192
186.00	292.5394
190.27	246.0044
192.34	297.3718
193.63	324.2417
197.04	267.5244
198.01	274.1194
198.60	288.1110
200.40	318.4189
201.83	323.0339
202.84	302.5805
205.31	272.8174

208.36	295.7804
208.81	293.5117
209.75	301.2405
209.75	301.2405
210.97	304.9512
215.65	270.1035
216.55	289.7349
218.09	285.7207
222.10	275.6712
223.80	245.5719
226.40	255.8085
227.00	248.2913
227.08	249.3943
227.20	249.4152
228.16	250.6676
228.18	250.6711
228.18	250.6711
231.56	0.0000
235.69	241.8689
236.00	243.6725
236.00	243.6725
238.63	249.1489
238.63	249.1489
238.63	249.1489
238.63	249.1489
239.00	249.2095
240.98	249.5369
241.98	249.7014
241.98	249.7014
241.98	249.7014
244.69	160.4453
245.39	162.2825
247.94	201.7163
248.90	215.4697
249.79	221.1212
252.40	178.3011
252.85	196.0771
252.85	196.0771
254.15	0.0000
256.20	203.1552
256.20	203.1552
260.50	227.0814
260.90	0.0000
262.80	219.6050
264.65	214.2773
268.24	193.2768
268.79	193.3427
269.46	197.0037
269.46	197.0037
269.46	197.0037
269.46	197.0037
271.23	218.7332
273.65	287.2852
276.40	196.5515
277.35	213.6949
277.60	206.9775
277.60	206.9775
278.00	208.8283
278.60	203.4993
279.20	219.7876
279.53	216.2256
280.46	232.5716
281.68	224.6228
283.67	175.2133
284.30	184.3147
285.00	182.5817
285.90	0.0000
286.10	180.8911
286.10	180.8911
287.40	190.9869
288.45	0.0000
290.67	175.3311
290.80	175.3429
291.72	187.5364
293.26	0.0000
293.70	180.1826
295.21	217.3144
295.21	217.3144

295.21	217.3144
295.96	254.7070
296.50	251.7525
297.23	238.2023
298.57	179.1678
299.80	177.7756
299.80	177.7756
300.09	171.7254
300.09	171.7254
300.09	171.7254
300.09	171.7254
300.12	171.7277
301.29	183.7913
302.84	203.6535
303.76	199.1911
303.91	199.2071
304.40	200.1770
304.40	200.1770
304.84	191.0824
306.84	176.6544
308.46	162.1564
311.98	144.1153
316.51	156.4386
318.01	157.4903
319.02	161.2619
319.41	157.6093
320.08	153.6723
323.87	158.6093
323.87	158.6093
323.87	158.6093
323.87	158.6093
325.23	163.3477
328.77	158.4109
333.44	190.3807
334.20	190.4583
334.20	190.4583
334.30	190.4683
338.28	145.2464
338.28	145.2464
338.28	145.2464
338.28	145.2464
338.32	145.2483
338.32	145.2483
338.32	145.2483
340.50	160.0197
340.57	160.0238
344.27	136.9844
345.85	127.1248
350.59	0.0000
351.07	153.7120
351.92	153.7780
351.92	153.7780
351.92	153.7780
355.39	0.0000
356.01	133.1134
364.48	136.8278
366.43	124.6830
367.43	126.6342
367.94	0.0000
369.80	131.5138
374.96	134.6937
383.85	141.9465
387.95	134.5903
388.63	128.9042
391.69	133.8733
391.69	133.8733
392.90	132.0366
398.62	136.2312
400.65	125.7981
401.10	127.7462
401.81	133.5533
402.60	131.6802
404.84	173.1907
410.95	114.8222
411.60	118.7178
413.65	140.0829
414.70	115.0198
415.30	113.1181

415.76	116.0435
417.63	0.0000
418.52	116.1885
423.70	117.4314
427.08	116.6382
427.89	119.5977
432.53	110.1019
433.93	113.0943
439.47	111.4172
439.56	111.4214
439.89	116.3257
443.98	125.3469
444.90	122.4579
445.03	122.4655
445.03	122.4655
445.03	122.4655
453.90	104.2493
463.38	110.2681
468.07	89.0486
473.00	114.0201
475.06	99.2322
475.35	94.2822
476.78	91.3587
477.59	85.4300
477.96	90.4101
482.03	94.5431
484.57	89.6605
487.03	94.7379
490.36	0.0000
492.35	0.0000
497.08	88.1160
507.63	0.0000
510.53	0.0000
510.84	94.6420
511.00	94.6477
511.85	94.6804
511.85	94.6804
513.99	78.9664
513.99	78.9664
520.41	105.1045
520.65	105.1146
527.90	0.0000
528.96	0.0000
529.64	91.2832
529.87	0.0000
531.02	86.2576
537.32	91.5513
543.00	73.3992
546.56	0.0000
549.76	73.5873
552.65	101.2913
555.20	88.0744
563.23	80.1195
563.90	94.5246
568.70	93.6616
569.32	92.6543
569.50	95.7496
569.67	95.7541
573.80	109.3047
574.00	111.3750
574.64	110.0260
578.91	72.3157
579.30	0.0000
583.14	87.9468
585.48	48.3255
591.81	71.4991
592.07	69.5452
593.00	67.4915
595.88	86.2685
600.56	91.6180
602.52	0.0000
602.71	79.8786
602.71	79.8786
603.60	81.6418
604.41	76.4521
604.70	76.4593
609.31	86.6779

609.31	86.6779
609.31	86.6779
609.31	86.6779
610.33	81.8331
612.46	81.8943
614.37	66.2572
618.01	81.7039
621.84	68.1754
621.84	68.1754
631.29	67.3453
633.02	66.3315
633.10	66.3330
634.78	75.8531
635.90	84.3125
636.97	79.0723
645.85	80.3659
646.12	84.6035
656.30	70.0348
657.75	85.9933
657.90	0.0000
661.65	89.2931
661.65	89.2931
664.57	0.0000
666.33	77.7193
666.33	77.7193
675.00	71.5326
677.61	73.7303
685.20	68.5547
692.80	80.5334
695.00	84.8884
696.49	80.6287
696.49	80.6287
697.00	84.9424
697.49	93.5590
698.33	82.8258
698.50	86.0586
699.00	89.3000
702.63	86.1699
706.10	88.4203
706.58	0.0000
706.67	88.4363
709.31	83.1134
711.68	75.6140
713.82	89.7154
717.42	67.0920
720.50	63.1840
721.93	0.0000
722.20	86.6982
722.78	86.7129
722.78	86.7129
722.89	86.7168
722.95	86.7188
723.30	92.1490
724.18	59.6420
727.18	60.7824
733.00	70.6764
735.90	78.3580
739.58	75.1756
742.81	74.1592
744.21	77.4638
747.13	82.9933
751.79	63.4248
752.31	64.5284
753.82	54.7107
755.35	62.3980
756.15	61.3184
756.87	59.1416
763.93	103.1659
765.79	69.1816
766.42	61.5057
766.84	73.5969
776.49	94.5529
778.00	86.3292
778.57	70.7275
778.89	70.7337
783.80	50.5968
785.46	66.2681
792.07	50.5871

795.84	44.3115
796.30	52.2312
798.80	72.8601
801.93	85.6086
805.60	62.0246
810.29	85.2823
810.76	85.2935
815.85	55.7068
817.79	66.8848
818.51	70.6145
819.60	71.5656
826.30	74.4938
828.27	0.0000
831.60	76.4696
831.96	73.6800
834.83	90.5408
836.80	0.0000
846.75	58.9984
848.13	51.5267
856.28	0.0000
856.80	76.0644
860.37	54.5190
867.32	65.9227
867.82	58.3962
871.10	60.3333
873.19	79.2319
874.81	59.4509
875.33	0.0000
876.40	46.2585
879.36	60.4674
880.27	61.4281
880.51	59.5419
881.50	62.3933
883.24	59.5842
884.67	52.0381
889.25	70.1007
896.60	60.7461
898.02	77.8593
899.00	75.0301
903.28	61.3283
911.07	50.6323
911.07	50.6323
911.07	50.6323
919.63	50.6084
920.93	41.0736
925.00	43.9851
925.24	47.8129
926.50	47.8292
935.52	47.9401
937.48	68.1081
944.10	67.2628
946.00	59.6046
949.00	56.7637
962.29	56.2639
964.01	53.1145
966.15	53.1436
968.20	53.1705
969.11	53.1828
969.11	53.1828
969.11	53.1828
977.42	37.2078
980.50	58.1812
983.50	53.3730
989.30	55.3927
996.32	72.0368
1001.03	56.5262
1001.68	51.6608
1004.76	75.1107
1021.30	0.0000
1024.50	0.0000
1034.80	60.9177
1036.00	60.9329
1037.82	46.2121
1038.57	49.1699
1038.76	0.0000
1045.16	65.9913
1046.59	47.2930
1048.07	57.1646

1050.47	67.0592
1050.47	67.0592
1062.04	52.4091
1063.62	51.4393
1076.63	57.5469
1077.35	46.6405
1078.86	40.6997
1085.78	54.6844
1099.22	66.8201
1112.02	68.0138
1112.84	58.3094
1115.52	63.4905
1120.29	80.7386
1120.29	80.7386
1120.29	80.7386
1120.29	80.7386
1120.51	80.7419
1121.28	65.2913
1124.00	0.0000
1129.67	58.2407
1131.51	0.0000
1147.95	0.0000
1167.94	73.9208
1173.22	68.9380
1175.09	72.0083
1177.93	61.9035
1189.05	72.2249
1204.90	84.7157
1205.75	0.0000
1213.00	71.5694
1221.42	65.5521
1230.97	62.6034
1235.34	104.7766
1236.41	0.0000
1238.25	78.1152
1246.25	89.5701
1260.41	0.0000
1271.85	47.6078
1274.45	51.7741
1274.54	51.7761
1291.56	39.4844
1298.22	0.0000
1312.09	31.3000
1325.50	42.8902
1325.50	42.8902
1332.49	34.5697
1333.61	36.6720
1360.21	37.9160
1362.66	0.0000
1365.15	25.3008
1368.21	36.9198
1368.53	0.0000
1376.25	39.8443
1384.27	21.7667
1394.10	22.2612
1395.20	29.6885
1407.95	25.5078
1434.06	23.4967
1436.60	14.9593
1457.56	0.0000
1460.81	10.7332
1489.15	19.4194
1509.49	12.9932
1596.49	20.7301
1620.62	14.1922
1678.03	0.0000
1691.02	9.5728
1691.02	9.5728
1706.46	0.0000
1750.46	0.0000
1764.49	13.5610
1764.49	13.5610
1764.49	13.5610
1764.49	13.5610
1770.23	11.8766
1771.40	63.9997
1791.20	0.0000
1808.65	4.8769

1836.01

9.7949

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978013

Total Uranium Activity	1.3487E+01	ug/g
Total Uranium Counting Unc.	7.1421E+00	ug/g
Total Uranium Tpu	3.6439E-06	ug/g
Total Uranium Mda	4.2183E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 948721                          SAMPLE ID   : G245978013
*  ANALYST       : MXR1                             DETECTOR    : GAM06
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 14-FEB-2010 13:11:39.04          SAMPLE ALQT  : 134.680 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.040E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.411E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.833E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.864E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:14:29.49

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978014.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:12:09
Sample ID     : G245978014 Sample quantity : 1.41190E+02 GRAM
Detector name : GAM11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.96 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 948721 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.24*	282	719	0.96	125.36	122	8	3.92E-02	17.8	
2	2	74.89*	480	529	0.89	148.67	145	11	6.66E-02	8.3	4.09E+00
3	2	77.11	802	433	0.80	153.12	145	11	1.11E-01	5.4	
4	5	84.20*	142	476	1.30	167.31	164	13	1.98E-02	25.5	9.30E-01
5	5	87.24	337	500	1.10	173.39	164	13	4.67E-02	12.4	
6	0	92.76*	1000	642	1.07	184.45	181	9	1.39E-01	5.7	
7	0	98.64	90	490	1.08	196.22	192	9	1.25E-02	45.6	
8	0	128.89	106	344	0.73	256.75	253	7	1.48E-02	30.5	
9	0	140.81*	58	178	1.16	280.62	279	5	8.02E-03	39.0	
10	0	143.71*	64	278	1.06	286.41	284	7	8.93E-03	45.5	
11	0	185.91*	387	366	1.18	370.88	366	11	5.38E-02	11.3	
12	0	209.14	92	317	0.99	417.39	413	8	1.28E-02	35.0	
13	0	238.58*	1452	360	1.06	476.30	471	9	2.02E-01	3.6	
14	0	241.79	233	291	1.02	482.73	481	7	3.23E-02	14.6	
15	4	270.19*	105	200	1.55	539.56	534	27	1.46E-02	26.9	1.16E+00
16	4	277.64	63	185	1.57	554.47	534	27	8.79E-03	41.0	
17	0	295.16	473	231	1.01	589.55	584	11	6.57E-02	7.7	
18	0	328.06	62	133	1.10	655.39	652	7	8.67E-03	33.3	
19	0	338.40*	270	230	1.05	676.08	670	12	3.75E-02	12.9	
20	0	352.01*	788	195	1.23	703.31	698	11	1.09E-01	5.0	
21	0	410.58	94	162	2.66	820.53	813	14	1.30E-02	31.1	
22	0	462.74	99	108	1.14	924.91	920	11	1.37E-02	22.7	
23	0	510.96*	162	120	1.50	1021.42	1015	14	2.25E-02	19.1	
24	0	583.34*	496	124	1.41	1166.25	1158	16	6.89E-02	6.8	
25	0	609.38*	562	127	1.29	1218.38	1212	13	7.80E-02	6.0	
26	0	727.71*	71	79	1.49	1455.16	1451	9	9.89E-03	25.9	
27	0	768.49	65	70	1.15	1536.76	1530	11	9.06E-03	26.6	
28	0	795.05*	41	59	1.51	1589.91	1585	10	5.73E-03	38.4	
29	0	861.24	65	55	1.20	1722.35	1717	11	9.01E-03	25.7	
30	0	911.50*	306	50	1.52	1822.91	1818	11	4.25E-02	7.3	
31	0	934.79	31	36	0.71	1869.52	1865	9	4.31E-03	39.2	
32	1	964.87	56	41	1.73	1929.71	1922	22	7.76E-03	26.2	1.05E+00
33	1	969.17	158	43	1.63	1938.31	1922	22	2.19E-02	11.2	
34	0	1001.00*	56	53	1.63	2001.98	1996	13	7.84E-03	30.2	
35	0	1120.87	97	62	1.22	2241.82	2237	9	1.35E-02	17.9	
36	0	1238.52	86	61	1.00	2477.21	2470	17	1.19E-02	23.2	
37	0	1377.47	45	22	0.86	2755.19	2746	18	6.22E-03	29.0	
38	0	1461.32*	1348	50	1.87	2922.93	2915	17	1.87E-01	3.0	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1510.26	17	6	0.93	3020.82	3016	8	2.35E-03	35.0	
40	0	1513.73	13	2	1.04	3027.77	3025	6	1.74E-03	35.2	
41	0	1588.33	30	21	1.08	3177.00	3171	12	4.17E-03	35.6	
42	0	1764.90*	92	0	1.73	3530.20	3524	11	1.27E-02	10.9	
43	0	1847.95	22	2	1.49	3696.31	3692	8	3.07E-03	23.9	

Flag: "*" = Peak area was modified by background subtraction


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978014.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:12:09
Sample ID         : G245978014 Sample quantity : 141.19 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA11 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.96 0.0%
Peak Width (FWHM) : 3.00 Confidence level : 5.00 %
Energy tolerance  : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.742E+01	2.883E+00	4.646E-01	4.017E-02	59.017
CD-109	+	88.03	*	3.639E+00	9.682E-01	1.198E+00	1.136E-01	3.037
SN-126	+	64.28		1.826E+00	7.022E-01	6.263E-01	9.085E-02	2.916
	+	86.94		1.480E+00	7.168E-01	4.455E-01	1.850E-01	3.323
	+	87.57	*	3.561E-01	9.475E-02	1.176E-01	1.110E-02	3.027
TL-208	+	277.35		5.297E-01	4.450E-01	4.777E-01	8.470E-02	1.109
	+	510.84		6.746E-01	2.732E-01	1.811E-01	2.455E-02	3.726
	+	583.14	*	5.888E-01	1.024E-01	4.517E-02	4.878E-03	13.035
	+	860.37		7.193E-01	3.776E-01	3.909E-01	4.071E-02	1.840
BI-211		72.87		-4.321E-01	2.727E+00	3.902E+00	3.099E-01	-0.111
	+	351.07	*	4.131E+00	6.820E-01	2.861E-01	3.775E-02	14.438
PB-212	+	74.81		2.056E+00	4.261E-01	4.233E-01	5.236E-02	4.857
	+	77.11		1.966E+00	2.666E-01	2.362E-01	1.962E-02	8.326
	+	87.30		1.647E+00	4.681E-01	4.943E-01	6.784E-02	3.332
	+	238.63	*	1.661E+00	2.611E-01	7.534E-02	1.055E-02	22.048
		300.09		1.151E+00	7.692E-01	1.189E+00	1.906E-01	0.968
PO-212	+	74.81		2.056E+00	4.261E-01	4.233E-01	5.236E-02	4.857
	+	77.11		1.966E+00	2.666E-01	2.362E-01	1.962E-02	8.326
	+	87.30		1.647E+00	4.681E-01	4.943E-01	6.784E-02	3.332
		115.19		-2.047E-02	2.770E+00	4.717E+00	3.997E-01	-0.004
	+	238.63	*	1.661E+00	2.611E-01	7.534E-02	1.055E-02	22.048
		300.09		1.151E+00	7.692E-01	1.189E+00	1.906E-01	0.968
BI-214	+	609.31	*	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
	+	1120.29		1.116E+00	4.168E-01	4.136E-01	4.467E-02	2.698
	+	1764.49		1.438E+00	3.361E-01	2.507E-01	2.066E-02	5.736
PB-214	+	74.81		3.542E+00	7.058E-01	7.294E-01	8.008E-02	4.857
	+	77.11		3.371E+00	5.243E-01	4.048E-01	4.564E-02	8.326
	+	87.30		2.821E+00	7.816E-01	8.468E-01	1.029E-01	3.332
	+	241.98		1.600E+00	5.222E-01	5.400E-01	7.867E-02	2.963
	+	295.21		1.465E+00	3.295E-01	1.585E-01	2.585E-02	9.246
	+	351.92	*	1.437E+00	2.488E-01	9.974E-02	1.411E-02	14.407
PO-214	+	74.81		3.542E+00	7.058E-01	7.294E-01	8.008E-02	4.857
	+	77.11		3.371E+00	5.243E-01	4.048E-01	4.564E-02	8.326
	+	87.30		2.821E+00	7.816E-01	8.468E-01	1.029E-01	3.332

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		1.600E+00	5.222E-01	5.400E-01	7.867E-02	2.963
	+	295.21		1.465E+00	3.295E-01	1.585E-01	2.585E-02	9.246
	+	351.92	*	1.437E+00	2.488E-01	9.974E-02	1.411E-02	14.407
	+	74.81		2.056E+00	4.261E-01	4.233E-01	5.236E-02	4.857
	+	77.11		1.966E+00	2.666E-01	2.362E-01	1.962E-02	8.326
	+	87.30		1.647E+00	4.681E-01	4.943E-01	6.784E-02	3.332
PO-218	+	238.63	*	1.661E+00	2.611E-01	7.534E-02	1.055E-02	22.048
	+	300.09		1.151E+00	7.692E-01	1.189E+00	1.906E-01	0.968
	+	74.81		3.542E+00	7.058E-01	7.294E-01	8.008E-02	4.857
	+	77.11		3.371E+00	5.243E-01	4.048E-01	4.564E-02	8.326
	+	87.30		2.821E+00	7.816E-01	8.468E-01	1.029E-01	3.332
	+	241.98		1.600E+00	5.222E-01	5.400E-01	7.867E-02	2.963
RA-224	+	295.21		1.465E+00	3.295E-01	1.585E-01	2.585E-02	9.246
	+	351.92	*	1.437E+00	2.488E-01	9.974E-02	1.411E-02	14.407
	+	240.98	*	3.034E+00	9.755E-01	1.053E+00	1.410E-01	2.881
	+	609.31	*	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
	+	1120.29		1.116E+00	4.168E-01	4.136E-01	4.467E-02	2.698
	+	1764.49		1.438E+00	3.361E-01	2.507E-01	2.066E-02	5.736
AC-228	+	338.32		1.559E+00	7.760E-01	3.169E-01	1.348E-01	4.919
	+	911.07	*	1.603E+00	3.055E-01	1.841E-01	2.241E-02	8.709
	+	969.11		1.454E+00	4.734E-01	3.009E-01	7.130E-02	4.832
	+	338.32		1.559E+00	7.760E-01	3.169E-01	1.348E-01	4.919
	+	911.07	*	1.603E+00	3.055E-01	1.841E-01	2.241E-02	8.709
	+	969.11		1.454E+00	4.734E-01	3.009E-01	7.130E-02	4.832
TH-228	+	74.81		2.093E+00	3.879E-01	4.310E-01	3.526E-02	4.857
	+	77.11		2.002E+00	2.715E-01	2.404E-01	1.998E-02	8.326
	+	87.30		1.677E+00	4.461E-01	5.033E-01	4.731E-02	3.332
	+	238.63	*	1.691E+00	2.659E-01	7.671E-02	1.074E-02	22.048
	+	300.09		1.172E+00	1.040E+00	1.211E+00	7.328E-01	0.968
	+	85.43		3.471E-01	1.800E-01	2.432E-01	2.232E-02	1.428
TH-229	+	88.47		4.862E-01	1.294E-01	1.491E-01	1.408E-02	3.261
	+	100.00		2.668E-01	2.446E-01	2.234E-01	1.961E-02	1.194
	+	193.63	*	1.299E-01	4.228E-01	7.087E-01	7.781E-02	0.183
	+	210.97		7.475E-01	7.217E-01	1.118E+00	1.324E-01	0.668
	+	609.31	*	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
	+	1120.29		1.116E+00	4.168E-01	4.136E-01	4.467E-02	2.698
TH-232	+	1764.49		1.438E+00	3.361E-01	2.507E-01	2.066E-02	5.736
	+	338.32		1.559E+00	4.546E-01	3.169E-01	4.273E-02	4.919
	+	911.07	*	1.603E+00	3.055E-01	1.841E-01	2.241E-02	8.709
	+	969.11		1.454E+00	4.734E-01	3.009E-01	7.130E-02	4.832
	+	63.29	*	4.614E+00	1.829E+00	1.552E+00	2.701E-01	2.972
	+	92.38		6.962E+00	1.506E+00	6.764E-01	1.241E-01	10.293
U-234	+	609.31	*	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
	+	1120.29		1.116E+00	4.168E-01	4.136E-01	4.467E-02	2.698
	+	1764.49		1.438E+00	3.361E-01	2.507E-01	2.066E-02	5.736
	+	89.95		1.270E+00	1.177E+00	1.483E+00	4.607E-01	0.857
	+	93.35		8.370E+00	2.547E+00	8.097E-01	2.281E-01	10.338
	+	105.00		1.196E+00	9.077E-01	1.498E+00	4.471E-01	0.798
U-235	+	143.76	*	2.313E-01	2.146E-01	2.530E-01	4.473E-02	0.914

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		163.35		1.765E-01	3.865E-01	6.556E-01	1.282E-01	0.269
	+	185.71		3.096E-01	7.733E-02	5.748E-02	6.096E-03	5.386
		205.31		-2.119E-01	4.806E-01	6.869E-01	1.413E-01	-0.308
NP-237	+	86.50	*	1.046E+00	3.521E-01	3.157E-01	7.146E-02	3.312
		95.87		1.672E-01	9.344E-01	1.178E+00	2.915E-01	0.142
U-238	+	63.29	*	4.614E+00	1.829E+00	1.552E+00	2.701E-01	2.972
	+	92.38		6.962E+00	1.021E+00	6.764E-01	6.194E-02	10.293
AM-243	+	74.67	*	3.333E-01	6.165E-02	6.879E-02	5.567E-03	4.845
	+	86.72		3.921E+01	1.043E+01	1.182E+01	1.103E+00	3.318
		117.66		-3.199E+00	2.873E+00	4.649E+00	3.932E-01	-0.688
	+	142.18		1.732E+01	1.358E+01	1.801E+01	1.606E+00	0.962
ANH-511	+	511.00	*	1.457E-01	5.775E-02	3.913E-02	4.184E-03	3.724

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	2.875E-01	2.850E-01	5.045E-01	5.710E-02	0.570
NA-22		1274.54	*	-3.578E-02	3.888E-02	5.654E-02	4.643E-03	-0.633
NA-24		1368.53	*	-1.453E+00	3.888E-02	Half-Life too short		
AL-26		1129.67		-1.351E-01	1.533E+00	2.501E+00	2.112E-01	-0.054
		1808.65	*	3.207E-04	2.564E-02	4.236E-02	3.458E-03	0.008
TI-44		67.85		-3.442E-02	3.629E-02	5.492E-02	4.161E-03	-0.627
	+	78.38	*	3.629E-01	4.921E-02	5.529E-02	4.660E-03	6.564
SC-46		889.25	*	-3.608E-02	3.596E-02	5.466E-02	5.384E-03	-0.660
	+	1120.51		1.957E-01	7.195E-02	1.216E-01	1.037E-02	1.609
V-48		944.10		-6.522E-02	8.316E-01	1.378E+00	1.333E-01	-0.047
		983.50	*	-1.371E-02	7.231E-02	1.182E-01	1.122E-02	-0.116
		1312.09		-5.043E-02	7.322E-02	1.075E-01	8.861E-03	-0.469
CR-51		320.08	*	-8.606E-02	3.406E-01	5.351E-01	7.766E-02	-0.161
MN-52		744.21		1.567E-01	3.200E-01	5.362E-01	5.210E-02	0.292
		848.13		1.137E+01	8.080E+00	1.506E+01	1.484E+00	0.755
	+	935.52		4.582E-01	3.623E-01	5.886E-01	5.715E-02	0.778
		1246.25		-8.313E-01	9.708E+00	1.349E+01	1.101E+00	-0.062
		1333.61		7.811E+00	6.255E+00	1.158E+01	9.570E-01	0.675
		1434.06	*	2.216E-02	2.752E-01	4.482E-01	3.756E-02	0.049
MN-54		834.83	*	-1.037E-02	3.103E-02	5.086E-02	5.008E-03	-0.204
CO-56		846.75	*	2.547E-02	3.291E-02	5.893E-02	5.806E-03	0.432
		977.42		-6.552E-01	2.457E+00	3.981E+00	3.788E-01	-0.165
		1037.82		-6.128E-02	2.699E-01	4.369E-01	4.192E-02	-0.140
		1175.09		1.728E+00	2.111E+00	3.636E+00	2.923E-01	0.475
	+	1238.25		2.851E-01	1.347E-01	1.657E-01	1.394E-02	1.720
		1360.21		-4.376E-01	8.413E-01	1.254E+00	1.041E-01	-0.349
		1771.40		1.703E-01	1.528E-01	3.031E-01	2.494E-02	0.562
CO-57		122.06	*	2.834E-03	2.001E-02	3.418E-02	2.891E-03	0.083
		136.48		-5.326E-02	1.554E-01	2.585E-01	2.428E-02	-0.206
CO-58		810.76	*	-2.768E-02	3.646E-02	5.369E-02	5.287E-03	-0.515
FE-59	+	142.65		3.123E+00	2.858E+00	3.538E+00	3.160E-01	0.883
		192.34		3.597E-02	8.165E-01	1.354E+00	2.032E-01	0.027

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1099.22	*		2.697E-02	8.815E-02	1.491E-01	1.402E-02	0.181
	1291.56	*		7.315E-02	1.070E-01	1.870E-01	1.765E-02	0.391
	1173.22	*		9.357E-03	4.031E-02	6.618E-02	5.316E-03	0.141
	1332.49	*		3.789E-02	3.487E-02	6.339E-02	5.238E-03	0.598
ZN-65	1115.52	*		1.097E-02	9.008E-02	1.305E-01	1.119E-02	0.084
GE-68	1077.35	*		1.312E+00	1.165E+00	2.100E+00	1.865E-01	0.625
AS-73	53.44	*		2.007E-01	5.556E-01	9.028E-01	6.780E-02	0.222
AS-74	595.88	*		-2.030E-02	8.912E-02	1.436E-01	1.460E-02	-0.141
SE-75	634.78	*		2.233E-01	3.469E-01	5.948E-01	5.818E-02	0.375
	66.05	*		-2.252E+00	4.206E+00	5.966E+00	5.670E-01	-0.377
	96.73	*		-6.857E-01	8.379E-01	9.722E-01	1.343E-01	-0.705
	121.11	*		5.436E-02	1.080E-01	1.868E-01	2.072E-02	0.291
BR-77	136.00	*		-1.717E-03	2.939E-02	4.951E-02	4.359E-03	-0.035
	198.60	*		5.057E-01	1.563E+00	2.564E+00	3.067E-01	0.197
	264.65	*		8.184E-03	4.154E-02	6.095E-02	8.959E-03	0.134
	279.53	*		4.717E-02	9.631E-02	1.438E-01	2.252E-02	0.328
	303.91	*		3.260E-01	1.783E+00	2.894E+00	4.810E-01	0.113
	400.65	*		2.024E-01	2.142E-01	3.798E-01	4.858E-02	0.533
	87.88	*		1.841E+03	4.899E+02	6.363E+02	6.026E+01	2.894
	200.40	*		-2.744E+02	3.260E+02	5.153E+02	5.828E+01	-0.533
	239.00	*		6.275E+02	9.455E+01	8.346E+01	1.109E+01	7.519
	249.79	*		-1.153E+02	1.283E+02	1.963E+02	2.722E+01	-0.587
	281.68	*		-3.030E+01	1.877E+02	2.662E+02	4.106E+01	-0.114
	297.23	*		-1.425E+02	1.458E+02	1.931E+02	2.897E+01	-0.738
	303.76	*		-1.797E+02	3.697E+02	5.743E+02	8.499E+01	-0.313
	439.47	*		-8.903E+01	2.969E+02	4.890E+02	5.274E+01	-0.182
	484.57	*		8.412E+01	4.529E+02	7.649E+02	8.234E+01	0.110
	520.65	*		3.586E+01	2.059E+01	3.781E+01	4.029E+00	0.948
	574.64	*		1.233E+02	4.218E+02	7.092E+02	7.334E+01	0.174
	578.91	*		-1.995E+01	1.877E+02	2.676E+02	2.758E+01	-0.075
	585.48	*		2.153E+03	5.027E+02	8.840E+02	9.066E+01	2.436
	755.35	*		5.414E+02	3.569E+02	6.409E+02	6.243E+01	0.845
SR-82	817.79	*		9.690E+01	2.686E+02	4.446E+02	4.373E+01	0.218
	698.33	*		-1.742E+01	3.449E+01	5.354E+01	5.135E+00	-0.325
	776.49	*		-2.582E-01	3.608E-01	5.371E-01	5.253E-02	-0.481
RB-83	1395.20	*		-9.583E+00	1.071E+01	1.495E+01	1.247E+00	-0.641
	520.41	*		8.939E-02	6.060E-02	1.097E-01	1.169E-02	0.815
	529.64	*		2.773E-02	8.809E-02	1.493E-01	1.585E-02	0.186
RB-84	552.65	*		-8.290E-03	1.648E-01	2.710E-01	2.843E-02	-0.031
	881.50	*		-5.535E-02	6.622E-02	1.026E-01	1.011E-02	-0.539
KR-85	513.99	*		1.401E+01	6.530E+00	1.115E+01	1.191E+00	1.256
SR-85	513.99	*		7.409E-02	3.453E-02	5.898E-02	6.300E-03	1.256
RB-86	1076.63	*		1.430E+00	8.364E-01	1.561E+00	1.387E-01	0.916
Y-88	898.02	*		-2.254E-02	3.466E-02	5.439E-02	5.375E-03	-0.414
ZR-88	1836.01	*		8.670E-03	3.299E-02	5.670E-02	4.603E-03	0.153
	392.90	*		-9.656E-03	2.529E-02	4.176E-02	4.454E-03	-0.231
Y-91	1204.90	*		-6.968E+00	1.565E+01	2.439E+01	1.975E+00	-0.286
NB-94	702.63	*		6.236E-03	3.010E-02	4.954E-02	4.758E-03	0.126
	871.10	*		-4.093E-03	2.841E-02	4.712E-02	4.644E-03	-0.087

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	765.79	*		6.694E-03	4.671E-02	6.655E-02	6.497E-03	0.101
NB-95M	235.69	*		-2.842E-02	1.168E-01	1.676E-01	2.340E-02	-0.170
ZR-95	724.18			-3.343E-02	9.606E-02	1.297E-01	1.340E-02	-0.258
	756.15	*		3.307E-02	6.789E-02	1.136E-01	1.196E-02	0.291
NB-97	657.90	*		7.131E-02	6.789E-02	Half-Life	too short	
	1024.50			6.310E+01	6.789E-02	Half-Life	too short	
ZR-97	254.15			-5.469E+01	6.789E-02	Half-Life	too short	
	355.39			2.481E+01	6.789E-02	Half-Life	too short	
	507.63	*		1.623E+01	6.789E-02	Half-Life	too short	
	602.52			-4.060E+01	6.789E-02	Half-Life	too short	
	1021.30			-1.064E+02	6.789E-02	Half-Life	too short	
	1147.95			-2.657E+01	6.789E-02	Half-Life	too short	
	1362.66			4.694E+01	6.789E-02	Half-Life	too short	
	1750.46			-2.046E+01	6.789E-02	Half-Life	too short	
MO-99	140.51	+		5.439E+01	4.498E+01	7.320E+01	2.033E+01	0.743
	181.06			-1.569E+00	3.216E+01	4.776E+01	9.162E+00	-0.033
	366.43			2.680E+00	1.462E+02	2.318E+02	2.808E+01	0.012
	739.58	*		-7.097E+00	2.200E+01	3.437E+01	5.439E+00	-0.206
	778.00			-2.612E+01	5.990E+01	9.180E+01	8.982E+00	-0.285
TC-99M	140.51	+	*	1.251E+14	5.990E+01	Half-Life	too short	
RH-101	127.23			5.111E-03	2.647E-02	4.079E-02	3.484E-03	0.125
	198.01	*		1.244E-02	2.812E-02	4.637E-02	5.190E-03	0.268
	325.23			1.110E-01	2.089E-01	3.096E-01	4.344E-02	0.359
RH-102	418.52			-5.422E-02	2.279E-01	3.779E-01	4.063E-02	-0.143
	475.06	*		-2.001E-02	2.513E-02	3.948E-02	4.256E-03	-0.507
	631.29			-2.983E-02	4.832E-02	7.468E-02	7.334E-03	-0.399
	697.49			3.240E-02	6.835E-02	1.149E-01	1.101E-02	0.282
	766.84			1.257E-01	1.207E-01	1.865E-01	1.820E-02	0.674
	1046.59			-1.901E-03	9.036E-02	1.492E-01	1.358E-02	-0.013
	1112.84			-7.275E-02	2.008E-01	3.192E-01	2.744E-02	-0.228
RU-103	497.08	+	*	1.101E-02	3.493E-02	5.941E-02	9.233E-03	0.185
	610.33	+		1.428E+01	3.022E+00	3.002E+00	5.241E-01	4.755
RH-106	511.85	+		7.319E-01	2.901E-01	3.980E-01	4.255E-02	1.839
	621.84	*		1.382E-01	2.734E-01	4.644E-01	6.609E-02	0.298
	1050.47			-7.990E-01	2.018E+00	3.208E+00	2.912E-01	-0.249
RU-106	511.85	+		7.319E-01	2.901E-01	3.980E-01	4.255E-02	1.839
	621.84	*		1.382E-01	2.731E-01	4.644E-01	4.607E-02	0.298
	1050.47			-7.990E-01	2.018E+00	3.208E+00	2.912E-01	-0.249
AG-108M	433.93	*		8.174E-04	2.755E-02	4.639E-02	5.129E-03	0.018
	614.37			-2.346E-03	3.549E-02	5.050E-02	5.196E-03	-0.046
	722.95			-5.726E-04	4.152E-02	5.847E-02	5.826E-03	-0.010
AG-110M	657.75	*		1.439E-02	2.939E-02	4.978E-02	4.851E-03	0.289
	677.61			5.529E-02	2.885E-01	4.756E-01	4.633E-02	0.116
	706.67			2.821E-02	1.797E-01	2.947E-01	2.897E-02	0.096
	763.93			-3.509E-02	1.687E-01	2.305E-01	2.299E-02	-0.152
	884.67			3.455E-02	4.209E-02	7.543E-02	7.615E-03	0.458
	937.48			2.326E-02	9.722E-02	1.461E-01	1.458E-02	0.159
	1384.27			-8.353E-02	1.622E-01	2.009E-01	1.724E-02	-0.416
IN-111	171.28			3.577E-01	1.571E+00	2.645E+00	2.632E-01	0.135

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	245.39	*		4.583E-01	1.896E+00	2.807E+00	3.826E-01	0.163
IN-113M	391.69	*		-7.787E-03	3.653E-02	6.103E-02	6.638E-03	-0.128
SN-113	391.69	*		-7.787E-03	3.653E-02	6.103E-02	6.638E-03	-0.128
IN-114M	190.27	*		1.233E-01	1.620E-01	2.510E-01	2.716E-02	0.491
CD-115	260.90			-1.008E-04	1.620E-01	Half-Life	too short	
	492.35			5.519E-06	1.620E-01	Half-Life	too short	
	527.90	*		1.751E-05	1.620E-01	Half-Life	too short	
SN-117M	156.02			-7.440E-01	2.108E+00	3.479E+00	3.257E-01	-0.214
	158.56	*		-1.163E-02	5.010E-02	8.304E-02	7.848E-03	-0.140
SB-122	563.90	*		1.342E+00	3.918E+00	6.612E+00	6.888E-01	0.203
	692.80			-2.865E+00	7.951E+01	1.285E+02	1.230E+01	-0.022
I-123	159.00	*		6.674E+01	7.951E+01	Half-Life	too short	
	528.96			1.475E+04	7.951E+01	Half-Life	too short	
TE-123M	159.00	*		8.157E-03	2.288E-02	3.886E-02	3.698E-03	0.210
I-124	602.71	*		-3.679E-01	1.045E+00	1.534E+00	1.550E-01	-0.240
	722.78			1.541E-01	7.071E+00	1.000E+01	9.662E-01	0.015
	1325.50			1.732E+01	4.638E+01	7.871E+01	6.499E+00	0.220
+	1376.25			1.149E+02	6.726E+01	8.828E+01	7.346E+00	1.302
+	1509.49			2.599E+01	1.831E+01	3.650E+01	3.072E+00	0.712
	1691.02			-3.907E-01	4.876E+00	7.961E+00	6.638E-01	-0.049
SB-124	602.71			-1.360E-02	3.864E-02	5.670E-02	5.731E-03	-0.240
	645.85			4.881E-01	4.512E-01	7.958E-01	8.053E-02	0.613
	709.31			-7.769E-01	2.588E+00	4.077E+00	3.924E-01	-0.191
	713.82			-3.102E-01	1.491E+00	2.366E+00	3.025E-01	-0.131
	722.78			8.257E-03	3.788E-01	5.358E-01	5.266E-02	0.015
+	968.20			1.548E+01	3.761E+00	6.456E+00	6.173E-01	2.398
	1045.16			1.266E+00	2.039E+00	3.580E+00	3.263E-01	0.354
	1325.50			9.909E-01	2.654E+00	4.504E+00	3.719E-01	0.220
	1368.21			1.157E-01	1.574E+00	2.422E+00	3.217E-01	0.048
	1436.60			1.725E+00	3.070E+00	5.368E+00	4.499E-01	0.321
	1691.02	*		-4.937E-03	6.162E-02	1.006E-01	8.744E-03	-0.049
SB-125	427.89	*		-3.816E-02	7.046E-02	1.138E-01	1.240E-02	-0.335
+	463.38			8.039E-01	3.767E-01	4.872E-01	5.524E-02	1.650
	600.56			-2.992E-02	1.560E-01	2.520E-01	2.689E-02	-0.119
	635.90			2.239E-01	2.363E-01	4.134E-01	4.295E-02	0.542
TE-125M	109.28	*		-1.525E+00	7.433E+00	1.260E+01	1.294E+00	-0.121
I-126	388.63			9.114E-02	2.040E-01	3.539E-01	3.839E-02	0.258
	666.33	*		8.797E-02	1.935E-01	3.204E-01	3.037E-02	0.275
	753.82			5.951E-01	1.610E+00	2.670E+00	2.600E-01	0.223
SB-126	223.80			2.169E+00	4.017E+00	6.742E+00	8.421E-01	0.322
+	278.60			4.126E+00	3.447E+00	4.140E+00	6.395E-01	0.997
+	296.50			1.719E+01	3.713E+00	3.827E+00	5.750E-01	4.492
	414.70			-3.522E-02	7.551E-02	1.070E-01	1.149E-02	-0.329
	415.30			4.300E-01	6.318E+00	9.461E+00	1.016E+00	0.045
	555.20			9.967E-01	3.840E+00	6.398E+00	6.701E-01	0.156
	573.80			2.300E-01	1.082E+00	1.808E+00	1.870E-01	0.127
	593.00			-1.806E-02	8.679E-01	1.422E+00	1.450E-01	-0.013
	656.30			4.704E-01	3.179E+00	5.243E+00	4.997E-01	0.090
	666.33			3.701E-02	8.141E-02	1.348E-01	1.278E-02	0.275

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		675.00		-1.043E-01	2.114E+00	3.419E+00	3.252E-01	-0.031
		695.00		1.386E-02	8.134E-02	1.336E-01	1.280E-02	0.104
		697.00		2.124E-01	2.826E-01	4.840E-01	4.640E-02	0.439
		720.50	*	-8.504E-03	1.538E-01	2.472E-01	2.387E-02	-0.034
		856.80		-2.334E-01	5.315E-01	7.355E-01	7.248E-02	-0.317
		989.30		1.218E+00	1.274E+00	2.294E+00	2.168E-01	0.531
		1034.80		7.502E+00	9.306E+00	1.649E+01	1.514E+00	0.455
		1213.00		1.621E-01	5.101E+00	8.355E+00	6.775E-01	0.019
		61.10		-6.455E+00	7.685E+01	1.121E+02	1.244E+01	-0.058
		252.40		4.819E+00	6.390E+00	1.025E+01	4.478E+00	0.470
		290.80		-3.619E+01	3.372E+01	4.302E+01	7.479E+00	-0.841
	+	411.60		5.393E+01	3.482E+01	3.011E+01	5.297E+00	1.791
		444.90		-1.534E+01	1.324E+01	1.999E+01	2.969E+00	-0.768
		473.00		1.067E+00	2.316E+00	3.985E+00	6.028E-01	0.268
		543.00		6.126E+00	2.349E+01	3.956E+01	6.446E+00	0.155
		603.60		1.426E+01	1.917E+01	2.948E+01	4.226E+00	0.484
		685.20	*	-1.300E-01	2.029E+00	3.274E+00	4.240E-01	-0.040
		698.50		-1.363E+01	2.399E+01	3.689E+01	6.273E+00	-0.370
		722.20		2.682E+01	4.591E+01	7.255E+01	9.317E+00	0.370
		783.80		6.219E+00	5.797E+00	1.002E+01	1.406E+00	0.621
		57.60		1.646E+00	4.654E+00	7.522E+00	5.415E-01	0.219
		145.22		3.099E-01	6.348E-01	9.843E-01	8.866E-02	0.315
		172.10		7.904E-03	9.787E-02	1.637E-01	1.635E-02	0.048
		202.84	*	2.273E-02	4.087E-02	6.899E-02	7.885E-03	0.330
XE-127		374.96		-2.335E-01	1.967E-01	2.811E-01	3.274E-02	-0.831
		80.18		1.390E+00	5.749E+00	7.359E+00	6.392E-01	0.189
		284.30		5.720E-01	1.572E+00	2.588E+00	4.045E-01	0.221
I-131		364.48	*	-4.399E-02	1.281E-01	1.974E-01	2.481E-02	-0.223
		636.97		4.017E-01	1.805E+00	2.938E+00	2.998E-01	0.137
		722.89		-1.087E-02	9.012E+00	1.271E+01	1.237E+00	-0.001
TE-132		49.72		8.437E+00	2.225E+01	3.629E+01	4.059E+00	0.232
		111.76		2.973E+01	4.487E+01	7.682E+01	8.904E+00	0.387
		116.30		-5.221E+00	3.867E+01	6.549E+01	7.571E+00	-0.080
BA-133		228.16	*	-3.590E-01	1.097E+00	1.764E+00	3.313E-01	-0.204
		53.15		-7.811E-01	2.358E+00	3.714E+00	2.800E-01	-0.210
		79.62		7.702E-02	1.083E+00	1.567E+00	2.380E-01	0.049
		81.00		-2.250E-02	8.403E-02	1.194E-01	1.900E-02	-0.188
	+	276.40		5.238E-01	4.417E-01	5.172E-01	9.940E-02	1.013
		302.84		-2.111E-01	1.374E-01	1.918E-01	3.442E-02	-1.101
		356.01	*	-3.751E-03	4.241E-02	5.926E-02	9.558E-03	-0.063
		383.85		-1.216E-01	2.447E-01	4.012E-01	5.794E-02	-0.303
I-133	+	510.53		1.548E+01	2.447E-01	Half-Life	too short	
		529.87	*	1.430E-02	2.447E-01	Half-Life	too short	
		706.58		5.776E-01	2.447E-01	Half-Life	too short	
		856.28		-7.609E-01	2.447E-01	Half-Life	too short	
		875.33		-5.810E-02	2.447E-01	Half-Life	too short	
		1236.41		8.852E+00	2.447E-01	Half-Life	too short	
CS-134		1298.22		9.088E-01	2.447E-01	Half-Life	too short	
		475.35		-9.762E-01	1.642E+00	2.623E+00	2.828E-01	-0.372

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135 I-135		563.23		1.206E-01	3.231E-01	5.463E-01	5.731E-02	0.221
		569.32		-9.386E-02	1.801E-01	2.818E-01	2.953E-02	-0.333
		604.70		3.058E-02	3.065E-02	4.854E-02	4.906E-03	0.630
	+	795.84	*	7.035E-02	5.453E-02	7.870E-02	7.764E-03	0.894
		801.93		-2.677E-01	3.585E-01	5.294E-01	5.220E-02	-0.506
		1038.57		-1.271E+00	3.235E+00	5.140E+00	4.707E-01	-0.247
		1167.94		-3.680E-01	2.118E+00	3.412E+00	2.759E-01	-0.108
		1365.15		-2.220E-01	1.014E+00	1.585E+00	1.381E-01	-0.140
		268.24	*	9.041E-02	1.493E-01	2.242E-01	3.517E-02	0.403
		288.45		3.815E+13	1.493E-01	Half-Life	too short	
		417.63		1.652E+13	1.493E-01	Half-Life	too short	
		546.56		-4.326E+11	1.493E-01	Half-Life	too short	
		836.80		8.013E+12	1.493E-01	Half-Life	too short	
		1038.76		-9.172E+12	1.493E-01	Half-Life	too short	
		1124.00		4.695E+13	1.493E-01	Half-Life	too short	
		1131.51		3.411E+12	1.493E-01	Half-Life	too short	
		1260.41	*	-1.152E+12	1.493E-01	Half-Life	too short	
		1457.56		2.120E+14	1.493E-01	Half-Life	too short	
		1678.03		7.502E+12	1.493E-01	Half-Life	too short	
		1706.46		-2.976E+13	1.493E-01	Half-Life	too short	
		1791.20		-3.165E+12	1.493E-01	Half-Life	too short	
CS-136		66.91		5.700E-01	7.361E-01	1.103E+00	1.638E-01	0.517
	+	86.29		5.424E+00	1.533E+00	1.853E+00	2.466E-01	2.926
		153.22		2.234E-01	6.197E-01	1.054E+00	1.077E-01	0.212
		163.89		1.013E+00	1.006E+00	1.742E+00	1.844E-01	0.581
		176.55		3.328E-01	3.404E-01	5.878E-01	6.238E-02	0.566
		273.65		2.109E-01	4.198E-01	6.966E-01	1.080E-01	0.303
		340.57		1.848E-01	1.340E-01	2.088E-01	2.829E-02	0.885
		818.51		-1.540E-03	7.394E-02	1.179E-01	1.160E-02	-0.013
		1048.07	*	-7.638E-02	1.055E-01	1.612E-01	1.522E-02	-0.474
		1235.34		3.305E-01	6.273E-01	9.441E-01	1.087E-01	0.350
BA-137M		661.65	*	-1.003E-02	3.073E-02	4.860E-02	4.598E-03	-0.206
CS-137		661.65	*	-1.060E-02	3.249E-02	5.137E-02	4.869E-03	-0.206
CE-139		165.85	*	-1.505E-02	2.460E-02	3.994E-02	3.881E-03	-0.377
BA-140		162.64		7.943E-02	7.232E-01	1.215E+00	1.221E-01	0.065
		304.84		1.647E-01	1.242E+00	2.008E+00	6.120E-01	0.082
		423.70		4.479E-01	1.789E+00	3.051E+00	1.009E+00	0.147
LA-140		537.32	*	-1.069E-01	2.601E-01	4.126E-01	1.391E-01	-0.259
	+	328.77		5.222E-01	3.552E-01	5.382E-01	7.639E-02	0.970
		432.53		3.797E-01	1.944E+00	3.311E+00	3.681E-01	0.115
		487.03		-8.009E-03	1.387E-01	2.302E-01	2.576E-02	-0.035
		751.79		-1.509E-01	1.866E+00	2.982E+00	3.148E-01	-0.051
		815.85		-5.631E-02	3.330E-01	5.229E-01	5.602E-02	-0.108
		867.82		1.100E-01	1.360E+00	2.180E+00	2.236E-01	0.050
		919.63		-4.220E-01	2.948E+00	4.894E+00	5.676E-01	-0.086
		925.24		3.028E-01	1.060E+00	1.821E+00	1.863E-01	0.166
		1596.49	*	-1.285E-01	1.041E-01	1.393E-01	1.172E-02	-0.922
CE-141		145.44	*	7.762E-03	5.759E-02	8.772E-02	8.040E-03	0.088
CE-143		57.37		1.713E-03	5.759E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	231.56			-5.996E-04	5.759E-02	Half-Life	too short	
	293.26	*		1.742E-03	5.759E-02	Half-Life	too short	
+	350.59			1.437E-01	5.759E-02	Half-Life	too short	
	490.36			-2.473E-04	5.759E-02	Half-Life	too short	
	664.57			8.951E-04	5.759E-02	Half-Life	too short	
	721.93			1.429E-03	5.759E-02	Half-Life	too short	
CE-144	80.11			5.160E-01	2.070E+00	2.651E+00	2.280E-01	0.195
	133.54	*		-9.360E-02	1.576E-01	2.589E-01	4.039E-02	-0.362
PM-144	476.78			3.690E-02	5.740E-02	9.972E-02	1.140E-02	0.370
	618.01			-8.780E-03	2.623E-02	4.164E-02	4.234E-03	-0.211
	696.49	*		1.603E-02	3.179E-02	5.348E-02	5.128E-03	0.300
	778.57			-1.325E+00	1.986E+00	2.968E+00	2.905E-01	-0.447
PR-144	696.49	*		1.088E+00	2.158E+00	3.630E+00	3.479E-01	0.300
	1489.15			2.156E+00	8.315E+00	1.455E+01	1.223E+00	0.148
PM-146	453.90	*		2.801E-02	3.708E-02	6.487E-02	8.134E-03	0.432
	633.02			-5.823E-01	1.234E+00	1.902E+00	7.164E-01	-0.306
	735.90			-7.717E-02	1.310E-01	1.962E-01	5.680E-02	-0.393
	747.13			-5.387E-02	8.475E-02	1.287E-01	1.897E-02	-0.419
ND-147	91.11			7.374E-01	3.373E-01	5.139E-01	5.093E-02	1.435
	319.41			1.737E+00	3.431E+00	5.652E+00	8.058E-01	0.307
	439.89			-6.262E-01	6.193E+00	1.033E+01	1.115E+00	-0.061
	531.02	*		-6.250E-01	5.827E-01	8.690E-01	1.406E-01	-0.719
PM-149	285.90	*		-2.280E-04	5.827E-01	Half-Life	too short	
EU-152	121.78			5.314E-03	5.769E-02	9.835E-02	9.621E-03	0.054
	244.69			-1.263E-02	2.804E-01	4.065E-01	5.525E-02	-0.031
	344.27	*		-9.454E-02	8.477E-02	1.143E-01	1.550E-02	-0.827
	443.98			1.438E-01	7.576E-01	1.288E+00	1.390E-01	0.112
	778.89			-1.850E-01	2.334E-01	3.443E-01	3.369E-02	-0.537
	867.32			1.290E-01	7.086E-01	1.109E+00	1.093E-01	0.116
+	964.01			5.925E-01	3.157E-01	5.074E-01	4.863E-02	1.168
	1085.78			1.762E-01	3.562E-01	6.137E-01	5.410E-02	0.287
	1112.02			-1.167E-02	2.755E-01	4.517E-01	3.885E-02	-0.026
	1407.95			1.368E-01	1.624E-01	2.921E-01	2.441E-02	0.468
GD-153	69.67			-4.052E-01	1.301E+00	2.029E+00	1.563E-01	-0.200
+	83.37			2.742E+01	1.422E+01	2.008E+01	1.796E+00	1.366
+	97.43	*		1.113E-01	1.021E-01	1.060E-01	9.418E-03	1.050
	103.18			-8.512E-02	8.586E-02	1.345E-01	1.167E-02	-0.633
EU-154	123.07			3.601E-03	3.992E-02	6.802E-02	7.651E-03	0.053
	247.94			1.880E-01	2.850E-01	4.792E-01	7.529E-02	0.392
	591.81			-2.963E-01	4.935E-01	7.649E-01	9.855E-02	-0.387
	723.30			-3.904E-02	1.771E-01	2.432E-01	2.549E-02	-0.161
	756.87			-8.301E-02	7.531E-01	1.200E+00	1.537E-01	-0.069
	873.19			9.897E-03	2.510E-01	4.233E-01	5.563E-02	0.023
	996.32			7.045E-02	3.298E-01	4.905E-01	8.909E-02	0.144
	1004.76			-5.271E-02	1.998E-01	2.769E-01	3.380E-02	-0.190
	1274.45	*		-1.008E-01	1.086E-01	1.573E-01	1.730E-02	-0.641
EU-155	48.70			-1.689E+00	1.551E+00	2.357E+00	1.906E-01	-0.717
	60.01			1.900E+00	3.888E+00	5.834E+00	4.162E-01	0.326
+	86.54			4.294E-01	1.144E-01	1.524E-01	1.431E-02	2.818

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TB-160	+	105.31	*	1.258E-01	8.655E-02	1.542E-01	1.345E-02	0.816
		86.79		1.178E+00	3.135E-01	4.234E-01	3.954E-02	2.783
		197.04		-5.379E-02	4.991E-01	8.048E-01	8.970E-02	-0.067
		215.65		6.988E-02	6.496E-01	1.073E+00	1.295E-01	0.065
		298.57		1.032E-01	1.107E-01	1.681E-01	2.515E-02	0.614
	+	879.36	*	-2.994E-02	1.258E-01	2.033E-01	2.003E-02	-0.147
		962.29		1.073E-01	5.205E-01	7.726E-01	7.410E-02	0.139
		966.15		4.183E-01	2.229E-01	3.822E-01	3.659E-02	1.094
		1177.93		-1.416E-01	3.467E-01	5.467E-01	4.398E-02	-0.259
		1271.85		4.552E-01	6.563E-01	1.141E+00	9.353E-02	0.399
HO-166M	+	80.57		3.741E-02	2.304E-01	3.347E-01	2.894E-02	0.112
		184.41		2.322E-01	5.800E-02	5.868E-02	6.187E-03	3.957
	+	280.46		-2.789E-02	7.719E-02	1.076E-01	1.662E-02	-0.259
		410.95		6.359E-01	4.008E-01	3.950E-01	4.238E-02	1.610
		711.68	*	3.174E-02	5.275E-02	8.956E-02	8.625E-03	0.354
TM-171		752.31		-3.761E-02	2.571E-01	4.084E-01	3.976E-02	-0.092
		810.29		-5.750E-02	5.480E-02	7.801E-02	7.666E-03	-0.737
		51.35		-1.856E+01	1.999E+01	3.057E+01	2.364E+00	-0.607
		52.39		-7.558E-01	1.035E+01	1.651E+01	1.258E+00	-0.046
		59.40		-5.478E+00	2.169E+01	3.143E+01	2.235E+00	-0.174
LU-176	+	66.72	*	1.984E+01	2.294E+01	3.468E+01	2.603E+00	0.572
		88.36		8.446E-01	2.247E-01	2.764E-01	2.613E-02	3.056
		201.83		1.613E-02	2.334E-02	3.962E-02	4.508E-03	0.407
		306.84	*	-1.845E-02	2.100E-02	3.143E-02	4.620E-03	-0.587
LU-177		401.10		3.533E+00	5.578E+00	9.757E+00	1.044E+00	0.362
		112.95		1.509E+00	1.790E+00	3.082E+00	2.618E-01	0.490
		208.36	*	2.532E+00	1.796E+00	2.306E+00	2.699E-01	1.098
LU-177M	+	52.97		-3.885E-01	1.078E+00	1.695E+00	1.281E-01	-0.229
		54.07		4.788E-01	5.682E-01	9.406E-01	7.008E-02	0.509
		61.30		-1.399E-01	1.185E+00	1.725E+00	1.242E-01	-0.081
		121.62		2.334E-02	2.993E-01	5.099E-01	4.309E-02	0.046
		147.16		-2.028E-01	5.742E-01	8.503E-01	7.711E-02	-0.239
		171.86		5.684E-02	3.790E-01	6.358E-01	6.342E-02	0.089
		218.09		-4.300E-01	7.220E-01	1.148E+00	1.400E-01	-0.375
		268.79		1.868E+00	1.042E+00	1.234E+00	1.839E-01	1.514
		319.02		1.637E-01	2.231E-01	3.719E-01	5.307E-02	0.440
		367.43		-5.810E-02	7.538E-01	1.186E+00	1.430E-01	-0.049
HF-181	+	413.65	*	-9.010E-02	1.574E-01	2.211E-01	2.374E-02	-0.407
		56.28		1.275E-01	6.988E-01	1.123E+00	8.177E-02	0.114
		57.53		1.268E-01	3.880E-01	6.266E-01	4.512E-02	0.202
		65.20		-3.401E-01	8.290E-01	1.184E+00	8.779E-02	-0.287
		133.02		-4.146E-02	5.603E-02	8.729E-02	7.568E-03	-0.475
		136.25		-9.737E-02	3.556E-01	5.933E-01	5.192E-02	-0.164
		345.85		-5.814E-02	1.686E-01	2.612E-01	3.433E-02	-0.223
		482.03	*	-1.131E-02	3.699E-02	6.030E-02	6.495E-03	-0.188
W-181		56.28		4.908E-02	2.652E-01	4.264E-01	3.103E-02	0.115
		57.53		4.801E-02	1.473E-01	2.379E-01	1.713E-02	0.202
		65.20	*	-1.281E-01	3.123E-01	4.462E-01	3.307E-02	-0.287
TA-182		67.75		-7.640E-02	8.833E-02	1.342E-01	1.016E-02	-0.569

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	100.10	2.618E-01	2.400E-01	2.299E-01	2.017E-02	1.139
		152.43	-2.324E-02	2.746E-01	4.592E-01	4.243E-02	-0.051
		222.10	3.554E-02	2.937E-01	4.845E-01	6.009E-02	0.073
	+	1001.68	4.742E+00	2.899E+00	3.842E+00	3.606E-01	1.234
	+	1121.28	5.371E-01	1.974E-01	3.309E-01	2.820E-02	1.623
		1189.05	5.735E-02	3.008E-01	5.000E-01	4.033E-02	0.115
		1221.42	* 6.872E-02	1.905E-01	3.201E-01	2.600E-02	0.215
		1230.97	1.773E-02	4.588E-01	6.814E-01	5.546E-02	0.026
RE-183		57.98	-3.406E-02	1.516E-01	2.393E-01	1.718E-02	-0.142
		59.32	-2.545E-02	9.150E-02	1.324E-01	9.420E-03	-0.192
		67.20	-8.825E-02	1.756E-01	2.494E-01	1.879E-02	-0.354
		162.32	* -9.010E-03	9.227E-02	1.537E-01	1.473E-02	-0.059
	+	208.81	1.731E+00	1.228E+00	1.597E+00	1.873E-01	1.084
		291.72	-9.296E-01	8.768E-01	1.124E+00	1.704E-01	-0.827
RE-184		57.98	-1.234E-01	5.493E-01	8.671E-01	6.224E-02	-0.142
		59.32	-9.213E-02	3.312E-01	4.791E-01	3.410E-02	-0.192
		67.20	-3.196E-01	6.360E-01	9.030E-01	6.804E-02	-0.354
		161.27	-2.097E-01	2.952E-01	4.780E-01	4.564E-02	-0.439
		216.55	1.285E-01	2.255E-01	3.795E-01	4.599E-02	0.339
		252.85	* 6.295E-02	1.960E-01	3.241E-01	4.547E-02	0.194
		318.01	3.735E-01	3.857E-01	6.498E-01	9.297E-02	0.575
		792.07	9.515E-01	8.849E-01	1.412E+00	1.384E-01	0.674
		903.28	6.149E-01	8.445E-01	1.501E+00	1.475E-01	0.410
OS-185		920.93	-1.176E-01	4.094E-01	6.674E-01	6.518E-02	-0.176
		59.72	1.056E-01	2.353E-01	3.526E-01	2.511E-02	0.299
		61.14	-1.174E-02	1.317E-01	1.921E-01	1.381E-02	-0.061
		69.30	-6.335E-02	2.324E-01	3.631E-01	2.787E-02	-0.174
		592.07	-9.741E-01	2.046E+00	3.214E+00	3.279E-01	-0.303
		646.12	* 5.861E-02	3.770E-02	6.848E-02	6.610E-03	0.856
		717.42	-2.696E-01	8.040E-01	1.259E+00	1.215E-01	-0.214
		874.81	4.881E-02	5.066E-01	8.583E-01	8.458E-02	0.057
		880.27	-1.498E-02	7.002E-01	1.155E+00	1.138E-01	-0.013
RE-188		155.03	* 1.428E-01	1.407E-01	2.445E-01	2.280E-02	0.584
		477.96	2.200E+00	2.687E+00	4.715E+00	5.082E-01	0.467
		633.10	-1.194E+00	2.528E+00	3.959E+00	3.881E-01	-0.302
W-188	+	63.58	1.910E+02	6.943E+01	8.636E+01	6.322E+00	2.211
		227.08	-4.716E-01	1.110E+01	1.815E+01	2.297E+00	-0.026
		290.67	* -7.070E+00	7.037E+00	9.100E+00	1.382E+00	-0.777
IR-192	+	295.96	1.149E+00	2.484E-01	2.763E-01	4.165E-02	4.157
		308.46	1.838E-02	7.742E-02	1.261E-01	1.850E-02	0.146
		316.51	* 8.748E-03	2.985E-02	4.865E-02	6.993E-03	0.180
		468.07	1.854E-02	6.067E-02	9.199E-02	1.039E-02	0.202
		604.41	5.480E-01	4.251E-01	6.851E-01	9.617E-02	0.800
		612.46	9.112E-02	6.997E-01	1.018E+00	1.133E-01	0.090
AU-195		65.12	-7.023E-02	1.444E-01	2.059E-01	1.525E-02	-0.341
		66.83	6.218E-02	7.634E-02	1.152E-01	8.651E-03	0.540
	+	75.70	1.091E+00	2.017E-01	3.354E-01	2.745E-02	3.251
	+	98.88	* 3.251E-01	2.980E-01	3.215E-01	2.837E-02	1.011
	+	129.76	5.124E+00	3.153E+00	4.349E+00	3.738E-01	1.178

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	367.94	*		-8.689E-04	3.153E+00	Half-Life	too short	
	579.30			-6.017E-03	3.153E+00	Half-Life	too short	
	828.27			-1.581E-03	3.153E+00	Half-Life	too short	
	1205.75			-1.548E-02	3.153E+00	Half-Life	too short	
TL-201	68.90			-4.093E+00	7.221E+00	1.115E+01	8.527E-01	-0.367
	70.82			1.793E+00	4.457E+00	6.591E+00	5.131E-01	0.272
	80.30			2.172E+00	9.486E+00	1.213E+01	1.046E+00	0.179
	135.34			1.820E+01	3.673E+01	6.327E+01	5.522E+00	0.288
	167.43	*		-1.695E+00	1.085E+01	1.799E+01	1.760E+00	-0.094
TL-202	68.90			-2.229E-01	3.933E-01	6.072E-01	4.644E-02	-0.367
	70.82			9.739E-02	2.421E-01	3.579E-01	2.787E-02	0.272
	80.30			1.180E-01	5.153E-01	6.591E-01	5.681E-02	0.179
	439.56	*		-1.988E-02	7.226E-02	1.192E-01	1.286E-02	-0.167
HG-203	70.83			3.717E-01	9.288E-01	1.372E+00	1.796E-01	0.271
	72.87			-8.978E-02	5.667E-01	8.107E-01	1.035E-01	-0.111
	82.60			-3.647E-01	1.037E+00	1.452E+00	2.018E-01	-0.251
	279.20	*		2.498E-02	3.742E-02	5.650E-02	8.825E-03	0.442
BI-207	72.80			-3.201E-02	1.591E-01	2.271E-01	1.803E-02	-0.141
	74.97		+	5.984E-01	1.107E-01	1.778E-01	1.443E-02	3.366
	84.90		+	3.517E-01	1.824E-01	2.559E-01	2.333E-02	1.374
	569.67			-1.839E-02	2.805E-02	4.339E-02	4.502E-03	-0.424
	1063.62	*		2.459E-02	5.086E-02	8.738E-02	7.850E-03	0.281
	1770.23			5.097E-01	2.757E-01	6.335E-01	5.214E-02	0.805
TL-207	81.07			-4.022E-02	1.855E-01	2.644E-01	2.300E-02	-0.152
	83.78		+	2.319E-01	1.202E-01	1.728E-01	1.553E-02	1.342
	94.90			3.642E-01	2.165E-01	2.996E-01	2.699E-02	1.216
	122.32			1.700E-01	1.377E+00	2.350E+00	2.138E-01	0.072
	144.24		+	7.496E-01	6.869E-01	9.373E-01	9.339E-02	0.800
	154.21			2.555E-01	3.201E-01	5.522E-01	5.578E-02	0.463
	269.46		+	4.319E-01	2.411E-01	3.113E-01	4.683E-02	1.387
	323.87	*		3.095E-01	6.150E-01	9.078E-01	1.899E-01	0.341
	338.28		+	6.509E+00	1.983E+00	2.256E+00	3.632E-01	2.885
	445.03			-2.054E+00	1.818E+00	2.761E+00	3.788E-01	-0.744
PO-209	260.50			-1.121E+00	7.974E+00	1.283E+01	1.854E+00	-0.087
	262.80			-2.702E+00	2.235E+01	3.600E+01	5.246E+00	-0.075
	896.60	*		-2.430E+00	6.465E+00	1.047E+01	1.031E+00	-0.232
BI-210	46.50	*		9.987E-01	2.180E+00	3.608E+00	3.359E-01	0.277
PB-210	46.50	*		9.987E-01	2.180E+00	3.608E+00	3.359E-01	0.277
PO-210	46.50	*		9.987E-01	2.180E+00	3.608E+00	3.041E-01	0.277
PB-211	404.84	*		-8.881E-01	1.077E+00	1.260E+00	7.939E-01	-0.705
	427.08			-3.183E-01	1.578E+00	2.596E+00	1.622E+00	-0.123
	831.96			1.589E-01	1.069E+00	1.722E+00	1.082E+00	0.092
BI-212	727.18	*	+	7.219E-01	3.826E-01	5.826E-01	6.367E-02	1.239
	785.46			1.848E+00	1.664E+00	2.897E+00	2.838E-01	0.638
	1620.62			9.500E-01	1.164E+00	2.143E+00	1.799E-01	0.443
PO-215	81.07			-4.022E-02	1.855E-01	2.644E-01	2.300E-02	-0.152
	83.78		+	2.319E-01	1.202E-01	1.728E-01	1.553E-02	1.342
	94.90			3.642E-01	2.165E-01	2.996E-01	2.699E-02	1.216
	122.32			1.700E-01	1.377E+00	2.350E+00	2.138E-01	0.072

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	144.24		7.496E-01	6.869E-01	9.373E-01	9.339E-02	0.800
		154.21		2.555E-01	3.201E-01	5.522E-01	5.578E-02	0.463
	+	269.46		4.319E-01	2.411E-01	3.113E-01	4.683E-02	1.387
		323.87	*	3.095E-01	6.150E-01	9.078E-01	1.899E-01	0.341
	+	338.28		6.509E+00	1.983E+00	2.256E+00	3.632E-01	2.885
		445.03		-2.054E+00	1.818E+00	2.761E+00	3.788E-01	-0.744
	+	271.23		5.541E-01	3.108E-01	3.935E-01	6.323E-02	1.408
		401.81	*	8.678E-02	3.424E-01	5.869E-01	9.571E-02	0.148
	RN-220	549.76	*	-6.292E+00	2.181E+01	3.518E+01	3.697E+00	-0.179
	RA-223	81.07		-4.022E-02	1.855E-01	2.644E-01	2.300E-02	-0.152
AC-227	+	83.78		2.319E-01	1.202E-01	1.728E-01	1.553E-02	1.342
		94.90		3.642E-01	2.165E-01	2.996E-01	2.699E-02	1.216
		122.32		1.700E-01	1.377E+00	2.350E+00	2.138E-01	0.072
	+	144.24		7.496E-01	6.869E-01	9.373E-01	9.339E-02	0.800
		154.21		2.555E-01	3.201E-01	5.522E-01	5.578E-02	0.463
	+	269.46		4.319E-01	2.411E-01	3.113E-01	4.683E-02	1.387
		323.87	*	3.095E-01	6.150E-01	9.078E-01	1.899E-01	0.341
	+	338.28		6.509E+00	1.983E+00	2.256E+00	3.632E-01	2.885
		445.03		-2.054E+00	1.818E+00	2.761E+00	3.788E-01	-0.744
		79.80		2.738E-01	1.380E+00	2.008E+00	4.313E-01	0.136
TH-227		236.00		3.767E-02	2.053E-01	3.032E-01	4.774E-02	0.124
		256.20	*	3.073E-01	3.268E-01	5.493E-01	1.047E-01	0.559
		286.10		-1.360E+00	1.337E+00	1.982E+00	3.625E-01	-0.686
		299.80		1.596E+00	1.451E+00	2.185E+00	4.657E-01	0.730
		304.40		6.901E-01	1.549E+00	2.543E+00	5.596E-01	0.271
		334.20		7.222E-01	2.209E+00	3.210E+00	7.099E-01	0.225
	+	79.80		2.738E-01	1.380E+00	2.008E+00	4.368E-01	0.136
	+	94.00		2.690E+01	6.672E+00	3.517E+00	7.723E-01	7.649
		236.00		3.767E-02	2.053E-01	3.032E-01	4.504E-02	0.124
		256.20	*	3.073E-01	3.281E-01	5.493E-01	1.170E-01	0.559
PA-231		286.10		-1.360E+00	1.902E+00	1.982E+00	2.005E+00	-0.686
		299.80		1.596E+00	1.451E+00	2.185E+00	4.657E-01	0.730
		304.40		6.901E-01	1.549E+00	2.543E+00	5.596E-01	0.271
		334.20		7.222E-01	2.209E+00	3.210E+00	7.099E-01	0.225
	+	283.67	*	3.880E-01	1.299E+00	2.033E+00	4.028E-01	0.191
		301.29		6.621E-01	5.177E-01	8.695E-01	1.498E-01	0.762
	TH-231	81.07		-4.022E-02	1.855E-01	2.644E-01	2.300E-02	-0.152
	+	83.78		2.319E-01	1.202E-01	1.728E-01	1.553E-02	1.342
		94.90		3.642E-01	2.165E-01	2.996E-01	2.699E-02	1.216
		122.32		1.700E-01	1.377E+00	2.350E+00	2.138E-01	0.072
U-231	+	144.24		7.496E-01	6.869E-01	9.373E-01	9.339E-02	0.800
		154.21		2.555E-01	3.201E-01	5.522E-01	5.578E-02	0.463
	+	269.46		4.319E-01	2.411E-01	3.113E-01	4.683E-02	1.387
		323.87	*	3.095E-01	6.150E-01	9.078E-01	1.899E-01	0.341
	+	338.28		6.509E+00	1.983E+00	2.256E+00	3.632E-01	2.885
		445.03		-2.054E+00	1.818E+00	2.761E+00	3.788E-01	-0.744
	+	84.21		1.620E+01	8.400E+00	1.209E+01	1.093E+00	1.340
	+	92.29		4.311E+01	6.321E+00	7.501E+00	6.873E-01	5.747
		95.87	*	3.075E-01	1.717E+00	2.165E+00	1.940E-01	0.142

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		-1.290E+00	2.576E+00	4.319E+00	3.698E-01	-0.299
	+	75.28		1.746E+01	3.917E+00	5.232E+00	7.892E-01	3.337
	+	86.59		6.971E+00	2.564E+00	2.488E+00	6.731E-01	2.802
		300.12		5.998E-01	4.029E-01	6.153E-01	1.183E-01	0.975
		311.98	*	-8.574E-03	5.019E-02	7.939E-02	1.165E-02	-0.108
		340.50		8.788E-01	5.982E-01	8.877E-01	2.303E-01	0.990
		398.62		-1.075E+00	1.773E+00	2.846E+00	7.788E-01	-0.378
PA-234		415.76		1.023E+00	1.377E+00	2.168E+00	4.874E-01	0.472
	+	63.00		5.378E+00	2.075E+00	2.477E+00	3.667E-01	2.171
		94.67		3.778E-01	1.636E-01	2.276E-01	2.887E-02	1.660
	+	98.44		1.303E-01	1.393E-01	1.295E-01	7.230E-02	1.006
	+	99.86		6.752E-01	6.191E-01	6.080E-01	5.341E-02	1.111
		111.00		-3.351E-02	1.418E-01	2.399E-01	2.882E-02	-0.140
		131.20		1.247E-01	9.095E-02	1.472E-01	1.270E-02	0.847
		152.70		4.271E-02	2.606E-01	4.400E-01	7.643E-02	0.097
	+	186.00		8.358E+00	3.263E+00	2.531E+00	8.056E-01	3.302
		226.40		-5.823E-02	3.377E-01	5.483E-01	8.830E-02	-0.106
		227.20		-2.871E-02	3.653E-01	5.960E-01	7.550E-02	-0.048
		248.90		-6.146E-01	6.854E-01	1.030E+00	2.561E-01	-0.597
	+	293.70		7.034E+00	1.850E+00	1.401E+00	2.982E-01	5.021
		369.80		-2.406E-01	7.262E-01	1.116E+00	2.599E-01	-0.216
		568.70		-5.219E-01	9.206E-01	1.436E+00	1.491E-01	-0.363
		569.50		-1.480E-01	2.498E-01	3.887E-01	4.034E-02	-0.381
		574.00		4.861E-01	1.305E+00	2.206E+00	2.282E-01	0.220
		699.00		-5.629E-01	6.787E-01	1.011E+00	1.975E-01	-0.557
		706.10		2.121E-01	9.075E-01	1.490E+00	6.673E-01	0.142
		733.00		-1.699E-01	3.774E-01	4.947E-01	1.120E-01	-0.343
		742.81		1.086E+00	1.450E+00	2.165E+00	1.458E+00	0.502
	+	796.30		1.364E+00	1.113E+00	1.484E+00	4.075E-01	0.919
		805.60		-9.817E-02	9.331E-01	1.478E+00	4.582E-01	-0.066
		819.60		-8.807E-01	1.134E+00	1.580E+00	6.054E-01	-0.558
		826.30		-2.791E-01	7.636E-01	1.158E+00	5.211E-01	-0.241
		831.60		1.685E-01	5.604E-01	9.158E-01	2.768E-01	0.184
		876.40		4.582E-01	8.435E-01	1.242E+00	1.278E+00	0.369
		880.51		-5.281E-03	2.477E-01	4.085E-01	4.025E-02	-0.013
		883.24		2.758E-02	2.510E-01	4.243E-01	2.859E-01	0.065
		899.00		-5.514E-01	7.277E-01	1.062E+00	4.670E-01	-0.519
		925.00		5.977E-02	9.360E-01	1.575E+00	1.536E-01	0.038
		926.50		2.029E-02	1.392E-01	2.359E-01	6.058E-02	0.086
		946.00	*	-1.258E-01	2.545E-01	4.030E-01	7.764E-02	-0.312
		949.00		-1.790E-01	3.880E-01	6.195E-01	5.980E-02	-0.289
		980.50		2.724E-01	6.408E-01	1.106E+00	1.051E-01	0.246
		1394.10		-1.067E+00	1.289E+00	1.504E+00	9.784E-01	-0.709
PA-234M		766.42		7.959E+00	1.304E+01	1.856E+01	9.455E+00	0.429
NP-236	+	1001.03	*	1.058E+01	6.488E+00	8.700E+00	9.254E-01	1.216
		94.67		2.885E-01	1.215E-01	1.728E-01	1.559E-02	1.669
	+	98.44		9.847E-02	9.028E-02	9.790E-02	8.655E-03	1.006
		111.00		-2.535E-02	1.073E-01	1.814E-01	1.545E-02	-0.140
		160.31	*	3.048E-02	6.295E-02	1.074E-01	1.021E-02	0.284

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		2.251E-01	2.064E-01	2.098E-01	1.846E-02	1.073
		117.00	*	-1.058E-01	1.417E-01	2.335E-01	1.976E-02	-0.453
	+	209.75		1.326E+00	9.410E-01	1.230E+00	1.448E-01	1.078
		228.18		-3.405E-02	1.906E-01	3.093E-01	3.933E-02	-0.110
	+	277.60		2.555E-01	2.134E-01	2.558E-01	3.937E-02	0.999
AM-241		334.30		3.193E-01	1.245E+00	1.802E+00	2.461E-01	0.177
		59.54	*	4.129E-02	1.221E-01	1.821E-01	1.431E-02	0.227
CM-243	+	99.55		2.317E-01	2.124E-01	2.160E-01	1.900E-02	1.073
		103.76	*	-4.463E-03	7.547E-02	1.290E-01	1.117E-02	-0.035
		117.00		-1.089E-01	1.458E-01	2.403E-01	2.033E-02	-0.453
	+	209.75		1.308E+00	9.278E-01	1.213E+00	1.428E-01	1.078
		228.18		-3.441E-02	1.926E-01	3.125E-01	3.975E-02	-0.110
AM-246	+	277.60		2.576E-01	2.152E-01	2.579E-01	3.970E-02	0.999
		798.80		-7.089E-02	1.416E-01	1.839E-01	1.805E-02	-0.385
		1036.00		3.060E-02	2.672E-01	4.472E-01	4.103E-02	0.068
		1062.04		-4.655E-03	2.137E-01	3.525E-01	3.170E-02	-0.013
		1078.86	*	-3.037E-02	1.345E-01	2.176E-01	1.930E-02	-0.140
CM-247	+	278.00		1.059E+00	8.850E-01	1.072E+00	1.652E-01	0.989
		287.40		8.957E-01	1.025E+00	1.724E+00	2.635E-01	0.519
		402.60	*	4.249E-04	3.078E-02	5.205E-02	5.571E-03	0.008
CF-249		252.85		2.334E-01	7.266E-01	1.201E+00	1.686E-01	0.194
		333.44		1.344E-01	1.644E-01	2.475E-01	3.390E-02	0.543
CF-251		387.95	*	1.012E-02	3.369E-02	5.804E-02	6.320E-03	0.174
		176.60	*	9.716E-02	1.005E-01	1.735E-01	1.768E-02	0.560
		227.00		-1.888E-02	3.233E-01	5.280E-01	6.682E-02	-0.036
		285.00		-3.359E-01	1.455E+00	2.312E+00	3.546E-01	-0.145

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978014      *
* Acquisition date   : 14-FEB-2010 13:12:09 Detector SN# :                  *
* Detector ID        : GAM11 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.96 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245978014 Analyst initials: MXR1                  *
* Batch Number       : 948721 Sample Quantity : 1.4119E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.742E+01	2.826E+00	4.665E-01	0.000E+00
CD-109	3.639E+00	9.488E-01	1.275E+00	0.000E+00
SN-126	3.561E-01	9.285E-02	1.252E-01	0.000E+00
TL-208	5.888E-01	1.004E-01	4.626E-02	0.000E+00
BI-211	4.131E+00	6.684E-01	2.961E-01	0.000E+00
PB-212	1.661E+00	2.559E-01	7.859E-02	0.000E+00
PO-212	1.661E+00	2.559E-01	7.859E-02	0.000E+00
BI-214	1.256E+00	2.025E-01	9.758E-02	0.000E+00
PB-214	1.437E+00	2.438E-01	1.032E-01	0.000E+00
PO-214	1.437E+00	2.438E-01	1.032E-01	0.000E+00
PO-216	1.661E+00	2.559E-01	7.859E-02	0.000E+00
PO-218	1.437E+00	2.438E-01	1.032E-01	0.000E+00
RA-224	3.034E+00	9.560E-01	1.098E+00	0.000E+00
RA-226	1.256E+00	2.025E-01	9.758E-02	0.000E+00
AC-228	1.603E+00	2.994E-01	1.868E-01	0.000E+00
RA-228	1.603E+00	2.994E-01	1.868E-01	0.000E+00
TH-228	1.691E+00	2.606E-01	8.002E-02	0.000E+00
TH-229	1.299E-01	4.143E-01	7.424E-01	0.000E+00
TH-230	1.256E+00	2.025E-01	9.758E-02	0.000E+00
TH-232	1.603E+00	2.994E-01	1.868E-01	0.000E+00
TH-234	4.614E+00	1.792E+00	1.662E+00	0.000E+00
U-234	1.256E+00	2.025E-01	9.758E-02	0.000E+00
U-235	2.313E-01	2.103E-01	2.666E-01	0.000E+00
NP-237	1.046E+00	3.451E-01	3.360E-01	0.000E+00
U-238	4.614E+00	1.792E+00	1.662E+00	0.000E+00
AM-243	3.333E-01	6.042E-02	7.343E-02	0.000E+00
ANH-511	1.457E-01	5.660E-02	4.018E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	2.875E-01	2.793E-01	5.188E-01	0.000E+00	NOT IDENT.
NA-22	-3.578E-02	3.810E-02	5.694E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.726E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	3.207E-04	2.513E-02	4.233E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.822E-02	5.896E-02	0.000E+00	FAIL ABUN
SC-46	-3.608E-02	3.524E-02	5.548E-02	0.000E+00	FAIL ABUN
V-48	-1.371E-02	7.087E-02	1.197E-01	0.000E+00	NOT IDENT.
CR-51	-8.606E-02	3.338E-01	5.549E-01	0.000E+00	NOT IDENT.
MN-52	2.216E-02	2.697E-01	4.503E-01	0.000E+00	FAIL ABUN
MN-54	-1.037E-02	3.041E-02	5.169E-02	0.000E+00	NOT IDENT.
CO-56	2.547E-02	3.225E-02	5.987E-02	0.000E+00	FAIL ABUN
CO-57	2.834E-03	1.961E-02	3.613E-02	0.000E+00	NOT IDENT.
CO-58	-2.768E-02	3.573E-02	5.460E-02	0.000E+00	NOT IDENT.
FE-59	2.697E-02	8.638E-02	1.507E-01	0.000E+00	FAIL ABUN
CO-60	3.789E-02	3.417E-02	6.378E-02	0.000E+00	NOT IDENT.
ZN-65	1.097E-02	8.828E-02	1.318E-01	0.000E+00	NOT IDENT.
GE-68	1.312E+00	1.141E+00	2.123E+00	0.000E+00	NOT IDENT.
AS-73	2.007E-01	5.445E-01	9.699E-01	0.000E+00	NOT IDENT.
AS-74	-2.030E-02	8.733E-02	1.470E-01	0.000E+00	NOT IDENT.
SE-75	8.184E-03	4.071E-02	6.344E-02	0.000E+00	NOT IDENT.
BR-77	3.586E+01	2.018E+01	3.881E+01	0.000E+00	FAIL ABUN
SR-82	-2.582E-01	3.536E-01	5.467E-01	0.000E+00	NOT IDENT.
RB-83	8.939E-02	5.939E-02	1.126E-01	0.000E+00	NOT IDENT.
RB-84	-5.535E-02	6.489E-02	1.042E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.399E+00	1.145E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.384E-02	6.056E-02	0.000E+00	NOT IDENT.
RB-86	1.430E+00	8.197E-01	1.578E+00	0.000E+00	NOT IDENT.
Y-88	8.670E-03	3.233E-02	5.665E-02	0.000E+00	NOT IDENT.
ZR-88	-9.656E-03	2.479E-02	4.312E-02	0.000E+00	NOT IDENT.
Y-91	-6.968E+00	1.533E+01	2.460E+01	0.000E+00	NOT IDENT.
NB-94	6.236E-03	2.950E-02	5.054E-02	0.000E+00	NOT IDENT.
NB-95	6.694E-03	4.578E-02	6.777E-02	0.000E+00	NOT IDENT.
NB-95M	-2.842E-02	1.144E-01	1.749E-01	0.000E+00	NOT IDENT.
ZR-95	3.307E-02	6.653E-02	1.157E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.480E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.736E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-7.097E+00	2.156E+01	3.502E+01	0.000E+00	FAIL ABUN
TC-99M	0.000E+00	1.044E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.244E-02	2.756E-02	4.856E-02	0.000E+00	NOT IDENT.
RH-102	-2.001E-02	2.463E-02	4.060E-02	0.000E+00	NOT IDENT.
RU-103	1.101E-02	3.423E-02	6.104E-02	0.000E+00	FAIL ABUN
RH-106	1.382E-01	2.680E-01	4.749E-01	0.000E+00	FAIL ABUN
RU-106	1.382E-01	2.676E-01	4.749E-01	0.000E+00	FAIL ABUN
AG-108M	8.174E-04	2.700E-02	4.780E-02	0.000E+00	NOT IDENT.
AG-110M	1.439E-02	2.880E-02	5.085E-02	0.000E+00	NOT IDENT.
IN-111	4.583E-01	1.858E+00	2.927E+00	0.000E+00	NOT IDENT.
IN-113M	-7.787E-03	3.580E-02	6.302E-02	0.000E+00	NOT IDENT.
SN-113	-7.787E-03	3.580E-02	6.302E-02	0.000E+00	NOT IDENT.
IN-114M	1.233E-01	1.588E-01	2.631E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.101E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.163E-02	4.910E-02	8.734E-02	0.000E+00	NOT IDENT.
SB-122	1.342E+00	3.840E+00	6.776E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.835E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.157E-03	2.243E-02	4.087E-02	0.000E+00	NOT IDENT.
I-124	-3.679E-01	1.024E+00	1.570E+00	0.000E+00	FAIL ABUN
SB-124	-4.937E-03	6.039E-02	1.007E-01	0.000E+00	FAIL ABUN
SB-125	-3.816E-02	6.905E-02	1.173E-01	0.000E+00	FAIL ABUN
TE-125M	-1.525E+00	7.285E+00	1.335E+01	0.000E+00	NOT IDENT.
I-126	8.797E-02	1.896E-01	3.272E-01	0.000E+00	NOT IDENT.
SB-126	-8.504E-03	1.507E-01	2.520E-01	0.000E+00	FAIL ABUN
SB-127	-1.300E-01	1.989E+00	3.341E+00	0.000E+00	FAIL ABUN
XE-127	2.273E-02	4.005E-02	7.220E-02	0.000E+00	NOT IDENT.
I-131	-4.399E-02	1.255E-01	2.041E-01	0.000E+00	NOT IDENT.
TE-132	-3.590E-01	1.075E+00	1.842E+00	0.000E+00	NOT IDENT.
BA-133	-3.751E-03	4.157E-02	6.132E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.030E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.035E-02	5.344E-02	8.007E-02	0.000E+00	FAIL ABUN
CS-135	9.041E-02	1.463E-01	2.333E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.106E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.638E-02	1.034E-01	1.630E-01	0.000E+00	FAIL ABUN
BA-137M	-1.003E-02	3.012E-02	4.964E-02	0.000E+00	NOT IDENT.
CS-137	-1.060E-02	3.184E-02	5.247E-02	0.000E+00	NOT IDENT.
CE-139	-1.505E-02	2.411E-02	4.197E-02	0.000E+00	NOT IDENT.
BA-140	-1.069E-01	2.549E-01	4.233E-01	0.000E+00	NOT IDENT.
LA-140	-1.285E-01	1.020E-01	1.396E-01	0.000E+00	FAIL ABUN
CE-141	7.762E-03	5.644E-02	9.242E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	6.931E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-9.360E-02	1.545E-01	2.732E-01	0.000E+00	NOT IDENT.

PM-144	1.603E-02	3.116E-02	5.457E-02	0.000E+00	NOT IDENT.
PR-144	1.088E+00	2.115E+00	3.703E+00	0.000E+00	NOT IDENT.
PM-146	2.801E-02	3.634E-02	6.679E-02	0.000E+00	NOT IDENT.
ND-147	-6.250E-01	5.710E-01	8.916E-01	0.000E+00	NOT IDENT.
PM-149	0.000E+00	1.984E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-9.454E-02	8.307E-02	1.184E-01	0.000E+00	FAIL ABUN
GD-153	1.113E-01	1.000E-01	1.126E-01	0.000E+00	FAIL ABUN
EU-154	-1.008E-01	1.064E-01	1.584E-01	0.000E+00	NOT IDENT.
EU-155	1.258E-01	8.482E-02	1.635E-01	0.000E+00	FAIL ABUN
TB-160	-2.994E-02	1.233E-01	2.064E-01	0.000E+00	FAIL ABUN
HO-166M	3.174E-02	5.169E-02	9.133E-02	0.000E+00	FAIL ABUN
TM-171	1.984E+01	2.248E+01	3.710E+01	0.000E+00	NOT IDENT.
LU-176	-1.845E-02	2.058E-02	3.262E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.760E+00	2.412E+00	0.000E+00	FAIL ABUN
LU-177M	-9.010E-02	1.543E-01	2.281E-01	0.000E+00	FAIL ABUN
HF-181	-1.131E-02	3.625E-02	6.200E-02	0.000E+00	NOT IDENT.
W-181	-1.281E-01	3.061E-01	4.775E-01	0.000E+00	NOT IDENT.
TA-182	6.872E-02	1.867E-01	3.227E-01	0.000E+00	FAIL ABUN
RE-183	-9.010E-03	9.043E-02	1.615E-01	0.000E+00	FAIL ABUN
RE-184	6.295E-02	1.921E-01	3.377E-01	0.000E+00	NOT IDENT.
OS-185	5.861E-02	3.695E-02	6.997E-02	0.000E+00	NOT IDENT.
RE-188	1.428E-01	1.379E-01	2.572E-01	0.000E+00	NOT IDENT.
W-188	-7.070E+00	6.897E+00	9.454E+00	0.000E+00	FAIL ABUN
IR-192	8.748E-03	2.925E-02	5.046E-02	0.000E+00	FAIL ABUN
AU-195	3.251E-01	2.921E-01	3.413E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.405E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.695E+00	1.064E+01	1.890E+01	0.000E+00	NOT IDENT.
TL-202	-1.988E-02	7.081E-02	1.228E-01	0.000E+00	NOT IDENT.
HG-203	2.498E-02	3.667E-02	5.875E-02	0.000E+00	NOT IDENT.
BI-207	2.459E-02	4.984E-02	8.835E-02	0.000E+00	FAIL ABUN
TL-207	3.095E-01	6.027E-01	9.411E-01	0.000E+00	FAIL ABUN
PO-209	-2.430E+00	6.335E+00	1.063E+01	0.000E+00	NOT IDENT.
BI-210	9.987E-01	2.136E+00	3.886E+00	0.000E+00	NOT IDENT.
PB-210	9.987E-01	2.136E+00	3.886E+00	0.000E+00	NOT IDENT.
PO-210	9.987E-01	2.136E+00	3.886E+00	0.000E+00	NOT IDENT.
PB-211	-8.881E-01	1.055E+00	1.301E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.749E-01	5.939E-01	0.000E+00	FAIL ABUN
PO-215	3.095E-01	6.027E-01	9.411E-01	0.000E+00	FAIL ABUN
RN-219	8.678E-02	3.355E-01	6.057E-01	0.000E+00	FAIL ABUN
RN-220	-6.292E+00	2.138E+01	3.608E+01	0.000E+00	NOT IDENT.
RA-223	3.095E-01	6.027E-01	9.411E-01	0.000E+00	FAIL ABUN
AC-227	3.073E-01	3.202E-01	5.722E-01	0.000E+00	NOT IDENT.
TH-227	3.073E-01	3.215E-01	5.722E-01	0.000E+00	FAIL ABUN
PA-231	3.880E-01	1.273E+00	2.113E+00	0.000E+00	NOT IDENT.
TH-231	3.095E-01	6.027E-01	9.411E-01	0.000E+00	FAIL ABUN
U-231	3.075E-01	1.682E+00	2.300E+00	0.000E+00	FAIL ABUN
PA-233	-8.574E-03	4.918E-02	8.237E-02	0.000E+00	FAIL ABUN
PA-234	-1.258E-01	2.494E-01	4.085E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	6.358E+00	8.808E+00	0.000E+00	FAIL ABUN
NP-236	3.048E-02	6.169E-02	1.129E-01	0.000E+00	FAIL ABUN
NP-239	-1.058E-01	1.389E-01	2.471E-01	0.000E+00	FAIL ABUN
AM-241	4.129E-02	1.197E-01	1.952E-01	0.000E+00	NOT IDENT.
CM-243	-4.463E-03	7.396E-02	1.368E-01	0.000E+00	FAIL ABUN
AM-246	-3.037E-02	1.319E-01	2.199E-01	0.000E+00	NOT IDENT.
CM-247	4.249E-04	3.016E-02	5.372E-02	0.000E+00	FAIL ABUN
CF-249	1.012E-02	3.302E-02	5.994E-02	0.000E+00	NOT IDENT.
CF-251	9.716E-02	9.848E-02	1.821E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978014.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:12:09
Sample ID     : G245978014 Sample quantity : 1.41190E+02 GRAM
Detector name : GAM11 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.96 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit: 75.00000 Sensitivity : 5.00000
Batch ID      : 948721 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1348	10.67*	1.225E+00	2.742E+01	2.742E+01	10.52
CD-109	88.03	337	3.72*	6.791E+00	3.542E+00	3.639E+00	26.61
SN-126	64.28	282	9.60	4.275E+00	1.826E+00	1.826E+00	38.45
	86.94	337	8.90	6.791E+00	1.480E+00	1.480E+00	48.42
	87.57	337	37.00*	6.791E+00	3.561E-01	3.561E-01	26.61
TL-208	277.35	63	6.80	4.673E+00	5.297E-01	5.297E-01	83.99
	510.84	162	21.60	2.953E+00	6.746E-01	6.746E-01	40.50
	583.14	496	84.20*	2.661E+00	5.888E-01	5.888E-01	17.40
	860.37	65	12.46	1.925E+00	7.193E-01	7.193E-01	52.50
BI-211	72.87	-----	1.27	5.576E+00	-----	Line Not Found	-----
	351.07	788	12.94*	3.921E+00	4.131E+00	4.131E+00	16.51
PB-212	74.81	480	10.70	5.798E+00	2.056E+00	2.056E+00	20.72
	77.11	802	18.00	6.022E+00	1.966E+00	1.966E+00	13.56
	87.30	337	8.00	6.791E+00	1.647E+00	1.647E+00	28.42
	238.63	1452	44.60*	5.211E+00	1.661E+00	1.661E+00	15.72
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
PO-212	74.81	480	10.70	5.798E+00	2.056E+00	2.056E+00	20.72
	77.11	802	18.00	6.022E+00	1.966E+00	1.966E+00	13.56
	87.30	337	8.00	6.791E+00	1.647E+00	1.647E+00	28.42
	115.19	-----	0.60	7.407E+00	-----	Line Not Found	-----
	238.63	1452	44.60*	5.211E+00	1.661E+00	1.661E+00	15.72
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
BI-214	609.31	562	46.30*	2.569E+00	1.256E+00	1.256E+00	16.46
	1120.29	97	15.10	1.530E+00	1.116E+00	1.116E+00	37.35
	1764.49	92	15.80	1.071E+00	1.438E+00	1.438E+00	23.37
PB-214	74.81	480	6.21	5.798E+00	3.542E+00	3.542E+00	19.92
	77.11	802	10.50	6.022E+00	3.371E+00	3.371E+00	15.55
	87.30	337	4.67	6.791E+00	2.821E+00	2.821E+00	27.70
	241.98	233	7.49	5.162E+00	1.600E+00	1.600E+00	32.64
	295.21	473	19.20	4.468E+00	1.465E+00	1.465E+00	22.49
	351.92	788	37.20*	3.921E+00	1.437E+00	1.437E+00	17.32
PO-214	74.81	480	6.21	5.798E+00	3.542E+00	3.542E+00	19.92

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	802	10.50	6.022E+00	3.371E+00	3.371E+00	15.55
	87.30	337	4.67	6.791E+00	2.821E+00	2.821E+00	27.70
	241.98	233	7.49	5.162E+00	1.600E+00	1.600E+00	32.64
	295.21	473	19.20	4.468E+00	1.465E+00	1.465E+00	22.49
	351.92	788	37.20*	3.921E+00	1.437E+00	1.437E+00	17.32
PO-216	74.81	480	10.70	5.798E+00	2.056E+00	2.056E+00	20.72
	77.11	802	18.00	6.022E+00	1.966E+00	1.966E+00	13.56
	87.30	337	8.00	6.791E+00	1.647E+00	1.647E+00	28.42
	238.63	1452	44.60*	5.211E+00	1.661E+00	1.661E+00	15.72
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
PO-218	74.81	480	6.21	5.798E+00	3.542E+00	3.542E+00	19.92
	77.11	802	10.50	6.022E+00	3.371E+00	3.371E+00	15.55
	87.30	337	4.67	6.791E+00	2.821E+00	2.821E+00	27.70
	241.98	233	7.49	5.162E+00	1.600E+00	1.600E+00	32.64
	295.21	473	19.20	4.468E+00	1.465E+00	1.465E+00	22.49
	351.92	788	37.20*	3.921E+00	1.437E+00	1.437E+00	17.32
RA-224	240.98	233	3.95*	5.162E+00	3.034E+00	3.034E+00	32.15
RA-226	609.31	562	46.30*	2.569E+00	1.256E+00	1.256E+00	16.46
	1120.29	97	15.10	1.530E+00	1.116E+00	1.116E+00	37.35
	1764.49	92	15.80	1.071E+00	1.438E+00	1.438E+00	23.37
AC-228	338.32	270	11.40	4.038E+00	1.559E+00	1.559E+00	49.79
	911.07	306	27.70*	1.833E+00	1.603E+00	1.603E+00	19.06
	969.11	158	16.60	1.738E+00	1.454E+00	1.454E+00	32.56
RA-228	338.32	270	11.40	4.038E+00	1.559E+00	1.559E+00	49.79
	911.07	306	27.70*	1.833E+00	1.603E+00	1.603E+00	19.06
	969.11	158	16.60	1.738E+00	1.454E+00	1.454E+00	32.56
TH-228	74.81	480	10.70	5.798E+00	2.056E+00	2.093E+00	18.53
	77.11	802	18.00	6.022E+00	1.966E+00	2.002E+00	13.56
	87.30	337	8.00	6.791E+00	1.647E+00	1.677E+00	26.61
	238.63	1452	44.60*	5.211E+00	1.661E+00	1.691E+00	15.72
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
TH-229	85.43	142	16.50	6.602E+00	3.471E-01	3.471E-01	51.84
	88.47	337	27.10	6.791E+00	4.862E-01	4.862E-01	26.61
	100.00	90	12.40	7.248E+00	2.668E-01	2.668E-01	91.68
	193.63	-----	4.59*	6.001E+00	-----	Line Not Found	-----
	210.97	-----	3.26	5.673E+00	-----	Line Not Found	-----
TH-230	609.31	562	46.30*	2.569E+00	1.256E+00	1.256E+00	16.46
	1120.29	97	15.10	1.530E+00	1.116E+00	1.116E+00	37.35
	1764.49	92	15.80	1.071E+00	1.438E+00	1.438E+00	23.37
TH-232	338.32	270	11.40	4.038E+00	1.559E+00	1.559E+00	29.16
	911.07	306	27.70*	1.833E+00	1.603E+00	1.603E+00	19.06
	969.11	158	16.60	1.738E+00	1.454E+00	1.454E+00	32.56
TH-234	63.29	282	3.80*	4.275E+00	4.614E+00	4.614E+00	39.64
	92.38	1000	5.41	7.058E+00	6.962E+00	6.962E+00	21.62
U-234	609.31	562	46.30*	2.569E+00	1.256E+00	1.256E+00	16.46
	1120.29	97	15.10	1.530E+00	1.116E+00	1.116E+00	37.35
	1764.49	92	15.80	1.071E+00	1.438E+00	1.438E+00	23.37
U-235	89.95	-----	2.70	6.934E+00	-----	Line Not Found	-----
	93.35	1000	4.50	7.058E+00	8.370E+00	8.370E+00	30.43

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	105.00	-----	2.10	7.364E+00	-----	Line Not Found	-----
	143.76	64	10.50*	7.035E+00	2.313E-01	2.313E-01	92.79
	163.35	-----	4.70	6.629E+00	-----	Line Not Found	-----
	185.71	387	54.00	6.155E+00	3.096E-01	3.096E-01	24.98
	205.31	-----	4.70	5.777E+00	-----	Line Not Found	-----
NP-237	86.50	337	12.60*	6.791E+00	1.046E+00	1.046E+00	33.67
	95.87	-----	2.60	7.169E+00	-----	Line Not Found	-----
U-238	63.29	282	3.80*	4.275E+00	4.614E+00	4.614E+00	39.64
	92.38	1000	5.41	7.058E+00	6.962E+00	6.962E+00	14.66
AM-243	74.67	480	66.00*	5.798E+00	3.333E-01	3.333E-01	18.50
	86.72	337	0.34	6.791E+00	3.921E+01	3.921E+01	26.61
	117.66	-----	0.55	7.397E+00	-----	Line Not Found	-----
	142.18	58	0.13	7.090E+00	1.732E+01	1.732E+01	78.41
ANH-511	511.00	162	100.00*	2.953E+00	1.457E-01	1.457E-01	39.63

Flag: "*" = Keyline

Total number of lines in spectrum 43
Number of unidentified lines 4
Number of lines tentatively identified by NID 39 90.70%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.742E+01	2.742E+01	0.288E+01	10.52	
CD-109	464.00D	1.03	3.542E+00	3.639E+00	0.968E+00	26.61	
SN-126	1.00E+05Y	1.00	3.561E-01	3.561E-01	0.947E-01	26.61	
TL-208	1.41E+10Y	1.00	5.888E-01	5.888E-01	1.024E-01	17.40	
BI-211	7.04E+08Y	1.00	4.131E+00	4.131E+00	0.682E+00	16.51	
PB-212	1.41E+10Y	1.00	1.661E+00	1.661E+00	0.261E+00	15.72	
PO-212	1.41E+10Y	1.00	1.661E+00	1.661E+00	0.261E+00	15.72	
BI-214	1600.00Y	1.00	1.256E+00	1.256E+00	0.207E+00	16.46	
PB-214	1600.00Y	1.00	1.437E+00	1.437E+00	0.249E+00	17.32	
PO-214	1600.00Y	1.00	1.437E+00	1.437E+00	0.249E+00	17.32	
PO-216	1.41E+10Y	1.00	1.661E+00	1.661E+00	0.261E+00	15.72	
PO-218	1600.00Y	1.00	1.437E+00	1.437E+00	0.249E+00	17.32	
RA-224	1.41E+10Y	1.00	3.034E+00	3.034E+00	0.976E+00	32.15	
RA-226	1600.00Y	1.00	1.256E+00	1.256E+00	0.207E+00	16.46	
AC-228	1.41E+10Y	1.00	1.603E+00	1.603E+00	0.306E+00	19.06	
RA-228	1.41E+10Y	1.00	1.603E+00	1.603E+00	0.306E+00	19.06	
TH-228	1.91Y	1.02	1.661E+00	1.691E+00	0.266E+00	15.72	
TH-229	7340.00Y	1.00	4.862E-01	4.862E-01	1.294E-01	26.61	K
TH-230	4.47E+09Y	1.00	1.256E+00	1.256E+00	0.207E+00	16.46	
TH-232	1.41E+10Y	1.00	1.603E+00	1.603E+00	0.306E+00	19.06	
TH-234	4.47E+09Y	1.00	4.614E+00	4.614E+00	1.829E+00	39.64	
U-234	4.47E+09Y	1.00	1.256E+00	1.256E+00	0.207E+00	16.46	
U-235	7.04E+08Y	1.00	2.313E-01	2.313E-01	2.146E-01	92.79	
NP-237	2.14E+06Y	1.00	1.046E+00	1.046E+00	0.352E+00	33.67	
U-238	4.47E+09Y	1.00	4.614E+00	4.614E+00	1.829E+00	39.64	
AM-243	7380.00Y	1.00	3.333E-01	3.333E-01	0.617E-01	18.50	
ANH-511	1.00E+09Y	1.00	1.457E-01	1.457E-01	0.578E-01	39.63	
Total Activity :			7.133E+01	7.146E+01			

Grand Total Activity : 7.133E+01 7.146E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978014

Page : 5
Acquisition date : 14-FEB-2010 13:12:09

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.89	106	344	0.73	256.75	253	7	1.48E-02	60.9	7.29E+00	T
0	209.14	92	317	0.99	417.39	413	8	1.28E-02	70.0	5.71E+00	T
4	270.19	105	200	1.55	539.56	534	27	1.46E-02	53.7	4.77E+00	T
0	328.06	62	133	1.10	655.39	652	7	8.67E-03	66.5	4.13E+00	T
0	410.58	94	162	2.66	820.53	813	14	1.30E-02	62.1	3.49E+00	T
0	462.74	99	108	1.14	924.91	920	11	1.37E-02	45.5	3.19E+00	T
0	727.71	71	79	1.49	1455.16	1451	9	9.89E-03	51.9	2.22E+00	T
0	768.49	65	70	1.15	1536.76	1530	11	9.06E-03	53.2	2.12E+00	
0	795.05	41	59	1.51	1589.91	1585	10	5.73E-03	76.9	2.06E+00	T
0	934.79	31	36	0.71	1869.52	1865	9	4.31E-03	78.5	1.79E+00	T
1	964.87	56	41	1.73	1929.71	1922	22	7.76E-03	52.4	1.74E+00	T
0	1001.00	56	53	1.63	2001.98	1996	13	7.84E-03	60.4	1.69E+00	T
0	1238.52	86	61	1.00	2477.21	2470	17	1.19E-02	46.5	1.40E+00	T
0	1377.47	45	22	0.86	2755.19	2746	18	6.22E-03	57.9	1.28E+00	T
0	1510.26	17	6	0.93	3020.82	3016	8	2.35E-03	70.0	1.19E+00	T
0	1513.73	13	2	1.04	3027.77	3025	6	1.74E-03	70.5	1.19E+00	
0	1588.33	30	21	1.08	3177.00	3171	12	4.17E-03	71.1	1.15E+00	
0	1847.95	22	2	1.49	3696.31	3692	8	3.07E-03	47.8	1.04E+00	

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978014.CNF;1
* Acquisition date   : 14-FEB-2010 13:12:09   Detector SN#      :
* Detector ID        : GAM11                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.96          Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 27-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245978014             Analyst initials: MXR1
* Batch Number       : 948721                 Sample Quantity : 1.41190E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22.2MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                   LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.742E+01	2.883E+00	4.646E-01	4.017E-02	59.017
CD-109	3.639E+00	9.682E-01	1.198E+00	1.136E-01	3.037
SN-126	3.561E-01	9.475E-02	1.176E-01	1.110E-02	3.027
TL-208	5.888E-01	1.024E-01	4.517E-02	4.878E-03	13.035
BI-211	4.131E+00	6.820E-01	2.861E-01	3.775E-02	14.438
PB-212	1.661E+00	2.611E-01	7.534E-02	1.055E-02	22.048
PO-212	1.661E+00	2.611E-01	7.534E-02	1.055E-02	22.048
BI-214	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
PB-214	1.437E+00	2.488E-01	9.974E-02	1.411E-02	14.407
PO-214	1.437E+00	2.488E-01	9.974E-02	1.411E-02	14.407
PO-216	1.661E+00	2.611E-01	7.534E-02	1.055E-02	22.048
PO-218	1.437E+00	2.488E-01	9.974E-02	1.411E-02	14.407
RA-224	3.034E+00	9.755E-01	1.053E+00	1.410E-01	2.881
RA-226	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
AC-228	1.603E+00	3.055E-01	1.841E-01	2.241E-02	8.709
RA-228	1.603E+00	3.055E-01	1.841E-01	2.241E-02	8.709
TH-228	1.691E+00	2.659E-01	7.671E-02	1.074E-02	22.048
TH-229	4.862E-01	1.294E-01	7.087E-01	7.781E-02	0.686

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
TH-232	1.603E+00	3.055E-01	1.841E-01	2.241E-02	8.709
TH-234	4.614E+00	1.829E+00	1.552E+00	2.701E-01	2.972
U-234	1.256E+00	2.066E-01	9.537E-02	1.078E-02	13.165
U-235	2.313E-01	2.146E-01	2.530E-01	4.473E-02	0.914
NP-237	1.046E+00	3.521E-01	3.157E-01	7.146E-02	3.312
U-238	4.614E+00	1.829E+00	1.552E+00	2.701E-01	2.972
AM-243	3.333E-01	6.165E-02	6.879E-02	5.567E-03	4.845
ANH-511	1.457E-01	5.775E-02	3.913E-02	4.184E-03	3.724

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.875E-01		2.850E-01	5.045E-01	5.710E-02	0.570
NA-22	-3.578E-02		3.888E-02	5.654E-02	4.643E-03	-0.633
NA-24	-1.453E+00		8.806E+00	Half-Life too short		
AL-26	3.207E-04		2.564E-02	4.236E-02	3.458E-03	0.008
TI-44	3.629E-01	+	4.921E-02	5.529E-02	4.660E-03	6.564
SC-46	-3.608E-02		3.596E-02	5.466E-02	5.384E-03	-0.660
V-48	-1.371E-02		7.231E-02	1.182E-01	1.122E-02	-0.116
CR-51	-8.606E-02		3.406E-01	5.351E-01	7.766E-02	-0.161
MN-52	2.216E-02		2.752E-01	4.482E-01	3.756E-02	0.049
MN-54	-1.037E-02		3.103E-02	5.086E-02	5.008E-03	-0.204
CO-56	2.547E-02		3.291E-02	5.893E-02	5.806E-03	0.432
CO-57	2.834E-03		2.001E-02	3.418E-02	2.891E-03	0.083
CO-58	-2.768E-02		3.646E-02	5.369E-02	5.287E-03	-0.515
FE-59	2.697E-02		8.815E-02	1.491E-01	1.402E-02	0.181
CO-60	3.789E-02		3.487E-02	6.339E-02	5.238E-03	0.598
ZN-65	1.097E-02		9.008E-02	1.305E-01	1.119E-02	0.084
GE-68	1.312E+00		1.165E+00	2.100E+00	1.865E-01	0.625
AS-73	2.007E-01		5.556E-01	9.028E-01	6.780E-02	0.222
AS-74	-2.030E-02		8.912E-02	1.436E-01	1.460E-02	-0.141
SE-75	8.184E-03		4.154E-02	6.095E-02	8.959E-03	0.134
BR-77	3.586E+01		2.059E+01	3.781E+01	4.029E+00	0.948
SR-82	-2.582E-01		3.608E-01	5.371E-01	5.253E-02	-0.481
RB-83	8.939E-02		6.060E-02	1.097E-01	1.169E-02	0.815
RB-84	-5.535E-02		6.622E-02	1.026E-01	1.011E-02	-0.539
KR-85	1.401E+01		6.530E+00	1.115E+01	1.191E+00	1.256
SR-85	7.409E-02		3.453E-02	5.898E-02	6.300E-03	1.256
RB-86	1.430E+00		8.364E-01	1.561E+00	1.387E-01	0.916
Y-88	8.670E-03		3.299E-02	5.670E-02	4.603E-03	0.153
ZR-88	-9.656E-03		2.529E-02	4.176E-02	4.454E-03	-0.231
Y-91	-6.968E+00		1.565E+01	2.439E+01	1.975E+00	-0.286
NB-94	6.236E-03		3.010E-02	4.954E-02	4.758E-03	0.126
NB-95	6.694E-03		4.671E-02	6.655E-02	6.497E-03	0.101
NB-95M	-2.842E-02		1.168E-01	1.676E-01	2.340E-02	-0.170
ZR-95	3.307E-02		6.789E-02	1.136E-01	1.196E-02	0.291

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	7.131E-02		7.551E-01	Half-Life too short		
ZR-97	1.623E+01		1.396E+01	Half-Life too short		
MO-99	-7.097E+00		2.200E+01	3.437E+01	5.439E+00	-0.206
TC-99M	1.251E+14	+	5.324E+13	Half-Life too short		
RH-101	1.244E-02		2.812E-02	4.637E-02	5.190E-03	0.268
RH-102	-2.001E-02		2.513E-02	3.948E-02	4.256E-03	-0.507
RU-103	1.101E-02		3.493E-02	5.941E-02	9.233E-03	0.185
RH-106	1.382E-01		2.734E-01	4.644E-01	6.609E-02	0.298
RU-106	1.382E-01		2.731E-01	4.644E-01	4.607E-02	0.298
AG-108M	8.174E-04		2.755E-02	4.639E-02	5.129E-03	0.018
AG-110M	1.439E-02		2.939E-02	4.978E-02	4.851E-03	0.289
IN-111	4.583E-01		1.896E+00	2.807E+00	3.826E-01	0.163
IN-113M	-7.787E-03		3.653E-02	6.103E-02	6.638E-03	-0.128
SN-113	-7.787E-03		3.653E-02	6.103E-02	6.638E-03	-0.128
IN-114M	1.233E-01		1.620E-01	2.510E-01	2.716E-02	0.491
CD-115	1.751E-05		1.072E-05	Half-Life too short		
SN-117M	-1.163E-02		5.010E-02	8.304E-02	7.848E-03	-0.140
SB-122	1.342E+00		3.918E+00	6.612E+00	6.888E-01	0.203
I-123	6.674E+01		9.361E+01	Half-Life too short		
TE-123M	8.157E-03		2.288E-02	3.886E-02	3.698E-03	0.210
I-124	-3.679E-01		1.045E+00	1.534E+00	1.550E-01	-0.240
SB-124	-4.937E-03		6.162E-02	1.006E-01	8.744E-03	-0.049
SB-125	-3.816E-02		7.046E-02	1.138E-01	1.240E-02	-0.335
TE-125M	-1.525E+00		7.433E+00	1.260E+01	1.294E+00	-0.121
I-126	8.797E-02		1.935E-01	3.204E-01	3.037E-02	0.275
SB-126	-8.504E-03		1.538E-01	2.472E-01	2.387E-02	-0.034
SB-127	-1.300E-01		2.029E+00	3.274E+00	4.240E-01	-0.040
XE-127	2.273E-02		4.087E-02	6.899E-02	7.885E-03	0.330
I-131	-4.399E-02		1.281E-01	1.974E-01	2.481E-02	-0.223
TE-132	-3.590E-01		1.097E+00	1.764E+00	3.313E-01	-0.204
BA-133	-3.751E-03		4.241E-02	5.926E-02	9.558E-03	-0.063
I-133	1.430E-02		2.566E-02	Half-Life too short		
CS-134	7.035E-02	+	5.453E-02	7.870E-02	7.764E-03	0.894
CS-135	9.041E-02		1.493E-01	2.242E-01	3.517E-02	0.403
I-135	-1.152E+12		4.136E+12	Half-Life too short		
CS-136	-7.638E-02		1.055E-01	1.612E-01	1.522E-02	-0.474
BA-137M	-1.003E-02		3.073E-02	4.860E-02	4.598E-03	-0.206
CS-137	-1.060E-02		3.249E-02	5.137E-02	4.869E-03	-0.206
CE-139	-1.505E-02		2.460E-02	3.994E-02	3.881E-03	-0.377
BA-140	-1.069E-01		2.601E-01	4.126E-01	1.391E-01	-0.259
LA-140	-1.285E-01		1.041E-01	1.393E-01	1.172E-02	-0.922
CE-141	7.762E-03		5.759E-02	8.772E-02	8.040E-03	0.088
CE-143	1.742E-03		3.536E-04	Half-Life too short		
CE-144	-9.360E-02		1.576E-01	2.589E-01	4.039E-02	-0.362
PM-144	1.603E-02		3.179E-02	5.348E-02	5.128E-03	0.300
PR-144	1.088E+00		2.158E+00	3.630E+00	3.479E-01	0.300
PM-146	2.801E-02		3.708E-02	6.487E-02	8.134E-03	0.432
ND-147	-6.250E-01		5.827E-01	8.690E-01	1.406E-01	-0.719

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	-2.280E-04		1.012E-04	Half-Life too short		
EU-152	-9.454E-02		8.477E-02	1.143E-01	1.550E-02	-0.827
GD-153	1.113E-01	+	1.021E-01	1.060E-01	9.418E-03	1.050
EU-154	-1.008E-01		1.086E-01	1.573E-01	1.730E-02	-0.641
EU-155	1.258E-01		8.655E-02	1.542E-01	1.345E-02	0.816
TB-160	-2.994E-02		1.258E-01	2.033E-01	2.003E-02	-0.147
HO-166M	3.174E-02		5.275E-02	8.956E-02	8.625E-03	0.354
TM-171	1.984E+01		2.294E+01	3.468E+01	2.603E+00	0.572
LU-176	-1.845E-02		2.100E-02	3.143E-02	4.620E-03	-0.587
LU-177	2.532E+00	+	1.796E+00	2.306E+00	2.699E-01	1.098
LU-177M	-9.010E-02		1.574E-01	2.211E-01	2.374E-02	-0.407
HF-181	-1.131E-02		3.699E-02	6.030E-02	6.495E-03	-0.188
W-181	-1.281E-01		3.123E-01	4.462E-01	3.307E-02	-0.287
TA-182	6.872E-02		1.905E-01	3.201E-01	2.600E-02	0.215
RE-183	-9.010E-03		9.227E-02	1.537E-01	1.473E-02	-0.059
RE-184	6.295E-02		1.960E-01	3.241E-01	4.547E-02	0.194
OS-185	5.861E-02		3.770E-02	6.848E-02	6.610E-03	0.856
RE-188	1.428E-01		1.407E-01	2.445E-01	2.280E-02	0.584
W-188	-7.070E+00		7.037E+00	9.100E+00	1.382E+00	-0.777
IR-192	8.748E-03		2.985E-02	4.865E-02	6.993E-03	0.180
AU-195	3.251E-01	+	2.980E-01	3.215E-01	2.837E-02	1.011
TL-200	-8.689E-04		1.227E-03	Half-Life too short		
TL-201	-1.695E+00		1.085E+01	1.799E+01	1.760E+00	-0.094
TL-202	-1.988E-02		7.226E-02	1.192E-01	1.286E-02	-0.167
HG-203	2.498E-02		3.742E-02	5.650E-02	8.825E-03	0.442
BI-207	2.459E-02		5.086E-02	8.738E-02	7.850E-03	0.281
TL-207	3.095E-01		6.150E-01	9.078E-01	1.899E-01	0.341
PO-209	-2.430E+00		6.465E+00	1.047E+01	1.031E+00	-0.232
BI-210	9.987E-01		2.180E+00	3.608E+00	3.359E-01	0.277
PB-210	9.987E-01		2.180E+00	3.608E+00	3.359E-01	0.277
PO-210	9.987E-01		2.180E+00	3.608E+00	3.041E-01	0.277
PB-211	-8.881E-01		1.077E+00	1.260E+00	7.939E-01	-0.705
BI-212	7.219E-01	+	3.826E-01	5.826E-01	6.367E-02	1.239
PO-215	3.095E-01		6.150E-01	9.078E-01	1.899E-01	0.341
RN-219	8.678E-02		3.424E-01	5.869E-01	9.571E-02	0.148
RN-220	-6.292E+00		2.181E+01	3.518E+01	3.697E+00	-0.179
RA-223	3.095E-01		6.150E-01	9.078E-01	1.899E-01	0.341
AC-227	3.073E-01		3.268E-01	5.493E-01	1.047E-01	0.559
TH-227	3.073E-01		3.281E-01	5.493E-01	1.170E-01	0.559
PA-231	3.880E-01		1.299E+00	2.033E+00	4.028E-01	0.191
TH-231	3.095E-01		6.150E-01	9.078E-01	1.899E-01	0.341
U-231	3.075E-01		1.717E+00	2.165E+00	1.940E-01	0.142
PA-233	-8.574E-03		5.019E-02	7.939E-02	1.165E-02	-0.108
PA-234	-1.258E-01		2.545E-01	4.030E-01	7.764E-02	-0.312
PA-234M	1.058E+01	+	6.488E+00	8.700E+00	9.254E-01	1.216
NP-236	3.048E-02		6.295E-02	1.074E-01	1.021E-02	0.284
NP-239	-1.058E-01		1.417E-01	2.335E-01	1.976E-02	-0.453
AM-241	4.129E-02		1.221E-01	1.821E-01	1.431E-02	0.227

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.463E-03		7.547E-02	1.290E-01	1.117E-02	-0.035
AM-246	-3.037E-02		1.345E-01	2.176E-01	1.930E-02	-0.140
CM-247	4.249E-04		3.078E-02	5.205E-02	5.571E-03	0.008
CF-249	1.012E-02		3.369E-02	5.804E-02	6.320E-03	0.174
CF-251	9.716E-02		1.005E-01	1.735E-01	1.768E-02	0.560

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978014
* Acquisition date   : 14-FEB-2010 13:12:09 Detector SN#      :
* Detector ID        : GAM11 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.96 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978014 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.4119E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                  :
* LCS DPM             : 0.000 LCS Isotope                  :
* LCSD DPM            : 0.000 LCSD Isotope                 :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.742E+01	2.826E+00	2.334E-01	1.442E+00
CD-109	3.639E+00	9.488E-01	6.378E-01	4.841E-01
SN-126	3.561E-01	9.285E-02	6.263E-02	4.737E-02
TL-208	5.888E-01	1.004E-01	2.314E-02	5.121E-02
BI-211	4.131E+00	6.684E-01	1.482E-01	3.410E-01
PB-212	1.661E+00	2.559E-01	3.932E-02	1.306E-01
PO-212	1.661E+00	2.559E-01	3.932E-02	1.306E-01
BI-214	1.256E+00	2.025E-01	4.882E-02	1.033E-01
PB-214	1.437E+00	2.438E-01	5.164E-02	1.244E-01
PO-214	1.437E+00	2.438E-01	5.164E-02	1.244E-01
PO-216	1.661E+00	2.559E-01	3.932E-02	1.306E-01
PO-218	1.437E+00	2.438E-01	5.164E-02	1.244E-01
RA-224	3.034E+00	9.560E-01	5.495E-01	4.878E-01
RA-226	1.256E+00	2.025E-01	4.882E-02	1.033E-01
AC-228	1.603E+00	2.994E-01	9.343E-02	1.528E-01
RA-228	1.603E+00	2.994E-01	9.343E-02	1.528E-01
TH-228	1.691E+00	2.606E-01	4.003E-02	1.329E-01
TH-229	1.299E-01	4.143E-01	3.714E-01	2.114E-01
TH-230	1.256E+00	2.025E-01	4.882E-02	1.033E-01
TH-232	1.603E+00	2.994E-01	9.343E-02	1.528E-01
TH-234	4.614E+00	1.792E+00	8.317E-01	9.145E-01
U-234	1.256E+00	2.025E-01	4.882E-02	1.033E-01
U-235	2.313E-01	2.103E-01	1.334E-01	1.073E-01
NP-237	1.046E+00	3.451E-01	1.681E-01	1.760E-01
U-238	4.614E+00	1.792E+00	8.317E-01	9.145E-01
AM-243	3.333E-01	6.042E-02	3.674E-02	3.083E-02
ANH-511	1.457E-01	5.660E-02	2.010E-02	2.888E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	2.875E-01	2.793E-01	2.596E-01	1.425E-01	NOT IDENT.
NA-22	-3.578E-02	3.810E-02	2.849E-02	1.944E-02	NOT IDENT.
NA-24	-1.453E+06	1.726E+07	0.000E+00	8.806E+06	SHORT HLIF
AL-26	3.207E-04	2.513E-02	2.118E-02	1.282E-02	NOT IDENT.
TI-44	3.629E-01	4.822E-02	2.950E-02	2.460E-02	FAIL ABUN
SC-46	-3.608E-02	3.524E-02	2.776E-02	1.798E-02	FAIL ABUN
V-48	-1.371E-02	7.087E-02	5.991E-02	3.616E-02	NOT IDENT.
CR-51	-8.606E-02	3.338E-01	2.776E-01	1.703E-01	NOT IDENT.
MN-52	2.216E-02	2.697E-01	2.253E-01	1.376E-01	FAIL ABUN
MN-54	-1.037E-02	3.041E-02	2.586E-02	1.551E-02	NOT IDENT.
CO-56	2.547E-02	3.225E-02	2.995E-02	1.645E-02	FAIL ABUN
CO-57	2.834E-03	1.961E-02	1.808E-02	1.001E-02	NOT IDENT.
CO-58	-2.768E-02	3.573E-02	2.732E-02	1.823E-02	NOT IDENT.
FE-59	2.697E-02	8.638E-02	7.539E-02	4.407E-02	FAIL ABUN
CO-60	3.789E-02	3.417E-02	3.191E-02	1.743E-02	NOT IDENT.
ZN-65	1.097E-02	8.828E-02	6.593E-02	4.504E-02	NOT IDENT.
GE-68	1.312E+00	1.141E+00	1.062E+00	5.823E-01	NOT IDENT.
AS-73	2.007E-01	5.445E-01	4.852E-01	2.778E-01	NOT IDENT.
AS-74	-2.030E-02	8.733E-02	7.353E-02	4.456E-02	NOT IDENT.
SE-75	8.184E-03	4.071E-02	3.174E-02	2.077E-02	NOT IDENT.
BR-77	3.586E+01	2.018E+01	1.942E+01	1.029E+01	FAIL ABUN
SR-82	-2.582E-01	3.536E-01	2.735E-01	1.804E-01	NOT IDENT.
RB-83	8.939E-02	5.939E-02	5.633E-02	3.030E-02	NOT IDENT.
RB-84	-5.535E-02	6.489E-02	5.212E-02	3.311E-02	NOT IDENT.
KR-85	1.401E+01	6.399E+00	5.729E+00	3.265E+00	NOT IDENT.
SR-85	7.409E-02	3.384E-02	3.030E-02	1.726E-02	NOT IDENT.
RB-86	1.430E+00	8.197E-01	7.893E-01	4.182E-01	NOT IDENT.
Y-88	8.670E-03	3.233E-02	2.834E-02	1.649E-02	NOT IDENT.
ZR-88	-9.656E-03	2.479E-02	2.157E-02	1.265E-02	NOT IDENT.
Y-91	-6.968E+00	1.533E+01	1.231E+01	7.823E+00	NOT IDENT.
NB-94	6.236E-03	2.950E-02	2.528E-02	1.505E-02	NOT IDENT.
NB-95	6.694E-03	4.578E-02	3.390E-02	2.336E-02	NOT IDENT.
NB-95M	-2.842E-02	1.144E-01	8.749E-02	5.838E-02	NOT IDENT.
ZR-95	3.307E-02	6.653E-02	5.789E-02	3.394E-02	NOT IDENT.
NB-97	7.131E+04	1.480E+06	0.000E+00	7.551E+05	SHORT HLIF
ZR-97	1.623E+07	2.736E+07	0.000E+00	1.396E+07	SHORT HLIF
MO-99	-7.097E+00	2.156E+01	1.752E+01	1.100E+01	FAIL ABUN
TC-99M	1.251E+20	1.044E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.244E-02	2.756E-02	2.429E-02	1.406E-02	NOT IDENT.
RH-102	-2.001E-02	2.463E-02	2.031E-02	1.257E-02	NOT IDENT.
RU-103	1.101E-02	3.423E-02	3.054E-02	1.747E-02	FAIL ABUN
RH-106	1.382E-01	2.680E-01	2.376E-01	1.367E-01	FAIL ABUN
RU-106	1.382E-01	2.676E-01	2.376E-01	1.365E-01	FAIL ABUN
AG-108M	8.174E-04	2.700E-02	2.392E-02	1.377E-02	NOT IDENT.
AG-110M	1.439E-02	2.880E-02	2.544E-02	1.470E-02	NOT IDENT.
IN-111	4.583E-01	1.858E+00	1.464E+00	9.480E-01	NOT IDENT.
IN-113M	-7.787E-03	3.580E-02	3.153E-02	1.827E-02	NOT IDENT.
SN-113	-7.787E-03	3.580E-02	3.153E-02	1.827E-02	NOT IDENT.
IN-114M	1.233E-01	1.588E-01	1.316E-01	8.101E-02	NOT IDENT.
CD-115	1.751E+01	2.101E+01	0.000E+00	1.072E+01	SHORT HLIF
SN-117M	-1.163E-02	4.910E-02	4.370E-02	2.505E-02	NOT IDENT.
SB-122	1.342E+00	3.840E+00	3.390E+00	1.959E+00	NOT IDENT.
I-123	6.674E+07	1.835E+08	0.000E+00	9.361E+07	SHORT HLIF
TE-123M	8.157E-03	2.243E-02	2.045E-02	1.144E-02	NOT IDENT.
I-124	-3.679E-01	1.024E+00	7.853E-01	5.227E-01	FAIL ABUN
SB-124	-4.937E-03	6.039E-02	5.038E-02	3.081E-02	FAIL ABUN
SB-125	-3.816E-02	6.905E-02	5.866E-02	3.523E-02	FAIL ABUN
TE-125M	-1.525E+00	7.285E+00	6.679E+00	3.717E+00	NOT IDENT.
I-126	8.797E-02	1.896E-01	1.637E-01	9.675E-02	NOT IDENT.
SB-126	-8.504E-03	1.507E-01	1.261E-01	7.688E-02	FAIL ABUN
SB-127	-1.300E-01	1.989E+00	1.672E+00	1.015E+00	FAIL ABUN
XE-127	2.273E-02	4.005E-02	3.612E-02	2.044E-02	NOT IDENT.
I-131	-4.399E-02	1.255E-01	1.021E-01	6.403E-02	NOT IDENT.
TE-132	-3.590E-01	1.075E+00	9.214E-01	5.485E-01	NOT IDENT.
BA-133	-3.751E-03	4.157E-02	3.068E-02	2.121E-02	FAIL ABUN
I-133	1.430E+04	5.030E+04	0.000E+00	2.566E+04	SHORT HLIF
CS-134	7.035E-02	5.344E-02	4.006E-02	2.727E-02	FAIL ABUN
CS-135	9.041E-02	1.463E-01	1.167E-01	7.465E-02	NOT IDENT.
I-135	-1.152E+18	8.106E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.638E-02	1.034E-01	8.156E-02	5.275E-02	FAIL ABUN
BA-137M	-1.003E-02	3.012E-02	2.483E-02	1.537E-02	NOT IDENT.
CS-137	-1.060E-02	3.184E-02	2.625E-02	1.624E-02	NOT IDENT.
CE-139	-1.505E-02	2.411E-02	2.100E-02	1.230E-02	NOT IDENT.
BA-140	-1.069E-01	2.549E-01	2.118E-01	1.301E-01	NOT IDENT.
LA-140	-1.285E-01	1.020E-01	6.986E-02	5.207E-02	FAIL ABUN
CE-141	7.762E-03	5.644E-02	4.624E-02	2.879E-02	NOT IDENT.
CE-143	1.742E+03	6.931E+02	0.000E+00	3.536E+02	SHORT HLIF
CE-144	-9.360E-02	1.545E-01	1.367E-01	7.882E-02	NOT IDENT.

PM-144	1.603E-02	3.116E-02	2.730E-02	1.590E-02	NOT IDENT.
PR-144	1.088E+00	2.115E+00	1.853E+00	1.079E+00	NOT IDENT.
PM-146	2.801E-02	3.634E-02	3.341E-02	1.854E-02	NOT IDENT.
ND-147	-6.250E-01	5.710E-01	4.461E-01	2.913E-01	NOT IDENT.
PM-149	-2.280E+02	1.984E+02	0.000E+00	1.012E+02	SHORT HLIF
EU-152	-9.454E-02	8.307E-02	5.922E-02	4.238E-02	FAIL ABUN
GD-153	1.113E-01	1.000E-01	5.632E-02	5.104E-02	FAIL ABUN
EU-154	-1.008E-01	1.064E-01	7.926E-02	5.429E-02	NOT IDENT.
EU-155	1.258E-01	8.482E-02	8.179E-02	4.328E-02	FAIL ABUN
TB-160	-2.994E-02	1.233E-01	1.033E-01	6.289E-02	FAIL ABUN
HO-166M	3.174E-02	5.169E-02	4.569E-02	2.637E-02	FAIL ABUN
TM-171	1.984E+01	2.248E+01	1.856E+01	1.147E+01	NOT IDENT.
LU-176	-1.845E-02	2.058E-02	1.632E-02	1.050E-02	FAIL ABUN
LU-177	2.532E+00	1.760E+00	1.207E+00	8.981E-01	FAIL ABUN
LU-177M	-9.010E-02	1.543E-01	1.141E-01	7.872E-02	FAIL ABUN
HF-181	-1.131E-02	3.625E-02	3.102E-02	1.849E-02	NOT IDENT.
W-181	-1.281E-01	3.061E-01	2.389E-01	1.562E-01	NOT IDENT.
TA-182	6.872E-02	1.867E-01	1.614E-01	9.526E-02	FAIL ABUN
RE-183	-9.010E-03	9.043E-02	8.082E-02	4.614E-02	FAIL ABUN
RE-184	6.295E-02	1.921E-01	1.689E-01	9.800E-02	NOT IDENT.
OS-185	5.861E-02	3.695E-02	3.501E-02	1.885E-02	NOT IDENT.
RE-188	1.428E-01	1.379E-01	1.287E-01	7.034E-02	NOT IDENT.
W-188	-7.070E+00	6.897E+00	4.730E+00	3.519E+00	FAIL ABUN
IR-192	8.748E-03	2.925E-02	2.524E-02	1.492E-02	FAIL ABUN
AU-195	3.251E-01	2.921E-01	1.708E-01	1.490E-01	FAIL ABUN
TL-200	-8.689E+02	2.405E+03	0.000E+00	1.227E+03	SHORT HLIF
TL-201	-1.695E+00	1.064E+01	9.458E+00	5.427E+00	NOT IDENT.
TL-202	-1.988E-02	7.081E-02	6.144E-02	3.613E-02	NOT IDENT.
HG-203	2.498E-02	3.667E-02	2.939E-02	1.871E-02	NOT IDENT.
BI-207	2.459E-02	4.984E-02	4.420E-02	2.543E-02	FAIL ABUN
TL-207	3.095E-01	6.027E-01	4.708E-01	3.075E-01	FAIL ABUN
PO-209	-2.430E+00	6.335E+00	5.316E+00	3.232E+00	NOT IDENT.
BI-210	9.987E-01	2.136E+00	1.944E+00	1.090E+00	NOT IDENT.
PB-210	9.987E-01	2.136E+00	1.944E+00	1.090E+00	NOT IDENT.
PO-210	9.987E-01	2.136E+00	1.944E+00	1.090E+00	NOT IDENT.
PB-211	-8.881E-01	1.055E+00	6.507E-01	5.384E-01	NOT IDENT.
BI-212	7.219E-01	3.749E-01	2.971E-01	1.913E-01	FAIL ABUN
PO-215	3.095E-01	6.027E-01	4.708E-01	3.075E-01	FAIL ABUN
RN-219	8.678E-02	3.355E-01	3.030E-01	1.712E-01	FAIL ABUN
RN-220	-6.292E+00	2.138E+01	1.805E+01	1.091E+01	NOT IDENT.
RA-223	3.095E-01	6.027E-01	4.708E-01	3.075E-01	FAIL ABUN
AC-227	3.073E-01	3.202E-01	2.863E-01	1.634E-01	NOT IDENT.
TH-227	3.073E-01	3.215E-01	2.863E-01	1.640E-01	FAIL ABUN
PA-231	3.880E-01	1.273E+00	1.057E+00	6.494E-01	NOT IDENT.
TH-231	3.095E-01	6.027E-01	4.708E-01	3.075E-01	FAIL ABUN
U-231	3.075E-01	1.682E+00	1.151E+00	8.583E-01	FAIL ABUN
PA-233	-8.574E-03	4.918E-02	4.121E-02	2.509E-02	FAIL ABUN
PA-234	-1.258E-01	2.494E-01	2.044E-01	1.273E-01	FAIL ABUN
PA-234M	1.058E+01	6.358E+00	4.406E+00	3.244E+00	FAIL ABUN
NP-236	3.048E-02	6.169E-02	5.649E-02	3.147E-02	FAIL ABUN
NP-239	-1.058E-01	1.389E-01	1.236E-01	7.087E-02	FAIL ABUN
AM-241	4.129E-02	1.197E-01	9.765E-02	6.107E-02	NOT IDENT.
CM-243	-4.463E-03	7.396E-02	6.843E-02	3.774E-02	FAIL ABUN
AM-246	-3.037E-02	1.319E-01	1.100E-01	6.727E-02	NOT IDENT.
CM-247	4.249E-04	3.016E-02	2.688E-02	1.539E-02	FAIL ABUN
CF-249	1.012E-02	3.302E-02	2.999E-02	1.685E-02	NOT IDENT.
CF-251	9.716E-02	9.848E-02	9.111E-02	5.024E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	262.0833
46.50	262.0833
46.50	262.0833
48.70	314.5204
49.72	256.2357
51.35	306.2983
52.39	287.3805
52.97	293.4853
53.15	293.6575
53.44	272.7791
54.07	263.2935
56.28	322.4404
56.28	322.4436
57.37	0.0000
57.53	340.6152
57.53	340.6175
57.60	340.6889
57.98	371.5821
57.98	371.5821
59.32	394.6462
59.32	394.6462
59.40	394.7418
59.54	358.5944
59.72	351.2191
60.01	353.0405
61.10	386.1108
61.14	386.1560
61.30	386.3382
63.00	417.3078
63.29	417.6577
63.29	417.6577
63.58	418.0077
64.28	464.8757
65.12	455.2222
65.20	436.8662
65.20	436.8662
66.05	457.9596
66.72	367.6696
66.83	367.7858
66.91	367.8657
67.20	451.6964
67.20	451.6964
67.75	454.3192
67.85	454.4444
68.90	452.2572
68.90	452.2572
69.30	435.2454
69.67	450.8713
70.82	434.2986
70.82	434.2986
70.83	434.3099
72.80	502.5423
72.87	502.6335
72.87	502.6335
74.67	449.7569
74.81	449.9193
74.81	449.9193
74.81	449.9193
74.81	449.9193
74.81	449.9193
74.81	449.9193
74.81	449.9193
74.97	450.1048
75.28	450.4643
75.70	450.9485
77.11	428.7442
77.11	428.7442

77.11	428.7442
77.11	428.7442
77.11	428.7442
77.11	428.7442
77.11	428.7442
78.38	366.3917
79.62	401.0755
79.80	401.2543
79.80	401.2543
80.11	407.9601
80.18	408.0301
80.30	408.1494
80.30	408.1494
80.57	410.0208
81.00	426.4865
81.07	426.5595
81.07	426.5595
81.07	426.5595
81.07	426.5595
82.60	445.8448
83.37	443.4397
83.78	468.4911
83.78	468.4911
83.78	468.4911
83.78	468.4911
84.21	468.9694
84.90	469.7371
85.43	470.3217
86.29	471.2695
86.50	471.4998
86.54	471.5441
86.59	471.6002
86.72	471.7419
86.79	471.8157
86.94	471.9810
87.30	472.3767
87.30	472.3767
87.30	472.3767
87.30	472.3767
87.30	472.3767
87.30	472.3767
87.57	574.8567
87.88	575.2696
88.03	575.4671
88.36	502.4895
88.47	502.6149
89.95	415.0758
91.11	500.7071
92.29	434.5430
92.38	434.6289
92.38	434.6289
93.35	435.5635
94.00	436.1865
94.67	265.5685
94.67	265.5718
94.90	265.7040
94.90	265.7040
94.90	265.7040
94.90	265.7040
95.87	303.5927
95.87	303.5927
96.73	359.0068
97.43	304.6128
98.44	281.2470
98.44	281.2487
98.88	281.5111
99.55	265.8572
99.55	265.8572
99.86	266.0319
100.00	266.1096
100.10	271.1898
103.18	332.5663
103.76	312.8916
105.00	281.5531
105.31	285.1151
108.00	315.5787
109.28	305.2928

111.00	298.6243
111.00	298.6243
111.76	289.6401
112.95	284.2949
115.19	289.8267
116.30	268.8269
117.00	273.5089
117.00	273.5089
117.66	286.8471
121.11	258.1584
121.62	271.4938
121.78	271.5729
122.06	269.9648
122.32	271.8403
122.32	271.8403
122.32	271.8403
122.32	271.8403
123.07	262.5824
127.23	253.9614
129.76	268.3776
131.20	241.0783
133.02	285.3921
133.54	270.1337
135.34	229.8239
136.00	237.2422
136.25	244.5070
136.48	244.6014
140.51	242.1864
140.51	0.0000
142.18	165.5161
142.65	165.6446
143.76	228.5109
144.24	228.6877
144.24	228.6877
144.24	228.6877
144.24	228.6877
145.22	256.3170
145.44	260.4975
147.16	272.1553
152.43	272.1162
152.70	267.6321
153.22	265.0869
154.21	252.5826
154.21	252.5826
154.21	252.5826
154.21	252.5826
155.03	238.1338
156.02	272.6974
158.56	251.4767
159.00	0.0000
159.00	240.4993
160.31	236.3189
161.27	282.3118
162.32	265.9554
162.64	264.2128
163.35	252.3395
163.89	230.0920
165.85	270.1494
167.43	246.3233
171.28	210.8183
171.86	219.5060
172.10	219.5815
176.55	207.6216
176.60	207.6371
181.06	248.6849
184.41	252.7027
185.71	239.1627
186.00	239.2535
190.27	196.4664
192.34	238.3456
193.63	235.8210
197.04	249.5837
198.01	228.3331
198.60	232.4265
200.40	266.3797
201.83	213.6844
202.84	221.8437
205.31	249.2314

208.36	261.0898
208.81	261.2343
209.75	235.6788
209.75	235.6788
210.97	228.5615
215.65	224.3441
216.55	208.5438
218.09	229.0159
222.10	208.9057
223.80	203.2532
226.40	214.0071
227.00	213.1403
227.08	213.1595
227.20	215.2198
228.16	220.5385
228.18	214.4450
228.18	214.4450
231.56	0.0000
235.69	226.0112
236.00	210.7094
236.00	210.7094
238.63	200.5284
238.63	200.5284
238.63	200.5284
238.63	200.5284
239.00	469.1182
240.98	303.1187
241.98	284.8749
241.98	284.8749
241.98	284.8749
244.69	159.9395
245.39	158.5065
247.94	143.3611
248.90	183.0254
249.79	182.1581
252.40	150.3076
252.85	163.9553
252.85	163.9553
254.15	0.0000
256.20	156.1511
256.20	156.1511
260.50	166.3256
260.90	0.0000
262.80	166.7210
264.65	156.9927
268.24	167.1162
268.79	149.6920
269.46	149.7953
269.46	149.7953
269.46	149.7953
269.46	149.7953
271.23	150.0621
273.65	150.4235
276.40	150.8366
277.35	150.9772
277.60	151.0145
277.60	151.0145
278.00	151.0747
278.60	151.1636
279.20	131.9437
279.53	131.9863
280.46	154.6611
281.68	141.9419
283.67	135.7515
284.30	136.9115
285.00	152.1074
285.90	0.0000
286.10	174.9463
286.10	174.9463
287.40	130.8347
288.45	0.0000
290.67	162.6984
290.80	164.3469
291.72	159.6029
293.26	0.0000
293.70	112.5840
295.21	120.9139
295.21	120.9139

295.21	120.9139
295.96	120.9998
296.50	157.0518
297.23	268.4819
298.57	149.1608
299.80	157.5352
299.80	157.5352
300.09	144.4475
300.09	144.4475
300.09	144.4475
300.09	144.4475
300.12	144.4502
301.29	152.2744
302.84	207.3455
303.76	167.9943
303.91	141.6606
304.40	131.8384
304.40	131.8384
304.84	138.4867
306.84	151.9510
308.46	114.6831
311.98	118.3679
316.51	126.6241
318.01	115.6691
319.02	121.3388
319.41	128.0624
320.08	138.1654
323.87	122.4167
323.87	122.4167
323.87	122.4167
323.87	122.4167
325.23	127.5983
328.77	134.7266
333.44	128.5051
334.20	135.3564
334.20	135.3564
334.30	135.3687
338.28	139.2208
338.28	139.2208
338.28	139.2208
338.28	139.2208
338.32	139.2258
338.32	139.2258
338.32	139.2258
340.50	108.8633
340.57	108.8711
344.27	132.4159
345.85	126.4377
350.59	0.0000
351.07	138.4243
351.92	138.5203
351.92	138.5203
351.92	138.5203
355.39	0.0000
356.01	127.4969
364.48	119.1147
366.43	104.2419
367.43	104.3243
367.94	0.0000
369.80	114.9723
374.96	150.4186
383.85	121.5165
387.95	118.3623
388.63	118.4236
391.69	114.2686
391.69	114.2686
392.90	115.2576
398.62	127.3266
400.65	98.0896
401.10	107.0435
401.81	112.4552
402.60	116.9857
404.84	143.1177
410.95	104.2223
411.60	104.2719
413.65	106.5864
414.70	96.5775
415.30	90.8501

415.76	75.0128
417.63	0.0000
418.52	102.0821
423.70	95.2043
427.08	90.8859
427.89	95.4847
432.53	93.0569
433.93	104.1057
439.47	118.2566
439.56	118.2625
439.89	115.5391
443.98	87.3563
444.90	104.8937
445.03	104.9024
445.03	104.9024
445.03	104.9024
445.03	104.9024
453.90	90.7206
463.38	95.0180
468.07	82.2288
473.00	82.4919
475.06	109.8232
475.35	107.0263
476.78	86.4521
477.59	81.7961
477.96	83.6969
482.03	94.2856
484.57	89.7163
487.03	96.4763
490.36	0.0000
492.35	0.0000
497.08	79.9536
507.63	0.0000
510.53	0.0000
510.84	87.3516
511.00	87.3599
511.85	87.4057
511.85	87.4057
513.99	64.6288
513.99	64.6288
520.41	66.6163
520.65	58.9020
527.90	0.0000
528.96	0.0000
529.64	74.7488
529.87	0.0000
531.02	99.0989
537.32	89.7146
543.00	77.2931
546.56	0.0000
549.76	83.4877
552.65	75.7546
555.20	66.9977
563.23	89.0744
563.90	89.1074
568.70	100.2695
569.32	97.3241
569.50	99.3195
569.67	99.3286
573.80	86.6150
574.00	82.6403
574.64	80.6786
578.91	79.8706
579.30	0.0000
583.14	67.0470
585.48	59.3156
591.81	75.4051
592.07	73.4055
593.00	68.4109
595.88	86.6535
600.56	91.9220
602.52	0.0000
602.71	99.7808
602.71	99.7808
603.60	79.3211
604.41	61.5422
604.70	66.4108
609.31	84.2310

609.31	84.2310
609.31	84.2310
609.31	84.2310
610.33	84.2741
612.46	86.2001
614.37	74.8893
618.01	74.4191
621.84	68.4395
621.84	68.4395
631.29	85.1961
633.02	82.1899
633.10	82.1924
634.78	66.8388
635.90	62.7610
636.97	70.0005
645.85	59.9753
646.12	52.7432
656.30	63.4070
657.75	64.4919
657.90	0.0000
661.65	80.2498
661.65	80.2498
664.57	0.0000
666.33	74.1656
666.33	74.1656
675.00	78.6758
677.61	79.8246
685.20	73.7918
692.80	74.0588
695.00	77.3130
696.49	78.4263
696.49	78.4263
697.00	71.0260
697.49	74.2233
698.33	95.4684
698.50	95.4739
699.00	100.8012
702.63	78.6544
706.10	71.3286
706.58	0.0000
706.67	70.2821
709.31	82.0968
711.68	64.0430
713.82	74.7894
717.42	74.9155
720.50	78.2353
721.93	0.0000
722.20	62.9242
722.78	75.5283
722.78	75.5283
722.89	75.5326
722.95	75.5348
723.30	80.6963
724.18	80.7285
727.18	73.9587
733.00	67.2560
735.90	72.3100
739.58	74.5907
742.81	62.7914
744.21	69.3301
747.13	77.0127
751.79	76.0840
752.31	78.2776
753.82	71.8008
755.35	53.3425
756.15	68.6082
756.87	83.8804
763.93	76.9291
765.79	83.9906
766.42	84.0141
766.84	82.2775
776.49	72.5138
778.00	63.7667
778.57	69.2812
778.89	73.6902
783.80	63.9260
785.46	63.9703
792.07	42.4723

795.84	70.9004
796.30	63.8227
798.80	70.9883
801.93	65.5287
805.60	71.1914
810.29	78.0173
810.76	71.3438
815.85	60.3232
817.79	51.4271
818.51	54.7975
819.60	66.0113
826.30	67.3151
828.27	0.0000
831.60	60.7137
831.96	60.7236
834.83	68.4501
836.80	0.0000
846.75	47.0590
848.13	40.7472
856.28	0.0000
856.80	65.1176
860.37	57.6278
867.32	46.9235
867.82	49.0508
871.10	55.7385
873.19	54.8701
874.81	54.9038
875.33	0.0000
876.40	47.6138
879.36	58.6688
880.27	56.8550
880.51	56.8603
881.50	70.6441
883.24	57.8382
884.67	45.9290
889.25	72.6950
896.60	62.7506
898.02	59.0906
899.00	60.9598
903.28	48.1076
911.07	57.2193
911.07	57.2193
911.07	57.2193
919.63	59.5750
920.93	63.3283
925.00	46.6357
925.24	44.7750
926.50	45.7293
935.52	43.6964
937.48	42.1666
944.10	50.7226
946.00	58.2779
949.00	62.1054
962.29	63.0355
964.01	49.1981
966.15	49.2350
968.20	49.2718
969.11	49.2883
969.11	49.2883
969.11	49.2883
977.42	50.3849
980.50	50.4393
983.50	60.0207
989.30	42.0041
996.32	43.0653
1001.03	51.7627
1001.68	51.7746
1004.76	51.1901
1021.30	0.0000
1024.50	0.0000
1034.80	46.5469
1036.00	54.3266
1037.82	52.4180
1038.57	52.4312
1038.76	0.0000
1045.16	38.9258
1046.59	43.8113
1048.07	56.4962

1050.47	57.5164
1050.47	57.5164
1062.04	61.6526
1063.62	60.7043
1076.63	42.2819
1077.35	47.2102
1078.86	64.9462
1085.78	50.2978
1099.22	57.4506
1112.02	56.6911
1112.84	63.6719
1115.52	58.0827
1120.29	59.8330
1120.29	59.8330
1120.29	59.8330
1120.29	59.8330
1120.51	59.8359
1121.28	73.1507
1124.00	0.0000
1129.67	61.0089
1131.51	0.0000
1147.95	0.0000
1167.94	55.6633
1173.22	53.7246
1175.09	49.6986
1177.93	71.0596
1189.05	69.2617
1204.90	56.2864
1205.75	0.0000
1213.00	69.7564
1221.42	70.9575
1230.97	63.3482
1235.34	53.3494
1236.41	0.0000
1238.25	42.3713
1246.25	48.3392
1260.41	0.0000
1271.85	41.7383
1274.45	56.3889
1274.54	56.3889
1291.56	32.5273
1298.22	0.0000
1312.09	37.9898
1325.50	28.5979
1325.50	28.5979
1332.49	26.5295
1333.61	23.3535
1360.21	31.0051
1362.66	0.0000
1365.15	27.8345
1368.21	25.4466
1368.53	0.0000
1376.25	17.1797
1384.27	32.2793
1394.10	38.8354
1395.20	36.6895
1407.95	20.5707
1434.06	21.7998
1436.60	17.4508
1457.56	0.0000
1460.81	24.1431
1489.15	13.8147
1509.49	14.2810
1596.49	41.2376
1620.62	18.0560
1678.03	0.0000
1691.02	13.5169
1691.02	13.5169
1706.46	0.0000
1750.46	0.0000
1764.49	11.7725
1764.49	11.7725
1764.49	11.7725
1764.49	11.7725
1770.23	0.0000
1771.40	2.9475
1791.20	0.0000
1808.65	12.8730

1836.01

14.9377

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978014

Total Uranium Activity	1.3833E+01	ug/g
Total Uranium Counting Unc.	5.3333E+00	ug/g
Total Uranium Tpu	2.7211E-06	ug/g
Total Uranium Mda	2.4750E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G245978014                *
*  ANALYST       : MXR1                  DETECTOR    : GAM11                  *
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 14-FEB-2010 13:12:09.03  SAMPLE ALQT: 141.190 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.992E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.409E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.379E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.127E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:15:27.88

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978015.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:12:34
Sample ID          : G245978015      Sample quantity   : 1.09430E+02 GRAM
Detector name      : GAM12            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.38  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 948721           Detector SN#      :
Matrix Spike ID    :                  LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.73*	235	604	0.99	124.94	120	11	3.26E-02	21.6	
2	3	74.63*	343	472	1.09	148.75	144	15	4.76E-02	11.7	6.58E-01
3	3	76.98	613	348	0.99	153.45	144	15	8.52E-02	6.5	
4	0	87.09*	143	335	1.26	173.68	171	6	1.98E-02	22.4	
5	0	92.71*	538	473	1.21	184.94	181	9	7.47E-02	8.9	
6	0	128.70	66	315	1.02	256.96	254	8	9.11E-03	48.4	
7	0	185.77*	267	252	1.10	371.14	366	10	3.71E-02	13.4	
8	0	209.18	104	277	1.09	417.99	414	10	1.44E-02	31.5	
9	0	238.40*	930	273	1.14	476.46	472	8	1.29E-01	4.6	
10	0	241.33	86	257	2.18	482.31	481	7	1.19E-02	34.3	
11	0	269.96	99	159	2.01	539.59	535	9	1.37E-02	25.3	
12	0	276.88	46	122	1.01	553.45	551	7	6.41E-03	42.3	
13	2	295.02*	313	139	1.12	589.74	584	24	4.34E-02	8.5	9.91E-01
14	2	299.95	58	164	1.53	599.60	584	24	8.02E-03	42.8	
15	0	327.98	59	100	0.92	655.68	652	8	8.18E-03	32.5	
16	0	337.99*	194	134	1.39	675.71	671	10	2.70E-02	13.5	
17	0	351.69*	582	144	1.31	703.14	698	11	8.09E-02	5.8	
18	0	462.82	55	72	1.35	925.47	922	8	7.64E-03	29.9	
19	0	511.04*	159	159	2.37	1021.94	1013	22	2.20E-02	24.2	
20	0	582.80*	352	101	1.34	1165.50	1158	15	4.89E-02	8.3	
21	0	608.97*	407	95	1.56	1217.86	1210	14	5.65E-02	7.3	
22	0	661.28*	224	35	1.80	1322.51	1316	11	3.11E-02	8.5	
23	0	727.55	64	88	1.78	1455.08	1448	17	8.82E-03	36.3	
24	0	794.56	78	33	3.33	1589.12	1581	15	1.08E-02	19.9	
25	0	860.15	48	39	1.07	1720.32	1714	11	6.60E-03	29.2	
26	0	910.86*	223	68	1.31	1821.76	1814	16	3.10E-02	10.8	
27	0	942.98	23	23	2.21	1886.00	1882	9	3.12E-03	43.5	
28	3	964.86	57	28	2.42	1929.77	1925	17	7.87E-03	21.7	2.01E+00
29	3	968.44*	119	21	1.57	1936.92	1925	17	1.65E-02	12.3	
30	0	1007.09	78	110	10.12	2014.24	1993	41	1.08E-02	47.0	
31	0	1119.62	114	40	1.85	2239.31	2230	16	1.58E-02	15.5	
32	0	1238.55	31	66	1.81	2477.16	2471	16	4.34E-03	60.1	
33	0	1376.58	36	10	1.63	2753.19	2746	14	4.95E-03	25.5	
34	0	1460.13*	784	32	1.79	2920.28	2911	18	1.09E-01	4.0	
35	0	1587.21	26	8	1.42	3174.39	3169	11	3.61E-03	28.9	
36	0	1763.64	70	9	2.06	3527.15	3521	12	9.73E-03	14.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 15:15:31

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978015.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:12:34
Sample ID        : G245978015 Sample quantity : 109.43 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA12 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.38 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.216E+01	2.371E+00	4.859E-01	3.465E-02	45.613
CD-109	+	88.03	*	2.396E+00	1.090E+00	1.712E+00	1.310E-01	1.399
SN-126		64.28		8.476E-01	6.766E-01	1.087E+00	1.526E-01	0.780
	+	86.94		9.747E-01	5.934E-01	6.662E-01	2.742E-01	1.463
	+	87.57	*	2.345E-01	1.067E-01	1.666E-01	1.269E-02	1.408
BA-137M	+	661.65	*	3.792E-01	6.909E-02	6.465E-02	4.191E-03	5.866
CS-137	+	661.65	*	4.009E-01	7.307E-02	6.834E-02	4.445E-03	5.866
TL-208	+	277.35		5.165E-01	4.408E-01	6.312E-01	6.610E-02	0.818
	+	510.84		9.021E-01	4.471E-01	2.191E-01	2.262E-02	4.117
	+	583.14	*	5.723E-01	1.033E-01	6.254E-02	4.473E-03	9.152
	+	860.37		7.285E-01	4.296E-01	5.249E-01	4.587E-02	1.388
BI-211		72.87		5.281E+00	3.869E+00	6.154E+00	4.129E-01	0.858
	+	351.07	*	4.103E+00	5.436E-01	3.658E-01	2.300E-02	11.217
PB-212	+	74.81		2.402E+00	6.265E-01	6.215E-01	7.184E-02	3.864
	+	77.11		2.427E+00	3.574E-01	3.527E-01	2.442E-02	6.881
	+	87.30		1.084E+00	5.052E-01	7.556E-01	9.491E-02	1.435
	+	238.63	*	1.425E+00	1.649E-01	1.446E-01	1.027E-02	9.854
	+	300.09		1.367E+00	1.175E+00	1.314E+00	1.073E-01	1.040
PO-212	+	74.81		2.402E+00	6.265E-01	6.215E-01	7.184E-02	3.864
	+	77.11		2.427E+00	3.574E-01	3.527E-01	2.442E-02	6.881
	+	87.30		1.084E+00	5.052E-01	7.556E-01	9.491E-02	1.435
	+	115.19		1.362E+00	3.766E+00	6.287E+00	3.988E-01	0.217
	+	238.63	*	1.425E+00	1.649E-01	1.446E-01	1.027E-02	9.854
	+	300.09		1.367E+00	1.175E+00	1.314E+00	1.073E-01	1.040
BI-214	+	609.31	*	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
	+	1120.29		1.819E+00	5.893E-01	4.356E-01	3.957E-02	4.177
	+	1764.49		1.535E+00	4.605E-01	2.651E-01	1.571E-02	5.792
PB-214	+	74.81		4.138E+00	1.053E+00	1.071E+00	1.077E-01	3.864
	+	77.11		4.161E+00	6.899E-01	6.047E-01	6.225E-02	6.881
	+	87.30		1.858E+00	8.573E-01	1.294E+00	1.401E-01	1.435
	+	241.98		7.873E-01	5.436E-01	5.835E-01	4.592E-02	1.349
	+	295.21		1.298E+00	2.461E-01	2.301E-01	1.942E-02	5.643
	+	351.92	*	1.427E+00	2.032E-01	1.275E-01	1.042E-02	11.192
PO-214	+	74.81		4.138E+00	1.053E+00	1.071E+00	1.077E-01	3.864

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		4.161E+00	6.899E-01	6.047E-01	6.225E-02	6.881
	+	87.30		1.858E+00	8.573E-01	1.294E+00	1.401E-01	1.435
	+	241.98		7.873E-01	5.436E-01	5.835E-01	4.592E-02	1.349
	+	295.21		1.298E+00	2.461E-01	2.301E-01	1.942E-02	5.643
	+	351.92	*	1.427E+00	2.032E-01	1.275E-01	1.042E-02	11.192
	+	74.81		2.402E+00	6.265E-01	6.215E-01	7.184E-02	3.864
	+	77.11		2.427E+00	3.574E-01	3.527E-01	2.442E-02	6.881
	+	87.30		1.084E+00	5.052E-01	7.556E-01	9.491E-02	1.435
	+	238.63	*	1.425E+00	1.649E-01	1.446E-01	1.027E-02	9.854
	+	300.09		1.367E+00	1.175E+00	1.314E+00	1.073E-01	1.040
PO-218	+	74.81		4.138E+00	1.053E+00	1.071E+00	1.077E-01	3.864
	+	77.11		4.161E+00	6.899E-01	6.047E-01	6.225E-02	6.881
	+	87.30		1.858E+00	8.573E-01	1.294E+00	1.401E-01	1.435
	+	241.98		7.873E-01	5.436E-01	5.835E-01	4.592E-02	1.349
	+	295.21		1.298E+00	2.461E-01	2.301E-01	1.942E-02	5.643
RA-224	+	351.92	*	1.427E+00	2.032E-01	1.275E-01	1.042E-02	11.192
	+	240.98	*	1.493E+00	1.027E+00	1.407E+00	7.761E-02	1.061
RA-226	+	609.31	*	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
	+	1120.29		1.819E+00	5.893E-01	4.356E-01	3.957E-02	4.177
AC-228	+	1764.49		1.535E+00	4.605E-01	2.651E-01	1.571E-02	5.792
	+	338.32		1.508E+00	7.369E-01	3.851E-01	1.569E-01	3.915
	+	911.07	*	1.621E+00	3.921E-01	2.391E-01	2.625E-02	6.779
RA-228	+	969.11		1.516E+00	5.113E-01	3.586E-01	8.267E-02	4.229
	+	338.32		1.508E+00	7.369E-01	3.851E-01	1.569E-01	3.915
	+	911.07	*	1.621E+00	3.921E-01	2.391E-01	2.625E-02	6.779
TH-228	+	969.11		1.516E+00	5.113E-01	3.586E-01	8.267E-02	4.229
	+	74.81		2.445E+00	5.962E-01	6.328E-01	4.362E-02	3.864
	+	77.11		2.471E+00	3.639E-01	3.591E-01	2.486E-02	6.881
	+	87.30		1.104E+00	5.024E-01	7.693E-01	5.847E-02	1.435
TH-230	+	238.63	*	1.451E+00	1.679E-01	1.473E-01	1.046E-02	9.854
	+	300.09		1.392E+00	1.446E+00	1.338E+00	7.885E-01	1.040
	+	609.31	*	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
	+	1120.29		1.819E+00	5.893E-01	4.356E-01	3.957E-02	4.177
	+	1764.49		1.535E+00	4.605E-01	2.651E-01	1.571E-02	5.792
TH-232	+	338.32		1.508E+00	4.156E-01	3.851E-01	2.182E-02	3.915
	+	911.07	*	1.621E+00	3.921E-01	2.391E-01	2.625E-02	6.779
	+	969.11		1.516E+00	5.113E-01	3.586E-01	8.267E-02	4.229
TH-234	+	63.29	*	6.766E+00	3.138E+00	2.294E+00	3.905E-01	2.950
	+	92.38		5.705E+00	1.422E+00	9.847E-01	1.722E-01	5.794
U-234	+	609.31	*	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
	+	1120.29		1.819E+00	5.893E-01	4.356E-01	3.957E-02	4.177
	+	1764.49		1.535E+00	4.605E-01	2.651E-01	1.571E-02	5.792
NP-237	+	86.50	*	6.885E-01	3.440E-01	4.535E-01	9.964E-02	1.518
	+	95.87		-3.245E-02	1.105E+00	1.640E+00	3.956E-01	-0.020
U-238	+	63.29	*	6.766E+00	3.138E+00	2.294E+00	3.905E-01	2.950
	+	92.38		5.705E+00	1.096E+00	9.847E-01	7.169E-02	5.794
AM-243	+	74.67	*	3.893E-01	9.483E-02	1.011E-01	6.867E-03	3.852
	+	86.72		2.582E+01	1.175E+01	1.799E+01	1.359E+00	1.435
	+	117.66		-2.683E+00	3.883E+00	6.148E+00	3.873E-01	-0.436

Sample ID : G245978015

Acquisition date : 14-FEB-2010 13:12:34

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	142.18			-1.574E+00	1.900E+01	3.034E+01	1.718E+00	-0.052
ANH-511	+	511.00	*	1.949E-01	9.521E-02	4.734E-02	2.885E-03	4.116

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	8.135E-02	3.566E-01	5.852E-01	4.027E-02	0.139
NA-22		1274.54	*	-1.068E-02	5.133E-02	8.247E-02	5.311E-03	-0.130
NA-24		1368.53	*	-9.164E-01	5.133E-02	Half-Life too short		
AL-26		1129.67		3.020E-01	1.612E+00	2.736E+00	1.667E-01	0.110
		1808.65	*	2.300E-03	2.652E-02	4.486E-02	2.574E-03	0.051
TI-44		67.85		-1.700E-02	5.781E-02	8.591E-02	5.592E-03	-0.198
	+	78.38	*	4.479E-01	6.597E-02	8.076E-02	5.649E-03	5.546
SC-46		889.25	*	3.985E-02	4.440E-02	7.847E-02	6.504E-03	0.508
	+	1120.51		3.191E-01	1.012E-01	1.527E-01	9.486E-03	2.090
V-48	+	944.10		1.317E+00	1.150E+00	1.983E+00	1.593E-01	0.664
		983.50	*	-5.745E-02	1.020E-01	1.314E-01	1.013E-02	-0.437
		1312.09		-1.186E-02	9.552E-02	1.540E-01	1.045E-02	-0.077
CR-51		320.08	*	-3.210E-01	4.296E-01	6.780E-01	4.311E-02	-0.473
MN-52		744.21		2.059E-01	3.557E-01	6.170E-01	4.407E-02	0.334
		848.13		3.745E+00	1.142E+01	1.915E+01	1.526E+00	0.196
		935.52		1.274E-01	4.462E-01	7.395E-01	5.988E-02	0.172
		1246.25		-3.637E+00	1.311E+01	1.773E+01	1.092E+00	-0.205
		1333.61		5.523E+00	8.463E+00	1.493E+01	1.043E+00	0.370
		1434.06	*	2.115E-01	3.800E-01	6.683E-01	4.591E-02	0.316
MN-54		834.83	*	1.354E-02	4.521E-02	7.556E-02	5.940E-03	0.179
CO-56		846.75	*	3.534E-02	4.684E-02	8.153E-02	6.486E-03	0.433
		977.42		8.661E-01	3.215E+00	5.329E+00	4.134E-01	0.163
		1037.82		1.451E-01	3.476E-01	6.054E-01	4.676E-02	0.240
		1175.09		9.447E-01	2.202E+00	3.819E+00	2.106E-01	0.247
	+	1238.25		1.440E-01	1.732E-01	1.944E-01	1.251E-02	0.741
		1360.21		2.526E-01	9.656E-01	1.644E+00	1.145E-01	0.154
		1771.40		-5.278E-01	3.126E-01	3.442E-01	2.030E-02	-1.534
CO-57		122.06	*	-6.141E-03	2.681E-02	4.341E-02	2.714E-03	-0.141
		136.48		1.213E-01	2.196E-01	3.666E-01	2.466E-02	0.331
CO-58		810.76	*	-1.342E-04	4.491E-02	7.331E-02	5.641E-03	-0.002
FE-59		142.65		4.851E-01	3.104E+00	5.013E+00	2.832E-01	0.097
		192.34		-8.526E-01	1.087E+00	1.652E+00	1.909E-01	-0.516
		1099.22	*	1.335E-02	1.018E-01	1.718E-01	1.269E-02	0.078
		1291.56		-5.653E-02	1.336E-01	2.072E-01	1.669E-02	-0.273
CO-60		1173.22		2.223E-02	4.403E-02	7.687E-02	4.225E-03	0.289
		1332.49	*	1.214E-02	4.642E-02	7.839E-02	5.475E-03	0.155
ZN-65		1115.52	*	6.857E-02	1.019E-01	1.607E-01	1.011E-02	0.427
GE-68		1077.35	*	8.155E-01	1.252E+00	2.233E+00	1.506E-01	0.365
AS-73		53.44	*	5.857E-04	9.042E-01	1.511E+00	9.752E-02	0.000
AS-74		595.88	*	1.094E-03	1.110E-01	1.858E-01	1.183E-02	0.006
		634.78		2.349E-01	4.062E-01	7.106E-01	4.580E-02	0.331
SE-75		66.05		-4.241E+00	6.065E+00	8.839E+00	7.717E-01	-0.480

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-1.126E+00	1.002E+00	1.382E+00	1.750E-01	-0.815
		121.11		2.537E-02	1.415E-01	2.338E-01	2.226E-02	0.109
		136.00		1.144E-02	4.136E-02	6.822E-02	4.028E-03	0.168
		198.60		-1.631E+00	2.058E+00	3.081E+00	2.070E-01	-0.529
		264.65	*	7.780E-03	4.927E-02	7.383E-02	4.185E-03	0.105
		279.53		-8.270E-02	1.278E-01	1.783E-01	1.092E-02	-0.464
		303.91		1.245E+00	2.375E+00	3.628E+00	3.436E-01	0.343
		400.65		-1.806E-01	2.767E-01	4.285E-01	3.829E-02	-0.422
BR-77	+	87.88		1.213E+03	5.517E+02	8.604E+02	6.578E+01	1.409
		200.40		-2.268E+02	4.208E+02	6.489E+02	3.442E+01	-0.350
	+	239.00		5.384E+02	5.743E+01	9.569E+01	5.270E+00	5.627
		249.79		-7.601E+00	1.545E+02	2.596E+02	1.441E+01	-0.029
		281.68		-1.417E+01	2.508E+02	3.676E+02	2.077E+01	-0.039
		297.23		3.269E+02	1.450E+02	2.652E+02	1.505E+01	1.233
		303.76		2.620E+02	4.687E+02	7.184E+02	4.082E+01	0.365
		439.47		-1.495E+02	3.863E+02	6.073E+02	3.497E+01	-0.246
		484.57		-7.616E+01	5.838E+02	9.281E+02	5.552E+01	-0.082
		520.65	*	4.794E+00	2.721E+01	4.095E+01	2.511E+00	0.117
		574.64		-2.305E+02	5.941E+02	9.060E+02	5.717E+01	-0.254
		578.91		2.762E+01	2.404E+02	3.556E+02	2.248E+01	0.078
		585.48		1.736E+03	5.813E+02	1.041E+03	6.597E+01	1.668
		755.35		2.026E+02	4.661E+02	7.835E+02	5.666E+01	0.259
		817.79		7.331E+01	3.413E+02	5.691E+02	4.397E+01	0.129
SR-82		698.33		-3.947E+01	4.540E+01	6.604E+01	4.475E+00	-0.598
		776.49	*	-2.307E-01	4.519E-01	7.028E-01	5.200E-02	-0.328
		1395.20		-1.541E+01	1.428E+01	1.948E+01	1.349E+00	-0.791
RB-83		520.41	*	-2.418E-02	8.773E-02	1.179E-01	7.227E-03	-0.205
		529.64		2.287E-02	1.218E-01	1.977E-01	1.219E-02	0.116
		552.65		-1.207E-01	2.058E-01	3.291E-01	2.055E-02	-0.367
RB-84		881.50	*	1.475E-02	7.835E-02	1.297E-01	1.067E-02	0.114
KR-85		513.99	*	1.274E+01	7.901E+00	1.413E+01	8.630E-01	0.902
SR-85		513.99	*	6.738E-02	4.178E-02	7.473E-02	4.563E-03	0.902
RB-86		1076.63	*	1.498E-01	8.956E-01	1.521E+00	1.027E-01	0.098
Y-88		898.02		-8.638E-04	4.881E-02	7.626E-02	6.406E-03	-0.011
		1836.01	*	3.697E-02	4.158E-02	7.937E-02	4.468E-03	0.466
ZR-88		392.90	*	1.556E-02	3.659E-02	6.143E-02	3.370E-03	0.253
Y-91		1204.90	*	1.536E-01	2.008E+01	3.319E+01	1.919E+00	0.005
NB-94		702.63	*	1.178E-02	3.916E-02	6.623E-02	4.510E-03	0.178
		871.10		-6.256E-03	3.789E-02	6.039E-02	4.919E-03	-0.104
NB-95		765.79	*	6.429E-02	5.544E-02	9.840E-02	7.198E-03	0.653
NB-95M		235.69	*	3.928E-02	1.491E-01	2.262E-01	1.650E-02	0.174
ZR-95		724.18		1.120E-02	1.307E-01	1.885E-01	1.486E-02	0.059
		756.15	*	1.692E-02	8.639E-02	1.424E-01	1.176E-02	0.119
NB-97		657.90	*	3.361E-01	8.639E-02	Half-Life	too short	
		1024.50		-2.402E+01	8.639E-02	Half-Life	too short	
ZR-97		254.15		-9.251E+01	8.639E-02	Half-Life	too short	
		355.39		4.370E+01	8.639E-02	Half-Life	too short	
		507.63	*	8.425E+01	8.639E-02	Half-Life	too short	
		602.52		-4.942E+01	8.639E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1021.30			6.279E+01	8.639E-02	Half-Life	too short	
	1147.95			0.000E+00	8.639E-02	Half-Life	too short	
	1362.66			-3.431E+01	8.639E-02	Half-Life	too short	
	1750.46			3.844E+01	8.639E-02	Half-Life	too short	
MO-99	140.51			-9.740E+01	6.782E+01	9.164E+01	2.468E+01	-1.063
	181.06			-2.611E+01	4.257E+01	5.760E+01	9.761E+00	-0.453
	366.43			2.979E+01	1.928E+02	3.199E+02	1.789E+01	0.093
	739.58	*		-2.339E+01	2.603E+01	3.858E+01	5.548E+00	-0.606
	778.00			-5.686E+01	8.057E+01	1.228E+02	9.103E+00	-0.463
TC-99M	140.51	*		-2.241E+14	8.057E+01	Half-Life	too short	
RH-101	+	127.23		5.039E-02	4.889E-02	5.911E-02	3.587E-03	0.852
		198.01	*	-1.806E-02	3.704E-02	5.649E-02	2.988E-03	-0.320
		325.23		2.561E-02	2.698E-01	3.956E-01	2.247E-02	0.065
RH-102		418.52		-6.010E-03	3.132E-01	5.086E-01	2.869E-02	-0.012
		475.06	*	-3.253E-02	3.136E-02	4.571E-02	2.715E-03	-0.712
		631.29		1.143E-02	5.763E-02	9.766E-02	6.288E-03	0.117
		697.49		-7.688E-02	8.909E-02	1.364E-01	9.235E-03	-0.564
		766.84		2.305E-01	1.393E-01	2.536E-01	1.857E-02	0.909
		1046.59		7.571E-02	1.363E-01	2.392E-01	1.695E-02	0.317
		1112.84		-2.041E-01	2.822E-01	3.579E-01	2.259E-02	-0.570
RU-103		497.08	*	-2.316E-02	4.778E-02	7.284E-02	9.291E-03	-0.318
	+	610.33		1.420E+01	3.037E+00	3.486E+00	5.457E-01	4.073
RH-106	+	511.85		9.787E-01	4.782E-01	5.159E-01	3.146E-02	1.897
		621.84	*	2.789E-01	3.446E-01	6.099E-01	7.354E-02	0.457
		1050.47		3.954E-01	2.634E+00	4.465E+00	3.145E-01	0.089
RU-106	+	511.85		9.787E-01	4.782E-01	5.159E-01	3.146E-02	1.897
		621.84	*	2.789E-01	3.435E-01	6.099E-01	3.917E-02	0.457
		1050.47		3.954E-01	2.634E+00	4.465E+00	3.145E-01	0.089
AG-108M		433.93	*	-2.211E-02	3.659E-02	5.511E-02	3.434E-03	-0.401
		614.37		5.196E-02	4.461E-02	7.323E-02	5.020E-03	0.709
		722.95		-2.808E-02	5.349E-02	7.123E-02	5.262E-03	-0.394
AG-110M		657.75	*	-4.946E-06	4.130E-02	5.956E-02	4.060E-03	0.000
		677.61		2.437E-02	3.456E-01	5.761E-01	3.989E-02	0.042
		706.67		-8.608E-03	2.528E-01	4.164E-01	2.973E-02	-0.021
		763.93		-2.444E-01	2.142E-01	3.179E-01	2.412E-02	-0.769
		884.67		-3.765E-02	5.681E-02	8.522E-02	7.279E-03	-0.442
		937.48		-2.126E-01	1.769E-01	2.028E-01	1.706E-02	-1.048
		1384.27		1.357E-01	1.845E-01	3.071E-01	2.223E-02	0.442
IN-111		171.28		2.560E-01	2.149E+00	3.471E+00	1.786E-01	0.074
		245.39	*	-8.594E-01	2.509E+00	3.640E+00	2.015E-01	-0.236
IN-113M		391.69	*	6.463E-02	5.213E-02	9.179E-02	5.404E-03	0.704
SN-113		391.69	*	6.463E-02	5.213E-02	9.179E-02	5.404E-03	0.704
IN-114M		190.27	*	1.693E-01	2.195E-01	3.283E-01	1.722E-02	0.516
CD-115		260.90		-2.819E-04	2.195E-01	Half-Life	too short	
		492.35		9.843E-06	2.195E-01	Half-Life	too short	
		527.90	*	1.264E-05	2.195E-01	Half-Life	too short	
SN-117M		156.02		-2.064E+00	2.762E+00	4.287E+00	2.289E-01	-0.482
		158.56	*	-8.403E-03	7.202E-02	1.155E-01	6.103E-03	-0.073
SB-122		563.90	*	3.994E+00	4.640E+00	8.289E+00	5.205E-01	0.482

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	692.80			9.682E+00	9.827E+01	1.639E+02	1.104E+01	0.059
	159.00	*		1.698E+02	9.827E+01	Half-Life	too short	
	528.96			6.987E+03	9.827E+01	Half-Life	too short	
TE-123M	159.00	*		2.074E-02	3.190E-02	5.302E-02	2.841E-03	0.391
I-124	602.71	*		-3.248E-01	1.287E+00	1.815E+00	1.159E-01	-0.179
	722.78			-5.117E+00	9.062E+00	1.200E+01	8.363E-01	-0.427
	1325.50			2.144E+01	5.900E+01	1.013E+02	7.008E+00	0.212
	1376.25	+		1.271E+02	6.545E+01	1.113E+02	7.733E+00	1.142
	1509.49			1.663E+01	2.872E+01	5.053E+01	3.400E+00	0.329
	1691.02			-3.937E+00	7.025E+00	1.043E+01	6.476E-01	-0.377
SB-124	602.71			-1.200E-02	4.755E-02	6.710E-02	4.283E-03	-0.179
	645.85			-4.046E-01	5.247E-01	8.069E-01	5.759E-02	-0.501
	709.31			1.782E+00	3.267E+00	5.633E+00	3.866E-01	0.316
	713.82			-1.860E-01	1.820E+00	2.975E+00	3.235E-01	-0.063
	722.78			-2.742E-01	4.856E-01	6.427E-01	4.628E-02	-0.427
	968.20	+		1.615E+01	4.169E+00	8.058E+00	6.314E-01	2.004
	1045.16			1.679E+00	2.946E+00	5.182E+00	3.680E-01	0.324
	1325.50			1.227E+00	3.376E+00	5.799E+00	4.011E-01	0.212
	1368.21			4.288E-01	1.737E+00	2.684E+00	3.349E-01	0.160
	1436.60			-8.296E-01	4.585E+00	7.254E+00	4.980E-01	-0.114
	1691.02	*		-4.976E-02	8.879E-02	1.318E-01	8.798E-03	-0.377
SB-125	427.89	*		7.413E-03	9.761E-02	1.594E-01	9.477E-03	0.047
	463.38	+		6.097E-01	3.673E-01	5.983E-01	4.089E-02	1.019
	600.56			-8.495E-02	2.032E-01	3.055E-01	2.204E-02	-0.278
	635.90			-6.309E-02	2.809E-01	4.583E-01	3.369E-02	-0.138
TE-125M	109.28	*		7.785E+00	1.058E+01	1.794E+01	1.548E+00	0.434
I-126	388.63			-1.378E-01	2.676E-01	4.218E-01	2.317E-02	-0.327
	666.33	*		1.793E-01	2.411E-01	3.799E-01	2.477E-02	0.472
	753.82			1.982E+00	2.029E+00	3.555E+00	2.567E-01	0.557
SB-126	223.80			2.915E-01	4.751E+00	8.081E+00	4.390E-01	0.036
	278.60			7.678E-01	3.444E+00	5.159E+00	2.912E-01	0.149
	296.50	+		1.523E+01	2.725E+00	4.532E+00	2.572E-01	3.360
	414.70			1.742E-02	9.547E-02	1.575E-01	8.847E-03	0.111
	415.30			8.520E+00	7.696E+00	1.353E+01	7.607E-01	0.630
	555.20			-6.623E-02	4.910E+00	8.252E+00	5.159E-01	-0.008
	573.80			-3.482E-01	1.345E+00	2.213E+00	1.396E-01	-0.157
	593.00			-4.094E-01	1.208E+00	1.967E+00	1.251E-01	-0.208
	656.30			-3.488E-02	4.375E+00	6.304E+00	4.082E-01	-0.006
	666.33			7.543E-02	1.014E-01	1.598E-01	1.042E-02	0.472
	675.00			-1.172E+00	2.614E+00	4.162E+00	2.743E-01	-0.282
	695.00			-4.234E-03	1.001E-01	1.649E-01	1.113E-02	-0.026
	697.00			-2.222E-01	3.500E-01	5.463E-01	3.696E-02	-0.407
	720.50	*		8.224E-02	2.163E-01	3.236E-01	2.250E-02	0.254
	856.80			4.693E-01	6.934E-01	1.066E+00	8.564E-02	0.440
	989.30			-4.197E-01	1.591E+00	2.470E+00	1.890E-01	-0.170
	1034.80			-3.487E-01	1.120E+01	1.868E+01	1.347E+00	-0.019
	1213.00			2.488E+00	6.117E+00	1.048E+01	6.137E-01	0.237
SB-127	61.10			4.725E+01	1.145E+02	1.786E+02	1.885E+01	0.265
	252.40			1.428E+00	7.232E+00	1.227E+01	5.124E+00	0.116

---- Non-Identified Nuclides ----

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	290.80			6.108E-01	4.401E+01	6.469E+01	6.588E+00	0.009
	411.60			-2.430E+01	2.405E+01	3.591E+01	5.395E+00	-0.677
	444.90			-7.454E+00	1.884E+01	2.952E+01	3.463E+00	-0.252
	473.00			1.196E+00	2.892E+00	4.824E+00	5.863E-01	0.248
	543.00			-1.813E+01	2.929E+01	4.671E+01	6.486E+00	-0.388
	603.60			7.262E-01	2.311E+01	3.373E+01	4.051E+00	0.022
	685.20	*		-1.423E+00	2.505E+00	3.925E+00	4.319E-01	-0.363
	698.50			-2.541E+01	3.196E+01	4.657E+01	7.262E+00	-0.546
	722.20			2.481E+01	5.973E+01	8.989E+01	9.852E+00	0.276
	783.80			9.714E+00	7.408E+00	1.327E+01	1.662E+00	0.732
XE-127	57.60			4.422E+00	6.934E+00	1.157E+01	7.311E-01	0.382
	145.22			-1.038E-01	7.718E-01	1.243E+00	6.947E-02	-0.084
	172.10			-5.249E-02	1.325E-01	2.080E-01	1.071E-02	-0.252
	202.84	*		-1.521E-02	5.436E-02	8.501E-02	4.521E-03	-0.179
	374.96			-1.986E-02	2.290E-01	3.732E-01	2.074E-02	-0.053
I-131	80.18			-2.351E+00	6.671E+00	9.831E+00	7.076E-01	-0.239
	284.30			-1.025E+00	2.037E+00	3.304E+00	2.099E-01	-0.310
	364.48	*		-1.657E-01	1.687E-01	2.582E-01	1.633E-02	-0.642
	636.97			-6.802E-01	2.125E+00	3.438E+00	2.443E-01	-0.198
	722.89			-6.246E+00	1.159E+01	1.540E+01	1.089E+00	-0.406
TE-132	49.72			-2.782E+00	3.882E+01	6.607E+01	6.763E+00	-0.042
	111.76			-1.524E+01	6.211E+01	9.997E+01	1.015E+01	-0.152
	116.30			-9.272E+00	5.301E+01	8.630E+01	8.715E+00	-0.107
	228.16	*		-1.566E-01	1.325E+00	2.231E+00	3.316E-01	-0.070
BA-133	53.15			1.170E-01	3.831E+00	6.409E+00	4.144E-01	0.018
	79.62			6.023E-01	1.419E+00	2.174E+00	3.131E-01	0.277
	81.00			-8.863E-02	1.135E-01	1.623E-01	2.455E-02	-0.546
	276.40	+		5.107E-01	4.375E-01	7.090E-01	9.141E-02	0.720
	302.84			1.072E-01	1.623E-01	2.500E-01	2.900E-02	0.429
	356.01	*		4.513E-02	4.716E-02	7.417E-02	8.509E-03	0.609
	383.85			3.383E-02	3.035E-01	5.009E-01	5.371E-02	0.068
I-133	510.53	+		2.071E+01	3.035E-01	Half-Life	too short	
	529.87	*		1.337E-02	3.035E-01	Half-Life	too short	
	706.58			-5.131E-01	3.035E-01	Half-Life	too short	
	856.28			2.185E+00	3.035E-01	Half-Life	too short	
	875.33			2.343E-01	3.035E-01	Half-Life	too short	
	1236.41			1.260E+01	3.035E-01	Half-Life	too short	
	1298.22			-1.089E+00	3.035E-01	Half-Life	too short	
CS-134	475.35			-1.702E+00	2.041E+00	3.038E+00	1.805E-01	-0.560
	563.23			1.168E-01	3.871E-01	6.652E-01	4.251E-02	0.176
	569.32			3.390E-03	2.213E-01	3.679E-01	2.375E-02	0.009
	604.70			1.795E-02	3.854E-02	5.903E-02	3.787E-03	0.304
	795.84	+	*	1.830E-01	7.403E-02	1.004E-01	7.658E-03	1.822
	801.93			2.444E-01	4.906E-01	7.950E-01	6.087E-02	0.307
	1038.57			3.580E+00	4.120E+00	7.477E+00	5.361E-01	0.479
	1167.94			-1.187E+00	2.459E+00	3.846E+00	2.143E-01	-0.309
	1365.15			1.462E-02	1.170E+00	1.916E+00	1.425E-01	0.008
CS-135	268.24	*		1.857E-01	1.940E-01	3.049E-01	2.293E-02	0.609
I-135	288.45			-3.605E+12	1.940E-01	Half-Life	too short	

---- Non-Identified Nuclides ----

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		417.63	-2.169E+13	1.940E-01	Half-Life	too short	
		546.56	1.913E+13	1.940E-01	Half-Life	too short	
		836.80	2.723E+13	1.940E-01	Half-Life	too short	
		1038.76	2.519E+13	1.940E-01	Half-Life	too short	
		1124.00	3.543E+13	1.940E-01	Half-Life	too short	
		1131.51	7.470E+12	1.940E-01	Half-Life	too short	
		1260.41	* 5.256E+12	1.940E-01	Half-Life	too short	
		1457.56	1.278E+15	1.940E-01	Half-Life	too short	
		1678.03	-1.205E+13	1.940E-01	Half-Life	too short	
		1706.46	3.450E+13	1.940E-01	Half-Life	too short	
		1791.20	-2.828E+13	1.940E-01	Half-Life	too short	
CS-136		66.91	5.707E-02	1.101E+00	1.667E+00	2.392E-01	0.034
	+	86.29	3.571E+00	1.660E+00	2.558E+00	3.106E-01	1.396
		153.22	1.891E-01	8.033E-01	1.313E+00	9.078E-02	0.144
		163.89	-1.872E-01	1.493E+00	2.327E+00	1.573E-01	-0.080
		176.55	1.660E-01	4.675E-01	7.626E-01	4.551E-02	0.218
		273.65	1.998E-01	8.031E-01	8.906E-01	5.765E-02	0.224
		340.57	1.201E-02	1.729E-01	2.521E-01	1.523E-02	0.048
		818.51	-8.321E-03	9.557E-02	1.545E-01	1.197E-02	-0.054
		1048.07	* 1.809E-01	1.503E-01	2.769E-01	2.081E-02	0.653
		1235.34	1.259E+00	8.707E-01	1.442E+00	1.463E-01	0.873
CE-139		165.85	* -9.261E-03	3.449E-02	5.477E-02	2.806E-03	-0.169
BA-140		162.64	-4.267E-01	1.051E+00	1.617E+00	9.685E-02	-0.264
		304.84	3.518E-01	1.670E+00	2.483E+00	6.771E-01	0.142
		423.70	7.664E-01	2.497E+00	4.129E+00	1.311E+00	0.186
		537.32	* 1.128E-01	2.942E-01	5.080E-01	1.656E-01	0.222
LA-140	+	328.77	6.619E-01	4.324E-01	6.521E-01	4.165E-02	1.015
		432.53	-2.456E+00	2.715E+00	3.979E+00	2.520E-01	-0.617
		487.03	1.051E-01	1.784E-01	3.006E-01	2.025E-02	0.350
		751.79	5.511E-01	2.272E+00	3.814E+00	3.160E-01	0.144
		815.85	-2.710E-01	4.315E-01	6.461E-01	5.690E-02	-0.419
		867.82	-2.687E-01	1.749E+00	2.790E+00	2.400E-01	-0.096
		919.63	-3.464E-01	3.701E+00	5.747E+00	5.931E-01	-0.060
		925.24	5.617E-02	1.540E+00	2.495E+00	2.181E-01	0.023
		1596.49	* -1.255E-01	1.058E-01	1.335E-01	8.693E-03	-0.940
CE-141		145.44	* -2.629E-02	6.960E-02	1.107E-01	6.447E-03	-0.237
CE-143		57.37	2.914E-03	6.960E-02	Half-Life	too short	
		231.56	-2.613E-03	6.960E-02	Half-Life	too short	
		293.26	* 3.479E-03	6.960E-02	Half-Life	too short	
	+	350.59	1.427E-01	6.960E-02	Half-Life	too short	
		490.36	2.412E-03	6.960E-02	Half-Life	too short	
		664.57	7.732E-03	6.960E-02	Half-Life	too short	
		721.93	3.788E-03	6.960E-02	Half-Life	too short	
CE-144		80.11	-7.483E-01	2.406E+00	3.553E+00	2.522E-01	-0.211
		133.54	* 2.729E-02	2.206E-01	3.447E-01	4.907E-02	0.079
PM-144		476.78	-1.378E-02	7.297E-02	1.156E-01	8.168E-03	-0.119
		618.01	-3.774E-02	3.619E-02	5.507E-02	3.707E-03	-0.685
		696.49	* -4.409E-02	3.951E-02	5.884E-02	3.982E-03	-0.749
		778.57	-8.907E-01	2.508E+00	3.963E+00	2.941E-01	-0.225

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49	*		-2.993E+00	2.681E+00	3.993E+00	2.700E-01	-0.749
	1489.15			4.187E+00	1.329E+01	2.266E+01	1.534E+00	0.185
PM-146	453.90	*		4.366E-02	5.206E-02	8.896E-02	7.691E-03	0.491
	633.02			3.065E-01	1.446E+00	2.446E+00	9.033E-01	0.125
	735.90			2.271E-01	1.763E-01	2.867E-01	8.079E-02	0.792
	747.13			5.929E-03	9.760E-02	1.614E-01	2.130E-02	0.037
ND-147	91.11			1.046E+00	5.212E-01	8.071E-01	6.619E-02	1.296
	319.41			-5.196E+00	4.162E+00	6.317E+00	3.593E-01	-0.823
	439.89			-3.168E+00	8.045E+00	1.264E+01	7.288E-01	-0.251
	531.02	*		4.478E-02	7.576E-01	1.216E+00	1.664E-01	0.037
PM-149	285.90	*		-5.328E-05	7.576E-01	Half-Life too short		
EU-152	121.78			7.404E-03	7.630E-02	1.255E-01	9.985E-03	0.059
	244.69			-1.994E-02	3.799E-01	5.635E-01	3.117E-02	-0.035
	344.27	*		1.660E-02	1.098E-01	1.768E-01	1.133E-02	0.094
	443.98			1.149E-01	1.050E+00	1.715E+00	9.918E-02	0.067
	778.89			-1.342E-01	2.930E-01	4.584E-01	3.400E-02	-0.293
	867.32			2.374E-01	8.737E-01	1.425E+00	1.157E-01	0.167
+	964.01			8.337E-01	3.682E-01	6.677E-01	5.256E-02	1.249
	1085.78			-8.847E-02	4.084E-01	6.643E-01	4.413E-02	-0.133
	1112.02			-1.021E-01	3.799E-01	5.209E-01	3.293E-02	-0.196
	1407.95			5.513E-02	2.261E-01	3.678E-01	2.540E-02	0.150
GD-153	69.67			-3.279E-01	2.069E+00	3.091E+00	2.032E-01	-0.106
	83.37			5.742E+00	1.784E+01	2.741E+01	2.004E+00	0.210
	97.43	*		-2.878E-02	1.009E-01	1.463E-01	1.017E-02	-0.197
	103.18			-9.959E-02	1.122E-01	1.776E-01	1.187E-02	-0.561
EU-154	123.07			-2.450E-02	5.441E-02	8.703E-02	8.409E-03	-0.282
	247.94			-2.022E-01	3.646E-01	5.954E-01	5.590E-02	-0.340
	591.81			-7.298E-02	6.747E-01	1.120E+00	1.133E-01	-0.065
	723.30			-1.036E-01	2.248E-01	3.022E-01	2.439E-02	-0.343
	756.87			-1.922E-01	9.110E-01	1.468E+00	1.619E-01	-0.131
	873.19			1.145E-01	3.379E-01	5.672E-01	6.764E-02	0.202
	996.32			-8.384E-02	4.519E-01	6.364E-01	1.100E-01	-0.132
	1004.76			9.943E-03	2.275E-01	3.833E-01	4.156E-02	0.026
	1274.45	*		-2.568E-02	1.436E-01	2.315E-01	2.255E-02	-0.111
EU-155	48.70			-2.374E+00	2.661E+00	4.308E+00	2.815E-01	-0.551
	60.01			-3.535E-01	5.734E+00	8.761E+00	5.505E-01	-0.040
+	86.54			2.827E-01	1.287E-01	2.042E-01	1.560E-02	1.384
	105.31	*		1.191E-01	1.160E-01	1.995E-01	1.345E-02	0.597
TB-160	86.79	+		7.758E-01	3.530E-01	5.568E-01	4.210E-02	1.393
	197.04			6.608E-02	6.351E-01	1.000E+00	5.286E-02	0.066
	215.65			-4.398E-01	8.485E-01	1.302E+00	7.016E-02	-0.338
+	298.57			2.046E-01	1.755E-01	2.301E-01	1.306E-02	0.889
	879.36	*		-4.678E-02	1.578E-01	2.474E-01	2.031E-02	-0.189
	962.29			9.168E-01	6.654E-01	1.106E+00	8.722E-02	0.829
+	966.15			5.885E-01	2.600E-01	6.358E-01	4.993E-02	0.926
	1177.93			-2.609E-01	3.804E-01	5.814E-01	3.220E-02	-0.449
	1271.85			5.144E-01	7.615E-01	1.349E+00	8.634E-02	0.381
HO-166M	80.57			-1.469E-01	3.038E-01	4.442E-01	3.166E-02	-0.331
+	184.41			2.174E-01	5.956E-02	7.893E-02	4.115E-03	2.754

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		280.46		-2.385E-02	9.860E-02	1.424E-01	8.043E-03	-0.167
		410.95		-3.007E-02	2.775E-01	4.485E-01	2.510E-02	-0.067
		711.68	*	-4.971E-02	6.890E-02	1.063E-01	7.318E-03	-0.468
		752.31		1.707E-01	3.139E-01	5.400E-01	3.892E-02	0.316
		810.29		1.135E-02	6.487E-02	1.078E-01	8.263E-03	0.105
		51.35		1.119E+01	3.274E+01	5.655E+01	3.685E+00	0.198
		52.39		5.628E+00	1.706E+01	2.891E+01	1.876E+00	0.195
LU-176		59.40		1.562E+01	3.027E+01	4.741E+01	2.974E+00	0.329
		66.72	*	-1.707E+01	3.512E+01	5.178E+01	3.351E+00	-0.330
	+	88.36		5.561E-01	2.530E-01	3.895E-01	2.968E-02	1.428
		201.83		-2.870E-04	3.142E-02	4.989E-02	2.650E-03	-0.006
LU-177		306.84	*	-3.857E-02	2.829E-02	3.882E-02	2.206E-03	-0.994
		401.10		-3.766E+00	7.050E+00	1.103E+01	6.109E-01	-0.341
		112.95		-1.834E-01	2.418E+00	3.917E+00	2.503E-01	-0.047
	+	208.36	*	3.838E+00	2.426E+00	2.860E+00	1.530E-01	1.342
LU-177M		52.97		2.872E-01	1.766E+00	2.972E+00	1.923E-01	0.097
		54.07		-5.454E-01	9.177E-01	1.493E+00	9.606E-02	-0.365
	+	61.30		7.318E+00	3.190E+00	2.867E+00	1.812E-01	2.552
		121.62		3.844E-02	3.961E-01	6.518E-01	4.070E-02	0.059
HF-181		147.16		-6.251E-01	6.996E-01	1.082E+00	5.997E-02	-0.578
		171.86		-1.191E-01	5.153E-01	8.168E-01	4.204E-02	-0.146
		218.09		7.948E-01	9.267E-01	1.535E+00	8.291E-02	0.518
	+	268.79		2.344E+00	1.192E+00	1.649E+00	9.263E-02	1.422
		319.02		-3.016E-01	2.732E-01	4.195E-01	2.384E-02	-0.719
		367.43		-4.371E-01	1.025E+00	1.634E+00	9.127E-02	-0.268
		413.65	*	-8.455E-02	1.972E-01	3.109E-01	1.745E-02	-0.272
		56.28		-9.196E-01	1.013E+00	1.652E+00	1.051E-01	-0.557
		57.53		3.589E-01	5.785E-01	9.646E-01	6.098E-02	0.372
		65.20		-8.596E-01	1.214E+00	1.771E+00	1.138E-01	-0.485
		133.02		-1.851E-02	7.938E-02	1.137E-01	6.708E-03	-0.163
		136.25		1.728E-01	5.005E-01	8.280E-01	4.812E-02	0.209
W-181		345.85		-8.613E-02	2.421E-01	3.594E-01	2.031E-02	-0.240
		482.03	*	-1.435E-02	4.923E-02	7.722E-02	4.611E-03	-0.186
		56.28		-3.486E-01	3.844E-01	6.268E-01	3.986E-02	-0.556
		57.53		1.362E-01	2.197E-01	3.663E-01	2.315E-02	0.372
TA-182		65.20	*	-3.238E-01	4.573E-01	6.670E-01	4.285E-02	-0.485
		67.75		-4.467E-02	1.404E-01	2.083E-01	1.355E-02	-0.214
		100.10		1.700E-01	1.975E-01	3.381E-01	2.304E-02	0.503
		152.43		-1.263E-01	3.716E-01	5.909E-01	3.203E-02	-0.214
RE-183		222.10		-2.109E-01	3.703E-01	5.977E-01	3.242E-02	-0.353
		1001.68		1.805E+00	2.521E+00	4.395E+00	3.313E-01	0.411
		1121.28		7.909E-01	2.125E-01	4.114E-01	2.552E-02	1.922
		1189.05		-1.310E-01	3.314E-01	5.253E-01	2.962E-02	-0.249
		1221.42	*	-5.341E-02	2.229E-01	3.593E-01	2.132E-02	-0.149
		1230.97		2.777E-02	5.619E-01	8.346E-01	5.024E-02	0.033
		57.98		2.301E-01	2.309E-01	3.708E-01	2.339E-02	0.621
		59.32		1.009E-01	1.261E-01	2.003E-01	1.257E-02	0.504
		67.20		4.540E-02	2.464E-01	3.752E-01	2.434E-02	0.121
		162.32	*	7.783E-03	1.343E-01	2.113E-01	1.099E-02	0.037

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.624E+00	1.658E+00	1.966E+00	1.052E-01	1.335
		291.72		3.644E-01	1.156E+00	1.738E+00	9.853E-02	0.210
		57.98		8.338E-01	8.363E-01	1.343E+00	8.474E-02	0.621
		59.32		3.653E-01	4.565E-01	7.252E-01	4.550E-02	0.504
		67.20		1.644E-01	8.924E-01	1.359E+00	8.814E-02	0.121
		161.27		3.452E-02	4.087E-01	6.612E-01	3.453E-02	0.052
		216.55		5.350E-02	2.966E-01	4.736E-01	2.555E-02	0.113
		252.85	*	-6.382E-02	2.341E-01	3.882E-01	2.160E-02	-0.164
		318.01		-2.880E-01	4.729E-01	7.533E-01	4.282E-02	-0.382
		792.07		1.118E+00	1.268E+00	1.994E+00	1.500E-01	0.560
OS-185		903.28		4.345E-01	1.263E+00	1.856E+00	1.544E-01	0.234
		920.93		-1.183E-01	5.026E-01	7.898E-01	6.479E-02	-0.150
		59.72		1.636E-01	3.390E-01	5.300E-01	3.326E-02	0.309
		61.14		8.868E-02	1.963E-01	3.071E-01	1.939E-02	0.289
		69.30		-1.890E-01	3.570E-01	5.579E-01	3.661E-02	-0.339
		592.07		-1.372E+00	2.870E+00	4.621E+00	2.937E-01	-0.297
		646.12	*	-3.367E-02	4.413E-02	6.796E-02	4.392E-03	-0.495
		717.42		9.550E-02	1.001E+00	1.665E+00	1.154E-01	0.057
		874.81		8.049E-02	6.920E-01	1.136E+00	9.287E-02	0.071
		880.27		1.263E-01	8.322E-01	1.372E+00	1.128E-01	0.092
RE-188		155.03	*	-1.362E-02	1.879E-01	3.024E-01	1.621E-02	-0.045
		477.96		2.645E+00	3.395E+00	5.814E+00	3.460E-01	0.455
		633.10		7.490E-01	3.008E+00	5.119E+00	3.297E-01	0.146
W-188	+	63.58		2.800E+02	1.221E+02	1.268E+02	8.088E+00	2.208
IR-192		227.08		8.303E+00	1.320E+01	2.303E+01	1.255E+00	0.361
		290.67	*	-6.126E-01	9.307E+00	1.360E+01	7.707E-01	-0.045
	+	295.96		1.017E+00	1.824E-01	3.252E-01	1.876E-02	3.129
AU-195		308.46		5.654E-02	1.024E-01	1.758E-01	1.011E-02	0.322
		316.51	*	2.224E-02	3.546E-02	6.115E-02	3.495E-03	0.364
		468.07		-2.699E-02	8.057E-02	1.158E-01	7.850E-03	-0.233
		604.41		2.309E-01	5.332E-01	8.133E-01	9.484E-02	0.284
		612.46		6.563E-01	8.721E-01	1.368E+00	1.101E-01	0.480
		65.12		-1.061E-01	2.101E-01	3.097E-01	1.989E-02	-0.343
		66.83		-4.967E-02	1.173E-01	1.734E-01	1.123E-02	-0.286
TL-200	+	75.70		1.274E+00	3.103E-01	5.239E-01	3.587E-02	2.432
		98.88	*	2.929E-01	2.602E-01	4.433E-01	3.048E-02	0.661
	+	129.76		4.483E+00	4.350E+00	5.585E+00	3.346E-01	0.803
TL-201		367.94	*	1.150E-04	4.350E+00	Half-Life	too short	
		579.30		3.222E-03	4.350E+00	Half-Life	too short	
		828.27		-1.224E-02	4.350E+00	Half-Life	too short	
		1205.75		9.944E-04	4.350E+00	Half-Life	too short	
TL-202		68.90		-8.129E+00	1.047E+01	1.698E+01	1.112E+00	-0.479
		70.82		1.075E+00	6.551E+00	9.975E+00	6.604E-01	0.108
		80.30		-4.651E+00	1.098E+01	1.611E+01	1.146E+00	-0.289
		135.34		-3.256E+01	5.266E+01	8.312E+01	4.850E+00	-0.392
TL-202		167.43	*	-5.845E-01	1.520E+01	2.439E+01	1.250E+00	-0.024
		68.90		-4.427E-01	5.703E-01	9.248E-01	6.054E-02	-0.479
		70.82		5.840E-02	3.557E-01	5.417E-01	3.587E-02	0.108
		80.30		-2.527E-01	5.965E-01	8.754E-01	6.224E-02	-0.289

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	-3.693E-02	9.381E-02	1.474E-01	8.490E-03	-0.251
		70.83		2.261E-01	1.364E+00	2.077E+00	2.583E-01	0.109
		72.87		1.097E+00	8.112E-01	1.279E+00	1.540E-01	0.858
		82.60		-1.142E-02	1.270E+00	2.025E+00	2.619E-01	-0.006
BI-207		279.20	*	-2.717E-02	4.929E-02	6.936E-02	4.171E-03	-0.392
	+	72.80		2.600E-01	2.241E-01	3.542E-01	2.375E-02	0.734
		74.97		6.990E-01	1.703E-01	2.578E-01	1.755E-02	2.712
		84.90		1.963E-01	2.226E-01	3.498E-01	2.596E-02	0.561
		569.67		-1.497E-03	3.465E-02	5.735E-02	3.611E-03	-0.026
TL-207		1063.62	*	4.561E-02	5.773E-02	1.036E-01	7.148E-03	0.440
		1770.23		-2.102E+00	7.930E-01	7.421E-01	4.380E-02	-2.833
		81.07		-1.930E-01	2.489E-01	3.581E-01	2.564E-02	-0.539
		83.78		1.218E-01	1.487E-01	2.332E-01	1.712E-02	0.522
		94.90		4.294E-01	2.636E-01	4.233E-01	3.007E-02	1.014
		122.32		-6.240E-01	1.830E+00	2.947E+00	2.086E-01	-0.212
		144.24		6.397E-01	7.309E-01	1.217E+00	8.616E-02	0.526
		154.21		1.902E-01	4.130E-01	6.822E-01	4.550E-02	0.279
	+	269.46		5.418E-01	2.758E-01	3.887E-01	2.290E-02	1.394
		323.87	*	2.264E-01	7.985E-01	1.189E+00	1.958E-01	0.190
	+	338.28		6.297E+00	1.822E+00	2.617E+00	2.737E-01	2.406
		445.03		-1.583E+00	2.623E+00	4.040E+00	4.146E-01	-0.392
PO-209		260.50		-1.068E+01	9.266E+00	1.447E+01	8.092E-01	-0.738
		262.80		-8.709E+00	2.488E+01	4.088E+01	2.290E+00	-0.213
		896.60	*	-5.085E+00	8.946E+00	1.315E+01	1.097E+00	-0.387
BI-210		46.50	*	1.772E+00	3.752E+00	6.493E+00	4.892E-01	0.273
PB-210		46.50	*	1.772E+00	3.752E+00	6.493E+00	4.892E-01	0.273
PO-210		46.50	*	1.772E+00	3.751E+00	6.493E+00	4.164E-01	0.273
PB-211		404.84	*	-2.400E-02	1.042E+00	1.695E+00	1.057E+00	-0.014
		427.08		-1.593E-01	2.227E+00	3.593E+00	2.221E+00	-0.044
BI-212	+	831.96		6.178E-01	1.390E+00	2.273E+00	1.422E+00	0.272
		727.18	*	8.891E-01	6.500E-01	7.065E-01	6.116E-02	1.258
		785.46		3.053E+00	2.186E+00	3.890E+00	2.906E-01	0.785
		1620.62		2.536E-01	1.581E+00	2.697E+00	1.737E-01	0.094
PO-215		81.07		-1.930E-01	2.489E-01	3.581E-01	2.564E-02	-0.539
		83.78		1.218E-01	1.487E-01	2.332E-01	1.712E-02	0.522
		94.90		4.294E-01	2.636E-01	4.233E-01	3.007E-02	1.014
		122.32		-6.240E-01	1.830E+00	2.947E+00	2.086E-01	-0.212
		144.24		6.397E-01	7.309E-01	1.217E+00	8.616E-02	0.526
		154.21		1.902E-01	4.130E-01	6.822E-01	4.550E-02	0.279
	+	269.46		5.418E-01	2.758E-01	3.887E-01	2.290E-02	1.394
		323.87	*	2.264E-01	7.985E-01	1.189E+00	1.958E-01	0.190
	+	338.28		6.297E+00	1.822E+00	2.617E+00	2.737E-01	2.406
		445.03		-1.583E+00	2.623E+00	4.040E+00	4.146E-01	-0.392
	+	271.23		6.952E-01	3.558E-01	4.688E-01	3.742E-02	1.483
		401.81	*	-2.927E-01	4.319E-01	6.650E-01	8.975E-02	-0.440
RN-220		549.76	*	-2.094E+01	2.736E+01	4.314E+01	2.690E+00	-0.485
RA-223		81.07		-1.930E-01	2.489E-01	3.581E-01	2.564E-02	-0.539
		83.78		1.218E-01	1.487E-01	2.332E-01	1.712E-02	0.522
		94.90		4.294E-01	2.636E-01	4.233E-01	3.007E-02	1.014

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-6.240E-01	1.830E+00	2.947E+00	2.086E-01	-0.212
		144.24		6.397E-01	7.309E-01	1.217E+00	8.616E-02	0.526
		154.21		1.902E-01	4.130E-01	6.822E-01	4.550E-02	0.279
	+	269.46		5.418E-01	2.758E-01	3.887E-01	2.290E-02	1.394
		323.87	*	2.264E-01	7.985E-01	1.189E+00	1.958E-01	0.190
	+	338.28		6.297E+00	1.822E+00	2.617E+00	2.737E-01	2.406
		445.03		-1.583E+00	2.623E+00	4.040E+00	4.146E-01	-0.392
		79.80		7.630E-01	1.802E+00	2.755E+00	5.767E-01	0.277
		236.00		5.678E-01	2.986E-01	4.834E-01	4.972E-02	1.175
		256.20	*	2.581E-01	3.789E-01	6.580E-01	9.126E-02	0.392
		286.10		-2.646E-01	1.608E+00	2.660E+00	3.057E-01	-0.099
	+	299.80		2.533E+00	2.207E+00	2.803E+00	4.553E-01	0.904
TH-227		304.40		1.057E+00	2.071E+00	3.153E+00	5.442E-01	0.335
		334.20		-5.617E-01	2.788E+00	3.973E+00	7.268E-01	-0.141
		79.80		7.630E-01	1.802E+00	2.755E+00	5.844E-01	0.277
	+	94.00		2.205E+01	6.113E+00	4.664E+00	9.909E-01	4.726
		236.00		5.678E-01	2.971E-01	4.834E-01	4.285E-02	1.175
		256.20	*	2.581E-01	3.797E-01	6.580E-01	1.107E-01	0.392
		286.10		-2.646E-01	1.630E+00	2.660E+00	2.665E+00	-0.099
	+	299.80		2.533E+00	2.207E+00	2.803E+00	4.553E-01	0.904
		304.40		1.057E+00	2.071E+00	3.153E+00	5.442E-01	0.335
		334.20		-5.617E-01	2.788E+00	3.973E+00	7.268E-01	-0.141
		85.43		2.767E-02	2.325E-01	3.529E-01	2.633E-02	0.078
	+	88.47		3.201E-01	1.457E-01	2.241E-01	1.705E-02	1.428
PA-231		100.00		1.638E-01	2.025E-01	3.458E-01	2.359E-02	0.474
		193.63	*	1.599E-02	5.502E-01	8.777E-01	4.621E-02	0.018
		210.97		7.986E-01	9.437E-01	1.404E+00	7.529E-02	0.569
		283.67	*	9.008E-01	1.596E+00	2.743E+00	3.764E-01	0.328
TH-231	+	301.29		1.013E+00	8.737E-01	1.116E+00	1.159E-01	0.908
		81.07		-1.930E-01	2.489E-01	3.581E-01	2.564E-02	-0.539
		83.78		1.218E-01	1.487E-01	2.332E-01	1.712E-02	0.522
		94.90		4.294E-01	2.636E-01	4.233E-01	3.007E-02	1.014
U-231		122.32		-6.240E-01	1.830E+00	2.947E+00	2.086E-01	-0.212
		144.24		6.397E-01	7.309E-01	1.217E+00	8.616E-02	0.526
		154.21		1.902E-01	4.130E-01	6.822E-01	4.550E-02	0.279
	+	269.46		5.418E-01	2.758E-01	3.887E-01	2.290E-02	1.394
		323.87	*	2.264E-01	7.985E-01	1.189E+00	1.958E-01	0.190
	+	338.28		6.297E+00	1.822E+00	2.617E+00	2.737E-01	2.406
		445.03		-1.583E+00	2.623E+00	4.040E+00	4.146E-01	-0.392
		84.21		9.324E+00	1.041E+01	1.637E+01	1.206E+00	0.570
	+	92.29		3.533E+01	6.785E+00	9.417E+00	6.862E-01	3.751
		95.87	*	-5.967E-02	2.032E+00	3.015E+00	2.124E-01	-0.020
		108.00		-1.365E+00	3.702E+00	6.004E+00	3.912E-01	-0.227
	+	75.28		2.039E+01	5.602E+00	7.883E+00	1.136E+00	2.587
PA-233	+	86.59		4.590E+00	2.392E+00	3.319E+00	8.794E-01	1.383
	+	300.12		7.063E-01	6.118E-01	7.828E-01	1.048E-01	0.902
		311.98	*	-1.230E-02	6.815E-02	1.119E-01	6.773E-03	-0.110
		340.50		1.521E-01	7.250E-01	1.068E+00	2.450E-01	0.142
		398.62		1.578E+00	2.297E+00	3.870E+00	9.984E-01	0.408

Sample ID : G245978015

Acquisition date : 14-FEB-2010 13:12:34

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		1.724E+00	1.788E+00	3.059E+00	6.282E-01	0.564
		63.00		7.887E+00	3.586E+00	3.708E+00	5.328E-01	2.127
		94.67		4.587E-01	1.998E-01	3.214E-01	3.667E-02	1.427
		98.44		1.431E-01	1.309E-01	1.794E-01	9.967E-02	0.798
		99.86		5.660E-01	5.172E-01	8.806E-01	6.012E-02	0.643
		111.00		-7.452E-02	2.047E-01	3.313E-01	3.525E-02	-0.225
		131.20		1.102E-02	1.214E-01	1.779E-01	1.058E-02	0.062
		152.70		1.552E-01	3.451E-01	5.687E-01	8.913E-02	0.273
		186.00		7.827E+00	3.180E+00	3.056E+00	9.307E-01	2.561
		226.40		4.733E-02	4.075E-01	6.944E-01	7.907E-02	0.068
		227.20		9.971E-02	4.416E-01	7.562E-01	4.121E-02	0.132
		248.90		1.619E-01	8.189E-01	1.393E+00	2.985E-01	0.116
		293.70		6.231E+00	1.455E+00	1.908E+00	3.060E-01	3.266
		369.80		-1.283E-01	9.167E-01	1.489E+00	3.092E-01	-0.086
		568.70		-4.350E-01	1.139E+00	1.837E+00	1.156E-01	-0.237
		569.50		9.080E-03	3.058E-01	5.088E-01	3.203E-02	0.018
		574.00		-2.890E-01	1.651E+00	2.734E+00	1.725E-01	-0.106
		699.00		1.741E-01	8.476E-01	1.354E+00	2.480E-01	0.129
		706.10		-5.878E-01	1.267E+00	1.969E+00	8.717E-01	-0.299
		733.00		-3.503E-01	4.931E-01	6.276E-01	1.358E-01	-0.558
		742.81		6.262E-01	1.441E+00	2.369E+00	1.588E+00	0.264
		796.30		1.411E+00	1.279E+00	1.967E+00	5.258E-01	0.717
		805.60		-2.519E-01	1.144E+00	1.826E+00	5.547E-01	-0.138
		819.60		-2.146E-01	1.411E+00	2.264E+00	8.565E-01	-0.095
		826.30		-4.317E-01	9.099E-01	1.374E+00	6.128E-01	-0.314
		831.60		-1.436E-01	7.016E-01	1.118E+00	3.312E-01	-0.128
		876.40		5.138E-01	1.065E+00	1.588E+00	1.632E+00	0.323
		880.51		1.737E-01	2.861E-01	4.954E-01	4.072E-02	0.351
		883.24		-3.491E-01	3.904E-01	4.390E-01	2.949E-01	-0.795
		899.00		1.290E-01	9.718E-01	1.541E+00	6.730E-01	0.084
		925.00		-4.977E-01	1.386E+00	2.150E+00	1.757E-01	-0.232
		926.50		2.998E-02	2.098E-01	3.434E-01	8.628E-02	0.087
		946.00	*	-2.850E-01	4.135E-01	5.057E-01	9.353E-02	-0.563
		949.00		2.857E-01	5.258E-01	8.254E-01	6.598E-02	0.346
		980.50		-3.582E-02	7.866E-01	1.257E+00	9.714E-02	-0.029
		1394.10		-7.092E-01	1.392E+00	1.965E+00	1.275E+00	-0.361
PA-234M		766.42		1.879E+01	1.734E+01	2.602E+01	1.315E+01	0.722
		1001.03	*	4.146E+00	5.635E+00	9.832E+00	8.898E-01	0.422
U-235	+	89.95		1.431E+00	1.746E+00	2.122E+00	6.485E-01	0.674
		93.35		6.858E+00	2.254E+00	1.769E+00	4.886E-01	3.878
		105.00		1.927E+00	1.254E+00	1.984E+00	5.819E-01	0.971
		143.76	*	2.197E-01	2.267E-01	3.752E-01	6.094E-02	0.586
		163.35		-7.224E-03	5.551E-01	8.694E-01	1.547E-01	-0.008
		185.71		2.899E-01	7.941E-02	1.133E-01	5.912E-03	2.559
NP-236	+	205.31		-1.153E-02	6.379E-01	8.980E-01	1.602E-01	-0.013
		94.67		3.504E-01	1.484E-01	2.441E-01	1.738E-02	1.436
		98.44		1.081E-01	7.897E-02	1.356E-01	9.358E-03	0.797
		111.00		-5.637E-02	1.547E-01	2.506E-01	1.612E-02	-0.225
		160.31	*	7.355E-02	8.951E-02	1.497E-01	7.850E-03	0.491

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		2.235E-01	1.743E-01	2.986E-01	2.044E-02	0.748
		117.00	*	-1.431E-01	1.983E-01	3.138E-01	1.980E-02	-0.456
	+	209.75		2.011E+00	1.271E+00	1.547E+00	8.287E-02	1.300
		228.18		-2.762E-02	2.321E-01	3.910E-01	2.133E-02	-0.071
	+	277.60		2.491E-01	2.114E-01	3.388E-01	1.911E-02	0.735
AM-241		334.30		-3.786E-01	1.576E+00	2.239E+00	1.270E-01	-0.169
		59.54	*	8.750E-02	1.751E-01	2.740E-01	1.947E-02	0.319
CM-243		99.55		2.300E-01	1.794E-01	3.074E-01	2.103E-02	0.748
		103.76	*	-1.000E-02	1.026E-01	1.688E-01	1.124E-02	-0.059
		117.00		-1.472E-01	2.040E-01	3.229E-01	2.038E-02	-0.456
	+	209.75		1.982E+00	1.253E+00	1.525E+00	8.171E-02	1.300
		228.18		-2.792E-02	2.346E-01	3.951E-01	2.156E-02	-0.071
AM-246	+	277.60		2.512E-01	2.132E-01	3.416E-01	1.927E-02	0.735
		798.80		-9.264E-02	1.893E-01	2.498E-01	1.893E-02	-0.371
		1036.00		2.382E-02	3.142E-01	5.300E-01	3.815E-02	0.045
		1062.04		7.051E-02	2.486E-01	4.268E-01	2.952E-02	0.165
		1078.86	*	7.627E-02	1.419E-01	2.504E-01	1.684E-02	0.305
CM-247	+	278.00		1.033E+00	8.768E-01	1.381E+00	7.795E-02	0.748
		287.40		-9.141E-01	1.356E+00	2.123E+00	1.202E-01	-0.431
CF-249		402.60	*	-4.787E-02	3.985E-02	5.891E-02	3.267E-03	-0.813
		252.85		-2.366E-01	8.679E-01	1.439E+00	8.009E-02	-0.164
		333.44		-4.823E-03	2.253E-01	3.040E-01	1.724E-02	-0.016
CF-251		387.95	*	-2.472E-02	4.372E-02	6.859E-02	3.770E-03	-0.360
		176.60	*	5.582E-02	1.385E-01	2.264E-01	1.170E-02	0.247
		227.00		2.350E-01	3.843E-01	6.698E-01	3.650E-02	0.351
		285.00		-7.427E-01	1.853E+00	3.025E+00	1.712E-01	-0.245

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978015
* Acquisition date   : 14-FEB-2010 13:12:34 Detector SN#      :
* Detector ID        : GAM12 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.38 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date       : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID         : G245978015 Analyst initials: MXR1
* Batch Number      : 948721 Sample Quantity : 1.0943E+02 GRAM
* Recovery          : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight   : 0.00000
* CALIB. DATE/TIME : 10-FEB-2009 09:20:24 MS Isotope      :
* MSD DPM           : 0.000 MSD Isotope      :
* LCS DPM           : 0.000 LCS Isotope      :
* LCSD DPM          : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.216E+01	2.323E+00	4.831E-01	0.000E+00
CD-109	2.396E+00	1.068E+00	1.736E+00	0.000E+00
SN-126	2.345E-01	1.046E-01	1.689E-01	0.000E+00
BA-137M	3.792E-01	6.771E-02	6.464E-02	0.000E+00
CS-137	4.009E-01	7.161E-02	6.833E-02	0.000E+00
TL-208	5.723E-01	1.012E-01	6.258E-02	0.000E+00
BI-211	4.103E+00	5.327E-01	3.674E-01	0.000E+00
PB-212	1.425E+00	1.616E-01	1.456E-01	0.000E+00
PO-212	1.425E+00	1.616E-01	1.456E-01	0.000E+00
BI-214	1.249E+00	2.048E-01	1.236E-01	0.000E+00
PB-214	1.427E+00	1.992E-01	1.281E-01	0.000E+00
PO-214	1.427E+00	1.992E-01	1.281E-01	0.000E+00
PO-216	1.425E+00	1.616E-01	1.456E-01	0.000E+00
PO-218	1.427E+00	1.992E-01	1.281E-01	0.000E+00
RA-224	1.493E+00	1.007E+00	1.417E+00	0.000E+00
RA-226	1.249E+00	2.048E-01	1.236E-01	0.000E+00
AC-228	1.621E+00	3.843E-01	2.385E-01	0.000E+00
RA-228	1.621E+00	3.843E-01	2.385E-01	0.000E+00
TH-228	1.451E+00	1.645E-01	1.483E-01	0.000E+00
TH-230	1.249E+00	2.048E-01	1.236E-01	0.000E+00
TH-232	1.621E+00	3.843E-01	2.385E-01	0.000E+00
TH-234	6.766E+00	3.075E+00	2.331E+00	0.000E+00
U-234	1.249E+00	2.048E-01	1.236E-01	0.000E+00
NP-237	6.885E-01	3.371E-01	4.599E-01	0.000E+00
U-238	6.766E+00	3.075E+00	2.331E+00	0.000E+00
AM-243	3.893E-01	9.293E-02	1.026E-01	0.000E+00
ANH-511	1.949E-01	9.330E-02	4.742E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	8.135E-02	3.495E-01	5.864E-01	0.000E+00	NOT IDENT.
NA-22	-1.068E-02	5.030E-02	8.208E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.889E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.300E-03	2.599E-02	4.453E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.465E-02	8.195E-02	0.000E+00	FAIL ABUN
SC-46	3.985E-02	4.351E-02	7.830E-02	0.000E+00	FAIL ABUN
V-48	-5.745E-02	9.998E-02	1.310E-01	0.000E+00	FAIL ABUN
CR-51	-3.210E-01	4.210E-01	6.814E-01	0.000E+00	NOT IDENT.
MN-52	2.115E-01	3.724E-01	6.646E-01	0.000E+00	NOT IDENT.
MN-54	1.354E-02	4.431E-02	7.542E-02	0.000E+00	NOT IDENT.
CO-56	3.534E-02	4.590E-02	8.138E-02	0.000E+00	FAIL ABUN
CO-57	-6.141E-03	2.627E-02	4.392E-02	0.000E+00	NOT IDENT.
CO-58	-1.342E-04	4.401E-02	7.320E-02	0.000E+00	NOT IDENT.
FE-59	1.335E-02	9.979E-02	1.712E-01	0.000E+00	NOT IDENT.
CO-60	1.214E-02	4.549E-02	7.800E-02	0.000E+00	NOT IDENT.
ZN-65	6.857E-02	9.986E-02	1.601E-01	0.000E+00	NOT IDENT.
GE-68	8.155E-01	1.227E+00	2.225E+00	0.000E+00	NOT IDENT.
AS-73	5.857E-04	8.861E-01	1.537E+00	0.000E+00	NOT IDENT.
AS-74	1.094E-03	1.087E-01	1.859E-01	0.000E+00	NOT IDENT.
SE-75	7.780E-03	4.829E-02	7.429E-02	0.000E+00	NOT IDENT.
BR-77	4.794E+00	2.666E+01	4.101E+01	0.000E+00	FAIL ABUN
SR-82	-2.307E-01	4.428E-01	7.019E-01	0.000E+00	NOT IDENT.
RB-83	-2.418E-02	8.597E-02	1.180E-01	0.000E+00	NOT IDENT.
RB-84	1.475E-02	7.678E-02	1.294E-01	0.000E+00	NOT IDENT.
KR-85	1.274E+01	7.743E+00	1.415E+01	0.000E+00	NOT IDENT.
SR-85	6.738E-02	4.094E-02	7.485E-02	0.000E+00	NOT IDENT.
RB-86	1.498E-01	8.777E-01	1.515E+00	0.000E+00	NOT IDENT.
Y-88	3.697E-02	4.075E-02	7.879E-02	0.000E+00	NOT IDENT.
ZR-88	1.556E-02	3.586E-02	6.165E-02	0.000E+00	NOT IDENT.
Y-91	1.536E-01	1.967E+01	3.305E+01	0.000E+00	NOT IDENT.
NB-94	1.178E-02	3.837E-02	6.619E-02	0.000E+00	NOT IDENT.
NB-95	6.429E-02	5.433E-02	9.829E-02	0.000E+00	NOT IDENT.
NB-95M	3.928E-02	1.461E-01	2.278E-01	0.000E+00	NOT IDENT.
ZR-95	1.692E-02	8.466E-02	1.422E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.036E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.187E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.339E+01	2.551E+01	3.855E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.593E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.806E-02	3.630E-02	5.696E-02	0.000E+00	FAIL ABUN
RH-102	-3.253E-02	3.073E-02	4.581E-02	0.000E+00	NOT IDENT.
RU-103	-2.316E-02	4.682E-02	7.297E-02	0.000E+00	FAIL ABUN
RH-106	2.789E-01	3.377E-01	6.101E-01	0.000E+00	FAIL ABUN
RU-106	2.789E-01	3.366E-01	6.101E-01	0.000E+00	FAIL ABUN
AG-108M	-2.211E-02	3.586E-02	5.526E-02	0.000E+00	NOT IDENT.
AG-110M	-4.946E-06	4.048E-02	5.956E-02	0.000E+00	NOT IDENT.
IN-111	-8.594E-01	2.459E+00	3.665E+00	0.000E+00	NOT IDENT.
IN-113M	6.463E-02	5.109E-02	9.211E-02	0.000E+00	NOT IDENT.
SN-113	6.463E-02	5.109E-02	9.211E-02	0.000E+00	NOT IDENT.
IN-114M	1.693E-01	2.151E-01	3.311E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.060E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-8.403E-03	7.058E-02	1.167E-01	0.000E+00	NOT IDENT.
SB-122	3.994E+00	4.547E+00	8.297E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.559E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.074E-02	3.127E-02	5.354E-02	0.000E+00	NOT IDENT.
I-124	-3.248E-01	1.261E+00	1.816E+00	0.000E+00	FAIL ABUN
SB-124	-4.976E-02	8.701E-02	1.309E-01	0.000E+00	FAIL ABUN
SB-125	7.413E-03	9.565E-02	1.599E-01	0.000E+00	FAIL ABUN
TE-125M	7.785E+00	1.037E+01	1.816E+01	0.000E+00	NOT IDENT.
I-126	1.793E-01	2.363E-01	3.798E-01	0.000E+00	NOT IDENT.
SB-126	8.224E-02	2.120E-01	3.234E-01	0.000E+00	FAIL ABUN
SB-127	-1.423E+00	2.455E+00	3.923E+00	0.000E+00	NOT IDENT.
XE-127	-1.521E-02	5.327E-02	8.570E-02	0.000E+00	NOT IDENT.
I-131	-1.657E-01	1.653E-01	2.592E-01	0.000E+00	NOT IDENT.
TE-132	-1.566E-01	1.298E+00	2.247E+00	0.000E+00	NOT IDENT.
BA-133	4.513E-02	4.621E-02	7.448E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.977E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.255E-02	1.003E-01	0.000E+00	FAIL ABUN
CS-135	1.857E-01	1.902E-01	3.067E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.331E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.809E-01	1.473E-01	2.759E-01	0.000E+00	FAIL ABUN
CE-139	-9.261E-03	3.380E-02	5.529E-02	0.000E+00	NOT IDENT.
BA-140	1.128E-01	2.883E-01	5.087E-01	0.000E+00	NOT IDENT.
LA-140	-1.255E-01	1.037E-01	1.326E-01	0.000E+00	FAIL ABUN
CE-141	-2.629E-02	6.821E-02	1.119E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.112E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.729E-02	2.162E-01	3.485E-01	0.000E+00	NOT IDENT.
PM-144	-4.409E-02	3.872E-02	5.881E-02	0.000E+00	NOT IDENT.
PR-144	-2.993E+00	2.628E+00	3.991E+00	0.000E+00	NOT IDENT.

PM-146	4.366E-02	5.101E-02	8.919E-02	0.000E+00	NOT IDENT.
ND-147	4.478E-02	7.425E-01	1.217E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.366E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.660E-02	1.076E-01	1.775E-01	0.000E+00	FAIL ABUN
GD-153	-2.878E-02	9.891E-02	1.483E-01	0.000E+00	NOT IDENT.
EU-154	-2.568E-02	1.407E-01	2.304E-01	0.000E+00	NOT IDENT.
EU-155	1.191E-01	1.137E-01	2.021E-01	0.000E+00	FAIL ABUN
TB-160	-4.678E-02	1.546E-01	2.469E-01	0.000E+00	FAIL ABUN
HO-166M	-4.971E-02	6.752E-02	1.062E-01	0.000E+00	FAIL ABUN
TM-171	-1.707E+01	3.442E+01	5.260E+01	0.000E+00	NOT IDENT.
LU-176	-3.857E-02	2.772E-02	3.903E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.377E+00	2.883E+00	0.000E+00	FAIL ABUN
LU-177M	-8.455E-02	1.933E-01	3.118E-01	0.000E+00	FAIL ABUN
HF-181	-1.435E-02	4.825E-02	7.738E-02	0.000E+00	NOT IDENT.
W-181	-3.238E-01	4.482E-01	6.777E-01	0.000E+00	NOT IDENT.
TA-182	-5.341E-02	2.184E-01	3.577E-01	0.000E+00	NOT IDENT.
RE-183	7.783E-03	1.316E-01	2.134E-01	0.000E+00	FAIL ABUN
RE-184	-6.382E-02	2.294E-01	3.907E-01	0.000E+00	NOT IDENT.
OS-185	-3.367E-02	4.325E-02	6.796E-02	0.000E+00	NOT IDENT.
RE-188	-1.362E-02	1.841E-01	3.054E-01	0.000E+00	NOT IDENT.
W-188	-6.126E-01	9.121E+00	1.367E+01	0.000E+00	FAIL ABUN
IR-192	2.224E-02	3.475E-02	6.146E-02	0.000E+00	FAIL ABUN
AU-195	2.929E-01	2.550E-01	4.491E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	3.209E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.845E-01	1.489E+01	2.462E+01	0.000E+00	NOT IDENT.
TL-202	-3.693E-02	9.194E-02	1.478E-01	0.000E+00	NOT IDENT.
HG-203	-2.717E-02	4.830E-02	6.977E-02	0.000E+00	NOT IDENT.
BI-207	4.561E-02	5.658E-02	1.032E-01	0.000E+00	FAIL ABUN
TL-207	2.264E-01	7.825E-01	1.195E+00	0.000E+00	FAIL ABUN
PO-209	-5.085E+00	8.767E+00	1.312E+01	0.000E+00	NOT IDENT.
BI-210	1.772E+00	3.677E+00	6.612E+00	0.000E+00	NOT IDENT.
PB-210	1.772E+00	3.677E+00	6.612E+00	0.000E+00	NOT IDENT.
PO-210	1.772E+00	3.676E+00	6.612E+00	0.000E+00	NOT IDENT.
PB-211	-2.400E-02	1.021E+00	1.701E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.370E-01	7.059E-01	0.000E+00	FAIL ABUN
PO-215	2.264E-01	7.825E-01	1.195E+00	0.000E+00	FAIL ABUN
RN-219	-2.927E-01	4.233E-01	6.672E-01	0.000E+00	FAIL ABUN
RN-220	-2.094E+01	2.681E+01	4.319E+01	0.000E+00	NOT IDENT.
RA-223	2.264E-01	7.825E-01	1.195E+00	0.000E+00	FAIL ABUN
AC-227	2.581E-01	3.713E-01	6.623E-01	0.000E+00	FAIL ABUN
TH-227	2.581E-01	3.721E-01	6.623E-01	0.000E+00	FAIL ABUN
TH-229	1.599E-02	5.392E-01	8.852E-01	0.000E+00	FAIL ABUN
PA-231	9.008E-01	1.564E+00	2.759E+00	0.000E+00	FAIL ABUN
TH-231	2.264E-01	7.825E-01	1.195E+00	0.000E+00	FAIL ABUN
U-231	-5.967E-02	1.992E+00	3.055E+00	0.000E+00	FAIL ABUN
PA-233	-1.230E-02	6.679E-02	1.125E-01	0.000E+00	FAIL ABUN
PA-234	-2.850E-01	4.053E-01	5.044E-01	0.000E+00	FAIL ABUN
PA-234M	4.146E+00	5.523E+00	9.802E+00	0.000E+00	NOT IDENT.
U-235	2.197E-01	2.222E-01	3.791E-01	0.000E+00	FAIL ABUN
NP-236	7.355E-02	8.772E-02	1.512E-01	0.000E+00	NOT IDENT.
NP-239	-1.431E-01	1.943E-01	3.175E-01	0.000E+00	FAIL ABUN
AM-241	8.750E-02	1.716E-01	2.786E-01	0.000E+00	NOT IDENT.
CM-243	-1.000E-02	1.006E-01	1.709E-01	0.000E+00	FAIL ABUN
AM-246	7.627E-02	1.391E-01	2.495E-01	0.000E+00	NOT IDENT.
CM-247	-4.787E-02	3.905E-02	5.911E-02	0.000E+00	FAIL ABUN
CF-249	-2.472E-02	4.284E-02	6.883E-02	0.000E+00	NOT IDENT.
CF-251	5.582E-02	1.357E-01	2.284E-01	0.000E+00	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978015.CNF;1
Sample date   : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:12:34
Sample ID     : G245978015 Sample quantity : 1.09430E+02 GRAM
Detector name : GAM12 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.38 0.0%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit: 75.00000 Sensitivity : 5.00000
Batch ID      : 948721 Detector SN# :
Matrix Spike ID : LCS ID : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	784	10.67*	1.138E+00	2.216E+01	2.216E+01	10.70
CD-109	88.03	143	3.72*	5.643E+00	2.332E+00	2.396E+00	45.50
SN-126	64.28	-----	9.60	3.338E+00	-----	Line Not Found	-----
	86.94	143	8.90	5.643E+00	9.747E-01	9.747E-01	60.88
	87.57	143	37.00*	5.643E+00	2.345E-01	2.345E-01	45.50
BA-137M	661.65	224	89.98*	2.253E+00	3.788E-01	3.792E-01	18.22
CS-137	661.65	224	85.12*	2.253E+00	4.004E-01	4.009E-01	18.23
TL-208	277.35	46	6.80	4.510E+00	5.165E-01	5.165E-01	85.34
	510.84	159	21.60	2.793E+00	9.021E-01	9.021E-01	49.57
	583.14	352	84.20*	2.506E+00	5.723E-01	5.723E-01	18.04
	860.37	48	12.46	1.795E+00	7.285E-01	7.285E-01	58.97
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	582	12.94*	3.763E+00	4.103E+00	4.103E+00	13.25
PB-212	74.81	343	10.70	4.576E+00	2.402E+00	2.402E+00	26.09
	77.11	613	18.00	4.814E+00	2.427E+00	2.427E+00	14.73
	87.30	143	8.00	5.643E+00	1.084E+00	1.084E+00	46.59
	238.63	930	44.60*	5.017E+00	1.425E+00	1.425E+00	11.57
	300.09	58	3.41	4.250E+00	1.367E+00	1.367E+00	85.98
PO-212	74.81	343	10.70	4.576E+00	2.402E+00	2.402E+00	26.09
	77.11	613	18.00	4.814E+00	2.427E+00	2.427E+00	14.73
	87.30	143	8.00	5.643E+00	1.084E+00	1.084E+00	46.59
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	930	44.60*	5.017E+00	1.425E+00	1.425E+00	11.57
	300.09	58	3.41	4.250E+00	1.367E+00	1.367E+00	85.98
BI-214	609.31	407	46.30*	2.415E+00	1.249E+00	1.249E+00	16.74
	1120.29	114	15.10	1.423E+00	1.819E+00	1.819E+00	32.39
	1764.49	70	15.80	9.904E-01	1.535E+00	1.535E+00	29.99
PB-214	74.81	343	6.21	4.576E+00	4.138E+00	4.138E+00	25.46
	77.11	613	10.50	4.814E+00	4.161E+00	4.161E+00	16.58
	87.30	143	4.67	5.643E+00	1.858E+00	1.858E+00	46.15
	241.98	86	7.49	4.975E+00	7.873E-01	7.873E-01	69.05
	295.21	313	19.20	4.303E+00	1.298E+00	1.298E+00	18.95

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	582	37.20*	3.763E+00	1.427E+00	1.427E+00	14.24
	74.81	343	6.21	4.576E+00	4.138E+00	4.138E+00	25.46
	77.11	613	10.50	4.814E+00	4.161E+00	4.161E+00	16.58
	87.30	143	4.67	5.643E+00	1.858E+00	1.858E+00	46.15
	241.98	86	7.49	4.975E+00	7.873E-01	7.873E-01	69.05
PO-216	295.21	313	19.20	4.303E+00	1.298E+00	1.298E+00	18.95
	351.92	582	37.20*	3.763E+00	1.427E+00	1.427E+00	14.24
	74.81	343	10.70	4.576E+00	2.402E+00	2.402E+00	26.09
	77.11	613	18.00	4.814E+00	2.427E+00	2.427E+00	14.73
	87.30	143	8.00	5.643E+00	1.084E+00	1.084E+00	46.59
PO-218	238.63	930	44.60*	5.017E+00	1.425E+00	1.425E+00	11.57
	300.09	58	3.41	4.250E+00	1.367E+00	1.367E+00	85.98
	74.81	343	6.21	4.576E+00	4.138E+00	4.138E+00	25.46
	77.11	613	10.50	4.814E+00	4.161E+00	4.161E+00	16.58
	87.30	143	4.67	5.643E+00	1.858E+00	1.858E+00	46.15
RA-224	241.98	86	7.49	4.975E+00	7.873E-01	7.873E-01	69.05
	295.21	313	19.20	4.303E+00	1.298E+00	1.298E+00	18.95
	351.92	582	37.20*	3.763E+00	1.427E+00	1.427E+00	14.24
	240.98	86	3.95*	4.975E+00	1.493E+00	1.493E+00	68.82
	609.31	407	46.30*	2.415E+00	1.249E+00	1.249E+00	16.74
RA-226	1120.29	114	15.10	1.423E+00	1.819E+00	1.819E+00	32.39
	1764.49	70	15.80	9.904E-01	1.535E+00	1.535E+00	29.99
	338.32	194	11.40	3.880E+00	1.508E+00	1.508E+00	48.87
	911.07	223	27.70*	1.707E+00	1.621E+00	1.621E+00	24.19
	969.11	119	16.60	1.617E+00	1.516E+00	1.516E+00	33.72
AC-228	338.32	194	11.40	3.880E+00	1.508E+00	1.508E+00	48.87
	911.07	223	27.70*	1.707E+00	1.621E+00	1.621E+00	24.19
	969.11	119	16.60	1.617E+00	1.516E+00	1.516E+00	33.72
	74.81	343	10.70	4.576E+00	2.402E+00	2.445E+00	24.38
	77.11	613	18.00	4.814E+00	2.427E+00	2.471E+00	14.73
TH-228	87.30	143	8.00	5.643E+00	1.084E+00	1.104E+00	45.50
	238.63	930	44.60*	5.017E+00	1.425E+00	1.451E+00	11.57
	300.09	58	3.41	4.250E+00	1.367E+00	1.392E+00	103.91
	609.31	407	46.30*	2.415E+00	1.249E+00	1.249E+00	16.74
	1120.29	114	15.10	1.423E+00	1.819E+00	1.819E+00	32.39
TH-230	1764.49	70	15.80	9.904E-01	1.535E+00	1.535E+00	29.99
	338.32	194	11.40	3.880E+00	1.508E+00	1.508E+00	27.56
	911.07	223	27.70*	1.707E+00	1.621E+00	1.621E+00	24.19
	969.11	119	16.60	1.617E+00	1.516E+00	1.516E+00	33.72
	63.29	235	3.80*	3.131E+00	6.766E+00	6.766E+00	46.37
TH-232	92.38	538	5.41	5.974E+00	5.705E+00	5.705E+00	24.93
	609.31	407	46.30*	2.415E+00	1.249E+00	1.249E+00	16.74
	1120.29	114	15.10	1.423E+00	1.819E+00	1.819E+00	32.39
	1764.49	70	15.80	9.904E-01	1.535E+00	1.535E+00	29.99
	86.50	143	12.60*	5.643E+00	6.885E-01	6.885E-01	49.96
NP-237	95.87	-----	2.60	6.124E+00	-----	Line Not Found	-----
	63.29	235	3.80*	3.131E+00	6.766E+00	6.766E+00	46.37
	92.38	538	5.41	5.974E+00	5.705E+00	5.705E+00	19.21
	74.67	343	66.00*	4.576E+00	3.893E-01	3.893E-01	24.36

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	143	0.34	5.643E+00	2.582E+01	2.582E+01	45.50
	117.66	-----	0.55	6.624E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.534E+00	-----	Line Not Found	-----
ANH-511	511.00	159	100.00*	2.793E+00	1.949E-01	1.949E-01	48.86

Flag: "*" = Keyline

Total number of lines in spectrum 36
Number of unidentified lines 2
Number of lines tentatively identified by NID 34 94.44%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.216E+01	2.216E+01	0.237E+01	10.70	
CD-109	464.00D	1.03	2.332E+00	2.396E+00	1.090E+00	45.50	
SN-126	1.00E+05Y	1.00	2.345E-01	2.345E-01	1.067E-01	45.50	
BA-137M	30.17Y	1.00	3.788E-01	3.792E-01	0.691E-01	18.22	
CS-137	30.17Y	1.00	4.004E-01	4.009E-01	0.731E-01	18.23	
TL-208	1.41E+10Y	1.00	5.723E-01	5.723E-01	1.033E-01	18.04	
BI-211	7.04E+08Y	1.00	4.103E+00	4.103E+00	0.544E+00	13.25	
PB-212	1.41E+10Y	1.00	1.425E+00	1.425E+00	0.165E+00	11.57	
PO-212	1.41E+10Y	1.00	1.425E+00	1.425E+00	0.165E+00	11.57	
BI-214	1600.00Y	1.00	1.249E+00	1.249E+00	0.209E+00	16.74	
PB-214	1600.00Y	1.00	1.427E+00	1.427E+00	0.203E+00	14.24	
PO-214	1600.00Y	1.00	1.427E+00	1.427E+00	0.203E+00	14.24	
PO-216	1.41E+10Y	1.00	1.425E+00	1.425E+00	0.165E+00	11.57	
PO-218	1600.00Y	1.00	1.427E+00	1.427E+00	0.203E+00	14.24	
RA-224	1.41E+10Y	1.00	1.493E+00	1.493E+00	1.027E+00	68.82	
RA-226	1600.00Y	1.00	1.249E+00	1.249E+00	0.209E+00	16.74	
AC-228	1.41E+10Y	1.00	1.621E+00	1.621E+00	0.392E+00	24.19	
RA-228	1.41E+10Y	1.00	1.621E+00	1.621E+00	0.392E+00	24.19	
TH-228	1.91Y	1.02	1.425E+00	1.451E+00	0.168E+00	11.57	
TH-230	4.47E+09Y	1.00	1.249E+00	1.249E+00	0.209E+00	16.74	
TH-232	1.41E+10Y	1.00	1.621E+00	1.621E+00	0.392E+00	24.19	
TH-234	4.47E+09Y	1.00	6.766E+00	6.766E+00	3.138E+00	46.37	
U-234	4.47E+09Y	1.00	1.249E+00	1.249E+00	0.209E+00	16.74	
NP-237	2.14E+06Y	1.00	6.885E-01	6.885E-01	3.440E-01	49.96	
U-238	4.47E+09Y	1.00	6.766E+00	6.766E+00	3.138E+00	46.37	
AM-243	7380.00Y	1.00	3.893E-01	3.893E-01	0.948E-01	24.36	
ANH-511	1.00E+09Y	1.00	1.949E-01	1.949E-01	0.952E-01	48.86	
Total Activity :			6.632E+01	6.641E+01			

Grand Total Activity : 6.632E+01 6.641E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245978015

Page : 5
Acquisition date : 14-FEB-2010 13:12:34

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.70	66	315	1.02	256.96	254	8	9.11E-03	96.8	6.64E+00	T
0	185.77	267	252	1.10	371.14	366	10	3.71E-02	26.9	5.86E+00	T
0	209.18	104	277	1.09	417.99	414	10	1.44E-02	63.0	5.47E+00	T
0	269.96	99	159	2.01	539.59	535	9	1.37E-02	50.6	4.59E+00	T
0	327.98	59	100	0.92	655.68	652	8	8.18E-03	65.0	3.97E+00	T
0	462.82	55	72	1.35	925.47	922	8	7.64E-03	59.9	3.03E+00	T
0	727.55	64	88	1.78	1455.08	1448	17	8.82E-03	72.6	2.08E+00	T
0	794.56	78	33	3.33	1589.12	1581	15	1.08E-02	39.7	1.92E+00	T
0	942.98	23	23	2.21	1886.00	1882	9	3.12E-03	86.9	1.66E+00	T
3	964.86	57	28	2.42	1929.77	1925	17	7.87E-03	43.5	1.62E+00	T
0	1007.09	78	110	10.12	2014.24	1993	41	1.08E-02	94.0	1.56E+00	
0	1238.55	31	66	1.81	2477.16	2471	16	4.34E-03	****	1.30E+00	T
0	1376.58	36	10	1.63	2753.19	2746	14	4.95E-03	51.0	1.19E+00	T
0	1587.21	26	8	1.42	3174.39	3169	11	3.61E-03	57.9	1.07E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245978015.CNF;1
* Acquisition date   : 14-FEB-2010 13:12:34  Detector SN#      :
* Detector ID        : GAM12                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:01.38          Half life ratio   : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 27-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID         : G245978015            Analyst initials: MXR1
* Batch Number      : 948721                Sample Quantity : 1.09430E+02 GRAM
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME  : 10-FEB-2009 09:20:24.5MS Isotope       :
* MSD ID            :                          MSD Isotope    :
* LCS ID            : 1032-A                  LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.216E+01	2.371E+00	4.859E-01	3.465E-02	45.613
CD-109	2.396E+00	1.090E+00	1.712E+00	1.310E-01	1.399
SN-126	2.345E-01	1.067E-01	1.666E-01	1.269E-02	1.408
BA-137M	3.792E-01	6.909E-02	6.465E-02	4.191E-03	5.866
CS-137	4.009E-01	7.307E-02	6.834E-02	4.445E-03	5.866
TL-208	5.723E-01	1.033E-01	6.254E-02	4.473E-03	9.152
BI-211	4.103E+00	5.436E-01	3.658E-01	2.300E-02	11.217
PB-212	1.425E+00	1.649E-01	1.446E-01	1.027E-02	9.854
PO-212	1.425E+00	1.649E-01	1.446E-01	1.027E-02	9.854
BI-214	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
PB-214	1.427E+00	2.032E-01	1.275E-01	1.042E-02	11.192
PO-214	1.427E+00	2.032E-01	1.275E-01	1.042E-02	11.192
PO-216	1.425E+00	1.649E-01	1.446E-01	1.027E-02	9.854
PO-218	1.427E+00	2.032E-01	1.275E-01	1.042E-02	11.192
RA-224	1.493E+00	1.027E+00	1.407E+00	7.761E-02	1.061
RA-226	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
AC-228	1.621E+00	3.921E-01	2.391E-01	2.625E-02	6.779
RA-228	1.621E+00	3.921E-01	2.391E-01	2.625E-02	6.779

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.451E+00	1.679E-01	1.473E-01	1.046E-02	9.854
TH-230	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
TH-232	1.621E+00	3.921E-01	2.391E-01	2.625E-02	6.779
TH-234	6.766E+00	3.138E+00	2.294E+00	3.905E-01	2.950
U-234	1.249E+00	2.090E-01	1.235E-01	1.017E-02	10.110
NP-237	6.885E-01	3.440E-01	4.535E-01	9.964E-02	1.518
U-238	6.766E+00	3.138E+00	2.294E+00	3.905E-01	2.950
AM-243	3.893E-01	9.483E-02	1.011E-01	6.867E-03	3.852
ANH-511	1.949E-01	9.521E-02	4.734E-02	2.885E-03	4.116

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.135E-02		3.566E-01	5.852E-01	4.027E-02	0.139
NA-22	-1.068E-02		5.133E-02	8.247E-02	5.311E-03	-0.130
NA-24	-9.164E-01		9.639E+00	Half-Life	too short	
AL-26	2.300E-03		2.652E-02	4.486E-02	2.574E-03	0.051
TI-44	4.479E-01	+	6.597E-02	8.076E-02	5.649E-03	5.546
SC-46	3.985E-02		4.440E-02	7.847E-02	6.504E-03	0.508
V-48	-5.745E-02		1.020E-01	1.314E-01	1.013E-02	-0.437
CR-51	-3.210E-01		4.296E-01	6.780E-01	4.311E-02	-0.473
MN-52	2.115E-01		3.800E-01	6.683E-01	4.591E-02	0.316
MN-54	1.354E-02		4.521E-02	7.556E-02	5.940E-03	0.179
CO-56	3.534E-02		4.684E-02	8.153E-02	6.486E-03	0.433
CO-57	-6.141E-03		2.681E-02	4.341E-02	2.714E-03	-0.141
CO-58	-1.342E-04		4.491E-02	7.331E-02	5.641E-03	-0.002
FE-59	1.335E-02		1.018E-01	1.718E-01	1.269E-02	0.078
CO-60	1.214E-02		4.642E-02	7.839E-02	5.475E-03	0.155
ZN-65	6.857E-02		1.019E-01	1.607E-01	1.011E-02	0.427
GE-68	8.155E-01		1.252E+00	2.233E+00	1.506E-01	0.365
AS-73	5.857E-04		9.042E-01	1.511E+00	9.752E-02	0.000
AS-74	1.094E-03		1.110E-01	1.858E-01	1.183E-02	0.006
SE-75	7.780E-03		4.927E-02	7.383E-02	4.185E-03	0.105
BR-77	4.794E+00		2.721E+01	4.095E+01	2.511E+00	0.117
SR-82	-2.307E-01		4.519E-01	7.028E-01	5.200E-02	-0.328
RB-83	-2.418E-02		8.773E-02	1.179E-01	7.227E-03	-0.205
RB-84	1.475E-02		7.835E-02	1.297E-01	1.067E-02	0.114
KR-85	1.274E+01		7.901E+00	1.413E+01	8.630E-01	0.902
SR-85	6.738E-02		4.178E-02	7.473E-02	4.563E-03	0.902
RB-86	1.498E-01		8.956E-01	1.521E+00	1.027E-01	0.098
Y-88	3.697E-02		4.158E-02	7.937E-02	4.468E-03	0.466
ZR-88	1.556E-02		3.659E-02	6.143E-02	3.370E-03	0.253
Y-91	1.536E-01		2.008E+01	3.319E+01	1.919E+00	0.005
NB-94	1.178E-02		3.916E-02	6.623E-02	4.510E-03	0.178
NB-95	6.429E-02		5.544E-02	9.840E-02	7.198E-03	0.653
NB-95M	3.928E-02		1.491E-01	2.262E-01	1.650E-02	0.174
ZR-95	1.692E-02		8.639E-02	1.424E-01	1.176E-02	0.119

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	3.361E-01		1.039E+00	Half-Life too short		
ZR-97	8.425E+01		2.136E+01	Half-Life too short		
MO-99	-2.339E+01		2.603E+01	3.858E+01	5.548E+00	-0.606
TC-99M	-2.241E+14		8.127E+13	Half-Life too short		
RH-101	-1.806E-02		3.704E-02	5.649E-02	2.988E-03	-0.320
RH-102	-3.253E-02		3.136E-02	4.571E-02	2.715E-03	-0.712
RU-103	-2.316E-02		4.778E-02	7.284E-02	9.291E-03	-0.318
RH-106	2.789E-01		3.446E-01	6.099E-01	7.354E-02	0.457
RU-106	2.789E-01		3.435E-01	6.099E-01	3.917E-02	0.457
AG-108M	-2.211E-02		3.659E-02	5.511E-02	3.434E-03	-0.401
AG-110M	-4.946E-06		4.130E-02	5.956E-02	4.060E-03	0.000
IN-111	-8.594E-01		2.509E+00	3.640E+00	2.015E-01	-0.236
IN-113M	6.463E-02		5.213E-02	9.179E-02	5.404E-03	0.704
SN-113	6.463E-02		5.213E-02	9.179E-02	5.404E-03	0.704
IN-114M	1.693E-01		2.195E-01	3.283E-01	1.722E-02	0.516
CD-115	1.264E-05		1.561E-05	Half-Life too short		
SN-117M	-8.403E-03		7.202E-02	1.155E-01	6.103E-03	-0.073
SB-122	3.994E+00		4.640E+00	8.289E+00	5.205E-01	0.482
I-123	1.698E+02		1.306E+02	Half-Life too short		
TE-123M	2.074E-02		3.190E-02	5.302E-02	2.841E-03	0.391
I-124	-3.248E-01		1.287E+00	1.815E+00	1.159E-01	-0.179
SB-124	-4.976E-02		8.879E-02	1.318E-01	8.798E-03	-0.377
SB-125	7.413E-03		9.761E-02	1.594E-01	9.477E-03	0.047
TE-125M	7.785E+00		1.058E+01	1.794E+01	1.548E+00	0.434
I-126	1.793E-01		2.411E-01	3.799E-01	2.477E-02	0.472
SB-126	8.224E-02		2.163E-01	3.236E-01	2.250E-02	0.254
SB-127	-1.423E+00		2.505E+00	3.925E+00	4.319E-01	-0.363
XE-127	-1.521E-02		5.436E-02	8.501E-02	4.521E-03	-0.179
I-131	-1.657E-01		1.687E-01	2.582E-01	1.633E-02	-0.642
TE-132	-1.566E-01		1.325E+00	2.231E+00	3.316E-01	-0.070
BA-133	4.513E-02		4.716E-02	7.417E-02	8.509E-03	0.609
I-133	1.337E-02		3.560E-02	Half-Life too short		
CS-134	1.830E-01	+	7.403E-02	1.004E-01	7.658E-03	1.822
CS-135	1.857E-01		1.940E-01	3.049E-01	2.293E-02	0.609
I-135	5.256E+12		4.761E+12	Half-Life too short		
CS-136	1.809E-01		1.503E-01	2.769E-01	2.081E-02	0.653
CE-139	-9.261E-03		3.449E-02	5.477E-02	2.806E-03	-0.169
BA-140	1.128E-01		2.942E-01	5.080E-01	1.656E-01	0.222
LA-140	-1.255E-01		1.058E-01	1.335E-01	8.693E-03	-0.940
CE-141	-2.629E-02		6.960E-02	1.107E-01	6.447E-03	-0.237
CE-143	3.479E-03		5.672E-04	Half-Life too short		
CE-144	2.729E-02		2.206E-01	3.447E-01	4.907E-02	0.079
PM-144	-4.409E-02		3.951E-02	5.884E-02	3.982E-03	-0.749
PR-144	-2.993E+00		2.681E+00	3.993E+00	2.700E-01	-0.749
PM-146	4.366E-02		5.206E-02	8.896E-02	7.691E-03	0.491
ND-147	4.478E-02		7.576E-01	1.216E+00	1.664E-01	0.037
PM-149	-5.328E-05		1.207E-04	Half-Life too short		
EU-152	1.660E-02		1.098E-01	1.768E-01	1.133E-02	0.094

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.878E-02		1.009E-01	1.463E-01	1.017E-02	-0.197
EU-154	-2.568E-02		1.436E-01	2.315E-01	2.255E-02	-0.111
EU-155	1.191E-01		1.160E-01	1.995E-01	1.345E-02	0.597
TB-160	-4.678E-02		1.578E-01	2.474E-01	2.031E-02	-0.189
HO-166M	-4.971E-02		6.890E-02	1.063E-01	7.318E-03	-0.468
TM-171	-1.707E+01		3.512E+01	5.178E+01	3.351E+00	-0.330
LU-176	-3.857E-02		2.829E-02	3.882E-02	2.206E-03	-0.994
LU-177	3.838E+00	+	2.426E+00	2.860E+00	1.530E-01	1.342
LU-177M	-8.455E-02		1.972E-01	3.109E-01	1.745E-02	-0.272
HF-181	-1.435E-02		4.923E-02	7.722E-02	4.611E-03	-0.186
W-181	-3.238E-01		4.573E-01	6.670E-01	4.285E-02	-0.485
TA-182	-5.341E-02		2.229E-01	3.593E-01	2.132E-02	-0.149
RE-183	7.783E-03		1.343E-01	2.113E-01	1.099E-02	0.037
RE-184	-6.382E-02		2.341E-01	3.882E-01	2.160E-02	-0.164
OS-185	-3.367E-02		4.413E-02	6.796E-02	4.392E-03	-0.495
RE-188	-1.362E-02		1.879E-01	3.024E-01	1.621E-02	-0.045
W-188	-6.126E-01		9.307E+00	1.360E+01	7.707E-01	-0.045
IR-192	2.224E-02		3.546E-02	6.115E-02	3.495E-03	0.364
AU-195	2.929E-01		2.602E-01	4.433E-01	3.048E-02	0.661
TL-200	1.150E-04		1.637E-03	Half-Life too short		
TL-201	-5.845E-01		1.520E+01	2.439E+01	1.250E+00	-0.024
TL-202	-3.693E-02		9.381E-02	1.474E-01	8.490E-03	-0.251
HG-203	-2.717E-02		4.929E-02	6.936E-02	4.171E-03	-0.392
BI-207	4.561E-02		5.773E-02	1.036E-01	7.148E-03	0.440
TL-207	2.264E-01		7.985E-01	1.189E+00	1.958E-01	0.190
PO-209	-5.085E+00		8.946E+00	1.315E+01	1.097E+00	-0.387
BI-210	1.772E+00		3.752E+00	6.493E+00	4.892E-01	0.273
PB-210	1.772E+00		3.752E+00	6.493E+00	4.892E-01	0.273
PO-210	1.772E+00		3.751E+00	6.493E+00	4.164E-01	0.273
PB-211	-2.400E-02		1.042E+00	1.695E+00	1.057E+00	-0.014
BI-212	8.891E-01	+	6.500E-01	7.065E-01	6.116E-02	1.258
PO-215	2.264E-01		7.985E-01	1.189E+00	1.958E-01	0.190
RN-219	-2.927E-01		4.319E-01	6.650E-01	8.975E-02	-0.440
RN-220	-2.094E+01		2.736E+01	4.314E+01	2.690E+00	-0.485
RA-223	2.264E-01		7.985E-01	1.189E+00	1.958E-01	0.190
AC-227	2.581E-01		3.789E-01	6.580E-01	9.126E-02	0.392
TH-227	2.581E-01		3.797E-01	6.580E-01	1.107E-01	0.392
TH-229	1.599E-02		5.502E-01	8.777E-01	4.621E-02	0.018
PA-231	9.008E-01		1.596E+00	2.743E+00	3.764E-01	0.328
TH-231	2.264E-01		7.985E-01	1.189E+00	1.958E-01	0.190
U-231	-5.967E-02		2.032E+00	3.015E+00	2.124E-01	-0.020
PA-233	-1.230E-02		6.815E-02	1.119E-01	6.773E-03	-0.110
PA-234	-2.850E-01		4.135E-01	5.057E-01	9.353E-02	-0.563
PA-234M	4.146E+00		5.635E+00	9.832E+00	8.898E-01	0.422
U-235	2.197E-01		2.267E-01	3.752E-01	6.094E-02	0.586
NP-236	7.355E-02		8.951E-02	1.497E-01	7.850E-03	0.491
NP-239	-1.431E-01		1.983E-01	3.138E-01	1.980E-02	-0.456
AM-241	8.750E-02		1.751E-01	2.740E-01	1.947E-02	0.319

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.000E-02		1.026E-01	1.688E-01	1.124E-02	-0.059
AM-246	7.627E-02		1.419E-01	2.504E-01	1.684E-02	0.305
CM-247	-4.787E-02		3.985E-02	5.891E-02	3.267E-03	-0.813
CF-249	-2.472E-02		4.372E-02	6.859E-02	3.770E-03	-0.360
CF-251	5.582E-02		1.385E-01	2.264E-01	1.170E-02	0.247

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245978015
* Acquisition date   : 14-FEB-2010 13:12:34 Detector SN#      :
* Detector ID        : GAM12 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.38 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245978015 Analyst initials: MXR1
* Batch Number       : 948721 Sample Quantity : 1.0943E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                  :
* LCS DPM             : 0.000 LCS Isotope                  :
* LCSD DPM            : 0.000 LCSD Isotope                 :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.216E+01	2.323E+00	2.417E-01	1.185E+00
CD-109	2.396E+00	1.068E+00	8.687E-01	5.451E-01
SN-126	2.345E-01	1.046E-01	8.450E-02	5.334E-02
BA-137M	3.792E-01	6.771E-02	3.234E-02	3.455E-02
CS-137	4.009E-01	7.161E-02	3.419E-02	3.653E-02
TL-208	5.723E-01	1.012E-01	3.131E-02	5.164E-02
BI-211	4.103E+00	5.327E-01	1.838E-01	2.718E-01
PB-212	1.425E+00	1.616E-01	7.286E-02	8.245E-02
PO-212	1.425E+00	1.616E-01	7.286E-02	8.245E-02
BI-214	1.249E+00	2.048E-01	6.182E-02	1.045E-01
PB-214	1.427E+00	1.992E-01	6.407E-02	1.016E-01
PO-214	1.427E+00	1.992E-01	6.407E-02	1.016E-01
PO-216	1.425E+00	1.616E-01	7.286E-02	8.245E-02
PO-218	1.427E+00	1.992E-01	6.407E-02	1.016E-01
RA-224	1.493E+00	1.007E+00	7.087E-01	5.137E-01
RA-226	1.249E+00	2.048E-01	6.182E-02	1.045E-01
AC-228	1.621E+00	3.843E-01	1.193E-01	1.961E-01
RA-228	1.621E+00	3.843E-01	1.193E-01	1.961E-01
TH-228	1.451E+00	1.645E-01	7.418E-02	8.395E-02
TH-230	1.249E+00	2.048E-01	6.182E-02	1.045E-01
TH-232	1.621E+00	3.843E-01	1.193E-01	1.961E-01
TH-234	6.766E+00	3.075E+00	1.166E+00	1.569E+00
U-234	1.249E+00	2.048E-01	6.182E-02	1.045E-01
NP-237	6.885E-01	3.371E-01	2.301E-01	1.720E-01
U-238	6.766E+00	3.075E+00	1.166E+00	1.569E+00
AM-243	3.893E-01	9.293E-02	5.133E-02	4.742E-02
ANH-511	1.949E-01	9.330E-02	2.372E-02	4.760E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	8.135E-02	3.495E-01	2.934E-01	1.783E-01	NOT IDENT.
NA-22	-1.068E-02	5.030E-02	4.106E-02	2.566E-02	NOT IDENT.
NA-24	-9.164E+05	1.889E+07	0.000E+00	9.639E+06	SHORT HLIF
AL-26	2.300E-03	2.599E-02	2.228E-02	1.326E-02	NOT IDENT.
TI-44	4.479E-01	6.465E-02	4.100E-02	3.298E-02	FAIL ABUN
SC-46	3.985E-02	4.351E-02	3.917E-02	2.220E-02	FAIL ABUN
V-48	-5.745E-02	9.998E-02	6.556E-02	5.101E-02	FAIL ABUN
CR-51	-3.210E-01	4.210E-01	3.409E-01	2.148E-01	NOT IDENT.
MN-52	2.115E-01	3.724E-01	3.325E-01	1.900E-01	NOT IDENT.
MN-54	1.354E-02	4.431E-02	3.773E-02	2.260E-02	NOT IDENT.
CO-56	3.534E-02	4.590E-02	4.071E-02	2.342E-02	FAIL ABUN
CO-57	-6.141E-03	2.627E-02	2.197E-02	1.340E-02	NOT IDENT.
CO-58	-1.342E-04	4.401E-02	3.662E-02	2.246E-02	NOT IDENT.
FE-59	1.335E-02	9.979E-02	8.565E-02	5.091E-02	NOT IDENT.
CO-60	1.214E-02	4.549E-02	3.902E-02	2.321E-02	NOT IDENT.
ZN-65	6.857E-02	9.986E-02	8.011E-02	5.095E-02	NOT IDENT.
GE-68	8.155E-01	1.227E+00	1.113E+00	6.261E-01	NOT IDENT.
AS-73	5.857E-04	8.861E-01	7.688E-01	4.521E-01	NOT IDENT.
AS-74	1.094E-03	1.087E-01	9.303E-02	5.548E-02	NOT IDENT.
SE-75	7.780E-03	4.829E-02	3.717E-02	2.464E-02	NOT IDENT.
BR-77	4.794E+00	2.666E+01	2.052E+01	1.360E+01	FAIL ABUN
SR-82	-2.307E-01	4.428E-01	3.511E-01	2.259E-01	NOT IDENT.
RB-83	-2.418E-02	8.597E-02	5.906E-02	4.386E-02	NOT IDENT.
RB-84	1.475E-02	7.678E-02	6.475E-02	3.918E-02	NOT IDENT.
KR-85	1.274E+01	7.743E+00	7.082E+00	3.950E+00	NOT IDENT.
SR-85	6.738E-02	4.094E-02	3.745E-02	2.089E-02	NOT IDENT.
RB-86	1.498E-01	8.777E-01	7.581E-01	4.478E-01	NOT IDENT.
Y-88	3.697E-02	4.075E-02	3.942E-02	2.079E-02	NOT IDENT.
ZR-88	1.556E-02	3.586E-02	3.084E-02	1.829E-02	NOT IDENT.
Y-91	1.536E-01	1.967E+01	1.653E+01	1.004E+01	NOT IDENT.
NB-94	1.178E-02	3.837E-02	3.311E-02	1.958E-02	NOT IDENT.
NB-95	6.429E-02	5.433E-02	4.917E-02	2.772E-02	NOT IDENT.
NB-95M	3.928E-02	1.461E-01	1.140E-01	7.453E-02	NOT IDENT.
ZR-95	1.692E-02	8.466E-02	7.115E-02	4.320E-02	NOT IDENT.
NB-97	3.361E+05	2.036E+06	0.000E+00	1.039E+06	SHORT HLIF
ZR-97	8.425E+07	4.187E+07	0.000E+00	2.136E+07	SHORT HLIF
MO-99	-2.339E+01	2.551E+01	1.928E+01	1.302E+01	NOT IDENT.
TC-99M	-2.241E+20	1.593E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.806E-02	3.630E-02	2.850E-02	1.852E-02	FAIL ABUN
RH-102	-3.253E-02	3.073E-02	2.292E-02	1.568E-02	NOT IDENT.
RU-103	-2.316E-02	4.682E-02	3.651E-02	2.389E-02	FAIL ABUN
RH-106	2.789E-01	3.377E-01	3.052E-01	1.723E-01	FAIL ABUN
RU-106	2.789E-01	3.366E-01	3.052E-01	1.717E-01	FAIL ABUN
AG-108M	-2.211E-02	3.586E-02	2.765E-02	1.830E-02	NOT IDENT.
AG-110M	-4.946E-06	4.048E-02	2.980E-02	2.065E-02	NOT IDENT.
IN-111	-8.594E-01	2.459E+00	1.834E+00	1.254E+00	NOT IDENT.
IN-113M	6.463E-02	5.109E-02	4.608E-02	2.607E-02	NOT IDENT.
SN-113	6.463E-02	5.109E-02	4.608E-02	2.607E-02	NOT IDENT.
IN-114M	1.693E-01	2.151E-01	1.657E-01	1.098E-01	NOT IDENT.
CD-115	1.264E+01	3.060E+01	0.000E+00	1.561E+01	SHORT HLIF
SN-117M	-8.403E-03	7.058E-02	5.837E-02	3.601E-02	NOT IDENT.
SB-122	3.994E+00	4.547E+00	4.151E+00	2.320E+00	NOT IDENT.
I-123	1.698E+08	2.559E+08	0.000E+00	1.306E+08	SHORT HLIF
TE-123M	2.074E-02	3.127E-02	2.679E-02	1.595E-02	NOT IDENT.
I-124	-3.248E-01	1.261E+00	9.087E-01	6.433E-01	FAIL ABUN
SB-124	-4.976E-02	8.701E-02	6.551E-02	4.440E-02	FAIL ABUN
SB-125	7.413E-03	9.565E-02	7.999E-02	4.880E-02	FAIL ABUN
TE-125M	7.785E+00	1.037E+01	9.086E+00	5.289E+00	NOT IDENT.
I-126	1.793E-01	2.363E-01	1.900E-01	1.205E-01	NOT IDENT.
SB-126	8.224E-02	2.120E-01	1.618E-01	1.082E-01	FAIL ABUN
SB-127	-1.423E+00	2.455E+00	1.963E+00	1.253E+00	NOT IDENT.
XE-127	-1.521E-02	5.327E-02	4.288E-02	2.718E-02	NOT IDENT.
I-131	-1.657E-01	1.653E-01	1.297E-01	8.435E-02	NOT IDENT.
TE-132	-1.566E-01	1.298E+00	1.124E+00	6.623E-01	NOT IDENT.
BA-133	4.513E-02	4.621E-02	3.726E-02	2.358E-02	FAIL ABUN
I-133	1.337E+04	6.977E+04	0.000E+00	3.560E+04	SHORT HLIF
CS-134	1.830E-01	7.255E-02	5.018E-02	3.702E-02	FAIL ABUN
CS-135	1.857E-01	1.902E-01	1.535E-01	9.702E-02	NOT IDENT.
I-135	5.256E+18	9.331E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.809E-01	1.473E-01	1.380E-01	7.517E-02	FAIL ABUN
CE-139	-9.261E-03	3.380E-02	2.766E-02	1.725E-02	NOT IDENT.
BA-140	1.128E-01	2.883E-01	2.545E-01	1.471E-01	NOT IDENT.
LA-140	-1.255E-01	1.037E-01	6.636E-02	5.292E-02	FAIL ABUN
CE-141	-2.629E-02	6.821E-02	5.598E-02	3.480E-02	NOT IDENT.
CE-143	3.479E+03	1.112E+03	0.000E+00	5.672E+02	SHORT HLIF
CE-144	2.729E-02	2.162E-01	1.744E-01	1.103E-01	NOT IDENT.
PM-144	-4.409E-02	3.872E-02	2.942E-02	1.975E-02	NOT IDENT.
PR-144	-2.993E+00	2.628E+00	1.997E+00	1.341E+00	NOT IDENT.

PM-146	4.366E-02	5.101E-02	4.462E-02	2.603E-02	NOT IDENT.
ND-147	4.478E-02	7.425E-01	6.091E-01	3.788E-01	NOT IDENT.
PM-149	-5.328E+01	2.366E+02	0.000E+00	1.207E+02	SHORT HLIF
EU-152	1.660E-02	1.076E-01	8.882E-02	5.488E-02	FAIL ABUN
GD-153	-2.878E-02	9.891E-02	7.417E-02	5.047E-02	NOT IDENT.
EU-154	-2.568E-02	1.407E-01	1.153E-01	7.180E-02	NOT IDENT.
EU-155	1.191E-01	1.137E-01	1.011E-01	5.802E-02	FAIL ABUN
TB-160	-4.678E-02	1.546E-01	1.235E-01	7.889E-02	FAIL ABUN
HO-166M	-4.971E-02	6.752E-02	5.315E-02	3.445E-02	FAIL ABUN
TM-171	-1.707E+01	3.442E+01	2.632E+01	1.756E+01	NOT IDENT.
LU-176	-3.857E-02	2.772E-02	1.952E-02	1.415E-02	FAIL ABUN
LU-177	3.838E+00	2.377E+00	1.442E+00	1.213E+00	FAIL ABUN
LU-177M	-8.455E-02	1.933E-01	1.560E-01	9.861E-02	FAIL ABUN
HF-181	-1.435E-02	4.825E-02	3.871E-02	2.462E-02	NOT IDENT.
W-181	-3.238E-01	4.482E-01	3.390E-01	2.287E-01	NOT IDENT.
TA-182	-5.341E-02	2.184E-01	1.790E-01	1.115E-01	NOT IDENT.
RE-183	7.783E-03	1.316E-01	1.067E-01	6.717E-02	FAIL ABUN
RE-184	-6.382E-02	2.294E-01	1.955E-01	1.170E-01	NOT IDENT.
OS-185	-3.367E-02	4.325E-02	3.400E-02	2.207E-02	NOT IDENT.
RE-188	-1.362E-02	1.841E-01	1.528E-01	9.394E-02	NOT IDENT.
W-188	-6.126E-01	9.121E+00	6.841E+00	4.654E+00	FAIL ABUN
IR-192	2.224E-02	3.475E-02	3.075E-02	1.773E-02	FAIL ABUN
AU-195	2.929E-01	2.550E-01	2.247E-01	1.301E-01	FAIL ABUN
TL-200	1.150E+02	3.209E+03	0.000E+00	1.637E+03	SHORT HLIF
TL-201	-5.845E-01	1.489E+01	1.232E+01	7.598E+00	NOT IDENT.
TL-202	-3.693E-02	9.194E-02	7.395E-02	4.691E-02	NOT IDENT.
HG-203	-2.717E-02	4.830E-02	3.491E-02	2.464E-02	NOT IDENT.
BI-207	4.561E-02	5.658E-02	5.165E-02	2.887E-02	FAIL ABUN
TL-207	2.264E-01	7.825E-01	5.976E-01	3.993E-01	FAIL ABUN
PO-209	-5.085E+00	8.767E+00	6.562E+00	4.473E+00	NOT IDENT.
BI-210	1.772E+00	3.677E+00	3.308E+00	1.876E+00	NOT IDENT.
PB-210	1.772E+00	3.677E+00	3.308E+00	1.876E+00	NOT IDENT.
PO-210	1.772E+00	3.676E+00	3.308E+00	1.876E+00	NOT IDENT.
PB-211	-2.400E-02	1.021E+00	8.510E-01	5.209E-01	NOT IDENT.
BI-212	8.891E-01	6.370E-01	3.532E-01	3.250E-01	FAIL ABUN
PO-215	2.264E-01	7.825E-01	5.976E-01	3.993E-01	FAIL ABUN
RN-219	-2.927E-01	4.233E-01	3.338E-01	2.160E-01	FAIL ABUN
RN-220	-2.094E+01	2.681E+01	2.161E+01	1.368E+01	NOT IDENT.
RA-223	2.264E-01	7.825E-01	5.976E-01	3.993E-01	FAIL ABUN
AC-227	2.581E-01	3.713E-01	3.313E-01	1.895E-01	FAIL ABUN
TH-227	2.581E-01	3.721E-01	3.313E-01	1.899E-01	FAIL ABUN
TH-229	1.599E-02	5.392E-01	4.428E-01	2.751E-01	FAIL ABUN
PA-231	9.008E-01	1.564E+00	1.380E+00	7.980E-01	FAIL ABUN
TH-231	2.264E-01	7.825E-01	5.976E-01	3.993E-01	FAIL ABUN
U-231	-5.967E-02	1.992E+00	1.528E+00	1.016E+00	FAIL ABUN
PA-233	-1.230E-02	6.679E-02	5.628E-02	3.408E-02	FAIL ABUN
PA-234	-2.850E-01	4.053E-01	2.523E-01	2.068E-01	FAIL ABUN
PA-234M	4.146E+00	5.523E+00	4.904E+00	2.818E+00	NOT IDENT.
U-235	2.197E-01	2.222E-01	1.897E-01	1.133E-01	FAIL ABUN
NP-236	7.355E-02	8.772E-02	7.563E-02	4.475E-02	NOT IDENT.
NP-239	-1.431E-01	1.943E-01	1.589E-01	9.914E-02	FAIL ABUN
AM-241	8.750E-02	1.716E-01	1.394E-01	8.757E-02	NOT IDENT.
CM-243	-1.000E-02	1.006E-01	8.551E-02	5.131E-02	FAIL ABUN
AM-246	7.627E-02	1.391E-01	1.248E-01	7.097E-02	NOT IDENT.
CM-247	-4.787E-02	3.905E-02	2.957E-02	1.992E-02	FAIL ABUN
CF-249	-2.472E-02	4.284E-02	3.444E-02	2.186E-02	NOT IDENT.
CF-251	5.582E-02	1.357E-01	1.143E-01	6.923E-02	NOT IDENT.

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*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY	MDA COUNTS
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46.50	234.5408
46.50	234.5408
46.50	234.5408
48.70	272.9891
49.72	256.7993
51.35	240.9625
52.39	230.5457
52.97	233.5673
53.15	233.7005
53.44	232.1820
54.07	246.5319
56.28	259.5804
56.28	259.5827
57.37	0.0000
57.53	237.9311
57.53	237.9324
57.60	237.9814
57.98	224.0206
57.98	224.0206
59.32	238.1424
59.32	238.1424
59.40	251.4312
59.54	251.5349
59.72	251.6675
60.01	271.7667
61.10	284.5963
61.14	284.6294
61.30	284.7600
63.00	306.6466
63.29	306.8968
63.29	306.8968
63.58	307.1475
64.28	347.5605
65.12	348.3711
65.20	355.1750
65.20	355.1750
66.05	361.3988
66.72	358.0043
66.83	358.1135
66.91	331.1590
67.20	321.9497
67.20	321.9497
67.75	361.7126
67.85	361.8124
68.90	379.5888
68.90	379.5888
69.30	376.5453
69.67	362.2087
70.82	375.5926
70.82	375.5926
70.83	375.6031
72.80	376.1459
72.87	376.2148
72.87	376.2148
74.67	366.9007
74.81	367.0306
74.81	367.0306
74.81	367.0306
74.81	367.0306
74.81	367.0306
74.81	367.0306
74.81	367.0306
74.97	367.1777
75.28	367.4628
75.70	367.8484
77.11	369.1351
77.11	369.1351

77.11	369.1351
77.11	369.1351
77.11	369.1351
77.11	369.1351
77.11	369.1351
78.38	304.8577
79.62	284.8299
79.80	284.9529
79.80	284.9529
80.11	320.1129
80.18	320.1653
80.30	320.2579
80.30	320.2579
80.57	320.4641
81.00	344.6068
81.07	344.6650
81.07	344.6650
81.07	344.6650
81.07	344.6650
82.60	335.2245
83.37	322.5851
83.78	303.1557
83.78	303.1557
83.78	303.1557
83.78	303.1557
84.21	306.2804
84.90	302.5277
85.43	369.4208
86.29	407.0183
86.50	402.9566
86.54	402.9935
86.59	453.1823
86.72	453.3163
86.79	453.3870
86.94	438.3932
87.30	459.5965
87.30	459.5965
87.30	459.5965
87.30	459.5965
87.30	459.5965
87.30	459.5965
87.57	480.7382
87.88	491.5109
88.03	491.6769
88.36	398.9517
88.47	399.0500
89.95	371.7664
91.11	418.5916
92.29	395.7161
92.38	395.7938
92.38	395.7938
93.35	396.6235
94.00	252.4437
94.67	241.2462
94.67	241.2487
94.90	241.3672
94.90	241.3672
94.90	241.3672
94.90	241.3672
95.87	269.3816
95.87	269.3816
96.73	330.8115
97.43	292.0628
98.44	242.6834
98.44	242.6847
98.88	249.7073
99.55	229.6201
99.55	229.6201
99.86	229.7665
100.00	248.3360
100.10	244.4929
103.18	263.6667
103.76	246.3096
105.00	206.5852
105.31	228.3679
108.00	279.0525
109.28	246.0171

111.00	274.6973
111.00	274.6973
111.76	268.1175
112.95	251.7385
115.19	229.7222
116.30	226.1742
117.00	239.5495
117.00	239.5495
117.66	228.7550
121.11	206.8638
121.62	215.1723
121.78	215.2338
122.06	227.5307
122.32	227.6356
122.32	227.6356
122.32	227.6356
122.32	227.6356
123.07	233.0266
127.23	246.0040
129.76	223.9119
131.20	222.9126
133.02	225.1487
133.54	212.5999
135.34	246.2819
136.00	214.3004
136.25	215.4313
136.48	211.3468
140.51	283.9981
140.51	0.0000
142.18	234.3220
142.65	236.5997
143.76	204.3627
144.24	208.7335
144.24	208.7335
144.24	208.7335
144.24	208.7335
145.22	237.5633
145.44	236.5895
147.16	253.1133
152.43	247.6965
152.70	221.0956
153.22	219.1305
154.21	211.9642
154.21	211.9642
154.21	211.9642
154.21	211.9642
155.03	231.5193
156.02	237.2292
158.56	252.1313
159.00	0.0000
159.00	223.1824
160.31	227.9330
161.27	249.8881
162.32	251.3522
162.64	264.4748
163.35	247.3850
163.89	258.4362
165.85	255.8958
167.43	236.8272
171.28	198.6077
171.86	209.7495
172.10	209.8194
176.55	211.1057
176.60	211.1203
181.06	223.5139
184.41	174.2463
185.71	202.5147
186.00	202.5921
190.27	180.6458
192.34	229.0874
193.63	207.9864
197.04	196.3972
198.01	217.0939
198.60	224.0779
200.40	222.3009
201.83	212.4155
202.84	217.2541
205.31	215.0421

208.36	226.1977
208.81	214.2262
209.75	214.4684
209.75	214.4684
210.97	202.6559
215.65	207.8446
216.55	192.9524
218.09	167.6807
222.10	193.9044
223.80	177.5776
226.40	179.8665
227.00	165.8712
227.08	165.8870
227.20	180.9109
228.16	188.1740
228.18	188.1788
228.18	188.1788
231.56	0.0000
235.69	205.2527
236.00	213.8782
236.00	213.8782
238.63	411.1124
238.63	411.1124
238.63	411.1124
238.63	411.1124
239.00	300.4087
240.98	301.0547
241.98	185.1320
241.98	185.1320
241.98	185.1320
244.69	171.2760
245.39	171.4039
247.94	162.4796
248.90	145.4763
249.79	146.5171
252.40	136.9405
252.85	149.7075
252.85	149.7075
254.15	0.0000
256.20	131.1064
256.20	131.1064
260.50	150.8883
260.90	0.0000
262.80	127.4089
264.65	129.2994
268.24	159.2552
268.79	147.5391
269.46	136.5640
269.46	136.5640
269.46	136.5640
269.46	136.5640
271.23	159.7272
273.65	140.8347
276.40	159.0476
277.35	146.9220
277.60	155.3266
277.60	155.3266
278.00	144.4083
278.60	151.9392
279.20	153.5193
279.53	153.5671
280.46	146.2439
281.68	146.4138
283.67	130.0389
284.30	152.5837
285.00	150.8122
285.90	0.0000
286.10	143.4678
286.10	143.4678
287.40	154.9091
288.45	0.0000
290.67	155.1966
290.80	152.2028
291.72	144.7922
293.26	0.0000
293.70	161.6781
295.21	141.8564
295.21	141.8564

295.21	141.8564
295.96	141.9548
296.50	142.0235
297.23	142.1196
298.57	142.2935
299.80	142.4538
299.80	142.4538
300.09	142.4927
300.09	142.4927
300.09	142.4927
300.09	142.4927
300.12	142.4950
301.29	142.6483
302.84	114.2780
303.76	111.3232
303.91	111.3375
304.40	108.3357
304.40	108.3357
304.84	114.4849
306.84	150.3712
308.46	114.8566
311.98	130.5775
316.51	101.2157
318.01	129.3402
319.02	137.1833
319.41	139.1616
320.08	139.2429
323.87	124.1758
323.87	124.1758
323.87	124.1758
323.87	124.1758
325.23	130.5384
328.77	143.4019
333.44	134.9699
334.20	133.0989
334.20	133.0989
334.30	133.1093
338.28	113.9114
338.28	113.9114
338.28	113.9114
338.28	113.9114
338.32	113.9167
338.32	113.9167
338.32	113.9167
340.50	127.5018
340.57	127.5078
344.27	120.6791
345.85	133.0680
350.59	0.0000
351.07	125.0329
351.92	125.1194
351.92	125.1194
351.92	125.1194
355.39	0.0000
356.01	78.1069
364.48	132.3907
366.43	105.4710
367.43	119.6264
367.94	0.0000
369.80	106.7537
374.96	109.2014
383.85	88.5625
387.95	114.3635
388.63	118.5081
391.69	96.2505
391.69	96.2505
392.90	110.6845
398.62	90.5660
400.65	106.1606
401.10	103.1021
401.81	103.1555
402.60	116.6313
404.84	108.5504
410.95	113.1796
411.60	128.8154
413.65	108.1958
414.70	92.6585
415.30	73.9500

415.76	78.1425
417.63	0.0000
418.52	94.9962
423.70	93.2452
427.08	91.3635
427.89	85.1108
432.53	100.1402
433.93	94.9590
439.47	102.7310
439.56	102.7369
439.89	102.7606
443.98	86.0464
444.90	98.8551
445.03	104.1788
445.03	104.1788
445.03	104.1788
445.03	104.1788
453.90	89.8229
463.38	102.2160
468.07	87.7756
473.00	64.9567
475.06	89.9745
475.35	86.7383
476.78	80.3063
477.59	73.8323
477.96	67.3338
482.03	83.8381
484.57	78.5193
487.03	72.0863
490.36	0.0000
492.35	0.0000
497.08	80.2280
507.63	0.0000
510.53	0.0000
510.84	68.7084
511.00	68.7150
511.85	68.7500
511.85	68.7500
513.99	68.8375
513.99	68.8375
520.41	73.1113
520.65	60.9361
527.90	0.0000
528.96	0.0000
529.64	72.8354
529.87	0.0000
531.02	72.8949
537.32	55.8272
543.00	76.7864
546.56	0.0000
549.76	78.8947
552.65	71.7558
555.20	69.1292
563.23	71.2664
563.90	62.1529
568.70	82.4788
569.32	74.2566
569.50	74.2645
569.67	76.1043
573.80	79.9525
574.00	79.9610
574.64	80.4483
578.91	69.1150
579.30	0.0000
583.14	68.3506
585.48	69.3604
591.81	72.3785
592.07	79.8146
593.00	77.0668
595.88	71.6047
600.56	73.4128
602.52	0.0000
602.71	73.1067
602.71	73.1067
603.60	70.0287
604.41	62.2738
604.70	62.2835
609.31	74.9199

609.31	74.9199
609.31	74.9199
609.31	74.9199
610.33	89.0138
612.46	65.6626
614.37	51.6431
618.01	86.5465
621.84	55.6107
621.84	55.6107
631.29	58.7199
633.02	56.8740
633.10	56.8770
634.78	50.2840
635.90	60.7547
636.97	65.5348
645.85	62.9643
646.12	62.9723
656.30	51.1419
657.75	57.5757
657.90	0.0000
661.65	67.2981
661.65	67.2981
664.57	0.0000
666.33	48.1787
666.33	48.1787
675.00	70.6350
677.61	63.9407
685.20	67.0880
692.80	60.4969
695.00	66.4195
696.49	85.0374
696.49	85.0374
697.00	75.2799
697.49	85.0756
698.33	85.1096
698.50	85.1160
699.00	65.5655
702.63	71.5564
706.10	82.4701
706.58	0.0000
706.67	78.5645
709.31	61.9433
711.68	74.8069
713.82	60.1005
717.42	59.2134
720.50	59.2954
721.93	0.0000
722.20	52.7474
722.78	72.5474
722.78	72.5474
722.89	72.5509
722.95	72.5527
723.30	72.5635
724.18	75.8918
727.18	51.5442
733.00	69.5676
735.90	35.5390
739.58	62.7939
742.81	43.9184
744.21	44.9440
747.13	53.0026
751.79	58.1204
752.31	56.1299
753.82	50.1489
755.35	58.2110
756.15	59.2348
756.87	68.2922
763.93	100.7373
765.79	70.5725
766.42	72.6082
766.84	67.5790
776.49	60.7676
778.00	65.8744
778.57	57.7807
778.89	60.8306
783.80	52.8290
785.46	53.0917
792.07	49.2750

795.84	54.4570
796.30	54.4674
798.80	68.1559
801.93	55.0216
805.60	59.4627
810.29	49.3055
810.76	52.3970
815.85	53.5361
817.79	46.3656
818.51	50.5013
819.60	54.6485
826.30	52.7295
828.27	0.0000
831.60	56.9860
831.96	48.7040
834.83	63.2845
836.80	0.0000
846.75	46.9072
848.13	52.1472
856.28	0.0000
856.80	43.6045
860.37	54.1453
867.32	38.5295
867.82	46.2440
871.10	48.4078
873.19	45.2875
874.81	49.5313
875.33	0.0000
876.40	41.1252
879.36	48.5617
880.27	40.1301
880.51	33.7969
881.50	40.1496
883.24	54.9770
884.67	55.0075
889.25	37.0892
896.60	53.1311
898.02	43.5915
899.00	42.5439
903.28	42.6123
911.07	50.2152
911.07	50.2152
911.07	50.2152
919.63	45.2539
920.93	46.1095
925.00	53.6963
925.24	48.3311
926.50	50.5020
935.52	53.9026
937.48	80.9125
944.10	43.2568
946.00	55.9113
949.00	37.1426
962.29	36.2826
964.01	30.8588
966.15	39.2388
968.20	38.1761
969.11	36.3704
969.11	36.3704
969.11	36.3704
977.42	37.2066
980.50	40.5329
983.50	43.8652
989.30	41.7564
996.32	45.6341
1001.03	44.1318
1001.68	44.1416
1004.76	44.1885
1021.30	0.0000
1024.50	0.0000
1034.80	42.7806
1036.00	40.0063
1037.82	40.0308
1038.57	33.5215
1038.76	0.0000
1045.16	43.8617
1046.59	46.6817
1048.07	40.1673

1050.47	46.7428
1050.47	46.7428
1062.04	41.2894
1063.62	37.5553
1076.63	36.7720
1077.35	31.1215
1078.86	32.0798
1085.78	40.6624
1099.22	41.7871
1112.02	44.1368
1112.84	52.3237
1115.52	34.3652
1120.29	34.4165
1120.29	34.4165
1120.29	34.4165
1120.29	34.4165
1120.51	31.1414
1121.28	29.5099
1124.00	0.0000
1129.67	33.5588
1131.51	0.0000
1147.95	0.0000
1167.94	42.6841
1173.22	34.0074
1175.09	33.0551
1177.93	48.6511
1189.05	49.7881
1204.90	45.1184
1205.75	0.0000
1213.00	49.1577
1221.42	57.1622
1230.97	48.9199
1235.34	44.1053
1236.41	0.0000
1238.25	49.5178
1246.25	47.6465
1260.41	0.0000
1271.85	28.9953
1274.45	46.0262
1274.54	46.0281
1291.56	35.1866
1298.22	0.0000
1312.09	30.3308
1325.50	24.3535
1325.50	24.3535
1332.49	31.5159
1333.61	27.4570
1360.21	17.4109
1362.66	0.0000
1365.15	18.4592
1368.21	13.8560
1368.53	0.0000
1376.25	13.3708
1384.27	17.0062
1394.10	27.8998
1395.20	36.1764
1407.95	24.8887
1434.06	18.7910
1436.60	26.1149
1457.56	0.0000
1460.81	13.6623
1489.15	16.9336
1509.49	18.0812
1596.49	24.0514
1620.62	18.7144
1678.03	0.0000
1691.02	17.1098
1691.02	17.1098
1706.46	0.0000
1750.46	0.0000
1764.49	6.7598
1764.49	6.7598
1764.49	6.7598
1764.49	6.7598
1770.23	51.2421
1771.40	28.0452
1791.20	0.0000
1808.65	6.8223

1836.01

8.8211

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245978015

Total Uranium Activity	2.0231E+01	ug/g
Total Uranium Counting Unc.	9.1482E+00	ug/g
Total Uranium Tpu	4.6674E-06	ug/g
Total Uranium Mda	3.4703E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 948721                          SAMPLE ID   : G245978015
*  ANALYST       : MXR1                             DETECTOR    : GAM12
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE: 14-FEB-2010 13:12:34.93          SAMPLE ALQT: 109.430 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.636E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.550E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 4.218E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 2.039E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:16:26.01

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032521.CNF;1
Sample date        : 5-FEB-2010 00:00:00. Acquisition date : 14-FEB-2010 13:13:08
Sample ID          : G1202032521      Sample quantity   : 1.65200E+02 GRAM
Detector name      : GAM14             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.49  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 948721            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	92.75*	58	90	1.52	185.00	179	13	8.11E-03	41.3	
2	0	510.98*	14	44	2.29	1020.83	1012	16	1.91E-03	152.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 15:16:30

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032521.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 5-FEB-2010 00:00:00   Acquisition date : 14-FEB-2010 13:13:08
Sample ID        : G1202032521           Sample quantity  : 165.20 GRAM
Sample type       : SOLID                 Sample geometry   :
Detector name     : GAMMA14              Detector geometry: CAN
Elapsed live time: 0 02:00:00.00         Elapsed real time: 0 02:00:00.49   0.0%
Peak Width (FWHM): 3.00                  Confidence level  : 5.00 %
Energy tolerance  : 1.50 keV              Half life ratio   : 8.00
Errors propagated: Yes                    Systematic Error  : 0.00 %
Efficiency type   : Empirical              Efficiencies at   : Peak Energy
Abundance limit   : 75.00                 WTM error limit   : 3.00

```

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	1.012E-02	3.084E-02	2.132E-02	1.253E-03	0.475

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-6.690E-03	1.231E-01	2.004E-01	1.350E-02	-0.033
NA-22		1274.54	*	8.384E-03	1.303E-02	2.474E-02	1.616E-03	0.339
NA-24		1368.53	*	-5.198E-04	1.303E-02	Half-Life too short		
AL-26		1129.67		1.414E-01	6.282E-01	1.082E+00	6.835E-02	0.131
		1808.65	*	4.743E-04	1.606E-02	2.617E-02	1.517E-03	0.018
K-40		1460.81	*	-1.462E-02	2.194E-01	3.929E-01	2.853E-02	-0.037
TI-44		67.85		-1.753E-02	1.312E-02	1.902E-02	1.339E-03	-0.921
		78.38	*	-1.022E-02	1.035E-02	1.548E-02	1.208E-03	-0.660
SC-46		889.25	*	-7.327E-03	1.481E-02	2.264E-02	2.092E-03	-0.324
		1120.51		2.294E-02	1.975E-02	3.819E-02	2.473E-03	0.601
V-48		944.10		1.973E-01	2.641E-01	4.948E-01	4.422E-02	0.399
		983.50	*	1.601E-03	2.276E-02	3.836E-02	3.257E-03	0.042
		1312.09		3.960E-03	2.477E-02	4.209E-02	2.909E-03	0.094
CR-51		320.08	*	4.123E-02	1.358E-01	2.318E-01	1.498E-02	0.178
MN-52		744.21		4.868E-02	5.126E-02	9.396E-02	6.631E-03	0.518
		848.13		-8.388E-02	1.568E+00	2.610E+00	2.242E-01	-0.032
		935.52		1.434E-02	5.273E-02	9.168E-02	8.275E-03	0.156
		1246.25		1.084E-02	1.140E+00	1.883E+00	1.173E-01	0.006
		1333.61		2.938E-01	9.759E-01	1.710E+00	1.219E-01	0.172
		1434.06	*	-2.170E-02	5.851E-02	8.785E-02	6.158E-03	-0.247
MN-54		834.83	*	-1.265E-02	1.380E-02	1.951E-02	1.636E-03	-0.648
CO-56		846.75	*	1.011E-03	1.750E-02	2.956E-02	2.534E-03	0.034
		977.42		6.413E-01	1.077E+00	1.973E+00	1.690E-01	0.325
		1037.82		-4.027E-02	1.144E-01	1.776E-01	1.471E-02	-0.227
		1175.09		-4.909E-01	7.916E-01	1.148E+00	6.345E-02	-0.428
		1238.25		1.444E-02	2.443E-02	4.506E-02	2.927E-03	0.321
		1360.21		-2.256E-01	4.525E-01	6.635E-01	4.713E-02	-0.340
		1771.40		-2.725E-02	1.020E-01	1.504E-01	8.975E-03	-0.181

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57		122.06	*	-1.246E-03	8.040E-03	1.275E-02	9.069E-04	-0.098
		136.48		1.584E-02	7.297E-02	1.194E-01	8.764E-03	0.133
CO-58		810.76	*	8.021E-03	1.697E-02	2.918E-02	2.348E-03	0.275
FE-59		142.65		3.539E-01	9.568E-01	1.579E+00	9.900E-02	0.224
		192.34		2.465E-01	3.219E-01	5.702E-01	6.656E-02	0.432
CO-60		1099.22	*	2.574E-02	3.169E-02	5.977E-02	4.602E-03	0.431
		1291.56		-4.525E-02	4.896E-02	6.627E-02	5.395E-03	-0.683
		1173.22		-1.001E-02	1.667E-02	2.431E-02	1.339E-03	-0.412
		1332.49	*	-1.047E-02	1.490E-02	1.997E-02	1.423E-03	-0.524
ZN-65		1115.52	*	-2.457E-02	3.791E-02	5.611E-02	3.688E-03	-0.438
GE-68		1077.35	*	3.087E-02	4.669E-01	7.839E-01	5.635E-02	0.039
AS-73		53.44	*	3.373E-03	2.140E-01	3.501E-01	2.282E-02	0.010
AS-74		595.88	*	-1.750E-02	3.424E-02	5.197E-02	3.108E-03	-0.337
		634.78		-7.500E-02	1.304E-01	1.941E-01	1.159E-02	-0.386
SE-75		66.05		-6.071E-01	1.475E+00	2.238E+00	2.035E-01	-0.271
		96.73		-7.808E-02	2.702E-01	3.683E-01	4.892E-02	-0.212
		121.11		-1.130E-02	4.237E-02	6.643E-02	6.722E-03	-0.170
		136.00		-2.881E-03	1.379E-02	2.174E-02	1.436E-03	-0.133
BR-77		198.60		5.985E-01	6.388E-01	1.146E+00	7.934E-02	0.522
		264.65	*	-4.524E-04	1.644E-02	2.738E-02	1.608E-03	-0.017
		279.53		1.104E-02	4.318E-02	7.352E-02	4.631E-03	0.150
		303.91		-7.251E-01	8.053E-01	1.218E+00	1.164E-01	-0.595
		400.65		8.351E-02	9.883E-02	1.773E-01	1.579E-02	0.471
		87.88		-4.125E+00	1.280E+01	1.754E+01	1.532E+00	-0.235
		200.40		-7.987E+00	1.198E+01	1.911E+01	1.063E+00	-0.418
		239.00		-2.440E-01	8.791E-01	1.373E+00	7.881E-02	-0.178
		249.79		2.446E-01	5.229E+00	8.781E+00	5.072E-01	0.028
		281.68		-2.097E+00	7.001E+00	1.136E+01	6.623E-01	-0.185
		297.23		-8.560E-01	4.063E+00	6.635E+00	3.870E-01	-0.129
		303.76		-1.095E+01	1.385E+01	2.125E+01	1.239E+00	-0.515
		439.47		1.255E+01	1.132E+01	2.092E+01	1.183E+00	0.600
		484.57		5.520E+00	2.017E+01	3.407E+01	1.979E+00	0.162
SR-82		520.65	*	2.355E-01	8.505E-01	1.439E+00	8.486E-02	0.164
		574.64		-6.773E+00	1.733E+01	2.669E+01	1.593E+00	-0.254
		578.91		-3.949E+00	7.357E+00	1.111E+01	6.636E-01	-0.355
		585.48		1.516E+00	1.488E+01	2.450E+01	1.464E+00	0.062
		755.35		3.878E+00	1.326E+01	2.236E+01	1.613E+00	0.173
		817.79		-9.420E-01	1.176E+01	1.952E+01	1.587E+00	-0.048
		698.33		1.741E+00	1.370E+01	2.250E+01	1.446E+00	0.077
		776.49	*	1.375E-02	1.145E-01	1.883E-01	1.416E-02	0.073
RB-83		1395.20		-1.459E+00	4.065E+00	6.081E+00	4.296E-01	-0.240
		520.41	*	8.389E-03	2.737E-02	4.648E-02	2.740E-03	0.180
		529.64		-1.402E-02	4.019E-02	6.237E-02	3.688E-03	-0.225
RB-84		552.65		-6.320E-02	7.844E-02	1.128E-01	6.707E-03	-0.560
		881.50	*	-1.438E-02	2.545E-02	3.855E-02	3.515E-03	-0.373
		513.99	*	9.590E+00	3.648E+00	6.948E+00	4.087E-01	1.380
SR-85		513.99	*	4.638E-02	1.764E-02	3.360E-02	1.976E-03	1.380
RB-86		1076.63	*	-1.261E-01	2.423E-01	3.606E-01	2.597E-02	-0.350
Y-88		898.02		3.815E-03	1.727E-02	2.981E-02	2.808E-03	0.128

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1836.01	*		1.231E-03	1.607E-02	2.656E-02	1.509E-03	0.046
ZR-88	392.90	*		-5.398E-03	1.151E-02	1.795E-02	9.773E-04	-0.301
Y-91	1204.90	*		-5.894E+00	5.991E+00	7.734E+00	4.499E-01	-0.762
NB-94	702.63	*		-9.120E-04	1.576E-02	2.525E-02	1.638E-03	-0.036
	871.10	*		-7.662E-03	1.625E-02	2.540E-02	2.273E-03	-0.302
NB-95	765.79	*		6.103E-03	1.332E-02	2.321E-02	1.709E-03	0.263
NB-95M	235.69	*		-2.435E-02	4.856E-02	7.846E-02	5.864E-03	-0.310
ZR-95	724.18	*		1.652E-02	3.939E-02	6.708E-02	5.168E-03	0.246
	756.15	*		1.604E-02	2.619E-02	4.635E-02	3.824E-03	0.346
NB-97	657.90	*		-9.432E-05	2.619E-02	Half-Life	too short	
	1024.50	*		-1.187E-02	2.619E-02	Half-Life	too short	
ZR-97	254.15	*		-1.751E-03	2.619E-02	Half-Life	too short	
	355.39	*		1.687E-03	2.619E-02	Half-Life	too short	
	507.63	*		8.166E-03	2.619E-02	Half-Life	too short	
	602.52	*		1.082E-02	2.619E-02	Half-Life	too short	
	1021.30	*		1.427E-02	2.619E-02	Half-Life	too short	
	1147.95	*		-7.199E-03	2.619E-02	Half-Life	too short	
	1362.66	*		8.966E-03	2.619E-02	Half-Life	too short	
	1750.46	*		1.921E-03	2.619E-02	Half-Life	too short	
MO-99	140.51	*		-2.433E+00	2.603E+00	3.721E+00	1.007E+00	-0.654
	181.06	*		-1.238E+00	1.663E+00	2.636E+00	4.488E-01	-0.470
	366.43	*		-5.756E+00	8.521E+00	1.304E+01	7.318E-01	-0.441
	739.58	*		9.756E-02	1.151E+00	1.880E+00	2.692E-01	0.052
	778.00	*		-8.742E-01	3.165E+00	4.823E+00	3.637E-01	-0.181
TC-99M	140.51	*		-3.004E+03	3.165E+00	Half-Life	too short	
RH-101	127.23	*		7.135E-03	1.193E-02	2.007E-02	1.381E-03	0.355
	198.01	*		8.234E-03	1.213E-02	2.141E-02	1.188E-03	0.385
	325.23	*		-1.791E-02	9.188E-02	1.498E-01	8.668E-03	-0.120
RH-102	418.52	*		-1.240E-02	1.220E-01	1.986E-01	1.106E-02	-0.062
	475.06	*		-4.557E-03	1.462E-02	1.936E-02	1.119E-03	-0.235
	631.29	*		-1.406E-03	2.454E-02	3.949E-02	2.360E-03	-0.036
	697.49	*		1.751E-03	3.564E-02	5.794E-02	3.718E-03	0.030
	766.84	*		2.277E-02	3.784E-02	6.705E-02	4.948E-03	0.340
	1046.59	*		-2.192E-02	4.284E-02	6.400E-02	4.898E-03	-0.343
	1112.84	*		-4.224E-02	8.736E-02	1.319E-01	8.713E-03	-0.320
RU-103	497.08	*		3.415E-03	1.616E-02	2.711E-02	3.433E-03	0.126
	610.33	*		2.659E-02	3.528E-01	5.827E-01	9.024E-02	0.046
RH-106	511.85	*	+	5.003E-02	1.524E-01	2.142E-01	1.259E-02	0.234
	621.84	*		6.197E-04	1.409E-01	2.288E-01	2.706E-02	0.003
	1050.47	*		-2.449E-01	9.199E-01	1.456E+00	1.106E-01	-0.168
RU-106	511.85	*	+	5.003E-02	1.524E-01	2.142E-01	1.259E-02	0.234
	621.84	*		6.197E-04	1.409E-01	2.288E-01	1.368E-02	0.003
	1050.47	*		-2.449E-01	9.199E-01	1.456E+00	1.106E-01	-0.168
AG-108M	433.93	*		-1.048E-02	1.307E-02	1.927E-02	1.184E-03	-0.544
	614.37	*		-2.018E-02	1.935E-02	2.733E-02	1.766E-03	-0.738
	722.95	*		1.152E-02	1.828E-02	3.201E-02	2.301E-03	0.360
CD-109	88.03	*		-9.062E-02	2.980E-01	4.090E-01	3.577E-02	-0.222
AG-110M	657.75	*		-8.878E-03	1.413E-02	2.059E-02	1.301E-03	-0.431
	677.61	*		3.174E-03	1.144E-01	1.859E-01	1.206E-02	0.017

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	706.67			2.727E-02	9.673E-02	1.619E-01	1.109E-02	0.168
	763.93			-7.259E-03	5.886E-02	9.259E-02	7.057E-03	-0.078
	884.67			1.211E-02	1.763E-02	3.287E-02	3.100E-03	0.368
	937.48			-3.039E-02	4.553E-02	6.741E-02	6.272E-03	-0.451
	1384.27			6.755E-02	7.948E-02	1.500E-01	1.106E-02	0.450
IN-111	171.28			1.976E-02	9.979E-02	1.621E-01	8.740E-03	0.122
	245.39	*		-1.021E-01	1.083E-01	1.669E-01	9.617E-03	-0.612
IN-113M	391.69	*		1.008E-02	1.561E-02	2.770E-02	1.621E-03	0.364
SN-113	391.69	*		1.008E-02	1.561E-02	2.770E-02	1.621E-03	0.364
IN-114M	190.27	*		-9.623E-02	6.881E-02	1.042E-01	5.732E-03	-0.924
CD-115	260.90			-5.529E+00	8.691E+00	1.365E+01	7.925E-01	-0.405
	492.35			5.407E-03	2.931E+00	4.800E+00	2.798E-01	0.001
	527.90	*		-2.610E-02	7.956E-01	1.294E+00	7.645E-02	-0.020
SN-117M	156.02			3.125E-01	6.320E-01	1.053E+00	6.064E-02	0.297
	158.56	*		-2.458E-03	1.709E-02	2.590E-02	1.465E-03	-0.095
SB-122	563.90	*		-2.385E-01	2.434E-01	3.490E-01	2.080E-02	-0.683
	692.80			1.650E+00	4.660E+00	7.891E+00	5.014E-01	0.209
I-123	159.00	*		-2.674E-04	4.660E+00	Half-Life too short		
	528.96			-1.262E-03	4.660E+00	Half-Life too short		
TE-123M	159.00	*		-1.478E-03	1.141E-02	1.732E-02	9.905E-04	-0.085
I-124	602.71	*		9.391E-02	1.327E-01	2.318E-01	1.387E-02	0.405
	722.78			4.783E-01	7.588E-01	1.329E+00	8.981E-02	0.360
	1325.50			8.038E-01	4.763E+00	8.153E+00	5.750E-01	0.099
	1376.25			-4.614E-01	5.023E+00	8.067E+00	5.718E-01	-0.057
	1509.49			1.987E+00	3.107E+00	5.721E+00	3.925E-01	0.347
	1691.02			4.285E-01	9.433E-01	1.680E+00	1.058E-01	0.255
SB-124	602.71			1.288E-02	1.821E-02	3.180E-02	1.903E-03	0.405
	645.85			1.077E-01	2.030E-01	3.530E-01	2.361E-02	0.305
	709.31			1.088E+00	1.205E+00	2.170E+00	1.427E-01	0.501
	713.82			-2.413E-01	6.868E-01	1.049E+00	1.124E-01	-0.230
	722.78			9.513E-02	1.509E-01	2.642E-01	1.848E-02	0.360
	968.20			3.597E-01	9.106E-01	1.609E+00	1.395E-01	0.224
	1045.16			1.069E-01	8.199E-01	1.396E+00	1.072E-01	0.077
	1325.50			1.707E-01	1.012E+00	1.732E+00	1.221E-01	0.099
	1368.21			-3.403E-01	6.734E-01	9.602E-01	1.206E-01	-0.354
	1436.60			-3.192E-01	1.486E+00	2.297E+00	1.609E-01	-0.139
	1691.02	*		2.010E-02	4.425E-02	7.879E-02	5.326E-03	0.255
SB-125	427.89	*		8.208E-03	3.686E-02	6.222E-02	3.646E-03	0.132
	463.38			3.216E-02	1.085E-01	1.843E-01	1.237E-02	0.174
	600.56			3.741E-02	9.034E-02	1.533E-01	1.053E-02	0.244
	635.90			-5.754E-03	1.203E-01	1.937E-01	1.344E-02	-0.030
TE-125M	109.28	*		-2.438E+00	3.141E+00	4.727E+00	4.431E-01	-0.516
I-126	388.63			8.911E-03	5.848E-02	9.819E-02	5.364E-03	0.091
	666.33	*		-3.410E-02	5.935E-02	8.803E-02	5.287E-03	-0.387
	753.82			-4.756E-03	4.562E-01	7.331E-01	5.274E-02	-0.006
SB-126	223.80			2.118E-02	1.056E+00	1.774E+00	1.008E-01	0.012
	278.60			-2.047E-01	7.175E-01	1.167E+00	6.803E-02	-0.175
	296.50			-2.428E-01	3.820E-01	5.980E-01	3.488E-02	-0.406
	414.70			-2.313E-03	2.319E-02	3.778E-02	2.097E-03	-0.061

Sample ID : G1202032521

Acquisition date : 14-FEB-2010 13:13:08

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.30		8.354E-01	1.933E+00	3.329E+00	1.848E-01	0.251
		555.20		-3.741E-01	1.307E+00	2.051E+00	1.221E-01	-0.182
		573.80		-1.851E-01	3.241E-01	4.855E-01	2.898E-02	-0.381
		593.00		-7.857E-02	3.003E-01	4.710E-01	2.817E-02	-0.167
		656.30		-7.925E-01	1.012E+00	1.431E+00	8.519E-02	-0.554
		666.33		-1.407E-02	2.449E-02	3.632E-02	2.181E-03	-0.387
		675.00		-5.816E-01	6.026E-01	8.158E-01	4.992E-02	-0.713
		695.00		1.108E-02	2.741E-02	4.651E-02	2.969E-03	0.238
		697.00		1.629E-02	9.170E-02	1.516E-01	9.715E-03	0.107
		720.50	*	2.052E-02	4.903E-02	8.351E-02	5.619E-03	0.246
		856.80		-1.380E-02	1.488E-01	2.461E-01	2.148E-02	-0.056
		989.30		-9.049E-02	3.917E-01	6.272E-01	5.282E-02	-0.144
		1034.80		6.943E-01	2.207E+00	3.896E+00	3.048E-01	0.178
		1213.00		-2.861E-01	1.144E+00	1.792E+00	1.057E-01	-0.160
SN-126		64.28		-4.240E-02	1.614E-01	2.644E-01	3.767E-02	-0.160
		86.94		-7.038E-02	1.359E-01	1.677E-01	6.937E-02	-0.420
		87.57	*	-1.787E-02	3.006E-02	3.998E-02	3.479E-03	-0.447
SB-127		61.10		-8.175E-01	6.556E+00	1.050E+01	8.464E-01	-0.078
		252.40		-3.699E-01	6.695E-01	1.039E+00	4.277E-01	-0.356
		290.80		-6.240E-01	2.896E+00	4.723E+00	3.476E-01	-0.132
		411.60		-5.754E-01	1.842E+00	2.928E+00	3.857E-01	-0.197
		444.90		-5.335E-01	1.510E+00	2.375E+00	2.188E-01	-0.225
		473.00		9.648E-02	2.345E-01	4.049E-01	3.934E-02	0.238
		543.00		-9.335E-01	2.543E+00	3.936E+00	4.624E-01	-0.237
		603.60		9.254E-01	2.105E+00	3.581E+00	3.355E-01	0.258
		685.20	*	1.182E-01	2.069E-01	3.624E-01	2.904E-02	0.326
		698.50		3.321E-01	2.615E+00	4.292E+00	5.871E-01	0.077
		722.20		-1.089E-01	4.963E+00	7.980E+00	6.469E-01	-0.014
		783.80		5.844E-02	5.357E-01	8.764E-01	9.103E-02	0.067
XE-127		57.60		-1.999E-01	1.561E+00	2.524E+00	1.662E-01	-0.079
		145.22		5.918E-03	2.694E-01	4.116E-01	2.540E-02	0.014
		172.10		2.271E-02	4.209E-02	7.024E-02	3.792E-03	0.323
		202.84	*	-5.545E-03	1.527E-02	2.494E-02	1.390E-03	-0.222
		374.96		1.081E-02	7.234E-02	1.215E-01	6.751E-03	0.089
I-131		80.18		-3.359E-01	8.453E-01	1.330E+00	1.063E-01	-0.253
		284.30		-1.353E-02	3.505E-01	5.820E-01	3.745E-02	-0.023
		364.48	*	-3.541E-03	2.688E-02	4.379E-02	2.747E-03	-0.081
		636.97		2.537E-01	3.805E-01	6.774E-01	4.474E-02	0.375
		722.89		1.201E+00	1.906E+00	3.337E+00	2.265E-01	0.360
TE-132		49.72		-3.398E-01	1.569E+00	2.525E+00	1.939E-01	-0.135
		111.76		3.158E+00	3.252E+00	5.628E+00	4.773E-01	0.561
		116.30		-1.601E+00	3.069E+00	4.722E+00	3.949E-01	-0.339
		228.16	*	-3.260E-02	8.138E-02	1.319E-01	1.765E-02	-0.247
BA-133		53.15		-1.191E-01	9.832E-01	1.592E+00	1.037E-01	-0.075
		79.62		-1.451E-01	3.776E-01	5.938E-01	8.810E-02	-0.244
		81.00		-1.580E-02	2.892E-02	4.477E-02	6.972E-03	-0.353
		276.40		1.242E-01	1.512E-01	2.674E-01	3.470E-02	0.465
		302.84		-2.914E-02	5.645E-02	8.915E-02	1.041E-02	-0.327
		356.01	*	1.205E-02	1.743E-02	3.074E-02	3.534E-03	0.392

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-133	+	383.85		3.547E-02	1.165E-01	1.988E-01	2.130E-02	0.178
		510.53		1.201E-03	1.165E-01	Half-Life too short		
		529.87	*	-7.599E-06	1.165E-01	Half-Life too short		
		706.58		5.096E-04	1.165E-01	Half-Life too short		
		856.28		-9.543E-04	1.165E-01	Half-Life too short		
		875.33		1.329E-04	1.165E-01	Half-Life too short		
		1236.41		9.647E-04	1.165E-01	Half-Life too short		
CS-134		1298.22		-1.176E-04	1.165E-01	Half-Life too short		
		475.35		-3.459E-01	9.589E-01	1.264E+00	7.303E-02	-0.274
		563.23		-2.811E-01	1.781E-01	2.316E-01	1.408E-02	-1.214
		569.32		8.812E-02	9.589E-02	1.715E-01	1.052E-02	0.514
		604.70		-3.348E-03	1.674E-02	2.658E-02	1.598E-03	-0.126
		795.84	*	-7.073E-04	1.876E-02	2.993E-02	2.356E-03	-0.024
		801.93		1.074E-02	1.979E-01	3.107E-01	2.469E-02	0.035
		1038.57		1.522E-01	1.467E+00	2.484E+00	1.930E-01	0.061
		1167.94		7.077E-01	8.791E-01	1.662E+00	9.325E-02	0.426
		1365.15		-5.704E-03	5.294E-01	8.662E-01	6.558E-02	-0.007
CS-135		268.24	*	-7.137E-03	6.059E-02	1.001E-01	7.680E-03	-0.071
I-135		288.45		-5.938E+03	6.059E-02	Half-Life too short		
		417.63		-2.428E+02	6.059E-02	Half-Life too short		
		546.56		4.107E+03	6.059E-02	Half-Life too short		
		836.80		-7.497E+02	6.059E-02	Half-Life too short		
		1038.76		5.819E+02	6.059E-02	Half-Life too short		
		1124.00		-1.605E+04	6.059E-02	Half-Life too short		
		1131.51		2.255E+03	6.059E-02	Half-Life too short		
		1260.41	*	5.337E+02	6.059E-02	Half-Life too short		
		1457.56		4.631E+02	6.059E-02	Half-Life too short		
		1678.03		1.045E+03	6.059E-02	Half-Life too short		
CS-136		1706.46		2.795E+03	6.059E-02	Half-Life too short		
		1791.20		3.650E+02	6.059E-02	Half-Life too short		
		66.91		-2.870E-01	1.913E-01	2.589E-01	3.776E-02	-1.108
		86.29		1.109E-01	2.833E-01	4.095E-01	5.246E-02	0.271
		153.22		-8.842E-02	1.841E-01	2.824E-01	2.053E-02	-0.313
		163.89		-6.476E-02	2.913E-01	4.563E-01	3.178E-02	-0.142
		176.55		-9.703E-02	1.115E-01	1.643E-01	1.015E-02	-0.590
		273.65		6.494E-03	1.329E-01	2.226E-01	1.476E-02	0.029
		340.57		2.289E-02	3.764E-02	6.581E-02	4.015E-03	0.348
		818.51		-1.149E-02	2.535E-02	3.985E-02	3.245E-03	-0.288
BA-137M		1048.07	*	-1.272E-02	3.173E-02	4.880E-02	3.923E-03	-0.261
		1235.34		-2.900E-02	1.328E-01	2.089E-01	2.125E-02	-0.139
		661.65	*	1.446E-02	1.532E-02	2.789E-02	1.658E-03	0.519
		661.65	*	1.529E-02	1.619E-02	2.948E-02	1.760E-03	0.519
		165.85	*	1.594E-03	1.006E-02	1.632E-02	8.763E-04	0.098
		162.64		-2.921E-02	2.038E-01	3.216E-01	2.011E-02	-0.091
		304.84		-2.640E-01	3.698E-01	5.597E-01	1.528E-01	-0.472
		423.70		5.963E-02	5.751E-01	9.574E-01	3.039E-01	0.062
		537.32	*	2.108E-03	7.035E-02	1.153E-01	3.753E-02	0.018
		328.77		-2.207E-02	8.884E-02	1.440E-01	9.327E-03	-0.153
LA-140		432.53		-1.106E-01	5.993E-01	9.632E-01	6.020E-02	-0.115

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	487.03			-2.613E-03	4.696E-02	7.644E-02	5.028E-03	-0.034
	751.79			2.056E-01	5.220E-01	8.927E-01	7.365E-02	0.230
	815.85			5.086E-02	1.070E-01	1.908E-01	1.746E-02	0.266
	867.82			1.187E-01	4.969E-01	8.577E-01	8.013E-02	0.138
	919.63			9.452E-02	9.319E-01	1.580E+00	1.755E-01	0.060
	925.24			-1.334E-01	3.348E-01	5.205E-01	5.018E-02	-0.256
	1596.49			-9.088E-04	2.502E-02	4.026E-02	2.669E-03	-0.023
CE-141	145.44		*	-4.938E-03	2.426E-02	3.641E-02	2.324E-03	-0.136
CE-143	57.37			-4.074E+00	1.844E+01	2.961E+01	2.609E+00	-0.138
	231.56			1.934E+01	6.337E+01	1.081E+02	3.361E+01	0.179
	293.26		*	1.366E+00	2.830E+00	4.903E+00	1.018E+00	0.279
	350.59			-4.350E+01	4.661E+01	6.483E+01	1.979E+01	-0.671
	490.36			-3.017E+01	8.023E+01	1.247E+02	3.881E+01	-0.242
	664.57			1.473E+01	3.477E+01	5.896E+01	1.880E+01	0.250
	721.93			1.516E+01	3.686E+01	6.247E+01	1.803E+01	0.243
CE-144	80.11			-2.620E-01	6.191E-01	9.719E-01	7.738E-02	-0.270
	133.54		*	-7.116E-02	7.621E-02	1.114E-01	1.622E-02	-0.639
PM-144	476.78			-8.214E-03	3.310E-02	4.398E-02	3.047E-03	-0.187
	618.01			-5.967E-03	1.536E-02	2.324E-02	1.468E-03	-0.257
	696.49		*	5.854E-03	1.602E-02	2.709E-02	1.735E-03	0.216
	778.57			-3.886E-02	8.351E-01	1.331E+00	1.005E-01	-0.029
PR-144	696.49		*	3.955E-01	1.082E+00	1.830E+00	1.172E-01	0.216
	1489.15			2.491E+00	5.257E+00	9.557E+00	6.600E-01	0.261
PM-146	453.90		*	3.052E-03	1.877E-02	3.139E-02	2.687E-03	0.097
	633.02			2.046E-02	6.319E-01	1.029E+00	3.792E-01	0.020
	735.90			-3.660E-04	5.179E-02	8.335E-02	2.346E-02	-0.004
	747.13			-2.472E-02	4.053E-02	5.864E-02	7.716E-03	-0.422
ND-147	91.11			1.150E-01	7.744E-02	1.225E-01	1.126E-02	0.939
	319.41			2.952E-01	9.713E-01	1.658E+00	9.622E-02	0.178
	439.89			1.436E+00	1.668E+00	3.008E+00	1.701E-01	0.478
	531.02		*	-6.357E-02	1.541E-01	2.360E-01	3.203E-02	-0.269
PM-149	285.90		*	1.653E-01	6.003E+00	1.003E+01	1.421E+00	0.016
EU-152	121.78			4.879E-04	2.338E-02	3.771E-02	3.262E-03	0.013
	244.69			-1.439E-01	1.337E-01	2.039E-01	1.175E-02	-0.706
	344.27		*	9.717E-03	4.005E-02	6.792E-02	4.394E-03	0.143
	443.98			-2.615E-01	4.044E-01	6.124E-01	3.474E-02	-0.427
	778.89			-4.526E-03	9.735E-02	1.551E-01	1.172E-02	-0.029
	867.32			2.618E-02	3.974E-01	6.713E-01	5.969E-02	0.039
	964.01			8.679E-02	1.156E-01	2.127E-01	1.855E-02	0.408
	1085.78			-9.182E-02	1.425E-01	2.038E-01	1.438E-02	-0.451
	1112.02			-5.159E-02	1.217E-01	1.858E-01	1.230E-02	-0.278
	1407.95			2.516E-02	8.131E-02	1.419E-01	1.000E-02	0.177
GD-153	69.67			-5.194E-01	4.565E-01	6.734E-01	4.816E-02	-0.771
	83.37			2.276E+00	4.424E+00	7.439E+00	6.151E-01	0.306
	97.43		*	2.331E-02	2.620E-02	4.100E-02	3.288E-03	0.569
	103.18			-2.842E-02	3.524E-02	5.281E-02	4.075E-03	-0.538
EU-154	123.07			-1.692E-02	1.830E-02	2.683E-02	2.746E-03	-0.630
	247.94			9.125E-02	1.440E-01	2.528E-01	2.408E-02	0.361
	591.81			8.870E-02	2.551E-01	4.346E-01	4.295E-02	0.204

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Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		723.30		3.732E-02	7.791E-02	1.337E-01	1.055E-02	0.279
		756.87		3.242E-01	2.822E-01	5.392E-01	5.944E-02	0.601
		873.19		3.966E-02	1.241E-01	2.176E-01	2.721E-02	0.182
		996.32		-8.073E-02	1.454E-01	2.167E-01	3.821E-02	-0.372
		1004.76		1.429E-02	9.426E-02	1.590E-01	1.805E-02	0.090
		1274.45	*	2.348E-02	3.655E-02	6.929E-02	6.794E-03	0.339
		48.70		6.451E-02	6.293E-01	1.037E+00	6.648E-02	0.062
		60.01		-1.893E+00	1.595E+00	2.361E+00	1.569E-01	-0.802
		86.54		7.411E-03	3.627E-02	4.930E-02	4.279E-03	0.150
		105.31	*	2.441E-02	3.493E-02	5.972E-02	4.622E-03	0.409
TB-160		86.79		-3.673E-02	9.634E-02	1.235E-01	1.064E-02	-0.297
		197.04		2.192E-02	1.997E-01	3.388E-01	1.878E-02	0.065
		215.65		-8.133E-02	2.480E-01	4.049E-01	2.284E-02	-0.201
		298.57		2.264E-02	4.109E-02	7.166E-02	4.179E-03	0.316
		879.36	*	-5.833E-02	5.641E-02	7.779E-02	7.065E-03	-0.750
		962.29		1.397E-01	1.860E-01	3.449E-01	3.014E-02	0.405
		966.15		5.017E-02	7.446E-02	1.359E-01	1.181E-02	0.369
		1177.93		9.065E-03	1.299E-01	2.173E-01	1.207E-02	0.042
		1271.85		-5.115E-02	2.215E-01	3.441E-01	2.234E-02	-0.149
		80.57		-4.225E-02	8.206E-02	1.279E-01	1.024E-02	-0.330
HO-166M		184.41		-1.707E-03	1.490E-02	2.464E-02	1.347E-03	-0.069
		280.46		-6.924E-03	3.501E-02	5.740E-02	3.347E-03	-0.121
		410.95		-4.907E-02	1.006E-01	1.567E-01	8.667E-03	-0.313
		711.68	*	7.413E-03	2.759E-02	4.618E-02	3.051E-03	0.161
		752.31		3.512E-02	1.115E-01	1.886E-01	1.353E-02	0.186
		810.29		6.285E-03	2.732E-02	4.538E-02	3.638E-03	0.138
		51.35		1.190E+00	8.094E+00	1.338E+01	8.676E-01	0.089
		52.39		-1.313E+00	4.302E+00	6.869E+00	4.467E-01	-0.191
		59.40		-8.161E+00	8.324E+00	1.250E+01	8.280E-01	-0.653
		66.72	*	-1.308E+01	9.100E+00	1.267E+01	8.832E-01	-1.032
LU-176		88.36		5.662E-03	6.643E-02	9.493E-02	8.271E-03	0.060
		201.83		-1.292E-02	1.064E-02	1.614E-02	8.987E-04	-0.800
		306.84	*	-8.481E-03	9.998E-03	1.523E-02	8.869E-04	-0.557
		401.10		1.090E+00	2.729E+00	4.691E+00	2.573E-01	0.232
LU-177		112.95		6.394E-02	3.402E-01	5.565E-01	4.087E-02	0.115
		208.36	*	-1.315E-01	2.117E-01	3.377E-01	1.893E-02	-0.389
LU-177M		52.97		-4.250E-03	4.325E-01	7.064E-01	4.600E-02	-0.006
		54.07		1.371E-01	2.266E-01	3.867E-01	2.524E-02	0.355
HF-181		61.30		-9.956E-03	4.538E-01	7.323E-01	4.908E-02	-0.014
		121.62		-2.613E-02	1.199E-01	1.889E-01	1.343E-02	-0.138
		147.16		-9.328E-02	2.523E-01	3.924E-01	2.392E-02	-0.238
		171.86		8.572E-02	1.830E-01	3.038E-01	1.640E-02	0.282
		218.09		4.741E-02	2.921E-01	4.970E-01	2.810E-02	0.095
		268.79		3.367E-02	2.972E-01	5.009E-01	2.914E-02	0.067
		319.02		4.855E-03	1.043E-01	1.739E-01	1.009E-02	0.028
		367.43		-2.169E-01	3.448E-01	5.287E-01	2.963E-02	-0.410
		413.65	*	-2.090E-02	7.101E-02	1.131E-01	6.272E-03	-0.185
		56.28		-9.461E-02	2.445E-01	3.874E-01	2.542E-02	-0.244
		57.53		-1.448E-02	1.335E-01	2.161E-01	1.423E-02	-0.067

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181	65.20			1.456E-01	2.707E-01	4.396E-01	3.028E-02	0.331
	133.02			-9.972E-03	2.169E-02	3.344E-02	2.222E-03	-0.298
	136.25			-1.171E-02	1.500E-01	2.392E-01	1.559E-02	-0.049
	345.85			-7.479E-02	7.439E-02	1.106E-01	6.323E-03	-0.676
	482.03	*		2.413E-03	1.725E-02	2.872E-02	1.666E-03	0.084
	56.28			-3.934E-02	1.015E-01	1.609E-01	1.056E-02	-0.245
	57.53			-5.986E-03	5.547E-02	8.982E-02	5.914E-03	-0.067
	65.20	*		6.004E-02	1.116E-01	1.812E-01	1.249E-02	0.331
	67.75			-3.935E-02	3.035E-02	4.418E-02	3.107E-03	-0.891
	100.10			7.718E-02	5.595E-02	9.800E-02	7.711E-03	0.788
TA-182	152.43			-7.633E-02	1.225E-01	1.855E-01	1.093E-02	-0.412
	222.10			4.534E-02	1.212E-01	2.095E-01	1.188E-02	0.216
	1001.68			3.510E-01	8.556E-01	1.468E+00	1.213E-01	0.239
	1121.28			4.130E-02	5.425E-02	1.002E-01	6.475E-03	0.412
	1189.05			1.202E-02	9.300E-02	1.578E-01	8.934E-03	0.076
	1221.42	*		3.763E-02	6.382E-02	1.167E-01	6.979E-03	0.323
	1230.97			2.405E-02	1.442E-01	2.458E-01	1.494E-02	0.098
	57.98			-3.362E-03	5.268E-02	8.556E-02	5.641E-03	-0.039
	59.32			-3.310E-02	3.249E-02	4.862E-02	3.220E-03	-0.681
	67.20			-7.429E-02	5.884E-02	8.260E-02	5.782E-03	-0.899
RE-183	162.32	*		-7.365E-03	3.881E-02	6.102E-02	3.361E-03	-0.121
	208.81			-2.830E-01	3.261E-01	5.091E-01	2.854E-02	-0.556
	291.72			7.645E-02	3.224E-01	5.491E-01	3.204E-02	0.139
	57.98			-1.279E-02	2.005E-01	3.256E-01	2.147E-02	-0.039
	59.32			-1.259E-01	1.235E-01	1.849E-01	1.225E-02	-0.681
	67.20			-2.826E-01	2.239E-01	3.143E-01	2.200E-02	-0.899
	161.27			-1.743E-02	1.349E-01	2.133E-01	1.184E-02	-0.082
	216.55			-3.979E-02	9.231E-02	1.493E-01	8.431E-03	-0.266
	252.85	*		-5.053E-02	9.060E-02	1.442E-01	8.340E-03	-0.350
	318.01			-5.016E-02	1.835E-01	2.971E-01	1.724E-02	-0.169
RE-184	792.07			-3.044E-01	3.906E-01	5.381E-01	4.168E-02	-0.566
	903.28			-2.074E-01	3.857E-01	5.854E-01	5.465E-02	-0.354
	920.93			3.784E-02	1.986E-01	3.409E-01	3.126E-02	0.111
	59.72			-7.258E-02	8.876E-02	1.351E-01	8.964E-03	-0.537
	61.14			-5.079E-03	4.882E-02	7.833E-02	5.245E-03	-0.065
	69.30			-1.223E-01	8.160E-02	1.164E-01	8.294E-03	-1.051
	592.07			2.904E-01	1.031E+00	1.740E+00	1.041E-01	0.167
	646.12	*		6.651E-03	1.836E-02	3.120E-02	1.861E-03	0.213
	717.42			-1.660E-01	3.830E-01	5.770E-01	3.858E-02	-0.288
	874.81			3.575E-02	2.391E-01	4.092E-01	3.687E-02	0.087
OS-185	880.27			-1.995E-01	3.160E-01	4.744E-01	4.315E-02	-0.420
	155.03	*		2.795E-02	5.926E-02	9.865E-02	5.717E-03	0.283
	477.96			3.432E-02	1.193E+00	1.963E+00	1.136E-01	0.017
	633.10			2.144E-03	1.206E+00	1.955E+00	1.168E-01	0.001
	63.58			-7.934E+00	1.598E+01	2.579E+01	1.756E+00	-0.308
	227.08			-3.627E+00	4.575E+00	7.164E+00	4.079E-01	-0.506
	290.67	*		-7.946E-01	2.560E+00	4.134E+00	2.412E-01	-0.192
	295.96			-1.887E-02	3.674E-02	5.814E-02	3.444E-03	-0.324
	308.46			-4.707E-03	3.759E-02	6.179E-02	3.637E-03	-0.076
W-188								
IR-192								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	316.51	*		-7.144E-03	1.397E-02	2.209E-02	1.289E-03	-0.323
	468.07			6.983E-03	2.353E-02	4.009E-02	2.666E-03	0.174
	604.41			-1.523E-02	2.188E-01	3.528E-01	4.037E-02	-0.043
	612.46			3.403E-01	3.068E-01	5.593E-01	4.314E-02	0.609
	65.12			3.208E-02	5.251E-02	8.568E-02	5.899E-03	0.374
	66.83			-4.361E-02	2.957E-02	4.099E-02	2.861E-03	-1.064
	75.70			-8.803E-04	5.790E-02	8.481E-02	6.433E-03	-0.010
	98.88	*		8.662E-02	7.911E-02	1.257E-01	9.973E-03	0.689
TL-200	129.76			3.620E-01	1.057E+00	1.744E+00	1.182E-01	0.208
	367.94	*		-3.197E-06	1.057E+00	Half-Life	too short	
	579.30			-1.633E-05	1.057E+00	Half-Life	too short	
	828.27			-2.765E-05	1.057E+00	Half-Life	too short	
TL-201	1205.75			-1.403E-05	1.057E+00	Half-Life	too short	
	68.90			-5.122E-01	3.813E-01	5.520E-01	3.920E-02	-0.928
	70.82			-1.752E-02	2.153E-01	3.482E-01	2.516E-02	-0.050
	80.30			-1.487E-01	4.204E-01	6.638E-01	5.296E-02	-0.224
TL-202	135.34			-1.691E+00	2.569E+00	3.880E+00	2.542E-01	-0.436
	167.43	*		-1.782E-01	7.159E-01	1.118E+00	6.003E-02	-0.159
	68.90			-1.193E-01	8.885E-02	1.286E-01	9.134E-03	-0.928
	70.82			-4.071E-03	5.004E-02	8.090E-02	5.846E-03	-0.050
HG-203	80.30			-3.455E-02	9.771E-02	1.543E-01	1.231E-02	-0.224
	439.56	*		2.269E-02	2.029E-02	3.752E-02	2.122E-03	0.605
	70.83			-2.050E-02	2.738E-01	4.429E-01	5.655E-02	-0.046
	72.87			1.268E-01	1.601E-01	2.738E-01	3.401E-02	0.463
BI-207	82.60			1.985E-01	3.119E-01	5.274E-01	7.110E-02	0.376
	279.20	*		-8.870E-04	1.536E-02	2.549E-02	1.577E-03	-0.035
	72.80			3.993E-02	5.085E-02	8.717E-02	6.419E-03	0.458
	74.97			7.526E-03	3.313E-02	4.944E-02	3.722E-03	0.152
TL-207	84.90			1.975E-02	6.398E-02	9.794E-02	8.248E-03	0.202
	569.67			1.110E-02	1.510E-02	2.655E-02	1.584E-03	0.418
	1063.62	*		-6.904E-03	2.157E-02	3.380E-02	2.501E-03	-0.204
	1770.23			-1.831E-01	2.535E-01	3.218E-01	1.922E-02	-0.569
TL-208	81.07			-3.555E-02	6.367E-02	9.875E-02	7.949E-03	-0.360
	83.78			5.700E-03	3.820E-02	6.263E-02	5.204E-03	0.091
	94.90			1.780E-02	9.154E-02	1.320E-01	1.080E-02	0.135
	122.32			-1.958E-01	5.793E-01	9.022E-01	7.080E-02	-0.217
+ TL-208	144.24			-7.598E-02	2.990E-01	4.479E-01	3.388E-02	-0.170
	154.21			7.184E-03	1.468E-01	2.360E-01	1.660E-02	0.030
	269.46			2.078E-02	6.984E-02	1.196E-01	7.271E-03	0.174
	323.87	*		6.547E-02	2.767E-01	4.688E-01	7.742E-02	0.140
PO-209	338.28			1.012E-01	4.119E-01	6.978E-01	7.329E-02	0.145
	445.03			-2.803E-01	9.646E-01	1.530E+00	1.561E-01	-0.183
	277.35			5.324E-02	1.529E-01	2.620E-01	2.771E-02	0.203
	510.84			4.686E-02	1.428E-01	2.115E-01	2.156E-02	0.222
	583.14	*		5.012E-03	1.818E-02	3.007E-02	2.056E-03	0.167
	860.37			1.147E-02	1.318E-01	2.233E-01	2.101E-02	0.051
	260.50			-2.101E+00	3.694E+00	5.852E+00	3.396E-01	-0.359
	262.80			-1.099E+00	1.036E+01	1.715E+01	9.961E-01	-0.064
	896.60	*		1.386E+00	3.327E+00	5.887E+00	5.509E-01	0.235

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210	46.50	*		-1.537E+00	9.678E-01	1.441E+00	1.069E-01	-1.067
PB-210	46.50	*		-1.537E+00	9.678E-01	1.441E+00	1.069E-01	-1.067
PO-210	46.50	*		-1.537E+00	9.659E-01	1.441E+00	9.042E-02	-1.067
BI-211	72.87			6.928E-01	8.719E-01	1.495E+00	1.102E-01	0.463
	351.07	*		-9.471E-02	9.463E-02	1.369E-01	8.672E-03	-0.692
PB-211	404.84	*		-3.399E-01	4.349E-01	5.617E-01	3.500E-01	-0.605
	427.08			3.925E-02	8.308E-01	1.374E+00	8.491E-01	0.029
	831.96			1.908E-01	3.898E-01	6.818E-01	4.270E-01	0.280
BI-212	727.18	*		1.776E-02	1.164E-01	1.921E-01	1.634E-02	0.092
	785.46			3.918E-01	7.227E-01	1.260E+00	9.638E-02	0.311
	1620.62			3.123E-02	4.922E-01	8.157E-01	5.344E-02	0.038
PB-212	74.81			2.677E-02	1.147E-01	1.714E-01	2.055E-02	0.156
	77.11			-7.195E-03	5.700E-02	9.172E-02	7.063E-03	-0.078
	87.30			-1.056E-01	1.417E-01	1.847E-01	2.445E-02	-0.572
	238.63	*		-1.446E-02	2.805E-02	4.310E-02	3.139E-03	-0.335
	300.09			2.651E-01	2.943E-01	5.273E-01	4.361E-02	0.503
PO-212	74.81			2.677E-02	1.147E-01	1.714E-01	2.055E-02	0.156
	77.11			-7.195E-03	5.700E-02	9.172E-02	7.063E-03	-0.078
	87.30			-1.056E-01	1.417E-01	1.847E-01	2.445E-02	-0.572
	115.19			4.071E-01	1.281E+00	2.118E+00	1.541E-01	0.192
	238.63	*		-1.446E-02	2.805E-02	4.310E-02	3.139E-03	-0.335
	300.09			2.651E-01	2.943E-01	5.273E-01	4.361E-02	0.503
BI-214	609.31	*		-3.263E-02	3.847E-02	5.729E-02	4.535E-03	-0.570
	1120.29			1.487E-01	1.226E-01	2.374E-01	2.199E-02	0.627
	1764.49			-1.395E-01	1.341E-01	1.712E-01	1.027E-02	-0.815
PB-214	74.81			4.613E-02	1.977E-01	2.953E-01	3.116E-02	0.156
	77.11			-1.233E-02	9.772E-02	1.572E-01	1.703E-02	-0.078
	87.30			-1.809E-01	2.424E-01	3.165E-01	3.672E-02	-0.572
	241.98			-3.304E-02	1.418E-01	2.333E-01	1.874E-02	-0.142
	295.21			3.773E-03	5.129E-02	8.597E-02	7.350E-03	0.044
	351.92	*		-2.959E-02	3.281E-02	4.790E-02	3.930E-03	-0.618
PO-214	74.81			4.613E-02	1.977E-01	2.953E-01	3.116E-02	0.156
	77.11			-1.233E-02	9.772E-02	1.572E-01	1.703E-02	-0.078
	87.30			-1.809E-01	2.424E-01	3.165E-01	3.672E-02	-0.572
	241.98			-3.304E-02	1.418E-01	2.333E-01	1.874E-02	-0.142
	295.21			3.773E-03	5.129E-02	8.597E-02	7.350E-03	0.044
	351.92	*		-2.959E-02	3.281E-02	4.790E-02	3.930E-03	-0.618
PO-215	81.07			-3.555E-02	6.367E-02	9.875E-02	7.949E-03	-0.360
	83.78			5.700E-03	3.820E-02	6.263E-02	5.204E-03	0.091
	94.90			1.780E-02	9.154E-02	1.320E-01	1.080E-02	0.135
	122.32			-1.958E-01	5.793E-01	9.022E-01	7.080E-02	-0.217
	144.24			-7.598E-02	2.990E-01	4.479E-01	3.388E-02	-0.170
	154.21			7.184E-03	1.468E-01	2.360E-01	1.660E-02	0.030
	269.46			2.078E-02	6.984E-02	1.196E-01	7.271E-03	0.174
	323.87	*		6.547E-02	2.767E-01	4.688E-01	7.742E-02	0.140
	338.28			1.012E-01	4.119E-01	6.978E-01	7.329E-02	0.145
	445.03			-2.803E-01	9.646E-01	1.530E+00	1.561E-01	-0.183
PO-216	74.81			2.677E-02	1.147E-01	1.714E-01	2.055E-02	0.156
	77.11			-7.195E-03	5.700E-02	9.172E-02	7.063E-03	-0.078

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	87.30			-1.056E-01	1.417E-01	1.847E-01	2.445E-02	-0.572
	238.63	*		-1.446E-02	2.805E-02	4.310E-02	3.139E-03	-0.335
	300.09			2.651E-01	2.943E-01	5.273E-01	4.361E-02	0.503
	74.81			4.613E-02	1.977E-01	2.953E-01	3.116E-02	0.156
	77.11			-1.233E-02	9.772E-02	1.572E-01	1.703E-02	-0.078
	87.30			-1.809E-01	2.424E-01	3.165E-01	3.672E-02	-0.572
RN-219	241.98			-3.304E-02	1.418E-01	2.333E-01	1.874E-02	-0.142
	295.21			3.773E-03	5.129E-02	8.597E-02	7.350E-03	0.044
	351.92	*		-2.959E-02	3.281E-02	4.790E-02	3.930E-03	-0.618
	271.23			-3.425E-02	9.368E-02	1.514E-01	1.229E-02	-0.226
RN-220	401.81	*		1.763E-03	1.690E-01	2.790E-01	3.760E-02	0.006
RA-223	549.76	*		-1.807E+00	1.027E+01	1.632E+01	9.702E-01	-0.111
	81.07			-3.555E-02	6.367E-02	9.875E-02	7.949E-03	-0.360
	83.78			5.700E-03	3.820E-02	6.263E-02	5.204E-03	0.091
	94.90			1.780E-02	9.154E-02	1.320E-01	1.080E-02	0.135
	122.32			-1.958E-01	5.793E-01	9.022E-01	7.080E-02	-0.217
	144.24			-7.598E-02	2.990E-01	4.479E-01	3.388E-02	-0.170
	154.21			7.184E-03	1.468E-01	2.360E-01	1.660E-02	0.030
	269.46			2.078E-02	6.984E-02	1.196E-01	7.271E-03	0.174
	323.87	*		6.547E-02	2.767E-01	4.688E-01	7.742E-02	0.140
	338.28			1.012E-01	4.119E-01	6.978E-01	7.329E-02	0.145
	445.03			-2.803E-01	9.646E-01	1.530E+00	1.561E-01	-0.183
RA-224	240.98	*		1.875E-01	2.716E-01	4.762E-01	2.737E-02	0.394
RA-226	609.31	*		-3.263E-02	3.847E-02	5.729E-02	4.535E-03	-0.570
	1120.29			1.487E-01	1.226E-01	2.374E-01	2.199E-02	0.627
	1764.49			-1.395E-01	1.341E-01	1.712E-01	1.027E-02	-0.815
	79.80			-1.780E-01	4.807E-01	7.556E-01	1.605E-01	-0.236
	236.00			-8.404E-03	9.485E-02	1.579E-01	1.645E-02	-0.053
	256.20	*		1.179E-01	1.492E-01	2.642E-01	3.688E-02	0.446
	286.10			-1.048E-01	5.799E-01	9.494E-01	1.099E-01	-0.110
	299.80			4.203E-01	5.595E-01	9.848E-01	1.605E-01	0.427
	304.40			-6.659E-01	7.330E-01	1.094E+00	1.893E-01	-0.609
	334.20			-6.960E-01	9.526E-01	1.455E+00	2.665E-01	-0.478
	79.80			-1.780E-01	4.807E-01	7.556E-01	1.626E-01	-0.236
TH-227	94.00			1.296E+00	1.107E+00	1.298E+00	2.807E-01	0.998
	236.00			-8.404E-03	9.485E-02	1.579E-01	1.423E-02	-0.053
	256.20	*		1.179E-01	1.496E-01	2.642E-01	4.465E-02	0.446
	286.10			-1.048E-01	5.892E-01	9.494E-01	9.510E-01	-0.110
	299.80			4.203E-01	5.595E-01	9.848E-01	1.605E-01	0.427
	304.40			-6.659E-01	7.330E-01	1.094E+00	1.893E-01	-0.609
	334.20			-6.960E-01	9.526E-01	1.455E+00	2.665E-01	-0.478
	338.32			3.766E-02	9.859E-02	1.671E-01	6.812E-02	0.225
	911.07	*		-1.655E-02	6.457E-02	9.728E-02	1.143E-02	-0.170
	969.11			2.311E-02	9.454E-02	1.633E-01	3.813E-02	0.142
RA-228	338.32			3.766E-02	9.859E-02	1.671E-01	6.812E-02	0.225
	911.07	*		-1.655E-02	6.457E-02	9.728E-02	1.143E-02	-0.170
	969.11			2.311E-02	9.454E-02	1.633E-01	3.813E-02	0.142
	74.81			2.703E-02	1.158E-01	1.730E-01	1.315E-02	0.156
TH-228	77.11			-7.264E-03	5.755E-02	9.260E-02	7.130E-03	-0.078

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229		87.30		-1.066E-01	1.426E-01	1.865E-01	1.617E-02	-0.572
		238.63	*	-1.460E-02	2.831E-02	4.351E-02	3.170E-03	-0.335
		300.09		2.677E-01	3.357E-01	5.323E-01	3.138E-01	0.503
		85.43		2.573E-02	6.488E-02	9.733E-02	8.249E-03	0.264
		88.47		3.218E-03	3.821E-02	5.459E-02	4.751E-03	0.059
		100.00		8.284E-02	6.005E-02	1.052E-01	8.283E-03	0.788
TH-230		193.63	*	-1.018E-01	1.974E-01	3.199E-01	1.766E-02	-0.318
		210.97		1.443E-01	2.518E-01	4.427E-01	2.487E-02	0.326
		609.31	*	-3.263E-02	3.847E-02	5.729E-02	4.535E-03	-0.570
		1120.29		1.487E-01	1.226E-01	2.374E-01	2.199E-02	0.627
		1764.49		-1.395E-01	1.341E-01	1.712E-01	1.027E-02	-0.815
PA-231		283.67	*	3.323E-01	5.733E-01	1.004E+00	1.385E-01	0.331
TH-231		301.29		2.085E-01	2.167E-01	3.896E-01	4.079E-02	0.535
		81.07		-3.555E-02	6.367E-02	9.875E-02	7.949E-03	-0.360
		83.78		5.700E-03	3.820E-02	6.263E-02	5.204E-03	0.091
		94.90		1.780E-02	9.154E-02	1.320E-01	1.080E-02	0.135
		122.32		-1.958E-01	5.793E-01	9.022E-01	7.080E-02	-0.217
U-231		144.24		-7.598E-02	2.990E-01	4.479E-01	3.388E-02	-0.170
		154.21		7.184E-03	1.468E-01	2.360E-01	1.660E-02	0.030
		269.46		2.078E-02	6.984E-02	1.196E-01	7.271E-03	0.174
		323.87	*	6.547E-02	2.767E-01	4.688E-01	7.742E-02	0.140
		338.28		1.012E-01	4.119E-01	6.978E-01	7.329E-02	0.145
		445.03		-2.803E-01	9.646E-01	1.530E+00	1.561E-01	-0.183
		84.21		-1.511E-01	7.309E-01	1.076E+00	8.984E-02	-0.140
	+	92.29		5.106E-01	4.242E-01	5.510E-01	4.614E-02	0.927
		95.87	*	-1.440E-01	1.622E-01	2.047E-01	1.662E-02	-0.703
		108.00		-7.130E-03	2.750E-01	4.429E-01	3.328E-02	-0.016
TH-232		338.32		3.766E-02	9.742E-02	1.671E-01	9.602E-03	0.225
PA-233		911.07	*	-1.655E-02	6.457E-02	9.728E-02	1.143E-02	-0.170
		969.11		2.311E-02	9.454E-02	1.633E-01	3.813E-02	0.142
		75.28		1.261E-01	9.645E-01	1.429E+00	2.111E-01	0.088
		86.59		9.844E-02	5.898E-01	7.977E-01	2.139E-01	0.123
		300.12		1.361E-01	1.527E-01	2.722E-01	3.661E-02	0.500
PA-234		311.98	*	1.943E-02	2.772E-02	4.882E-02	3.014E-03	0.398
		340.50		1.571E-01	2.480E-01	4.303E-01	9.876E-02	0.365
		398.62		1.151E-01	8.401E-01	1.406E+00	3.625E-01	0.082
		415.76		2.677E-01	6.968E-01	1.191E+00	2.445E-01	0.225
		63.00		-2.919E-01	4.979E-01	7.966E-01	1.160E-01	-0.366
		94.67		8.172E-02	6.429E-02	1.012E-01	1.226E-02	0.807
		98.44		2.661E-02	3.561E-02	5.025E-02	2.799E-02	0.529
		99.86		1.956E-01	1.535E-01	2.665E-01	2.101E-02	0.734
		111.00		5.639E-02	6.658E-02	1.141E-01	1.284E-02	0.494
		131.20		-5.850E-03	4.037E-02	6.413E-02	4.308E-03	-0.091
		152.70		-7.599E-02	1.225E-01	1.847E-01	2.926E-02	-0.411
		186.00		-1.543E-02	5.363E-01	8.913E-01	2.718E-01	-0.017
		226.40		-9.085E-02	1.446E-01	2.288E-01	2.633E-02	-0.397
		227.20		-1.262E-01	1.637E-01	2.568E-01	1.462E-02	-0.491
		248.90		7.094E-02	3.250E-01	5.529E-01	1.188E-01	0.128
		293.70		4.845E-02	2.397E-01	4.064E-01	6.541E-02	0.119

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		369.80		1.175E-01	3.373E-01	5.772E-01	1.199E-01	0.204
		568.70		6.898E-01	4.908E-01	9.157E-01	5.462E-02	0.753
		569.50		1.010E-01	1.343E-01	2.365E-01	1.411E-02	0.427
		574.00		-5.718E-01	6.530E-01	9.332E-01	5.571E-02	-0.613
		699.00		3.238E-02	3.399E-01	5.556E-01	1.011E-01	0.058
		706.10		4.285E-02	4.874E-01	7.954E-01	3.519E-01	0.054
		733.00		1.110E-01	1.277E-01	2.349E-01	5.071E-02	0.473
		742.81		8.475E-01	8.043E-01	1.116E+00	7.484E-01	0.759
		796.30		1.469E-01	3.539E-01	6.045E-01	1.620E-01	0.243
		805.60		-1.057E-01	4.678E-01	7.228E-01	2.202E-01	-0.146
		819.60		-2.686E-01	5.400E-01	8.231E-01	3.122E-01	-0.326
		826.30		-4.299E-02	2.934E-01	4.788E-01	2.139E-01	-0.090
		831.60		3.961E-02	2.023E-01	3.509E-01	1.044E-01	0.113
		876.40		5.734E-02	3.529E-01	5.972E-01	6.141E-01	0.096
		880.51		-6.579E-02	1.205E-01	1.842E-01	1.676E-02	-0.357
		883.24		1.276E-01	1.375E-01	2.134E-01	1.436E-01	0.598
		899.00		-3.302E-02	3.515E-01	5.788E-01	2.539E-01	-0.057
		925.00		-9.886E-02	4.724E-01	7.611E-01	6.950E-02	-0.130
		926.50		-5.333E-02	7.267E-02	1.037E-01	2.640E-02	-0.514
		946.00	*	-2.034E-02	1.149E-01	1.856E-01	3.508E-02	-0.110
		949.00		-5.590E-02	1.591E-01	2.474E-01	2.198E-02	-0.226
		980.50		7.386E-02	3.085E-01	5.334E-01	4.548E-02	0.138
		1394.10		-1.247E-01	5.048E-01	7.663E-01	4.974E-01	-0.163
PA-234M		766.42		2.866E+00	4.081E+00	6.948E+00	3.512E+00	0.413
		1001.03	*	-5.237E-01	2.029E+00	3.136E+00	3.032E-01	-0.167
TH-234		63.29	*	-2.383E-01	4.275E-01	6.845E-01	1.177E-01	-0.348
	+	92.38		3.353E-01	2.836E-01	3.620E-01	6.503E-02	0.926
U-234		609.31	*	-3.263E-02	3.847E-02	5.729E-02	4.535E-03	-0.570
		1120.29		1.487E-01	1.226E-01	2.374E-01	2.199E-02	0.627
		1764.49		-1.395E-01	1.341E-01	1.712E-01	1.027E-02	-0.815
U-235		89.95		2.064E-01	3.925E-01	5.776E-01	1.781E-01	0.357
	+	93.35		4.031E-01	3.517E-01	4.237E-01	1.183E-01	0.951
		105.00		1.374E-01	3.496E-01	5.798E-01	1.715E-01	0.237
		143.76	*	-4.562E-02	9.012E-02	1.313E-01	2.161E-02	-0.348
		163.35		-1.870E-02	1.749E-01	2.770E-01	4.952E-02	-0.068
		185.71		-6.803E-03	2.016E-02	3.289E-02	1.801E-03	-0.207
		205.31		7.666E-02	1.954E-01	3.189E-01	5.714E-02	0.240
NP-236		94.67		6.252E-02	4.848E-02	7.691E-02	6.305E-03	0.813
		98.44		2.010E-02	2.453E-02	3.799E-02	3.024E-03	0.529
		111.00		4.265E-02	5.023E-02	8.629E-02	6.391E-03	0.494
		160.31	*	2.149E-02	2.972E-02	5.042E-02	2.817E-03	0.426
NP-237		86.50	*	2.078E-02	8.892E-02	1.211E-01	2.707E-02	0.172
		95.87		-3.184E-01	3.662E-01	4.527E-01	1.107E-01	-0.703
U-238		63.29	*	-2.383E-01	4.275E-01	6.845E-01	1.177E-01	-0.348
	+	92.38		3.353E-01	2.786E-01	3.620E-01	3.029E-02	0.926
NP-239		99.55		6.594E-02	5.384E-02	9.013E-02	7.119E-03	0.732
		117.00	*	-3.182E-02	6.960E-02	1.078E-01	7.787E-03	-0.295
		209.75		-8.389E-02	2.682E-01	4.393E-01	2.465E-02	-0.191
		228.18		-3.440E-02	8.691E-02	1.411E-01	8.041E-03	-0.244

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	277.60			3.151E-02	7.271E-02	1.256E-01	7.319E-03	0.251
	334.30			-3.893E-01	5.359E-01	8.261E-01	4.758E-02	-0.471
AM-241	59.54	*		-4.152E-02	4.862E-02	7.373E-02	5.474E-03	-0.563
AM-243	74.67	*		5.144E-03	1.869E-02	2.802E-02	2.103E-03	0.184
	86.72			-1.314E+00	3.481E+00	4.465E+00	3.845E-01	-0.294
	117.66			6.273E-01	1.275E+00	2.143E+00	1.545E-01	0.293
	142.18			1.371E+00	6.864E+00	1.118E+01	7.031E-01	0.123
CM-243	99.55			6.783E-02	5.538E-02	9.271E-02	7.322E-03	0.732
	103.76	*		3.380E-03	3.173E-02	5.173E-02	3.977E-03	0.065
	117.00			-3.272E-02	7.158E-02	1.108E-01	8.009E-03	-0.295
	209.75			-8.267E-02	2.643E-01	4.329E-01	2.429E-02	-0.191
	228.18			-3.474E-02	8.779E-02	1.425E-01	8.122E-03	-0.244
	277.60			3.175E-02	7.327E-02	1.265E-01	7.376E-03	0.251
AM-246	798.80			-1.973E-02	6.409E-02	9.799E-02	7.688E-03	-0.201
	1036.00			6.917E-02	1.096E-01	2.026E-01	1.582E-02	0.341
	1062.04			3.429E-02	9.461E-02	1.663E-01	1.235E-02	0.206
	1078.86	*		-1.813E-02	5.555E-02	8.654E-02	6.201E-03	-0.210
CM-247	278.00			1.469E-01	2.900E-01	5.044E-01	2.941E-02	0.291
	287.40			2.054E-01	4.379E-01	7.631E-01	4.452E-02	0.269
	402.60	*		-1.005E-03	1.574E-02	2.578E-02	1.416E-03	-0.039
CF-249	252.85			-1.940E-01	3.478E-01	5.535E-01	3.202E-02	-0.350
	333.44			-4.508E-02	7.178E-02	1.120E-01	6.455E-03	-0.402
	387.95	*		-2.679E-03	1.561E-02	2.528E-02	1.382E-03	-0.106
CF-251	176.60	*		-4.428E-02	5.159E-02	7.612E-02	4.129E-03	-0.582
	227.00			-1.171E-01	1.450E-01	2.266E-01	1.290E-02	-0.517
	285.00			8.077E-03	6.731E-01	1.123E+00	6.552E-02	0.007

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032521      *
* Acquisition date   : 14-FEB-2010 13:13:08 Detector SN# :                  *
* Detector ID        : GAM14 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000           *
* Elapsed real time  : 0 02:00:00.49 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 5-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID           : G1202032521 Analyst initials: MXR1              *
* Batch Number        : 948721 Sample Quantity : 1.6520E+02 GRAM         *
* Recovery             : 1.00000 Carrier Weight : 0.00000                *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
ANH-511	1.012E-02	3.022E-02	2.230E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-6.690E-03	1.206E-01	2.100E-01	0.000E+00 NOT IDENT.
NA-22	8.384E-03	1.277E-02	2.513E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	6.416E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	4.743E-04	1.574E-02	2.628E-02	0.000E+00 NOT IDENT.
K-40	-1.462E-02	2.150E-01	3.974E-01	0.000E+00 NOT IDENT.
TI-44	-1.022E-02	1.014E-02	1.708E-02	0.000E+00 NOT IDENT.
SC-46	-7.327E-03	1.451E-02	2.327E-02	0.000E+00 NOT IDENT.
V-48	1.601E-03	2.231E-02	3.930E-02	0.000E+00 NOT IDENT.
CR-51	4.123E-02	1.331E-01	2.458E-01	0.000E+00 NOT IDENT.
MN-52	-2.170E-02	5.734E-02	8.892E-02	0.000E+00 NOT IDENT.
MN-54	-1.265E-02	1.352E-02	2.009E-02	0.000E+00 NOT IDENT.
CO-56	1.011E-03	1.715E-02	3.043E-02	0.000E+00 NOT IDENT.
CO-57	-1.246E-03	7.879E-03	1.390E-02	0.000E+00 NOT IDENT.
CO-58	8.021E-03	1.663E-02	3.008E-02	0.000E+00 NOT IDENT.
FE-59	2.574E-02	3.106E-02	6.102E-02	0.000E+00 NOT IDENT.
CO-60	-1.047E-02	1.460E-02	2.026E-02	0.000E+00 NOT IDENT.
ZN-65	-2.457E-02	3.715E-02	5.725E-02	0.000E+00 NOT IDENT.
GE-68	3.087E-02	4.575E-01	8.008E-01	0.000E+00 NOT IDENT.
AS-73	3.373E-03	2.097E-01	3.905E-01	0.000E+00 NOT IDENT.
AS-74	-1.750E-02	3.356E-02	5.409E-02	0.000E+00 NOT IDENT.
SE-75	-4.524E-04	1.611E-02	2.920E-02	0.000E+00 NOT IDENT.
BR-77	2.355E-01	8.335E-01	1.504E+00	0.000E+00 NOT IDENT.
SR-82	1.375E-02	1.122E-01	1.944E-01	0.000E+00 NOT IDENT.
RB-83	8.389E-03	2.682E-02	4.857E-02	0.000E+00 NOT IDENT.
RB-84	-1.438E-02	2.494E-02	3.964E-02	0.000E+00 NOT IDENT.
KR-85	0.000E+00	3.576E+00	7.264E+00	0.000E+00 NOT IDENT.

SR-85	0.000E+00	1.729E-02	3.513E-02	0.000E+00	NOT IDENT.
RB-86	-1.261E-01	2.375E-01	3.684E-01	0.000E+00	NOT IDENT.
Y-88	1.231E-03	1.575E-02	2.667E-02	0.000E+00	NOT IDENT.
ZR-88	-5.398E-03	1.128E-02	1.892E-02	0.000E+00	NOT IDENT.
Y-91	-5.894E+00	5.871E+00	7.872E+00	0.000E+00	NOT IDENT.
NB-94	-9.120E-04	1.545E-02	2.615E-02	0.000E+00	NOT IDENT.
NB-95	6.103E-03	1.305E-02	2.397E-02	0.000E+00	NOT IDENT.
NB-95M	-2.435E-02	4.759E-02	8.396E-02	0.000E+00	NOT IDENT.
ZR-95	1.604E-02	2.567E-02	4.788E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.650E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.304E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	9.756E-02	1.128E+00	1.943E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.096E+09	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.234E-03	1.189E-02	2.303E-02	0.000E+00	NOT IDENT.
RH-102	-4.557E-03	1.432E-02	2.029E-02	0.000E+00	NOT IDENT.
RU-103	3.415E-03	1.584E-02	2.837E-02	0.000E+00	NOT IDENT.
RH-106	6.197E-04	1.381E-01	2.378E-01	0.000E+00	FAIL ABUN
RU-106	6.197E-04	1.381E-01	2.378E-01	0.000E+00	FAIL ABUN
AG-108M	-1.048E-02	1.280E-02	2.025E-02	0.000E+00	NOT IDENT.
CD-109	-9.062E-02	2.920E-01	4.501E-01	0.000E+00	NOT IDENT.
AG-110M	-8.878E-03	1.385E-02	2.136E-02	0.000E+00	NOT IDENT.
IN-111	-1.021E-01	1.062E-01	1.784E-01	0.000E+00	NOT IDENT.
IN-113M	1.008E-02	1.530E-02	2.919E-02	0.000E+00	NOT IDENT.
SN-113	1.008E-02	1.530E-02	2.919E-02	0.000E+00	NOT IDENT.
IN-114M	-9.623E-02	6.744E-02	1.121E-01	0.000E+00	NOT IDENT.
CD-115	-2.610E-02	7.797E-01	1.351E+00	0.000E+00	NOT IDENT.
SN-117M	-2.458E-03	1.674E-02	2.804E-02	0.000E+00	NOT IDENT.
SB-122	-2.385E-01	2.386E-01	3.638E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.023E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.478E-03	1.118E-02	1.874E-02	0.000E+00	NOT IDENT.
I-124	9.391E-02	1.300E-01	2.411E-01	0.000E+00	NOT IDENT.
SB-124	2.010E-02	4.337E-02	7.932E-02	0.000E+00	NOT IDENT.
SB-125	8.208E-03	3.612E-02	6.541E-02	0.000E+00	NOT IDENT.
TE-125M	-2.438E+00	3.078E+00	5.171E+00	0.000E+00	NOT IDENT.
I-126	-3.410E-02	5.817E-02	9.130E-02	0.000E+00	NOT IDENT.
SB-126	2.052E-02	4.805E-02	8.640E-02	0.000E+00	NOT IDENT.
SN-126	-1.787E-02	2.946E-02	4.400E-02	0.000E+00	NOT IDENT.
SB-127	1.182E-01	2.027E-01	3.755E-01	0.000E+00	NOT IDENT.
XE-127	-5.545E-03	1.496E-02	2.680E-02	0.000E+00	NOT IDENT.
I-131	-3.541E-03	2.634E-02	4.626E-02	0.000E+00	NOT IDENT.
TE-132	-3.260E-02	7.975E-02	1.413E-01	0.000E+00	NOT IDENT.
BA-133	1.205E-02	1.708E-02	3.250E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.674E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-7.073E-04	1.838E-02	3.087E-02	0.000E+00	NOT IDENT.
CS-135	-7.137E-03	5.937E-02	1.067E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.423E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.272E-02	3.110E-02	4.990E-02	0.000E+00	NOT IDENT.
BA-137M	1.446E-02	1.501E-02	2.893E-02	0.000E+00	NOT IDENT.
CS-137	1.529E-02	1.587E-02	3.058E-02	0.000E+00	NOT IDENT.
CE-139	1.594E-03	9.861E-03	1.764E-02	0.000E+00	NOT IDENT.
BA-140	2.108E-03	6.894E-02	1.204E-01	0.000E+00	NOT IDENT.
LA-140	-9.088E-04	2.452E-02	4.061E-02	0.000E+00	NOT IDENT.
CE-141	-4.938E-03	2.377E-02	3.951E-02	0.000E+00	NOT IDENT.
CE-143	1.366E+00	2.774E+00	5.212E+00	0.000E+00	NOT IDENT.
CE-144	-7.116E-02	7.469E-02	1.212E-01	0.000E+00	NOT IDENT.
PM-144	5.854E-03	1.570E-02	2.806E-02	0.000E+00	NOT IDENT.
PR-144	3.955E-01	1.061E+00	1.896E+00	0.000E+00	NOT IDENT.
PM-146	3.052E-03	1.840E-02	3.294E-02	0.000E+00	NOT IDENT.
ND-147	-6.357E-02	1.510E-01	2.465E-01	0.000E+00	NOT IDENT.
PM-149	1.653E-01	5.883E+00	1.067E+01	0.000E+00	NOT IDENT.
EU-152	9.717E-03	3.925E-02	7.187E-02	0.000E+00	NOT IDENT.
GD-153	2.331E-02	2.567E-02	4.499E-02	0.000E+00	NOT IDENT.
EU-154	2.348E-02	3.582E-02	7.040E-02	0.000E+00	NOT IDENT.
EU-155	2.441E-02	3.423E-02	6.539E-02	0.000E+00	NOT IDENT.
TB-160	-5.833E-02	5.528E-02	7.998E-02	0.000E+00	NOT IDENT.
HO-166M	7.413E-03	2.704E-02	4.779E-02	0.000E+00	NOT IDENT.
TM-171	-1.308E+01	8.918E+00	1.404E+01	0.000E+00	NOT IDENT.
LU-176	-8.481E-03	9.798E-03	1.617E-02	0.000E+00	NOT IDENT.
LU-177	-1.315E-01	2.075E-01	3.627E-01	0.000E+00	NOT IDENT.
LU-177M	-2.090E-02	6.959E-02	1.190E-01	0.000E+00	NOT IDENT.
HF-181	2.413E-03	1.690E-02	3.008E-02	0.000E+00	NOT IDENT.
W-181	6.004E-02	1.094E-01	2.011E-01	0.000E+00	NOT IDENT.
TA-182	3.763E-02	6.255E-02	1.187E-01	0.000E+00	NOT IDENT.
RE-183	-7.365E-03	3.803E-02	6.600E-02	0.000E+00	NOT IDENT.
RE-184	-5.053E-02	8.878E-02	1.540E-01	0.000E+00	NOT IDENT.
OS-185	6.651E-03	1.799E-02	3.239E-02	0.000E+00	NOT IDENT.
RE-188	2.795E-02	5.807E-02	1.068E-01	0.000E+00	NOT IDENT.
W-188	-7.946E-01	2.509E+00	4.397E+00	0.000E+00	NOT IDENT.

IR-192	-7.144E-03	1.369E-02	2.343E-02	0.000E+00	NOT IDENT.
AU-195	8.662E-02	7.752E-02	1.378E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	5.109E+00	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.782E-01	7.016E-01	1.208E+00	0.000E+00	NOT IDENT.
TL-202	2.269E-02	1.988E-02	3.941E-02	0.000E+00	NOT IDENT.
HG-203	-8.870E-04	1.505E-02	2.714E-02	0.000E+00	NOT IDENT.
BI-207	-6.904E-03	2.114E-02	3.454E-02	0.000E+00	NOT IDENT.
TL-207	6.547E-02	2.711E-01	4.970E-01	0.000E+00	NOT IDENT.
TL-208	5.012E-03	1.782E-02	3.132E-02	0.000E+00	FAIL ABUN
PO-209	1.386E+00	3.261E+00	6.049E+00	0.000E+00	NOT IDENT.
BI-210	-1.537E+00	9.484E-01	1.613E+00	0.000E+00	NOT IDENT.
PB-210	-1.537E+00	9.484E-01	1.613E+00	0.000E+00	NOT IDENT.
PO-210	-1.537E+00	9.465E-01	1.613E+00	0.000E+00	NOT IDENT.
BI-211	-9.471E-02	9.273E-02	1.448E-01	0.000E+00	NOT IDENT.
PB-211	-3.399E-01	4.262E-01	5.914E-01	0.000E+00	NOT IDENT.
BI-212	1.776E-02	1.141E-01	1.987E-01	0.000E+00	NOT IDENT.
PB-212	-1.446E-02	2.749E-02	4.610E-02	0.000E+00	NOT IDENT.
PO-212	-1.446E-02	2.749E-02	4.610E-02	0.000E+00	NOT IDENT.
BI-214	-3.263E-02	3.771E-02	5.958E-02	0.000E+00	NOT IDENT.
PB-214	-2.959E-02	3.216E-02	5.065E-02	0.000E+00	NOT IDENT.
PO-214	-2.959E-02	3.216E-02	5.065E-02	0.000E+00	NOT IDENT.
PO-215	6.547E-02	2.711E-01	4.970E-01	0.000E+00	NOT IDENT.
PO-216	-1.446E-02	2.749E-02	4.610E-02	0.000E+00	NOT IDENT.
PO-218	-2.959E-02	3.216E-02	5.065E-02	0.000E+00	NOT IDENT.
RN-219	1.763E-03	1.656E-01	2.938E-01	0.000E+00	NOT IDENT.
RN-220	-1.807E+00	1.007E+01	1.703E+01	0.000E+00	NOT IDENT.
RA-223	6.547E-02	2.711E-01	4.970E-01	0.000E+00	NOT IDENT.
RA-224	1.875E-01	2.662E-01	5.092E-01	0.000E+00	NOT IDENT.
RA-226	-3.263E-02	3.771E-02	5.958E-02	0.000E+00	NOT IDENT.
AC-227	1.179E-01	1.462E-01	2.821E-01	0.000E+00	NOT IDENT.
TH-227	1.179E-01	1.466E-01	2.821E-01	0.000E+00	FAIL ABUN
AC-228	-1.655E-02	6.328E-02	9.990E-02	0.000E+00	NOT IDENT.
RA-228	-1.655E-02	6.328E-02	9.990E-02	0.000E+00	NOT IDENT.
TH-228	-1.460E-02	2.775E-02	4.655E-02	0.000E+00	NOT IDENT.
TH-229	-1.018E-01	1.935E-01	3.442E-01	0.000E+00	NOT IDENT.
TH-230	-3.263E-02	3.771E-02	5.958E-02	0.000E+00	NOT IDENT.
PA-231	3.323E-01	5.618E-01	1.069E+00	0.000E+00	NOT IDENT.
TH-231	6.547E-02	2.711E-01	4.970E-01	0.000E+00	NOT IDENT.
U-231	-1.440E-01	1.590E-01	2.247E-01	0.000E+00	FAIL ABUN
TH-232	-1.655E-02	6.328E-02	9.990E-02	0.000E+00	NOT IDENT.
PA-233	1.943E-02	2.717E-02	5.181E-02	0.000E+00	NOT IDENT.
PA-234	-2.034E-02	1.126E-01	1.904E-01	0.000E+00	NOT IDENT.
PA-234M	-5.237E-01	1.988E+00	3.211E+00	0.000E+00	NOT IDENT.
TH-234	-2.383E-01	4.190E-01	7.600E-01	0.000E+00	FAIL ABUN
U-234	-3.263E-02	3.771E-02	5.958E-02	0.000E+00	NOT IDENT.
U-235	-4.562E-02	8.832E-02	1.425E-01	0.000E+00	FAIL ABUN
NP-236	2.149E-02	2.913E-02	5.455E-02	0.000E+00	NOT IDENT.
NP-237	2.078E-02	8.714E-02	1.333E-01	0.000E+00	NOT IDENT.
U-238	-2.383E-01	4.190E-01	7.600E-01	0.000E+00	FAIL ABUN
NP-239	-3.182E-02	6.821E-02	1.176E-01	0.000E+00	NOT IDENT.
AM-241	-4.152E-02	4.765E-02	8.200E-02	0.000E+00	NOT IDENT.
AM-243	5.144E-03	1.831E-02	3.097E-02	0.000E+00	NOT IDENT.
CM-243	3.380E-03	3.110E-02	5.666E-02	0.000E+00	NOT IDENT.
AM-246	-1.813E-02	5.444E-02	8.840E-02	0.000E+00	NOT IDENT.
CM-247	-1.005E-03	1.542E-02	2.715E-02	0.000E+00	NOT IDENT.
CF-249	-2.679E-03	1.530E-02	2.665E-02	0.000E+00	NOT IDENT.
CF-251	-4.428E-02	5.056E-02	8.214E-02	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:16:27.26

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032521.CNF;1
Sample date        : 5-FEB-2010 00:00:00. Acquisition date : 14-FEB-2010 13:13:08
Sample ID          : G1202032521      Sample quantity   : 1.65200E+02 GRAM
Detector name      : GAM14            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:00.49  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 948721           Detector SN#      :
Matrix Spike ID    :                  LCS ID             : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
ANH-511	511.00	14	100.00*	3.088E+00	1.012E-02	1.012E-02	304.64

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202032521

Page : 2
Acquisition date : 14-FEB-2010 13:13:08

Total number of lines in spectrum 2
Number of unidentified lines 0
Number of lines tentatively identified by NID 2 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
ANH-511	1.00E+09Y	1.00	1.012E-02	1.012E-02	3.084E-02	304.64	
Total Activity :			1.012E-02	1.012E-02			

Grand Total Activity : 1.012E-02 1.012E-02

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202032521

Page : 3
Acquisition date : 14-FEB-2010 13:13:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.75	58	90	1.52	185.00	179	13	8.11E-03	82.7	7.31E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032521.CNF;1
* Acquisition date   : 14-FEB-2010 13:13:08   Detector SN#      :
* Detector ID        : GAM14                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance  : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit     : 75.00000
* Elapsed real time  : 0 02:00:00.49          Half life ratio     : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 5-FEB-2010 00:00:00.   Nuclide Library   : SOLID
* Sample ID          : G1202032521           Analyst initials  : MXR1
* Batch Number       : 948721                Sample Quantity   : 1.65200E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06.61MS Isotope      :
* MSD ID             :                        MSD Isotope     :
* LCS ID             : 1032-A                 LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	1.012E-02	3.084E-02	2.132E-02	1.253E-03	0.475

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.690E-03		1.231E-01	2.004E-01	1.350E-02	-0.033
NA-22	8.384E-03		1.303E-02	2.474E-02	1.616E-03	0.339
NA-24	-5.198E-04		3.274E-04	Half-Life too short		
AL-26	4.743E-04		1.606E-02	2.617E-02	1.517E-03	0.018
K-40	-1.462E-02		2.194E-01	3.929E-01	2.853E-02	-0.037
TI-44	-1.022E-02		1.035E-02	1.548E-02	1.208E-03	-0.660
SC-46	-7.327E-03		1.481E-02	2.264E-02	2.092E-03	-0.324
V-48	1.601E-03		2.276E-02	3.836E-02	3.257E-03	0.042
CR-51	4.123E-02		1.358E-01	2.318E-01	1.498E-02	0.178
MN-52	-2.170E-02		5.851E-02	8.785E-02	6.158E-03	-0.247
MN-54	-1.265E-02		1.380E-02	1.951E-02	1.636E-03	-0.648

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	1.011E-03		1.750E-02	2.956E-02	2.534E-03	0.034
CO-57	-1.246E-03		8.040E-03	1.275E-02	9.069E-04	-0.098
CO-58	8.021E-03		1.697E-02	2.918E-02	2.348E-03	0.275
FE-59	2.574E-02		3.169E-02	5.977E-02	4.602E-03	0.431
CO-60	-1.047E-02		1.490E-02	1.997E-02	1.423E-03	-0.524
ZN-65	-2.457E-02		3.791E-02	5.611E-02	3.688E-03	-0.438
GE-68	3.087E-02		4.669E-01	7.839E-01	5.635E-02	0.039
AS-73	3.373E-03		2.140E-01	3.501E-01	2.282E-02	0.010
AS-74	-1.750E-02		3.424E-02	5.197E-02	3.108E-03	-0.337
SE-75	-4.524E-04		1.644E-02	2.738E-02	1.608E-03	-0.017
BR-77	2.355E-01		8.505E-01	1.439E+00	8.486E-02	0.164
SR-82	1.375E-02		1.145E-01	1.883E-01	1.416E-02	0.073
RB-83	8.389E-03		2.737E-02	4.648E-02	2.740E-03	0.180
RB-84	-1.438E-02		2.545E-02	3.855E-02	3.515E-03	-0.373
KR-85	9.590E+00		3.648E+00	6.948E+00	4.087E-01	1.380
SR-85	4.638E-02		1.764E-02	3.360E-02	1.976E-03	1.380
RB-86	-1.261E-01		2.423E-01	3.606E-01	2.597E-02	-0.350
Y-88	1.231E-03		1.607E-02	2.656E-02	1.509E-03	0.046
ZR-88	-5.398E-03		1.151E-02	1.795E-02	9.773E-04	-0.301
Y-91	-5.894E+00		5.991E+00	7.734E+00	4.499E-01	-0.762
NB-94	-9.120E-04		1.576E-02	2.525E-02	1.638E-03	-0.036
NB-95	6.103E-03		1.332E-02	2.321E-02	1.709E-03	0.263
NB-95M	-2.435E-02		4.856E-02	7.846E-02	5.864E-03	-0.310
ZR-95	1.604E-02		2.619E-02	4.635E-02	3.824E-03	0.346
NB-97	-9.432E-05		8.420E-05	Half-Life too short		
ZR-97	8.166E-03		2.196E-03	Half-Life too short		
MO-99	9.756E-02		1.151E+00	1.880E+00	2.692E-01	0.052
TC-99M	-3.004E+03		1.580E+03	Half-Life too short		
RH-101	8.234E-03		1.213E-02	2.141E-02	1.188E-03	0.385
RH-102	-4.557E-03		1.462E-02	1.936E-02	1.119E-03	-0.235
RU-103	3.415E-03		1.616E-02	2.711E-02	3.433E-03	0.126
RH-106	6.197E-04		1.409E-01	2.288E-01	2.706E-02	0.003
RU-106	6.197E-04		1.409E-01	2.288E-01	1.368E-02	0.003
AG-108M	-1.048E-02		1.307E-02	1.927E-02	1.184E-03	-0.544
CD-109	-9.062E-02		2.980E-01	4.090E-01	3.577E-02	-0.222
AG-110M	-8.878E-03		1.413E-02	2.059E-02	1.301E-03	-0.431
IN-111	-1.021E-01		1.083E-01	1.669E-01	9.617E-03	-0.612
IN-113M	1.008E-02		1.561E-02	2.770E-02	1.621E-03	0.364
SN-113	1.008E-02		1.561E-02	2.770E-02	1.621E-03	0.364
IN-114M	-9.623E-02		6.881E-02	1.042E-01	5.732E-03	-0.924
CD-115	-2.610E-02		7.956E-01	1.294E+00	7.645E-02	-0.020
SN-117M	-2.458E-03		1.709E-02	2.590E-02	1.465E-03	-0.095
SB-122	-2.385E-01		2.434E-01	3.490E-01	2.080E-02	-0.683
I-123	-2.674E-04		1.032E-03	Half-Life too short		
TE-123M	-1.478E-03		1.141E-02	1.732E-02	9.905E-04	-0.085
I-124	9.391E-02		1.327E-01	2.318E-01	1.387E-02	0.405
SB-124	2.010E-02		4.425E-02	7.879E-02	5.326E-03	0.255
SB-125	8.208E-03		3.686E-02	6.222E-02	3.646E-03	0.132

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	-2.438E+00		3.141E+00	4.727E+00	4.431E-01	-0.516
I-126	-3.410E-02		5.935E-02	8.803E-02	5.287E-03	-0.387
SB-126	2.052E-02		4.903E-02	8.351E-02	5.619E-03	0.246
SN-126	-1.787E-02		3.006E-02	3.998E-02	3.479E-03	-0.447
SB-127	1.182E-01		2.069E-01	3.624E-01	2.904E-02	0.326
XE-127	-5.545E-03		1.527E-02	2.494E-02	1.390E-03	-0.222
I-131	-3.541E-03		2.688E-02	4.379E-02	2.747E-03	-0.081
TE-132	-3.260E-02		8.138E-02	1.319E-01	1.765E-02	-0.247
BA-133	1.205E-02		1.743E-02	3.074E-02	3.534E-03	0.392
I-133	-7.599E-06		1.364E-05	Half-Life	too short	
CS-134	-7.073E-04		1.876E-02	2.993E-02	2.356E-03	-0.024
CS-135	-7.137E-03		6.059E-02	1.001E-01	7.680E-03	-0.071
I-135	5.337E+02		7.260E+02	Half-Life	too short	
CS-136	-1.272E-02		3.173E-02	4.880E-02	3.923E-03	-0.261
BA-137M	1.446E-02		1.532E-02	2.789E-02	1.658E-03	0.519
CS-137	1.529E-02		1.619E-02	2.948E-02	1.760E-03	0.519
CE-139	1.594E-03		1.006E-02	1.632E-02	8.763E-04	0.098
BA-140	2.108E-03		7.035E-02	1.153E-01	3.753E-02	0.018
LA-140	-9.088E-04		2.502E-02	4.026E-02	2.669E-03	-0.023
CE-141	-4.938E-03		2.426E-02	3.641E-02	2.324E-03	-0.136
CE-143	1.366E+00		2.830E+00	4.903E+00	1.018E+00	0.279
CE-144	-7.116E-02		7.621E-02	1.114E-01	1.622E-02	-0.639
PM-144	5.854E-03		1.602E-02	2.709E-02	1.735E-03	0.216
PR-144	3.955E-01		1.082E+00	1.830E+00	1.172E-01	0.216
PM-146	3.052E-03		1.877E-02	3.139E-02	2.687E-03	0.097
ND-147	-6.357E-02		1.541E-01	2.360E-01	3.203E-02	-0.269
PM-149	1.653E-01		6.003E+00	1.003E+01	1.421E+00	0.016
EU-152	9.717E-03		4.005E-02	6.792E-02	4.394E-03	0.143
GD-153	2.331E-02		2.620E-02	4.100E-02	3.288E-03	0.569
EU-154	2.348E-02		3.655E-02	6.929E-02	6.794E-03	0.339
EU-155	2.441E-02		3.493E-02	5.972E-02	4.622E-03	0.409
TB-160	-5.833E-02		5.641E-02	7.779E-02	7.065E-03	-0.750
HO-166M	7.413E-03		2.759E-02	4.618E-02	3.051E-03	0.161
TM-171	-1.308E+01		9.100E+00	1.267E+01	8.832E-01	-1.032
LU-176	-8.481E-03		9.998E-03	1.523E-02	8.869E-04	-0.557
LU-177	-1.315E-01		2.117E-01	3.377E-01	1.893E-02	-0.389
LU-177M	-2.090E-02		7.101E-02	1.131E-01	6.272E-03	-0.185
HF-181	2.413E-03		1.725E-02	2.872E-02	1.666E-03	0.084
W-181	6.004E-02		1.116E-01	1.812E-01	1.249E-02	0.331
TA-182	3.763E-02		6.382E-02	1.167E-01	6.979E-03	0.323
RE-183	-7.365E-03		3.881E-02	6.102E-02	3.361E-03	-0.121
RE-184	-5.053E-02		9.060E-02	1.442E-01	8.340E-03	-0.350
OS-185	6.651E-03		1.836E-02	3.120E-02	1.861E-03	0.213
RE-188	2.795E-02		5.926E-02	9.865E-02	5.717E-03	0.283
W-188	-7.946E-01		2.560E+00	4.134E+00	2.412E-01	-0.192
IR-192	-7.144E-03		1.397E-02	2.209E-02	1.289E-03	-0.323
AU-195	8.662E-02		7.911E-02	1.257E-01	9.973E-03	0.689
TL-200	-3.197E-06		2.607E-06	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-201	-1.782E-01		7.159E-01	1.118E+00	6.003E-02	-0.159
TL-202	2.269E-02		2.029E-02	3.752E-02	2.122E-03	0.605
HG-203	-8.870E-04		1.536E-02	2.549E-02	1.577E-03	-0.035
BI-207	-6.904E-03		2.157E-02	3.380E-02	2.501E-03	-0.204
TL-207	6.547E-02		2.767E-01	4.688E-01	7.742E-02	0.140
TL-208	5.012E-03		1.818E-02	3.007E-02	2.056E-03	0.167
PO-209	1.386E+00		3.327E+00	5.887E+00	5.509E-01	0.235
BI-210	-1.537E+00		9.678E-01	1.441E+00	1.069E-01	-1.067
PB-210	-1.537E+00		9.678E-01	1.441E+00	1.069E-01	-1.067
PO-210	-1.537E+00		9.659E-01	1.441E+00	9.042E-02	-1.067
BI-211	-9.471E-02		9.463E-02	1.369E-01	8.672E-03	-0.692
PB-211	-3.399E-01		4.349E-01	5.617E-01	3.500E-01	-0.605
BI-212	1.776E-02		1.164E-01	1.921E-01	1.634E-02	0.092
PB-212	-1.446E-02		2.805E-02	4.310E-02	3.139E-03	-0.335
PO-212	-1.446E-02		2.805E-02	4.310E-02	3.139E-03	-0.335
BI-214	-3.263E-02		3.847E-02	5.729E-02	4.535E-03	-0.570
PB-214	-2.959E-02		3.281E-02	4.790E-02	3.930E-03	-0.618
PO-214	-2.959E-02		3.281E-02	4.790E-02	3.930E-03	-0.618
PO-215	6.547E-02		2.767E-01	4.688E-01	7.742E-02	0.140
PO-216	-1.446E-02		2.805E-02	4.310E-02	3.139E-03	-0.335
PO-218	-2.959E-02		3.281E-02	4.790E-02	3.930E-03	-0.618
RN-219	1.763E-03		1.690E-01	2.790E-01	3.760E-02	0.006
RN-220	-1.807E+00		1.027E+01	1.632E+01	9.702E-01	-0.111
RA-223	6.547E-02		2.767E-01	4.688E-01	7.742E-02	0.140
RA-224	1.875E-01		2.716E-01	4.762E-01	2.737E-02	0.394
RA-226	-3.263E-02		3.847E-02	5.729E-02	4.535E-03	-0.570
AC-227	1.179E-01		1.492E-01	2.642E-01	3.688E-02	0.446
TH-227	1.179E-01		1.496E-01	2.642E-01	4.465E-02	0.446
AC-228	-1.655E-02		6.457E-02	9.728E-02	1.143E-02	-0.170
RA-228	-1.655E-02		6.457E-02	9.728E-02	1.143E-02	-0.170
TH-228	-1.460E-02		2.831E-02	4.351E-02	3.170E-03	-0.335
TH-229	-1.018E-01		1.974E-01	3.199E-01	1.766E-02	-0.318
TH-230	-3.263E-02		3.847E-02	5.729E-02	4.535E-03	-0.570
PA-231	3.323E-01		5.733E-01	1.004E+00	1.385E-01	0.331
TH-231	6.547E-02		2.767E-01	4.688E-01	7.742E-02	0.140
U-231	-1.440E-01		1.622E-01	2.047E-01	1.662E-02	-0.703
TH-232	-1.655E-02		6.457E-02	9.728E-02	1.143E-02	-0.170
PA-233	1.943E-02		2.772E-02	4.882E-02	3.014E-03	0.398
PA-234	-2.034E-02		1.149E-01	1.856E-01	3.508E-02	-0.110
PA-234M	-5.237E-01		2.029E+00	3.136E+00	3.032E-01	-0.167
TH-234	-2.383E-01		4.275E-01	6.845E-01	1.177E-01	-0.348
U-234	-3.263E-02		3.847E-02	5.729E-02	4.535E-03	-0.570
U-235	-4.562E-02		9.012E-02	1.313E-01	2.161E-02	-0.348
NP-236	2.149E-02		2.972E-02	5.042E-02	2.817E-03	0.426
NP-237	2.078E-02		8.892E-02	1.211E-01	2.707E-02	0.172
U-238	-2.383E-01		4.275E-01	6.845E-01	1.177E-01	-0.348
NP-239	-3.182E-02		6.960E-02	1.078E-01	7.787E-03	-0.295
AM-241	-4.152E-02		4.862E-02	7.373E-02	5.474E-03	-0.563

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	5.144E-03		1.869E-02	2.802E-02	2.103E-03	0.184
CM-243	3.380E-03		3.173E-02	5.173E-02	3.977E-03	0.065
AM-246	-1.813E-02		5.555E-02	8.654E-02	6.201E-03	-0.210
CM-247	-1.005E-03		1.574E-02	2.578E-02	1.416E-03	-0.039
CF-249	-2.679E-03		1.561E-02	2.528E-02	1.382E-03	-0.106
CF-251	-4.428E-02		5.159E-02	7.612E-02	4.129E-03	-0.582

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202032521          *
* Acquisition date   : 14-FEB-2010 13:13:08 Detector SN#      :              *
* Detector ID        : GAM14 Sensitivity      : 5.000            *
* Geometry           : CAN Energy tolerance: 1.500            *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000    *
* Elapsed real time  : 0 02:00:00.49 Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 5-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202032521 Analyst initials: MXR1          *
* Batch Number       : 948721 Sample Quantity : 1.6520E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight : 0.00000            *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 6-MAR-2009 11:43:06 MS Isotope          :              *
* MSD DPM             : 0.000 MSD Isotope                       :              *
* LCS DPM             : 0.000 LCS Isotope                       :              *
* LCSD DPM            : 0.000 LCSD Isotope                     :              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
ANH-511	1.012E-02	3.022E-02	1.115E-02	1.542E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-6.690E-03	1.206E-01	1.050E-01	6.154E-02	NOT IDENT.
NA-22	8.384E-03	1.277E-02	1.257E-02	6.517E-03	NOT IDENT.
NA-24	-5.198E+02	6.416E+02	0.000E+00	3.274E+02	SHORT HLIF
AL-26	4.743E-04	1.574E-02	1.315E-02	8.030E-03	NOT IDENT.
K-40	-1.462E-02	2.150E-01	1.988E-01	1.097E-01	NOT IDENT.
TI-44	-1.022E-02	1.014E-02	8.547E-03	5.173E-03	NOT IDENT.
SC-46	-7.327E-03	1.451E-02	1.164E-02	7.403E-03	NOT IDENT.
V-48	1.601E-03	2.231E-02	1.966E-02	1.138E-02	NOT IDENT.
CR-51	4.123E-02	1.331E-01	1.230E-01	6.792E-02	NOT IDENT.
MN-52	-2.170E-02	5.734E-02	4.449E-02	2.926E-02	NOT IDENT.
MN-54	-1.265E-02	1.352E-02	1.005E-02	6.900E-03	NOT IDENT.
CO-56	1.011E-03	1.715E-02	1.523E-02	8.750E-03	NOT IDENT.
CO-57	-1.246E-03	7.879E-03	6.954E-03	4.020E-03	NOT IDENT.
CO-58	8.021E-03	1.663E-02	1.505E-02	8.486E-03	NOT IDENT.
FE-59	2.574E-02	3.106E-02	3.053E-02	1.585E-02	NOT IDENT.
CO-60	-1.047E-02	1.460E-02	1.014E-02	7.448E-03	NOT IDENT.
ZN-65	-2.457E-02	3.715E-02	2.864E-02	1.895E-02	NOT IDENT.
GE-68	3.087E-02	4.575E-01	4.006E-01	2.334E-01	NOT IDENT.
AS-73	3.373E-03	2.097E-01	1.954E-01	1.070E-01	NOT IDENT.
AS-74	-1.750E-02	3.356E-02	2.706E-02	1.712E-02	NOT IDENT.
SE-75	-4.524E-04	1.611E-02	1.461E-02	8.218E-03	NOT IDENT.
BR-77	2.355E-01	8.335E-01	7.526E-01	4.252E-01	NOT IDENT.
SR-82	1.375E-02	1.122E-01	9.724E-02	5.723E-02	NOT IDENT.
RB-83	8.389E-03	2.682E-02	2.430E-02	1.368E-02	NOT IDENT.
RB-84	-1.438E-02	2.494E-02	1.983E-02	1.273E-02	NOT IDENT.
KR-85	9.590E+00	3.576E+00	3.634E+00	1.824E+00	NOT IDENT.

SR-85	4.638E-02	1.729E-02	1.757E-02	8.822E-03	NOT IDENT.
RB-86	-1.261E-01	2.375E-01	1.843E-01	1.212E-01	NOT IDENT.
Y-88	1.231E-03	1.575E-02	1.334E-02	8.037E-03	NOT IDENT.
ZR-88	-5.398E-03	1.128E-02	9.464E-03	5.754E-03	NOT IDENT.
Y-91	-5.894E+00	5.871E+00	3.938E+00	2.996E+00	NOT IDENT.
NB-94	-9.120E-04	1.545E-02	1.308E-02	7.880E-03	NOT IDENT.
NB-95	6.103E-03	1.305E-02	1.199E-02	6.660E-03	NOT IDENT.
NB-95M	-2.435E-02	4.759E-02	4.200E-02	2.428E-02	NOT IDENT.
ZR-95	1.604E-02	2.567E-02	2.396E-02	1.309E-02	NOT IDENT.
NB-97	-9.432E+01	1.650E+02	0.000E+00	8.420E+01	SHORT HLIF
ZR-97	8.166E+03	4.304E+03	0.000E+00	2.196E+03	SHORT HLIF
MO-99	9.756E-02	1.128E+00	9.722E-01	5.753E-01	NOT IDENT.
TC-99M	-3.004E+09	3.096E+09	0.000E+00	1.580E+09	SHORT HLIF
RH-101	8.234E-03	1.189E-02	1.152E-02	6.066E-03	NOT IDENT.
RH-102	-4.557E-03	1.432E-02	1.015E-02	7.308E-03	NOT IDENT.
RU-103	3.415E-03	1.584E-02	1.420E-02	8.082E-03	NOT IDENT.
RH-106	6.197E-04	1.381E-01	1.190E-01	7.045E-02	FAIL ABUN
RU-106	6.197E-04	1.381E-01	1.190E-01	7.045E-02	FAIL ABUN
AG-108M	-1.048E-02	1.280E-02	1.013E-02	6.533E-03	NOT IDENT.
CD-109	-9.062E-02	2.920E-01	2.252E-01	1.490E-01	NOT IDENT.
AG-110M	-8.878E-03	1.385E-02	1.069E-02	7.064E-03	NOT IDENT.
IN-111	-1.021E-01	1.062E-01	8.923E-02	5.417E-02	NOT IDENT.
IN-113M	1.008E-02	1.530E-02	1.461E-02	7.804E-03	NOT IDENT.
SN-113	1.008E-02	1.530E-02	1.461E-02	7.804E-03	NOT IDENT.
IN-114M	-9.623E-02	6.744E-02	5.610E-02	3.441E-02	NOT IDENT.
CD-115	-2.610E-02	7.797E-01	6.761E-01	3.978E-01	NOT IDENT.
SN-117M	-2.458E-03	1.674E-02	1.403E-02	8.543E-03	NOT IDENT.
SB-122	-2.385E-01	2.386E-01	1.820E-01	1.217E-01	NOT IDENT.
I-123	-2.674E+02	2.023E+03	0.000E+00	1.032E+03	SHORT HLIF
TE-123M	-1.478E-03	1.118E-02	9.377E-03	5.704E-03	NOT IDENT.
I-124	9.391E-02	1.300E-01	1.206E-01	6.635E-02	NOT IDENT.
SB-124	2.010E-02	4.337E-02	3.968E-02	2.213E-02	NOT IDENT.
SB-125	8.208E-03	3.612E-02	3.272E-02	1.843E-02	NOT IDENT.
TE-125M	-2.438E+00	3.078E+00	2.587E+00	1.571E+00	NOT IDENT.
I-126	-3.410E-02	5.817E-02	4.568E-02	2.968E-02	NOT IDENT.
SB-126	2.052E-02	4.805E-02	4.323E-02	2.451E-02	NOT IDENT.
SN-126	-1.787E-02	2.946E-02	2.201E-02	1.503E-02	NOT IDENT.
SB-127	1.182E-01	2.027E-01	1.879E-01	1.034E-01	NOT IDENT.
XE-127	-5.545E-03	1.496E-02	1.341E-02	7.633E-03	NOT IDENT.
I-131	-3.541E-03	2.634E-02	2.314E-02	1.344E-02	NOT IDENT.
TE-132	-3.260E-02	7.975E-02	7.068E-02	4.069E-02	NOT IDENT.
BA-133	1.205E-02	1.708E-02	1.626E-02	8.715E-03	NOT IDENT.
I-133	-7.599E+00	2.674E+01	0.000E+00	1.364E+01	SHORT HLIF
CS-134	-7.073E-04	1.838E-02	1.544E-02	9.378E-03	NOT IDENT.
CS-135	-7.137E-03	5.937E-02	5.339E-02	3.029E-02	NOT IDENT.
I-135	5.337E+08	1.423E+09	0.000E+00	7.260E+08	SHORT HLIF
CS-136	-1.272E-02	3.110E-02	2.496E-02	1.587E-02	NOT IDENT.
BA-137M	1.446E-02	1.501E-02	1.447E-02	7.658E-03	NOT IDENT.
CS-137	1.529E-02	1.587E-02	1.530E-02	8.095E-03	NOT IDENT.
CE-139	1.594E-03	9.861E-03	8.826E-03	5.031E-03	NOT IDENT.
BA-140	2.108E-03	6.894E-02	6.024E-02	3.518E-02	NOT IDENT.
LA-140	-9.088E-04	2.452E-02	2.032E-02	1.251E-02	NOT IDENT.
CE-141	-4.938E-03	2.377E-02	1.977E-02	1.213E-02	NOT IDENT.
CE-143	1.366E+00	2.774E+00	2.608E+00	1.415E+00	NOT IDENT.
CE-144	-7.116E-02	7.469E-02	6.063E-02	3.811E-02	NOT IDENT.
PM-144	5.854E-03	1.570E-02	1.404E-02	8.010E-03	NOT IDENT.
PR-144	3.955E-01	1.061E+00	9.483E-01	5.412E-01	NOT IDENT.
PM-146	3.052E-03	1.840E-02	1.648E-02	9.386E-03	NOT IDENT.
ND-147	-6.357E-02	1.510E-01	1.233E-01	7.706E-02	NOT IDENT.
PM-149	1.653E-01	5.883E+00	5.339E+00	3.001E+00	NOT IDENT.
EU-152	9.717E-03	3.925E-02	3.596E-02	2.003E-02	NOT IDENT.
GD-153	2.331E-02	2.567E-02	2.251E-02	1.310E-02	NOT IDENT.
EU-154	2.348E-02	3.582E-02	3.522E-02	1.828E-02	NOT IDENT.
EU-155	2.441E-02	3.423E-02	3.271E-02	1.746E-02	NOT IDENT.
TB-160	-5.833E-02	5.528E-02	4.001E-02	2.821E-02	NOT IDENT.
HO-166M	7.413E-03	2.704E-02	2.391E-02	1.379E-02	NOT IDENT.
TM-171	-1.308E+01	8.918E+00	7.026E+00	4.550E+00	NOT IDENT.
LU-176	-8.481E-03	9.798E-03	8.090E-03	4.999E-03	NOT IDENT.
LU-177	-1.315E-01	2.075E-01	1.815E-01	1.059E-01	NOT IDENT.
LU-177M	-2.090E-02	6.959E-02	5.956E-02	3.551E-02	NOT IDENT.
HF-181	2.413E-03	1.690E-02	1.505E-02	8.624E-03	NOT IDENT.
W-181	6.004E-02	1.094E-01	1.006E-01	5.581E-02	NOT IDENT.
TA-182	3.763E-02	6.255E-02	5.939E-02	3.191E-02	NOT IDENT.
RE-183	-7.365E-03	3.803E-02	3.302E-02	1.941E-02	NOT IDENT.
RE-184	-5.053E-02	8.878E-02	7.703E-02	4.530E-02	NOT IDENT.
OS-185	6.651E-03	1.799E-02	1.620E-02	9.178E-03	NOT IDENT.
RE-188	2.795E-02	5.807E-02	5.345E-02	2.963E-02	NOT IDENT.
W-188	-7.946E-01	2.509E+00	2.200E+00	1.280E+00	NOT IDENT.

IR-192	-7.144E-03	1.369E-02	1.172E-02	6.983E-03	NOT IDENT.
AU-195	8.662E-02	7.752E-02	6.896E-02	3.955E-02	NOT IDENT.
TL-200	-3.197E+00	5.109E+00	0.000E+00	2.607E+00	SHORT HLIF
TL-201	-1.782E-01	7.016E-01	6.042E-01	3.580E-01	NOT IDENT.
TL-202	2.269E-02	1.988E-02	1.972E-02	1.014E-02	NOT IDENT.
HG-203	-8.870E-04	1.505E-02	1.358E-02	7.680E-03	NOT IDENT.
BI-207	-6.904E-03	2.114E-02	1.728E-02	1.079E-02	NOT IDENT.
TL-207	6.547E-02	2.711E-01	2.487E-01	1.383E-01	NOT IDENT.
TL-208	5.012E-03	1.782E-02	1.567E-02	9.092E-03	FAIL ABUN
PO-209	1.386E+00	3.261E+00	3.026E+00	1.664E+00	NOT IDENT.
BI-210	-1.537E+00	9.484E-01	8.071E-01	4.839E-01	NOT IDENT.
PB-210	-1.537E+00	9.484E-01	8.071E-01	4.839E-01	NOT IDENT.
PO-210	-1.537E+00	9.465E-01	8.071E-01	4.829E-01	NOT IDENT.
BI-211	-9.471E-02	9.273E-02	7.242E-02	4.731E-02	NOT IDENT.
PB-211	-3.399E-01	4.262E-01	2.959E-01	2.174E-01	NOT IDENT.
BI-212	1.776E-02	1.141E-01	9.941E-02	5.820E-02	NOT IDENT.
PB-212	-1.446E-02	2.749E-02	2.307E-02	1.402E-02	NOT IDENT.
PO-212	-1.446E-02	2.749E-02	2.307E-02	1.402E-02	NOT IDENT.
BI-214	-3.263E-02	3.771E-02	2.981E-02	1.924E-02	NOT IDENT.
PB-214	-2.959E-02	3.216E-02	2.534E-02	1.641E-02	NOT IDENT.
PO-214	-2.959E-02	3.216E-02	2.534E-02	1.641E-02	NOT IDENT.
PO-215	6.547E-02	2.711E-01	2.487E-01	1.383E-01	NOT IDENT.
PO-216	-1.446E-02	2.749E-02	2.307E-02	1.402E-02	NOT IDENT.
PO-218	-2.959E-02	3.216E-02	2.534E-02	1.641E-02	NOT IDENT.
RN-219	1.763E-03	1.656E-01	1.470E-01	8.449E-02	NOT IDENT.
RN-220	-1.807E+00	1.007E+01	8.520E+00	5.136E+00	NOT IDENT.
RA-223	6.547E-02	2.711E-01	2.487E-01	1.383E-01	NOT IDENT.
RA-224	1.875E-01	2.662E-01	2.548E-01	1.358E-01	NOT IDENT.
RA-226	-3.263E-02	3.771E-02	2.981E-02	1.924E-02	NOT IDENT.
AC-227	1.179E-01	1.462E-01	1.411E-01	7.459E-02	NOT IDENT.
TH-227	1.179E-01	1.466E-01	1.411E-01	7.480E-02	FAIL ABUN
AC-228	-1.655E-02	6.328E-02	4.998E-02	3.228E-02	NOT IDENT.
RA-228	-1.655E-02	6.328E-02	4.998E-02	3.228E-02	NOT IDENT.
TH-228	-1.460E-02	2.775E-02	2.329E-02	1.416E-02	NOT IDENT.
TH-229	-1.018E-01	1.935E-01	1.722E-01	9.872E-02	NOT IDENT.
TH-230	-3.263E-02	3.771E-02	2.981E-02	1.924E-02	NOT IDENT.
PA-231	3.323E-01	5.618E-01	5.346E-01	2.867E-01	NOT IDENT.
TH-231	6.547E-02	2.711E-01	2.487E-01	1.383E-01	NOT IDENT.
U-231	-1.440E-01	1.590E-01	1.124E-01	8.112E-02	FAIL ABUN
TH-232	-1.655E-02	6.328E-02	4.998E-02	3.228E-02	NOT IDENT.
PA-233	1.943E-02	2.717E-02	2.592E-02	1.386E-02	NOT IDENT.
PA-234	-2.034E-02	1.126E-01	9.524E-02	5.745E-02	NOT IDENT.
PA-234M	-5.237E-01	1.988E+00	1.606E+00	1.014E+00	NOT IDENT.
TH-234	-2.383E-01	4.190E-01	3.802E-01	2.138E-01	FAIL ABUN
U-234	-3.263E-02	3.771E-02	2.981E-02	1.924E-02	NOT IDENT.
U-235	-4.562E-02	8.832E-02	7.128E-02	4.506E-02	FAIL ABUN
NP-236	2.149E-02	2.913E-02	2.729E-02	1.486E-02	NOT IDENT.
NP-237	2.078E-02	8.714E-02	6.671E-02	4.446E-02	NOT IDENT.
U-238	-2.383E-01	4.190E-01	3.802E-01	2.138E-01	FAIL ABUN
NP-239	-3.182E-02	6.821E-02	5.885E-02	3.480E-02	NOT IDENT.
AM-241	-4.152E-02	4.765E-02	4.103E-02	2.431E-02	NOT IDENT.
AM-243	5.144E-03	1.831E-02	1.550E-02	9.344E-03	NOT IDENT.
CM-243	3.380E-03	3.110E-02	2.835E-02	1.587E-02	NOT IDENT.
AM-246	-1.813E-02	5.444E-02	4.423E-02	2.778E-02	NOT IDENT.
CM-247	-1.005E-03	1.542E-02	1.358E-02	7.869E-03	NOT IDENT.
CF-249	-2.679E-03	1.530E-02	1.333E-02	7.807E-03	NOT IDENT.
CF-251	-4.428E-02	5.056E-02	4.109E-02	2.580E-02	NOT IDENT.

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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY          MDA COUNTS

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46.50	105.6716
46.50	105.6716
46.50	105.6716
48.70	94.7401
49.72	98.9317
51.35	88.8975
52.39	98.2084
52.97	92.1300
53.15	94.1961
53.44	89.1053
54.07	80.9679
56.28	99.6547
56.28	99.6550
57.37	99.7711
57.53	97.7305
57.53	97.7307
57.60	97.7377
57.98	92.6309
57.98	92.6309
59.32	115.4361
59.32	115.4361
59.40	115.4457
59.54	113.4008
59.72	113.4220
60.01	125.8330
61.10	104.2903
61.14	104.2946
61.30	104.3117
63.00	100.3534
63.29	102.4525
63.29	102.4525
63.58	100.4119
64.28	94.2669
65.12	90.1984
65.20	90.2056
65.20	90.2056
66.05	104.8090
66.72	124.6069
66.83	124.6207
66.91	125.6689
67.20	112.1990
67.20	112.1990
67.75	113.2981
67.85	113.3090
68.90	113.4237
68.90	113.4237
69.30	117.6309
69.67	108.3005
70.82	96.9510
70.82	96.9510
70.83	96.9518
72.80	88.7754
72.87	88.7811
72.87	88.7811
74.67	97.2984
74.81	97.3108
74.81	97.3108
74.81	97.3108
74.81	97.3108
74.81	97.3108
74.81	97.3108
74.81	97.3108
74.97	96.2785
75.28	98.3993
75.70	100.5311
77.11	100.6593
77.11	100.6593

77.11	100.6593
77.11	100.6593
77.11	100.6593
77.11	100.6593
77.11	100.6593
78.38	112.3205
79.62	97.7319
79.80	97.7475
79.80	97.7475
80.11	100.9281
80.18	100.9343
80.30	100.9449
80.30	100.9449
80.57	106.2275
81.00	101.0068
81.07	101.0131
81.07	101.0131
81.07	101.0131
81.07	101.0131
82.60	89.5576
83.37	90.6710
83.78	95.9766
83.78	95.9766
83.78	95.9766
83.78	95.9766
84.21	104.4526
84.90	96.0686
85.43	95.3572
86.29	90.1921
86.50	91.3356
86.54	91.3389
86.59	91.3425
86.72	109.9616
86.79	109.9676
86.94	115.0580
87.30	123.5551
87.30	123.5551
87.30	123.5551
87.30	123.5551
87.30	123.5551
87.30	123.5551
87.57	118.5044
87.88	111.7617
88.03	111.7754
88.36	96.5601
88.47	96.5688
89.95	94.9908
91.11	108.6641
92.29	74.3534
92.38	74.3590
92.38	74.3590
93.35	74.4172
94.00	61.2668
94.67	81.7324
94.67	81.7327
94.90	100.4815
94.90	100.4815
94.90	100.4815
94.90	100.4815
95.87	95.4461
95.87	95.4461
96.73	78.4558
97.43	54.6078
98.44	59.7745
98.44	59.7745
98.88	58.0866
99.55	56.9773
99.55	56.9773
99.86	54.9556
100.00	52.5189
100.10	52.5230
103.18	87.8473
103.76	70.7376
105.00	67.5854
105.31	62.2359
108.00	75.2631
109.28	95.7824

111.00	73.2741
111.00	73.2741
111.76	71.1583
112.95	87.4058
115.19	77.8189
116.30	88.6972
117.00	87.6591
117.00	87.6591
117.66	62.7974
121.11	64.0341
121.62	65.1425
121.78	59.7205
122.06	62.9901
122.32	68.4326
122.32	68.4326
122.32	68.4326
122.32	68.4326
123.07	84.7698
127.23	79.5603
129.76	86.2453
131.20	91.7917
133.02	84.2434
133.54	95.2160
135.34	84.3709
136.00	80.0220
136.25	76.7457
136.48	71.2748
140.51	105.5391
140.51	0.0000
142.18	90.2430
142.65	85.8665
143.76	89.2315
144.24	91.4620
144.24	91.4620
144.24	91.4620
144.24	91.4620
145.22	82.6967
145.44	87.1193
147.16	98.2516
152.43	89.7086
152.70	89.7234
153.22	87.5351
154.21	78.7180
154.21	78.7180
154.21	78.7180
154.21	78.7180
155.03	70.9922
156.02	72.1441
158.56	74.4759
159.00	0.0000
159.00	74.4953
160.31	67.8762
161.27	84.6152
162.32	79.0966
162.64	75.7685
163.35	76.9148
163.89	75.8235
165.85	63.6301
167.43	73.7439
171.28	76.1446
171.86	72.8091
172.10	72.8190
176.55	96.5853
176.60	96.5879
181.06	103.5800
184.41	71.2847
185.71	77.6556
186.00	68.6366
190.27	115.8617
192.34	67.0557
193.63	91.5843
197.04	79.0301
198.01	69.0724
198.60	64.5479
200.40	85.5369
201.83	91.9739
202.84	77.4437
205.31	63.8575

208.36	77.6606
208.81	83.1614
209.75	74.0574
209.75	74.0574
210.97	55.8055
215.65	66.9387
216.55	69.7202
218.09	60.5920
222.10	60.7104
223.80	62.6012
226.40	70.0532
227.00	79.2933
227.08	79.2965
227.20	79.3007
228.16	76.5693
228.18	76.5703
228.18	76.5703
231.56	77.6164
235.69	101.8373
236.00	95.3706
236.00	95.3706
238.63	89.9245
238.63	89.9245
238.63	89.9245
238.63	89.9245
239.00	83.4494
240.98	78.8854
241.98	89.1352
241.98	89.1352
241.98	89.1352
244.69	88.3157
245.39	81.8345
247.94	58.6538
248.90	62.4048
249.79	65.2251
252.40	74.6299
252.85	70.9128
252.85	70.9128
254.15	0.0000
256.20	52.3293
256.20	52.3293
260.50	64.5991
260.90	62.7381
262.80	59.9781
264.65	58.1507
268.24	62.9376
268.79	60.1344
269.46	55.4522
269.46	55.4522
269.46	55.4522
269.46	55.4522
271.23	67.7215
273.65	64.9671
276.40	57.5017
277.35	63.1822
277.60	60.3602
277.60	60.3602
278.00	54.7106
278.60	66.0463
279.20	66.0634
279.53	62.2964
280.46	67.0418
281.68	61.4080
283.67	44.4394
284.30	52.0170
285.00	52.9785
285.90	50.1591
286.10	53.0024
286.10	53.0024
287.40	40.7204
288.45	0.0000
290.67	53.1022
290.80	53.1050
291.72	47.4329
293.26	45.5643
293.70	50.3196
295.21	54.1507
295.21	54.1507

295.21	54.1507
295.96	58.9182
296.50	63.6835
297.23	61.8008
298.57	51.3705
299.80	49.4920
299.80	49.4920
300.09	45.6902
300.09	45.6902
300.09	45.6902
300.09	45.6902
300.12	45.6908
301.29	43.8078
302.84	60.0346
303.76	61.9634
303.91	63.8733
304.40	61.0258
304.40	61.0258
304.84	58.1749
306.84	62.0388
308.46	56.3482
311.98	51.6448
316.51	62.2745
318.01	57.5178
319.02	52.7448
319.41	50.8346
320.08	51.8069
323.87	53.8043
323.87	53.8043
323.87	53.8043
323.87	53.8043
325.23	58.6388
328.77	58.7177
333.44	64.6069
334.20	62.6966
334.20	62.6966
334.30	62.6990
338.28	55.0636
338.28	55.0636
338.28	55.0636
338.28	55.0636
338.32	52.1668
338.32	52.1668
338.32	52.1668
340.50	48.3417
340.57	48.3429
344.27	47.4406
345.85	62.9680
350.59	48.5211
351.07	50.4708
351.92	48.5449
351.92	48.5449
351.92	48.5449
355.39	0.0000
356.01	38.8931
364.48	38.0359
366.43	49.7742
367.43	44.9101
367.94	0.0000
369.80	37.1307
374.96	41.1135
383.85	35.3487
387.95	40.3148
388.63	36.3903
391.69	27.5673
391.69	27.5673
392.90	42.3528
398.62	38.4873
400.65	31.6008
401.10	37.5315
401.81	41.4919
402.60	45.4559
404.84	49.4452
410.95	46.5726
411.60	44.6006
413.65	43.6385
414.70	42.6614
415.30	37.7082

415.76	37.7143
417.63	0.0000
418.52	42.7150
423.70	36.8166
427.08	35.8603
427.89	33.8771
432.53	34.9252
433.93	40.9304
439.47	25.0015
439.56	25.0024
439.89	28.0055
443.98	43.0640
444.90	40.0708
445.03	40.0728
445.03	40.0728
445.03	40.0728
453.90	37.1694
463.38	31.2327
468.07	26.2326
473.00	25.2612
475.06	33.3658
475.35	34.3798
476.78	31.3595
477.59	33.3907
477.96	32.3828
482.03	36.4746
484.57	35.4883
487.03	40.5874
490.36	42.6588
492.35	38.6188
497.08	33.5837
507.63	0.0000
510.53	0.0000
510.84	38.8264
511.00	38.8282
511.85	32.3646
511.85	32.3646
513.99	20.4532
513.99	20.4532
520.41	27.6625
520.65	27.6645
527.90	29.7746
528.96	0.0000
529.64	29.7887
529.87	0.0000
531.02	28.7725
537.32	22.6467
543.00	31.9612
546.56	0.0000
549.76	26.8563
552.65	34.1134
555.20	35.1721
563.23	55.9828
563.90	49.7707
568.70	28.0323
569.32	32.1905
569.50	34.2689
569.67	34.2705
573.80	34.3084
574.00	38.4688
574.64	32.2359
578.91	36.4373
579.30	0.0000
583.14	26.0553
585.48	35.4568
591.81	24.0253
592.07	26.1163
593.00	32.3918
595.88	38.6901
600.56	39.7840
602.52	0.0000
602.71	36.6637
602.71	36.6637
603.60	38.7678
604.41	46.1119
604.70	46.1151
609.31	48.2686

609.31	48.2686
609.31	48.2686
609.31	48.2686
610.33	32.5371
612.46	27.3038
614.37	50.4316
618.01	32.6007
621.84	29.4745
621.84	29.4745
631.29	29.5442
633.02	29.5565
633.10	29.5572
634.78	33.7938
635.90	28.5214
636.97	17.9629
645.85	22.2382
646.12	25.4168
656.30	29.7268
657.75	28.6750
657.90	0.0000
661.65	20.1982
661.65	20.1982
664.57	25.5311
666.33	32.9920
666.33	32.9920
675.00	29.8607
677.61	19.2085
685.20	19.2432
692.80	25.7033
695.00	30.0029
696.49	28.9413
696.49	28.9413
697.00	30.0166
697.49	31.0922
698.33	31.0985
698.50	31.1000
699.00	32.1760
702.63	32.2031
706.10	30.0802
706.58	0.0000
706.67	29.0098
709.31	22.5770
711.68	25.8164
713.82	29.0580
717.42	29.0817
720.50	25.8686
721.93	23.7209
722.20	29.1140
722.78	22.6468
722.78	22.6468
722.89	22.6478
722.95	22.6478
723.30	24.8070
724.18	25.8908
727.18	21.5903
733.00	9.7284
735.90	15.1430
739.58	19.4858
742.81	11.9166
744.21	16.2550
747.13	28.1937
751.79	18.4535
752.31	18.4555
753.82	21.7197
755.35	18.4680
756.15	15.2117
756.87	9.7805
763.93	18.5033
765.79	13.0664
766.42	11.9792
766.84	14.1584
776.49	14.1883
778.00	18.5601
778.57	16.3784
778.89	16.3799
783.80	19.6765
785.46	17.4965
792.07	25.1871

795.84	20.8235
796.30	16.4414
798.80	27.4170
801.93	18.6560
805.60	26.3584
810.29	21.9873
810.76	19.7903
815.85	20.1783
817.79	23.8571
818.51	27.5317
819.60	24.7841
826.30	15.6266
828.27	0.0000
831.60	11.9630
831.96	9.2031
834.83	23.9418
836.80	0.0000
846.75	24.9241
848.13	24.9313
856.28	0.0000
856.80	23.1252
860.37	24.9933
867.32	25.0285
867.82	24.1042
871.10	27.8308
873.19	16.7054
874.81	18.5677
875.33	0.0000
876.40	17.6451
879.36	26.0187
880.27	23.2351
880.51	23.2361
881.50	21.3814
883.24	8.3696
884.67	10.2324
889.25	19.5525
896.60	18.6487
898.02	18.6536
899.00	19.5901
903.28	20.5404
911.07	20.5717
911.07	20.5717
911.07	20.5717
919.63	20.6062
920.93	19.6743
925.00	17.8148
925.24	18.7533
926.50	21.5714
935.52	16.9113
937.48	22.5571
944.10	10.3517
946.00	16.0039
949.00	15.0710
962.29	13.2204
964.01	16.0586
966.15	16.0648
968.20	16.0710
969.11	17.0193
969.11	17.0193
969.11	17.0193
977.42	11.3638
980.50	16.1080
983.50	16.1170
989.30	18.9815
996.32	19.0063
1001.03	14.2670
1001.68	9.5124
1004.76	15.2285
1021.30	0.0000
1024.50	0.0000
1034.80	9.5695
1036.00	9.5715
1037.82	16.2771
1038.57	13.4064
1038.76	0.0000
1045.16	11.5049
1046.59	16.3027
1048.07	17.2661

1050.47	17.2734
1050.47	17.2734
1062.04	14.4238
1063.62	18.2756
1076.63	16.3892
1077.35	13.4987
1078.86	16.3954
1085.78	15.4499
1099.22	9.6785
1112.02	17.4595
1112.84	18.4318
1115.52	24.2635
1120.29	11.6558
1120.29	11.6558
1120.29	11.6558
1120.29	11.6558
1120.51	11.6563
1121.28	13.6007
1124.00	0.0000
1129.67	12.6472
1131.51	0.0000
1147.95	0.0000
1167.94	8.8118
1173.22	17.6389
1175.09	17.6448
1177.93	14.7107
1189.05	9.8250
1204.90	17.7305
1205.75	0.0000
1213.00	13.8080
1221.42	9.8763
1230.97	10.8805
1235.34	12.8678
1236.41	0.0000
1238.25	7.9222
1246.25	9.9154
1260.41	0.0000
1271.85	9.9552
1274.45	4.9797
1274.54	4.9797
1291.56	16.9751
1298.22	0.0000
1312.09	10.0167
1325.50	7.0259
1325.50	7.0259
1332.49	12.0571
1333.61	8.0397
1360.21	15.1343
1362.66	0.0000
1365.15	10.0968
1368.21	11.1115
1368.53	0.0000
1376.25	11.1249
1384.27	9.1128
1394.10	10.1400
1395.20	11.1558
1407.95	9.1443
1434.06	13.2581
1436.60	9.1820
1457.56	0.0000
1460.81	11.2609
1489.15	6.1667
1509.49	8.2454
1596.49	6.2571
1620.62	5.2309
1678.03	0.0000
1691.02	8.4456
1691.02	8.4456
1706.46	0.0000
1750.46	0.0000
1764.49	11.7202
1764.49	11.7202
1764.49	11.7202
1764.49	11.7202
1770.23	10.6620
1771.40	6.3982
1791.20	0.0000
1808.65	6.4275

1836.01

5.3737

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202032521

Total Uranium Activity	-7.3018E-01	ug/g
Total Uranium Counting Unc.	1.2471E+00	ug/g
Total Uranium Tpu	6.3627E-07	ug/g
Total Uranium Mda	1.1317E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 948721                          SAMPLE ID   : G1202032521
*  ANALYST       : MXR1                             DETECTOR    : GAM14
*  SAMPLE DATE   : 5-FEB-2010 00:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 14-FEB-2010 13:13:08.47          SAMPLE ALQT  : 165.200 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.826E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.153E-02
GROSS GAMMA MDA      (pCi/GRAM ) : 5.286E-02
GROSS GAMMA DLC      (pCi/GRAM ) : 2.503E-02

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:18:49.14

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032522.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:18:21
Sample ID          : G1202032522      Sample quantity   : 1.38840E+02 GRAM
Detector name      : GAM10             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:01.17  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials  : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 948721            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	62.87*	564	800	0.96	125.91	120	11	7.83E-02	10.7	
2	3	74.57*	249	489	0.90	149.28	146	11	3.46E-02	14.8	1.89E+00
3	3	76.77	528	529	0.98	153.68	146	11	7.33E-02	8.3	
4	2	86.90*	232	572	1.13	173.92	171	21	3.22E-02	18.0	2.66E+00
5	2	89.61	139	552	1.22	179.34	171	21	1.93E-02	29.3	
6	2	92.35*	1615	509	1.17	184.81	171	21	2.24E-01	3.5	
7	0	98.35	195	601	1.42	196.79	192	11	2.71E-02	25.6	
8	0	112.41	99	483	0.72	224.89	221	8	1.37E-02	40.1	
9	0	142.97*	132	485	0.81	285.95	281	10	1.84E-02	32.7	
10	0	185.54*	505	435	1.33	371.03	367	10	7.02E-02	9.1	
11	0	208.98	150	301	1.37	417.87	414	9	2.08E-02	22.6	
12	3	238.36*	1231	227	1.17	476.59	472	16	1.71E-01	3.5	1.03E+00
13	3	241.47	249	268	1.49	482.80	472	16	3.45E-02	14.9	
14	0	270.12	106	258	0.92	540.05	535	11	1.47E-02	31.4	
15	0	294.88	401	208	1.20	589.55	585	10	5.57E-02	8.3	
16	0	299.93*	65	273	1.39	599.63	596	13	9.07E-03	53.8	
17	0	327.60	71	185	1.16	654.94	650	10	9.90E-03	37.9	
18	0	338.06	201	166	1.24	675.85	671	10	2.80E-02	13.9	
19	0	351.48*	714	282	1.45	702.67	696	15	9.92E-02	6.4	
20	0	409.03	47	102	1.05	817.69	815	8	6.47E-03	40.1	
21	0	462.88	59	111	1.40	925.32	921	9	8.20E-03	34.8	
22	0	510.90*	52	175	1.78	1021.32	1015	13	7.24E-03	61.8	
23	0	582.92*	353	181	1.55	1165.28	1157	15	4.90E-02	10.0	
24	0	608.88*	494	124	1.38	1217.17	1209	16	6.86E-02	6.9	
25	0	661.13	317	103	1.40	1321.63	1316	12	4.40E-02	8.5	
26	0	726.95*	101	71	1.37	1453.23	1448	12	1.41E-02	19.9	
27	0	860.34	51	53	1.38	1719.94	1715	10	7.11E-03	29.9	
28	0	910.82*	266	48	1.26	1820.88	1815	13	3.69E-02	8.3	
29	0	969.02*	105	96	1.23	1937.26	1930	12	1.46E-02	21.3	
30	0	1000.41	106	59	1.23	2000.03	1993	14	1.47E-02	18.3	
31	0	1120.20*	98	64	1.74	2239.61	2232	18	1.36E-02	22.3	
32	0	1238.00	38	69	1.89	2475.21	2467	12	5.31E-03	46.3	
33	0	1376.64*	34	23	1.36	2752.54	2746	14	4.75E-03	35.4	
34	0	1460.08*	1068	14	2.10	2919.47	2909	18	1.48E-01	3.2	
35	5	1586.60	29	16	3.30	3172.61	3165	23	4.02E-03	34.9	1.83E+00
36	5	1592.04	15	10	2.03	3183.49	3165	23	2.11E-03	46.5	
37	0	1629.91	22	3	0.72	3259.27	3253	11	3.07E-03	25.8	
38	0	1763.74*	79	9	2.19	3527.06	3516	18	1.10E-02	15.4	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
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Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 14-FEB-2010 15:18:52

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032522.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:18:21
 Sample ID : G1202032522 Sample quantity : 138.84 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA10 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance: 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.443E+01	2.620E+00	2.782E-01	2.396E-02	87.828
CD-109	+	88.03	*	3.301E+00	1.244E+00	1.600E+00	1.814E-01	2.063
SN-126	+	64.28		7.159E+00	1.962E+00	1.115E+00	1.906E-01	6.424
	+	86.94		1.343E+00	7.424E-01	6.625E-01	2.782E-01	2.027
	+	87.57	*	3.231E-01	1.217E-01	1.577E-01	1.785E-02	2.048
BA-137M	+	661.65	*	4.048E-01	7.164E-02	5.458E-02	2.693E-03	7.418
CS-137	+	661.65	*	4.280E-01	7.577E-02	5.769E-02	2.863E-03	7.418
LU-177	+	112.95		4.091E+00	3.297E+00	3.803E+00	2.800E-01	1.076
	+	208.36	*	4.275E+00	1.946E+00	2.342E+00	1.368E-01	1.826
TL-208	+	277.35		2.908E-01	3.570E-01	6.155E-01	6.713E-02	0.473
	+	510.84		2.226E-01	2.763E-01	2.128E-01	2.236E-02	1.046
	+	583.14	*	4.309E-01	9.095E-02	5.541E-02	3.723E-03	7.776
	+	860.37		6.037E-01	3.663E-01	3.977E-01	3.883E-02	1.518
BI-211	+	72.87		8.172E+00	4.468E+00	6.947E+00	7.640E-01	1.176
	+	351.07	*	3.835E+00	5.642E-01	3.193E-01	2.328E-02	12.011
PB-212	+	74.81		1.633E+00	5.383E-01	7.055E-01	1.016E-01	2.314
	+	77.11		1.913E+00	3.796E-01	3.874E-01	4.236E-02	4.939
	+	87.30		1.494E+00	5.824E-01	7.327E-01	1.106E-01	2.039
	+	238.63	*	1.458E+00	1.513E-01	8.451E-02	6.411E-03	17.251
	+	300.09		1.187E+00	1.282E+00	1.155E+00	1.015E-01	1.028
PO-212	+	74.81		1.633E+00	5.383E-01	7.055E-01	1.016E-01	2.314
	+	77.11		1.913E+00	3.796E-01	3.874E-01	4.236E-02	4.939
	+	87.30		1.494E+00	5.824E-01	7.327E-01	1.106E-01	2.039
	+	115.19		3.452E+00	3.960E+00	5.981E+00	4.279E-01	0.577
	+	238.63	*	1.458E+00	1.513E-01	8.451E-02	6.411E-03	17.251
	+	300.09		1.187E+00	1.282E+00	1.155E+00	1.015E-01	1.028
BI-214	+	609.31	*	1.139E+00	1.792E-01	9.744E-02	7.415E-03	11.684
	+	1120.29		1.237E+00	5.652E-01	3.699E-01	3.615E-02	3.345
	+	1764.49		1.386E+00	4.357E-01	1.555E-01	1.038E-02	8.914
PB-214	+	74.81		2.813E+00	9.135E-01	1.216E+00	1.607E-01	2.314
	+	77.11		3.280E+00	6.971E-01	6.641E-01	8.850E-02	4.939
	+	87.30		2.560E+00	9.844E-01	1.255E+00	1.717E-01	2.039
	+	241.98		1.770E+00	5.478E-01	5.088E-01	4.233E-02	3.478
	+	295.21		1.280E+00	2.429E-01	2.016E-01	1.820E-02	6.348

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.334E+00	2.083E-01	1.113E-01	9.980E-03	11.987
	+	74.81		2.813E+00	9.135E-01	1.216E+00	1.607E-01	2.314
	+	77.11		3.280E+00	6.971E-01	6.641E-01	8.850E-02	4.939
	+	87.30		2.560E+00	9.844E-01	1.255E+00	1.717E-01	2.039
	+	241.98		1.770E+00	5.478E-01	5.088E-01	4.233E-02	3.478
PO-216	+	295.21		1.280E+00	2.429E-01	2.016E-01	1.820E-02	6.348
	+	351.92	*	1.334E+00	2.083E-01	1.113E-01	9.980E-03	11.987
	+	74.81		1.633E+00	5.383E-01	7.055E-01	1.016E-01	2.314
	+	77.11		1.913E+00	3.796E-01	3.874E-01	4.236E-02	4.939
	+	87.30		1.494E+00	5.824E-01	7.327E-01	1.106E-01	2.039
PO-218	+	238.63	*	1.458E+00	1.513E-01	8.451E-02	6.411E-03	17.251
	+	300.09		1.187E+00	1.282E+00	1.155E+00	1.015E-01	1.028
	+	74.81		2.813E+00	9.135E-01	1.216E+00	1.607E-01	2.314
	+	77.11		3.280E+00	6.971E-01	6.641E-01	8.850E-02	4.939
	+	87.30		2.560E+00	9.844E-01	1.255E+00	1.717E-01	2.039
RA-224	+	241.98		1.770E+00	5.478E-01	5.088E-01	4.233E-02	3.478
	+	295.21		1.280E+00	2.429E-01	2.016E-01	1.820E-02	6.348
	+	351.92	*	1.334E+00	2.083E-01	1.113E-01	9.980E-03	11.987
	+	240.98	*	3.356E+00	1.022E+00	9.616E-01	5.902E-02	3.490
	+	609.31	*	1.139E+00	1.792E-01	9.744E-02	7.415E-03	11.684
AC-228	+	1120.29		1.237E+00	5.652E-01	3.699E-01	3.615E-02	3.345
	+	1764.49		1.386E+00	4.357E-01	1.555E-01	1.038E-02	8.914
	+	338.32		1.194E+00	5.900E-01	3.491E-01	1.428E-01	3.421
	+	911.07	*	1.490E+00	3.089E-01	1.695E-01	2.092E-02	8.789
	+	969.11		1.046E+00	5.106E-01	3.823E-01	9.040E-02	2.736
TH-228	+	368.32		1.194E+00	5.900E-01	3.491E-01	1.428E-01	3.421
	+	911.07	*	1.490E+00	3.089E-01	1.695E-01	2.092E-02	8.789
	+	969.11		1.046E+00	5.106E-01	3.823E-01	9.040E-02	2.736
	+	74.81		1.662E+00	5.259E-01	7.183E-01	7.906E-02	2.314
	+	77.11		1.948E+00	3.865E-01	3.944E-01	4.313E-02	4.939
TH-230	+	87.30		1.521E+00	5.732E-01	7.460E-01	8.429E-02	2.039
	+	238.63	*	1.484E+00	1.541E-01	8.604E-02	6.527E-03	17.251
	+	300.09		1.209E+00	1.484E+00	1.176E+00	6.941E-01	1.028
	+	609.31	*	1.138E+00	1.792E-01	9.744E-02	7.415E-03	11.684
	+	1120.29		1.237E+00	5.652E-01	3.699E-01	3.614E-02	3.345
TH-232	+	1764.49		1.386E+00	4.357E-01	1.555E-01	1.038E-02	8.914
	+	338.32		1.194E+00	3.405E-01	3.491E-01	2.340E-02	3.421
	+	911.07	*	1.490E+00	3.089E-01	1.695E-01	2.092E-02	8.789
	+	969.11		1.046E+00	5.106E-01	3.823E-01	9.040E-02	2.736
	+	63.29	*	1.809E+01	5.254E+00	2.991E+00	5.895E-01	6.047
U-234	+	92.38		1.418E+01	2.862E+00	1.009E+00	1.910E-01	14.051
	+	609.31	*	1.138E+00	1.792E-01	9.744E-02	7.415E-03	11.684
	+	1120.29		1.237E+00	5.652E-01	3.699E-01	3.614E-02	3.345
	+	1764.49		1.386E+00	4.357E-01	1.555E-01	1.038E-02	8.914
	+	89.95		2.540E+00	1.689E+00	2.086E+00	6.582E-01	1.217
U-235	+	93.35		1.704E+01	5.015E+00	1.199E+00	3.419E-01	14.210
	+	105.00		1.292E+00	1.169E+00	1.878E+00	5.584E-01	0.688
	+	143.76	*	5.109E-01	3.448E-01	3.270E-01	5.346E-02	1.563
	+	163.35		3.398E-01	4.849E-01	7.910E-01	1.415E-01	0.430

Sample ID : G1202032522

Acquisition date : 14-FEB-2010 13:18:21

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	185.71		4.227E-01	8.089E-02	6.915E-02	3.892E-03	6.113
		205.31		1.210E-01	5.501E-01	8.333E-01	1.499E-01	0.145
NP-237	+	86.50	*	9.486E-01	4.075E-01	4.948E-01	1.163E-01	1.917
		95.87		5.290E-01	1.428E+00	1.689E+00	4.220E-01	0.313
U-238	+	63.29	*	1.809E+01	5.254E+00	2.991E+00	5.895E-01	6.047
	+	92.38		1.418E+01	1.764E+00	1.009E+00	1.037E-01	14.051
AM-243	+	74.67	*	2.647E-01	8.368E-02	1.149E-01	1.258E-02	2.304
	+	86.72		3.557E+01	1.340E+01	1.761E+01	1.984E+00	2.020
		117.66		-3.929E+00	3.769E+00	5.836E+00	4.050E-01	-0.673
	+	142.18		4.292E+01	2.822E+01	2.728E+01	1.628E+00	1.573
ANH-511	+	511.00	*	4.809E-02	5.955E-02	4.597E-02	2.945E-03	1.046

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	6.054E-02	3.315E-01	5.420E-01	4.031E-02	0.112
NA-22		1274.54	*	-2.265E-02	4.424E-02	6.988E-02	5.413E-03	-0.324
NA-24		1368.53	*	4.406E+00	4.424E-02	Half-Life too short		
AL-26		1129.67		5.046E-01	1.616E+00	2.609E+00	1.830E-01	0.193
		1808.65	*	1.781E-02	2.627E-02	4.855E-02	3.078E-03	0.367
TI-44		67.85		-1.057E-02	6.124E-02	9.635E-02	1.088E-02	-0.110
		78.38	*	1.425E-01	5.120E-02	7.980E-02	8.732E-03	1.785
SC-46		889.25	*	-3.178E-02	3.643E-02	5.393E-02	5.337E-03	-0.589
	+	1120.51		2.170E-01	9.808E-02	1.194E-01	8.577E-03	1.817
V-48		944.10		7.972E-01	1.024E+00	1.778E+00	1.723E-01	0.448
		983.50	*	-2.655E-02	6.909E-02	1.071E-01	9.900E-03	-0.248
		1312.09		-2.496E-02	8.407E-02	1.347E-01	1.124E-02	-0.185
CR-51		320.08	*	-6.318E-02	3.690E-01	6.054E-01	4.372E-02	-0.104
MN-52		744.21		-7.257E-03	3.325E-01	5.499E-01	3.587E-02	-0.013
		848.13		-5.890E+00	9.514E+00	1.472E+01	1.305E+00	-0.400
		935.52		2.019E-01	3.146E-01	5.449E-01	5.327E-02	0.370
		1246.25		-3.742E+00	9.268E+00	1.482E+01	1.080E+00	-0.253
		1333.61		-4.397E+00	6.300E+00	9.436E+00	8.198E-01	-0.466
		1434.06	*	-1.310E-01	2.632E-01	3.948E-01	3.337E-02	-0.332
MN-54		834.83	*	3.522E-02	3.820E-02	6.693E-02	5.718E-03	0.526
CO-56		846.75	*	1.148E-02	3.780E-02	6.369E-02	5.624E-03	0.180
		977.42		-2.499E+00	2.681E+00	3.870E+00	3.607E-01	-0.646
		1037.82		7.839E-02	2.733E-01	4.557E-01	4.098E-02	0.172
		1175.09		1.459E+00	2.045E+00	3.642E+00	2.256E-01	0.401
	+	1238.25		1.410E-01	1.311E-01	1.686E-01	1.257E-02	0.836
		1360.21		-6.770E-01	8.793E-01	1.286E+00	1.111E-01	-0.526
		1771.40		-2.556E-01	1.916E-01	1.890E-01	1.252E-02	-1.353
CO-57		122.06	*	3.461E-03	2.515E-02	4.098E-02	2.703E-03	0.084
		136.48		1.084E-01	2.129E-01	3.500E-01	2.448E-02	0.310
CO-58		810.76	*	-3.454E-03	3.571E-02	5.825E-02	4.661E-03	-0.059
FE-59	+	142.65		6.898E+00	4.535E+00	5.161E+00	3.075E-01	1.337
		192.34		-1.473E-01	9.586E-01	1.507E+00	1.772E-01	-0.098
		1099.22	*	-4.781E-03	9.345E-02	1.494E-01	1.247E-02	-0.032

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60		1291.56		-1.216E-01	1.188E-01	1.732E-01	1.603E-02	-0.702
		1173.22		-3.771E-02	4.265E-02	6.541E-02	4.033E-03	-0.577
		1332.49	*	-2.070E-02	3.559E-02	5.451E-02	4.737E-03	-0.380
ZN-65		1115.52	*	2.930E-02	9.568E-02	1.382E-01	1.007E-02	0.212
GE-68		1077.35	*	7.376E-01	1.297E+00	2.200E+00	1.743E-01	0.335
AS-73		53.44	*	6.958E-01	1.754E+00	2.969E+00	3.928E-01	0.234
AS-74		595.88	*	8.149E-03	9.367E-02	1.585E-01	9.054E-03	0.051
SE-75		634.78		1.855E-01	3.613E-01	6.277E-01	3.313E-02	0.295
		66.05		3.538E+00	7.048E+00	1.071E+01	1.379E+00	0.330
		96.73		1.006E+00	1.217E+00	1.480E+00	2.095E-01	0.680
BR-77		121.11		7.484E-02	1.348E-01	2.232E-01	2.186E-02	0.335
		136.00		5.852E-03	4.075E-02	6.607E-02	4.103E-03	0.089
		198.60		1.450E+00	1.801E+00	2.912E+00	2.063E-01	0.498
		264.65	*	-5.955E-02	4.807E-02	6.429E-02	4.101E-03	-0.926
		279.53		-8.881E-03	1.070E-01	1.779E-01	1.219E-02	-0.050
		303.91		7.002E-01	2.143E+00	3.204E+00	3.211E-01	0.219
		400.65		2.253E-01	2.446E-01	4.204E-01	4.106E-02	0.536
	+	87.88		1.673E+03	6.302E+02	8.950E+02	1.015E+02	1.869
		200.40		-3.062E+02	3.909E+02	5.945E+02	3.429E+01	-0.515
	+	239.00		5.514E+02	5.163E+01	8.119E+01	4.970E+00	6.792
		249.79		-2.587E+01	1.361E+02	2.264E+02	1.406E+01	-0.114
		281.68		-4.954E+01	1.997E+02	3.291E+02	2.119E+01	-0.151
		297.23		1.211E+02	1.900E+02	2.156E+02	1.407E+01	0.562
		303.76		1.443E+02	4.228E+02	6.331E+02	4.155E+01	0.228
		439.47		1.418E+02	2.876E+02	4.838E+02	3.253E+01	0.293
SR-82		484.57		-4.308E+02	5.006E+02	7.527E+02	4.931E+01	-0.572
		520.65	*	1.460E+01	2.195E+01	3.708E+01	2.352E+00	0.394
		574.64		-1.655E+02	4.776E+02	7.400E+02	4.380E+01	-0.224
		578.91		6.209E+00	2.204E+02	3.246E+02	1.908E+01	0.019
		585.48		1.224E+03	4.995E+02	8.552E+02	4.974E+01	1.431
		755.35		2.261E+02	3.500E+02	6.094E+02	4.117E+01	0.371
		817.79		1.358E+02	2.763E+02	4.749E+02	3.867E+01	0.286
		698.33		1.169E+01	3.597E+01	6.120E+01	3.433E+00	0.191
		776.49	*	-1.476E-01	3.892E-01	6.179E-01	4.455E-02	-0.239
		1395.20		-1.265E+00	1.165E+01	1.898E+01	1.624E+00	-0.067
RB-83		520.41	*	3.969E-02	6.290E-02	1.060E-01	6.728E-03	0.374
		529.64		7.061E-03	1.035E-01	1.669E-01	1.049E-02	0.042
		552.65		-7.901E-02	1.968E-01	3.044E-01	1.860E-02	-0.260
RB-84		881.50	*	-3.386E-02	7.115E-02	1.110E-01	1.076E-02	-0.305
KR-85		513.99	*	5.998E+00	6.911E+00	1.055E+01	6.739E-01	0.569
SR-85		513.99	*	3.172E-02	3.655E-02	5.579E-02	3.564E-03	0.569
RB-86		1076.63	*	6.117E-01	9.113E-01	1.559E+00	1.237E-01	0.392
Y-88		898.02		6.034E-04	4.159E-02	6.803E-02	6.911E-03	0.009
ZR-88		1836.01	*	-1.164E-02	3.737E-02	5.673E-02	3.480E-03	-0.205
		392.90	*	-3.314E-03	2.871E-02	4.662E-02	3.168E-03	-0.071
Y-91		1204.90	*	1.584E+01	2.048E+01	3.617E+01	2.402E+00	0.438
NB-94		702.63	*	-6.367E-03	3.109E-02	5.090E-02	2.898E-03	-0.125
NB-95		871.10		-3.422E-03	3.124E-02	5.060E-02	4.773E-03	-0.068
		765.79	*	9.803E-02	4.518E-02	8.443E-02	5.892E-03	1.161

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	235.69	*		8.735E-02	1.346E-01	2.067E-01	1.603E-02	0.423
ZR-95	724.18			7.023E-03	1.094E-01	1.586E-01	1.130E-02	0.044
	756.15	*		1.196E-02	6.586E-02	1.106E-01	8.689E-03	0.108
NB-97	657.90	*		2.259E+00	6.586E-02	Half-Life	too short	
	1024.50			1.079E+02	6.586E-02	Half-Life	too short	
ZR-97	254.15			-1.264E+02	6.586E-02	Half-Life	too short	
	355.39			1.049E+01	6.586E-02	Half-Life	too short	
	507.63	*		3.712E+01	6.586E-02	Half-Life	too short	
	602.52			-9.204E+01	6.586E-02	Half-Life	too short	
	1021.30			3.241E+01	6.586E-02	Half-Life	too short	
	1147.95			-1.099E+02	6.586E-02	Half-Life	too short	
	1362.66			-4.448E+01	6.586E-02	Half-Life	too short	
	1750.46			-1.268E+02	6.586E-02	Half-Life	too short	
MO-99	140.51			-1.596E+01	6.142E+01	8.624E+01	2.328E+01	-0.185
	181.06			1.254E+01	3.990E+01	5.728E+01	9.778E+00	0.219
	366.43			4.956E+00	1.574E+02	2.591E+02	1.755E+01	0.019
	739.58	*		3.744E+00	2.528E+01	4.233E+01	5.950E+00	0.088
	778.00			3.123E+00	6.640E+01	1.093E+02	7.920E+00	0.029
TC-99M	140.51	*		-3.710E+13	6.640E+01	Half-Life	too short	
RH-101	127.23			3.417E-02	3.225E-02	5.417E-02	3.462E-03	0.631
	198.01	*		7.303E-03	3.286E-02	5.182E-02	2.977E-03	0.141
	325.23			7.473E-02	2.371E-01	3.526E-01	2.347E-02	0.212
RH-102	418.52			6.640E-02	2.818E-01	4.657E-01	3.153E-02	0.143
	475.06	*		1.481E-02	2.865E-02	4.789E-02	3.159E-03	0.309
	631.29			-7.322E-04	5.229E-02	8.752E-02	4.656E-03	-0.008
	697.49			2.033E-02	7.624E-02	1.292E-01	7.226E-03	0.157
	766.84			2.501E-01	1.161E-01	2.155E-01	1.508E-02	1.161
	1046.59			-1.209E-01	1.168E-01	1.676E-01	1.408E-02	-0.721
	1112.84			-2.436E-03	2.384E-01	3.292E-01	2.410E-02	-0.007
RU-103	497.08	*		4.839E-03	3.766E-02	6.126E-02	7.948E-03	0.079
	610.33	+		1.295E+01	2.669E+00	2.798E+00	4.289E-01	4.628
RH-106	511.85	+		2.415E-01	2.991E-01	3.728E-01	2.386E-02	0.648
	621.84	*		2.176E-02	2.979E-01	5.022E-01	5.805E-02	0.043
	1050.47			3.772E+00	2.236E+00	4.158E+00	3.468E-01	0.907
RU-106	511.85	+		2.415E-01	2.991E-01	3.728E-01	2.386E-02	0.648
	621.84	*		2.176E-02	2.979E-01	5.022E-01	2.728E-02	0.043
	1050.47			3.772E+00	2.236E+00	4.158E+00	3.468E-01	0.907
AG-108M	433.93	*		-4.532E-04	3.126E-02	5.076E-02	3.639E-03	-0.009
	614.37			-6.435E-03	3.717E-02	5.329E-02	3.214E-03	-0.121
	722.95			2.712E-02	4.353E-02	6.690E-02	4.389E-03	0.405
AG-110M	657.75	*		3.044E-02	3.775E-02	5.927E-02	3.211E-03	0.514
	677.61			1.502E-01	2.677E-01	4.661E-01	2.616E-02	0.322
	706.67			-5.678E-02	1.914E-01	3.109E-01	1.903E-02	-0.183
	763.93			2.261E-02	1.727E-01	2.881E-01	2.085E-02	0.078
	884.67			1.754E-02	4.527E-02	7.676E-02	7.694E-03	0.229
	937.48			-1.860E-01	1.030E-01	1.309E-01	1.313E-02	-1.421
	1384.27			1.177E-02	1.508E-01	2.265E-01	2.000E-02	0.052
IN-111	171.28			-2.237E+00	2.032E+00	3.068E+00	1.687E-01	-0.729
	245.39	*		1.392E+00	2.158E+00	3.328E+00	2.055E-01	0.418

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-113M		391.69	*	-4.192E-02	4.197E-02	6.402E-02	4.565E-03	-0.655
SN-113		391.69	*	-4.192E-02	4.197E-02	6.402E-02	4.565E-03	-0.655
IN-114M		190.27	*	1.028E-01	2.003E-01	2.908E-01	1.649E-02	0.354
CD-115		260.90		6.807E-05	2.003E-01	Half-Life	too short	
		492.35		1.458E-05	2.003E-01	Half-Life	too short	
		527.90	*	1.402E-05	2.003E-01	Half-Life	too short	
SN-117M		156.02		-1.207E+00	2.658E+00	4.174E+00	2.363E-01	-0.289
		158.56	*	7.932E-03	6.174E-02	9.932E-02	5.570E-03	0.080
SB-122		563.90	*	2.608E+00	4.186E+00	6.999E+00	4.209E-01	0.373
		692.80		2.423E+01	9.072E+01	1.538E+02	8.470E+00	0.157
I-123		159.00	*	-2.166E+02	9.072E+01	Half-Life	too short	
		528.96		3.775E+03	9.072E+01	Half-Life	too short	
TE-123M		159.00	*	-2.633E-02	2.844E-02	4.357E-02	2.475E-03	-0.604
I-124		602.71	*	-7.599E-01	1.100E+00	1.494E+00	8.431E-02	-0.508
		722.78		4.698E+00	7.406E+00	1.139E+01	6.937E-01	0.412
		1325.50		1.731E+01	5.391E+01	9.263E+01	7.941E+00	0.187
	+	1376.25		9.859E+01	7.024E+01	9.824E+01	8.454E+00	1.004
		1509.49		4.342E+01	2.507E+01	4.974E+01	4.066E+00	0.873
		1691.02		-6.341E-01	4.584E+00	7.192E+00	5.172E-01	-0.088
SB-124		602.71		-2.807E-02	4.065E-02	5.520E-02	3.116E-03	-0.508
		645.85		-2.672E-02	4.466E-01	7.435E-01	4.437E-02	-0.036
		709.31		2.622E+00	2.554E+00	4.572E+00	2.662E-01	0.573
		713.82		-8.312E-01	1.562E+00	2.482E+00	2.550E-01	-0.335
		722.78		2.516E-01	3.966E-01	6.101E-01	3.874E-02	0.412
	+	968.20		1.114E+01	4.870E+00	6.908E+00	6.512E-01	1.613
		1045.16		-1.917E+00	2.414E+00	3.547E+00	2.987E-01	-0.541
		1325.50		9.899E-01	3.083E+00	5.297E+00	4.541E-01	0.187
		1368.21		3.434E-01	1.755E+00	2.776E+00	3.741E-01	0.124
		1436.60		5.252E-01	2.834E+00	4.824E+00	4.073E-01	0.109
		1691.02	*	-8.008E-03	5.789E-02	9.083E-02	6.901E-03	-0.088
SB-125		427.89	*	2.010E-02	8.964E-02	1.479E-01	1.030E-02	0.136
	+	463.38		4.935E-01	3.457E-01	4.952E-01	3.714E-02	0.997
		600.56		-6.569E-02	1.694E-01	2.606E-01	1.718E-02	-0.252
		635.90		6.818E-02	2.428E-01	4.152E-01	2.632E-02	0.164
TE-125M		109.28	*	4.968E+00	1.162E+01	1.722E+01	1.654E+00	0.289
I-126		388.63		-1.518E-02	2.181E-01	3.554E-01	2.415E-02	-0.043
		666.33	*	1.083E-01	2.205E-01	3.364E-01	1.688E-02	0.322
		753.82		1.930E+00	1.535E+00	2.791E+00	1.876E-01	0.691
SB-126		223.80		-6.478E+00	4.337E+00	6.827E+00	4.088E-01	-0.949
		278.60		1.967E+00	2.781E+00	4.786E+00	3.072E-01	0.411
		296.50		9.304E+00	2.751E+00	3.752E+00	2.448E-01	2.480
		414.70		-3.404E-02	9.253E-02	1.354E-01	9.174E-03	-0.251
		415.30		1.218E+00	7.292E+00	1.161E+01	7.864E-01	0.105
		555.20		7.884E-01	4.339E+00	7.037E+00	4.284E-01	0.112
		573.80		-1.344E-02	1.161E+00	1.907E+00	1.130E-01	-0.007
		593.00		-1.064E+00	1.031E+00	1.605E+00	9.216E-02	-0.663
		656.30		-1.461E+00	4.143E+00	5.786E+00	2.896E-01	-0.253
		666.33		4.557E-02	9.276E-02	1.415E-01	7.099E-03	0.322
		675.00		-3.657E-01	2.019E+00	3.318E+00	1.717E-01	-0.110

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SB-127		695.00		-1.357E-02	9.108E-02	1.500E-01	8.322E-03	-0.090
		697.00		1.770E-01	3.164E-01	5.461E-01	3.050E-02	0.324
		720.50	*	6.737E-02	1.777E-01	2.779E-01	1.679E-02	0.242
		856.80		-7.060E-01	6.638E-01	8.123E-01	7.373E-02	-0.869
		989.30		5.005E-02	1.293E+00	2.105E+00	1.932E-01	0.024
		1034.80		-6.340E+00	8.822E+00	1.296E+01	1.111E+00	-0.489
		1213.00		-5.610E+00	5.102E+00	7.631E+00	5.163E-01	-0.735
		61.10		2.901E+02	1.598E+02	2.710E+02	4.008E+01	1.070
		252.40		5.512E+00	6.817E+00	1.121E+01	4.692E+00	0.492
		290.80		-1.604E+01	3.779E+01	5.364E+01	5.722E+00	-0.299
		411.60		1.871E+00	2.127E+01	3.062E+01	4.746E+00	0.061
		444.90		8.090E+00	1.409E+01	2.379E+01	2.905E+00	0.340
		473.00		-1.398E+00	2.825E+00	4.399E+00	5.498E-01	-0.318
		543.00		5.020E+00	2.587E+01	4.204E+01	5.833E+00	0.119
		603.60		1.038E-01	1.937E+01	2.836E+01	3.298E+00	0.004
		685.20	*	-4.685E-01	1.934E+00	3.154E+00	3.238E-01	-0.149
		698.50		8.478E+00	2.511E+01	4.271E+01	6.460E+00	0.198
		722.20		1.229E+01	5.367E+01	7.925E+01	8.256E+00	0.155
		783.80		7.476E+00	5.977E+00	1.068E+01	1.331E+00	0.700
		57.60		5.342E+00	1.257E+01	1.915E+01	2.434E+00	0.279
XE-127		145.22		7.865E-01	8.231E-01	1.235E+00	7.285E-02	0.637
		172.10		-3.503E-02	1.245E-01	1.957E-01	1.078E-02	-0.179
		202.84	*	5.927E-03	4.677E-02	7.974E-02	4.618E-03	0.074
		374.96		-5.758E-02	1.898E-01	3.053E-01	2.071E-02	-0.189
I-131		80.18		-1.530E-01	7.822E+00	1.154E+01	1.273E+00	-0.013
		284.30		-3.325E-01	1.791E+00	2.958E+00	2.092E-01	-0.112
		364.48	*	-8.844E-02	1.370E-01	2.158E-01	1.593E-02	-0.410
TE-132		636.97		-1.085E+00	1.793E+00	2.860E+00	1.728E-01	-0.379
		722.89		5.923E+00	9.446E+00	1.452E+01	9.005E-01	0.408
		49.72		-8.945E+01	8.375E+01	1.334E+02	1.989E+01	-0.670
	+	111.76		1.025E+02	8.302E+01	1.065E+02	1.157E+01	0.963
		116.30		1.743E+01	5.820E+01	8.545E+01	9.036E+00	0.204
BA-133		228.16	*	9.719E-01	1.221E+00	2.110E+00	3.183E-01	0.461
		53.15		4.938E+00	7.408E+00	1.262E+01	1.672E+00	0.391
		79.62		3.083E-01	1.696E+00	2.522E+00	4.203E-01	0.122
		81.00		-1.877E-01	1.302E-01	1.882E-01	3.252E-02	-0.998
		276.40		3.365E-01	3.603E-01	6.046E-01	8.008E-02	0.557
I-133		302.84		1.747E-02	1.436E-01	2.117E-01	2.552E-02	0.083
		356.01	*	2.381E-03	4.536E-02	6.577E-02	7.935E-03	0.036
		383.85		-7.326E-02	2.688E-01	4.323E-01	4.941E-02	-0.169
	+	510.53		5.127E+00	2.688E-01	Half-Life	too short	
		529.87	*	-1.875E-02	2.688E-01	Half-Life	too short	
		706.58		-1.280E+00	2.688E-01	Half-Life	too short	
		856.28		-7.669E+00	2.688E-01	Half-Life	too short	
		875.33		8.382E-01	2.688E-01	Half-Life	too short	
		1236.41		1.176E+01	2.688E-01	Half-Life	too short	
		1298.22		2.330E+00	2.688E-01	Half-Life	too short	
CS-134		475.35		1.399E+00	1.868E+00	3.168E+00	2.089E-01	0.442
		563.23		3.127E-01	3.327E-01	5.696E-01	3.496E-02	0.549

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	569.32			8.461E-02	1.784E-01	2.955E-01	1.813E-02	0.286
	604.70			3.039E-02	3.167E-02	5.080E-02	2.872E-03	0.598
	795.84	*		2.611E-02	4.620E-02	7.934E-02	6.116E-03	0.329
	801.93			9.668E-02	4.156E-01	6.858E-01	5.370E-02	0.141
	1038.57			-8.084E-02	3.471E+00	5.592E+00	4.763E-01	-0.014
	1167.94			-3.485E-01	2.314E+00	3.823E+00	2.398E-01	-0.091
	1365.15			5.544E-01	1.086E+00	1.918E+00	1.731E-01	0.289
CS-135	268.24	*		2.494E-01	1.689E-01	2.695E-01	2.178E-02	0.925
I-135	288.45			4.568E+13	1.689E-01	Half-Life	too short	
	417.63			1.440E+13	1.689E-01	Half-Life	too short	
	546.56			-5.352E+11	1.689E-01	Half-Life	too short	
	836.80			7.112E+12	1.689E-01	Half-Life	too short	
	1038.76			4.190E+11	1.689E-01	Half-Life	too short	
	1124.00			-4.624E+12	1.689E-01	Half-Life	too short	
	1131.51			5.058E+12	1.689E-01	Half-Life	too short	
	1260.41	*		5.461E+12	1.689E-01	Half-Life	too short	
	1457.56			1.268E+15	1.689E-01	Half-Life	too short	
	1678.03			-7.029E+12	1.689E-01	Half-Life	too short	
	1706.46			-9.632E+12	1.689E-01	Half-Life	too short	
	1791.20			2.660E+12	1.689E-01	Half-Life	too short	
CS-136	66.91			2.939E-01	1.289E+00	1.936E+00	3.316E-01	0.152
+	86.29			4.921E+00	1.913E+00	2.678E+00	3.946E-01	1.838
	153.22			6.931E-01	7.623E-01	1.265E+00	9.059E-02	0.548
	163.89			1.496E+00	1.267E+00	2.116E+00	1.485E-01	0.707
	176.55			1.606E-01	4.244E-01	6.864E-01	4.321E-02	0.234
	273.65			-3.611E-01	5.353E-01	7.504E-01	5.356E-02	-0.481
	340.57			9.064E-02	1.545E-01	2.331E-01	1.640E-02	0.389
	818.51			6.118E-02	7.804E-02	1.372E-01	1.121E-02	0.446
	1048.07	*		-9.513E-02	1.283E-01	1.926E-01	1.687E-02	-0.494
	1235.34			7.349E-01	8.194E-01	1.283E+00	1.386E-01	0.573
CE-139	165.85	*		-3.963E-02	3.161E-02	4.765E-02	2.603E-03	-0.832
BA-140	162.64			1.004E+00	8.852E-01	1.478E+00	9.279E-02	0.680
	304.84			-4.287E-02	1.515E+00	2.207E+00	6.061E-01	-0.019
	423.70			4.862E-01	2.141E+00	3.526E+00	1.127E+00	0.138
	537.32	*		-6.450E-02	2.762E-01	4.325E-01	1.410E-01	-0.149
LA-140	328.77			6.123E-01	4.666E-01	5.716E-01	4.164E-02	1.071
+	432.53			1.253E+00	2.337E+00	3.929E+00	2.856E-01	0.319
	487.03			-1.573E-02	1.484E-01	2.375E-01	1.716E-02	-0.066
	751.79			2.295E-01	1.807E+00	3.022E+00	2.368E-01	0.076
	815.85			-2.206E-01	3.406E-01	5.246E-01	4.798E-02	-0.420
	867.82			4.260E-01	1.419E+00	2.392E+00	2.338E-01	0.178
	919.63			-5.243E-01	2.704E+00	4.313E+00	5.061E-01	-0.122
	925.24			1.584E-01	1.146E+00	1.895E+00	1.962E-01	0.084
	1596.49	*		2.698E-02	1.004E-01	1.498E-01	1.163E-02	0.180
CE-141	145.44	*		4.314E-02	7.417E-02	1.094E-01	6.695E-03	0.394
CE-143	57.37			8.146E-04	7.417E-02	Half-Life	too short	
	231.56			-7.690E-04	7.417E-02	Half-Life	too short	
	293.26	*		3.008E-03	7.417E-02	Half-Life	too short	
+	350.59			1.337E-01	7.417E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	490.36			6.251E-03	7.417E-02	Half-Life too short		
	664.57			-1.363E-03	7.417E-02	Half-Life too short		
	721.93			3.080E-03	7.417E-02	Half-Life too short		
CE-144	80.11			5.620E-02	2.812E+00	4.156E+00	4.560E-01	0.014
	133.54	*		4.230E-02	2.108E-01	3.426E-01	4.923E-02	0.123
PM-144	476.78			2.749E-02	6.637E-02	1.102E-01	8.392E-03	0.249
	618.01			9.351E-03	2.890E-02	4.960E-02	2.899E-03	0.189
	696.49	*		1.740E-02	3.470E-02	5.969E-02	3.332E-03	0.292
	778.57			-3.758E-01	2.120E+00	3.422E+00	2.485E-01	-0.110
PR-144	696.49	*		1.181E+00	2.355E+00	4.051E+00	2.259E-01	0.292
	1489.15			-7.577E+00	1.030E+01	1.465E+01	1.209E+00	-0.517
PM-146	453.90	*		6.587E-03	4.334E-02	7.093E-02	6.551E-03	0.093
	633.02			-2.063E-01	1.308E+00	2.163E+00	7.949E-01	-0.095
	735.90			-1.095E-01	1.503E-01	2.297E-01	6.433E-02	-0.476
	747.13			-6.825E-02	8.149E-02	1.241E-01	1.599E-02	-0.550
ND-147	91.11	+		8.585E+00	1.111E+00	1.051E+00	1.172E-01	8.166
	319.41			-1.541E+00	3.630E+00	5.868E+00	3.895E-01	-0.263
	439.89			1.227E+00	6.059E+00	9.985E+00	6.715E-01	0.123
	531.02	*		-1.036E-01	6.661E-01	1.055E+00	1.449E-01	-0.098
PM-149	285.90	*		-1.391E-04	6.661E-01	Half-Life too short		
EU-152	121.78			-2.588E-03	7.355E-02	1.190E-01	9.808E-03	-0.022
	244.69			1.465E-01	3.294E-01	5.018E-01	3.096E-02	0.292
	344.27	*		2.060E-02	9.937E-02	1.539E-01	1.134E-02	0.134
	443.98			-5.217E-01	8.497E-01	1.314E+00	8.821E-02	-0.397
	778.89			9.607E-03	2.372E-01	3.930E-01	2.854E-02	0.024
	867.32			7.354E-04	7.496E-01	1.195E+00	1.116E-01	0.001
	964.01			3.151E-02	3.436E-01	4.904E-01	4.646E-02	0.064
	1085.78			-1.422E-01	3.522E-01	5.397E-01	4.202E-02	-0.263
	1112.02			2.563E-02	3.212E-01	4.714E-01	3.458E-02	0.054
	1407.95			3.530E-02	1.773E-01	2.999E-01	2.557E-02	0.118
GD-153	69.67			-2.150E+00	2.114E+00	3.366E+00	3.754E-01	-0.639
	83.37			2.556E+01	2.013E+01	3.089E+01	3.423E+00	0.828
	97.43	+	*	2.923E-01	1.518E-01	1.580E-01	1.471E-02	1.851
	103.18			4.887E-02	1.173E-01	1.747E-01	1.477E-02	0.280
EU-154	123.07			-4.018E-02	5.233E-02	8.185E-02	8.089E-03	-0.491
	247.94			-3.928E-01	3.263E-01	5.127E-01	5.018E-02	-0.766
	591.81			-3.907E-01	5.793E-01	9.268E-01	9.034E-02	-0.422
	723.30			6.494E-02	1.842E-01	2.755E-01	2.018E-02	0.236
	756.87			1.767E-01	6.741E-01	1.140E+00	1.224E-01	0.155
	873.19			-2.379E-01	2.807E-01	4.182E-01	5.382E-02	-0.569
	996.32			1.500E-01	3.870E-01	5.707E-01	1.027E-01	0.263
	1004.76			1.123E-01	2.270E-01	3.393E-01	4.041E-02	0.331
	1274.45	*		-4.182E-02	1.221E-01	1.962E-01	2.090E-02	-0.213
EU-155	48.70			-4.251E+00	5.895E+00	9.611E+00	1.154E+00	-0.442
	60.01			1.007E+00	8.730E+00	1.312E+01	1.616E+00	0.077
	86.54	+		3.895E-01	1.468E-01	2.119E-01	2.398E-02	1.839
	105.31	*		1.247E-01	1.136E-01	1.920E-01	1.592E-02	0.650
TB-160	86.79	+		1.069E+00	4.028E-01	5.791E-01	6.524E-02	1.846
	197.04			-3.292E-01	5.766E-01	8.755E-01	5.021E-02	-0.376

---- Non-Identified Nuclides ----

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	215.65			-1.434E-01	7.048E-01	1.183E+00	6.993E-02	-0.121
	298.57		+	1.777E-01	1.916E-01	1.916E-01	1.252E-02	0.927
	879.36		*	-6.818E-03	1.350E-01	2.198E-01	2.120E-02	-0.031
	962.29			2.855E-01	6.314E-01	9.383E-01	8.908E-02	0.304
	966.15			7.310E-01	2.896E-01	4.869E-01	4.601E-02	1.502
	1177.93			1.898E-01	3.337E-01	5.868E-01	3.659E-02	0.323
	1271.85			5.404E-01	6.649E-01	1.195E+00	9.194E-02	0.452
HO-166M	80.57			-1.810E-01	3.602E-01	5.199E-01	5.711E-02	-0.348
	184.41		+	3.170E-01	6.067E-02	8.094E-02	4.546E-03	3.916
	280.46			-7.987E-02	8.311E-02	1.322E-01	8.501E-03	-0.604
	410.95			6.413E-02	2.641E-01	3.849E-01	2.610E-02	0.167
	711.68		*	-2.105E-02	5.658E-02	9.128E-02	5.357E-03	-0.231
	752.31			4.388E-02	2.495E-01	4.189E-01	2.803E-02	0.105
	810.29			-3.154E-02	5.427E-02	8.449E-02	6.731E-03	-0.373
TM-171	51.35			5.102E+00	6.613E+01	1.111E+02	1.461E+01	0.046
	52.39			1.410E+01	3.352E+01	5.681E+01	7.525E+00	0.248
	59.40			1.841E+00	4.818E+01	7.219E+01	8.968E+00	0.025
	66.72		*	-3.333E+00	4.067E+01	6.031E+01	6.871E+00	-0.055
LU-176	88.36		+	4.396E-01	2.618E-01	4.012E-01	4.513E-02	1.096
	201.83			-1.221E-02	2.697E-02	4.499E-02	2.601E-03	-0.271
	306.84		*	-5.994E-03	2.558E-02	3.666E-02	2.411E-03	-0.164
	401.10			3.081E+00	6.387E+00	1.073E+01	7.290E-01	0.287
LU-177M	52.97			2.286E+00	3.403E+00	5.800E+00	7.684E-01	0.394
	54.07			3.630E-01	1.739E+00	2.927E+00	3.861E-01	0.124
	61.30			5.754E+00	2.553E+00	4.344E+00	5.256E-01	1.325
	121.62			2.625E-02	3.785E-01	6.151E-01	4.070E-02	0.043
	147.16			4.719E-02	7.126E-01	1.023E+00	5.986E-02	0.046
	171.86			-3.357E-01	4.846E-01	7.473E-01	4.114E-02	-0.449
	218.09			-2.795E-01	8.080E-01	1.347E+00	7.997E-02	-0.207
	268.79		+	1.934E+00	1.220E+00	1.416E+00	8.994E-02	1.366
	319.02			-1.911E-01	2.399E-01	3.790E-01	2.514E-02	-0.504
	367.43			-1.646E-01	8.266E-01	1.341E+00	9.078E-02	-0.123
	413.65		*	-9.212E-02	1.913E-01	2.609E-01	1.768E-02	-0.353
HF-181	56.28			1.026E+00	1.830E+00	3.104E+00	4.010E-01	0.331
	57.53			1.453E-01	1.063E+00	1.602E+00	2.038E-01	0.091
	65.20			9.979E-01	1.453E+00	2.224E+00	2.570E-01	0.449
	133.02			1.586E-02	6.956E-02	1.133E-01	7.034E-03	0.140
	136.25			1.718E-01	4.881E-01	7.977E-01	4.882E-02	0.215
	345.85			-1.266E-01	2.290E-01	3.172E-01	2.134E-02	-0.399
	482.03		*	1.825E-02	4.074E-02	6.791E-02	4.458E-03	0.269
W-181	56.28			3.905E-01	6.943E-01	1.178E+00	1.522E-01	0.332
	57.53			5.492E-02	4.038E-01	6.082E-01	7.739E-02	0.090
	65.20		*	3.759E-01	5.474E-01	8.378E-01	9.680E-02	0.449
TA-182	67.75			-2.078E-02	1.492E-01	2.351E-01	2.656E-02	-0.088
	100.10			3.045E-01	1.998E-01	3.120E-01	2.773E-02	0.976
	152.43			2.922E-01	3.404E-01	5.643E-01	3.237E-02	0.518
	222.10			1.134E-02	3.156E-01	5.341E-01	3.190E-02	0.021
	1001.68		+	9.621E+00	3.624E+00	5.062E+00	4.566E-01	1.901
	1121.28		+	5.954E-01	2.691E-01	3.174E-01	2.275E-02	1.876

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		1189.05		-2.132E-01	3.105E-01	4.882E-01	3.125E-02	-0.437
		1221.42	*	-1.071E-01	1.882E-01	2.982E-01	2.056E-02	-0.359
		1230.97		-2.236E-01	5.632E-01	7.708E-01	5.430E-02	-0.290
		57.98		-1.205E-02	3.963E-01	5.926E-01	7.498E-02	-0.020
		59.32		1.635E-02	2.042E-01	3.065E-01	3.811E-02	0.053
		67.20		1.734E-01	2.874E-01	4.381E-01	4.971E-02	0.396
RE-184		162.32	*	1.017E-01	1.149E-01	1.901E-01	1.052E-02	0.535
	+	208.81		2.921E+00	1.329E+00	1.779E+00	1.040E-01	1.642
		291.72		-4.630E-01	9.785E-01	1.383E+00	8.990E-02	-0.335
		57.98		-4.365E-02	1.436E+00	2.147E+00	2.716E-01	-0.020
		59.32		5.918E-02	7.391E-01	1.109E+00	1.380E-01	0.053
		67.20		6.280E-01	1.041E+00	1.587E+00	1.800E-01	0.396
OS-185		161.27		-1.220E-01	3.606E-01	5.679E-01	3.153E-02	-0.215
		216.55		-6.836E-02	2.467E-01	4.126E-01	2.443E-02	-0.166
		252.85	*	8.766E-02	2.078E-01	3.557E-01	2.218E-02	0.246
		318.01		-2.380E-01	4.081E-01	6.531E-01	4.329E-02	-0.364
		792.07		2.570E-01	9.734E-01	1.638E+00	1.237E-01	0.157
		903.28		4.926E-01	9.525E-01	1.550E+00	1.562E-01	0.318
RE-188		920.93		-3.080E-02	3.887E-01	6.283E-01	6.232E-02	-0.049
		59.72		-1.441E-02	5.330E-01	7.961E-01	9.846E-02	-0.018
		61.14		5.235E-01	2.718E-01	4.664E-01	5.655E-02	1.122
		69.30		-5.493E-01	3.898E-01	6.086E-01	6.803E-02	-0.903
		592.07		-1.770E+00	2.402E+00	3.829E+00	2.202E-01	-0.462
		646.12	*	-8.881E-04	3.717E-02	6.205E-02	3.188E-03	-0.014
W-188		717.42		-2.424E-01	8.616E-01	1.399E+00	8.370E-02	-0.173
		874.81		2.471E-01	5.582E-01	9.507E-01	9.057E-02	0.260
		880.27		-5.685E-01	7.861E-01	1.196E+00	1.156E-01	-0.475
		155.03	*	1.948E-02	1.766E-01	2.841E-01	1.614E-02	0.069
		477.96		2.827E-01	3.159E+00	5.133E+00	3.379E-01	0.055
		633.10		-4.290E-01	2.716E+00	4.498E+00	2.383E-01	-0.095
IR-192	+	63.58		7.486E+02	1.825E+02	1.803E+02	2.120E+01	4.152
		227.08		1.345E+01	1.209E+01	2.129E+01	1.281E+00	0.632
		290.67	*	8.460E-02	7.770E+00	1.139E+01	7.397E-01	0.007
	+	295.96		1.003E+00	1.801E-01	2.759E-01	1.822E-02	3.635
		308.46		-5.908E-02	9.096E-02	1.455E-01	9.667E-03	-0.406
		316.51	*	-6.763E-04	3.192E-02	5.285E-02	3.513E-03	-0.013
AU-195		468.07		-5.745E-03	7.149E-02	1.002E-01	7.429E-03	-0.057
		604.41		4.212E-01	4.409E-01	7.041E-01	7.929E-02	0.598
		612.46		4.482E-01	7.008E-01	1.089E+00	8.032E-02	0.411
		65.12		1.847E-01	2.531E-01	3.878E-01	4.485E-02	0.476
		66.83		2.529E-02	1.341E-01	2.013E-01	2.291E-02	0.126
	+	75.70		1.708E+00	3.388E-01	5.359E-01	5.862E-02	3.186
TL-200	+	98.88	*	8.535E-01	4.431E-01	4.500E-01	4.083E-02	1.897
		129.76		-1.058E+00	2.953E+00	4.703E+00	2.967E-01	-0.225
		367.94	*	-1.412E-03	2.953E+00	Half-Life	too short	
		579.30		7.421E-03	2.953E+00	Half-Life	too short	
		828.27		-6.288E-03	2.953E+00	Half-Life	too short	
		1205.75		1.173E-02	2.953E+00	Half-Life	too short	
TL-201		68.90		-1.259E+01	1.177E+01	1.869E+01	2.095E+00	-0.674

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		70.82		3.467E+00	7.146E+00	1.082E+01	1.199E+00	0.321
		80.30		-5.115E+00	1.306E+01	1.896E+01	2.081E+00	-0.270
		135.34		-1.570E+01	5.143E+01	8.193E+01	5.034E+00	-0.192
		167.43	*	3.833E+00	1.339E+01	2.162E+01	1.183E+00	0.177
		68.90		-6.852E-01	6.405E-01	1.017E+00	1.140E-01	-0.674
		70.82		1.882E-01	3.878E-01	5.870E-01	6.507E-02	0.321
HG-203		80.30		-2.777E-01	7.092E-01	1.029E+00	1.130E-01	-0.270
		439.56	*	2.605E-02	7.035E-02	1.173E-01	7.889E-03	0.222
		70.83		7.442E-01	1.489E+00	2.252E+00	3.442E-01	0.330
		72.87		1.698E+00	9.438E-01	1.443E+00	2.146E-01	1.176
BI-207		82.60		8.241E-01	1.463E+00	2.334E+00	3.590E-01	0.353
		279.20	*	1.059E-02	4.024E-02	6.797E-02	4.587E-03	0.156
		72.80		4.091E-01	2.580E-01	3.998E-01	4.398E-02	1.023
	+	74.97		4.752E-01	1.502E-01	2.688E-01	2.942E-02	1.768
		84.90		2.622E-01	2.524E-01	3.848E-01	4.293E-02	0.682
		569.67		1.678E-02	2.802E-02	4.684E-02	2.793E-03	0.358
TL-207		1063.62	*	2.788E-02	5.450E-02	9.200E-02	7.489E-03	0.303
		1770.23		-1.658E+00	6.032E-01	4.148E-01	2.752E-02	-3.998
		81.07		-4.078E-01	2.817E-01	4.154E-01	4.568E-02	-0.982
		83.78		1.893E-01	1.687E-01	2.579E-01	2.863E-02	0.734
		94.90		4.182E-01	3.427E-01	4.276E-01	4.175E-02	0.978
		122.32		-4.467E-01	1.745E+00	2.797E+00	2.064E-01	-0.160
	+	144.24		1.656E+00	1.091E+00	1.236E+00	9.055E-02	1.340
		154.21		1.626E-01	3.972E-01	6.468E-01	4.482E-02	0.251
	+	269.46		4.471E-01	2.821E-01	3.267E-01	2.155E-02	1.369
	+	323.87	*	-3.126E-02	7.147E-01	1.036E+00	1.744E-01	-0.030
PO-209	+	338.28		4.986E+00	1.488E+00	2.105E+00	2.327E-01	2.369
		445.03		1.258E+00	1.945E+00	3.300E+00	3.567E-01	0.381
		260.50		7.064E-01	8.870E+00	1.492E+01	9.388E-01	0.047
		262.80		-1.114E+01	2.405E+01	3.934E+01	2.483E+00	-0.283
		896.60	*	7.866E+00	7.287E+00	1.297E+01	1.308E+00	0.607
BI-210		46.50	*	1.330E+01	9.526E+00	1.659E+01	1.628E+00	0.801
PB-210		46.50	*	1.330E+01	9.526E+00	1.659E+01	1.628E+00	0.801
PO-210		46.50	*	1.330E+01	9.511E+00	1.659E+01	1.490E+00	0.801
PB-211		404.84	*	3.044E-01	9.771E-01	1.409E+00	8.800E-01	0.216
BI-212		427.08		-6.151E-01	2.029E+00	3.177E+00	1.967E+00	-0.194
		831.96		-6.039E-02	1.222E+00	1.999E+00	1.252E+00	-0.030
	+	727.18	*	1.075E+00	4.369E-01	6.366E-01	5.093E-02	1.688
		785.46		2.614E+00	1.715E+00	3.133E+00	2.321E-01	0.834
		1620.62		1.437E+00	1.237E+00	2.332E+00	1.778E-01	0.616
PO-215		81.07		-4.078E-01	2.817E-01	4.154E-01	4.568E-02	-0.982
		83.78		1.893E-01	1.687E-01	2.579E-01	2.863E-02	0.734
		94.90		4.182E-01	3.427E-01	4.276E-01	4.175E-02	0.978
		122.32		-4.467E-01	1.745E+00	2.797E+00	2.064E-01	-0.160
	+	144.24		1.656E+00	1.091E+00	1.236E+00	9.055E-02	1.340
		154.21		1.626E-01	3.972E-01	6.468E-01	4.482E-02	0.251
	+	269.46		4.471E-01	2.821E-01	3.267E-01	2.155E-02	1.369
	+	323.87	*	-3.126E-02	7.147E-01	1.036E+00	1.744E-01	-0.030
	+	338.28		4.986E+00	1.488E+00	2.105E+00	2.327E-01	2.369

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219	+	445.03		1.258E+00	1.945E+00	3.300E+00	3.567E-01	0.381
		271.23		5.737E-01	3.632E-01	3.962E-01	3.376E-02	1.448
		401.81	*	1.099E-01	3.934E-01	6.531E-01	9.180E-02	0.168
		549.76	*	9.426E+00	2.557E+01	4.204E+01	2.578E+00	0.224
RA-223		81.07		-4.078E-01	2.817E-01	4.154E-01	4.568E-02	-0.982
		83.78		1.893E-01	1.687E-01	2.579E-01	2.863E-02	0.734
		94.90		4.182E-01	3.427E-01	4.276E-01	4.175E-02	0.978
		122.32		-4.467E-01	1.745E+00	2.797E+00	2.064E-01	-0.160
	+	144.24		1.656E+00	1.091E+00	1.236E+00	9.055E-02	1.340
		154.21		1.626E-01	3.972E-01	6.468E-01	4.482E-02	0.251
		269.46		4.471E-01	2.821E-01	3.267E-01	2.155E-02	1.369
		323.87	*	-3.126E-02	7.147E-01	1.036E+00	1.744E-01	-0.030
	+	338.28		4.986E+00	1.488E+00	2.105E+00	2.327E-01	2.369
		445.03		1.258E+00	1.945E+00	3.300E+00	3.567E-01	0.381
		79.80		-4.928E-02	2.166E+00	3.196E+00	7.205E-01	-0.015
		236.00		6.120E-01	2.652E-01	4.263E-01	4.527E-02	1.436
	+	256.20	*	1.971E-01	3.431E-01	5.890E-01	8.339E-02	0.335
		286.10		-1.233E+00	1.442E+00	2.287E+00	2.723E-01	-0.539
		299.80		2.200E+00	2.396E+00	2.346E+00	3.886E-01	0.938
		304.40		1.233E+00	1.878E+00	2.858E+00	5.022E-01	0.431
TH-227		334.20		6.491E-01	2.268E+00	3.361E+00	6.263E-01	0.193
		79.80		-4.928E-02	2.166E+00	3.196E+00	7.289E-01	-0.015
		94.00		1.760E+01	4.961E+00	5.225E+00	1.167E+00	3.368
		236.00		6.120E-01	2.633E-01	4.263E-01	3.943E-02	1.436
	+	256.20	*	1.971E-01	3.436E-01	5.890E-01	1.005E-01	0.335
		286.10		-1.233E+00	1.893E+00	2.287E+00	2.291E+00	-0.539
		299.80		2.200E+00	2.396E+00	2.346E+00	3.886E-01	0.938
		304.40		1.233E+00	1.878E+00	2.858E+00	5.022E-01	0.431
TH-229	+	334.20		6.491E-01	2.268E+00	3.361E+00	6.263E-01	0.193
		85.43		7.244E-01	2.729E-01	3.881E-01	4.341E-02	1.867
		88.47		2.531E-01	1.507E-01	2.275E-01	2.552E-02	1.112
		100.00		3.480E-01	2.056E-01	3.228E-01	2.873E-02	1.078
	+	193.63	*	1.288E-01	4.919E-01	7.881E-01	4.495E-02	0.163
		210.97		2.609E-02	7.740E-01	1.160E+00	6.809E-02	0.022
		283.67	*	2.478E-01	1.443E+00	2.426E+00	3.413E-01	0.102
		301.29		8.800E-01	9.522E-01	9.515E-01	1.036E-01	0.925
TH-231		81.07		-4.078E-01	2.817E-01	4.154E-01	4.568E-02	-0.982
		83.78		1.893E-01	1.687E-01	2.579E-01	2.863E-02	0.734
		94.90		4.182E-01	3.427E-01	4.276E-01	4.175E-02	0.978
		122.32		-4.467E-01	1.745E+00	2.797E+00	2.064E-01	-0.160
	+	144.24		1.656E+00	1.091E+00	1.236E+00	9.055E-02	1.340
		154.21		1.626E-01	3.972E-01	6.468E-01	4.482E-02	0.251
		269.46		4.471E-01	2.821E-01	3.267E-01	2.155E-02	1.369
		323.87	*	-3.126E-02	7.147E-01	1.036E+00	1.744E-01	-0.030
	+	338.28		4.986E+00	1.488E+00	2.105E+00	2.327E-01	2.369
		445.03		1.258E+00	1.945E+00	3.300E+00	3.567E-01	0.381
		84.21		1.490E+01	1.169E+01	1.794E+01	1.995E+00	0.831
		92.29		8.785E+01	1.093E+01	1.170E+01	1.204E+00	7.510
U-231		95.87	*	9.733E-01	2.618E+00	3.107E+00	2.978E-01	0.313

Sample ID : G1202032522

Acquisition date : 14-FEB-2010 13:18:21

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		108.00		1.488E-01	4.032E+00	5.876E+00	4.625E-01	0.025
	+	75.28		1.387E+01	4.724E+00	8.188E+00	1.373E+00	1.693
	+	86.59		6.324E+00	2.874E+00	3.439E+00	9.554E-01	1.839
	+	300.12		6.133E-01	6.657E-01	6.645E-01	9.153E-02	0.923
		311.98	*	-2.608E-03	5.985E-02	9.905E-02	6.854E-03	-0.026
		340.50		4.483E-01	6.529E-01	9.804E-01	2.276E-01	0.457
PA-234		398.62		-4.378E-01	2.059E+00	3.317E+00	8.656E-01	-0.132
		415.76		1.961E-01	1.576E+00	2.588E+00	5.405E-01	0.076
	+	63.00		2.108E+01	5.814E+00	5.345E+00	9.353E-01	3.944
		94.67		4.393E-01	2.534E-01	3.200E-01	4.242E-02	1.373
	+	98.44		3.420E-01	2.590E-01	1.815E-01	1.014E-01	1.885
		99.86		1.009E+00	5.269E-01	8.327E-01	7.430E-02	1.212
	+	111.00		3.422E-01	2.773E-01	3.464E-01	3.932E-02	0.988
		131.20		-7.095E-02	1.069E-01	1.679E-01	1.051E-02	-0.423
		152.70		2.327E-01	3.263E-01	5.350E-01	8.444E-02	0.435
	+	186.00		1.141E+01	4.061E+00	3.074E+00	9.383E-01	3.712
		226.40		3.527E-01	3.693E-01	6.438E-01	7.512E-02	0.548
		227.20		4.322E-01	3.977E-01	6.993E-01	4.208E-02	0.618
		248.90		-5.784E-01	7.419E-01	1.182E+00	2.553E-01	-0.489
	+	293.70		6.142E+00	1.436E+00	1.597E+00	2.612E-01	3.845
		369.80		-3.288E-01	7.730E-01	1.230E+00	2.597E-01	-0.267
		568.70		-2.915E-01	9.535E-01	1.484E+00	8.861E-02	-0.196
		569.50		1.333E-01	2.474E-01	4.118E-01	2.456E-02	0.324
		574.00		-1.382E-01	1.406E+00	2.294E+00	1.359E-01	-0.060
		699.00		2.367E-01	6.978E-01	1.186E+00	2.126E-01	0.200
		706.10		-6.737E-01	9.960E-01	1.492E+00	6.585E-01	-0.451
		733.00		2.916E-01	3.848E-01	5.953E-01	1.274E-01	0.490
		742.81		1.618E+00	1.722E+00	2.414E+00	1.617E+00	0.670
		796.30		2.372E-01	9.031E-01	1.515E+00	4.053E-01	0.157
		805.60		4.881E-01	9.990E-01	1.691E+00	5.149E-01	0.289
		819.60		5.244E-01	1.134E+00	1.915E+00	7.263E-01	0.274
		826.30		2.022E-01	7.407E-01	1.239E+00	5.538E-01	0.163
		831.60		-5.135E-02	6.226E-01	1.016E+00	3.027E-01	-0.051
		876.40		6.052E-01	9.949E-01	1.362E+00	1.401E+00	0.445
		880.51		-2.012E-01	2.781E-01	4.232E-01	4.093E-02	-0.475
		883.24		9.778E-02	2.725E-01	4.478E-01	3.017E-01	0.218
		899.00		-2.919E-02	8.197E-01	1.334E+00	5.876E-01	-0.022
		925.00		2.745E-01	1.007E+00	1.688E+00	1.667E-01	0.163
		926.50		2.682E-02	1.519E-01	2.519E-01	6.480E-02	0.107
		946.00	*	1.004E-01	3.082E-01	5.151E-01	9.925E-02	0.195
		949.00		2.144E-01	4.183E-01	7.133E-01	6.874E-02	0.301
		980.50		-1.140E-01	5.937E-01	9.409E-01	8.735E-02	-0.121
		1394.10		-4.964E-01	1.194E+00	1.790E+00	1.165E+00	-0.277
PA-234M		766.42		2.584E+01	1.762E+01	2.229E+01	1.125E+01	1.159
NP-236	+	1001.03	*	2.146E+01	8.155E+00	1.140E+01	1.177E+00	1.883
	+	94.67		3.404E-01	1.902E-01	2.434E-01	2.388E-02	1.398
	+	98.44		2.585E-01	1.342E-01	1.372E-01	1.255E-02	1.885
	+	111.00		2.589E-01	2.086E-01	2.620E-01	1.979E-02	0.988
		160.31	*	-1.230E-01	8.173E-02	1.217E-01	6.784E-03	-1.010

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		5.909E-01	3.068E-01	2.904E-01	2.605E-02	2.035
		117.00	*	3.567E-02	1.970E-01	3.072E-01	2.149E-02	0.116
	+	209.75		2.239E+00	1.019E+00	1.341E+00	7.855E-02	1.669
		228.18		1.656E-01	2.122E-01	3.688E-01	2.223E-02	0.449
		277.60		1.751E-01	1.711E-01	2.982E-01	1.912E-02	0.587
AM-241	+	334.30		3.018E-01	1.280E+00	1.892E+00	1.266E-01	0.160
		59.54	*	-9.785E-03	2.772E-01	4.140E-01	5.317E-02	-0.024
CM-243	+	99.55		6.082E-01	3.158E-01	2.988E-01	2.681E-02	2.035
		103.76	*	1.002E-01	1.052E-01	1.697E-01	1.422E-02	0.591
	+	117.00		3.671E-02	2.028E-01	3.161E-01	2.211E-02	0.116
		209.75		2.207E+00	1.004E+00	1.322E+00	7.745E-02	1.669
		228.18		1.673E-01	2.145E-01	3.728E-01	2.247E-02	0.449
AM-246		277.60		1.765E-01	1.725E-01	3.007E-01	1.928E-02	0.587
		798.80		-1.460E-01	1.436E-01	2.168E-01	1.670E-02	-0.674
		1036.00		3.960E-02	2.598E-01	4.270E-01	3.652E-02	0.093
		1062.04		5.068E-02	2.421E-01	3.979E-01	3.249E-02	0.127
		1078.86	*	1.694E-01	1.473E-01	2.616E-01	2.066E-02	0.648
CM-247		278.00		8.184E-01	7.123E-01	1.247E+00	7.999E-02	0.656
		287.40		-6.912E-01	1.162E+00	1.879E+00	1.216E-01	-0.368
	*	402.60		-3.199E-02	3.598E-02	5.540E-02	3.762E-03	-0.577
CF-249		252.85		3.250E-01	7.706E-01	1.319E+00	8.222E-02	0.246
		333.44		6.996E-02	1.823E-01	2.548E-01	1.704E-02	0.275
	*	387.95		2.921E-02	3.596E-02	6.178E-02	4.198E-03	0.473
CF-251		176.60	*	2.804E-02	1.260E-01	2.024E-01	1.123E-02	0.139
		227.00		3.171E-01	3.538E-01	6.179E-01	3.717E-02	0.513
		285.00		-1.214E+00	1.637E+00	2.624E+00	1.695E-01	-0.463

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032522      *
* Acquisition date   : 14-FEB-2010 13:18:21 Detector SN#                   *
* Detector ID        : GAM10 Sensitivity : 5.000                            *
* Geometry           : CAN Energy tolerance: 1.500                          *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000               *
* Elapsed real time  : 0 02:00:01.17 Half life ratio : 8.000                *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 27-JAN-2010 12:00:00 Nuclide Library : SOLID           *
* Sample ID         : G1202032522 Analyst initials: MXR1                   *
* Batch Number      : 948721 Sample Quantity : 1.3884E+02 GRAM             *
* Recovery          : 1.00000 Carrier Weight : 0.00000                     *
*****
*                                     QC DATA                                *
*
* Standard Weight   : 0.00000                                                *
* CALIB. DATE/TIME : 16-MAR-2009 13:18:08 MS Isotope :                      *
* MSD DPM           : 0.000 MSD Isotope :                                  *
* LCS DPM           : 0.000 LCS Isotope :                                  *
* LCSD DPM          : 0.000 LCSD Isotope :                                  *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.443E+01	2.568E+00	2.791E-01	0.000E+00
CD-109	3.301E+00	1.219E+00	1.697E+00	0.000E+00
SN-126	3.231E-01	1.193E-01	1.673E-01	0.000E+00
BA-137M	4.048E-01	7.021E-02	5.566E-02	0.000E+00
CS-137	4.280E-01	7.425E-02	5.883E-02	0.000E+00
LU-177	4.275E+00	1.907E+00	2.443E+00	0.000E+00
TL-208	4.309E-01	8.913E-02	5.665E-02	0.000E+00
BI-211	3.835E+00	5.529E-01	3.297E-01	0.000E+00
PB-212	1.458E+00	1.483E-01	8.793E-02	0.000E+00
PO-212	1.458E+00	1.483E-01	8.793E-02	0.000E+00
BI-214	1.139E+00	1.756E-01	9.954E-02	0.000E+00
PB-214	1.334E+00	2.041E-01	1.149E-01	0.000E+00
PO-214	1.334E+00	2.041E-01	1.149E-01	0.000E+00
PO-216	1.458E+00	1.483E-01	8.793E-02	0.000E+00
PO-218	1.334E+00	2.041E-01	1.149E-01	0.000E+00
RA-224	3.356E+00	1.001E+00	1.000E+00	0.000E+00
RA-226	1.139E+00	1.756E-01	9.954E-02	0.000E+00
AC-228	1.490E+00	3.027E-01	1.718E-01	0.000E+00
RA-228	1.490E+00	3.027E-01	1.718E-01	0.000E+00
TH-228	1.484E+00	1.510E-01	8.953E-02	0.000E+00
TH-230	1.138E+00	1.756E-01	9.954E-02	0.000E+00
TH-232	1.490E+00	3.027E-01	1.718E-01	0.000E+00
TH-234	1.809E+01	5.149E+00	3.191E+00	0.000E+00
U-234	1.138E+00	1.756E-01	9.954E-02	0.000E+00
U-235	5.109E-01	3.379E-01	3.435E-01	0.000E+00
NP-237	9.486E-01	3.994E-01	5.248E-01	0.000E+00
U-238	1.809E+01	5.149E+00	3.191E+00	0.000E+00
AM-243	2.647E-01	8.201E-02	1.222E-01	0.000E+00
ANH-511	4.809E-02	5.836E-02	4.712E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line			
Activity	K.L.	Act error	MDA

Nuclide	(pCi/GRAM) Ided	(pCi/GRAM)	
BE-7	6.054E-02	3.249E-01	5.564E-01	0.000E+00	NOT IDENT.
NA-22	-2.265E-02	4.336E-02	7.032E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.832E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.781E-02	2.574E-02	4.850E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.018E-02	8.480E-02	0.000E+00	NOT IDENT.
SC-46	-3.178E-02	3.570E-02	5.467E-02	0.000E+00	FAIL ABUN
V-48	-2.655E-02	6.771E-02	1.083E-01	0.000E+00	NOT IDENT.
CR-51	-6.318E-02	3.616E-01	6.263E-01	0.000E+00	NOT IDENT.
MN-52	-1.310E-01	2.580E-01	3.963E-01	0.000E+00	NOT IDENT.
MN-54	3.522E-02	3.744E-02	6.793E-02	0.000E+00	NOT IDENT.
CO-56	1.148E-02	3.705E-02	6.463E-02	0.000E+00	FAIL ABUN
CO-57	3.461E-03	2.465E-02	4.319E-02	0.000E+00	NOT IDENT.
CO-58	-3.454E-03	3.500E-02	5.916E-02	0.000E+00	NOT IDENT.
FE-59	-4.781E-03	9.158E-02	1.508E-01	0.000E+00	FAIL ABUN
CO-60	-2.070E-02	3.487E-02	5.480E-02	0.000E+00	NOT IDENT.
ZN-65	2.930E-02	9.376E-02	1.395E-01	0.000E+00	NOT IDENT.
GE-68	7.376E-01	1.271E+00	2.222E+00	0.000E+00	NOT IDENT.
AS-73	6.958E-01	1.719E+00	3.177E+00	0.000E+00	NOT IDENT.
AS-74	8.149E-03	9.180E-02	1.620E-01	0.000E+00	NOT IDENT.
SE-75	-5.955E-02	4.711E-02	6.676E-02	0.000E+00	NOT IDENT.
BR-77	1.460E+01	2.151E+01	3.799E+01	0.000E+00	FAIL ABUN
SR-82	-1.476E-01	3.815E-01	6.281E-01	0.000E+00	NOT IDENT.
RB-83	3.969E-02	6.164E-02	1.086E-01	0.000E+00	NOT IDENT.
RB-84	-3.386E-02	6.972E-02	1.125E-01	0.000E+00	NOT IDENT.
KR-85	5.998E+00	6.773E+00	1.081E+01	0.000E+00	NOT IDENT.
SR-85	3.172E-02	3.582E-02	5.718E-02	0.000E+00	NOT IDENT.
RB-86	6.117E-01	8.931E-01	1.574E+00	0.000E+00	NOT IDENT.
Y-88	-1.164E-02	3.662E-02	5.665E-02	0.000E+00	NOT IDENT.
ZR-88	-3.314E-03	2.814E-02	4.804E-02	0.000E+00	NOT IDENT.
Y-91	1.584E+01	2.007E+01	3.644E+01	0.000E+00	NOT IDENT.
NB-94	-6.367E-03	3.046E-02	5.185E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	4.428E-02	8.585E-02	0.000E+00	NOT IDENT.
NB-95M	8.735E-02	1.319E-01	2.151E-01	0.000E+00	NOT IDENT.
ZR-95	1.196E-02	6.454E-02	1.125E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.894E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.585E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.744E+00	2.477E+01	4.307E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.401E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.303E-03	3.220E-02	5.412E-02	0.000E+00	NOT IDENT.
RH-102	1.481E-02	2.807E-02	4.916E-02	0.000E+00	NOT IDENT.
RU-103	4.839E-03	3.690E-02	6.283E-02	0.000E+00	FAIL ABUN
RH-106	2.176E-02	2.920E-01	5.128E-01	0.000E+00	FAIL ABUN
RU-106	2.176E-02	2.920E-01	5.128E-01	0.000E+00	FAIL ABUN
AG-108M	-4.532E-04	3.063E-02	5.220E-02	0.000E+00	NOT IDENT.
AG-110M	3.044E-02	3.700E-02	6.045E-02	0.000E+00	NOT IDENT.
IN-111	1.392E+00	2.115E+00	3.461E+00	0.000E+00	NOT IDENT.
IN-113M	-4.192E-02	4.113E-02	6.597E-02	0.000E+00	NOT IDENT.
SN-113	-4.192E-02	4.113E-02	6.597E-02	0.000E+00	NOT IDENT.
IN-114M	1.028E-01	1.962E-01	3.039E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.495E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	7.932E-03	6.050E-02	1.042E-01	0.000E+00	NOT IDENT.
SB-122	2.608E+00	4.102E+00	7.160E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.293E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.633E-02	2.787E-02	4.569E-02	0.000E+00	NOT IDENT.
I-124	-7.599E-01	1.078E+00	1.527E+00	0.000E+00	FAIL ABUN
SB-124	-8.008E-03	5.673E-02	9.086E-02	0.000E+00	FAIL ABUN
SB-125	2.010E-02	8.785E-02	1.522E-01	0.000E+00	FAIL ABUN
TE-125M	4.968E+00	1.138E+01	1.819E+01	0.000E+00	NOT IDENT.
I-126	1.083E-01	2.161E-01	3.430E-01	0.000E+00	NOT IDENT.
SB-126	6.737E-02	1.741E-01	2.829E-01	0.000E+00	NOT IDENT.
SB-127	-4.685E-01	1.895E+00	3.215E+00	0.000E+00	NOT IDENT.
XE-127	5.927E-03	4.583E-02	8.323E-02	0.000E+00	NOT IDENT.
I-131	-8.844E-02	1.342E-01	2.227E-01	0.000E+00	NOT IDENT.
TE-132	9.719E-01	1.196E+00	2.198E+00	0.000E+00	FAIL ABUN
BA-133	2.381E-03	4.445E-02	6.790E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.097E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	2.611E-02	4.527E-02	8.060E-02	0.000E+00	NOT IDENT.
CS-135	2.494E-01	1.656E-01	2.798E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.225E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.513E-02	1.258E-01	1.946E-01	0.000E+00	FAIL ABUN
CE-139	-3.963E-02	3.098E-02	4.993E-02	0.000E+00	NOT IDENT.
BA-140	-6.450E-02	2.706E-01	4.429E-01	0.000E+00	NOT IDENT.
LA-140	2.698E-02	9.838E-02	1.501E-01	0.000E+00	FAIL ABUN
CE-141	4.314E-02	7.269E-02	1.149E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	9.685E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.230E-02	2.066E-01	3.605E-01	0.000E+00	NOT IDENT.

PM-144	1.740E-02	3.401E-02	6.081E-02	0.000E+00	NOT IDENT.
PR-144	1.181E+00	2.308E+00	4.127E+00	0.000E+00	NOT IDENT.
PM-146	6.587E-03	4.248E-02	7.288E-02	0.000E+00	NOT IDENT.
ND-147	-1.036E-01	6.528E-01	1.081E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.106E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	2.060E-02	9.738E-02	1.590E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.487E-01	1.672E-01	0.000E+00	FAIL ABUN
EU-154	-4.182E-02	1.196E-01	1.974E-01	0.000E+00	NOT IDENT.
EU-155	1.247E-01	1.113E-01	2.029E-01	0.000E+00	FAIL ABUN
TB-160	-6.818E-03	1.323E-01	2.229E-01	0.000E+00	FAIL ABUN
HO-166M	-2.105E-02	5.545E-02	9.295E-02	0.000E+00	FAIL ABUN
TM-171	-3.333E+00	3.986E+01	6.428E+01	0.000E+00	NOT IDENT.
LU-176	-5.994E-03	2.506E-02	3.796E-02	0.000E+00	FAIL ABUN
LU-177M	-9.212E-02	1.875E-01	2.685E-01	0.000E+00	FAIL ABUN
HF-181	1.825E-02	3.993E-02	6.970E-02	0.000E+00	NOT IDENT.
W-181	3.759E-01	5.365E-01	8.933E-01	0.000E+00	NOT IDENT.
TA-182	-1.071E-01	1.844E-01	3.003E-01	0.000E+00	FAIL ABUN
RE-183	1.017E-01	1.126E-01	1.993E-01	0.000E+00	FAIL ABUN
RE-184	8.766E-02	2.037E-01	3.697E-01	0.000E+00	NOT IDENT.
OS-185	-8.881E-04	3.642E-02	6.331E-02	0.000E+00	NOT IDENT.
RE-188	1.948E-02	1.731E-01	2.981E-01	0.000E+00	NOT IDENT.
W-188	8.460E-02	7.614E+00	1.181E+01	0.000E+00	FAIL ABUN
IR-192	-6.763E-04	3.129E-02	5.469E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	4.342E-01	4.761E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.631E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.833E+00	1.312E+01	2.265E+01	0.000E+00	NOT IDENT.
TL-202	2.605E-02	6.895E-02	1.206E-01	0.000E+00	NOT IDENT.
HG-203	1.059E-02	3.943E-02	7.051E-02	0.000E+00	NOT IDENT.
BI-207	2.788E-02	5.341E-02	9.292E-02	0.000E+00	FAIL ABUN
TL-207	-3.126E-02	7.004E-01	1.071E+00	0.000E+00	FAIL ABUN
PO-209	7.866E+00	7.142E+00	1.314E+01	0.000E+00	NOT IDENT.
BI-210	1.330E+01	9.335E+00	1.780E+01	0.000E+00	NOT IDENT.
PB-210	1.330E+01	9.335E+00	1.780E+01	0.000E+00	NOT IDENT.
PO-210	1.330E+01	9.321E+00	1.780E+01	0.000E+00	NOT IDENT.
PB-211	3.044E-01	9.576E-01	1.451E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.282E-01	6.480E-01	0.000E+00	FAIL ABUN
PO-215	-3.126E-02	7.004E-01	1.071E+00	0.000E+00	FAIL ABUN
RN-219	1.099E-01	3.856E-01	6.727E-01	0.000E+00	FAIL ABUN
RN-220	9.426E+00	2.506E+01	4.303E+01	0.000E+00	NOT IDENT.
RA-223	-3.126E-02	7.004E-01	1.071E+00	0.000E+00	FAIL ABUN
AC-227	1.971E-01	3.363E-01	6.120E-01	0.000E+00	FAIL ABUN
TH-227	1.971E-01	3.368E-01	6.120E-01	0.000E+00	FAIL ABUN
TH-229	1.288E-01	4.820E-01	8.234E-01	0.000E+00	FAIL ABUN
PA-231	2.478E-01	1.414E+00	2.516E+00	0.000E+00	FAIL ABUN
TH-231	-3.126E-02	7.004E-01	1.071E+00	0.000E+00	FAIL ABUN
U-231	9.733E-01	2.566E+00	3.290E+00	0.000E+00	FAIL ABUN
PA-233	-2.608E-03	5.865E-02	1.025E-01	0.000E+00	FAIL ABUN
PA-234	1.004E-01	3.020E-01	5.215E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	7.992E+00	1.153E+01	0.000E+00	FAIL ABUN
NP-236	-1.230E-01	8.010E-02	1.276E-01	0.000E+00	FAIL ABUN
NP-239	3.567E-02	1.931E-01	3.240E-01	0.000E+00	FAIL ABUN
AM-241	-9.785E-03	2.717E-01	4.422E-01	0.000E+00	NOT IDENT.
CM-243	1.002E-01	1.031E-01	1.794E-01	0.000E+00	FAIL ABUN
AM-246	1.694E-01	1.444E-01	2.642E-01	0.000E+00	NOT IDENT.
CM-247	-3.199E-02	3.526E-02	5.706E-02	0.000E+00	NOT IDENT.
CF-249	2.921E-02	3.525E-02	6.367E-02	0.000E+00	NOT IDENT.
CF-251	2.804E-02	1.235E-01	2.119E-01	0.000E+00	NOT IDENT.

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032522.CNF;1
Sample date        : 27-JAN-2010 12:00:00 Acquisition date : 14-FEB-2010 13:18:21
Sample ID          : G1202032522      Sample quantity   : 1.38840E+02 GRAM
Detector name      : GAM10             Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00    Elapsed real time: 0 02:00:01.17  0.0%
Energy tolerance    : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit     : 75.00000          Sensitivity       : 5.00000
Batch ID           : 948721             Detector SN#      :
Matrix Spike ID    :                    LCS ID          : 1032-A
*****

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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	1068	10.67*	1.108E+00	2.443E+01	2.443E+01	10.72
CD-109	88.03	232	3.72*	5.244E+00	3.213E+00	3.301E+00	37.68
SN-126	64.28	564	9.60	2.218E+00	7.159E+00	7.159E+00	27.40
	86.94	232	8.90	5.244E+00	1.343E+00	1.343E+00	55.28
	87.57	232	37.00*	5.244E+00	3.231E-01	3.231E-01	37.68
BA-137M	661.65	317	89.98*	2.356E+00	4.044E-01	4.048E-01	17.70
CS-137	661.65	317	85.12*	2.356E+00	4.275E-01	4.280E-01	17.70
LU-177	112.95	99	6.40	6.603E+00	6.310E-01	4.091E+00	80.58
	208.36	150	11.00*	5.577E+00	6.594E-01	4.275E+00	45.51
TL-208	277.35	-----	6.80	4.610E+00	-----	Line Not Found	-----
	510.84	52	21.60	2.929E+00	2.226E-01	2.226E-01	124.12
	583.14	353	84.20*	2.628E+00	4.309E-01	4.309E-01	21.11
	860.37	51	12.46	1.841E+00	6.037E-01	6.037E-01	60.68
BI-211	72.87	-----	1.27	3.633E+00	-----	Line Not Found	-----
	351.07	714	12.94*	3.890E+00	3.835E+00	3.835E+00	14.71
PB-212	74.81	249	10.70	3.859E+00	1.633E+00	1.633E+00	32.97
	77.11	528	18.00	4.142E+00	1.913E+00	1.913E+00	19.84
	87.30	232	8.00	5.244E+00	1.494E+00	1.494E+00	38.98
	238.63	1231	44.60*	5.118E+00	1.458E+00	1.458E+00	10.38
	300.09	65	3.41	4.361E+00	1.187E+00	1.187E+00	108.01
PO-212	74.81	249	10.70	3.859E+00	1.633E+00	1.633E+00	32.97
	77.11	528	18.00	4.142E+00	1.913E+00	1.913E+00	19.84
	87.30	232	8.00	5.244E+00	1.494E+00	1.494E+00	38.98
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1231	44.60*	5.118E+00	1.458E+00	1.458E+00	10.38
	300.09	65	3.41	4.361E+00	1.187E+00	1.187E+00	108.01
BI-214	609.31	494	46.30*	2.532E+00	1.138E+00	1.139E+00	15.74
	1120.29	98	15.10	1.415E+00	1.237E+00	1.237E+00	45.68
	1764.49	79	15.80	9.766E-01	1.386E+00	1.386E+00	31.44
PB-214	74.81	249	6.21	3.859E+00	2.813E+00	2.813E+00	32.47
	77.11	528	10.50	4.142E+00	3.280E+00	3.280E+00	21.25
	87.30	232	4.67	5.244E+00	2.560E+00	2.560E+00	38.46

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	249	7.49	5.073E+00	1.770E+00	1.770E+00	30.96
	295.21	401	19.20	4.414E+00	1.280E+00	1.280E+00	18.98
	351.92	714	37.20*	3.890E+00	1.334E+00	1.334E+00	15.61
	74.81	249	6.21	3.859E+00	2.813E+00	2.813E+00	32.47
	77.11	528	10.50	4.142E+00	3.280E+00	3.280E+00	21.25
	87.30	232	4.67	5.244E+00	2.560E+00	2.560E+00	38.46
	241.98	249	7.49	5.073E+00	1.770E+00	1.770E+00	30.96
PO-216	295.21	401	19.20	4.414E+00	1.280E+00	1.280E+00	18.98
	351.92	714	37.20*	3.890E+00	1.334E+00	1.334E+00	15.61
	74.81	249	10.70	3.859E+00	1.633E+00	1.633E+00	32.97
	77.11	528	18.00	4.142E+00	1.913E+00	1.913E+00	19.84
	87.30	232	8.00	5.244E+00	1.494E+00	1.494E+00	38.98
	238.63	1231	44.60*	5.118E+00	1.458E+00	1.458E+00	10.38
	300.09	65	3.41	4.361E+00	1.187E+00	1.187E+00	108.01
PO-218	74.81	249	6.21	3.859E+00	2.813E+00	2.813E+00	32.47
	77.11	528	10.50	4.142E+00	3.280E+00	3.280E+00	21.25
	87.30	232	4.67	5.244E+00	2.560E+00	2.560E+00	38.46
	241.98	249	7.49	5.073E+00	1.770E+00	1.770E+00	30.96
	295.21	401	19.20	4.414E+00	1.280E+00	1.280E+00	18.98
	351.92	714	37.20*	3.890E+00	1.334E+00	1.334E+00	15.61
	240.98	249	3.95*	5.073E+00	3.356E+00	3.356E+00	30.45
RA-224	609.31	494	46.30*	2.532E+00	1.138E+00	1.139E+00	15.74
AC-228	1120.29	98	15.10	1.415E+00	1.237E+00	1.237E+00	45.68
	1764.49	79	15.80	9.766E-01	1.386E+00	1.386E+00	31.44
	338.32	201	11.40	4.002E+00	1.194E+00	1.194E+00	49.41
RA-228	911.07	266	27.70*	1.740E+00	1.490E+00	1.490E+00	20.73
	969.11	105	16.60	1.636E+00	1.046E+00	1.046E+00	48.80
	338.32	201	11.40	4.002E+00	1.194E+00	1.194E+00	49.41
TH-228	911.07	266	27.70*	1.740E+00	1.490E+00	1.490E+00	20.73
	969.11	105	16.60	1.636E+00	1.046E+00	1.046E+00	48.80
	74.81	249	10.70	3.859E+00	1.633E+00	1.662E+00	31.63
TH-230	77.11	528	18.00	4.142E+00	1.913E+00	1.948E+00	19.84
	87.30	232	8.00	5.244E+00	1.494E+00	1.521E+00	37.68
	238.63	1231	44.60*	5.118E+00	1.458E+00	1.484E+00	10.38
	300.09	65	3.41	4.361E+00	1.187E+00	1.209E+00	122.77
	609.31	494	46.30*	2.532E+00	1.138E+00	1.138E+00	15.74
TH-232	1120.29	98	15.10	1.415E+00	1.237E+00	1.237E+00	45.68
	1764.49	79	15.80	9.766E-01	1.386E+00	1.386E+00	31.44
	338.32	201	11.40	4.002E+00	1.194E+00	1.194E+00	28.51
TH-234	911.07	266	27.70*	1.740E+00	1.490E+00	1.490E+00	20.73
	969.11	105	16.60	1.636E+00	1.046E+00	1.046E+00	48.80
	63.29	564	3.80*	2.218E+00	1.809E+01	1.809E+01	29.05
U-234	92.38	1615	5.41	5.694E+00	1.418E+01	1.418E+01	20.18
	609.31	494	46.30*	2.532E+00	1.138E+00	1.138E+00	15.74
	1120.29	98	15.10	1.415E+00	1.237E+00	1.237E+00	45.68
U-235	1764.49	79	15.80	9.766E-01	1.386E+00	1.386E+00	31.44
	89.95	139	2.70	5.480E+00	2.540E+00	2.540E+00	66.52
	93.35	1615	4.50	5.694E+00	1.704E+01	1.704E+01	29.43
	105.00	-----	2.10	6.385E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	143.76	132	10.50*	6.667E+00	5.109E-01	5.109E-01	67.49
	163.35	-----	4.70	6.374E+00	-----	Line Not Found	-----
	185.71	505	54.00	5.984E+00	4.227E-01	4.227E-01	19.14
	205.31	-----	4.70	5.638E+00	-----	Line Not Found	-----
NP-237	86.50	232	12.60*	5.244E+00	9.486E-01	9.486E-01	42.96
	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
U-238	63.29	564	3.80*	2.218E+00	1.809E+01	1.809E+01	29.05
	92.38	1615	5.41	5.694E+00	1.418E+01	1.418E+01	12.44
AM-243	74.67	249	66.00*	3.859E+00	2.647E-01	2.647E-01	31.61
	86.72	232	0.34	5.244E+00	3.557E+01	3.557E+01	37.68
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----
	142.18	132	0.13	6.667E+00	4.292E+01	4.292E+01	65.75
ANH-511	511.00	52	100.00*	2.929E+00	4.809E-02	4.809E-02	123.84

Flag: "*" = Keyline

Total number of lines in spectrum 38
Number of unidentified lines 4
Number of lines tentatively identified by NID 34 89.47%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.443E+01	2.443E+01	0.262E+01	10.72	
CD-109	464.00D	1.03	3.213E+00	3.301E+00	1.244E+00	37.68	
SN-126	1.00E+05Y	1.00	3.231E-01	3.231E-01	1.217E-01	37.68	
BA-137M	30.17Y	1.00	4.044E-01	4.048E-01	0.716E-01	17.70	
CS-137	30.17Y	1.00	4.275E-01	4.280E-01	0.758E-01	17.70	
LU-177	6.71D	6.48	6.594E-01	4.275E+00	1.946E+00	45.51	
TL-208	1.41E+10Y	1.00	4.309E-01	4.309E-01	0.909E-01	21.11	
BI-211	7.04E+08Y	1.00	3.835E+00	3.835E+00	0.564E+00	14.71	
PB-212	1.41E+10Y	1.00	1.458E+00	1.458E+00	0.151E+00	10.38	
PO-212	1.41E+10Y	1.00	1.458E+00	1.458E+00	0.151E+00	10.38	
BI-214	1600.00Y	1.00	1.138E+00	1.139E+00	0.179E+00	15.74	
PB-214	1600.00Y	1.00	1.334E+00	1.334E+00	0.208E+00	15.61	
PO-214	1600.00Y	1.00	1.334E+00	1.334E+00	0.208E+00	15.61	
PO-216	1.41E+10Y	1.00	1.458E+00	1.458E+00	0.151E+00	10.38	
PO-218	1600.00Y	1.00	1.334E+00	1.334E+00	0.208E+00	15.61	
RA-224	1.41E+10Y	1.00	3.356E+00	3.356E+00	1.022E+00	30.45	
RA-226	1600.00Y	1.00	1.138E+00	1.139E+00	0.179E+00	15.74	
AC-228	1.41E+10Y	1.00	1.490E+00	1.490E+00	0.309E+00	20.73	
RA-228	1.41E+10Y	1.00	1.490E+00	1.490E+00	0.309E+00	20.73	
TH-228	1.91Y	1.02	1.458E+00	1.484E+00	0.154E+00	10.38	
TH-230	4.47E+09Y	1.00	1.138E+00	1.138E+00	0.179E+00	15.74	
TH-232	1.41E+10Y	1.00	1.490E+00	1.490E+00	0.309E+00	20.73	
TH-234	4.47E+09Y	1.00	1.809E+01	1.809E+01	0.525E+01	29.05	
U-234	4.47E+09Y	1.00	1.138E+00	1.138E+00	0.179E+00	15.74	
U-235	7.04E+08Y	1.00	5.109E-01	5.109E-01	3.448E-01	67.49	
NP-237	2.14E+06Y	1.00	9.486E-01	9.486E-01	4.075E-01	42.96	
U-238	4.47E+09Y	1.00	1.809E+01	1.809E+01	0.525E+01	29.05	
AM-243	7380.00Y	1.00	2.647E-01	2.647E-01	0.837E-01	31.61	
ANH-511	1.00E+09Y	1.00	4.809E-02	4.809E-02	5.955E-02	123.84	

Total Activity : 9.389E+01 9.762E+01

Grand Total Activity : 9.389E+01 9.762E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202032522

Page : 5
Acquisition date : 14-FEB-2010 13:18:21

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	98.35	195	601	1.42	196.79	192	11	2.71E-02	51.1	6.08E+00	T
0	270.12	106	258	0.92	540.05	535	11	1.47E-02	62.7	4.70E+00	T
0	327.60	71	185	1.16	654.94	650	10	9.90E-03	75.9	4.09E+00	T
0	409.03	47	102	1.05	817.69	815	8	6.47E-03	80.2	3.48E+00	
0	462.88	59	111	1.40	925.32	921	9	8.20E-03	69.6	3.17E+00	T
0	726.95	101	71	1.37	1453.23	1448	12	1.41E-02	39.9	2.16E+00	T
0	1000.41	106	59	1.23	2000.03	1993	14	1.47E-02	36.6	1.58E+00	T
0	1238.00	38	69	1.89	2475.21	2467	12	5.31E-03	92.7	1.28E+00	T
0	1376.64	34	23	1.36	2752.54	2746	14	4.75E-03	70.7	1.16E+00	T
5	1586.60	29	16	3.30	3172.61	3165	23	4.02E-03	69.9	1.04E+00	
5	1592.04	15	10	2.03	3183.49	3165	23	2.11E-03	92.9	1.04E+00	
0	1629.91	22	3	0.72	3259.27	3253	11	3.07E-03	51.7	1.02E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032522.CNF;1
* Acquisition date   : 14-FEB-2010 13:18:21  Detector SN#      :
* Detector ID        : GAM10                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 02:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 02:00:01.17          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G1202032522          Analyst initials: MXR1
* Batch Number       : 948721               Sample Quantity  : 1.38840E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08.8MS Isotope      :
* MSD ID             :                          MSD Isotope   :
* LCS ID             : 1032-A                  LCS Isotope    :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.443E+01	2.620E+00	2.782E-01	2.396E-02	87.828
CD-109	3.301E+00	1.244E+00	1.600E+00	1.814E-01	2.063
SN-126	3.231E-01	1.217E-01	1.577E-01	1.785E-02	2.048
BA-137M	4.048E-01	7.164E-02	5.458E-02	2.693E-03	7.418
CS-137	4.280E-01	7.577E-02	5.769E-02	2.863E-03	7.418
LU-177	4.275E+00	1.946E+00	2.342E+00	1.368E-01	1.826
TL-208	4.309E-01	9.095E-02	5.541E-02	3.723E-03	7.776
BI-211	3.835E+00	5.642E-01	3.193E-01	2.328E-02	12.011
PB-212	1.458E+00	1.513E-01	8.451E-02	6.411E-03	17.251
PO-212	1.458E+00	1.513E-01	8.451E-02	6.411E-03	17.251
BI-214	1.139E+00	1.792E-01	9.744E-02	7.415E-03	11.684
PB-214	1.334E+00	2.083E-01	1.113E-01	9.980E-03	11.987
PO-214	1.334E+00	2.083E-01	1.113E-01	9.980E-03	11.987
PO-216	1.458E+00	1.513E-01	8.451E-02	6.411E-03	17.251
PO-218	1.334E+00	2.083E-01	1.113E-01	9.980E-03	11.987
RA-224	3.356E+00	1.022E+00	9.616E-01	5.902E-02	3.490
RA-226	1.139E+00	1.792E-01	9.744E-02	7.415E-03	11.684
AC-228	1.490E+00	3.089E-01	1.695E-01	2.092E-02	8.789

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.490E+00	3.089E-01	1.695E-01	2.092E-02	8.789
TH-228	1.484E+00	1.541E-01	8.604E-02	6.527E-03	17.251
TH-230	1.138E+00	1.792E-01	9.744E-02	7.415E-03	11.684
TH-232	1.490E+00	3.089E-01	1.695E-01	2.092E-02	8.789
TH-234	1.809E+01	5.254E+00	2.991E+00	5.895E-01	6.047
U-234	1.138E+00	1.792E-01	9.744E-02	7.415E-03	11.684
U-235	5.109E-01	3.448E-01	3.270E-01	5.346E-02	1.563
NP-237	9.486E-01	4.075E-01	4.948E-01	1.163E-01	1.917
U-238	1.809E+01	5.254E+00	2.991E+00	5.895E-01	6.047
AM-243	2.647E-01	8.368E-02	1.149E-01	1.258E-02	2.304
ANH-511	4.809E-02	5.955E-02	4.597E-02	2.945E-03	1.046

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	6.054E-02		3.315E-01	5.420E-01	4.031E-02	0.112
NA-22	-2.265E-02		4.424E-02	6.988E-02	5.413E-03	-0.324
NA-24	4.406E+00		9.346E+00	Half-Life too short		
AL-26	1.781E-02		2.627E-02	4.855E-02	3.078E-03	0.367
TI-44	1.425E-01		5.120E-02	7.980E-02	8.732E-03	1.785
SC-46	-3.178E-02		3.643E-02	5.393E-02	5.337E-03	-0.589
V-48	-2.655E-02		6.909E-02	1.071E-01	9.900E-03	-0.248
CR-51	-6.318E-02		3.690E-01	6.054E-01	4.372E-02	-0.104
MN-52	-1.310E-01		2.632E-01	3.948E-01	3.337E-02	-0.332
MN-54	3.522E-02		3.820E-02	6.693E-02	5.718E-03	0.526
CO-56	1.148E-02		3.780E-02	6.369E-02	5.624E-03	0.180
CO-57	3.461E-03		2.515E-02	4.098E-02	2.703E-03	0.084
CO-58	-3.454E-03		3.571E-02	5.825E-02	4.661E-03	-0.059
FE-59	-4.781E-03		9.345E-02	1.494E-01	1.247E-02	-0.032
CO-60	-2.070E-02		3.559E-02	5.451E-02	4.737E-03	-0.380
ZN-65	2.930E-02		9.568E-02	1.382E-01	1.007E-02	0.212
GE-68	7.376E-01		1.297E+00	2.200E+00	1.743E-01	0.335
AS-73	6.958E-01		1.754E+00	2.969E+00	3.928E-01	0.234
AS-74	8.149E-03		9.367E-02	1.585E-01	9.054E-03	0.051
SE-75	-5.955E-02		4.807E-02	6.429E-02	4.101E-03	-0.926
BR-77	1.460E+01		2.195E+01	3.708E+01	2.352E+00	0.394
SR-82	-1.476E-01		3.892E-01	6.179E-01	4.455E-02	-0.239
RB-83	3.969E-02		6.290E-02	1.060E-01	6.728E-03	0.374
RB-84	-3.386E-02		7.115E-02	1.110E-01	1.076E-02	-0.305
KR-85	5.998E+00		6.911E+00	1.055E+01	6.739E-01	0.569
SR-85	3.172E-02		3.655E-02	5.579E-02	3.564E-03	0.569
RB-86	6.117E-01		9.113E-01	1.559E+00	1.237E-01	0.392
Y-88	-1.164E-02		3.737E-02	5.673E-02	3.480E-03	-0.205
ZR-88	-3.314E-03		2.871E-02	4.662E-02	3.168E-03	-0.071
Y-91	1.584E+01		2.048E+01	3.617E+01	2.402E+00	0.438
NB-94	-6.367E-03		3.109E-02	5.090E-02	2.898E-03	-0.125
NB-95	9.803E-02		4.518E-02	8.443E-02	5.892E-03	1.161

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	8.735E-02		1.346E-01	2.067E-01	1.603E-02	0.423
ZR-95	1.196E-02		6.586E-02	1.106E-01	8.689E-03	0.108
NB-97	2.259E+00		9.662E-01	Half-Life too short		
ZR-97	3.712E+01		1.829E+01	Half-Life too short		
MO-99	3.744E+00		2.528E+01	4.233E+01	5.950E+00	0.088
TC-99M	-3.710E+13		7.147E+13	Half-Life too short		
RH-101	7.303E-03		3.286E-02	5.182E-02	2.977E-03	0.141
RH-102	1.481E-02		2.865E-02	4.789E-02	3.159E-03	0.309
RU-103	4.839E-03		3.766E-02	6.126E-02	7.948E-03	0.079
RH-106	2.176E-02		2.979E-01	5.022E-01	5.805E-02	0.043
RU-106	2.176E-02		2.979E-01	5.022E-01	2.728E-02	0.043
AG-108M	-4.532E-04		3.126E-02	5.076E-02	3.639E-03	-0.009
AG-110M	3.044E-02		3.775E-02	5.927E-02	3.211E-03	0.514
IN-111	1.392E+00		2.158E+00	3.328E+00	2.055E-01	0.418
IN-113M	-4.192E-02		4.197E-02	6.402E-02	4.565E-03	-0.655
SN-113	-4.192E-02		4.197E-02	6.402E-02	4.565E-03	-0.655
IN-114M	1.028E-01		2.003E-01	2.908E-01	1.649E-02	0.354
CD-115	1.402E-05		1.273E-05	Half-Life too short		
SN-117M	7.932E-03		6.174E-02	9.932E-02	5.570E-03	0.080
SB-122	2.608E+00		4.186E+00	6.999E+00	4.209E-01	0.373
I-123	-2.166E+02		1.170E+02	Half-Life too short		
TE-123M	-2.633E-02		2.844E-02	4.357E-02	2.475E-03	-0.604
I-124	-7.599E-01		1.100E+00	1.494E+00	8.431E-02	-0.508
SB-124	-8.008E-03		5.789E-02	9.083E-02	6.901E-03	-0.088
SB-125	2.010E-02		8.964E-02	1.479E-01	1.030E-02	0.136
TE-125M	4.968E+00		1.162E+01	1.722E+01	1.654E+00	0.289
I-126	1.083E-01		2.205E-01	3.364E-01	1.688E-02	0.322
SB-126	6.737E-02		1.777E-01	2.779E-01	1.679E-02	0.242
SB-127	-4.685E-01		1.934E+00	3.154E+00	3.238E-01	-0.149
XE-127	5.927E-03		4.677E-02	7.974E-02	4.618E-03	0.074
I-131	-8.844E-02		1.370E-01	2.158E-01	1.593E-02	-0.410
TE-132	9.719E-01		1.221E+00	2.110E+00	3.183E-01	0.461
BA-133	2.381E-03		4.536E-02	6.577E-02	7.935E-03	0.036
I-133	-1.875E-02		3.111E-02	Half-Life too short		
CS-134	2.611E-02		4.620E-02	7.934E-02	6.116E-03	0.329
CS-135	2.494E-01		1.689E-01	2.695E-01	2.178E-02	0.925
I-135	5.461E+12		4.197E+12	Half-Life too short		
CS-136	-9.513E-02		1.283E-01	1.926E-01	1.687E-02	-0.494
CE-139	-3.963E-02		3.161E-02	4.765E-02	2.603E-03	-0.832
BA-140	-6.450E-02		2.762E-01	4.325E-01	1.410E-01	-0.149
LA-140	2.698E-02		1.004E-01	1.498E-01	1.163E-02	0.180
CE-141	4.314E-02		7.417E-02	1.094E-01	6.695E-03	0.394
CE-143	3.008E-03		4.941E-04	Half-Life too short		
CE-144	4.230E-02		2.108E-01	3.426E-01	4.923E-02	0.123
PM-144	1.740E-02		3.470E-02	5.969E-02	3.332E-03	0.292
PR-144	1.181E+00		2.355E+00	4.051E+00	2.259E-01	0.292
PM-146	6.587E-03		4.334E-02	7.093E-02	6.551E-03	0.093
ND-147	-1.036E-01		6.661E-01	1.055E+00	1.449E-01	-0.098

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	-1.391E-04		1.075E-04	Half-Life too short		
EU-152	2.060E-02		9.937E-02	1.539E-01	1.134E-02	0.134
GD-153	2.923E-01	+	1.518E-01	1.580E-01	1.471E-02	1.851
EU-154	-4.182E-02		1.221E-01	1.962E-01	2.090E-02	-0.213
EU-155	1.247E-01		1.136E-01	1.920E-01	1.592E-02	0.650
TB-160	-6.818E-03		1.350E-01	2.198E-01	2.120E-02	-0.031
HO-166M	-2.105E-02		5.658E-02	9.128E-02	5.357E-03	-0.231
TM-171	-3.333E+00		4.067E+01	6.031E+01	6.871E+00	-0.055
LU-176	-5.994E-03		2.558E-02	3.666E-02	2.411E-03	-0.164
LU-177M	-9.212E-02		1.913E-01	2.609E-01	1.768E-02	-0.353
HF-181	1.825E-02		4.074E-02	6.791E-02	4.458E-03	0.269
W-181	3.759E-01		5.474E-01	8.378E-01	9.680E-02	0.449
TA-182	-1.071E-01		1.882E-01	2.982E-01	2.056E-02	-0.359
RE-183	1.017E-01		1.149E-01	1.901E-01	1.052E-02	0.535
RE-184	8.766E-02		2.078E-01	3.557E-01	2.218E-02	0.246
OS-185	-8.881E-04		3.717E-02	6.205E-02	3.188E-03	-0.014
RE-188	1.948E-02		1.766E-01	2.841E-01	1.614E-02	0.069
W-188	8.460E-02		7.770E+00	1.139E+01	7.397E-01	0.007
IR-192	-6.763E-04		3.192E-02	5.285E-02	3.513E-03	-0.013
AU-195	8.535E-01	+	4.431E-01	4.500E-01	4.083E-02	1.897
TL-200	-1.412E-03		1.342E-03	Half-Life too short		
TL-201	3.833E+00		1.339E+01	2.162E+01	1.183E+00	0.177
TL-202	2.605E-02		7.035E-02	1.173E-01	7.889E-03	0.222
HG-203	1.059E-02		4.024E-02	6.797E-02	4.587E-03	0.156
BI-207	2.788E-02		5.450E-02	9.200E-02	7.489E-03	0.303
TL-207	-3.126E-02		7.147E-01	1.036E+00	1.744E-01	-0.030
PO-209	7.866E+00		7.287E+00	1.297E+01	1.308E+00	0.607
BI-210	1.330E+01		9.526E+00	1.659E+01	1.628E+00	0.801
PB-210	1.330E+01		9.526E+00	1.659E+01	1.628E+00	0.801
PO-210	1.330E+01		9.511E+00	1.659E+01	1.490E+00	0.801
PB-211	3.044E-01		9.771E-01	1.409E+00	8.800E-01	0.216
BI-212	1.075E+00	+	4.369E-01	6.366E-01	5.093E-02	1.688
PO-215	-3.126E-02		7.147E-01	1.036E+00	1.744E-01	-0.030
RN-219	1.099E-01		3.934E-01	6.531E-01	9.180E-02	0.168
RN-220	9.426E+00		2.557E+01	4.204E+01	2.578E+00	0.224
RA-223	-3.126E-02		7.147E-01	1.036E+00	1.744E-01	-0.030
AC-227	1.971E-01		3.431E-01	5.890E-01	8.339E-02	0.335
TH-227	1.971E-01		3.436E-01	5.890E-01	1.005E-01	0.335
TH-229	1.288E-01		4.919E-01	7.881E-01	4.495E-02	0.163
PA-231	2.478E-01		1.443E+00	2.426E+00	3.413E-01	0.102
TH-231	-3.126E-02		7.147E-01	1.036E+00	1.744E-01	-0.030
U-231	9.733E-01		2.618E+00	3.107E+00	2.978E-01	0.313
PA-233	-2.608E-03		5.985E-02	9.905E-02	6.854E-03	-0.026
PA-234	1.004E-01		3.082E-01	5.151E-01	9.925E-02	0.195
PA-234M	2.146E+01	+	8.155E+00	1.140E+01	1.177E+00	1.883
NP-236	-1.230E-01		8.173E-02	1.217E-01	6.784E-03	-1.010
NP-239	3.567E-02		1.970E-01	3.072E-01	2.149E-02	0.116
AM-241	-9.785E-03		2.772E-01	4.140E-01	5.317E-02	-0.024

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.002E-01		1.052E-01	1.697E-01	1.422E-02	0.591
AM-246	1.694E-01		1.473E-01	2.616E-01	2.066E-02	0.648
CM-247	-3.199E-02		3.598E-02	5.540E-02	3.762E-03	-0.577
CF-249	2.921E-02		3.596E-02	6.178E-02	4.198E-03	0.473
CF-251	2.804E-02		1.260E-01	2.024E-01	1.123E-02	0.139

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202032522          *
* Acquisition date   : 14-FEB-2010 13:18:21 Detector SN#      :              *
* Detector ID        : GAM10 Sensitivity      : 5.000              *
* Geometry           : CAN Energy tolerance: 1.500              *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000      *
* Elapsed real time  : 0 02:00:01.17 Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 27-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202032522 Analyst initials: MXR1          *
* Batch Number       : 948721 Sample Quantity : 1.3884E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight : 0.00000            *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 16-MAR-2009 13:18:08 MS Isotope          :          *
* MSD DPM             : 0.000 MSD Isotope                        :          *
* LCS DPM             : 0.000 LCS Isotope                        :          *
* LCSD DPM            : 0.000 LCSD Isotope                       :          *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.443E+01	2.568E+00	1.397E-01	1.310E+00
CD-109	3.301E+00	1.219E+00	8.489E-01	6.219E-01
SN-126	3.231E-01	1.193E-01	8.369E-02	6.086E-02
BA-137M	4.048E-01	7.021E-02	2.784E-02	3.582E-02
CS-137	4.280E-01	7.425E-02	2.943E-02	3.788E-02
LU-177	4.275E+00	1.907E+00	1.222E+00	9.728E-01
TL-208	4.309E-01	8.913E-02	2.834E-02	4.547E-02
BI-211	3.835E+00	5.529E-01	1.650E-01	2.821E-01
PB-212	1.458E+00	1.483E-01	4.399E-02	7.567E-02
PO-212	1.458E+00	1.483E-01	4.399E-02	7.567E-02
BI-214	1.139E+00	1.756E-01	4.980E-02	8.961E-02
PB-214	1.334E+00	2.041E-01	5.750E-02	1.041E-01
PO-214	1.334E+00	2.041E-01	5.750E-02	1.041E-01
PO-216	1.458E+00	1.483E-01	4.399E-02	7.567E-02
PO-218	1.334E+00	2.041E-01	5.750E-02	1.041E-01
RA-224	3.356E+00	1.001E+00	5.005E-01	5.108E-01
RA-226	1.139E+00	1.756E-01	4.980E-02	8.961E-02
AC-228	1.490E+00	3.027E-01	8.593E-02	1.544E-01
RA-228	1.490E+00	3.027E-01	8.593E-02	1.544E-01
TH-228	1.484E+00	1.510E-01	4.479E-02	7.705E-02
TH-230	1.138E+00	1.756E-01	4.980E-02	8.961E-02
TH-232	1.490E+00	3.027E-01	8.593E-02	1.544E-01
TH-234	1.809E+01	5.149E+00	1.596E+00	2.627E+00
U-234	1.138E+00	1.756E-01	4.980E-02	8.961E-02
U-235	5.109E-01	3.379E-01	1.719E-01	1.724E-01
NP-237	9.486E-01	3.994E-01	2.626E-01	2.038E-01
U-238	1.809E+01	5.149E+00	1.596E+00	2.627E+00
AM-243	2.647E-01	8.201E-02	6.114E-02	4.184E-02
ANH-511	4.809E-02	5.836E-02	2.358E-02	2.978E-02

---- Non-Identified Nuclides ----

Key-Line Activity	K.L Act error	DLC	TPU
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Nuclide	(pCi/GRAM)		(pCi/GRAM)		
BE-7	6.054E-02	3.249E-01	2.784E-01	1.658E-01	NOT IDENT.
NA-22	-2.265E-02	4.336E-02	3.518E-02	2.212E-02	NOT IDENT.
NA-24	4.406E+06	1.832E+07	0.000E+00	9.346E+06	SHORT HLIF
AL-26	1.781E-02	2.574E-02	2.426E-02	1.313E-02	NOT IDENT.
TI-44	1.425E-01	5.018E-02	4.243E-02	2.560E-02	NOT IDENT.
SC-46	-3.178E-02	3.570E-02	2.735E-02	1.822E-02	FAIL ABUN
V-48	-2.655E-02	6.771E-02	5.418E-02	3.454E-02	NOT IDENT.
CR-51	-6.318E-02	3.616E-01	3.133E-01	1.845E-01	NOT IDENT.
MN-52	-1.310E-01	2.580E-01	1.983E-01	1.316E-01	NOT IDENT.
MN-54	3.522E-02	3.744E-02	3.399E-02	1.910E-02	NOT IDENT.
CO-56	1.148E-02	3.705E-02	3.233E-02	1.890E-02	FAIL ABUN
CO-57	3.461E-03	2.465E-02	2.161E-02	1.257E-02	NOT IDENT.
CO-58	-3.454E-03	3.500E-02	2.960E-02	1.786E-02	NOT IDENT.
FE-59	-4.781E-03	9.158E-02	7.547E-02	4.672E-02	FAIL ABUN
CO-60	-2.070E-02	3.487E-02	2.742E-02	1.779E-02	NOT IDENT.
ZN-65	2.930E-02	9.376E-02	6.978E-02	4.784E-02	NOT IDENT.
GE-68	7.376E-01	1.271E+00	1.111E+00	6.487E-01	NOT IDENT.
AS-73	6.958E-01	1.719E+00	1.590E+00	8.770E-01	NOT IDENT.
AS-74	8.149E-03	9.180E-02	8.103E-02	4.684E-02	NOT IDENT.
SE-75	-5.955E-02	4.711E-02	3.340E-02	2.403E-02	NOT IDENT.
BR-77	1.460E+01	2.151E+01	1.901E+01	1.097E+01	FAIL ABUN
SR-82	-1.476E-01	3.815E-01	3.142E-01	1.946E-01	NOT IDENT.
RB-83	3.969E-02	6.164E-02	5.435E-02	3.145E-02	NOT IDENT.
RB-84	-3.386E-02	6.972E-02	5.629E-02	3.557E-02	NOT IDENT.
KR-85	5.998E+00	6.773E+00	5.410E+00	3.456E+00	NOT IDENT.
SR-85	3.172E-02	3.582E-02	2.861E-02	1.827E-02	NOT IDENT.
RB-86	6.117E-01	8.931E-01	7.875E-01	4.557E-01	NOT IDENT.
Y-88	-1.164E-02	3.662E-02	2.834E-02	1.868E-02	NOT IDENT.
ZR-88	-3.314E-03	2.814E-02	2.403E-02	1.436E-02	NOT IDENT.
Y-91	1.584E+01	2.007E+01	1.823E+01	1.024E+01	NOT IDENT.
NB-94	-6.367E-03	3.046E-02	2.594E-02	1.554E-02	NOT IDENT.
NB-95	9.803E-02	4.428E-02	4.295E-02	2.259E-02	NOT IDENT.
NB-95M	8.735E-02	1.319E-01	1.076E-01	6.728E-02	NOT IDENT.
ZR-95	1.196E-02	6.454E-02	5.629E-02	3.293E-02	NOT IDENT.
NB-97	2.259E+06	1.894E+06	0.000E+00	9.662E+05	SHORT HLIF
ZR-97	3.712E+07	3.585E+07	0.000E+00	1.829E+07	SHORT HLIF
MO-99	3.744E+00	2.477E+01	2.155E+01	1.264E+01	NOT IDENT.
TC-99M	-3.710E+19	1.401E+20	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.303E-03	3.220E-02	2.707E-02	1.643E-02	NOT IDENT.
RH-102	1.481E-02	2.807E-02	2.459E-02	1.432E-02	NOT IDENT.
RU-103	4.839E-03	3.690E-02	3.144E-02	1.883E-02	FAIL ABUN
RH-106	2.176E-02	2.920E-01	2.566E-01	1.490E-01	FAIL ABUN
RU-106	2.176E-02	2.920E-01	2.566E-01	1.490E-01	FAIL ABUN
AG-108M	-4.532E-04	3.063E-02	2.612E-02	1.563E-02	NOT IDENT.
AG-110M	3.044E-02	3.700E-02	3.025E-02	1.888E-02	NOT IDENT.
IN-111	1.392E+00	2.115E+00	1.731E+00	1.079E+00	NOT IDENT.
IN-113M	-4.192E-02	4.113E-02	3.301E-02	2.098E-02	NOT IDENT.
SN-113	-4.192E-02	4.113E-02	3.301E-02	2.098E-02	NOT IDENT.
IN-114M	1.028E-01	1.962E-01	1.521E-01	1.001E-01	NOT IDENT.
CD-115	1.402E+01	2.495E+01	0.000E+00	1.273E+01	SHORT HLIF
SN-117M	7.932E-03	6.050E-02	5.211E-02	3.087E-02	NOT IDENT.
SB-122	2.608E+00	4.102E+00	3.582E+00	2.093E+00	NOT IDENT.
I-123	-2.166E+08	2.293E+08	0.000E+00	1.170E+08	SHORT HLIF
TE-123M	-2.633E-02	2.787E-02	2.286E-02	1.422E-02	NOT IDENT.
I-124	-7.599E-01	1.078E+00	7.639E-01	5.502E-01	FAIL ABUN
SB-124	-8.008E-03	5.673E-02	4.546E-02	2.895E-02	FAIL ABUN
SB-125	2.010E-02	8.785E-02	7.612E-02	4.482E-02	FAIL ABUN
TE-125M	4.968E+00	1.138E+01	9.099E+00	5.808E+00	NOT IDENT.
I-126	1.083E-01	2.161E-01	1.716E-01	1.102E-01	NOT IDENT.
SB-126	6.737E-02	1.741E-01	1.416E-01	8.885E-02	NOT IDENT.
SB-127	-4.685E-01	1.895E+00	1.608E+00	9.669E-01	NOT IDENT.
XE-127	5.927E-03	4.583E-02	4.164E-02	2.338E-02	NOT IDENT.
I-131	-8.844E-02	1.342E-01	1.114E-01	6.849E-02	NOT IDENT.
TE-132	9.719E-01	1.196E+00	1.099E+00	6.103E-01	FAIL ABUN
BA-133	2.381E-03	4.445E-02	3.397E-02	2.268E-02	NOT IDENT.
I-133	-1.875E+04	6.097E+04	0.000E+00	3.111E+04	SHORT HLIF
CS-134	2.611E-02	4.527E-02	4.033E-02	2.310E-02	NOT IDENT.
CS-135	2.494E-01	1.656E-01	1.400E-01	8.447E-02	NOT IDENT.
I-135	5.461E+18	8.225E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.513E-02	1.258E-01	9.737E-02	6.417E-02	FAIL ABUN
CE-139	-3.963E-02	3.098E-02	2.498E-02	1.581E-02	NOT IDENT.
BA-140	-6.450E-02	2.706E-01	2.216E-01	1.381E-01	NOT IDENT.
LA-140	2.698E-02	9.838E-02	7.507E-02	5.019E-02	FAIL ABUN
CE-141	4.314E-02	7.269E-02	5.749E-02	3.709E-02	NOT IDENT.
CE-143	3.008E+03	9.685E+02	0.000E+00	4.941E+02	SHORT HLIF
CE-144	4.230E-02	2.066E-01	1.804E-01	1.054E-01	NOT IDENT.

PM-144	1.740E-02	3.401E-02	3.042E-02	1.735E-02	NOT IDENT.
PR-144	1.181E+00	2.308E+00	2.065E+00	1.178E+00	NOT IDENT.
PM-146	6.587E-03	4.248E-02	3.646E-02	2.167E-02	NOT IDENT.
ND-147	-1.036E-01	6.528E-01	5.406E-01	3.331E-01	FAIL ABUN
PM-149	-1.391E+02	2.106E+02	0.000E+00	1.075E+02	SHORT HLIF
EU-152	2.060E-02	9.738E-02	7.955E-02	4.968E-02	NOT IDENT.
GD-153	2.923E-01	1.487E-01	8.364E-02	7.588E-02	FAIL ABUN
EU-154	-4.182E-02	1.196E-01	9.877E-02	6.104E-02	NOT IDENT.
EU-155	1.247E-01	1.113E-01	1.015E-01	5.679E-02	FAIL ABUN
TB-160	-6.818E-03	1.323E-01	1.115E-01	6.750E-02	FAIL ABUN
HO-166M	-2.105E-02	5.545E-02	4.650E-02	2.829E-02	FAIL ABUN
TM-171	-3.333E+00	3.986E+01	3.216E+01	2.033E+01	NOT IDENT.
LU-176	-5.994E-03	2.506E-02	1.899E-02	1.279E-02	FAIL ABUN
LU-177M	-9.212E-02	1.875E-01	1.343E-01	9.565E-02	FAIL ABUN
HF-181	1.825E-02	3.993E-02	3.487E-02	2.037E-02	NOT IDENT.
W-181	3.759E-01	5.365E-01	4.469E-01	2.737E-01	NOT IDENT.
TA-182	-1.071E-01	1.844E-01	1.502E-01	9.408E-02	FAIL ABUN
RE-183	1.017E-01	1.126E-01	9.972E-02	5.746E-02	FAIL ABUN
RE-184	8.766E-02	2.037E-01	1.850E-01	1.039E-01	NOT IDENT.
OS-185	-8.881E-04	3.642E-02	3.167E-02	1.858E-02	NOT IDENT.
RE-188	1.948E-02	1.731E-01	1.491E-01	8.829E-02	NOT IDENT.
W-188	8.460E-02	7.614E+00	5.908E+00	3.885E+00	FAIL ABUN
IR-192	-6.763E-04	3.129E-02	2.736E-02	1.596E-02	FAIL ABUN
AU-195	8.535E-01	4.342E-01	2.382E-01	2.215E-01	FAIL ABUN
TL-200	-1.412E+03	2.631E+03	0.000E+00	1.342E+03	SHORT HLIF
TL-201	3.833E+00	1.312E+01	1.133E+01	6.693E+00	NOT IDENT.
TL-202	2.605E-02	6.895E-02	6.035E-02	3.518E-02	NOT IDENT.
HG-203	1.059E-02	3.943E-02	3.528E-02	2.012E-02	NOT IDENT.
BI-207	2.788E-02	5.341E-02	4.649E-02	2.725E-02	FAIL ABUN
TL-207	-3.126E-02	7.004E-01	5.360E-01	3.574E-01	FAIL ABUN
PO-209	7.866E+00	7.142E+00	6.574E+00	3.644E+00	NOT IDENT.
BI-210	1.330E+01	9.335E+00	8.908E+00	4.763E+00	NOT IDENT.
PB-210	1.330E+01	9.335E+00	8.908E+00	4.763E+00	NOT IDENT.
PO-210	1.330E+01	9.321E+00	8.908E+00	4.756E+00	NOT IDENT.
PB-211	3.044E-01	9.576E-01	7.262E-01	4.886E-01	NOT IDENT.
BI-212	1.075E+00	4.282E-01	3.242E-01	2.185E-01	FAIL ABUN
PO-215	-3.126E-02	7.004E-01	5.360E-01	3.574E-01	FAIL ABUN
RN-219	1.099E-01	3.856E-01	3.365E-01	1.967E-01	FAIL ABUN
RN-220	9.426E+00	2.506E+01	2.153E+01	1.279E+01	NOT IDENT.
RA-223	-3.126E-02	7.004E-01	5.360E-01	3.574E-01	FAIL ABUN
AC-227	1.971E-01	3.363E-01	3.062E-01	1.716E-01	FAIL ABUN
TH-227	1.971E-01	3.368E-01	3.062E-01	1.718E-01	FAIL ABUN
TH-229	1.288E-01	4.820E-01	4.119E-01	2.459E-01	FAIL ABUN
PA-231	2.478E-01	1.414E+00	1.259E+00	7.217E-01	FAIL ABUN
TH-231	-3.126E-02	7.004E-01	5.360E-01	3.574E-01	FAIL ABUN
U-231	9.733E-01	2.566E+00	1.646E+00	1.309E+00	FAIL ABUN
PA-233	-2.608E-03	5.865E-02	5.129E-02	2.993E-02	FAIL ABUN
PA-234	1.004E-01	3.020E-01	2.609E-01	1.541E-01	FAIL ABUN
PA-234M	2.146E+01	7.992E+00	5.767E+00	4.077E+00	FAIL ABUN
NP-236	-1.230E-01	8.010E-02	6.386E-02	4.086E-02	FAIL ABUN
NP-239	3.567E-02	1.931E-01	1.621E-01	9.852E-02	FAIL ABUN
AM-241	-9.785E-03	2.717E-01	2.212E-01	1.386E-01	NOT IDENT.
CM-243	1.002E-01	1.031E-01	8.976E-02	5.259E-02	FAIL ABUN
AM-246	1.694E-01	1.444E-01	1.322E-01	7.367E-02	NOT IDENT.
CM-247	-3.199E-02	3.526E-02	2.855E-02	1.799E-02	NOT IDENT.
CF-249	2.921E-02	3.525E-02	3.186E-02	1.798E-02	NOT IDENT.
CF-251	2.804E-02	1.235E-01	1.060E-01	6.300E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
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46.50	345.2917
46.50	345.2917
46.50	345.2917
48.70	400.6624
49.72	405.4381
51.35	381.2605
52.39	393.4176
52.97	385.6367
53.15	389.5316
53.44	407.4939
54.07	415.5957
56.28	408.5038
56.28	408.5072
57.37	0.0000
57.53	438.4127
57.53	438.4145
57.60	420.1572
57.98	436.0648
57.98	436.0648
59.32	431.7952
59.32	431.7952
59.40	431.8766
59.54	432.0197
59.72	429.3694
60.01	429.6619
61.10	421.7527
61.14	421.7912
61.30	421.9474
63.00	423.5968
63.29	423.8758
63.29	423.8758
63.58	424.1542
64.28	423.8695
65.12	403.1464
65.20	403.2177
65.20	403.2177
66.05	405.4159
66.72	430.4877
66.83	416.1916
66.91	416.2643
67.20	399.2336
67.20	399.2336
67.75	436.3634
67.85	436.4580
68.90	479.3024
68.90	479.3024
69.30	510.6014
69.67	496.5179
70.82	441.5621
70.82	441.5621
70.83	441.5714
72.80	510.4870
72.87	510.5618
72.87	510.5618
74.67	545.6397
74.81	545.7961
74.81	545.7961
74.81	545.7961
74.81	545.7961
74.81	545.7961
74.81	545.7961
74.81	545.7961
74.97	545.9724
75.28	546.3164
75.70	546.7798
77.11	538.5203
77.11	538.5203

77.11	538.5203
77.11	538.5203
77.11	538.5203
77.11	538.5203
77.11	538.5203
78.38	498.5779
79.62	510.1432
79.80	526.5933
79.80	526.5933
80.11	526.9138
80.18	529.9450
80.30	553.7581
80.30	553.7581
80.57	554.0491
81.00	628.6439
81.07	628.7280
81.07	628.7280
81.07	628.7280
81.07	628.7280
82.60	548.4814
83.37	509.3679
83.78	515.7293
83.78	515.7293
83.78	515.7293
83.78	515.7293
84.21	508.6877
84.90	528.7664
85.43	553.2131
86.29	666.4136
86.50	666.6750
86.54	666.7225
86.59	666.7836
86.72	605.4976
86.79	605.5716
86.94	605.7411
87.30	606.1449
87.30	606.1449
87.30	606.1449
87.30	606.1449
87.30	606.1449
87.30	606.1449
87.57	606.4438
87.88	606.7891
88.03	606.9555
88.36	607.3223
88.47	607.4425
89.95	609.0761
91.11	610.3460
92.29	611.6282
92.38	611.7269
92.38	611.7269
93.35	612.7748
94.00	613.4745
94.67	398.3091
94.67	398.3131
94.90	398.4730
94.90	398.4730
94.90	398.4730
94.90	398.4730
95.87	399.1426
95.87	399.1426
96.73	399.7363
97.43	325.3648
98.44	325.9255
98.44	325.9255
98.88	326.1693
99.55	326.5381
99.55	326.5381
99.86	286.8288
100.00	286.8973
100.10	286.9472
103.18	317.7211
103.76	332.2275
105.00	337.2321
105.31	342.5624
108.00	399.4900
109.28	387.8429

111.00	385.7698
111.00	385.7698
111.76	417.5032
112.95	390.0770
115.19	303.3928
116.30	324.3755
117.00	319.0450
117.00	319.0450
117.66	350.2896
121.11	295.0000
121.62	319.5601
121.78	328.1026
122.06	314.4718
122.32	331.5388
122.32	331.5388
122.32	331.5388
122.32	331.5388
123.07	354.1734
127.23	326.4378
129.76	385.4260
131.20	374.4053
133.02	343.0879
133.54	349.7922
135.34	373.3163
136.00	347.7360
136.25	339.2116
136.48	331.7558
140.51	342.2530
140.51	0.0000
142.18	327.7705
142.65	327.9726
143.76	330.6357
144.24	329.2044
144.24	329.2044
144.24	329.2044
144.24	329.2044
145.22	326.3477
145.44	326.4419
147.16	317.3062
152.43	311.1742
152.70	320.1110
153.22	309.2749
154.21	328.4572
154.21	328.4572
154.21	328.4572
154.21	328.4572
155.03	333.2238
156.02	351.3687
158.56	300.2124
159.00	0.0000
159.00	333.7494
160.31	375.5117
161.27	332.4429
162.32	310.5272
162.64	296.1194
163.35	317.6221
163.89	299.9215
165.85	378.0246
167.43	295.5700
171.28	321.7441
171.86	316.3131
172.10	301.7113
176.55	288.4914
176.60	295.3221
181.06	303.0925
184.41	302.5054
185.71	315.5602
186.00	315.6609
190.27	256.0123
192.34	279.6992
193.63	269.6693
197.04	295.0388
198.01	274.4091
198.60	253.6370
200.40	319.3907
201.83	309.9445
202.84	296.2451
205.31	296.6466

208.36	311.6715
208.81	291.0034
209.75	262.6819
209.75	262.6819
210.97	277.1443
215.65	266.3635
216.55	266.6016
218.09	275.9045
222.10	239.4583
223.80	279.2294
226.40	223.4032
227.00	228.9167
227.08	221.7520
227.20	223.5742
228.16	239.0554
228.18	239.0595
228.18	239.0595
231.56	0.0000
235.69	269.3503
236.00	269.4298
236.00	269.4298
238.63	235.0527
238.63	235.0527
238.63	235.0527
238.63	235.0527
239.00	235.1317
240.98	235.5586
241.98	235.7739
241.98	235.7739
241.98	235.7739
244.69	204.4150
245.39	191.3940
247.94	226.0618
248.90	214.3477
249.79	191.6003
252.40	168.1530
252.85	182.0086
252.85	182.0086
254.15	0.0000
256.20	184.3872
256.20	184.3872
260.50	200.8084
260.90	0.0000
262.80	199.3513
264.65	219.9151
268.24	192.2654
268.79	207.2681
269.46	193.9558
269.46	193.9558
269.46	193.9558
269.46	193.9558
271.23	188.2679
273.65	214.1020
276.40	194.0106
277.35	201.8053
277.60	195.2761
277.60	195.2761
278.00	193.4613
278.60	203.8944
279.20	203.9938
279.53	220.0356
280.46	239.0242
281.68	204.4077
283.67	189.6428
284.30	190.6850
285.00	203.0716
285.90	0.0000
286.10	205.1427
286.10	205.1427
287.40	203.4620
288.45	0.0000
290.67	180.6557
290.80	195.8558
291.72	188.4037
293.26	0.0000
293.70	190.2222
295.21	184.3537
295.21	184.3537

295.21	184.3537
295.96	213.4282
296.50	213.5171
297.23	213.6401
298.57	213.8657
299.80	186.5474
299.80	186.5474
300.09	186.5891
300.09	186.5891
300.09	186.5891
300.09	186.5891
300.12	186.5921
301.29	186.7619
302.84	162.4652
303.76	157.9778
303.91	157.9979
304.40	148.8486
304.40	148.8486
304.84	164.2513
306.84	166.0395
308.46	177.0203
311.98	167.8483
316.51	152.9347
318.01	161.8271
319.02	171.6470
319.41	162.9653
320.08	163.0474
323.87	175.9611
323.87	175.9611
323.87	175.9611
323.87	175.9611
325.23	168.3439
328.77	171.9072
333.44	145.0461
334.20	142.7740
334.20	142.7740
334.30	142.7829
338.28	160.3014
338.28	160.3014
338.28	160.3014
338.28	160.3014
338.32	160.3064
338.32	160.3064
338.32	160.3064
340.50	165.4801
340.57	165.4878
344.27	155.3864
345.85	185.0891
350.59	0.0000
351.07	163.7336
351.92	163.8318
351.92	163.8318
351.92	163.8318
355.39	0.0000
356.01	143.3826
364.48	144.2109
366.43	123.3435
367.43	130.4503
367.94	0.0000
369.80	134.6768
374.96	133.1219
383.85	126.7967
387.95	111.8782
388.63	129.2247
391.69	145.7908
391.69	145.7908
392.90	127.5368
398.62	148.4803
400.65	116.8858
401.10	129.2261
401.81	132.3620
402.60	157.0645
404.84	118.4256
410.95	132.0840
411.60	120.5748
413.65	135.6103
414.70	139.2839
415.30	127.7076

415.76	127.2998
417.63	0.0000
418.52	130.6239
423.70	122.7138
427.08	132.3408
427.89	124.0661
432.53	115.0002
433.93	120.3257
439.47	88.1772
439.56	91.3317
439.89	94.4989
443.98	109.4606
444.90	84.2444
445.03	84.2517
445.03	84.2517
445.03	84.2517
445.03	84.2517
453.90	122.7898
463.38	98.7614
468.07	105.8511
473.00	125.1873
475.06	107.1198
475.35	102.8511
476.78	108.2927
477.59	114.7765
477.96	116.9468
482.03	91.4007
484.57	111.9854
487.03	99.1973
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492.35	0.0000
497.08	85.6408
507.63	0.0000
510.53	0.0000
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511.00	114.6667
511.85	106.6316
511.85	106.6316
513.99	84.0006
513.99	84.0006
520.41	76.8188
520.65	76.8274
527.90	0.0000
528.96	0.0000
529.64	95.9262
529.87	0.0000
531.02	103.7161
537.32	88.5498
543.00	84.3612
546.56	0.0000
549.76	92.4416
552.65	100.3793
555.20	83.7547
563.23	76.2365
563.90	86.3548
568.70	98.9194
569.32	78.7094
569.50	78.7158
569.67	78.7222
573.80	97.1579
574.00	97.1658
574.64	100.3287
578.91	105.4272
579.30	0.0000
583.14	95.0742
585.48	108.7764
591.81	102.7346
592.07	102.7483
593.00	109.1602
595.88	90.1780
600.56	98.1305
602.52	0.0000
602.71	100.5120
602.71	100.5120
603.60	88.3665
604.41	70.1099
604.70	70.1193
609.31	82.4875

609.31	82.4875
609.31	82.4875
609.31	82.4875
610.33	74.8837
612.46	78.0149
614.37	81.1455
618.01	80.0523
621.84	86.6425
621.84	86.6425
631.29	89.7842
633.02	88.9266
633.10	88.9313
634.78	73.2370
635.90	74.2012
636.97	86.2997
645.85	71.7307
646.12	69.8749
656.30	85.7808
657.75	76.4708
657.90	0.0000
661.65	84.4146
661.65	84.4146
664.57	0.0000
666.33	76.7499
666.33	76.7499
675.00	71.6879
677.61	62.3229
685.20	67.2576
692.80	89.3252
695.00	98.9193
696.49	91.3641
696.49	91.3641
697.00	90.4332
697.49	93.3058
698.33	89.5295
698.50	89.5364
699.00	89.5547
702.63	86.8255
706.10	88.8586
706.58	0.0000
706.67	83.1449
709.31	61.2297
711.68	84.2703
713.82	83.3849
717.42	82.5461
720.50	78.2547
721.93	0.0000
722.20	78.5364
722.78	72.1417
722.78	72.1417
722.89	72.1454
722.95	72.1472
723.30	76.9688
724.18	94.6386
727.18	80.9402
733.00	59.5574
735.90	91.8573
739.58	88.1163
742.81	64.9586
744.21	78.5755
747.13	74.7799
751.79	66.1589
752.31	67.1453
753.82	51.6051
755.35	59.4288
756.15	65.2956
756.87	60.4394
763.93	96.7691
765.79	67.4923
766.42	73.3795
766.84	76.3261
776.49	72.6775
778.00	64.8576
778.57	65.8550
778.89	63.8955
783.80	62.0448
785.46	59.1270
792.07	76.0657

795.84	75.1836
796.30	80.1418
798.80	98.0429
801.93	76.3439
805.60	68.5031
810.29	68.6210
810.76	58.6860
815.85	64.7731
817.79	49.8608
818.51	48.8768
819.60	52.8874
826.30	54.0145
828.27	0.0000
831.60	76.1651
831.96	78.1790
834.83	70.2324
836.80	0.0000
846.75	58.4390
848.13	73.5881
856.28	0.0000
856.80	89.3146
860.37	52.6437
867.32	51.8685
867.82	47.7045
871.10	55.8876
873.19	66.0966
874.81	51.8890
875.33	0.0000
876.40	47.8457
879.36	58.0841
880.27	71.3535
880.51	71.3586
881.50	64.2443
883.24	51.0181
884.67	49.0008
889.25	61.3462
896.60	49.1988
898.02	62.5533
899.00	62.5741
903.28	47.5113
911.07	42.2272
911.07	42.2272
911.07	42.2272
919.63	44.4130
920.93	45.4652
925.00	42.4224
925.24	44.4949
926.50	44.5128
935.52	41.5293
937.48	70.6446
944.10	53.0980
946.00	60.4228
949.00	49.0103
962.29	68.0675
964.01	76.8371
966.15	76.8890
968.20	82.8844
969.11	68.2151
969.11	68.2151
969.11	68.2151
977.42	54.7155
980.50	40.0225
983.50	46.3858
989.30	43.3012
996.32	45.8650
1001.03	60.0645
1001.68	49.4740
1004.76	45.9835
1021.30	0.0000
1024.50	0.0000
1034.80	46.0465
1036.00	40.7071
1037.82	38.5857
1038.57	45.0270
1038.76	0.0000
1045.16	58.0052
1046.59	68.7781
1048.07	63.4308

1050.47	34.4281
1050.47	34.4281
1062.04	60.4543
1063.62	55.0815
1076.63	52.0383
1077.35	53.1344
1078.86	46.6491
1085.78	46.7415
1099.22	54.5605
1112.02	48.5002
1112.84	49.2935
1115.52	49.3308
1120.29	39.5174
1120.29	39.5174
1120.29	39.5174
1120.29	39.5174
1120.51	39.5209
1121.28	39.5297
1124.00	0.0000
1129.67	46.4702
1131.51	0.0000
1147.95	0.0000
1167.94	56.5397
1173.22	62.1909
1175.09	43.6475
1177.93	46.4701
1189.05	72.7092
1204.90	65.5282
1205.75	0.0000
1213.00	71.2964
1221.42	68.6335
1230.97	77.5547
1235.34	72.7923
1236.41	0.0000
1238.25	67.9893
1246.25	52.9899
1260.41	0.0000
1271.85	34.2876
1274.45	54.3258
1274.54	57.1851
1291.56	48.8169
1298.22	0.0000
1312.09	38.4831
1325.50	32.8185
1325.50	32.8185
1332.49	35.7745
1333.61	33.8507
1360.21	30.1750
1362.66	0.0000
1365.15	21.4396
1368.21	24.7066
1368.53	0.0000
1376.25	21.4960
1384.27	22.0267
1394.10	32.3810
1395.20	30.4261
1407.95	28.5481
1434.06	19.8071
1436.60	13.8730
1457.56	0.0000
1460.81	6.8326
1489.15	22.0600
1509.49	13.0942
1596.49	15.8335
1620.62	12.3770
1678.03	0.0000
1691.02	9.4164
1691.02	9.4164
1706.46	0.0000
1750.46	0.0000
1764.49	3.6392
1764.49	3.6392
1764.49	3.6392
1764.49	3.6392
1770.23	45.6927
1771.40	15.9430
1791.20	0.0000
1808.65	7.4930

1836.01

18.2908

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202032522

Total Uranium Activity	5.4046E+01	ug/g
Total Uranium Counting Unc.	1.5320E+01	ug/g
Total Uranium Tpu	7.8163E-06	ug/g
Total Uranium Mda	4.7500E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*             2040 SAVAGE ROAD                     *
*             CHARLESTON ,SC 29417                 *
*             GROSS GAMMA REPORT                   *
*
*****
*
*  BATCH ID      : 948721                          SAMPLE ID   : G1202032522
*  ANALYST       : MXR1                             DETECTOR    : GAM10
*  SAMPLE DATE   : 27-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 14-FEB-2010 13:18:21.65          SAMPLE ALQT  : 138.840 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.016E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.509E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.224E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.053E+00

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VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:00:53.37

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032523.CNF;1
Sample date        : 5-FEB-2010 00:00:00. Acquisition date : 14-FEB-2010 14:00:27
Sample ID          : G1202032523      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM04            Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00    Elapsed real time: 0 01:00:01.35  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials  : MXR1
Abundance limit    : 75.00000         Sensitivity       : 5.00000
Batch ID           : 948721           Detector SN#      :
Matrix Spike ID    :                  LCS ID             : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.46	1607	620	0.93	118.96	113	12	4.46E-01	4.0	
2	0	75.96	358	732	3.31	151.97	143	16	9.95E-02	17.7	
3	0	87.99	1156	461	0.90	176.02	172	10	3.21E-01	4.6	
4	0	92.74*	55	241	0.91	185.52	183	7	1.52E-02	50.1	
5	0	122.07	272	301	1.37	244.20	240	10	7.55E-02	13.5	
6	0	238.47*	436	227	1.03	477.02	473	8	1.21E-01	7.8	
7	0	241.53*	44	286	1.53	483.14	482	8	1.21E-02	71.2	
8	0	295.09	122	172	1.01	590.25	586	8	3.38E-02	20.8	
9	0	337.84*	71	187	1.18	675.76	672	9	1.96E-02	37.0	
10	0	351.89*	180	188	1.26	703.86	700	9	5.01E-02	15.7	
11	0	510.90*	17	154	1.78	1021.90	1016	11	4.69E-03	154.7	
12	0	583.31*	173	72	1.40	1166.71	1162	10	4.81E-02	12.1	
13	0	609.83*	131	153	1.29	1219.75	1213	14	3.65E-02	22.1	
14	0	661.69*	2004	155	1.44	1323.47	1317	14	5.57E-01	2.6	
15	0	726.72	58	69	1.39	1453.52	1446	12	1.61E-02	31.6	
16	0	910.99*	130	85	1.98	1822.04	1816	13	3.60E-02	17.2	
17	0	1173.33	1686	73	1.71	2346.65	2339	17	4.68E-01	2.7	
18	0	1332.63	1524	28	1.82	2665.20	2658	17	4.23E-01	2.7	
19	0	1460.64*	22	3	0.97	2921.16	2916	11	6.24E-03	28.0	
20	0	1764.91*	30	3	1.49	3529.54	3523	13	8.23E-03	23.2	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032523.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 5-FEB-2010 00:00:00   Acquisition date : 14-FEB-2010 14:00:27
Sample ID        : G1202032523           Sample quantity  : 155.44 GRAM
Sample type      : SOLID                  Sample geometry   :
Detector name    : GAMMA4                 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00          Elapsed real time: 0 01:00:01.35   0.0%
Peak Width (FWHM): 3.00                   Confidence level  : 5.00 %
Energy tolerance : 1.50 keV               Half life ratio   : 8.00
Errors propagated: Yes                    Systematic Error  : 0.00 %
Efficiency type  : Empirical              Efficiencies at   : Peak Energy
Abundance limit  : 75.00                  WTM error limit   : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	9.463E-01	5.340E-01	4.324E-01	3.073E-02	2.189
CO-57	+	122.06	*	2.424E-01	6.736E-02	5.827E-02	4.045E-03	4.160
		136.48		2.956E-01	3.129E-01	5.325E-01	3.961E-02	0.555
CO-60	+	1173.22		6.284E+00	5.046E-01	1.239E-01	7.367E-03	50.733
	+	1332.49	*	6.374E+00	5.552E-01	9.449E-02	6.475E-03	67.462
CD-109	+	88.03	*	2.995E+01	4.525E+00	2.109E+00	2.535E-01	14.201
SN-126		64.28		-8.386E-02	1.016E+00	1.545E+00	2.661E-01	-0.054
	+	86.94		1.234E+01	5.329E+00	9.231E-01	3.893E-01	13.369
	+	87.57	*	2.969E+00	4.484E-01	2.106E-01	2.526E-02	14.093
BA-137M	+	661.65	*	4.874E+00	3.474E-01	1.094E-01	5.334E-03	44.565
CS-137	+	661.65	*	5.153E+00	3.683E-01	1.156E-01	5.672E-03	44.565
TL-208		277.35		1.703E-01	5.941E-01	1.016E+00	1.123E-01	0.168
	+	510.84		1.382E-01	4.277E-01	4.227E-01	4.242E-02	0.327
	+	583.14	*	4.046E-01	1.009E-01	1.060E-01	6.668E-03	3.817
		860.37		1.909E-01	6.541E-01	1.103E+00	9.202E-02	0.173
BI-211		72.87		5.654E+00	5.177E+00	9.004E+00	1.032E+00	0.628
	+	351.07	*	1.856E+00	5.949E-01	5.807E-01	3.923E-02	3.195
PB-212	+	74.81		4.270E+00	1.638E+00	9.080E-01	1.342E-01	4.703
	+	77.11		2.538E+00	9.446E-01	5.012E-01	5.750E-02	5.065
	+	87.30		1.373E+01	2.487E+00	9.787E-01	1.527E-01	14.029
	+	238.63	*	9.783E-01	1.708E-01	1.923E-01	1.544E-02	5.088
		300.09		1.020E+00	1.282E+00	2.171E+00	1.911E-01	0.470
PO-212	+	74.81		4.270E+00	1.638E+00	9.080E-01	1.342E-01	4.703
	+	77.11		2.538E+00	9.446E-01	5.012E-01	5.750E-02	5.065
	+	87.30		1.373E+01	2.487E+00	9.787E-01	1.527E-01	14.029
		115.19		-1.016E+00	5.189E+00	8.471E+00	6.374E-01	-0.120
	+	238.63	*	9.783E-01	1.708E-01	1.923E-01	1.544E-02	5.088
		300.09		1.020E+00	1.282E+00	2.171E+00	1.911E-01	0.470
BI-214	+	609.31	*	5.790E-01	2.600E-01	2.113E-01	1.553E-02	2.740
		1120.29		9.457E-02	6.368E-01	1.044E+00	9.729E-02	0.091
	+	1764.49		9.500E-01	4.451E-01	4.304E-01	2.624E-02	2.207
PB-214	+	74.81		7.357E+00	2.792E+00	1.564E+00	2.134E-01	4.703
	+	77.11		4.351E+00	1.653E+00	8.592E-01	1.183E-01	5.065
	+	87.30		2.352E+01	3.989E+00	1.677E+00	2.387E-01	14.029

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		5.883E-01	8.388E-01	1.033E+00	9.002E-02	0.569
	+	295.21		7.405E-01	3.157E-01	3.436E-01	3.120E-02	2.155
	+	351.92	*	6.455E-01	2.097E-01	2.106E-01	1.797E-02	3.065
	+	74.81		7.357E+00	2.792E+00	1.564E+00	2.134E-01	4.703
	+	77.11		4.351E+00	1.653E+00	8.592E-01	1.183E-01	5.065
	+	87.30		2.352E+01	3.989E+00	1.677E+00	2.387E-01	14.029
PO-216	+	241.98		5.883E-01	8.388E-01	1.033E+00	9.002E-02	0.569
	+	295.21		7.405E-01	3.157E-01	3.436E-01	3.120E-02	2.155
	+	351.92	*	6.455E-01	2.097E-01	2.106E-01	1.797E-02	3.065
	+	74.81		4.270E+00	1.638E+00	9.080E-01	1.342E-01	4.703
	+	77.11		2.538E+00	9.446E-01	5.012E-01	5.750E-02	5.065
	+	87.30		1.373E+01	2.487E+00	9.787E-01	1.527E-01	14.029
PO-218	+	238.63	*	9.783E-01	1.708E-01	1.923E-01	1.544E-02	5.088
	+	300.09		1.020E+00	1.282E+00	2.171E+00	1.911E-01	0.470
	+	74.81		7.357E+00	2.792E+00	1.564E+00	2.134E-01	4.703
	+	77.11		4.351E+00	1.653E+00	8.592E-01	1.183E-01	5.065
	+	87.30		2.352E+01	3.989E+00	1.677E+00	2.387E-01	14.029
	+	241.98		5.883E-01	8.388E-01	1.033E+00	9.002E-02	0.569
RA-224	+	295.21		7.405E-01	3.157E-01	3.436E-01	3.120E-02	2.155
	+	351.92	*	6.455E-01	2.097E-01	2.106E-01	1.797E-02	3.065
	+	240.98	*	1.115E+00	1.589E+00	2.050E+00	1.367E-01	0.544
	+	609.31	*	5.790E-01	2.600E-01	2.113E-01	1.553E-02	2.740
	+	1120.29		9.457E-02	6.368E-01	1.044E+00	9.729E-02	0.091
	+	1764.49		9.500E-01	4.451E-01	4.304E-01	2.624E-02	2.207
TH-228	+	74.81		4.311E+00	1.605E+00	9.167E-01	1.055E-01	4.703
	+	77.11		2.563E+00	9.536E-01	5.060E-01	5.805E-02	5.065
	+	87.30		1.386E+01	2.094E+00	9.881E-01	1.183E-01	14.029
	+	238.63	*	9.877E-01	1.724E-01	1.941E-01	1.559E-02	5.088
	+	300.09		1.030E+00	1.427E+00	2.192E+00	1.293E+00	0.470
	+	609.31	*	5.790E-01	2.599E-01	2.113E-01	1.553E-02	2.740
TH-230	+	1120.29		9.457E-02	6.368E-01	1.044E+00	9.729E-02	0.091
	+	1764.49		9.500E-01	4.451E-01	4.304E-01	2.624E-02	2.207
	+	609.31	*	5.790E-01	2.599E-01	2.113E-01	1.553E-02	2.740
	+	1120.29		9.457E-02	6.368E-01	1.044E+00	9.729E-02	0.091
	+	1764.49		9.500E-01	4.451E-01	4.304E-01	2.624E-02	2.207
	+	86.50	*	8.717E+00	2.229E+00	6.627E-01	1.579E-01	13.155
U-234	+	95.87		-4.043E-01	1.401E+00	2.041E+00	5.143E-01	-0.198
	+	59.54	*	1.386E+01	2.072E+00	6.771E-01	8.548E-02	20.478
	+	74.67	*	6.923E-01	2.576E-01	1.479E-01	1.694E-02	4.680
	+	86.72		3.269E+02	4.938E+01	2.455E+01	2.928E+00	13.318
	+	117.66		-7.694E-01	6.354E+00	9.287E+00	6.779E-01	-0.083
	+	142.18		-9.027E+00	2.403E+01	3.842E+01	2.513E+00	-0.235
ANH-511	+	511.00	*	2.985E-02	9.235E-02	9.133E-02	5.107E-03	0.327

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	2.548E-01	6.163E-01	1.029E+00	6.819E-02	0.247

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		7.453E-03	5.306E-02	9.054E-02	5.920E-03	0.082
NA-24	1368.53	*		3.803E-04	5.306E-02	Half-Life too short		
AL-26	1129.67			-1.894E+00	3.177E+00	4.821E+00	3.110E-01	-0.393
	1808.65	*		1.801E-02	4.163E-02	7.478E-02	4.435E-03	0.241
TI-44	67.85			-2.150E-02	8.022E-02	1.335E-01	1.553E-02	-0.161
	78.38	*		1.602E-01	6.668E-02	1.084E-01	1.246E-02	1.478
SC-46	889.25	*		-6.258E-02	8.926E-02	1.395E-01	1.128E-02	-0.449
	1120.51			1.869E-02	1.050E-01	1.726E-01	1.130E-02	0.108
V-48	944.10			-2.369E-01	1.879E+00	3.055E+00	2.442E-01	-0.078
	983.50	*		6.192E-02	1.292E-01	2.185E-01	1.693E-02	0.283
	1312.09			-4.399E-02	7.382E-02	1.105E-01	7.446E-03	-0.398
CR-51	320.08	*		1.570E-01	5.450E-01	9.263E-01	6.523E-02	0.170
MN-52	744.21			-2.795E-02	2.211E-01	3.655E-01	2.170E-02	-0.076
	848.13			-6.822E-01	6.977E+00	1.145E+01	8.515E-01	-0.060
	935.52			-1.840E-01	3.356E-01	5.306E-01	4.267E-02	-0.347
	1246.25			-2.610E+00	4.029E+00	6.101E+00	3.883E-01	-0.428
	1333.61	+		4.122E+02	3.590E+01	4.919E+01	3.371E+00	8.378
	1434.06	*		1.273E-02	1.418E-01	2.470E-01	1.686E-02	0.052
MN-54	834.83	*		-3.526E-02	7.724E-02	1.236E-01	8.947E-03	-0.285
CO-56	846.75	*		3.685E-02	7.508E-02	1.287E-01	9.544E-03	0.286
	977.42			-3.645E-01	6.252E+00	1.017E+01	7.921E-01	-0.036
	1037.82			-9.961E-02	6.999E-01	1.126E+00	8.860E-02	-0.088
	1175.09			2.642E+02	2.126E+01	3.235E+01	1.927E+00	8.167
	1238.25			8.263E-02	9.617E-02	1.771E-01	1.179E-02	0.467
	1360.21			6.240E-01	8.366E-01	1.625E+00	1.114E-01	0.384
	1771.40			-4.876E-01	4.111E-01	5.034E-01	3.056E-02	-0.969
CO-58	810.76	*		-6.707E-03	7.687E-02	1.267E-01	8.744E-03	-0.053
FE-59	142.65			5.262E-01	3.354E+00	5.515E+00	3.604E-01	0.095
	192.34			-5.800E-02	1.357E+00	2.173E+00	2.643E-01	-0.027
	1099.22	*		-3.653E-02	1.952E-01	3.118E-01	2.382E-02	-0.117
	1291.56			-2.299E-02	1.238E-01	2.004E-01	1.620E-02	-0.115
ZN-65	1115.52	*		-1.175E-02	1.911E-01	3.074E-01	2.034E-02	-0.038
GE-68	1077.35	*		5.360E-01	2.673E+00	4.407E+00	3.078E-01	0.122
AS-73	53.44	*		-3.601E-01	2.975E+00	4.810E+00	6.292E-01	-0.075
AS-74	595.88	*		-8.740E-02	1.358E-01	2.063E-01	1.089E-02	-0.424
	634.78			3.114E-01	5.132E-01	8.611E-01	4.356E-02	0.362
SE-75	66.05			-3.259E+00	8.283E+00	1.371E+01	1.799E+00	-0.238
	96.73			-9.706E-01	1.151E+00	1.604E+00	2.326E-01	-0.605
	121.11	+		1.280E+00	3.674E-01	4.470E-01	4.486E-02	2.864
	136.00			4.301E-02	5.839E-02	9.857E-02	6.606E-03	0.436
	198.60			-3.828E-01	2.733E+00	4.350E+00	3.357E-01	-0.088
	264.65	*		-3.378E-04	6.620E-02	1.120E-01	7.534E-03	-0.003
	279.53			-9.951E-02	1.719E-01	2.813E-01	1.986E-02	-0.354
	303.91			-2.460E+00	3.408E+00	5.490E+00	5.496E-01	-0.448
	400.65			-1.193E-02	4.719E-01	7.754E-01	6.981E-02	-0.015
BR-77	87.88	+		1.292E+03	1.951E+02	1.943E+02	2.335E+01	6.647
	200.40			3.349E+00	5.232E+01	8.402E+01	5.482E+00	0.040
	239.00	+		3.110E+01	5.247E+00	8.626E+00	5.747E-01	3.605
	249.79			-9.445E-01	2.186E+01	3.705E+01	2.473E+00	-0.025

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	281.68			6.629E+00	2.865E+01	4.887E+01	3.245E+00	0.136
	297.23			-4.786E+00	2.011E+01	2.932E+01	1.929E+00	-0.163
	303.76			-5.072E+01	5.967E+01	9.555E+01	6.255E+00	-0.531
	439.47			7.739E+00	5.688E+01	9.402E+01	5.333E+00	0.082
	484.57			-1.019E+02	8.911E+01	1.336E+02	7.536E+00	-0.763
	520.65	*		-1.879E+00	3.965E+00	6.204E+00	3.455E-01	-0.303
	574.64			-3.883E+01	7.811E+01	1.208E+02	6.500E+00	-0.321
	578.91			4.570E+00	3.431E+01	4.884E+01	2.618E+00	0.094
	585.48			1.897E+02	7.171E+01	1.237E+02	6.594E+00	1.533
	755.35			3.414E+01	6.011E+01	1.044E+02	6.355E+00	0.327
	817.79			-3.730E+00	5.355E+01	8.828E+01	6.162E+00	-0.042
SR-82	698.33			2.811E+01	5.040E+01	8.785E+01	4.684E+00	0.320
	776.49	*		-5.237E-01	6.222E-01	9.665E-01	6.168E-02	-0.542
RB-83	1395.20			-2.670E+00	1.166E+01	1.855E+01	1.270E+00	-0.144
	520.41	*		-6.517E-02	1.263E-01	1.970E-01	1.097E-02	-0.331
	529.64			-3.927E-02	2.019E-01	3.224E-01	1.788E-02	-0.122
	552.65			-3.768E-01	3.554E-01	5.246E-01	2.868E-02	-0.718
RB-84	881.50	*		1.099E-01	1.518E-01	2.615E-01	2.083E-02	0.420
KR-85	513.99	*		1.279E+01	1.524E+01	2.318E+01	1.295E+00	0.552
SR-85	513.99	*		6.188E-02	7.370E-02	1.121E-01	6.262E-03	0.552
RB-86	1076.63	*		8.441E-01	1.405E+00	2.388E+00	1.670E-01	0.353
Y-88	898.02			-4.998E-02	9.433E-02	1.492E-01	1.235E-02	-0.335
	1836.01	*		-7.511E-03	4.704E-02	7.321E-02	4.272E-03	-0.103
ZR-88	392.90	*		-3.384E-02	5.519E-02	8.786E-02	4.945E-03	-0.385
Y-91	1204.90	*		5.961E+00	2.274E+01	3.781E+01	2.317E+00	0.158
NB-94	702.63	*		-2.150E-02	5.857E-02	9.548E-02	5.144E-03	-0.225
	871.10			-3.732E-02	7.743E-02	1.231E-01	9.603E-03	-0.303
NB-95	765.79	*		-2.564E-03	7.036E-02	1.169E-01	7.283E-03	-0.022
NB-95M	235.69	*		-4.220E-02	1.967E-01	2.723E-01	2.235E-02	-0.155
ZR-95	724.18			4.758E-03	1.747E-01	2.548E-01	1.720E-02	0.019
	756.15	*		7.213E-02	1.235E-01	2.145E-01	1.562E-02	0.336
NB-97	657.90	*		-9.406E-05	1.235E-01	Half-Life	too short	
	1024.50			4.141E-02	1.235E-01	Half-Life	too short	
ZR-97	254.15			1.297E-03	1.235E-01	Half-Life	too short	
	355.39			-9.695E-03	1.235E-01	Half-Life	too short	
	507.63	*		-6.999E-04	1.235E-01	Half-Life	too short	
	602.52			-2.978E-02	1.235E-01	Half-Life	too short	
	1021.30			-6.483E-02	1.235E-01	Half-Life	too short	
	1147.95			-1.700E-02	1.235E-01	Half-Life	too short	
	1362.66			-1.189E-02	1.235E-01	Half-Life	too short	
	1750.46			-3.509E-03	1.235E-01	Half-Life	too short	
MO-99	140.51			-6.547E+00	8.894E+00	1.366E+01	3.706E+00	-0.479
	181.06			3.375E+00	6.354E+00	1.047E+01	1.817E+00	0.323
	366.43			-1.493E+01	3.653E+01	5.912E+01	3.534E+00	-0.252
	739.58	*		5.984E+00	5.648E+00	1.002E+01	1.383E+00	0.597
	778.00			8.429E+00	1.542E+01	2.672E+01	1.711E+00	0.315
TC-99M	140.51	*		-8.344E+03	1.542E+01	Half-Life	too short	
RH-101	127.23			1.631E-02	5.157E-02	7.714E-02	5.239E-03	0.211
	198.01	*		-1.181E-02	5.157E-02	8.170E-02	5.321E-03	-0.145

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102		325.23		-2.077E-01	3.722E-01	6.029E-01	3.859E-02	-0.344
		418.52		-5.752E-01	5.828E-01	9.031E-01	5.114E-02	-0.637
		475.06	*	-3.066E-02	6.256E-02	9.903E-02	5.599E-03	-0.310
		631.29		-4.187E-02	9.895E-02	1.522E-01	7.731E-03	-0.275
		697.49		6.714E-02	1.318E-01	2.290E-01	1.219E-02	0.293
		766.84		-1.400E-01	1.912E-01	3.006E-01	1.878E-02	-0.466
RU-103		1046.59		-8.449E-04	2.599E-01	4.224E-01	3.067E-02	-0.002
		1112.84		-2.961E-01	5.159E-01	7.955E-01	5.275E-02	-0.372
		497.08	*	-5.888E-02	7.417E-02	1.136E-01	1.427E-02	-0.518
	+	610.33		5.669E+00	2.655E+00	3.127E+00	4.755E-01	1.813
RH-106	+	511.85		1.475E-01	4.565E-01	5.884E-01	3.289E-02	0.251
		621.84	*	8.721E-02	5.910E-01	9.562E-01	1.092E-01	0.091
RU-106		1050.47		-2.401E+00	5.110E+00	7.976E+00	5.765E-01	-0.301
	+	511.85		1.475E-01	4.565E-01	5.884E-01	3.289E-02	0.251
		621.84	*	8.721E-02	5.909E-01	9.562E-01	4.912E-02	0.091
AG-108M		1050.47		-2.401E+00	5.110E+00	7.976E+00	5.765E-01	-0.301
		433.93	*	5.250E-02	6.767E-02	1.157E-01	7.152E-03	0.454
		614.37		-3.660E-04	7.946E-02	1.108E-01	6.346E-03	-0.003
AG-110M		722.95		-8.911E-03	8.048E-02	1.156E-01	7.117E-03	-0.077
		657.75	*	-1.710E-02	7.497E-02	1.076E-01	5.748E-03	-0.159
		677.61		2.955E-01	5.205E-01	9.109E-01	4.986E-02	0.324
		706.67		3.778E-01	3.453E-01	6.239E-01	3.624E-02	0.606
		763.93		9.027E-02	2.856E-01	4.869E-01	3.185E-02	0.185
		884.67		5.147E-02	1.194E-01	2.022E-01	1.681E-02	0.255
		937.48		2.070E-01	2.824E-01	4.837E-01	4.046E-02	0.428
IN-111		1384.27		1.582E-02	1.896E-01	3.200E-01	2.289E-02	0.049
		171.28		-8.586E-02	3.958E-01	6.321E-01	4.029E-02	-0.136
		245.39	*	-1.944E-02	5.229E-01	7.319E-01	4.884E-02	-0.027
IN-113M		391.69	*	-3.335E-03	7.962E-02	1.313E-01	7.908E-03	-0.025
SN-113		391.69	*	-3.335E-03	7.962E-02	1.313E-01	7.908E-03	-0.025
IN-114M		190.27	*	1.442E-01	2.547E-01	4.209E-01	2.724E-02	0.343
CD-115		260.90		-1.456E+01	3.745E+01	6.219E+01	4.153E+00	-0.234
		492.35		6.374E+00	1.248E+01	2.099E+01	1.182E+00	0.304
		527.90	*	1.325E+00	3.794E+00	6.288E+00	3.489E-01	0.211
SN-117M		156.02		4.138E-01	2.449E+00	4.010E+00	2.572E-01	0.103
		158.56	*	-1.446E-02	5.930E-02	9.494E-02	6.073E-03	-0.152
SB-122		563.90	*	5.024E-02	9.231E-01	1.493E+00	8.100E-02	0.034
		692.80		-1.699E+01	1.722E+01	2.654E+01	1.397E+00	-0.640
I-123		159.00	*	-3.311E-03	1.722E+01	Half-Life	too short	
		528.96		1.322E-01	1.722E+01	Half-Life	too short	
TE-123M		159.00	*	-1.802E-02	3.977E-02	6.293E-02	4.068E-03	-0.286
I-124		602.71	*	-2.768E-01	5.512E-01	7.771E-01	4.076E-02	-0.356
		722.78		-2.079E-01	3.359E+00	4.853E+00	2.741E-01	-0.043
		1325.50		1.112E+01	2.146E+01	3.415E+01	2.327E+00	0.326
		1376.25		5.403E+00	1.387E+01	2.461E+01	1.686E+00	0.220
		1509.49		5.438E+00	8.321E+00	1.528E+01	1.031E+00	0.356
		1691.02		4.190E-01	1.948E+00	3.352E+00	2.124E-01	0.125
		602.71		-3.791E-02	7.549E-02	1.064E-01	5.584E-03	-0.356
SB-124		645.85		3.926E-01	8.632E-01	1.500E+00	8.752E-02	0.262

Sample ID : G1202032523

Acquisition date : 14-FEB-2010 14:00:27

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	709.31			-2.028E+00	4.553E+00	7.376E+00	4.037E-01	-0.275
	713.82			-1.201E+00	2.739E+00	4.428E+00	4.455E-01	-0.271
	722.78			-4.127E-02	6.667E-01	9.634E-01	5.712E-02	-0.043
	968.20			6.000E+00	5.988E+00	1.035E+01	8.123E-01	0.580
	1045.16			-9.387E-01	5.129E+00	8.211E+00	5.973E-01	-0.114
	1325.50			2.358E+00	4.549E+00	7.241E+00	4.934E-01	0.326
	1368.21			3.615E-01	1.719E+00	2.983E+00	3.705E-01	0.121
	1436.60			-2.901E+00	4.242E+00	6.271E+00	4.278E-01	-0.463
SB-125	1691.02		*	1.962E-02	9.121E-02	1.569E-01	1.066E-02	0.125
	427.89		*	-1.134E-01	1.773E-01	2.796E-01	1.655E-02	-0.406
	463.38			7.020E-01	5.888E-01	1.021E+00	6.786E-02	0.688
	600.56			1.858E-01	3.315E-01	5.533E-01	3.454E-02	0.336
TE-125M	635.90			2.057E-02	4.835E-01	7.746E-01	4.775E-02	0.027
I-126	109.28		*	4.403E+00	1.268E+01	2.129E+01	2.110E+00	0.207
	388.63			-8.504E-02	2.835E-01	4.605E-01	2.612E-02	-0.185
	666.33		*	2.762E-01	2.606E-01	4.225E-01	2.084E-02	0.654
SB-126	753.82			5.634E-01	1.997E+00	3.400E+00	2.063E-01	0.166
	223.80			-1.729E+00	5.271E+00	8.239E+00	5.457E-01	-0.210
	278.60			2.800E-01	2.912E+00	4.938E+00	3.283E-01	0.057
	296.50		+	5.405E+00	2.279E+00	3.278E+00	2.158E-01	1.649
	414.70			9.246E-02	1.107E-01	1.904E-01	1.077E-02	0.486
	415.30			2.419E+00	9.302E+00	1.553E+01	8.788E-01	0.156
	555.20			6.571E+00	5.147E+00	9.092E+00	4.963E-01	0.723
	573.80			-4.010E-01	1.414E+00	2.225E+00	1.198E-01	-0.180
	593.00			3.505E-01	1.223E+00	2.008E+00	1.063E-01	0.175
	656.30			-7.328E+00	5.482E+00	6.949E+00	3.415E-01	-1.055
	666.33			1.140E-01	1.075E-01	1.743E-01	8.600E-03	0.654
	675.00			6.134E-01	2.409E+00	4.128E+00	2.080E-01	0.149
	695.00			3.423E-02	9.443E-02	1.627E-01	8.607E-03	0.210
	697.00			9.900E-02	3.542E-01	6.056E-01	3.219E-02	0.163
	720.50		*	-1.592E-01	2.343E-01	3.169E-01	1.780E-02	-0.502
	856.80			-5.199E-02	7.739E-01	1.272E+00	9.636E-02	-0.041
	989.30			-6.480E-01	2.203E+00	3.517E+00	2.711E-01	-0.184
	1034.80			4.786E+00	1.474E+01	2.458E+01	1.809E+00	0.195
SB-127	1213.00			-1.101E+00	4.427E+00	6.860E+00	4.236E-01	-0.161
	61.10			4.507E+02	8.730E+01	1.260E+02	1.623E+01	3.578
	252.40			1.068E+00	2.703E+00	4.608E+00	1.904E+00	0.232
	290.80			-2.666E+00	1.449E+01	2.122E+01	1.696E+00	-0.126
	411.60			-1.474E+00	8.867E+00	1.447E+01	1.913E+00	-0.102
	444.90			2.205E+00	7.374E+00	1.229E+01	1.132E+00	0.179
	473.00			4.937E-01	1.320E+00	2.198E+00	2.121E-01	0.225
	543.00			-1.179E+01	1.204E+01	1.792E+01	2.068E+00	-0.658
	603.60			-1.461E+00	9.112E+00	1.252E+01	1.116E+00	-0.117
	685.20		*	1.846E-01	8.494E-01	1.450E+00	1.044E-01	0.127
	698.50			7.670E+00	9.434E+00	1.666E+01	2.200E+00	0.460
	722.20			-6.522E+00	2.202E+01	3.099E+01	2.235E+00	-0.210
XE-127	783.80			-3.040E-01	2.647E+00	4.375E+00	4.193E-01	-0.069
	57.60			7.930E+01	2.108E+01	3.552E+01	4.447E+00	2.233
	145.22			7.040E-01	8.960E-01	1.514E+00	9.852E-02	0.465

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	172.10			-5.054E-02	1.654E-01	2.628E-01	1.676E-02	-0.192
	202.84	*		6.336E-02	6.823E-02	1.141E-01	7.455E-03	0.556
	374.96			-5.678E-02	3.010E-01	4.928E-01	2.891E-02	-0.115
	80.18			-1.495E+00	4.849E+00	7.157E+00	8.282E-01	-0.209
	284.30			3.849E-01	1.518E+00	2.591E+00	1.857E-01	0.149
	364.48	*		-4.968E-02	1.253E-01	2.031E-01	1.343E-02	-0.245
TE-132	636.97			-4.685E-01	1.809E+00	2.824E+00	1.633E-01	-0.166
	722.89			-7.858E-01	8.408E+00	1.210E+01	6.881E-01	-0.065
	49.72			6.716E+00	2.433E+01	4.186E+01	5.449E+00	0.160
	111.76			2.200E+00	1.316E+01	2.189E+01	1.950E+00	0.100
BA-133	116.30			-1.488E+00	1.216E+01	1.992E+01	1.696E+00	-0.075
	228.16	*		1.224E-01	3.640E-01	5.879E-01	8.118E-02	0.208
	53.15			-5.300E+00	1.316E+01	2.200E+01	2.880E+00	-0.241
	79.62			4.920E-01	2.199E+00	3.346E+00	5.703E-01	0.147
	81.00			-1.383E-01	1.726E-01	2.452E-01	4.332E-02	-0.564
	276.40			2.710E-01	5.942E-01	1.023E+00	1.368E-01	0.265
I-133	302.84			-2.134E-01	2.431E-01	3.873E-01	4.666E-02	-0.551
	356.01	*		-2.682E-02	8.952E-02	1.278E-01	1.497E-02	-0.210
	383.85			-3.575E-02	5.557E-01	9.161E-01	9.932E-02	-0.039
	510.53	+		3.575E-03	5.557E-01	Half-Life too short		
	529.87	*		-3.313E-05	5.557E-01	Half-Life too short		
	706.58			9.289E-03	5.557E-01	Half-Life too short		
	856.28			1.638E-03	5.557E-01	Half-Life too short		
	875.33			2.170E-03	5.557E-01	Half-Life too short		
	1236.41			-1.083E-03	5.557E-01	Half-Life too short		
	1298.22			1.323E-03	5.557E-01	Half-Life too short		
CS-134	475.35			-1.787E+00	4.082E+00	6.482E+00	3.665E-01	-0.276
	563.23			4.344E-01	6.356E-01	1.077E+00	5.984E-02	0.403
	569.32			1.101E-01	3.648E-01	6.014E-01	3.360E-02	0.183
	604.70			8.555E-04	7.067E-02	9.888E-02	5.211E-03	0.009
	795.84	*		9.361E-02	9.193E-02	1.629E-01	1.098E-02	0.574
	801.93			1.674E-01	8.030E-01	1.353E+00	9.210E-02	0.124
CS-135	1038.57			-4.882E+00	9.011E+00	1.401E+01	1.027E+00	-0.348
	1167.94			4.388E+00	4.505E+00	7.184E+00	4.318E-01	0.611
	1365.15			2.455E-01	1.214E+00	2.108E+00	1.548E-01	0.116
	268.24	*		-1.784E-01	2.467E-01	4.014E-01	3.346E-02	-0.445
	288.45			-1.701E+03	2.467E-01	Half-Life too short		
	417.63			6.657E+03	2.467E-01	Half-Life too short		
I-135	546.56			1.759E+04	2.467E-01	Half-Life too short		
	836.80			1.511E+04	2.467E-01	Half-Life too short		
	1038.76			-1.029E+04	2.467E-01	Half-Life too short		
	1124.00			1.296E+04	2.467E-01	Half-Life too short		
	1131.51			5.312E+03	2.467E-01	Half-Life too short		
	1260.41	*		-4.450E+03	2.467E-01	Half-Life too short		
	1457.56			-3.767E+03	2.467E-01	Half-Life too short		
	1678.03			-1.453E+04	2.467E-01	Half-Life too short		
	1706.46			-1.237E+04	2.467E-01	Half-Life too short		
	1791.20			9.937E+03	2.467E-01	Half-Life too short		
CS-136	66.91			-7.404E-01	1.026E+00	1.660E+00	2.876E-01	-0.446

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	86.29			6.567E+00	1.962E+00	2.921E+00	4.451E-01	2.248
	153.22			-8.938E-02	6.979E-01	1.126E+00	8.715E-02	-0.079
	163.89			-9.649E-01	1.209E+00	1.874E+00	1.444E-01	-0.515
	176.55			-3.931E-02	4.105E-01	6.585E-01	4.643E-02	-0.060
	273.65			-4.903E-01	5.515E-01	8.897E-01	6.562E-02	-0.551
	340.57			1.298E-01	1.705E-01	2.644E-01	1.745E-02	0.491
	818.51			-2.744E-03	1.156E-01	1.913E-01	1.338E-02	-0.014
	1048.07		*	1.602E-01	1.718E-01	2.998E-01	2.301E-02	0.534
	1235.34			-3.954E-01	4.731E-01	7.005E-01	7.204E-02	-0.564
CE-139	165.85		*	1.961E-02	4.363E-02	7.216E-02	4.585E-03	0.272
BA-140	162.64			1.459E-01	8.092E-01	1.323E+00	9.306E-02	0.110
	304.84			1.122E+00	1.599E+00	2.730E+00	7.497E-01	0.411
	423.70			8.315E-02	2.739E+00	4.510E+00	1.432E+00	0.018
	537.32		*	-1.719E-01	3.917E-01	6.075E-01	1.973E-01	-0.283
LA-140	328.77			1.531E-01	3.565E-01	6.092E-01	4.272E-02	0.251
	432.53			2.756E+00	3.075E+00	5.297E+00	3.332E-01	0.520
	487.03			1.586E-01	1.943E-01	3.329E-01	2.139E-02	0.476
	751.79			4.702E-01	2.235E+00	3.788E+00	2.763E-01	0.124
	815.85			-2.453E-01	4.754E-01	7.554E-01	6.157E-02	-0.325
	867.82			5.846E-01	2.248E+00	3.777E+00	3.117E-01	0.155
	919.63			-8.908E-01	4.900E+00	7.941E+00	8.141E-01	-0.112
	925.24			-3.623E-01	2.177E+00	3.534E+00	3.065E-01	-0.103
	1596.49		*	8.108E-05	7.581E-02	1.245E-01	8.200E-03	0.001
CE-141	145.44		*	5.347E-02	7.980E-02	1.342E-01	9.005E-03	0.399
CE-143	57.37			2.265E+02	2.371E+02	3.739E+02	5.184E+01	0.606
	231.56			-3.974E+01	2.530E+02	3.974E+02	1.243E+02	-0.100
	293.26		*	2.336E+01	1.555E+01	2.417E+01	5.074E+00	0.967
	350.59			8.947E+02	3.920E+02	4.165E+02	1.275E+02	2.148
	490.36			-2.708E+02	3.666E+02	5.521E+02	1.716E+02	-0.490
	664.57			1.845E+03	6.364E+02	5.138E+02	1.629E+02	3.590
	721.93			-1.191E+02	1.793E+02	2.376E+02	6.803E+01	-0.501
CE-144	80.11			-9.992E-01	3.561E+00	5.265E+00	6.083E-01	-0.190
	133.54		*	-1.101E-01	3.109E-01	4.997E-01	7.283E-02	-0.220
PM-144	476.78			9.848E-02	1.378E-01	2.340E-01	1.596E-02	0.421
	618.01			-7.798E-04	5.961E-02	9.549E-02	5.296E-03	-0.008
	696.49		*	6.234E-03	5.929E-02	1.002E-01	5.321E-03	0.062
	778.57			1.882E+00	4.362E+00	7.483E+00	4.799E-01	0.252
PR-144	696.49		*	4.212E-01	4.006E+00	6.769E+00	3.594E-01	0.062
	1489.15			-6.529E+00	1.429E+01	2.117E+01	1.433E+00	-0.308
PM-146	453.90		*	-1.330E-02	9.386E-02	1.523E-01	1.300E-02	-0.087
	633.02			-9.069E-01	2.535E+00	3.886E+00	1.427E+00	-0.233
	735.90			-2.846E-01	2.875E-01	4.247E-01	1.185E-01	-0.670
	747.13			-4.913E-02	1.596E-01	2.594E-01	3.266E-02	-0.189
ND-147	91.11			2.411E-01	3.509E-01	4.413E-01	5.174E-02	0.546
	319.41			9.715E-01	3.912E+00	6.636E+00	4.277E-01	0.146
	439.89			2.774E+00	8.141E+00	1.362E+01	7.725E-01	0.204
	531.02		*	-2.274E-01	7.944E-01	1.259E+00	1.689E-01	-0.181
PM-149	285.90		*	-2.512E+01	2.730E+01	4.343E+01	6.304E+00	-0.578
EU-152	121.78		+	7.131E-01	2.012E-01	2.592E-01	2.209E-02	2.751

---- Non-Identified Nuclides ----

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	244.69			1.927E-01	6.246E-01	8.971E-01	5.985E-02	0.215
	344.27	*		-7.255E-02	1.626E-01	2.637E-01	1.825E-02	-0.275
	443.98			-3.704E-01	1.943E+00	3.148E+00	1.786E-01	-0.118
	778.89			1.352E-01	5.076E-01	8.609E-01	5.523E-02	0.157
	867.32			2.097E-01	1.799E+00	2.993E+00	2.316E-01	0.070
	964.01			-6.342E-01	7.049E-01	1.084E+00	8.536E-02	-0.585
	1085.78			2.656E-01	8.143E-01	1.357E+00	9.370E-02	0.196
	1112.02			-2.839E-01	7.295E-01	1.143E+00	7.589E-02	-0.248
	1407.95			1.298E-01	2.402E-01	4.359E-01	2.982E-02	0.298
GD-153	69.67			2.945E+00	3.049E+00	4.843E+00	5.592E-01	0.608
	83.37			2.370E+01	2.523E+01	3.951E+01	4.625E+00	0.600
	97.43	*		-1.107E-01	1.129E-01	1.680E-01	1.649E-02	-0.659
	103.18			2.570E-02	1.512E-01	2.524E-01	2.246E-02	0.102
EU-154	+	123.07		5.004E-01	1.439E-01	1.688E-01	1.709E-02	2.964
	247.94			-3.878E-01	6.817E-01	9.838E-01	9.933E-02	-0.394
	591.81			4.413E-01	1.127E+00	1.864E+00	1.768E-01	0.237
	723.30			-2.010E-01	3.549E-01	4.842E-01	3.371E-02	-0.415
	756.87			8.313E-01	1.435E+00	2.490E+00	2.569E-01	0.334
	873.19			1.691E-01	6.670E-01	1.119E+00	1.310E-01	0.151
	996.32			3.182E-01	8.460E-01	1.416E+00	2.453E-01	0.225
	1004.76			-6.135E-01	4.947E-01	7.197E-01	7.847E-02	-0.852
	1274.45	*		3.425E-02	1.476E-01	2.550E-01	2.501E-02	0.134
EU-155		48.70		-1.416E+00	1.017E+01	1.725E+01	1.987E+00	-0.082
	+	60.01		4.501E+02	6.556E+01	5.250E+01	6.379E+00	8.572
	+	86.54		3.568E+00	5.407E-01	4.267E-01	5.110E-02	8.362
	105.31	*		6.084E-03	1.612E-01	2.672E-01	2.329E-02	0.023
TB-160	+	86.79		9.055E+00	1.368E+00	1.234E+00	1.473E-01	7.336
	197.04			-5.067E-01	8.374E-01	1.299E+00	8.455E-02	-0.390
	215.65			6.360E-01	1.177E+00	1.927E+00	1.271E-01	0.330
	298.57			1.139E-01	1.844E-01	2.855E-01	1.877E-02	0.399
	879.36	*		-1.241E-01	3.206E-01	5.143E-01	4.078E-02	-0.241
	962.29			-2.979E-02	1.171E+00	1.914E+00	1.509E-01	-0.016
	966.15			5.461E-02	4.703E-01	7.746E-01	6.090E-02	0.070
	1177.93			2.382E-01	7.178E-01	1.038E+00	6.202E-02	0.229
	1271.85			4.400E-01	7.496E-01	1.363E+00	8.877E-02	0.323
HO-166M		80.57		-2.429E-01	4.657E-01	6.780E-01	7.846E-02	-0.358
	184.41			1.747E-04	5.440E-02	8.802E-02	5.669E-03	0.002
	280.46			-5.681E-02	1.373E-01	2.266E-01	1.505E-02	-0.251
	410.95			5.246E-02	4.751E-01	7.874E-01	4.452E-02	0.067
	711.68	*		-6.684E-02	1.046E-01	1.663E-01	9.152E-03	-0.402
	752.31			-6.155E-02	4.913E-01	8.113E-01	4.905E-02	-0.076
	810.29			2.796E-02	1.244E-01	2.096E-01	1.440E-02	0.133
TM-171		51.35		4.852E+01	1.177E+02	2.032E+02	2.631E+01	0.239
	52.39			-8.329E+00	5.874E+01	9.931E+01	1.299E+01	-0.084
	+	59.40		2.359E+03	3.437E+02	2.948E+02	3.594E+01	8.003
	66.72	*		-2.273E+01	4.910E+01	8.095E+01	9.464E+00	-0.281
LU-176	+	88.36		7.041E+00	1.064E+00	1.038E+00	1.237E-01	6.783
	201.83			3.478E-02	4.598E-02	7.631E-02	4.984E-03	0.456
	306.84	*		1.191E-02	4.177E-02	7.113E-02	4.644E-03	0.167

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LU-177	401.10			-2.551E+00	1.273E+01	2.071E+01	1.168E+00	-0.123
	112.95			-2.844E-01	1.314E+00	2.145E+00	1.661E-01	-0.133
	208.36	*		4.164E-01	9.732E-01	1.588E+00	1.042E-01	0.262
LU-177M	52.97			-2.786E+00	5.870E+00	9.784E+00	1.281E+00	-0.285
	54.07			4.413E-01	3.255E+00	5.014E+00	6.538E-01	0.088
	61.30			1.895E+01	4.634E+00	7.408E+00	8.939E-01	2.558
	121.62	+		3.574E+00	9.928E-01	1.292E+00	8.998E-02	2.766
	147.16			-4.244E-01	9.282E-01	1.476E+00	9.579E-02	-0.287
	171.86			-2.210E-01	7.232E-01	1.149E+00	7.328E-02	-0.192
	218.09			5.737E-01	1.453E+00	2.360E+00	1.558E-01	0.243
	268.79			-2.662E-01	1.226E+00	2.050E+00	1.367E-01	-0.130
	319.02			8.629E-02	4.269E-01	7.223E-01	4.658E-02	0.119
	367.43			-5.003E-01	1.575E+00	2.564E+00	1.529E-01	-0.195
	413.65	*		1.653E-01	3.476E-01	5.868E-01	3.320E-02	0.282
	56.28			2.876E+00	3.154E+00	4.988E+00	6.359E-01	0.577
HF-181	57.53			3.816E+00	1.820E+00	2.919E+00	3.659E-01	1.307
	65.20			1.234E-02	1.524E+00	2.573E+00	3.033E-01	0.005
	133.02			2.710E-02	8.985E-02	1.491E-01	9.951E-03	0.182
	136.25			6.008E-01	6.347E-01	1.081E+00	7.157E-02	0.556
	345.85			-1.672E-01	3.075E-01	4.777E-01	2.968E-02	-0.350
	482.03	*		-1.856E-02	7.583E-02	1.214E-01	6.856E-03	-0.153
W-181	56.28			1.193E+00	1.309E+00	2.071E+00	2.640E-01	0.576
	57.53			1.571E+00	7.553E-01	1.212E+00	1.518E-01	1.297
	65.20	*		5.087E-03	6.283E-01	1.061E+00	1.250E-01	0.005
TA-182	67.75			-5.617E-02	1.853E-01	3.080E-01	3.583E-02	-0.182
	100.10			6.033E-02	2.443E-01	4.100E-01	3.837E-02	0.147
	152.43			-4.573E-01	4.750E-01	7.323E-01	4.717E-02	-0.625
	222.10			-1.337E-01	6.002E-01	9.440E-01	6.247E-02	-0.142
	1001.68			-2.362E-01	4.342E+00	7.063E+00	5.381E-01	-0.033
	1121.28			1.178E-01	2.900E-01	4.848E-01	3.171E-02	0.243
	1189.05			-5.549E-02	3.768E-01	5.930E-01	3.581E-02	-0.094
	1221.42	*		-1.456E-01	2.211E-01	3.390E-01	2.110E-02	-0.429
	1230.97			-2.841E-02	4.713E-01	7.841E-01	4.923E-02	-0.036
	57.98	+		1.601E+01	2.332E+00	1.501E+00	1.868E-01	10.666
RE-183	59.32	+		9.200E+00	1.340E+00	1.157E+00	1.412E-01	7.955
	67.20			-2.778E-01	3.321E-01	5.363E-01	6.255E-02	-0.518
	162.32	*		5.165E-02	1.505E-01	2.480E-01	1.580E-02	0.208
RE-184	208.81			4.557E-01	1.453E+00	2.357E+00	1.548E-01	0.193
	291.72			-5.272E-01	1.680E+00	2.438E+00	1.610E-01	-0.216
	57.98	+		6.091E+01	8.873E+00	5.711E+00	7.111E-01	10.666
	59.32	+		3.498E+01	5.096E+00	4.398E+00	5.369E-01	7.955
	67.20			-1.057E+00	1.263E+00	2.040E+00	2.380E-01	-0.518
	161.27			1.415E-02	5.053E-01	8.200E-01	5.230E-02	0.017
	216.55			2.569E-01	4.464E-01	7.315E-01	4.826E-02	0.351
	252.85	*		3.594E-02	3.794E-01	6.465E-01	4.318E-02	0.056
	318.01			-6.893E-02	7.445E-01	1.240E+00	8.006E-02	-0.056
	792.07			-1.285E+00	1.964E+00	3.109E+00	2.053E-01	-0.413
	903.28			1.451E+00	2.477E+00	4.012E+00	3.292E-01	0.362
	920.93			-5.558E-02	1.077E+00	1.763E+00	1.431E-01	-0.032

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OS-185	+	59.72		2.545E+01	3.707E+00	3.070E+00	3.735E-01	8.289
		61.14		3.084E+00	6.031E-01	9.093E-01	1.098E-01	3.392
		69.30		2.550E-01	5.422E-01	8.420E-01	9.736E-02	0.303
		592.07		2.715E+00	4.355E+00	7.334E+00	3.886E-01	0.370
		646.12	*	1.629E-02	7.526E-02	1.288E-01	6.419E-03	0.126
		717.42		9.251E-01	1.608E+00	2.799E+00	1.561E-01	0.331
		874.81		6.456E-01	1.264E+00	2.158E+00	1.695E-01	0.299
		880.27		1.077E+00	1.784E+00	3.055E+00	2.427E-01	0.352
		155.03	*	1.296E-01	2.296E-01	3.833E-01	2.461E-02	0.338
		477.96		1.630E+00	6.085E+00	1.008E+01	5.695E-01	0.162
RE-188		633.10		-1.737E+00	4.814E+00	7.445E+00	3.774E-01	-0.233
		63.58		-3.586E+01	1.030E+02	1.541E+02	1.834E+01	-0.233
		227.08		1.045E+01	2.111E+01	3.439E+01	2.281E+00	0.304
W-188		290.67	*	-1.873E+00	1.292E+01	1.899E+01	1.255E+00	-0.099
		295.96		5.360E-01	2.261E-01	3.368E-01	2.245E-02	1.592
		308.46		-7.452E-02	1.534E-01	2.504E-01	1.647E-02	-0.298
IR-192	+	316.51	*	-1.833E-02	5.561E-02	9.144E-02	5.936E-03	-0.201
		468.07		-5.291E-02	1.317E-01	2.099E-01	1.378E-02	-0.252
		604.41		2.344E-01	9.017E-01	1.294E+00	1.433E-01	0.181
		612.46		-2.560E-02	1.454E+00	2.025E+00	1.442E-01	-0.013
		65.12		-9.541E-03	2.942E-01	4.959E-01	5.847E-02	-0.019
AU-195	+	66.83		-7.645E-02	1.593E-01	2.624E-01	3.066E-02	-0.291
		75.70		2.194E+00	8.163E-01	6.129E-01	7.021E-02	3.579
		98.88	*	2.017E-01	3.001E-01	5.136E-01	4.911E-02	0.393
		129.76		-1.327E+00	4.166E+00	6.724E+00	4.529E-01	-0.197
		367.94	*	1.216E-05	4.166E+00	Half-Life	too short	
TL-200		579.30		-5.936E-06	4.166E+00	Half-Life	too short	
		828.27		-5.599E-05	4.166E+00	Half-Life	too short	
		1205.75		3.836E-05	4.166E+00	Half-Life	too short	
		68.90		1.141E+00	2.583E+00	4.004E+00	4.637E-01	0.285
TL-201		70.82		2.208E-01	1.447E+00	2.207E+00	2.540E-01	0.100
		80.30		-8.350E-01	2.401E+00	3.535E+00	4.086E-01	-0.236
		135.34		3.054E+00	1.097E+01	1.817E+01	1.205E+00	0.168
		167.43	*	6.849E-01	3.006E+00	4.917E+00	3.126E-01	0.139
TL-202		68.90		2.653E-01	6.005E-01	9.311E-01	1.078E-01	0.285
		70.82		5.120E-02	3.354E-01	5.117E-01	5.890E-02	0.100
		80.30		-1.937E-01	5.570E-01	8.199E-01	9.479E-02	-0.236
		439.56	*	1.542E-02	1.016E-01	1.681E-01	9.538E-03	0.092
HG-203		70.83		2.813E-01	1.833E+00	2.797E+00	4.362E-01	0.101
		72.87		1.035E+00	9.536E-01	1.649E+00	2.509E-01	0.628
		82.60		-5.727E-01	1.603E+00	2.638E+00	4.177E-01	-0.217
		279.20	*	5.375E-03	6.012E-02	1.019E-01	7.094E-03	0.053
BI-207	+	72.80		3.017E-01	3.009E-01	5.224E-01	5.990E-02	0.578
		74.97		1.242E+00	4.623E-01	3.382E-01	3.873E-02	3.673
		84.90		2.558E-01	3.319E-01	5.152E-01	6.079E-02	0.496
		569.67		5.569E-03	5.820E-02	9.450E-02	5.104E-03	0.059
		1063.62	*	5.700E-02	1.143E-01	1.930E-01	1.372E-02	0.295
TL-207		1770.23		1.616E-02	7.439E-01	1.044E+00	6.344E-02	0.015
		81.07		-3.064E-01	3.789E-01	5.410E-01	6.272E-02	-0.566

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		83.78		1.558E-01	2.209E-01	3.424E-01	4.016E-02	0.455
		94.90		8.578E-03	3.274E-01	4.889E-01	5.038E-02	0.018
	+	122.32		1.700E+01	4.756E+00	6.175E+00	4.751E-01	2.752
		144.24		7.008E-01	9.567E-01	1.614E+00	1.262E-01	0.434
		154.21		2.723E-01	5.643E-01	9.384E-01	7.076E-02	0.290
		269.46		3.143E-01	2.916E-01	5.172E-01	3.567E-02	0.608
		323.87	*	-2.250E-01	1.114E+00	1.842E+00	3.083E-01	-0.122
	+	338.28		3.342E+00	2.500E+00	3.324E+00	3.592E-01	1.006
		445.03		1.360E+00	4.668E+00	7.774E+00	7.928E-01	0.175
PO-209		260.50		-4.334E+00	1.561E+01	2.608E+01	1.741E+00	-0.166
		262.80		7.758E+00	4.282E+01	7.314E+01	4.883E+00	0.106
		896.60	*	-2.630E+00	1.709E+01	2.781E+01	2.282E+00	-0.095
BI-210		46.50	*	-9.146E+00	1.626E+01	2.700E+01	2.353E+00	-0.339
PB-210		46.50	*	-9.146E+00	1.626E+01	2.700E+01	2.353E+00	-0.339
PO-210		46.50	*	-9.146E+00	1.625E+01	2.700E+01	2.098E+00	-0.339
PB-211		404.84	*	6.675E-01	1.854E+00	3.040E+00	1.895E+00	0.220
		427.08		1.371E+00	3.932E+00	6.446E+00	3.984E+00	0.213
		831.96		9.521E-01	2.574E+00	4.258E+00	2.660E+00	0.224
BI-212	+	727.18	*	1.165E+00	7.408E-01	9.520E-01	7.277E-02	1.224
		785.46		1.015E+00	3.431E+00	5.823E+00	3.791E-01	0.174
		1620.62		-1.586E-01	1.629E+00	2.613E+00	1.706E-01	-0.061
PO-215		81.07		-3.064E-01	3.789E-01	5.410E-01	6.272E-02	-0.566
		83.78		1.558E-01	2.209E-01	3.424E-01	4.016E-02	0.455
		94.90		8.578E-03	3.274E-01	4.889E-01	5.038E-02	0.018
	+	122.32		1.700E+01	4.756E+00	6.175E+00	4.751E-01	2.752
		144.24		7.008E-01	9.567E-01	1.614E+00	1.262E-01	0.434
		154.21		2.723E-01	5.643E-01	9.384E-01	7.076E-02	0.290
		269.46		3.143E-01	2.916E-01	5.172E-01	3.567E-02	0.608
		323.87	*	-2.250E-01	1.114E+00	1.842E+00	3.083E-01	-0.122
	+	338.28		3.342E+00	2.500E+00	3.324E+00	3.592E-01	1.006
		445.03		1.360E+00	4.668E+00	7.774E+00	7.928E-01	0.175
RN-219		271.23		4.632E-01	3.919E-01	6.949E-01	6.077E-02	0.667
		401.81	*	-4.302E-01	8.017E-01	1.275E+00	1.727E-01	-0.337
RN-220		549.76	*	-2.172E+01	5.077E+01	7.934E+01	4.347E+00	-0.274
RA-223		81.07		-3.064E-01	3.789E-01	5.410E-01	6.272E-02	-0.566
		83.78		1.558E-01	2.209E-01	3.424E-01	4.016E-02	0.455
		94.90		8.578E-03	3.274E-01	4.889E-01	5.038E-02	0.018
	+	122.32		1.700E+01	4.756E+00	6.175E+00	4.751E-01	2.752
		144.24		7.008E-01	9.567E-01	1.614E+00	1.262E-01	0.434
		154.21		2.723E-01	5.643E-01	9.384E-01	7.076E-02	0.290
		269.46		3.143E-01	2.916E-01	5.172E-01	3.567E-02	0.608
		323.87	*	-2.250E-01	1.114E+00	1.842E+00	3.083E-01	-0.122
	+	338.28		3.342E+00	2.500E+00	3.324E+00	3.592E-01	1.006
		445.03		1.360E+00	4.668E+00	7.774E+00	7.928E-01	0.175
AC-227		79.80		5.436E-01	2.783E+00	4.227E+00	9.651E-01	0.129
		236.00		-1.790E-01	4.035E-01	5.484E-01	6.006E-02	-0.326
		256.20	*	-3.168E-01	6.320E-01	1.043E+00	1.497E-01	-0.304
		286.10		-5.812E-01	2.537E+00	4.223E+00	5.066E-01	-0.138
		299.80		2.252E+00	2.458E+00	4.011E+00	6.648E-01	0.562

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		304.40		-4.313E-01	3.157E+00	5.261E+00	9.239E-01	-0.082
		334.20		3.040E+00	4.430E+00	6.796E+00	1.258E+00	0.447
		79.80		5.436E-01	2.783E+00	4.227E+00	9.761E-01	0.129
	+	94.00		3.455E+00	3.547E+00	4.503E+00	1.017E+00	0.767
		236.00		-1.790E-01	4.034E-01	5.484E-01	5.281E-02	-0.326
		256.20	*	-3.168E-01	6.327E-01	1.043E+00	1.797E-01	-0.304
		286.10		-5.812E-01	2.602E+00	4.223E+00	4.233E+00	-0.138
		299.80		2.252E+00	2.458E+00	4.011E+00	6.648E-01	0.562
AC-228		304.40		-4.313E-01	3.157E+00	5.261E+00	9.239E-01	-0.082
		334.20		3.040E+00	4.430E+00	6.796E+00	1.258E+00	0.447
	+	338.32		8.004E-01	6.767E-01	7.945E-01	3.245E-01	1.007
	+	911.07	*	1.368E+00	4.940E-01	6.910E-01	7.534E-02	1.979
RA-228		969.11		5.937E-01	6.473E-01	1.091E+00	2.517E-01	0.544
	+	338.32		8.004E-01	6.767E-01	7.945E-01	3.245E-01	1.007
TH-229	+	911.07	*	1.368E+00	4.940E-01	6.910E-01	7.534E-02	1.979
		969.11		5.937E-01	6.473E-01	1.091E+00	2.517E-01	0.544
		85.43		3.039E-01	3.331E-01	5.191E-01	6.143E-02	0.585
	+	88.47		4.053E+00	6.123E-01	5.935E-01	7.055E-02	6.829
PA-231		100.00		7.170E-02	2.627E-01	4.414E-01	4.139E-02	0.162
		193.63	*	-2.104E-01	7.965E-01	1.260E+00	8.175E-02	-0.167
		210.97		1.843E-01	1.203E+00	1.936E+00	1.273E-01	0.095
		283.67	*	1.214E+00	2.493E+00	4.296E+00	6.080E-01	0.283
TH-231		301.29		3.934E-01	9.172E-01	1.573E+00	1.713E-01	0.250
		81.07		-3.064E-01	3.789E-01	5.410E-01	6.272E-02	-0.566
		83.78		1.558E-01	2.209E-01	3.424E-01	4.016E-02	0.455
		94.90		8.578E-03	3.274E-01	4.889E-01	5.038E-02	0.018
U-231	+	122.32		1.700E+01	4.756E+00	6.175E+00	4.751E-01	2.752
		144.24		7.008E-01	9.567E-01	1.614E+00	1.262E-01	0.434
		154.21		2.723E-01	5.643E-01	9.384E-01	7.076E-02	0.290
		269.46		3.143E-01	2.916E-01	5.172E-01	3.567E-02	0.608
TH-232		323.87	*	-2.250E-01	1.114E+00	1.842E+00	3.083E-01	-0.122
	+	338.28		3.342E+00	2.500E+00	3.324E+00	3.592E-01	1.006
		445.03		1.360E+00	4.668E+00	7.774E+00	7.928E-01	0.175
	+	84.21		5.009E+00	3.746E+00	5.941E+00	6.984E-01	0.843
PA-233		92.29		1.364E+00	1.374E+00	1.943E+00	2.114E-01	0.702
		95.87	*	-1.832E-01	6.336E-01	9.249E-01	9.351E-02	-0.198
		108.00		-1.119E-01	1.206E+00	1.985E+00	1.644E-01	-0.056
	+	338.32		8.004E-01	5.946E-01	7.945E-01	4.995E-02	1.007
PA-234	+	911.07	*	1.368E+00	4.940E-01	6.910E-01	7.534E-02	1.979
		969.11		5.937E-01	6.473E-01	1.091E+00	2.517E-01	0.544
	+	75.28		3.626E+01	1.426E+01	9.896E+00	1.692E+00	3.664
	+	86.59		5.811E+01	1.717E+01	7.159E+00	2.008E+00	8.118
PA-234		300.12		5.302E-01	6.650E-01	1.122E+00	1.547E-01	0.472
		311.98	*	1.449E-02	1.099E-01	1.854E-01	1.265E-02	0.078
		340.50		9.203E-01	1.131E+00	1.732E+00	3.999E-01	0.531
		398.62		-1.011E-01	3.882E+00	6.398E+00	1.652E+00	-0.016
		415.76		1.516E+00	3.359E+00	5.641E+00	1.159E+00	0.269
		63.00		-3.246E-01	3.240E+00	4.927E+00	8.655E-01	-0.066
		94.67		7.590E-02	2.358E-01	3.587E-01	4.901E-02	0.212

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	98.44			6.637E-02	1.308E-01	2.136E-01	1.195E-01	0.311
	99.86			2.052E-01	6.668E-01	1.122E+00	1.055E-01	0.183
	111.00			-5.184E-03	2.698E-01	4.450E-01	5.169E-02	-0.012
	131.20			-5.432E-02	1.576E-01	2.539E-01	1.703E-02	-0.214
	152.70			-2.641E-01	4.704E-01	7.394E-01	1.187E-01	-0.357
	186.00			3.170E+00	2.163E+00	3.358E+00	1.031E+00	0.944
	226.40			8.174E-01	7.026E-01	1.172E+00	1.406E-01	0.697
	227.20			3.855E-01	7.545E-01	1.230E+00	8.158E-02	0.313
	248.90			-2.968E-01	1.461E+00	2.279E+00	4.955E-01	-0.130
+	293.70			3.554E+00	1.591E+00	2.191E+00	3.590E-01	1.623
	369.80			7.862E-01	1.521E+00	2.583E+00	5.389E-01	0.304
	568.70			2.514E-01	1.906E+00	3.103E+00	1.677E-01	0.081
	569.50			5.270E-02	5.141E-01	8.352E-01	4.512E-02	0.063
	574.00			-1.055E+00	2.767E+00	4.318E+00	2.324E-01	-0.244
	699.00			9.334E-01	1.223E+00	2.144E+00	3.825E-01	0.435
	706.10			1.498E+00	1.905E+00	3.177E+00	1.400E+00	0.472
	733.00			-1.625E-01	6.975E-01	1.076E+00	2.287E-01	-0.151
	742.81			-3.890E-01	2.638E+00	4.335E+00	2.902E+00	-0.090
	796.30			1.548E+00	1.828E+00	3.136E+00	8.307E-01	0.494
	805.60			1.704E+00	2.188E+00	3.720E+00	1.123E+00	0.458
	819.60			1.525E+00	2.578E+00	4.352E+00	1.640E+00	0.351
	826.30			-9.444E-01	1.781E+00	2.749E+00	1.223E+00	-0.344
	831.60			3.419E-01	1.323E+00	2.223E+00	6.550E-01	0.154
	876.40			-4.941E-01	2.015E+00	3.158E+00	3.244E+00	-0.156
	880.51			4.389E-01	6.745E-01	1.158E+00	9.205E-02	0.379
	883.24			3.662E-01	7.297E-01	1.172E+00	7.872E-01	0.312
	899.00			-1.362E+00	2.074E+00	3.111E+00	1.358E+00	-0.438
	925.00			7.204E-01	2.993E+00	4.991E+00	4.042E-01	0.144
	926.50			-4.271E-01	4.730E-01	7.098E-01	1.782E-01	-0.602
	946.00	*		5.315E-01	7.770E-01	1.320E+00	2.439E-01	0.403
	949.00			-2.241E-01	1.156E+00	1.873E+00	1.492E-01	-0.120
	980.50			-4.647E-01	1.630E+00	2.602E+00	2.021E-01	-0.179
PA-234M	1394.10			1.844E-01	1.422E+00	2.412E+00	1.565E+00	0.076
	766.42			-9.768E+00	2.048E+01	3.187E+01	1.606E+01	-0.306
TH-234	1001.03	*		-1.507E+00	1.029E+01	1.663E+01	1.516E+00	-0.091
	63.29	*		-3.358E-01	2.725E+00	4.137E+00	8.185E-01	-0.081
+	92.38			8.941E-01	9.113E-01	1.270E+00	2.445E-01	0.704
U-235	89.95			6.228E+00	2.935E+00	3.163E+00	1.005E+00	1.969
+	93.35			1.075E+00	1.120E+00	1.485E+00	4.263E-01	0.724
	105.00			6.001E-01	1.563E+00	2.616E+00	7.811E-01	0.229
	143.76	*		1.708E-01	2.942E-01	4.913E-01	8.144E-02	0.348
	163.35			-4.429E-01	7.125E-01	1.110E+00	2.016E-01	-0.399
	185.71			1.208E-01	7.312E-02	1.263E-01	8.147E-03	0.956
	205.31			-4.350E-01	8.220E-01	1.271E+00	2.318E-01	-0.342
NP-236	94.67			5.861E-02	1.788E-01	2.722E-01	2.819E-02	0.215
	98.44			5.019E-02	9.490E-02	1.614E-01	1.556E-02	0.311
	111.00			-3.921E-03	2.041E-01	3.366E-01	2.674E-02	-0.012
	160.31	*		8.003E-03	1.141E-01	1.857E-01	1.186E-02	0.043
U-238	63.29	*		-3.358E-01	2.725E+00	4.137E+00	8.185E-01	-0.081

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.38		8.941E-01	9.002E-01	1.270E+00	1.379E-01	0.704
		99.55		1.074E-01	2.195E-01	3.725E-01	3.520E-02	0.288
		117.00	*	4.608E-02	2.937E-01	4.652E-01	3.423E-02	0.099
		209.75		1.462E+00	1.210E+00	2.045E+00	1.343E-01	0.715
		228.18		1.268E-01	3.876E-01	6.262E-01	4.156E-02	0.203
		277.60		4.595E-02	2.876E-01	4.892E-01	3.254E-02	0.094
CM-243		334.30		1.697E+00	2.491E+00	3.846E+00	2.432E-01	0.441
		99.55		1.104E-01	2.258E-01	3.832E-01	3.621E-02	0.288
		103.76	*	8.217E-02	1.417E-01	2.407E-01	2.123E-02	0.341
		117.00		4.739E-02	3.020E-01	4.784E-01	3.520E-02	0.099
		209.75		1.441E+00	1.192E+00	2.015E+00	1.324E-01	0.715
		228.18		1.281E-01	3.915E-01	6.325E-01	4.198E-02	0.203
AM-246		277.60		4.631E-02	2.899E-01	4.931E-01	3.280E-02	0.094
		798.80		-4.194E-01	2.842E-01	4.174E-01	2.797E-02	-1.005
		1036.00		6.442E-01	6.834E-01	1.189E+00	8.744E-02	0.542
		1062.04		-8.097E-02	4.967E-01	7.952E-01	5.667E-02	-0.102
CM-247		1078.86	*	1.038E-01	3.088E-01	5.145E-01	3.586E-02	0.202
		278.00		3.222E-01	1.192E+00	2.039E+00	1.356E-01	0.158
		287.40		1.008E+00	2.033E+00	3.508E+00	2.323E-01	0.287
CF-249		402.60	*	-2.325E-02	7.169E-02	1.161E-01	6.551E-03	-0.200
		252.85		1.380E-01	1.456E+00	2.482E+00	1.657E-01	0.056
		333.44		2.045E-01	3.213E-01	4.951E-01	3.135E-02	0.413
CF-251		387.95	*	-3.314E-02	7.296E-02	1.174E-01	6.669E-03	-0.282
		176.60	*	-1.443E-02	1.899E-01	3.049E-01	1.951E-02	-0.047
		227.00		2.730E-01	6.720E-01	1.090E+00	7.229E-02	0.251
		285.00		-4.156E-01	2.934E+00	4.909E+00	3.254E-01	-0.085

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
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*
*                               DETECTOR DATA
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032523
* Acquisition date   : 14-FEB-2010 14:00:27 Detector SN#
* Detector ID        : GAM04 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 01:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 01:00:01.35 Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date       : 5-FEB-2010 00:00:00 Nuclide Library : SOLID
* Sample ID         : G1202032523 Analyst initials: MXR1
* Batch Number      : 948721 Sample Quantity : 1.5544E+02 GRAM
* Recovery          : 1.00000 Carrier Weight : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight   : 0.00000
* CALIB. DATE/TIME  : 5-MAY-2009 14:25:41 MS Isotope
* MSD DPM           : 0.000 MSD Isotope
* LCS DPM           : 0.000 LCS Isotope
* LCSD DPM          : 0.000 LCSD Isotope
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	9.463E-01	5.233E-01	4.361E-01	0.000E+00
CO-57	2.424E-01	6.601E-02	6.276E-02	0.000E+00
CO-60	6.374E+00	5.441E-01	9.554E-02	0.000E+00
CD-109	2.995E+01	4.434E+00	2.290E+00	0.000E+00
SN-126	2.969E+00	4.395E-01	2.287E-01	0.000E+00
BA-137M	4.874E+00	3.405E-01	1.128E-01	0.000E+00
CS-137	5.153E+00	3.609E-01	1.192E-01	0.000E+00
TL-208	4.046E-01	9.892E-02	1.096E-01	0.000E+00
BI-211	1.856E+00	5.830E-01	6.088E-01	0.000E+00
PB-212	9.783E-01	1.674E-01	2.036E-01	0.000E+00
PO-212	9.783E-01	1.674E-01	2.036E-01	0.000E+00
BI-214	5.790E-01	2.548E-01	2.183E-01	0.000E+00
PB-214	6.455E-01	2.055E-01	2.208E-01	0.000E+00
PO-214	6.455E-01	2.055E-01	2.208E-01	0.000E+00
PO-216	9.783E-01	1.674E-01	2.036E-01	0.000E+00
PO-218	6.455E-01	2.055E-01	2.208E-01	0.000E+00
RA-224	1.115E+00	1.557E+00	2.171E+00	0.000E+00
RA-226	5.790E-01	2.548E-01	2.183E-01	0.000E+00
TH-228	9.877E-01	1.690E-01	2.055E-01	0.000E+00
TH-230	5.790E-01	2.548E-01	2.183E-01	0.000E+00
U-234	5.790E-01	2.548E-01	2.183E-01	0.000E+00
NP-237	8.717E+00	2.185E+00	7.198E-01	0.000E+00
AM-241	1.386E+01	2.031E+00	7.421E-01	0.000E+00
AM-243	6.923E-01	2.525E-01	1.612E-01	0.000E+00
ANH-511	2.985E-02	9.050E-02	9.480E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.548E-01	6.039E-01	1.071E+00	0.000E+00 NOT IDENT.
NA-22	7.453E-03	5.200E-02	9.166E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	1.608E+03	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.801E-02	4.080E-02	7.496E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.535E-02	1.180E-01	0.000E+00	NOT IDENT.
SC-46	-6.258E-02	8.748E-02	1.426E-01	0.000E+00	NOT IDENT.
V-48	6.192E-02	1.266E-01	2.228E-01	0.000E+00	NOT IDENT.
CR-51	1.570E-01	5.341E-01	9.735E-01	0.000E+00	NOT IDENT.
MN-52	1.273E-02	1.389E-01	2.493E-01	0.000E+00	FAIL ABUN
MN-54	-3.526E-02	7.570E-02	1.266E-01	0.000E+00	NOT IDENT.
CO-56	3.685E-02	7.358E-02	1.317E-01	0.000E+00	NOT IDENT.
CO-58	-6.707E-03	7.533E-02	1.299E-01	0.000E+00	NOT IDENT.
FE-59	-3.653E-02	1.913E-01	3.170E-01	0.000E+00	NOT IDENT.
ZN-65	-1.175E-02	1.873E-01	3.124E-01	0.000E+00	NOT IDENT.
GE-68	5.360E-01	2.620E+00	4.482E+00	0.000E+00	NOT IDENT.
AS-73	-3.601E-01	2.915E+00	5.285E+00	0.000E+00	NOT IDENT.
AS-74	-8.740E-02	1.331E-01	2.133E-01	0.000E+00	NOT IDENT.
SE-75	-3.378E-04	6.487E-02	1.183E-01	0.000E+00	FAIL ABUN
BR-77	-1.879E+00	3.886E+00	6.437E+00	0.000E+00	FAIL ABUN
SR-82	-5.237E-01	6.098E-01	9.920E-01	0.000E+00	NOT IDENT.
RB-83	-6.517E-02	1.238E-01	2.044E-01	0.000E+00	NOT IDENT.
RB-84	1.099E-01	1.487E-01	2.675E-01	0.000E+00	NOT IDENT.
KR-85	1.279E+01	1.493E+01	2.406E+01	0.000E+00	NOT IDENT.
SR-85	6.188E-02	7.223E-02	1.164E-01	0.000E+00	NOT IDENT.
RB-86	8.441E-01	1.377E+00	2.429E+00	0.000E+00	NOT IDENT.
Y-88	-7.511E-03	4.610E-02	7.335E-02	0.000E+00	NOT IDENT.
ZR-88	-3.384E-02	5.408E-02	9.185E-02	0.000E+00	NOT IDENT.
Y-91	5.961E+00	2.229E+01	3.834E+01	0.000E+00	NOT IDENT.
NB-94	-2.150E-02	5.739E-02	9.827E-02	0.000E+00	NOT IDENT.
NB-95	-2.564E-03	6.895E-02	1.200E-01	0.000E+00	NOT IDENT.
NB-95M	-4.220E-02	1.928E-01	2.885E-01	0.000E+00	NOT IDENT.
ZR-95	7.213E-02	1.210E-01	2.204E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.855E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.472E+04	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.984E+00	5.535E+00	1.029E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.099E+10	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.181E-02	5.054E-02	8.693E-02	0.000E+00	NOT IDENT.
RH-102	-3.066E-02	6.131E-02	1.030E-01	0.000E+00	NOT IDENT.
RU-103	-5.888E-02	7.269E-02	1.180E-01	0.000E+00	FAIL ABUN
RH-106	8.721E-02	5.792E-01	9.874E-01	0.000E+00	FAIL ABUN
RU-106	8.721E-02	5.791E-01	9.874E-01	0.000E+00	FAIL ABUN
AG-108M	5.250E-02	6.632E-02	1.207E-01	0.000E+00	NOT IDENT.
AG-110M	-1.710E-02	7.347E-02	1.109E-01	0.000E+00	NOT IDENT.
IN-111	-1.944E-02	5.124E-01	7.745E-01	0.000E+00	NOT IDENT.
IN-113M	-3.335E-03	7.803E-02	1.372E-01	0.000E+00	NOT IDENT.
SN-113	-3.335E-03	7.803E-02	1.372E-01	0.000E+00	NOT IDENT.
IN-114M	1.442E-01	2.496E-01	4.483E-01	0.000E+00	NOT IDENT.
CD-115	1.325E+00	3.718E+00	6.521E+00	0.000E+00	NOT IDENT.
SN-117M	-1.446E-02	5.812E-02	1.016E-01	0.000E+00	NOT IDENT.
SB-122	5.024E-02	9.047E-01	1.546E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.163E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.802E-02	3.898E-02	6.733E-02	0.000E+00	NOT IDENT.
I-124	-2.768E-01	5.402E-01	8.031E-01	0.000E+00	NOT IDENT.
SB-124	1.962E-02	8.939E-02	1.576E-01	0.000E+00	NOT IDENT.
SB-125	-1.134E-01	1.737E-01	2.916E-01	0.000E+00	NOT IDENT.
TE-125M	4.403E+00	1.243E+01	2.299E+01	0.000E+00	NOT IDENT.
I-126	2.762E-01	2.554E-01	4.355E-01	0.000E+00	NOT IDENT.
SB-126	-1.592E-01	2.296E-01	3.259E-01	0.000E+00	FAIL ABUN
SB-127	1.846E-01	8.325E-01	1.493E+00	0.000E+00	NOT IDENT.
XE-127	6.336E-02	6.687E-02	1.213E-01	0.000E+00	NOT IDENT.
I-131	-4.968E-02	1.228E-01	2.127E-01	0.000E+00	NOT IDENT.
TE-132	1.224E-01	3.568E-01	6.233E-01	0.000E+00	NOT IDENT.
BA-133	-2.682E-02	8.773E-02	1.339E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.411E+02	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.361E-02	9.009E-02	1.671E-01	0.000E+00	NOT IDENT.
CS-135	-1.784E-01	2.418E-01	4.238E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	5.038E+09	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.602E-01	1.683E-01	3.051E-01	0.000E+00	NOT IDENT.
CE-139	1.961E-02	4.276E-02	7.713E-02	0.000E+00	NOT IDENT.
BA-140	-1.719E-01	3.839E-01	6.298E-01	0.000E+00	NOT IDENT.
LA-140	8.108E-05	7.429E-02	1.253E-01	0.000E+00	NOT IDENT.
CE-141	5.347E-02	7.820E-02	1.439E-01	0.000E+00	NOT IDENT.
CE-143	2.336E+01	1.523E+01	2.546E+01	0.000E+00	FAIL ABUN
CE-144	-1.101E-01	3.047E-01	5.370E-01	0.000E+00	NOT IDENT.
PM-144	6.234E-03	5.810E-02	1.031E-01	0.000E+00	NOT IDENT.
PR-144	4.212E-01	3.926E+00	6.969E+00	0.000E+00	NOT IDENT.
PM-146	-1.330E-02	9.198E-02	1.586E-01	0.000E+00	NOT IDENT.
ND-147	-2.274E-01	7.785E-01	1.306E+00	0.000E+00	NOT IDENT.
PM-149	-2.512E+01	2.676E+01	4.578E+01	0.000E+00	NOT IDENT.
EU-152	-7.255E-02	1.593E-01	2.766E-01	0.000E+00	FAIL ABUN

GD-153	-1.107E-01	1.107E-01	1.819E-01	0.000E+00	NOT IDENT.
EU-154	3.425E-02	1.447E-01	2.581E-01	0.000E+00	FAIL ABUN
EU-155	6.084E-03	1.580E-01	2.889E-01	0.000E+00	FAIL ABUN
TB-160	-1.241E-01	3.142E-01	5.261E-01	0.000E+00	FAIL ABUN
HO-166M	-6.684E-02	1.025E-01	1.711E-01	0.000E+00	NOT IDENT.
TM-171	-2.273E+01	4.811E+01	8.848E+01	0.000E+00	FAIL ABUN
LU-176	1.191E-02	4.094E-02	7.483E-02	0.000E+00	FAIL ABUN
LU-177	4.164E-01	9.537E-01	1.687E+00	0.000E+00	NOT IDENT.
LU-177M	1.653E-01	3.406E-01	6.125E-01	0.000E+00	FAIL ABUN
HF-181	-1.856E-02	7.432E-02	1.262E-01	0.000E+00	NOT IDENT.
W-181	5.087E-03	6.157E-01	1.160E+00	0.000E+00	NOT IDENT.
TA-182	-1.456E-01	2.167E-01	3.436E-01	0.000E+00	NOT IDENT.
RE-183	5.165E-02	1.475E-01	2.652E-01	0.000E+00	FAIL ABUN
RE-184	3.594E-02	3.718E-01	6.836E-01	0.000E+00	FAIL ABUN
OS-185	1.629E-02	7.376E-02	1.328E-01	0.000E+00	FAIL ABUN
RE-188	1.296E-01	2.250E-01	4.104E-01	0.000E+00	NOT IDENT.
W-188	-1.873E+00	1.267E+01	2.001E+01	0.000E+00	NOT IDENT.
IR-192	-1.833E-02	5.450E-02	9.613E-02	0.000E+00	FAIL ABUN
AU-195	2.017E-01	2.941E-01	5.560E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.277E+01	0.000E+00	0.000E+00	SHORT HLIF
TL-201	6.849E-01	2.946E+00	5.254E+00	0.000E+00	NOT IDENT.
TL-202	1.542E-02	9.960E-02	1.752E-01	0.000E+00	NOT IDENT.
HG-203	5.375E-03	5.892E-02	1.075E-01	0.000E+00	NOT IDENT.
BI-207	5.700E-02	1.120E-01	1.963E-01	0.000E+00	FAIL ABUN
TL-207	-2.250E-01	1.092E+00	1.935E+00	0.000E+00	FAIL ABUN
PO-209	-2.630E+00	1.675E+01	2.843E+01	0.000E+00	NOT IDENT.
BI-210	-9.146E+00	1.593E+01	2.977E+01	0.000E+00	NOT IDENT.
PB-210	-9.146E+00	1.593E+01	2.977E+01	0.000E+00	NOT IDENT.
PO-210	-9.146E+00	1.593E+01	2.977E+01	0.000E+00	NOT IDENT.
PB-211	6.675E-01	1.817E+00	3.176E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.259E-01	9.789E-01	0.000E+00	FAIL ABUN
PO-215	-2.250E-01	1.092E+00	1.935E+00	0.000E+00	FAIL ABUN
RN-219	-4.302E-01	7.857E-01	1.332E+00	0.000E+00	NOT IDENT.
RN-220	-2.172E+01	4.975E+01	8.220E+01	0.000E+00	NOT IDENT.
RA-223	-2.250E-01	1.092E+00	1.935E+00	0.000E+00	FAIL ABUN
AC-227	-3.168E-01	6.193E-01	1.103E+00	0.000E+00	NOT IDENT.
TH-227	-3.168E-01	6.200E-01	1.103E+00	0.000E+00	FAIL ABUN
AC-228	0.000E+00	4.841E-01	7.062E-01	0.000E+00	FAIL ABUN
RA-228	0.000E+00	4.841E-01	7.062E-01	0.000E+00	FAIL ABUN
TH-229	-2.104E-01	7.806E-01	1.341E+00	0.000E+00	FAIL ABUN
PA-231	1.214E+00	2.443E+00	4.529E+00	0.000E+00	NOT IDENT.
TH-231	-2.250E-01	1.092E+00	1.935E+00	0.000E+00	FAIL ABUN
U-231	-1.832E-01	6.209E-01	1.002E+00	0.000E+00	FAIL ABUN
TH-232	0.000E+00	4.841E-01	7.062E-01	0.000E+00	FAIL ABUN
PA-233	1.449E-02	1.077E-01	1.950E-01	0.000E+00	FAIL ABUN
PA-234	5.315E-01	7.615E-01	1.347E+00	0.000E+00	FAIL ABUN
PA-234M	-1.507E+00	1.009E+01	1.695E+01	0.000E+00	NOT IDENT.
TH-234	-3.358E-01	2.671E+00	4.528E+00	0.000E+00	FAIL ABUN
U-235	1.708E-01	2.883E-01	5.270E-01	0.000E+00	FAIL ABUN
NP-236	8.003E-03	1.119E-01	1.987E-01	0.000E+00	NOT IDENT.
U-238	-3.358E-01	2.671E+00	4.528E+00	0.000E+00	FAIL ABUN
NP-239	4.608E-02	2.878E-01	5.015E-01	0.000E+00	NOT IDENT.
CM-243	8.217E-02	1.389E-01	2.603E-01	0.000E+00	NOT IDENT.
AM-246	1.038E-01	3.026E-01	5.233E-01	0.000E+00	NOT IDENT.
CM-247	-2.325E-02	7.026E-02	1.213E-01	0.000E+00	NOT IDENT.
CF-249	-3.314E-02	7.150E-02	1.227E-01	0.000E+00	NOT IDENT.
CF-251	-1.443E-02	1.861E-01	3.253E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 14-FEB-2010 15:00:54.40

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032523.CNF;1
Sample date        : 5-FEB-2010 00:00:00. Acquisition date : 14-FEB-2010 14:00:27
Sample ID         : G1202032523      Sample quantity  : 1.55440E+02 GRAM
Detector name     : GAM04            Detector geometry: CAN
Elapsed live time : 0 01:00:00.00    Elapsed real time: 0 01:00:01.35  0.0%
Energy tolerance  : 1.50000 keV      Analyst Initials : MXR1
Abundance limit   : 75.00000         Sensitivity      : 5.00000
Batch ID          : 948721           Detector SN#     :
Matrix Spike ID   :                  LCS ID            : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.81	22	10.67*	1.075E+00	9.463E-01	9.463E-01	56.43
CO-57	122.06	272	85.51*	6.487E+00	2.365E-01	2.424E-01	27.79
	136.48	-----	10.60	6.470E+00	-----	Line Not Found	-----
CO-60	1173.22	1686	100.00	1.300E+00	6.262E+00	6.284E+00	8.03
	1332.49	1524	100.00*	1.159E+00	6.352E+00	6.374E+00	8.71
CD-109	88.03	1156	3.72*	5.084E+00	2.953E+01	2.995E+01	15.11
SN-126	64.28	-----	9.60	2.203E+00	-----	Line Not Found	-----
	86.94	1156	8.90	5.084E+00	1.234E+01	1.234E+01	43.18
	87.57	1156	37.00*	5.084E+00	2.969E+00	2.969E+00	15.11
BA-137M	661.65	2004	89.98*	2.208E+00	4.871E+00	4.874E+00	7.13
CS-137	661.65	2004	85.12*	2.208E+00	5.149E+00	5.153E+00	7.15
TL-208	277.35	-----	6.80	4.326E+00	-----	Line Not Found	-----
	510.84	17	21.60	2.730E+00	1.382E-01	1.382E-01	309.49
	583.14	173	84.20*	2.454E+00	4.046E-01	4.046E-01	24.95
	860.37	-----	12.46	1.744E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.384E+00	-----	Line Not Found	-----
	351.07	180	12.94*	3.626E+00	1.856E+00	1.856E+00	32.06
PB-212	74.81	358	10.70	3.785E+00	4.270E+00	4.270E+00	38.37
	77.11	358	18.00	3.785E+00	2.538E+00	2.538E+00	37.21
	87.30	1156	8.00	5.084E+00	1.373E+01	1.373E+01	18.12
	238.63	436	44.60*	4.828E+00	9.783E-01	9.783E-01	17.46
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
PO-212	74.81	358	10.70	3.785E+00	4.270E+00	4.270E+00	38.37
	77.11	358	18.00	3.785E+00	2.538E+00	2.538E+00	37.21
	87.30	1156	8.00	5.084E+00	1.373E+01	1.373E+01	18.12
	115.19	-----	0.60	6.408E+00	-----	Line Not Found	-----
	238.63	436	44.60*	4.828E+00	9.783E-01	9.783E-01	17.46
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
BI-214	609.31	131	46.30*	2.366E+00	5.790E-01	5.790E-01	44.90
	1120.29	-----	15.10	1.358E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.528E-01	9.500E-01	9.500E-01	46.85
PB-214	74.81	358	6.21	3.785E+00	7.357E+00	7.357E+00	37.94

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	358	10.50	3.785E+00	4.351E+00	4.351E+00	37.98
	87.30	1156	4.67	5.084E+00	2.352E+01	2.352E+01	16.96
	241.98	44	7.49	4.784E+00	5.883E-01	5.883E-01	142.58
	295.21	122	19.20	4.133E+00	7.405E-01	7.405E-01	42.63
	351.92	180	37.20*	3.626E+00	6.455E-01	6.455E-01	32.48
PO-214	74.81	358	6.21	3.785E+00	7.357E+00	7.357E+00	37.94
	77.11	358	10.50	3.785E+00	4.351E+00	4.351E+00	37.98
	87.30	1156	4.67	5.084E+00	2.352E+01	2.352E+01	16.96
	241.98	44	7.49	4.784E+00	5.883E-01	5.883E-01	142.58
	295.21	122	19.20	4.133E+00	7.405E-01	7.405E-01	42.63
	351.92	180	37.20*	3.626E+00	6.455E-01	6.455E-01	32.48
PO-216	74.81	358	10.70	3.785E+00	4.270E+00	4.270E+00	38.37
	77.11	358	18.00	3.785E+00	2.538E+00	2.538E+00	37.21
	87.30	1156	8.00	5.084E+00	1.373E+01	1.373E+01	18.12
	238.63	436	44.60*	4.828E+00	9.783E-01	9.783E-01	17.46
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
PO-218	74.81	358	6.21	3.785E+00	7.357E+00	7.357E+00	37.94
	77.11	358	10.50	3.785E+00	4.351E+00	4.351E+00	37.98
	87.30	1156	4.67	5.084E+00	2.352E+01	2.352E+01	16.96
	241.98	44	7.49	4.784E+00	5.883E-01	5.883E-01	142.58
	295.21	122	19.20	4.133E+00	7.405E-01	7.405E-01	42.63
	351.92	180	37.20*	3.626E+00	6.455E-01	6.455E-01	32.48
RA-224	240.98	44	3.95*	4.784E+00	1.115E+00	1.115E+00	142.47
RA-226	609.31	131	46.30*	2.366E+00	5.790E-01	5.790E-01	44.90
	1120.29	-----	15.10	1.358E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.528E-01	9.500E-01	9.500E-01	46.85
TH-228	74.81	358	10.70	3.785E+00	4.270E+00	4.311E+00	37.23
	77.11	358	18.00	3.785E+00	2.538E+00	2.563E+00	37.21
	87.30	1156	8.00	5.084E+00	1.373E+01	1.386E+01	15.11
	238.63	436	44.60*	4.828E+00	9.783E-01	9.877E-01	17.46
	300.09	-----	3.41	4.082E+00	-----	Line Not Found	-----
TH-230	609.31	131	46.30*	2.366E+00	5.790E-01	5.790E-01	44.90
	1120.29	-----	15.10	1.358E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.528E-01	9.500E-01	9.500E-01	46.85
U-234	609.31	131	46.30*	2.366E+00	5.790E-01	5.790E-01	44.90
	1120.29	-----	15.10	1.358E+00	-----	Line Not Found	-----
	1764.49	30	15.80	9.528E-01	9.500E-01	9.500E-01	46.85
NP-237	86.50	1156	12.60*	5.084E+00	8.717E+00	8.717E+00	25.57
	95.87	-----	2.60	5.678E+00	-----	Line Not Found	-----
AM-241	59.54	1607	35.90*	1.559E+00	1.386E+01	1.386E+01	14.95
AM-243	74.67	358	66.00*	3.785E+00	6.923E-01	6.923E-01	37.21
	86.72	1156	0.34	5.084E+00	3.269E+02	3.269E+02	15.11
	117.66	-----	0.55	6.445E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.417E+00	-----	Line Not Found	-----
ANH-511	511.00	17	100.00*	2.730E+00	2.985E-02	2.985E-02	309.38

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202032523

Page : 3
Acquisition date : 14-FEB-2010 14:00:27

Total number of lines in spectrum 20
Number of unidentified lines 0
Number of lines tentatively identified by NID 20 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	9.463E-01	9.463E-01	5.340E-01	56.43	
CO-57	270.90D	1.02	2.365E-01	2.424E-01	0.674E-01	27.79	
CO-60	5.27Y	1.00	6.352E+00	6.374E+00	0.555E+00	8.71	
CD-109	464.00D	1.01	2.953E+01	2.995E+01	0.452E+01	15.11	
SN-126	1.00E+05Y	1.00	2.969E+00	2.969E+00	0.448E+00	15.11	
BA-137M	30.17Y	1.00	4.871E+00	4.874E+00	0.347E+00	7.13	
CS-137	30.17Y	1.00	5.149E+00	5.153E+00	0.368E+00	7.15	
TL-208	1.41E+10Y	1.00	4.046E-01	4.046E-01	1.009E-01	24.95	
BI-211	7.04E+08Y	1.00	1.856E+00	1.856E+00	0.595E+00	32.06	
PB-212	1.41E+10Y	1.00	9.783E-01	9.783E-01	1.708E-01	17.46	
PO-212	1.41E+10Y	1.00	9.783E-01	9.783E-01	1.708E-01	17.46	
BI-214	1600.00Y	1.00	5.790E-01	5.790E-01	2.600E-01	44.90	
PB-214	1600.00Y	1.00	6.455E-01	6.455E-01	2.097E-01	32.48	
PO-214	1600.00Y	1.00	6.455E-01	6.455E-01	2.097E-01	32.48	
PO-216	1.41E+10Y	1.00	9.783E-01	9.783E-01	1.708E-01	17.46	
PO-218	1600.00Y	1.00	6.455E-01	6.455E-01	2.097E-01	32.48	
RA-224	1.41E+10Y	1.00	1.115E+00	1.115E+00	1.589E+00	142.47	
RA-226	1600.00Y	1.00	5.790E-01	5.790E-01	2.600E-01	44.90	
TH-228	1.91Y	1.01	9.783E-01	9.877E-01	1.724E-01	17.46	
TH-230	4.47E+09Y	1.00	5.790E-01	5.790E-01	2.599E-01	44.90	
U-234	4.47E+09Y	1.00	5.790E-01	5.790E-01	2.599E-01	44.90	
NP-237	2.14E+06Y	1.00	8.717E+00	8.717E+00	2.229E+00	25.57	
AM-241	432.20Y	1.00	1.386E+01	1.386E+01	0.207E+01	14.95	
AM-243	7380.00Y	1.00	6.923E-01	6.923E-01	2.576E-01	37.21	
ANH-511	1.00E+09Y	1.00	2.985E-02	2.985E-02	9.235E-02	309.38	
Total Activity :			8.490E+01	8.537E+01			

Grand Total Activity : 8.490E+01 8.537E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202032523

Page : 4
Acquisition date : 14-FEB-2010 14:00:27

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.74	55	241	0.91	185.52	183	7	1.52E-02	****	5.47E+00	T
0	337.84	71	187	1.18	675.76	672	9	1.96E-02	74.0	3.74E+00	T
0	726.72	58	69	1.39	1453.52	1446	12	1.61E-02	63.1	2.03E+00	T
0	910.99	130	85	1.98	1822.04	1816	13	3.60E-02	34.4	1.65E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202032523.CNF;1
* Acquisition date   : 14-FEB-2010 14:00:27  Detector SN#      :
* Detector ID        : GAM04                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance   : 1.50000
* Elapsed live time  : 0 01:00:00.00          Abundance limit    : 75.00000
* Elapsed real time  : 0 01:00:01.35          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 5-FEB-2010 00:00:00.  Nuclide Library   : SOLID
* Sample ID          : G1202032523           Analyst initials: MXR1
* Batch Number       : 948721                Sample Quantity  : 1.55440E+02 GRAM
*****
*                                     QC DATA                              *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope       :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A               LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	9.463E-01	5.340E-01	4.324E-01	3.073E-02	2.189
CO-57	2.424E-01	6.736E-02	5.827E-02	4.045E-03	4.160
CO-60	6.374E+00	5.552E-01	9.449E-02	6.475E-03	67.462
CD-109	2.995E+01	4.525E+00	2.109E+00	2.535E-01	14.201
SN-126	2.969E+00	4.484E-01	2.106E-01	2.526E-02	14.093
BA-137M	4.874E+00	3.474E-01	1.094E-01	5.334E-03	44.565
CS-137	5.153E+00	3.683E-01	1.156E-01	5.672E-03	44.565
TL-208	4.046E-01	1.009E-01	1.060E-01	6.668E-03	3.817
BI-211	1.856E+00	5.949E-01	5.807E-01	3.923E-02	3.195
PB-212	9.783E-01	1.708E-01	1.923E-01	1.544E-02	5.088
PO-212	9.783E-01	1.708E-01	1.923E-01	1.544E-02	5.088
BI-214	5.790E-01	2.600E-01	2.113E-01	1.553E-02	2.740
PB-214	6.455E-01	2.097E-01	2.106E-01	1.797E-02	3.065
PO-214	6.455E-01	2.097E-01	2.106E-01	1.797E-02	3.065
PO-216	9.783E-01	1.708E-01	1.923E-01	1.544E-02	5.088
PO-218	6.455E-01	2.097E-01	2.106E-01	1.797E-02	3.065
RA-224	1.115E+00	1.589E+00	2.050E+00	1.367E-01	0.544
RA-226	5.790E-01	2.600E-01	2.113E-01	1.553E-02	2.740

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	9.877E-01	1.724E-01	1.941E-01	1.559E-02	5.088
TH-230	5.790E-01	2.599E-01	2.113E-01	1.553E-02	2.740
U-234	5.790E-01	2.599E-01	2.113E-01	1.553E-02	2.740
NP-237	8.717E+00	2.229E+00	6.627E-01	1.579E-01	13.155
AM-241	1.386E+01	2.072E+00	6.771E-01	8.548E-02	20.478
AM-243	6.923E-01	2.576E-01	1.479E-01	1.694E-02	4.680
ANH-511	2.985E-02	9.235E-02	9.133E-02	5.107E-03	0.327

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.548E-01		6.163E-01	1.029E+00	6.819E-02	0.247
NA-22	7.453E-03		5.306E-02	9.054E-02	5.920E-03	0.082
NA-24	3.803E-04		8.204E-04	Half-Life too short		
AL-26	1.801E-02		4.163E-02	7.478E-02	4.435E-03	0.241
TI-44	1.602E-01		6.668E-02	1.084E-01	1.246E-02	1.478
SC-46	-6.258E-02		8.926E-02	1.395E-01	1.128E-02	-0.449
V-48	6.192E-02		1.292E-01	2.185E-01	1.693E-02	0.283
CR-51	1.570E-01		5.450E-01	9.263E-01	6.523E-02	0.170
MN-52	1.273E-02		1.418E-01	2.470E-01	1.686E-02	0.052
MN-54	-3.526E-02		7.724E-02	1.236E-01	8.947E-03	-0.285
CO-56	3.685E-02		7.508E-02	1.287E-01	9.544E-03	0.286
CO-58	-6.707E-03		7.687E-02	1.267E-01	8.744E-03	-0.053
FE-59	-3.653E-02		1.952E-01	3.118E-01	2.382E-02	-0.117
ZN-65	-1.175E-02		1.911E-01	3.074E-01	2.034E-02	-0.038
GE-68	5.360E-01		2.673E+00	4.407E+00	3.078E-01	0.122
AS-73	-3.601E-01		2.975E+00	4.810E+00	6.292E-01	-0.075
AS-74	-8.740E-02		1.358E-01	2.063E-01	1.089E-02	-0.424
SE-75	-3.378E-04		6.620E-02	1.120E-01	7.534E-03	-0.003
BR-77	-1.879E+00		3.965E+00	6.204E+00	3.455E-01	-0.303
SR-82	-5.237E-01		6.222E-01	9.665E-01	6.168E-02	-0.542
RB-83	-6.517E-02		1.263E-01	1.970E-01	1.097E-02	-0.331
RB-84	1.099E-01		1.518E-01	2.615E-01	2.083E-02	0.420
KR-85	1.279E+01		1.524E+01	2.318E+01	1.295E+00	0.552
SR-85	6.188E-02		7.370E-02	1.121E-01	6.262E-03	0.552
RB-86	8.441E-01		1.405E+00	2.388E+00	1.670E-01	0.353
Y-88	-7.511E-03		4.704E-02	7.321E-02	4.272E-03	-0.103
ZR-88	-3.384E-02		5.519E-02	8.786E-02	4.945E-03	-0.385
Y-91	5.961E+00		2.274E+01	3.781E+01	2.317E+00	0.158
NB-94	-2.150E-02		5.857E-02	9.548E-02	5.144E-03	-0.225
NB-95	-2.564E-03		7.036E-02	1.169E-01	7.283E-03	-0.022
NB-95M	-4.220E-02		1.967E-01	2.723E-01	2.235E-02	-0.155
ZR-95	7.213E-02		1.235E-01	2.145E-01	1.562E-02	0.336
NB-97	-9.406E-05		4.518E-04	Half-Life too short		
ZR-97	-6.999E-04		7.511E-03	Half-Life too short		
MO-99	5.984E+00		5.648E+00	1.002E+01	1.383E+00	0.597
TC-99M	-8.344E+03		5.609E+03	Half-Life too short		

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	-1.181E-02		5.157E-02	8.170E-02	5.321E-03	-0.145
RH-102	-3.066E-02		6.256E-02	9.903E-02	5.599E-03	-0.310
RU-103	-5.888E-02		7.417E-02	1.136E-01	1.427E-02	-0.518
RH-106	8.721E-02		5.910E-01	9.562E-01	1.092E-01	0.091
RU-106	8.721E-02		5.909E-01	9.562E-01	4.912E-02	0.091
AG-108M	5.250E-02		6.767E-02	1.157E-01	7.152E-03	0.454
AG-110M	-1.710E-02		7.497E-02	1.076E-01	5.748E-03	-0.159
IN-111	-1.944E-02		5.229E-01	7.319E-01	4.884E-02	-0.027
IN-113M	-3.335E-03		7.962E-02	1.313E-01	7.908E-03	-0.025
SN-113	-3.335E-03		7.962E-02	1.313E-01	7.908E-03	-0.025
IN-114M	1.442E-01		2.547E-01	4.209E-01	2.724E-02	0.343
CD-115	1.325E+00		3.794E+00	6.288E+00	3.489E-01	0.211
SN-117M	-1.446E-02		5.930E-02	9.494E-02	6.073E-03	-0.152
SB-122	5.024E-02		9.231E-01	1.493E+00	8.100E-02	0.034
I-123	-3.311E-03		3.654E-03	Half-Life too short		
TE-123M	-1.802E-02		3.977E-02	6.293E-02	4.068E-03	-0.286
I-124	-2.768E-01		5.512E-01	7.771E-01	4.076E-02	-0.356
SB-124	1.962E-02		9.121E-02	1.569E-01	1.066E-02	0.125
SB-125	-1.134E-01		1.773E-01	2.796E-01	1.655E-02	-0.406
TE-125M	4.403E+00		1.268E+01	2.129E+01	2.110E+00	0.207
I-126	2.762E-01		2.606E-01	4.225E-01	2.084E-02	0.654
SB-126	-1.592E-01		2.343E-01	3.169E-01	1.780E-02	-0.502
SB-127	1.846E-01		8.494E-01	1.450E+00	1.044E-01	0.127
XE-127	6.336E-02		6.823E-02	1.141E-01	7.455E-03	0.556
I-131	-4.968E-02		1.253E-01	2.031E-01	1.343E-02	-0.245
TE-132	1.224E-01		3.640E-01	5.879E-01	8.118E-02	0.208
BA-133	-2.682E-02		8.952E-02	1.278E-01	1.497E-02	-0.210
I-133	-3.313E-05		7.197E-05	Half-Life too short		
CS-134	9.361E-02		9.193E-02	1.629E-01	1.098E-02	0.574
CS-135	-1.784E-01		2.467E-01	4.014E-01	3.346E-02	-0.445
I-135	-4.450E+03		2.570E+03	Half-Life too short		
CS-136	1.602E-01		1.718E-01	2.998E-01	2.301E-02	0.534
CE-139	1.961E-02		4.363E-02	7.216E-02	4.585E-03	0.272
BA-140	-1.719E-01		3.917E-01	6.075E-01	1.973E-01	-0.283
LA-140	8.108E-05		7.581E-02	1.245E-01	8.200E-03	0.001
CE-141	5.347E-02		7.980E-02	1.342E-01	9.005E-03	0.399
CE-143	2.336E+01		1.555E+01	2.417E+01	5.074E+00	0.967
CE-144	-1.101E-01		3.109E-01	4.997E-01	7.283E-02	-0.220
PM-144	6.234E-03		5.929E-02	1.002E-01	5.321E-03	0.062
PR-144	4.212E-01		4.006E+00	6.769E+00	3.594E-01	0.062
PM-146	-1.330E-02		9.386E-02	1.523E-01	1.300E-02	-0.087
ND-147	-2.274E-01		7.944E-01	1.259E+00	1.689E-01	-0.181
PM-149	-2.512E+01		2.730E+01	4.343E+01	6.304E+00	-0.578
EU-152	-7.255E-02		1.626E-01	2.637E-01	1.825E-02	-0.275
GD-153	-1.107E-01		1.129E-01	1.680E-01	1.649E-02	-0.659
EU-154	3.425E-02		1.476E-01	2.550E-01	2.501E-02	0.134
EU-155	6.084E-03		1.612E-01	2.672E-01	2.329E-02	0.023
TB-160	-1.241E-01		3.206E-01	5.143E-01	4.078E-02	-0.241

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	-6.684E-02		1.046E-01	1.663E-01	9.152E-03	-0.402
TM-171	-2.273E+01		4.910E+01	8.095E+01	9.464E+00	-0.281
LU-176	1.191E-02		4.177E-02	7.113E-02	4.644E-03	0.167
LU-177	4.164E-01		9.732E-01	1.588E+00	1.042E-01	0.262
LU-177M	1.653E-01		3.476E-01	5.868E-01	3.320E-02	0.282
HF-181	-1.856E-02		7.583E-02	1.214E-01	6.856E-03	-0.153
W-181	5.087E-03		6.283E-01	1.061E+00	1.250E-01	0.005
TA-182	-1.456E-01		2.211E-01	3.390E-01	2.110E-02	-0.429
RE-183	5.165E-02		1.505E-01	2.480E-01	1.580E-02	0.208
RE-184	3.594E-02		3.794E-01	6.465E-01	4.318E-02	0.056
OS-185	1.629E-02		7.526E-02	1.288E-01	6.419E-03	0.126
RE-188	1.296E-01		2.296E-01	3.833E-01	2.461E-02	0.338
W-188	-1.873E+00		1.292E+01	1.899E+01	1.255E+00	-0.099
IR-192	-1.833E-02		5.561E-02	9.144E-02	5.936E-03	-0.201
AU-195	2.017E-01		3.001E-01	5.136E-01	4.911E-02	0.393
TL-200	1.216E-05		1.162E-05	Half-Life too short		
TL-201	6.849E-01		3.006E+00	4.917E+00	3.126E-01	0.139
TL-202	1.542E-02		1.016E-01	1.681E-01	9.538E-03	0.092
HG-203	5.375E-03		6.012E-02	1.019E-01	7.094E-03	0.053
BI-207	5.700E-02		1.143E-01	1.930E-01	1.372E-02	0.295
TL-207	-2.250E-01		1.114E+00	1.842E+00	3.083E-01	-0.122
PO-209	-2.630E+00		1.709E+01	2.781E+01	2.282E+00	-0.095
BI-210	-9.146E+00		1.626E+01	2.700E+01	2.353E+00	-0.339
PB-210	-9.146E+00		1.626E+01	2.700E+01	2.353E+00	-0.339
PO-210	-9.146E+00		1.625E+01	2.700E+01	2.098E+00	-0.339
PB-211	6.675E-01		1.854E+00	3.040E+00	1.895E+00	0.220
BI-212	1.165E+00	+	7.408E-01	9.520E-01	7.277E-02	1.224
PO-215	-2.250E-01		1.114E+00	1.842E+00	3.083E-01	-0.122
RN-219	-4.302E-01		8.017E-01	1.275E+00	1.727E-01	-0.337
RN-220	-2.172E+01		5.077E+01	7.934E+01	4.347E+00	-0.274
RA-223	-2.250E-01		1.114E+00	1.842E+00	3.083E-01	-0.122
AC-227	-3.168E-01		6.320E-01	1.043E+00	1.497E-01	-0.304
TH-227	-3.168E-01		6.327E-01	1.043E+00	1.797E-01	-0.304
AC-228	1.368E+00	+	4.940E-01	6.910E-01	7.534E-02	1.979
RA-228	1.368E+00	+	4.940E-01	6.910E-01	7.534E-02	1.979
TH-229	-2.104E-01		7.965E-01	1.260E+00	8.175E-02	-0.167
PA-231	1.214E+00		2.493E+00	4.296E+00	6.080E-01	0.283
TH-231	-2.250E-01		1.114E+00	1.842E+00	3.083E-01	-0.122
U-231	-1.832E-01		6.336E-01	9.249E-01	9.351E-02	-0.198
TH-232	1.368E+00	+	4.940E-01	6.910E-01	7.534E-02	1.979
PA-233	1.449E-02		1.099E-01	1.854E-01	1.265E-02	0.078
PA-234	5.315E-01		7.770E-01	1.320E+00	2.439E-01	0.403
PA-234M	-1.507E+00		1.029E+01	1.663E+01	1.516E+00	-0.091
TH-234	-3.358E-01		2.725E+00	4.137E+00	8.185E-01	-0.081
U-235	1.708E-01		2.942E-01	4.913E-01	8.144E-02	0.348
NP-236	8.003E-03		1.141E-01	1.857E-01	1.186E-02	0.043
U-238	-3.358E-01		2.725E+00	4.137E+00	8.185E-01	-0.081
NP-239	4.608E-02		2.937E-01	4.652E-01	3.423E-02	0.099

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	8.217E-02		1.417E-01	2.407E-01	2.123E-02	0.341
AM-246	1.038E-01		3.088E-01	5.145E-01	3.586E-02	0.202
CM-247	-2.325E-02		7.169E-02	1.161E-01	6.551E-03	-0.200
CF-249	-3.314E-02		7.296E-02	1.174E-01	6.669E-03	-0.282
CF-251	-1.443E-02		1.899E-01	3.049E-01	1.951E-02	-0.047

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*****
*
*                               DETECTOR DATA
*
* Configuration      : SYSSYSROOT:[ALPHA.ARCHIVE.GAMMA]G1202032523
* Acquisition date   : 14-FEB-2010 14:00:27 Detector SN#      :
* Detector ID        : GAM04                      Sensitivity   : 5.000
* Geometry           : CAN                        Energy tolerance: 1.500
* Elapsed live time  : 0 01:00:00.00             Abundance limit : 75.000
* Elapsed real time  : 0 01:00:01.35             Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 5-FEB-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202032523             Analyst initials: MXR1
* Batch Number       : 948721                  Sample Quantity : 1.5544E+02 GRAM
* Recovery           : 1.00000                 Carrier Weight  : 0.00000
*****
*
*                               QC DATA
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope      :
* MSD DPM             : 0.000                     MSD Isotope   :
* LCS DPM             : 0.000                     LCS Isotope   :
* LCSD DPM            : 0.000                     LCSD Isotope  :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	9.463E-01	5.233E-01	2.182E-01	2.670E-01
CO-57	2.424E-01	6.601E-02	3.140E-02	3.368E-02
CO-60	6.374E+00	5.441E-01	4.780E-02	2.776E-01
CD-109	2.995E+01	4.434E+00	1.146E+00	2.262E+00
SN-126	2.969E+00	4.395E-01	1.144E-01	2.242E-01
BA-137M	4.874E+00	3.405E-01	5.641E-02	1.737E-01
CS-137	5.153E+00	3.609E-01	5.963E-02	1.841E-01
TL-208	4.046E-01	9.892E-02	5.484E-02	5.047E-02
BI-211	1.856E+00	5.830E-01	3.046E-01	2.975E-01
PB-212	9.783E-01	1.674E-01	1.019E-01	8.540E-02
PO-212	9.783E-01	1.674E-01	1.019E-01	8.540E-02
BI-214	5.790E-01	2.548E-01	1.092E-01	1.300E-01
PB-214	6.455E-01	2.055E-01	1.105E-01	1.048E-01
PO-214	6.455E-01	2.055E-01	1.105E-01	1.048E-01
PO-216	9.783E-01	1.674E-01	1.019E-01	8.540E-02
PO-218	6.455E-01	2.055E-01	1.105E-01	1.048E-01
RA-224	1.115E+00	1.557E+00	1.086E+00	7.946E-01
RA-226	5.790E-01	2.548E-01	1.092E-01	1.300E-01
TH-228	9.877E-01	1.690E-01	1.028E-01	8.622E-02
TH-230	5.790E-01	2.548E-01	1.092E-01	1.300E-01
U-234	5.790E-01	2.548E-01	1.092E-01	1.300E-01
NP-237	8.717E+00	2.185E+00	3.601E-01	1.115E+00
AM-241	1.386E+01	2.031E+00	3.713E-01	1.036E+00
AM-243	6.923E-01	2.525E-01	8.067E-02	1.288E-01
ANH-511	2.985E-02	9.050E-02	4.743E-02	4.617E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.548E-01	6.039E-01	5.356E-01	3.081E-01 NOT IDENT.
NA-22	7.453E-03	5.200E-02	4.586E-02	2.653E-02 NOT IDENT.

NA-24	3.803E+02	1.608E+03	0.000E+00	8.204E+02	SHORT HLIF
AL-26	1.801E-02	4.080E-02	3.750E-02	2.081E-02	NOT IDENT.
TI-44	1.602E-01	6.535E-02	5.903E-02	3.334E-02	NOT IDENT.
SC-46	-6.258E-02	8.748E-02	7.135E-02	4.463E-02	NOT IDENT.
V-48	6.192E-02	1.266E-01	1.115E-01	6.462E-02	NOT IDENT.
CR-51	1.570E-01	5.341E-01	4.870E-01	2.725E-01	NOT IDENT.
MN-52	1.273E-02	1.389E-01	1.247E-01	7.089E-02	FAIL ABUN
MN-54	-3.526E-02	7.570E-02	6.336E-02	3.862E-02	NOT IDENT.
CO-56	3.685E-02	7.358E-02	6.591E-02	3.754E-02	NOT IDENT.
CO-58	-6.707E-03	7.533E-02	6.497E-02	3.843E-02	NOT IDENT.
FE-59	-3.653E-02	1.913E-01	1.586E-01	9.760E-02	NOT IDENT.
ZN-65	-1.175E-02	1.873E-01	1.563E-01	9.556E-02	NOT IDENT.
GE-68	5.360E-01	2.620E+00	2.243E+00	1.337E+00	NOT IDENT.
AS-73	-3.601E-01	2.915E+00	2.644E+00	1.487E+00	NOT IDENT.
AS-74	-8.740E-02	1.331E-01	1.067E-01	6.789E-02	NOT IDENT.
SE-75	-3.378E-04	6.487E-02	5.918E-02	3.310E-02	FAIL ABUN
BR-77	-1.879E+00	3.886E+00	3.221E+00	1.983E+00	FAIL ABUN
SR-82	-5.237E-01	6.098E-01	4.963E-01	3.111E-01	NOT IDENT.
RB-83	-6.517E-02	1.238E-01	1.023E-01	6.315E-02	NOT IDENT.
RB-84	1.099E-01	1.487E-01	1.338E-01	7.589E-02	NOT IDENT.
KR-85	1.279E+01	1.493E+01	1.204E+01	7.620E+00	NOT IDENT.
SR-85	6.188E-02	7.223E-02	5.821E-02	3.685E-02	NOT IDENT.
RB-86	8.441E-01	1.377E+00	1.215E+00	7.024E-01	NOT IDENT.
Y-88	-7.511E-03	4.610E-02	3.670E-02	2.352E-02	NOT IDENT.
ZR-88	-3.384E-02	5.408E-02	4.595E-02	2.759E-02	NOT IDENT.
Y-91	5.961E+00	2.229E+01	1.918E+01	1.137E+01	NOT IDENT.
NB-94	-2.150E-02	5.739E-02	4.917E-02	2.928E-02	NOT IDENT.
NB-95	-2.564E-03	6.895E-02	6.003E-02	3.518E-02	NOT IDENT.
NB-95M	-4.220E-02	1.928E-01	1.443E-01	9.837E-02	NOT IDENT.
ZR-95	7.213E-02	1.210E-01	1.102E-01	6.173E-02	NOT IDENT.
NB-97	-9.406E+01	8.855E+02	0.000E+00	4.518E+02	SHORT HLIF
ZR-97	-6.999E+02	1.472E+04	0.000E+00	7.511E+03	SHORT HLIF
MO-99	5.984E+00	5.535E+00	5.150E+00	2.824E+00	NOT IDENT.
TC-99M	-8.344E+09	1.099E+10	0.000E+00	5.609E+09	SHORT HLIF
RH-101	-1.181E-02	5.054E-02	4.349E-02	2.579E-02	NOT IDENT.
RH-102	-3.066E-02	6.131E-02	5.153E-02	3.128E-02	NOT IDENT.
RU-103	-5.888E-02	7.269E-02	5.903E-02	3.709E-02	FAIL ABUN
RH-106	8.721E-02	5.792E-01	4.940E-01	2.955E-01	FAIL ABUN
RU-106	8.721E-02	5.791E-01	4.940E-01	2.955E-01	FAIL ABUN
AG-108M	5.250E-02	6.632E-02	6.037E-02	3.384E-02	NOT IDENT.
AG-110M	-1.710E-02	7.347E-02	5.549E-02	3.748E-02	NOT IDENT.
IN-111	-1.944E-02	5.124E-01	3.875E-01	2.614E-01	NOT IDENT.
IN-113M	-3.335E-03	7.803E-02	6.865E-02	3.981E-02	NOT IDENT.
SN-113	-3.335E-03	7.803E-02	6.865E-02	3.981E-02	NOT IDENT.
IN-114M	1.442E-01	2.496E-01	2.243E-01	1.274E-01	NOT IDENT.
CD-115	1.325E+00	3.718E+00	3.263E+00	1.897E+00	NOT IDENT.
SN-117M	-1.446E-02	5.812E-02	5.082E-02	2.965E-02	NOT IDENT.
SB-122	5.024E-02	9.047E-01	7.734E-01	4.616E-01	NOT IDENT.
I-123	-3.311E+03	7.163E+03	0.000E+00	3.654E+03	SHORT HLIF
TE-123M	-1.802E-02	3.898E-02	3.369E-02	1.989E-02	NOT IDENT.
I-124	-2.768E-01	5.402E-01	4.018E-01	2.756E-01	NOT IDENT.
SB-124	1.962E-02	8.939E-02	7.886E-02	4.561E-02	NOT IDENT.
SB-125	-1.134E-01	1.737E-01	1.459E-01	8.864E-02	NOT IDENT.
TE-125M	4.403E+00	1.243E+01	1.150E+01	6.342E+00	NOT IDENT.
I-126	2.762E-01	2.554E-01	2.179E-01	1.303E-01	NOT IDENT.
SB-126	-1.592E-01	2.296E-01	1.630E-01	1.171E-01	FAIL ABUN
SB-127	1.846E-01	8.325E-01	7.470E-01	4.247E-01	NOT IDENT.
XE-127	6.336E-02	6.687E-02	6.068E-02	3.412E-02	NOT IDENT.
I-131	-4.968E-02	1.228E-01	1.064E-01	6.267E-02	NOT IDENT.
TE-132	1.224E-01	3.568E-01	3.118E-01	1.820E-01	NOT IDENT.
BA-133	-2.682E-02	8.773E-02	6.700E-02	4.476E-02	NOT IDENT.
I-133	-3.313E+01	1.411E+02	0.000E+00	7.197E+01	SHORT HLIF
CS-134	9.361E-02	9.009E-02	8.362E-02	4.597E-02	NOT IDENT.
CS-135	-1.784E-01	2.418E-01	2.120E-01	1.234E-01	NOT IDENT.
I-135	-4.450E+09	5.038E+09	0.000E+00	2.570E+09	SHORT HLIF
CS-136	1.602E-01	1.683E-01	1.527E-01	8.589E-02	NOT IDENT.
CE-139	1.961E-02	4.276E-02	3.859E-02	2.182E-02	NOT IDENT.
BA-140	-1.719E-01	3.839E-01	3.151E-01	1.958E-01	NOT IDENT.
LA-140	8.108E-05	7.429E-02	6.266E-02	3.790E-02	NOT IDENT.
CE-141	5.347E-02	7.820E-02	7.198E-02	3.990E-02	NOT IDENT.
CE-143	2.336E+01	1.523E+01	1.274E+01	7.773E+00	FAIL ABUN
CE-144	-1.101E-01	3.047E-01	2.686E-01	1.555E-01	NOT IDENT.
PM-144	6.234E-03	5.810E-02	5.160E-02	2.964E-02	NOT IDENT.
PR-144	4.212E-01	3.926E+00	3.486E+00	2.003E+00	NOT IDENT.
PM-146	-1.330E-02	9.198E-02	7.937E-02	4.693E-02	NOT IDENT.
ND-147	-2.274E-01	7.785E-01	6.532E-01	3.972E-01	NOT IDENT.
PM-149	-2.512E+01	2.676E+01	2.290E+01	1.365E+01	NOT IDENT.
EU-152	-7.255E-02	1.593E-01	1.384E-01	8.130E-02	FAIL ABUN

GD-153	-1.107E-01	1.107E-01	9.102E-02	5.646E-02	NOT IDENT.
EU-154	3.425E-02	1.447E-01	1.291E-01	7.380E-02	FAIL ABUN
EU-155	6.084E-03	1.580E-01	1.445E-01	8.060E-02	FAIL ABUN
TB-160	-1.241E-01	3.142E-01	2.632E-01	1.603E-01	FAIL ABUN
HO-166M	-6.684E-02	1.025E-01	8.560E-02	5.231E-02	NOT IDENT.
TM-171	-2.273E+01	4.811E+01	4.427E+01	2.455E+01	FAIL ABUN
LU-176	1.191E-02	4.094E-02	3.744E-02	2.089E-02	FAIL ABUN
LU-177	4.164E-01	9.537E-01	8.440E-01	4.866E-01	NOT IDENT.
LU-177M	1.653E-01	3.406E-01	3.065E-01	1.738E-01	FAIL ABUN
HF-181	-1.856E-02	7.432E-02	6.316E-02	3.792E-02	NOT IDENT.
W-181	5.087E-03	6.157E-01	5.804E-01	3.141E-01	NOT IDENT.
TA-182	-1.456E-01	2.167E-01	1.719E-01	1.106E-01	NOT IDENT.
RE-183	5.165E-02	1.475E-01	1.327E-01	7.523E-02	FAIL ABUN
RE-184	3.594E-02	3.718E-01	3.420E-01	1.897E-01	FAIL ABUN
OS-185	1.629E-02	7.376E-02	6.645E-02	3.763E-02	FAIL ABUN
RE-188	1.296E-01	2.250E-01	2.053E-01	1.148E-01	NOT IDENT.
W-188	-1.873E+00	1.267E+01	1.001E+01	6.462E+00	NOT IDENT.
IR-192	-1.833E-02	5.450E-02	4.809E-02	2.781E-02	FAIL ABUN
AU-195	2.017E-01	2.941E-01	2.782E-01	1.500E-01	FAIL ABUN
TL-200	1.216E+01	2.277E+01	0.000E+00	1.162E+01	SHORT HLIF
TL-201	6.849E-01	2.946E+00	2.629E+00	1.503E+00	NOT IDENT.
TL-202	1.542E-02	9.960E-02	8.767E-02	5.082E-02	NOT IDENT.
HG-203	5.375E-03	5.892E-02	5.376E-02	3.006E-02	NOT IDENT.
BI-207	5.700E-02	1.120E-01	9.823E-02	5.715E-02	FAIL ABUN
TL-207	-2.250E-01	1.092E+00	9.680E-01	5.570E-01	FAIL ABUN
PO-209	-2.630E+00	1.675E+01	1.422E+01	8.545E+00	NOT IDENT.
BI-210	-9.146E+00	1.593E+01	1.490E+01	8.128E+00	NOT IDENT.
PB-210	-9.146E+00	1.593E+01	1.490E+01	8.128E+00	NOT IDENT.
PO-210	-9.146E+00	1.593E+01	1.490E+01	8.126E+00	NOT IDENT.
PB-211	6.675E-01	1.817E+00	1.589E+00	9.271E-01	NOT IDENT.
BI-212	1.165E+00	7.259E-01	4.897E-01	3.704E-01	FAIL ABUN
PO-215	-2.250E-01	1.092E+00	9.680E-01	5.570E-01	FAIL ABUN
RN-219	-4.302E-01	7.857E-01	6.665E-01	4.009E-01	NOT IDENT.
RN-220	-2.172E+01	4.975E+01	4.112E+01	2.538E+01	NOT IDENT.
RA-223	-2.250E-01	1.092E+00	9.680E-01	5.570E-01	FAIL ABUN
AC-227	-3.168E-01	6.193E-01	5.517E-01	3.160E-01	NOT IDENT.
TH-227	-3.168E-01	6.200E-01	5.517E-01	3.164E-01	FAIL ABUN
AC-228	1.368E+00	4.841E-01	3.533E-01	2.470E-01	FAIL ABUN
RA-228	1.368E+00	4.841E-01	3.533E-01	2.470E-01	FAIL ABUN
TH-229	-2.104E-01	7.806E-01	6.709E-01	3.983E-01	FAIL ABUN
PA-231	1.214E+00	2.443E+00	2.266E+00	1.246E+00	NOT IDENT.
TH-231	-2.250E-01	1.092E+00	9.680E-01	5.570E-01	FAIL ABUN
U-231	-1.832E-01	6.209E-01	5.013E-01	3.168E-01	FAIL ABUN
TH-232	1.368E+00	4.841E-01	3.533E-01	2.470E-01	FAIL ABUN
PA-233	1.449E-02	1.077E-01	9.757E-02	5.494E-02	FAIL ABUN
PA-234	5.315E-01	7.615E-01	6.739E-01	3.885E-01	FAIL ABUN
PA-234M	-1.507E+00	1.009E+01	8.478E+00	5.147E+00	NOT IDENT.
TH-234	-3.358E-01	2.671E+00	2.265E+00	1.363E+00	FAIL ABUN
U-235	1.708E-01	2.883E-01	2.637E-01	1.471E-01	FAIL ABUN
NP-236	8.003E-03	1.119E-01	9.939E-02	5.707E-02	NOT IDENT.
U-238	-3.358E-01	2.671E+00	2.265E+00	1.363E+00	FAIL ABUN
NP-239	4.608E-02	2.878E-01	2.509E-01	1.468E-01	NOT IDENT.
CM-243	8.217E-02	1.389E-01	1.302E-01	7.085E-02	NOT IDENT.
AM-246	1.038E-01	3.026E-01	2.618E-01	1.544E-01	NOT IDENT.
CM-247	-2.325E-02	7.026E-02	6.067E-02	3.585E-02	NOT IDENT.
CF-249	-3.314E-02	7.150E-02	6.140E-02	3.648E-02	NOT IDENT.
CF-251	-1.443E-02	1.861E-01	1.628E-01	9.493E-02	NOT IDENT.

```

*****
*                                     *
*               GEL Laboratories LLC   *
*               2040 SAVAGE ROAD       *
*               CHARLESTON ,SC 29417  *
*               GAMMA SPECTROSCOPY BACKGROUND REPORT *
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```

ENERGY	MDA COUNTS
46.50	259.4548
46.50	259.4548
46.50	259.4548
48.70	265.4408
49.72	272.2560
51.35	282.1758
52.39	306.4350
52.97	325.1860
53.15	323.6079
53.44	312.3732
54.07	311.3418
56.28	314.5081
56.28	314.5108
57.37	349.7276
57.53	349.8737
57.53	349.8757
57.60	286.9935
57.98	287.2775
57.98	287.2775
59.32	288.2727
59.32	288.2727
59.40	288.3316
59.54	288.4344
59.72	288.5671
60.01	288.7801
61.10	210.5206
61.14	210.5417
61.30	210.6267
63.00	206.1629
63.29	206.3101
63.29	206.3101
63.58	215.8414
64.28	206.8094
65.12	206.3332
65.20	206.3730
65.20	206.3730
66.05	223.8768
66.72	224.2327
66.83	224.2923
66.91	234.2457
67.20	239.8151
67.20	239.8151
67.75	228.3908
67.85	228.4448
68.90	222.6685
68.90	222.6685
69.30	221.5159
69.67	205.3854
70.82	244.1107
70.82	244.1107
70.83	244.1161
72.80	246.5758
72.87	246.6142
72.87	246.6142
74.67	247.6003
74.81	247.6772
74.81	247.6772
74.81	247.6772
74.81	247.6772
74.81	247.6772
74.81	247.6772
74.81	247.6772
74.97	247.7637
75.28	247.9326
75.70	248.1606
77.11	248.9200
77.11	248.9200

77.11	248.9200
77.11	248.9200
77.11	248.9200
77.11	248.9200
77.11	248.9200
78.38	237.1185
79.62	246.0853
79.80	246.1784
79.80	246.1784
80.11	260.2566
80.18	260.2944
80.30	260.3593
80.30	260.3593
80.57	271.6524
81.00	290.0228
81.07	290.0641
81.07	290.0641
81.07	290.0641
81.07	290.0641
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83.37	256.4139
83.78	273.4585
83.78	273.4585
83.78	273.4585
83.78	273.4585
84.21	251.2408
84.90	279.7041
85.43	291.2580
86.29	338.2745
86.50	338.4155
86.54	338.4430
86.59	338.4760
86.72	332.9211
86.79	332.9661
86.94	333.0670
87.30	306.4724
87.30	306.4724
87.30	306.4724
87.30	306.4724
87.30	306.4724
87.30	306.4724
87.57	306.6364
87.88	306.8234
88.03	306.9145
88.36	307.1148
88.47	307.1810
89.95	215.7910
91.11	216.2758
92.29	239.5838
92.38	239.6248
92.38	239.6248
93.35	175.7634
94.00	167.3957
94.67	183.3623
94.67	183.3643
94.90	186.3097
94.90	186.3097
94.90	186.3097
94.90	186.3097
95.87	192.3909
95.87	192.3909
96.73	211.3932
97.43	213.1057
98.44	177.9174
98.44	177.9174
98.88	172.2855
99.55	186.9508
99.55	186.9508
99.86	196.6974
100.00	196.7472
100.10	196.7845
103.18	209.5093
103.76	200.9861
105.00	209.2086
105.31	225.8734
108.00	223.0146
109.28	210.7592

111.00	219.2400
111.00	219.2400
111.76	212.6283
112.95	216.9978
115.19	219.7823
116.30	210.2639
117.00	212.0920
117.00	212.0920
117.66	223.6507
121.11	233.8857
121.62	197.0631
121.78	197.1122
122.06	197.1994
122.32	197.2805
122.32	197.2805
122.32	197.2805
122.32	197.2805
123.07	197.5130
127.23	213.4229
129.76	245.1436
131.20	239.5843
133.02	222.9298
133.54	247.5533
135.34	230.8463
136.00	220.8450
136.25	210.6982
136.48	210.7684
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140.51	0.0000
142.18	203.2204
142.65	188.9030
143.76	192.3007
144.24	191.3966
144.24	191.3966
144.24	191.3966
144.24	191.3966
145.22	197.8761
145.44	197.9363
147.16	227.4968
152.43	232.2798
152.70	220.8520
153.22	205.2952
154.21	192.9806
154.21	192.9806
154.21	192.9806
154.21	192.9806
155.03	187.9442
156.02	199.7567
158.56	201.4822
159.00	0.0000
159.00	207.9317
160.31	194.5435
161.27	201.1386
162.32	192.9307
162.64	198.3127
163.35	227.1551
163.89	233.6851
165.85	203.3902
167.43	210.2003
171.28	216.5771
171.86	217.8062
172.10	217.8702
176.55	201.7977
176.60	201.8110
181.06	198.5590
184.41	247.2814
185.71	209.4746
186.00	201.9053
190.27	190.8453
192.34	211.0898
193.63	215.8046
197.04	222.1645
198.01	213.5557
198.60	211.4807
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201.83	202.2414
202.84	201.3548
205.31	225.3246

208.36	214.8809
208.81	211.6252
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209.75	190.5444
210.97	212.1174
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216.55	215.6328
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226.40	195.0295
227.00	215.6896
227.08	212.2830
227.20	212.3095
228.16	206.8029
228.18	206.8066
228.18	206.8066
231.56	196.0453
235.69	186.4918
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236.00	207.2754
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238.63	339.4261
238.63	339.4261
238.63	339.4261
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241.98	271.0386
241.98	271.0386
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247.94	208.2890
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249.79	196.0513
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252.85	191.3504
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256.20	198.9923
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260.90	183.0549
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264.65	159.7220
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268.79	181.6968
269.46	152.3960
269.46	152.3960
269.46	152.3960
269.46	152.3960
271.23	163.3474
273.65	208.4258
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277.60	170.5524
277.60	170.5524
278.00	167.9165
278.60	173.3955
279.20	168.0934
279.53	186.1250
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284.30	158.9065
285.00	173.4551
285.90	189.8639
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286.10	170.0021
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290.80	169.9556
291.72	183.1707
293.26	152.8422
293.70	155.8109
295.21	147.2588
295.21	147.2588

295.21	147.2588
295.96	164.8597
296.50	185.3654
297.23	194.2430
298.57	141.8222
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299.80	145.1378
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300.09	151.6224
300.09	151.6224
300.09	151.6224
300.12	151.6249
301.29	156.6126
302.84	186.1556
303.76	182.6272
303.91	178.0593
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304.40	168.0302
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319.02	146.7870
319.41	143.1155
320.08	144.1205
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323.87	157.6046
323.87	157.6046
323.87	157.6046
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334.20	142.8850
334.30	142.8943
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338.28	151.8121
338.28	151.8121
338.28	151.8121
338.32	151.8170
338.32	151.8170
338.32	151.8170
340.50	134.4995
340.57	134.5060
344.27	145.8648
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350.59	135.5099
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351.92	160.0276
351.92	160.0276
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364.48	141.3004
366.43	140.5330
367.43	143.5230
367.94	0.0000
369.80	128.3262
374.96	126.8543
383.85	147.1245
387.95	150.4682
388.63	154.4464
391.69	144.9716
391.69	144.9716
392.90	158.8137
398.62	143.6786
400.65	149.7850
401.10	152.7863
401.81	164.6939
402.60	162.8046
404.84	151.1884
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411.60	165.7539
413.65	157.0284
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415.30	158.1921

415.76	153.2621
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423.70	144.0417
427.08	125.3033
427.89	150.4417
432.53	132.7755
433.93	141.9510
439.47	143.4496
439.56	143.4582
439.89	136.4152
443.98	149.9263
444.90	143.9306
445.03	143.9414
445.03	143.9414
445.03	143.9414
445.03	143.9414
453.90	166.1214
463.38	145.5405
468.07	158.2791
473.00	145.3374
475.06	162.0236
475.35	161.0178
476.78	129.1275
477.59	133.3226
477.96	139.5545
482.03	125.3758
484.57	142.1613
487.03	103.9139
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492.35	110.4819
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511.00	123.2217
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511.85	133.1833
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513.99	116.4611
520.41	116.4453
520.65	116.4621
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529.64	120.2177
529.87	0.0000
531.02	121.3685
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543.00	124.2837
546.56	0.0000
549.76	112.8955
552.65	113.0653
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563.90	99.6395
568.70	100.9666
569.32	93.3985
569.50	98.8370
569.67	99.9315
573.80	101.2278
574.00	102.3277
574.64	107.8039
578.91	89.0458
579.30	0.0000
583.14	95.1377
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591.81	83.4659
592.07	77.9834
593.00	82.4158
595.88	101.2371
600.56	92.6440
602.52	0.0000
602.71	114.8228
602.71	114.8228
603.60	106.0371
604.41	97.2383
604.70	102.5564
609.31	106.3271

609.31	106.3271
609.31	106.3271
609.31	106.3271
610.33	106.3799
612.46	108.2631
614.37	90.5972
618.01	91.1990
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621.84	86.9050
631.29	86.1715
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633.10	85.1243
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636.97	89.7656
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646.12	87.4397
656.30	120.7487
657.75	102.7028
657.90	0.0000
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661.65	93.5022
664.57	81.8086
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666.33	68.2269
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677.61	69.4836
685.20	71.5482
692.80	85.5891
695.00	70.9317
696.49	82.0393
696.49	82.0393
697.00	85.7457
697.49	75.6198
698.33	75.6458
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706.67	62.0290
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713.82	86.3610
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720.50	103.9869
721.93	96.2847
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722.78	77.6774
722.78	77.6774
722.89	77.6794
722.95	77.6815
723.30	91.6785
724.18	82.3855
727.18	73.1506
733.00	78.3970
735.90	95.5951
739.58	75.0898
742.81	89.2875
744.21	81.8153
747.13	75.3223
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752.31	77.3675
753.82	75.5254
755.35	71.7936
756.15	72.7627
756.87	73.7287
763.93	75.8340
765.79	83.4797
766.42	90.1410
766.84	95.8514
776.49	94.3134
778.00	69.5853
778.57	78.1823
778.89	80.0994
783.80	94.5842
785.46	86.0405
792.07	107.3488

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796.30	80.6449
798.80	114.3574
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805.60	86.7140
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810.76	90.7458
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848.13	85.1712
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856.80	106.0647
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867.82	87.7550
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880.51	97.0693
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884.67	104.1566
889.25	114.2616
896.60	99.6143
898.02	110.6287
899.00	114.6547
903.28	101.0967
911.07	82.0981
911.07	82.0981
911.07	82.0981
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925.00	110.6606
925.24	121.7356
926.50	136.8865
935.52	137.3082
937.48	110.1203
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946.00	105.3711
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966.15	137.6993
968.20	119.4223
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969.11	123.5405
969.11	123.5405
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983.50	84.1181
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996.32	86.5266
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1001.68	87.7081
1004.76	108.4530
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1024.50	0.0000
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1036.00	71.9750
1037.82	92.8894
1038.57	96.0430
1038.76	0.0000
1045.16	82.6414
1046.59	84.7692
1048.07	62.8213

1050.47	88.0154
1050.47	88.0154
1062.04	78.8635
1063.62	71.5395
1076.63	69.7093
1077.35	73.9512
1078.86	71.8715
1085.78	63.5479
1099.22	91.4506
1112.02	96.0645
1112.84	99.2938
1115.52	86.5490
1120.29	84.5277
1120.29	84.5277
1120.29	84.5277
1120.29	84.5277
1120.51	85.6055
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1124.00	0.0000
1129.67	65.4469
1131.51	0.0000
1147.95	0.0000
1167.94	34.3494
1173.22	51.0574
1175.09	47.0996
1177.93	50.7637
1189.05	29.4614
1204.90	28.4946
1205.75	0.0000
1213.00	32.9517
1221.42	33.0278
1230.97	22.9960
1235.34	33.1523
1236.41	0.0000
1238.25	23.0408
1246.25	26.7851
1260.41	0.0000
1271.85	14.8783
1274.45	20.4719
1274.54	21.4025
1291.56	17.7592
1298.22	0.0000
1312.09	20.6724
1325.50	17.7799
1325.50	17.7799
1332.49	23.6140
1333.61	23.6206
1360.21	4.7557
1362.66	0.0000
1365.15	8.5708
1368.21	9.5304
1368.53	0.0000
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1384.27	13.3956
1394.10	12.4684
1395.20	15.3503
1407.95	12.5107
1434.06	9.6838
1436.60	13.5653
1457.56	0.0000
1460.81	4.8726
1489.15	12.7524
1509.49	10.8407
1596.49	10.0480
1620.62	11.1106
1678.03	0.0000
1691.02	7.1760
1691.02	7.1760
1706.46	0.0000
1750.46	0.0000
1764.49	8.3245
1764.49	8.3245
1764.49	8.3245
1764.49	8.3245
1770.23	8.9293
1771.40	22.9238
1791.20	0.0000
1808.65	6.2979

1836.01

9.4973

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202032523

Total Uranium Activity	-9.2004E-01	ug/g
Total Uranium Counting Unc.	7.9470E+00	ug/g
Total Uranium Tpu	4.0546E-06	ug/g
Total Uranium Mda	6.7402E+00	ug/g


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*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 948721                SAMPLE ID   : G1202032523            *
*  ANALYST       : MXR1                  DETECTOR    : GAM04                *
*  SAMPLE DATE   : 5-FEB-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00        *
*  ANALYSIS DATE: 14-FEB-2010 14:00:27.05  SAMPLE ALQT: 155.440 GRAM        *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.614E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 3.135E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.619E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.751E+00

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Radiochemistry Batch Checklist, Rev10

Batch#

950495

Product:

Tritium

Date:

2/23/10

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%.			
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.			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.			NA
Aux data is correct.			
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 Data Exception Reports (DER) completed, if applicable.			NA
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMP, results above MDC have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Lynndee Pace

Secondary Review Performed By:

Lynch 2/23/10

LANL 3/2/10

Tritium Que Sheet

08-FEB-10

Batch #: 950495

Analyst: KXK2 First Client Due Date 02-MAR-10 Internal Due Date: 19-FEB-10

Spike Isotope: Hydrogen-3

Spike Code: _____ Expiration Date: _____ Vol: _____

LCS Isotope: Hydrogen-3

LCS Code: 0134-K Expiration Date: 3/27/10 Vol: 0.1

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Prep Date: 2/11/10 Initials: KL Pipet ID: 2910968 Witness: AW 2/11/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot In vol (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Allquot (g/mL)	Final Wt (g)	Dist Vol (mL)
245978001-1	RE15-10-7880	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-2	1		422.57	390.88	31.69
245978002-1	RE15-10-7891	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-3	2		246.33	182.28	64.05
245978003-1	RE15-10-7892	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-4	3		414.38	385.79	28.59
245978004-1	RE15-10-7967	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-5	4		291.16	220.99	70.17
245978005-1	RE15-10-7976	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-6	5		403.66	389.13	14.53
245978006-1	RE15-10-7968	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-7	6		403.61	360.42	43.19
245978007-1	RE15-10-7965	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-8	7		386.60	300.77	85.83
245978008-1	RE15-10-7975	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-9	8		286.44	213.46	73.04
245978009-1	RE15-10-7978	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-10	9		286.62	238.18	48.44
245978010-1	RE15-10-7970	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-11	10		500.79	460.73	40.56
245978011-1	RE15-10-7964	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	34-12	11		417.47	373.22	44.25
245978012-1	RE15-10-7973	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	20-1	12		317.50	259.08	58.42
245978013-1	RE15-10-7962	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	20-2	13		305.60	289.46	16.20
245978014-1	RE15-10-7963	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	20-3	14		234.25	185.76	48.49
245978015-1	RE15-10-7977	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	20-4	15		290.64	185.43	105.21
245979015-1	RE15-10-8062	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	27-JAN-10	10	20-5	16		426.90	386.77	40.13
1202036900-1	MB for batch 950495	MB		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT		10	20-6	17		20.00	0	20.00
1202036901-1	RE15-10-7880	DUP		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	27-JAN-10	10	20-7	18		422.57	390.88	31.69
1202036902-1	LCS for batch 950495	LCS		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT		10	20-8	19		20.00	0	20.00

Bkg Rack #: 34-1

Comments:

Bkg prepared with dead water? ☒ Yes ☐ No

Instrument Used (circle as appropriate): LS6000 (Red) 7065155, LS6500 (Blue) 7067083, LS6500

(Gold) 7070506, LS6500 (Green) 7067404, Wallac (Yellow) 4140127, LS6000 (Brown) 7060655, Wallac

(Pink) 2200082, Wallac (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168

Calibration Used: Ecoscint Ultra 10 mL Sample/13 mL Ecoscint Ultra

Data Reviewed By: AW

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

DATE	2/8/2010	INITIALS	KXK2	BATCH NUMBER	950495	
Sample #	Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	mLs aliquoted into LSC vial	Collection Tube Number
245978001	422.57	0.075	31.69	390.88	10	
245978002	246.33	0.260	64.05	182.28	10	
245978003	414.38	0.069	28.59	385.79	10	
245978004	291.16	0.241	70.17	220.99	10	
245978005	403.66	0.036	14.53	389.13	10	
245978006	403.61	0.107	43.19	360.42	10	
245978007	386.60	0.222	85.83	300.77	10	
245978008	286.44	0.255	73.04	213.40	10	
245978009	286.62	0.169	48.44	238.18	10	
245978010	500.79	0.081	40.56	460.23	10	
245978011	417.47	0.106	44.25	373.22	10	
245978012	317.50	0.184	58.42	259.08	10	
245978013	305.60	0.053	16.20	289.40	10	
245978014	234.25	0.207	48.49	185.76	10	
245978015	290.64	0.362	105.21	185.43	10	
245979015	426.90	0.094	40.13	386.77	10	
MB	20.00	1.000	20.00	0.00	10	
DUP	422.57	0.075	31.69	390.88	10	
LCS	20.00	1.000	20.00	0.00	10	

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.6

Batch : 950495
Analyst : KXK2
Prep Date : 2/11/2010

Spike SN :
Spike Exp Date :
Spike Activity (dpm/ml):
Spike Volume Added:

LCS SN : 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2468.20
LCS Volume Added: 0.10

Procedure Code : LSC_VH3S
Paramname : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.32 years

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
Ecoscint Ultra

Pos.	Sample ID	Wet Sample Weight (g)	Total Moisture L	Sample Aliquot in Vial L	Sample Aliquot Stdev. L	Dry Sample Weight (g)	% Moisture of Sample	Rig number	Sample Date/Time
1	245978001.1	422.57	0.0317	0.0100	2.5729E-05	380.88	7.50%	1	1/27/2010 12:00
2	245978002.1	246.33	0.0641	0.0100	2.5729E-05	182.28	26.00%	2	1/27/2010 12:00
3	245978003.1	414.38	0.0286	0.0100	2.5729E-05	385.79	6.90%	3	1/27/2010 12:00
4	245978004.1	291.16	0.0702	0.0100	2.5729E-05	220.99	24.10%	4	1/27/2010 12:00
5	245978005.1	403.66	0.0145	0.0100	2.5729E-05	389.13	3.60%	5	1/27/2010 12:00
6	245978006.1	403.61	0.0432	0.0100	2.5729E-05	360.42	10.70%	6	1/27/2010 12:00
7	245978007.1	398.60	0.0858	0.0100	2.5729E-05	300.77	22.20%	7	1/27/2010 12:00
8	245978008.1	286.44	0.0730	0.0100	2.5729E-05	213.40	25.50%	8	1/27/2010 12:00
9	245978009.1	286.62	0.0484	0.0100	2.5729E-05	238.18	16.90%	9	1/27/2010 12:00
10	245978010.1	500.79	0.0406	0.0100	2.5729E-05	460.23	8.10%	10	1/27/2010 12:00
11	245978011.1	417.47	0.0443	0.0100	2.5729E-05	373.22	10.60%	11	1/27/2010 12:00
12	245978012.1	317.50	0.0584	0.0100	2.5729E-05	259.08	18.40%	12	1/27/2010 12:00
13	245978013.1	305.60	0.0162	0.0100	2.5729E-05	289.40	5.30%	13	1/27/2010 12:00
14	245978014.1	234.25	0.0485	0.0100	2.5729E-05	185.76	20.70%	14	1/27/2010 12:00
15	245978015.1	290.64	0.1052	0.0100	2.5729E-05	185.43	36.20%	15	1/27/2010 12:00
16	245978015.1	426.90	0.0401	0.0100	2.5729E-05	386.77	9.40%	16	1/27/2010 12:00
17	1202036900.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	17	2/11/2010 0:00
18	1202036901.1	422.57	0.0317	0.0100	2.5729E-05	390.88	7.50%	1	1/27/2010 12:00
19	1202036902.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	18	2/11/2010 0:00

Count raw data				Background				Calibration Data				Backgrounds			
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	Background Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Efficiency Error (cpm/dpm)	Rack Position #	Count Start Date/Time	
1	34-2	95	125.3	6.99	95	2/13/2010 7:13	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2752	0.00792	34-1	2/13/2010 5:34	
2	34-3	95	125.8	136.28	95	2/13/2010 8:51	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2743	0.00792	34-1	2/13/2010 5:34	
3	34-4	95	126	28.16	95	2/13/2010 11:55	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2739	0.00792	34-1	2/13/2010 5:34	
4	34-5	95	125	470.27	95	2/13/2010 13:33	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2757	0.00792	34-1	2/13/2010 5:34	
5	34-6	95	126.3	53.72	95	2/13/2010 15:12	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2734	0.00792	34-1	2/13/2010 5:34	
6	34-7	95	125.5	434.96	95	2/13/2010 16:50	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2748	0.00792	34-1	2/13/2010 5:34	
7	34-8	95	124.7	44.14	95	2/13/2010 18:29	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2763	0.00792	34-1	2/13/2010 5:34	
8	34-9	95	125.8	12.21	95	2/13/2010 20:07	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2743	0.00792	34-1	2/13/2010 5:34	
9	34-10	95	126.3	6.69	95	2/13/2010 21:45	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2734	0.00792	34-1	2/13/2010 5:34	
10	34-11	95	125.9	37.97	95	2/13/2010 23:24	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2741	0.00792	34-1	2/13/2010 5:34	
11	34-12	95	127	9.35	95	2/14/2010 1:02	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2721	0.00792	34-1	2/13/2010 5:34	
12	20-1	95	125.1	12.33	95	2/14/2010 2:40	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2756	0.00792	34-1	2/13/2010 5:34	
13	20-2	95	126.2	68.75	95	2/14/2010 4:19	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2736	0.00792	34-1	2/13/2010 5:34	
14	20-3	95	126	14.09	95	2/14/2010 5:57	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2739	0.00792	34-1	2/13/2010 5:34	
15	20-4	95	126.4	7.56	95	2/14/2010 7:35	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2732	0.00792	34-1	2/13/2010 5:34	
16	20-5	95	126.4	54	95	2/14/2010 9:13	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2732	0.00792	34-1	2/13/2010 5:34	
17	20-6	95	125.1	5.59	95	2/14/2010 10:51	0.999	LSCSILVER	8/21/2009	8/31/2010	0.2756	0.00792	34-1	2/13/2010 5:34	
18	20-7	95	127.4	6.89	95	2/14/2010 12:30	0.997	LSCSILVER	8/21/2009	8/31/2010	0.2714	0.00792	34-1	2/13/2010 5:34	
19	26-1	15	125.9	39.73	95	2/14/2010 14:07	0.999	LSCSILVER	8/21/2009	8/31/2010	0.2741	0.00792	34-1	2/13/2010 5:34	

2 - Reference date for Spike Activity (dpm/ml) is the batch Prep Date

3 - Spike Nominals are decay corrected to Sample Date/Time

[illegible]

PAGE: 1

ID:TRITIUM

13 FEB 2010 05:27

USER: 4 COMMENT:SILVER
 PRESET TIME : 95.00
 DATA CALC : CPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD
 COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 :EDIT
 TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF
 SCINTILLATOR: LIQUID LUMEX:YES LOW SAMPLE REJ: 0
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 20.0 - 280.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0
 CHAN: 0.0 - 1000.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	34-1	95.00	125.6	5.76	9.21	45.35	3.08	2.08	97.95
2	34-2	95.00	125.3	6.99	8.19	46.34	3.04	1.79	196.52
3	34-3	95.00	125.8	136.28	1.76	182.23	1.52	0.45	294.97
4	34-4	9.42	125.2	29.84	12.12	69.13	7.89	1.54	305.64
5	34-5	SAMPLE TERMINATED:							
6	34-6	SAMPLE TERMINATED:							
7	34-7	SAMPLE TERMINATED:							
8	34-8	SAMPLE TERMINATED:							
9	34-9	SAMPLE TERMINATED:							
10	34-10	SAMPLE TERMINATED:							
11	34-11	SAMPLE TERMINATED:							
12	34-12	SAMPLE TERMINATED:							

QP

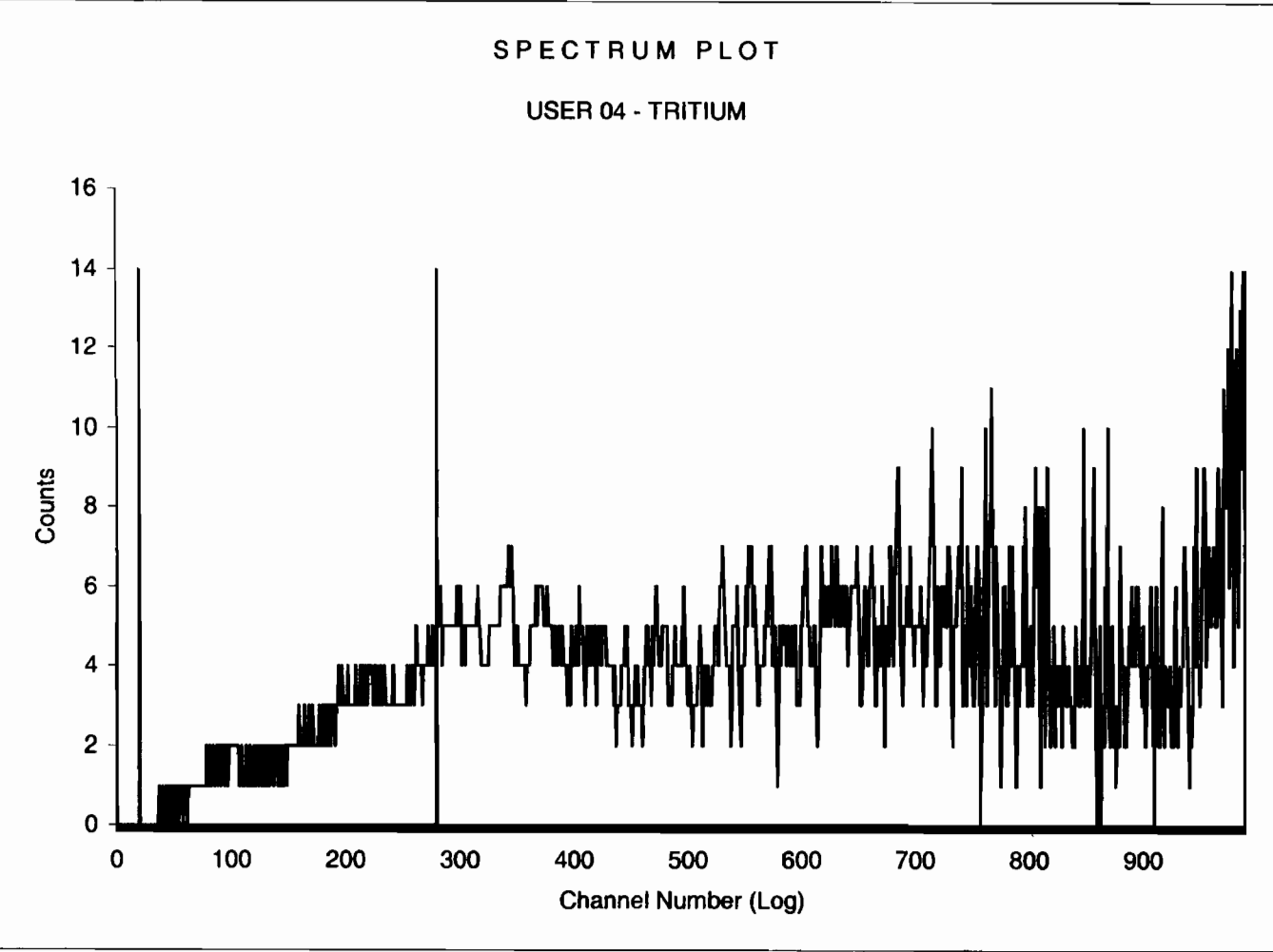
INSTRUMENT CALIBRATION: Maxi 13 FEB 2010 10:36
 Calibration successful

QP

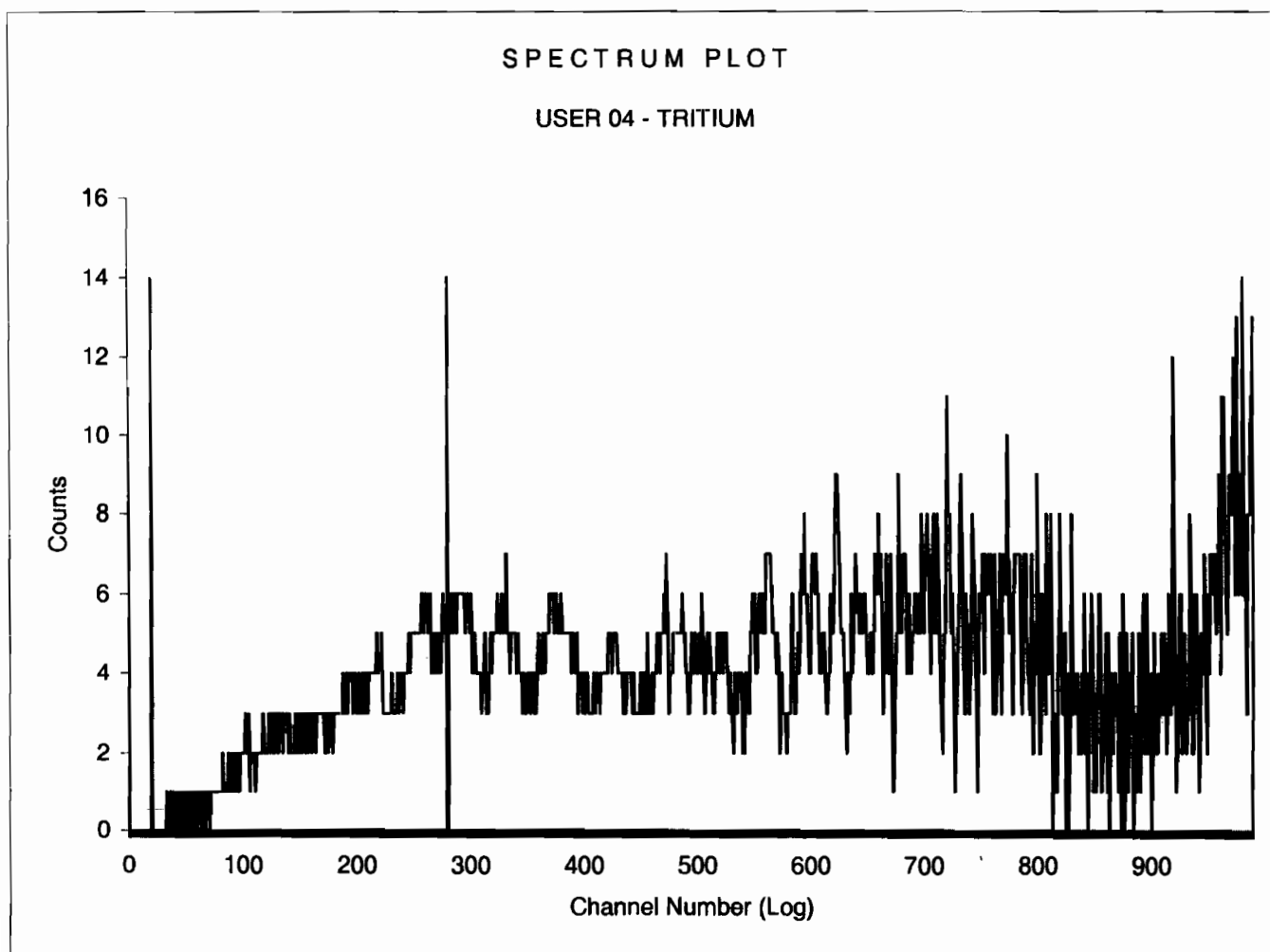
Calibrating Auto DPM
 Counting Standard for 14C
 Calibration Complete: 14C
 Counting Standard for 3H
 Calibration Complete: 3H
 Calibration Successful

QPQP

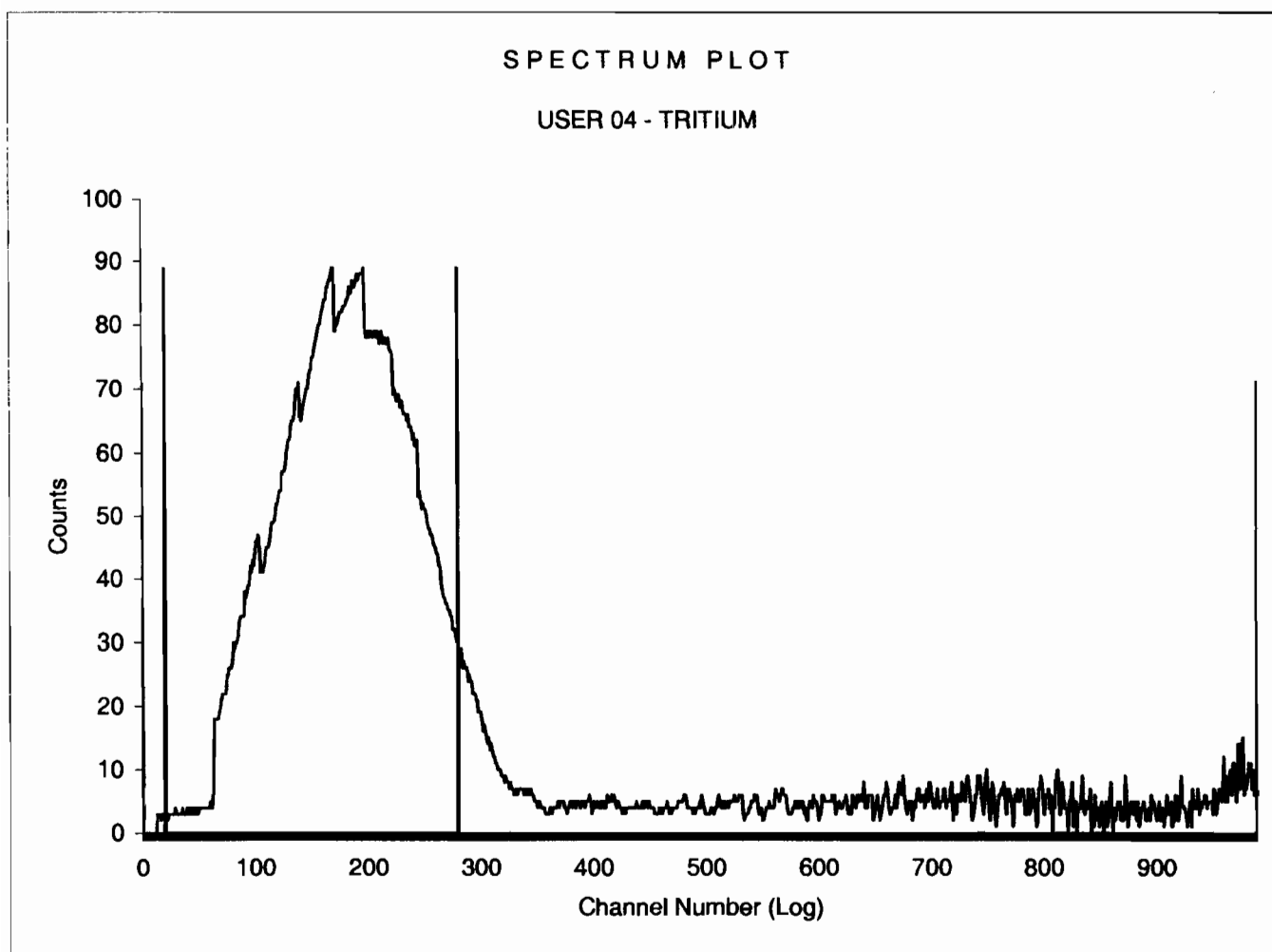
Sample Count Start Time:	13 Feb 2010 05:34:56		
Data Capture Date	13 Feb 2010 07:10:17		
User Filename	S04021334-1A.XLS		
	U04021334-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	34-1	95.00
H#, Total Counts:	125.6	4308	
Win1: Tritium - Start, End, Counts:	20	280	547
Win2: - Start, End, Counts:	0	990	3938



Sample Count Start Time:	13 Feb 2010 07:13:30		
Data Capture Date	13 Feb 2010 08:48:43		
User Filename	S04021334-2A.XLS		
	U04021334-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	34-2	95.00
H#, Total Counts:	125.3	4402	
Win1: Tritium - Start, End, Counts:	20	280	664
Win2: - Start, End, Counts:	0	990	4023



Sample Count Start Time:	13 Feb 2010 08:51:57		
Data Capture Date	13 Feb 2010 10:27:10		
User Filename	S04021334-3A.XLS		
	U04021334-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	3	34-3	95.00
H#, Total Counts:	125.8	17312	
Win1: Tritium - Start, End, Counts:	20	280	12947
Win2: - Start, End, Counts:	0	990	16954



PAGE: 1

ID:TRITIUM

13 FEB 2010 11:48

USER: 4 COMMENT:SILVER
 PRESET TIME : 95.00
 DATA CALC : CPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD
 COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 :EDIT
 TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF
 SCINTILLATOR: LIQUID LUMEX:YES LOW SAMPLE REJ: 0
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 20.0 - 280.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0
 CHAN: 0.0 - 1000.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

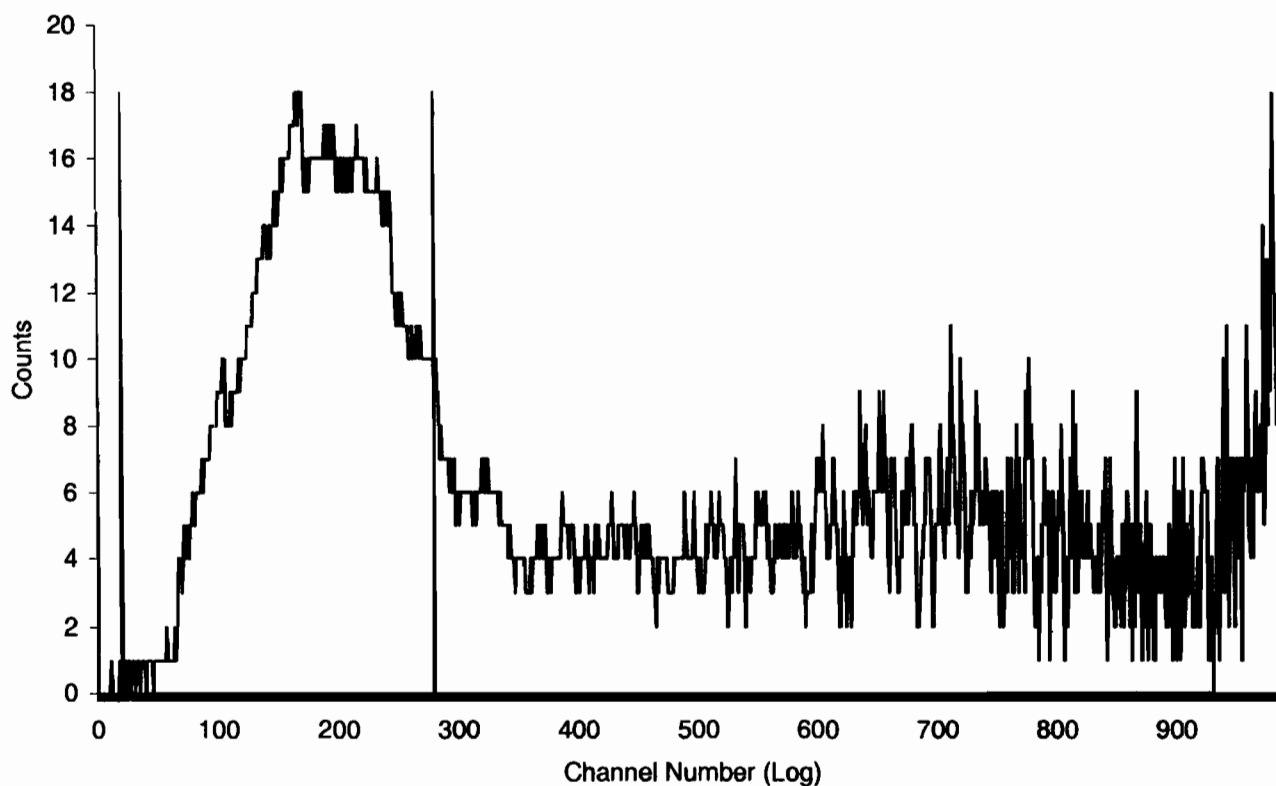
SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
MISSING SAMPLE									
4	34-4	95.00	126.0	28.16	3.92	68.35	2.50	1.26	97.96
5	34-5	95.00	125.0	470.27	0.95	530.00	0.89	0.14	196.37
6	34-6	95.00	126.3	53.72	2.82	95.65	2.11	0.77	294.82
7	34-7	95.00	125.5	434.96	0.98	494.63	0.92	0.14	393.20
8	34-8	95.00	124.7	44.14	3.12	85.91	2.23	1.13	491.70
9	34-9	95.00	125.8	12.21	6.14	52.49	2.86	2.21	590.26
10	34-10	95.00	126.3	6.69	8.25	45.66	3.06	1.29	688.58
11	34-11	95.00	125.9	37.97	3.35	78.22	2.33	0.72	786.91
12	34-12	95.00	127.0	9.35	6.88	48.28	2.97	1.07	885.22
13	20-1	95.00	125.1	12.33	5.93	51.44	2.87	0.77	983.53
14	20-2	95.00	126.2	68.75	2.48	110.01	1.96	0.37	1081.78
15	20-3	95.00	126.0	14.09	5.53	53.78	2.81	0.69	1179.98
16	20-4	95.00	126.4	7.56	7.62	46.19	3.03	0.74	1278.17
17	20-5	95.00	126.4	54.00	2.80	95.98	2.10	0.38	1376.39
18	20-6	95.00	125.1	5.59	8.90	44.72	3.08	0.70	1474.57
19	20-7	95.00	127.4	6.89	8.02	46.04	3.04	0.87	1572.79

QPQP

Sample Count Start Time:	13 Feb 2010 11:55:16		
Data Capture Date	13 Feb 2010 13:30:42		
User Filename	S04021334-4B.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	4	34-4	95.00
H#, Total Counts:	126.0	6493	
Win1: Tritium - Start, End, Counts:	20	280	2675
Win2: - Start, End, Counts:	0	990	6133

SPECTRUM PLOT

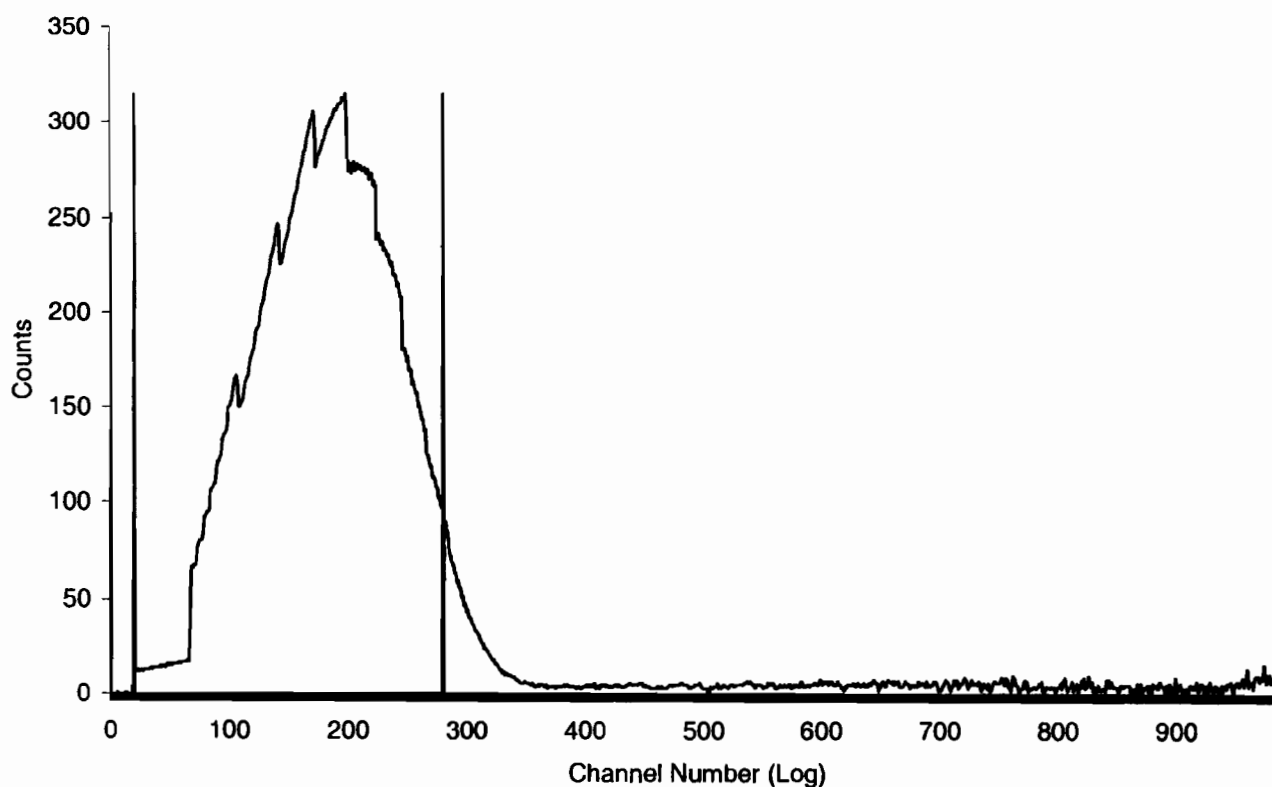
USER 04 - TRITIUM



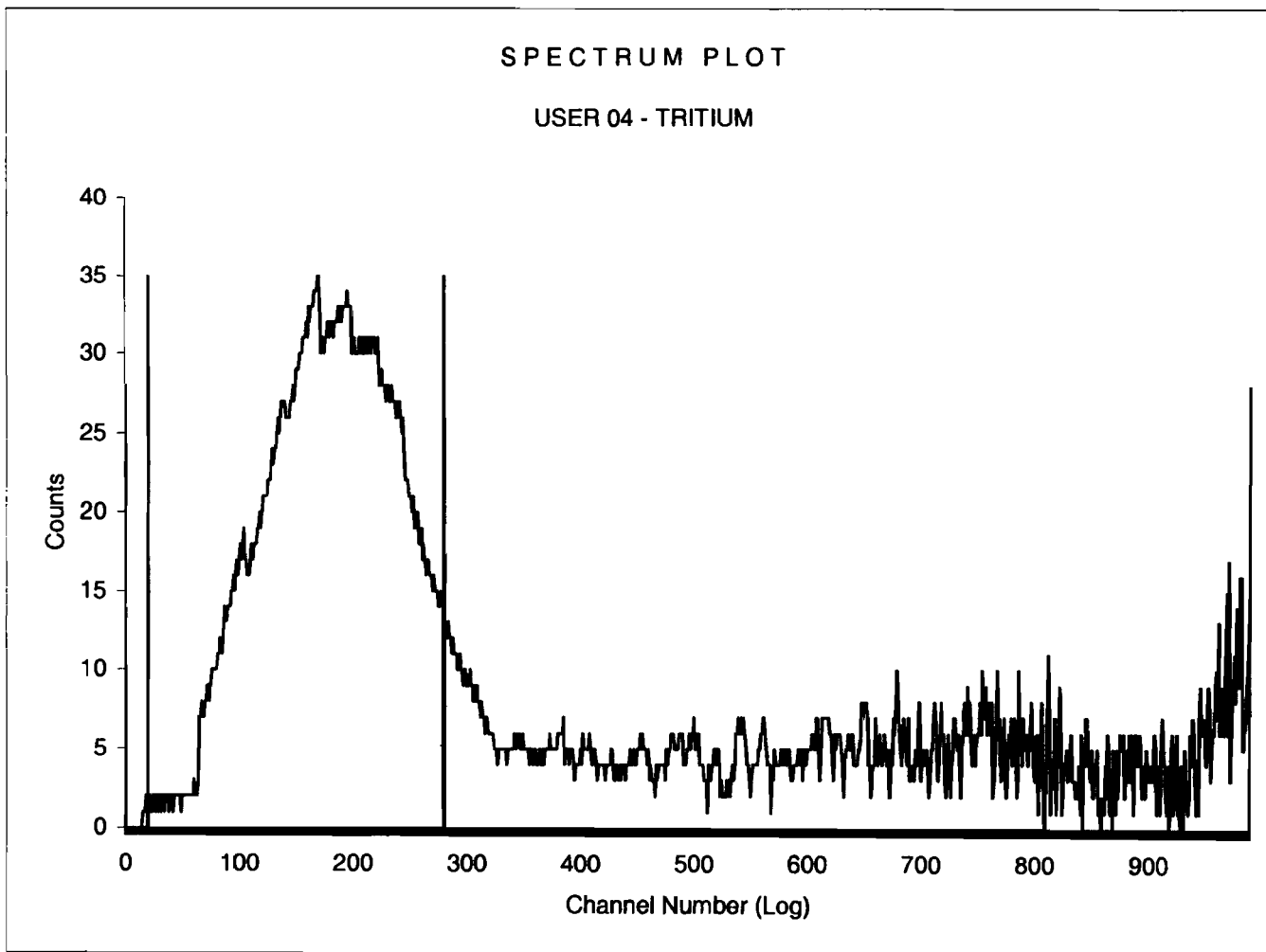
Sample Count Start Time:	13 Feb 2010 13:33:40		
Data Capture Date	13 Feb 2010 15:09:07		
User Filename	S04021334-5A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	5	34-5	95.00
H#, Total Counts:	125.0	50350	
Win1: Tritium - Start, End, Counts:	20	280	44676
Win2: - Start, End, Counts:	0	990	50004

SPECTRUM PLOT

USER 04 - TRITIUM



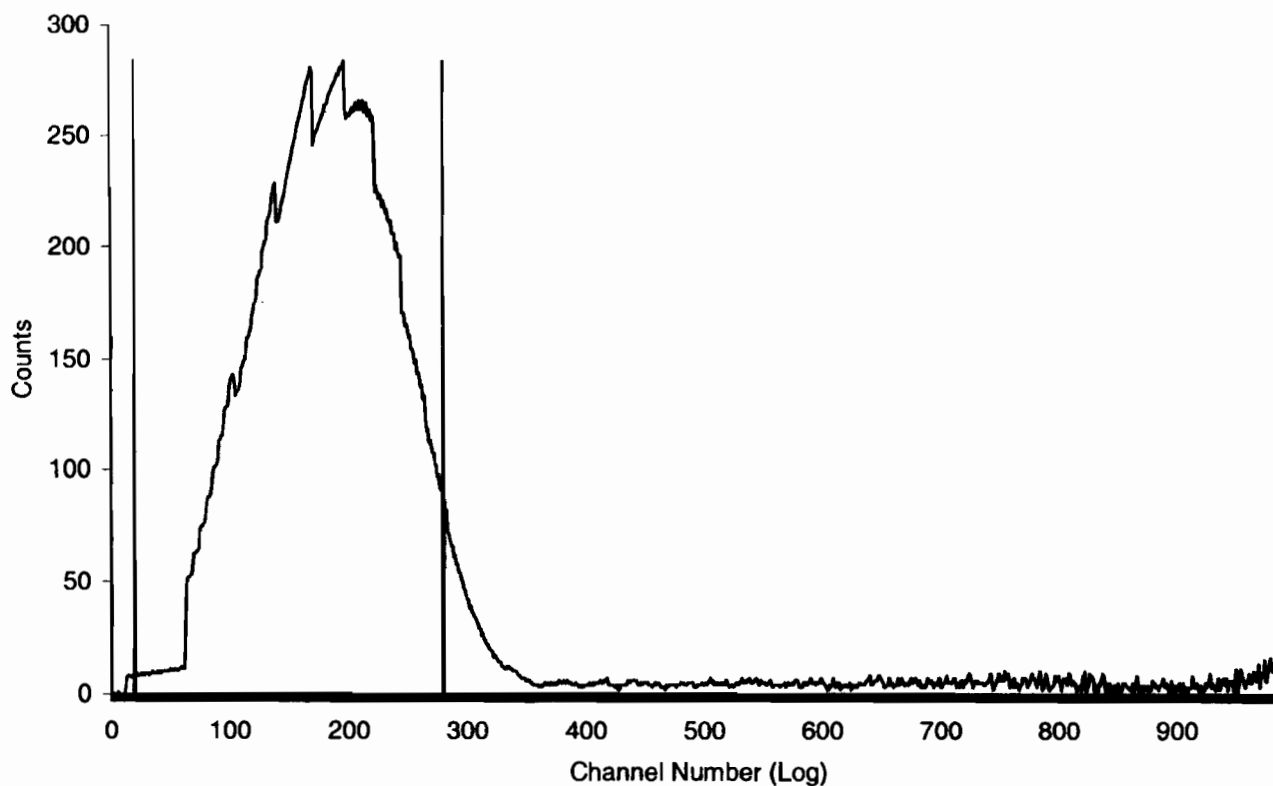
Sample Count Start Time:	13 Feb 2010 15:12:07		
Data Capture Date	13 Feb 2010 16:47:33		
User Filename	S04021334-6A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	6	34-6	95.00
H#, Total Counts:	126.3	9087	
Win1: Tritium - Start, End, Counts:	20	280	5103
Win2: - Start, End, Counts:	0	990	8756



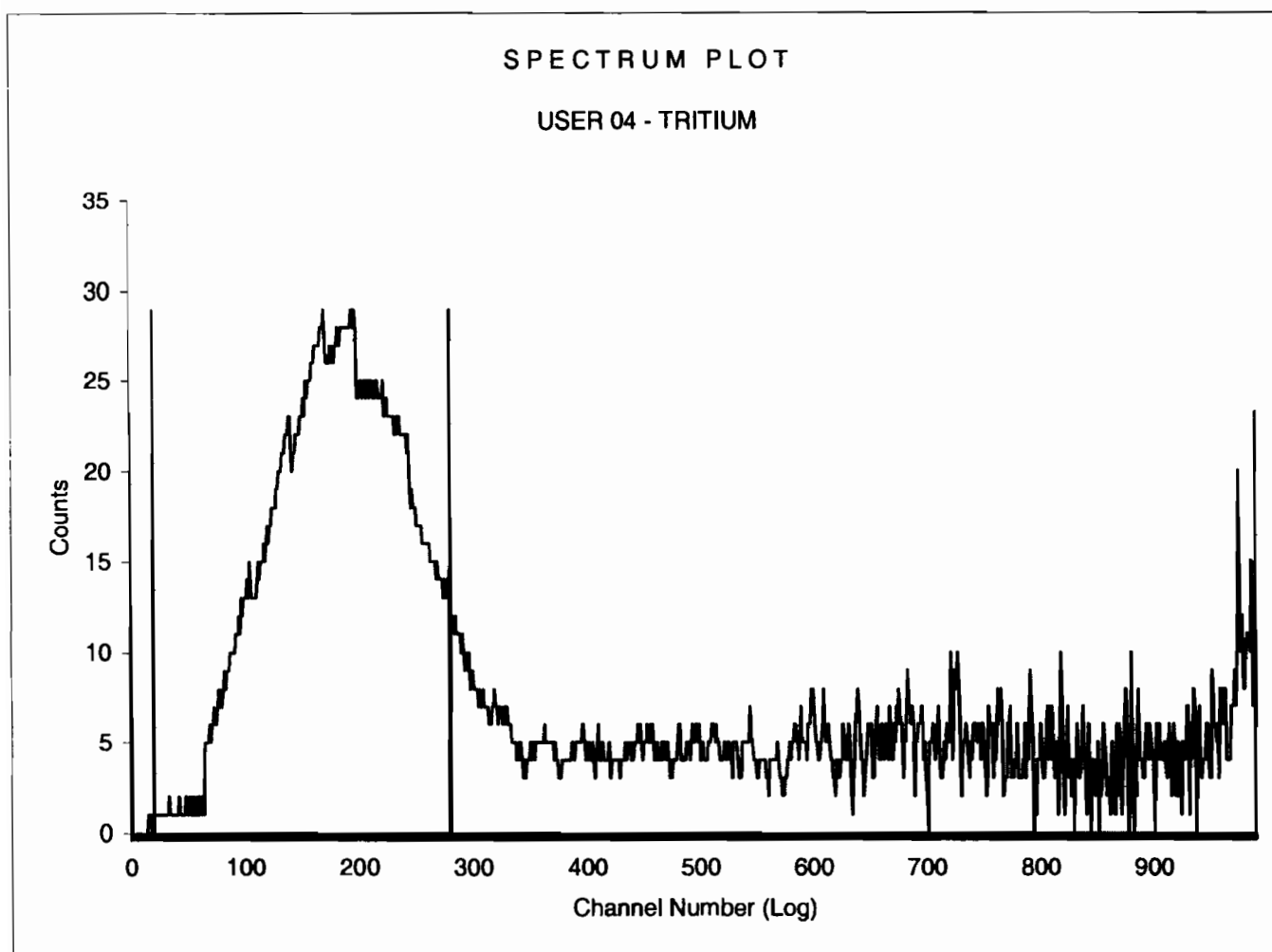
Sample Count Start Time:	13 Feb 2010 16:50:30		
Data Capture Date	13 Feb 2010 18:25:57		
User Filename	S04021334-7A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	7	34-7	95.00
H#, Total Counts:	125.5	46990	
Win1: Tritium - Start, End, Counts:	20	280	41321
Win2: - Start, End, Counts:	0	990	46605

SPECTRUM PLOT

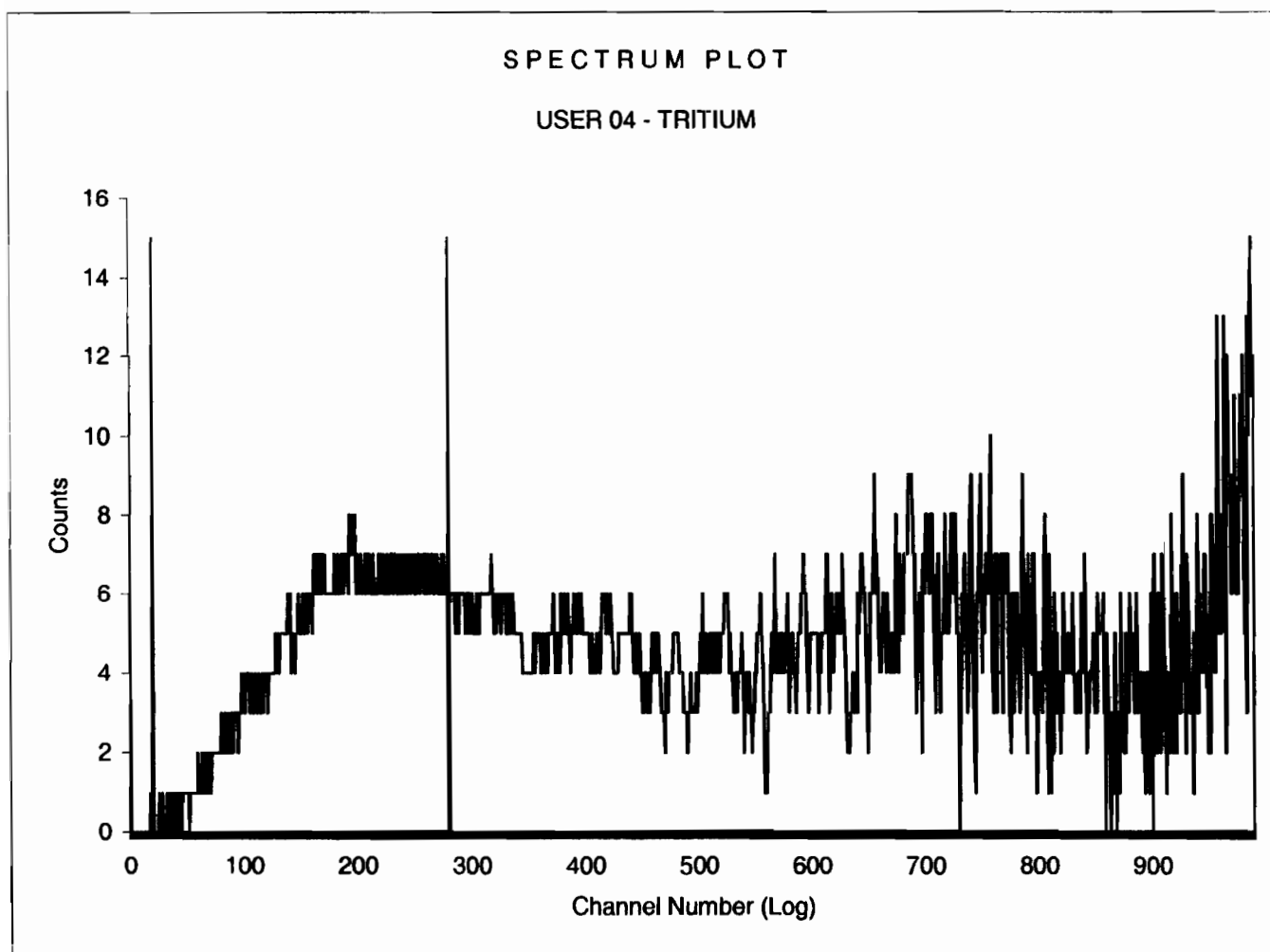
USER 04 - TRITIUM



Sample Count Start Time:	13 Feb 2010 18:29:00		
Data Capture Date	13 Feb 2010 20:04:27		
User Filename	S04021334-8A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	8	34-8	95.00
H#, Total Counts:	124.7	8161	
Win1: Tritium - Start, End, Counts:	20	280	4193
Win2: - Start, End, Counts:	0	990	7785



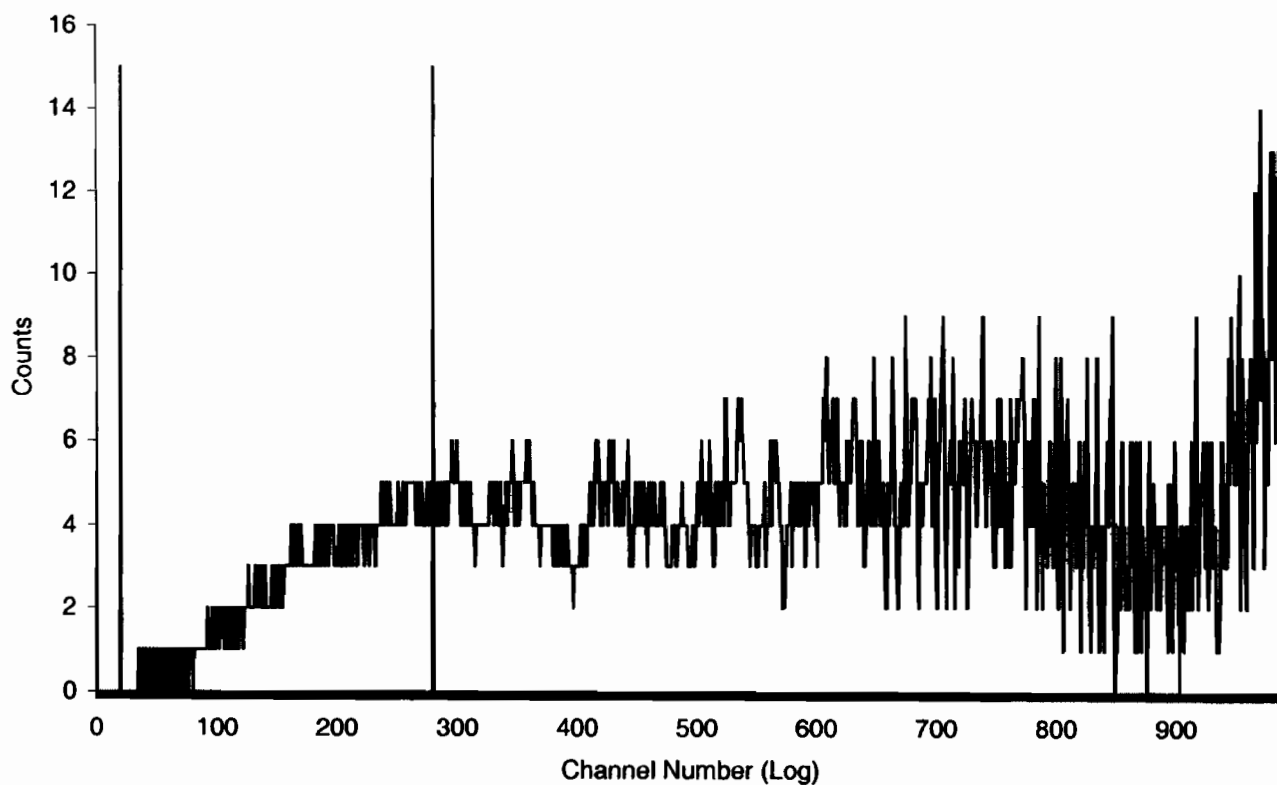
Sample Count Start Time:	13 Feb 2010 20:07:34		
Data Capture Date	13 Feb 2010 21:43:00		
User Filename	S04021334-9A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	9	34-9	95.00
H#, Total Counts:	125.8	4987	
Win1: Tritium - Start, End, Counts:	20	280	1160
Win2: - Start, End, Counts:	0	990	4635



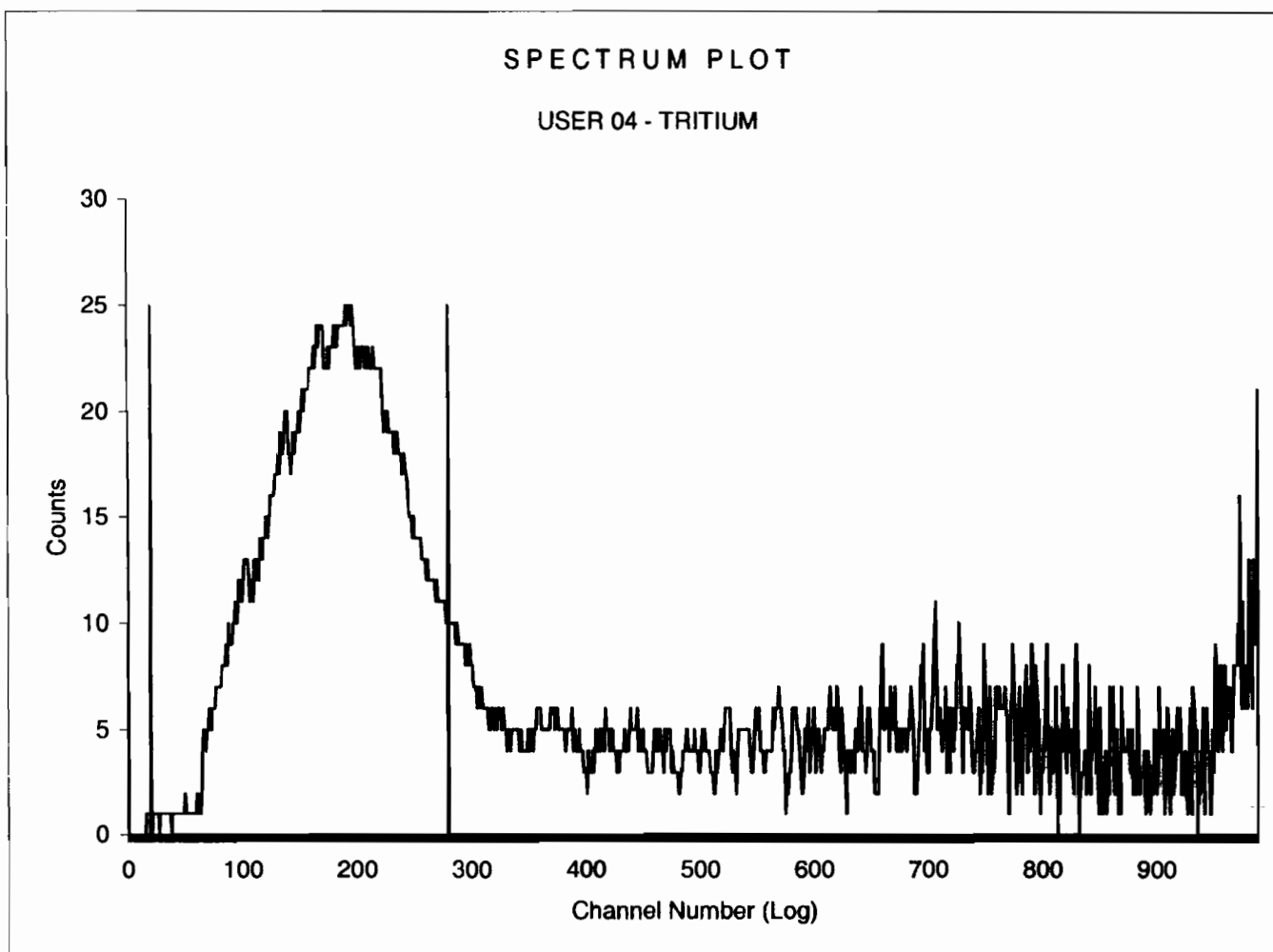
Sample Count Start Time:	13 Feb 2010 21:45:53		
Data Capture Date	13 Feb 2010 23:21:20		
User Filename	S04021334-10A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	10	34-10	95.00
H#, Total Counts:	126.3	4338	
Win1: Tritium - Start, End, Counts:	20	280	636
Win2: - Start, End, Counts:	0	990	3984

SPECTRUM PLOT

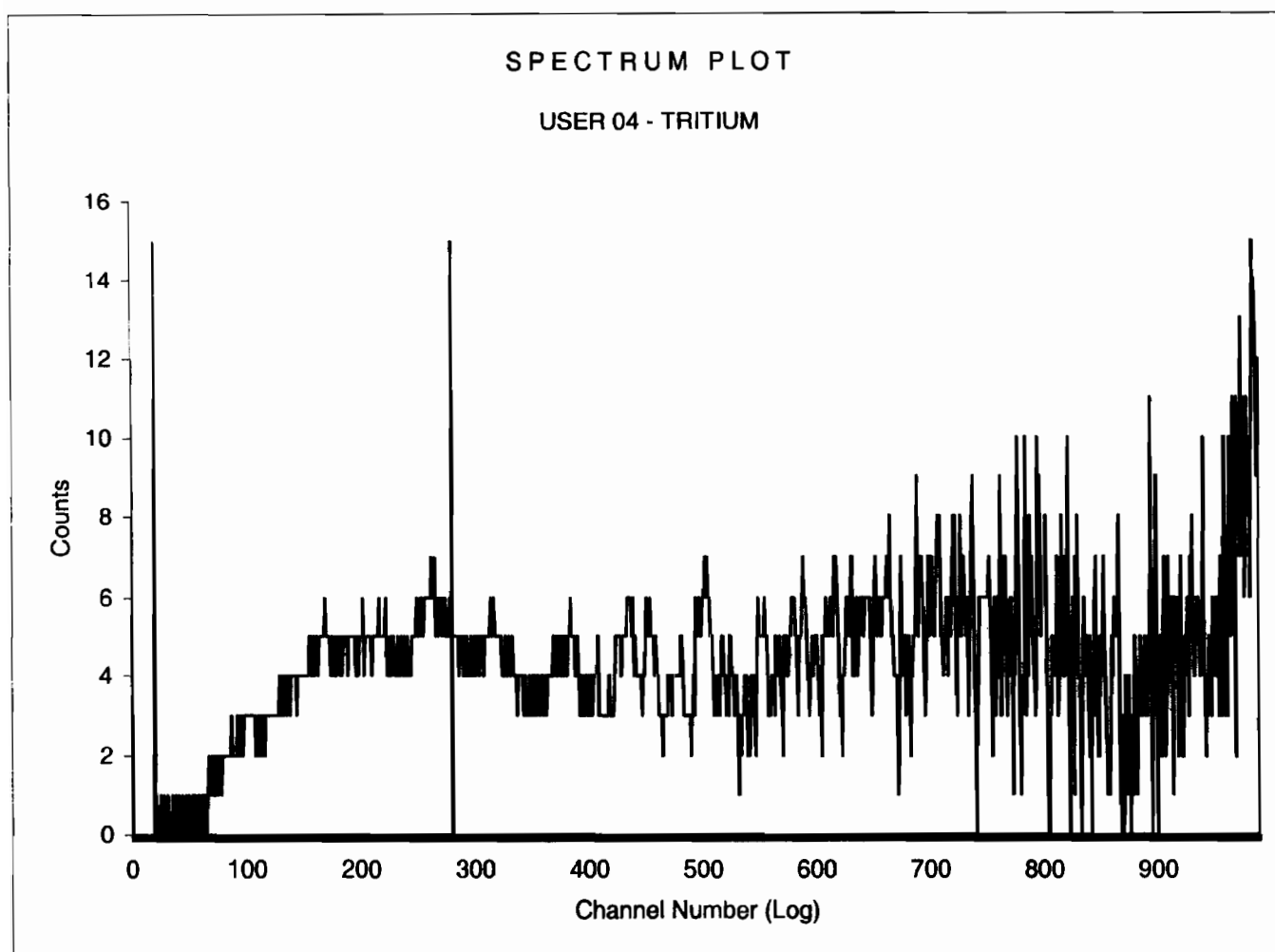
USER 04 - TRITIUM



Sample Count Start Time:	13 Feb 2010 23:24:13		
Data Capture Date	14 Feb 2010 00:59:39		
User Filename	S04021434-11A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	11	34-11	95.00
H#, Total Counts:	125.9	7431	
Win1: Tritium - Start, End, Counts:	20	280	3607
Win2: - Start, End, Counts:	0	990	7066



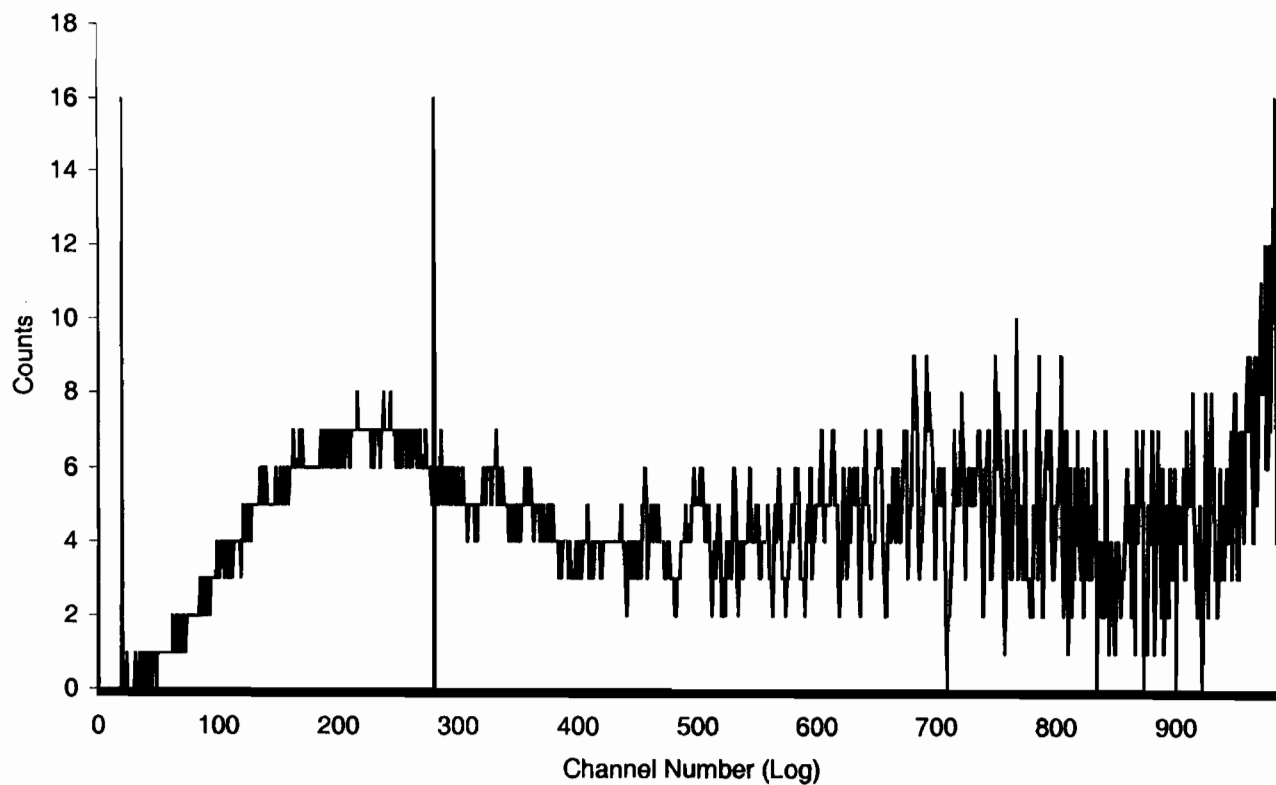
Sample Count Start Time:	14 Feb 2010 01:02:31		
Data Capture Date	14 Feb 2010 02:37:58		
User Filename	S04021434-12A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	12	34-12	95.00
H#, Total Counts:	127.0	4587	
Win1: Tritium - Start, End, Counts:	20	280	888
Win2: - Start, End, Counts:	0	990	4250



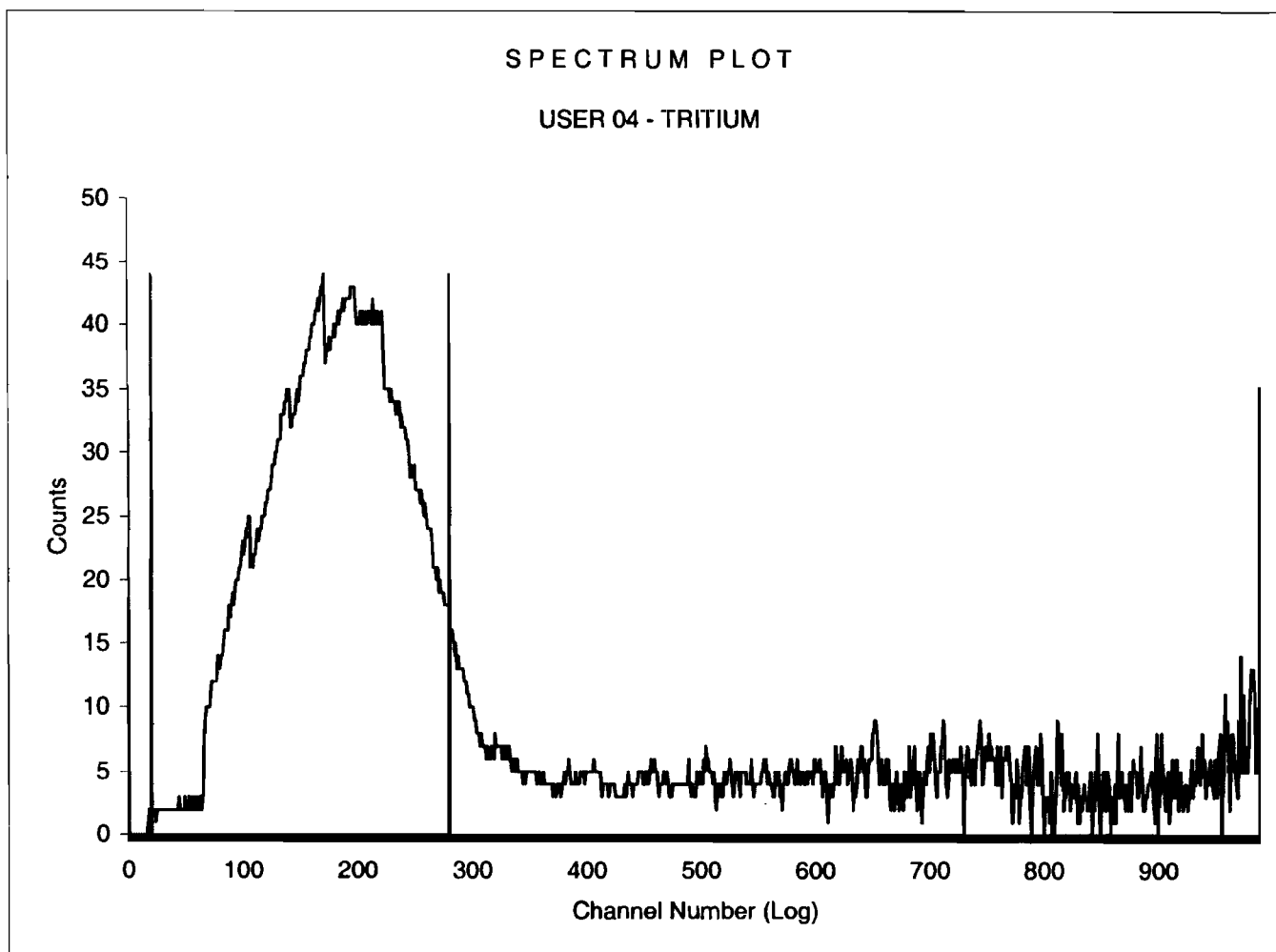
Sample Count Start Time:	14 Feb 2010 02:40:50		
Data Capture Date	14 Feb 2010 04:16:17		
User Filename	S04021420-1A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	13	20-1	95.00
H#, Total Counts:	125.1	4887	
Win1: Tritium - Start, End, Counts:	20	280	1171
Win2: - Start, End, Counts:	0	990	4500

SPECTRUM PLOT

USER 04 - TRITIUM



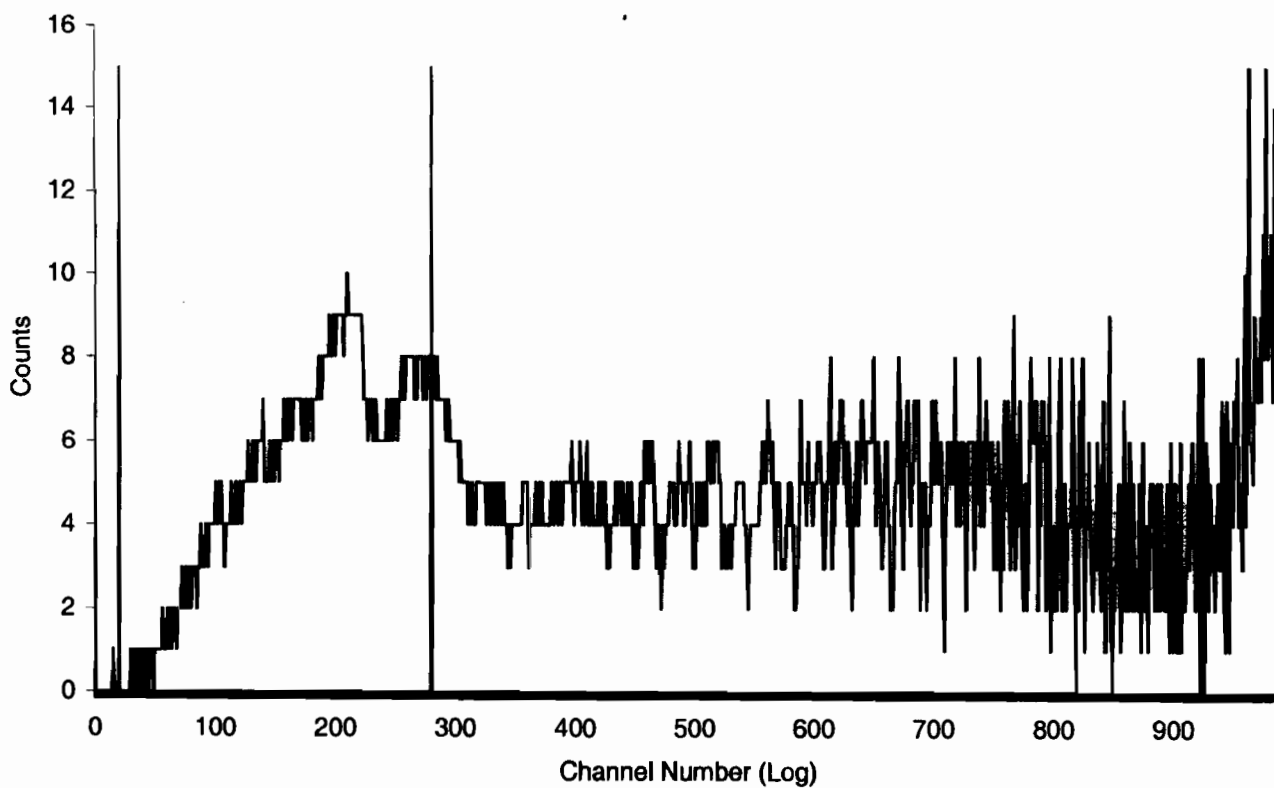
Sample Count Start Time:	14 Feb 2010 04:19:05		
Data Capture Date	14 Feb 2010 05:54:32		
User Filename	S04021420-2A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	14	20-2	95.00
H#, Total Counts:	126.2	10451	
Win1: Tritium - Start, End, Counts:	20	280	6531
Win2: - Start, End, Counts:	0	990	10052



Sample Count Start Time:	14 Feb 2010 05:57:17		
Data Capture Date	14 Feb 2010 07:32:44		
User Filename	S04021420-3A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	15	20-3	95.00
H#, Total Counts:	126.0	5109	
Win1: Tritium - Start, End, Counts:	20	280	1339
Win2: - Start, End, Counts:	0	990	4721

SPECTRUM PLOT

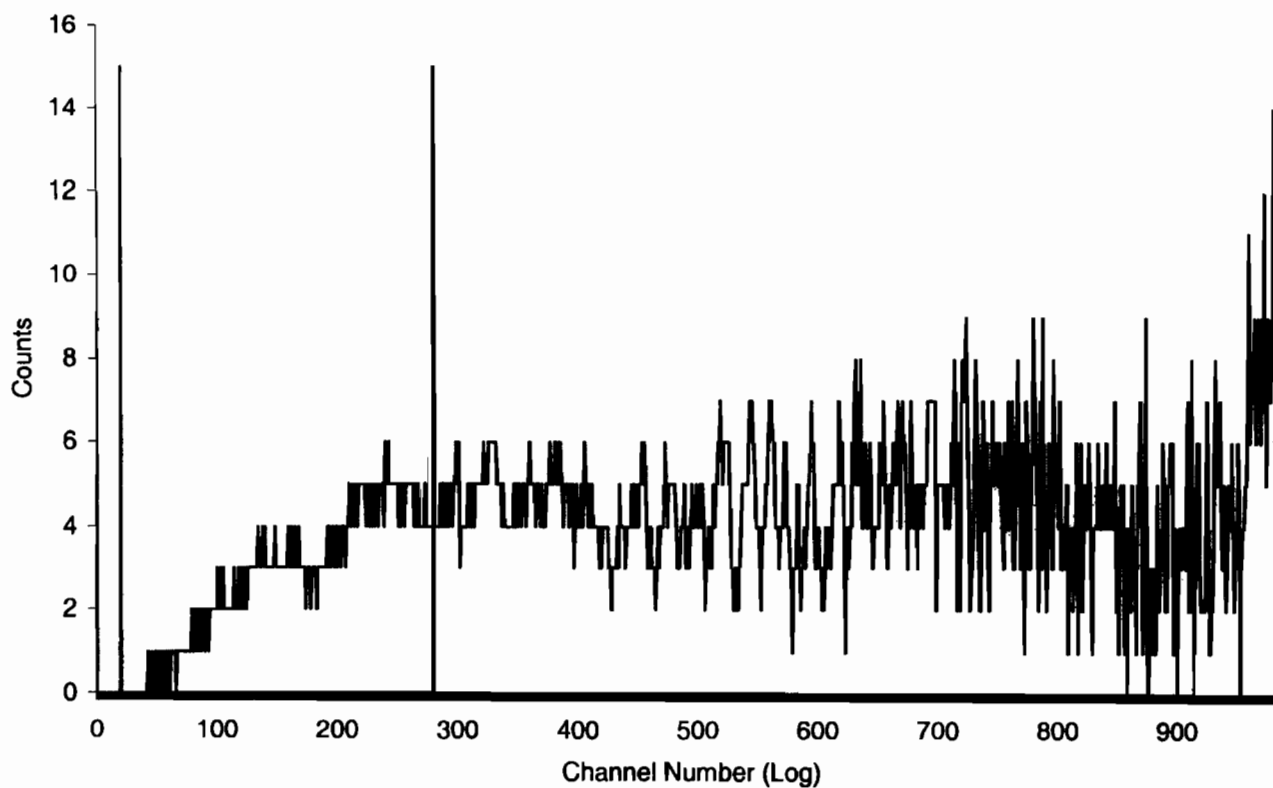
USER 04 - TRITIUM



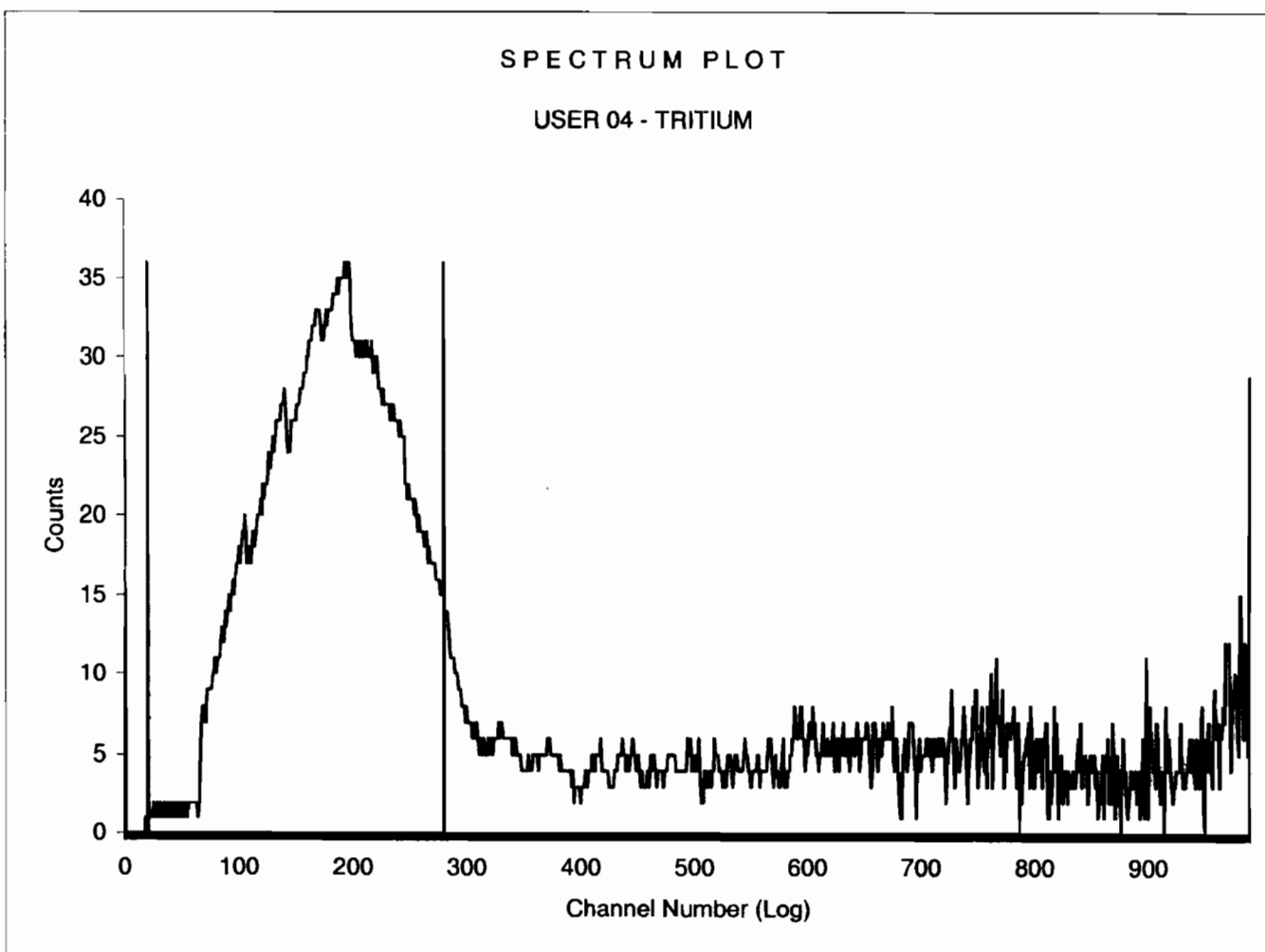
Sample Count Start Time:	14 Feb 2010 07:35:28		
Data Capture Date	14 Feb 2010 09:10:55		
User Filename	S04021420-4A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	16	20-4	95.00
H#, Total Counts:	126.4	4388	
Win1: Tritium - Start, End, Counts:	20	280	718
Win2: - Start, End, Counts:	0	990	3997

SPECTRUM PLOT

USER 04 - TRITIUM



Sample Count Start Time:	14 Feb 2010 09:13:41		
Data Capture Date	14 Feb 2010 10:49:08		
User Filename	S04021420-5A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	17	20-5	95.00
H#, Total Counts:	126.4	9118	
Win1: Tritium - Start, End, Counts:	20	280	5130
Win2: - Start, End, Counts:	0	990	8720

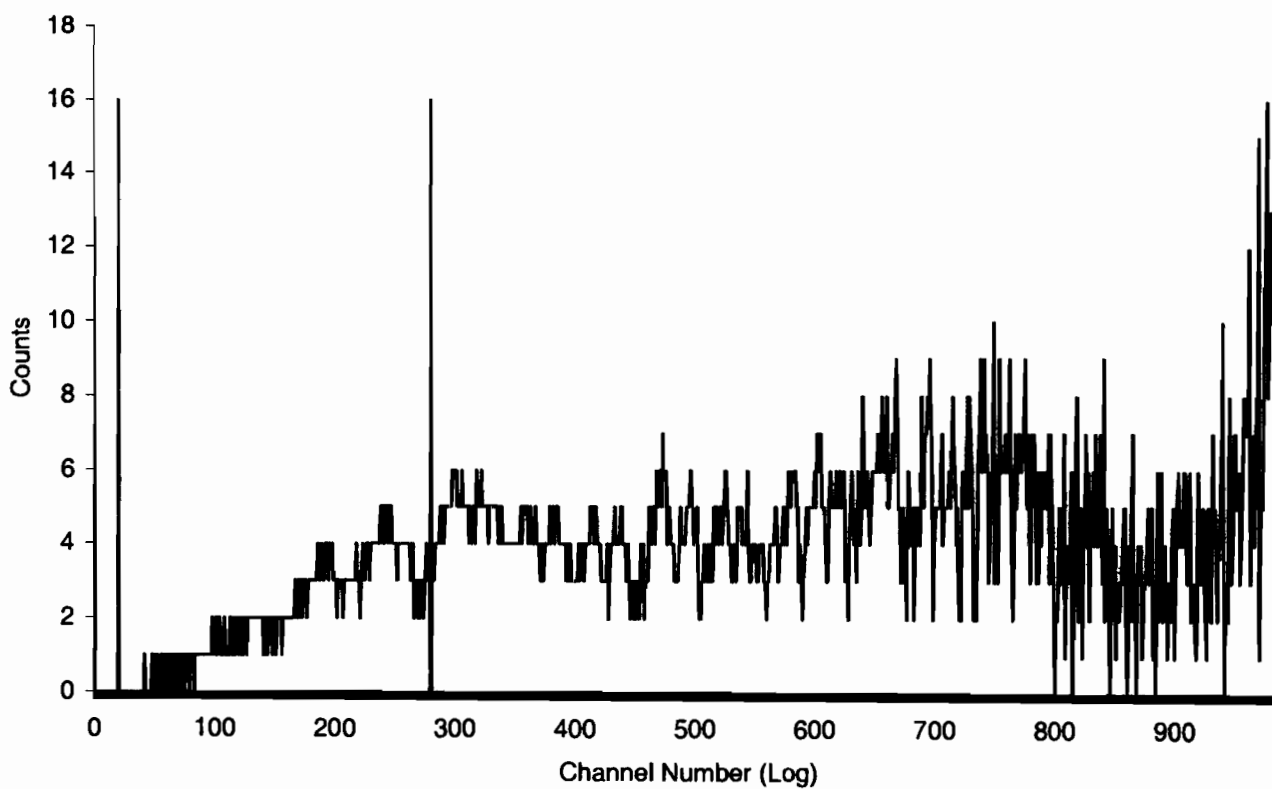


Sample Count Start Time: 14 Feb 2010 10:51:55
Data Capture Date 14 Feb 2010 12:27:19
User Filename S04021420-6A.XLS

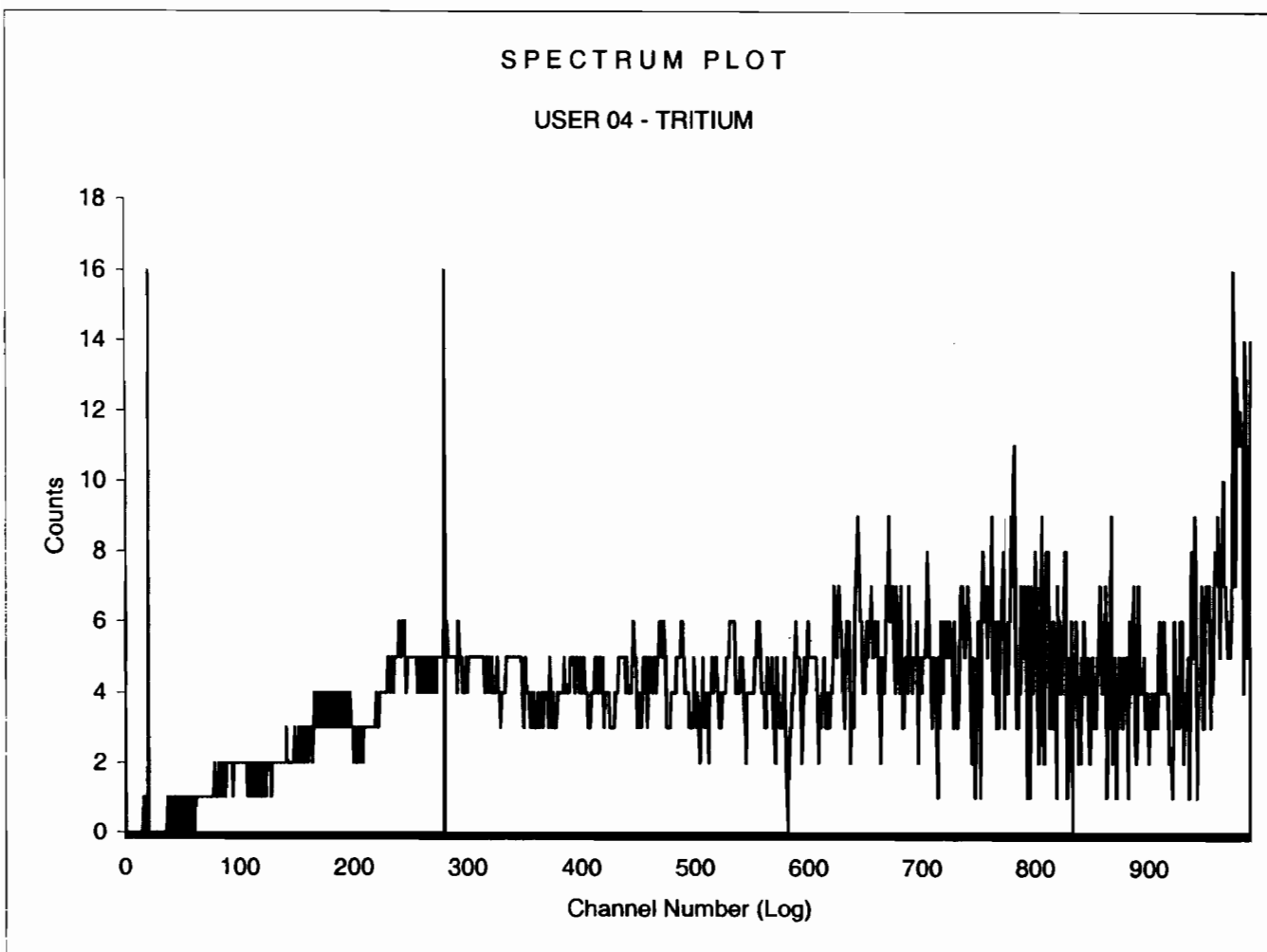
Spectrum Type	Log Counts
User Number	04
User Id	TRITIUM
User Comment	SILVER
Isotope Name	14C
Scintillator	LIQUID
Sample, Rack-Pos, Time:	18 20-6 95.00
H#, Total Counts:	125.1 4248
Win1: Tritium - Start, End, Counts:	20 280 531
Win2: - Start, End, Counts:	0 990 3855

SPECTRUM PLOT

USER 04 - TRITIUM



Sample Count Start Time:	14 Feb 2010 12:30:05		
Data Capture Date	14 Feb 2010 14:05:33		
User Filename	S04021420-7A.XLS		
	U04021334-4A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	19	20-7	95.00
H#, Total Counts:	127.4	4374	
Win1: Tritium - Start, End, Counts:	20	280	655
Win2: - Start, End, Counts:	0	990	4016



PAGE: 1

ID:H-3

14 FEB 2010 14:01

USER: 3

COMMENT:SILVER

PRESET TIME : 15.00

DATA CALC : CPM H# :YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 :EDIT

TWO PHASE : NO AGC : NO CYCLE REPEATS : 1 DISK : OFF

SCINTILLATOR: LIQUID LUMEX:YES LOW SAMPLE REJ: 0

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 20.0 - 280.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 1000.0 %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

SAM	POS	TIME	H#	WIND1		WIND2		LUMEX	ELAPSED
				CPM	%ERROR	CPM	%ERROR		
1	26-1	15.00	125.9	39.73	8.22	80.40	5.77	0.48	15.85

QP

INSTRUMENT CALIBRATION: Maxi 14 FEB 2010 16:15

Calibration successful

QP

Calibrating Auto DPM

Counting Standard for 14C

Calibration Complete: 14C

Counting Standard for 3H

Calibration Complete: 3H

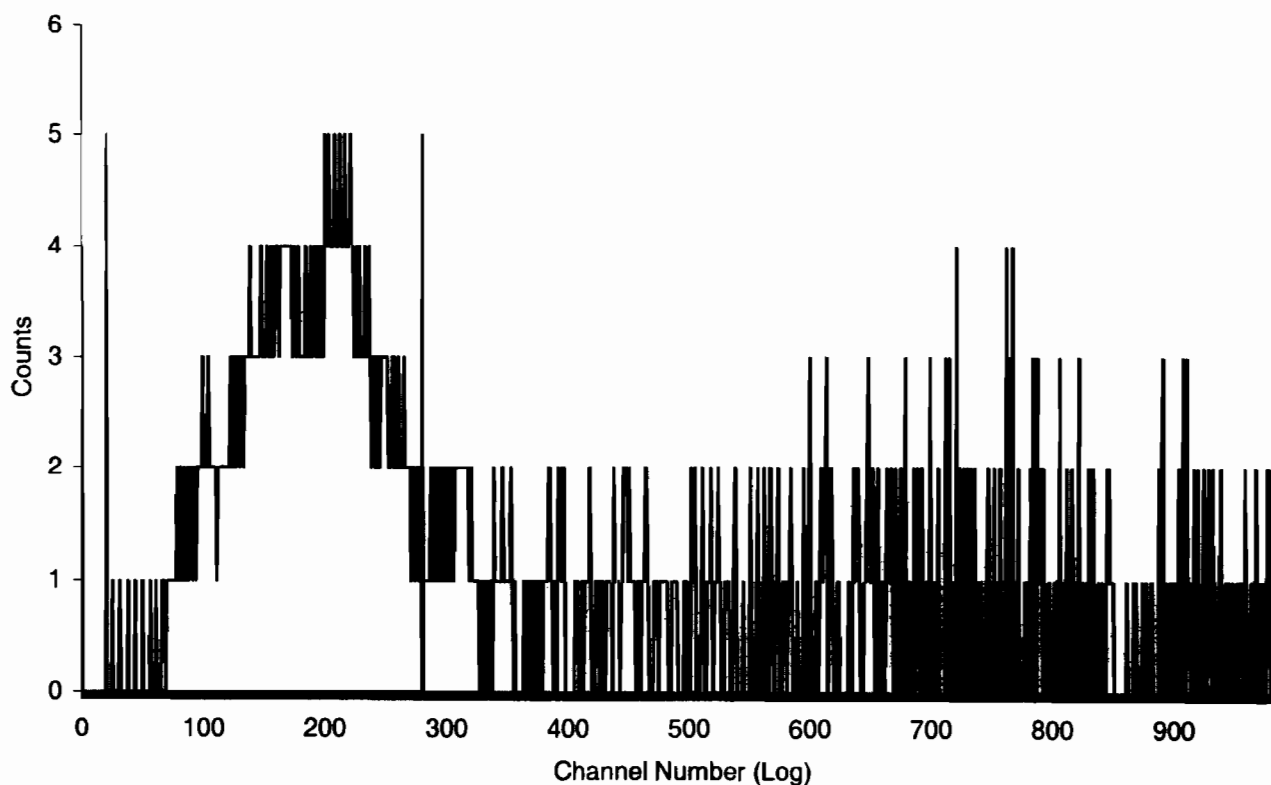
Calibration Successful

QPQP

Sample Count Start Time:	14 Feb 2010 14:07:28		
Data Capture Date	14 Feb 2010 14:22:07		
User Filename	S03021426-1A.XLS		
	U03021426-1A.XLS		
Spectrum Type	Log Counts		
User Number	03		
User Id	H-3		
User Comment	SILVER		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	26-1	15.00
H#, Total Counts:	125.9	1206	
Win1: Tritium - Start, End, Counts:	20	280	596
Win2: - Start, End, Counts:	0	990	1149

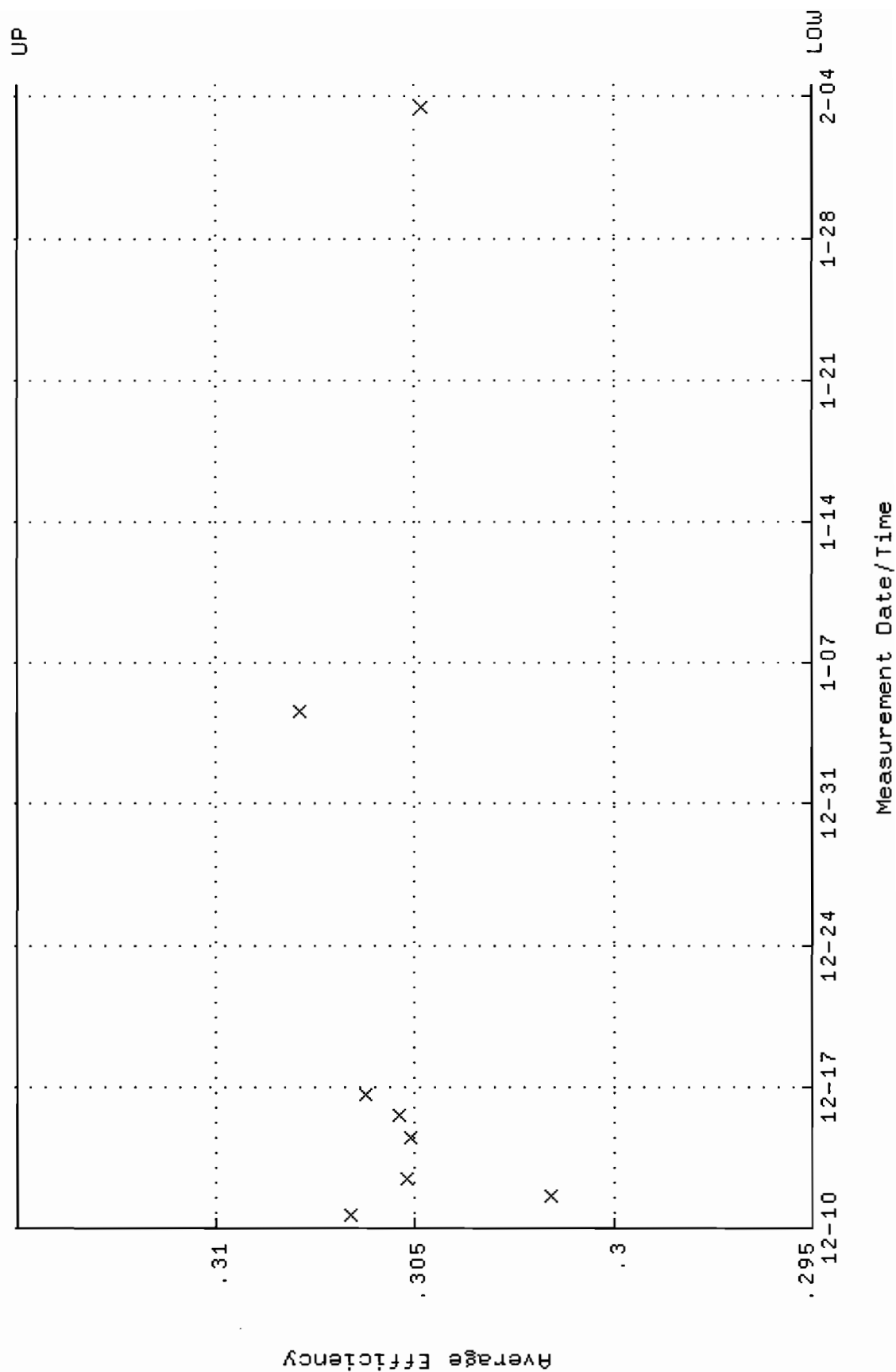
SPECTRUM PLOT

USER 03 - H-3

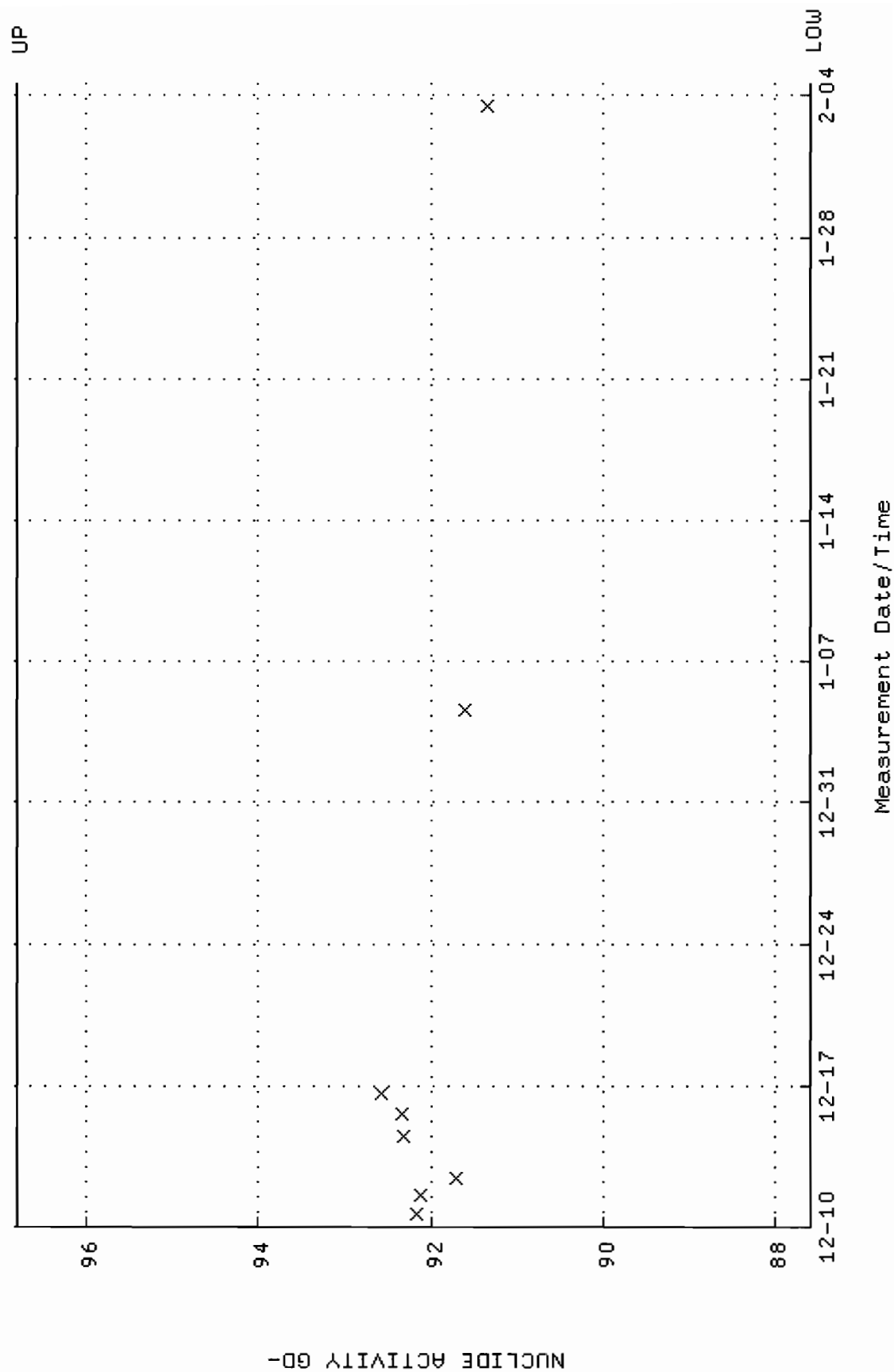


BACKGROUND AND EFFICIENCY DATA

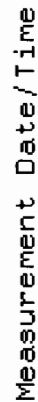
QA filename : DKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 10-DEC-2009 15:29:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.294995 through 0.314995



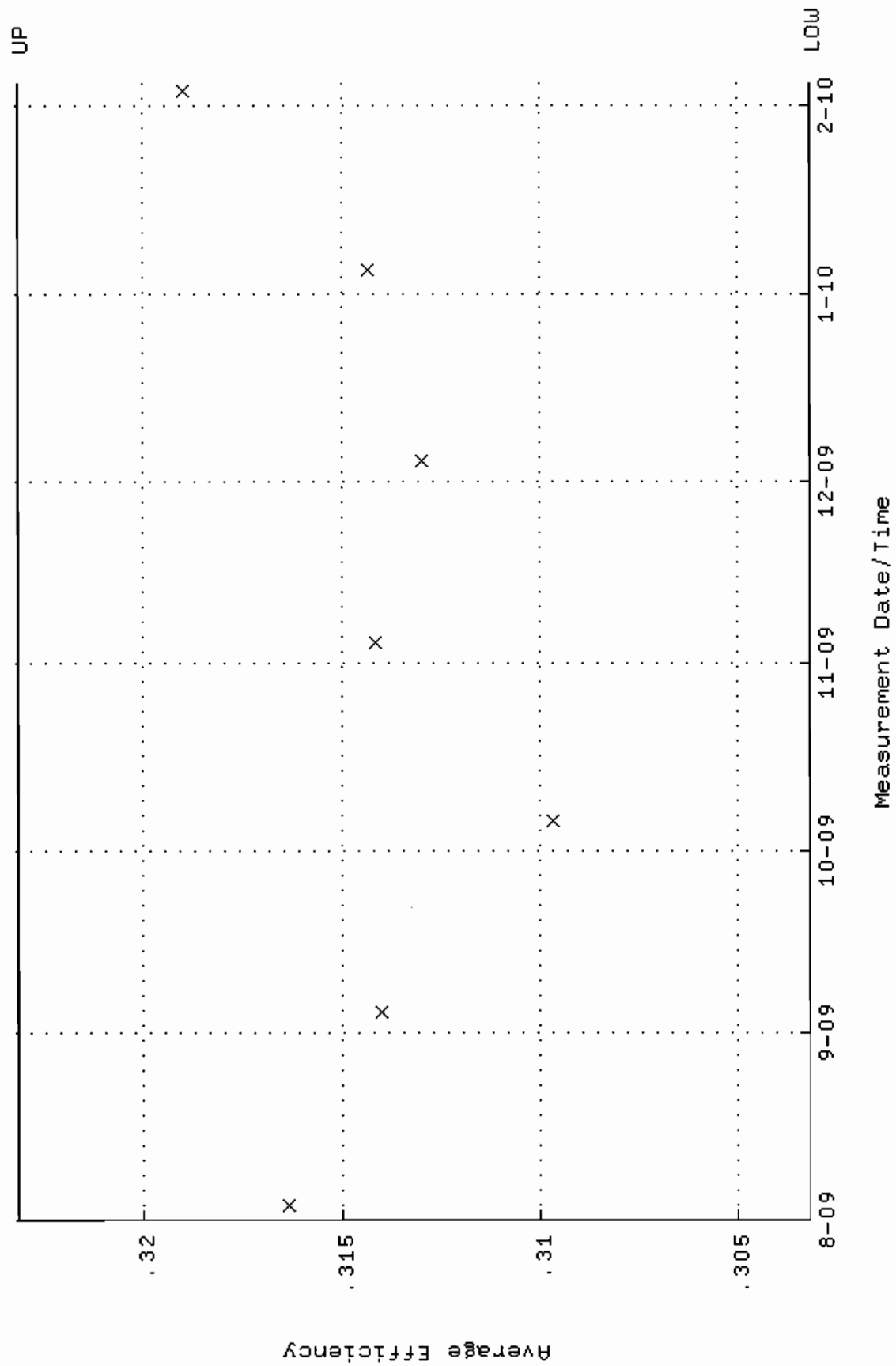
QA filename : DKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-DEC-2009 15:29:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.5863 through 96.8059



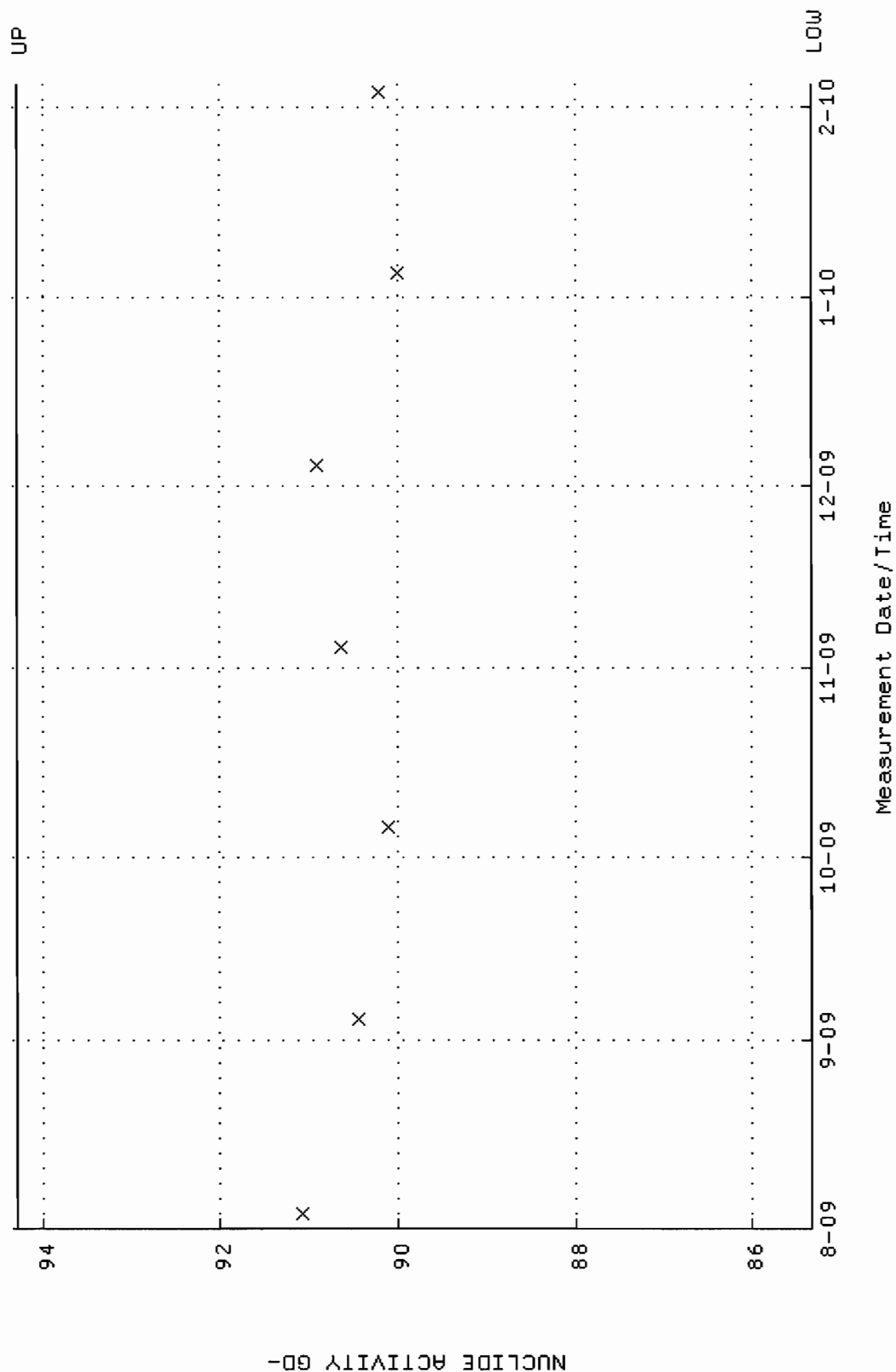
Lower/Inner Lmts: 0.000000E+00 through 2.000000E-02



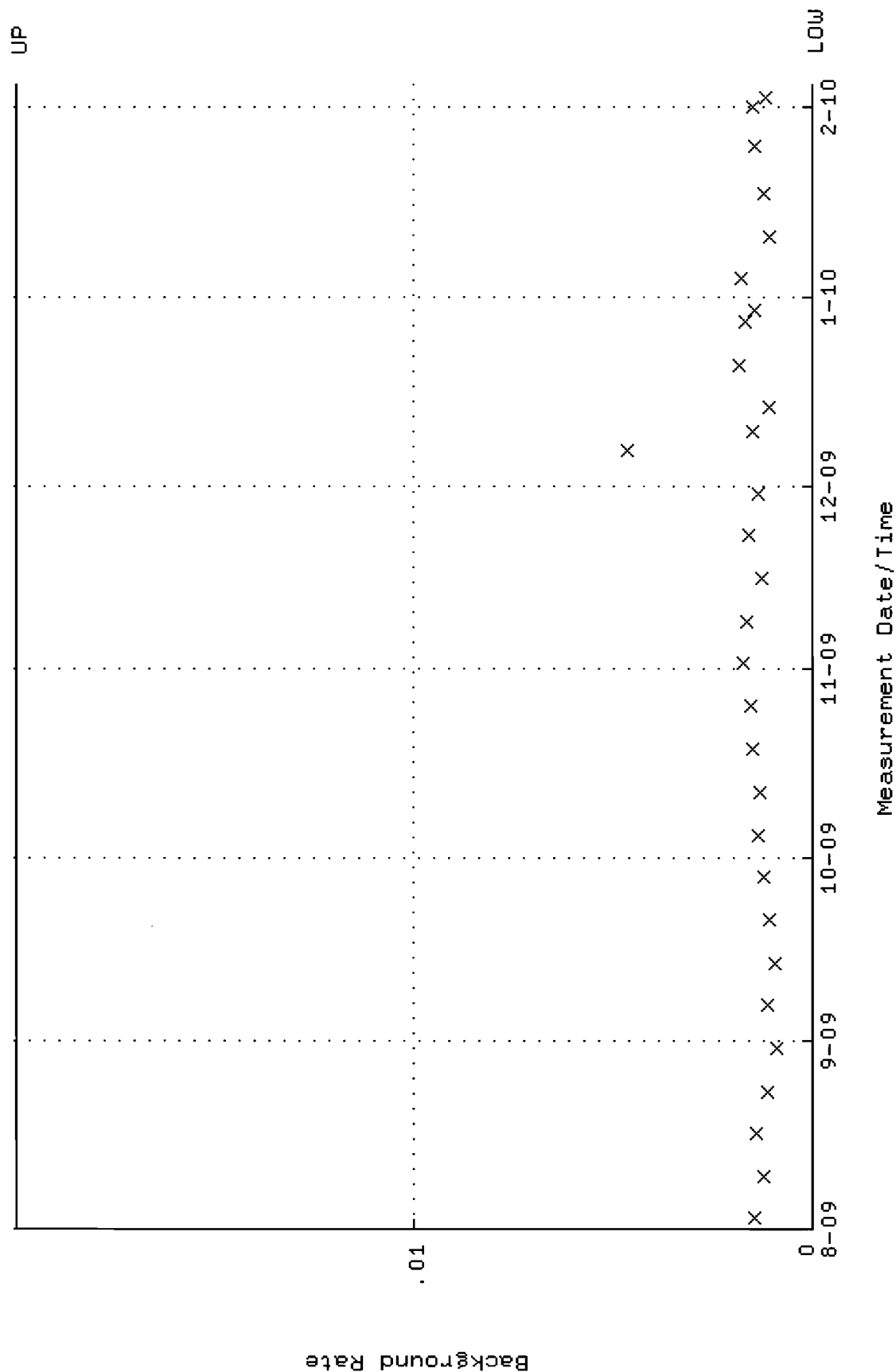
QA filename : DKA100:[ENV_ALPHA.QA.W]W010.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.303169 through 0.323169



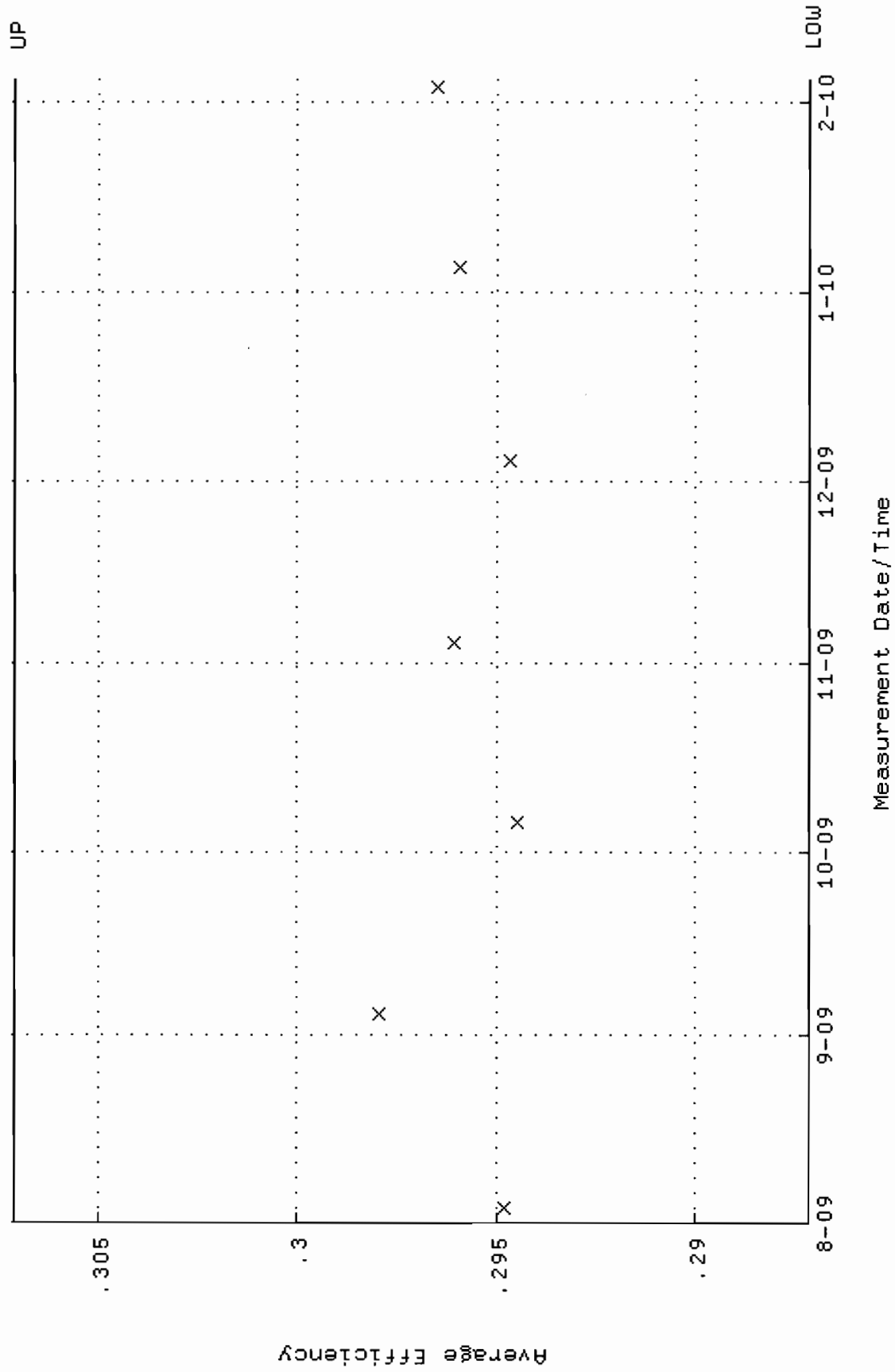
QA filename : DKA100:[ENV_ALPHA.QA.W]w010.QAF;5
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.3273 through 94.3091



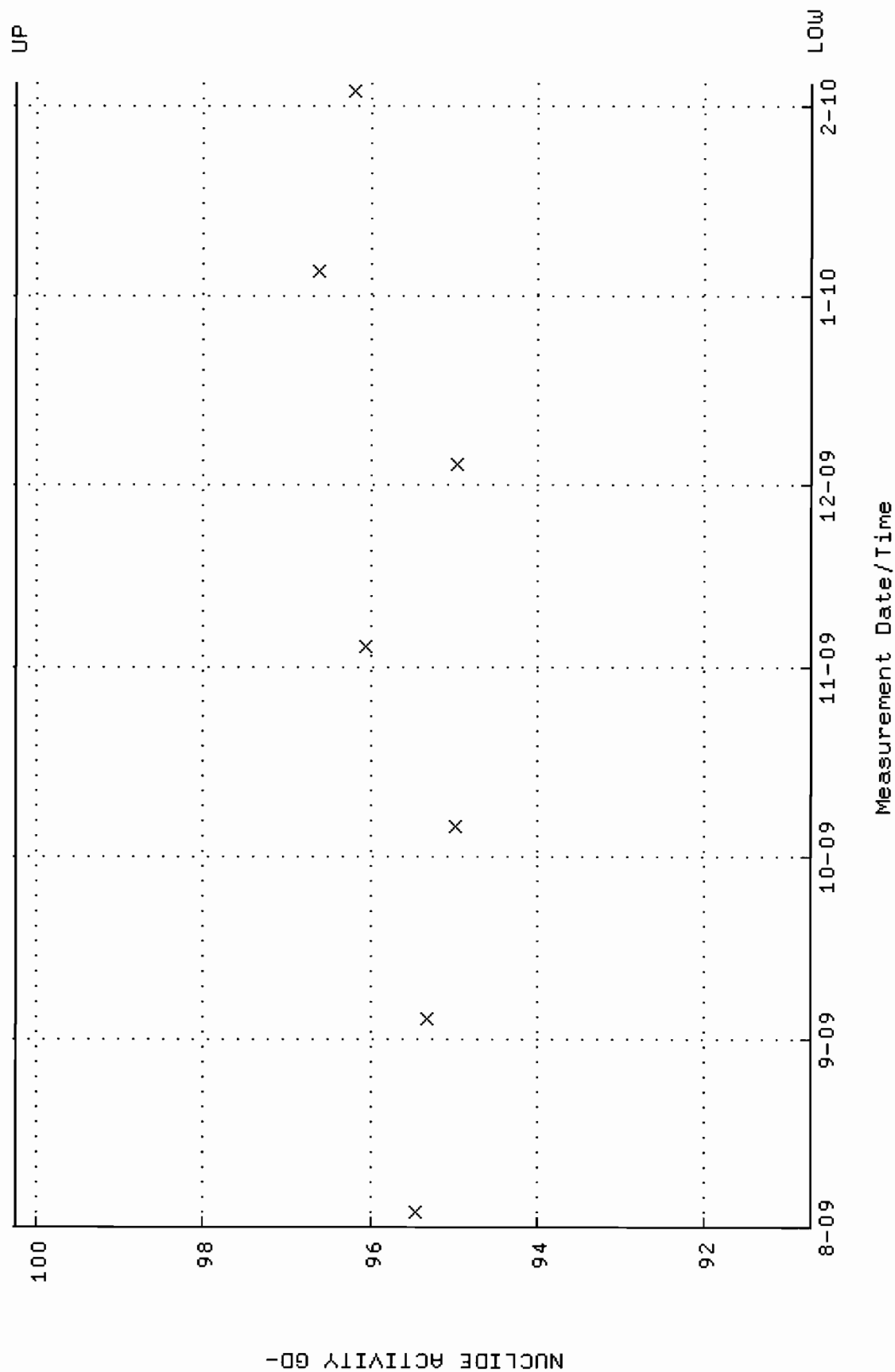
QA filename : OKA100:[ENV_ALPHA.QA.B]B010.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:32 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



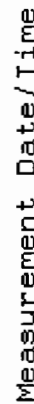
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.287129 through 0.307129



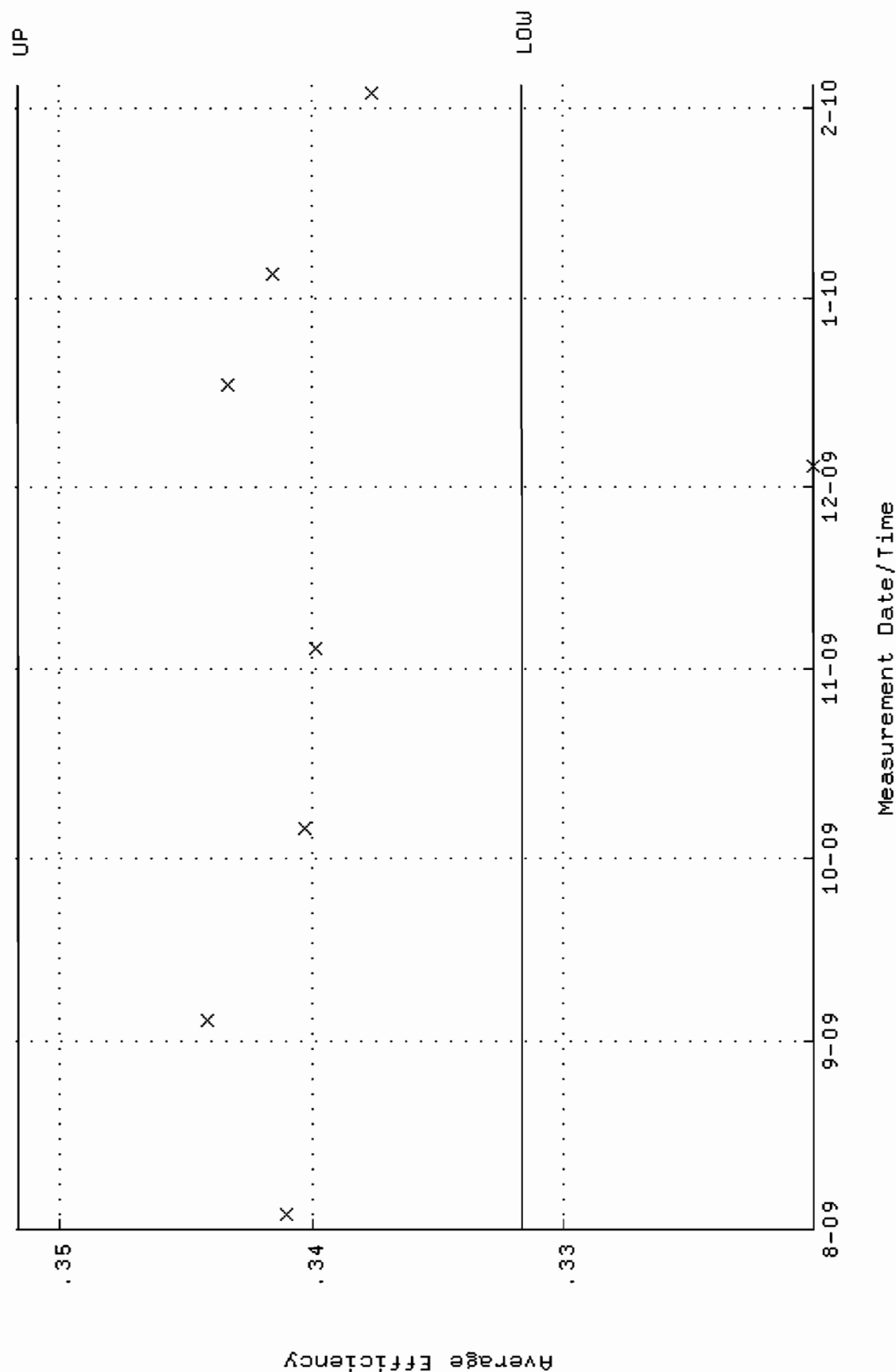
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 90.7092 through 100.258



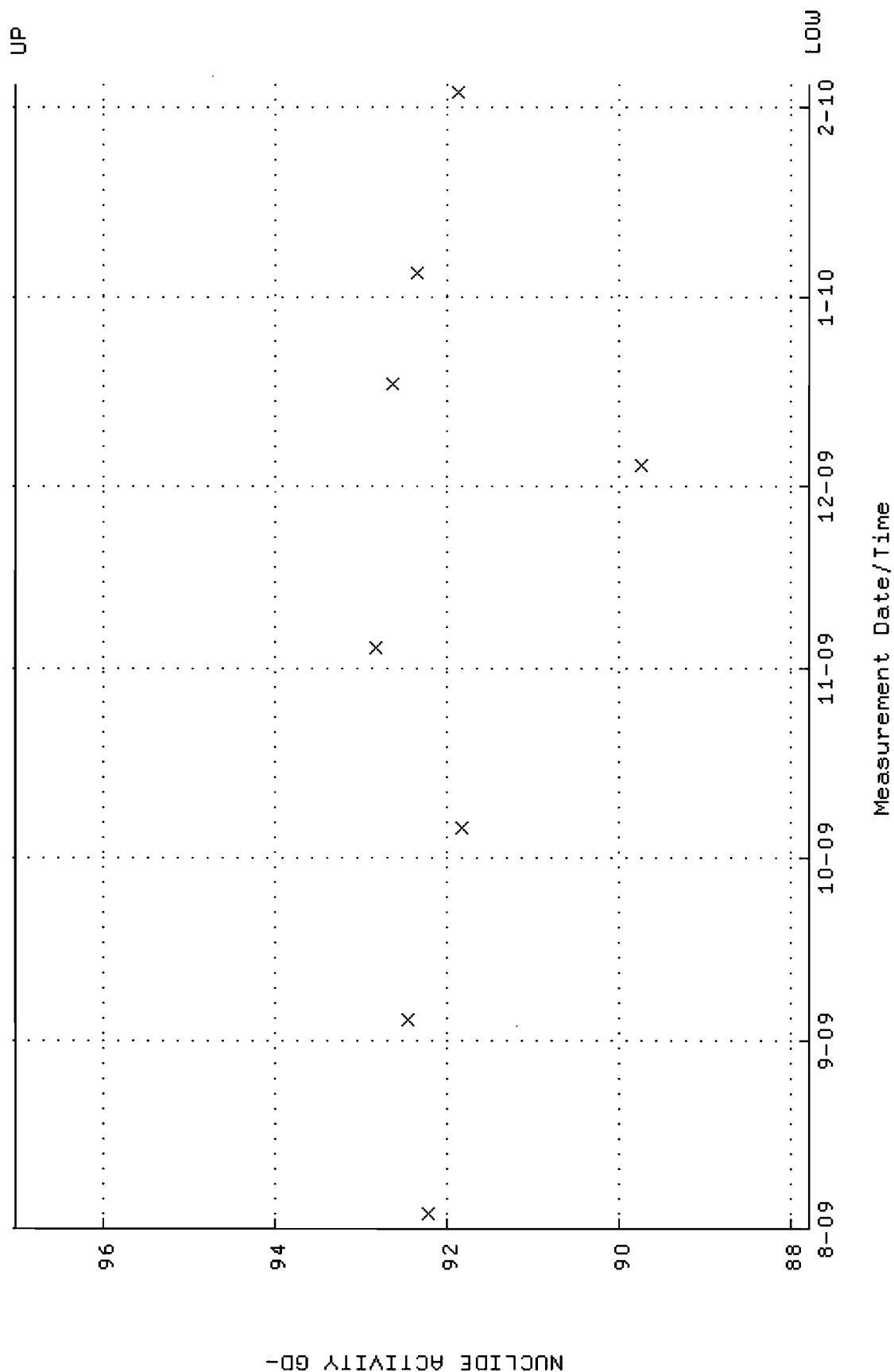
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



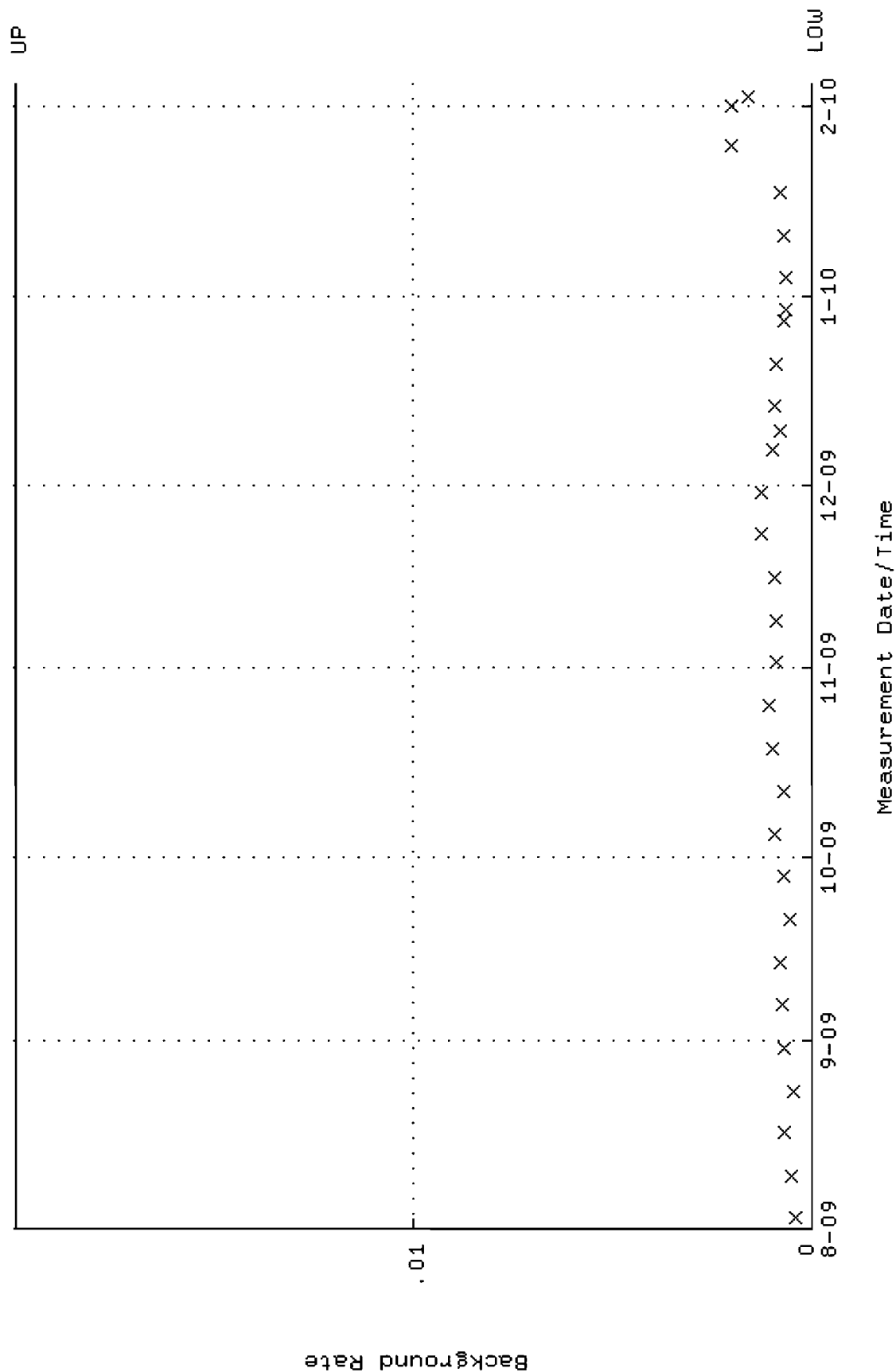
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.331676 through 0.351676



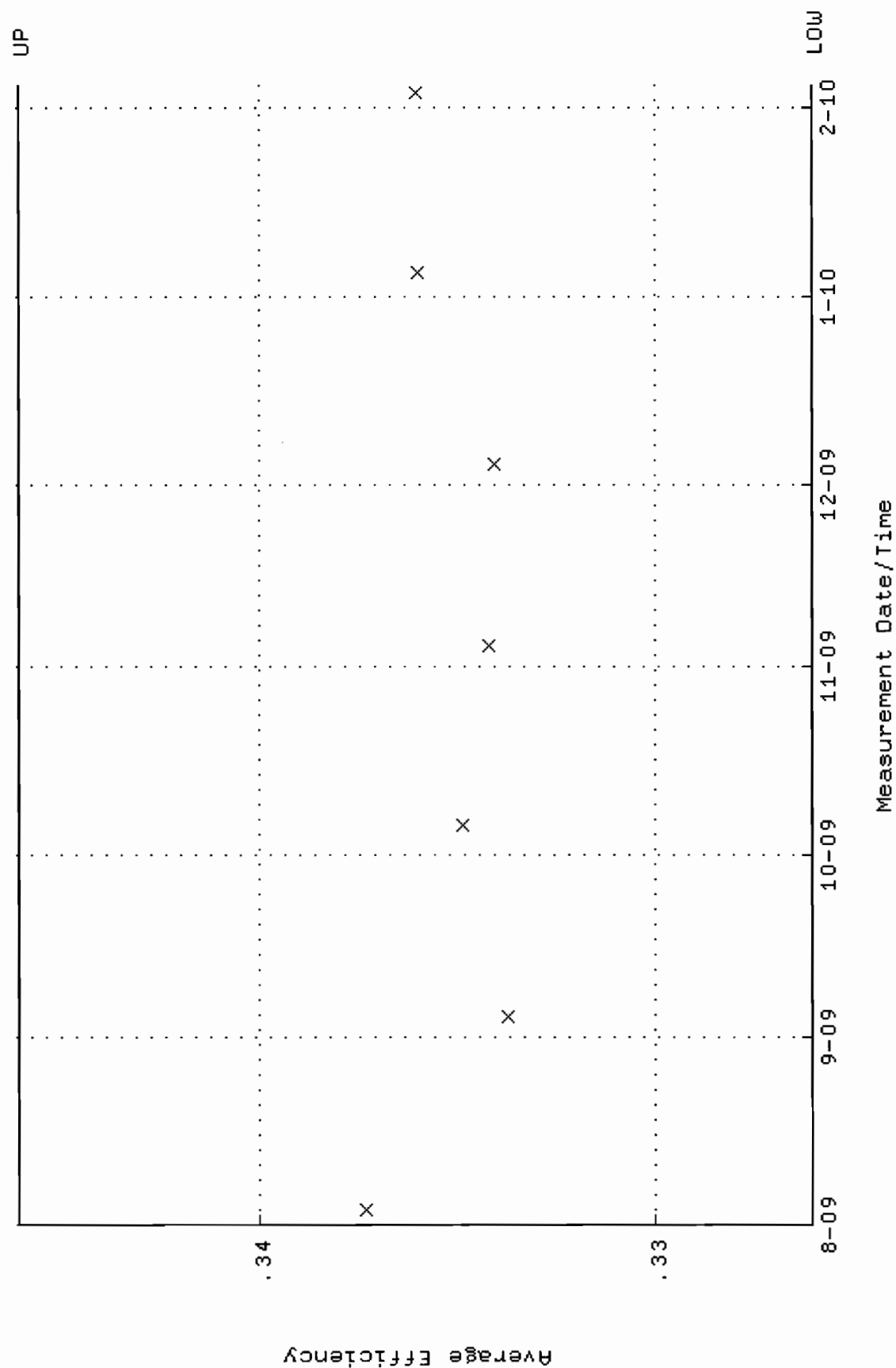
QA filename : DKA100:[ENV_ALPHA.QA.W]W013.QAF;2
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-AUG-2009 10:53:35 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 87.7736 through 97.0130



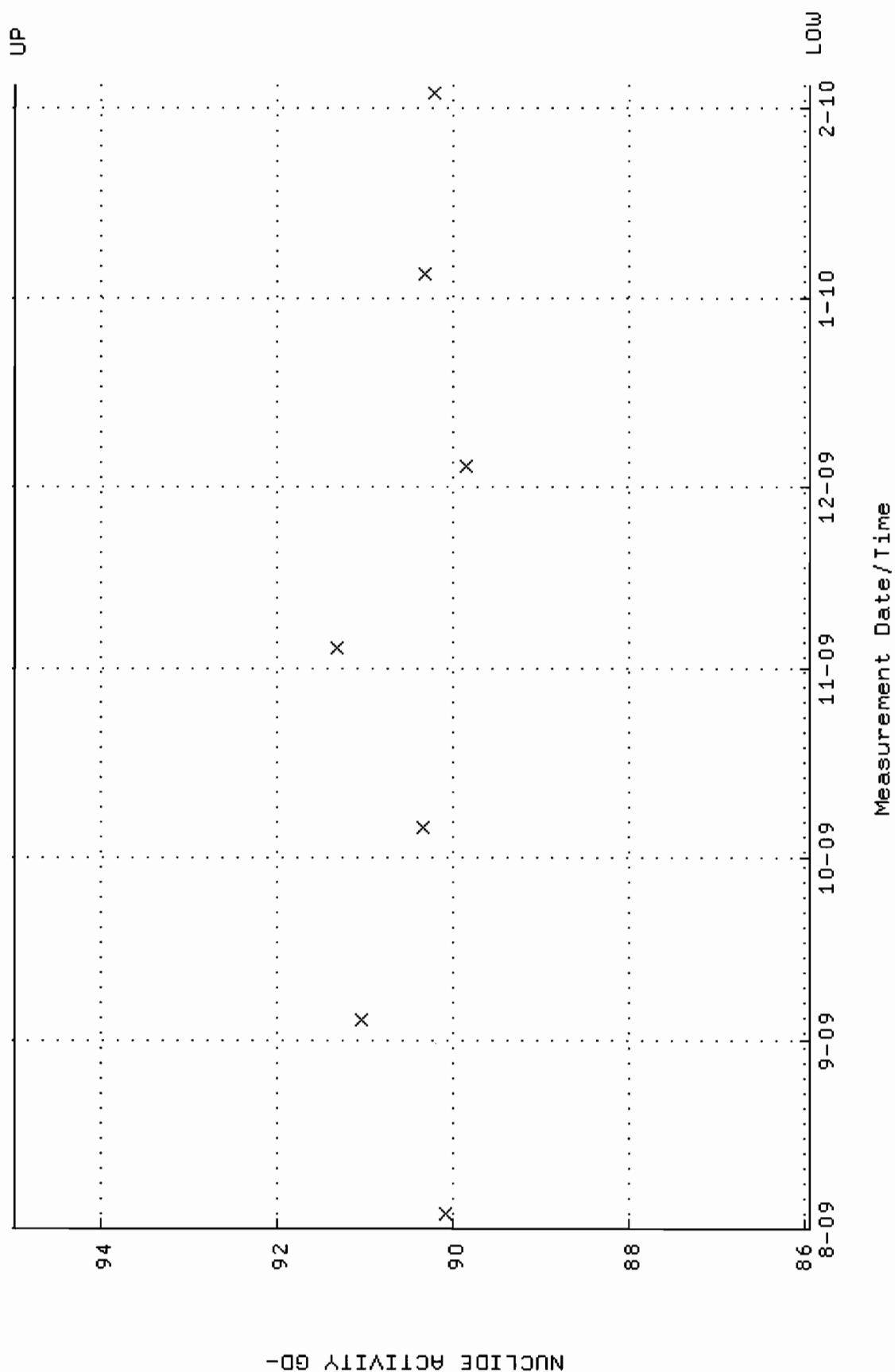
QA filename : DKA100:[ENV_ALPHA.QA.B]B013.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



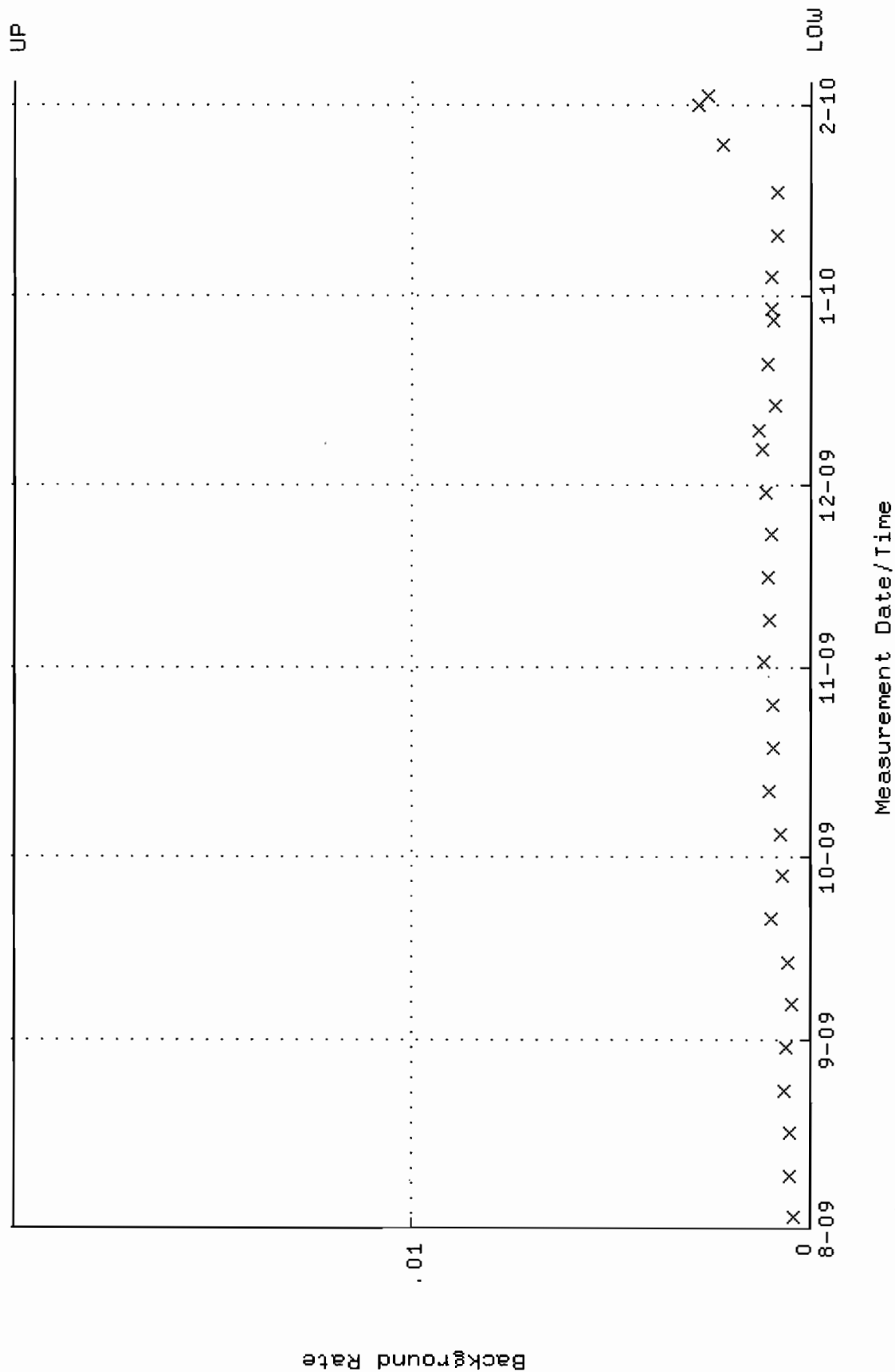
QA filename : DKA100:[ENV_ALPHA.QA.w]W016.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-AUG-2009 10:53:35 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.326058 through 0.346058



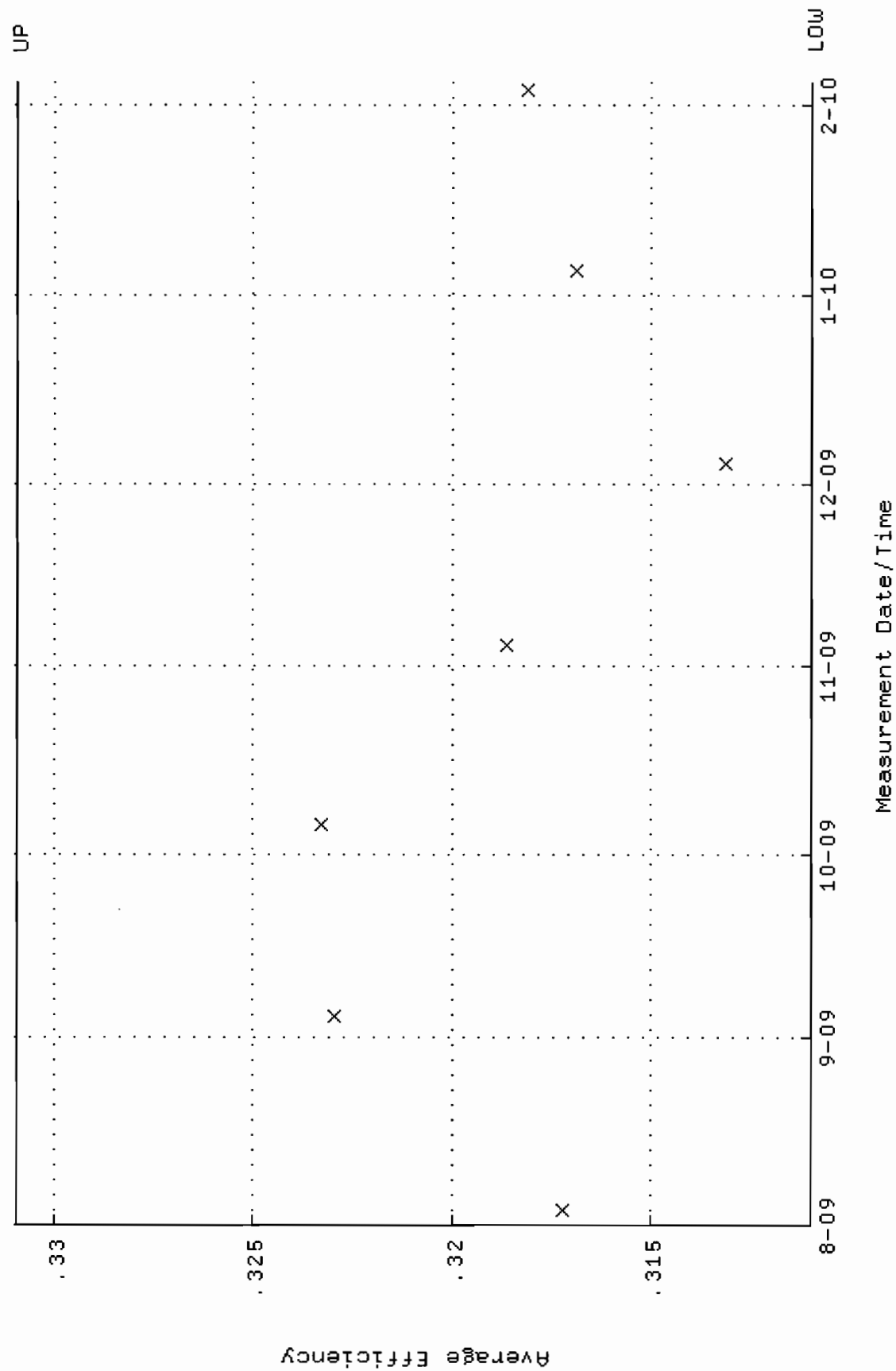
QA filename : DKA100:[ENV_ALPHA.QA.W]W016.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.9280 through 94.9730



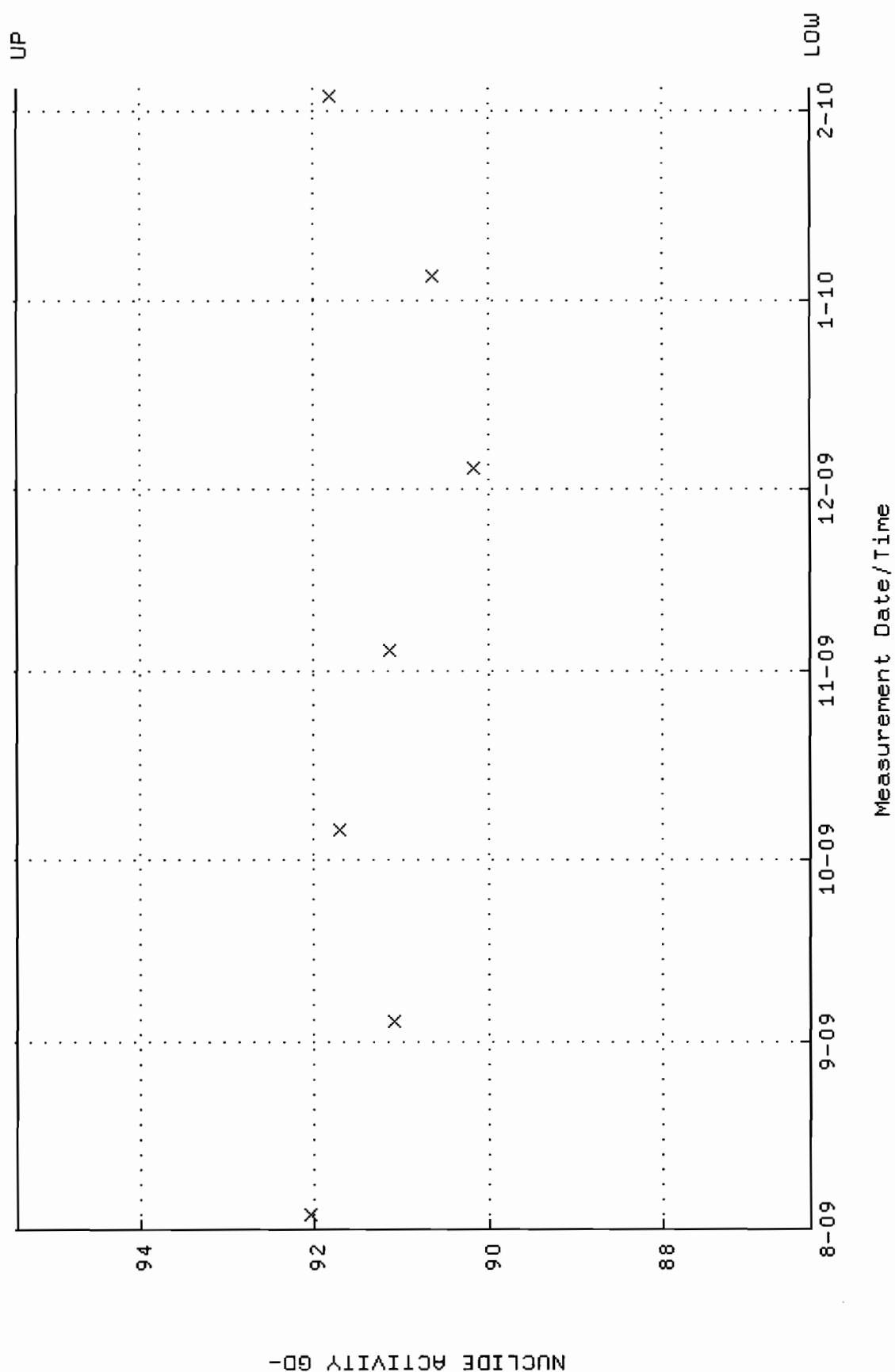
QA filename : DKA100:[ENV_ALPHA.QA.B]B016.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



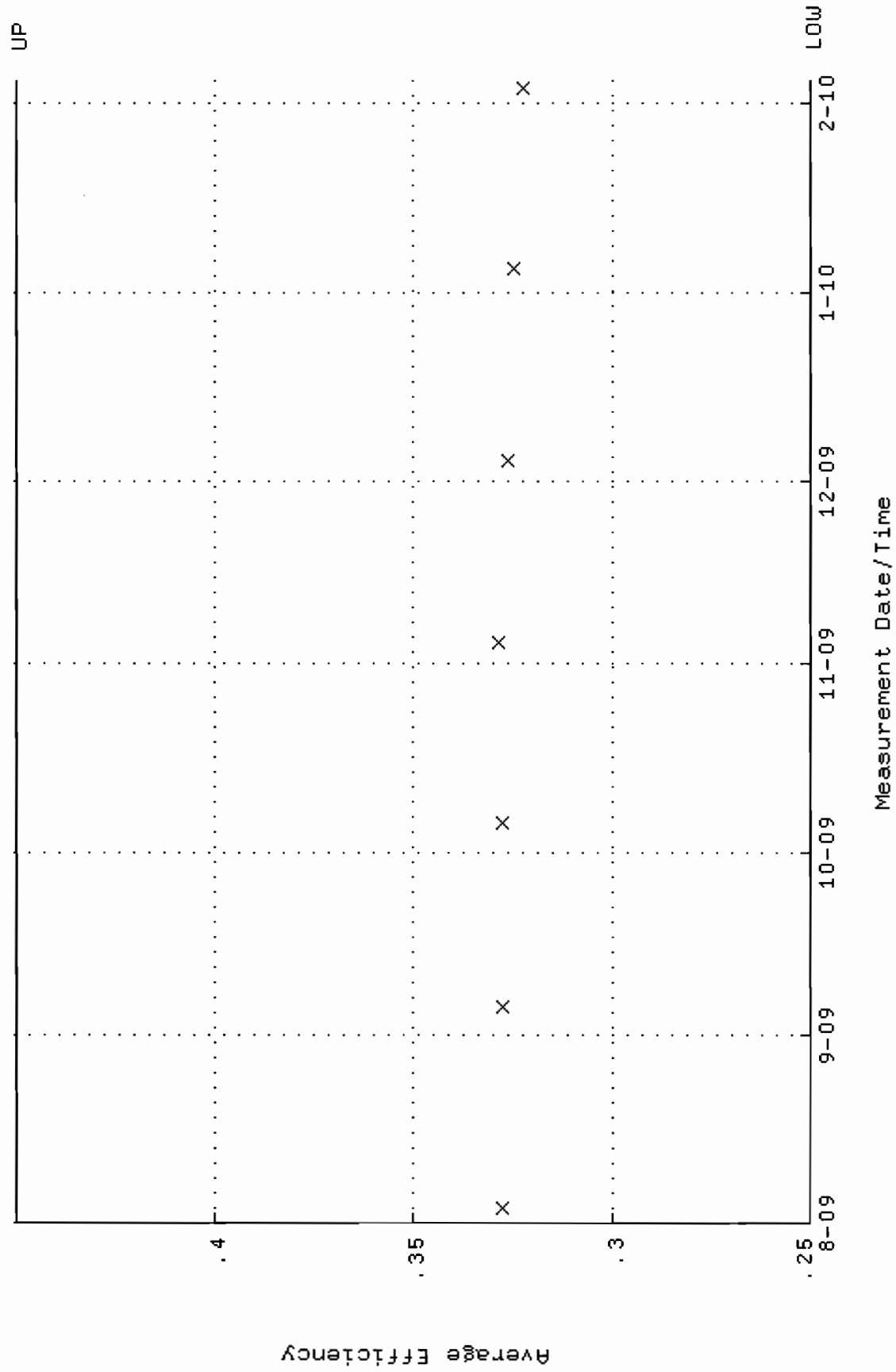
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.310950 through 0.330950



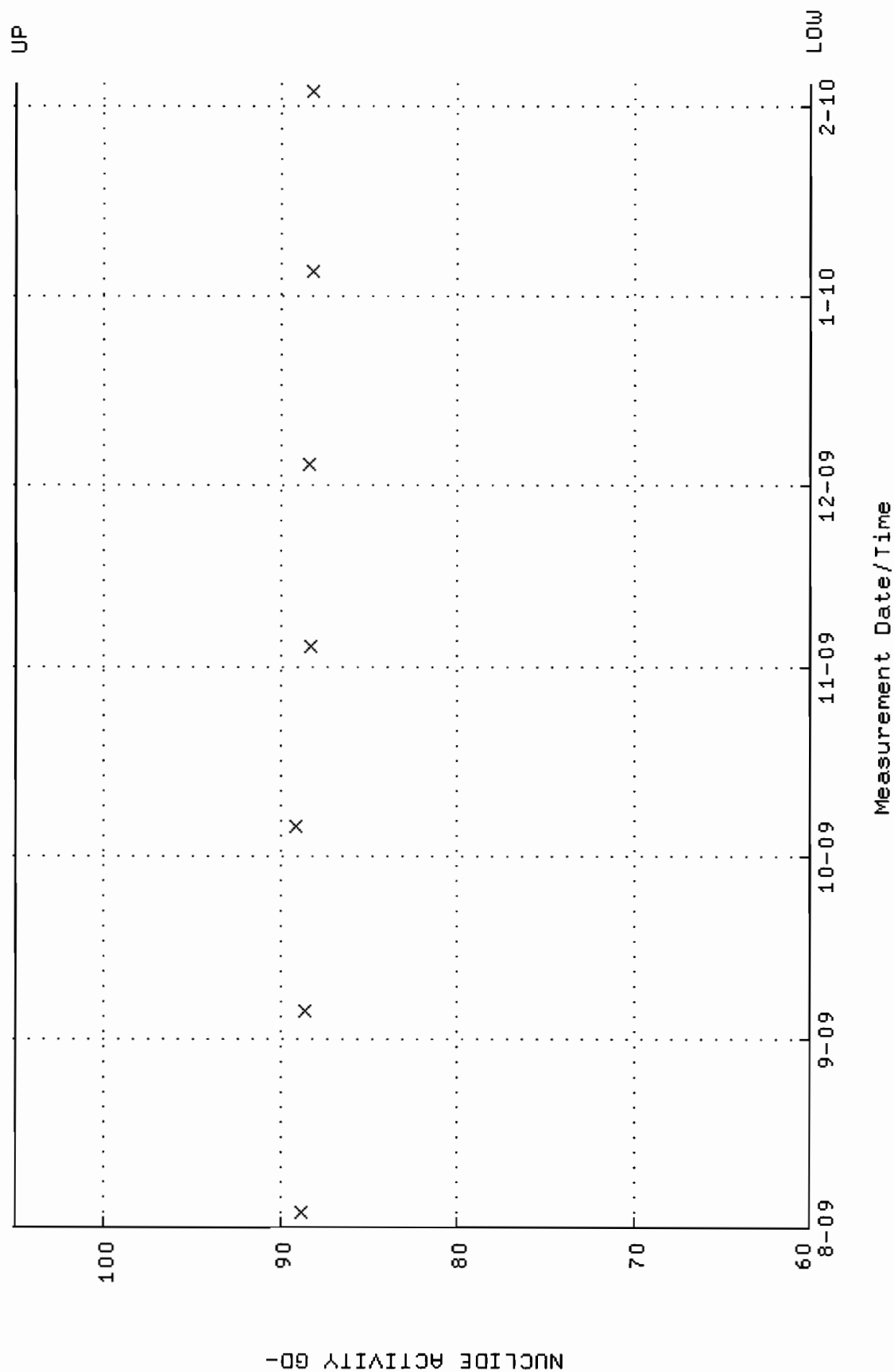
QA filename : DKA100:[ENV_ALPHA.QA.W]W018.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.3167 through 95.4027



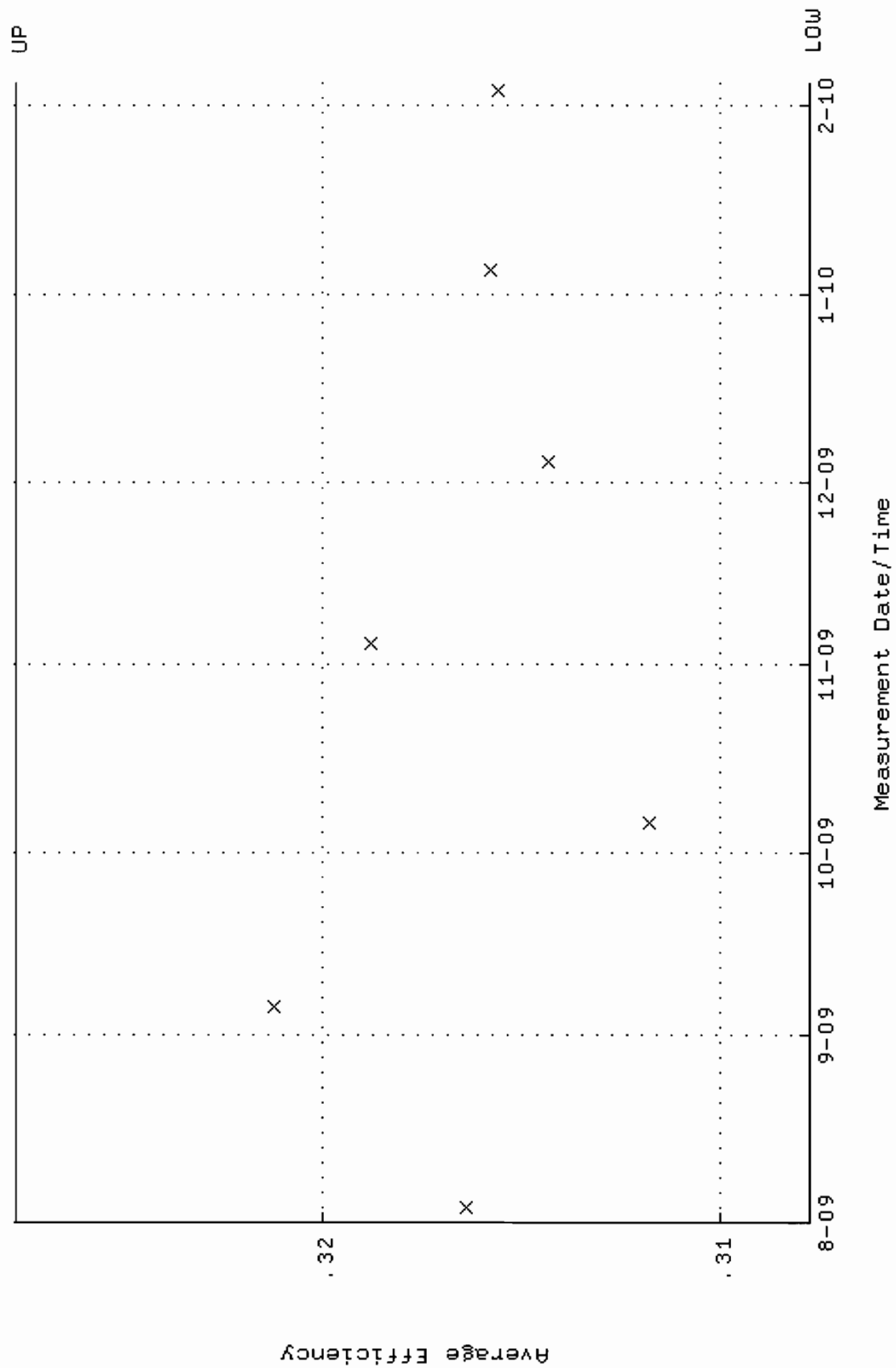
QA filename : DKA100:[ENV_ALPHA.QA.W]W025.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



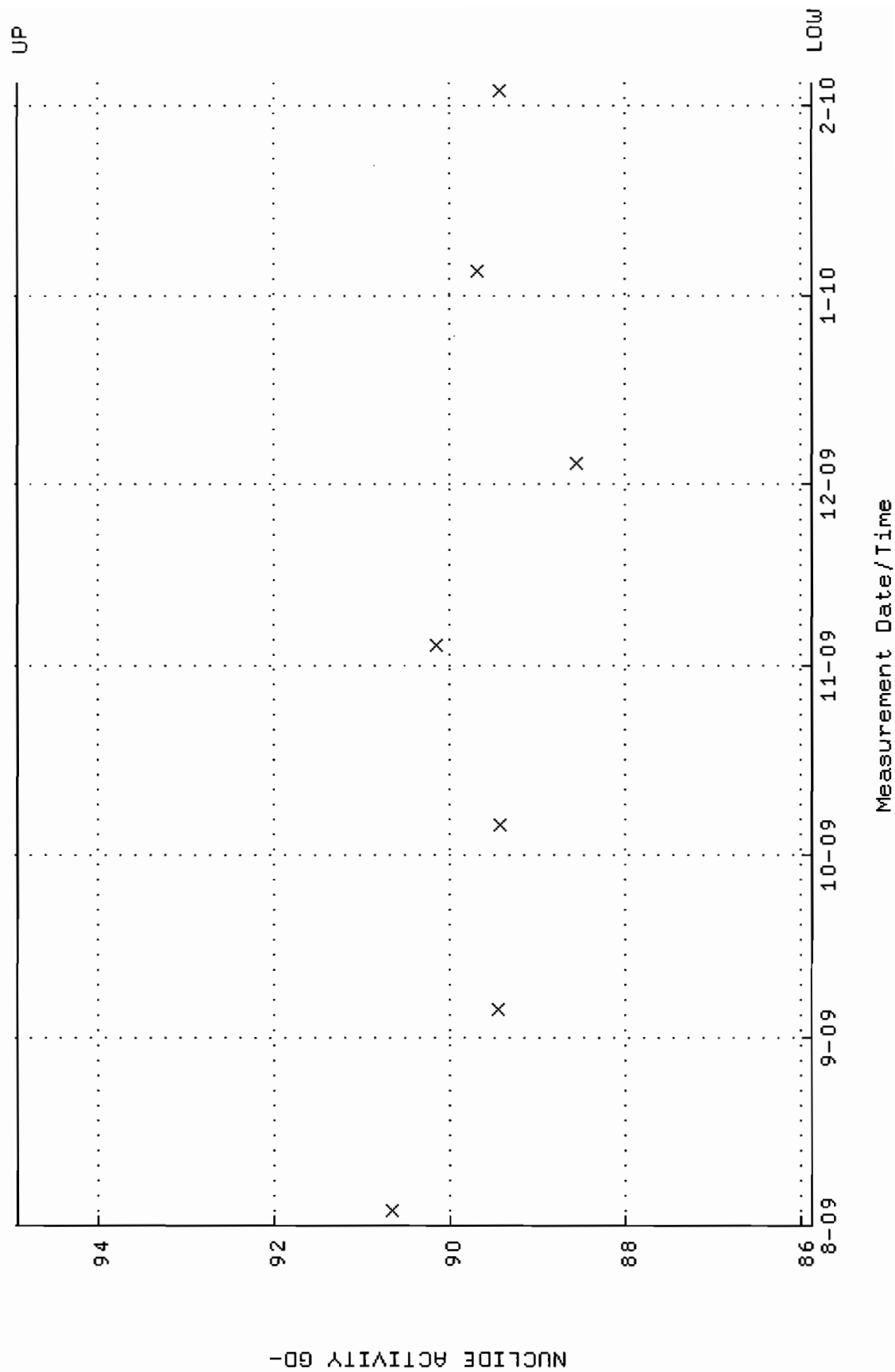
QA filename : DKA100:[ENV_ALPHA.QA.W]W025.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



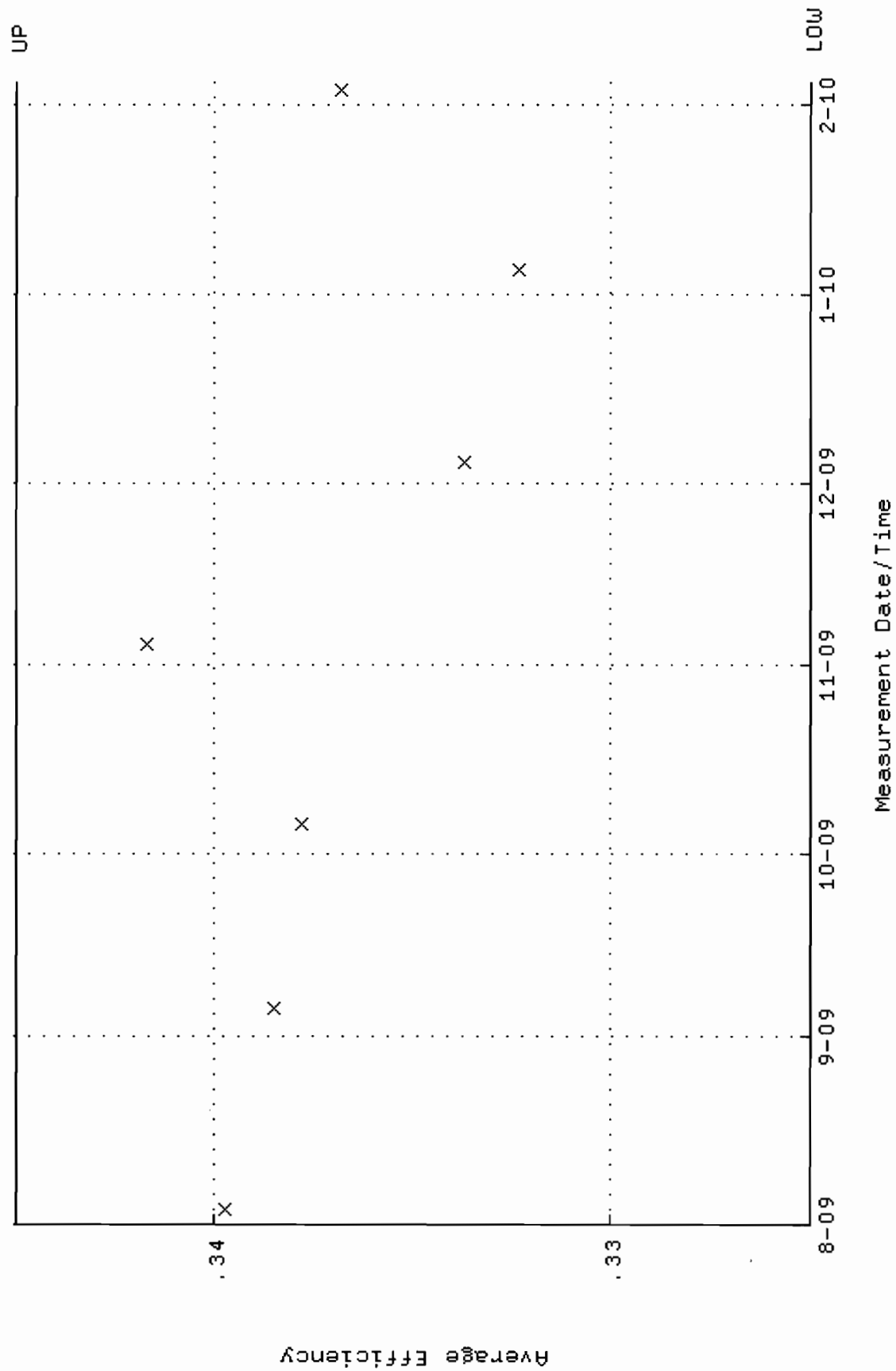
QA filename : DKA100:[ENV_ALPHA.QA.W]W026.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.307728 through 0.327728



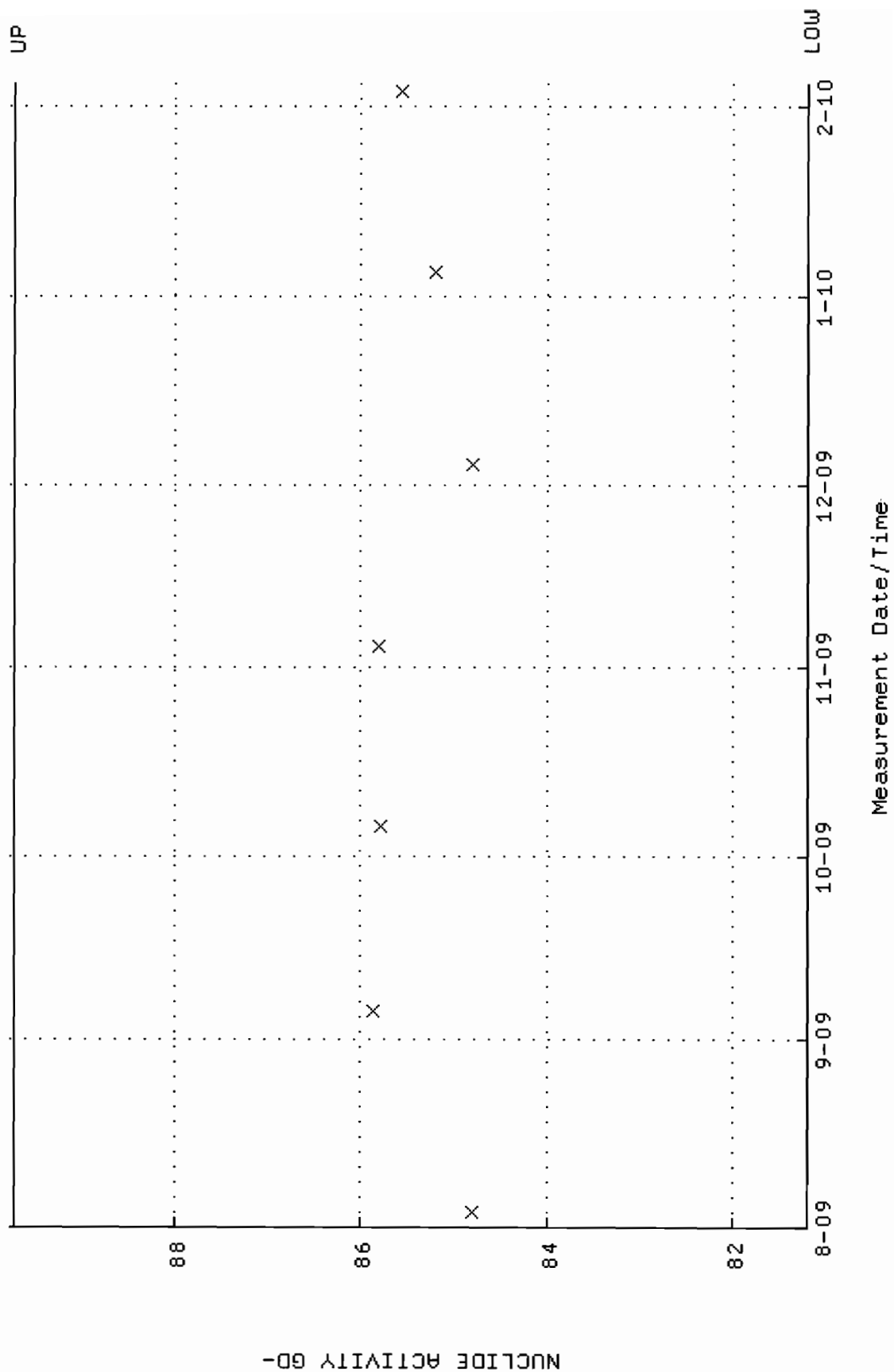
QA filename : DKA100:[ENV_ALPHA.QA.W]W026.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8763 through 94.9159



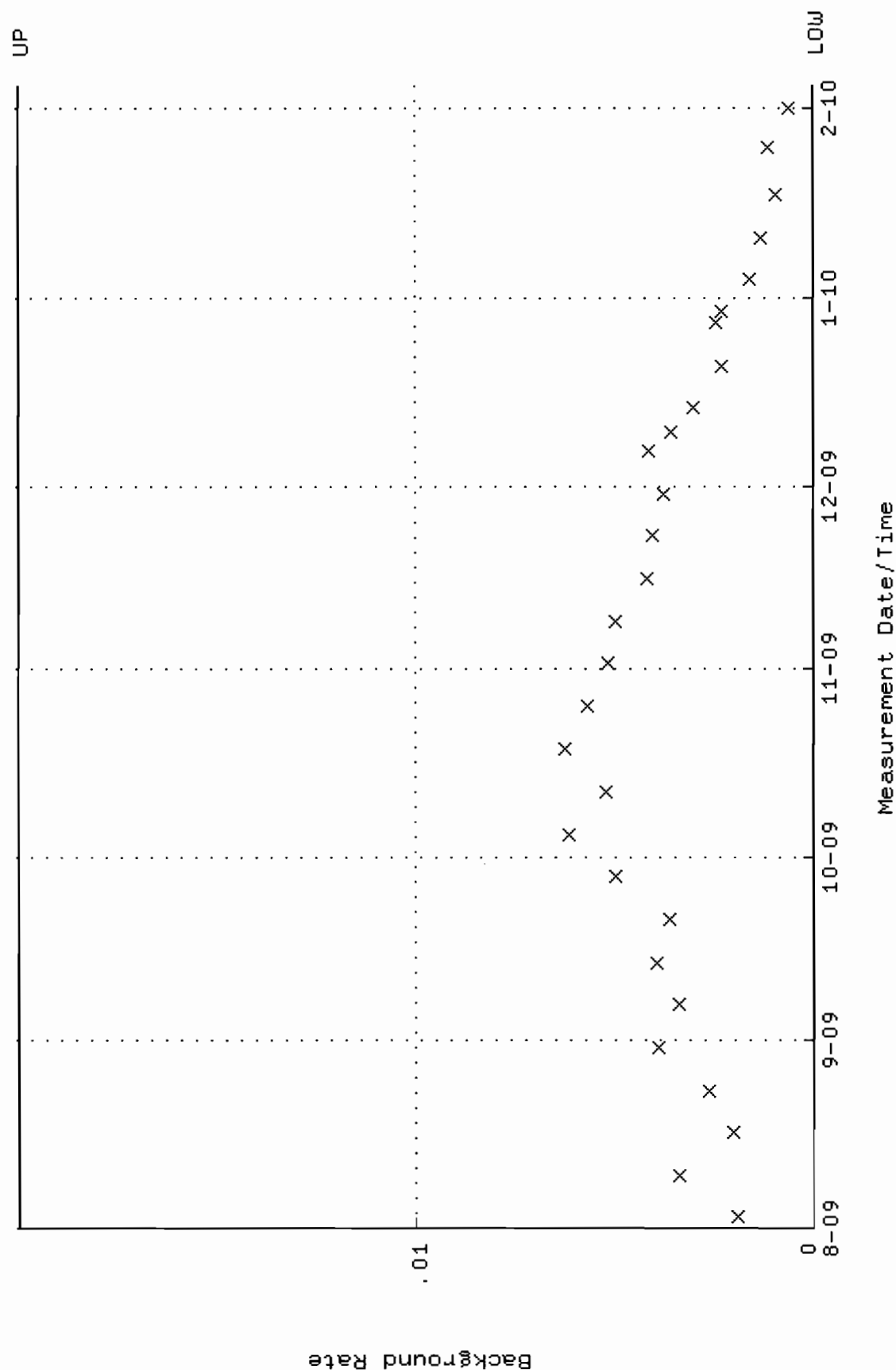
QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.324980 through 0.344980



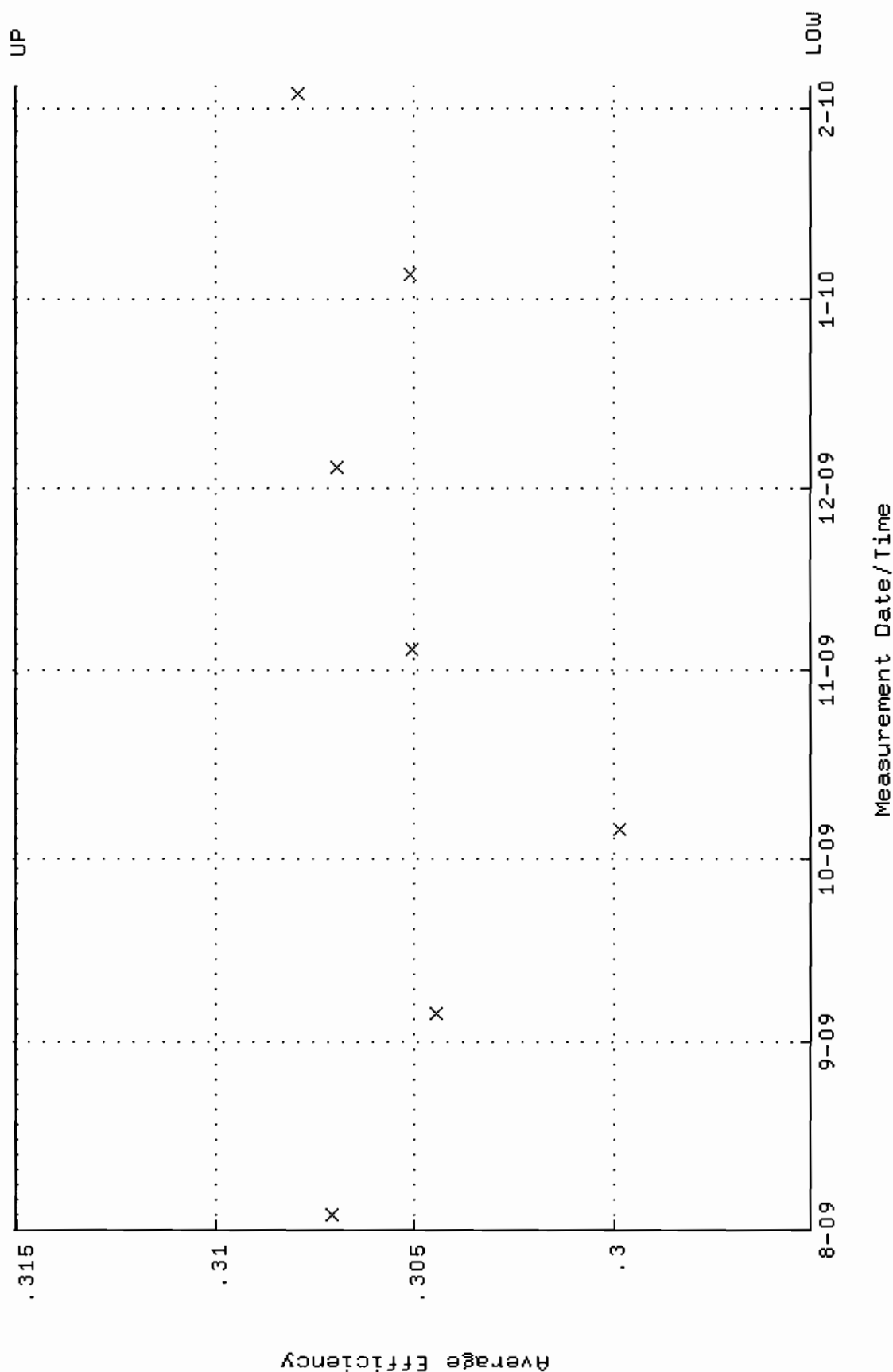
QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 81.2030 through 89.7506



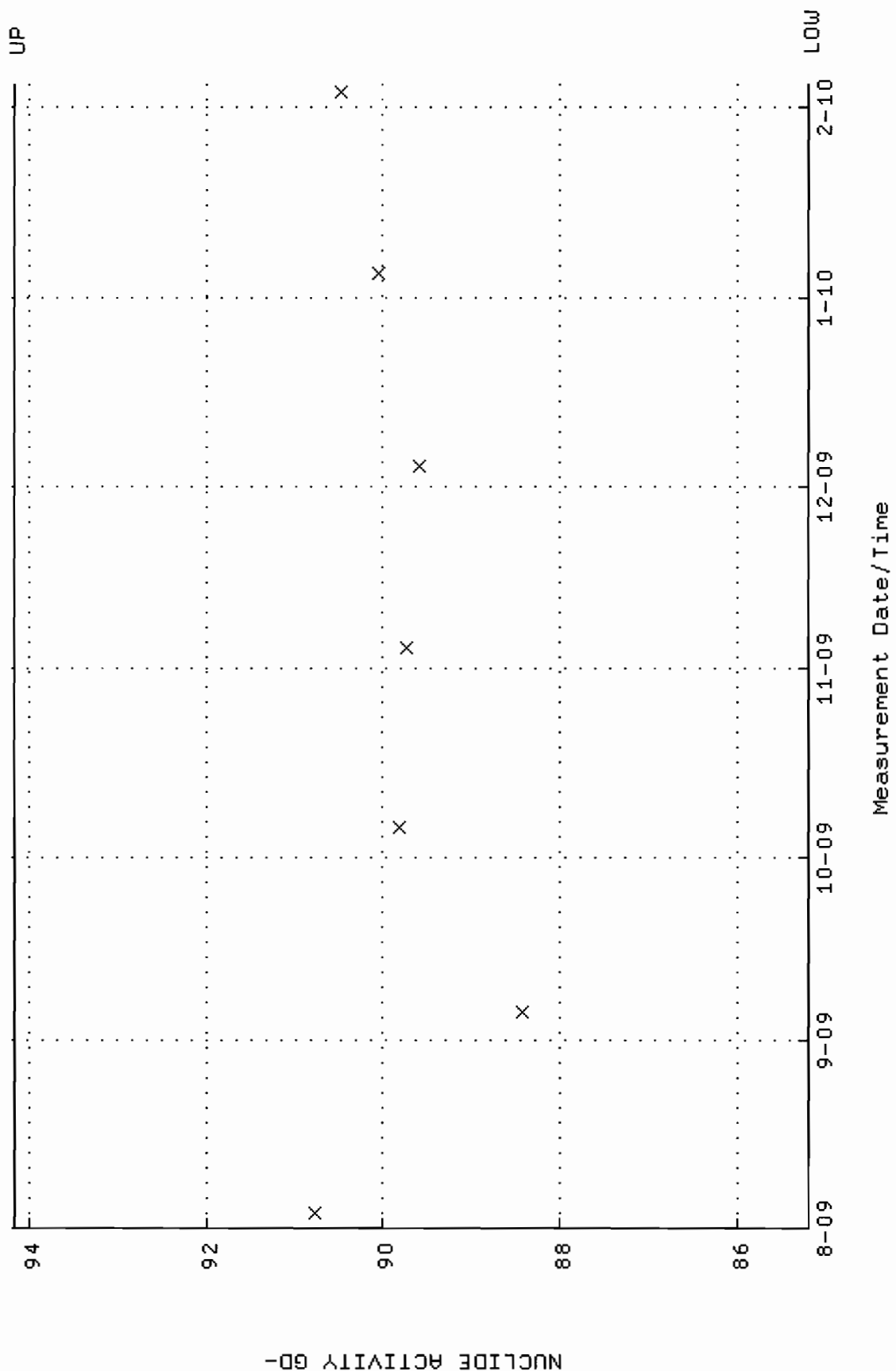
QA filename : DKA100:[ENV_ALPHA.QA.B]B027.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:35 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



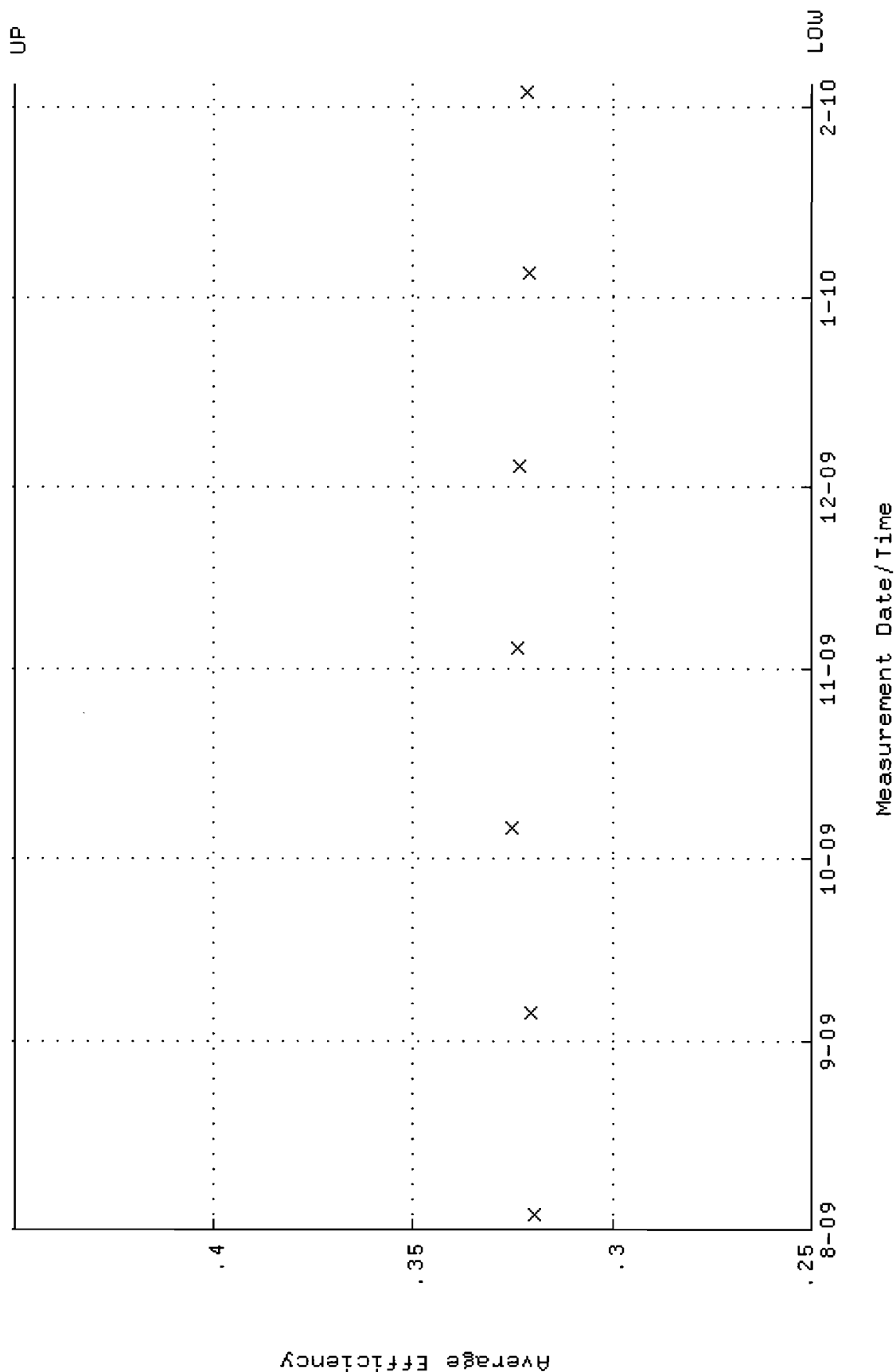
QA filename : DKA100:[ENV_ALPHA.QA.W]W028.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.295040 through 0.315040



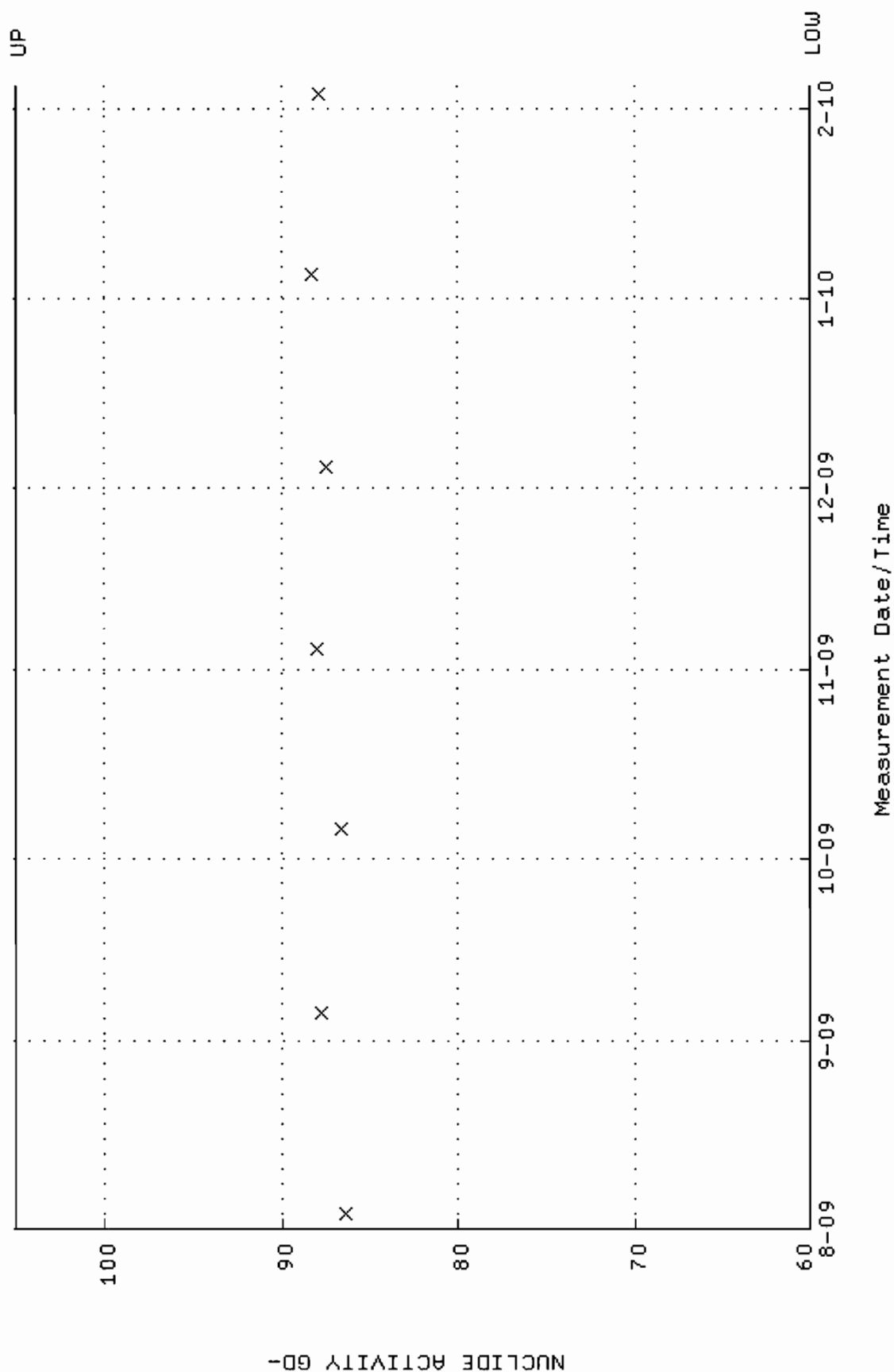
QA filename : DKA100:[ENV_ALPHA.QA.W]W028.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.1965 through 94.1645



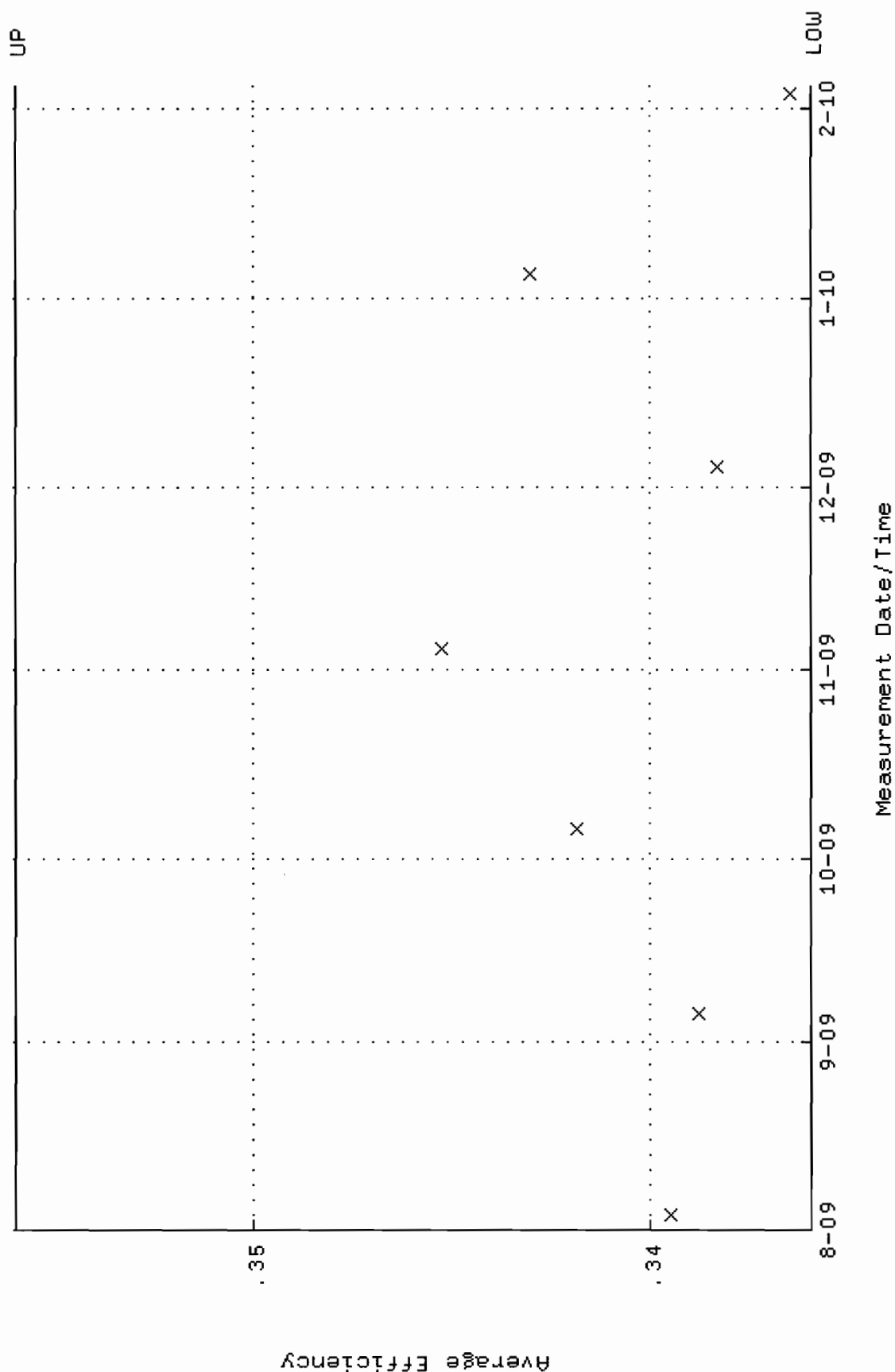
QA filename : DKA100:[ENV_ALPHA.QA.W]W030.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



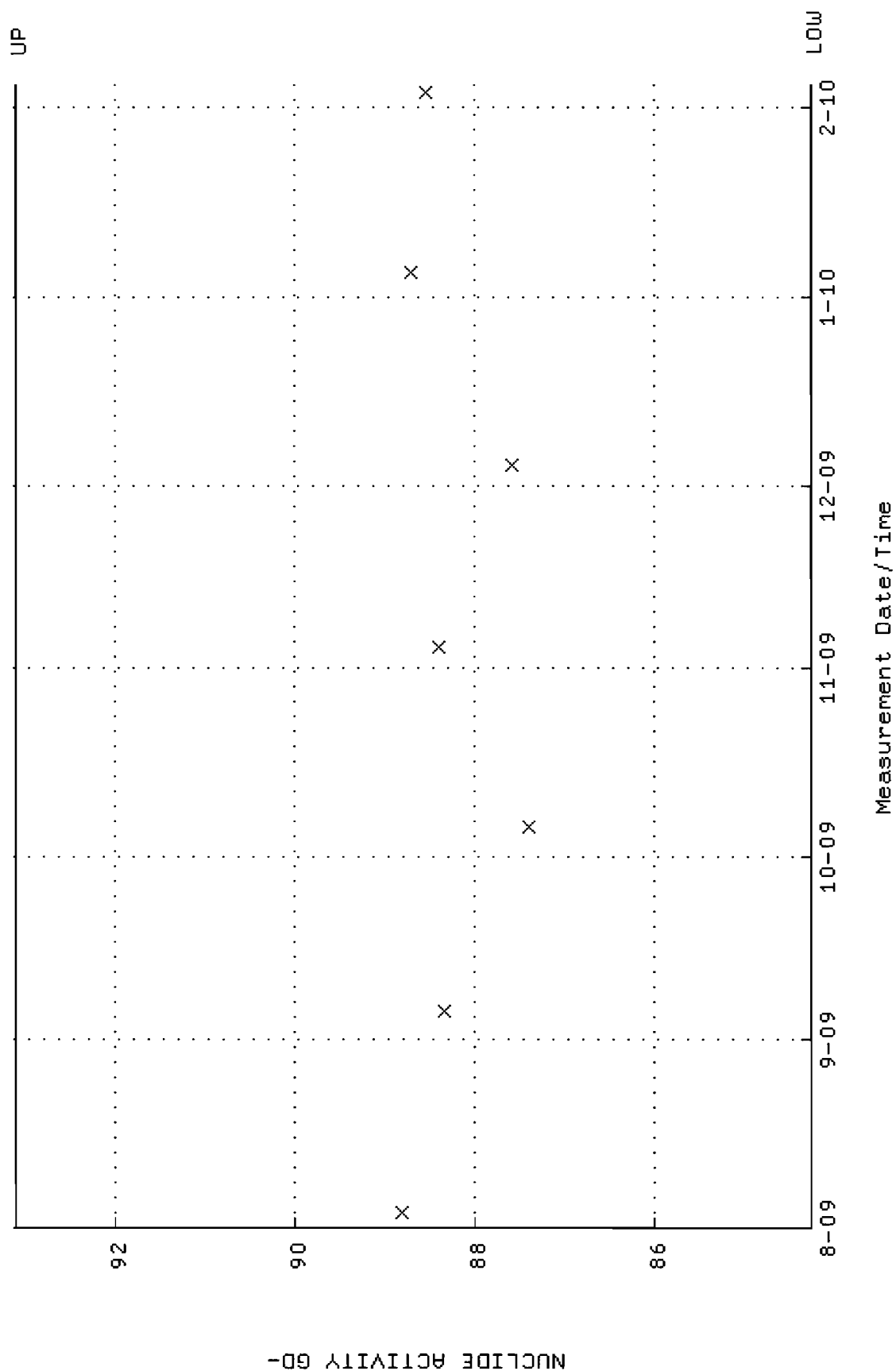
QA filename : DKA100:[ENV_ALPHA.QA.W]W030.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:40 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



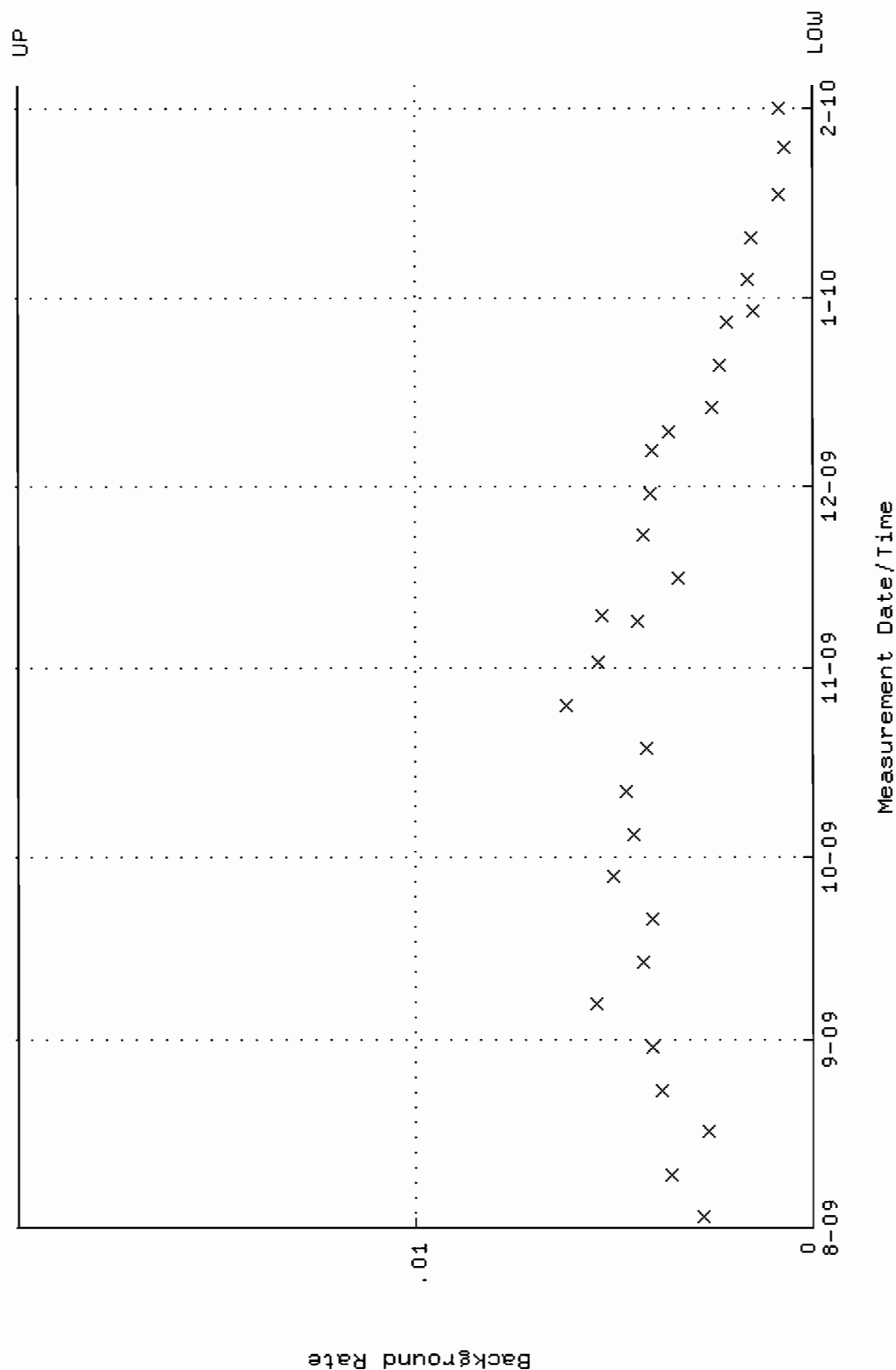
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.335973 through 0.355973



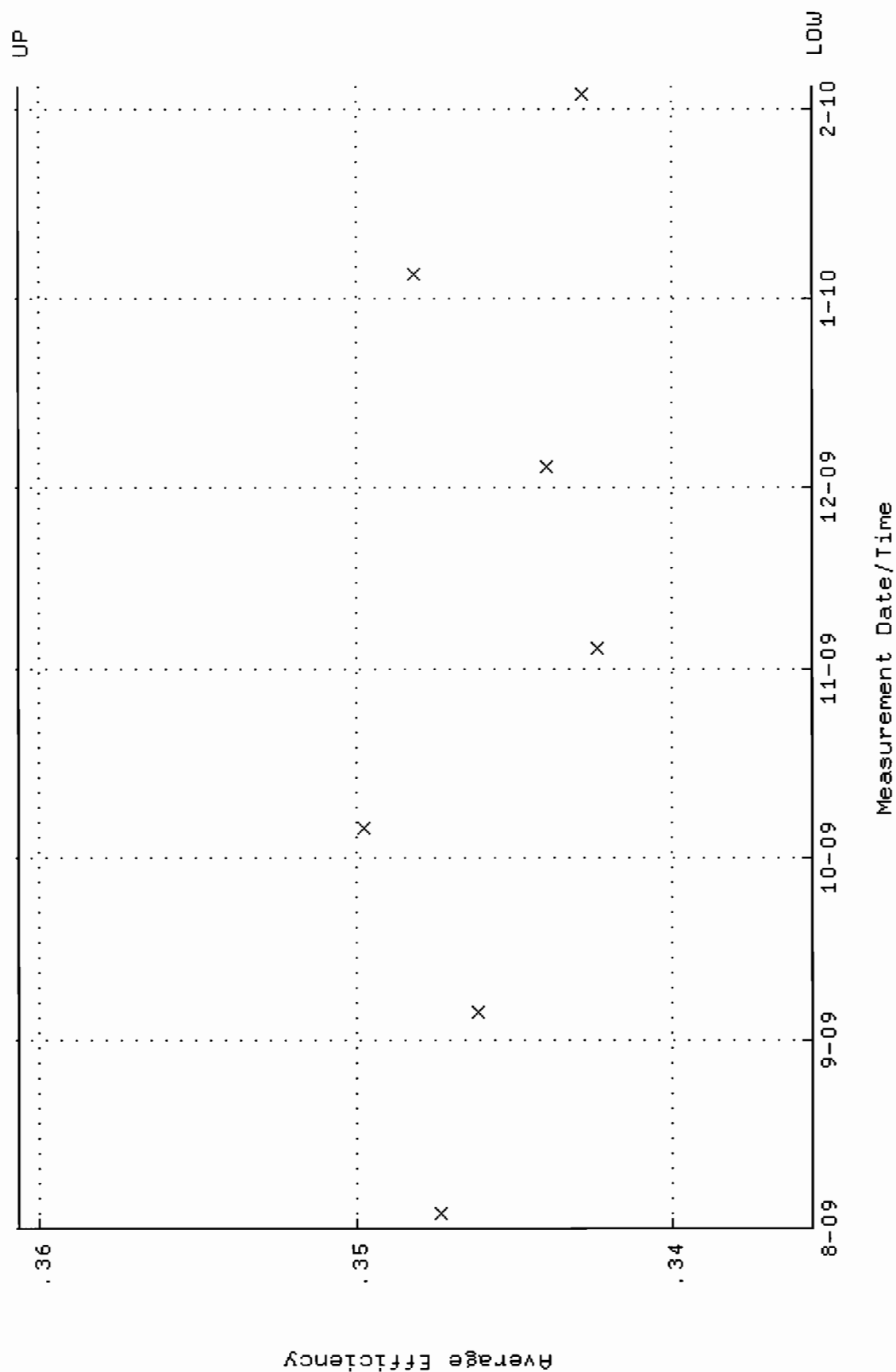
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 84.2440 through 93.1118



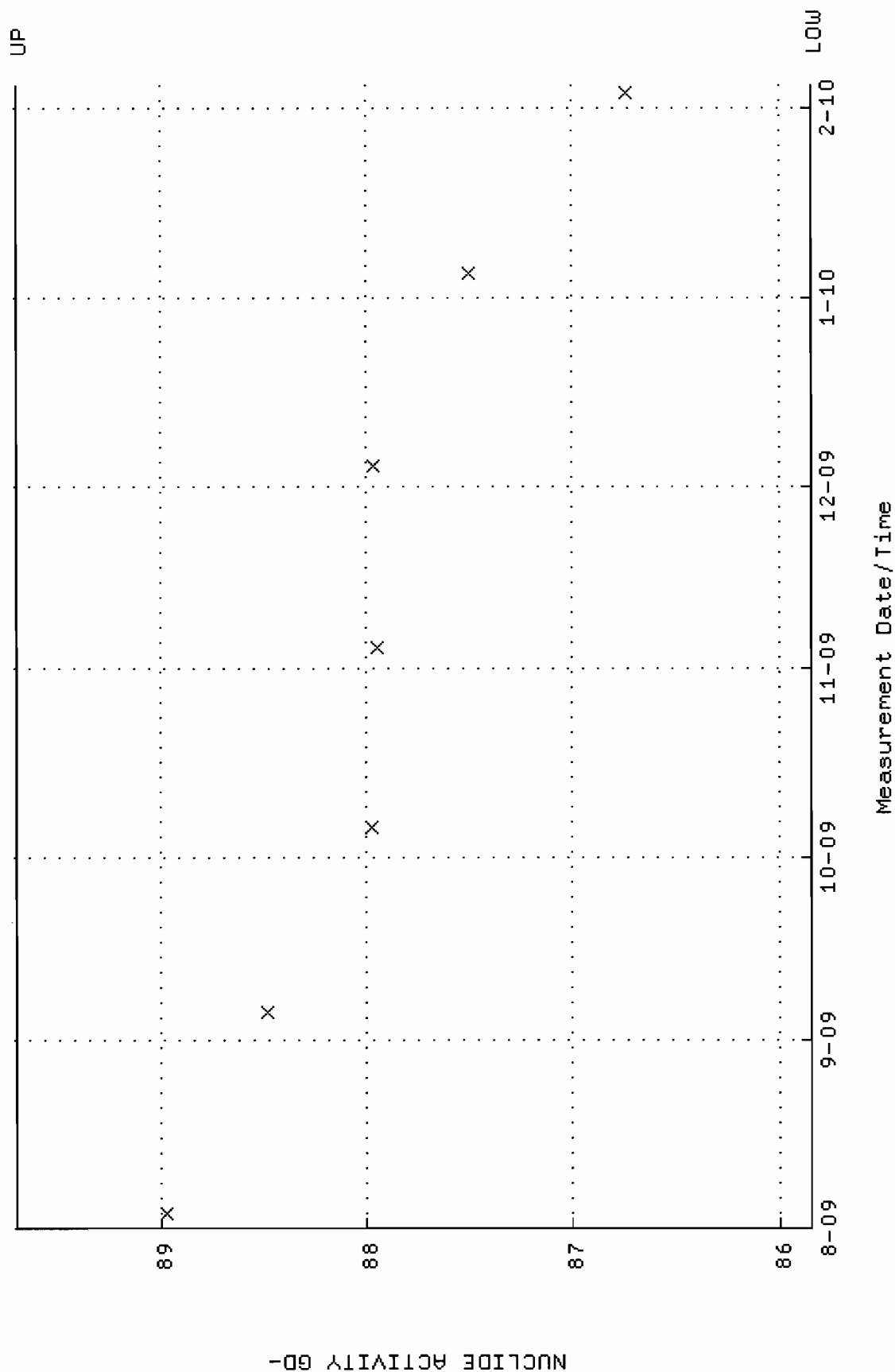
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QA filename      : DKA100:[ENV-ALPHA.QA.B]B043.QAF;1
Parameter Name   : BACKRATE (Background Rate)
Start/End Dates  : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02
```



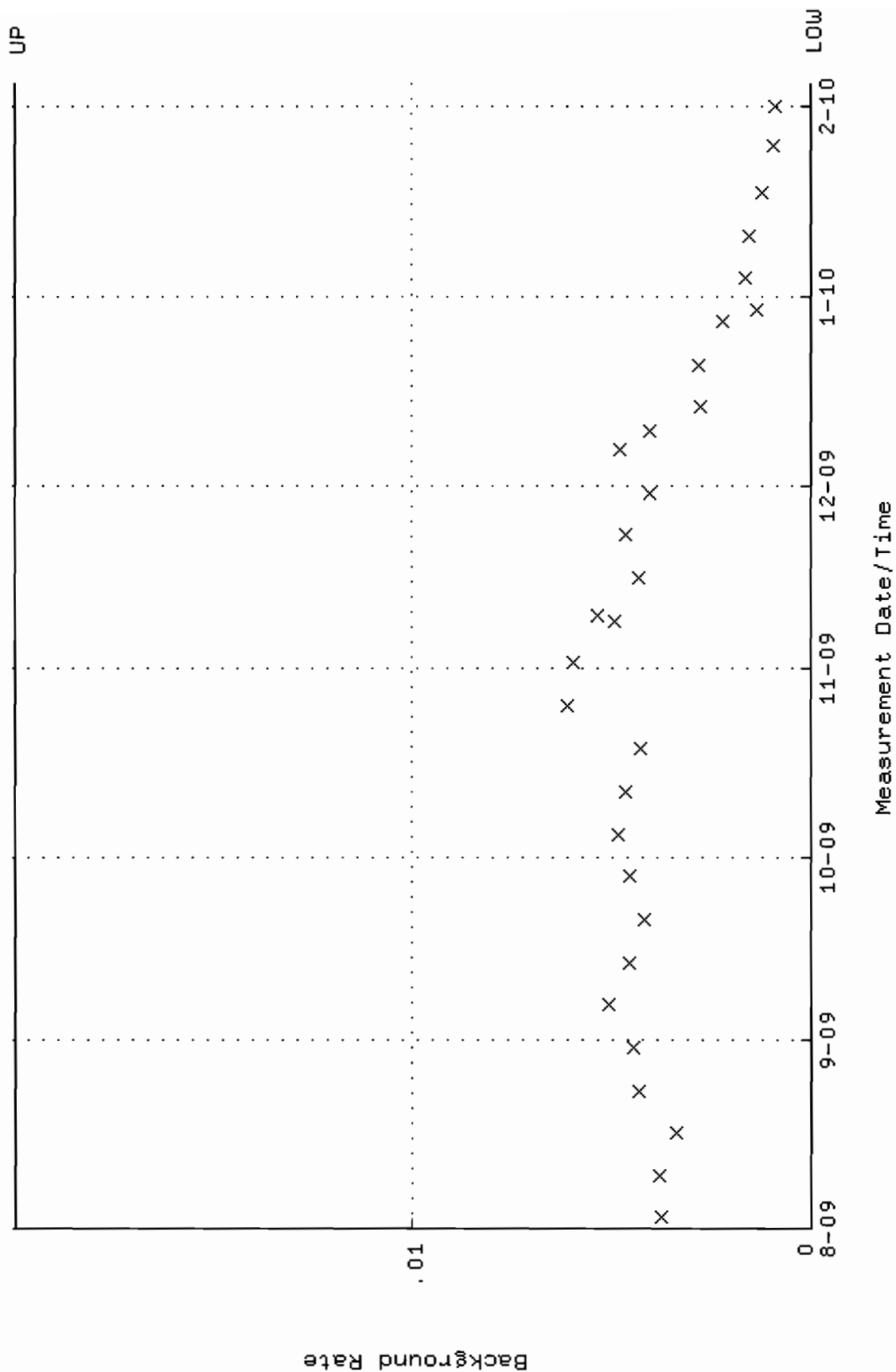
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.335557 through 0.360677



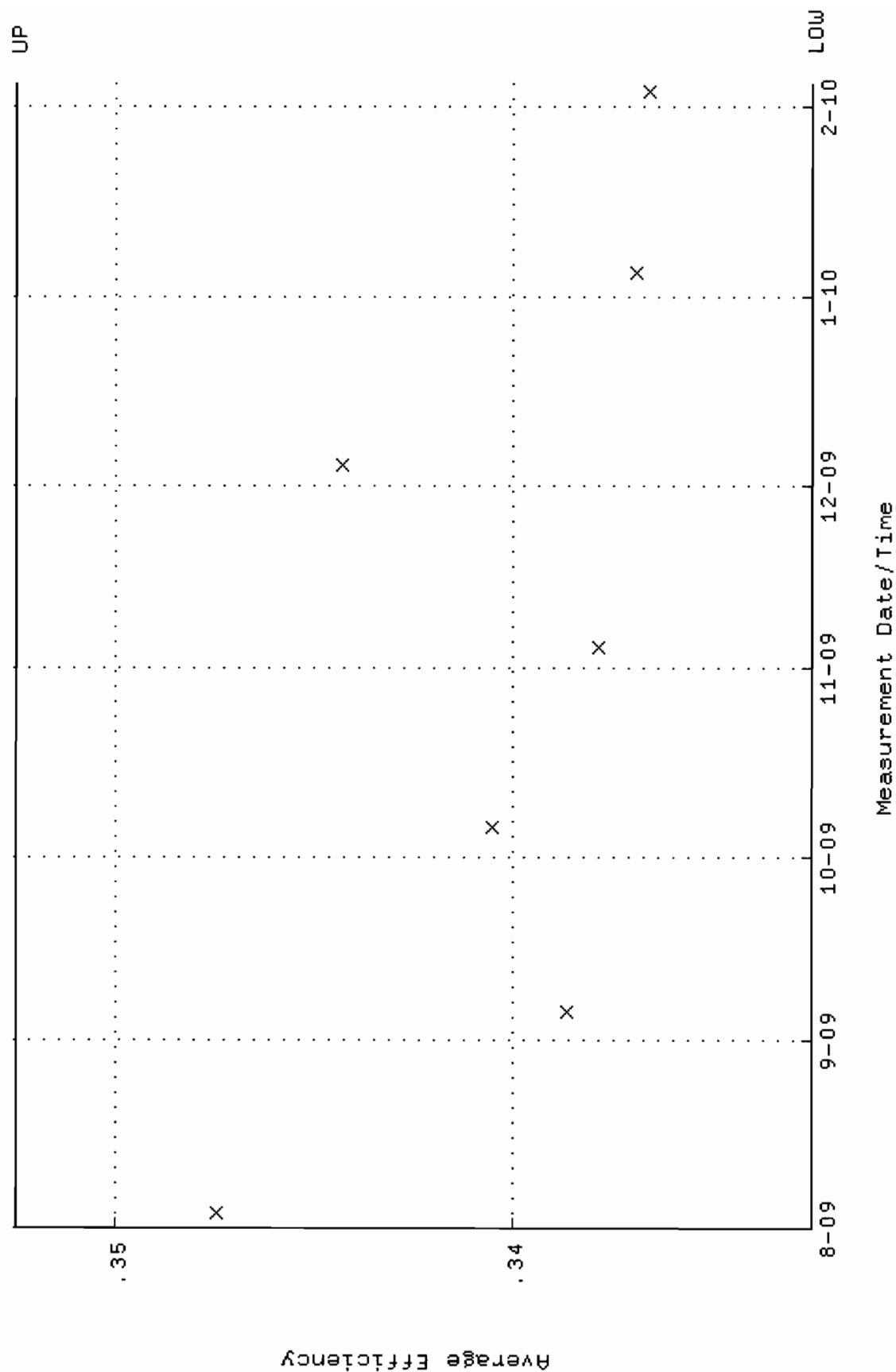
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8425 through 89.6949



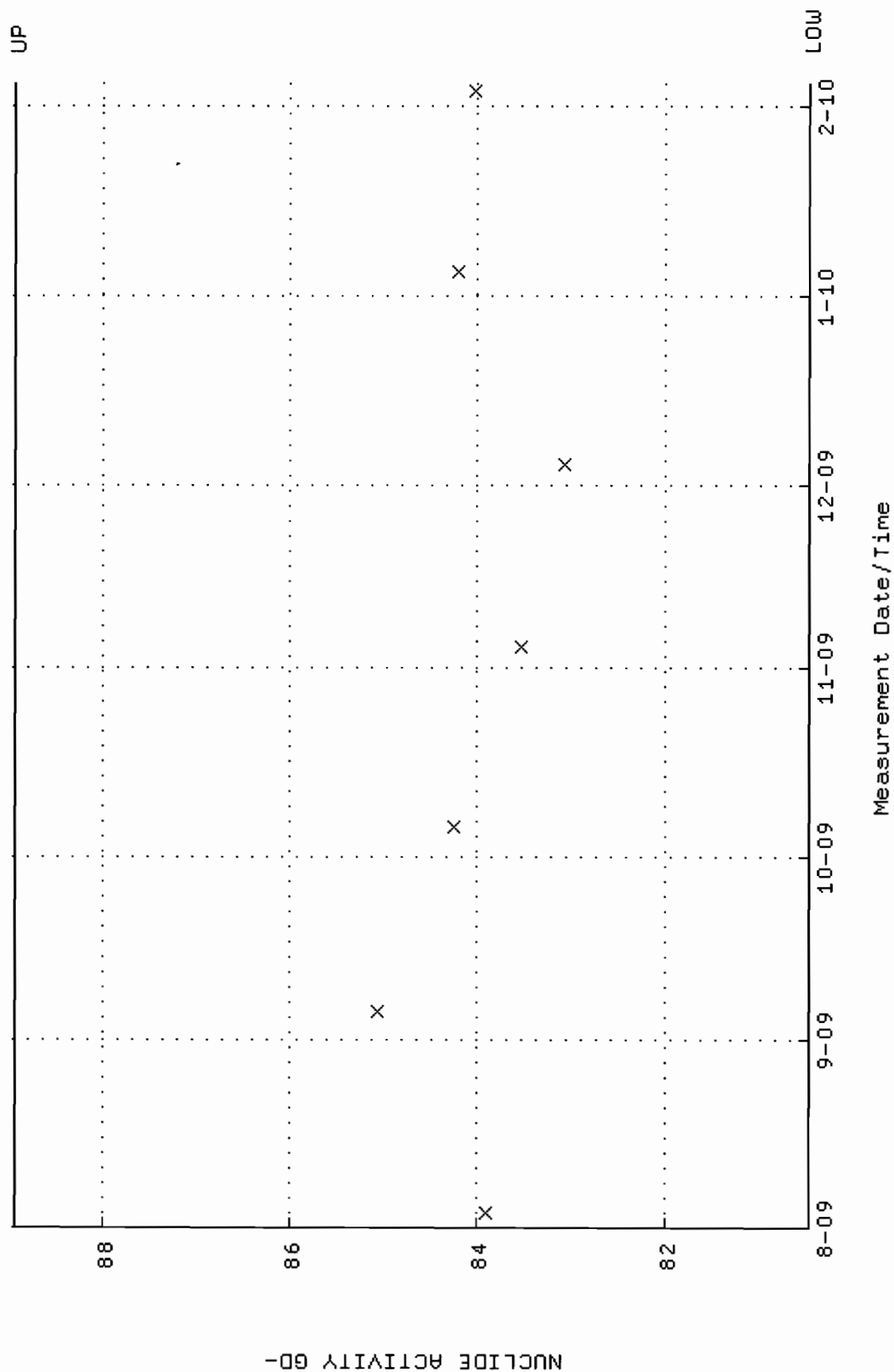
QA filename : DKA100:[ENV_ALPHA.QA.B]B044.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



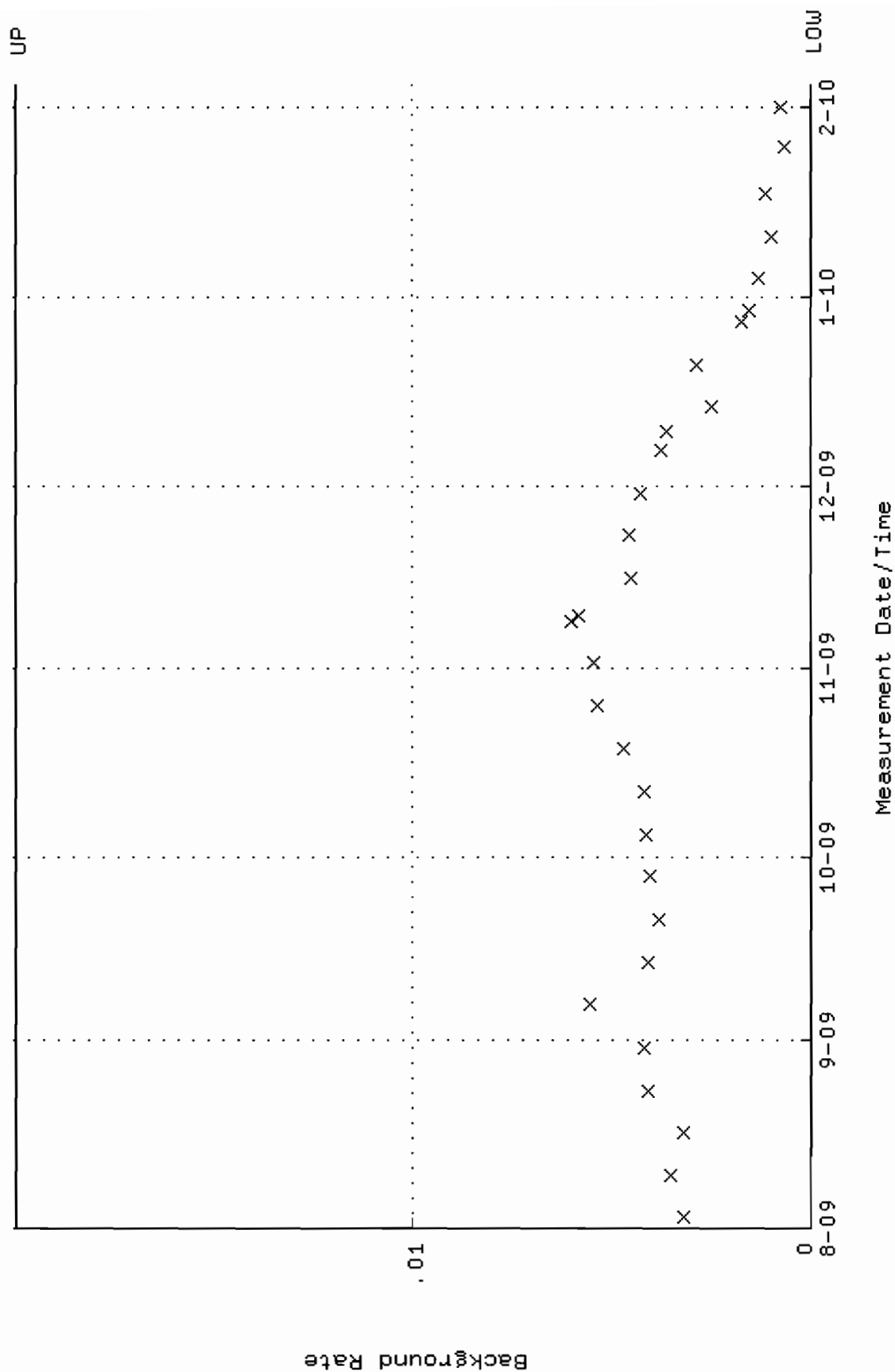
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.332472 through 0.352472



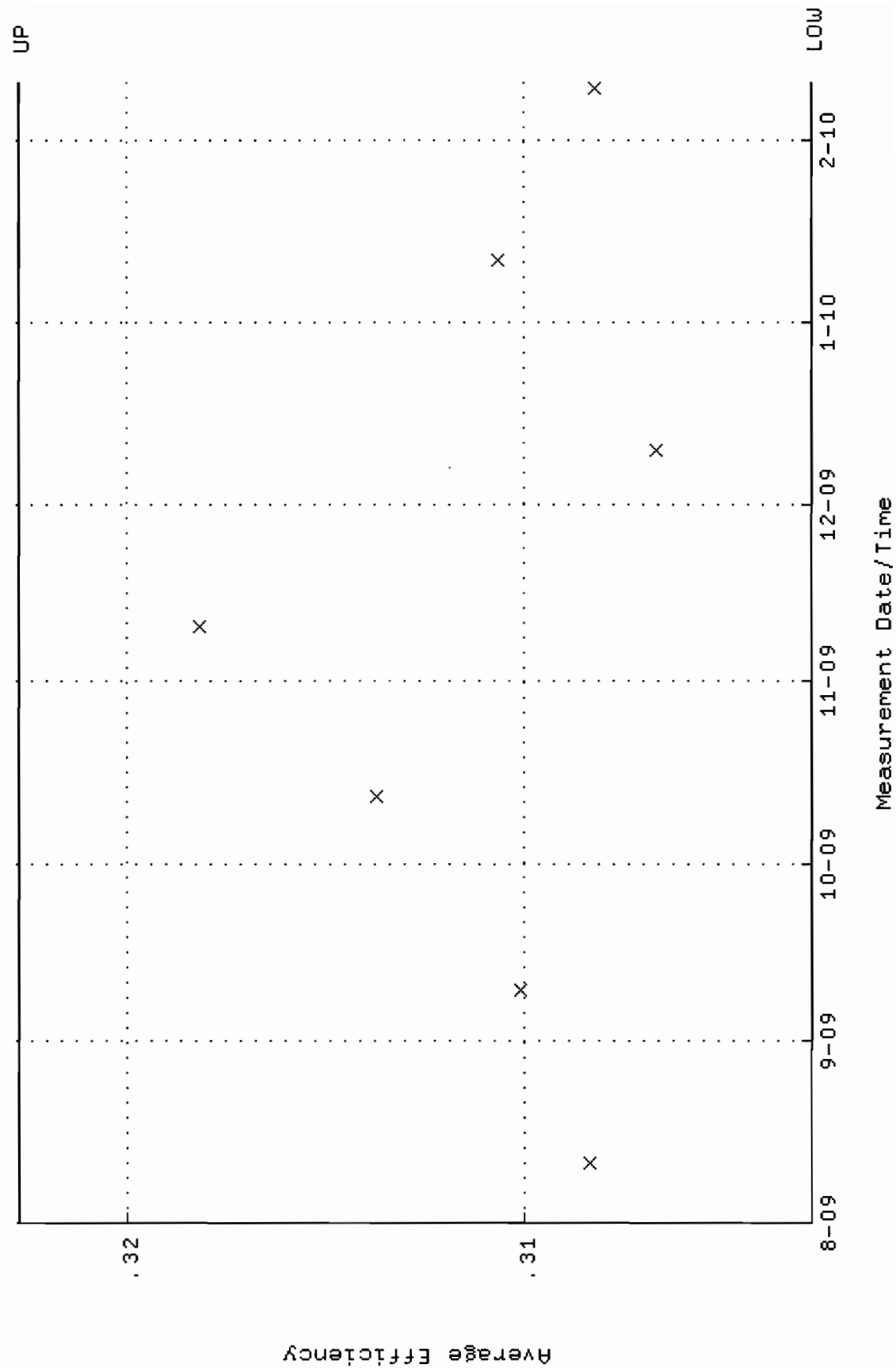
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 80.4622 through 88.9320



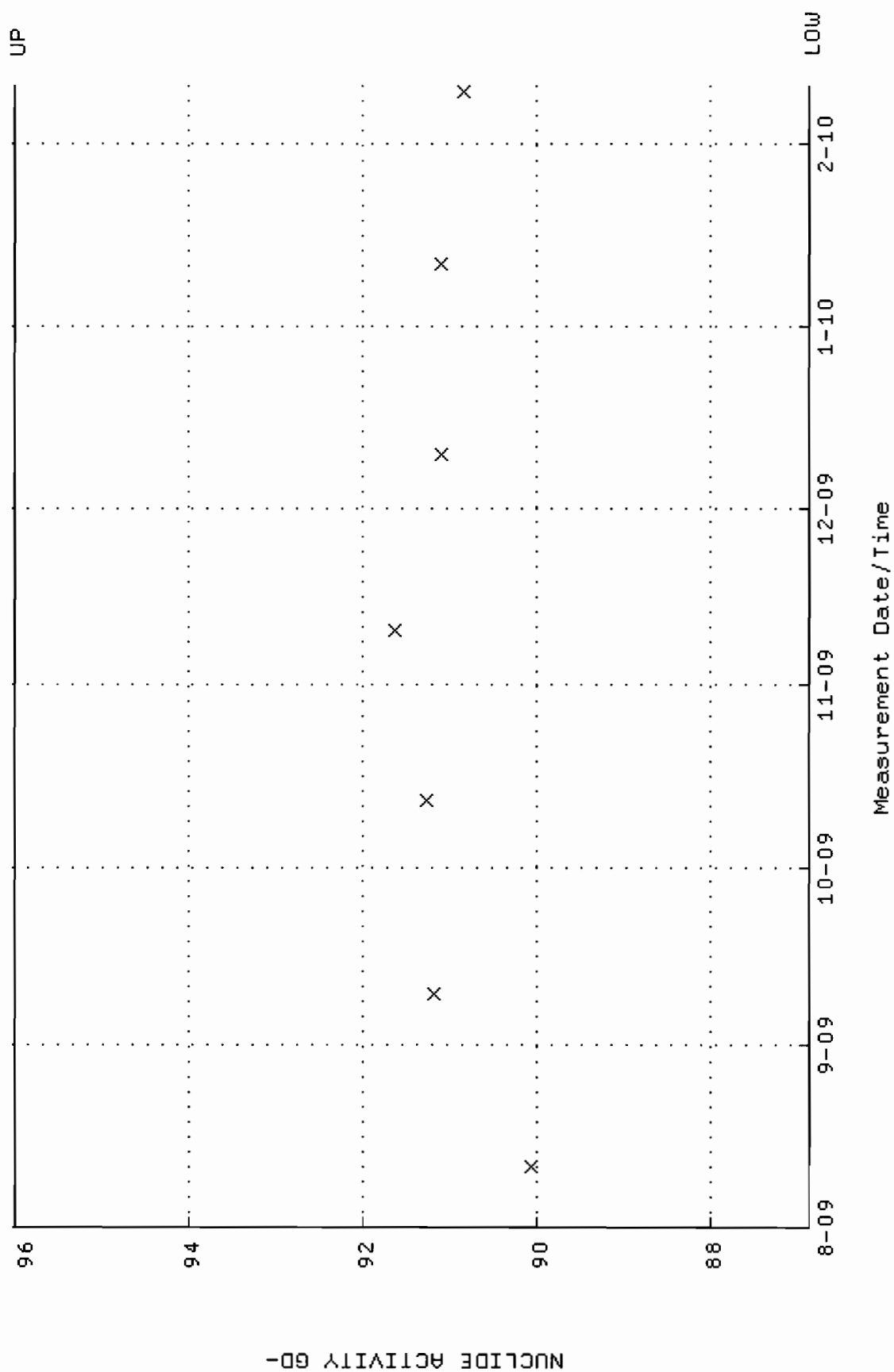
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



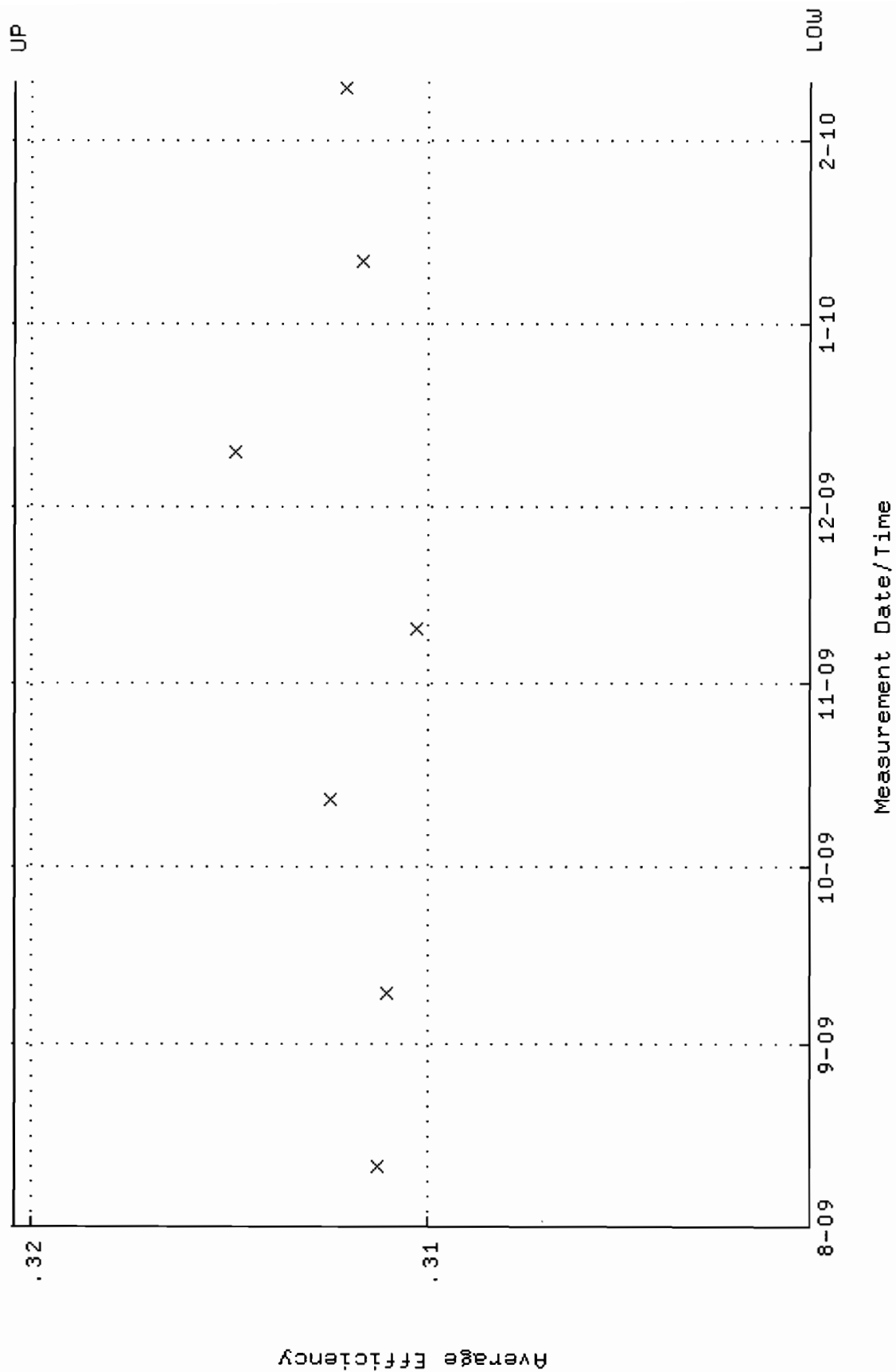
QA filename : DKA100:[ENV_ALPHA.QA.W]W065.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.302750 through 0.322750



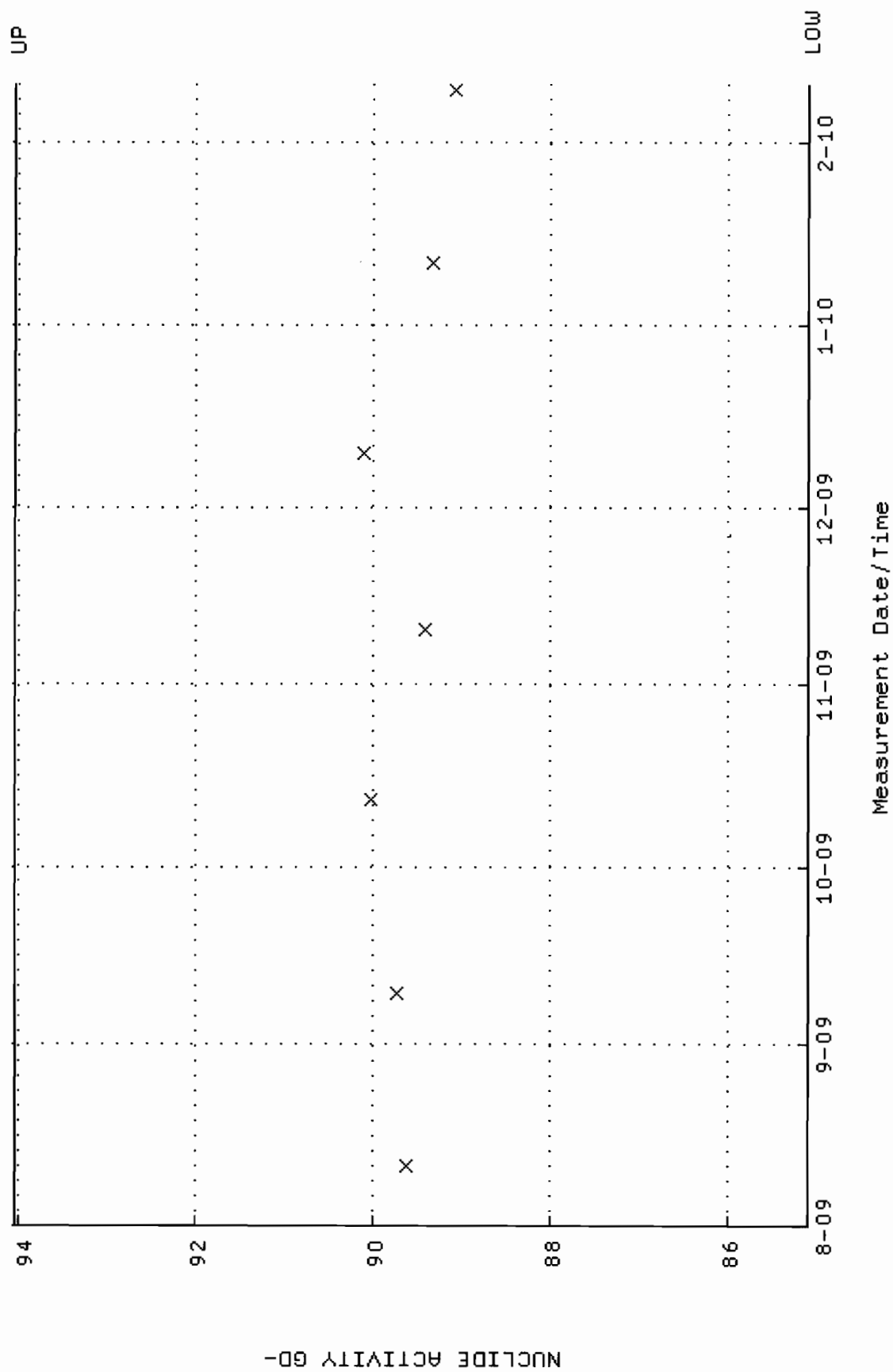
QA filename : DKA100:[ENV_ALPHA.QA.W]W065.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.8638 through 96.0074



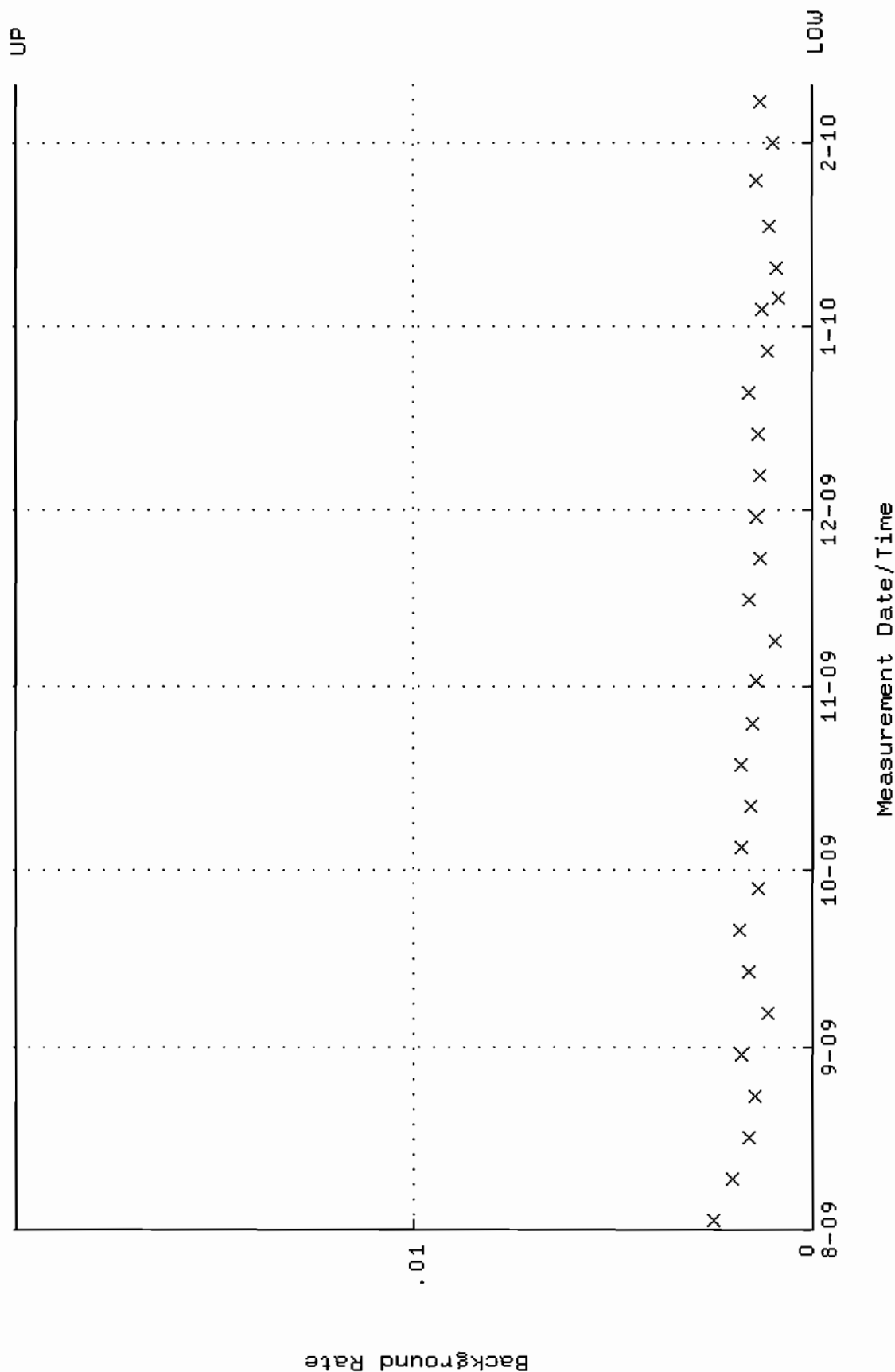
QA filename : DKA100:[ENV_ALPHA.QA.W]W066.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.300416 through 0.320416



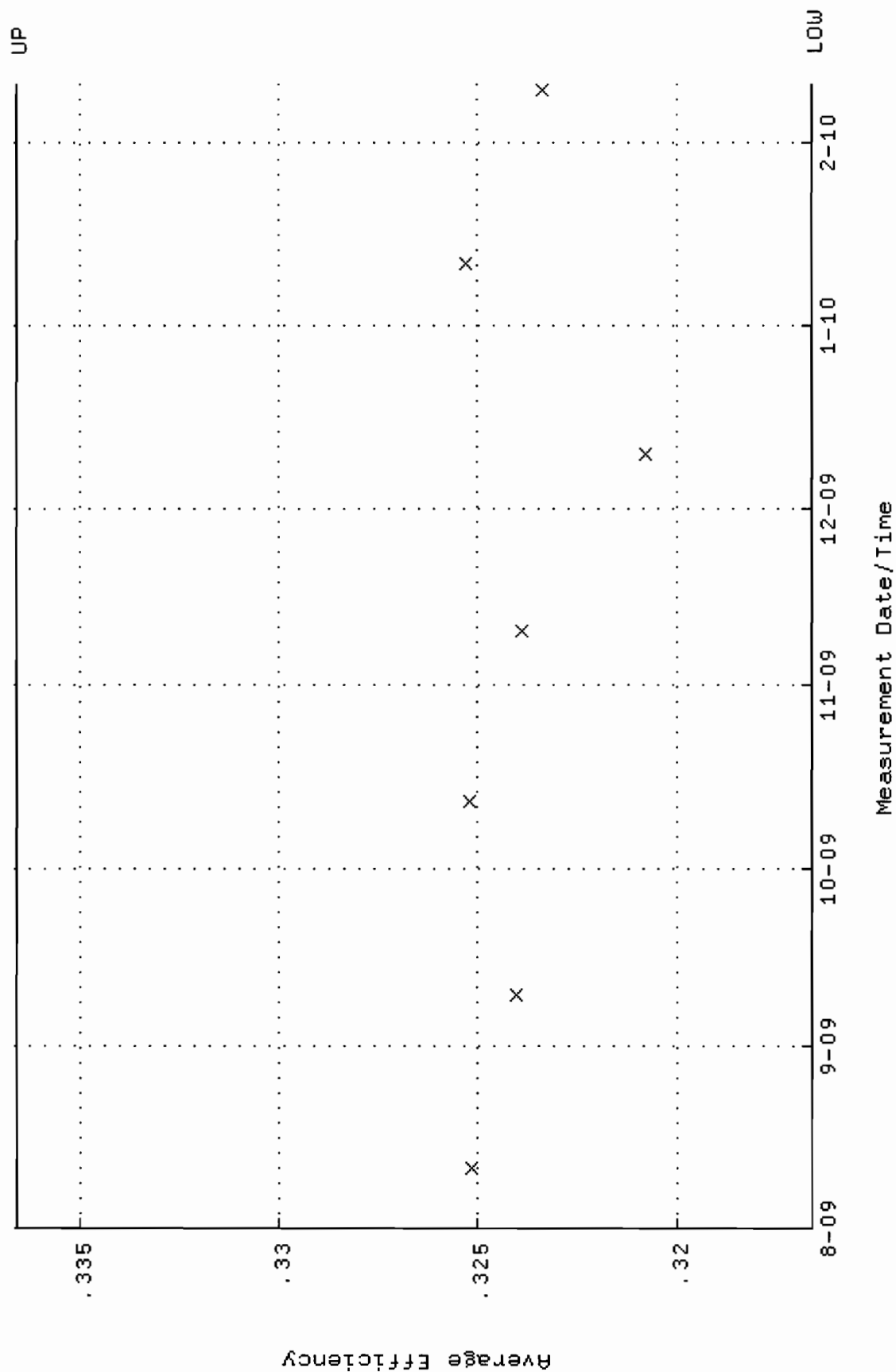
QA filename : DKA100:[ENV_ALPHA.QA.W]W066.QAF;4
 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.0864 through 94.0428



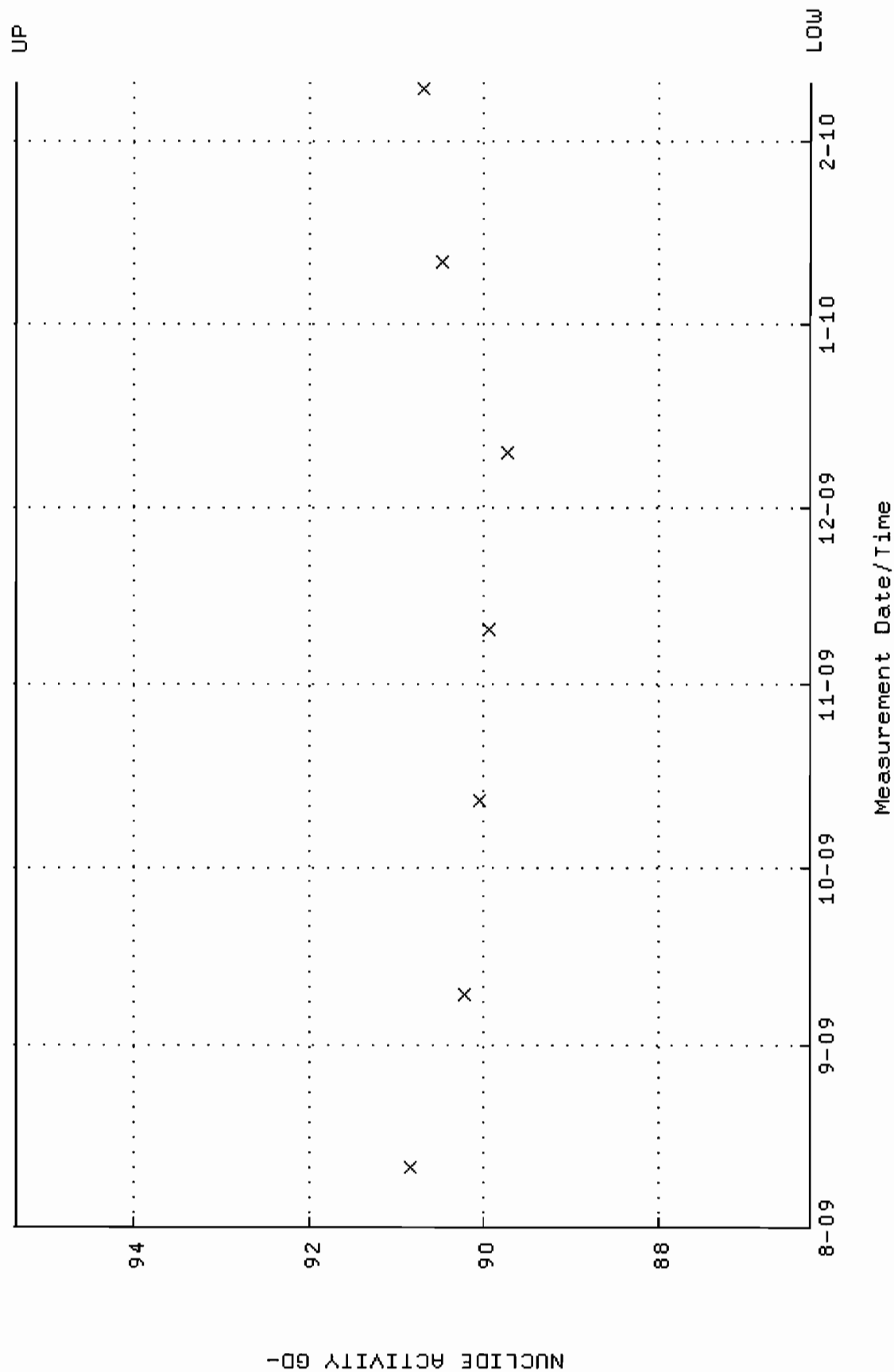
QA filename : DKA100:[ENV_ALPHA.QA.B]B066.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:38 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



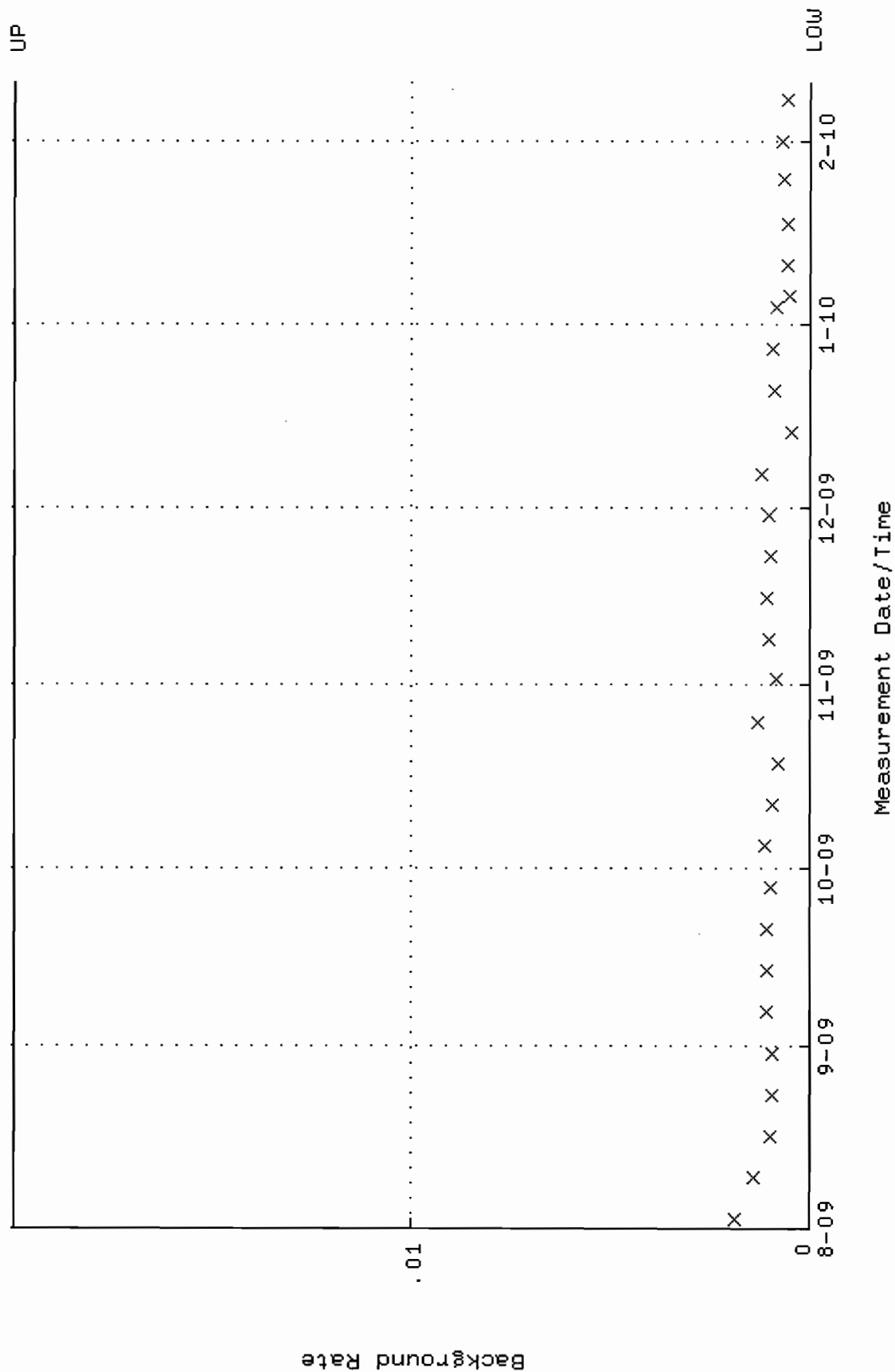
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.316597 through 0.336597



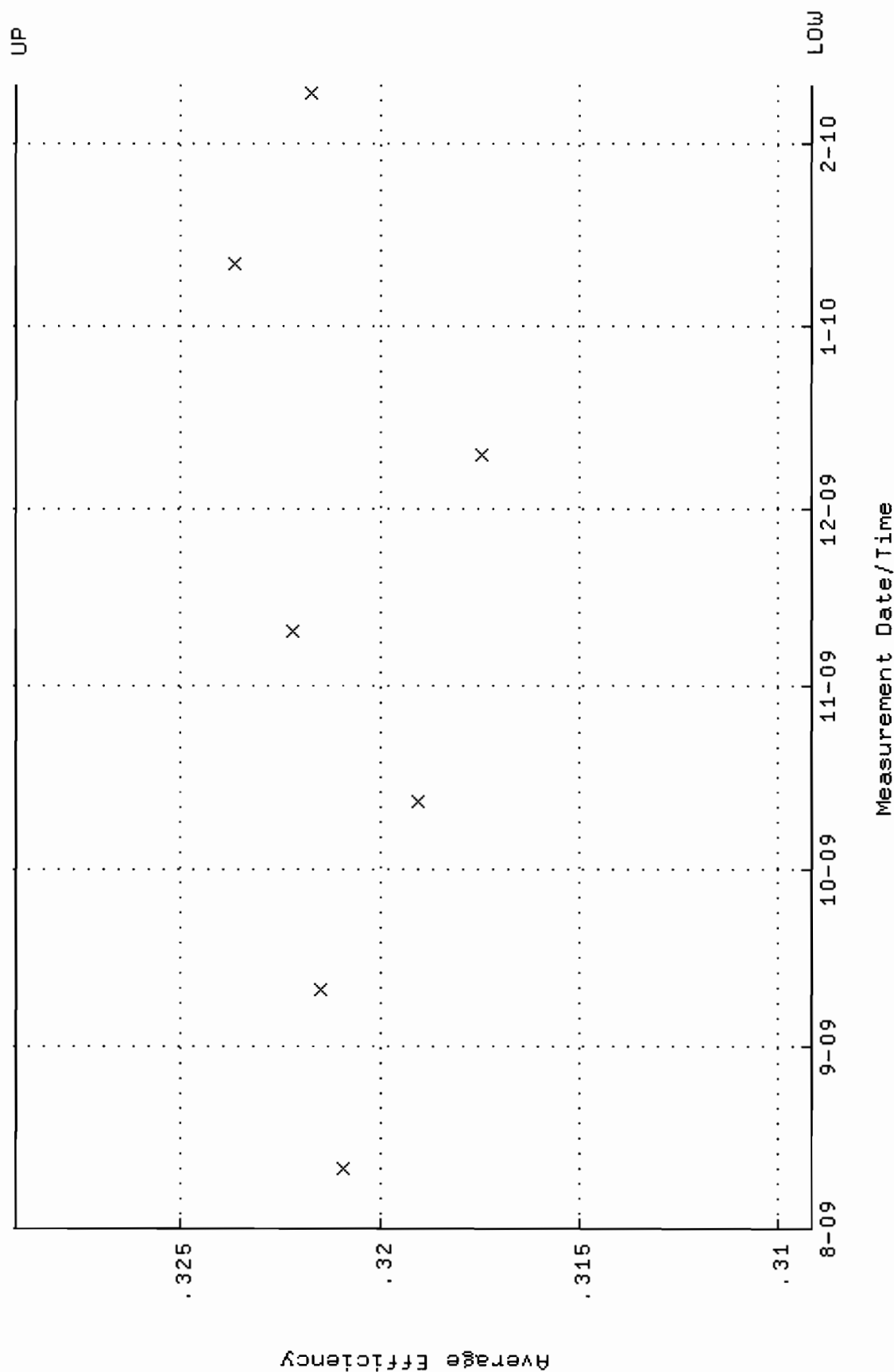
QA filename : DKA100:[ENV_ALPHA.QA.W]W067.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:10 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.2683 through 95.3491



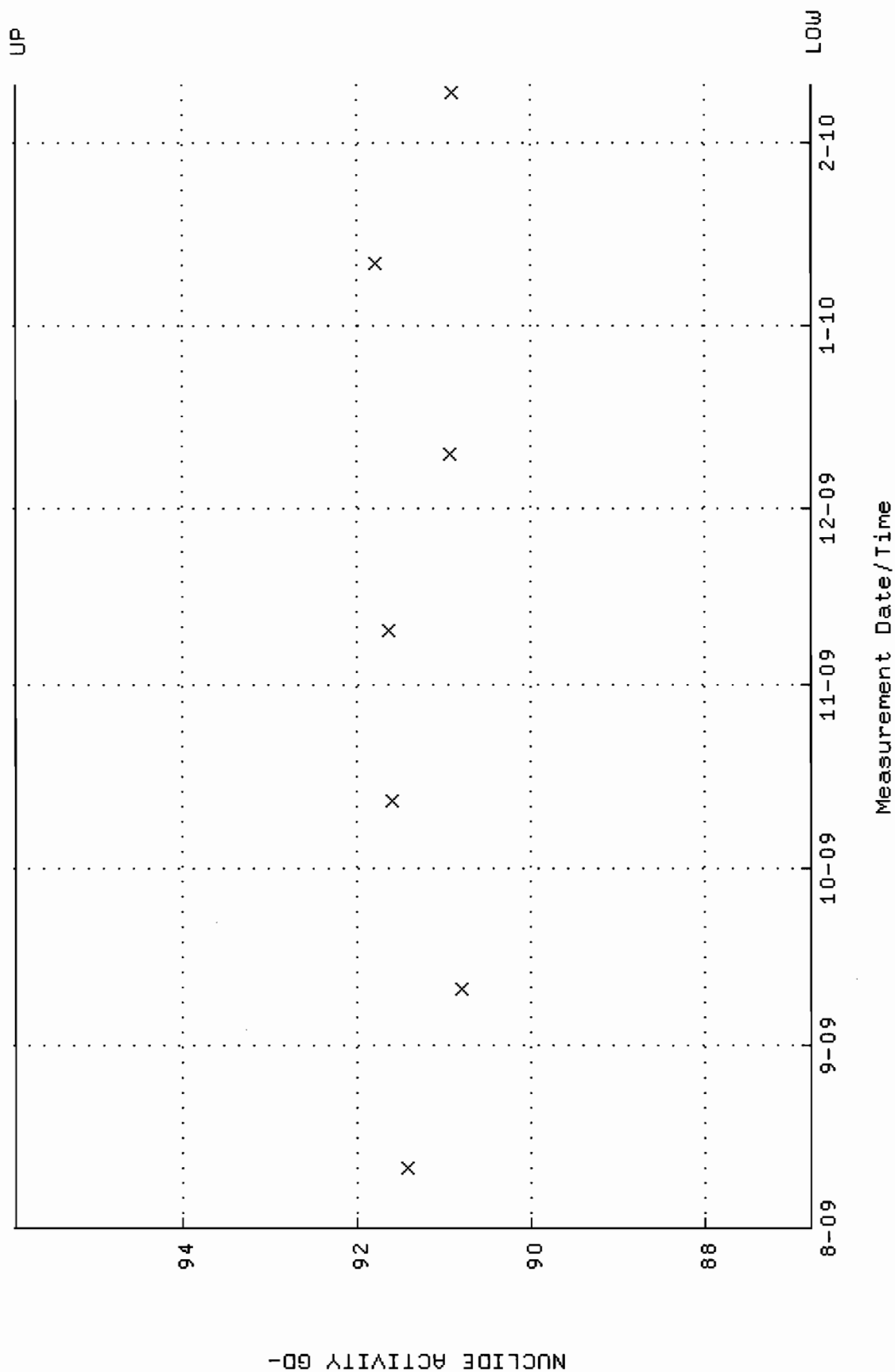
QA filename : DKA100:[ENV_ALPHA.QA.B]B067.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:38 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



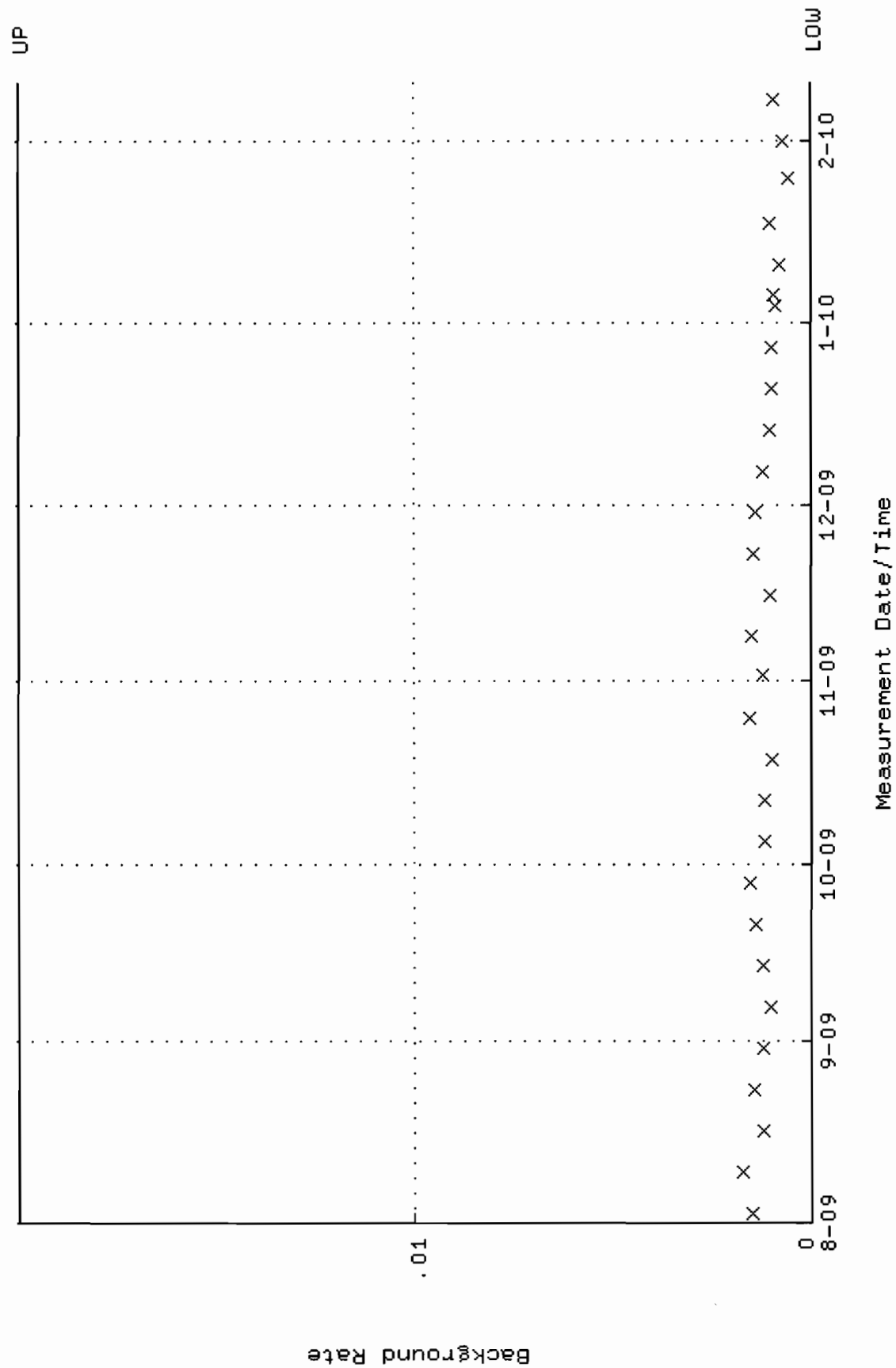
QA filename : DKA100:[ENV_ALPHA.QA.w]w071.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.309161 through 0.329161



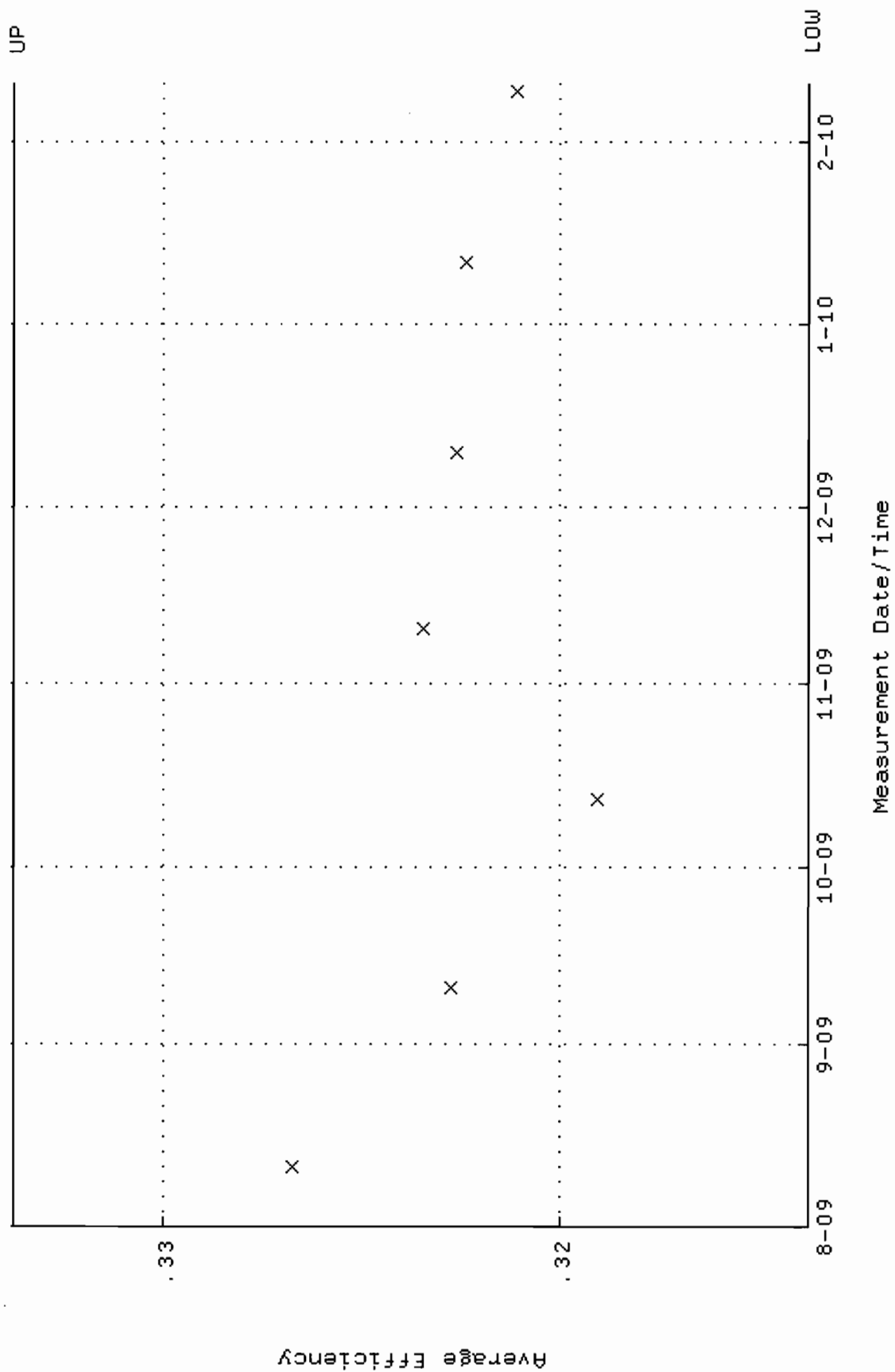
QA filename : DKA100:[ENV_ALPHA.QA.W]W071.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.7769 through 95.9113



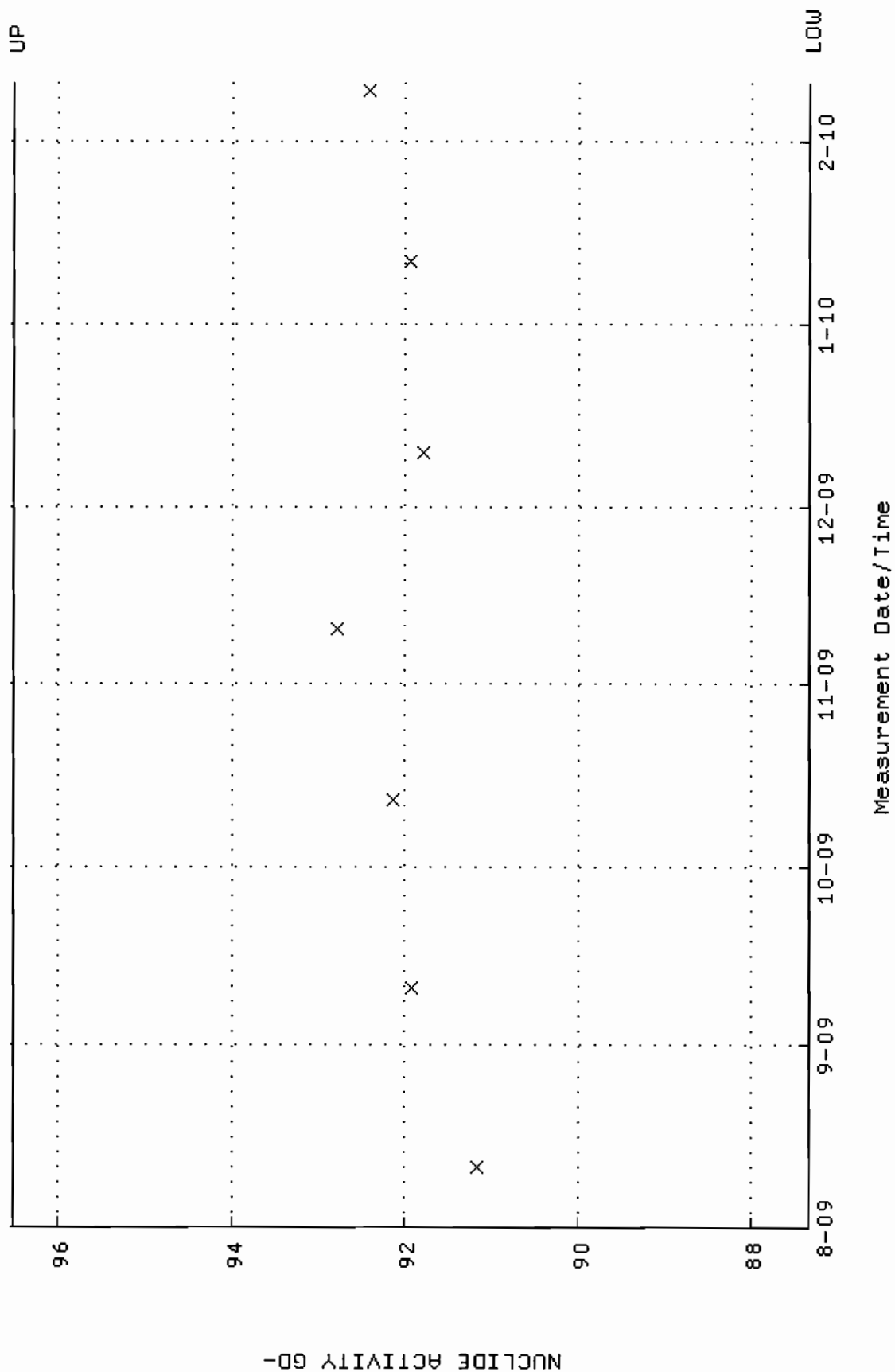
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QA filename      : DKA100:[ENV_ALPHA.QA.B]B071.QAF;1
Parameter Name   : BACKRATE (Background Rate)
Start/End Dates  : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02
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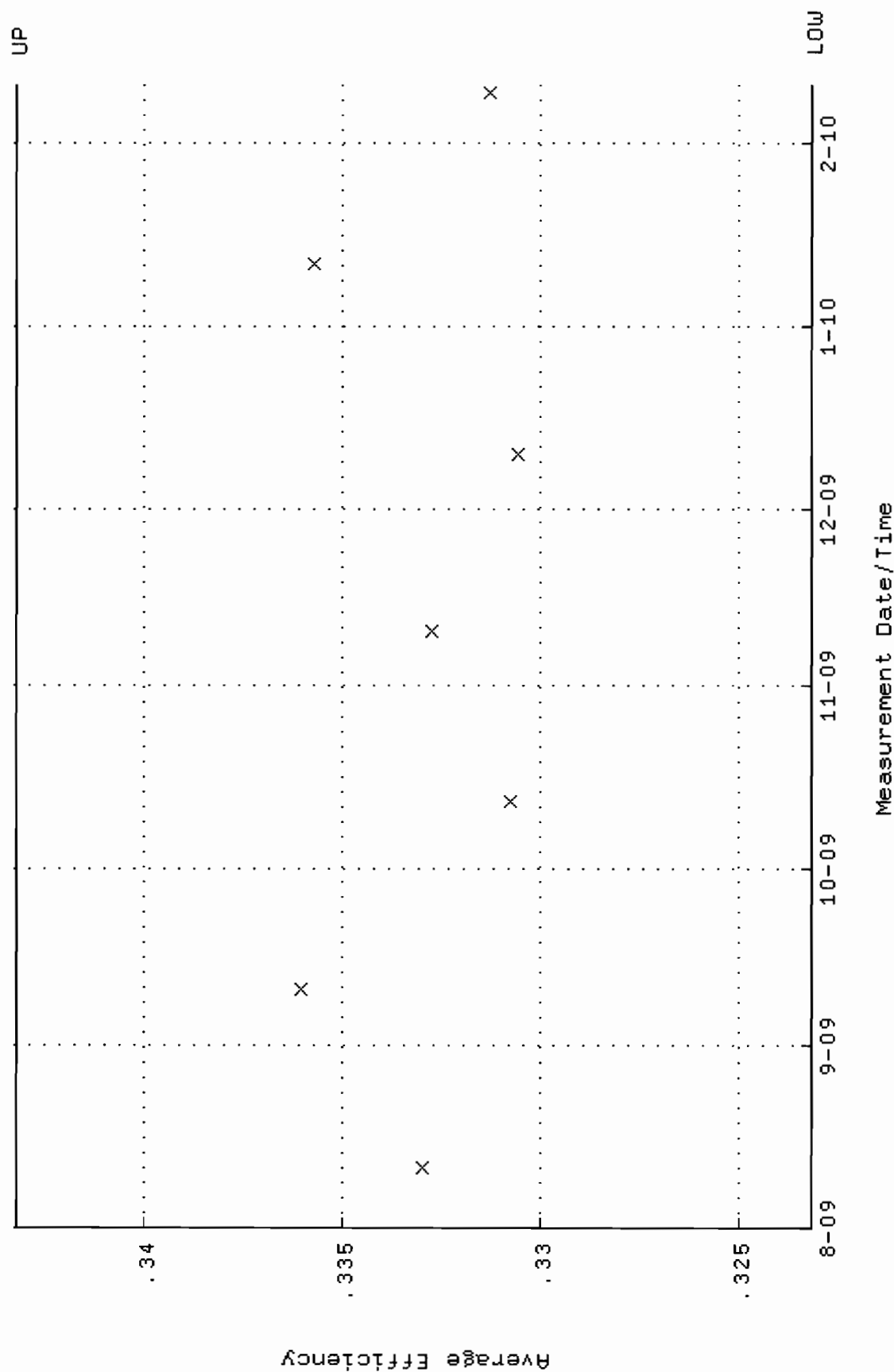
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.313761 through 0.333761



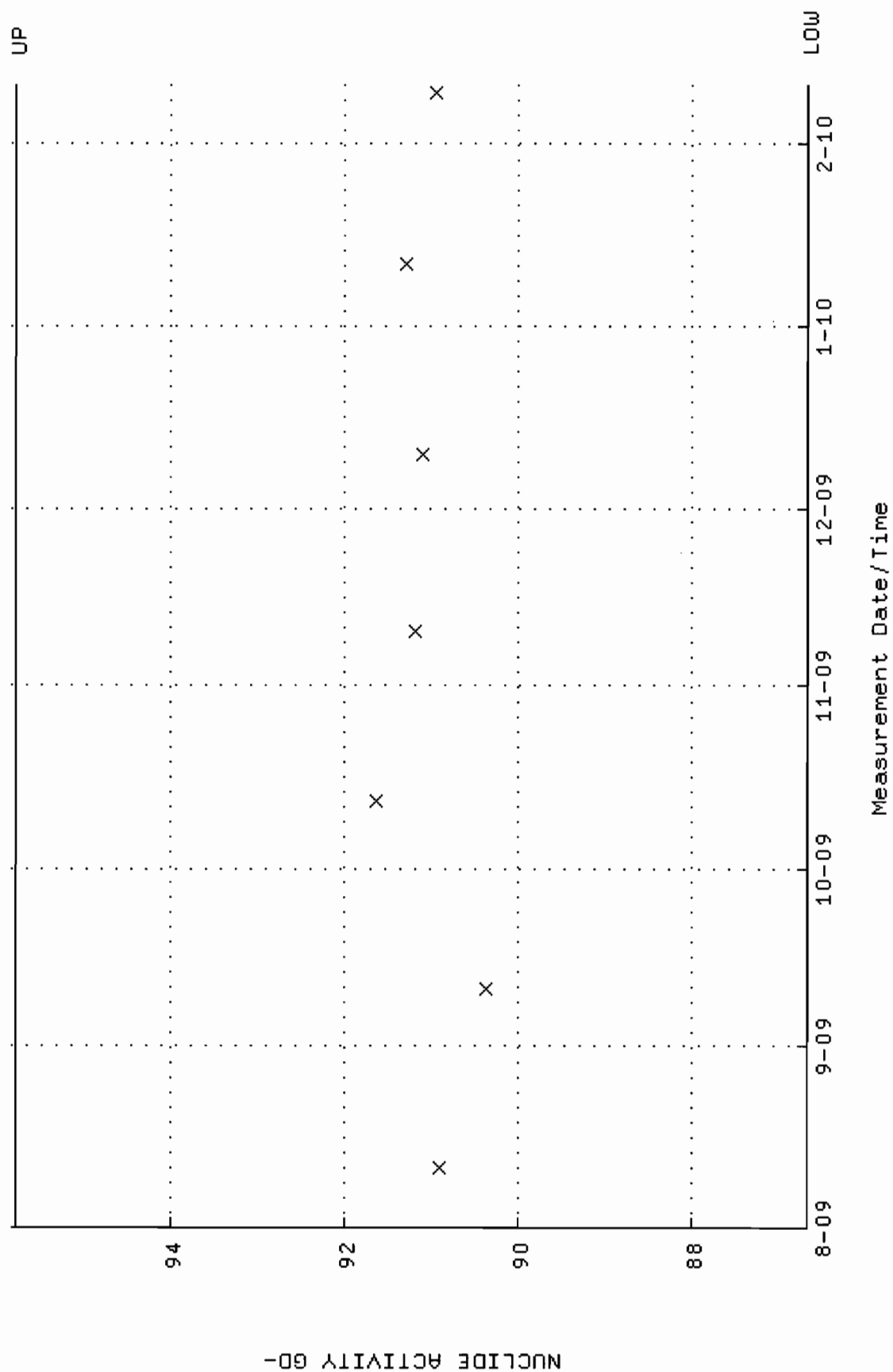
QA filename : DKA100:[ENV_ALPHA.QA.W]W072.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.3348 through 96.5280



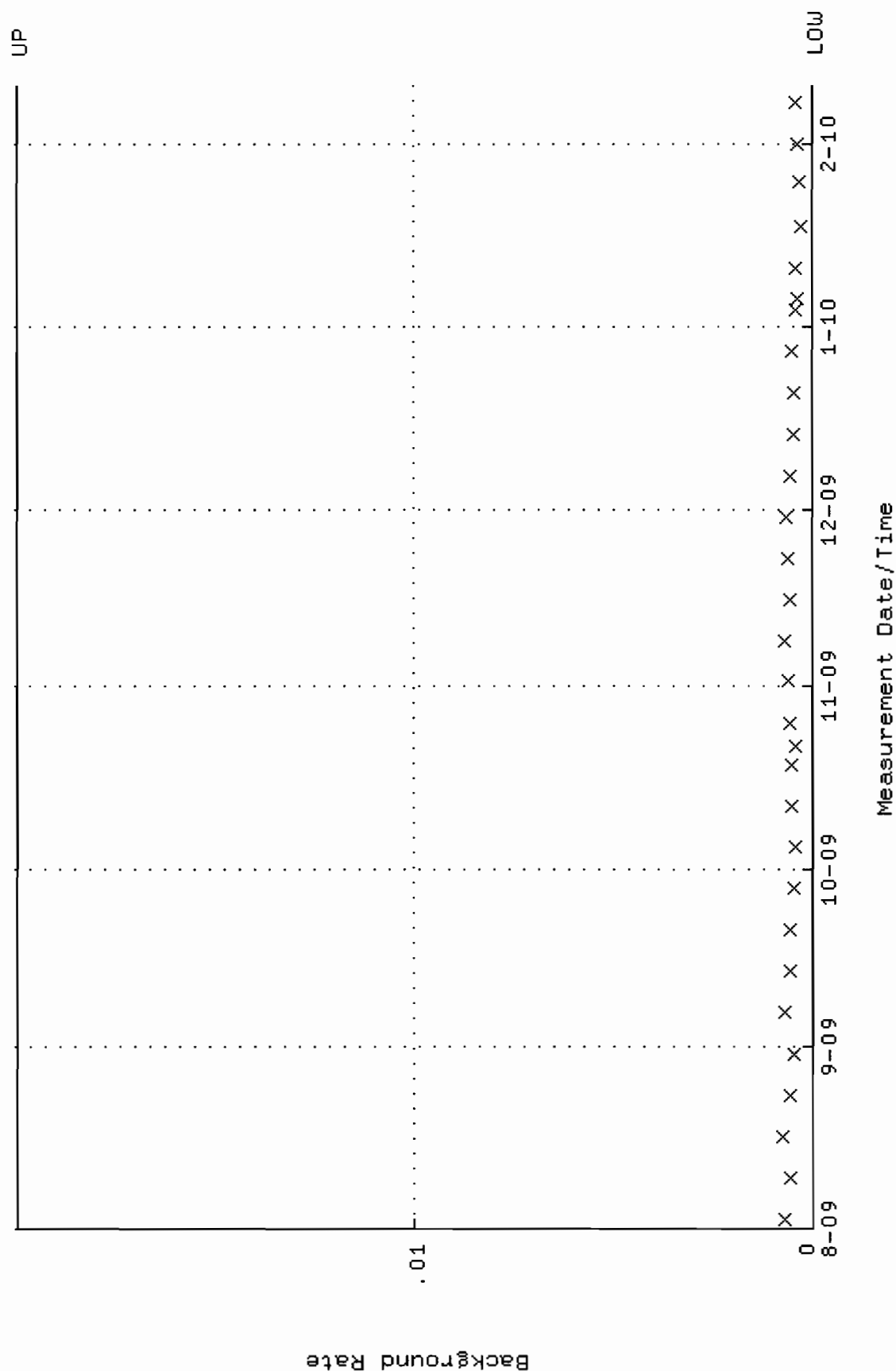
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.323184 through 0.343184



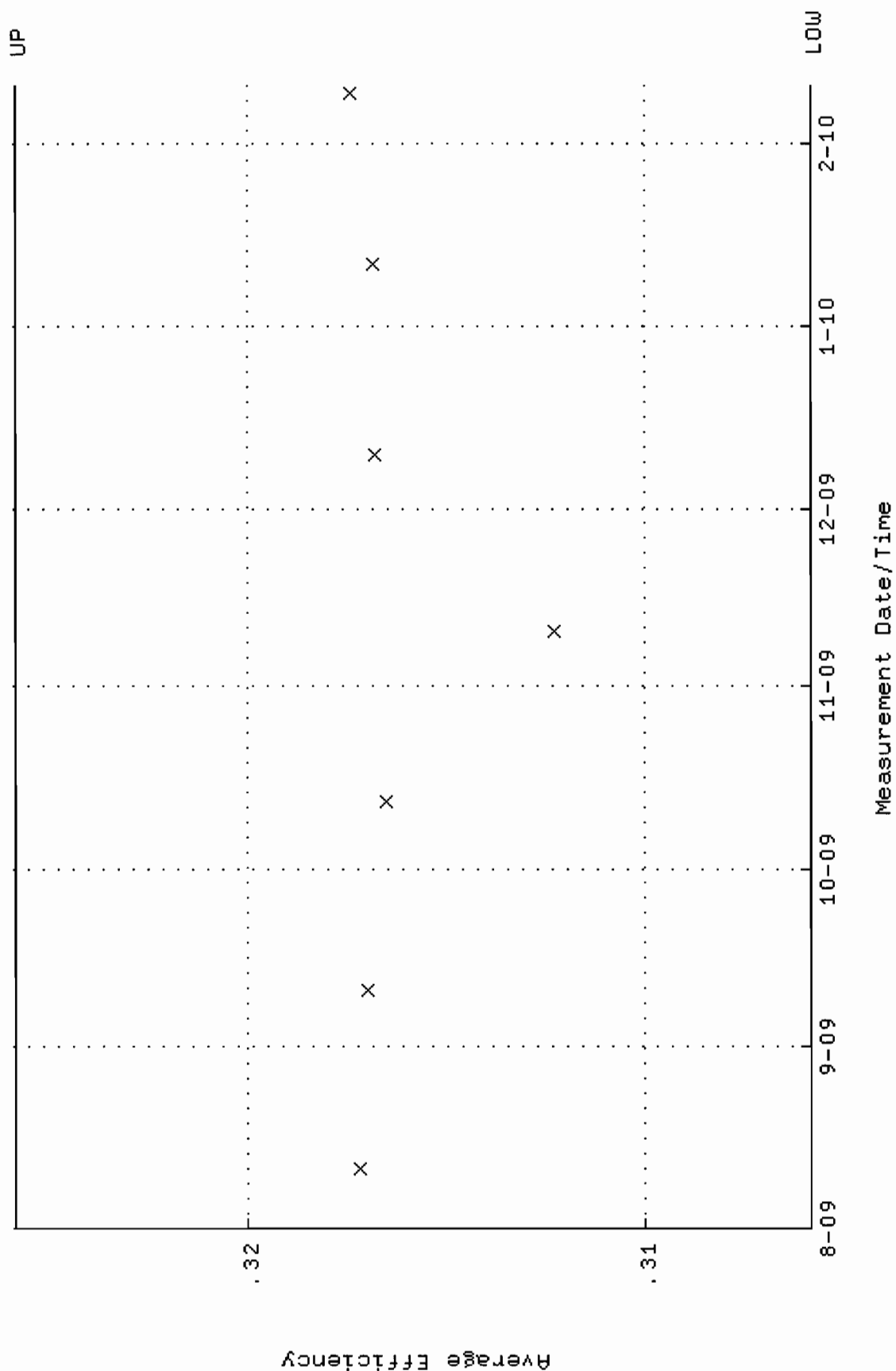
QA filename : DKA100:[ENV_ALPHA.QA.W]W073.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.6734 through 95.7970



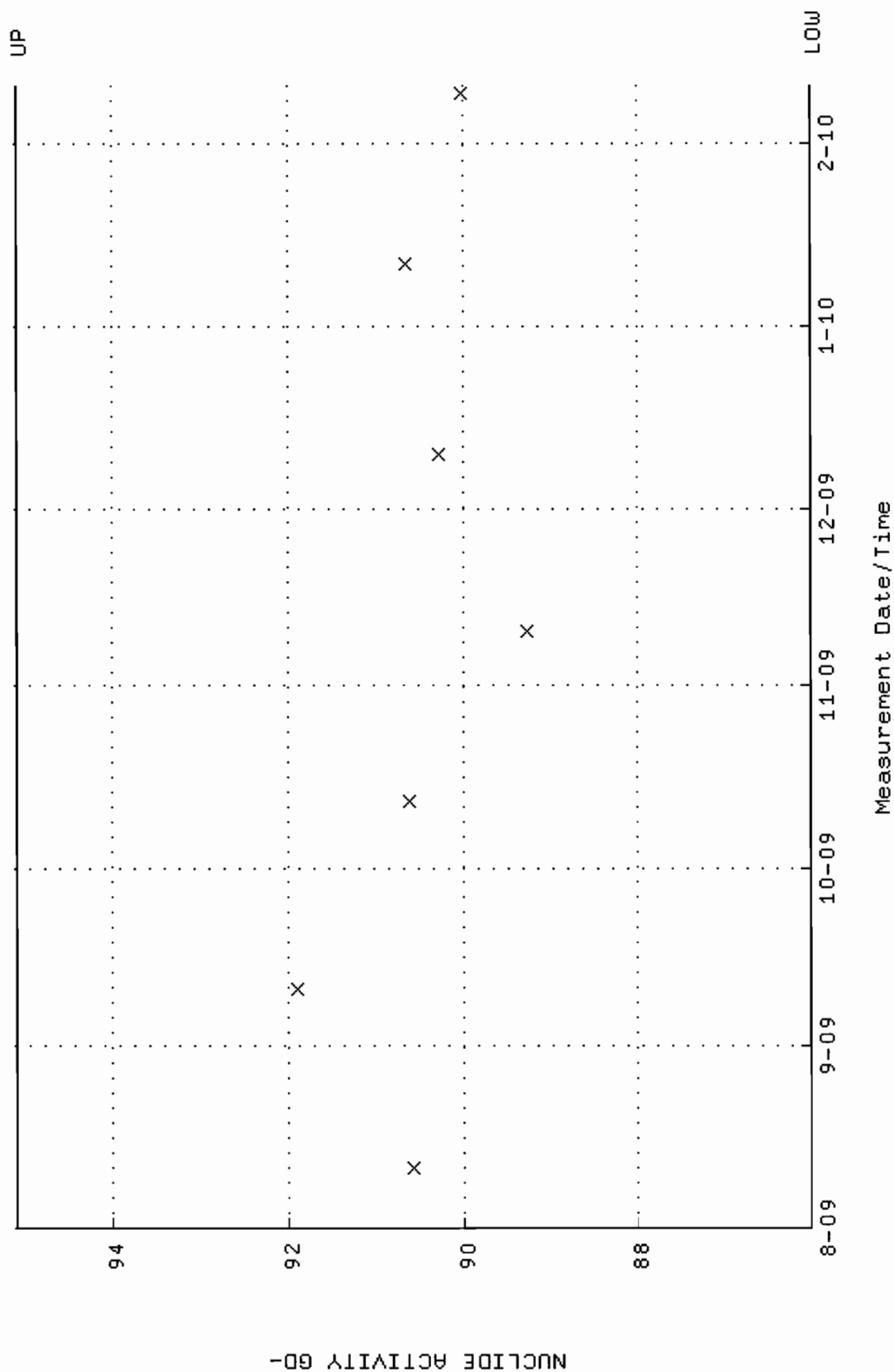
QA filename : DKA100:[ENV_ALPHA.QA.B]B073.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



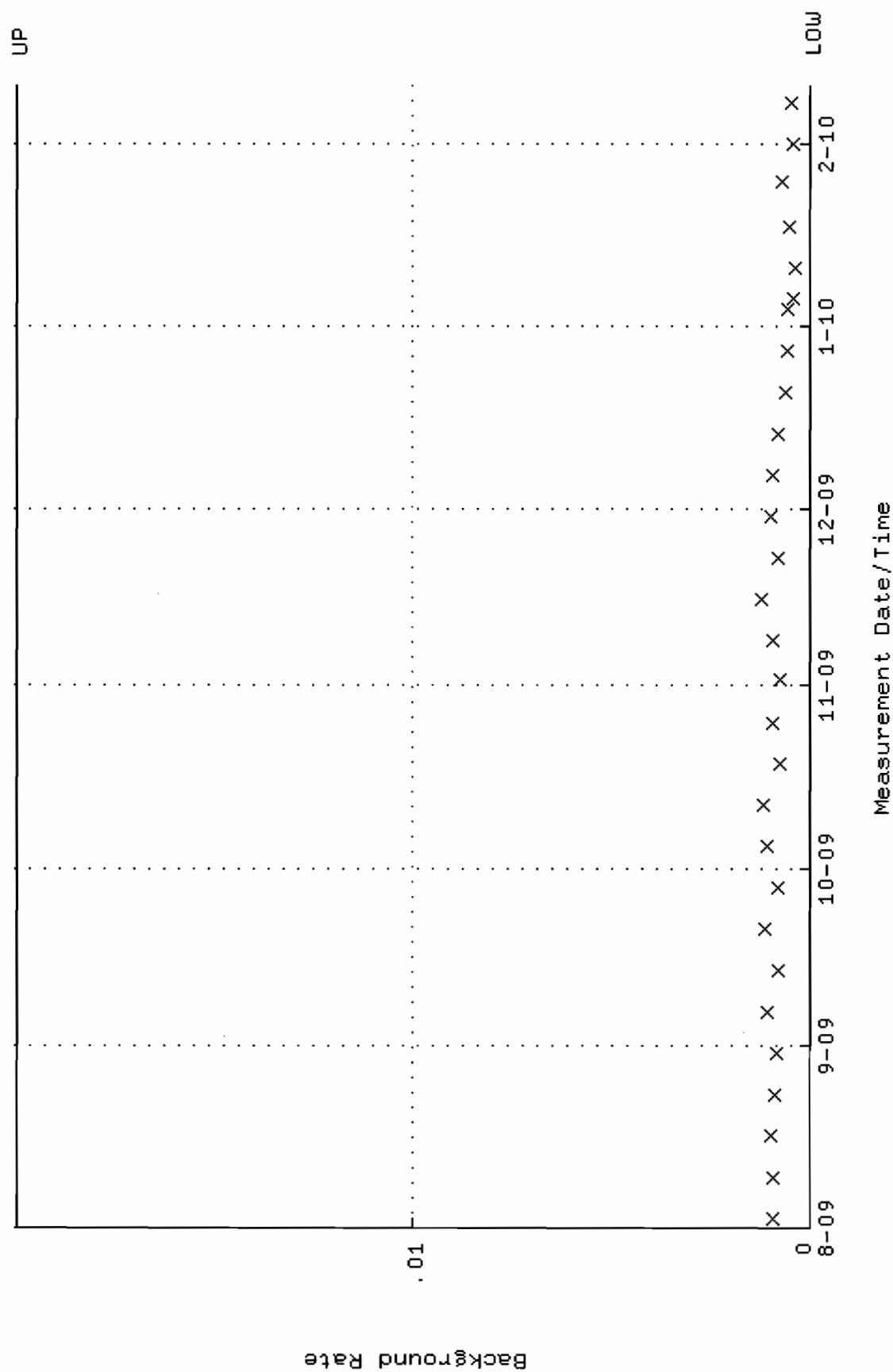
QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.305830 through 0.325830



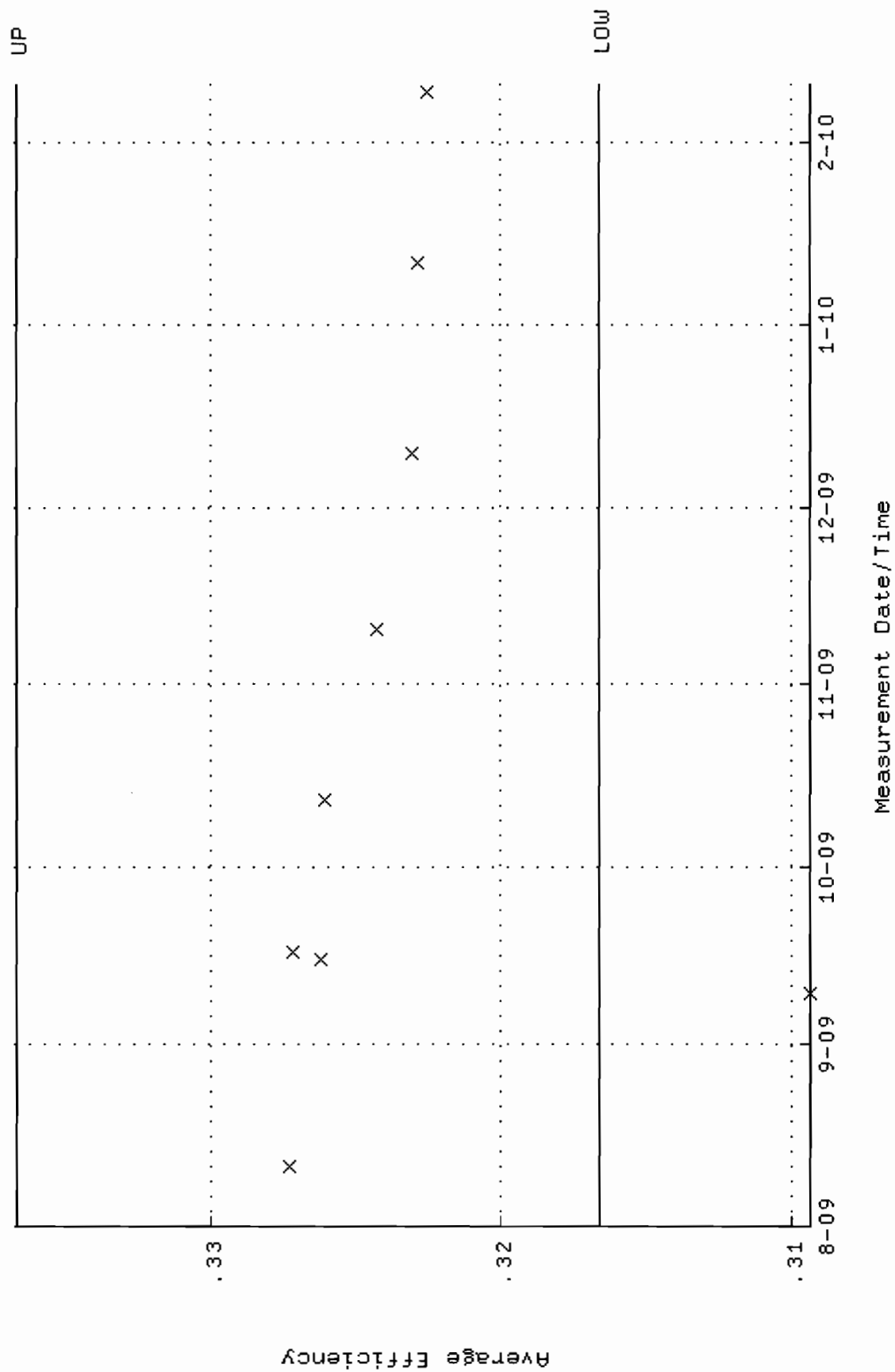
QA filename : DKA100:[ENV_ALPHA.QA.W]W074.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:11 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.0289 through 95.0845



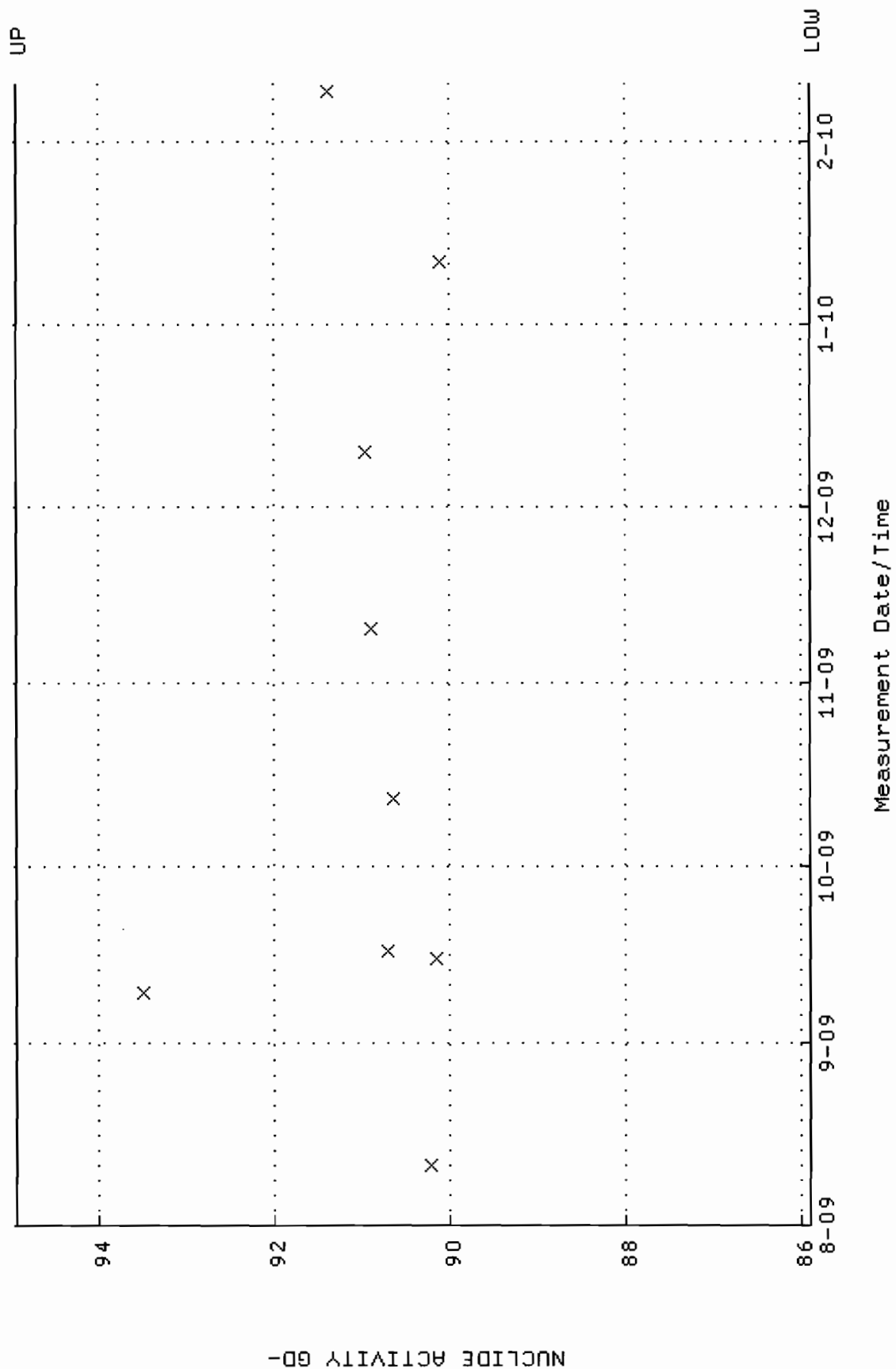
QA filename : DKA100:[ENV_ALPHA.QA.B]B074.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:39 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



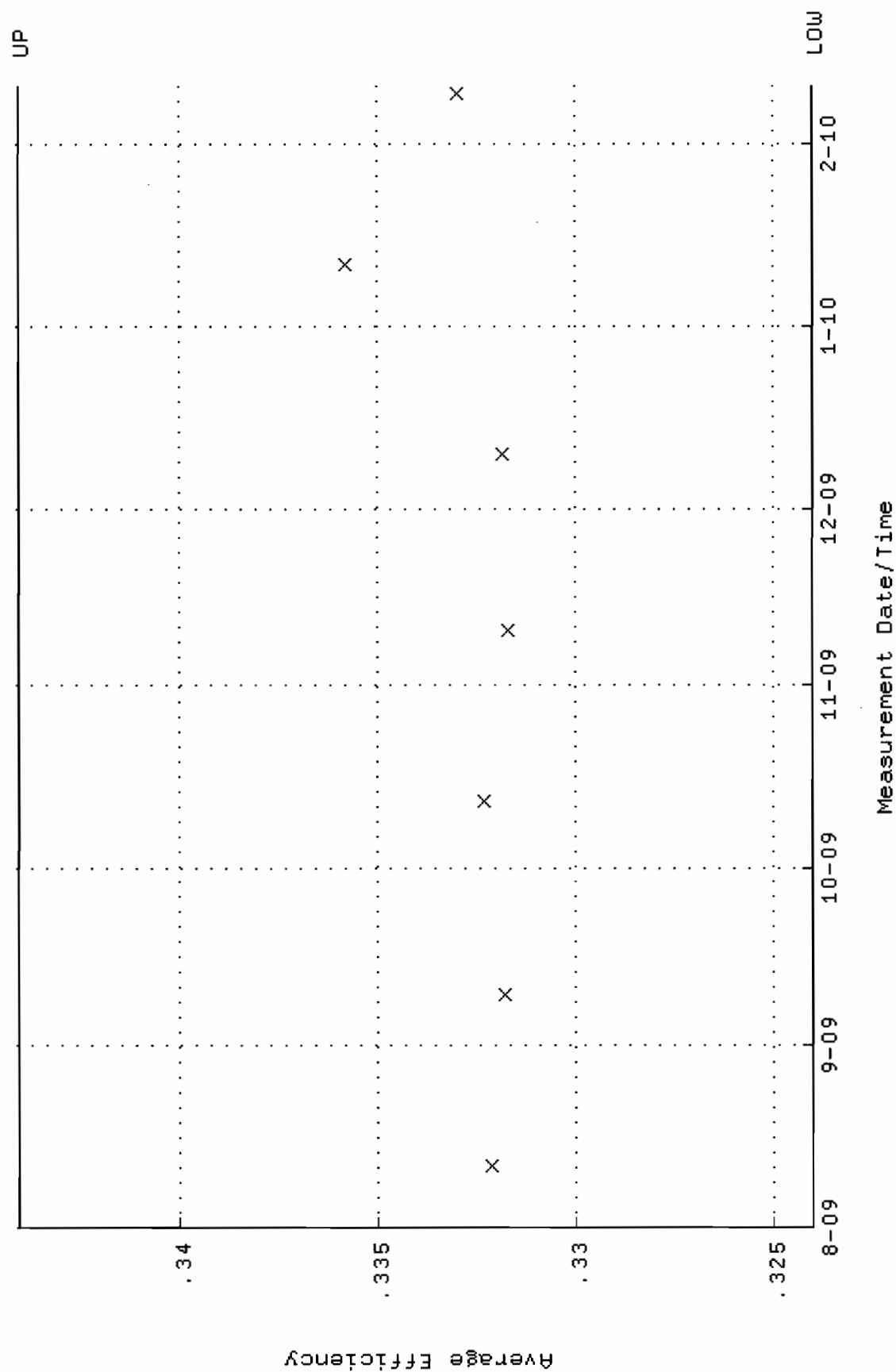
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.316654 through 0.336654



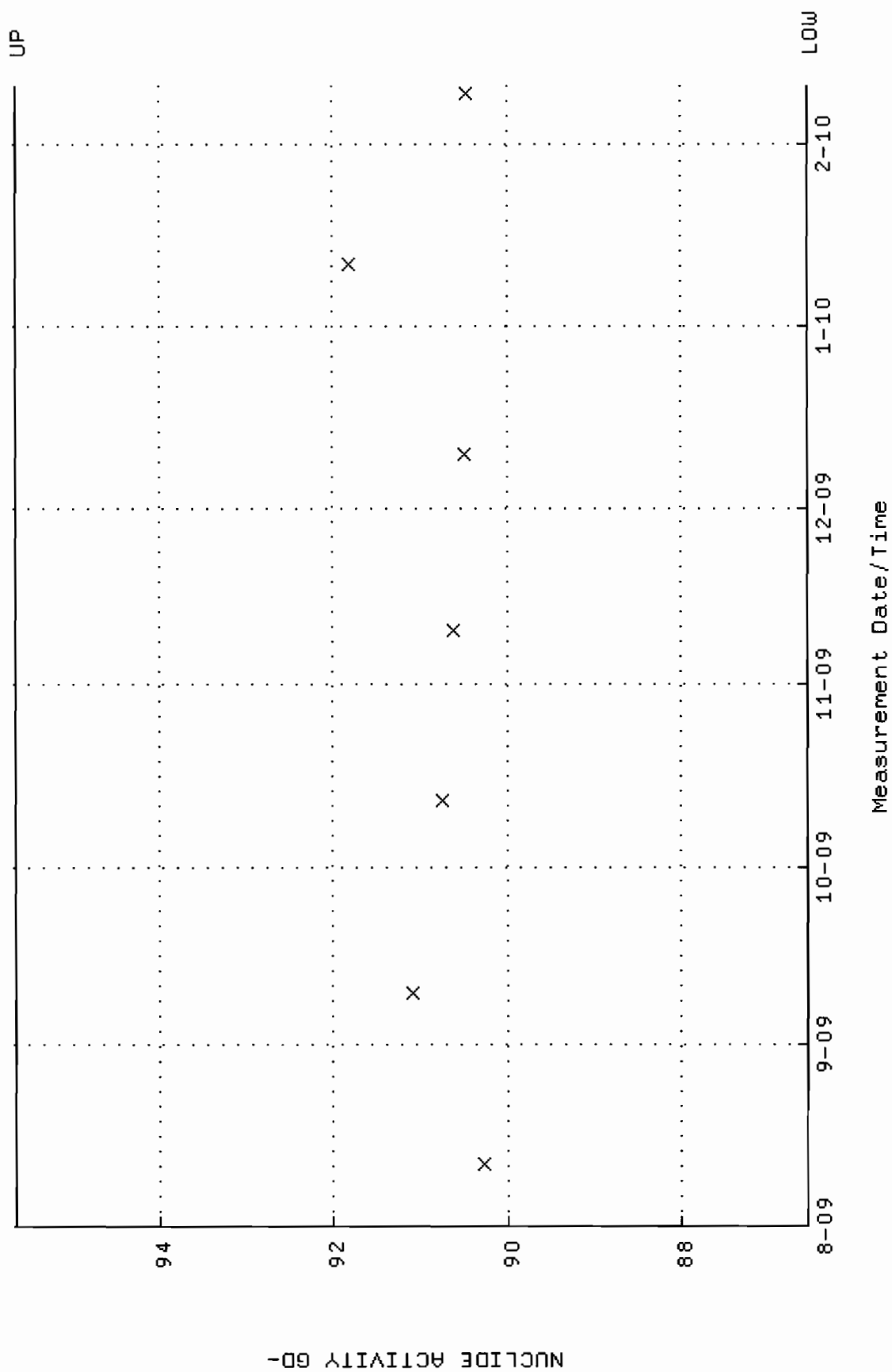
QA filename : DKA100:[ENV_ALPHA.QA.W]W079.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8913 through 94.9325



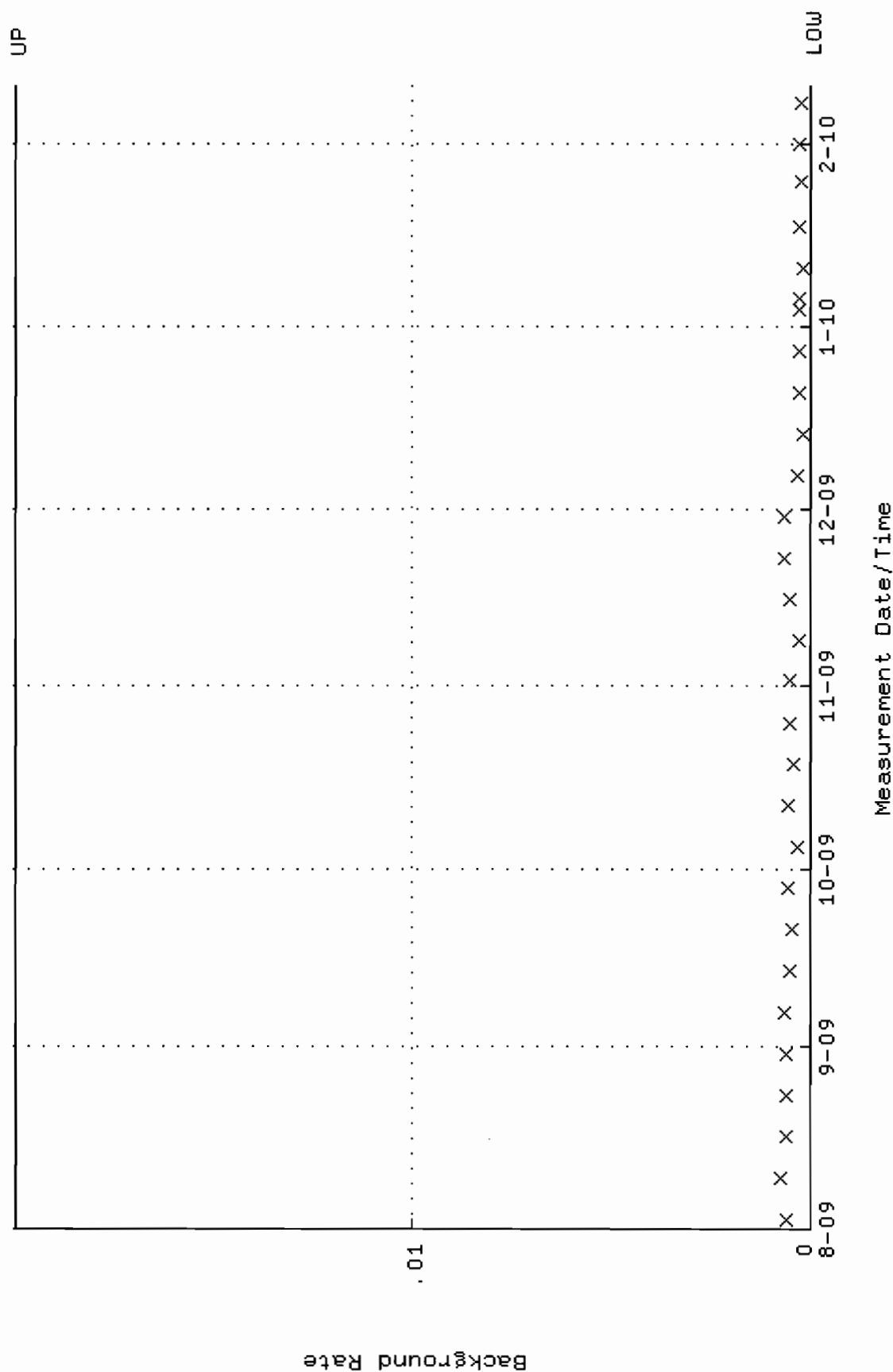
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 12:17:29 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.324032 through 0.344032



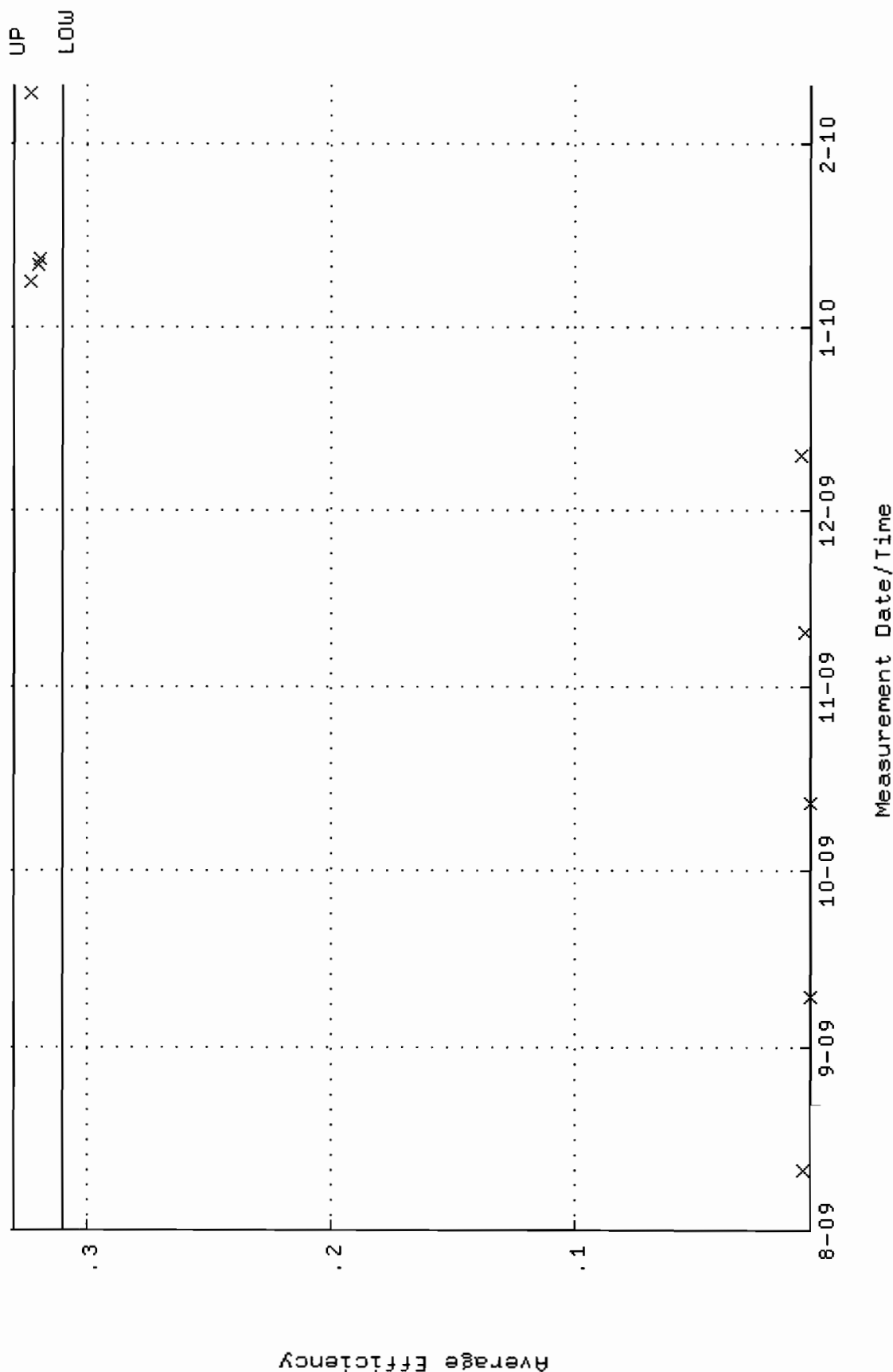
QA filename : DKA100:[ENV_ALPHA.QA.W]W080.QAF;4
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 11-AUG-2009 12:17:29 through 10-FEB-2010 12:00:00
Lower/Upper Lmts: 86.5393 through 95.6487



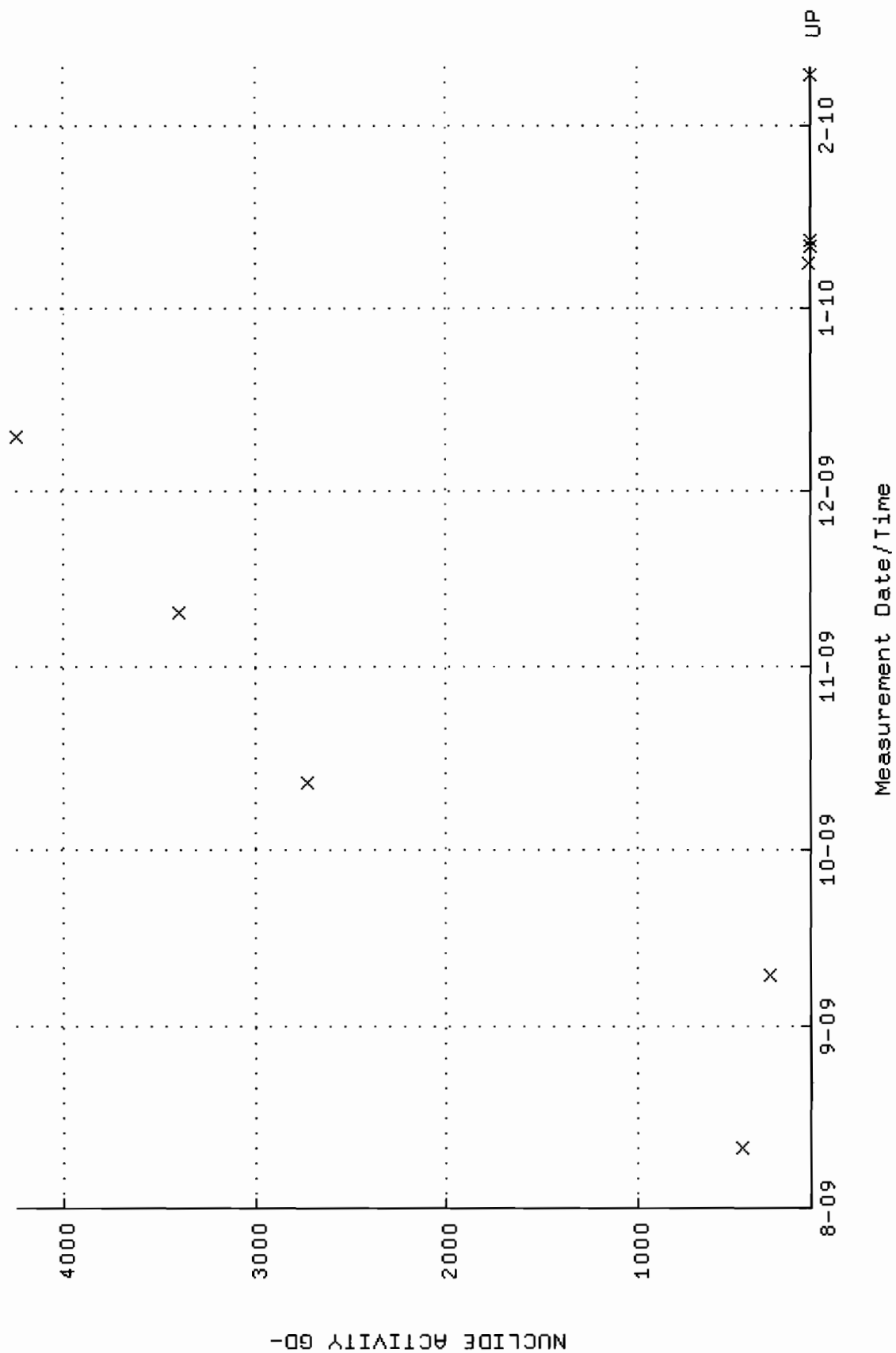
QA filename : DKA100:[ENV_ALPHA.QA.B]B080.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



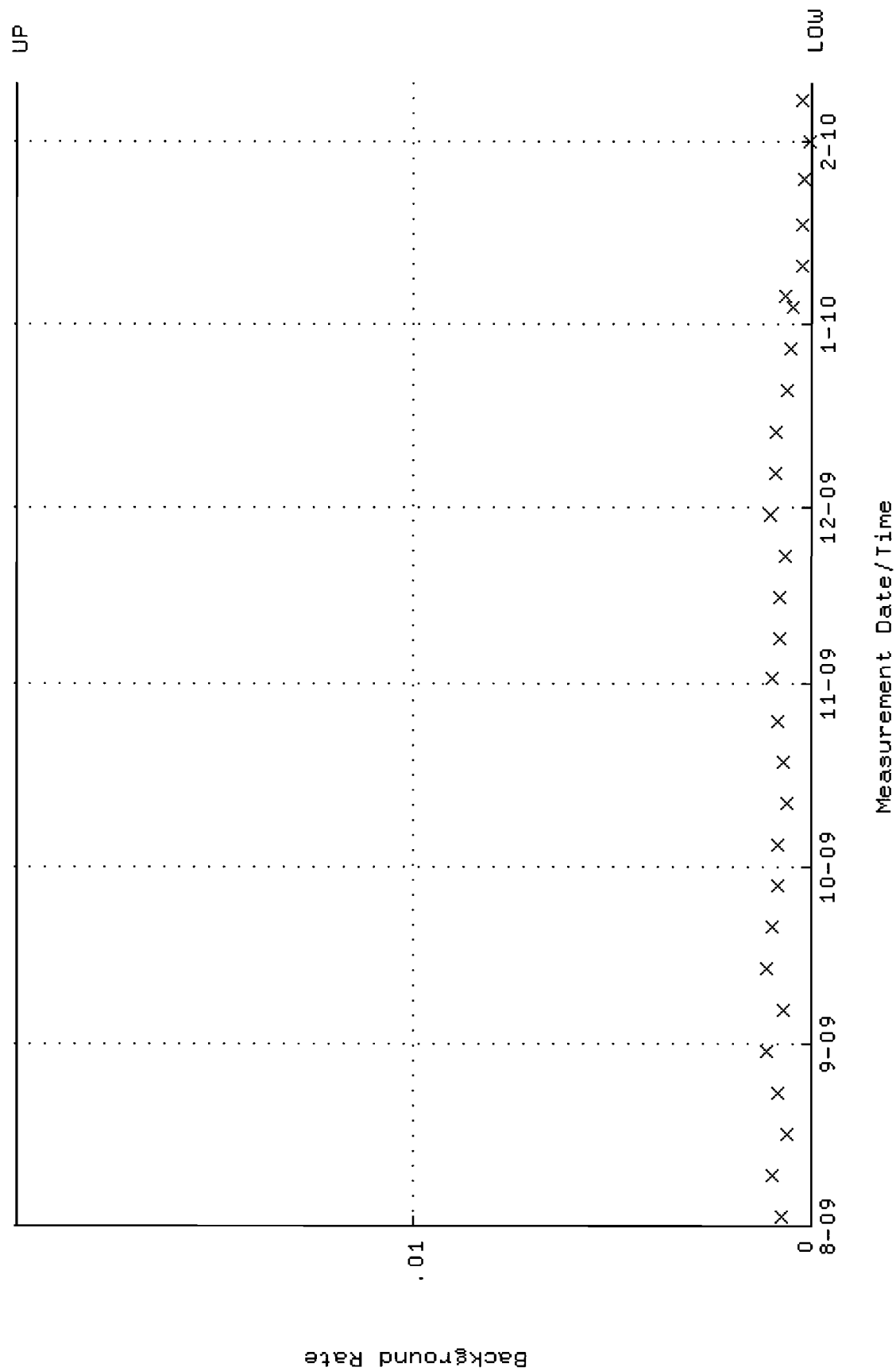
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.310202 through 0.330202



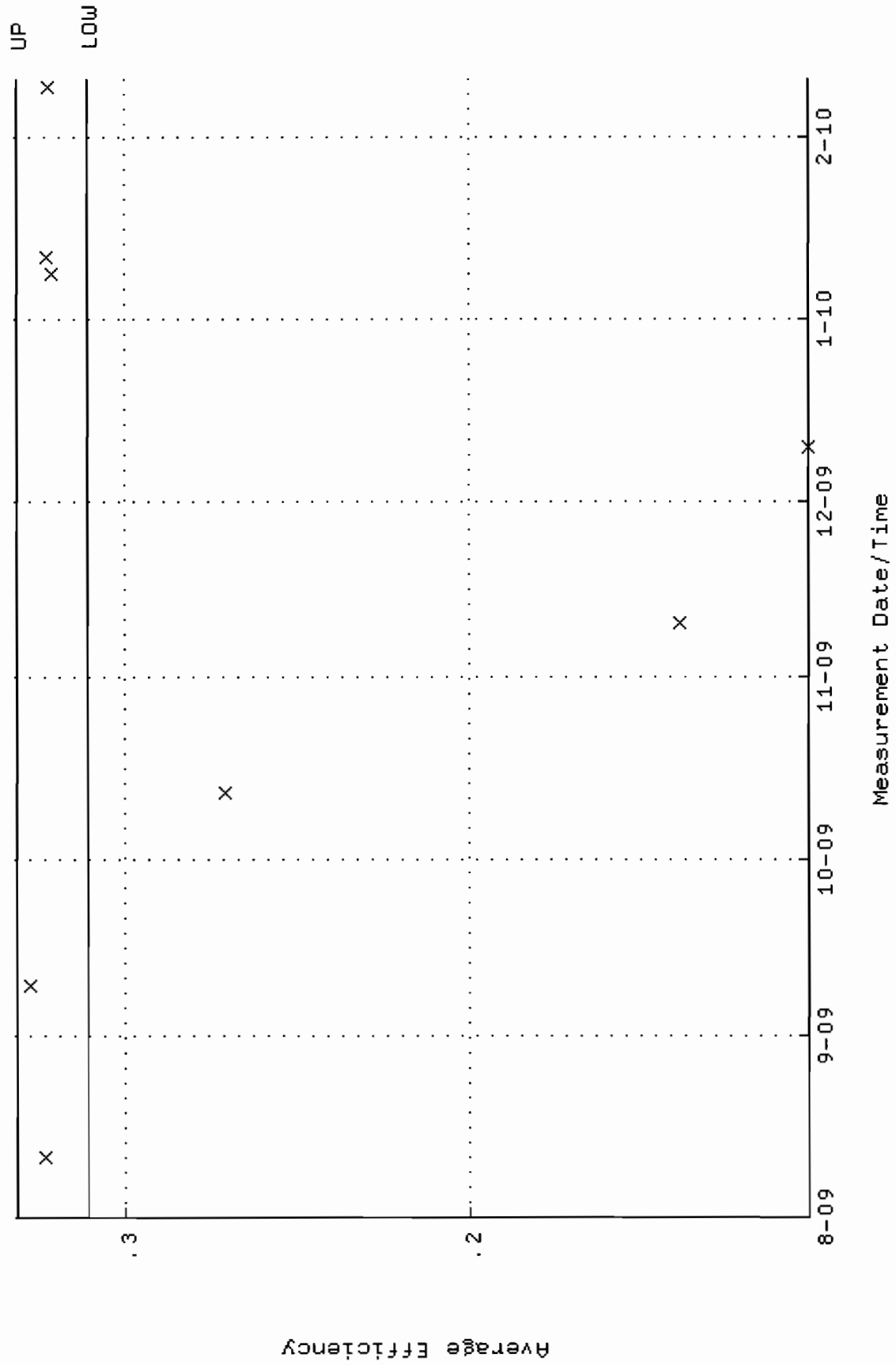
QA filename : DKA100:[ENV_ALPHA.QA.W]W081.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.2016 through 98.5912



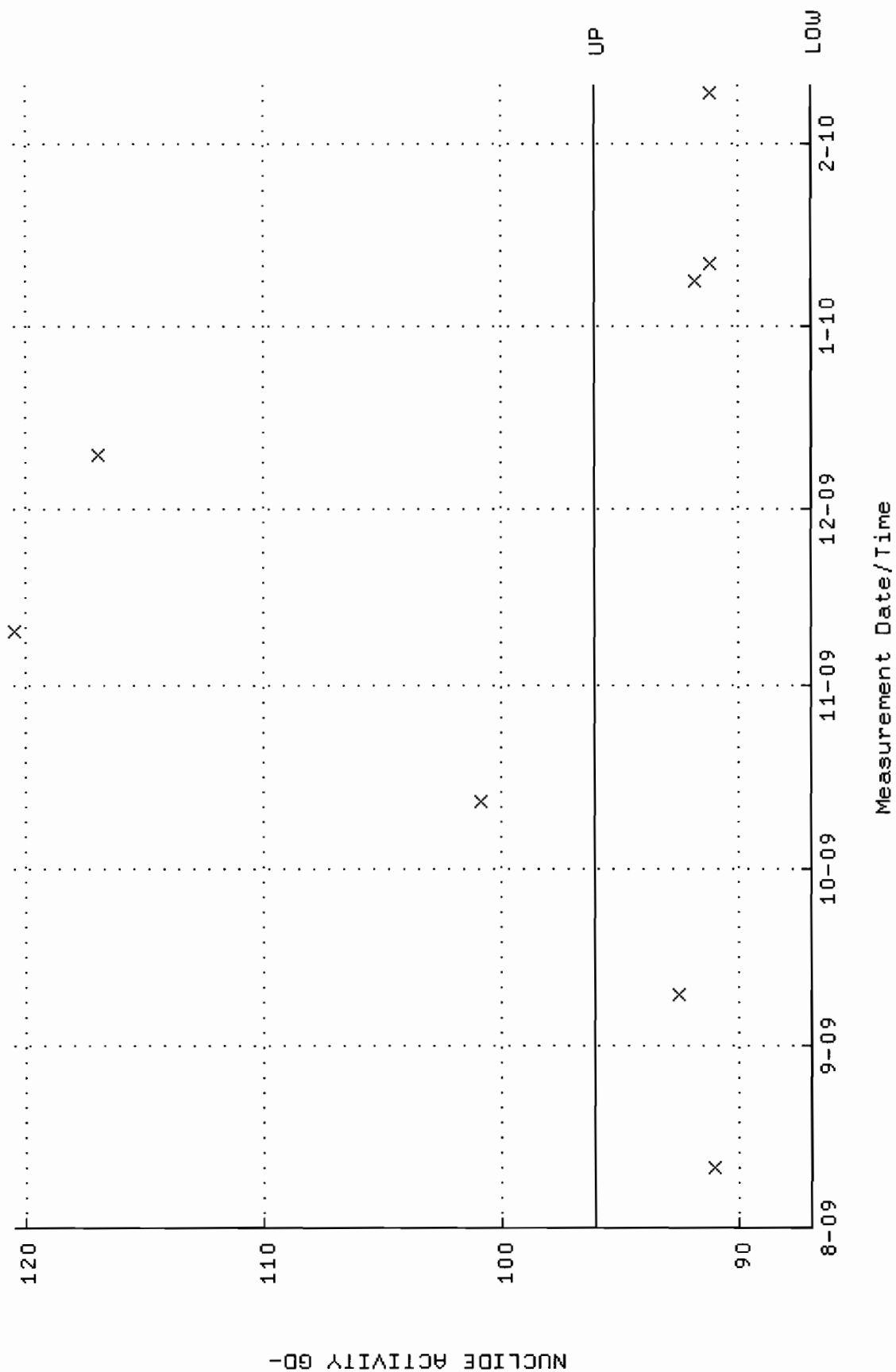
QA filename	: DKA100:[ENV_ALPHA.QA.B]B081.QAF;2
Parameter Name	: BACKRATE (Background Rate)
Start/End Dates	: 2-AUG-2009 17:38:40 through 10-FEE
Lower/Upper Lmts	: 0.000000E+00 through 2.000000E-02



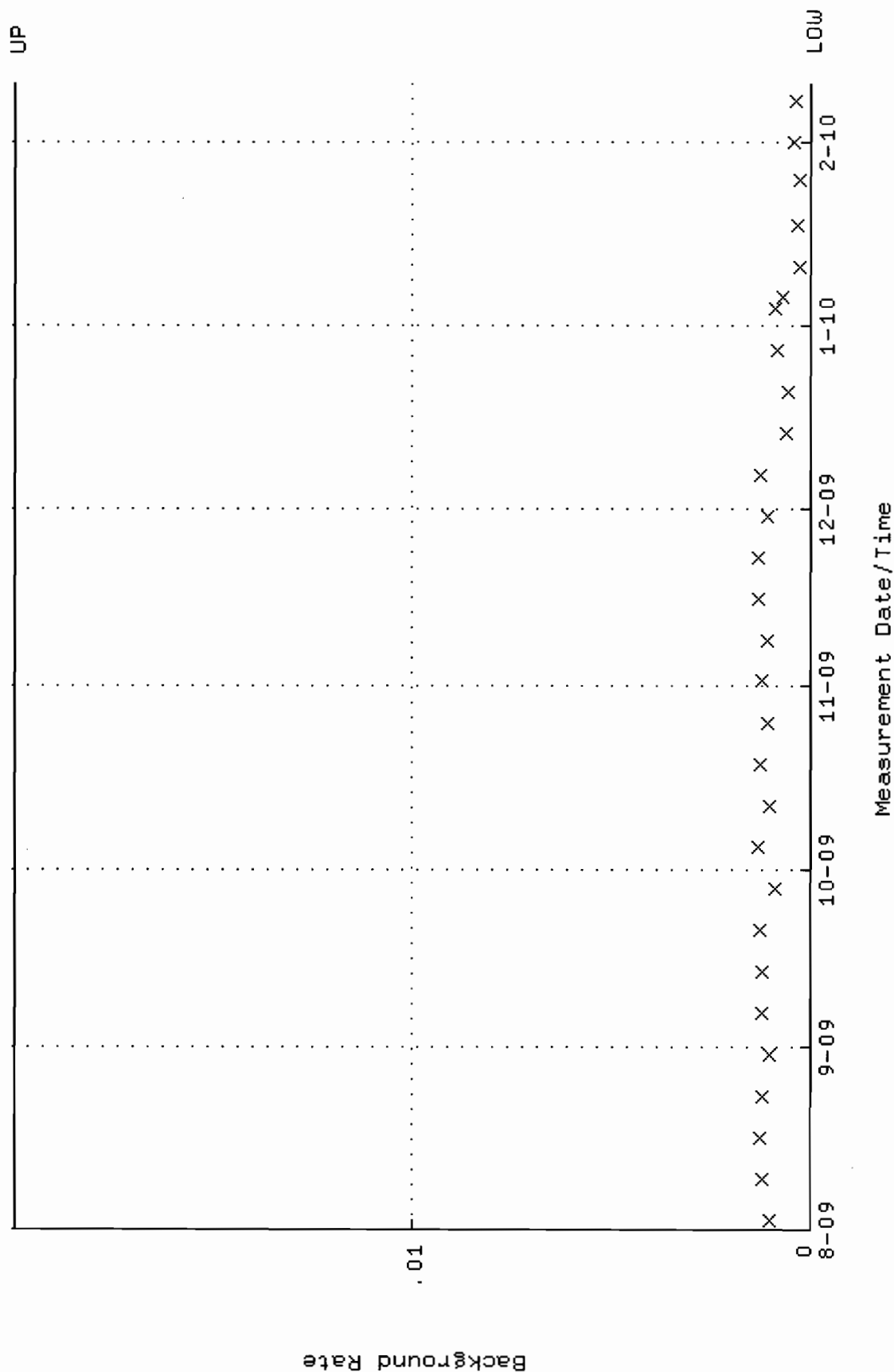
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.311357 through 0.331357



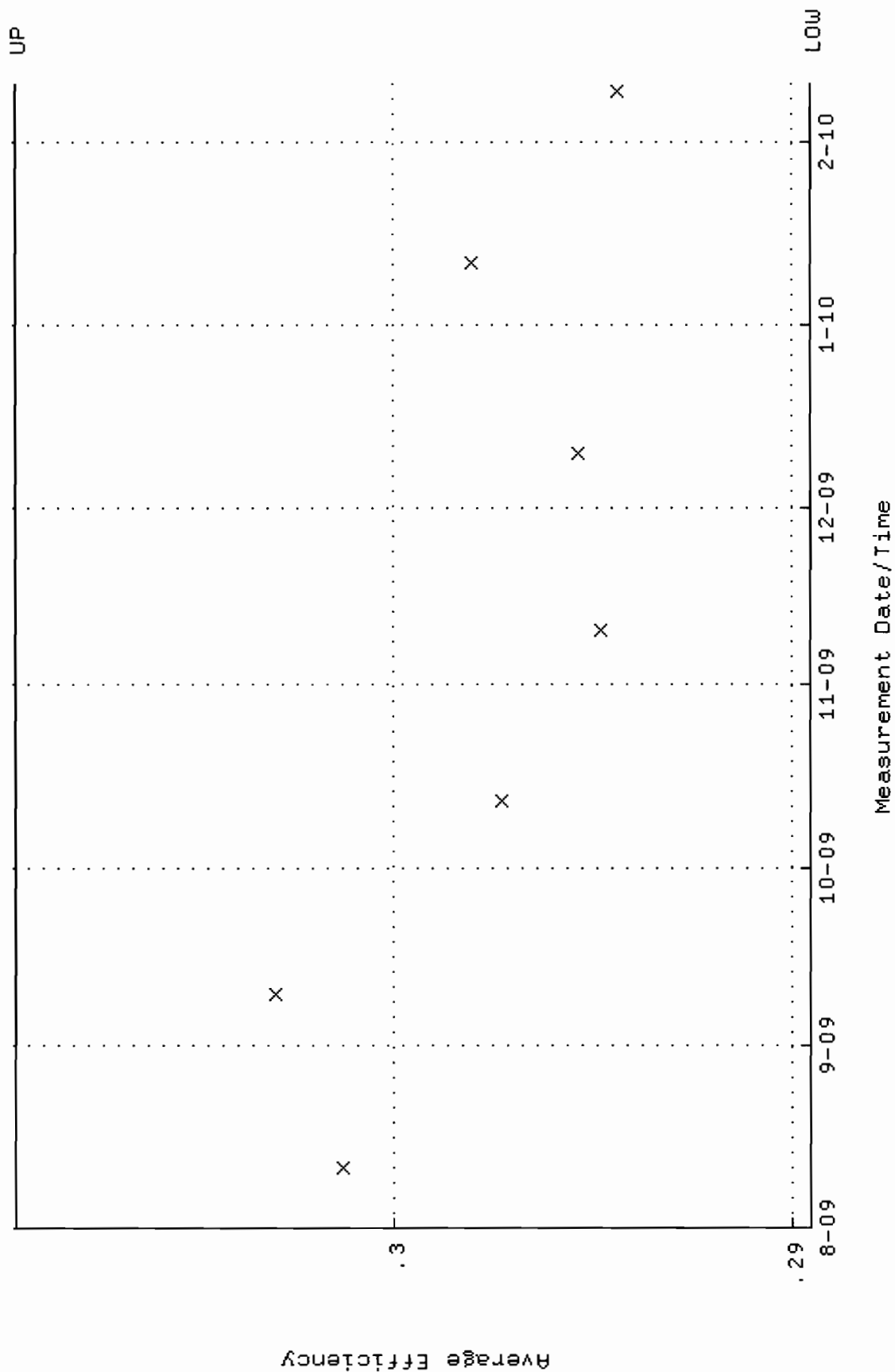
QA filename : DKA100:[ENV_ALPHA.QA.W]W082.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:12 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.9094 through 96.0578



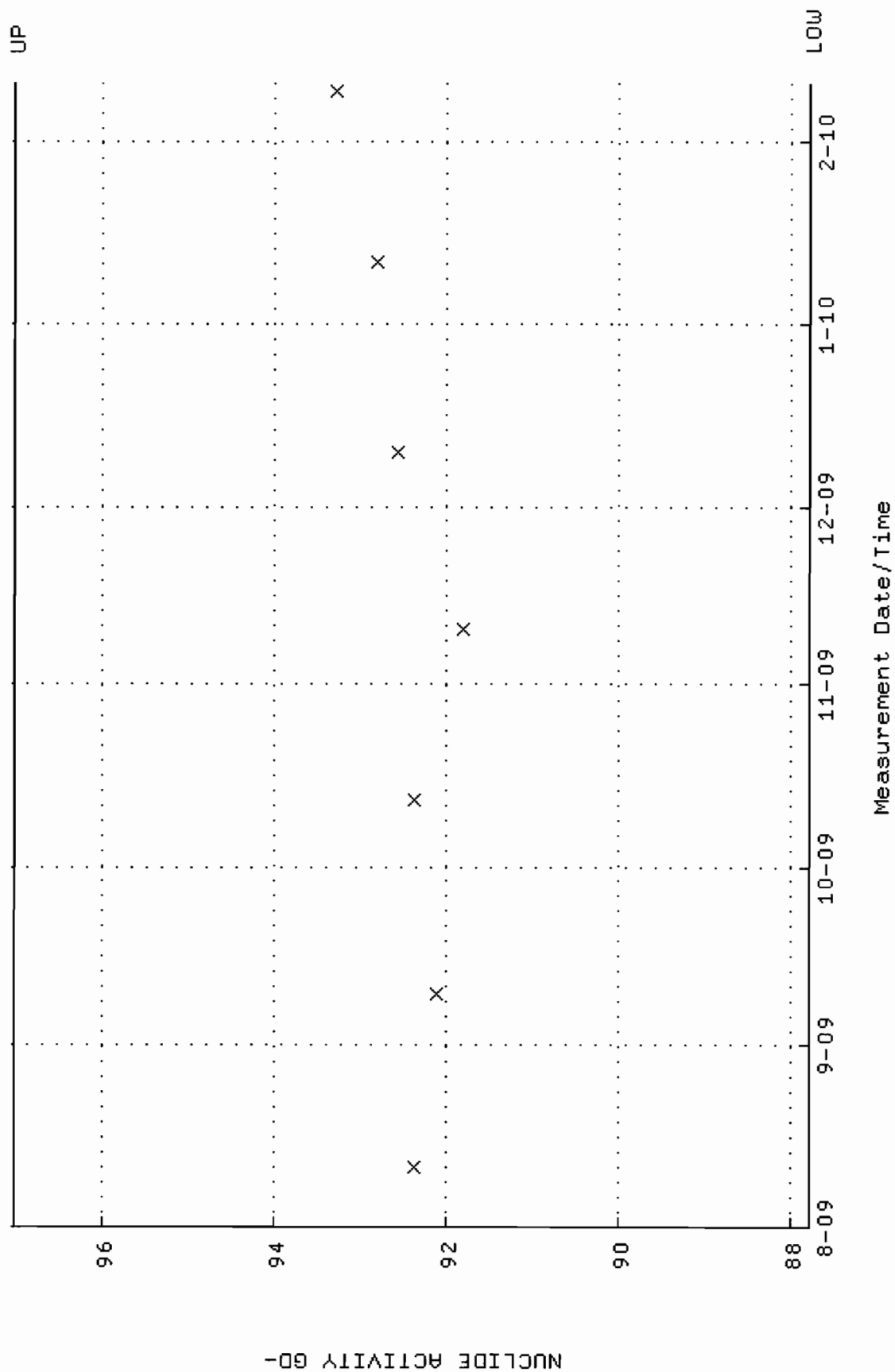
QA filename : DKA100:[ENV_ALPHA.QA.B]B082.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:40 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



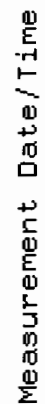
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.289508 through 0.309508



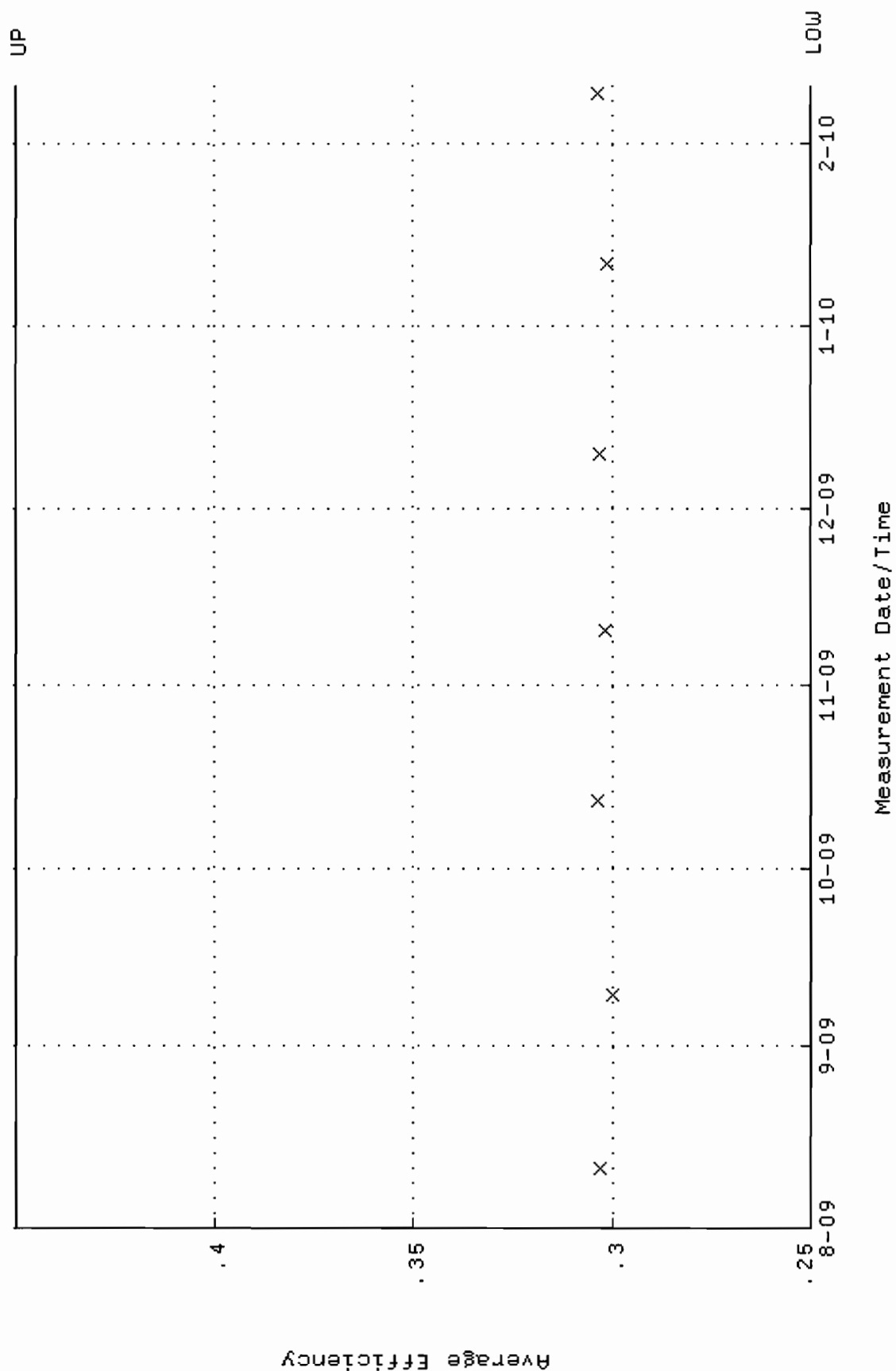
QA filename : DKA100:[ENV_ALPHA.QA.W]W086.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.7898 through 97.0308



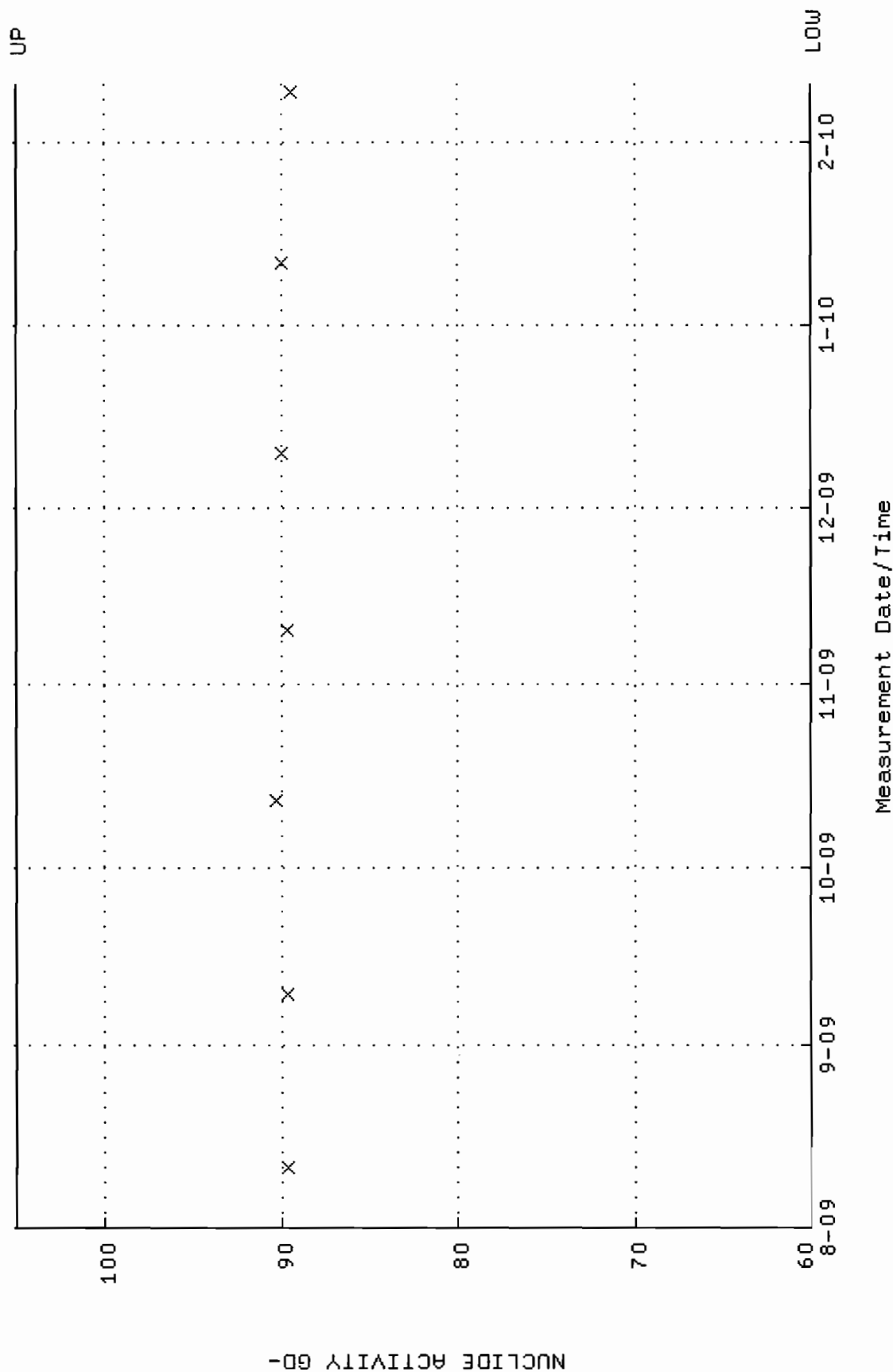
0.000000E+00 through 2.000000E-02



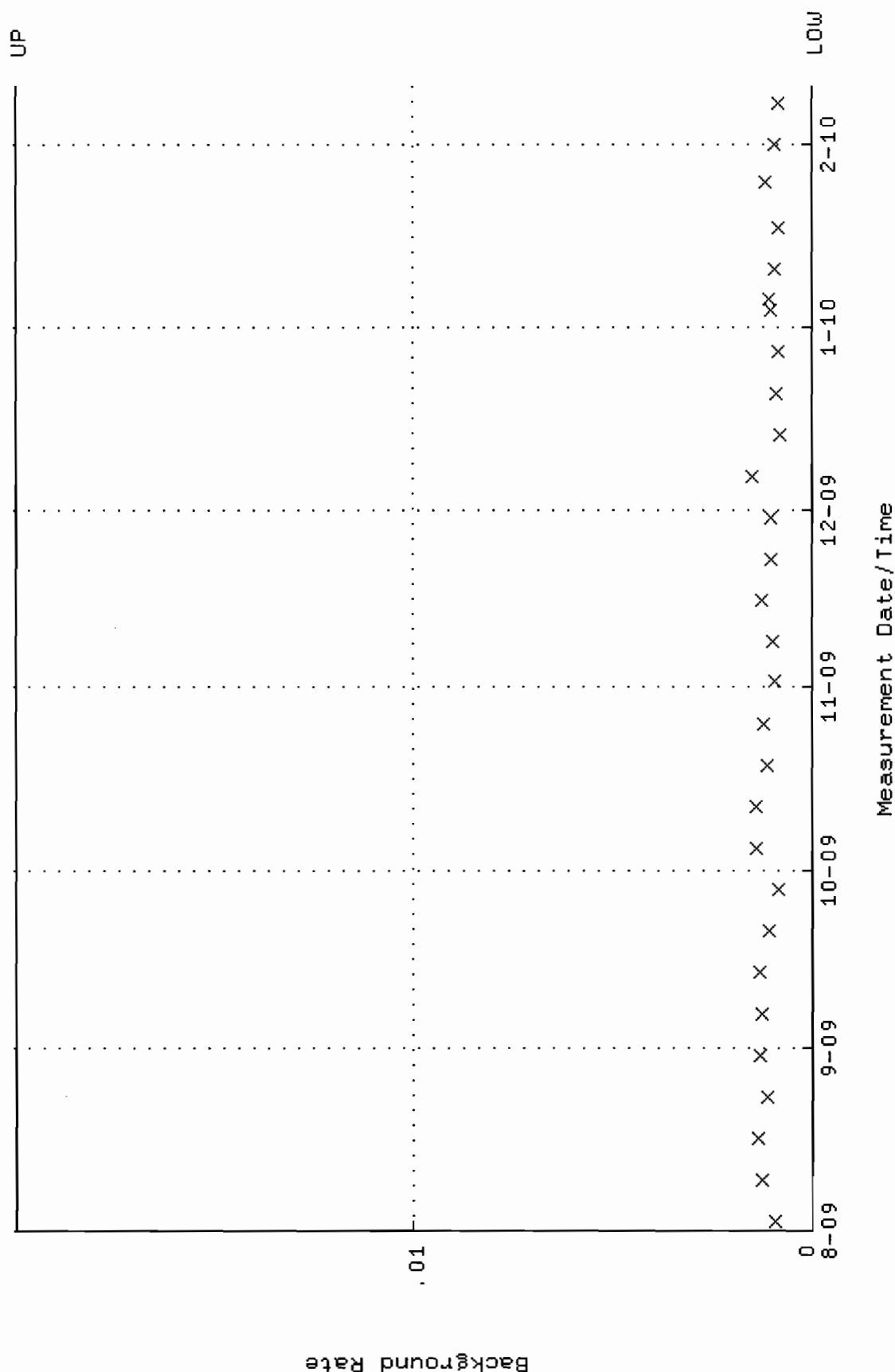
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



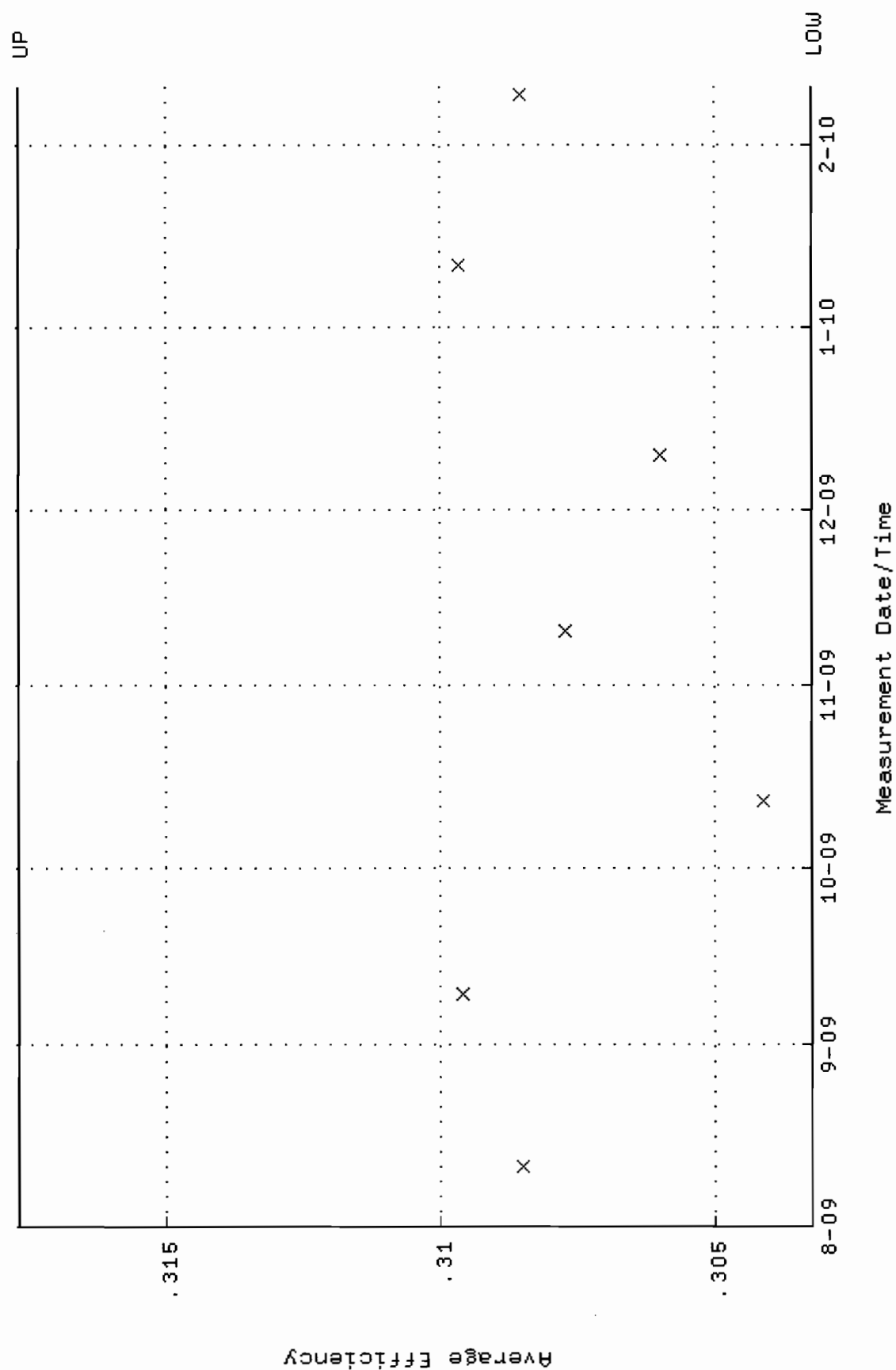
QA filename : DKA100:[ENV_ALPHA.QA.W]W088.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:14 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



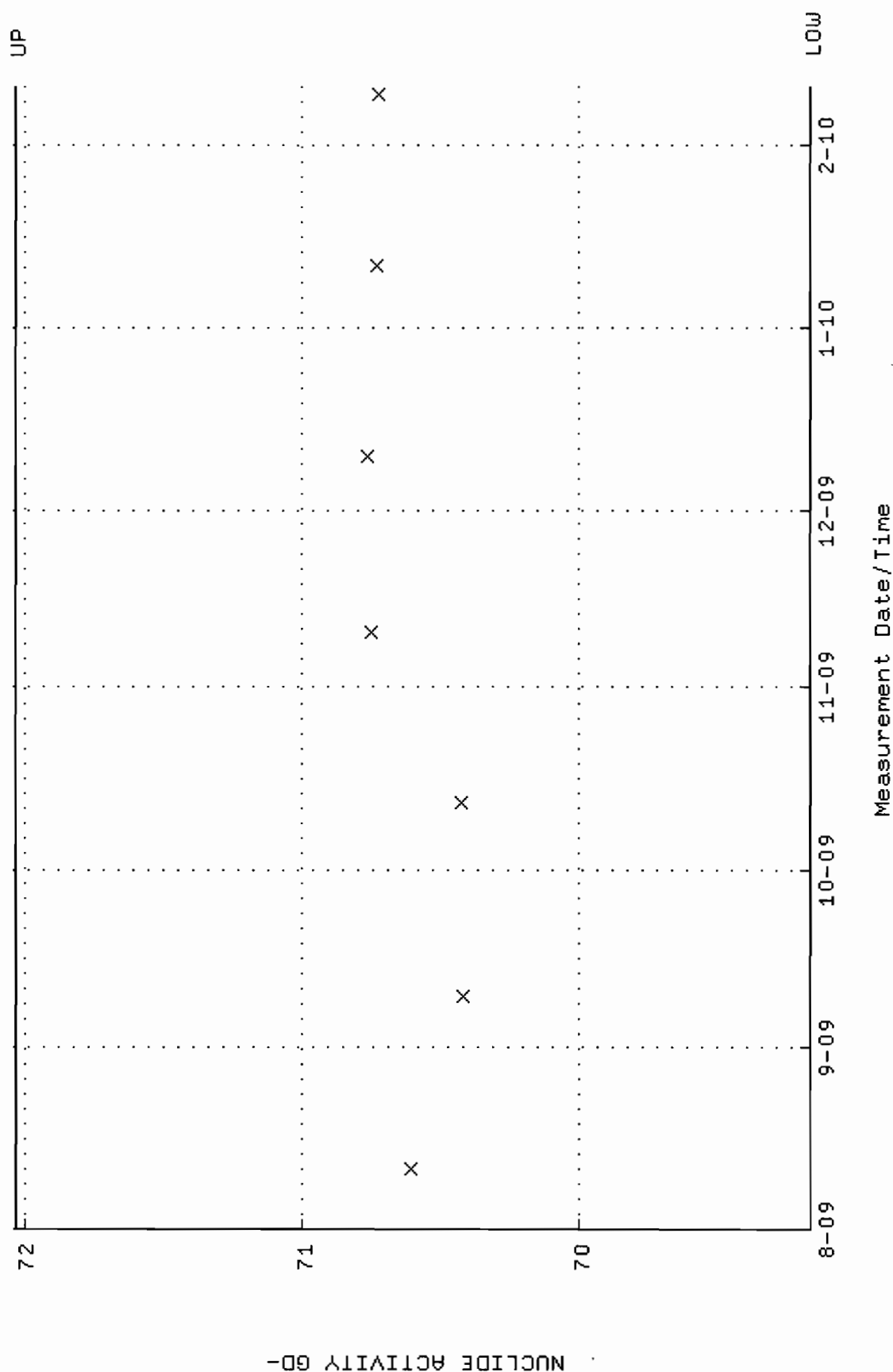
QA filename : DKA100:[ENV_ALPHA.QA.B]B088.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:41 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



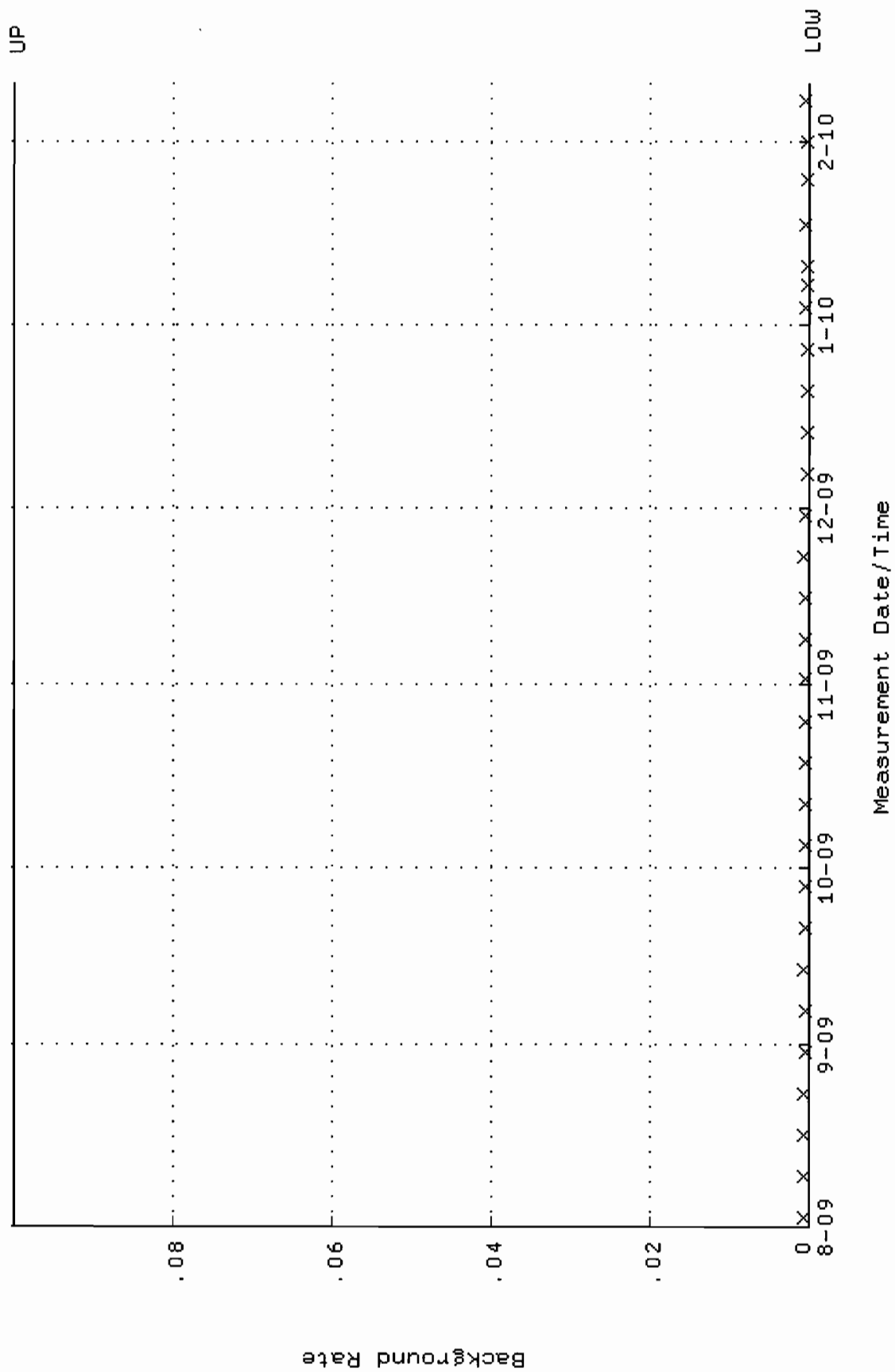
QA filename : DKA100:[ENV_ALPHA.QA.W]w107.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.303231 through 0.317703



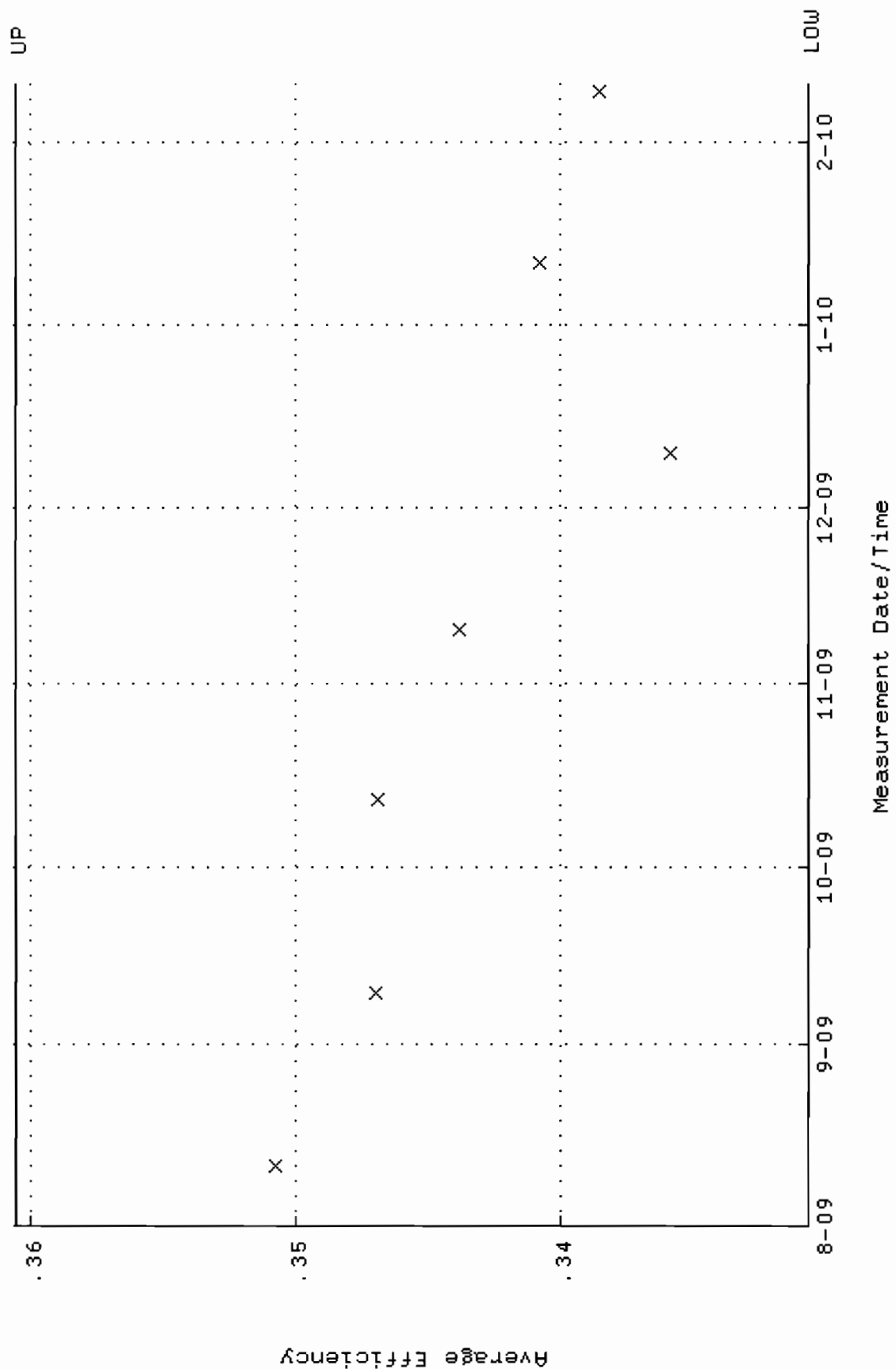
QA filename : DKA100:[ENV_ALPHA.QA.W]W107.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.1572 through 72.0358



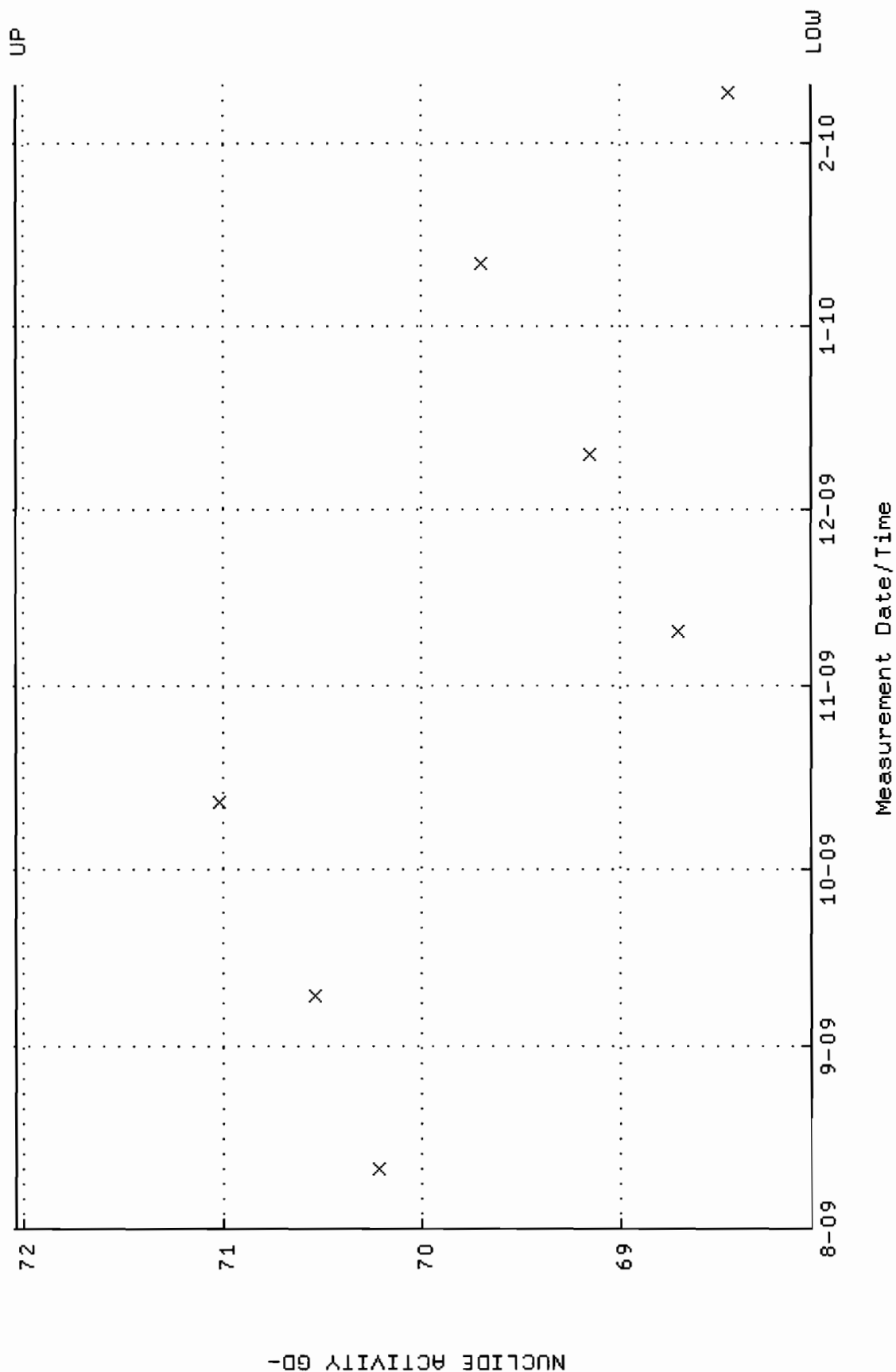
QA filename : DKA100:[ENV_ALPHA.QA.B]B107.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



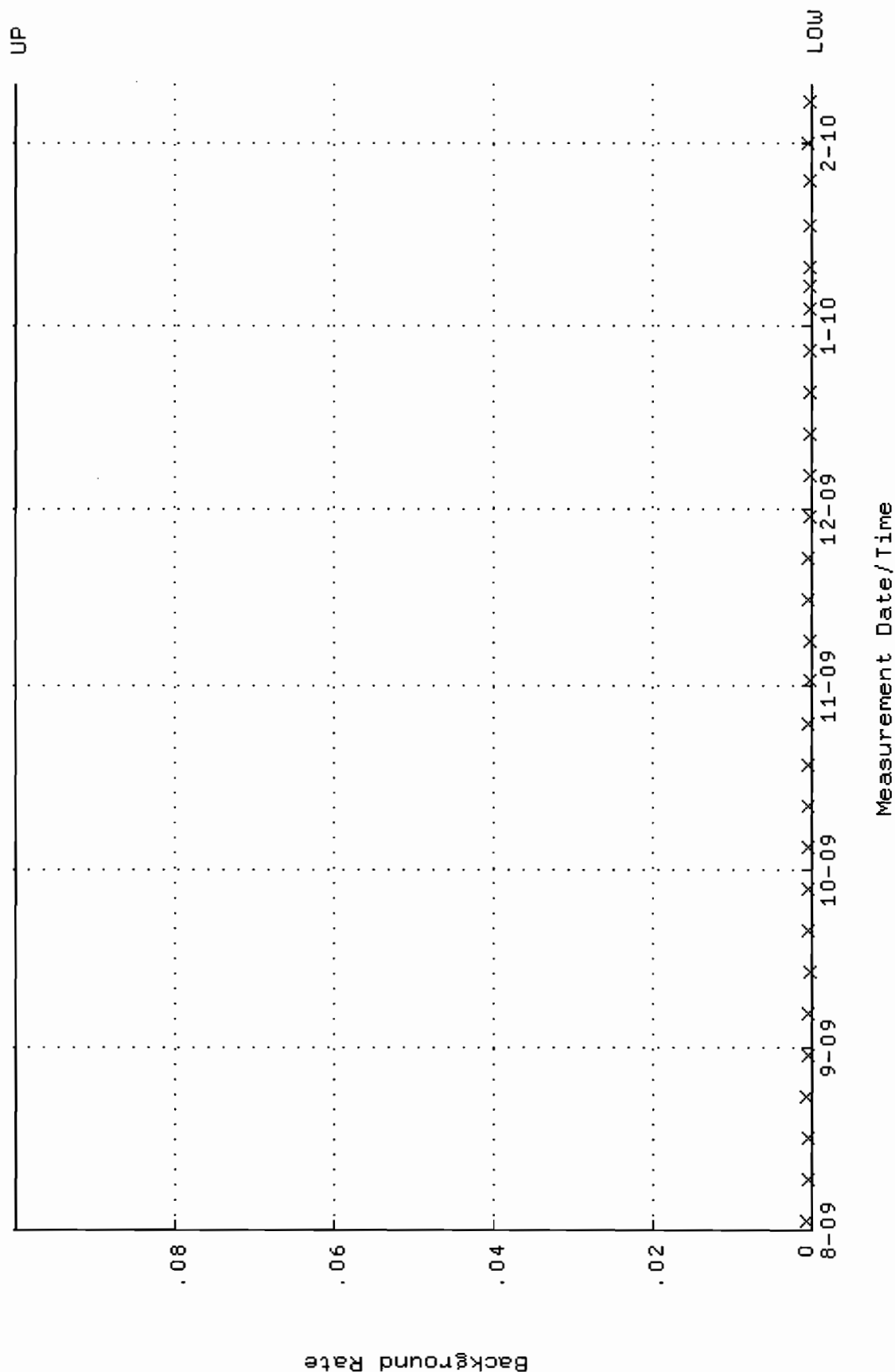
QA filename : DKA100:[ENV_ALPHA.QA.W]W108.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.330641 through 0.360561



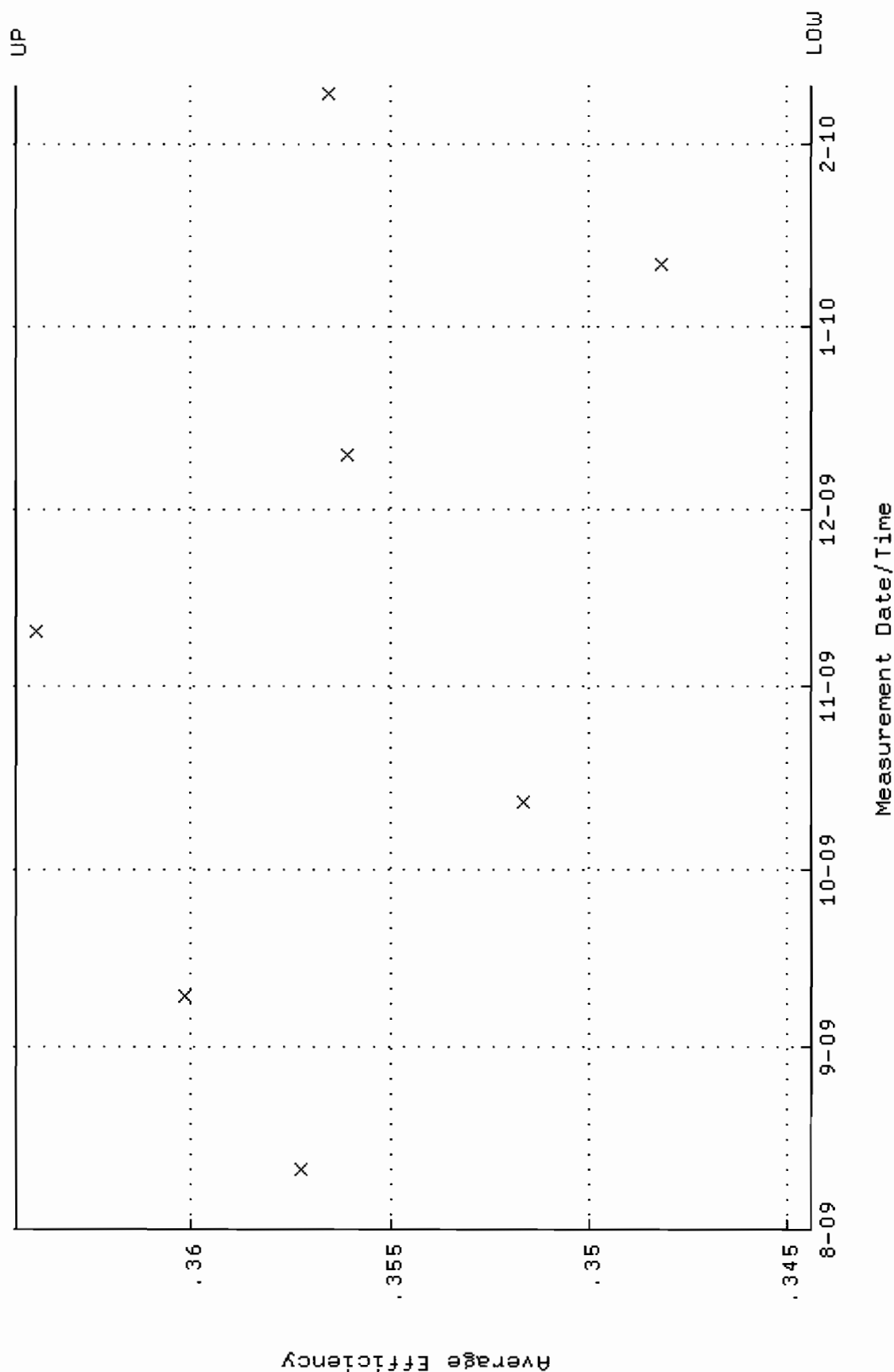
QA filename : DKA100:[ENV_ALPHA.QA.W]W108.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.0460 through 72.0402



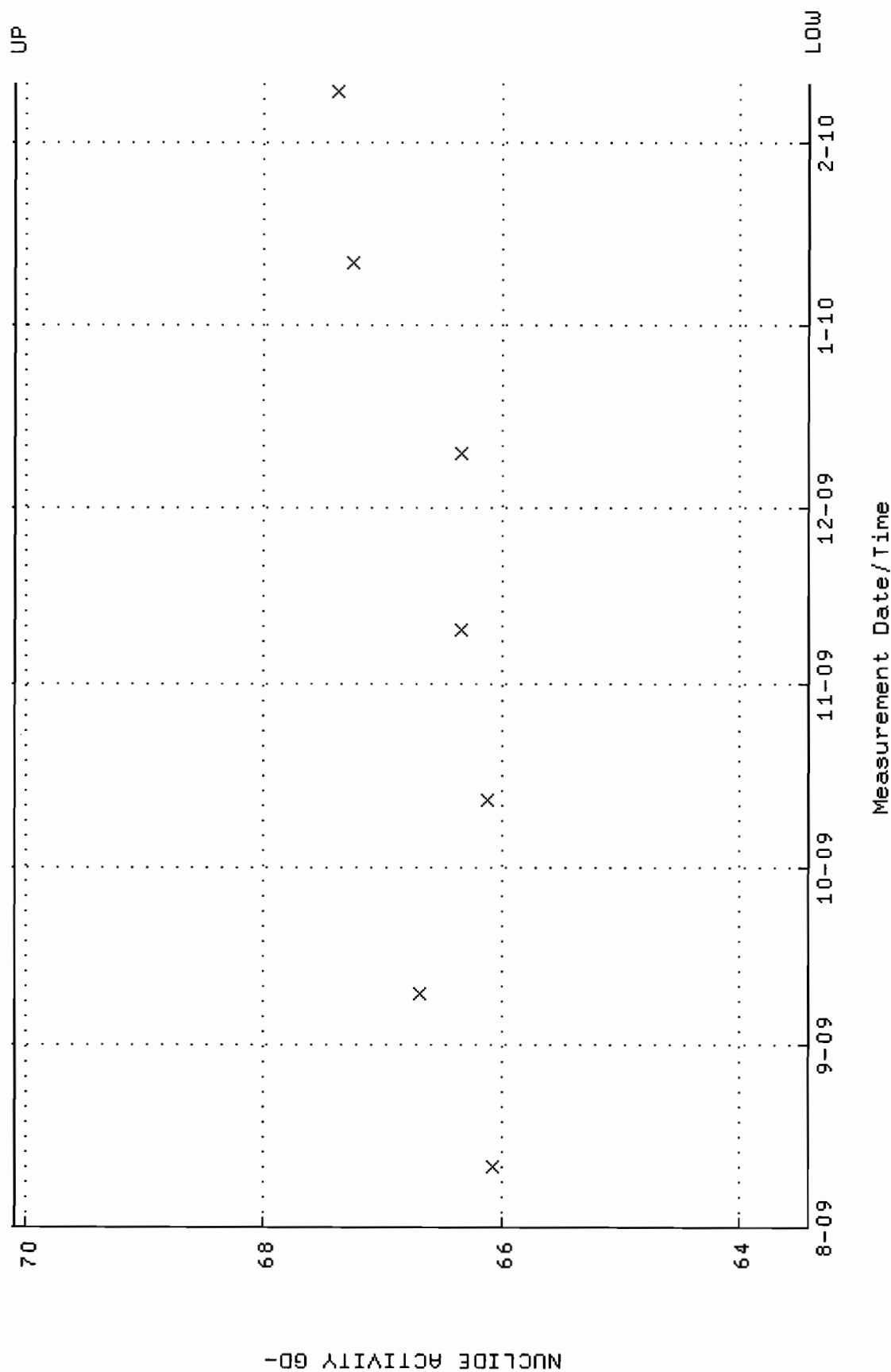
QA filename : DKA100:[ENV_ALPHA.QA.B]B108.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



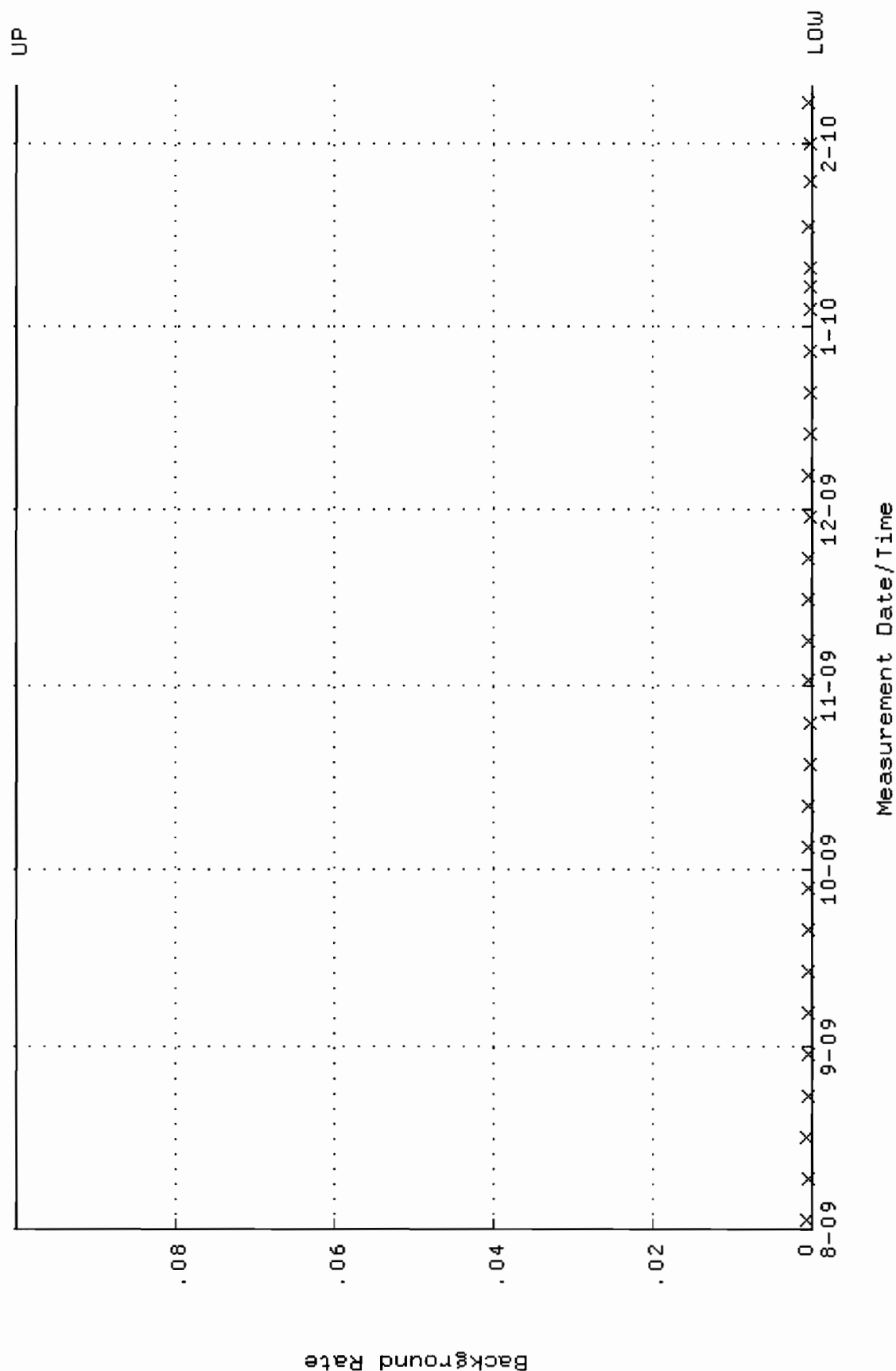
QA filename : DKA100:[ENV_ALPHA.QA.W]W109.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.344397 through 0.364397



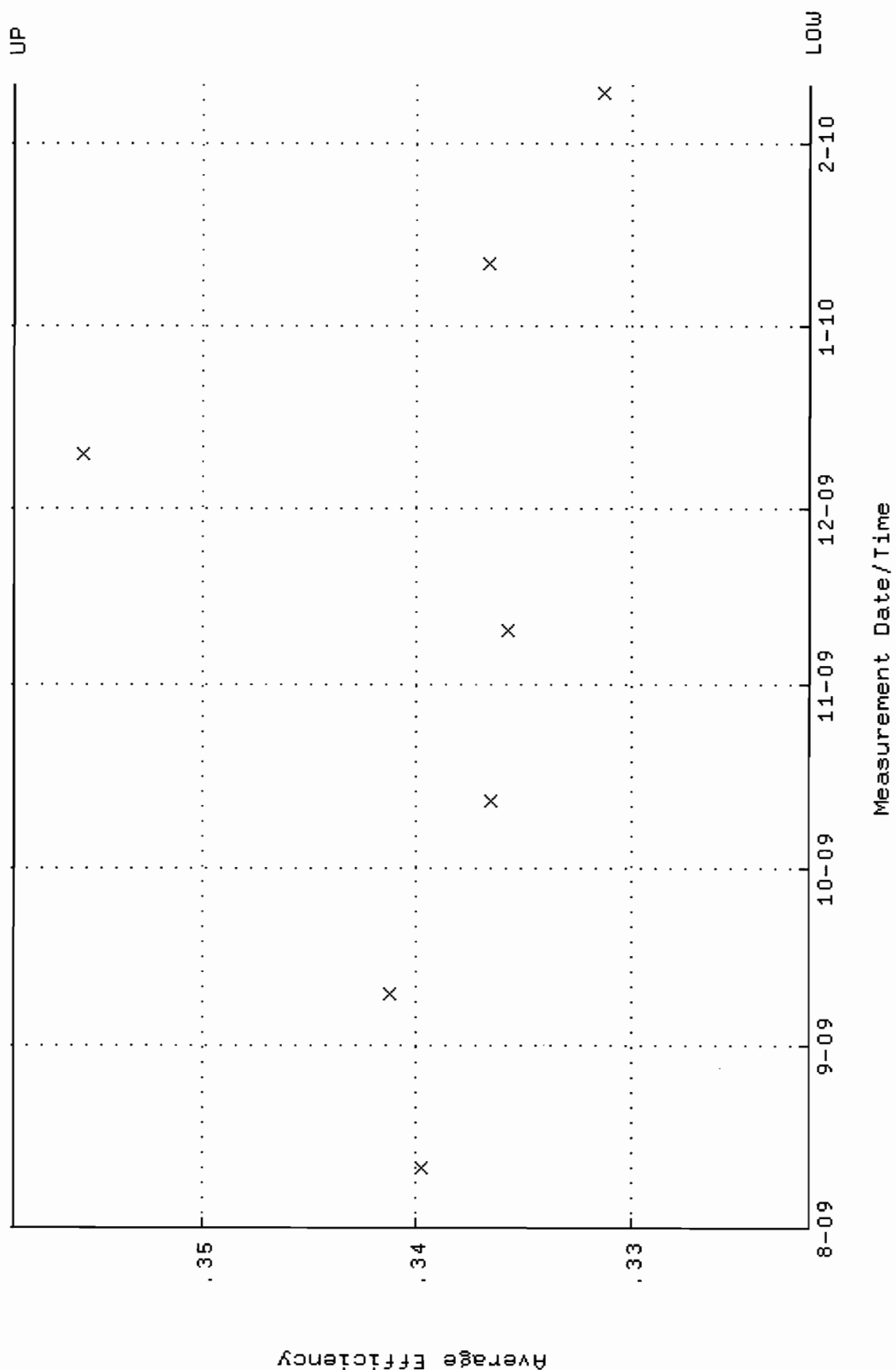
QA filename : DKA100:[ENV_ALPHA.QA.W]W109.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 63.4194 through 70.0952



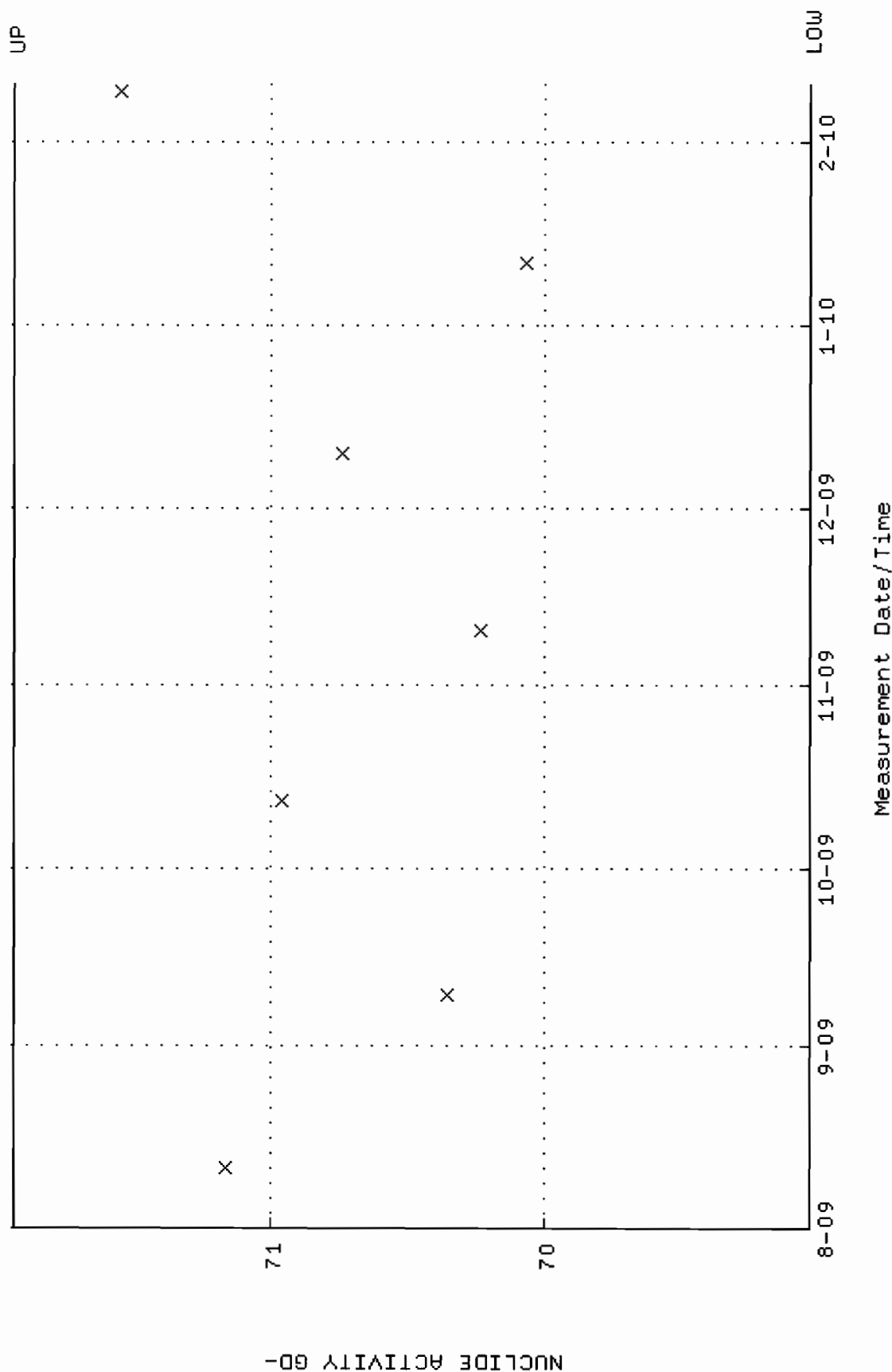
QA filename : DKA100:[ENV_ALPHA.QA.B]B109.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



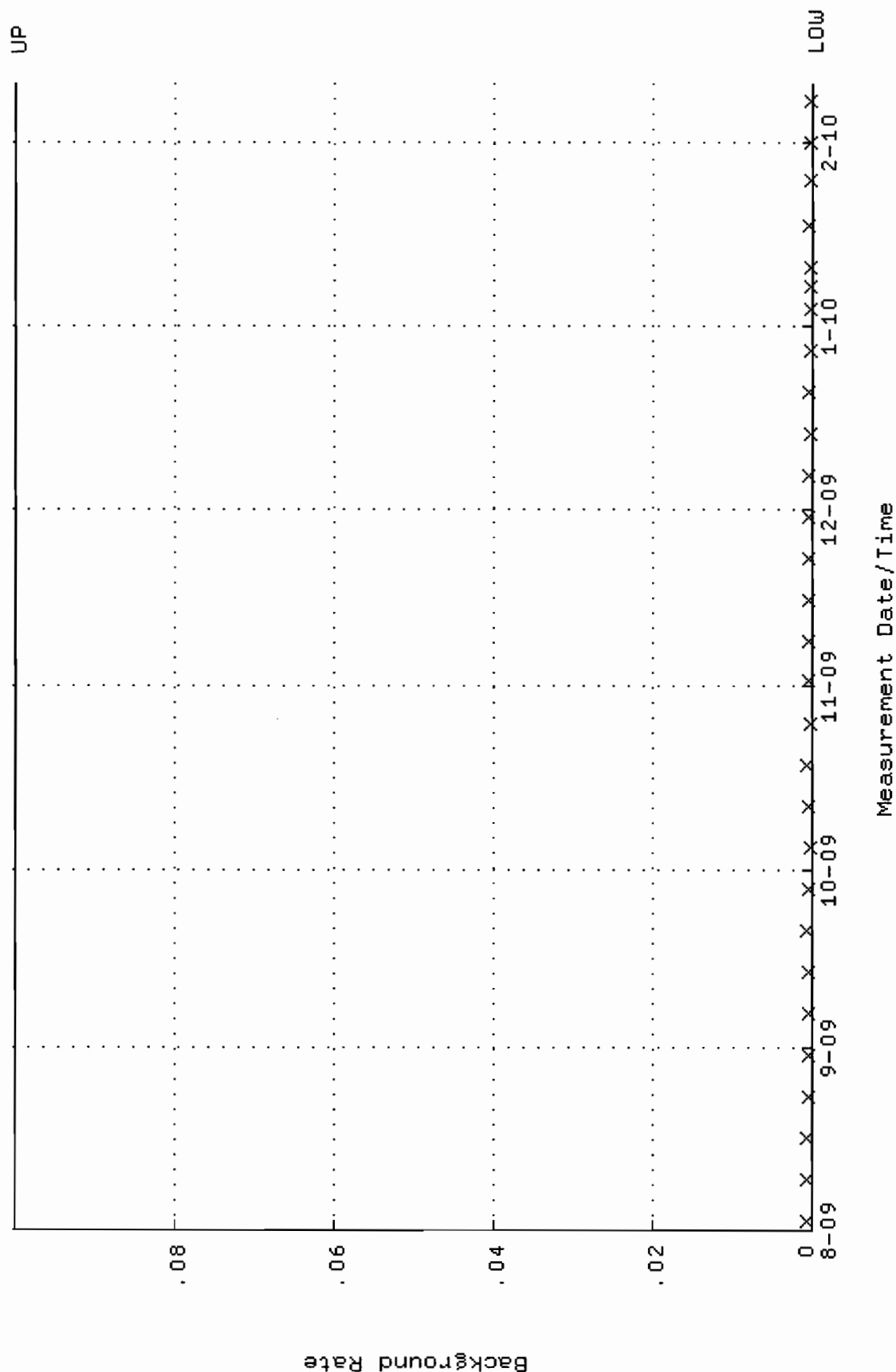
QA filename : DKA100:[ENV_ALPHA.QA.W]W111.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.321662 through 0.358794



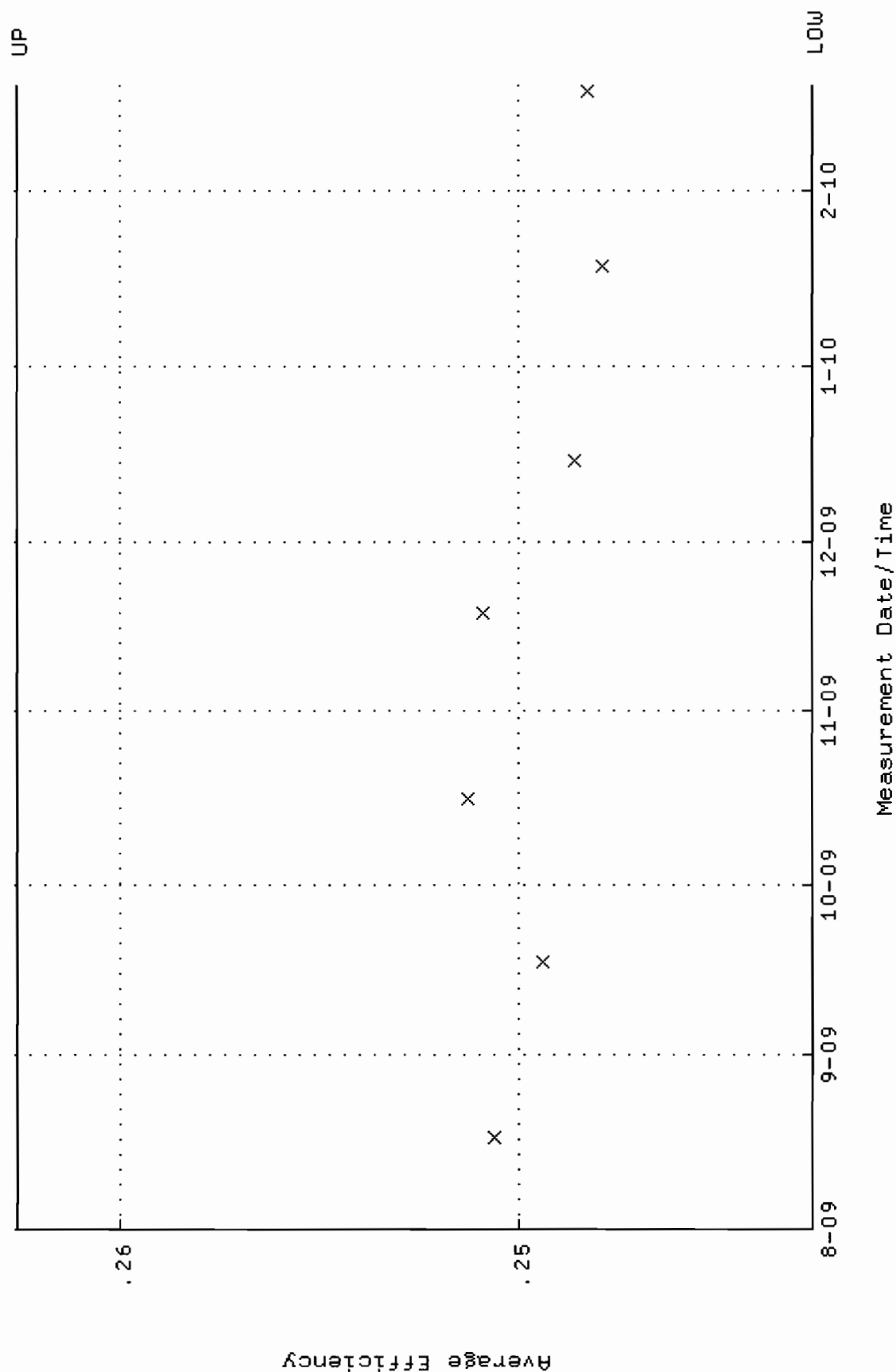
QA filename : DKA100:[ENV_ALPHA.QA.W]W111.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.0200 through 71.9448



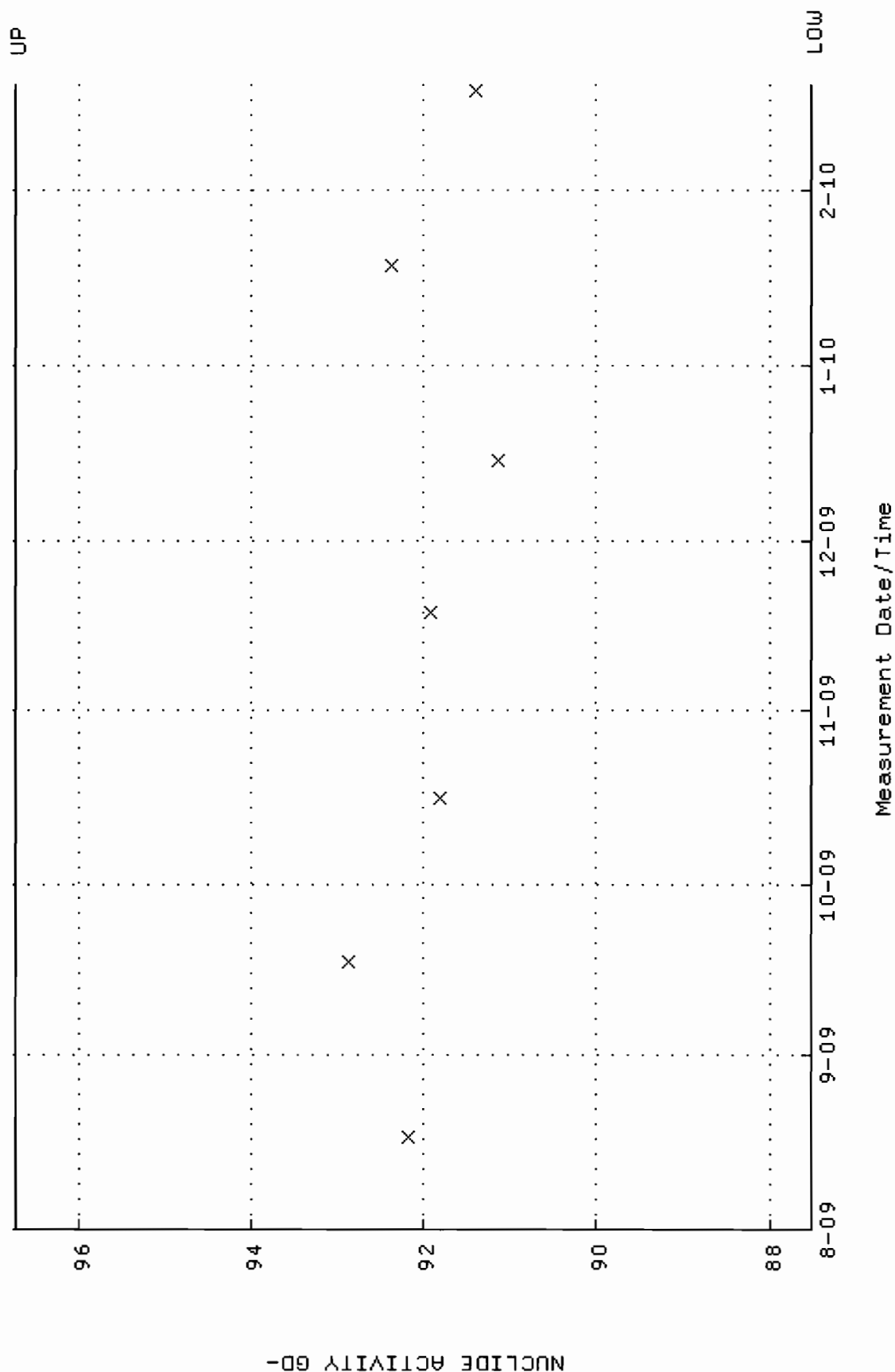
QA filename : DKA100:[ENV_ALPHA.QA.B]B111.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



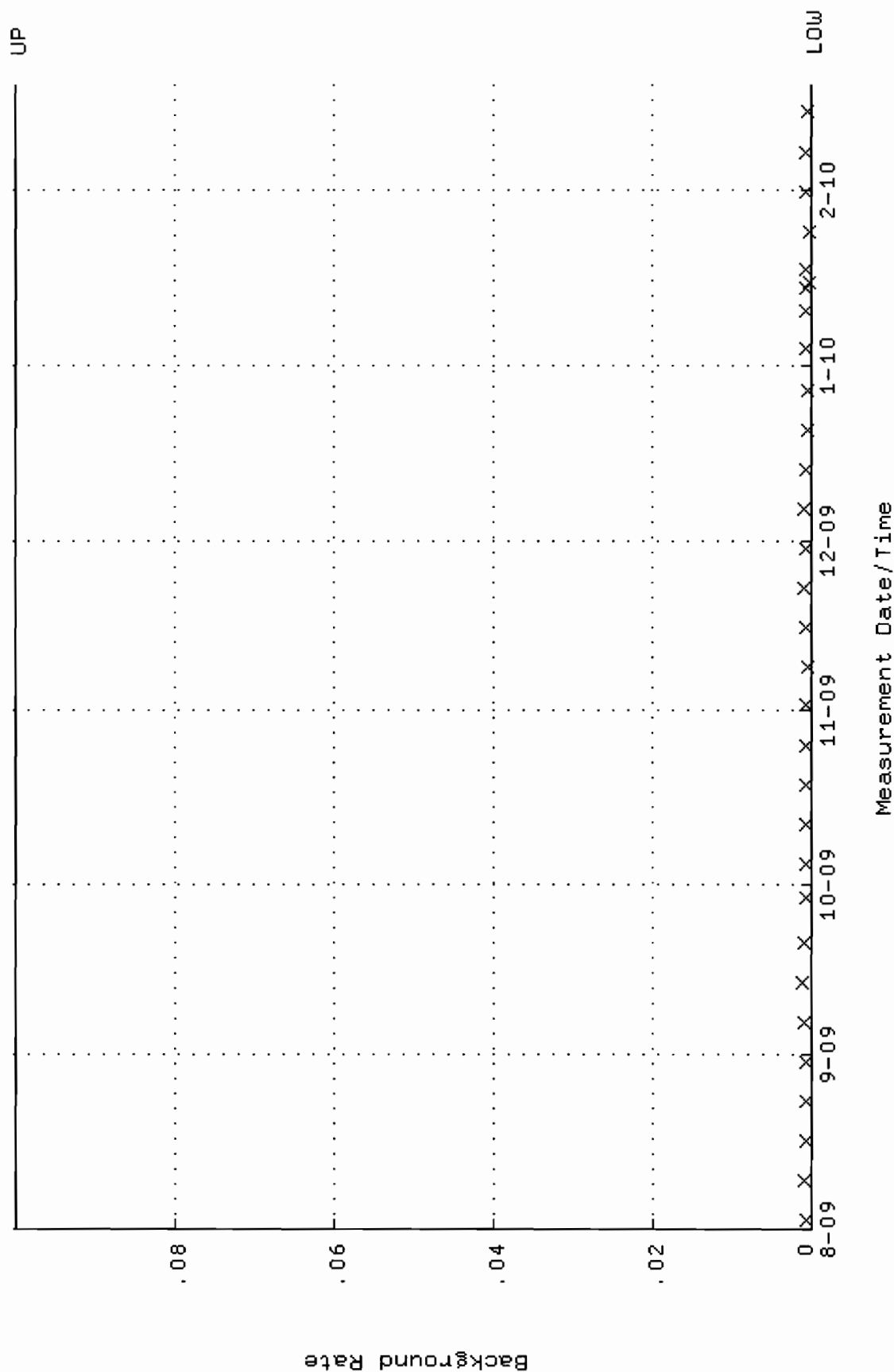
QA filename : DKA100:[ENV_ALPHA.QA.W]w113.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:40:49 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.242598 through 0.262598



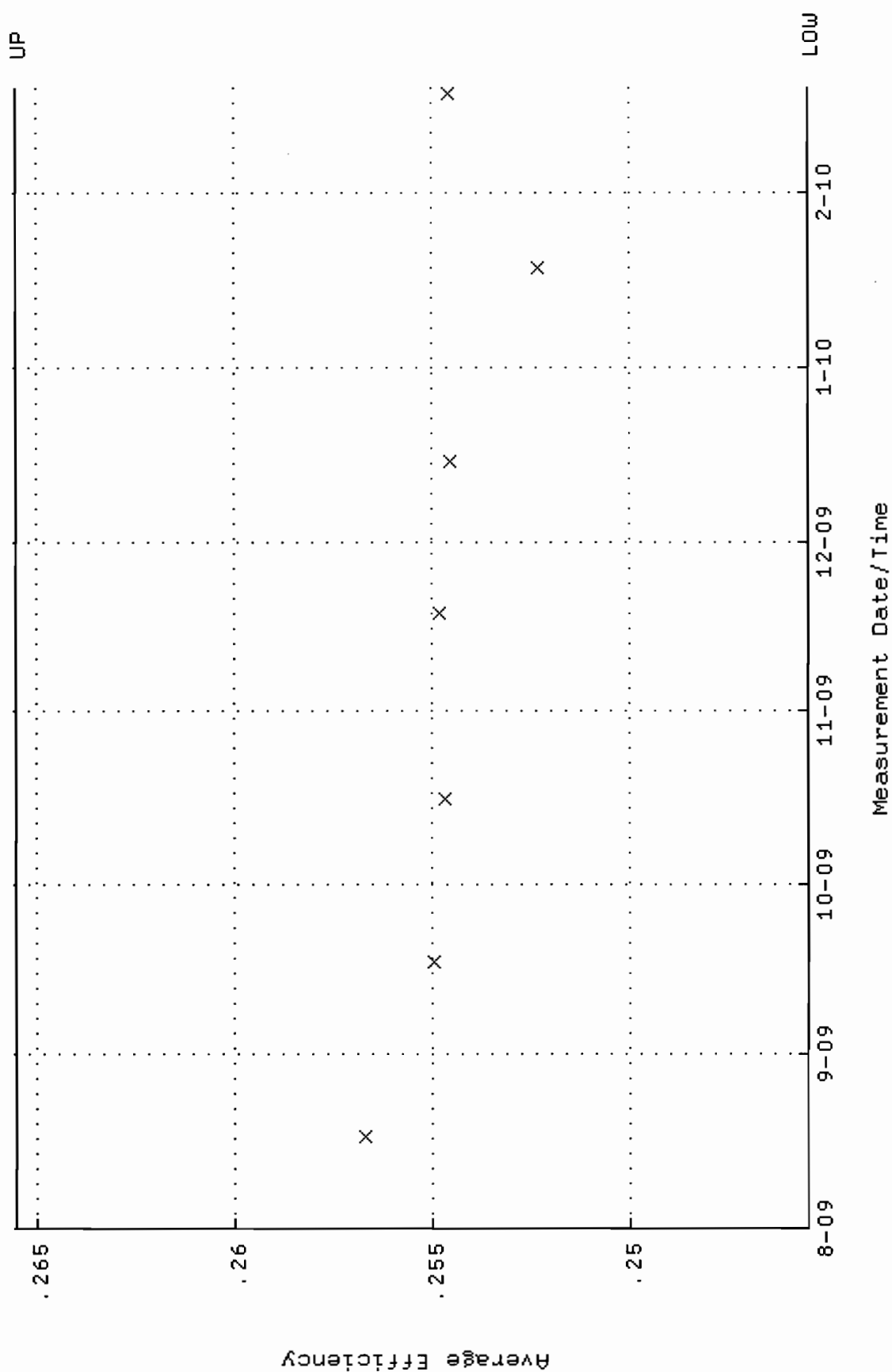
QA filename : DKA100:[ENV_ALPHA.QA.W]W113.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:40:49 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.5172 through 96.7296



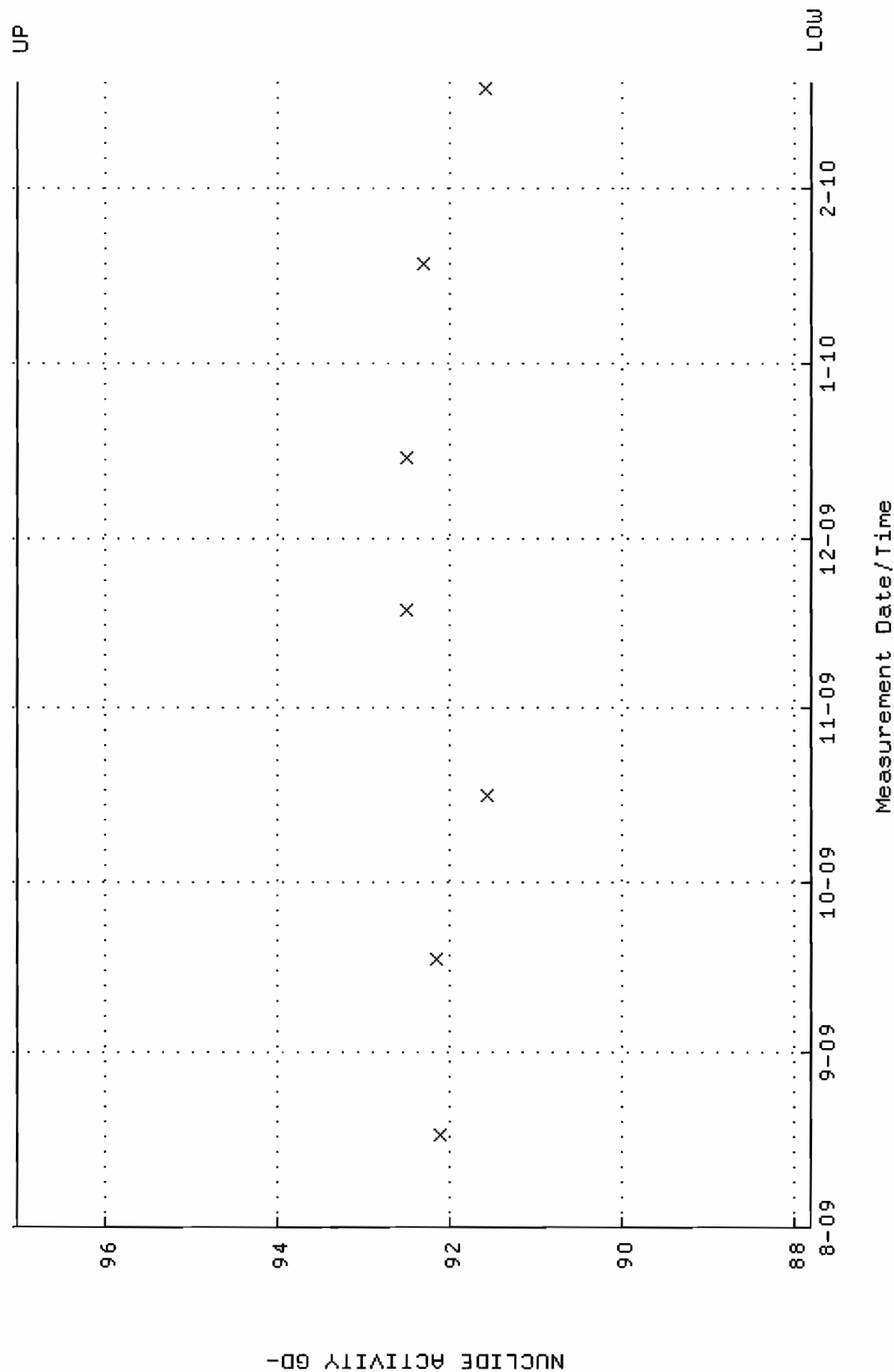
QA filename : DKA100:[ENV_ALPHA.QA.B]B113.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:11:56 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



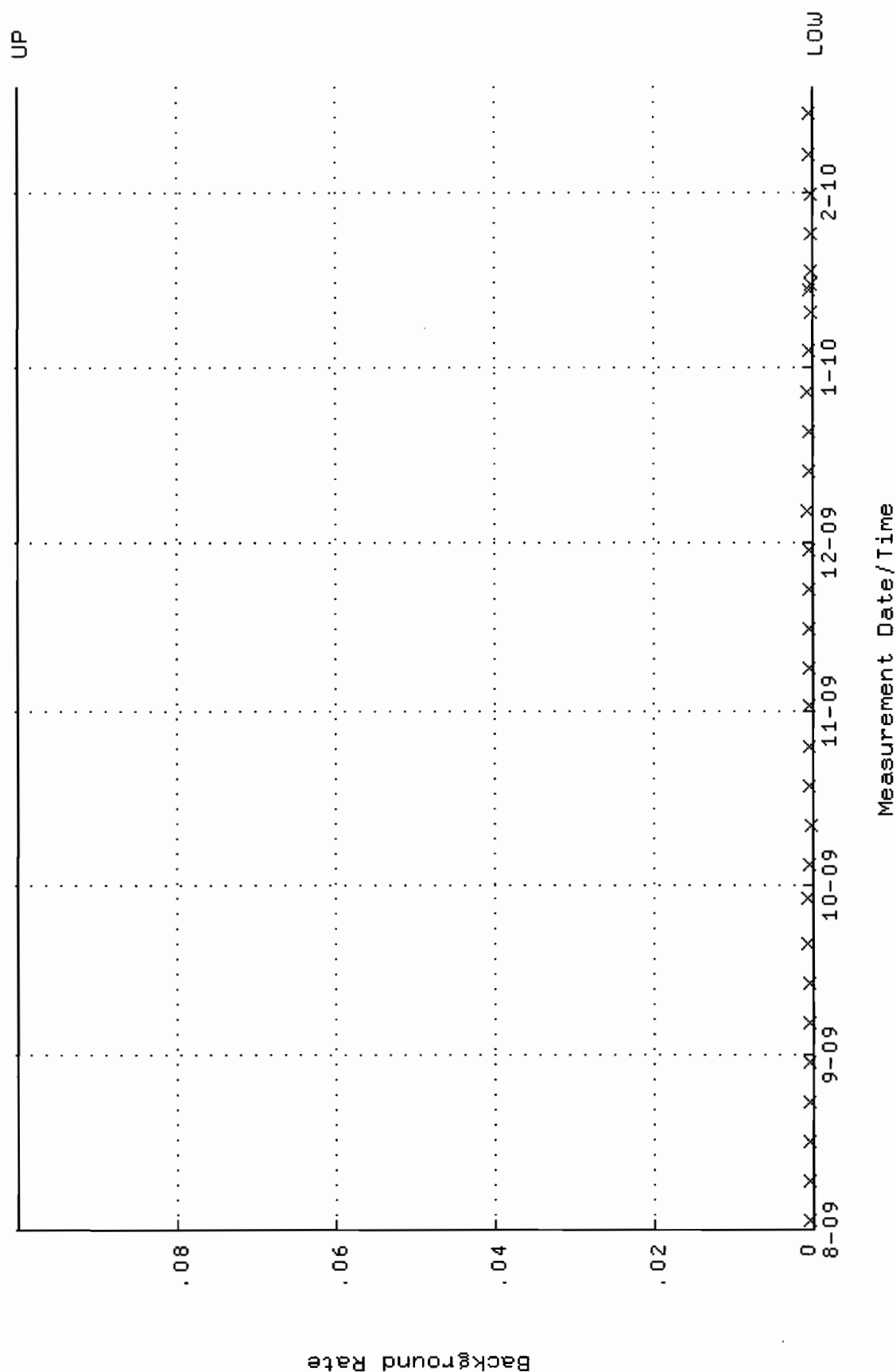
QA filename : DKA100:[ENV_ALPHA.QA.W]W114.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:40:56 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.245499 through 0.265499



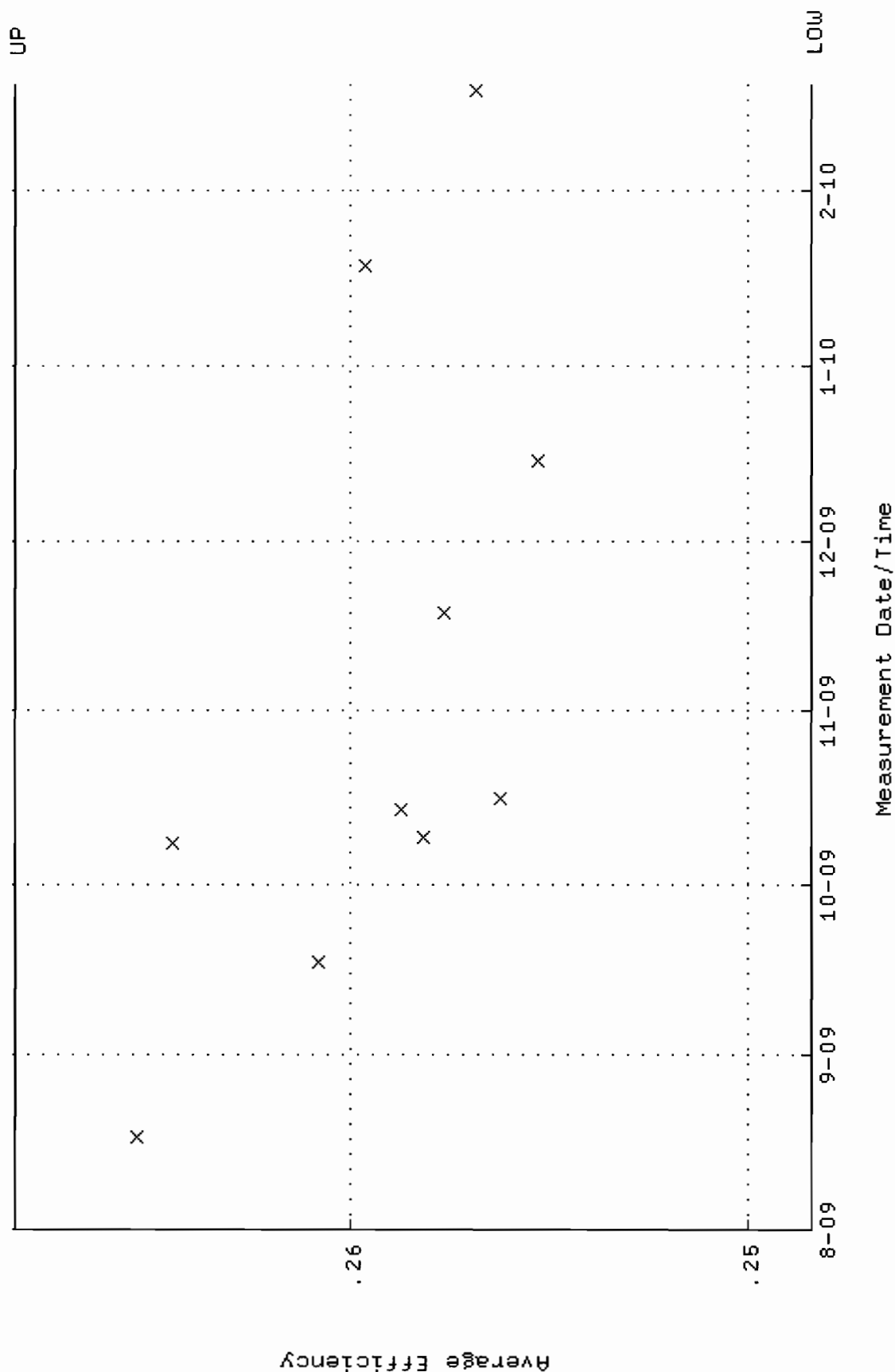
QA filename : DKA100:[ENV_ALPHA.QA.W]W114.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:40:56 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.8108 through 97.0540



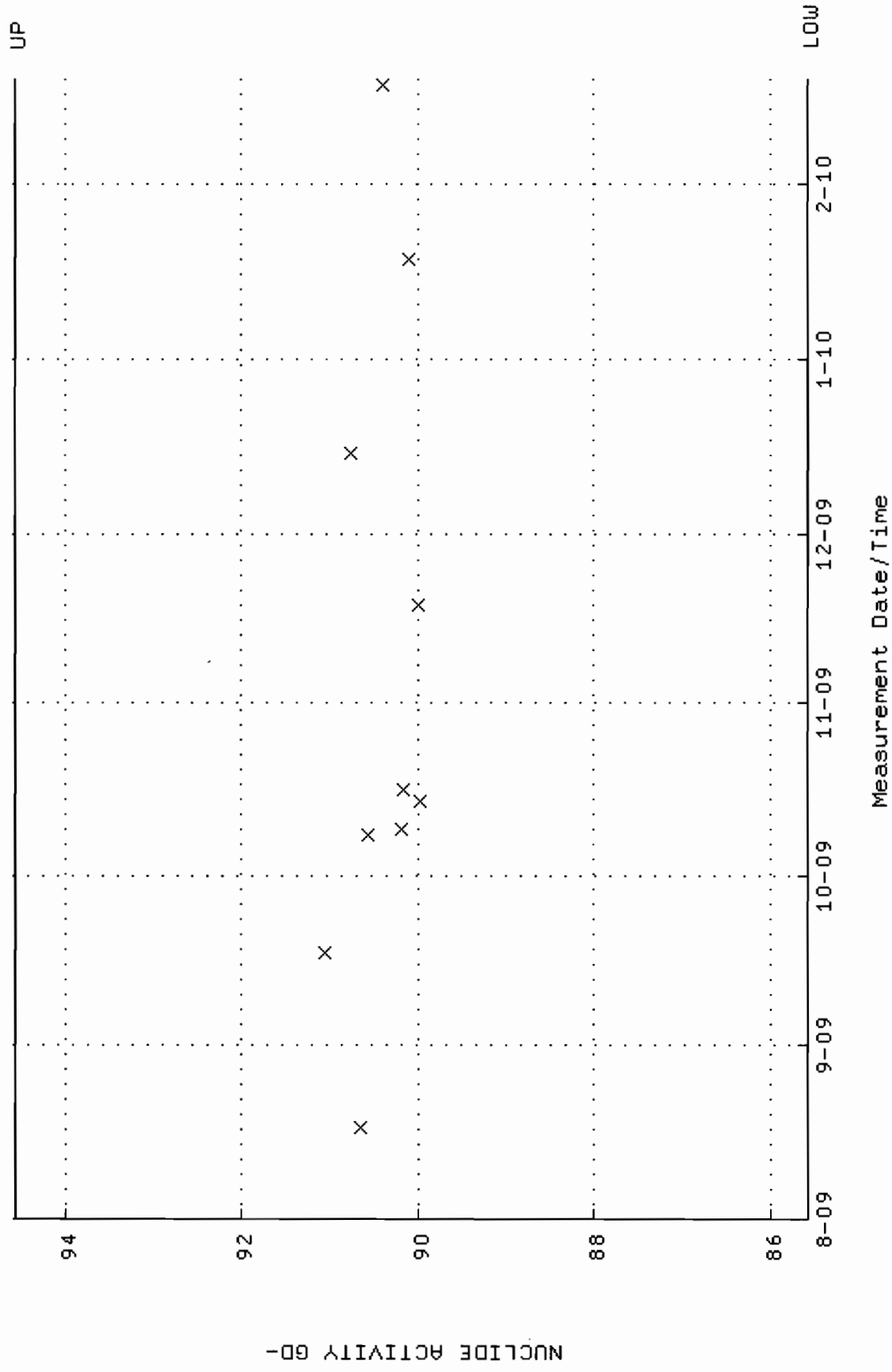
QA filename : DKA100:[ENV_ALPHA.QA.B]B114.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:01 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



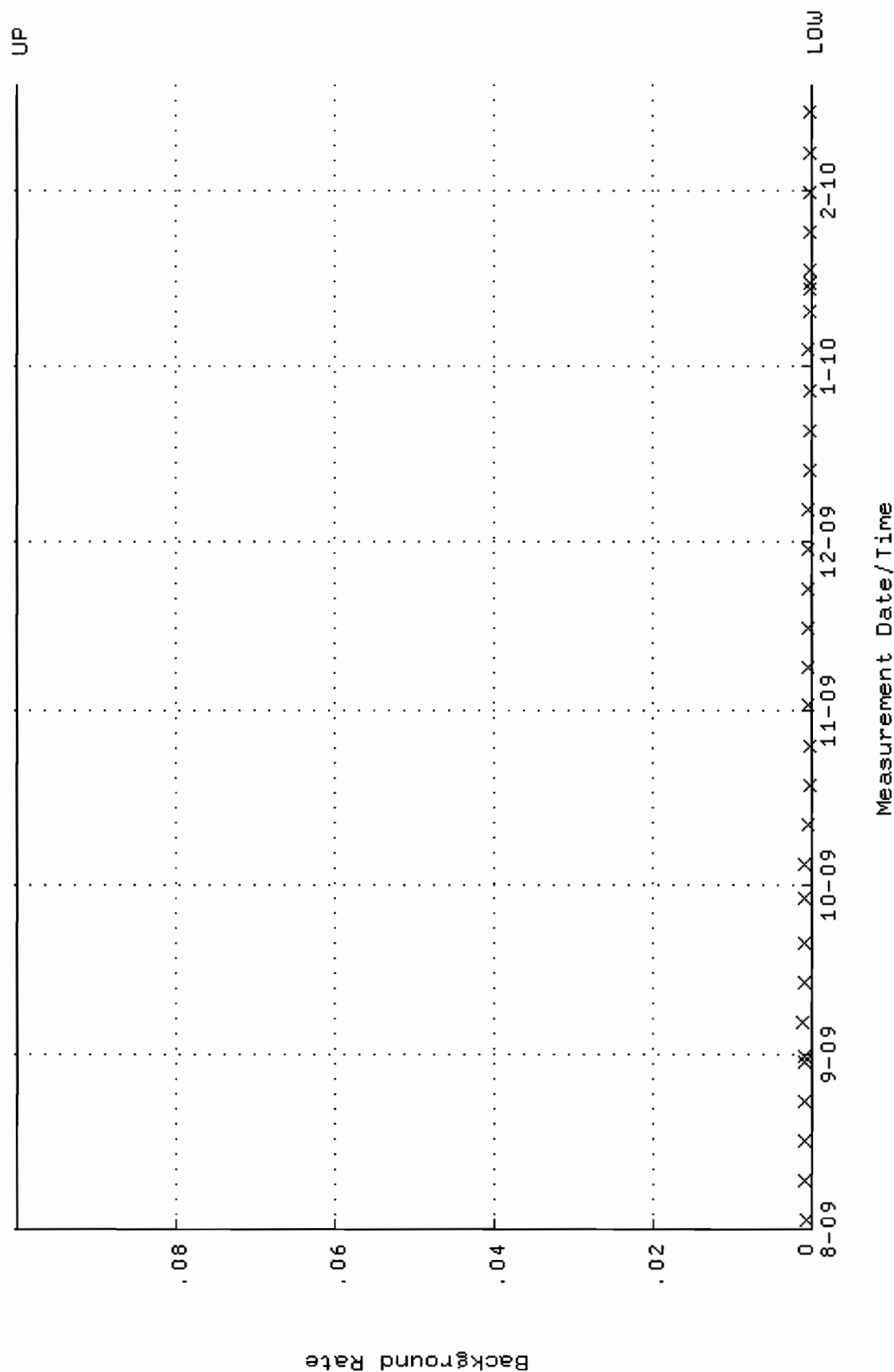
QA filename : DKA100:[ENV_ALPHA.QA.W]W115.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:02 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.248404 through 0.268404



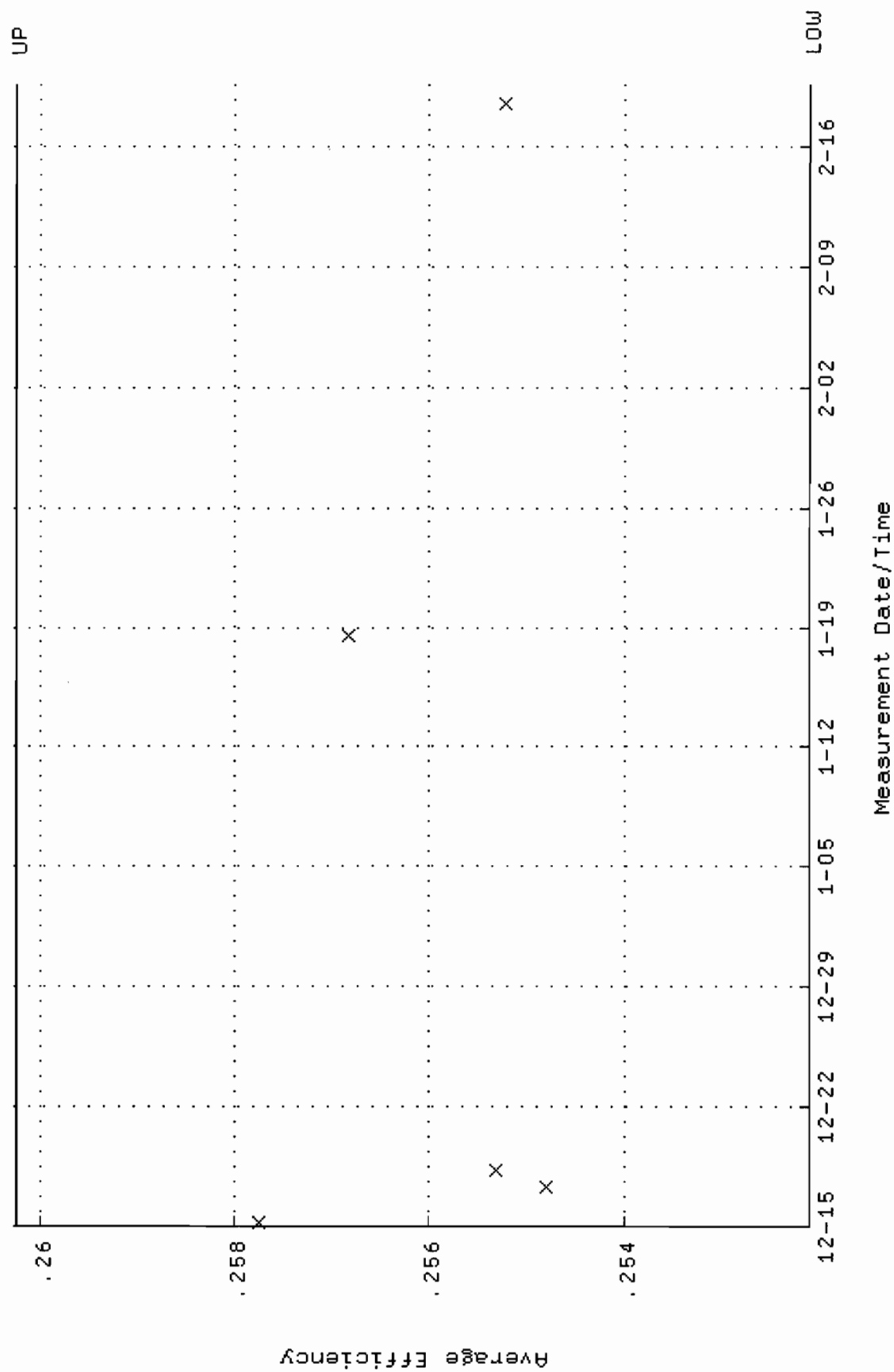
QA filename : DKA100:[ENV_ALPHA,QA,W]W115.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:02 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.5661 through 94.5731



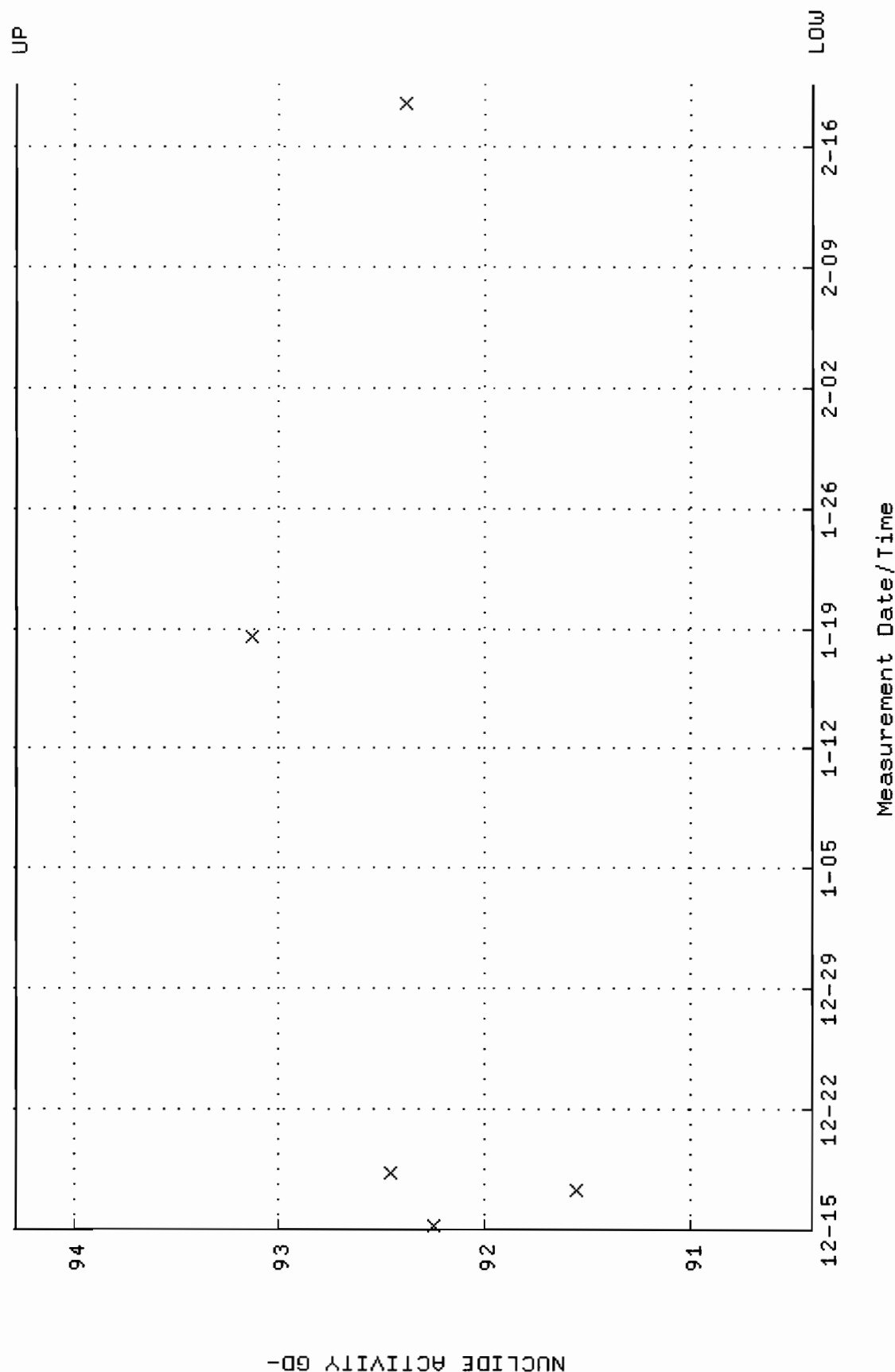
QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:05 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



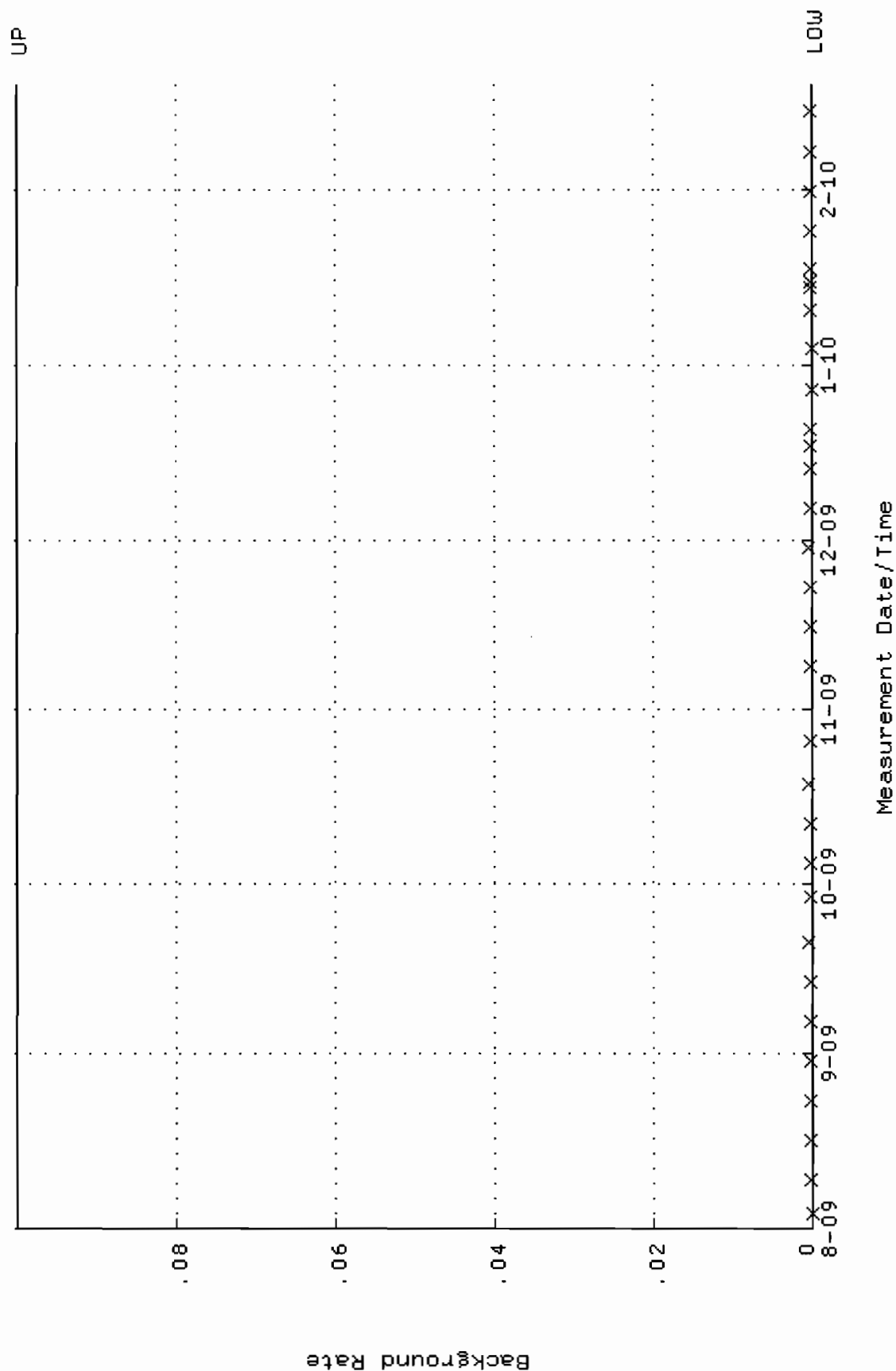
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.252093 through 0.260243



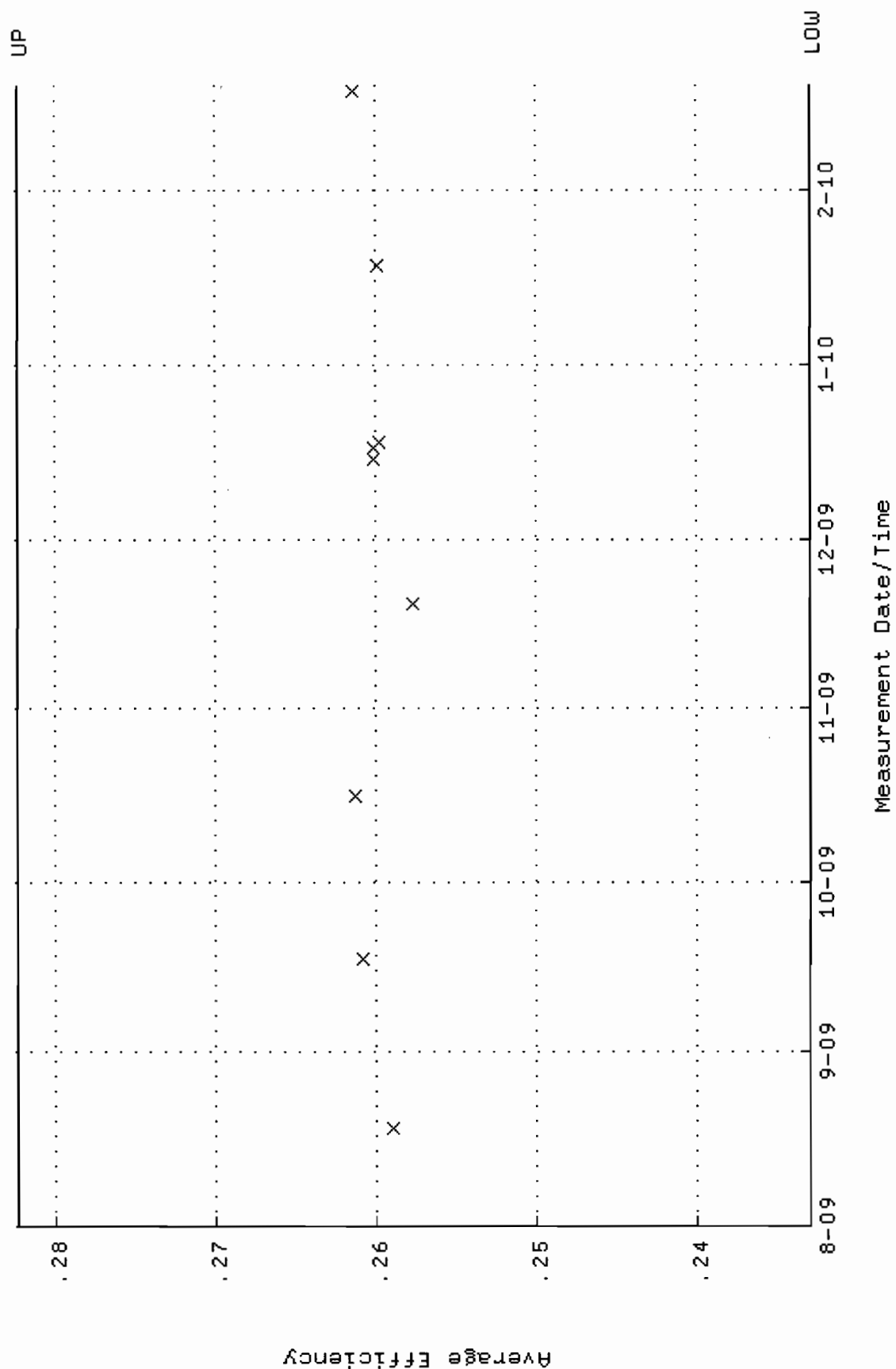
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 90.4107 through 94.2781



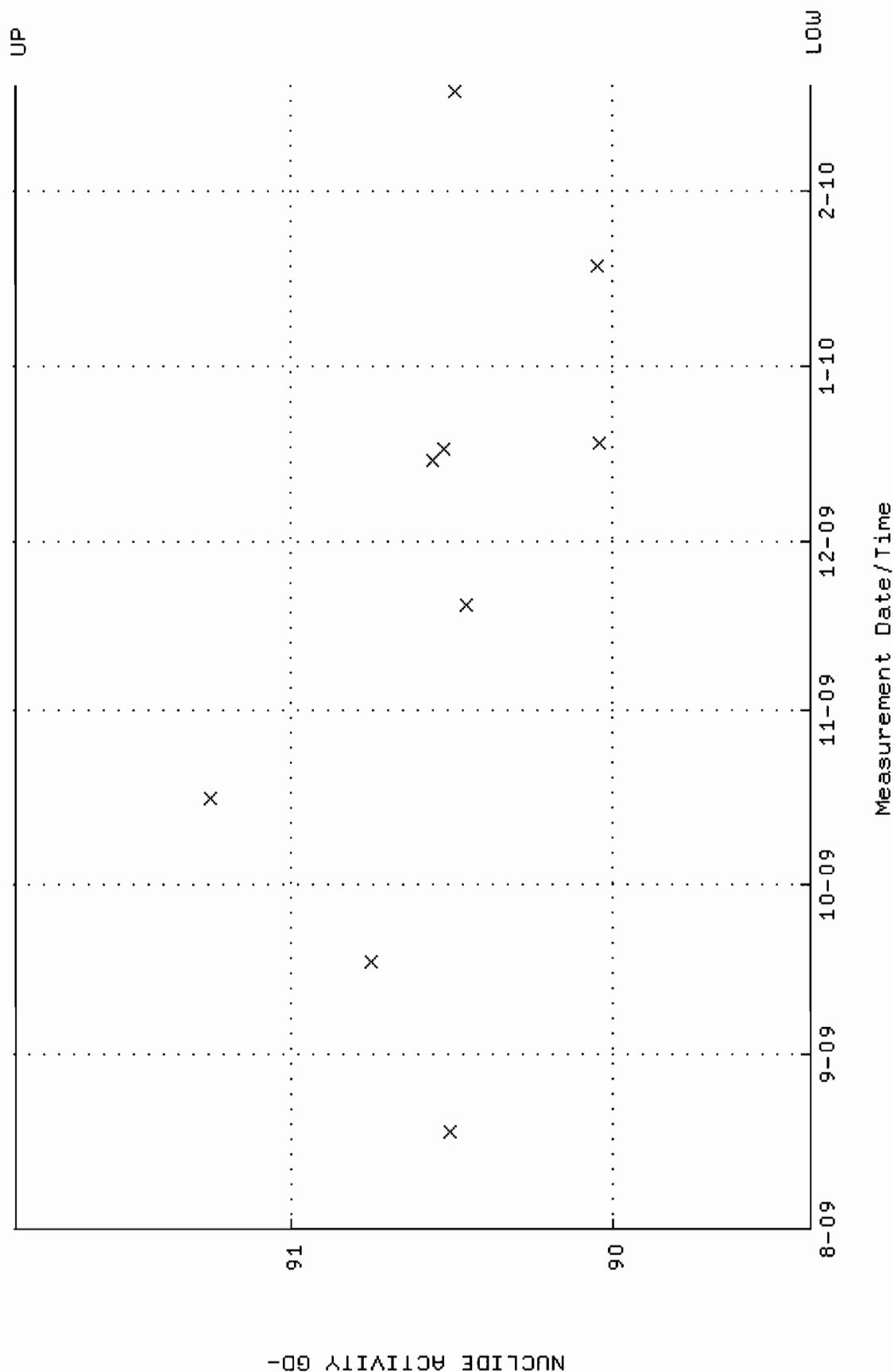
QA filename : DKA100:[ENV_ALPHA.QA.B]B119.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 3-AUG-2009 15:38:13 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



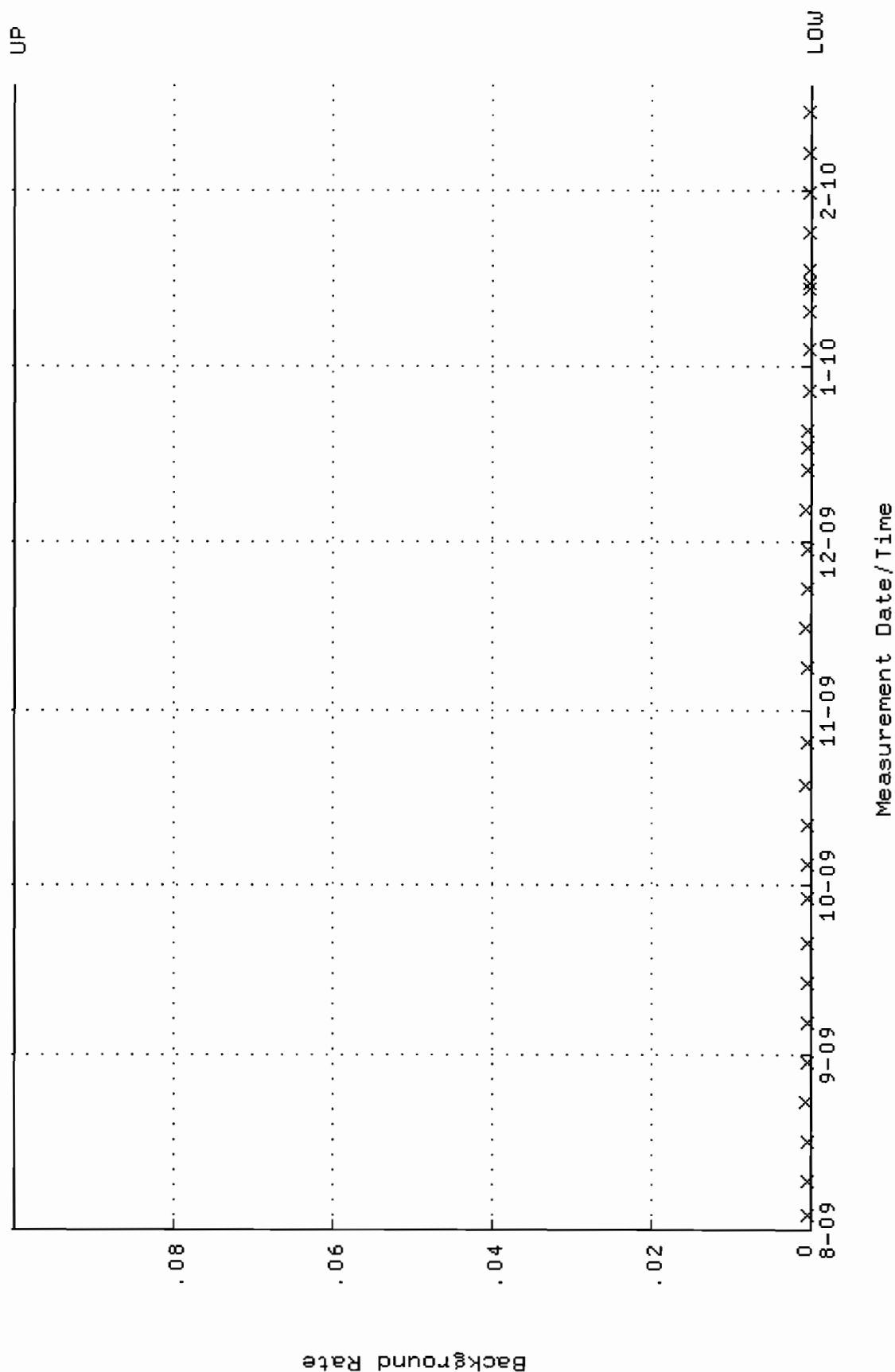
QA filename : DKA100:[ENV_ALPHA.QA.W]W120.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 18-AUG-2009 08:35:01 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.232847 through 0.282381



QA filename : DKA100:[ENV_ALPHA.QA.W]W120.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 18-AUG-2009 08:35:01 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.3881 through 91.8481



QA filename : DKA100:[ENV_ALPHA.QA.B]B120.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 3-AUG-2009 15:38:20 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

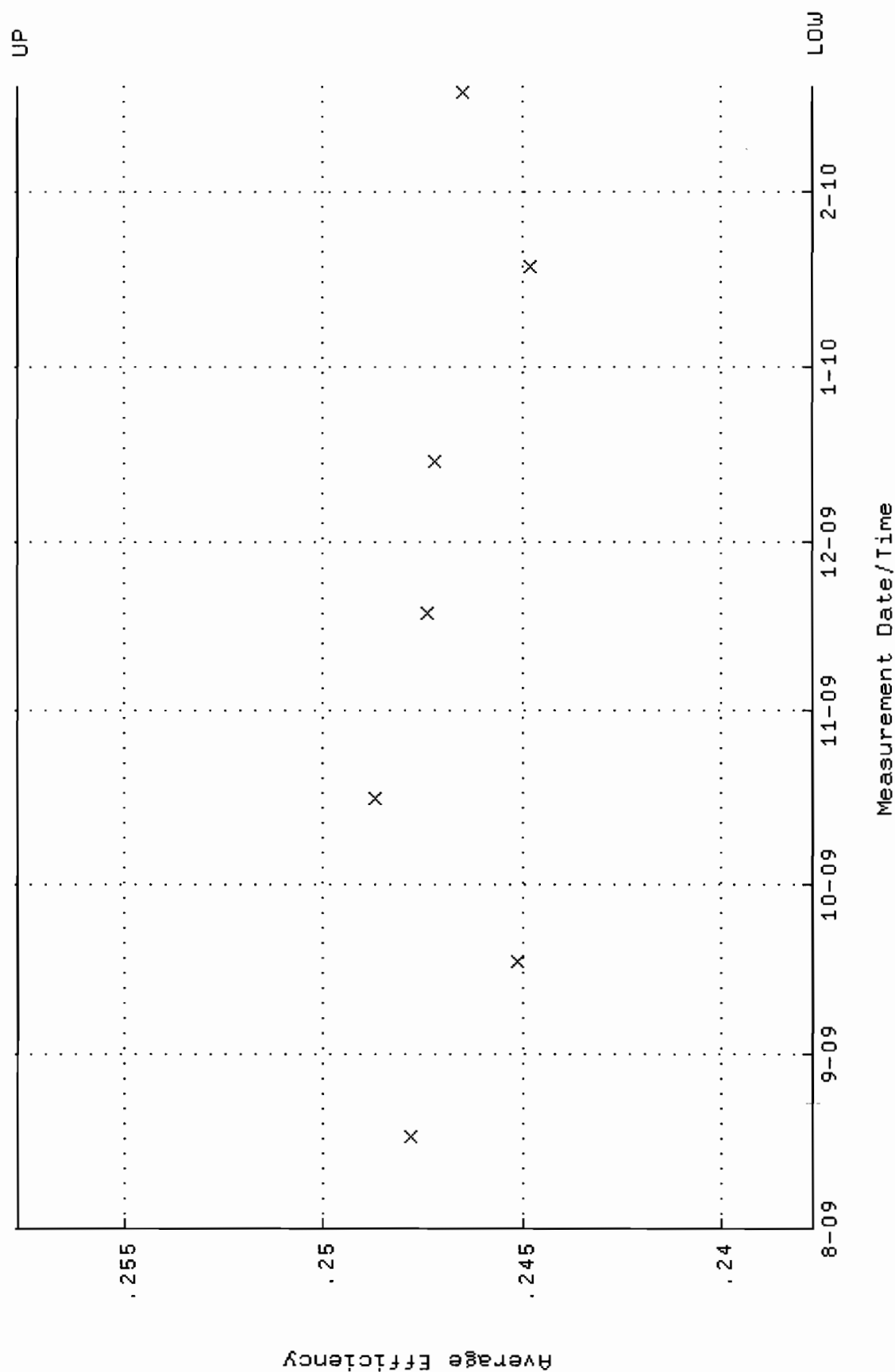


QA filename : DKA100:[ENV_ALPHA.QA.W]W121.QAF;1

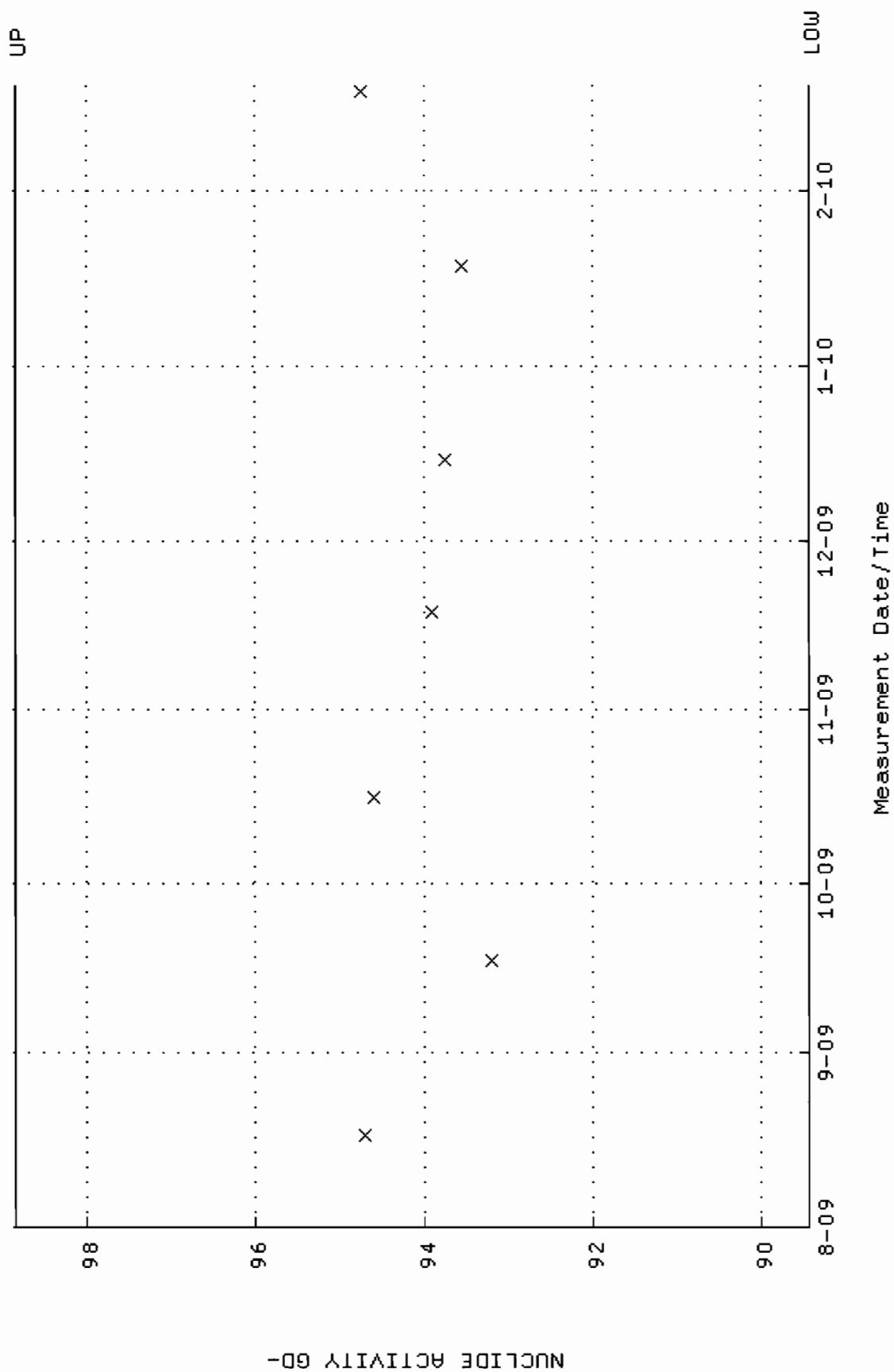
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-AUG-2009 09:41:25 through 19-FEB-2010 12:00:00

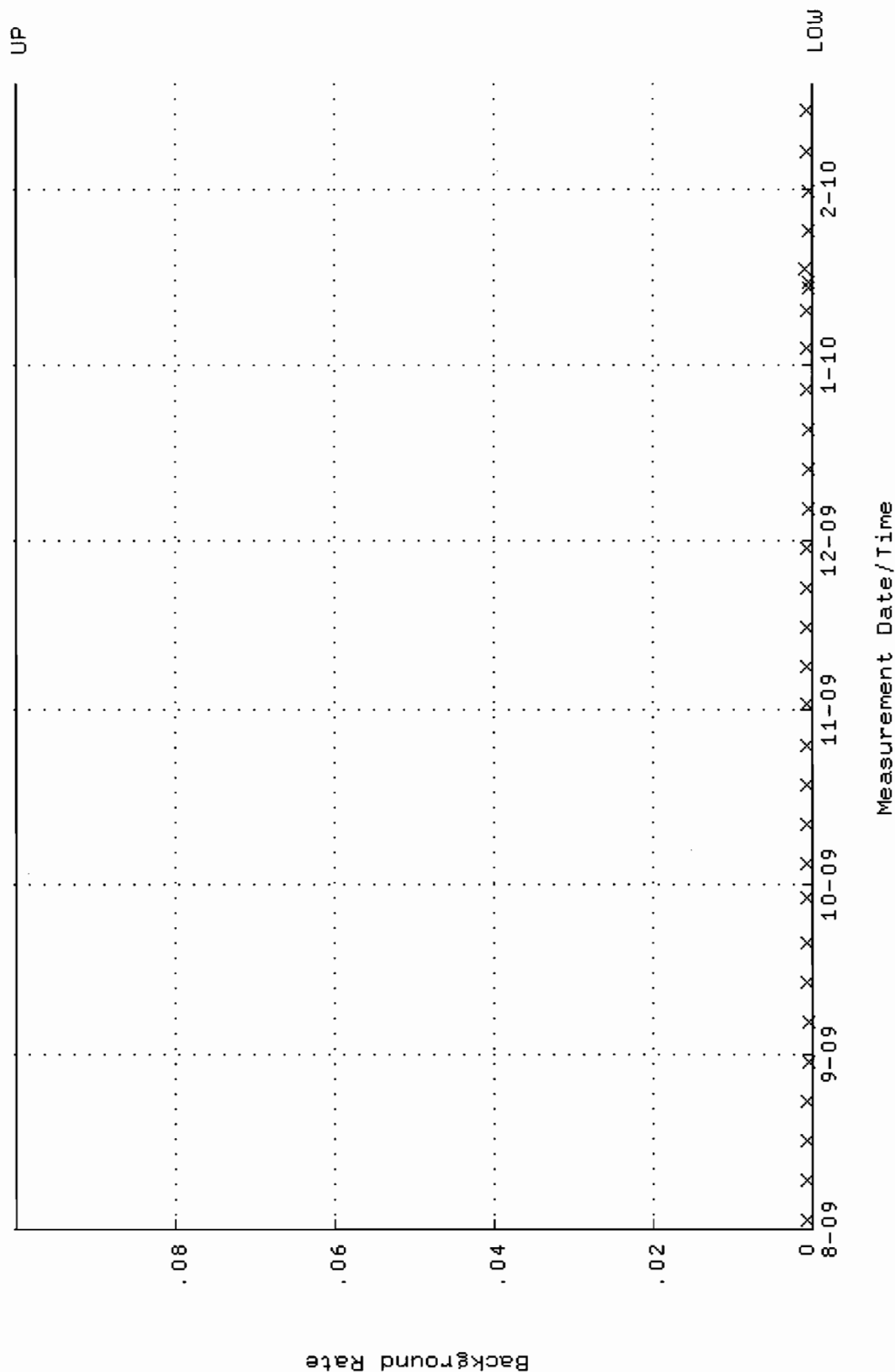
Lower/Upper Lmts: 0.237686 through 0.257686



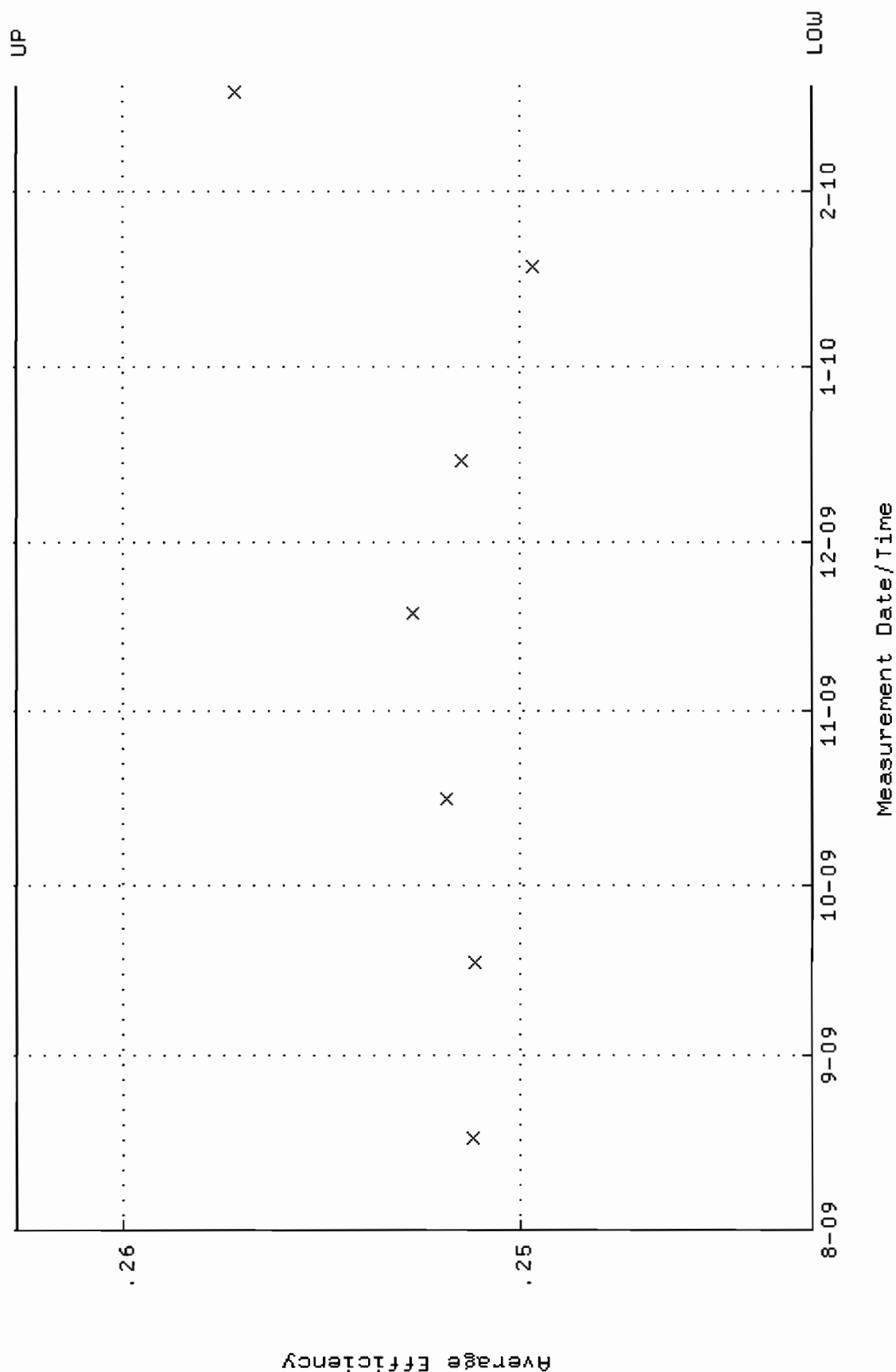
QA filename : DKA100:[ENV_ALPHA.QA.W]W121.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:25 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.4263 through 98.8395



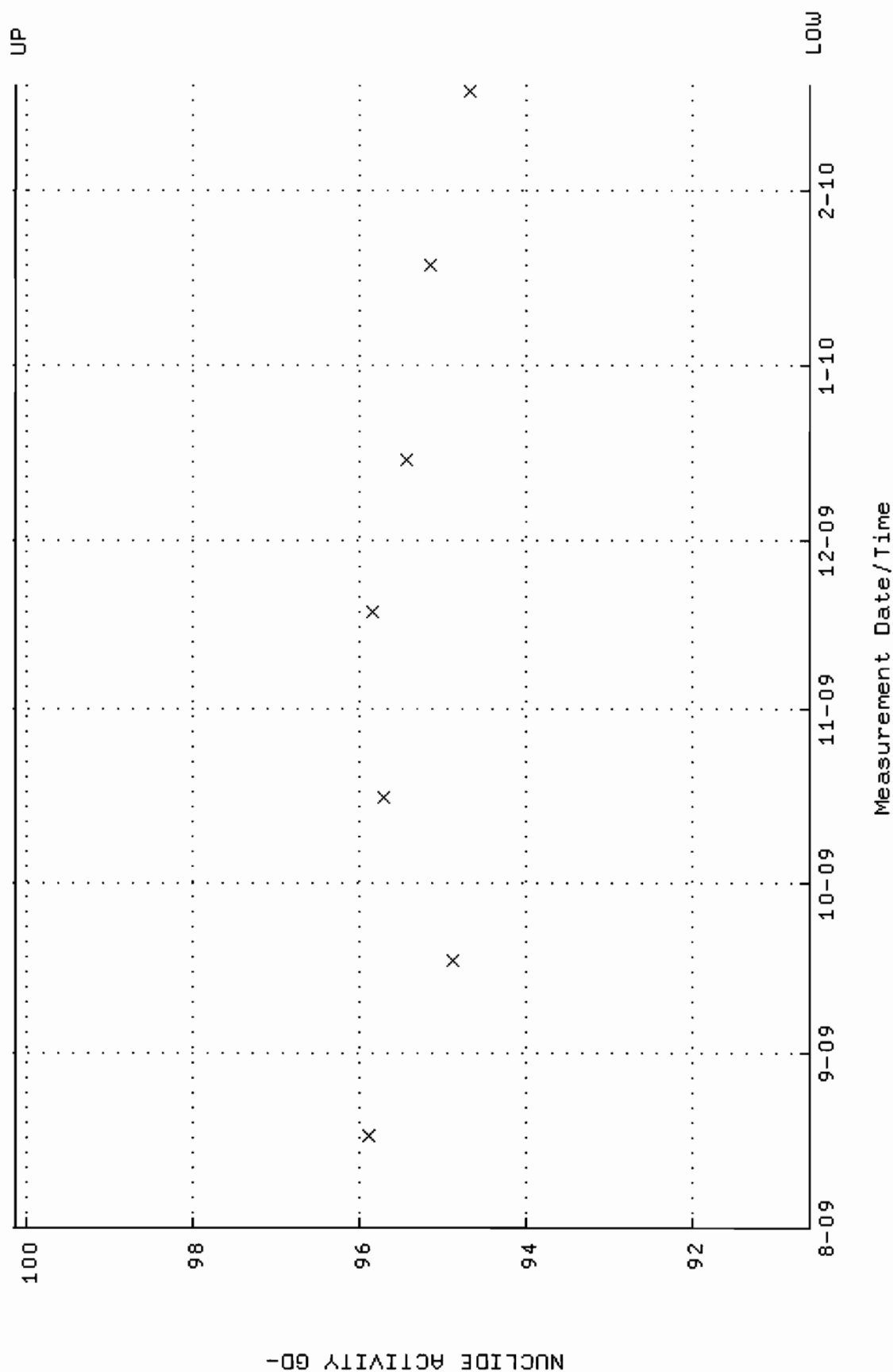
QA filename : DKA100:[ENV_ALPHA.QA.B]B121.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:33 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W122.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:30 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.242659 through 0.262659



QA filename : DKA100:[ENV_ALPHA.QA.W]w122.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:30 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 90.5949 through 100.131

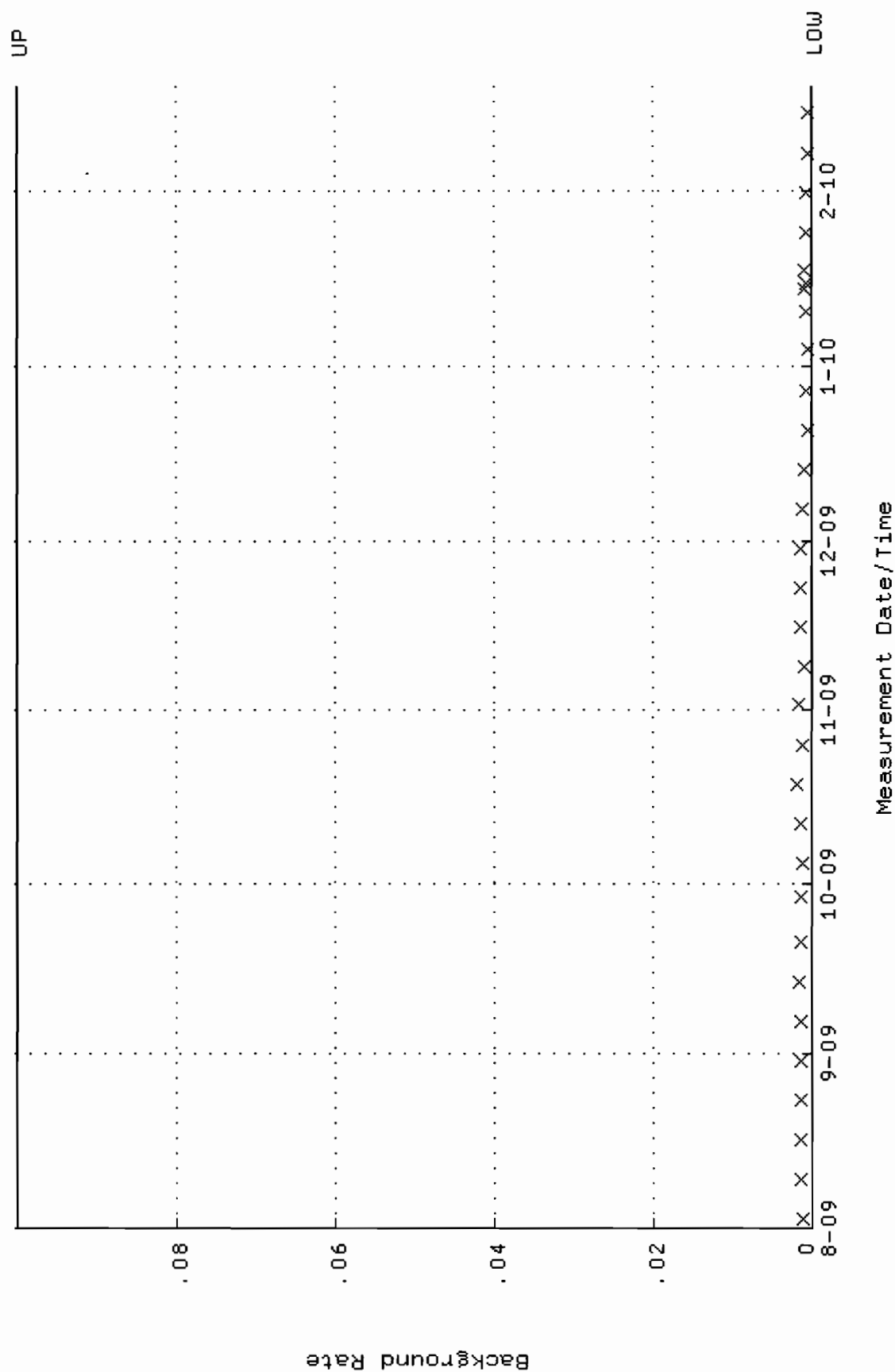


QA filename : DKA100:[ENV_ALPHA.QA.B]B122.QAF;1

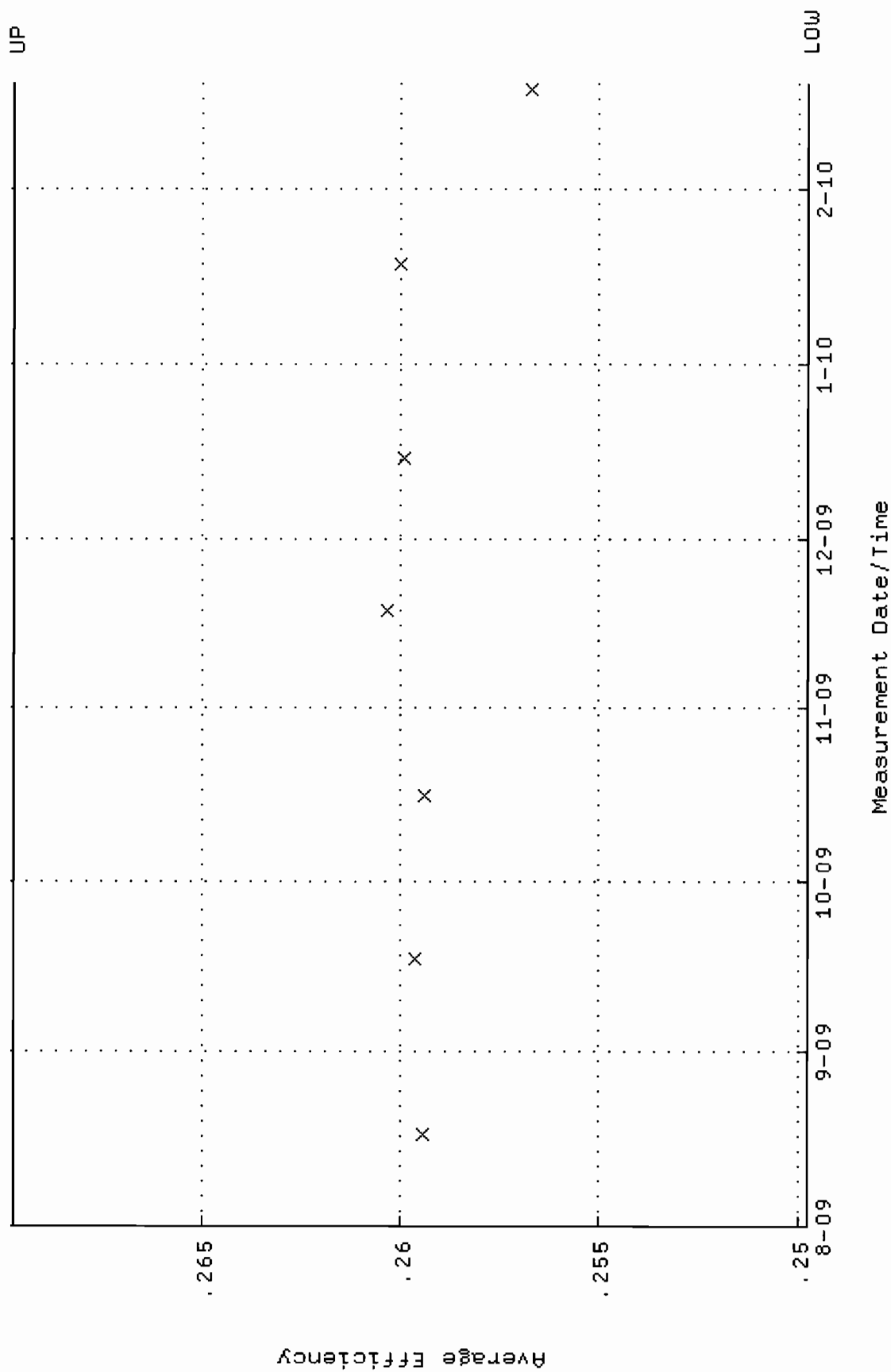
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:12:37 through 19-FEB-2010 12:00:00

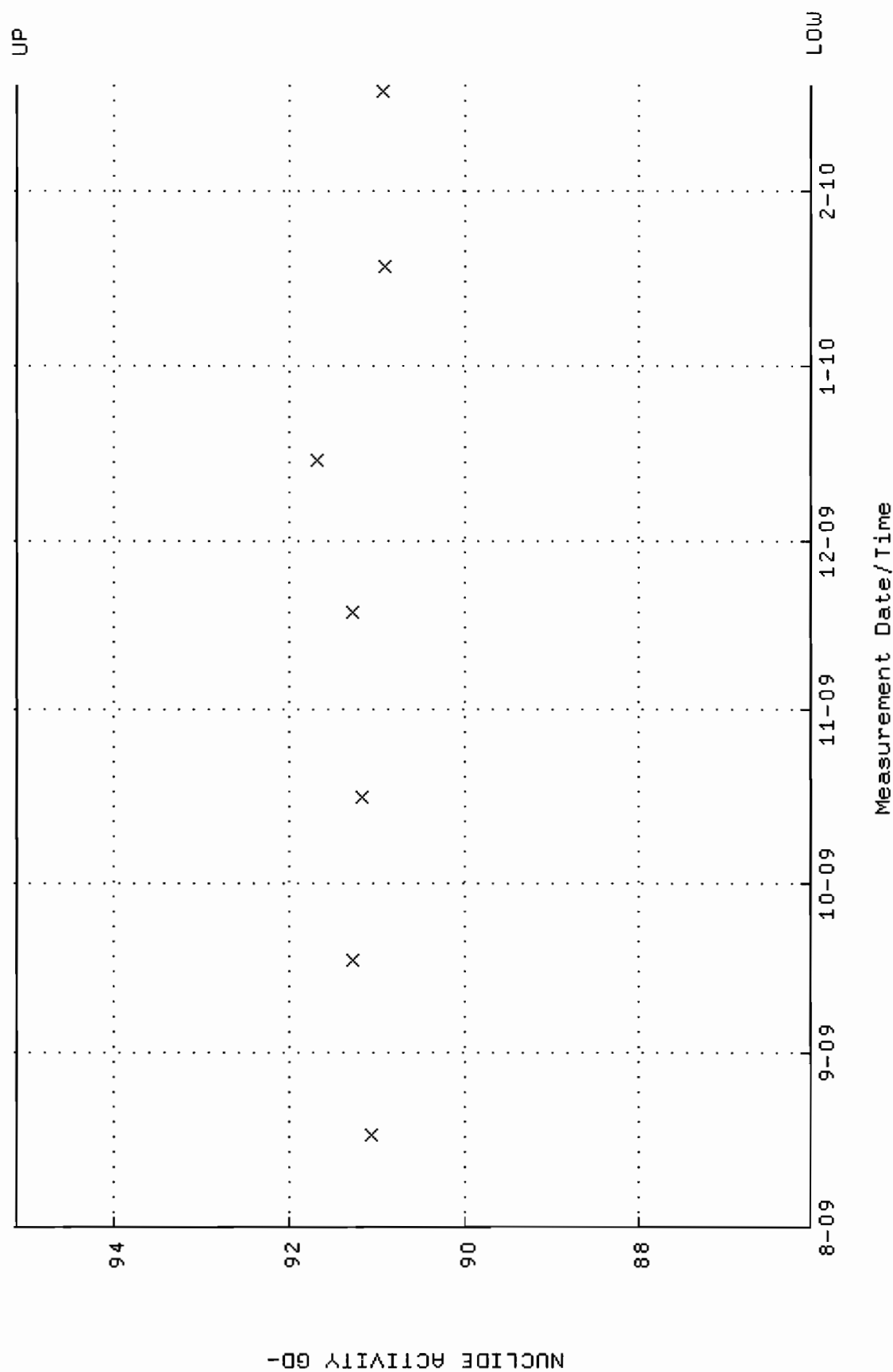
Lower/Upper Lmts: 0.000000E+00 through 0.100000



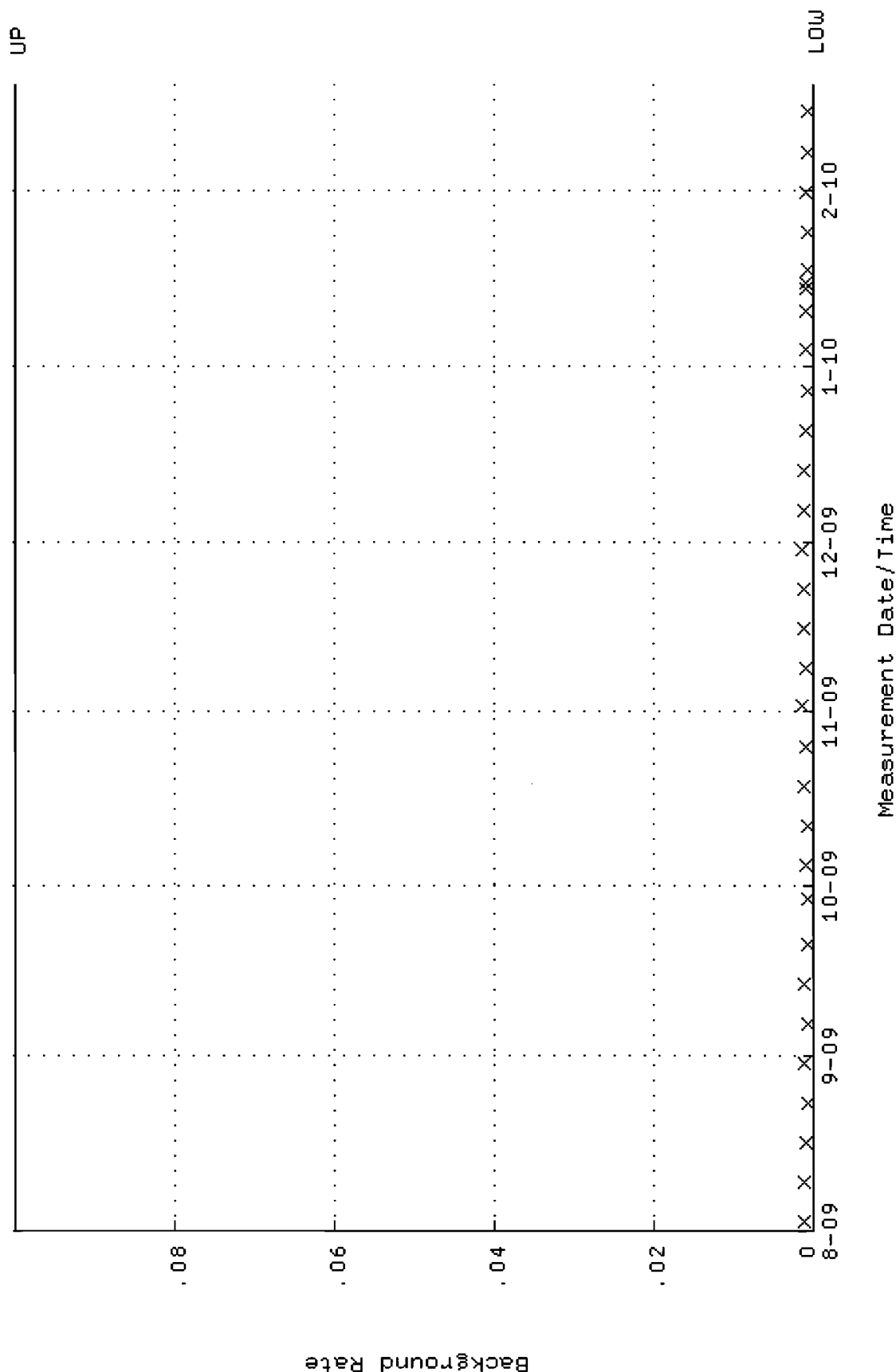
QA filename : DKA100:[ENV_ALPHA.QA.W]W123.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:34 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.249752 through 0.269752



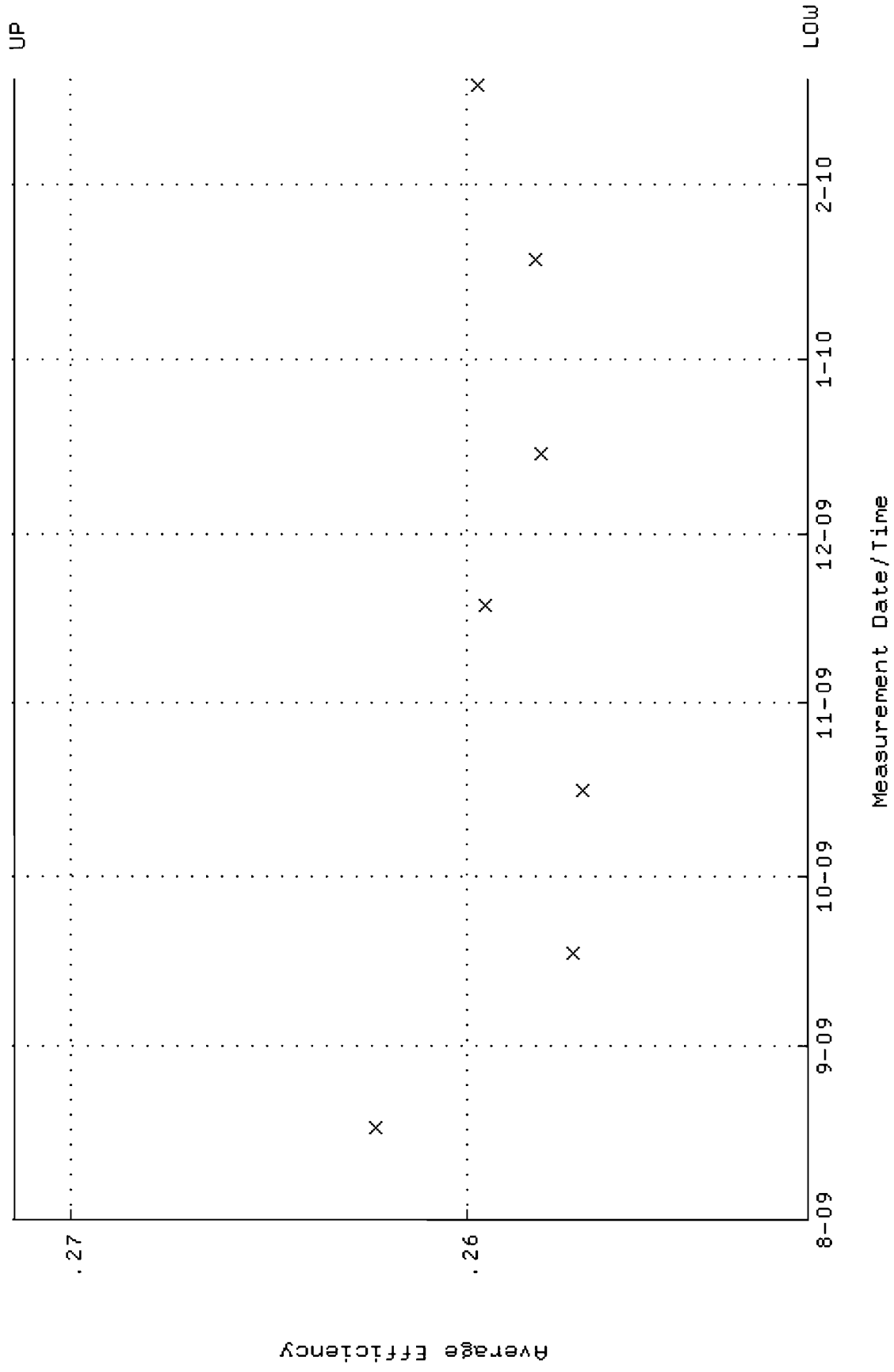
QA filename : DKA100:[ENV_ALPHA.QA.W]w123.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:34 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.0496 through 95.1074



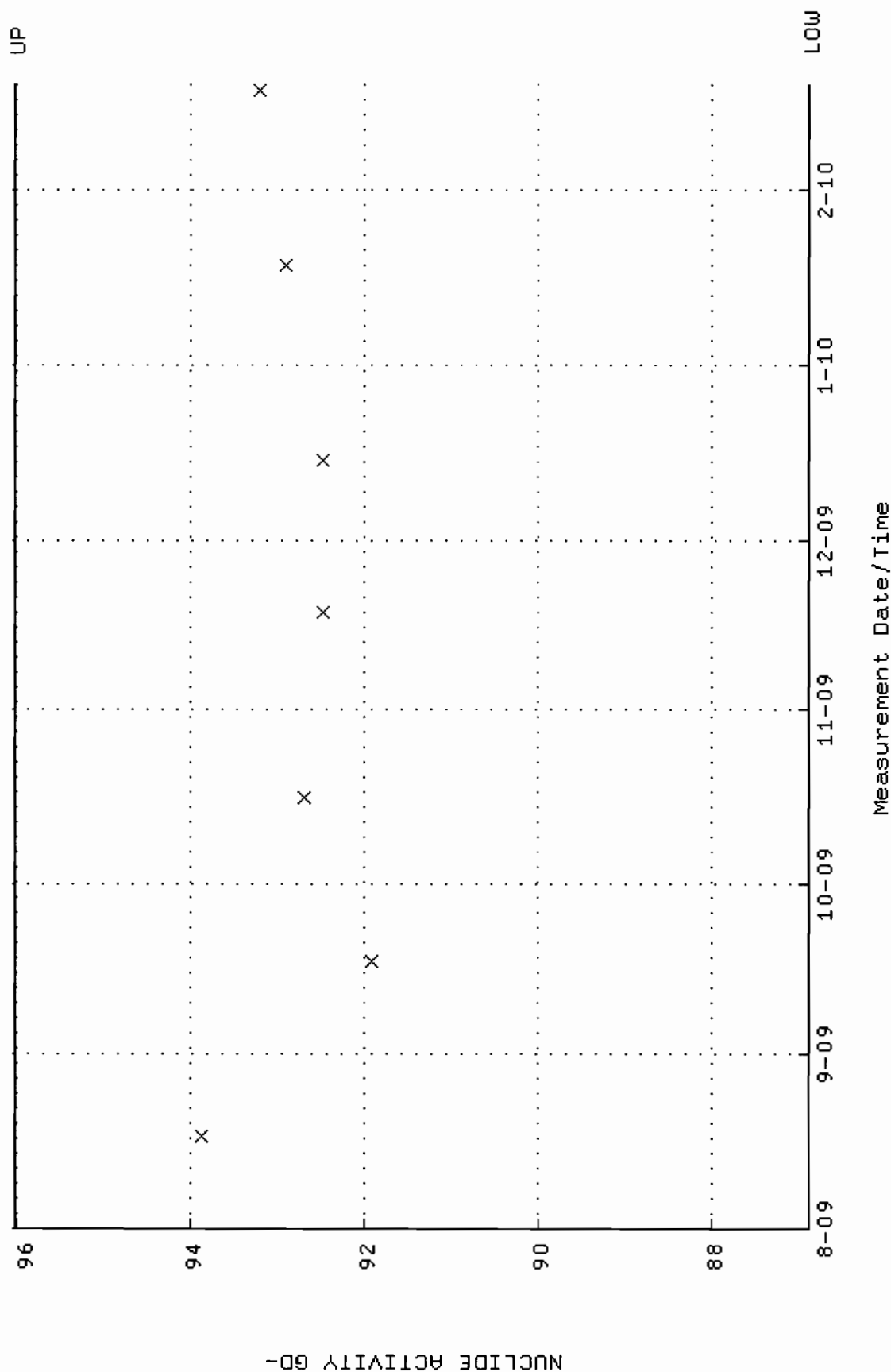
QA filename : DKA100:[ENV_ALPHA.QA.B]B123.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:42 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



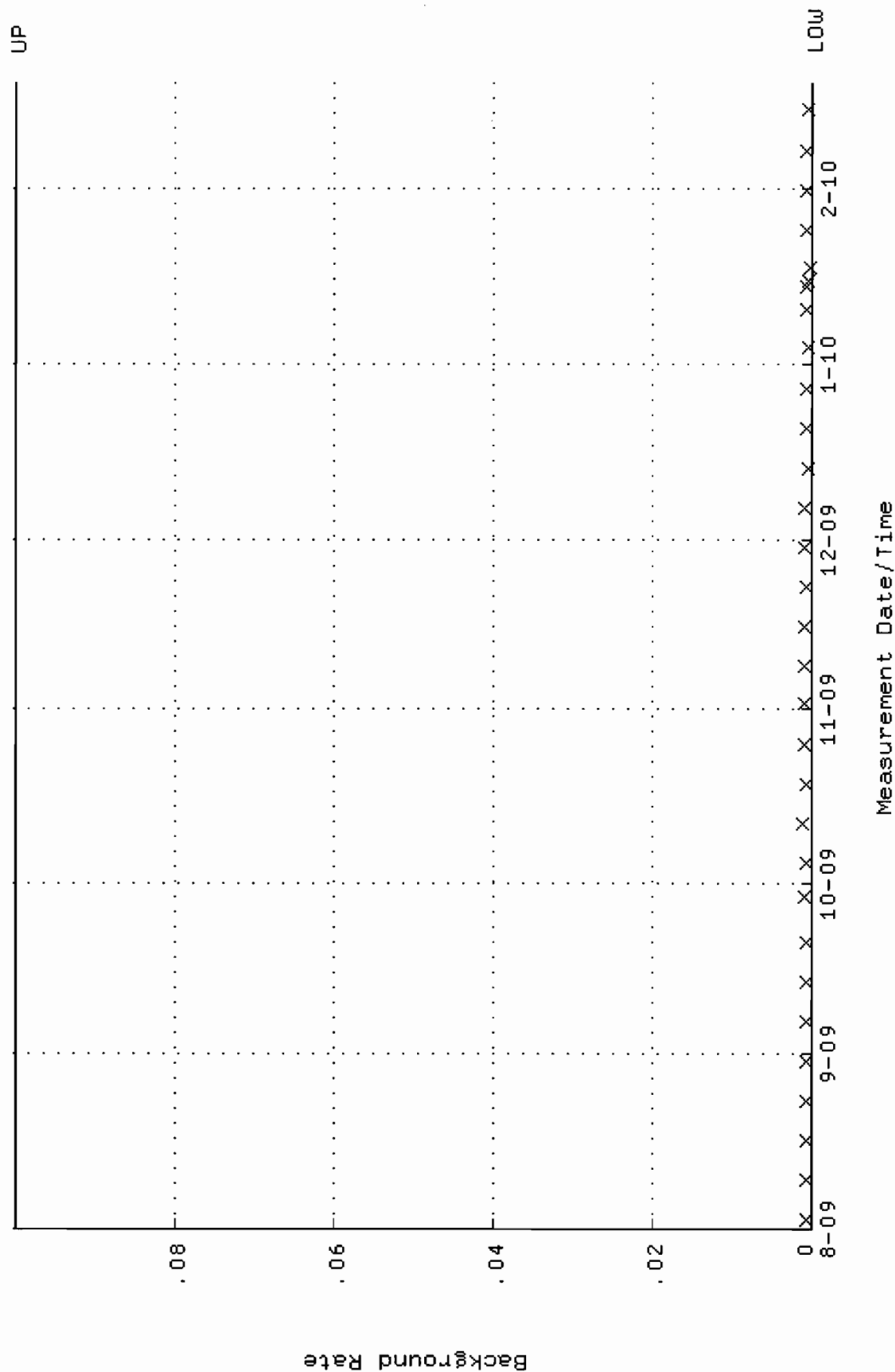
QA filename : DKA100:[ENV_ALPHA,QA,W]W124.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:39 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.251398 through 0.271398



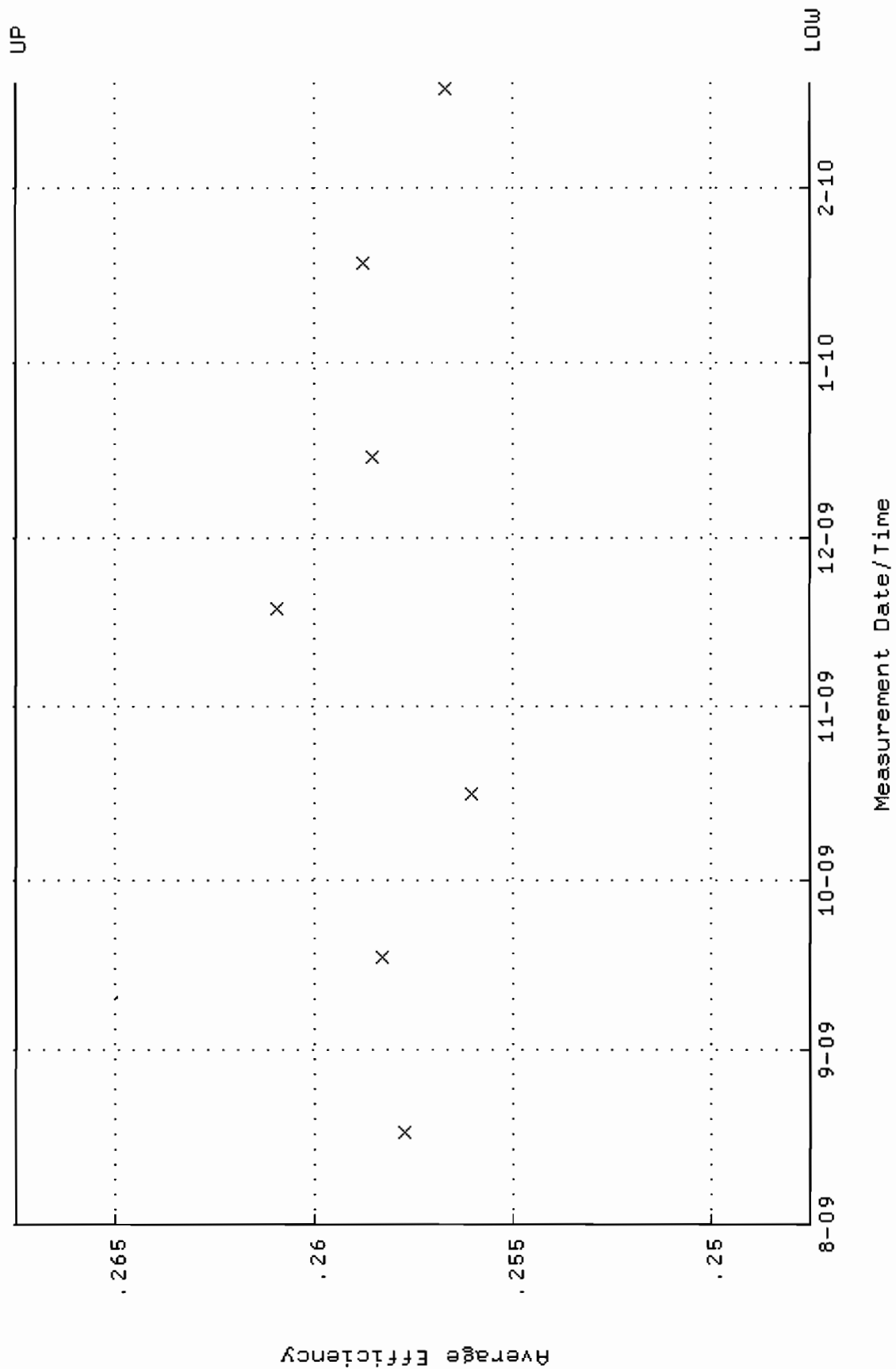
QA filename : DKA100:[ENV_ALPHA.QA.w]w124.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:39 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.8862 through 96.0322



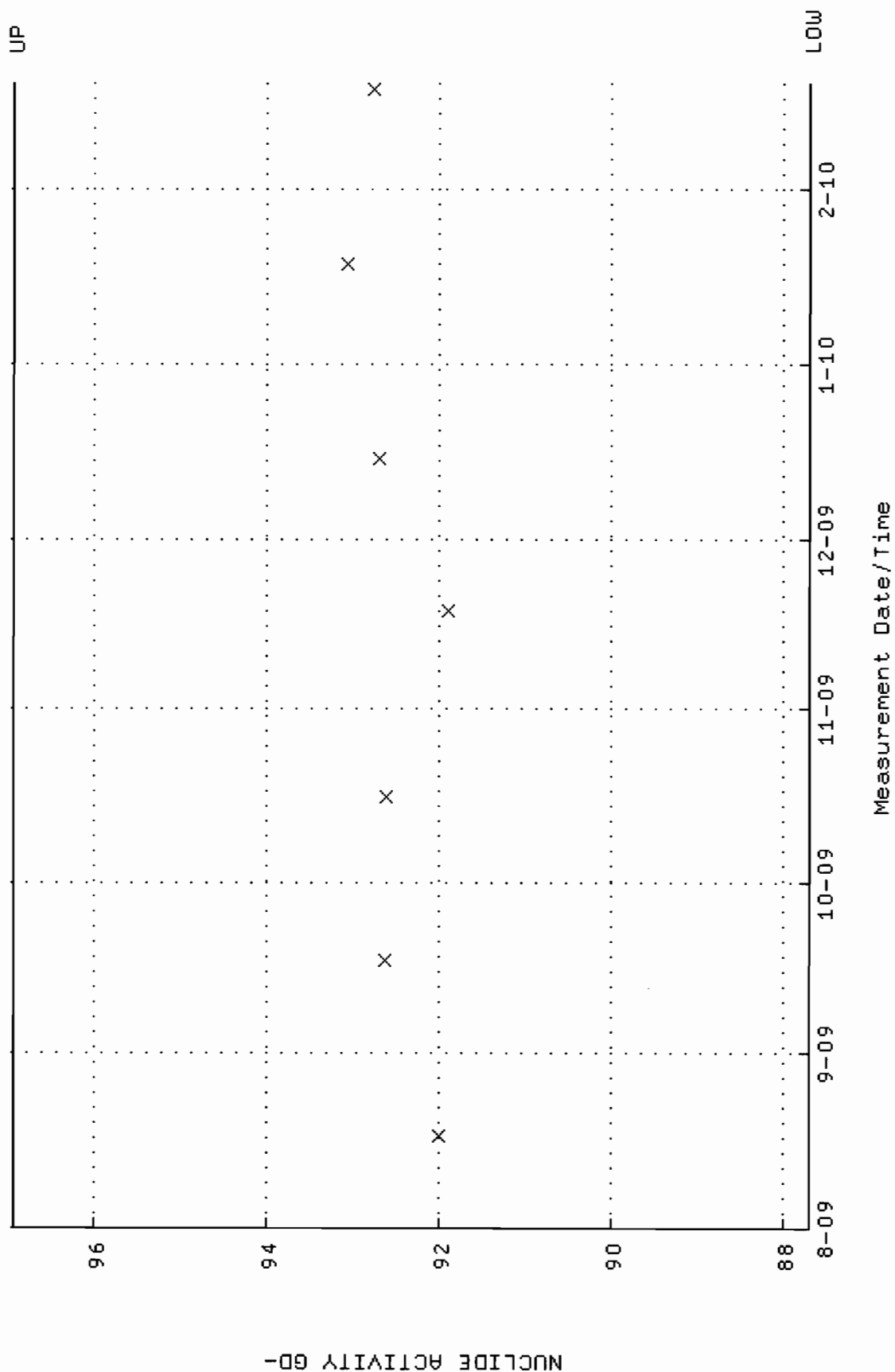
QA filename : DKA100:[ENV_ALPHA.QA.B]B124.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:47 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



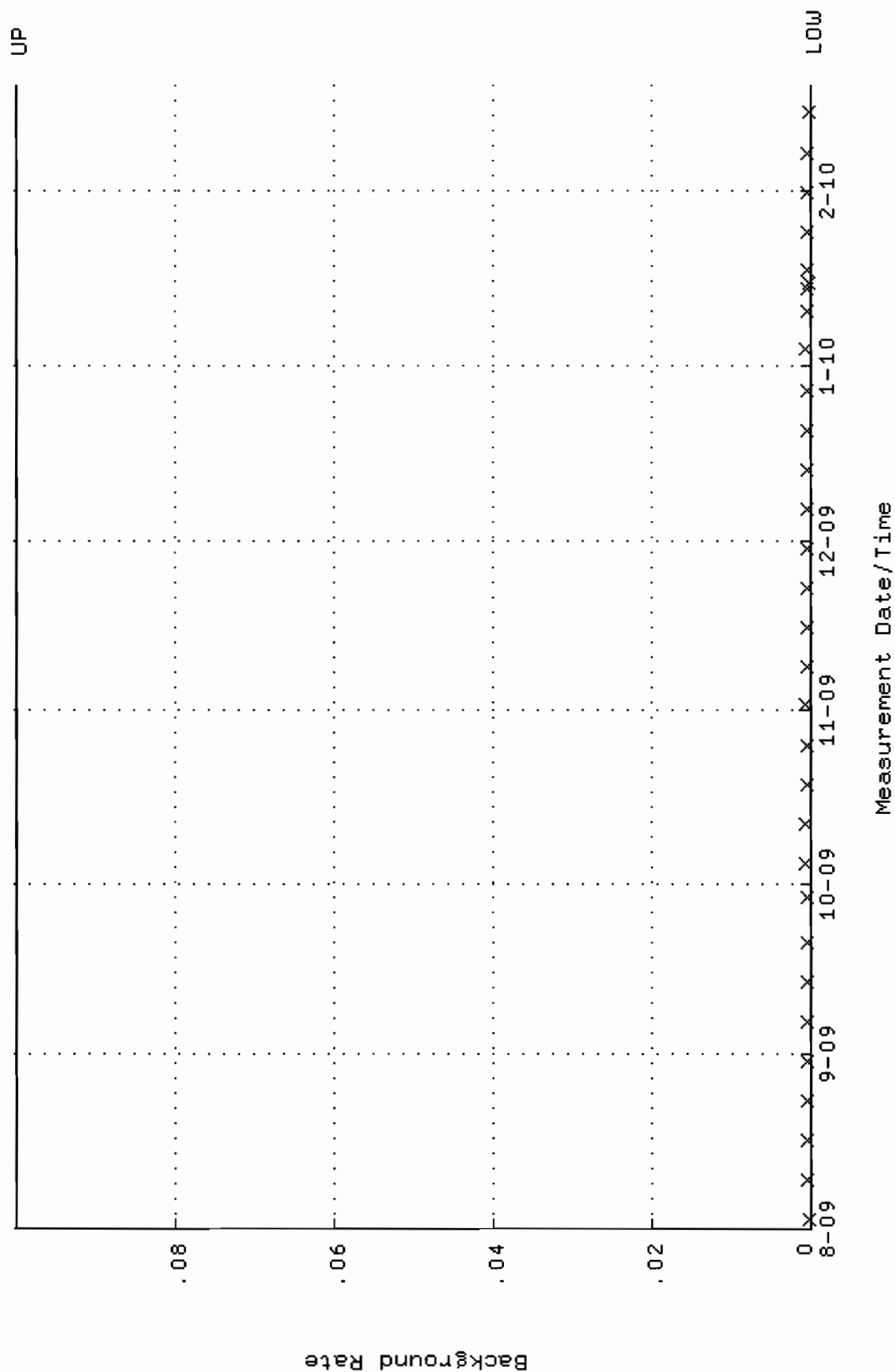
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:44 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.247512 through 0.267512



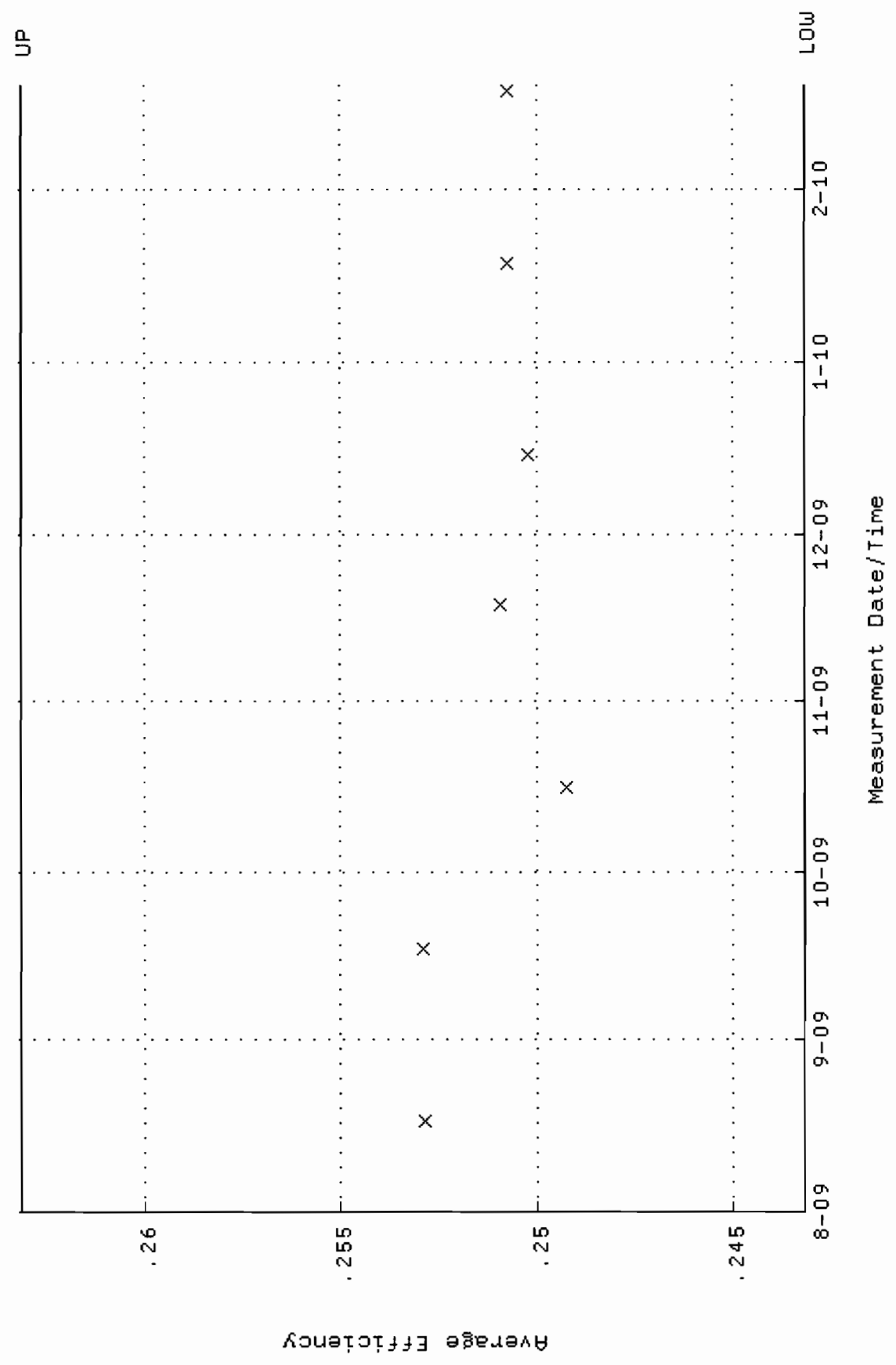
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:44 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.6956 through 96.9268



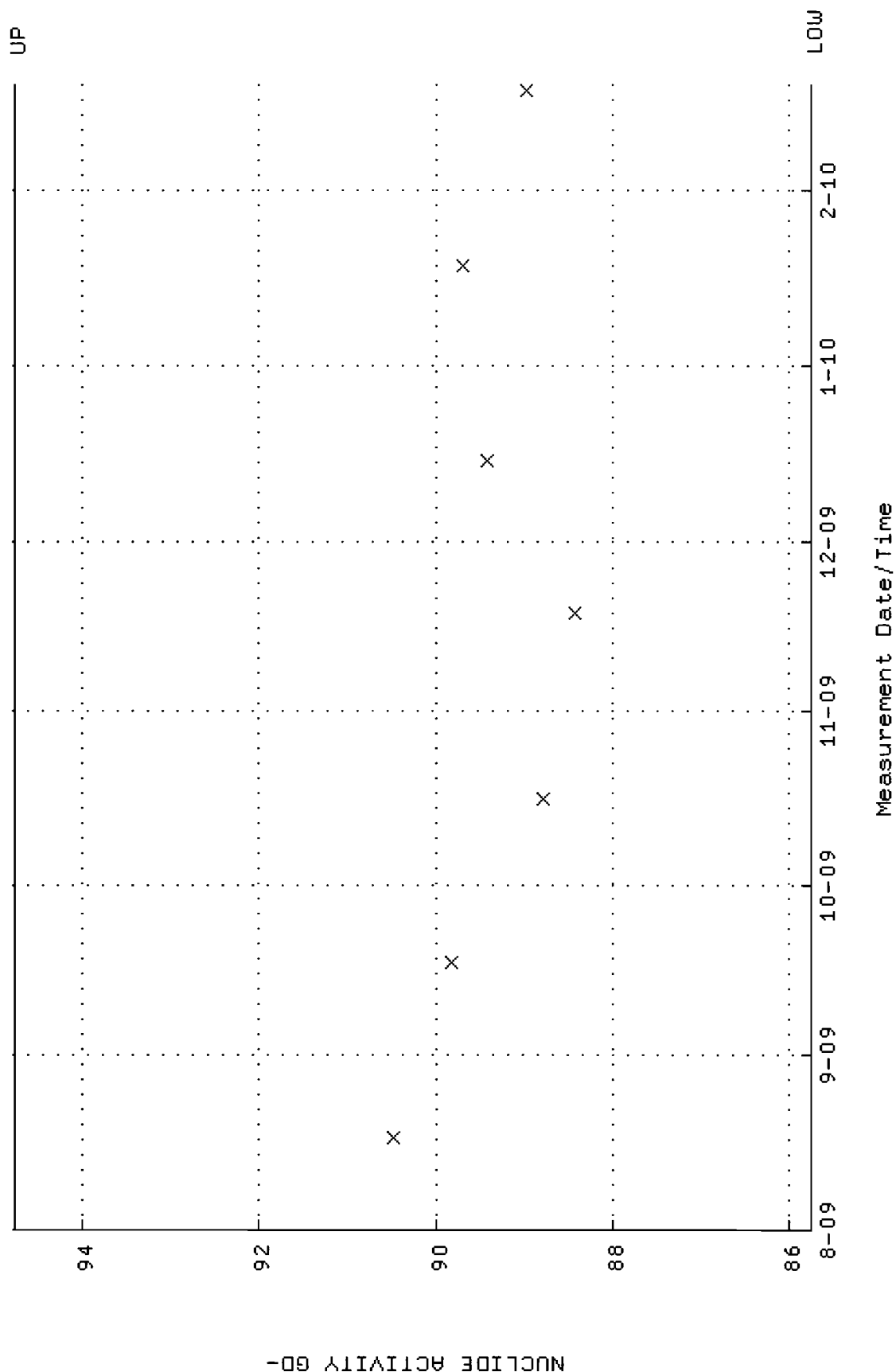
QA filename : DKA100:[ENV_ALPHA.QA.B]B125.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:51 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



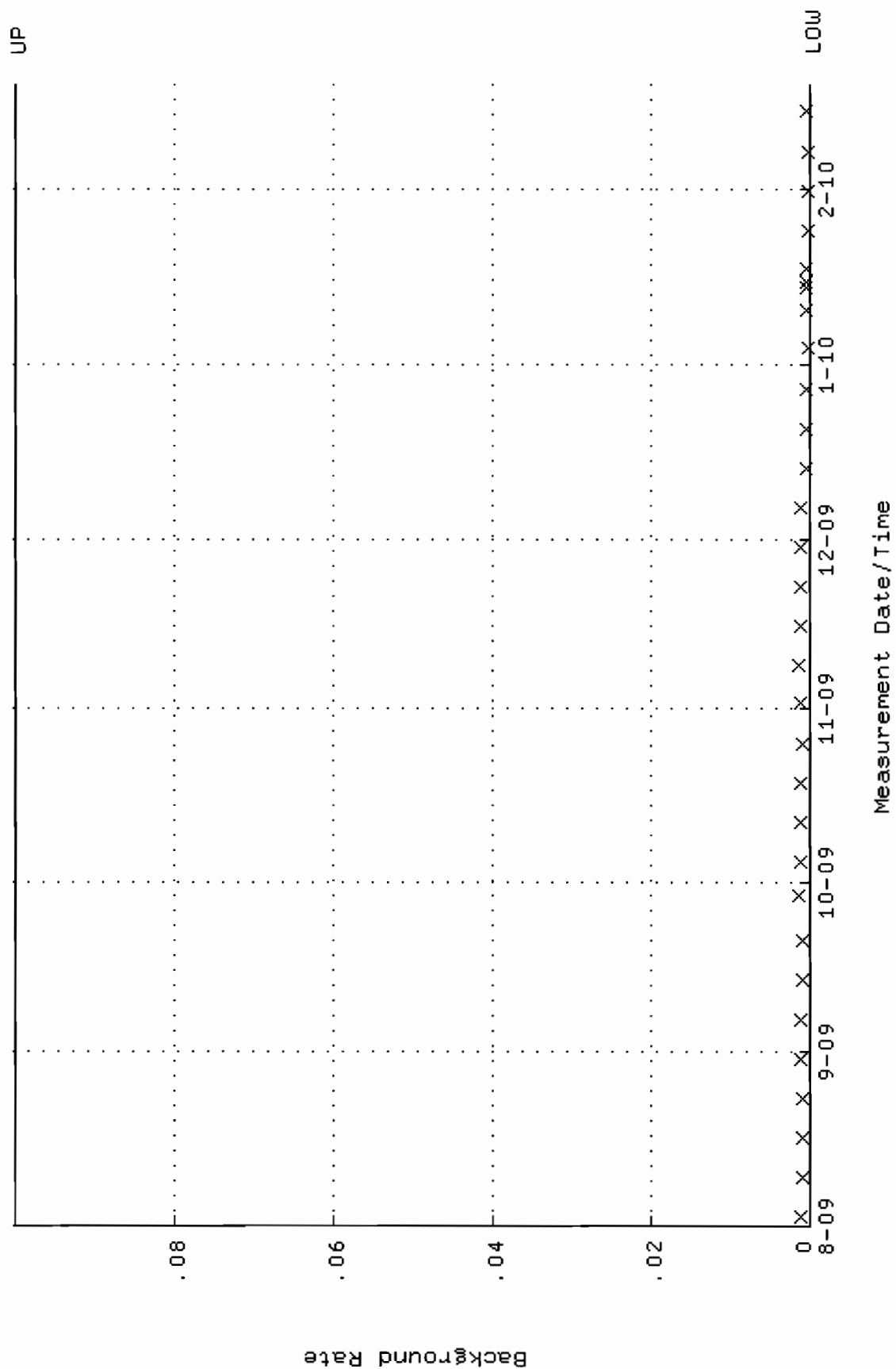
QA filename : DKA100:[ENV_ALPHA.QA.W]W126.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:49 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.243156 through 0.263156



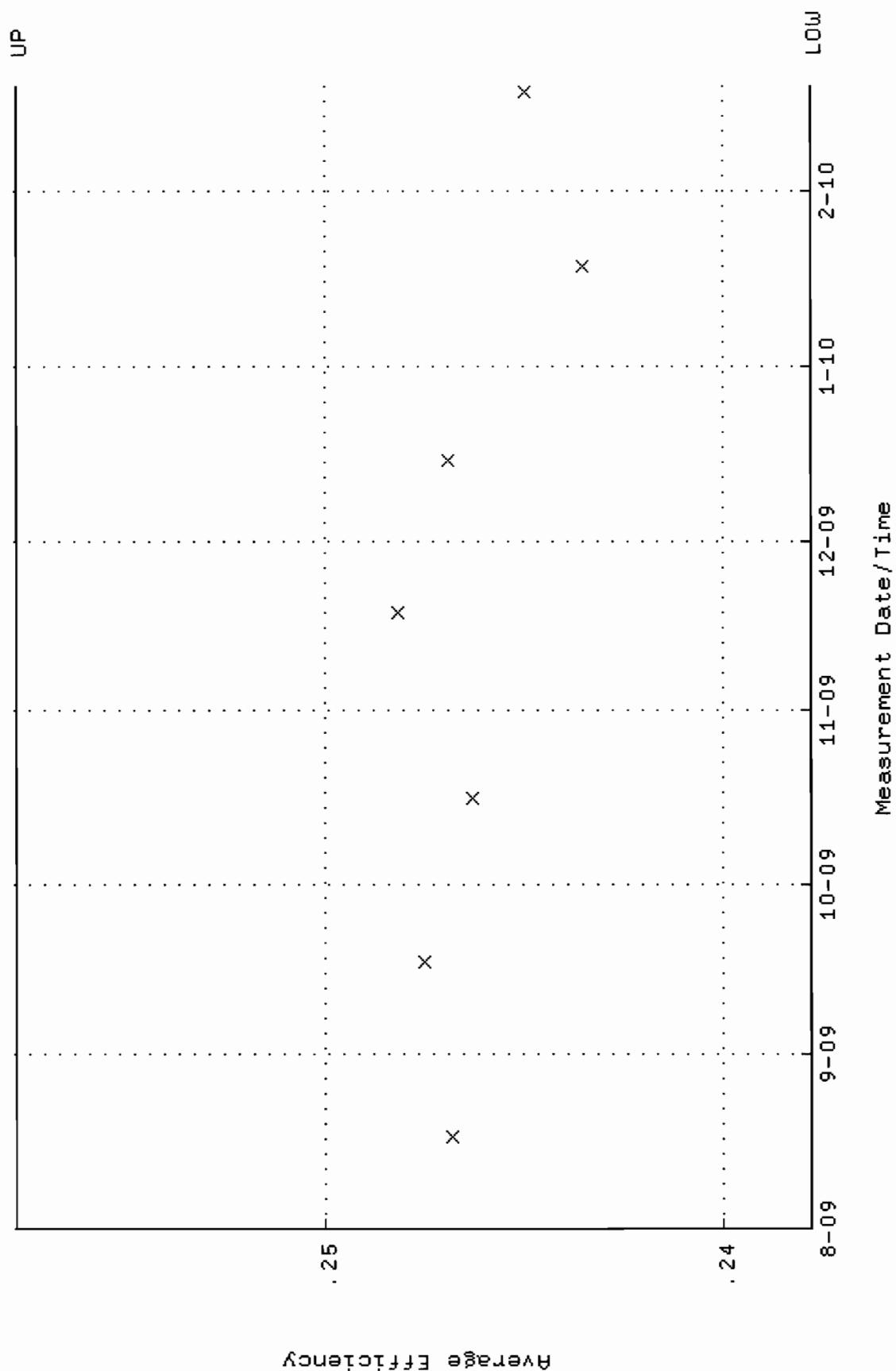
QA filename : DKA100:[ENV_ALPHA.QA.W]W126.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:49 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.7449 through 94.7707



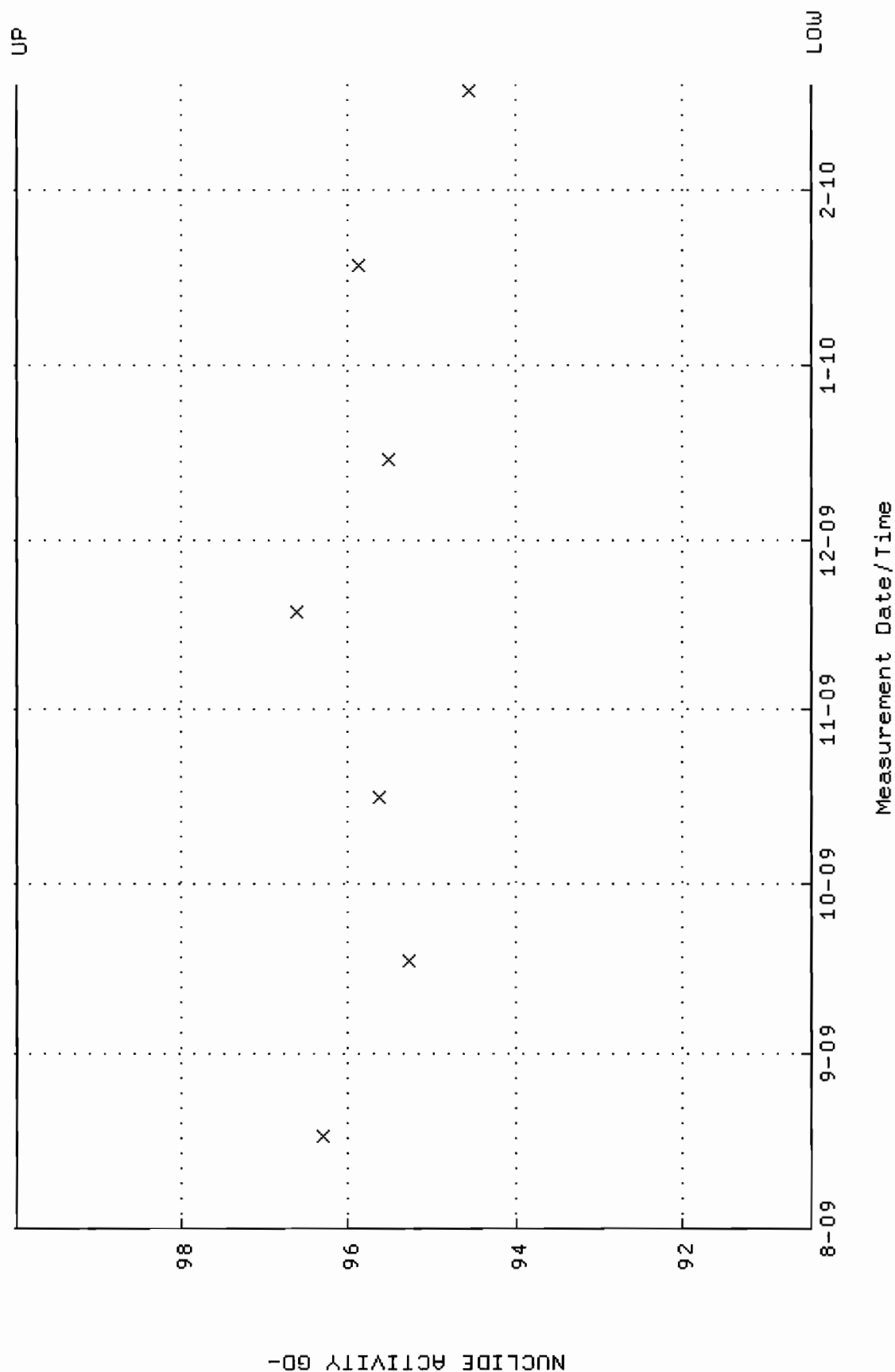
QA filename : DKA100:[ENV_ALPHA.QA.B]B126.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:55 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



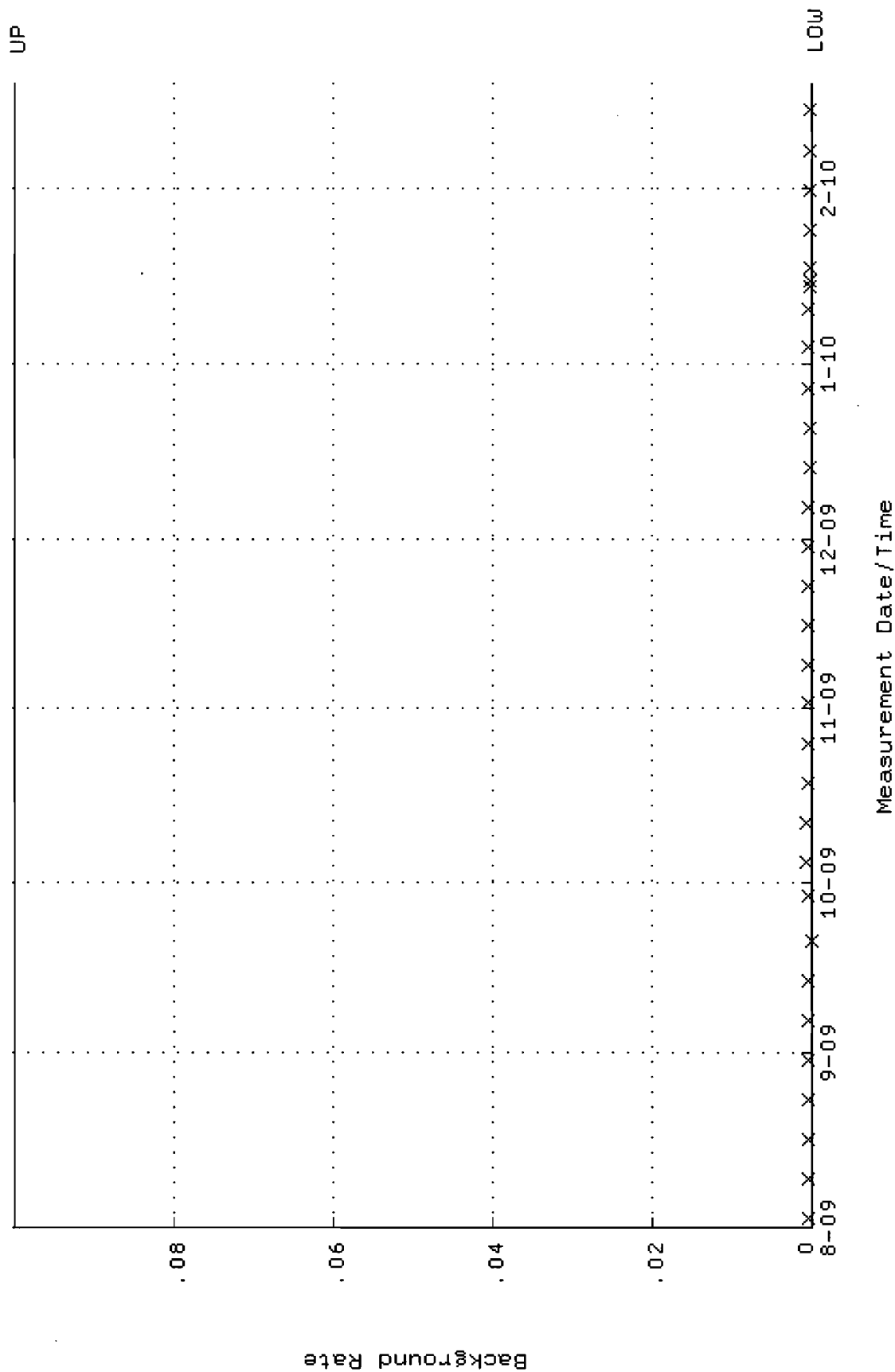
QA filename : DKA100:[ENV_ALPHA.QA.W]U127.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:53 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.237773 through 0.257773



QA filename : DKA100:[ENV_ALPHA.QA.W]W127.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:53 through 19-FEB-2010 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 : 2-AUG-2009 17:13:00 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

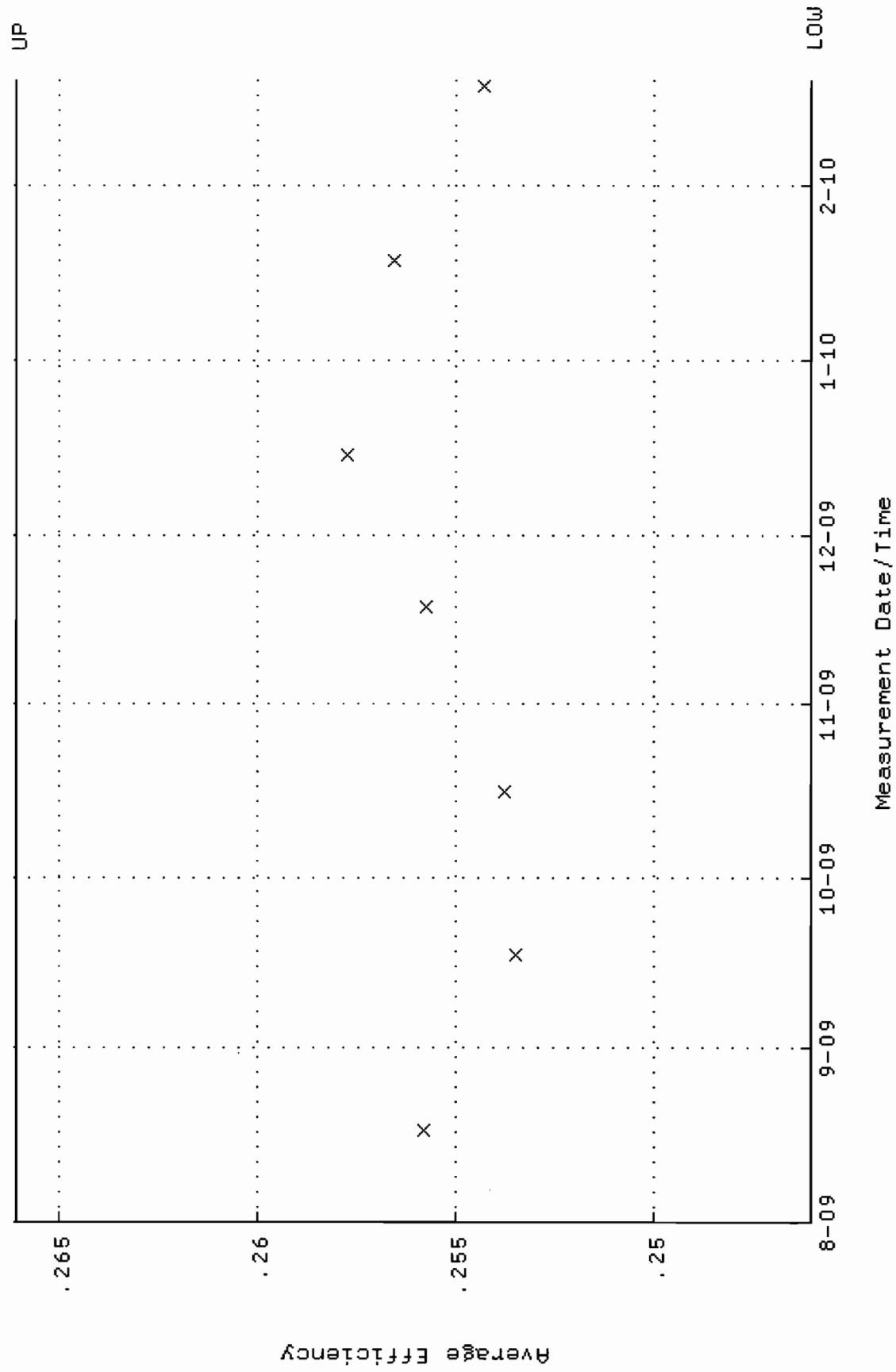


QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1

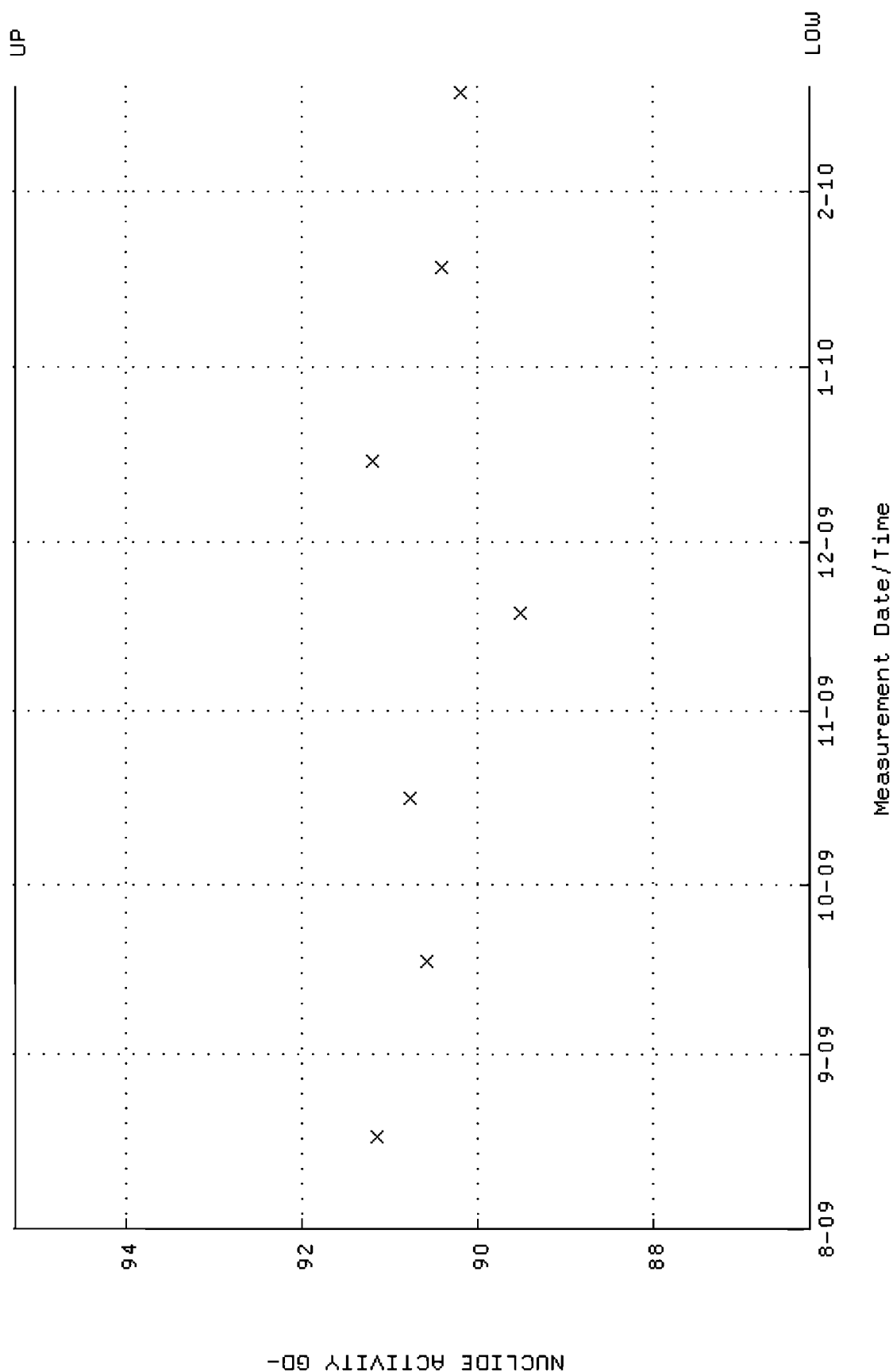
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-AUG-2009 09:41:59 through 19-FEB-2010 12:00:00

Lower/Upper Lmts: 0.246062 through 0.266062



QA filename : DKA100:[ENV_ALPHA.QA.W]W128.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:59 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.1964 through 95.2697



UP

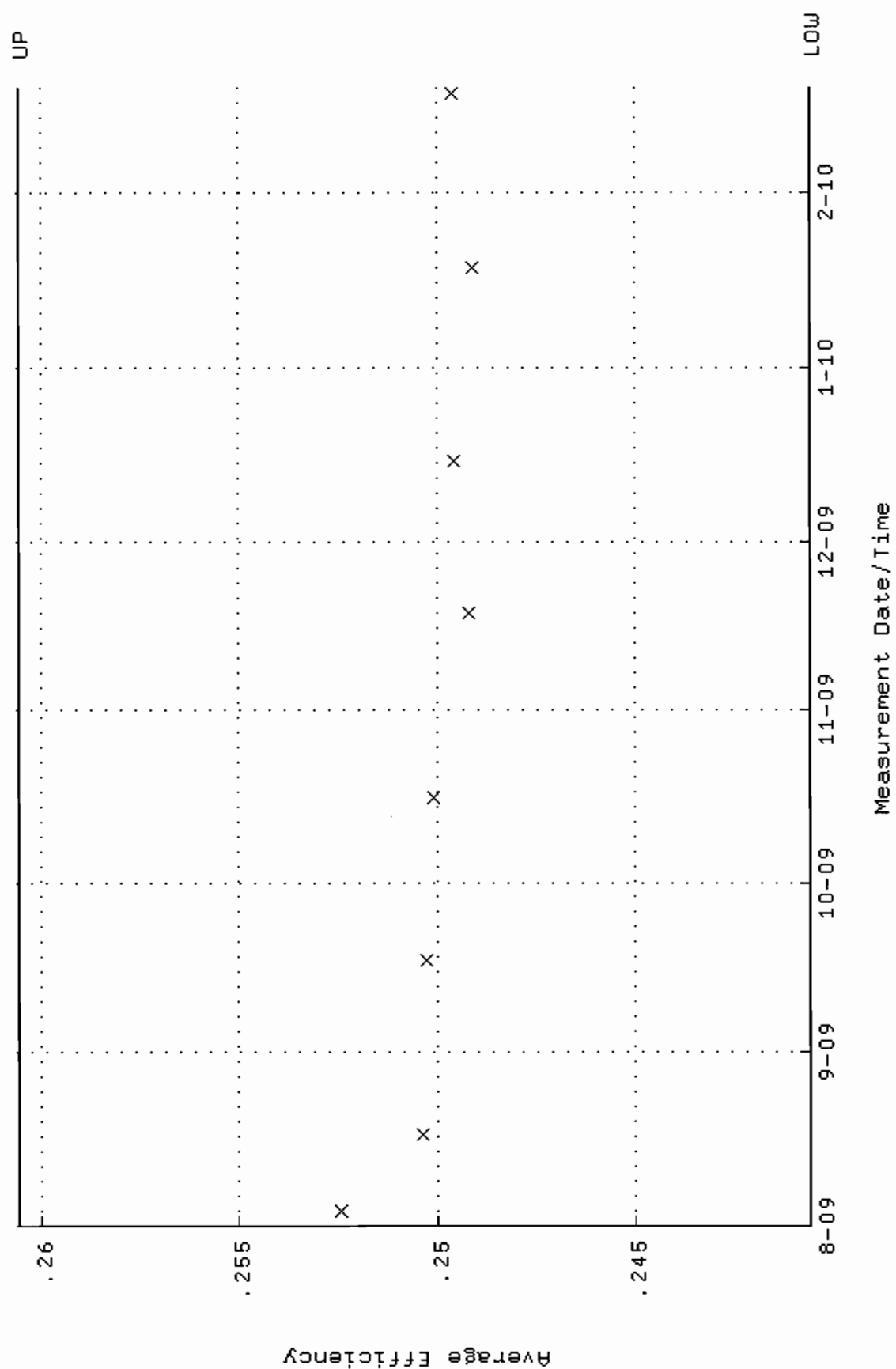
Background Rate

Measurement Date/Time

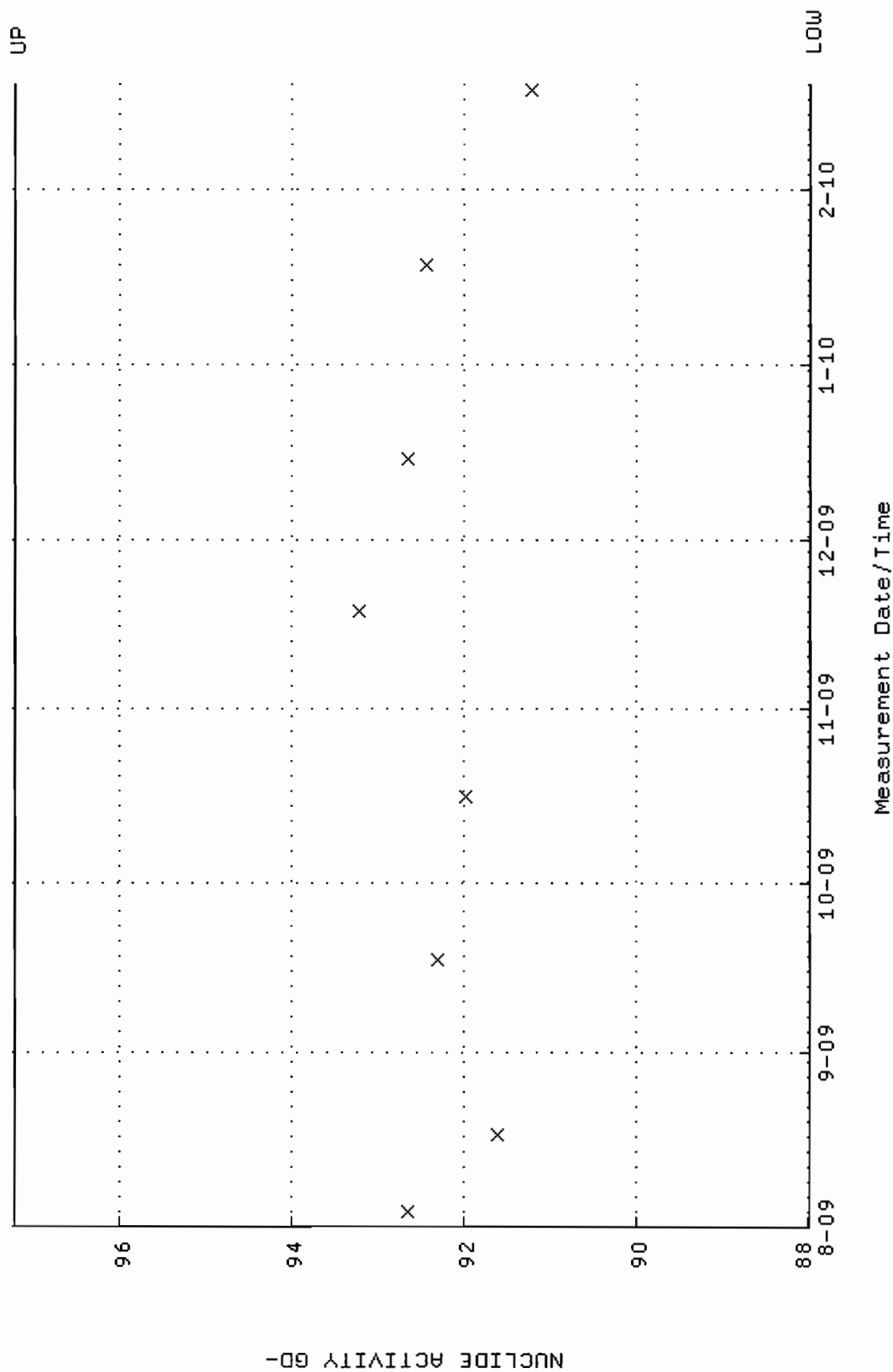
8-09 9-09 10-09 11-09 12-09 1-10 2-10

LOW

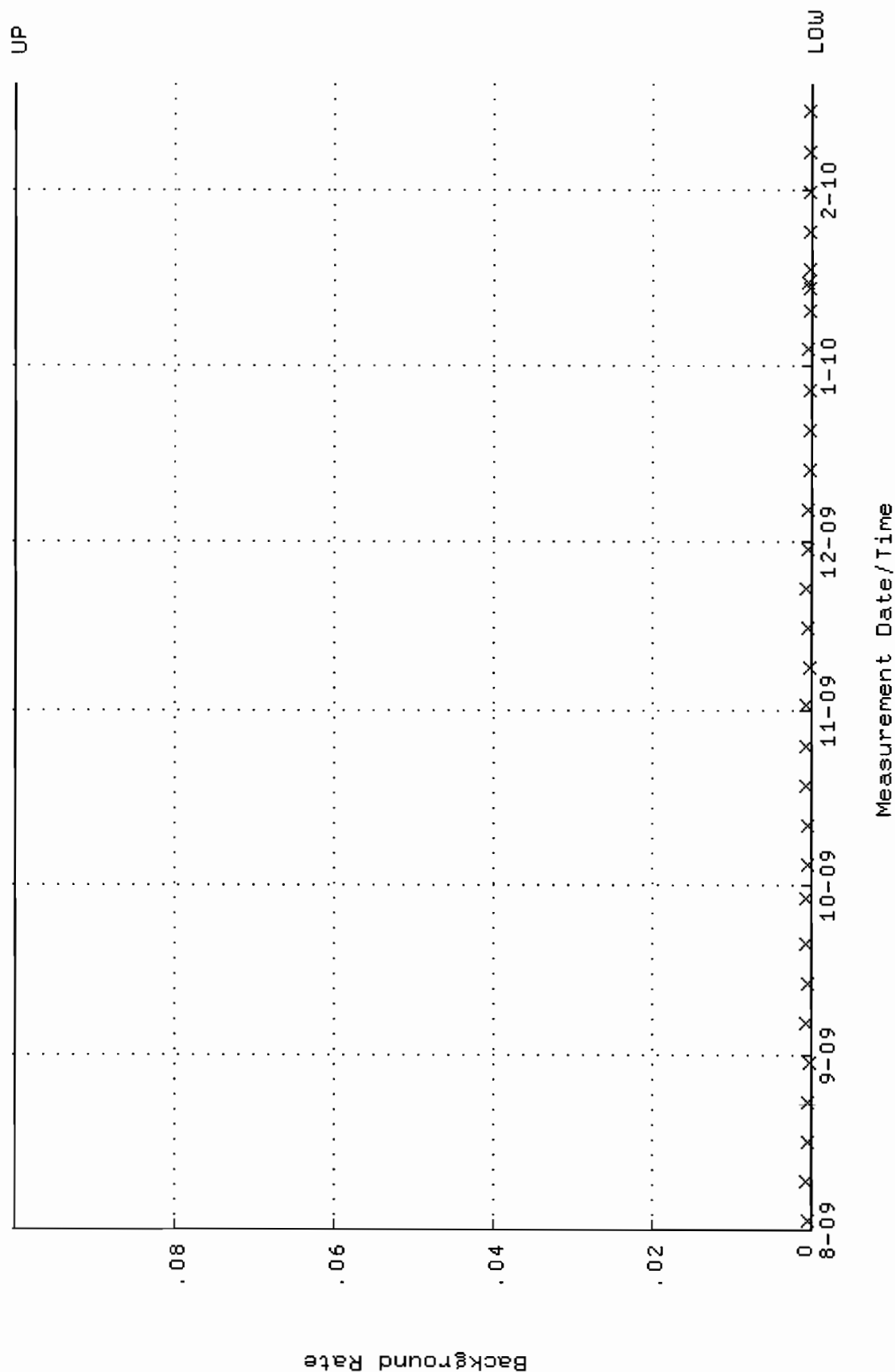
QA filename : DKA100:[ENV_ALPHA.QA.W]W132.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 15:01:01 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.240573 through 0.260573



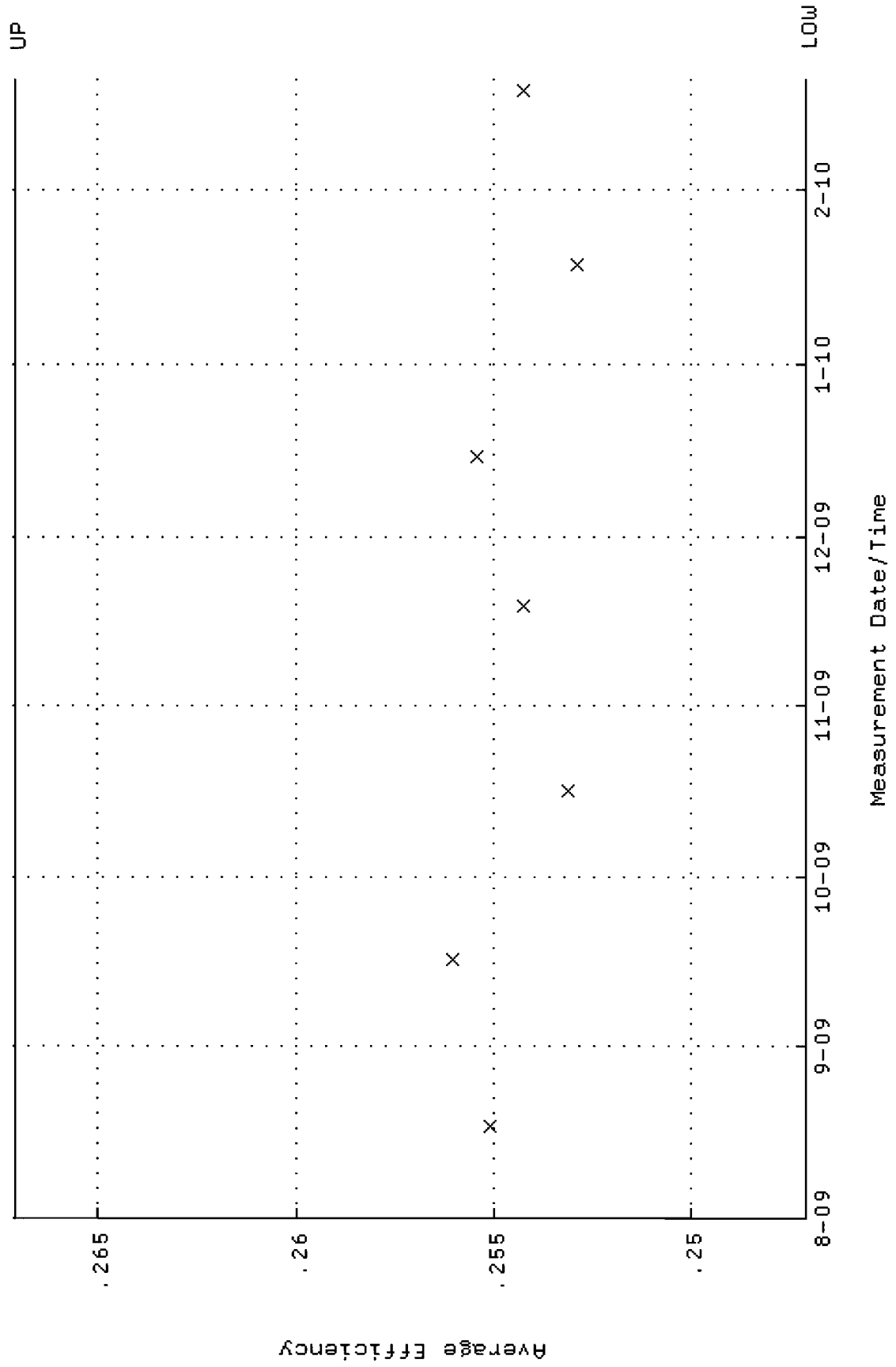
QA filename : DKA100:[ENV_ALPHA.QA.W]W132.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 3-AUG-2009 15:01:01 through 19-FEB-2010 12:00:00
Lower/Upper Lmts: 87.9674 through 97.2272



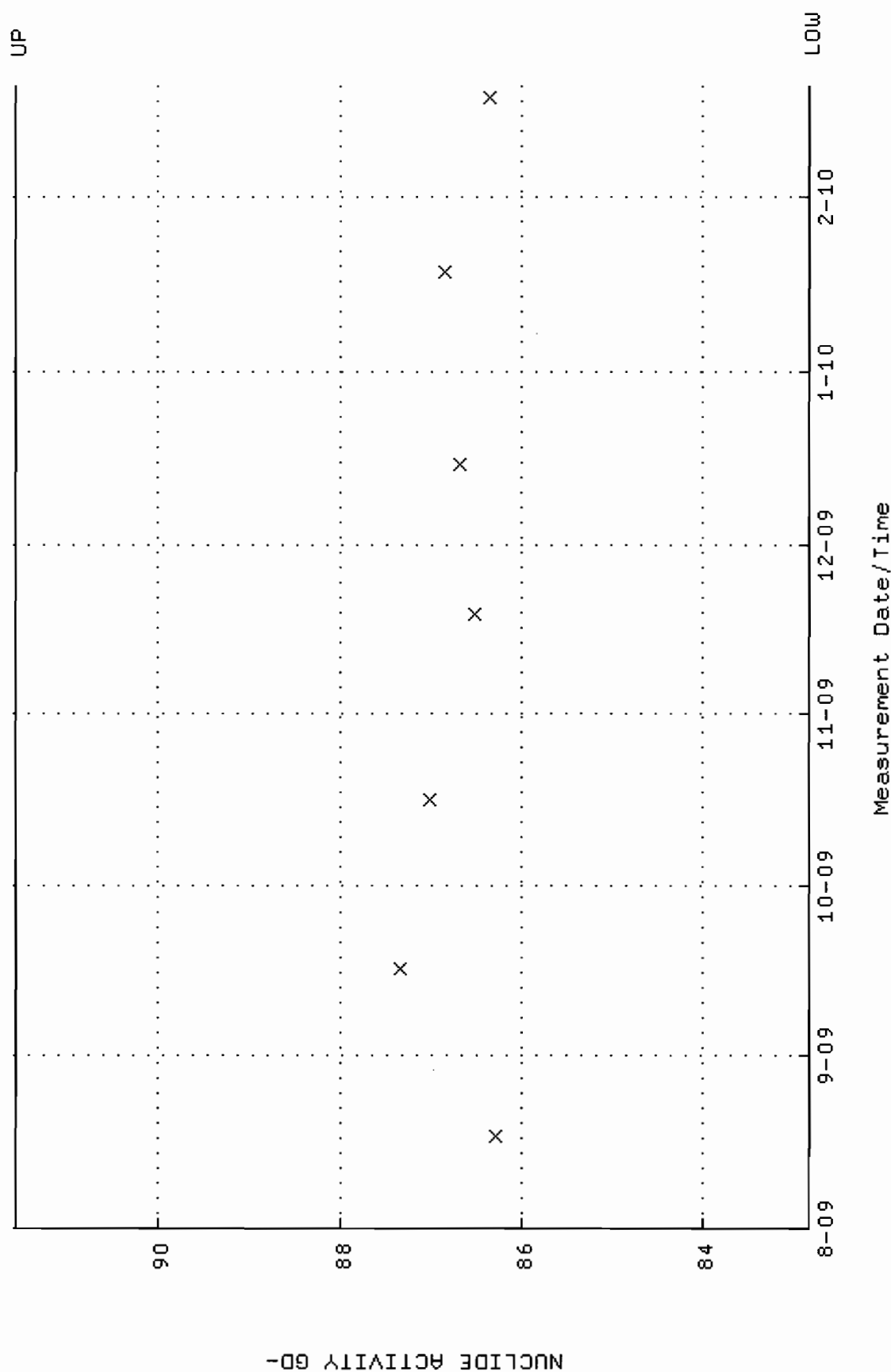
QA filename : DKA100:[ENV_ALPHA.QA.B]B132.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:13:22 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



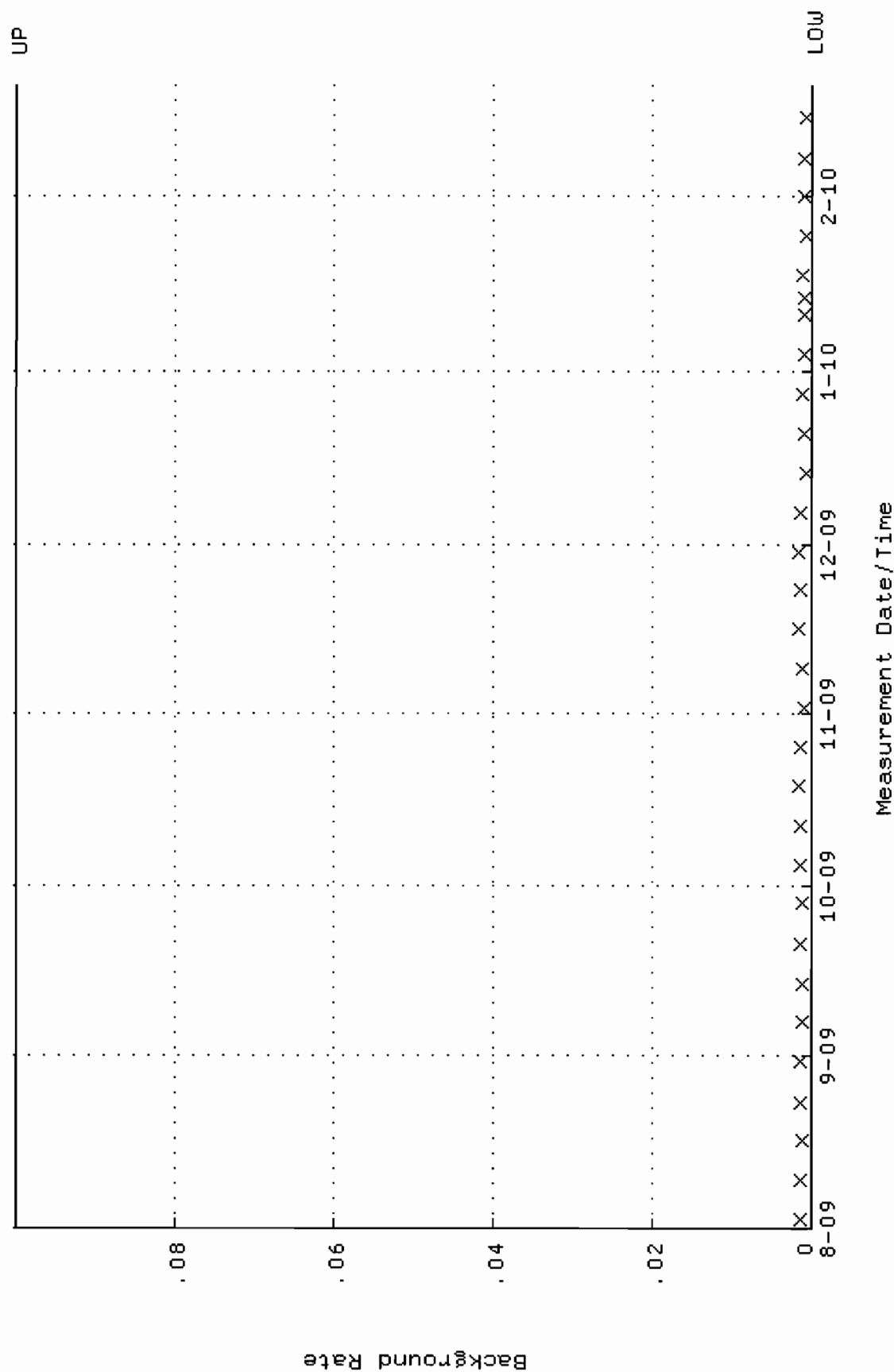
QA filename : DKA100:[ENV_ALPHA.QA.w]w138.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:05:25 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.247085 through 0.267085



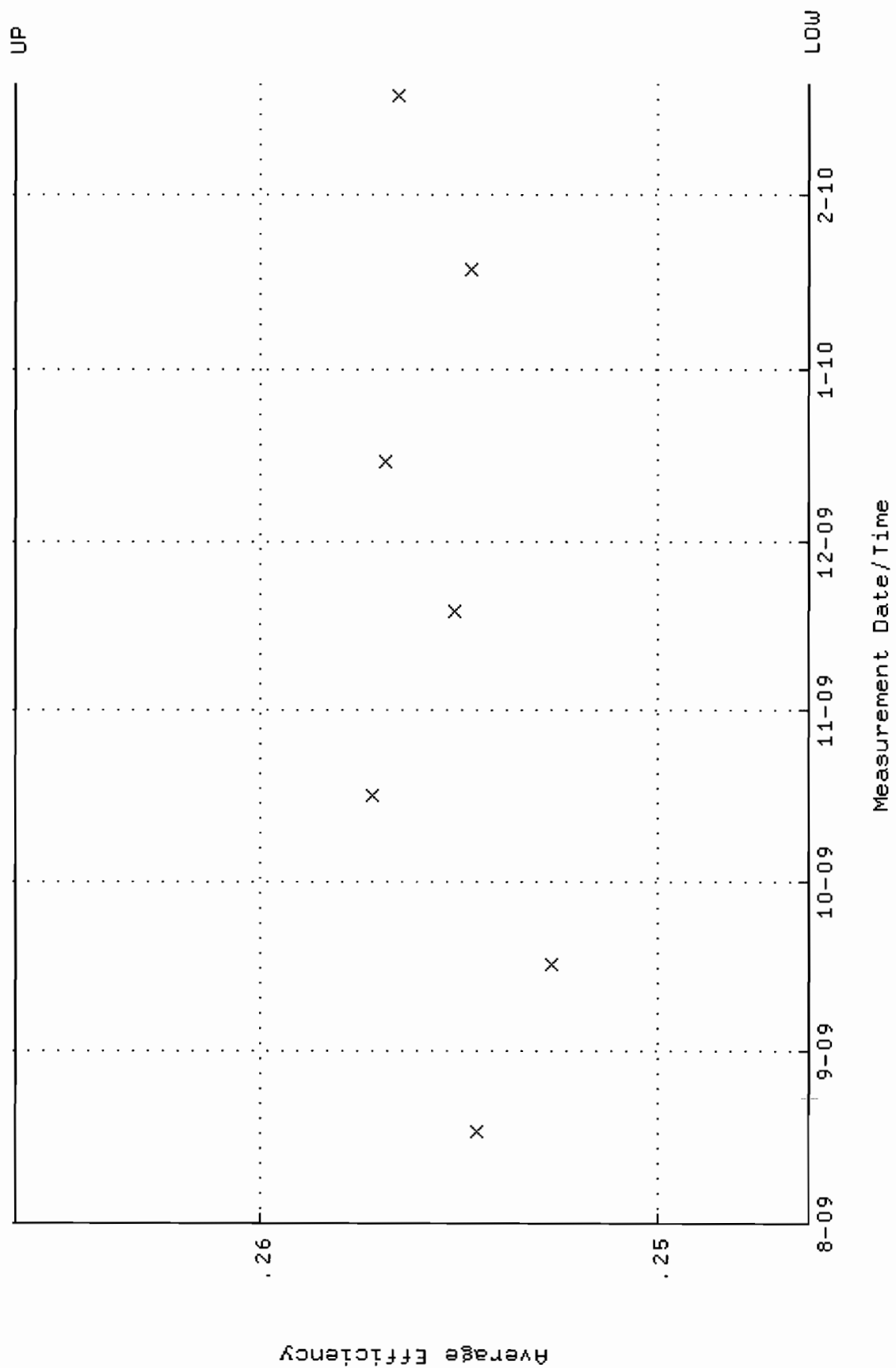
QA filename : DKA100:[ENV_ALPHA.QA.W]w138.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:05:25 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 82.8399 through 91.5599



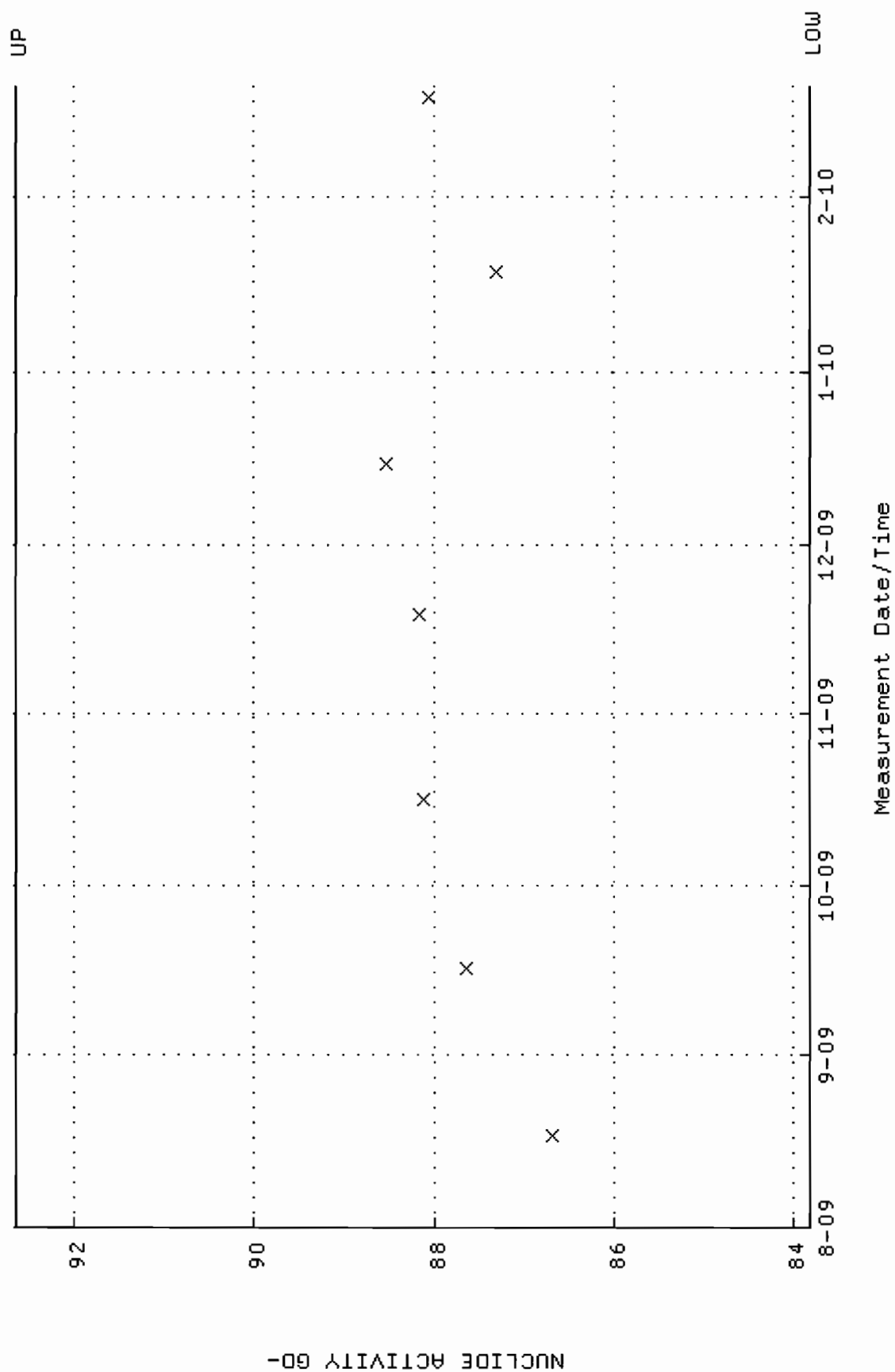
QA filename : DKA100:[ENV_ALPHA.QA.B]B138.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:13:48 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



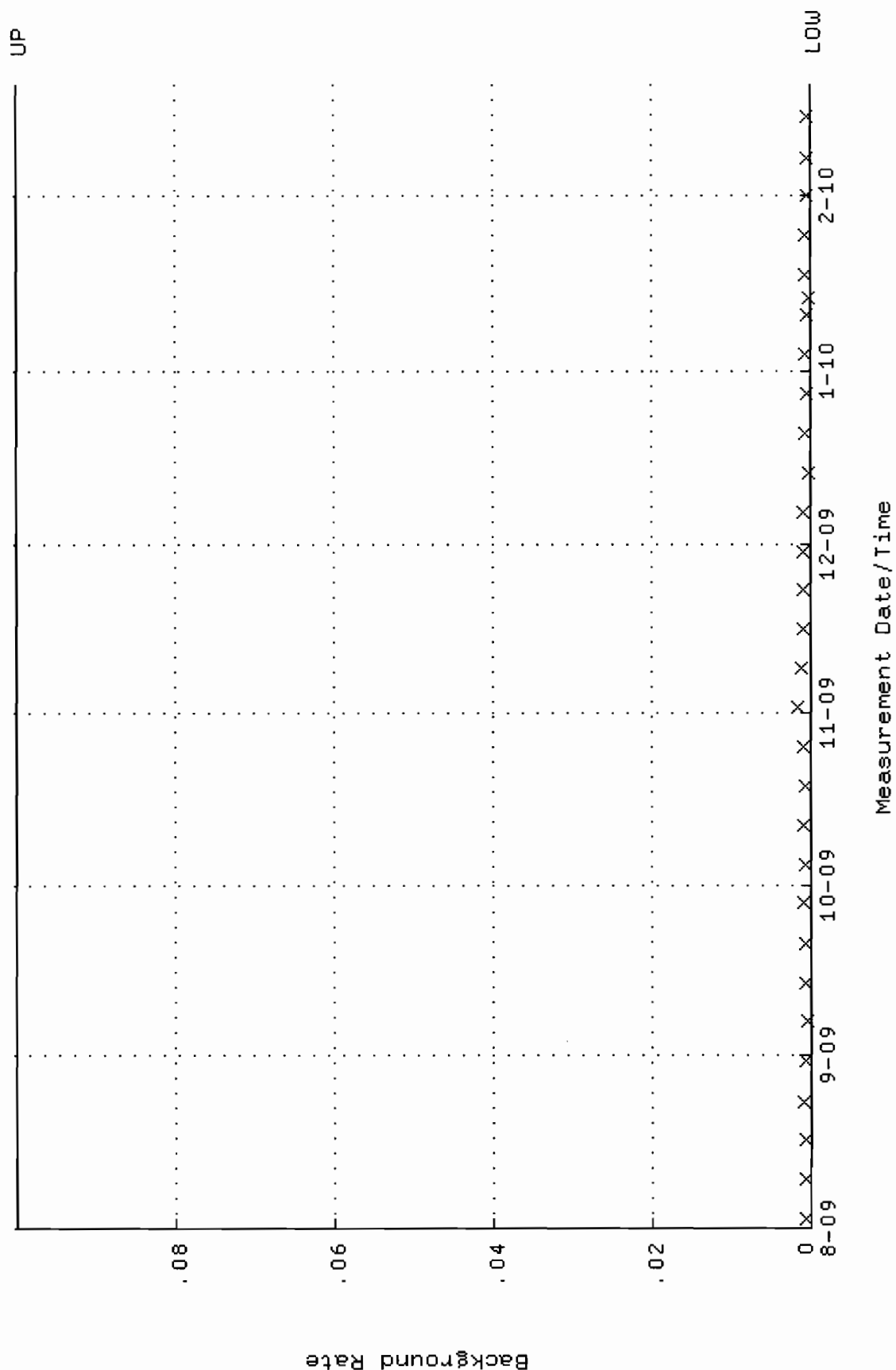
QA filename : DKA100:[ENV_ALPHA.QA.W]W140.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:05:55 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.246178 through 0.266178



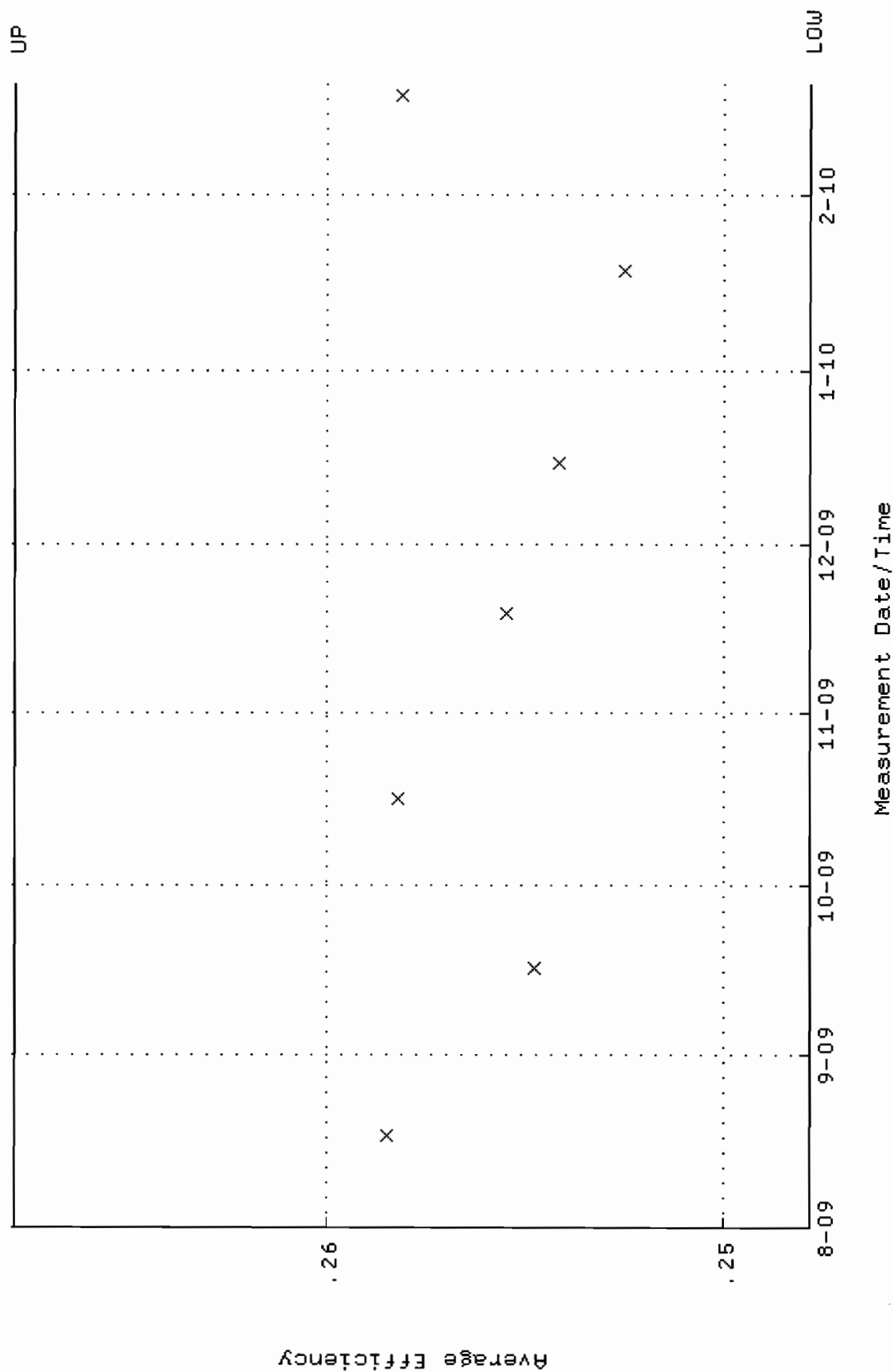
QA filename : DKA100:[ENV_ALPHA.QA.W]w140.QAF;1
 Parameter Name : NLACTVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:05:55 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 83.8171 through 92.6399



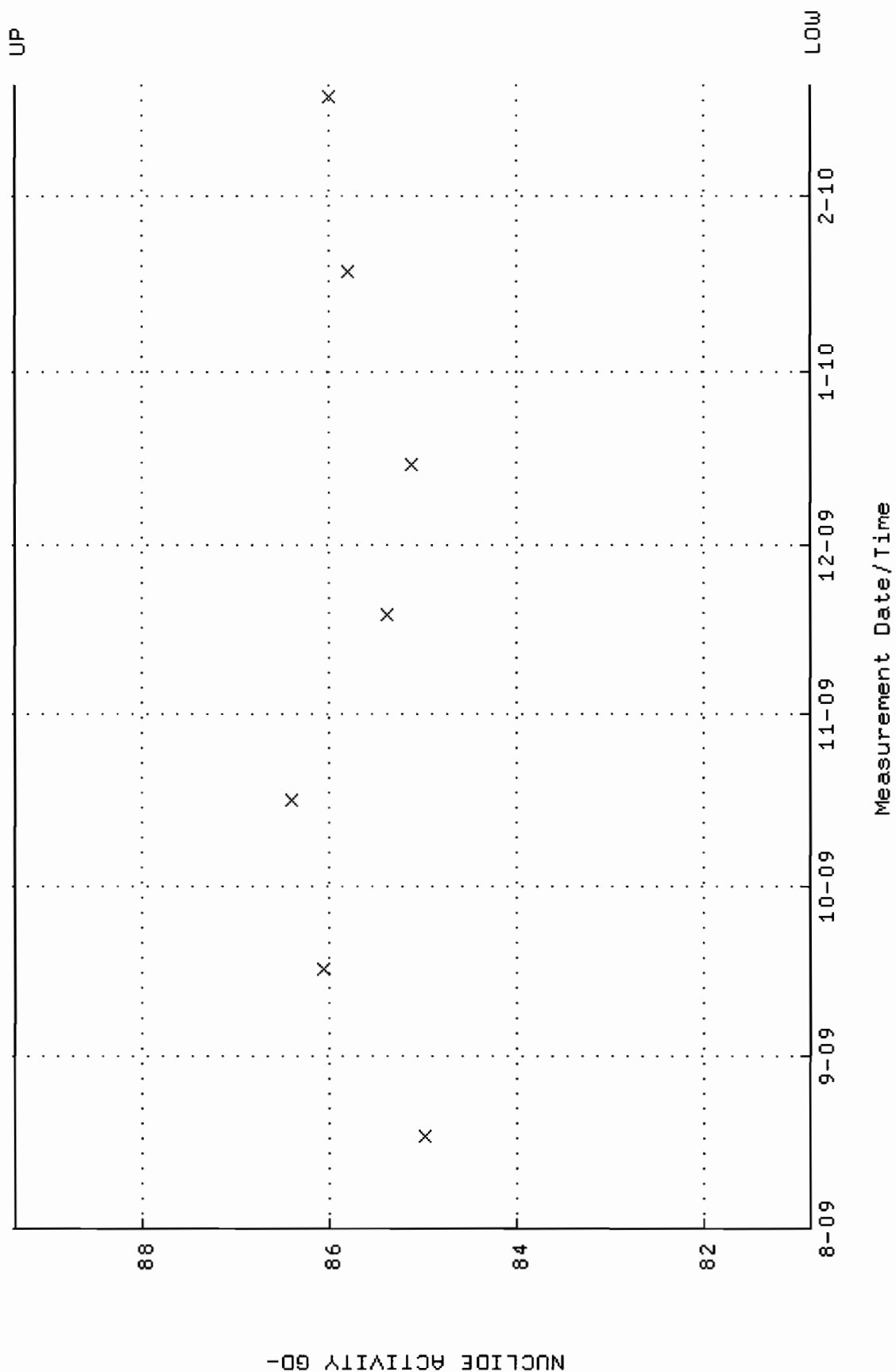
QA filename : DKA100:[ENV_ALPHA.QA.B]B140.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:13:56 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



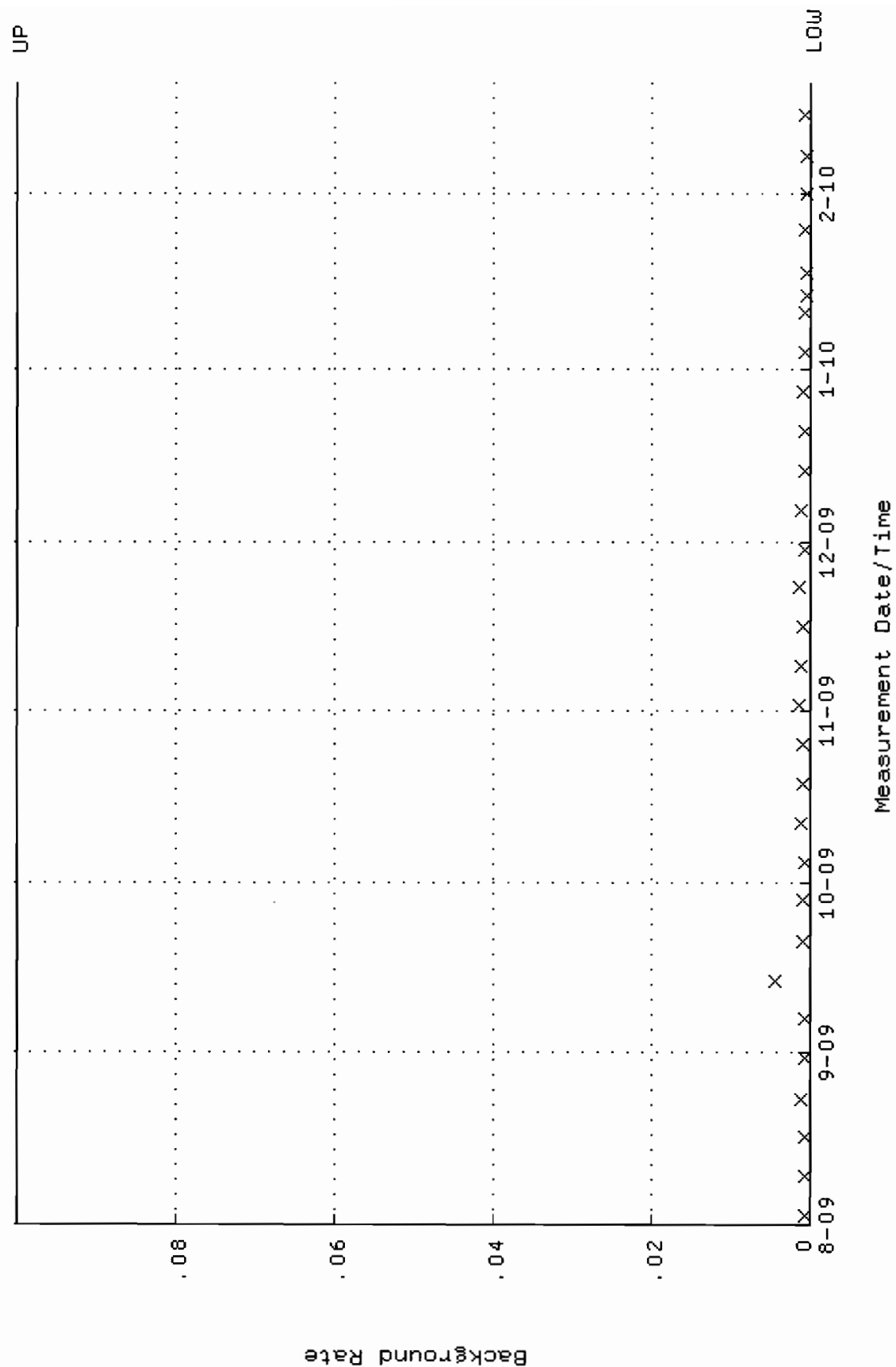
QA filename : DKA100:[ENV_ALPHA.QA.W]w141.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:06:09 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.247845 through 0.267845



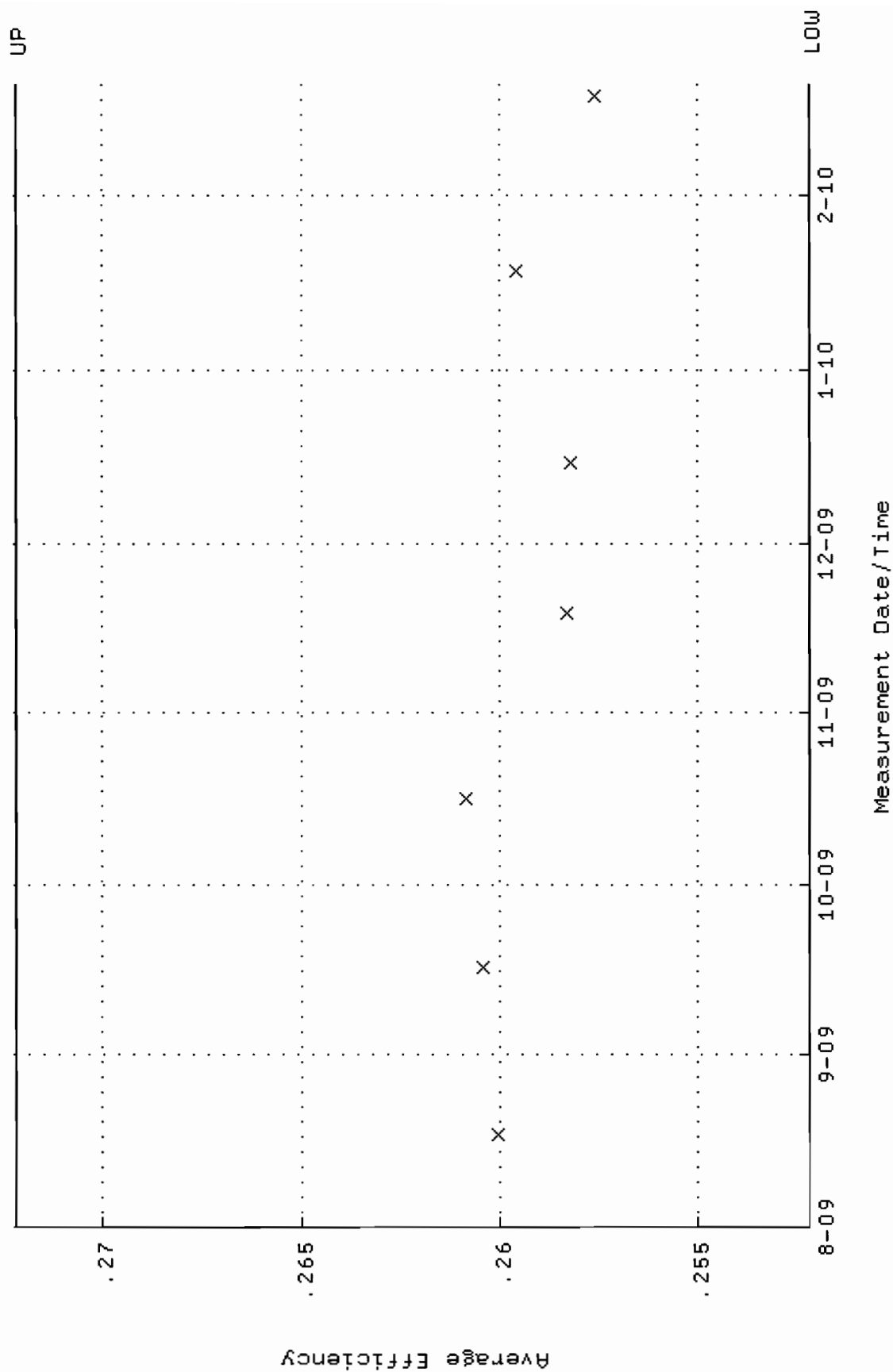
QA filename : DKA100:[ENV_ALPHA.QA.W]w141.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:09 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 80.8595 through 89.3711



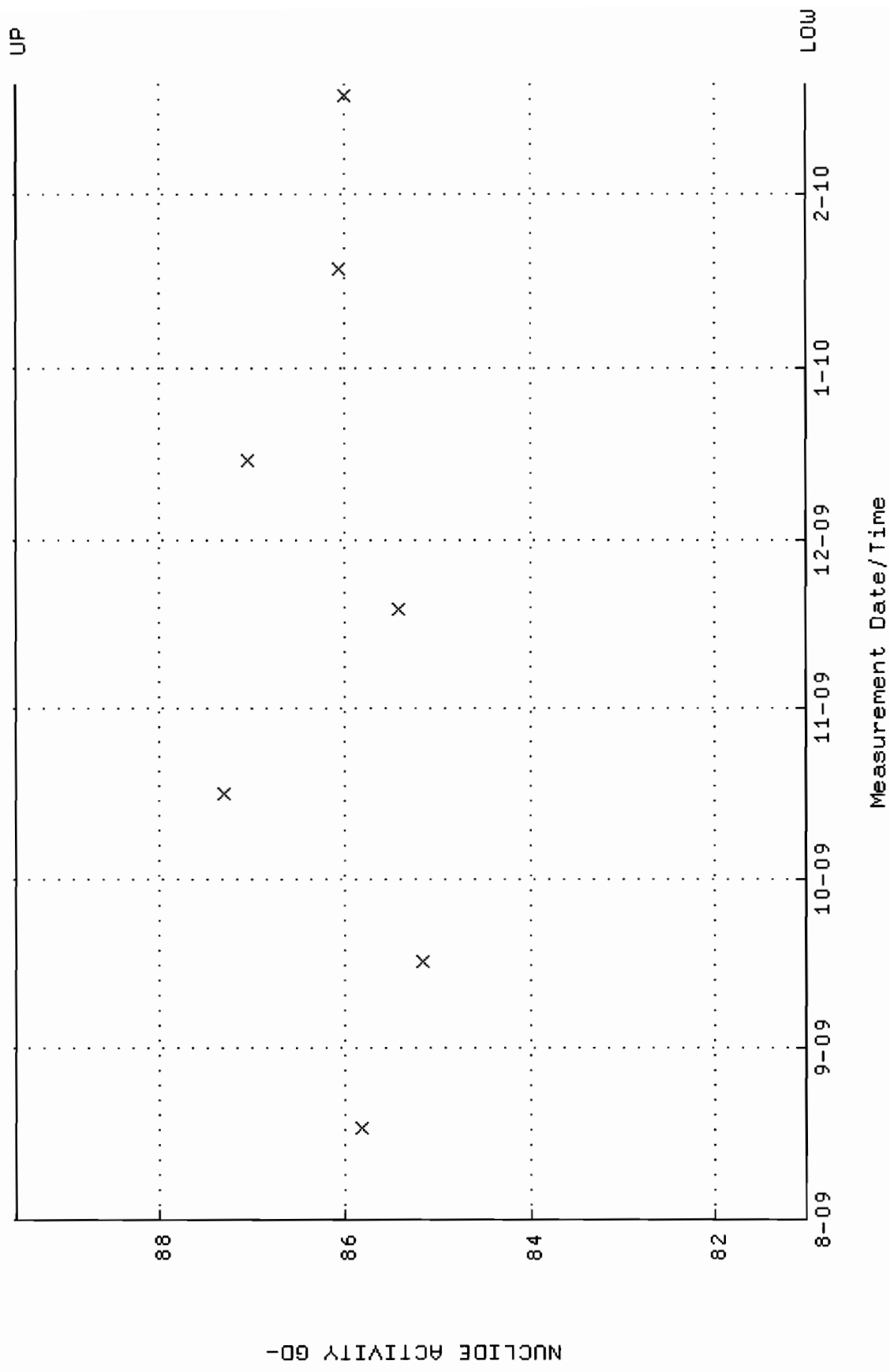
lower/lower limits: 0.000000E+00 through 0.100000



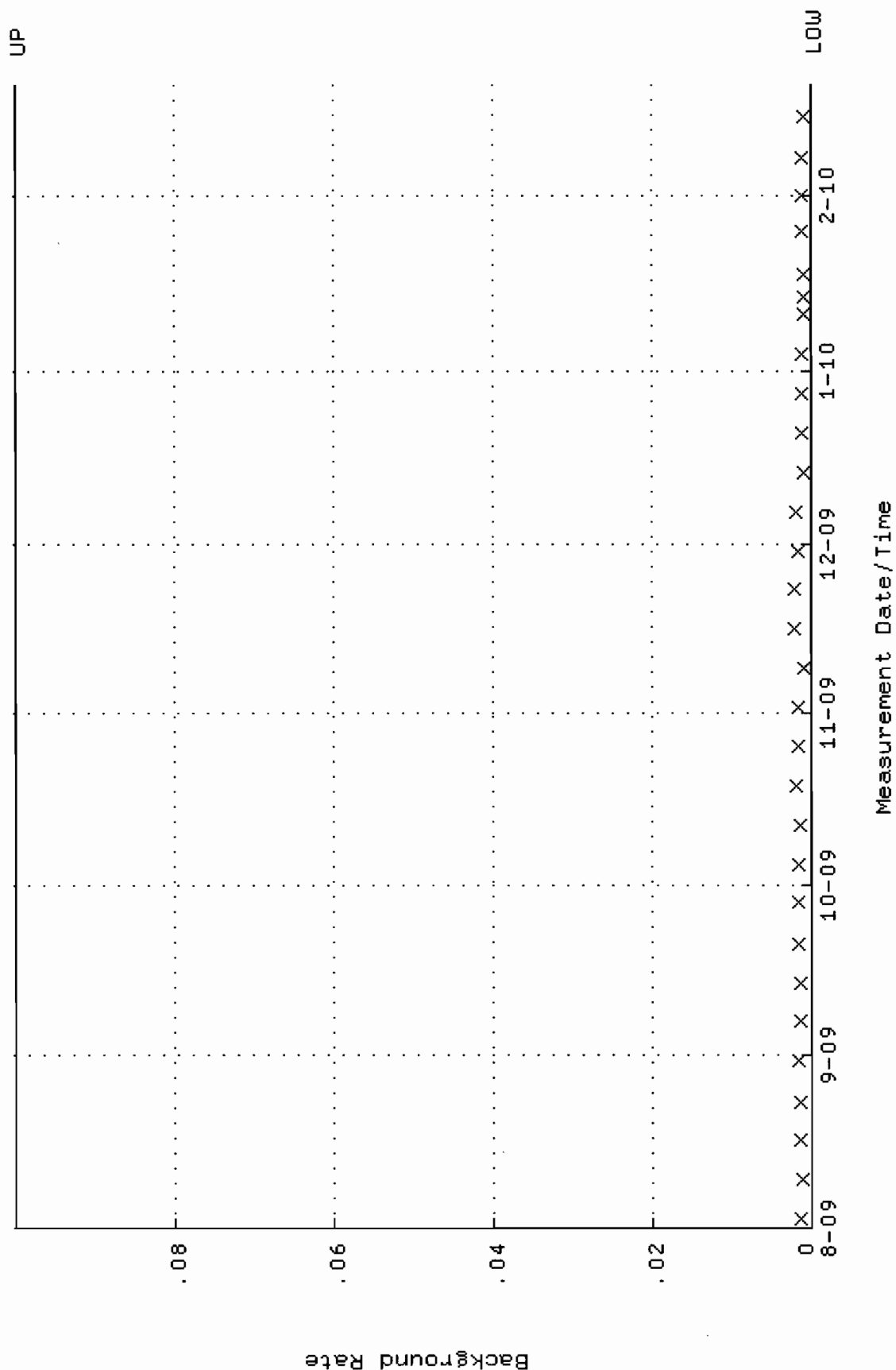
QA filename : DKA100:[ENV_ALPHA.QA.W]W142.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:06:21 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.252182 through 0.272182



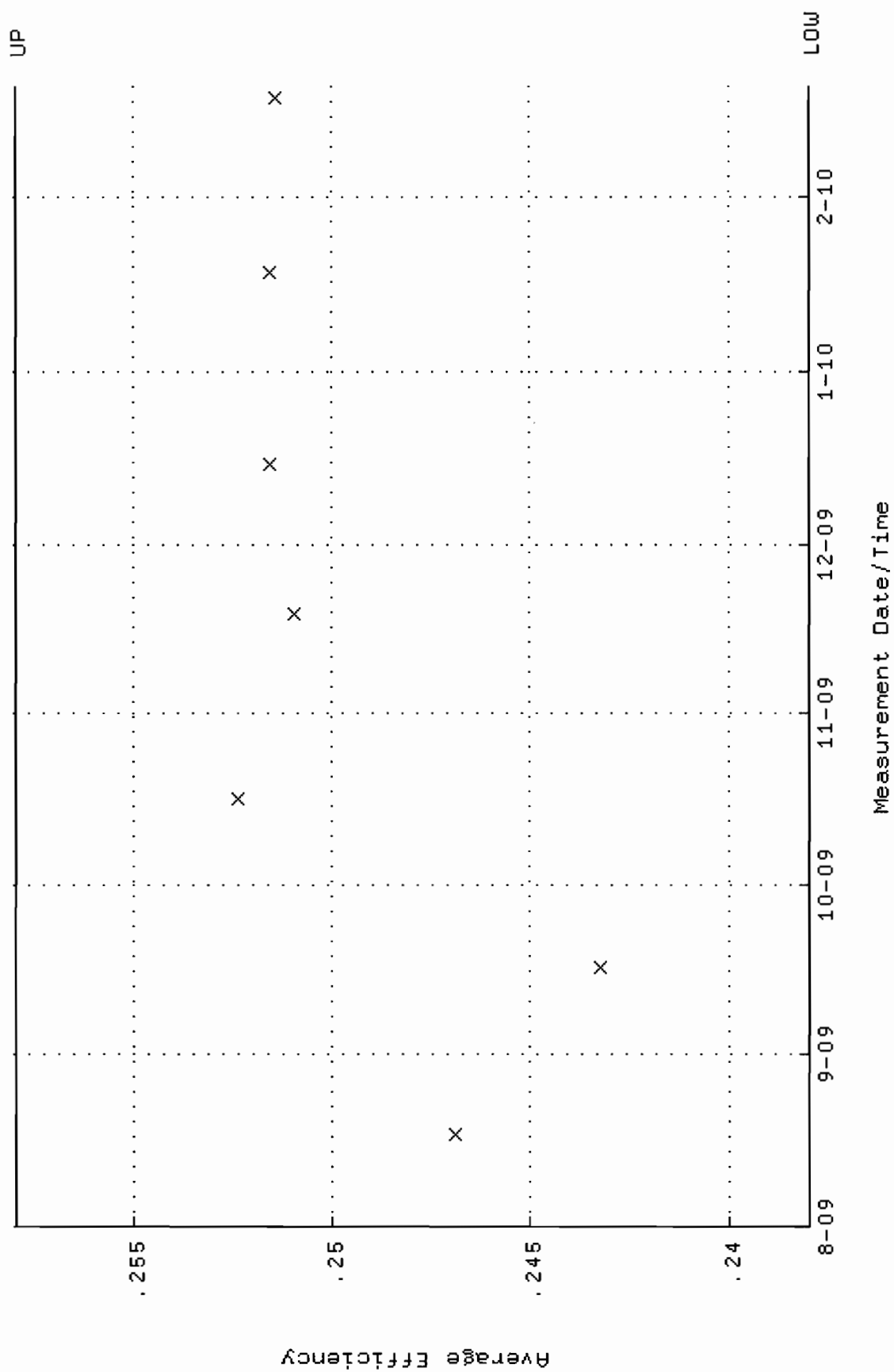
QA filename : DKA100:[ENV_ALPHA.QA.W]W142.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:21 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 81.0245 through 89.5533



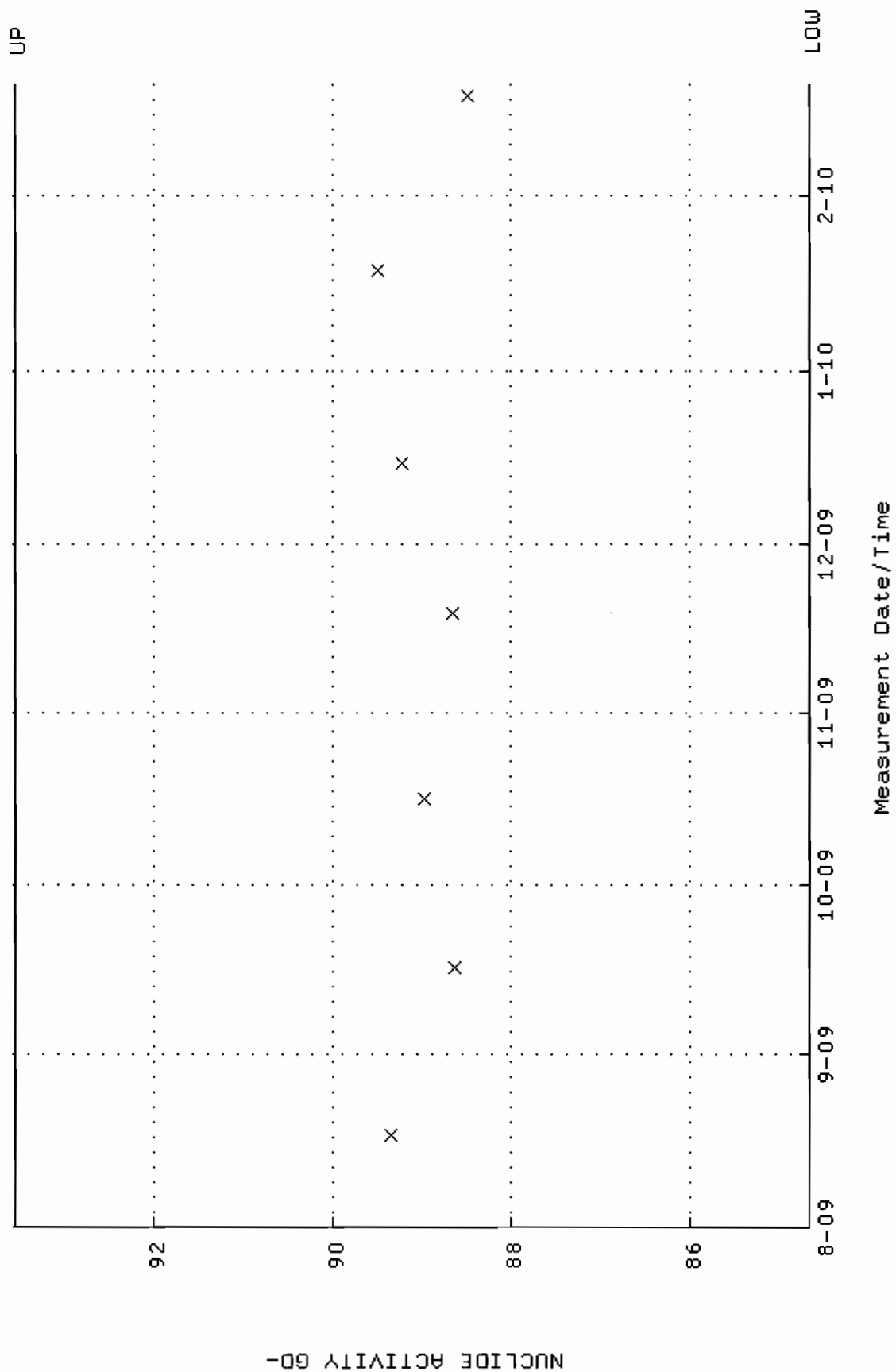
QA filename : DKA100:[ENV_ALPHA.QA.B]B142.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:14:04 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



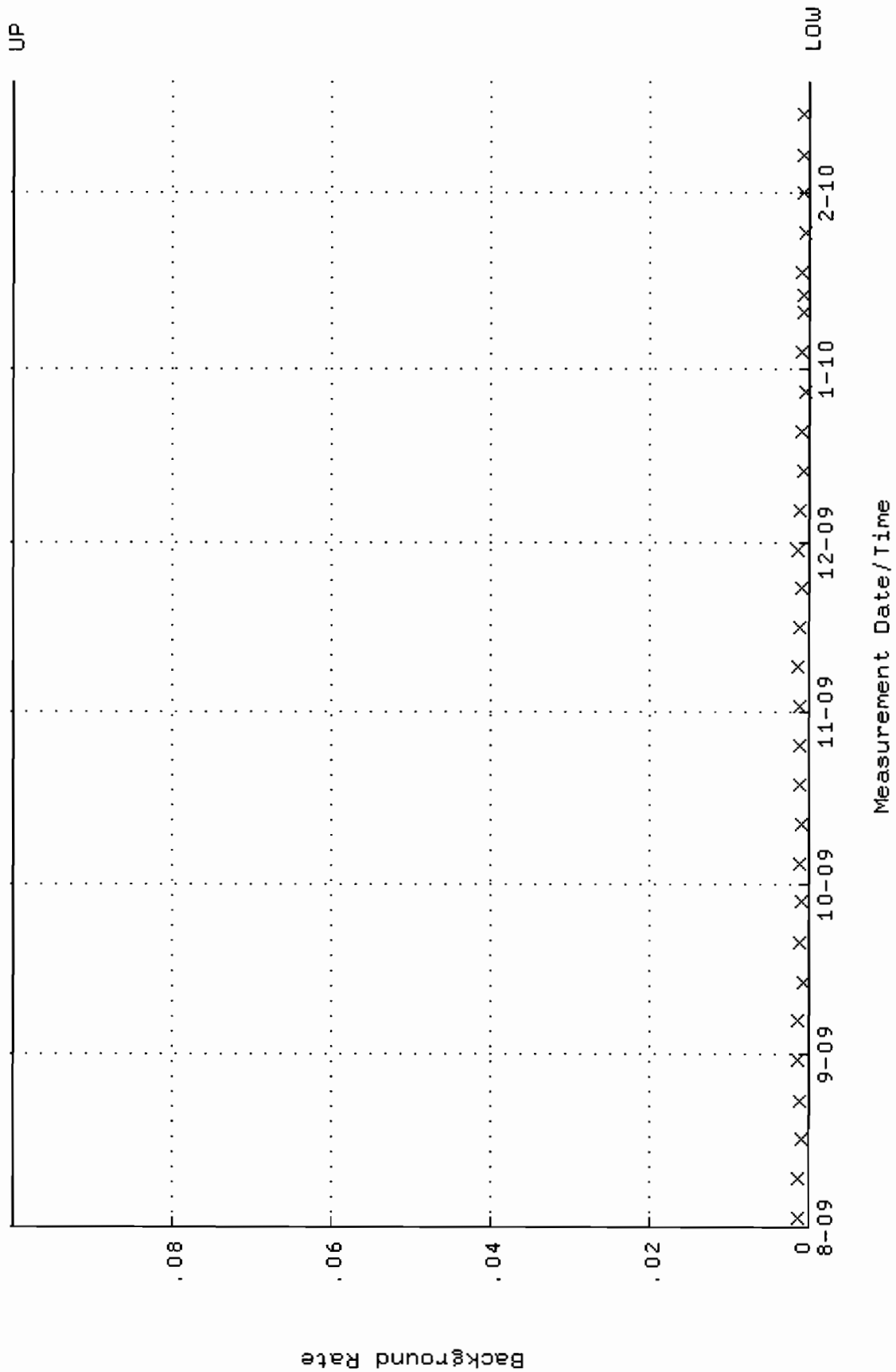
QA filename : DKA100:[ENV_ALPHA.QA.W]W144.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:06:42 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.237963 through 0.257963



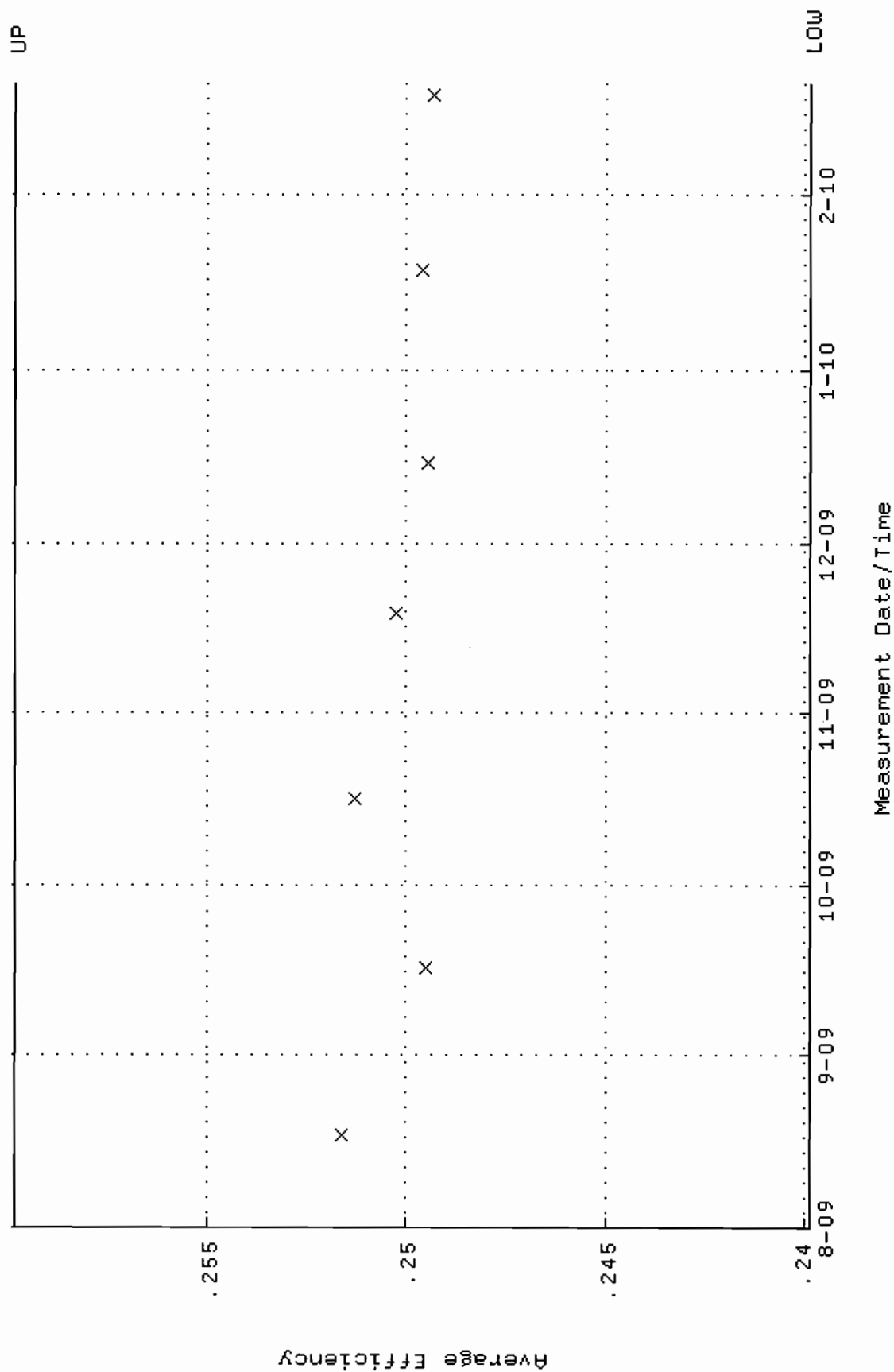
QA filename : DKA100:[ENV_ALPHA.QA.W]w144.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:42 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.6507 through 93.5613



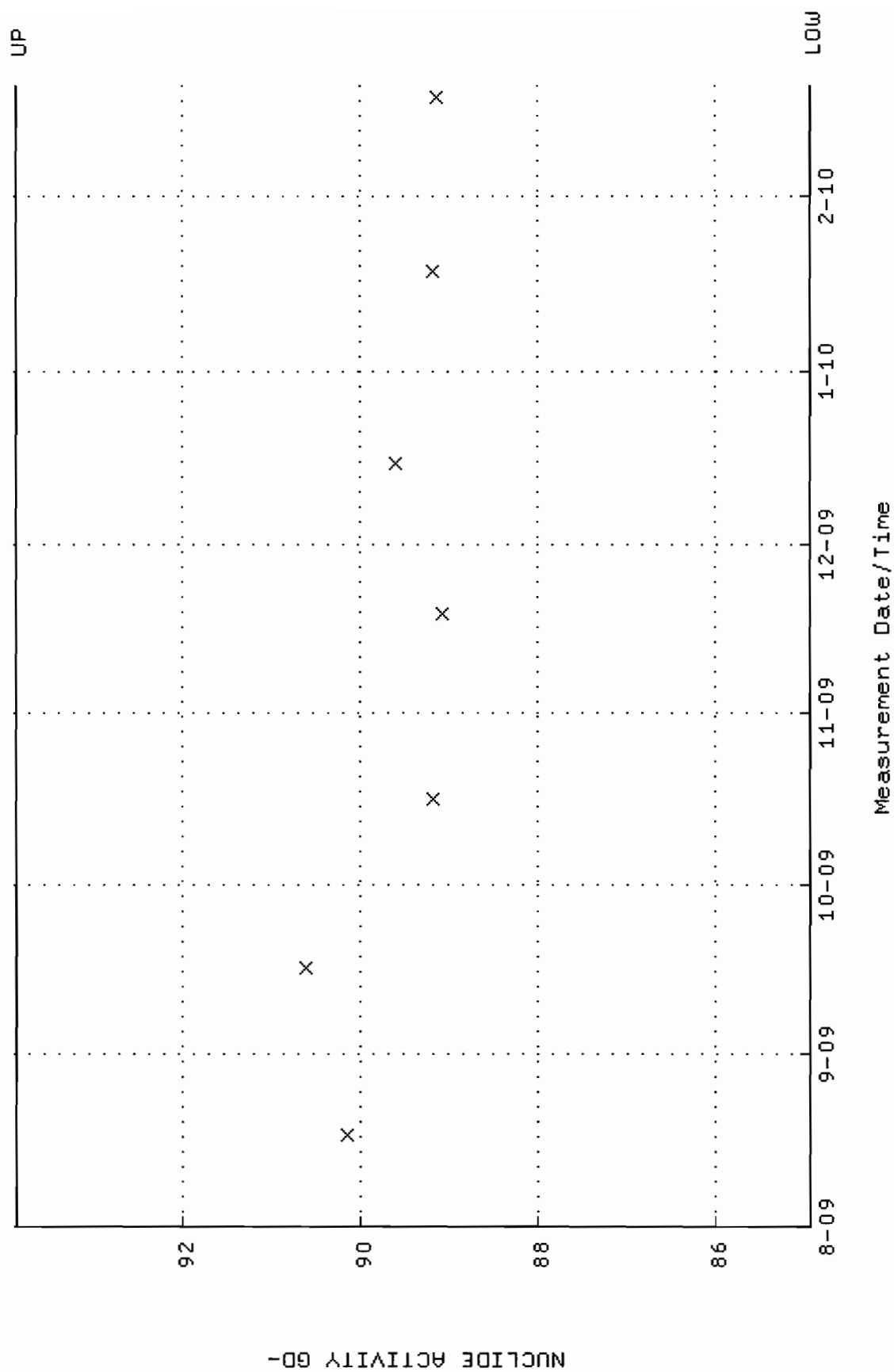
QA filename : DKA100:[ENV_ALPHA.QA.B]B144.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:14:12 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



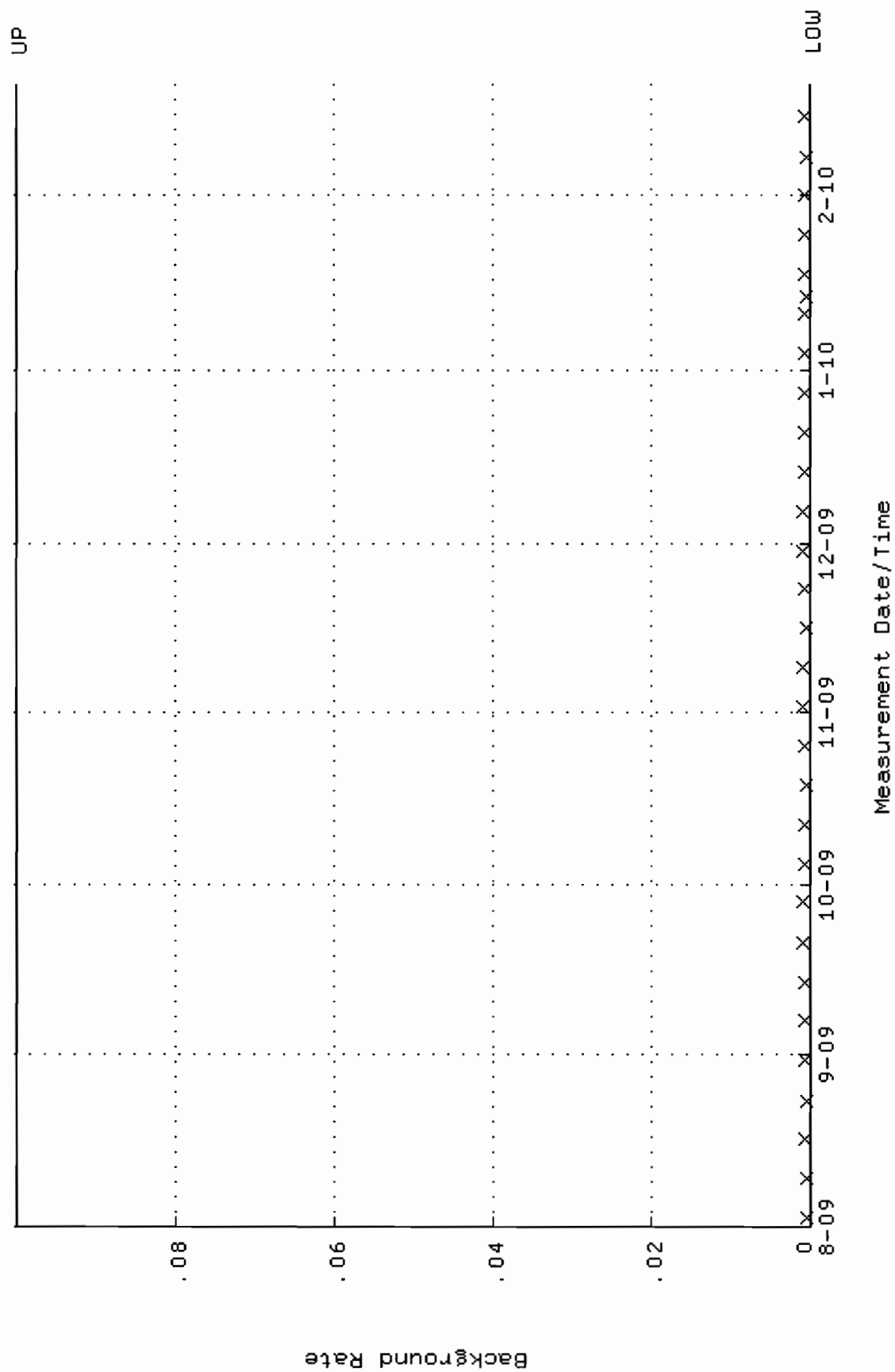
QA filename : DKA100:[ENV_ALPHA.QA.W]W145.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:06:50 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.239850 through 0.259850



QA filename : DKA100:[ENV_ALPHA.QA.W]W145.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:50 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.9354 through 93.8760



QA filename : DKA100:[ENV_ALPHA.QA.B]B145.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:14:16 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000

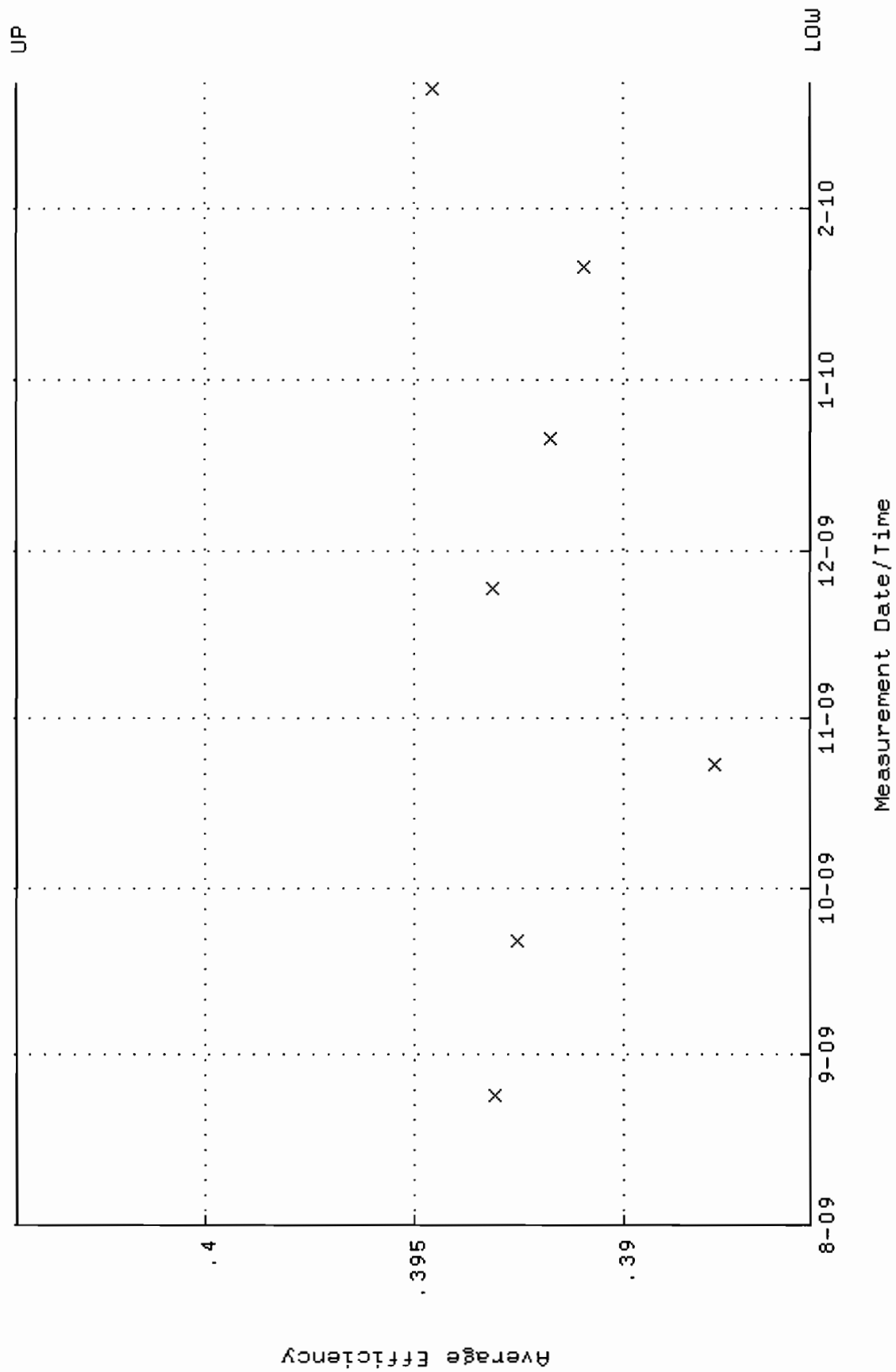


QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1

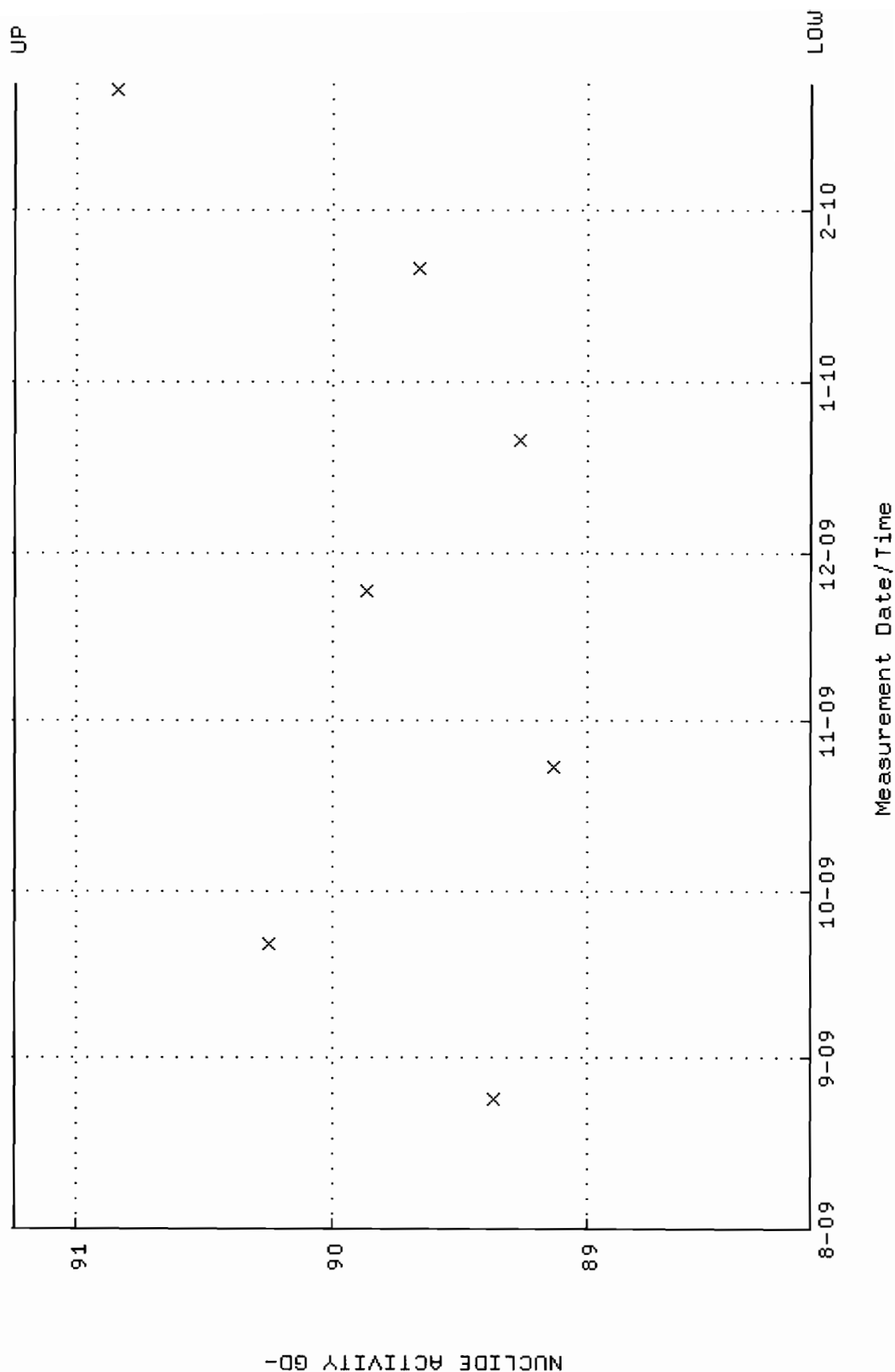
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 24-AUG-2009 08:40:20 through 23-FEB-2010 12:00:00

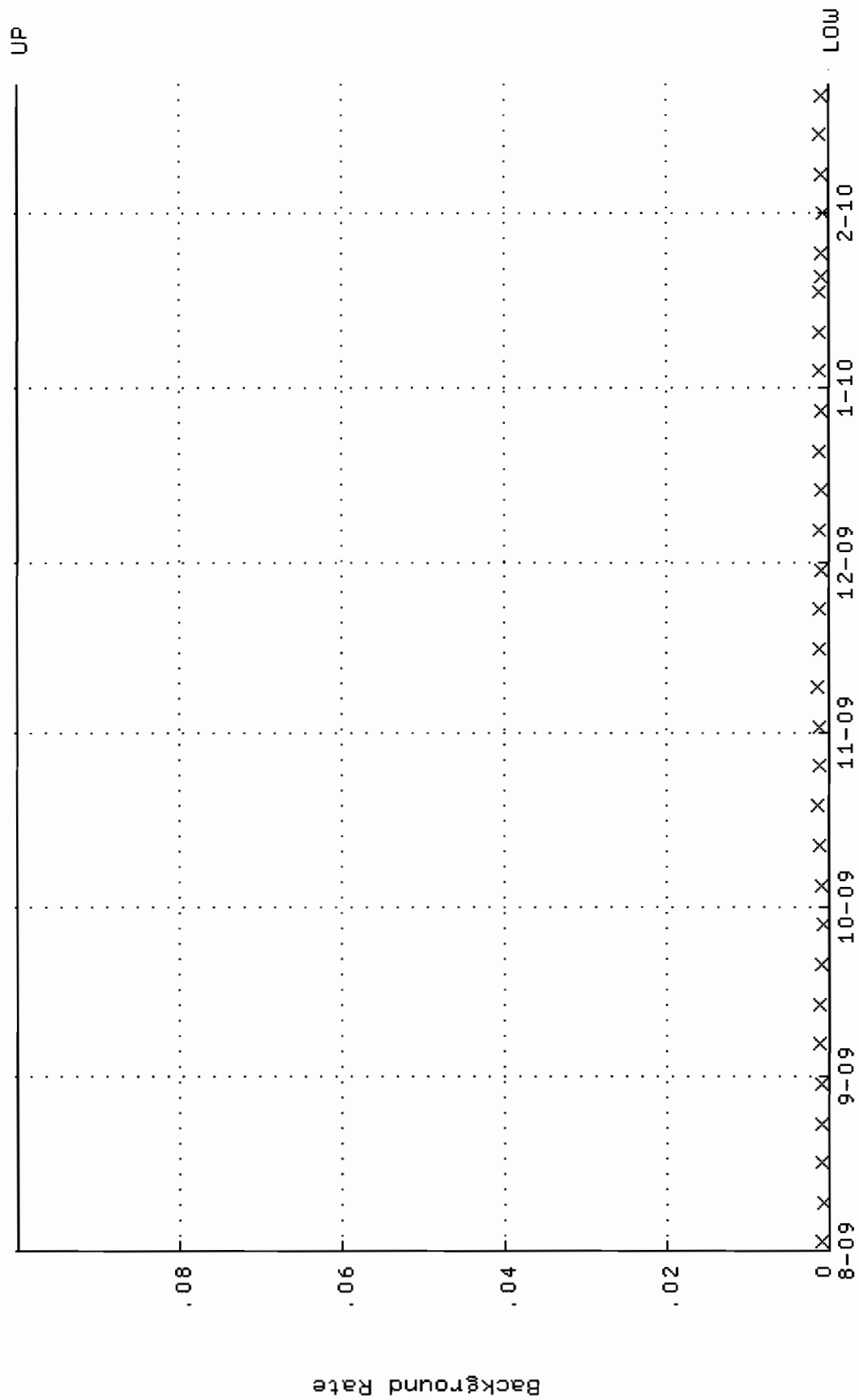
Lower/Upper Lmts: 0.385564 through 0.404504



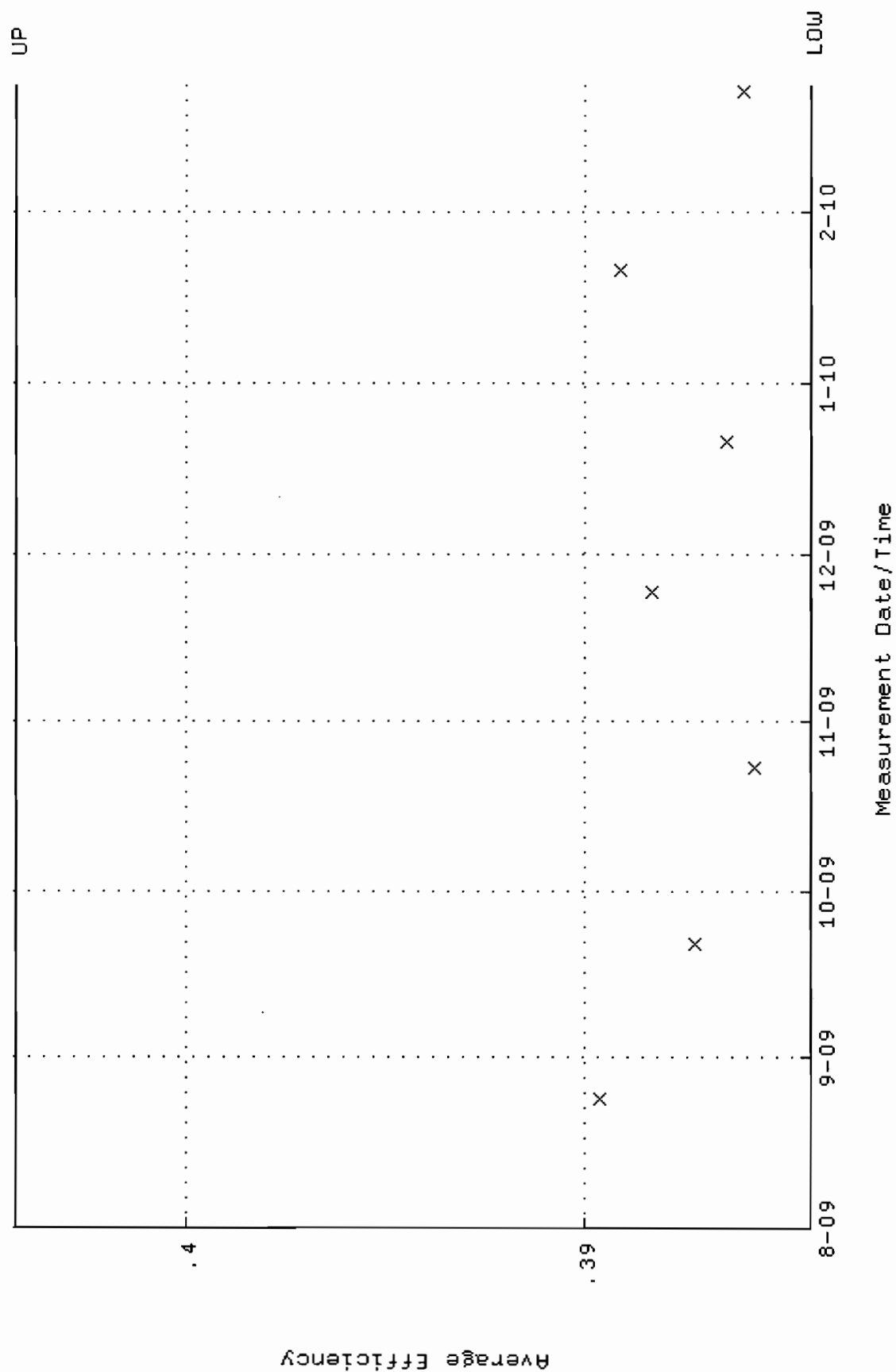
QA filename : DKA100:[ENV_ALPHA.QA.W]W166.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:20 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 88.1264 through 91.2442



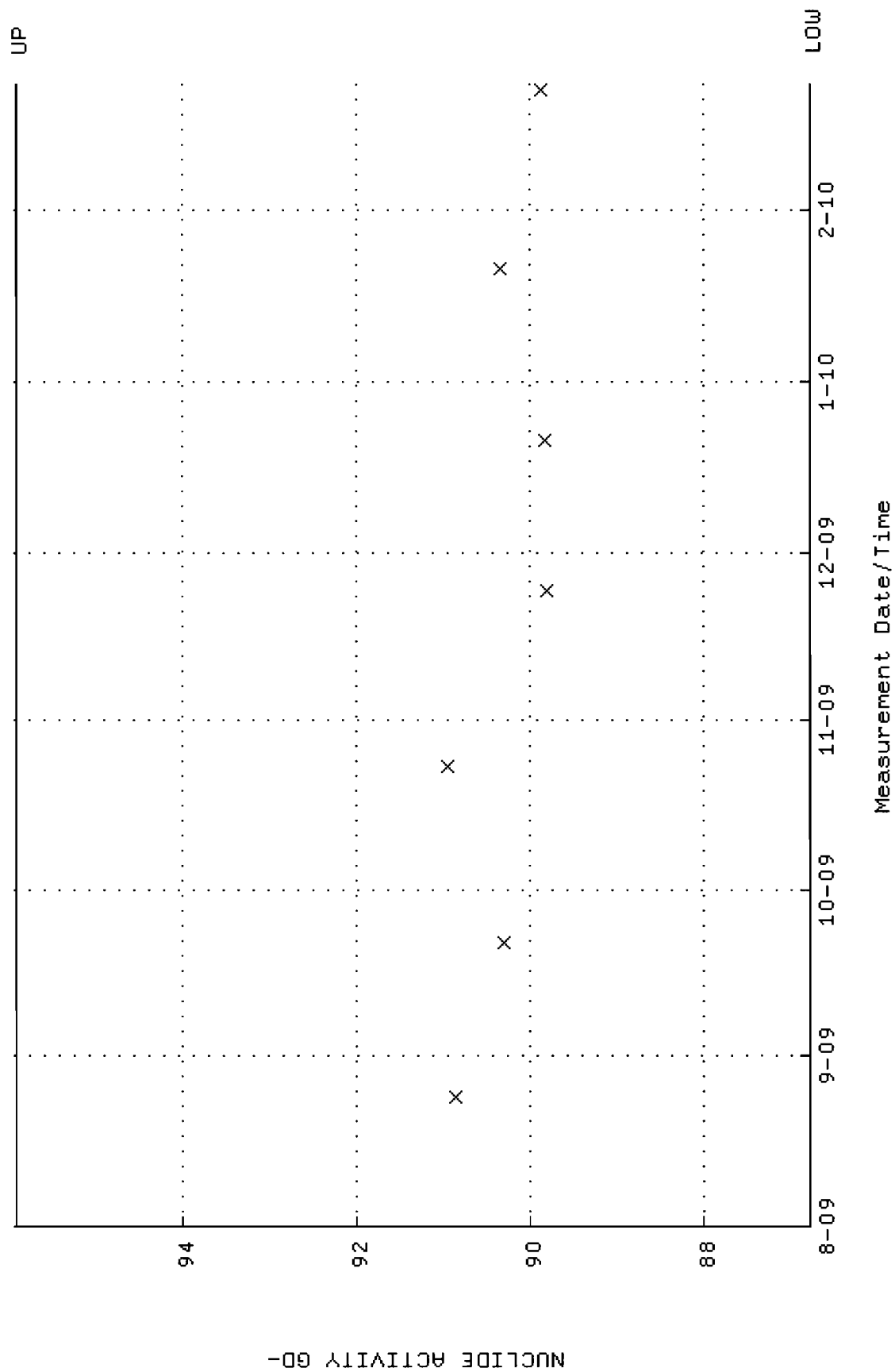
QA filename : DKA100:[ENV_ALPHA.QA.B]B166.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:21:58 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



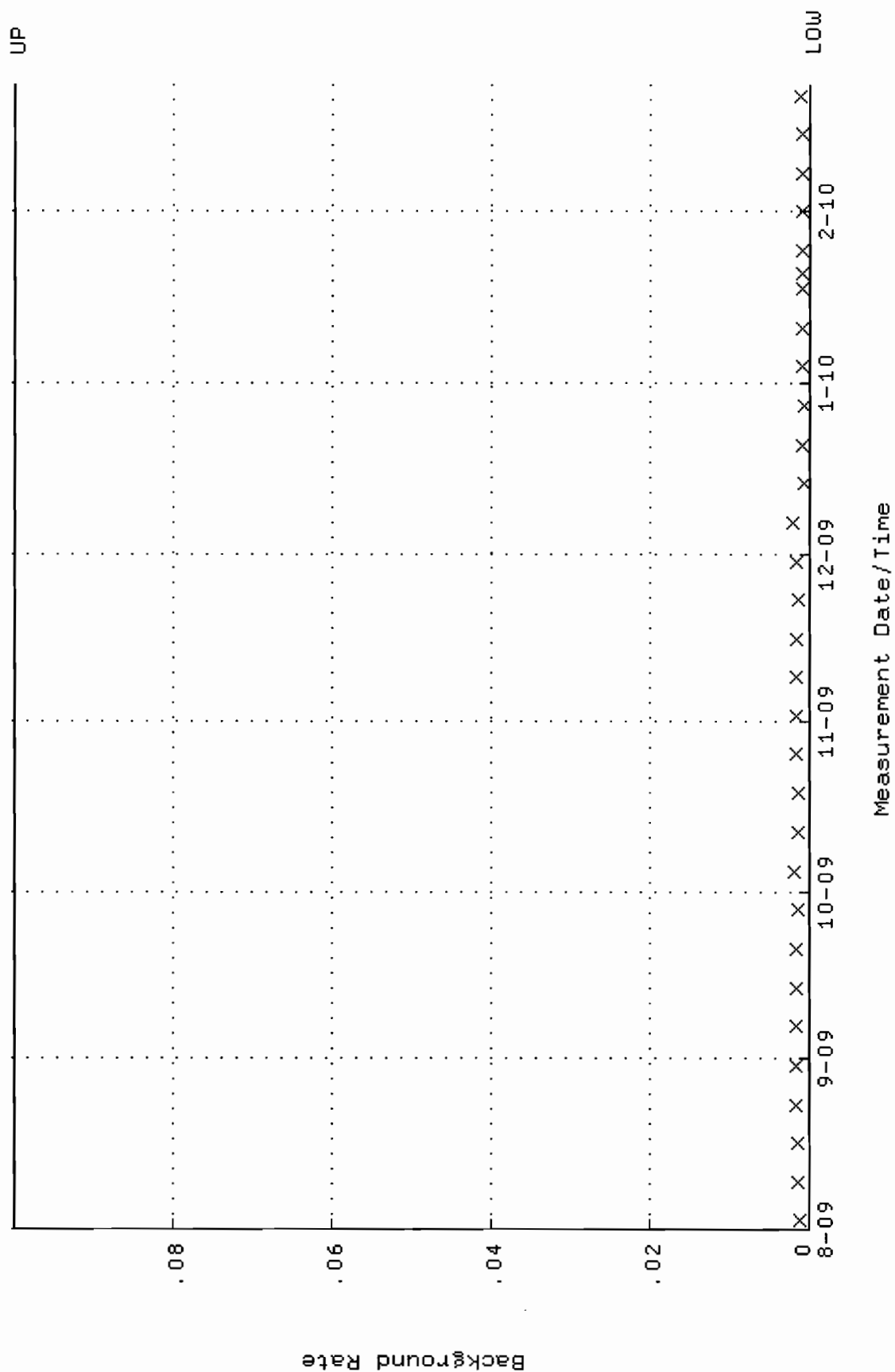
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:40:25 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.384285 through 0.404285



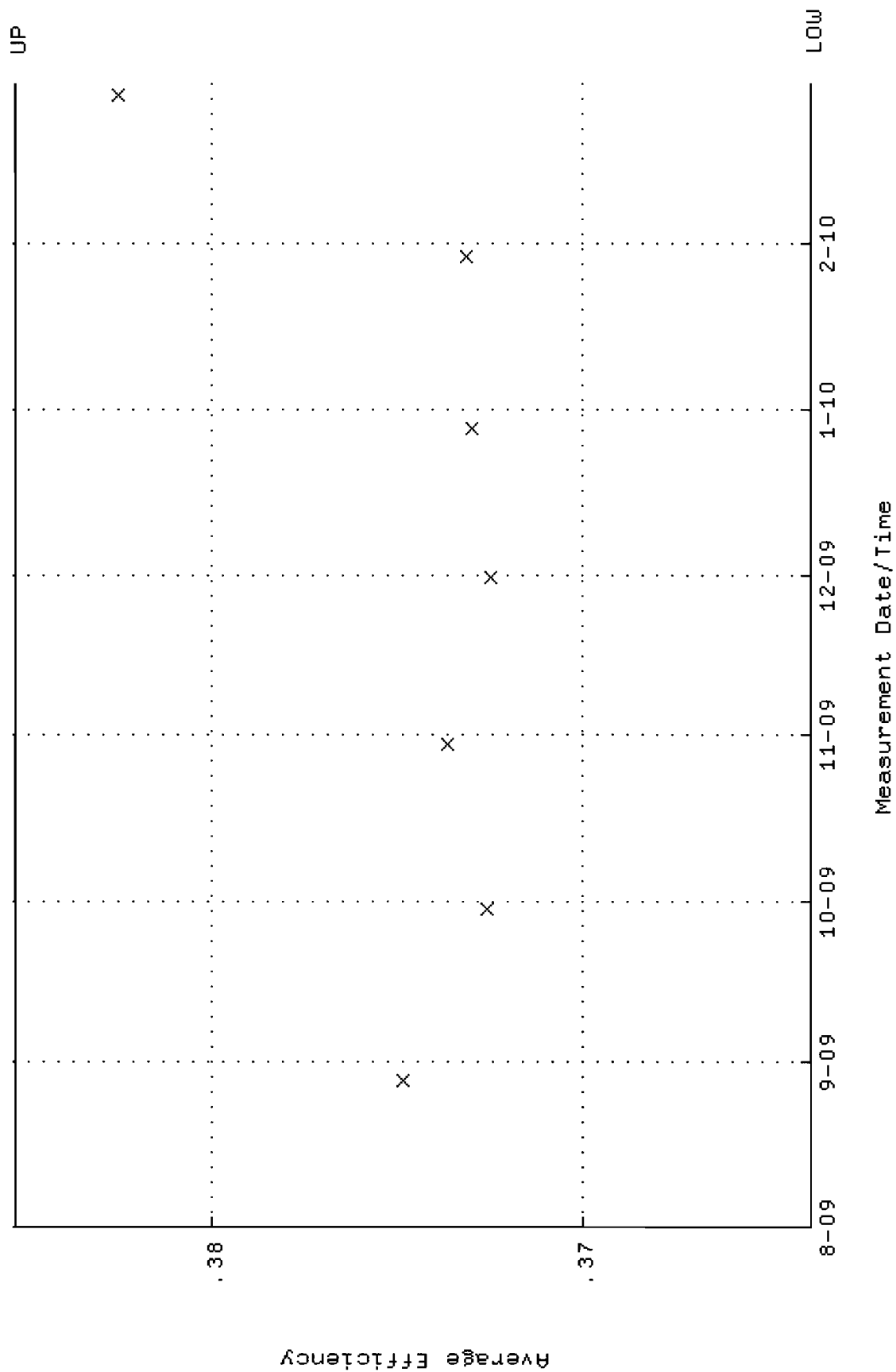
QA filename : DKA100:[ENV_ALPHA.QA.W]W167.QAF;1
 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:40:25 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.7740 through 95.9082



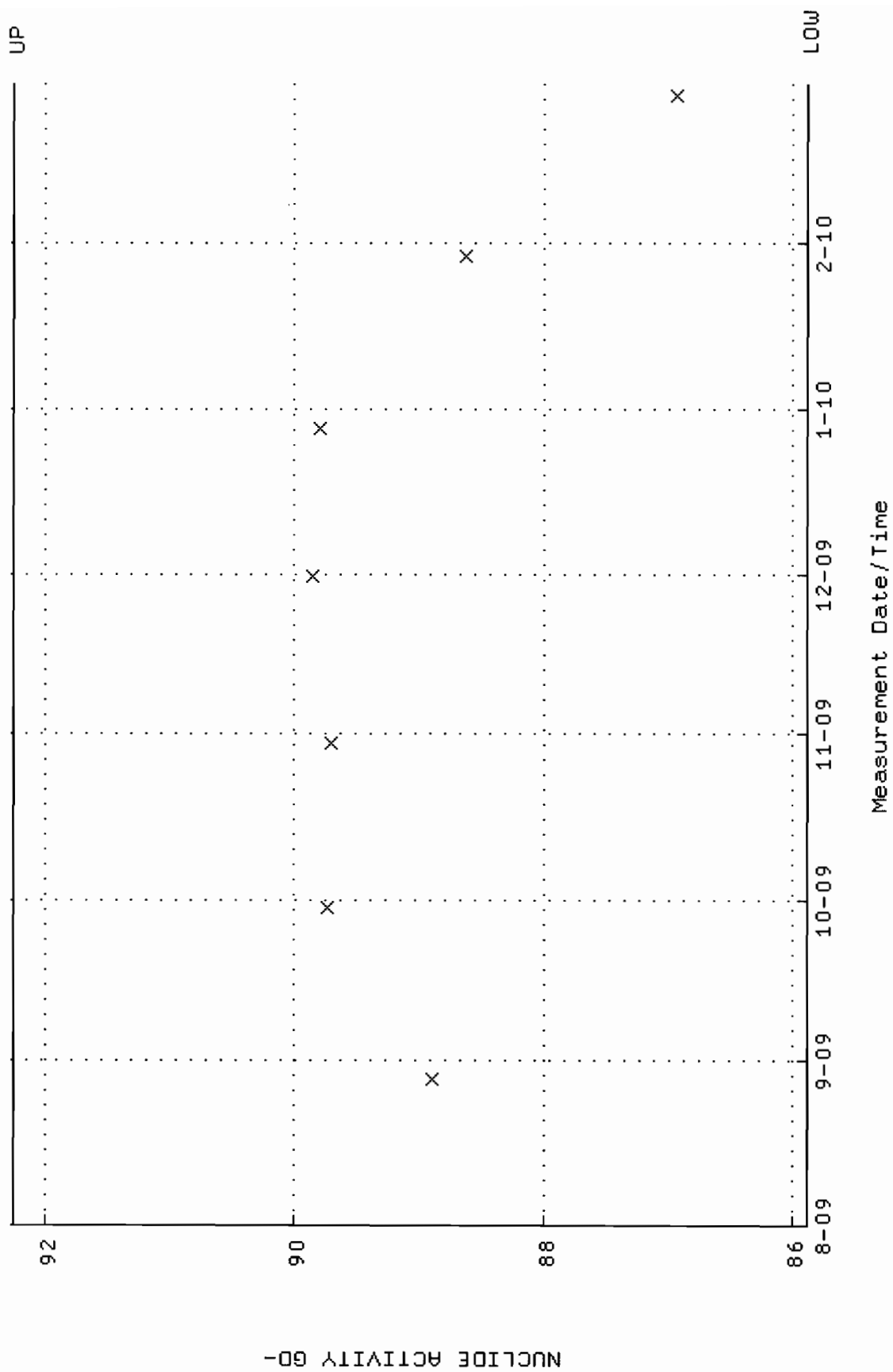
QA filename : DKA100:[ENV_ALPHA.QA.B]B167.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:22:02 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



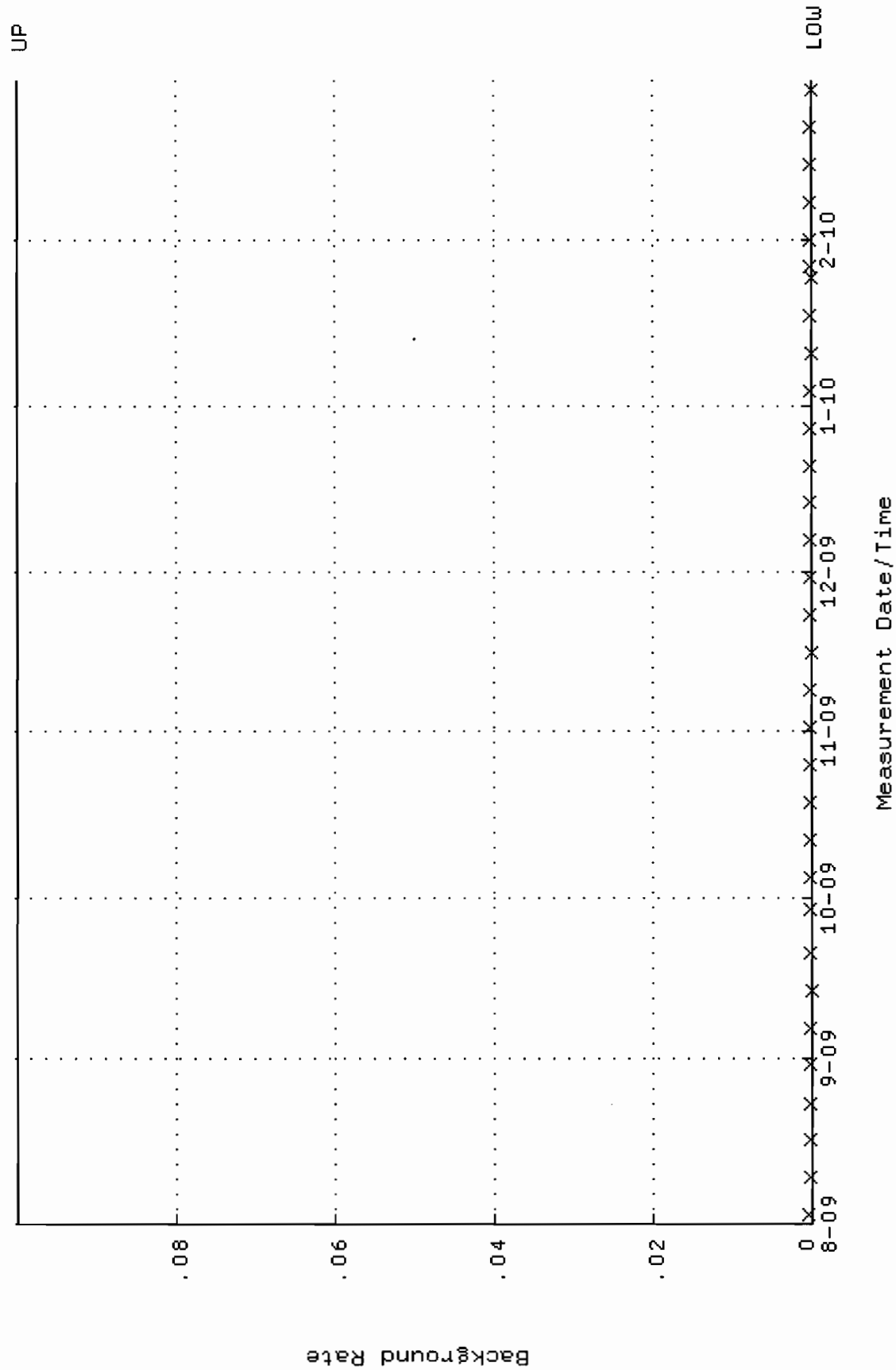
QA filename : DKA100:[ENV_ALPHA.QA.W]W213.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.363867 through 0.385287



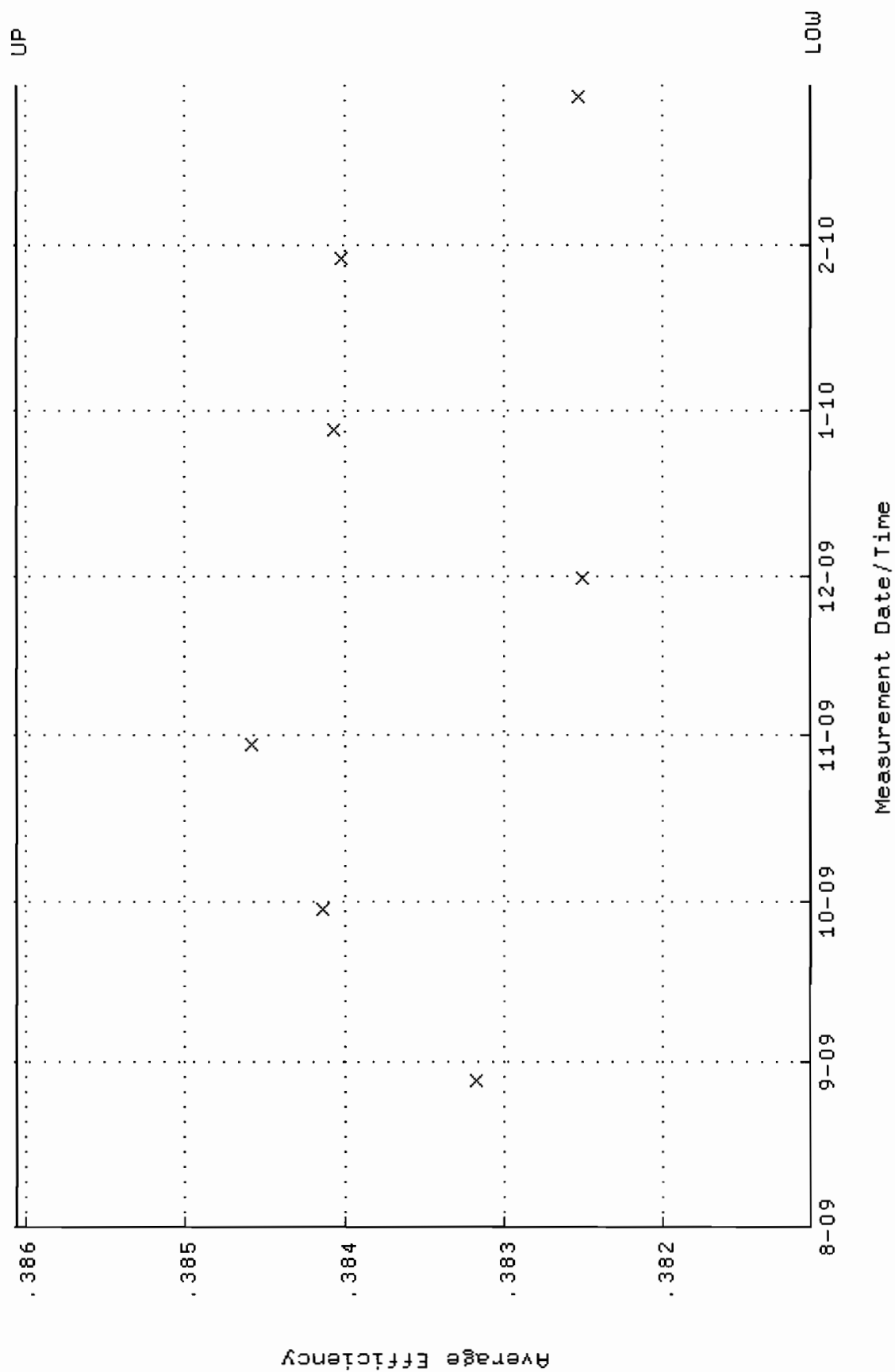
QA filename : DKA100:[ENV_ALPHA.QA.W]W213.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:50 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.8876 through 92.2476



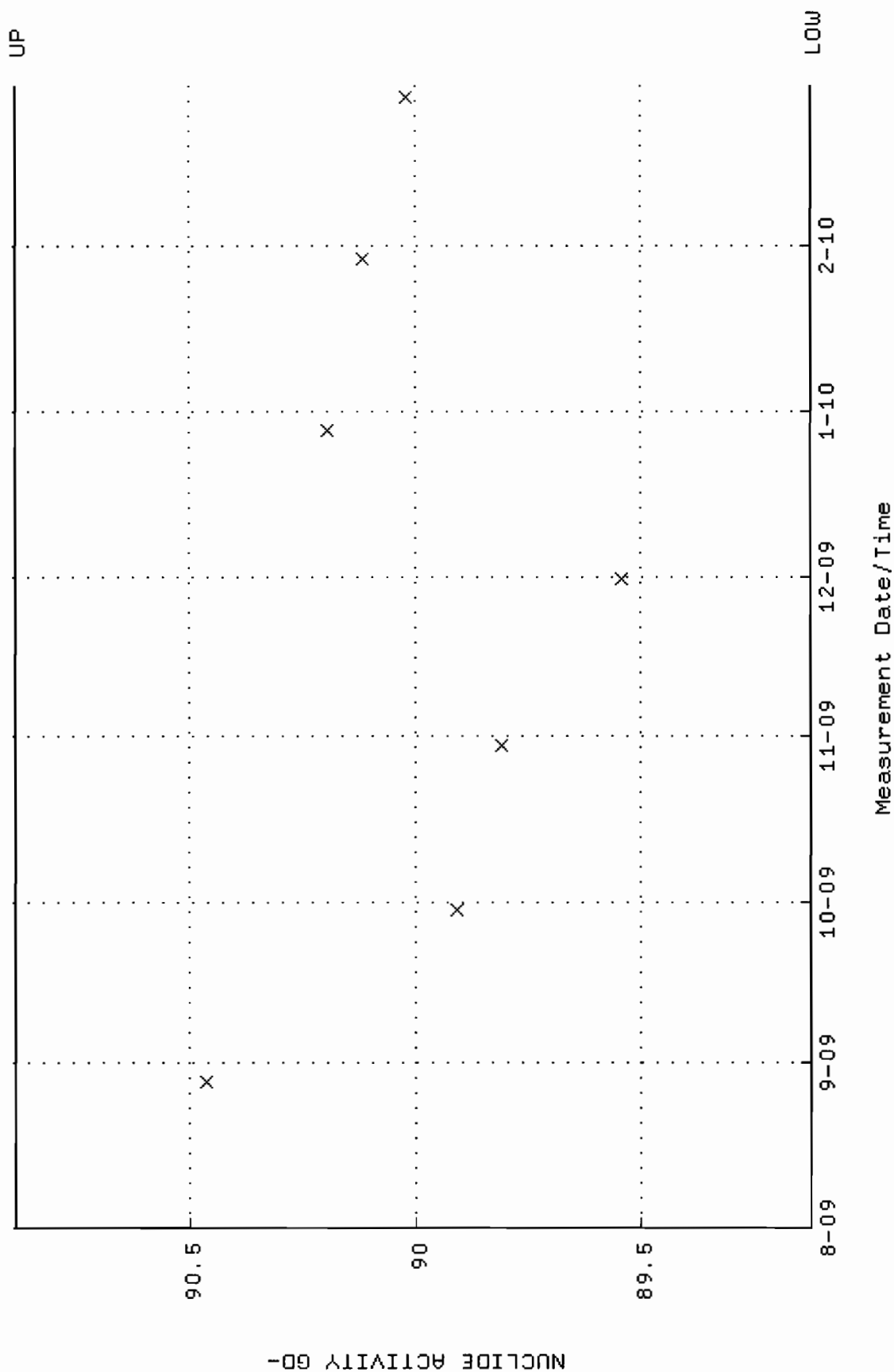
QA filename : DKA100:[ENV_ALPHA.QA.B]B213.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



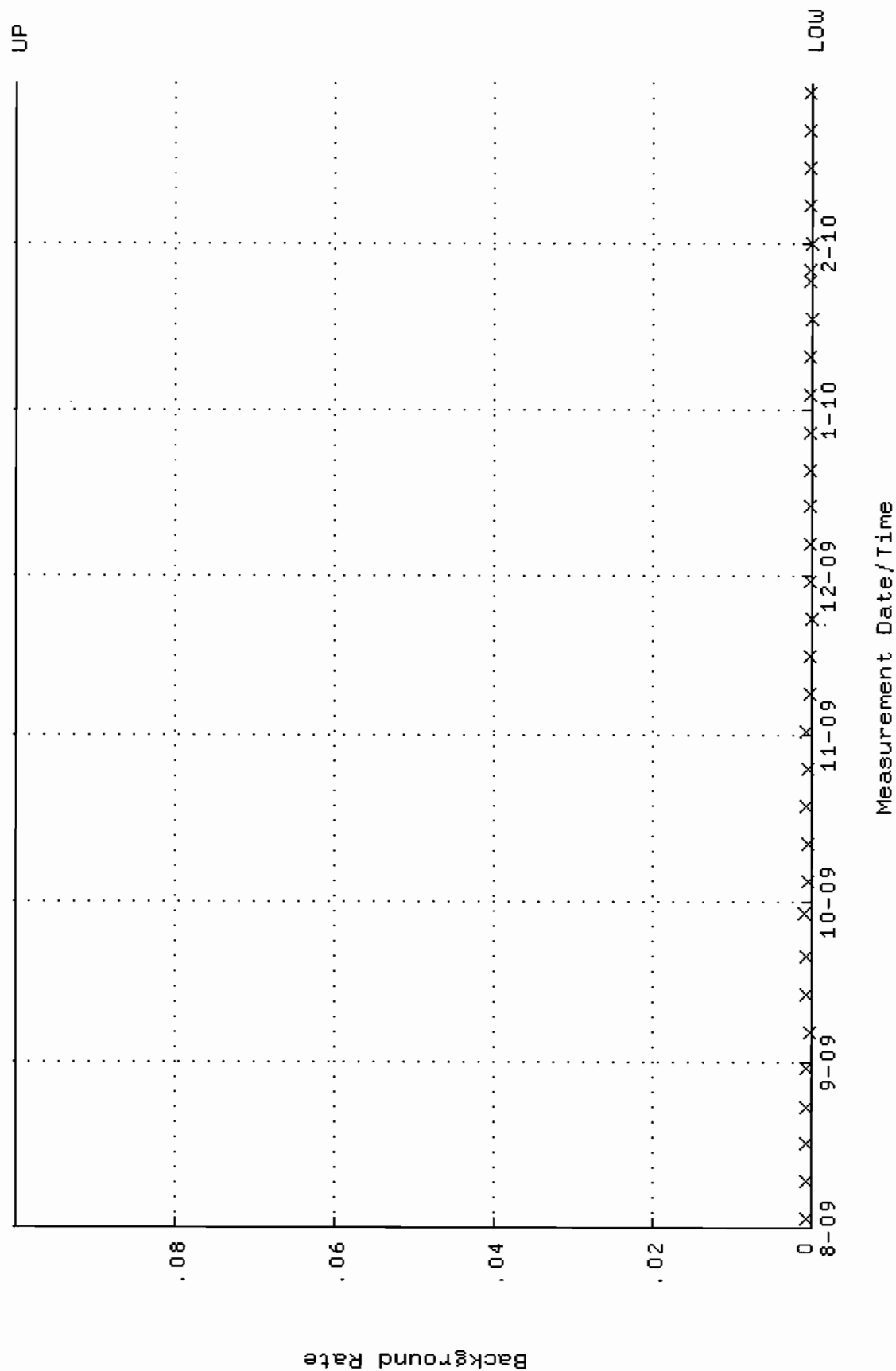
QA filename : DKA100:[ENV_ALPHA.QA.W]W214.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:06:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.381077 through 0.386057



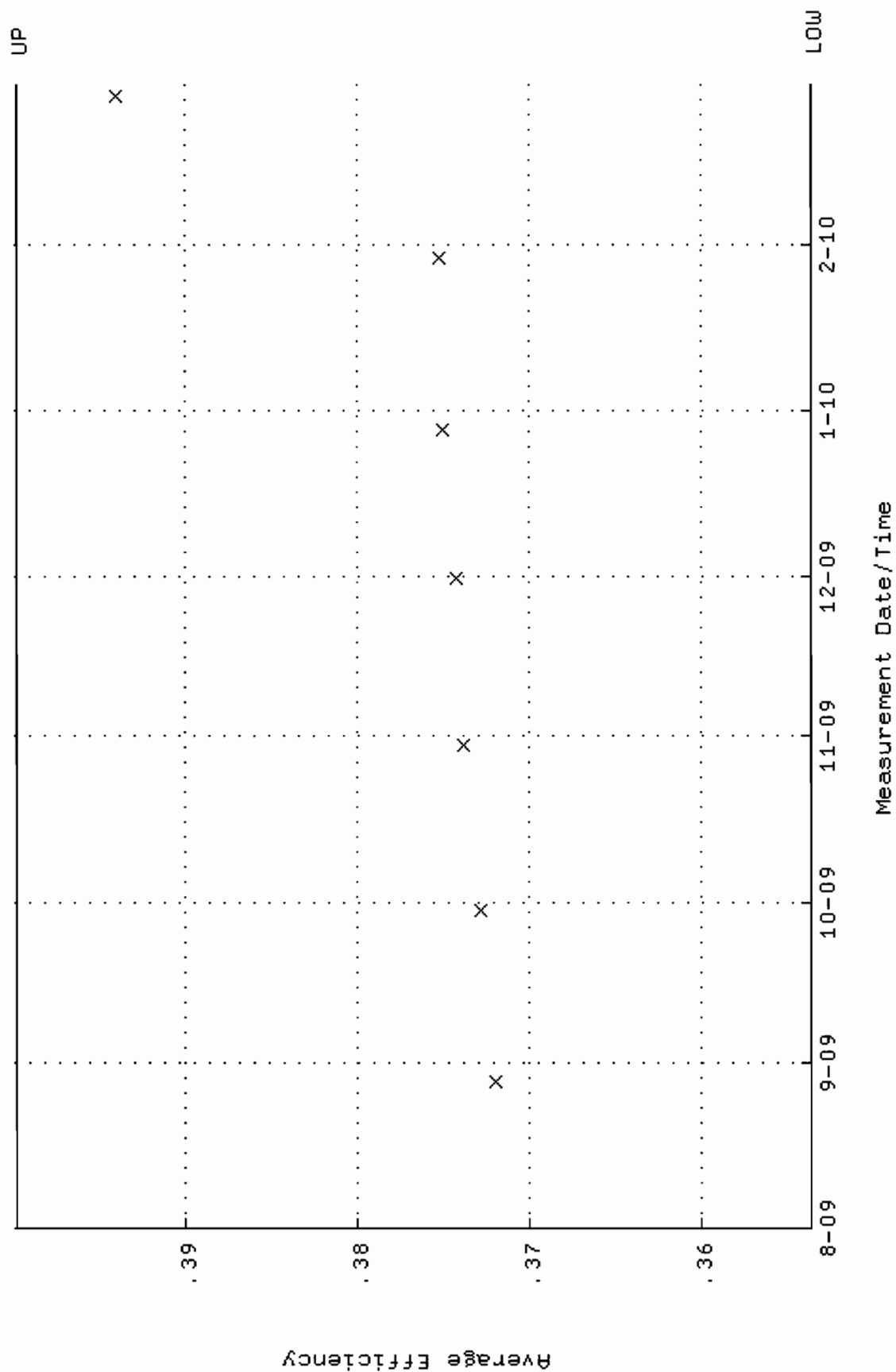
QA filename : DKA100:[ENV_ALPHA.QA.W]W214.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:06:55 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 89.1239 through 90.8865



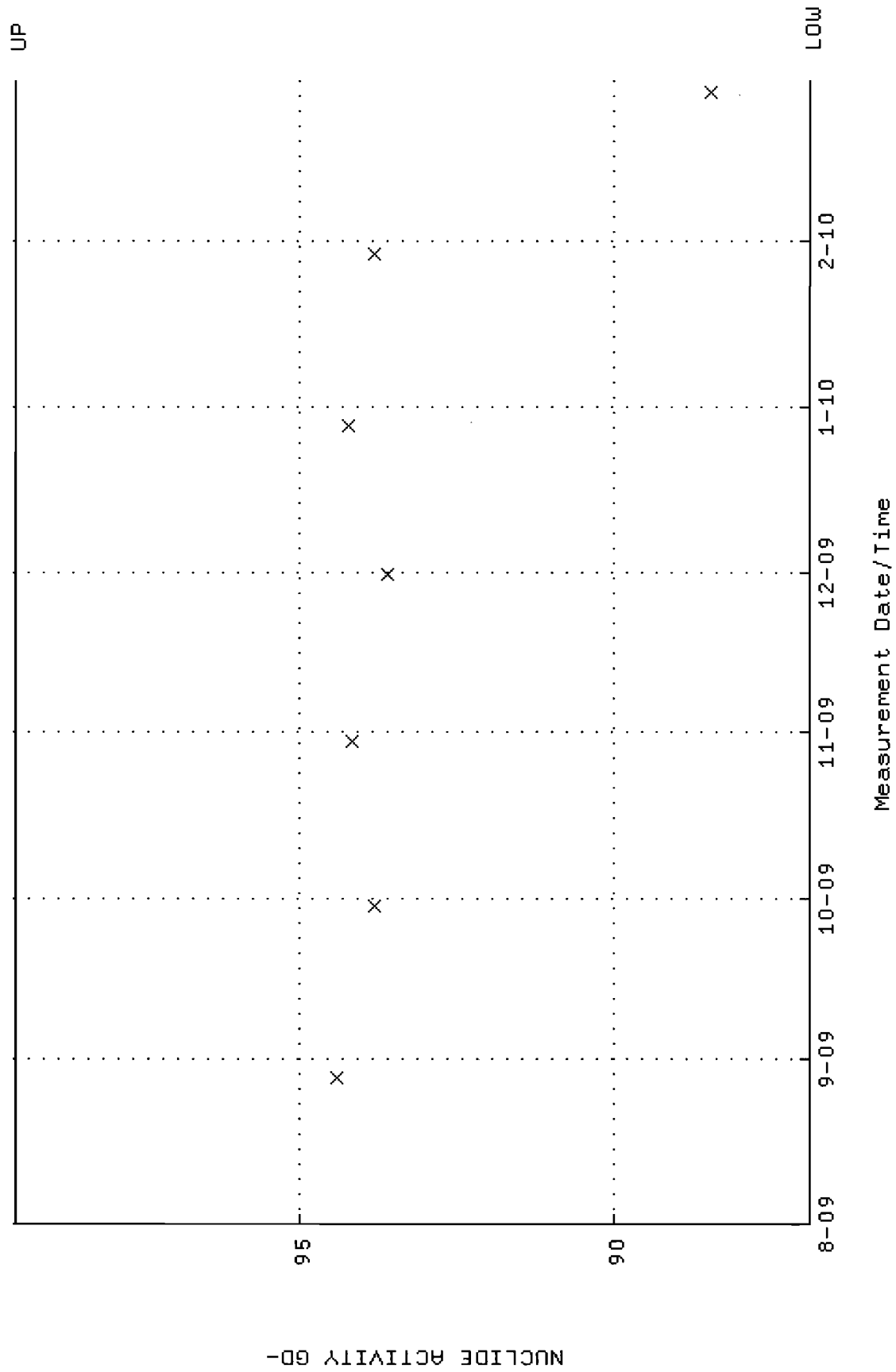
QA filename : DKA100:[ENV_ALPHA.QA.B]B214.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:31 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



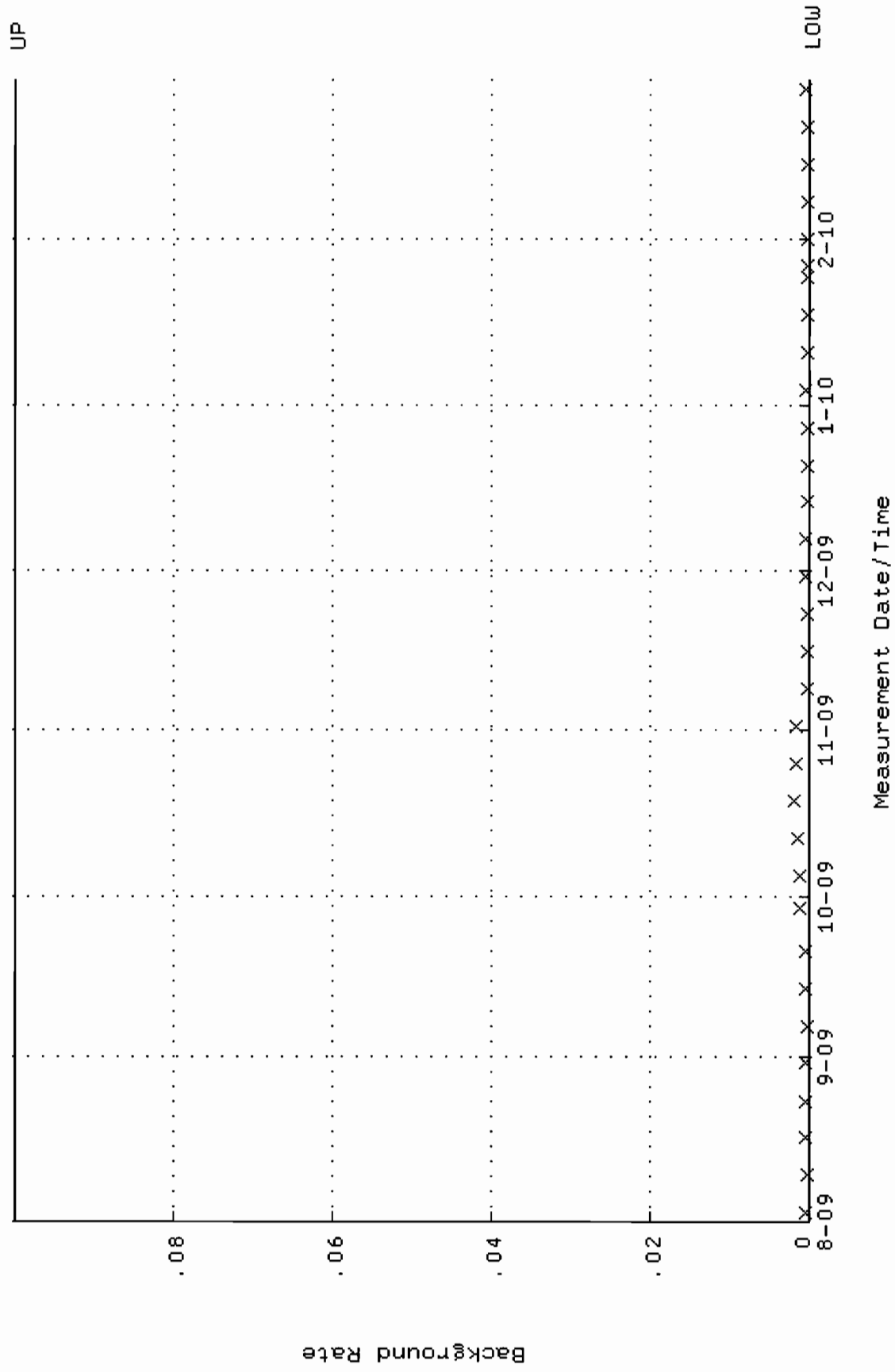
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 28-AUG-2009 07:07:14 through 2-MAR-2010 12:00:00
Lower/Upper Lmts: 0.353641 through 0.399809



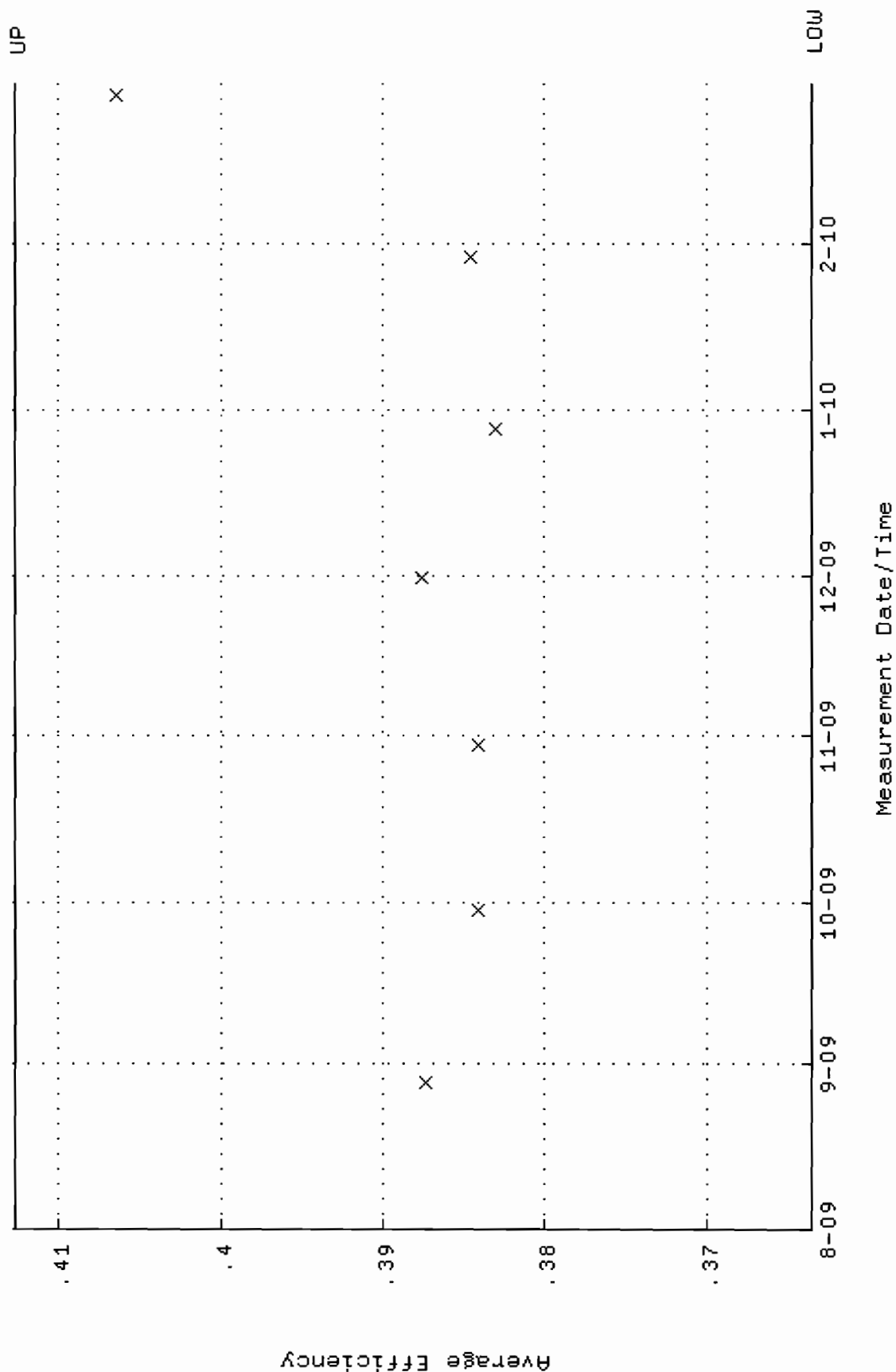
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:14 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.8733 through 99.5183



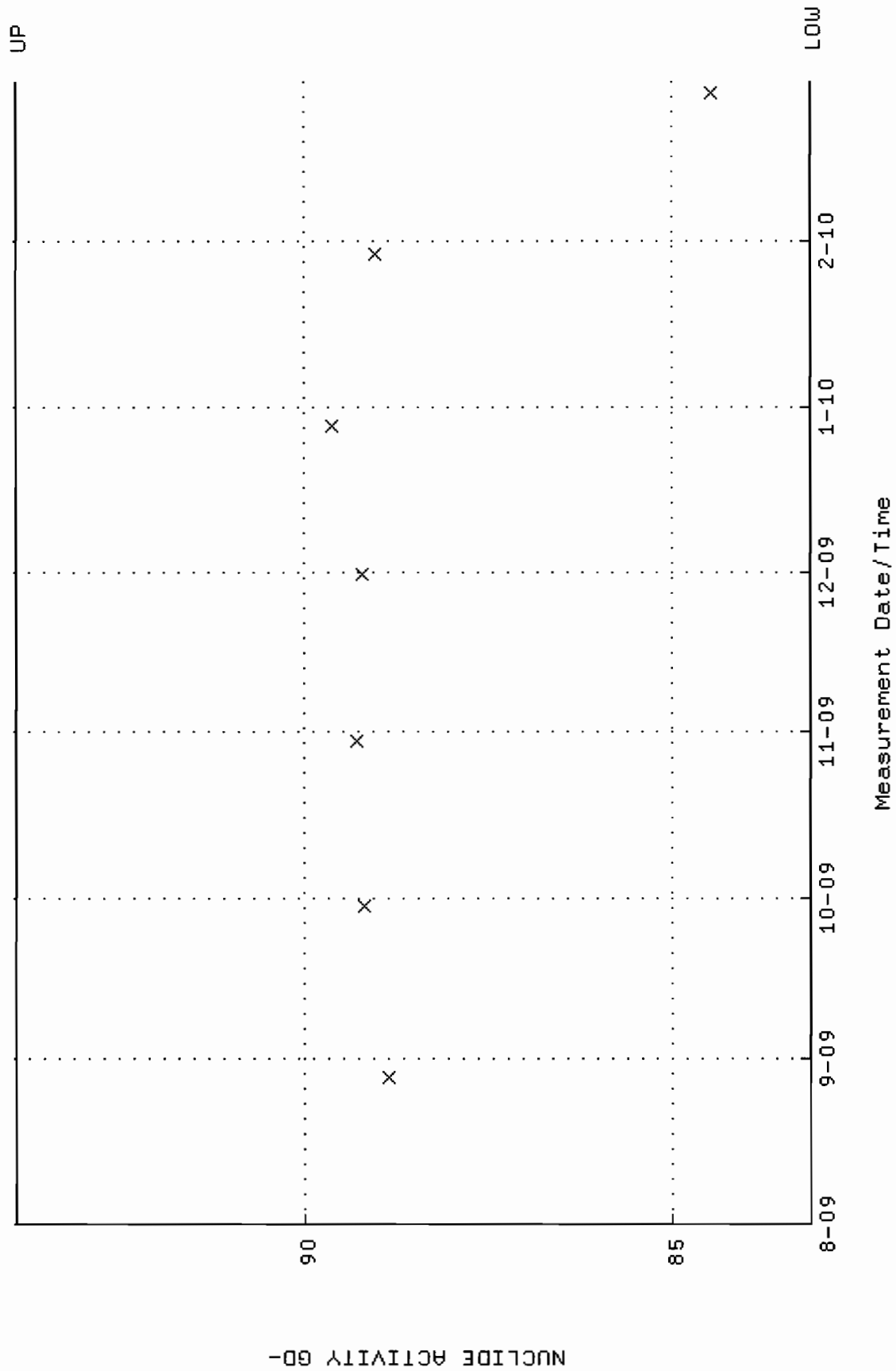
QA filename : DKA100:[ENV_ALPHA,QA,B]B218.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:48 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



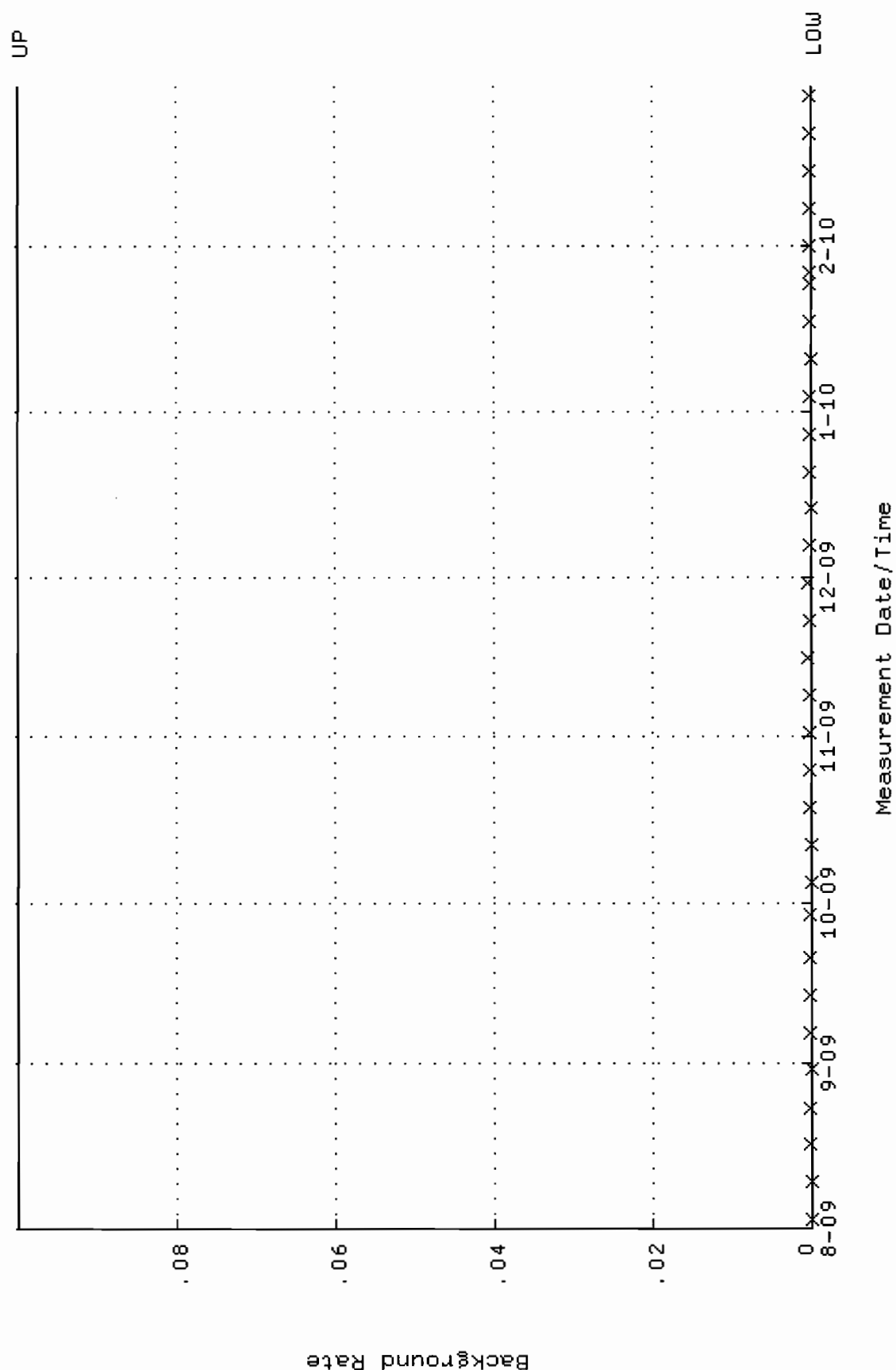
QA filename : DKA100:[ENV_ALPHA.QA.W]W219.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:18 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.363471 through 0.412689



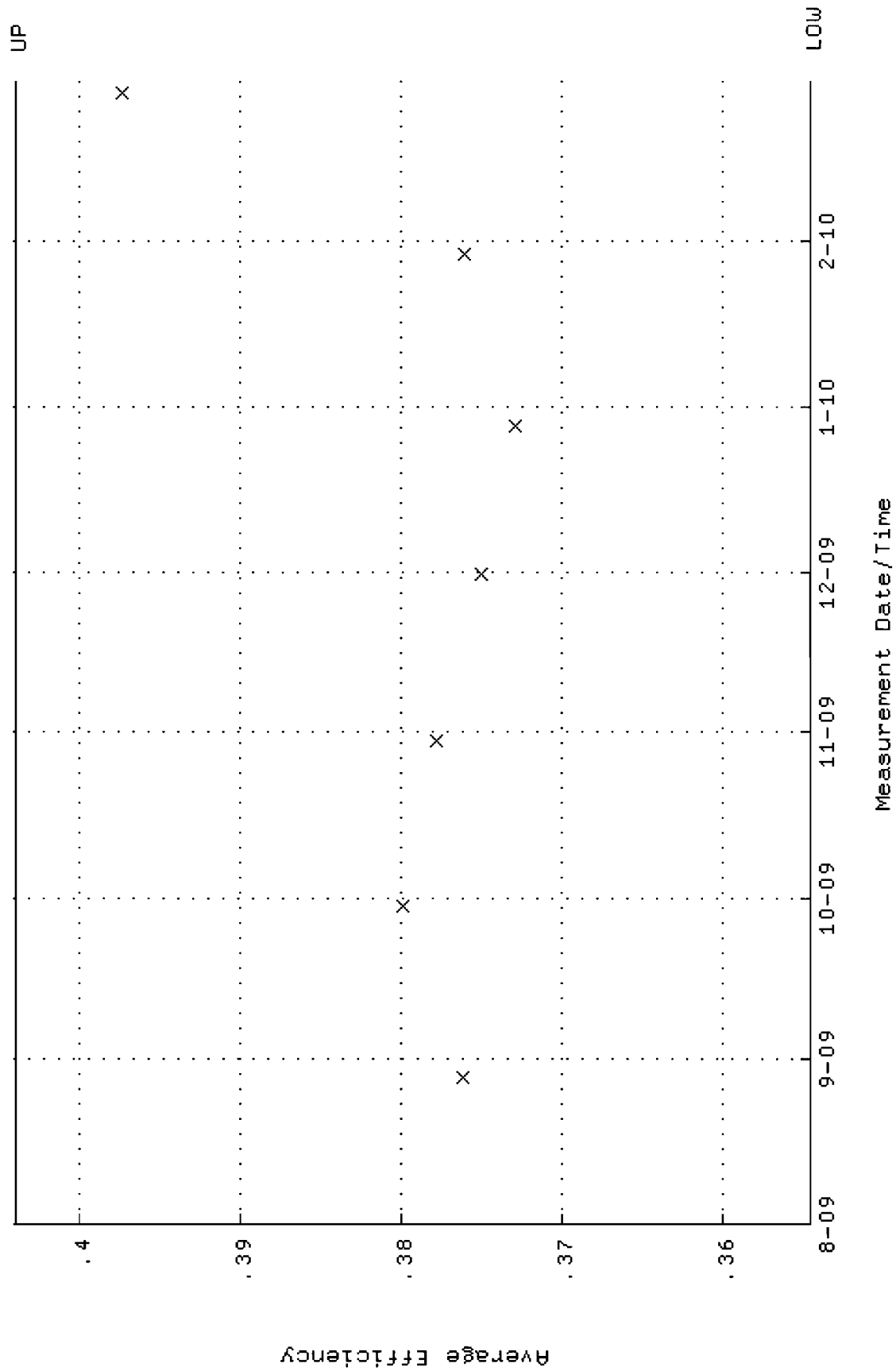
QA filename : DKA100:[ENV_ALPHA.QA.W]W219.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:18 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.1251 through 93.8923



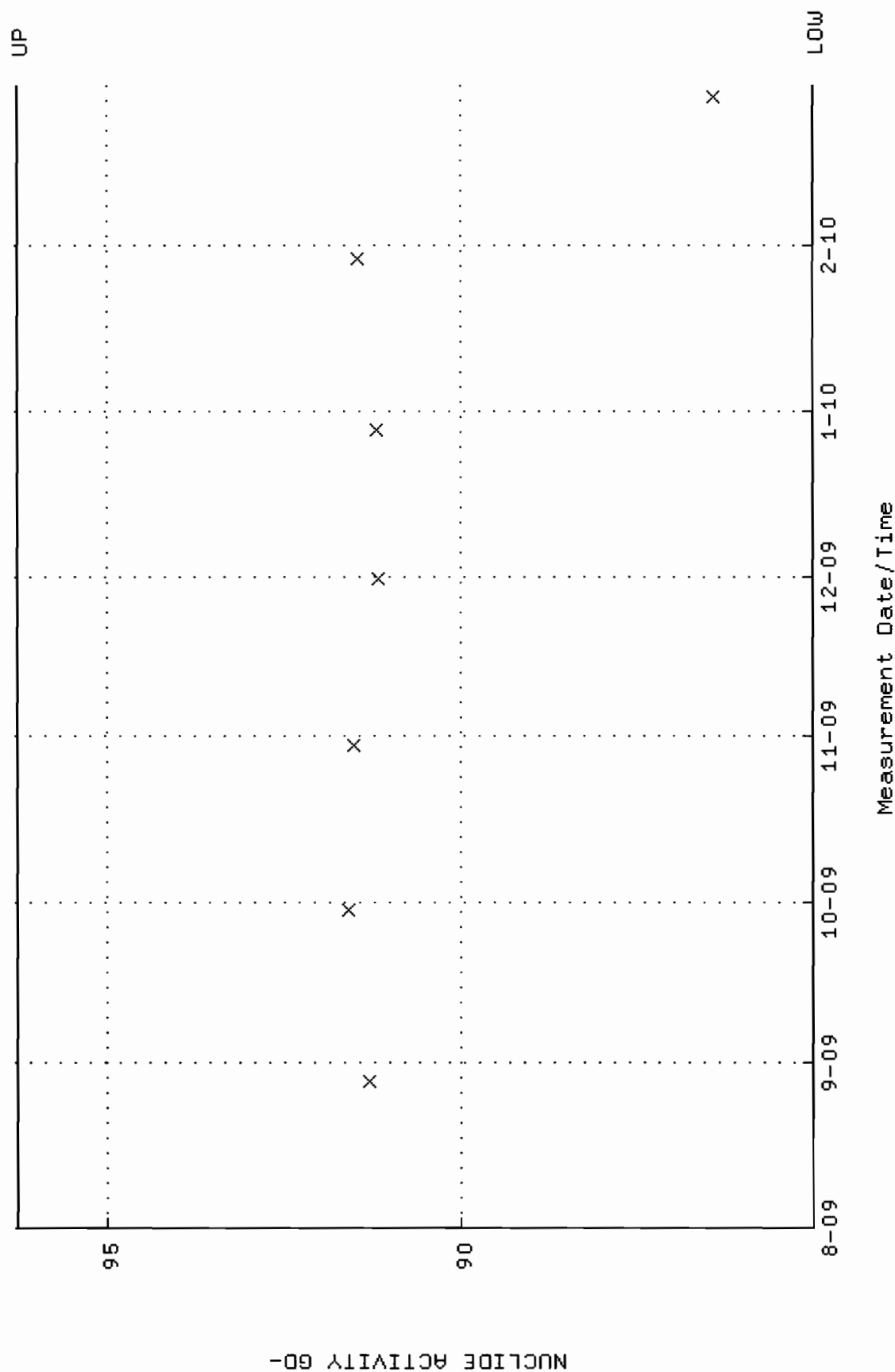
QA filename : DKA100:[ENV_ALPHA.QA.B]B219.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:25:52 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



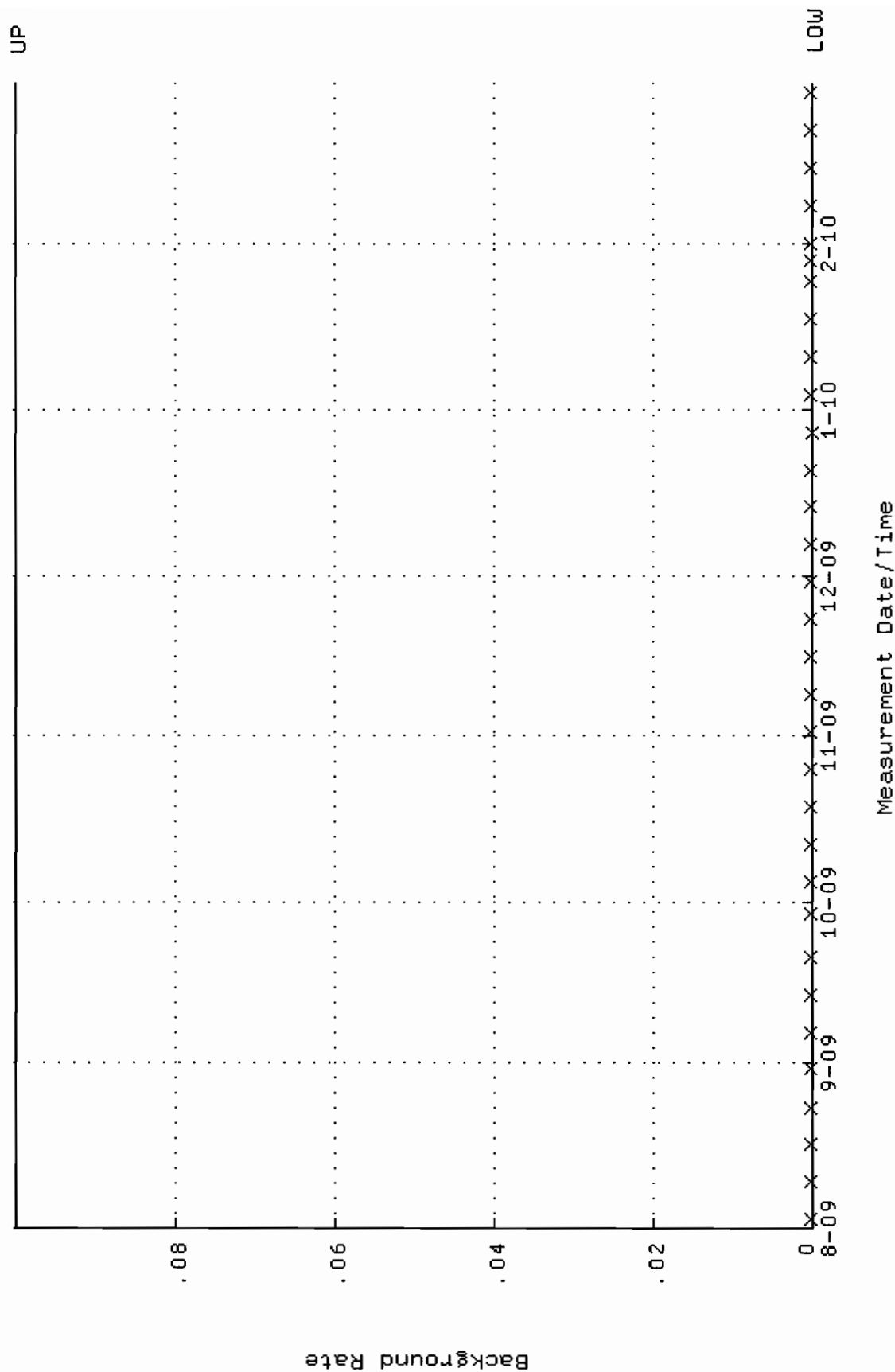
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.354487 through 0.403989



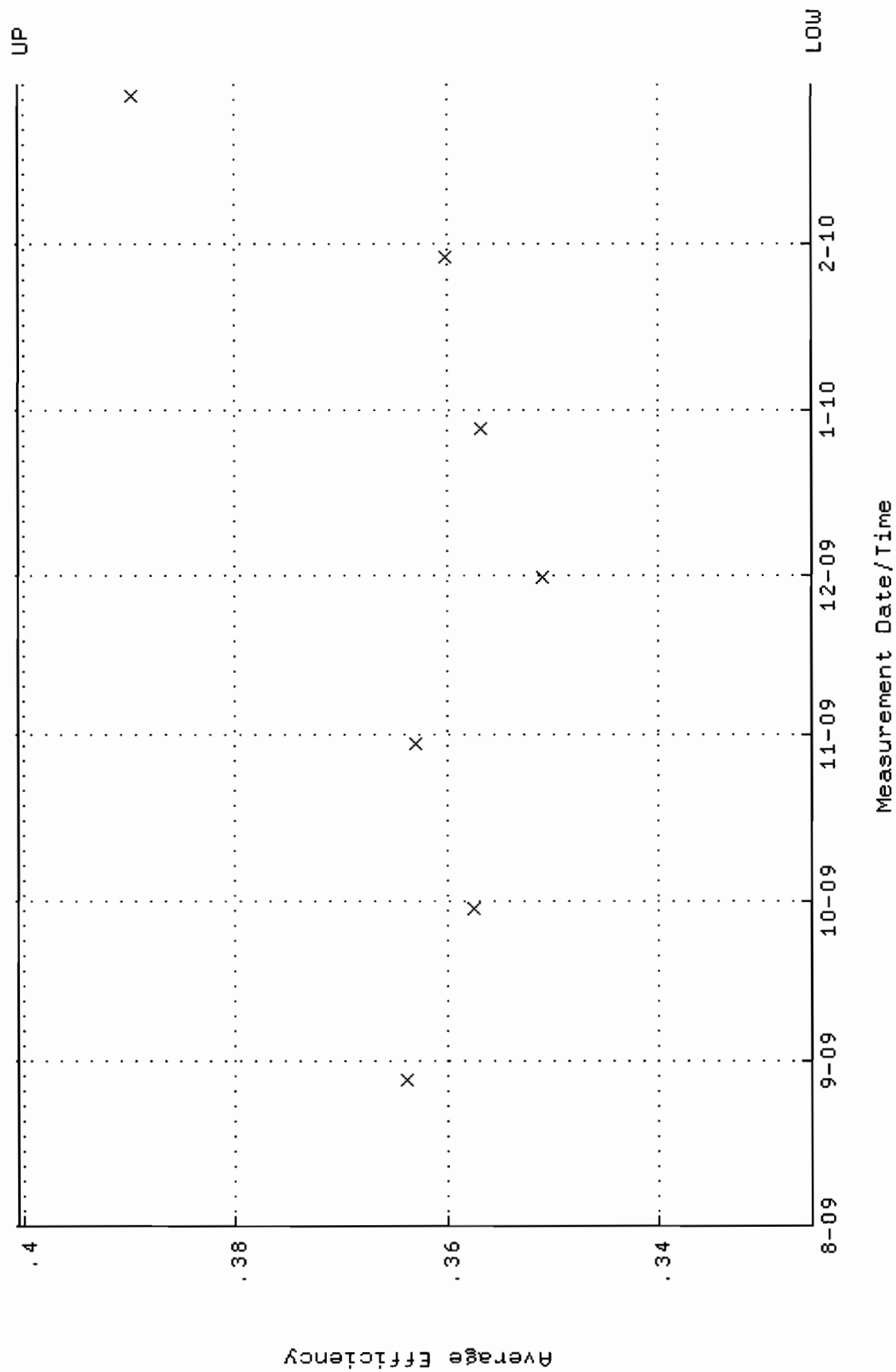
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:27 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 85.0275 through 96.2669



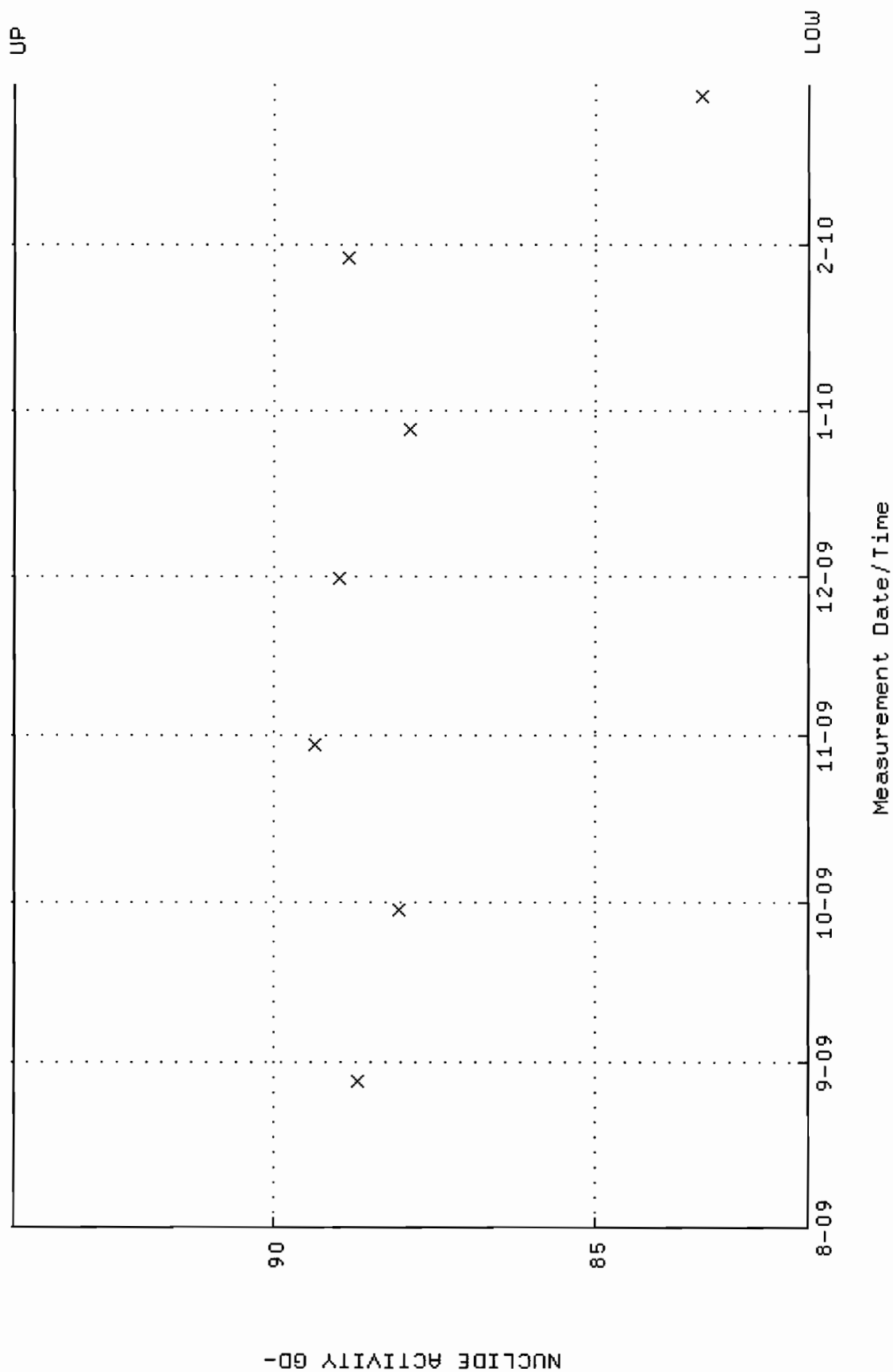
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:01 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



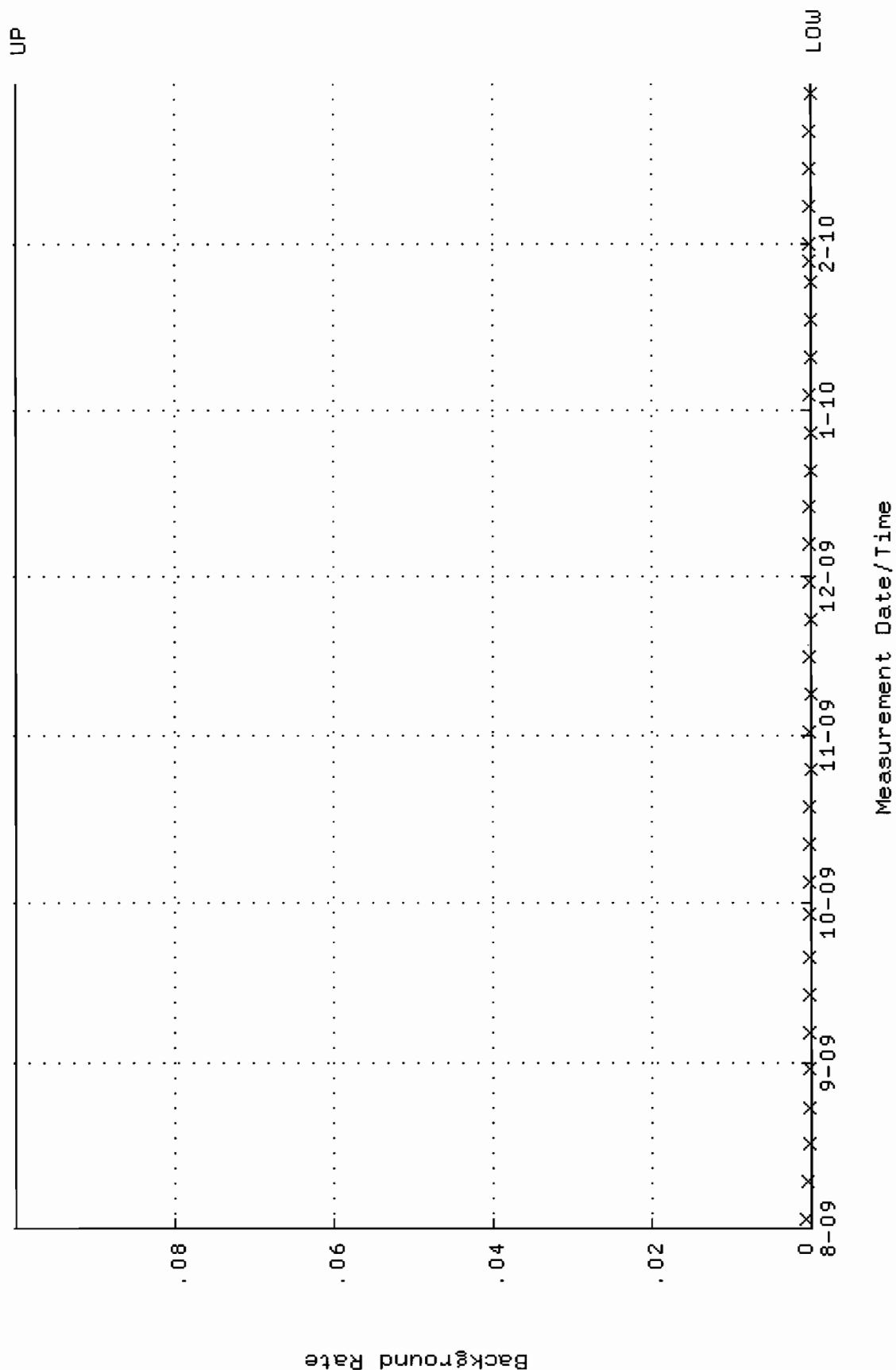
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.325585 through 0.400497



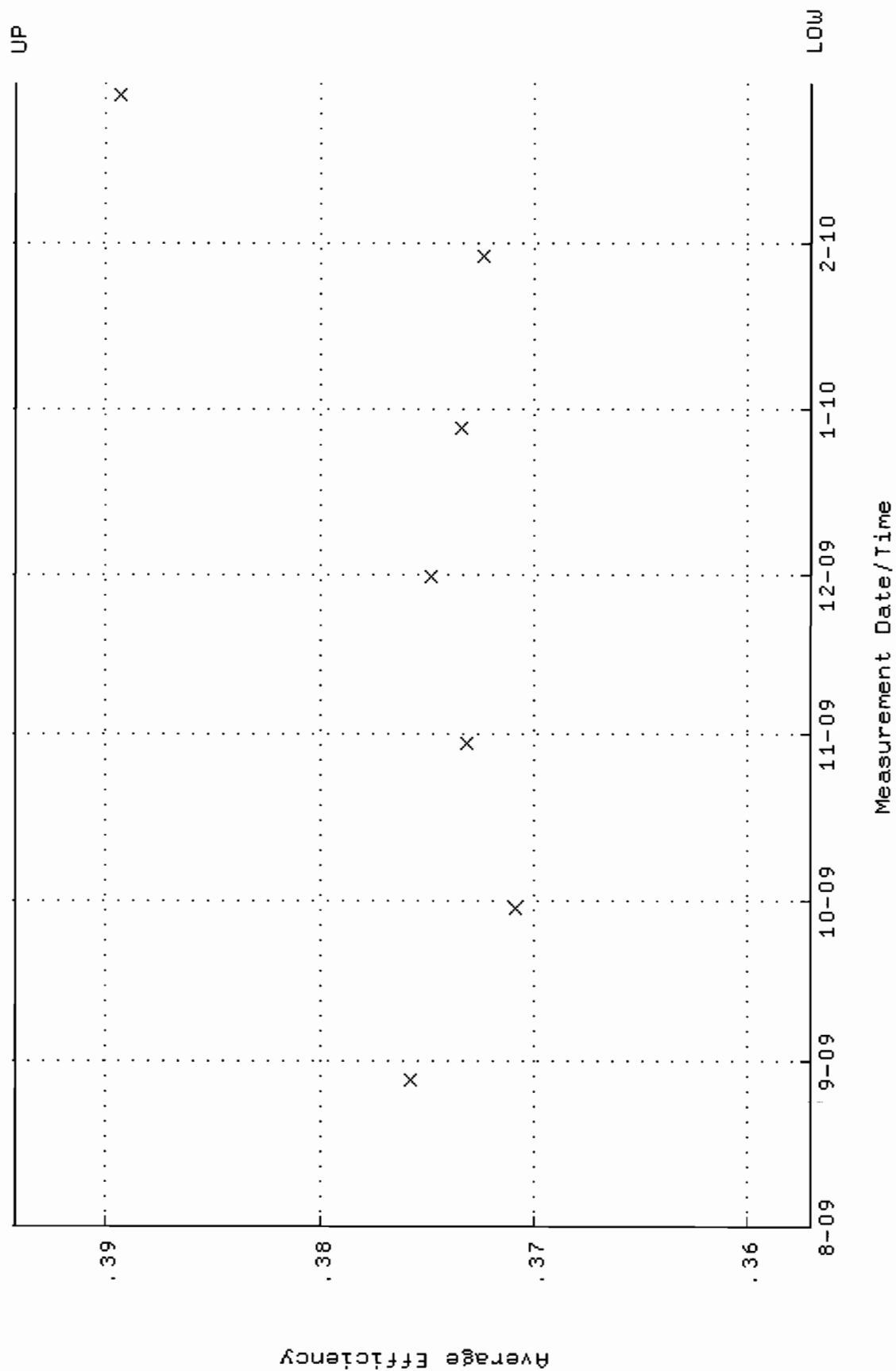
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:32 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.6821 through 94.0551



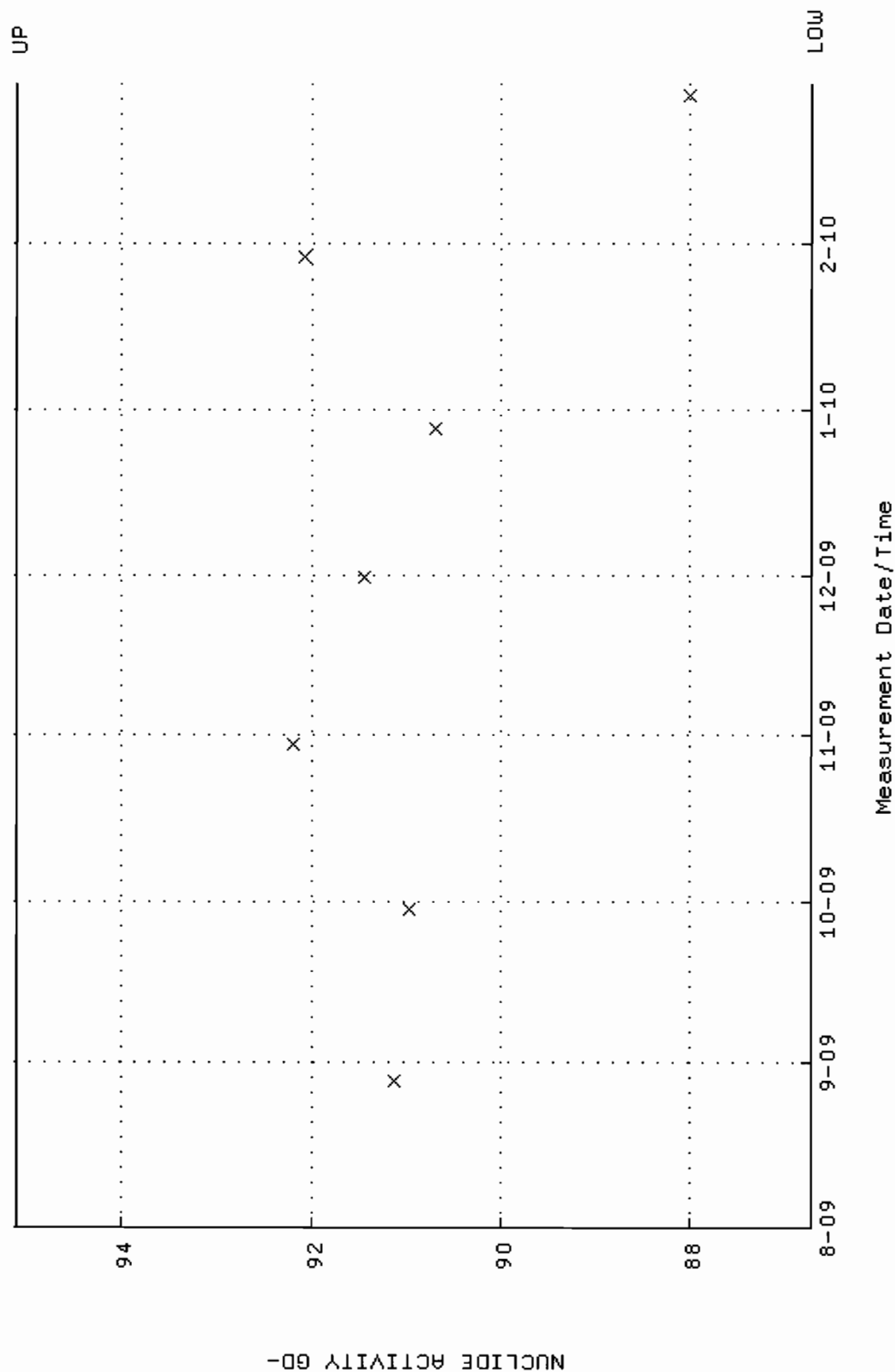
QA filename : DKA100:[ENV_ALPHA.QA.B]B222.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:05 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



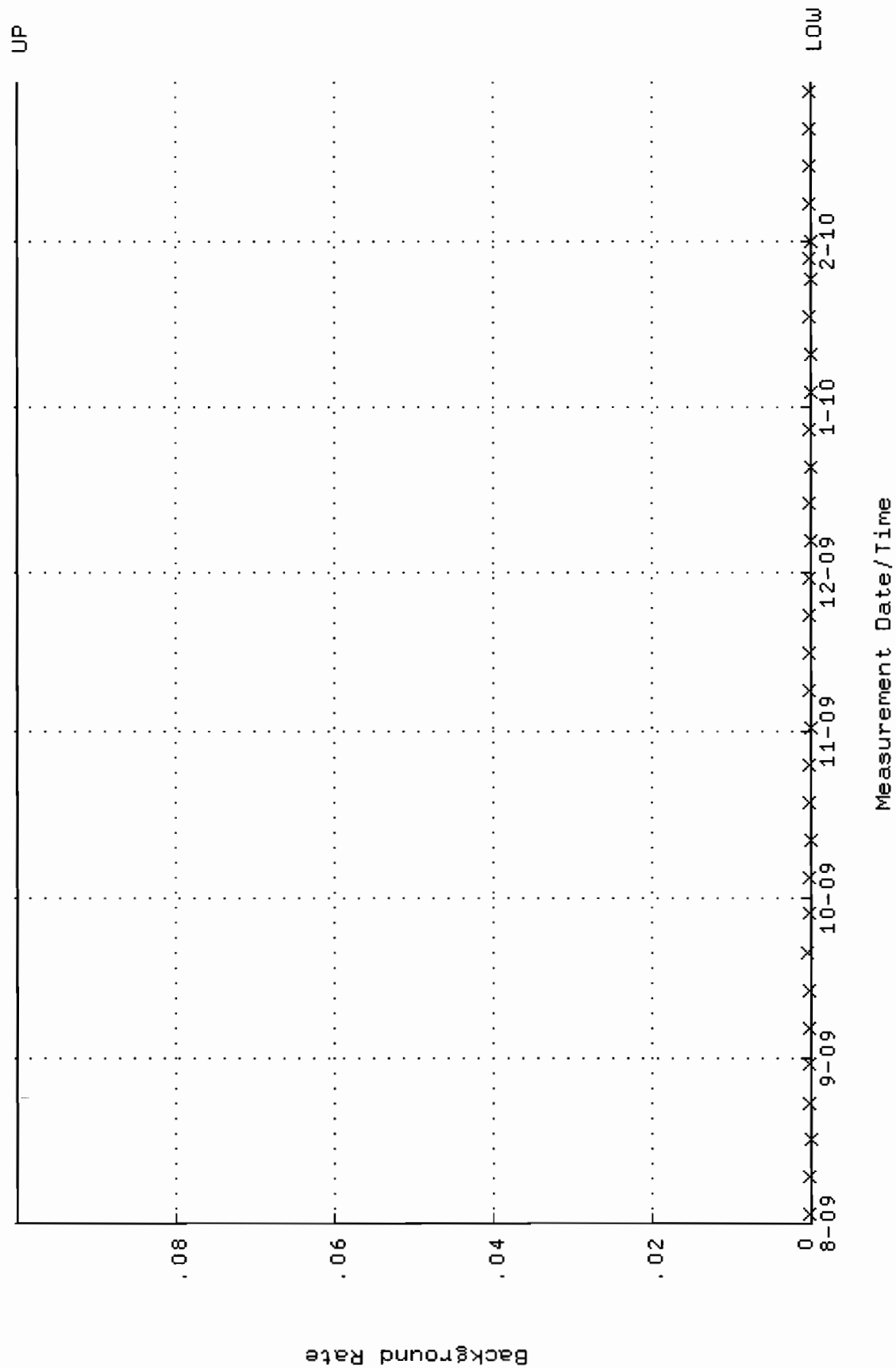
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:07:57 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.357039 through 0.394215



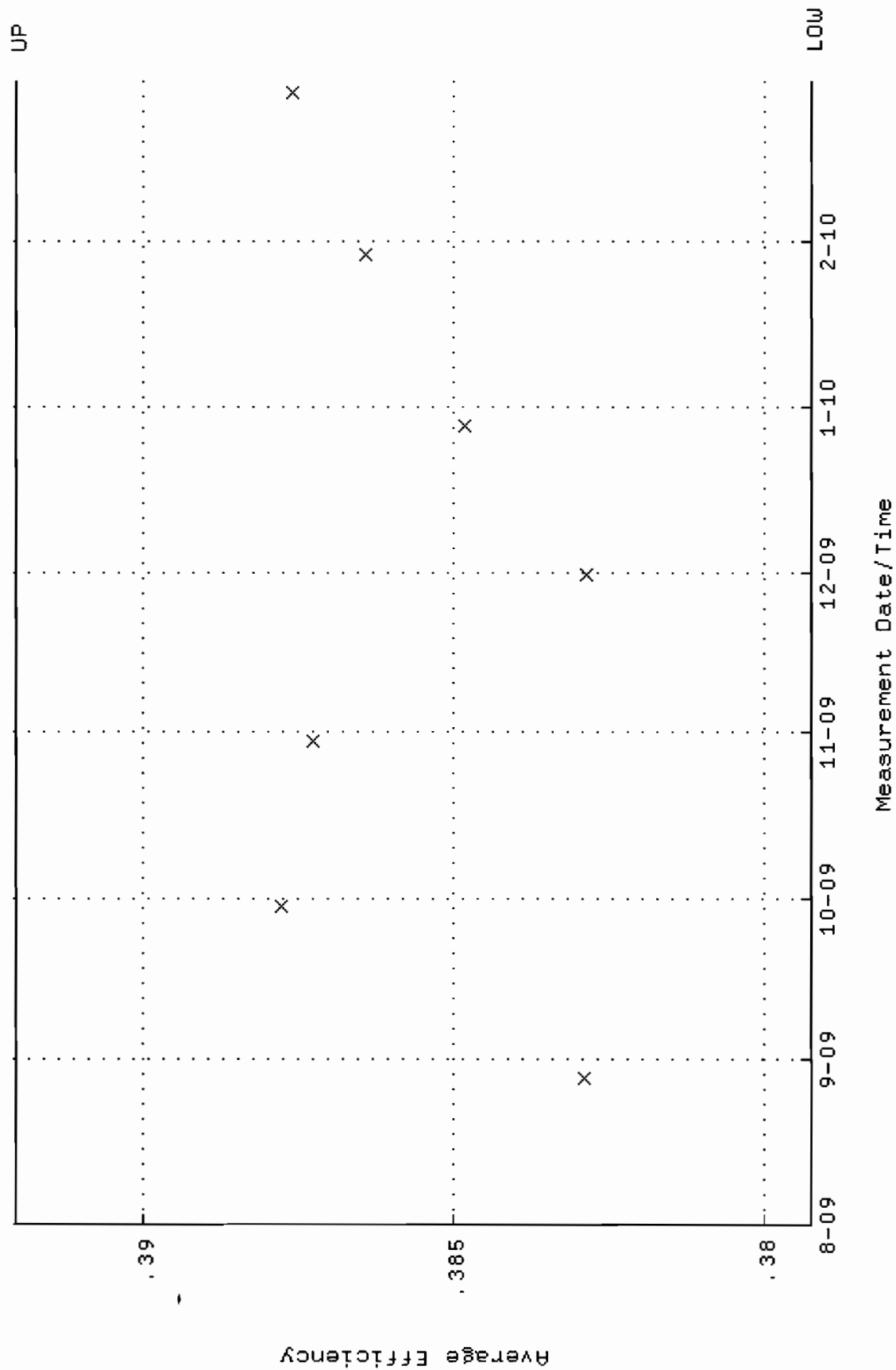
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:07:57 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.7273 through 95.1093



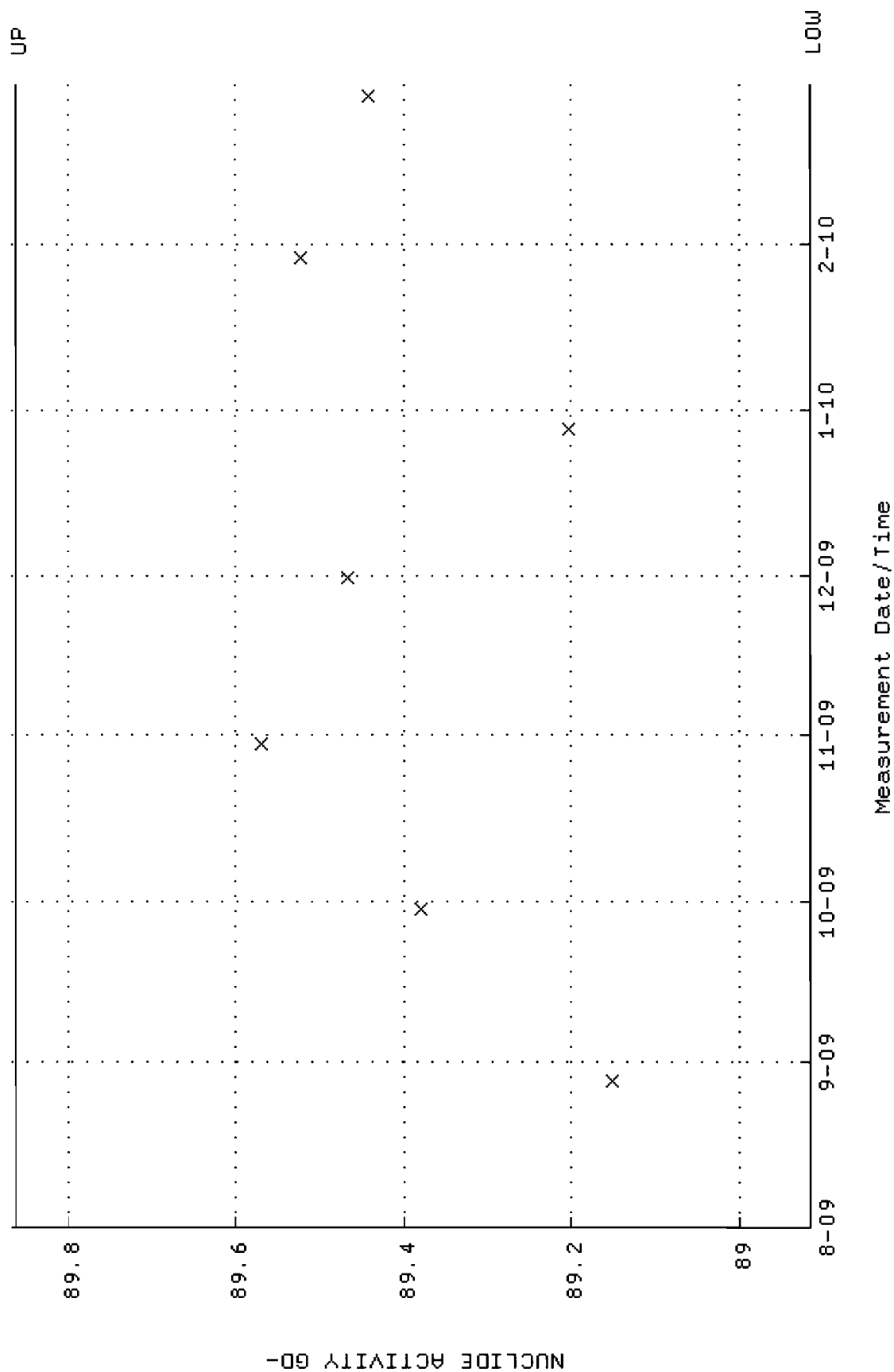
QA filename : DKA100:[ENV_ALPHA.QA.B]B226.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:20 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



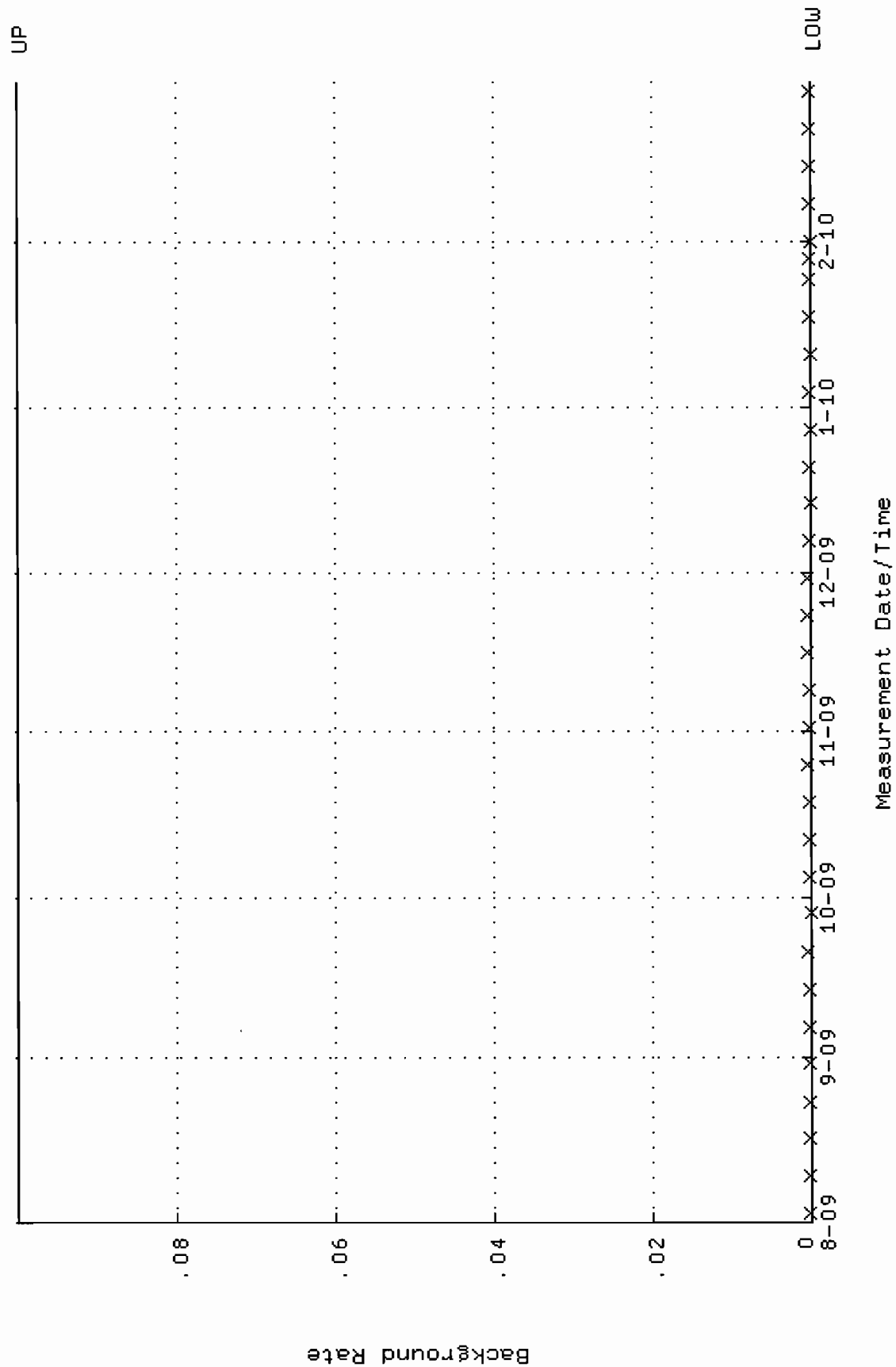
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:03 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.379260 through 0.392050



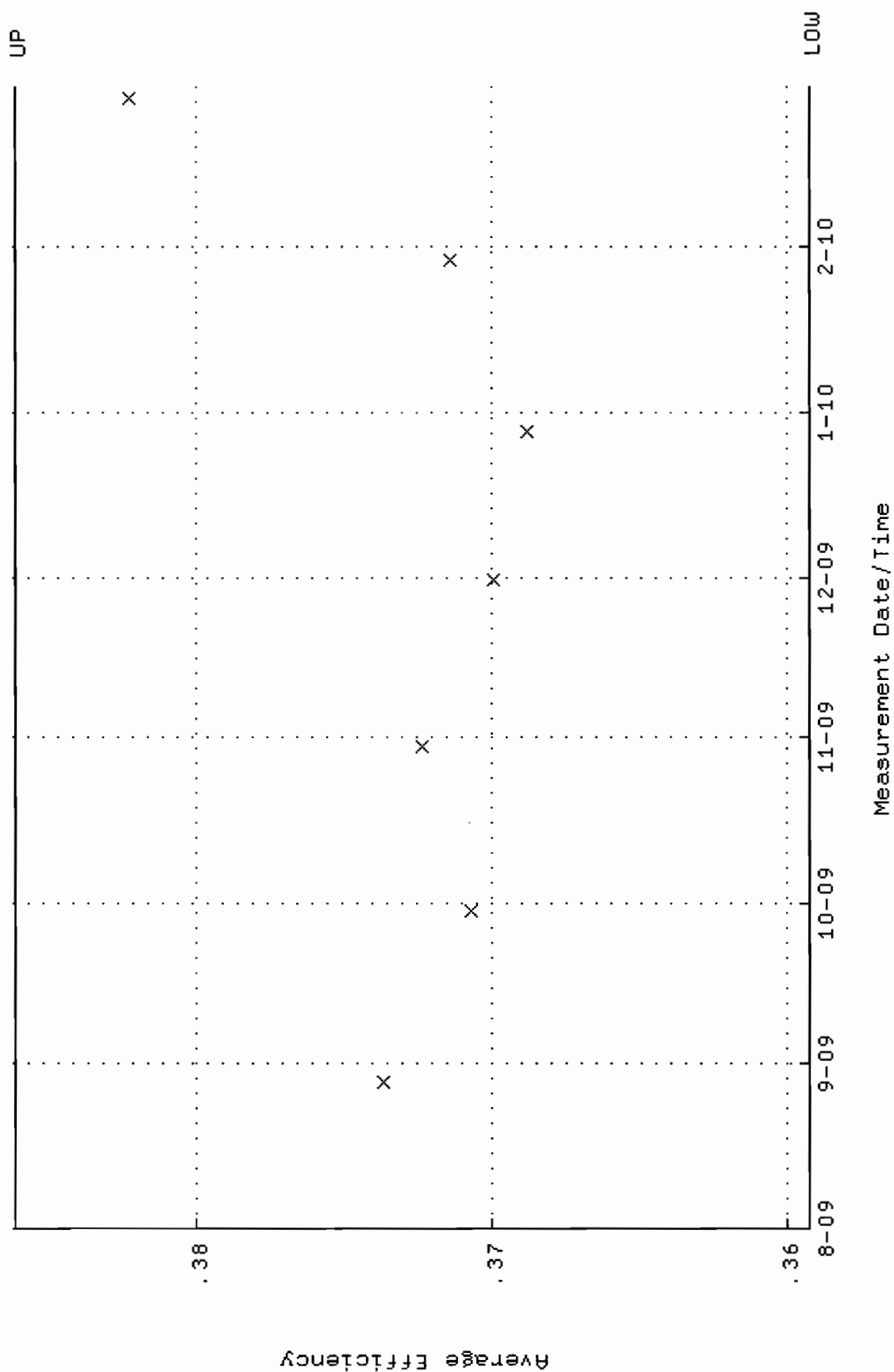
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:03 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 88.9145 through 89.8637



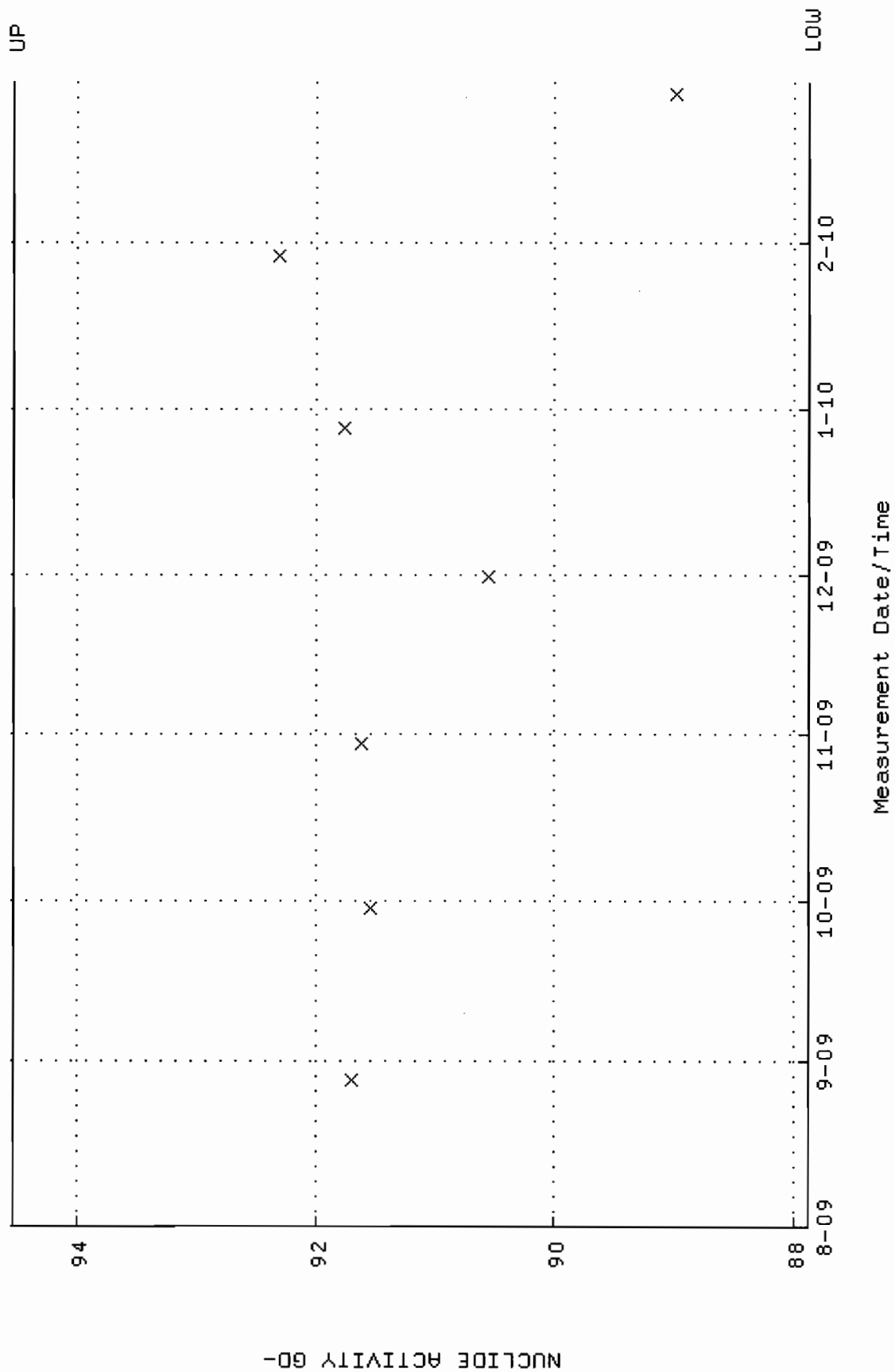
QA filename : DKA100:[ENV_ALPHA.QA.B]B227.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:24 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



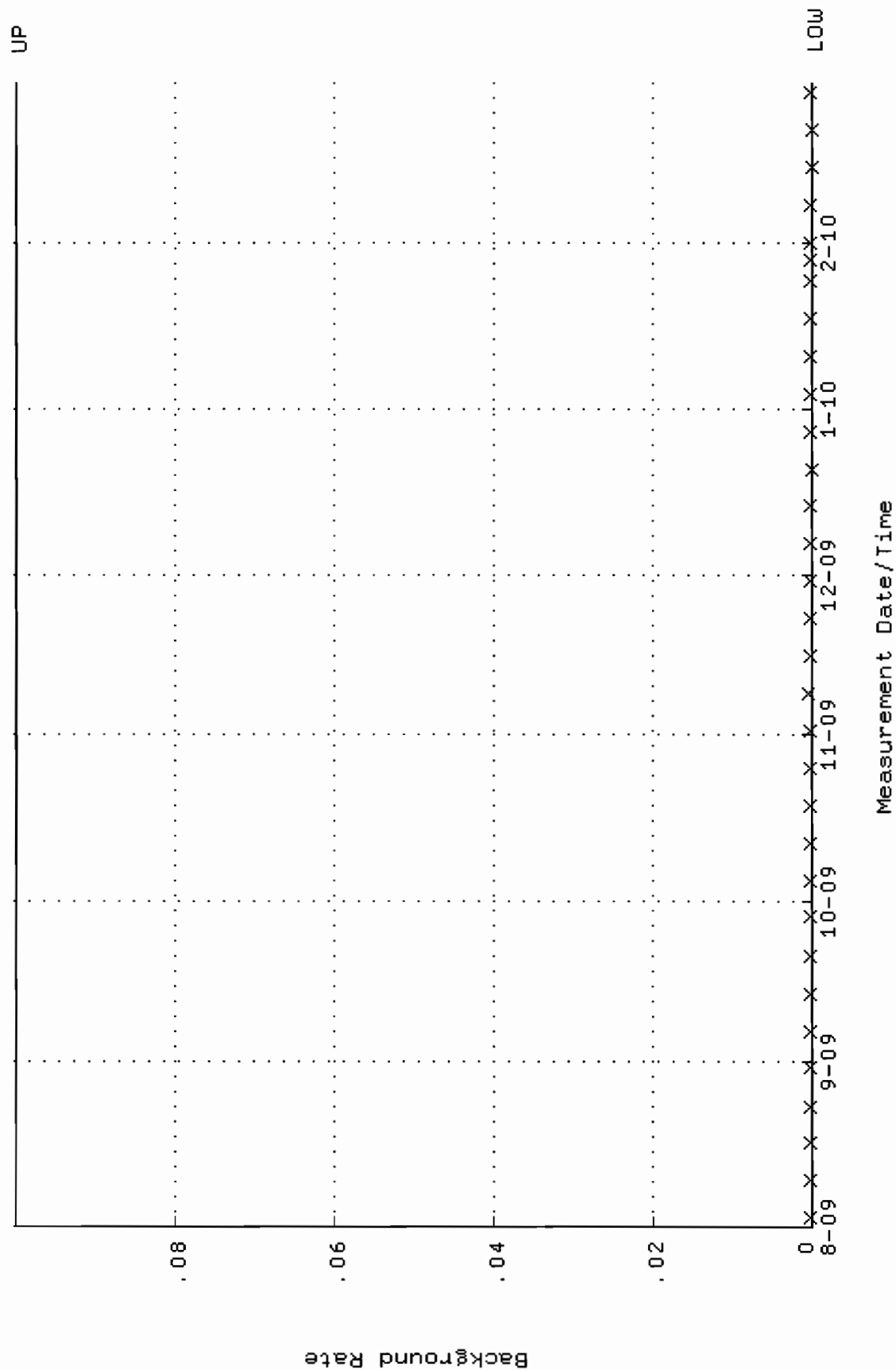
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:10 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.359272 through 0.386096



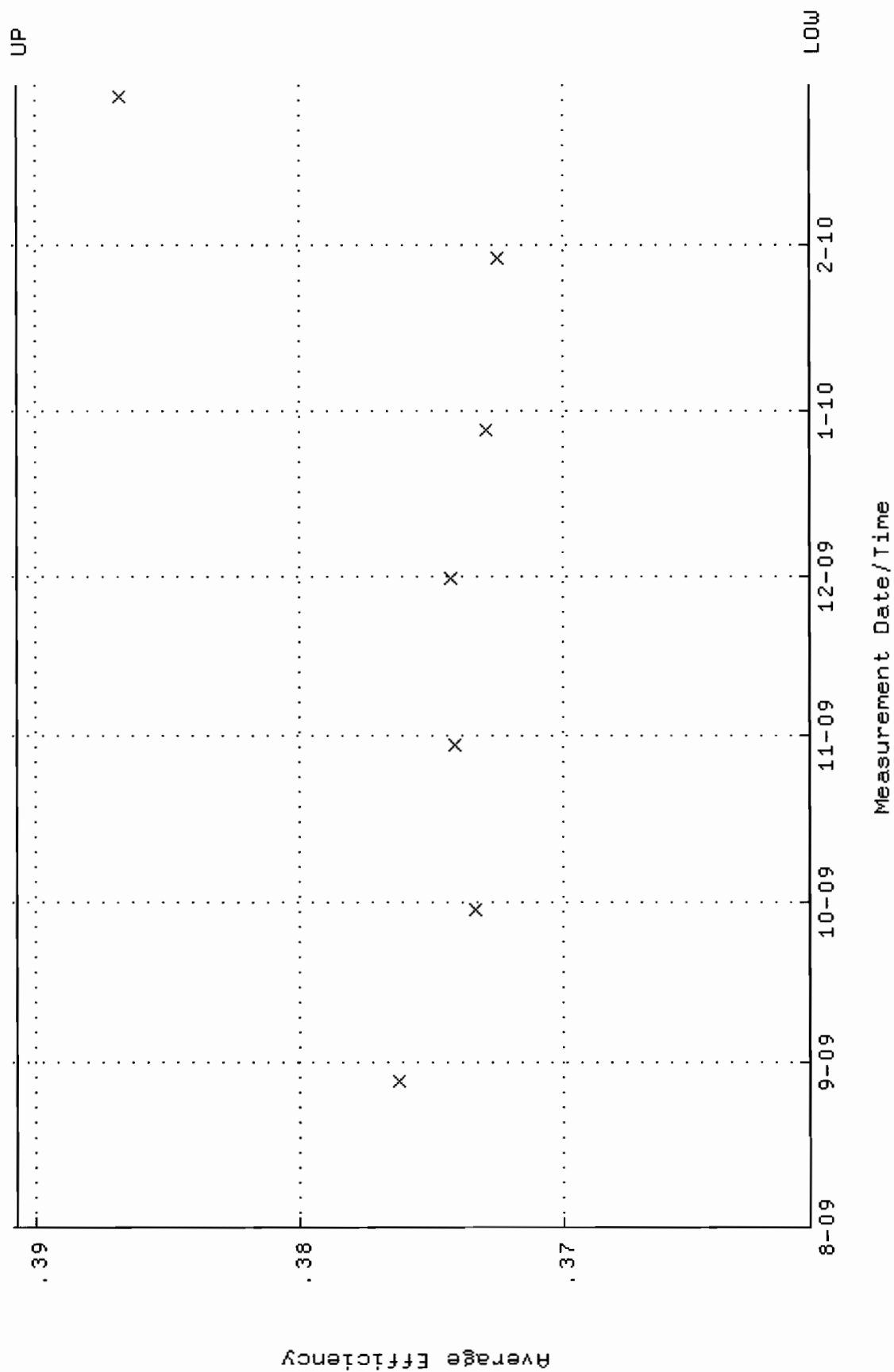
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:10 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.8750 through 94.5380



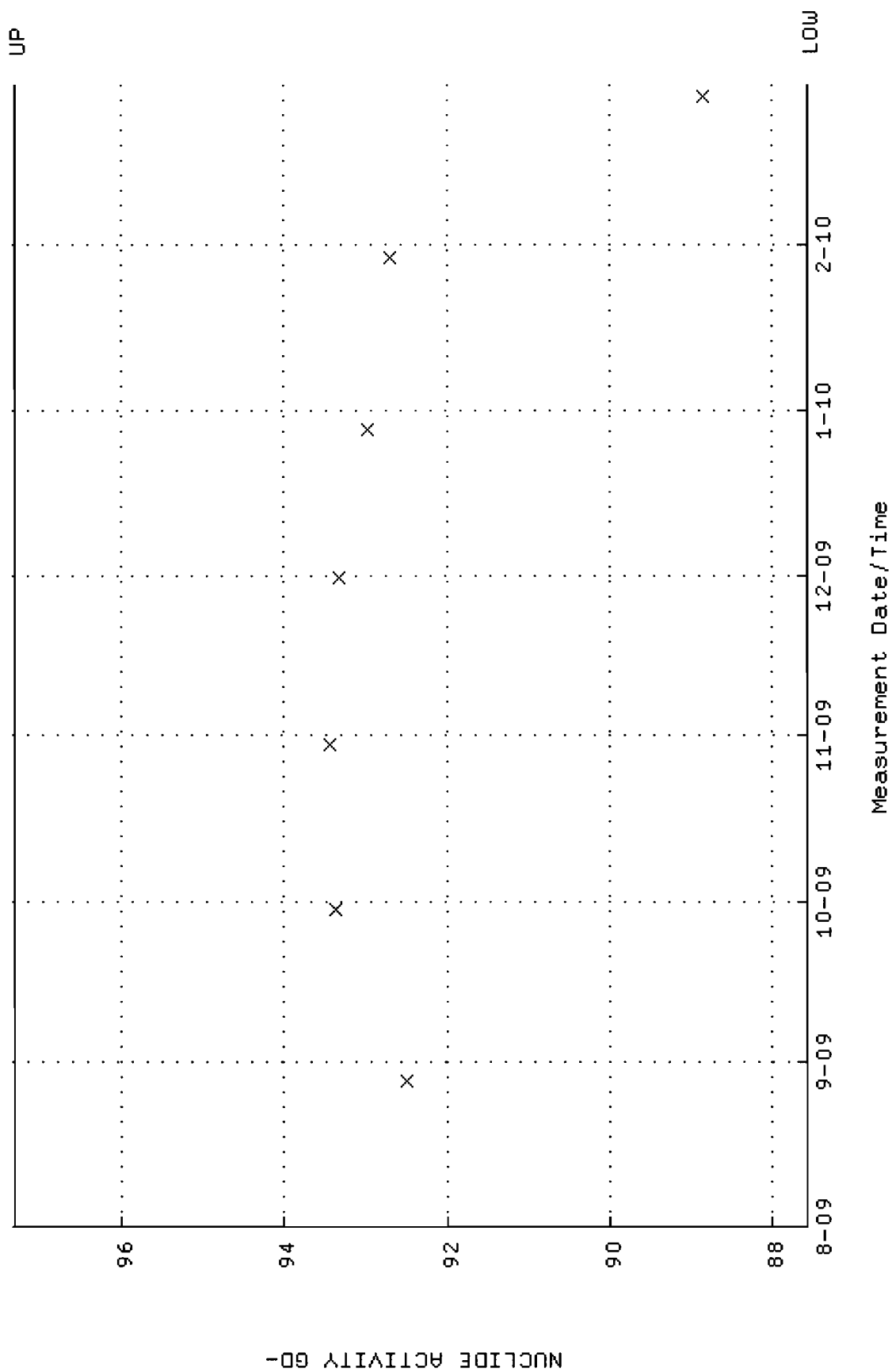
QA filename : DKA100:[ENV_ALPHA.QA.B]B228.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:29 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



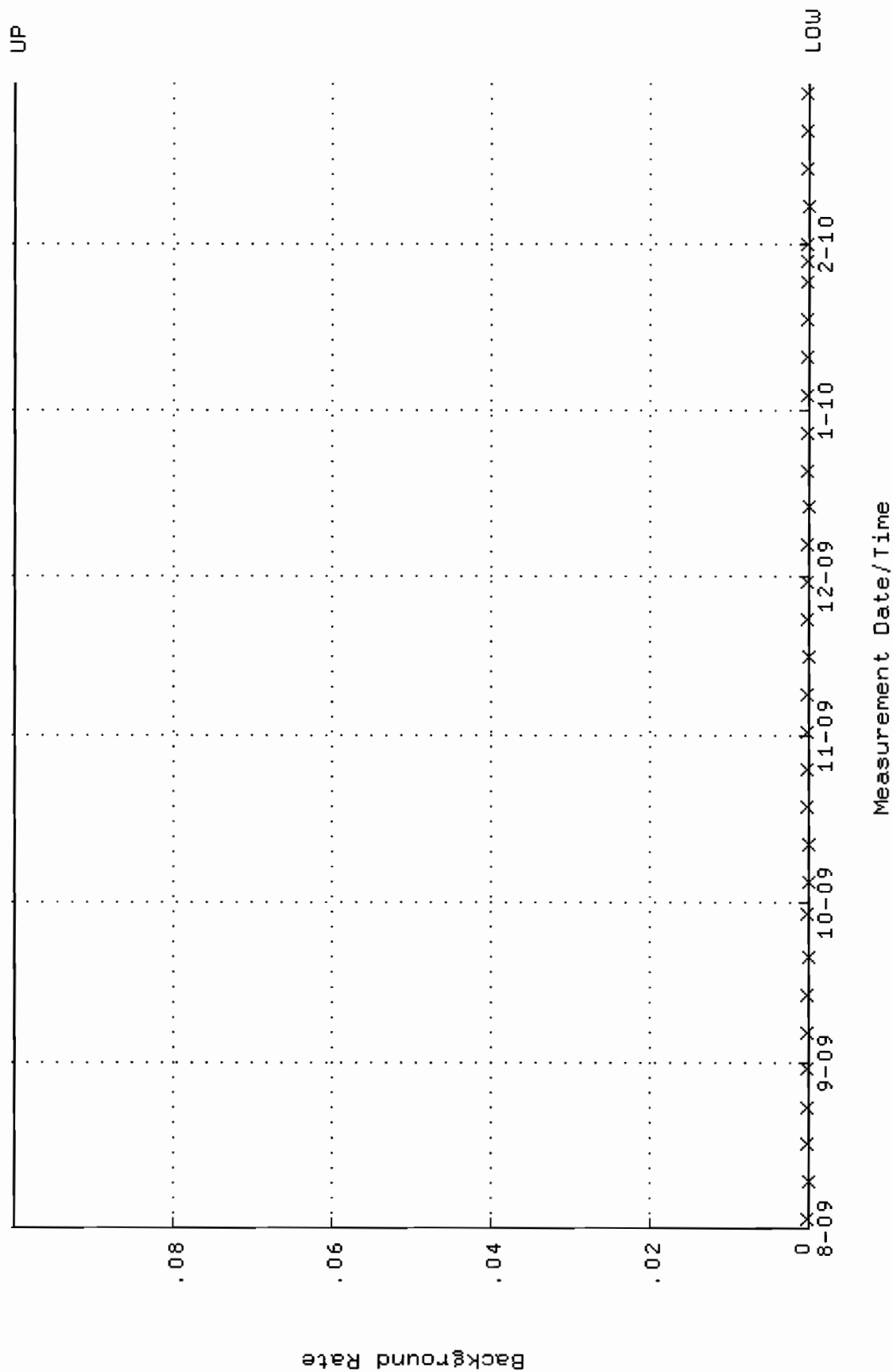
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:15 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.360663 through 0.390815



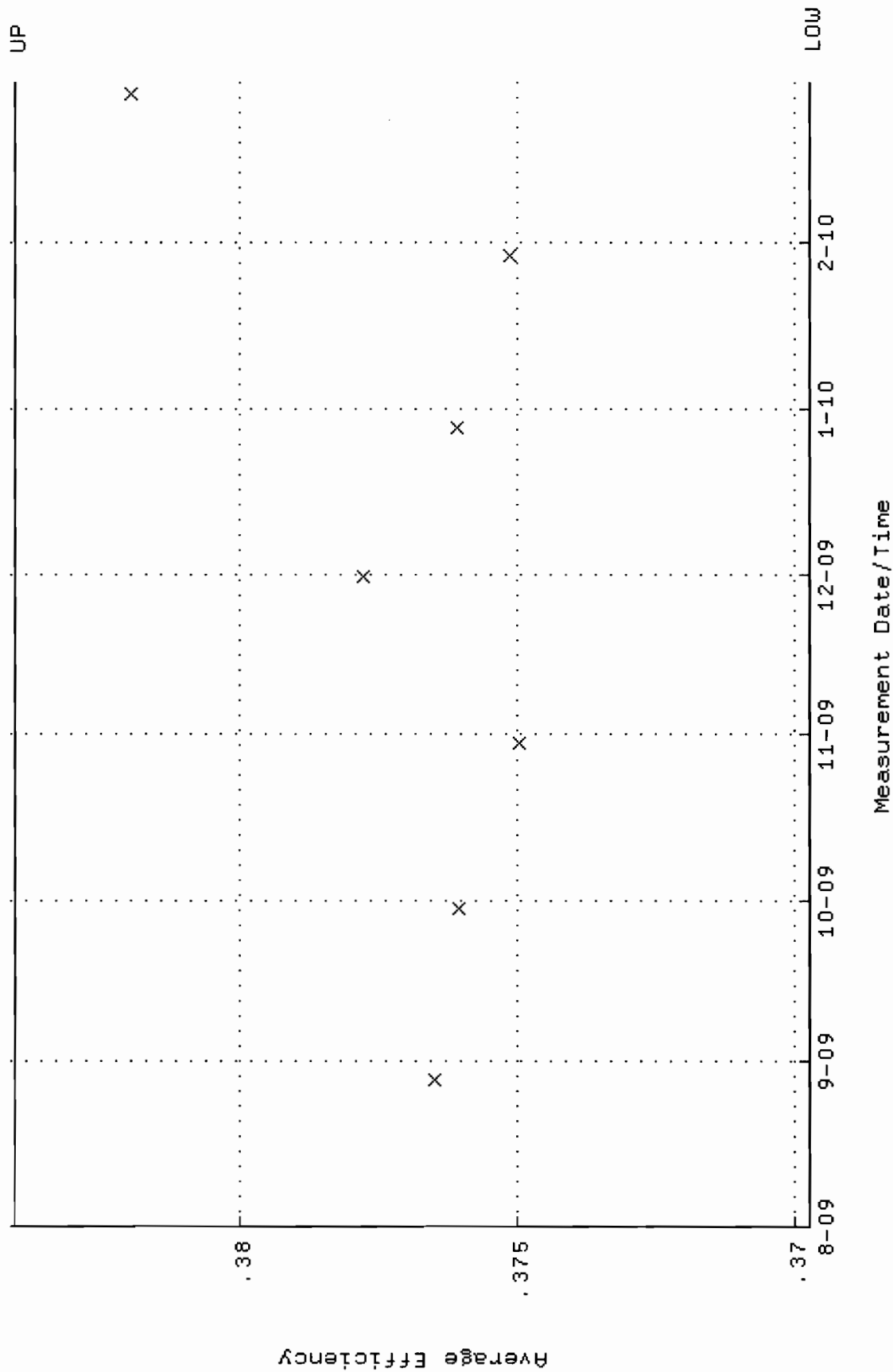
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:15 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.5648 through 97.3078



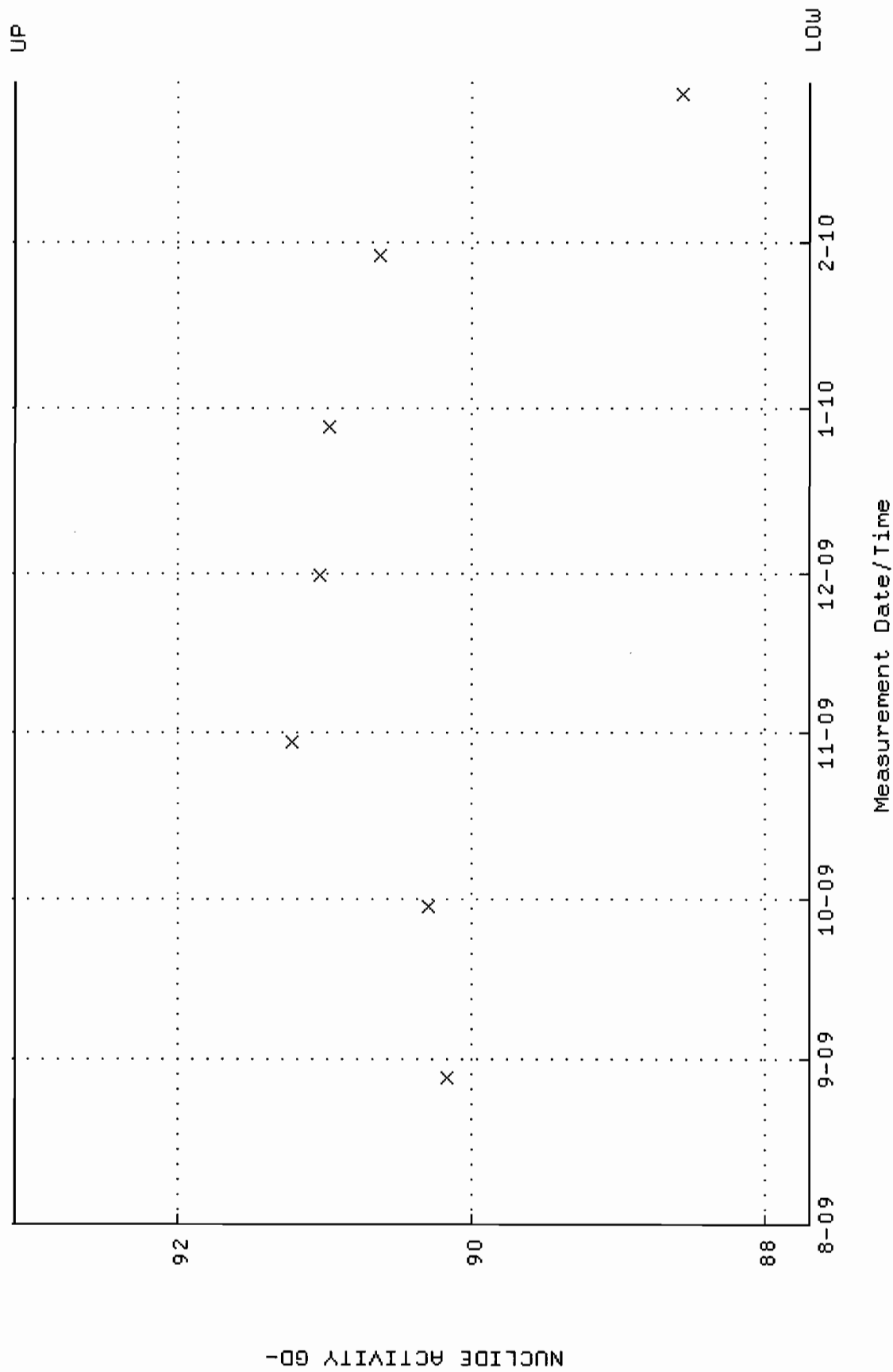
QA filename : DKA100:[ENV_ALPHA.QA.B]B229.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:34 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



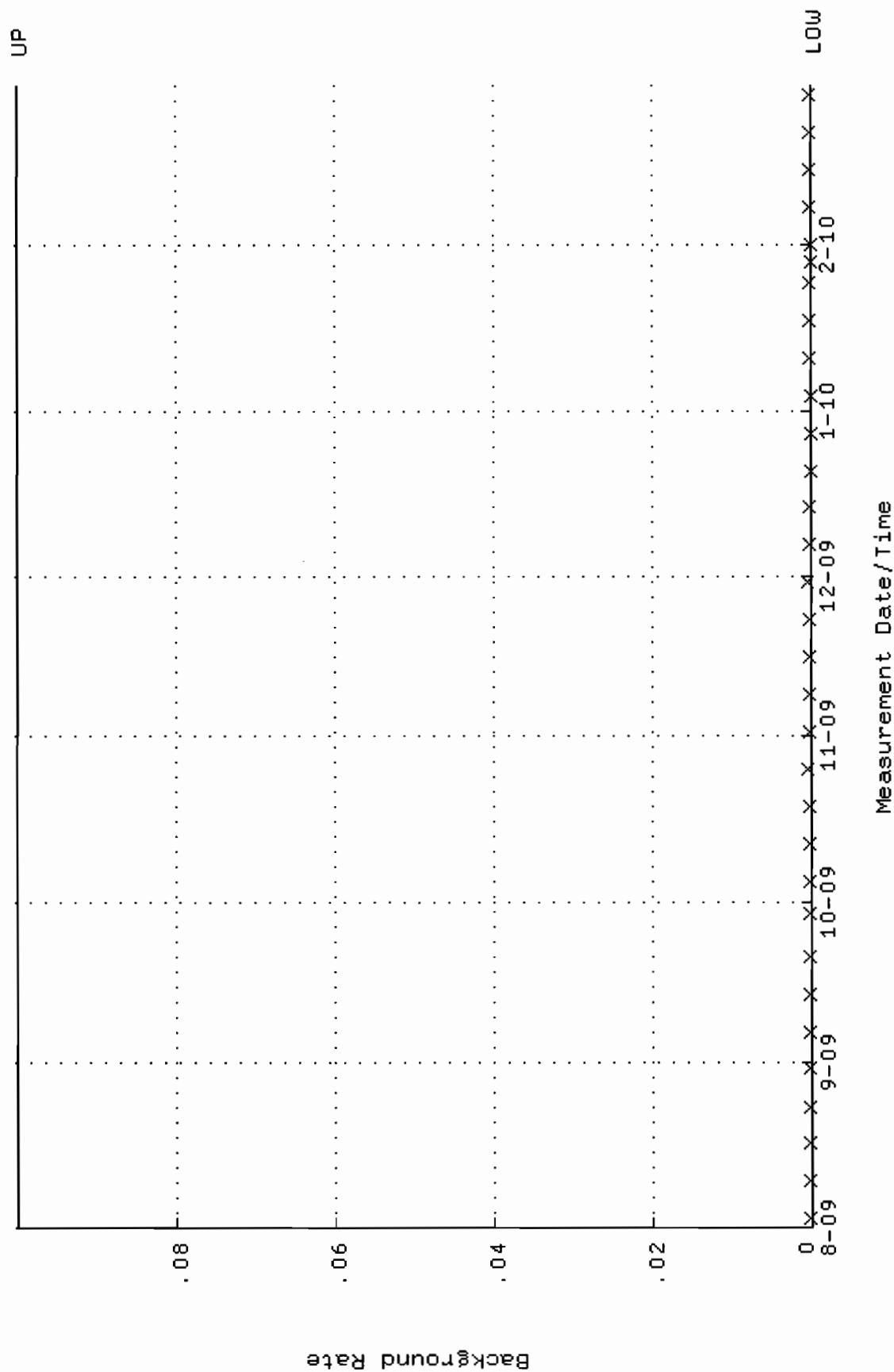
QA filename : DKA100:[ENV_ALPHA.QA.W]W230.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:19 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.369716 through 0.384082



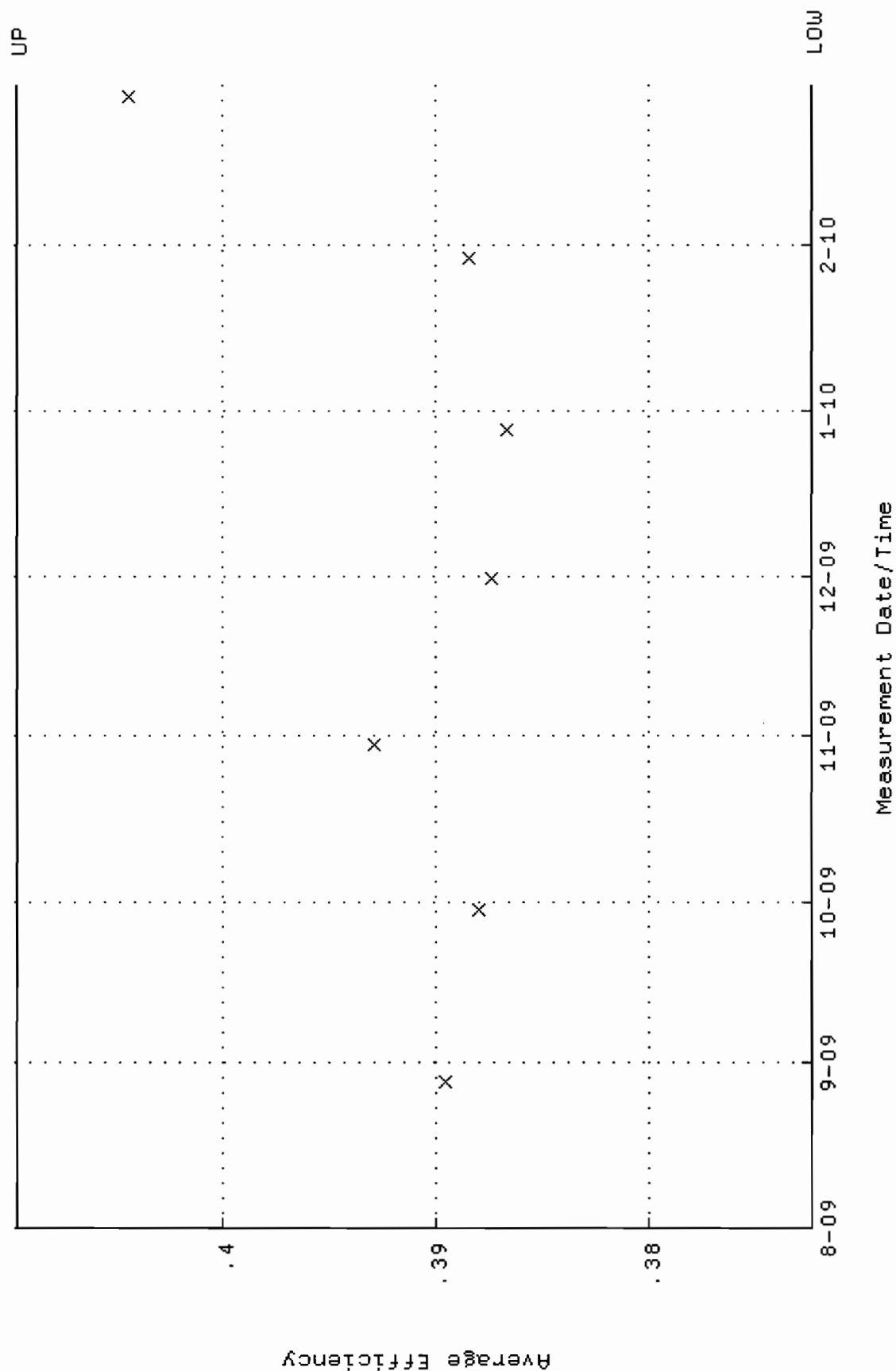
QA filename : DKA100:[ENV_ALPHA.QA.W]w230.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:19 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 87.6979 through 93.1141



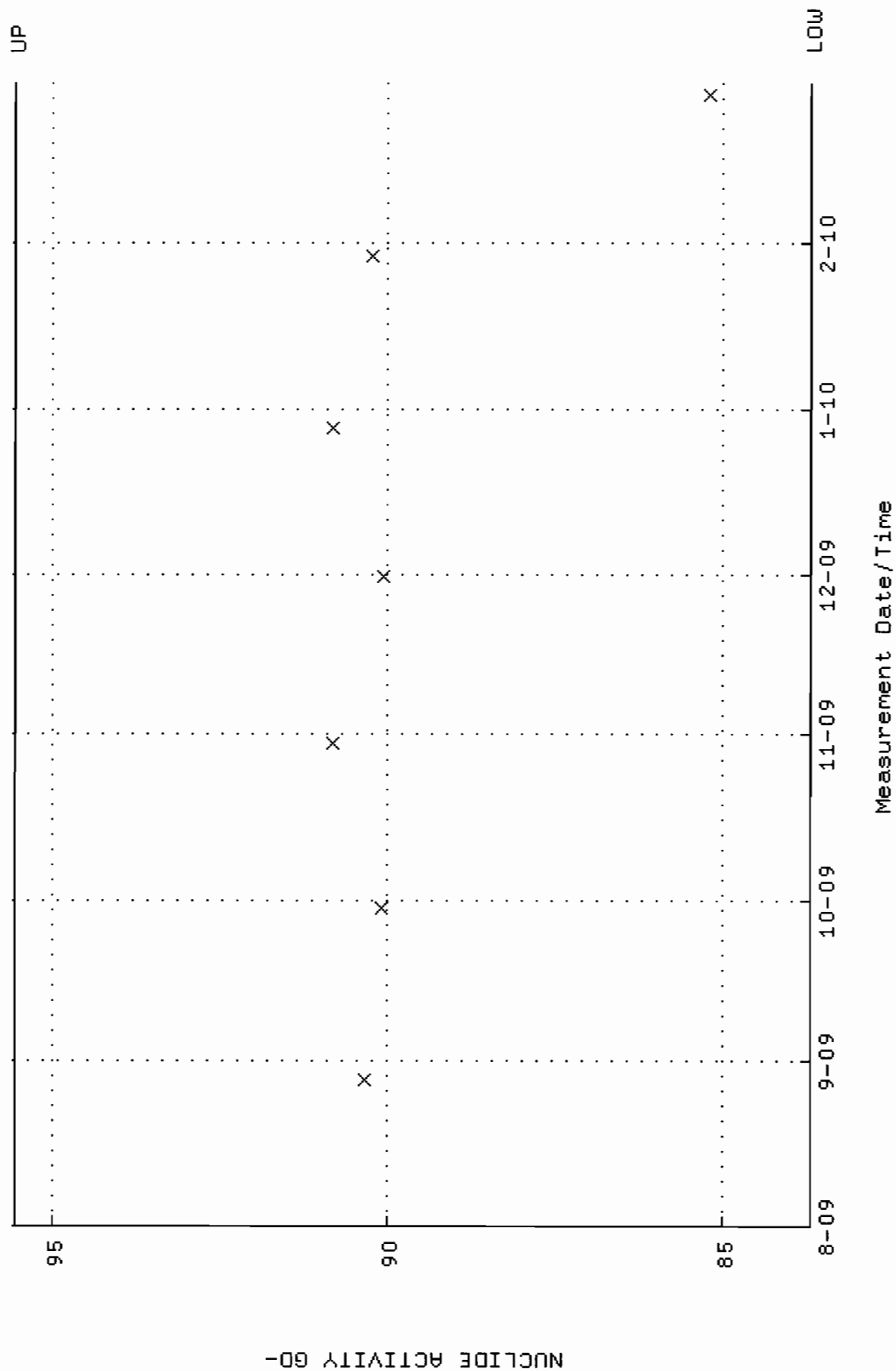
QA filename : DKA100:[ENV_ALPHA.QA.B]B230.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:38 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



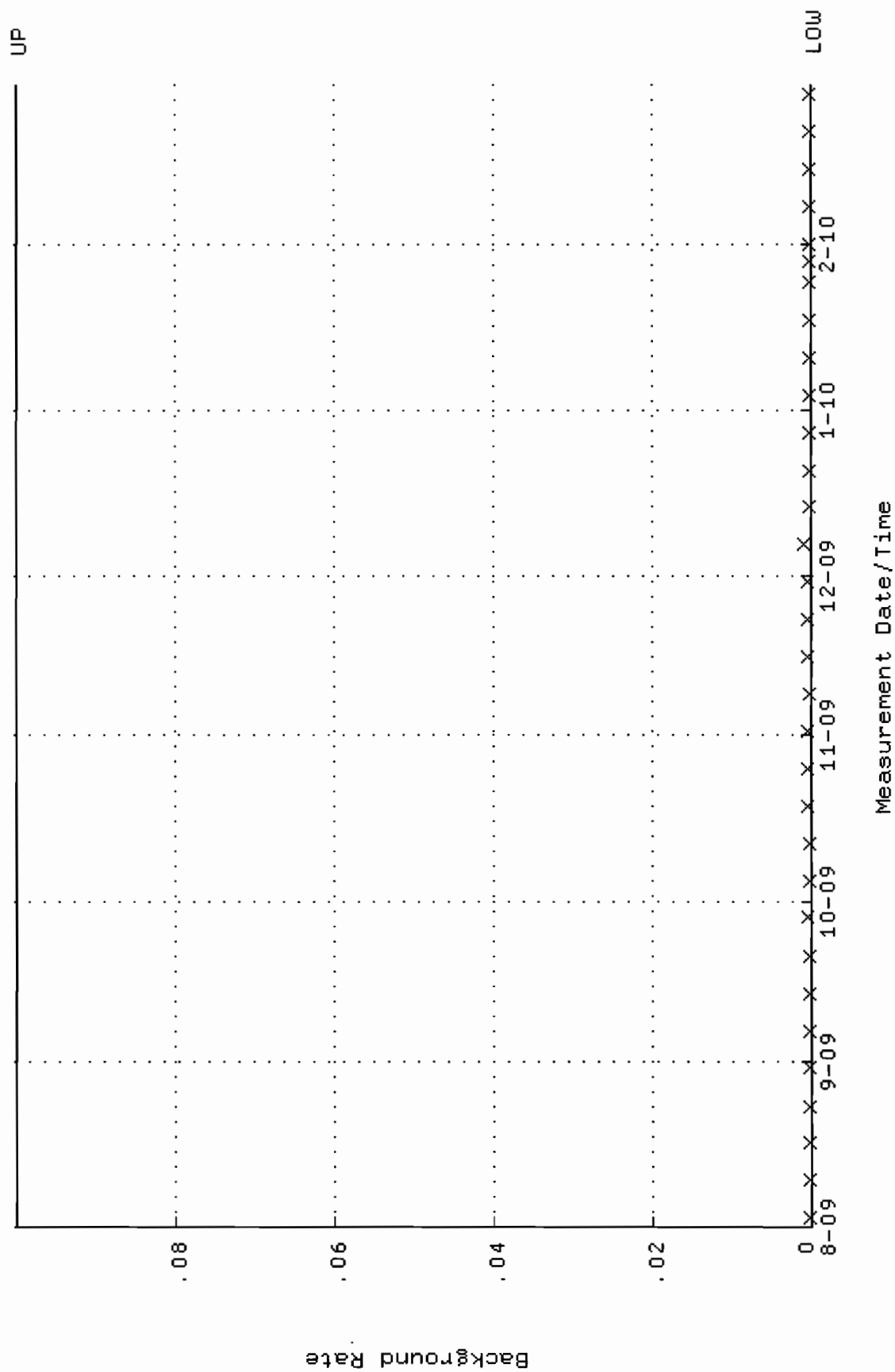
QA filename : DKA100:[ENV_ALPHA.QA.W]W231.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:24 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.372352 through 0.409678



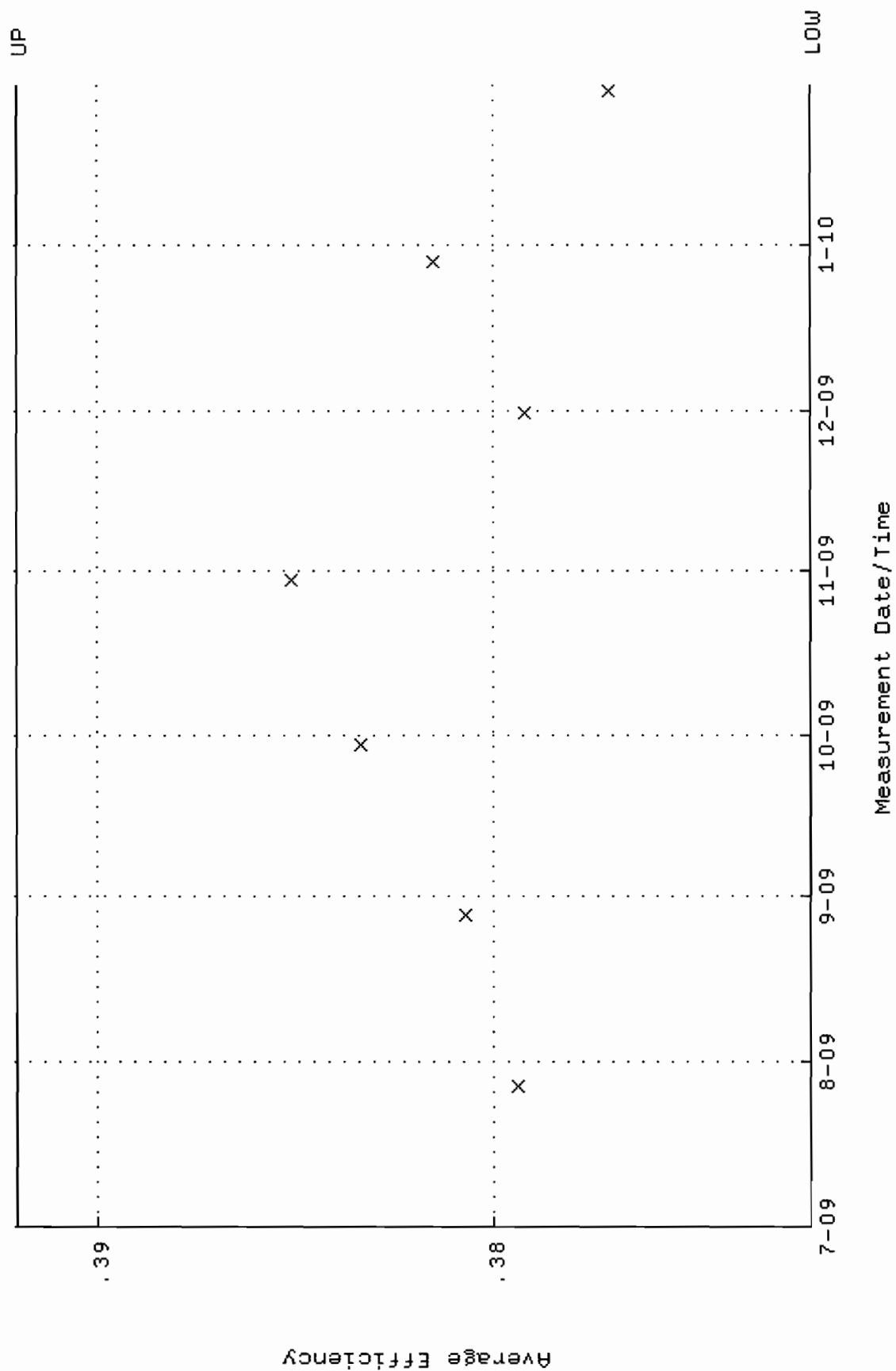
QA filename : DKA100:[ENV_ALPHA.QA.W]W231.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:24 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 83.6949 through 95.5595



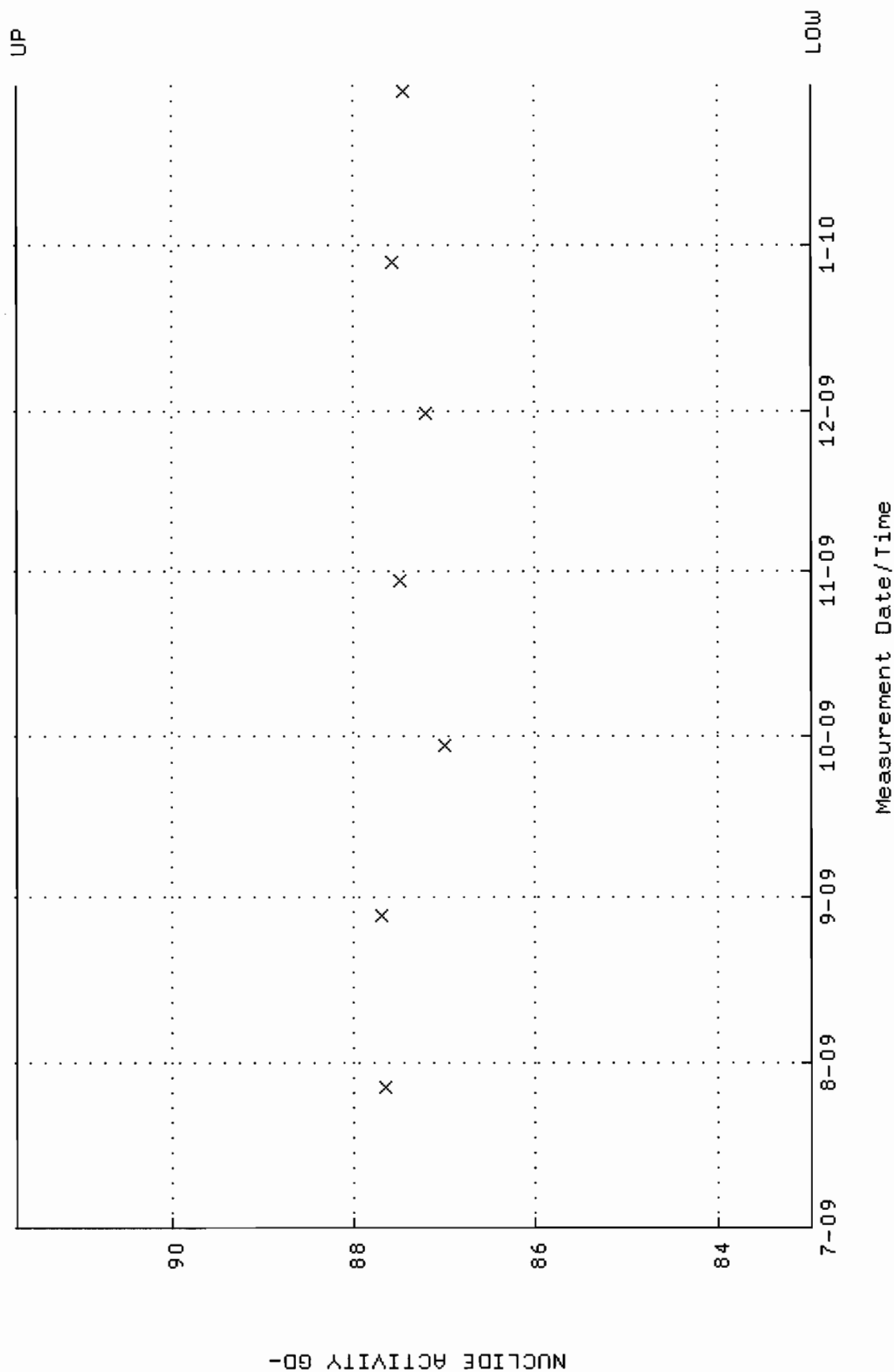
QA filename : DKA100:[ENV_ALPHA.QA.B]B231.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:43 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



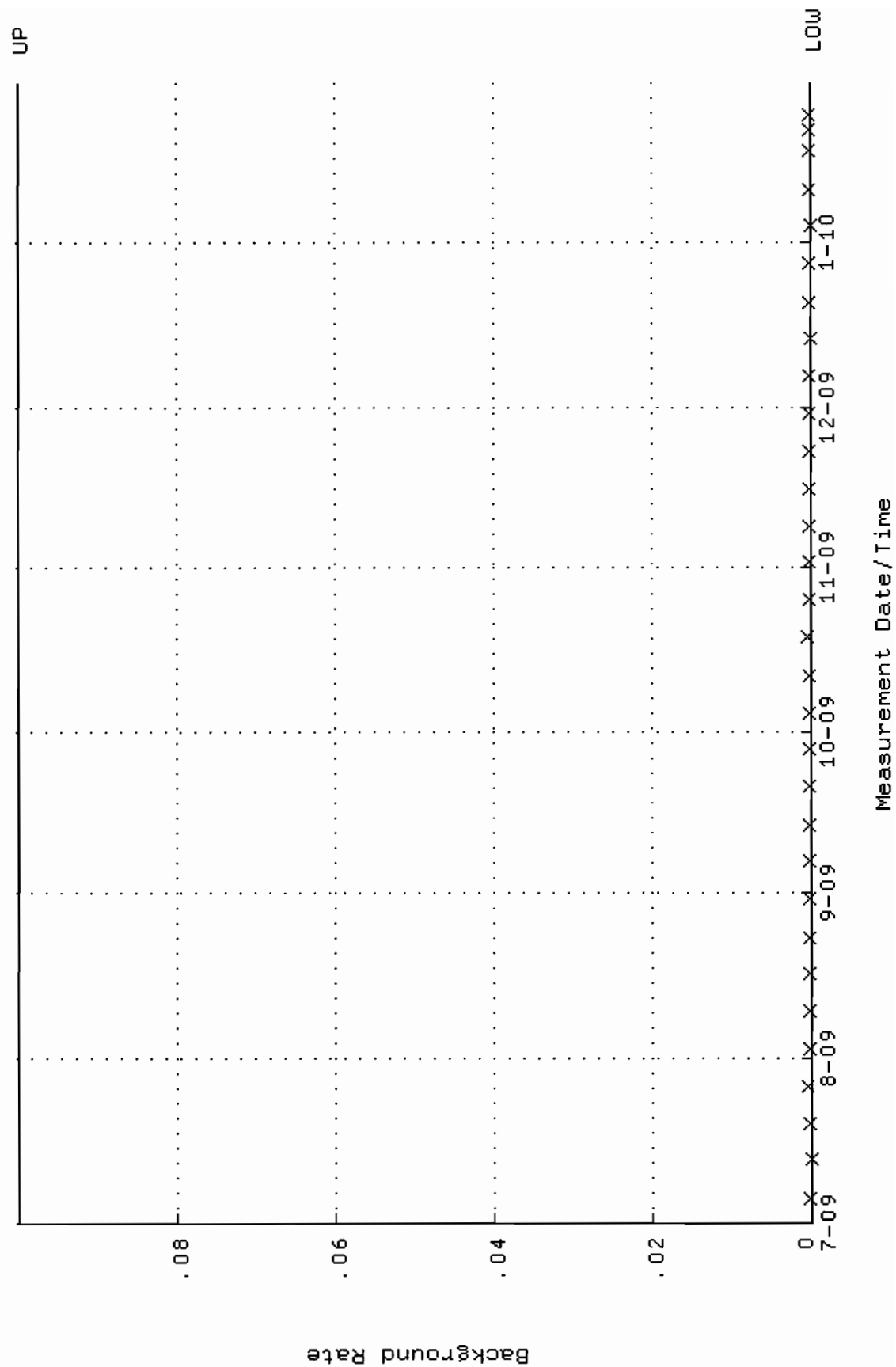
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.372001 through 0.392001



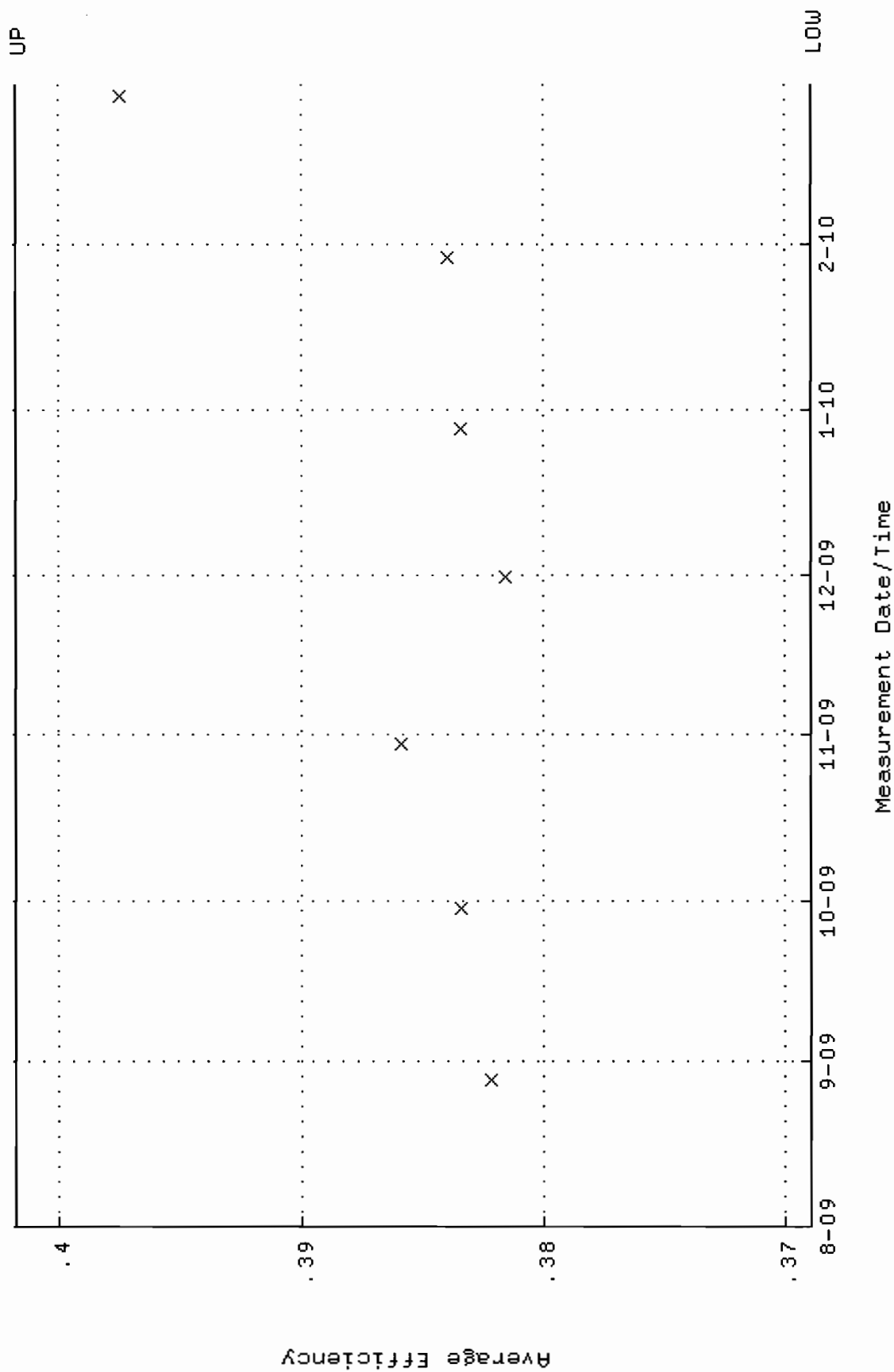
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 82.9652 through 91.6984



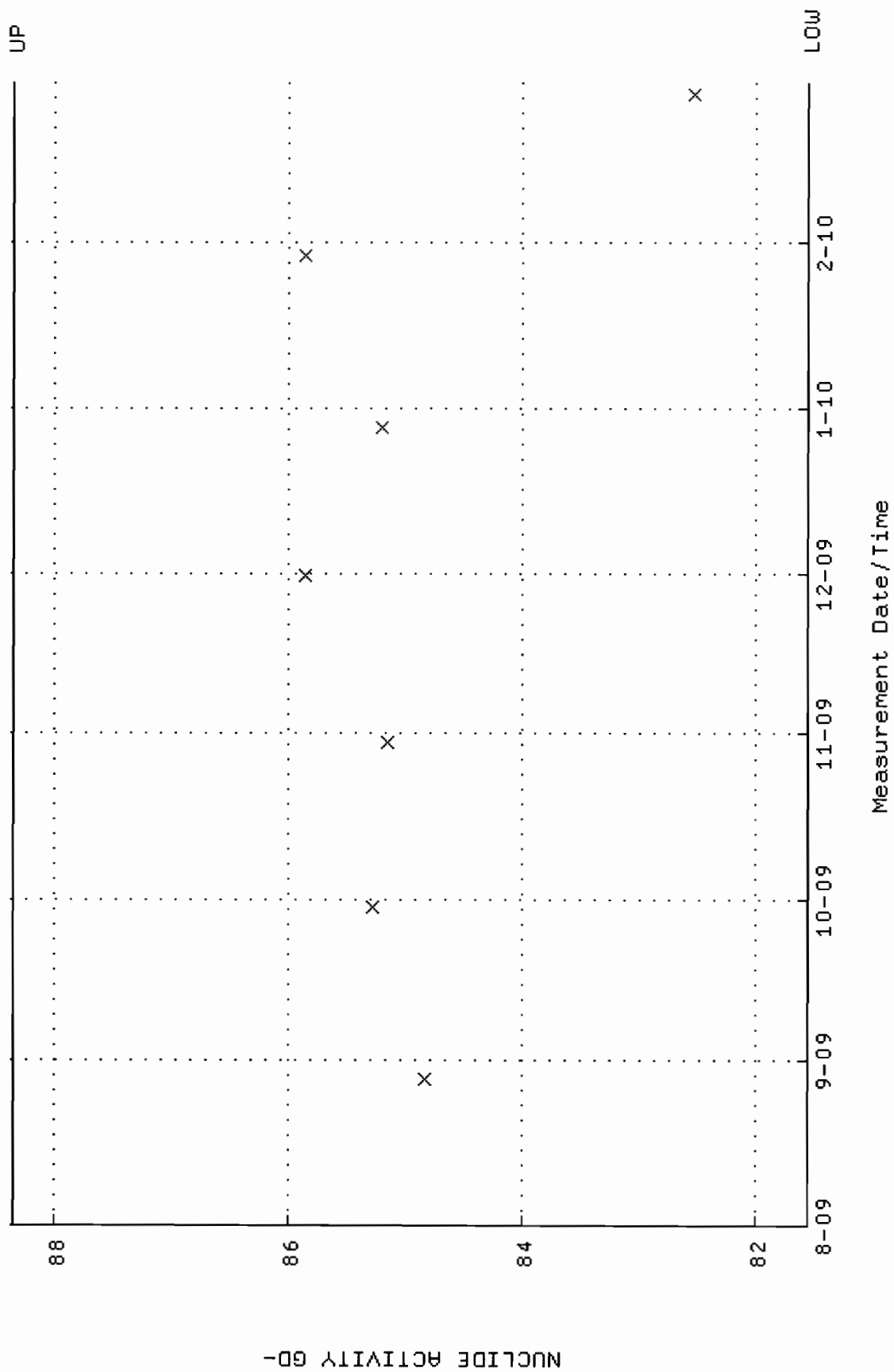
QA filename : DKA100:[ENV_ALPHA.QA.B]B233.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



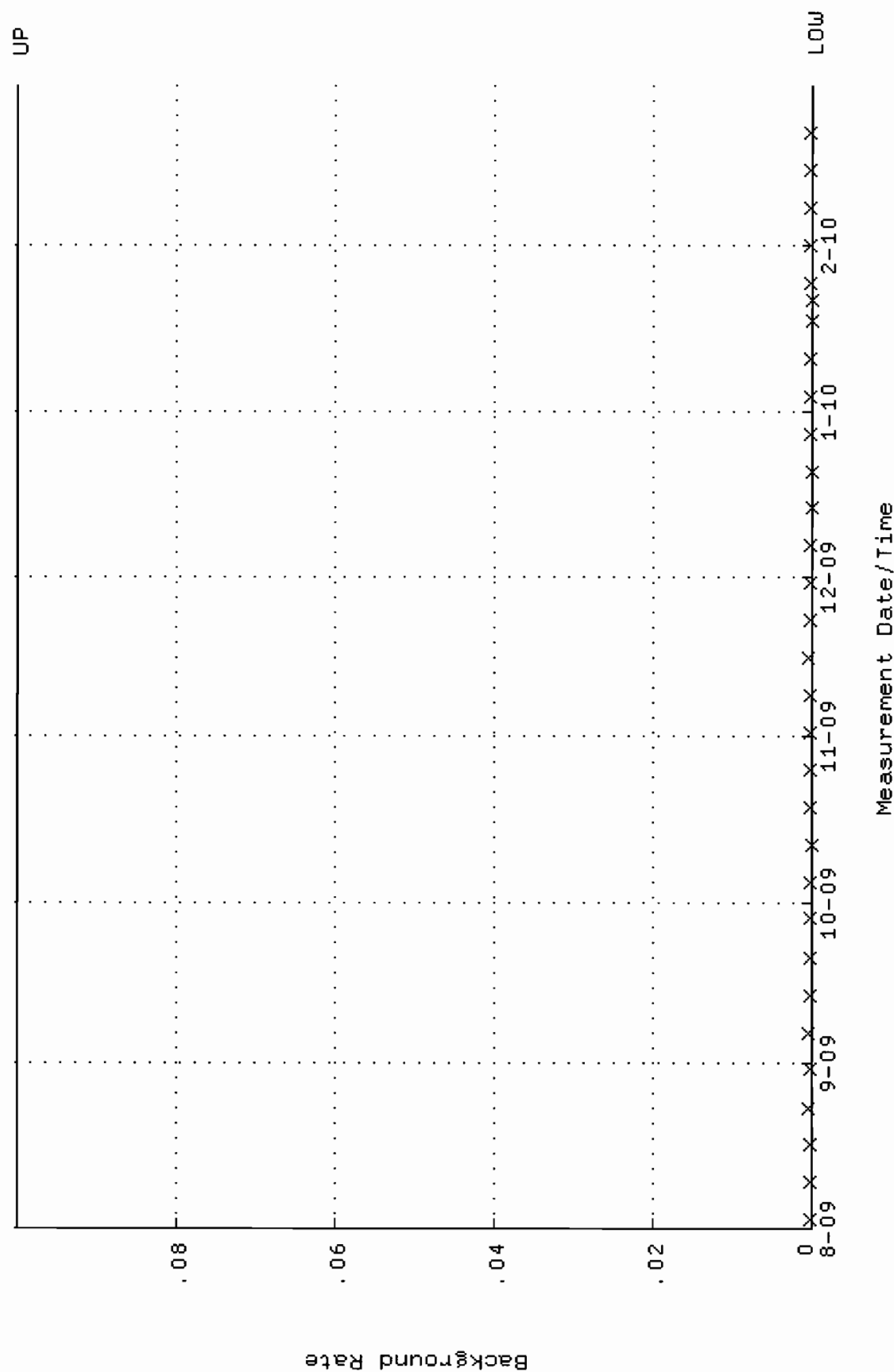
QA filename : DKA100:[ENV_ALPHA.QA.W]W234.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:41 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.368938 through 0.401788



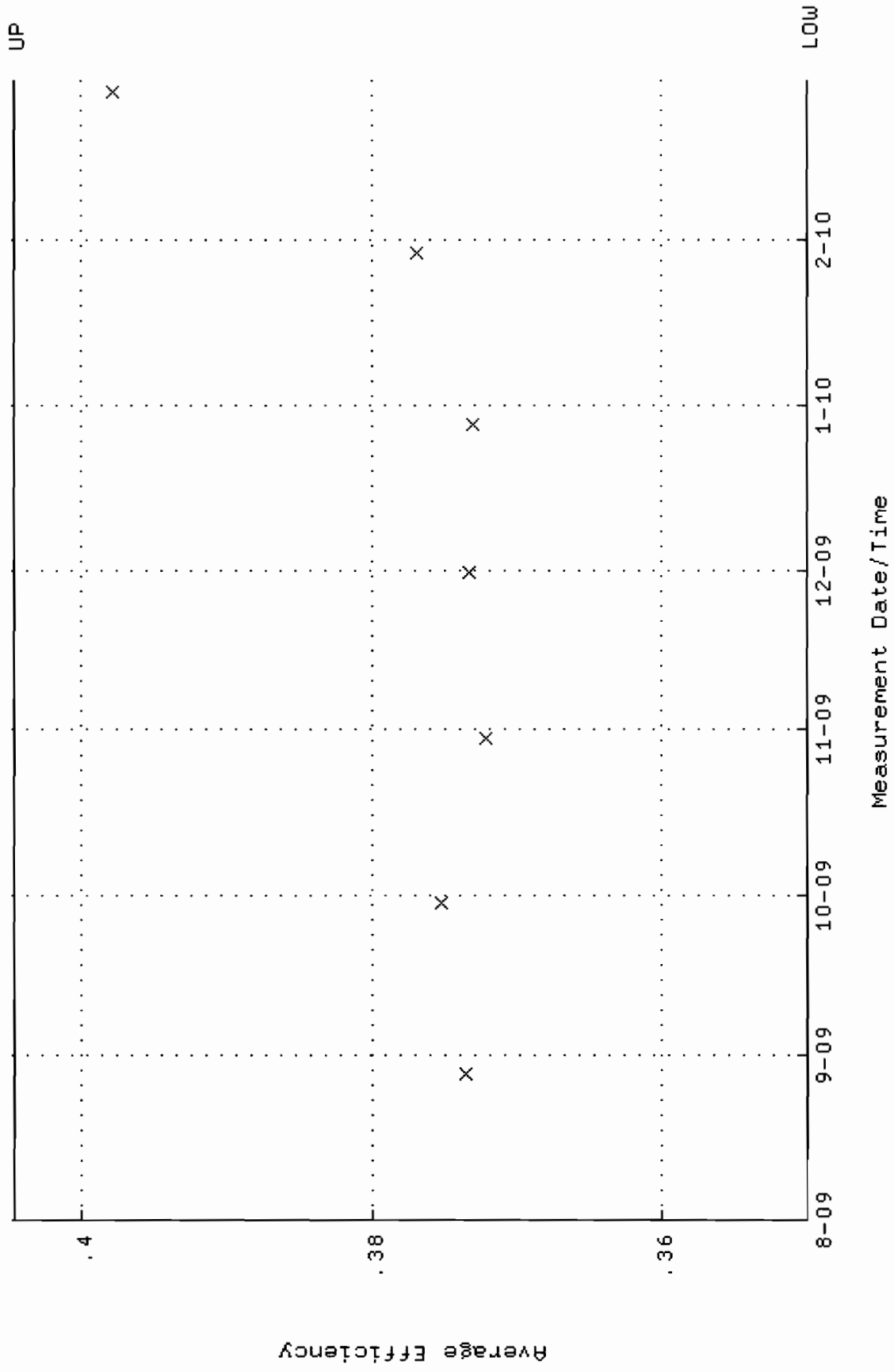
QA filename : DKA100:[ENV_ALPHA.QA.W]W234.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:41 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 81.5490 through 88.3592



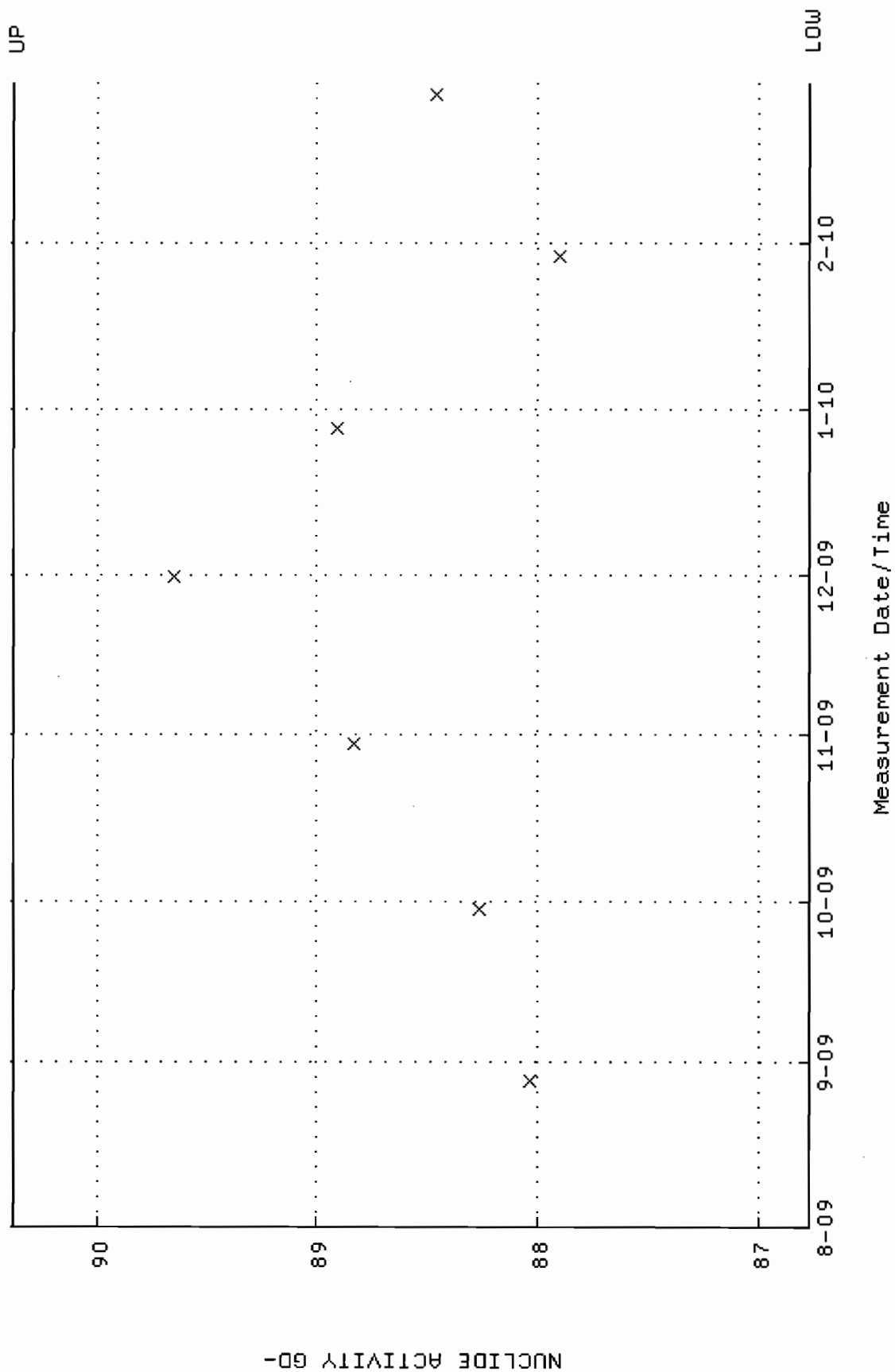
QA filename : DKA100:[ENV_ALPHA.QA.B]B234.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:26:56 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



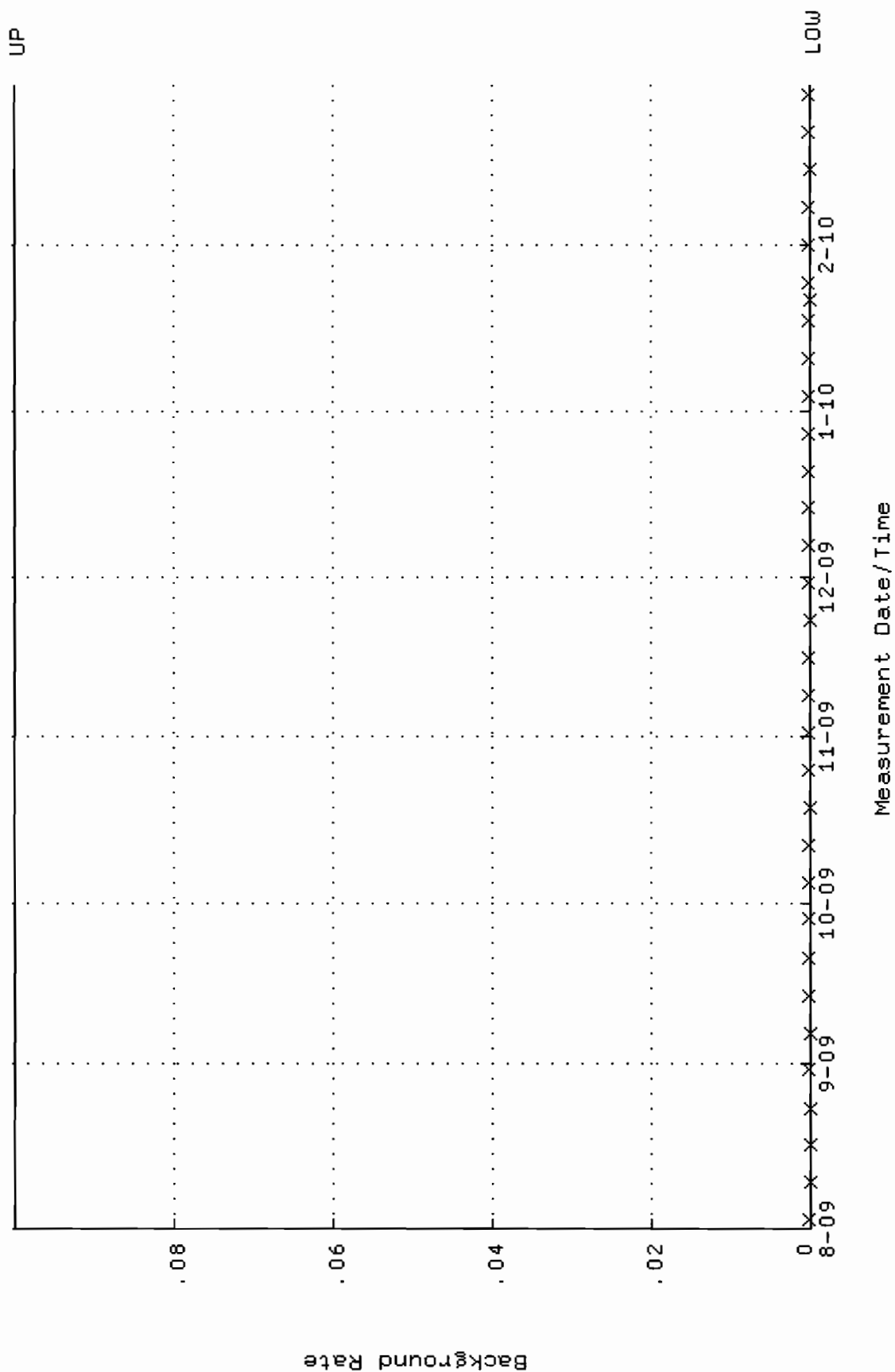
QA filename : DKA100:[ENV_ALPHA.QA.W]W235.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:45 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.350020 through 0.404668



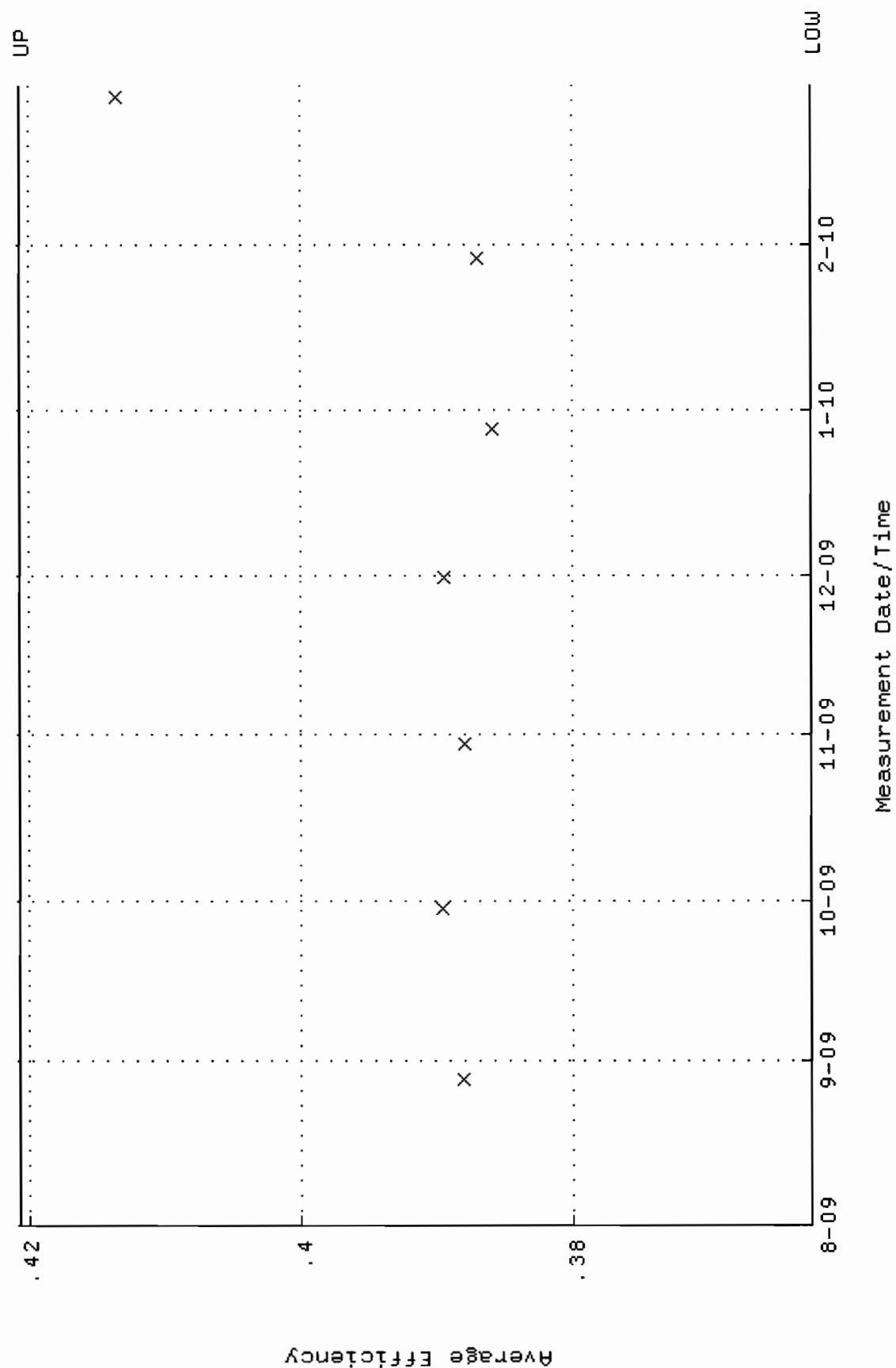
QA filename : DKA100:[ENV_ALPHA.QA.W]W235.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:45 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 86.7703 through 90.3803



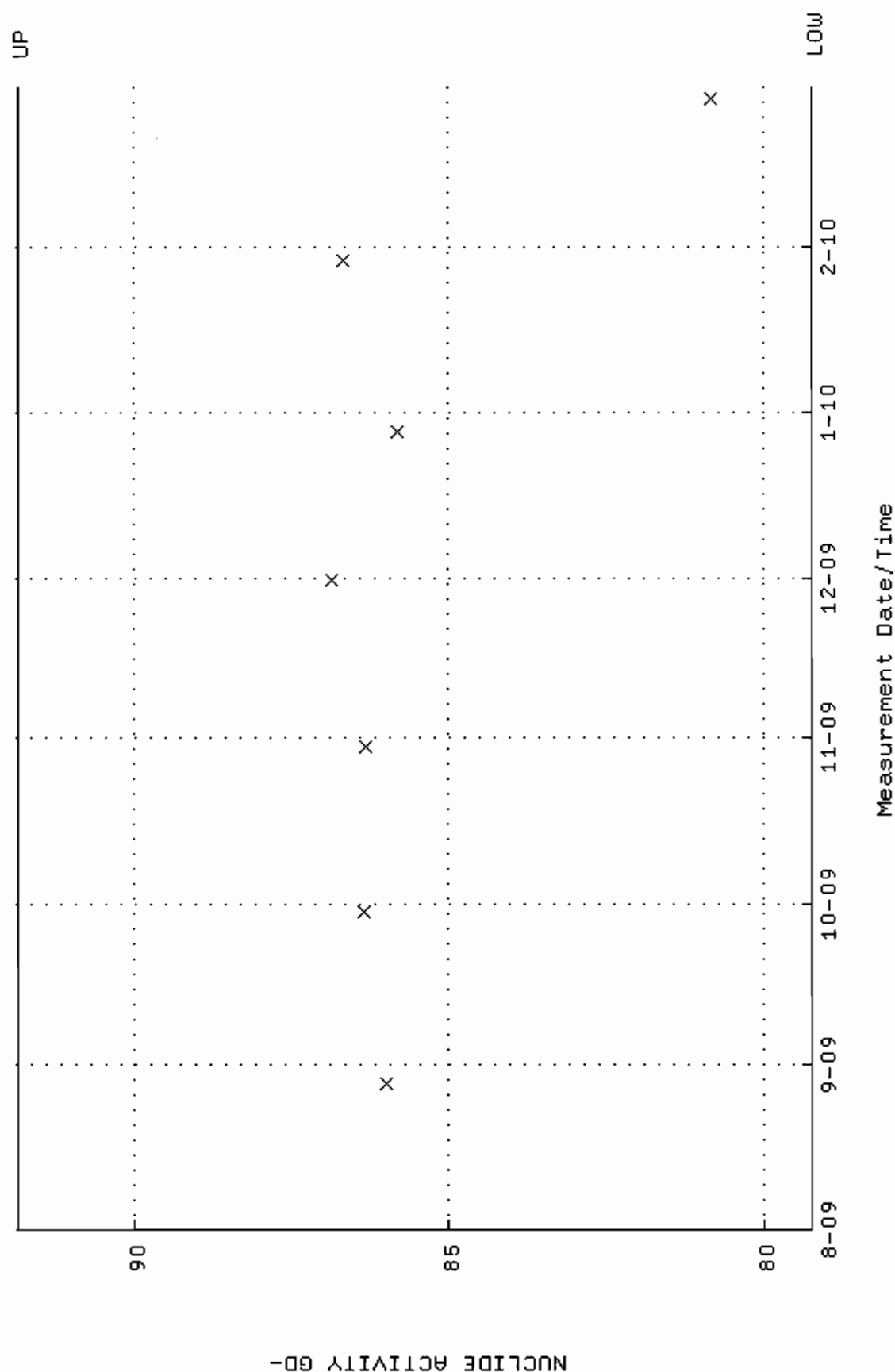
QA filename : DKA100:[ENV_ALPHA.QA.B]B235.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:00 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



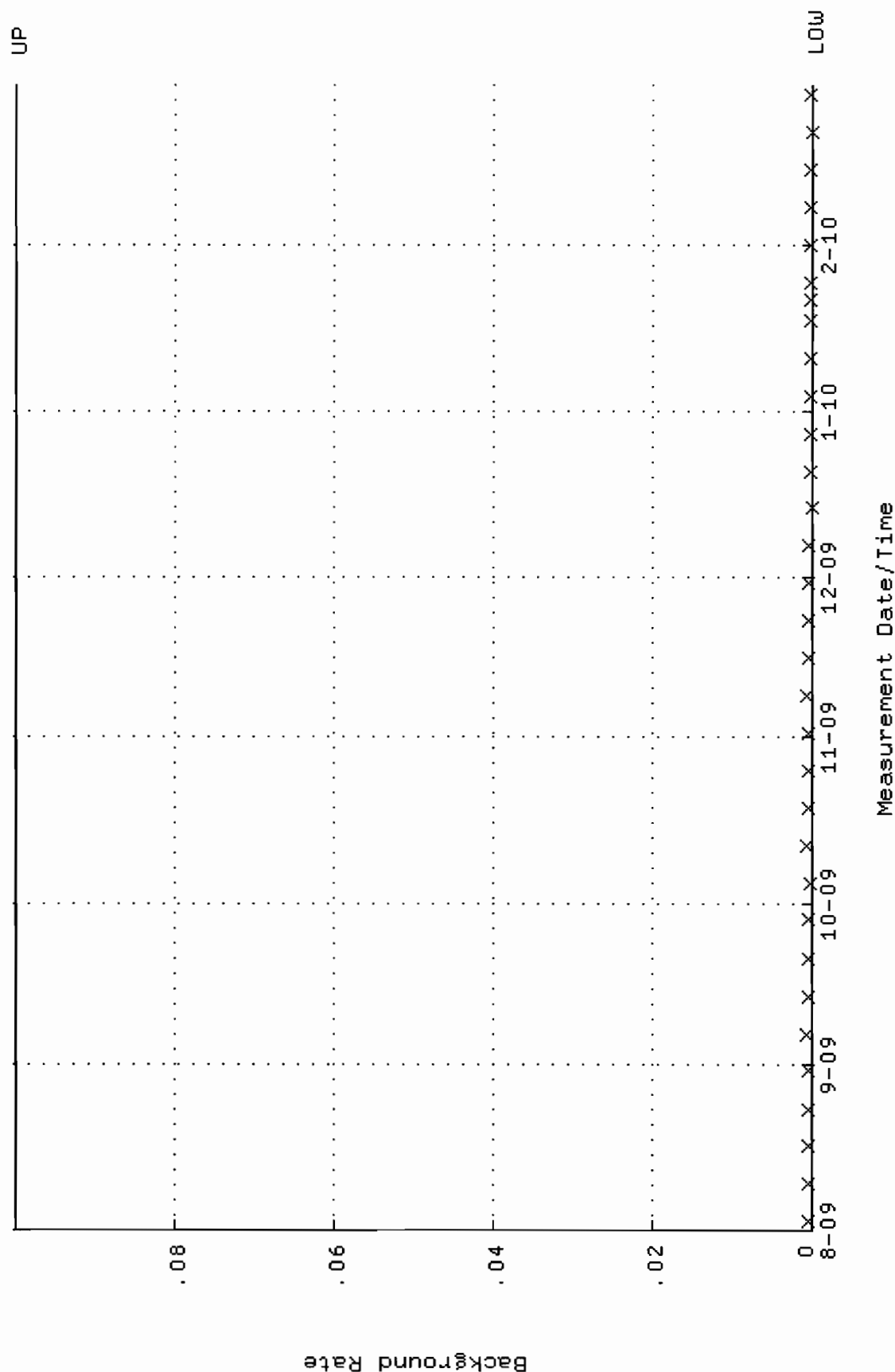
QA filename : DKA100:[ENV_ALPHA.QA.W]W236.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 28-AUG-2009 07:08:51 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.362418 through 0.420706



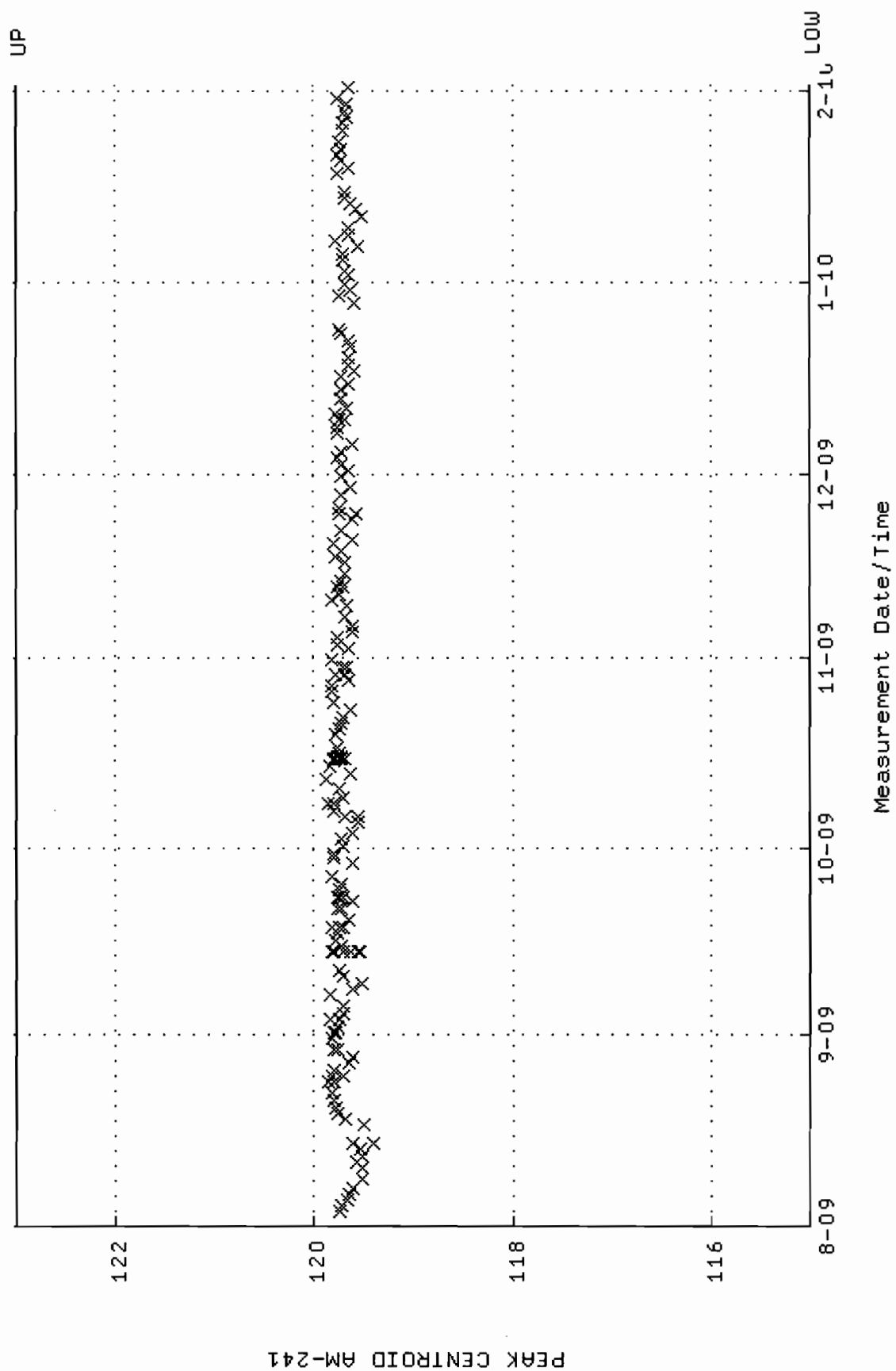
QA filename : DKA100:[ENV_ALPHA.QA.W]W236.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 28-AUG-2009 07:08:51 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 79.2135 through 91.8401



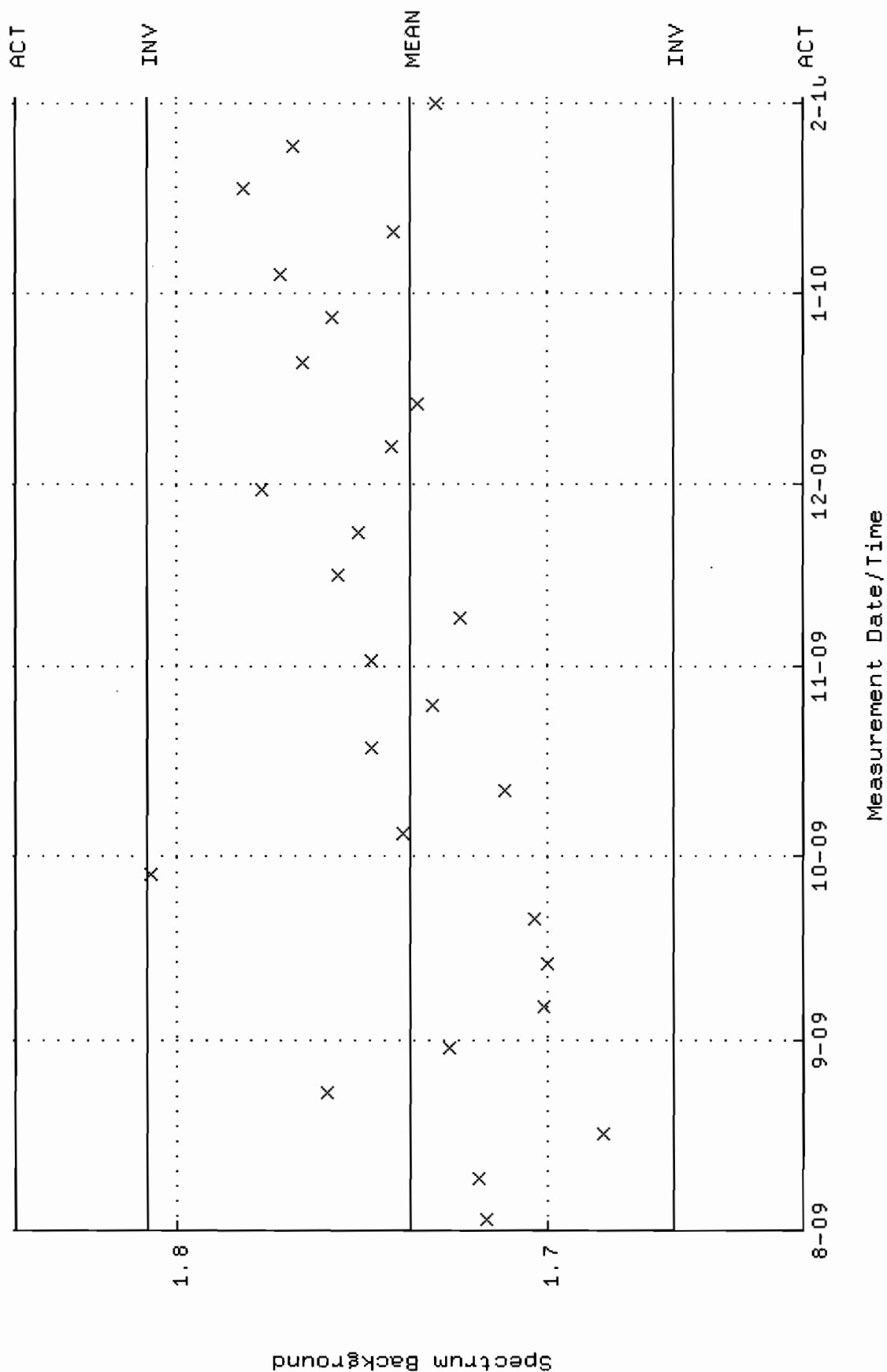
QA filename : DKA100:[ENV_ALPHA.QA.B]B236.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:27:04 through 2-MAR-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



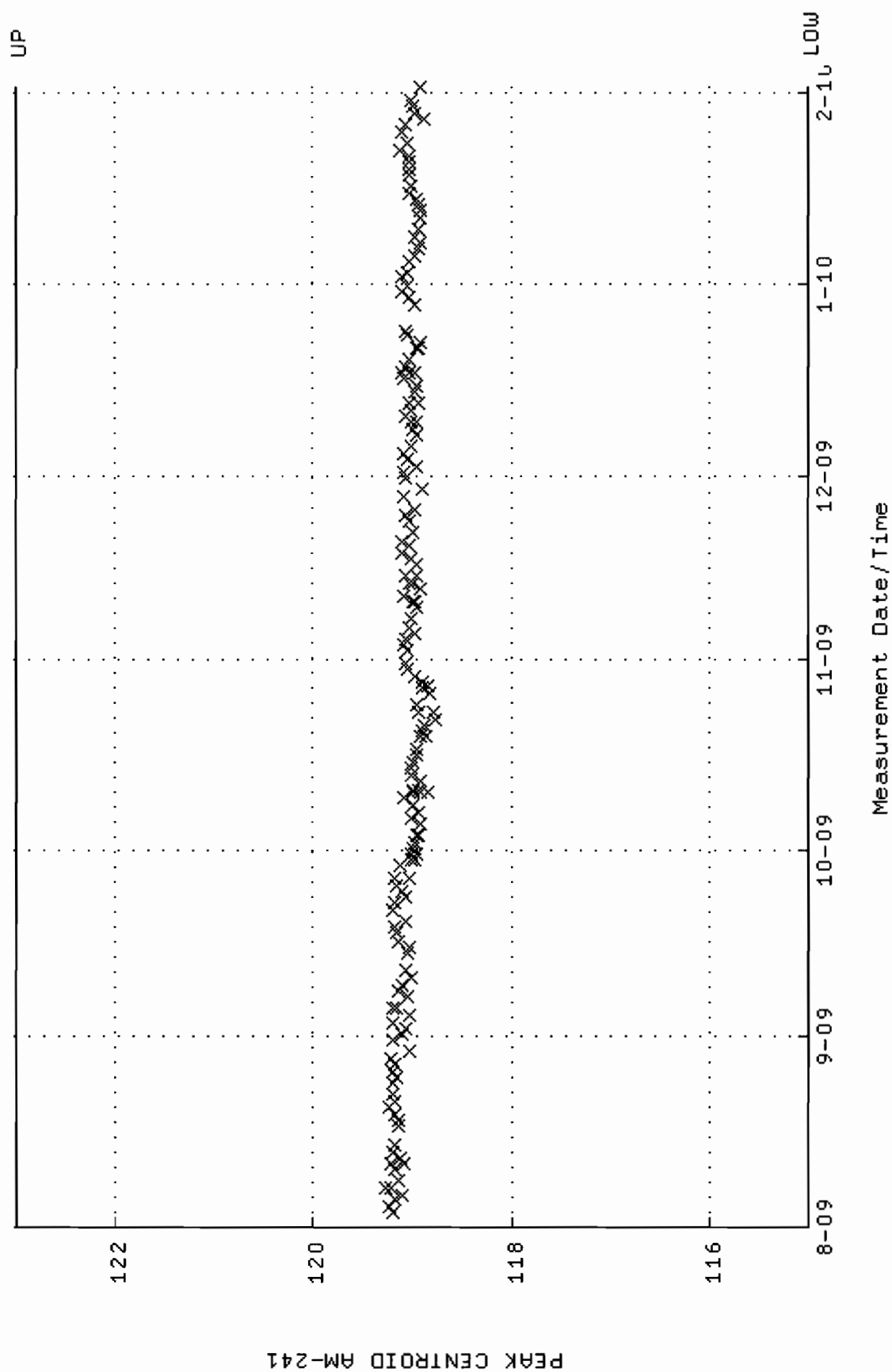
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM01_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:08:48 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



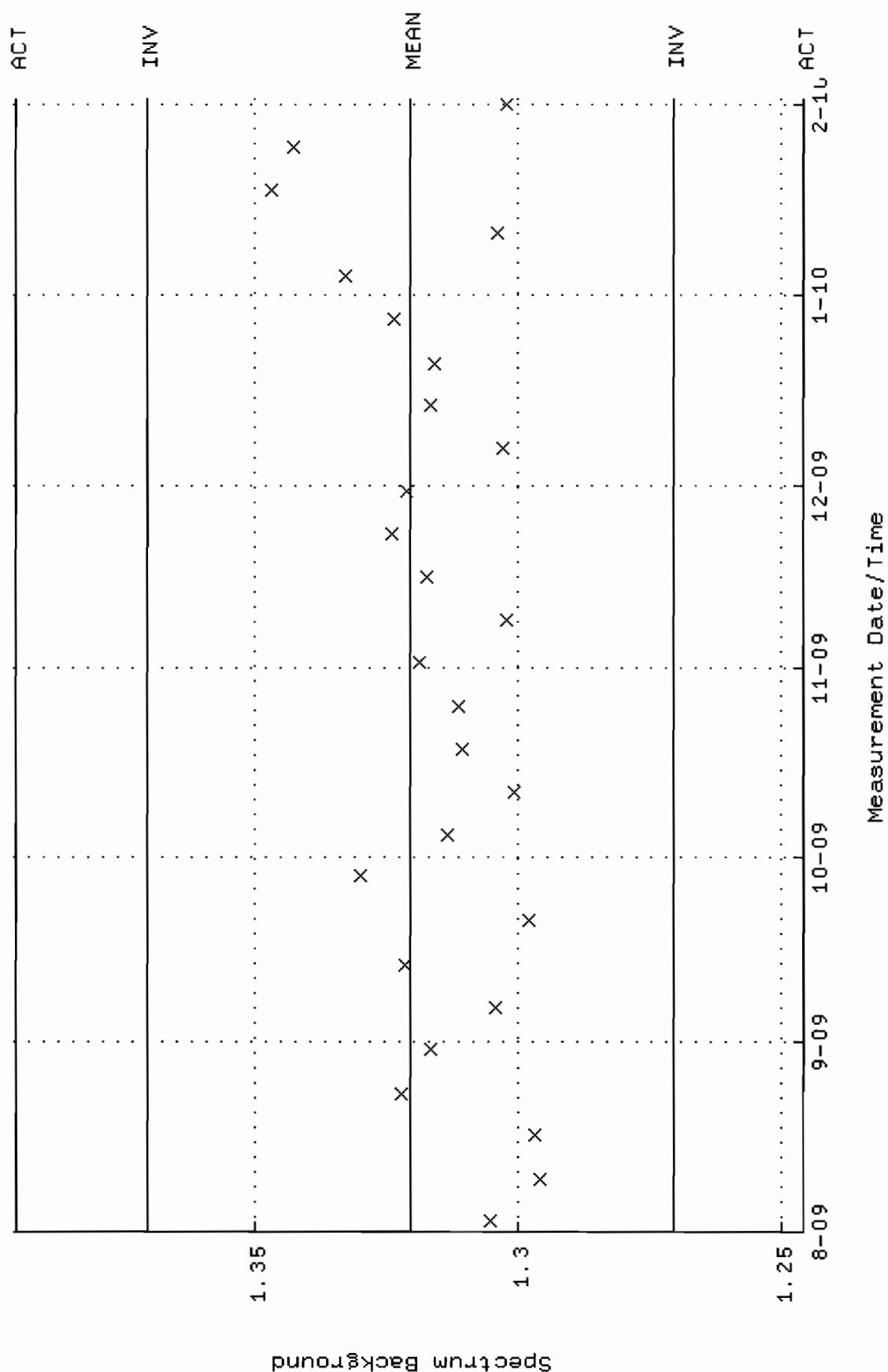
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR,QA]LBC-GAM01.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:21:01 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



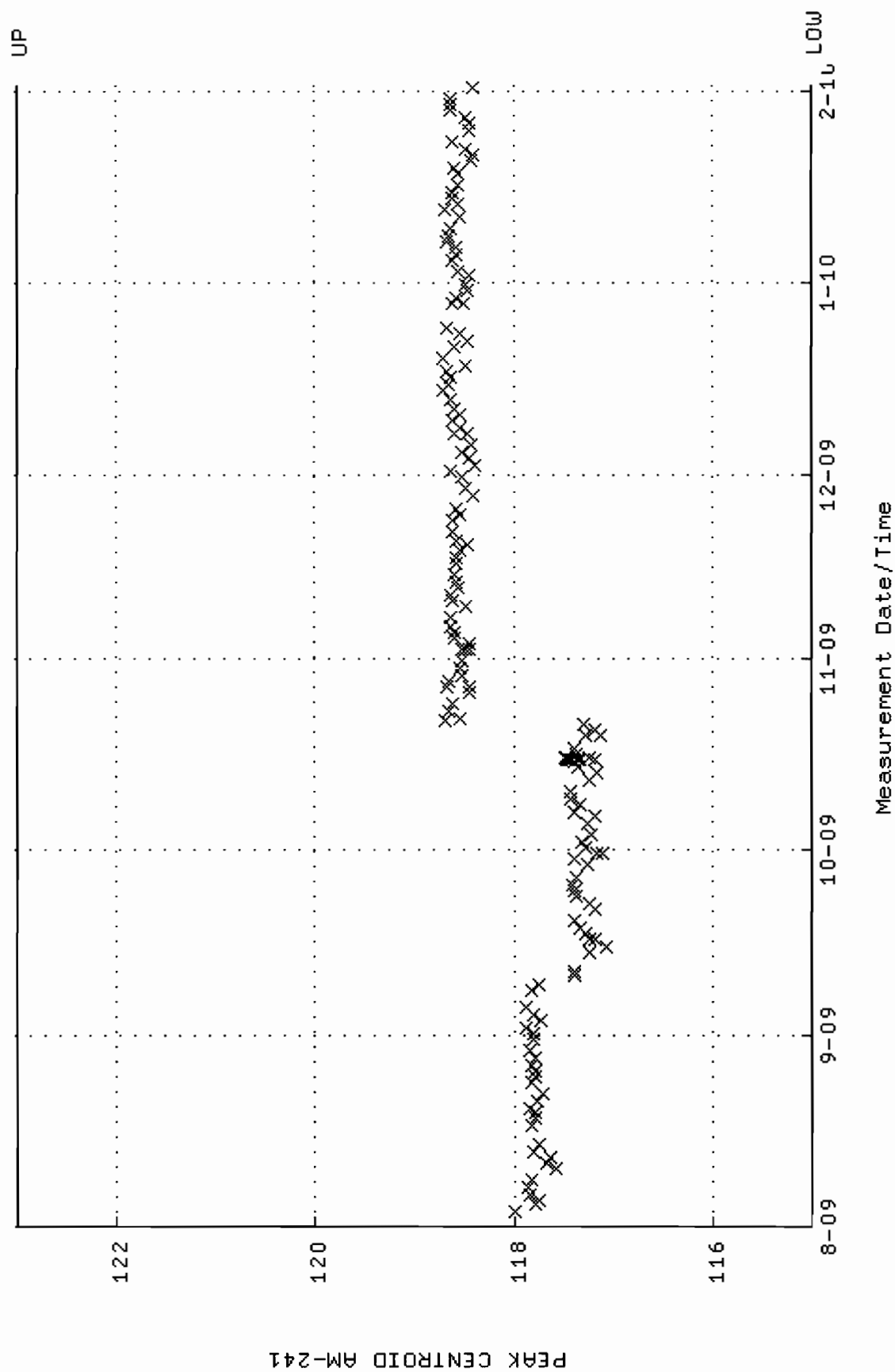
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM04-CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 09:11:46 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



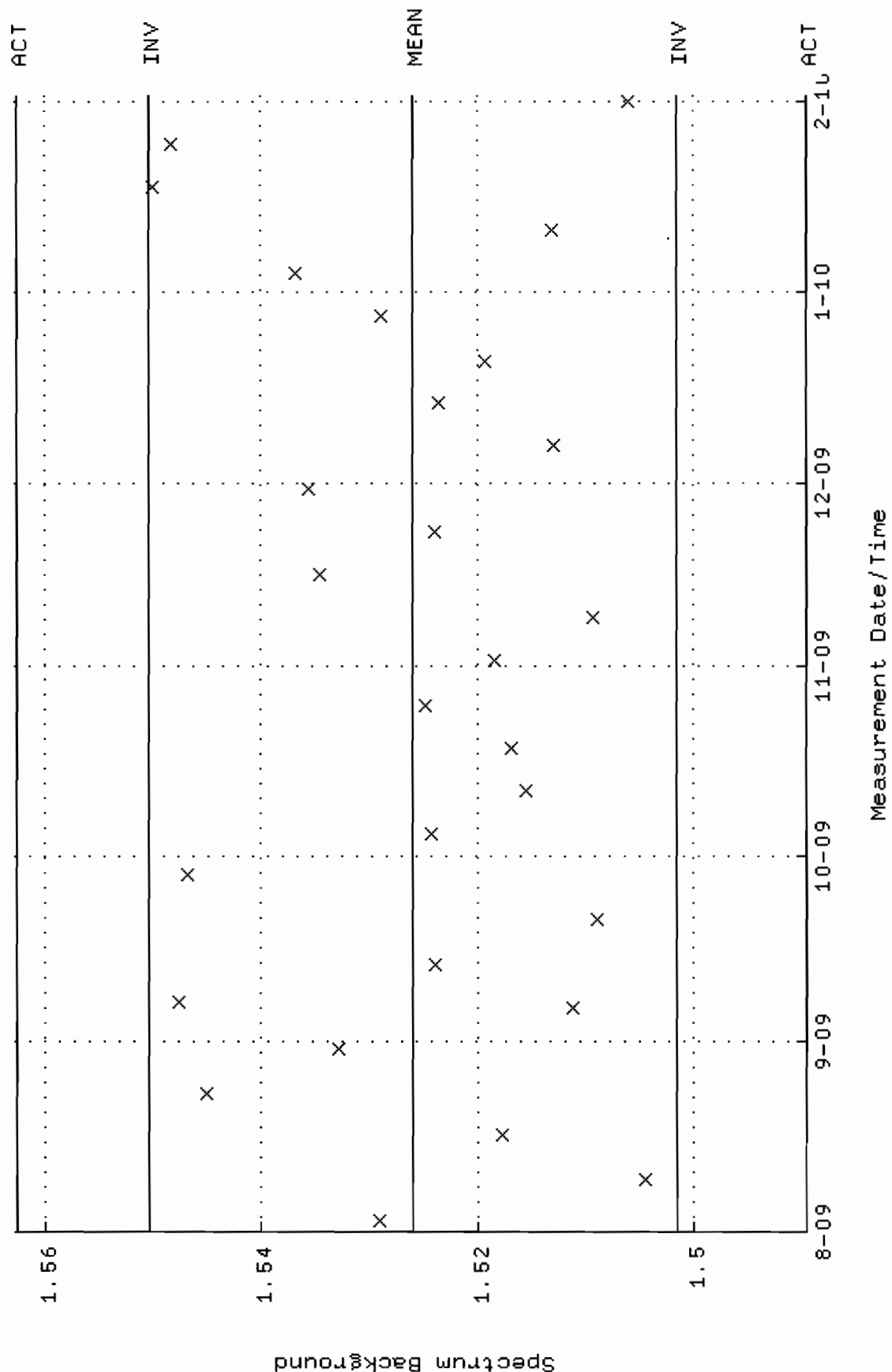
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:22:48 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



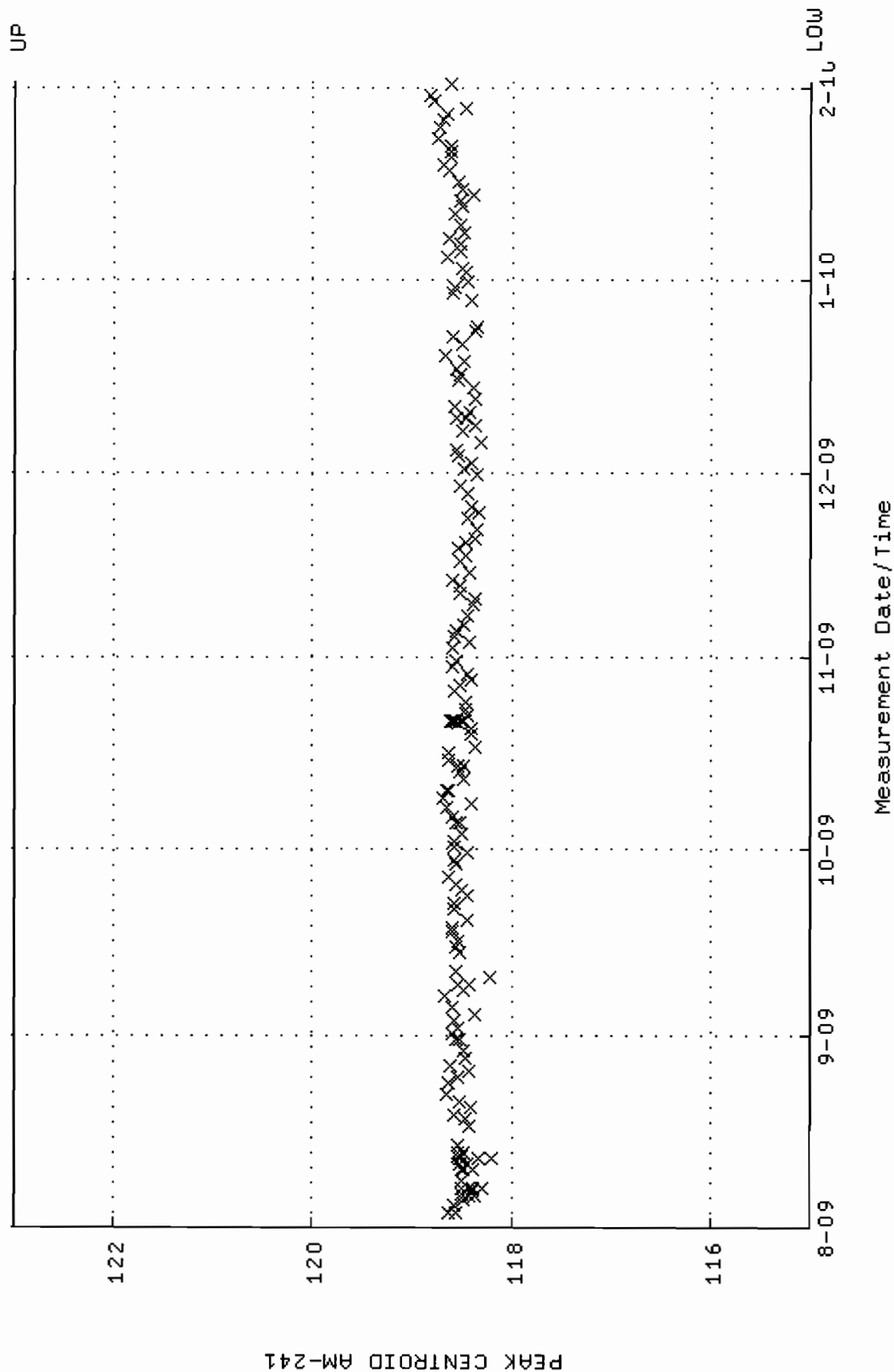
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:13:43 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



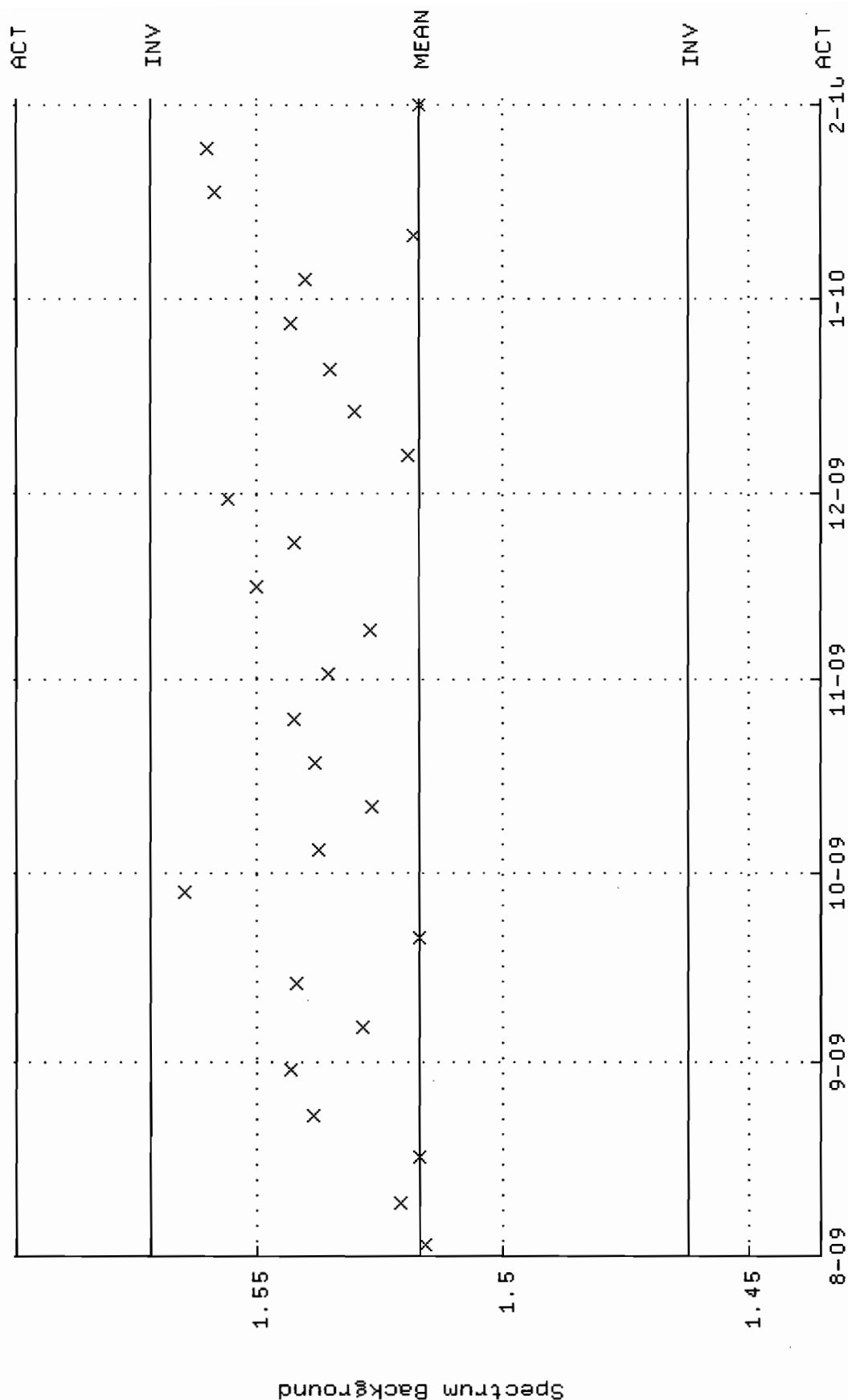
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM06.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:13 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.52603 +- 1.215987E-02 (0.80 %)



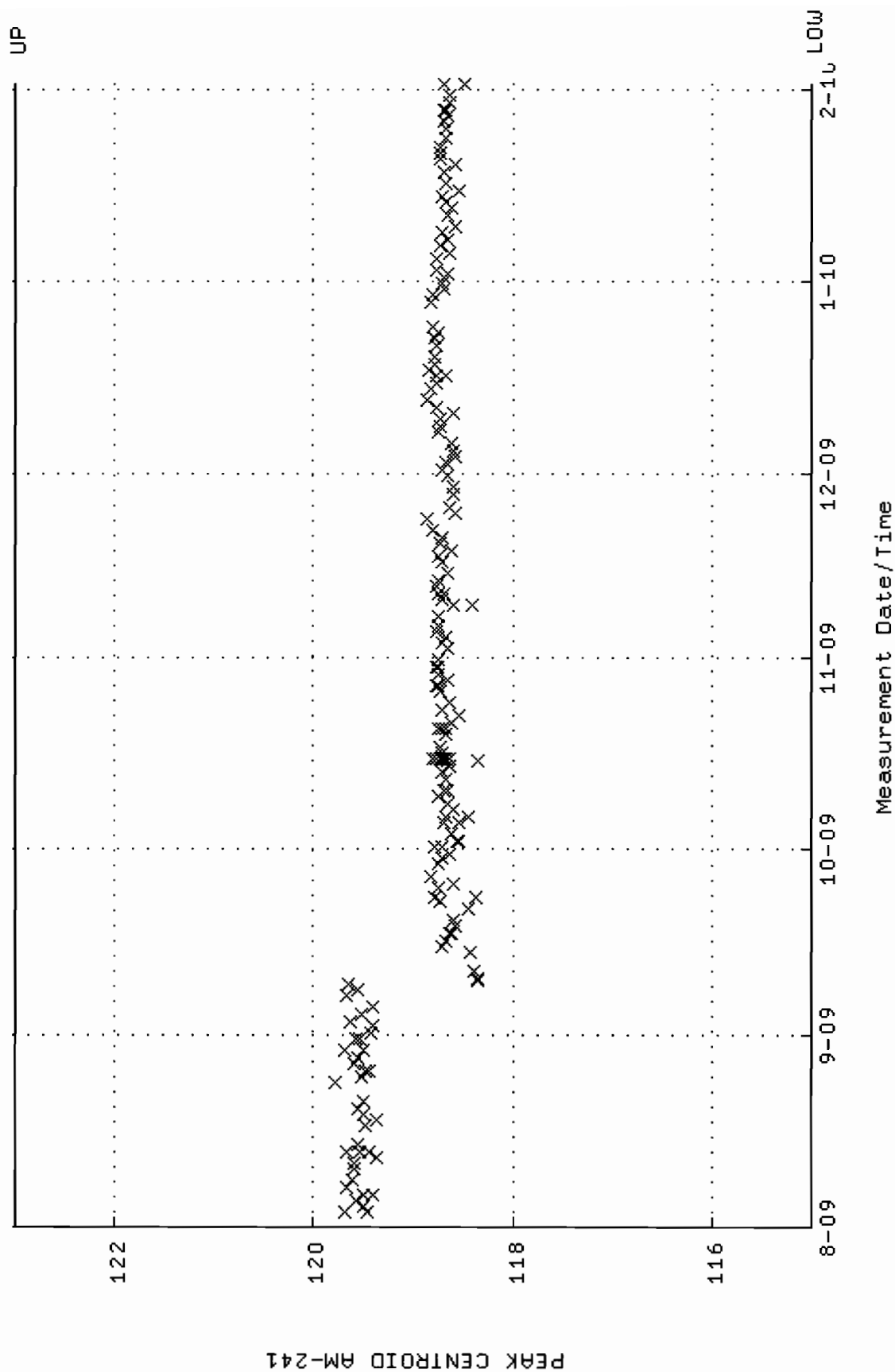
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:13:52 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



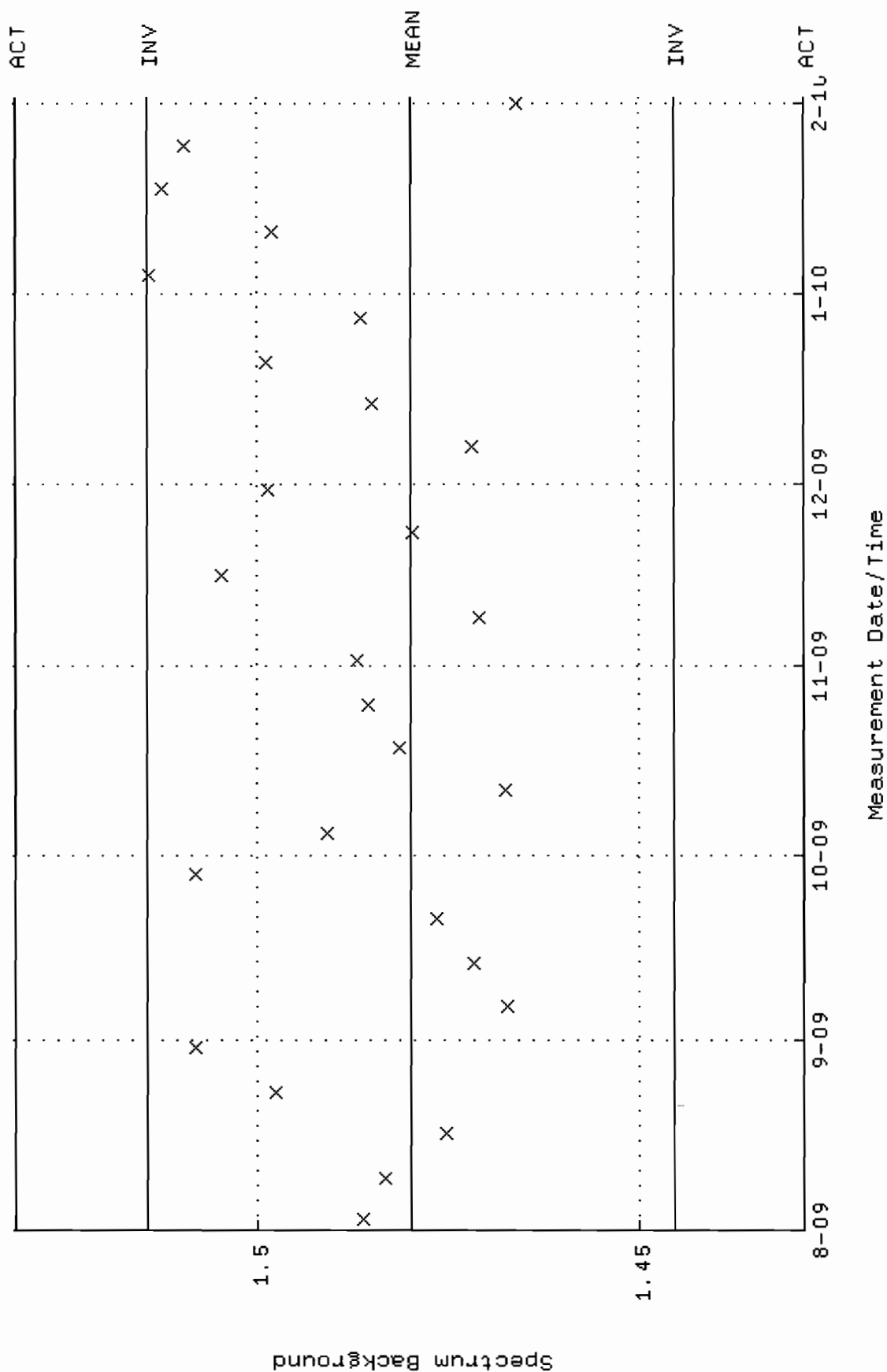
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:26 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



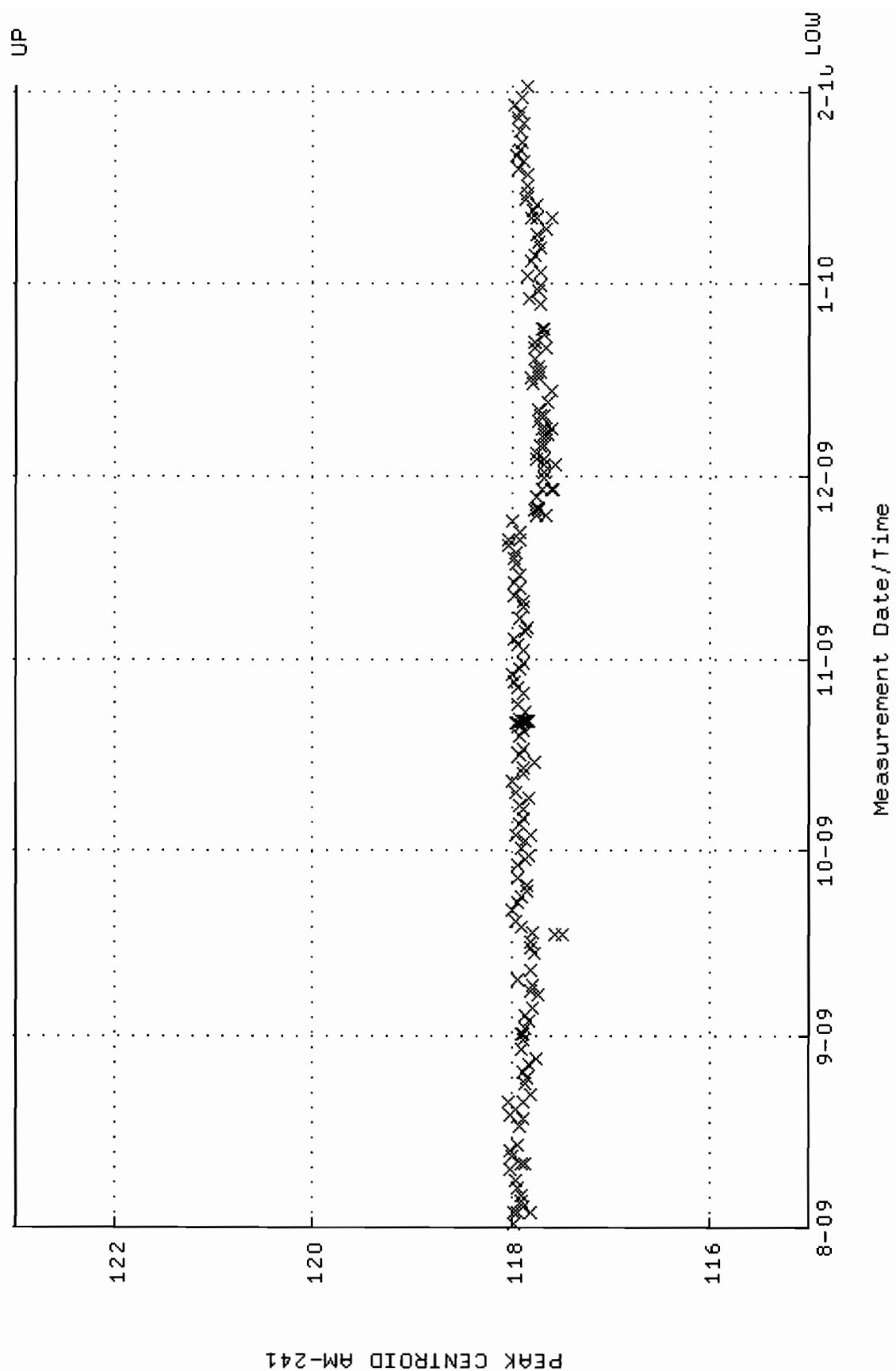
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM10_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:36:50 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



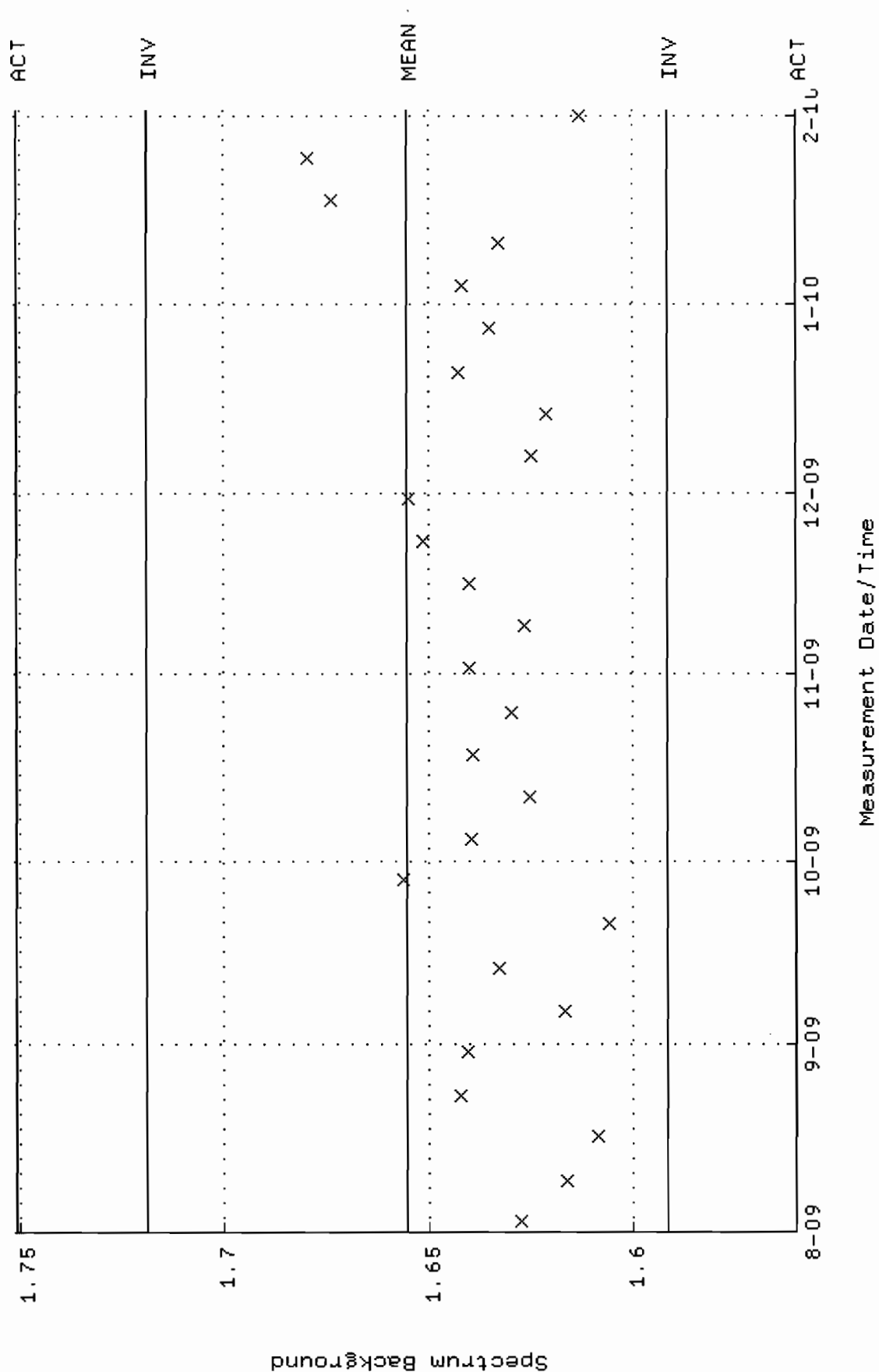
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:43 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



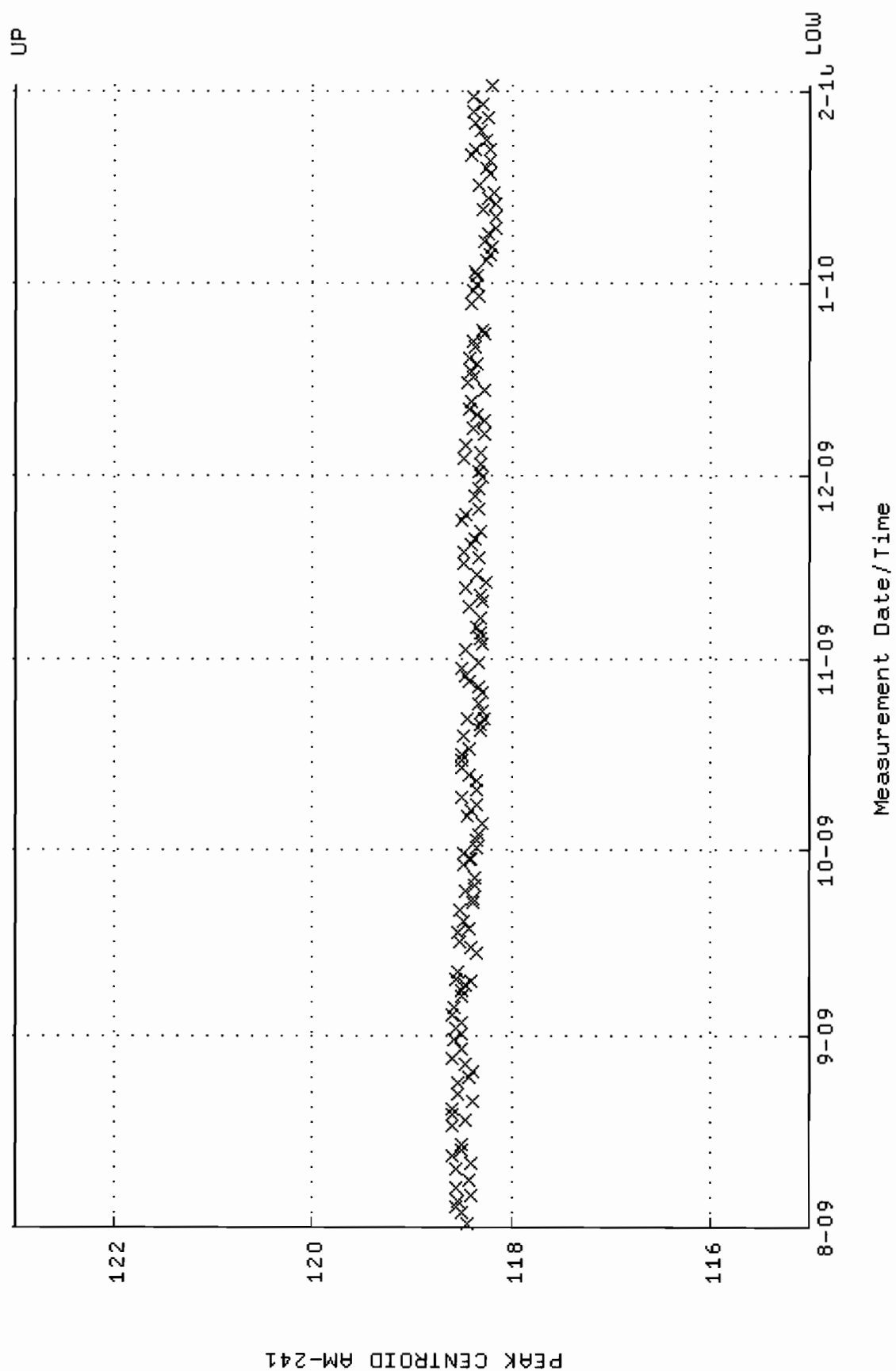
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM11_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-AUG-2009 13:27:21 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



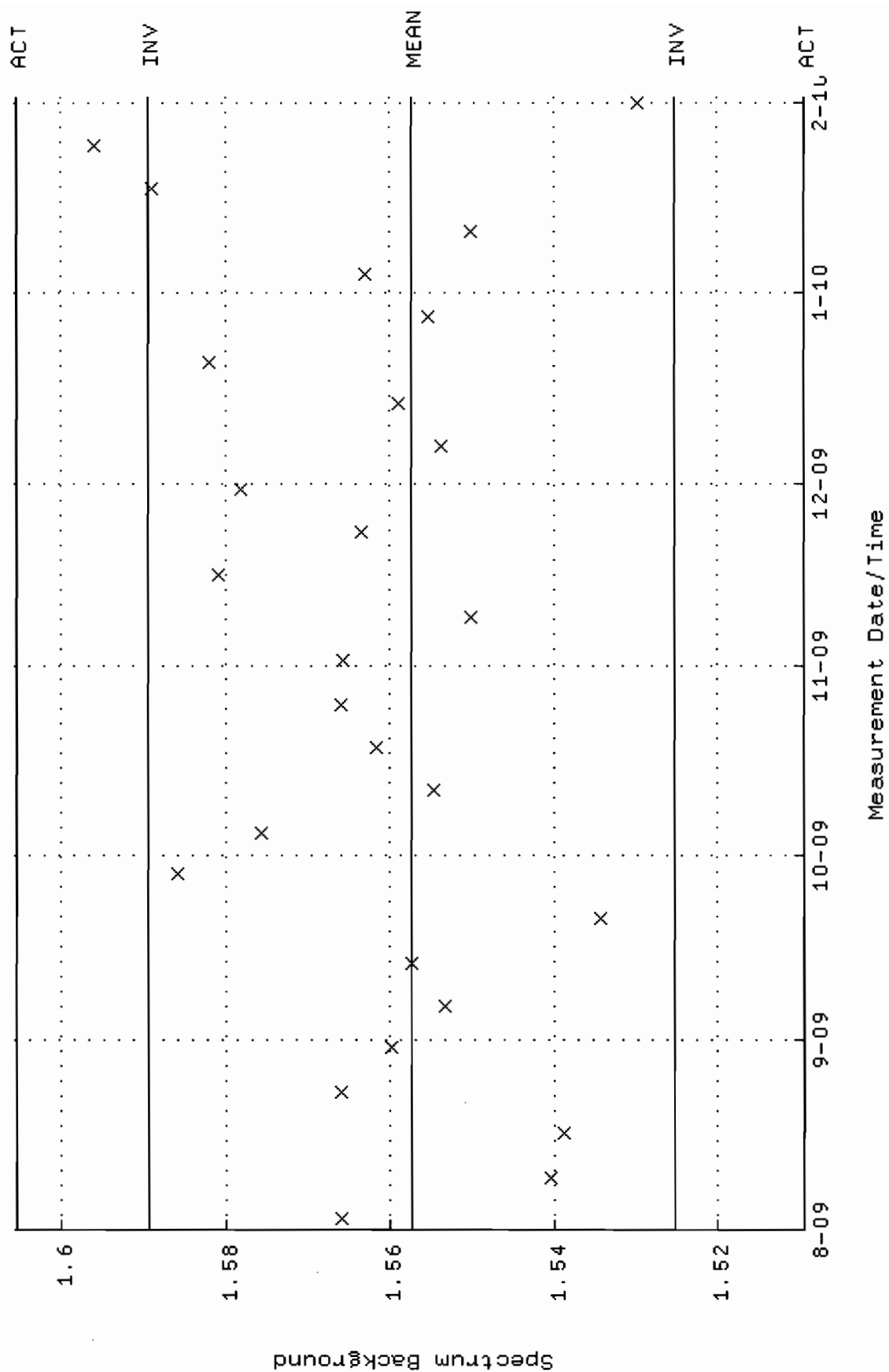
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:55 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



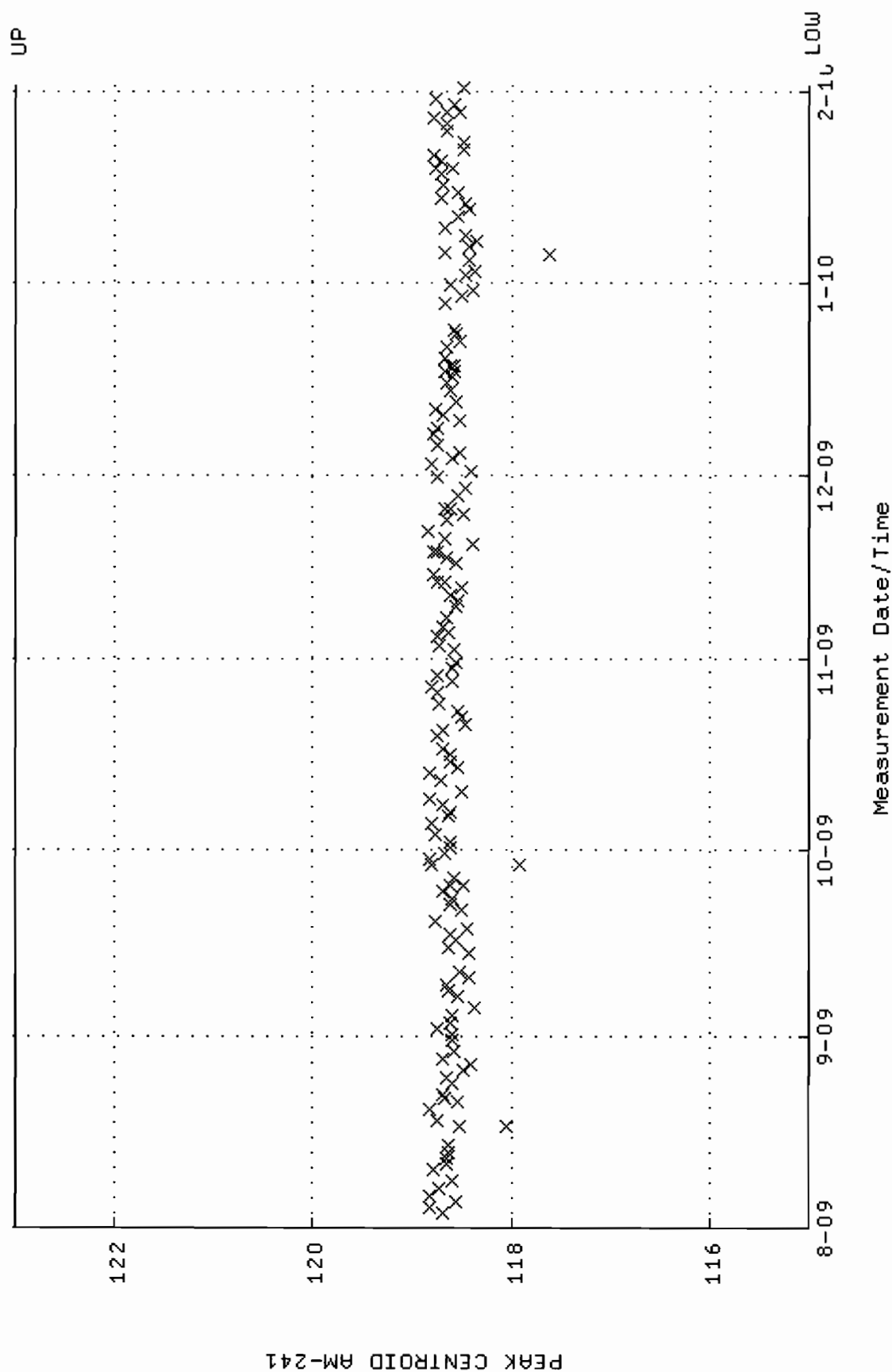
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR.QA]QCC_GAM12_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 1-AUG-2009 13:58:23 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



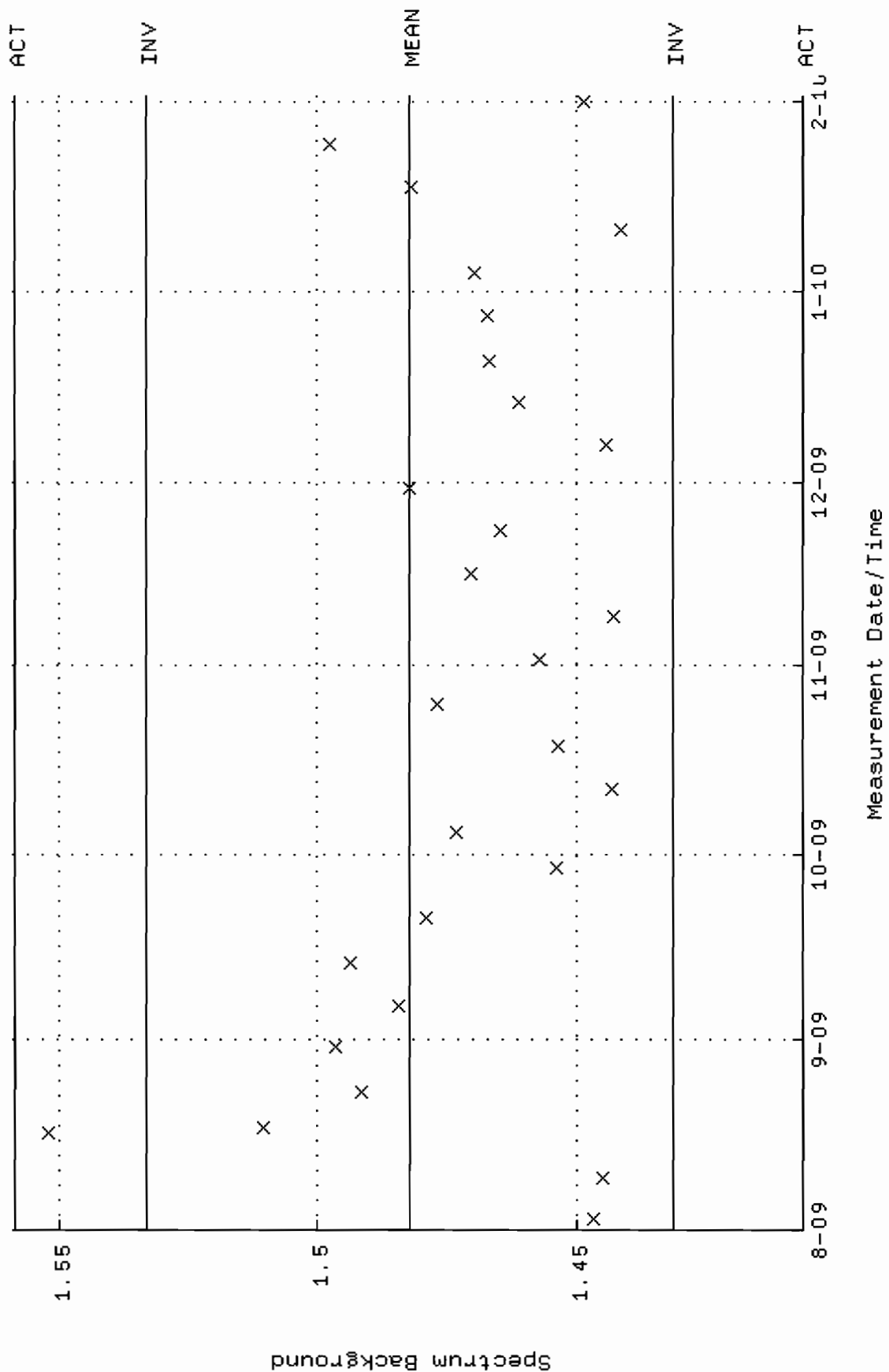
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:08 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



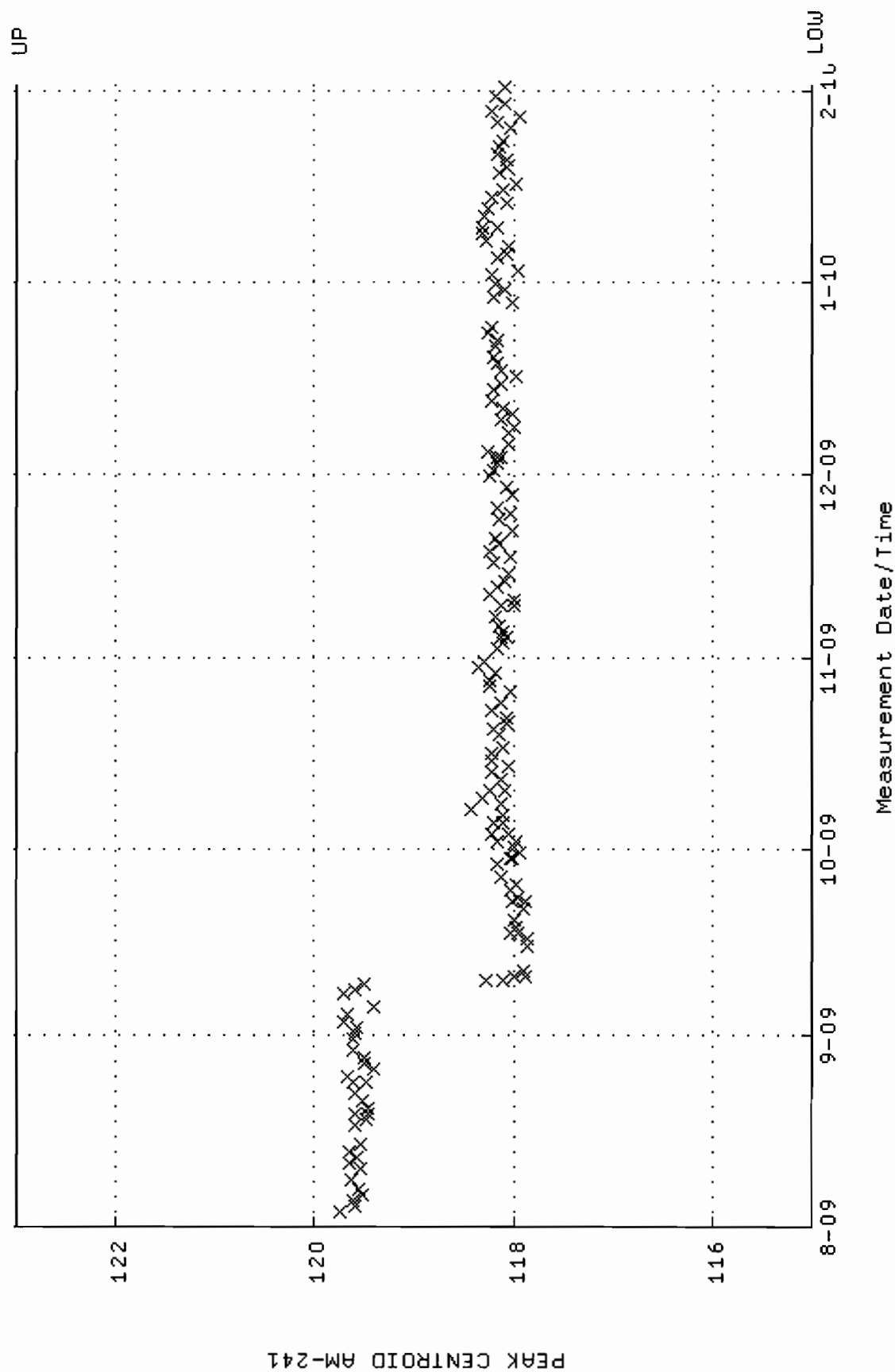
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM14_2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:15:54 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



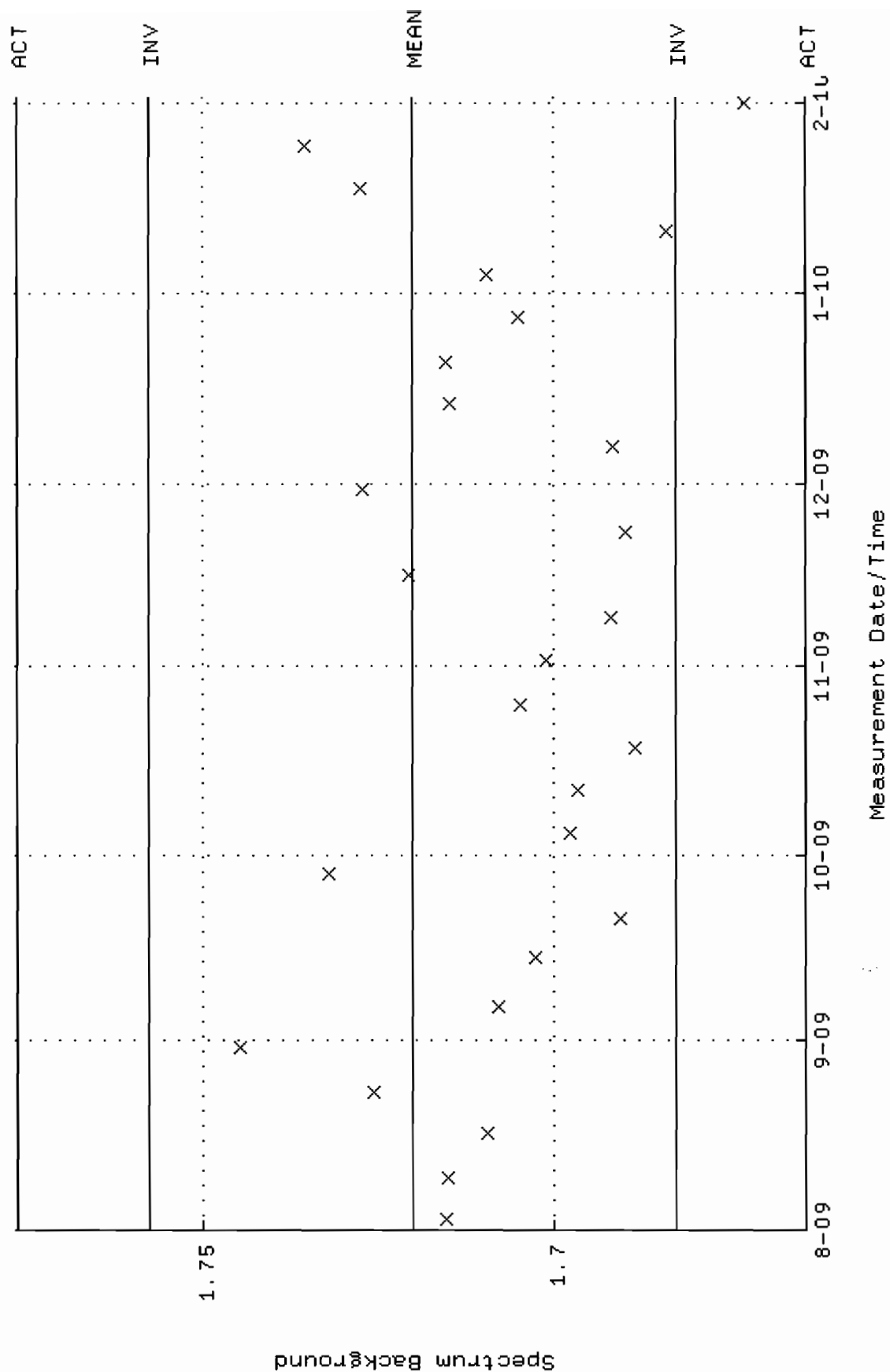
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:33 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



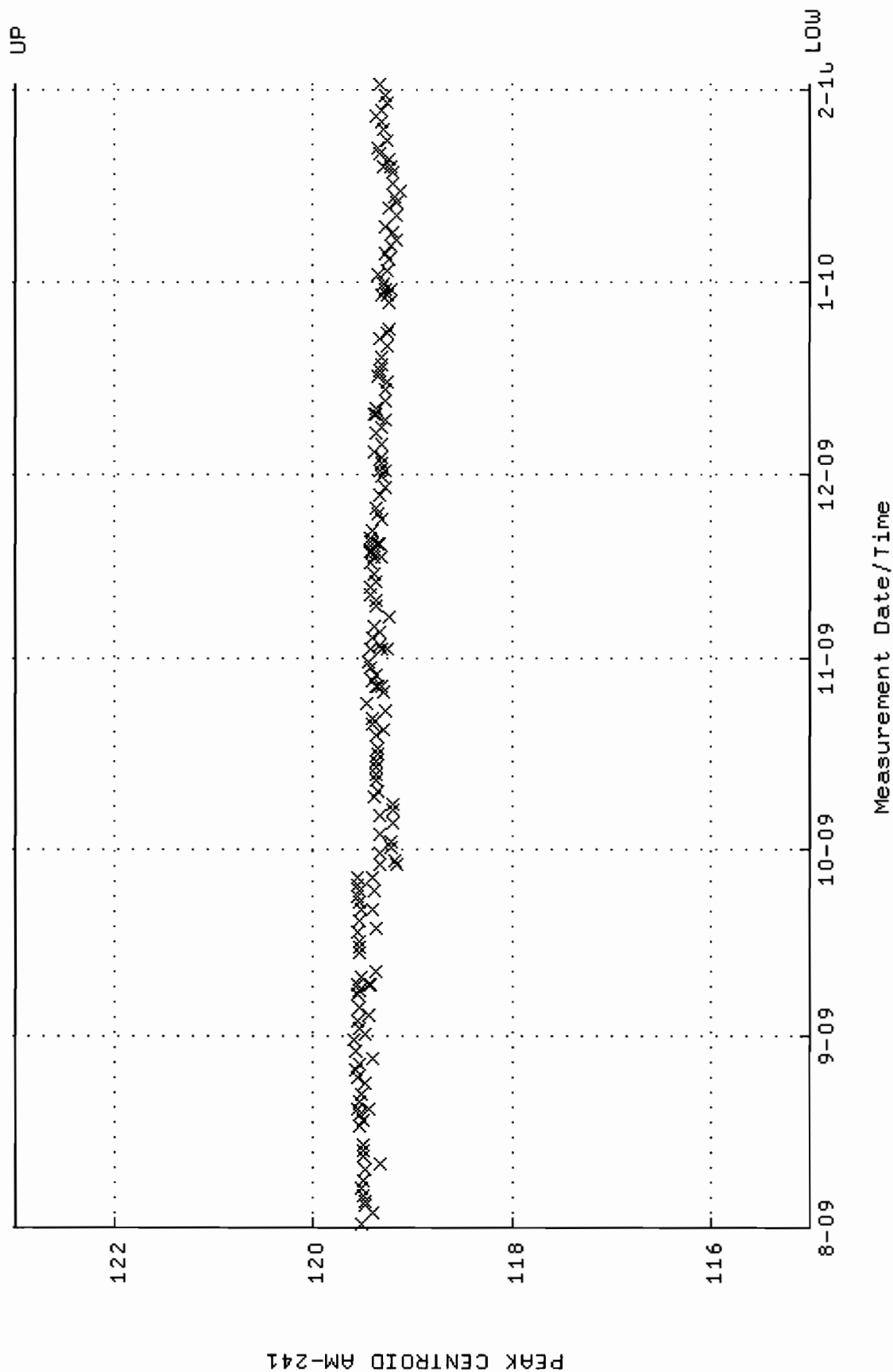
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:53:43 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



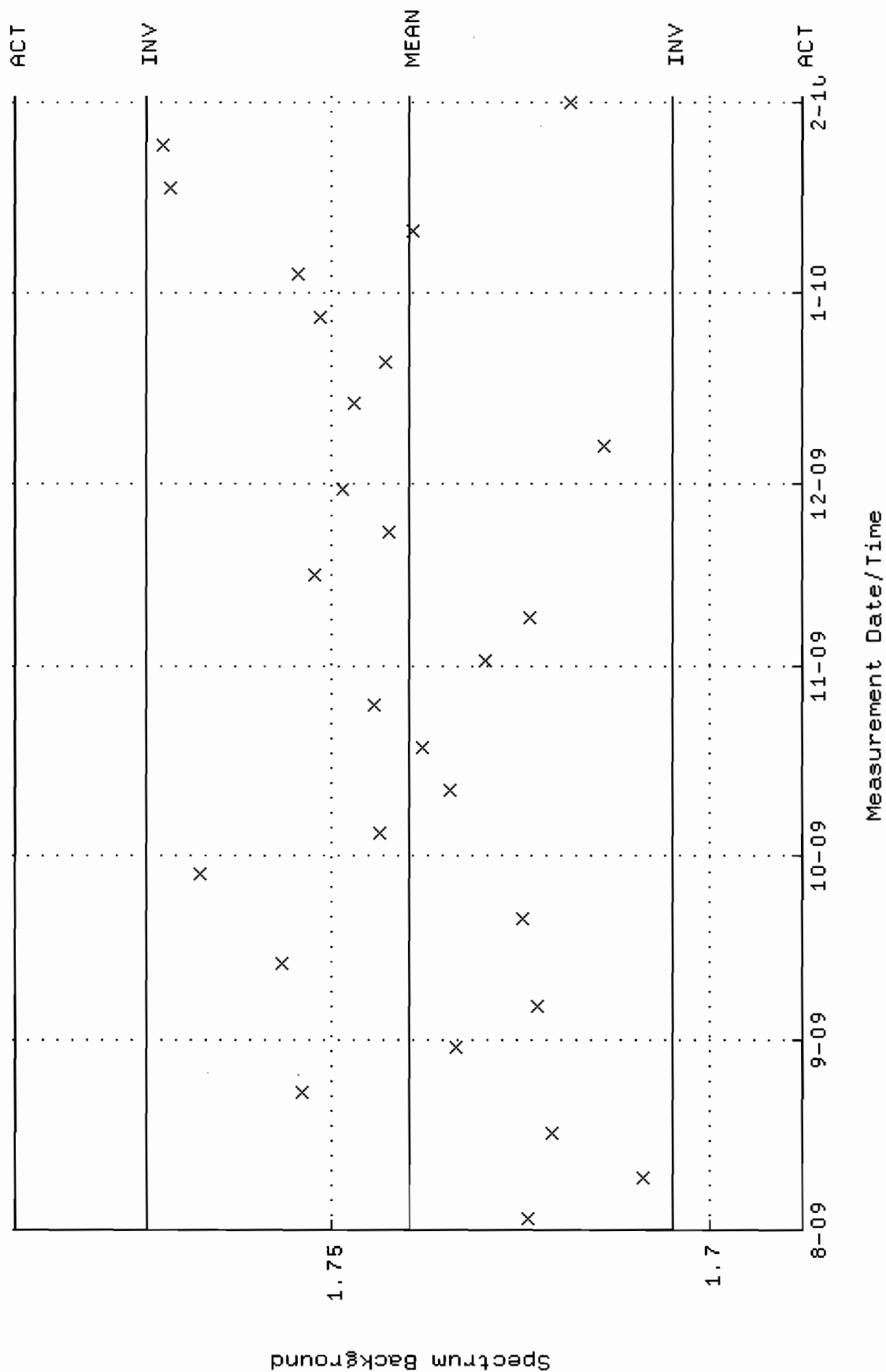
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:46 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



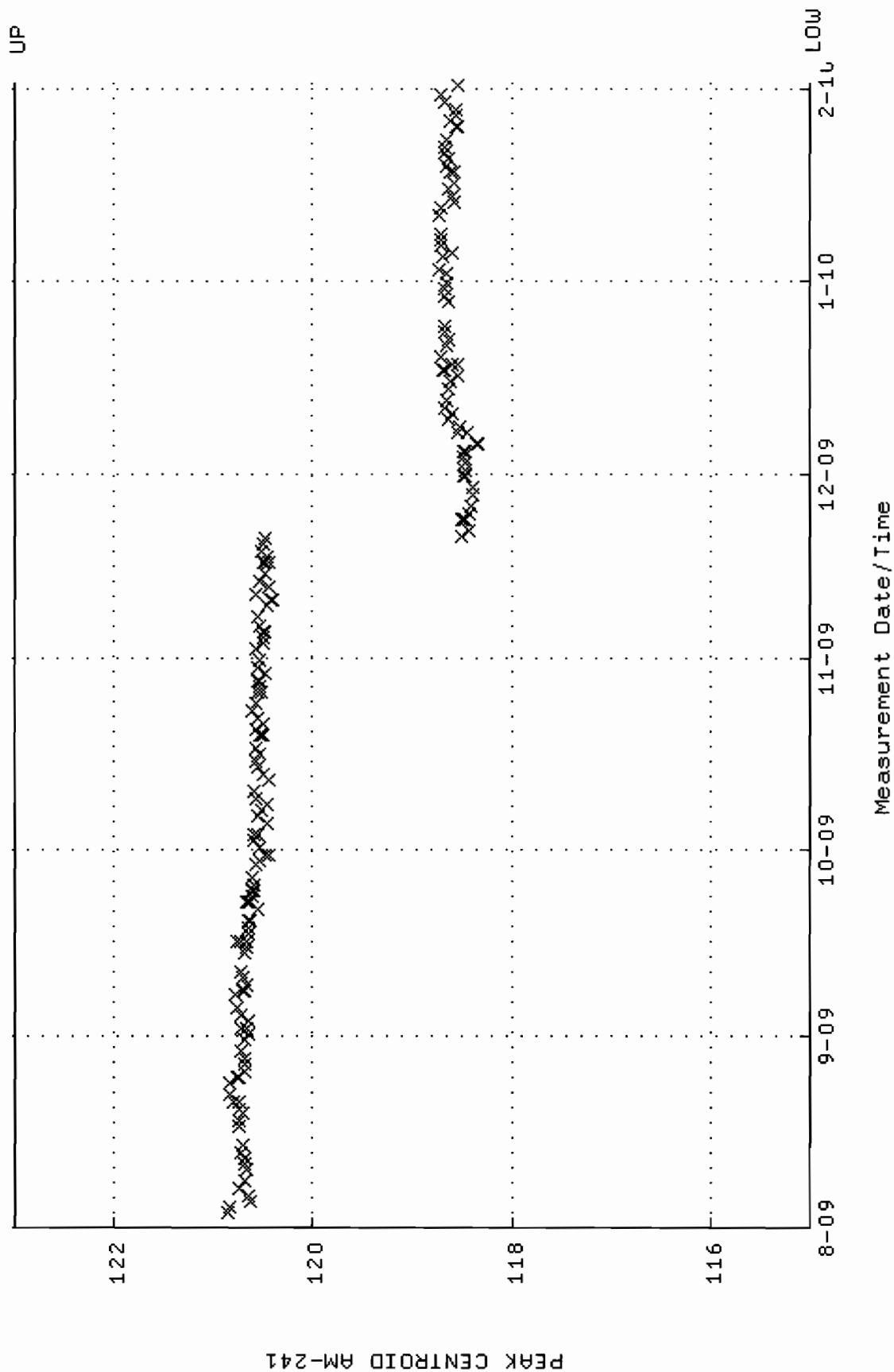
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-AUG-2009 13:27:30 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



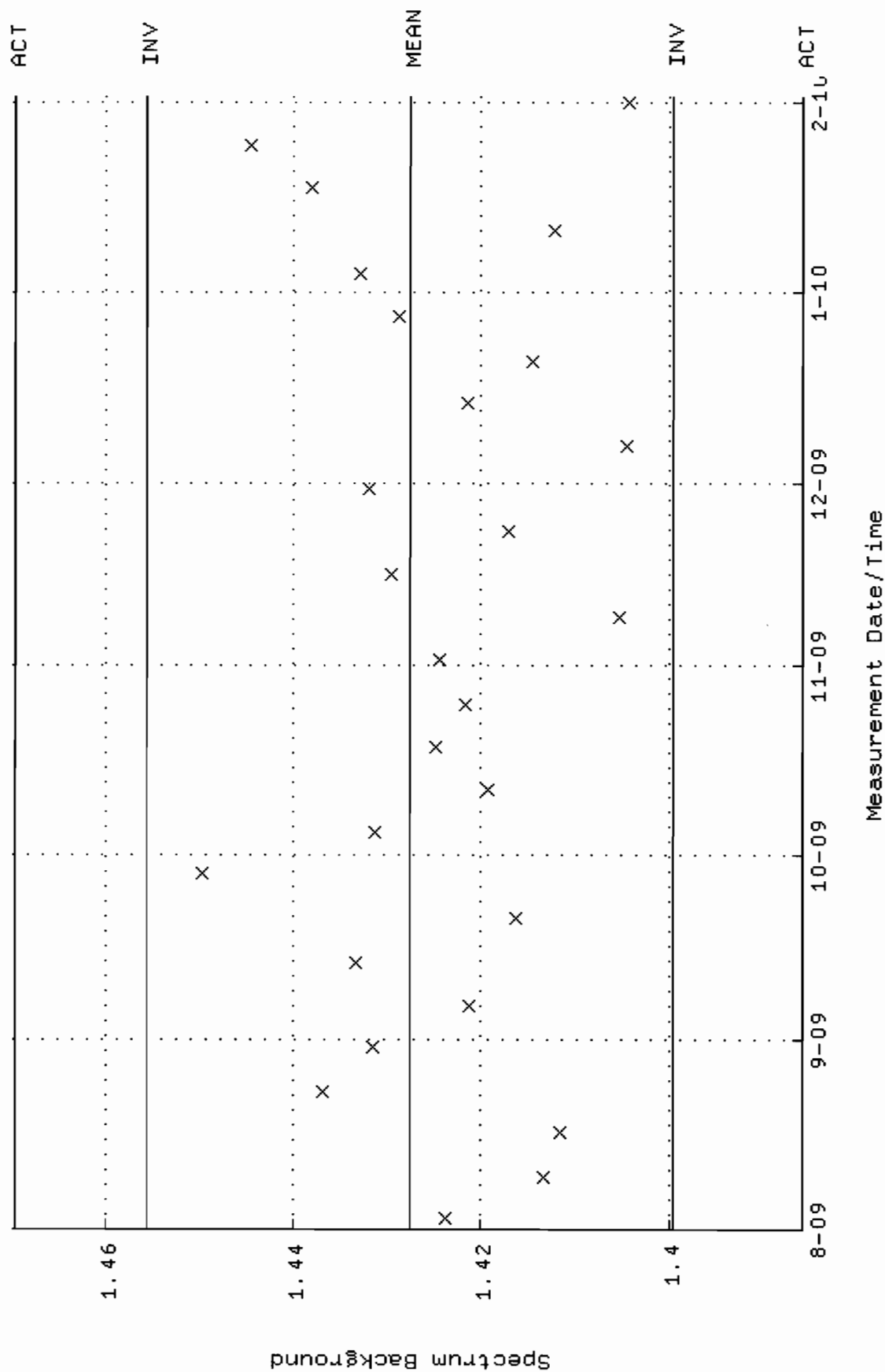
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:58 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



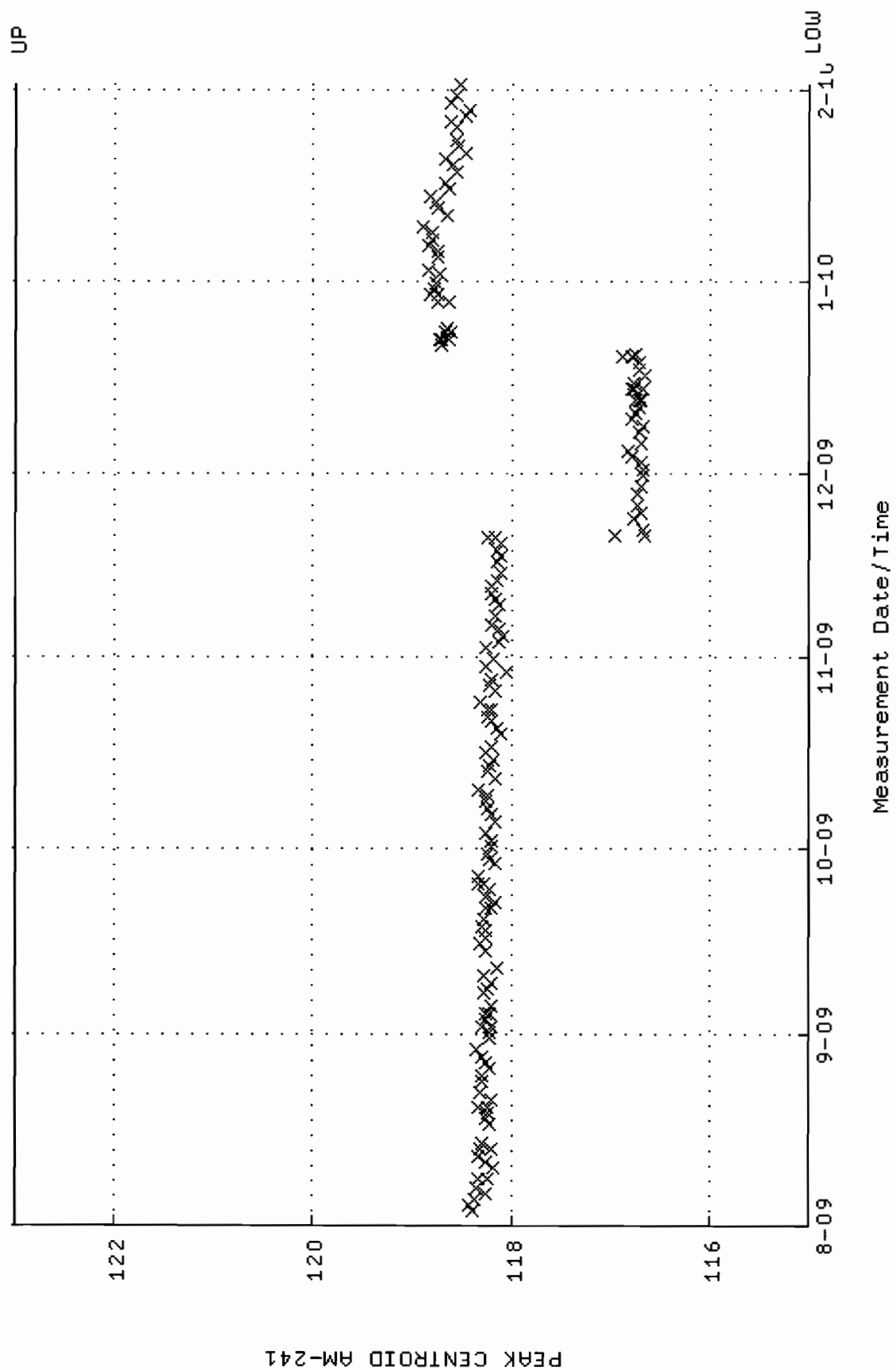
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:55:06 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



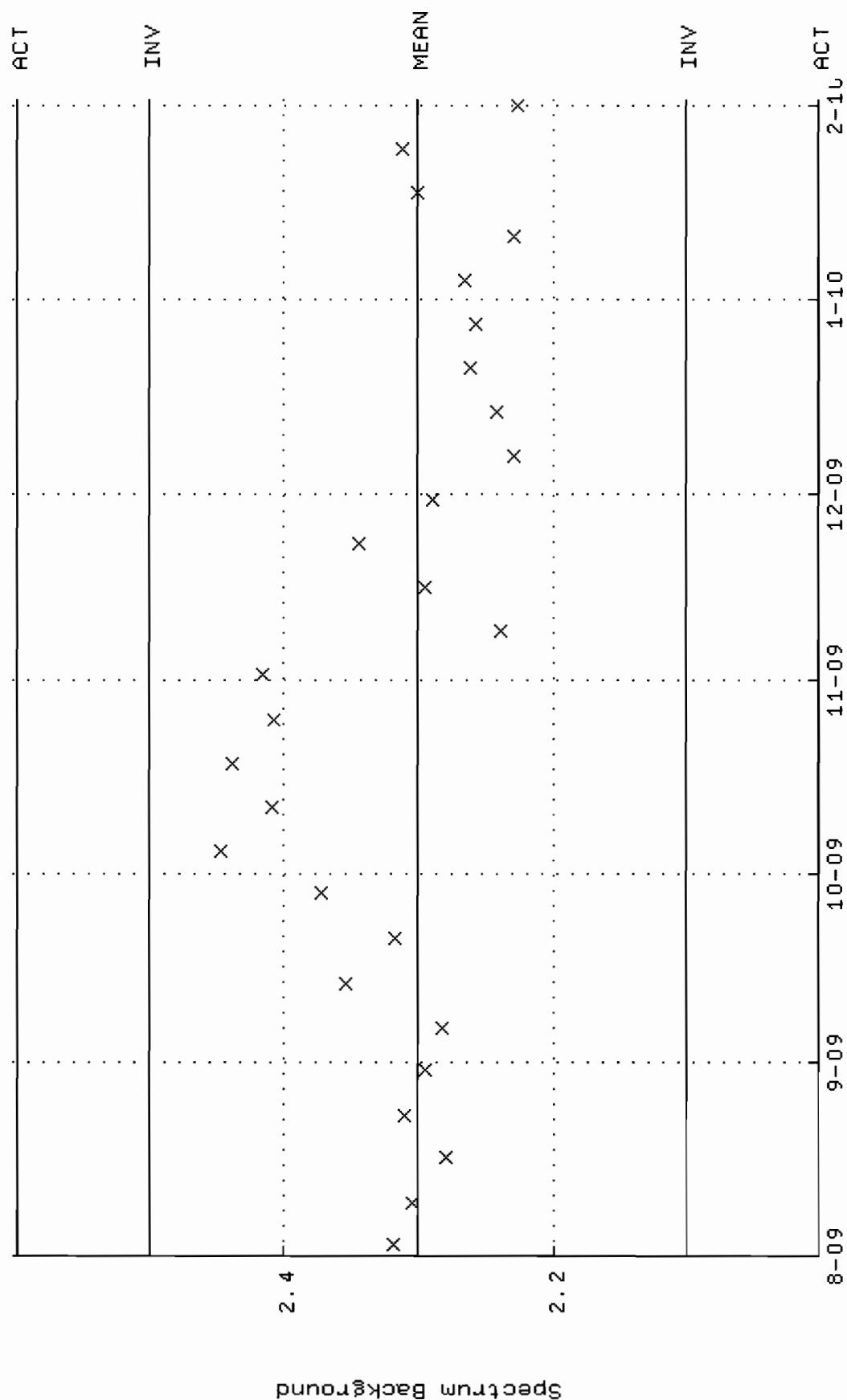
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:10 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



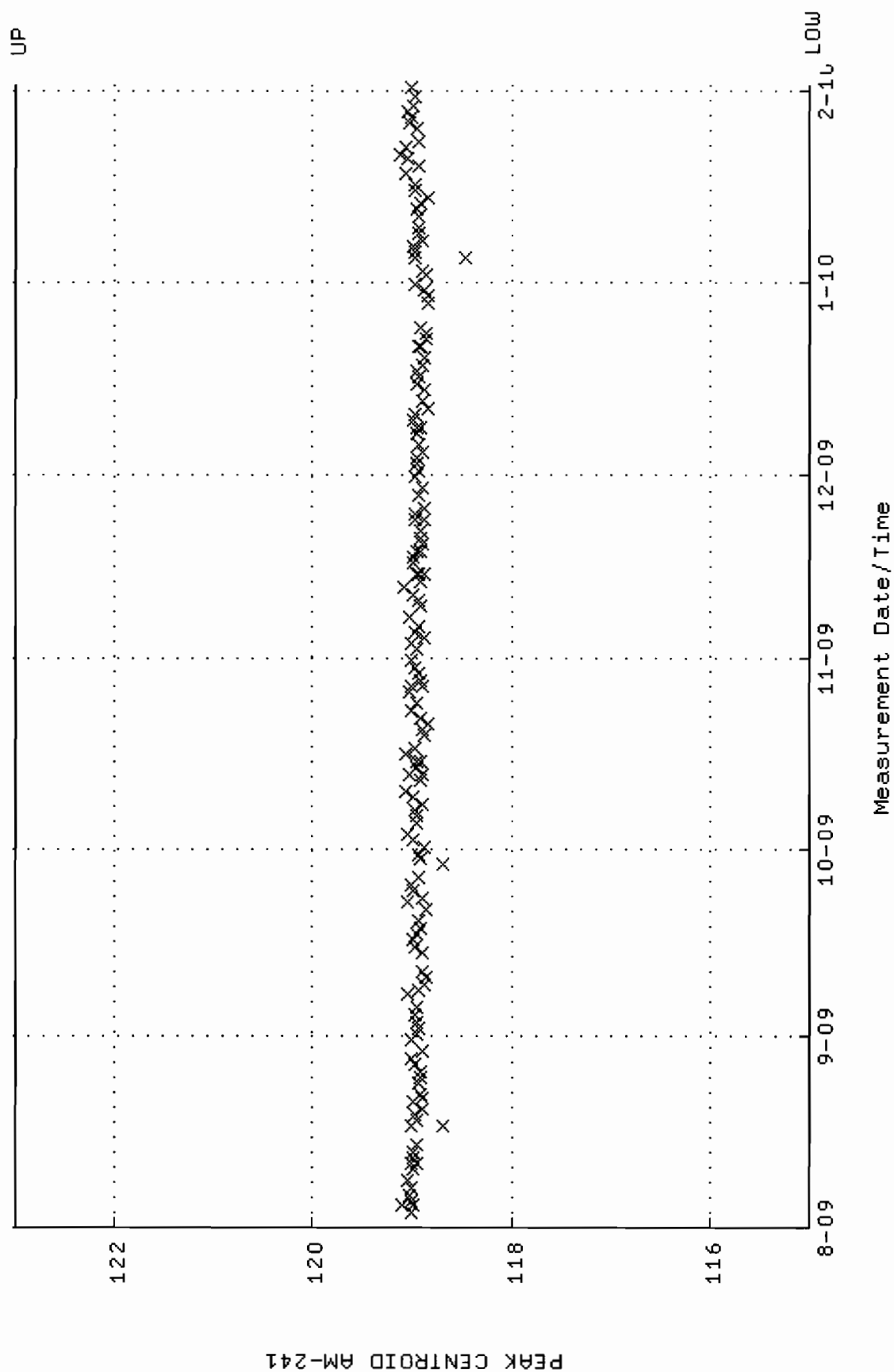
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR.QA]QCC_GAM18_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 10:02:47 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



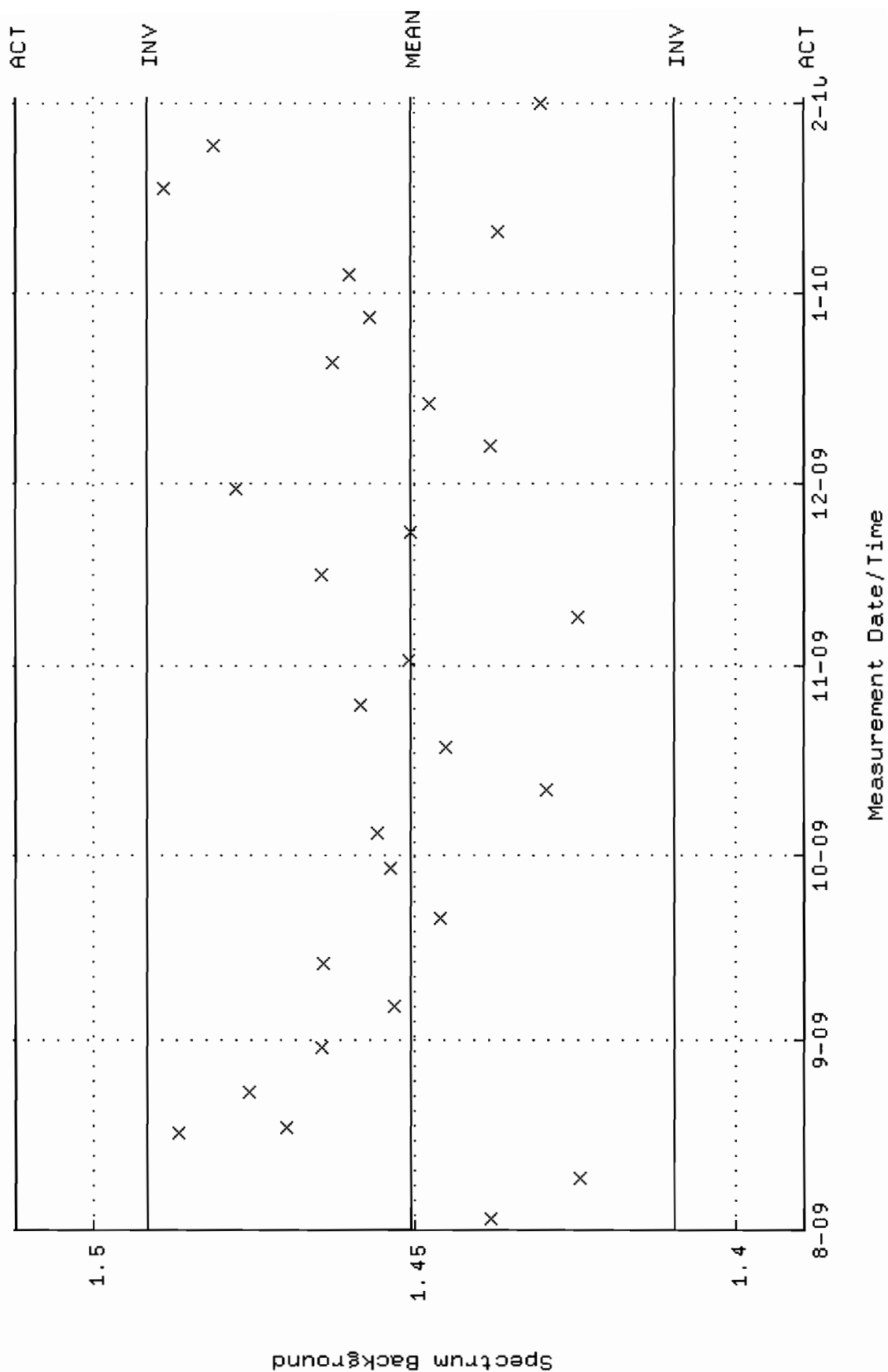
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:23 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



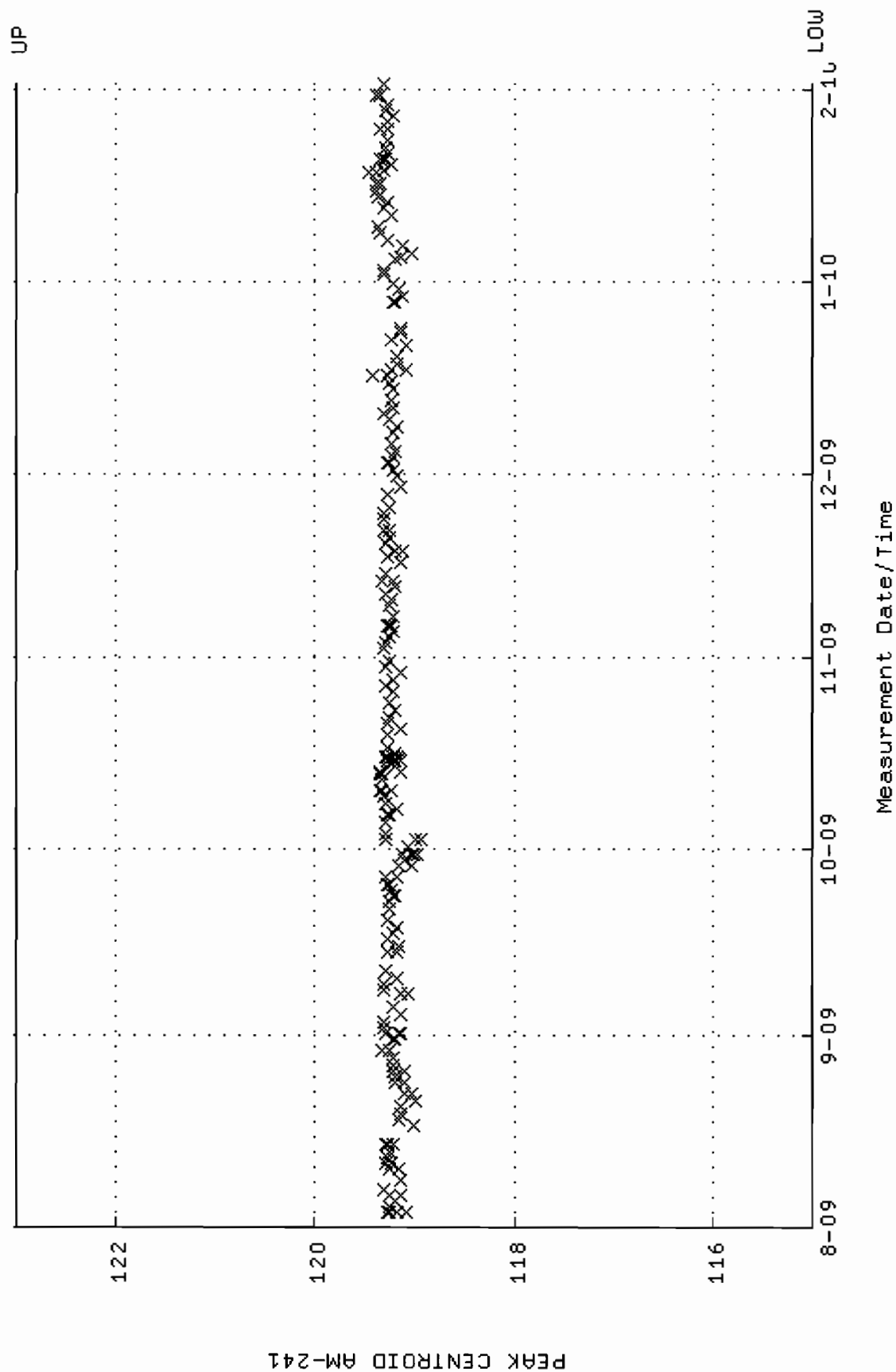
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM19_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 10:08:04 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



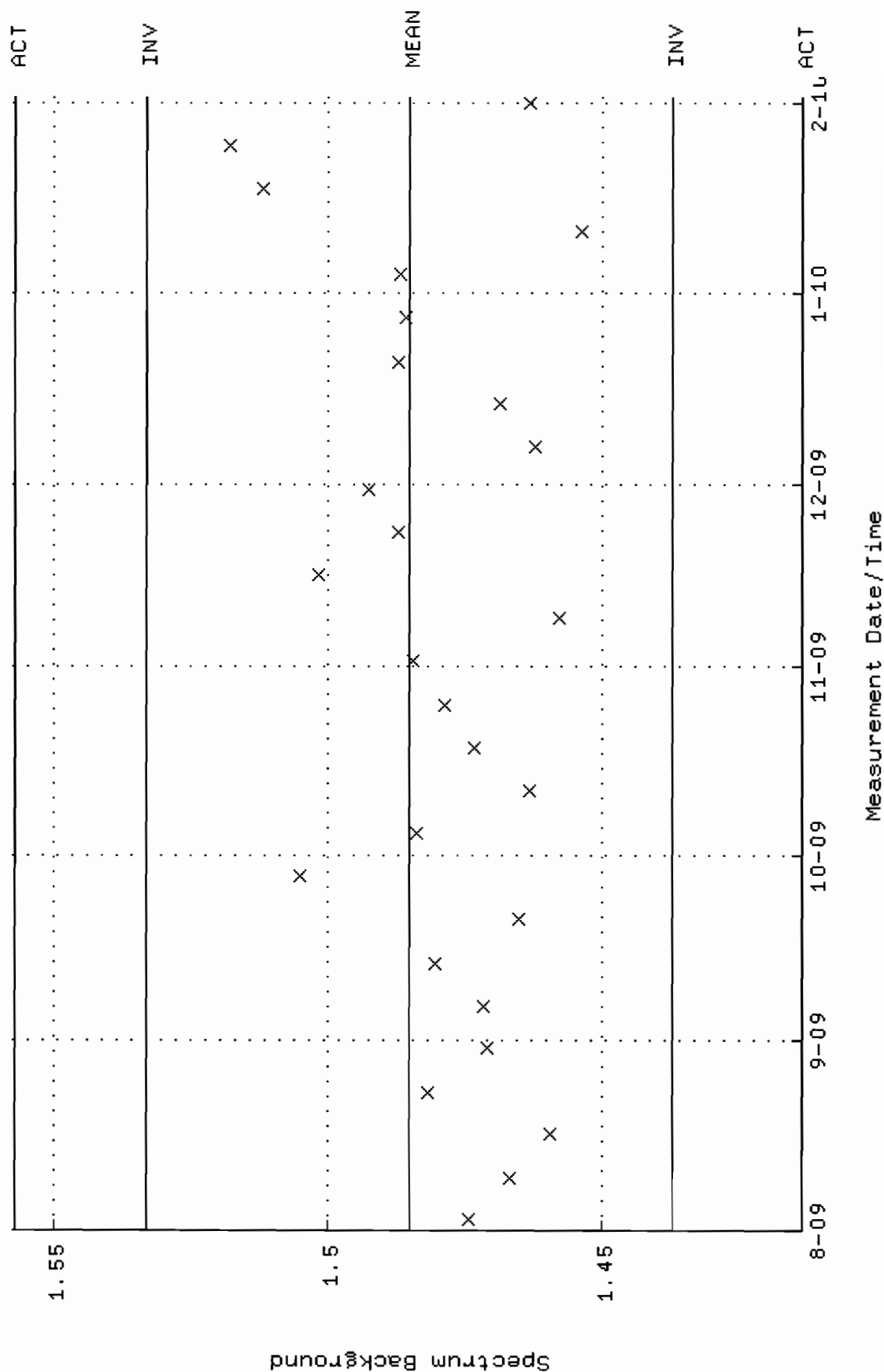
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM19.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:41 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.45067 +- 2.046038E-02 (1.41 %)



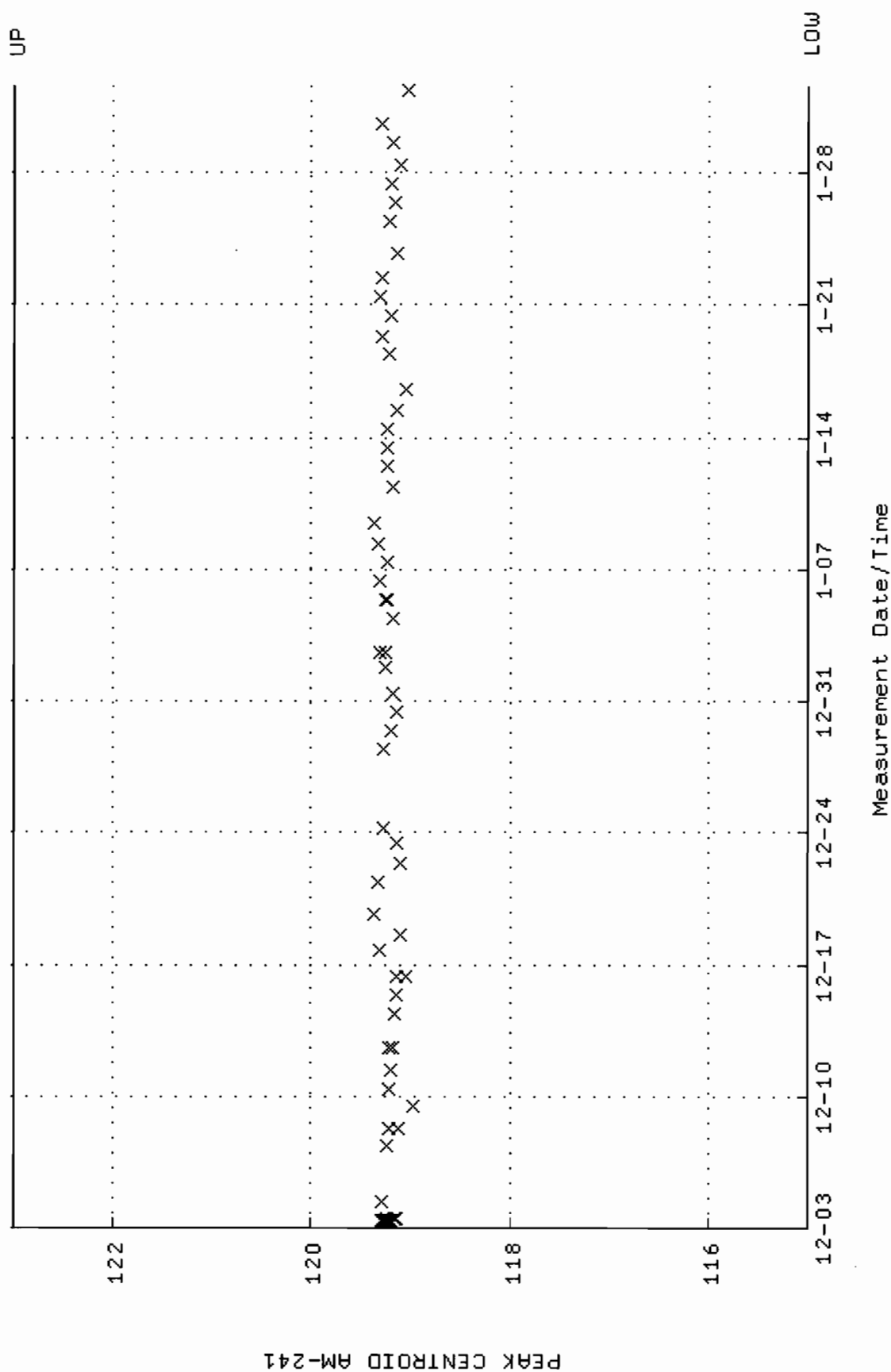
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:19:21 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



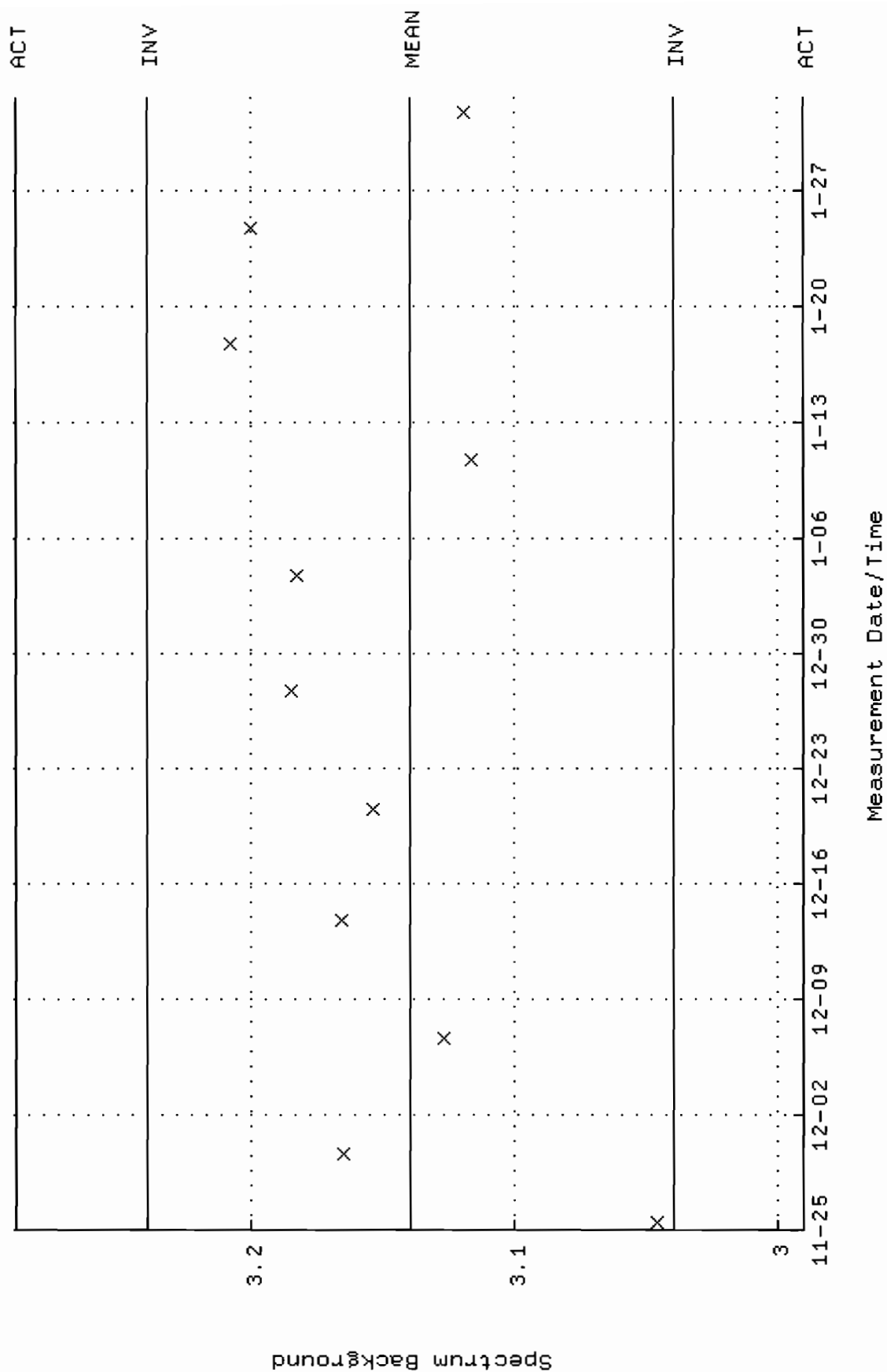
QA filename : DKA100:[CANBERRA, GAMMA, SCUSR, QA]LBC_GAM20.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:55 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



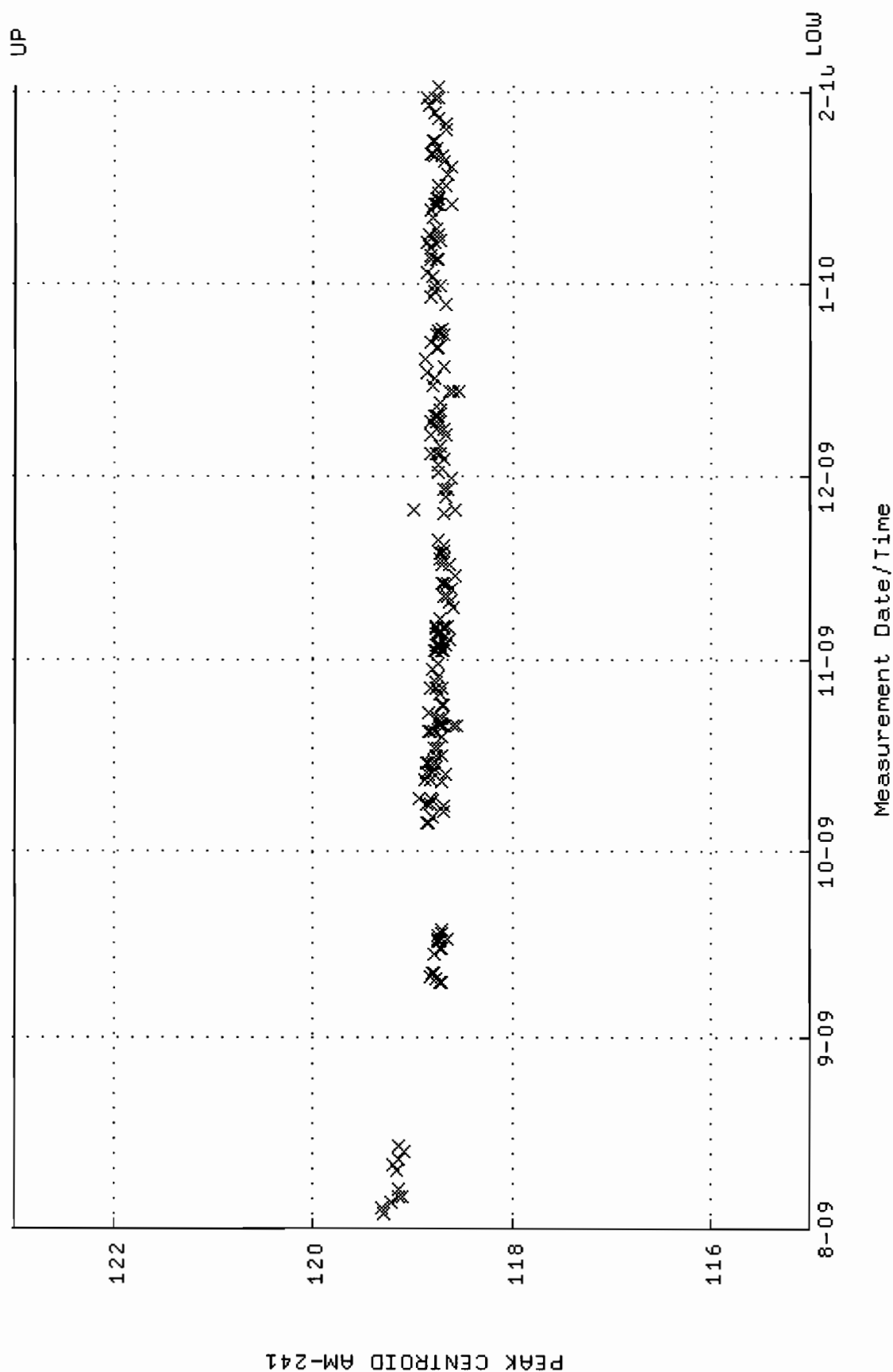
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-DEC-2009 09:11:39 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



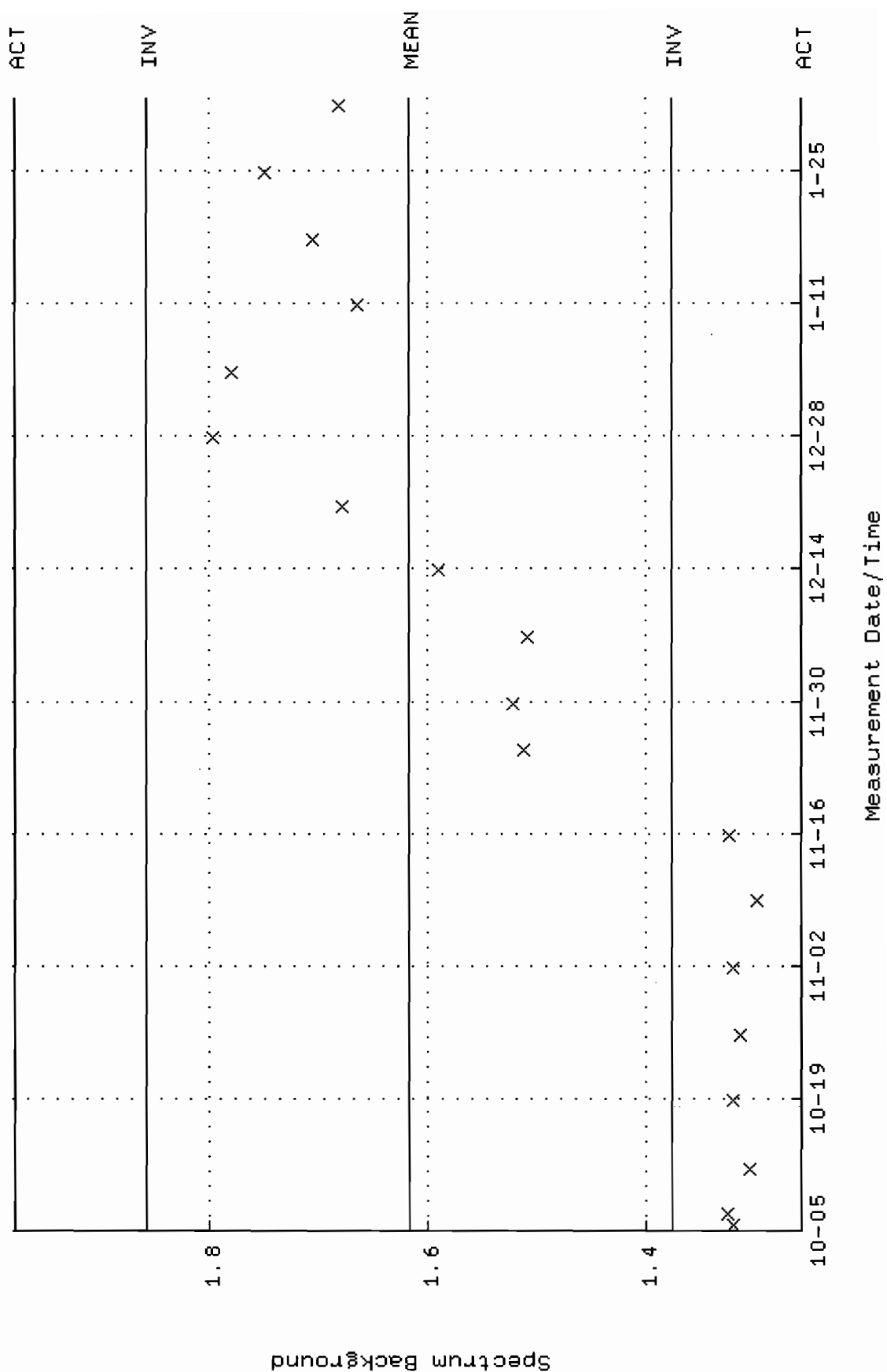
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR,QA]LBC_GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 25-NOV-2009 10:28:37 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:16:07 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000

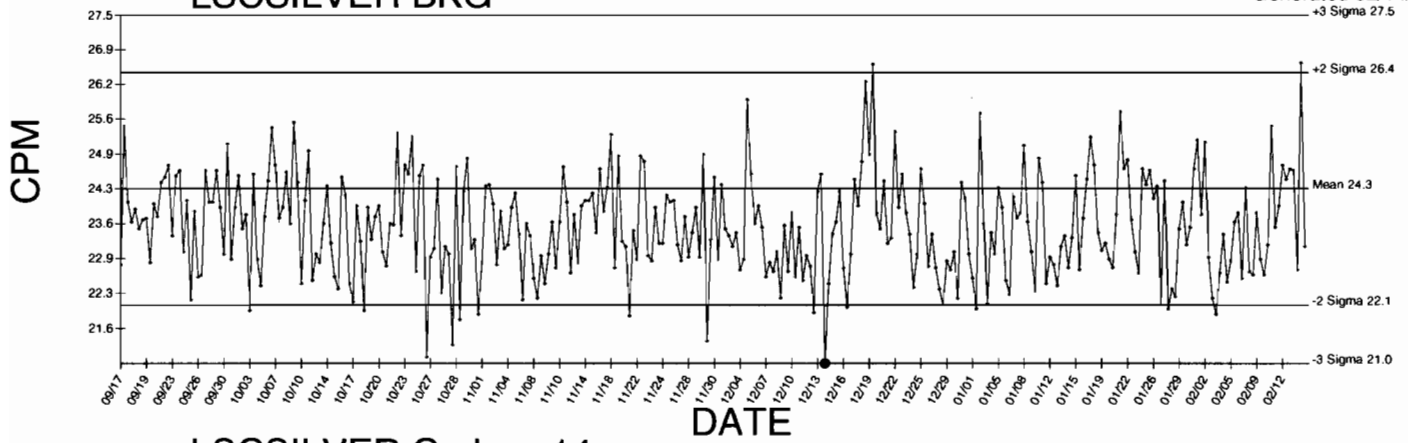


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)

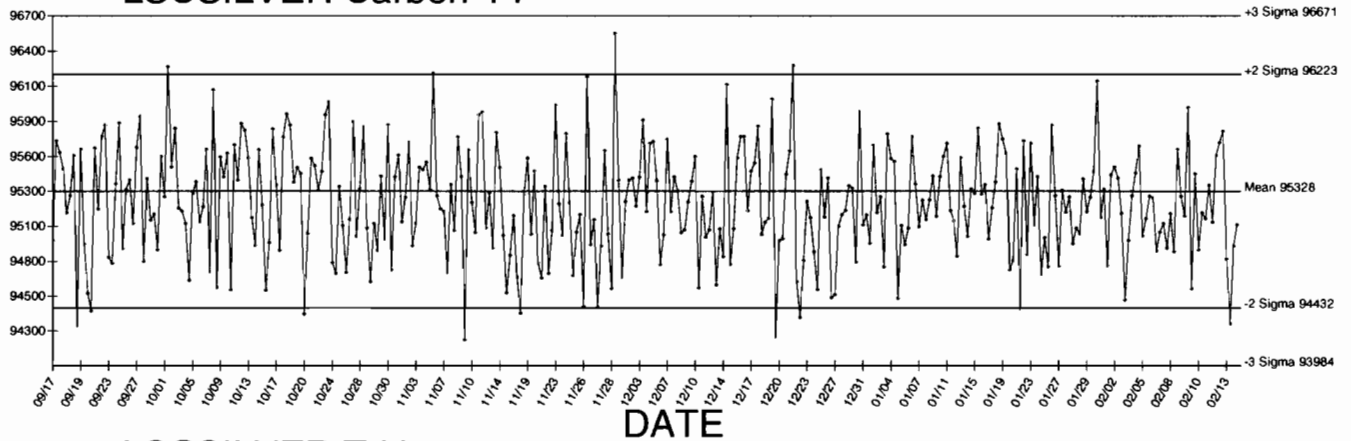


LSCSILVER BKG

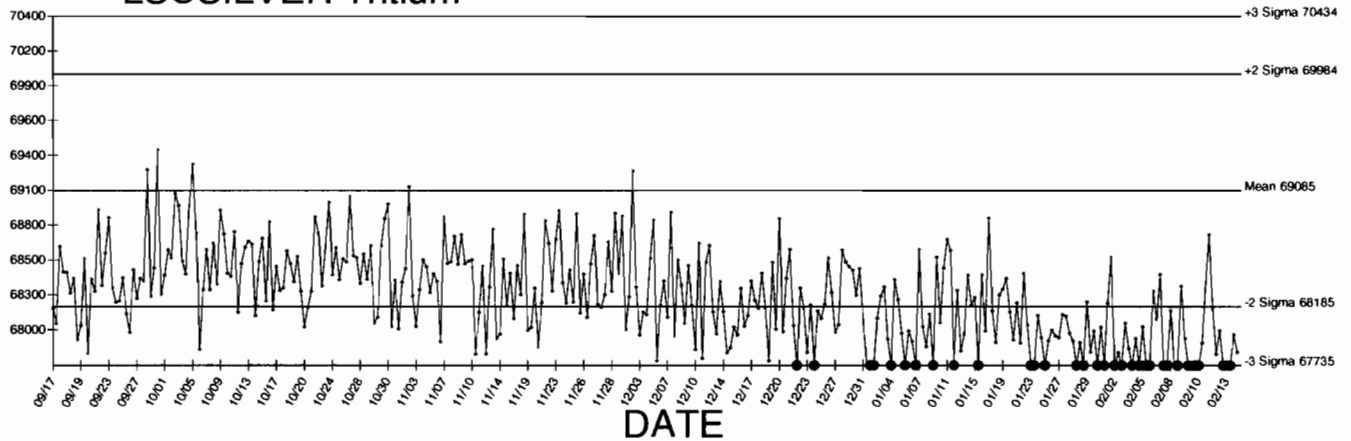
Generated 02/14/2010



LSCSILVER Carbon-14



LSCSILVER Tritium



● Denotes Outlier

STANDARDS DATA

0134



CALIBRATION
No. 0146

Description Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY-64
Chemical form: water Batch: 111

Measurement Reference time: 1200 GMT on 1 March 1996
Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water
which is equivalent to: 13.19 microcuries per gram of water
or: 2.93×10^7 disintegrations per minute per gram of water

Method of Measurement

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

Purity No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data Half-life of tritium: 12.43 ± 0.11 years
Maximum beta energy of tritium: 18.6 keV

Remarks: The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

1 microcurie (μCi) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)

1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

Approved
signatory

W. F. Case
Page 1299 of 1344
W.F. Case

Standard Traceability Log Rad

Source Material Info	
Parent Code:	0134
Prepared By:	Angela Johnson
Carrier Conc:	DI WATER
Reference Date:	03/01/1996
Ampoule Mass (g):	5 g
Uncertainty:	+/- 2.5 %
LogBook No:	RC S 023 061

A Solution Material Info	
Isotope:	Tritium
Prepared By:	Angela Johnson
Prep Date:	02/21/2001
Verification Date:	09/10/2008
Expiration Date:	03/27/2010
Primary Code:	0134-A
Dilution(mL):	100 mL
Mass of Parent(g):	3.3659 g
Density(g/mL):	1.0004
Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (kBq/g)}) * (\text{conversion dpm to kBq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (100 \text{ mL}) = 985535.5200 \text{ dpm/mL}$
$(3.3659 \text{ g}) * (488 \text{ kBq/g}) * (60000 \text{ dpm/kBq}) / (1.0004 \text{ g/mL}) / (100 \text{ mL}) = 985180.3116 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
07/20/2004	Amanda Fehr	5.86	1000	0134-H	5773.1566 dpm/mL	07/25/2006	07/25/2007
12/20/2005	Amanda Fehr	5.5451	1000	0134-I	5462.92 dpm/mL	12/20/2006	12/20/2007
07/11/2007	Daniel Roy	5.5863	1000	0134-J	5503.5128 dpm/ml	07/29/2008	07/29/2009
03/25/2009	Mary Aders	5.4917	1000	0134-K	5410.3147 dpm/ml	03/27/2009	03/27/2010

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for H-3 Standard 0134-K

M. Aders	Isotope	Detector CPM	BKG CPM	NET CPM	Detector Eff Mass. Used (mL)	Source DPM/mL
4/9/2009	0134-K N1	1097.2000	54.0000	1043.2000	1.0000	2741.3099
	0134-K N2	1073.2000	54.0000	1019.2000	1.0000	2678.242955
	0134-K N3	1085.2000	54.0000	1031.2000	1.0000	2709.776428
Mean Value (Counting) =	2709.776428					
Stdev =	31.53347278					

Certificate Value =	2581.86	dpm/mL
Lower Limit =	2646.709482	dpm/mL
Upper Limit =	2772.843373	dpm/mL
Rule 1 Pass/Fail	Fail	*exception taken due to full recovery of standard
Two sigma =	63.06694556	dpm/mL
10 % of Mean =	270.9776428	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 H-3 source 0134-K by transferring 0.1 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecoscint Ultra 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 Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Silver for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 4/9/09 using 0020-A (H-3). Calibration data is recorded in this logbook under H-3 0020. 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

Handwritten signature: Amanda J. Dehn 4/9/09

1032

 1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318
 Tel 404-352-8677
 Fax 404-352-2837
 www.analytiscinc.com

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE	GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432 y	3339	3.0
Cd-109	88	462.6 d	4815	3.3
Co-57	122	271.79 d	2409	3.0
Ce-139	166	137.6 d	3408	2.8
Hg-203	279	46.61 d	7522	2.7
Sn-113	392	115.1 d	4728	2.6
Cs-137	662	30.07 y	2973	3.0
Y-88	898	106.6 d	11600	2.6
Co-60	1173	5.2714 y	5780	2.7
Co-60	1332	5.2714 y	5783	2.6
Y-88	1836	106.6 d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova
 M. Dimitrova, Radiochemist

Q A APPROVED:

W.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

 rec'd 11/30/06
 RC-S-045-073-c

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS BATCH 127

CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method ¹	Statistics ²	Calibration ²	Peak Fitting ²	Geometry ²	Impurities ²	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertainty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

²As Percent (%) from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1032	Isotope:	Mixed Gamma
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL	Prep Date:	11/30/2006
Reference Date:	10/01/2006	Verification Date:	12/02/2009
Ampoule Mass (g):	5.31725 g	Expiration Date:	12/02/2010
Uncertainty:	+/- 2.81 %	Primary Code:	1032-A
LogBook No:	RC-S-045-073	Dilution(mL):	100 mL
		Mass of Parent(g):	5.2579 g
		Density(g/mL):	1.0611
		Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

Secondary Standards

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

Version 1.0 9/18/2000

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241

Isotope	Result	pCi/L - Ver-1a2-1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L
	100.00	Pass
		Rule 3 (Pass/Fail)

Mean Value (Counting) =
Stdev =

2485.67
64.065

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

2485.68018
2357.536524
2613.796809
Pass
128.1301422
248.56666667
Pass

pCi/L
pCi/L
pCi/L

M. Stamps
12/2/09
independent
12/2/09

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.

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137

Isotope	Result	pCi/L - VER-IAE-1
Mixed Gamma N1	854.2	pCi/L - VER-IAE-3
Mixed Gamma N2	907.6	pCi/L - VER-IAE-2
Mixed Gamma N3	898.9	

Mean Value (Counting) = 886.90
Stdev = 28.651
Rule 3 (Pass/Fail) Pass

Certificate Value = 933.44144
Lower Limit = 829.597644
Upper Limit = 944.202356
Rule 1 (Pass/Fail) Pass
Two sigma = 57.30235597
10 % of Mean = 88.69000000
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.

12/2/09
M. Stamps
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - Ver-Tag-5
Mixed Gamma N1	1572	pCi/L - Ver-Tag-2
Mixed Gamma N2	1495	pCi/L - Ver-Tag-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67 Pass
Stdev = 42.829 Rule 3 (Pass/Fail)

Certificate Value = 1545.8378 pCi/L
Lower Limit = 1437.008431 pCi/L
Upper Limit = 1608.324902 pCi/L
Rule 1 (Pass/Fail) Pass
Two sigma = 85.65823564
10 % of Mean = 152.26666667
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.

U.S. Stamp issued 12/2/09
12/2/09

0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATA 4/11/2000 *fit c held 12/1/04*

angela d. johnson 12/13/04

TRM

Invoice:

5 boxes of TRM-1
 10 " " TRM-2 and 3
 5 " each of TRM-1 through 6
 7 " baghouse dirt

Use 1/4 gm x 10 samples with together
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Tn-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0	

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Fehe 4/30/04
 Pitt & Shale 5/1/04

PREPARATION AND CHARACTERIZATION OF THE PERFORMANCE EVALUATION SOIL SAMPLE PEM-1

INTRODUCTION

Rust Geotech (Rust) was contracted by Los Alamos National Laboratory (LANL) to prepare and characterize a soil performance evaluation sample designated PEM-1. This report describes sample preparation, homogeneity assessment, and determination of the concentrations of 28 elements and radioactive isotopes in the sample.

SAMPLE PREPARATION

Rust received nine five-gallon buckets of soil from LANL. The soils were dried overnight in ovens at 103 °C. The large pieces of leaves and sticks were removed and the soils were ground with ceramic-plate grinders to a particle size that passed through a 325 mesh screen. The samples were blended at the proportions specified by LANL for 48 hours in a 3-cubic-foot cross-flow blender. The sample identifications and the amounts used are listed in Table 1.

Table 1. Sample Identifications and Amounts Used to Prepare PEM-1

LANL Sample ID	Amount Used (kg)
AAA 1592	1.7
AAA 2505-1	10.9
AAA 2505-2	12.8
AAA 2750-1	8.4
AAA 2750-2	8.4
AAA 3205	12.6
AAA 8581	4.2
AAB 3417	12.8
AAB 3475	12.6

The blended sample was transferred to three five-gallon plastic containers. While the sample was being transferred, 10 samples were taken at pre-determined time intervals to be used for homogeneity assessment and sample characterization. These samples are believed to be representative of the bulk material.

CERTIFICATE OF CALIBRATION

ALPHA STANDARD SOLUTION

Radionuclide	Am-243	Customer:	GENERAL ENGINEERING LABS	
Half Life:	7380 \pm 40 years	P.O.No.:	9290-RAD	
Catalog No.:	7243	Reference Date:	January 1 1994	12:00 PST.
Source No.:	445-96-2	Contained Radioactivity:	(Am-243) 101.2 μ Ci	
		Contained Radioactivity:	(Am-243) 3750 kBq	

Description of Solution

a. Mass of solution:	5.3739 g (in a 5 ml Flame Sealed Ampoule)
b. Chemical form:	Am(NO ₃) ₃ in 2N HNO ₃
c. Carrier content:	None added
d. Density:	1.0651 g/ml @ 20°C.

Radioimpurities

None detected

Radioactive Daughters

Np-239 (beta active) in equilibrium

Radionuclide Concentration

(Am-243) 18.84 μ Ci/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under:	228, 278	keV.
Branching ratio(s) used:	0.108, 0.1420	gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration:	$\pm 3.0\%$
b. Random uncertainty in assay:	$\pm 0.4\%$
c. Random uncertainty in weighing(s):	$\pm 0.0\%$
d. Total uncertainty at the 99% confidence level:	$\pm 3.0\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna H. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☒ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	445-96-2	Isotope:	Americium-243
Prepared By:	Genie Bost	Prepared By:	Angela Johnson
Carrier Conc:	2M HNO3	Prep Date:	01/05/1994
Reference Date:	01/01/1994	Verification Date:	05/11/2009
Ampoule Mass (g):	5.3739 g	Expiration Date:	05/11/2010
Uncertainty:	+/- 3 %	Primary Code:	445-96-2-A
LogBook No:	RC S 005 032	Dilution(mL):	100 mL
		Mass of Parent(g):	5.3419 g
		Density(g/mL):	1.0785
		Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989		Rule 3 (Pass/Fail)
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) 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. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

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.

Mary G. Aders 5/15/09
Taheri
07509



Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
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CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

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:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%
5.20453 grams 1M HNO₃ solution.

Source Prepared By: WMS

W. Mao, Radiochemist

QA Approved: DM Montgomery

D. M. Montgomery, QA Manager

Date: 12-11-08

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	Dilution(mL):	100 mL
		Mass of Parent(g):	5.0245 g
		Density(g/mL):	1.0285
		Balance ID:	

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

$(\text{Mass of parent(g)} * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)} * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/02/2009	12/02/2010
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter

Date: 12/10/09

	Serial #	Value	Uncertainty	
	1283-H N1	2.020	pCi/L 0.238	pCi/L
	1283-H N2	2.000	pCi/L 0.234	pCi/L
	1283-H N3	2.060	pCi/L 0.242	pCi/L
Mean Value (Counting) =	2.027	pCi/L	99.66904	Pass
Stdev =	0.030550505	pCi/L	Rule 3 (Pass/Fail)	
Target =	2.033	pCi/L		
Lower Limit =	1.965565657	pCi/L		
Upper Limit =	2.087767676	pCi/L		
Rule 1 Pass/Fail	Pass			
Two sigma =	0.061101009			
10 % of Mean =	0.202666667			
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 10% of the certificate value.

The analyst prepared three standard verification sources for standard 1283-H using 0.1 mL for each source. Each standard was combined with 0.1 mL of U-238 standard 1163-G and was diluted to 10 mL with DI water. 50 micrograms of neodymium carrier and 1ml of Titanium Chloride were added. The solution was allowed to sit for 30 seconds. One mL of 49% HF was then added to precipitate neodymium (and uranium) 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. DPM values for U-238 were calculated by comparison to U-232 certified values.

A. Drochter
12/14/09

1375



National Institute of Standards & Technology Certificate

Standard Reference Material 4334H Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 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 plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 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 10 keV to 160 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 3 moles 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 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. 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, M.P. Unterweger, Acting 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.

RECEIVED
JAN 17 2005

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

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 4334H

Certified values

Radionuclide	Plutonium-242
Reference time	1200 EST, 07 June 1994 [b]*
Massic activity of the solution [c]	26.31 Bq·g ⁻¹
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·mL ⁻¹ at 20 °C [f]

Uncertified values

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 mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O	50	0.81
	HNO ₃	3.2	0.19
	²⁴² Pu ⁺⁶	8 × 10 ⁻⁷	2 × 10 ⁻⁷
Radiological Properties:			
Alpha-particle-emitting impurities	None detected [g] [h]. See table on page 5.		
Beta-particle-emitting impurities	Plutonium-241: (0.092 ± 0.018) Bq·g ⁻¹ [f] [h]		
Photon-emitting impurities	None detected [i]		
Half lives used	Plutonium-242: (373 500 ± 1100) a [j] [5] Plutonium-241: (14.35 ± 0.10) a [j] [5] Americium-241: (432.2 ± 0.7) a [j] [5]		
Calibration method and measuring instrument(s)	Three 4π α liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i , the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i , (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $ \partial y/\partial x_i \cdot$ (x_i/y) [m]	Relative Uncertainty Of Output Quantity, $u_c(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid- scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha- particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha- particle-count-rate- versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				<u>x 2</u>
Relative Expanded Uncertainty of the Output Quantity, U/y , (%)				0.72

RELATIVE ACTIVITIES OF RADIONUCLIDIC IMPURITIES AT THE REFERENCE TIME [b]

Radionuclide	Half Life (years) [j] [5]	Relative Activity As Determined By	
		LLNL	NIST
Plutonium-242	373 500 ± 1100	1.000 000	1.000 000
Plutonium-241	14.35 ± 0.10	--	0.0035 ± 0.0004 [t]
Plutonium-240	6 564 ± 11	²³⁹ Pu + ²⁴⁰ Pu <0.000 001 [u]	²³⁹ Pu + ²⁴⁰ Pu 0.000 020 ± 0.000 021 [v]
Plutonium-239	24 110 ± 30		
Plutonium-238	87.7 ± 0.1	²³⁸ Pu + ²⁴¹ Am <0.000 016 [u]	0.000 009 ± 0.000 016 [v]
Americium-241	432.2 ± 0.7		0.000 000 assumed [t]

NOTES

- [a] The Sievert is the SI unit for dose equivalent. See reference [1]. One μSv is equal to 0.1 mrem.
Distance from Ampoule (cm): 1 30 100
Approximate Dose Rate ($\mu\text{Sv/h}$): <0.1 - -
- [b] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994.
- [c] **Massic activity** is the preferred name for the quantity activity divided by the total mass of the sample. See reference [1].
- [d] The reported value, y , of massic activity (activity per unit mass) at the reference time was not measured directly but was derived from measurements and calculations of other quantities. This can be expressed as $y = f(x_1, x_2, x_3, \dots, x_n)$, where f is a mathematical function derived from the assumed model of the measurement process. The value, x_i , used for each input quantity i has a **standard uncertainty**, $u(x_i)$, that generates a corresponding uncertainty in y , $u_i(y) = |\partial y / \partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y . The **combined standard uncertainty** of y , $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k=2$ to obtain U , the **expanded uncertainty** of y .

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

- [e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).
- [f] The stated uncertainty is two times the standard uncertainty.
- [g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies less than 3.1 MeV,
 $0.03 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 3.1 and 4.4 MeV, and
 $0.003 \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies greater than 5.0 MeV.
- [h] The plutonium-242 master solution was chemically purified at 1200 EST, 07 June 1994. Americium-241, the daughter of plutonium-241, was removed but has been growing in since that time.
- [i] Estimated limits of detection for photon-emitting impurities, expressed as massic photon emission rates (numbers of photons per second per gram), are:
 $5 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 19 and 39 keV,
 $7 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 49 and 92 keV,
 $2 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 106 and 507 keV,
 $1 \times 10^{-5} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 515 and 1456 keV, and
 $5 \times 10^{-6} \text{ s}^{-1}\cdot\text{g}^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity x_i .
- [m] 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 .
- [n] 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 $u_c(y)/y \equiv |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u_c(y)/y$, 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.

- [p] 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.
- [q] $|\partial y / \partial x_i| \cdot (x_i / y) = |\lambda \cdot t|$
- [r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.
- [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. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot \{(\text{Bq of impurity}) / (\text{Bq of Pu-242})\}$. Thus $u(y) / y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.
- [t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.
- [u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.
- [v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

REFERENCES

- [1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [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), January 2005.



Standard Traceability Log Rad

Source Material Info	
Parent Code:	1375
Prepared By:	Mary Aders
Carrier Conc:	0.5M HNO3
Reference Date:	06/07/1994
Ampoule Mass (g):	5.5 g
Uncertainty:	+/- .72 %
LogBook No:	RC-S-051-094

A Solution Material Info	
Isotope:	Plutonium-242
Prepared By:	Ashley Drochter
Prep Date:	01/08/2010
Verification Date:	01/08/2010
Expiration Date:	01/08/2011
Primary Code:	1375-A
Dilution(mL):	250 mL
Mass of Parent(g):	5.3542 g
Density(g/mL):	1.0148
Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3542 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8086 \text{ dpm/mL}$
$(5.3542 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0148 \text{ g/mL}) / (250 \text{ mL}) = 33.3155 \text{ dpm/g}$

Secondary Standards

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

Verification for Pu-242 Standard 1375-A

A.Drochter	Isotope	Value	Uncertainty
1/9/2010	1375-A	1.530	0.2410
	1375-A	1.630	0.2630
	1375-A	1.580	0.2480
Mean Value (Counting) =	1.580	103.75	Pass
Stdev =	0.05		Rule 3 (Pass/Fail)
Target =	1.52		
Lower Limit =	1.48		
Upper Limit =	1.68		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.1		
10 % of Mean =	0.158		
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 1375-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium (and plutonium) 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. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

dal 1/12/10
for 1/12/10

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 948721

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245978001	SAMPLE	MXR1	GAM10	14-FEB-10 11:17	DONE	CAN	16-MAR-09 00:00
245978002	SAMPLE	MXR1	GAM16	14-FEB-10 11:17	DONE	CAN	16-NOV-09 00:00
245978003	SAMPLE	MXR1	GAM17	14-FEB-10 11:18	DONE	CAN	06-JAN-10 00:00
245978004	SAMPLE	MXR1	GAM19	14-FEB-10 11:18	DONE	CAN	12-MAR-09 00:00
245978005	SAMPLE	MXR1	GAM20	14-FEB-10 11:19	DONE	CAN	26-AUG-09 00:00
245978006	SAMPLE	MXR1	GAM04	14-FEB-10 11:56	DONE	CAN	05-MAY-09 00:00
245978007	SAMPLE	MXR1	GAM07	14-FEB-10 11:56	DONE	CAN	20-JUL-09 00:00
245978008	SAMPLE	MXR1	GAM15	14-FEB-10 12:01	DONE	CAN	03-FEB-10 00:00
245978009	SAMPLE	MXR1	GAM22	14-FEB-10 12:01	DONE	CAN	02-DEC-09 00:00
245978010	SAMPLE	MXR1	GAM18	14-FEB-10 12:17	DONE	CAN	23-APR-09 00:00
245978011	SAMPLE	MXR1	GAM23	14-FEB-10 12:18	DONE	CAN	02-JUN-09 00:00
245978012	SAMPLE	MXR1	GAM01	14-FEB-10 13:11	DONE	CAN	12-JAN-10 00:00
245978013	SAMPLE	MXR1	GAM06	14-FEB-10 13:11	DONE	CAN	04-FEB-09 00:00
245978014	SAMPLE	MXR1	GAM11	14-FEB-10 13:12	DONE	CAN	18-NOV-09 00:00
245978015	SAMPLE	MXR1	GAM12	14-FEB-10 13:12	DONE	CAN	10-FEB-09 00:00
1202032521	MB	MXR1	GAM14	14-FEB-10 13:13	DONE	CAN	06-MAR-09 00:00
1202032522	DUP	MXR1	GAM10	14-FEB-10 13:18	DONE	CAN	16-MAR-09 00:00
1202032523	LCS	MXR1	GAM04	14-FEB-10 14:00	DONE	CAN	05-MAY-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 949823

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245955001	SAMPLE	HAKB	1246	15-FEB-10 07:39	DONE		
245955002	SAMPLE	HAKB	1248	15-FEB-10 07:39	DONE		
245960001	SAMPLE	HAKB	1250	15-FEB-10 07:39	DONE		
245960002	SAMPLE	HAKB	1252	15-FEB-10 07:39	DONE		
245960003	SAMPLE	HAKB	1254	15-FEB-10 07:39	DONE		
245960004	SAMPLE	HAKB	1256	15-FEB-10 07:39	DONE		
245960005	SAMPLE	HAKB	1213	15-FEB-10 07:41	DONE		
245960006	SAMPLE	HAKB	1214	15-FEB-10 07:41	DUSE		
245960007	SAMPLE	HAKB	1215	15-FEB-10 07:41	DONE		
245960008	SAMPLE	HAKB	1216	15-FEB-10 07:41	DUSE		
245960009	SAMPLE	HAKB	1217	15-FEB-10 07:41	DONE		
1202034998	MB	HAKB	1218	15-FEB-10 07:41	DONE		
1202034999	DUP	HAKB	1219	15-FEB-10 07:41	DONE		
245960010	SAMPLE	HAKB	1224	15-FEB-10 07:41	DONE		
245960011	SAMPLE	HAKB	1225	15-FEB-10 07:41	DONE		
245978001	SAMPLE	HAKB	1226	15-FEB-10 07:41	DONE		
245978002	SAMPLE	HAKB	1227	15-FEB-10 07:41	DONE		
245978003	SAMPLE	HAKB	1228	15-FEB-10 07:41	DONE		
245978004	SAMPLE	HAKB	1229	15-FEB-10 07:41	DUSE		
245978005	SAMPLE	HAKB	1230	15-FEB-10 07:41	DONE		
245978006	SAMPLE	HAKB	1231	15-FEB-10 07:42	DONE		
245978007	SAMPLE	HAKB	1232	15-FEB-10 07:42	DUSE		
245960006	SAMPLE	HAKB	1233	18-FEB-10 18:42	DUSE		
245960008	SAMPLE	HAKB	1234	18-FEB-10 18:42	DUSE		
245978004	SAMPLE	HAKB	1235	18-FEB-10 18:42	DONE		
1202035000	LCS	HAKB	1236	18-FEB-10 18:42	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 949824

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245955001	SAMPLE	HAKB	1247	13-FEB-10 21:34	DONE		
245955002	SAMPLE	HAKB	1248	13-FEB-10 21:34	DONE		
245960001	SAMPLE	HAKB	1249	13-FEB-10 21:34	DONE		
245960002	SAMPLE	HAKB	1250	13-FEB-10 21:35	DONE		
245960003	SAMPLE	HAKB	1251	13-FEB-10 21:35	DONE		
245960004	SAMPLE	HAKB	1252	13-FEB-10 21:35	DUSE		
245960005	SAMPLE	HAKB	1253	13-FEB-10 21:35	DONE		
245960006	SAMPLE	HAKB	1254	13-FEB-10 21:35	DONE		
245960007	SAMPLE	HAKB	1255	13-FEB-10 21:35	DONE		
245960008	SAMPLE	HAKB	1256	13-FEB-10 21:35	DONE		
245960009	SAMPLE	HAKB	1025	13-FEB-10 21:40	DONE		
245960010	SAMPLE	HAKB	1026	13-FEB-10 21:40	DONE		
245960011	SAMPLE	HAKB	1027	13-FEB-10 21:40	DONE		
245978001	SAMPLE	HAKB	1028	13-FEB-10 21:40	DONE		
245978002	SAMPLE	HAKB	1029	13-FEB-10 21:40	DUSE		
245978003	SAMPLE	HAKB	1030	13-FEB-10 21:40	DONE		
245978004	SAMPLE	HAKB	1077	13-FEB-10 21:40	DUSE		
245978005	SAMPLE	HAKB	1079	13-FEB-10 21:40	DONE		
245978006	SAMPLE	HAKB	1080	13-FEB-10 21:40	DONE		
245978007	SAMPLE	HAKB	1081	13-FEB-10 21:40	DONE		
1202035001	MB	HAKB	1082	13-FEB-10 21:40	DONE		
245960004	SAMPLE	HAKB	1223	18-FEB-10 18:42	DONE		
245978002	SAMPLE	HAKB	1213	18-FEB-10 18:42	DONE		
245978004	SAMPLE	HAKB	1214	18-FEB-10 18:43	DONE		
1202035002	DUP	HAKB	1221	18-FEB-10 18:43	DONE		
1202035003	LCS	HAKB	1222	18-FEB-10 18:43	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 949825

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245955001	SAMPLE	HAKB	1119	13-FEB-10 21:24	DONE		
245955002	SAMPLE	HAKB	1120	13-FEB-10 21:24	DONE		
245960001	SAMPLE	HAKB	1121	13-FEB-10 21:24	DONE		
245960002	SAMPLE	HAKB	1122	13-FEB-10 21:24	DONE		
245960003	SAMPLE	HAKB	1123	13-FEB-10 21:24	DONE		
245960004	SAMPLE	HAKB	1124	13-FEB-10 21:24	DONE		
245960005	SAMPLE	HAKB	1125	13-FEB-10 21:24	DONE		
245960006	SAMPLE	HAKB	1126	13-FEB-10 21:24	DONE		
245960007	SAMPLE	HAKB	1127	13-FEB-10 21:24	DONE		
245960008	SAMPLE	HAKB	1128	13-FEB-10 21:24	DUSE		
245960009	SAMPLE	HAKB	1129	13-FEB-10 21:24	DONE		
245960010	SAMPLE	HAKB	1130	13-FEB-10 21:24	DONE		
245960011	SAMPLE	HAKB	1131	13-FEB-10 21:24	DONE		
245978001	SAMPLE	HAKB	1132	13-FEB-10 21:24	DONE		
245978002	SAMPLE	HAKB	1133	13-FEB-10 21:24	DUSE		
245978003	SAMPLE	HAKB	1138	13-FEB-10 21:25	DONE		
245978004	SAMPLE	HAKB	1139	13-FEB-10 21:25	DUSE		
245978005	SAMPLE	HAKB	1140	13-FEB-10 21:25	DONE		
245978006	SAMPLE	HAKB	1141	13-FEB-10 21:25	DONE		
245978007	SAMPLE	HAKB	1142	13-FEB-10 21:25	DONE		
1202035005	MB	HAKB	1143	13-FEB-10 21:25	DUSE		
1202035006	DUP	HAKB	1144	13-FEB-10 21:25	DONE		
1202035007	LCS	HAKB	1145	13-FEB-10 21:25	DONE		
245960008	SAMPLE	HAKB	1003	15-FEB-10 21:17	DUSE		
1202035005	MB	HAKB	1004	15-FEB-10 21:17	DONE		

Instrument Run Log

Instrument Type: LSC

Batch ID: 950495

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245978001	SAMPLE	KXK2	LSCSILVER	13-FEB-10 07:13	DONE		
245978002	SAMPLE	KXK2	LSCSILVER	13-FEB-10 08:51	DONE		
245978003	SAMPLE	KXK2	LSCSILVER	13-FEB-10 11:55	DONE		
245978004	SAMPLE	KXK2	LSCSILVER	13-FEB-10 13:33	DONE		
245978005	SAMPLE	KXK2	LSCSILVER	13-FEB-10 15:12	DONE		
245978006	SAMPLE	KXK2	LSCSILVER	13-FEB-10 16:50	DONE		
245978007	SAMPLE	KXK2	LSCSILVER	13-FEB-10 18:29	DONE		
245978008	SAMPLE	KXK2	LSCSILVER	13-FEB-10 20:07	DONE		
245978009	SAMPLE	KXK2	LSCSILVER	13-FEB-10 21:45	DONE		
245978010	SAMPLE	KXK2	LSCSILVER	13-FEB-10 23:24	DONE		
245978011	SAMPLE	KXK2	LSCSILVER	14-FEB-10 01:02	DONE		
245978012	SAMPLE	KXK2	LSCSILVER	14-FEB-10 02:40	DONE		
245978013	SAMPLE	KXK2	LSCSILVER	14-FEB-10 04:19	DONE		
245978014	SAMPLE	KXK2	LSCSILVER	14-FEB-10 05:57	DONE		
245978015	SAMPLE	KXK2	LSCSILVER	14-FEB-10 07:35	DONE		
245979015	SAMPLE	KXK2	LSCSILVER	14-FEB-10 09:13	DONE		
1202036900	MB	KXK2	LSCSILVER	14-FEB-10 10:51	DONE		
1202036901	DUP	KXK2	LSCSILVER	14-FEB-10 12:30	DONE		
1202036902	LCS	KXK2	LSCSILVER	14-FEB-10 14:07	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 951665

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
246020012	SAMPLE	CXM2	1217	23-FEB-10 13:25	DONE		
1202039541	MB	CXM2	1218	23-FEB-10 13:26	DONE		
1202039542	DUP	CXM2	1233	23-FEB-10 13:26	DONE		
1202039543	LCS	CXM2	1234	23-FEB-10 13:26	DONE		
245978008	SAMPLE	CXM2	1013	23-FEB-10 21:21	DONE		
245978009	SAMPLE	CXM2	1014	23-FEB-10 21:21	DUSE		
245978010	SAMPLE	CXM2	1016	23-FEB-10 21:21	DONE		
245978011	SAMPLE	CXM2	1017	23-FEB-10 21:21	DUSE		
245978012	SAMPLE	CXM2	1018	23-FEB-10 21:21	DONE		
245978013	SAMPLE	CXM2	1025	23-FEB-10 21:21	DONE		
245978014	SAMPLE	CXM2	1026	23-FEB-10 21:21	DONE		
245978015	SAMPLE	CXM2	1027	23-FEB-10 21:21	DONE		
246020001	SAMPLE	CXM2	1028	23-FEB-10 21:21	DONE		
246020002	SAMPLE	CXM2	1029	23-FEB-10 21:21	DONE		
246020003	SAMPLE	CXM2	1030	23-FEB-10 21:21	DUSE		
246020004	SAMPLE	CXM2	1031	23-FEB-10 21:21	DONE		
246020005	SAMPLE	CXM2	1033	23-FEB-10 21:21	DONE		
246020006	SAMPLE	CXM2	1035	23-FEB-10 21:21	DUSE		
246020007	SAMPLE	CXM2	1036	23-FEB-10 21:21	DONE		
246020008	SAMPLE	CXM2	1095	23-FEB-10 21:21	DONE		
246020009	SAMPLE	CXM2	1097	23-FEB-10 21:21	DONE		
246020010	SAMPLE	CXM2	1099	23-FEB-10 21:21	DONE		
246020011	SAMPLE	CXM2	1100	23-FEB-10 21:21	DONE		
246020003	SAMPLE	CXM2	1209	24-FEB-10 20:00	DONE		
246020006	SAMPLE	CXM2	1210	24-FEB-10 20:00	DONE		
245978009	SAMPLE	CXM2	1229	25-FEB-10 17:00	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 951669

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245978008	SAMPLE	CXM2	1065	23-FEB-10 13:08	DONE		
245978009	SAMPLE	CXM2	1066	23-FEB-10 13:08	DONE		
245978010	SAMPLE	CXM2	1067	23-FEB-10 13:08	DONE		
245978011	SAMPLE	CXM2	1068	23-FEB-10 13:08	DUSE		
245978012	SAMPLE	CXM2	1069	23-FEB-10 13:08	DUSE		
245978013	SAMPLE	CXM2	1070	23-FEB-10 13:08	DUSE		
245978014	SAMPLE	CXM2	1071	23-FEB-10 13:08	DONE		
245978015	SAMPLE	CXM2	1072	23-FEB-10 13:08	DONE		
246020001	SAMPLE	CXM2	1073	23-FEB-10 13:08	DONE		
246020002	SAMPLE	CXM2	1074	23-FEB-10 13:08	DONE		
246020003	SAMPLE	CXM2	1075	23-FEB-10 13:08	DONE		
246020004	SAMPLE	CXM2	1076	23-FEB-10 13:08	DONE		
246020005	SAMPLE	CXM2	1077	23-FEB-10 13:08	DONE		
246020006	SAMPLE	CXM2	1079	23-FEB-10 13:08	DONE		
246020007	SAMPLE	CXM2	1080	23-FEB-10 13:08	DUSE		
246020008	SAMPLE	CXM2	1081	23-FEB-10 13:08	DONE		
246020009	SAMPLE	CXM2	1082	23-FEB-10 13:08	DONE		
246020010	SAMPLE	CXM2	1083	23-FEB-10 13:08	DONE		
246020011	SAMPLE	CXM2	1084	23-FEB-10 13:08	DONE		
246020012	SAMPLE	CXM2	1085	23-FEB-10 13:08	DONE		
1202039555	MB	CXM2	1086	23-FEB-10 13:08	DONE		
1202039557	LCS	CXM2	1088	23-FEB-10 13:08	DONE		
245978011	SAMPLE	CXM2	1043	24-FEB-10 20:01	DONE		
245978012	SAMPLE	CXM2	1044	24-FEB-10 20:01	DONE		
245978013	SAMPLE	CXM2	1045	24-FEB-10 20:01	DONE		
246020007	SAMPLE	CXM2	1046	24-FEB-10 20:01	DONE		
1202039556	DUP	CXM2	1043	25-FEB-10 22:19	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 951672

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202039558	MB	CXM2	1166	24-FEB-10 09:54	DONE		
246020008	SAMPLE	CXM2	1003	24-FEB-10 13:02	DONE		
246020009	SAMPLE	CXM2	1004	24-FEB-10 13:02	DONE		
246020010	SAMPLE	CXM2	1005	24-FEB-10 13:02	DONE		
246020011	SAMPLE	CXM2	1008	24-FEB-10 13:02	DUSE		
246020012	SAMPLE	CXM2	1009	24-FEB-10 13:02	DONE		
1202039559	DUP	CXM2	1010	24-FEB-10 13:02	DONE		
1202039560	LCS	CXM2	1011	24-FEB-10 13:02	DONE		
245978008	SAMPLE	CXM2	1113	24-FEB-10 13:20	DONE		
245978009	SAMPLE	CXM2	1114	24-FEB-10 13:20	DONE		
245978010	SAMPLE	CXM2	1115	24-FEB-10 13:20	DONE		
245978011	SAMPLE	CXM2	1119	24-FEB-10 13:20	DONE		
245978012	SAMPLE	CXM2	1120	24-FEB-10 13:21	DONE		
245978013	SAMPLE	CXM2	1121	24-FEB-10 13:21	DONE		
245978014	SAMPLE	CXM2	1122	24-FEB-10 13:21	DONE		
245978015	SAMPLE	CXM2	1123	24-FEB-10 13:21	DONE		
246020001	SAMPLE	CXM2	1124	24-FEB-10 13:21	DONE		
246020002	SAMPLE	CXM2	1125	24-FEB-10 13:21	DONE		
246020003	SAMPLE	CXM2	1126	24-FEB-10 13:21	DUSE		
246020004	SAMPLE	CXM2	1127	24-FEB-10 13:21	DONE		
246020005	SAMPLE	CXM2	1128	24-FEB-10 13:21	DONE		
246020006	SAMPLE	CXM2	1129	24-FEB-10 13:21	DUSE		
246020007	SAMPLE	CXM2	1130	24-FEB-10 13:21	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 953488

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202044051	MB	HAKB	1167	23-FEB-10 10:41	DONE		
245978002	SAMPLE	HAKB	1125	23-FEB-10 10:43	DONE		
245978004	SAMPLE	HAKB	1126	23-FEB-10 10:43	DONE		
1202044052	DUP	HAKB	1127	23-FEB-10 10:43	DONE		
1202044053	LCS	HAKB	1128	23-FEB-10 10:43	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 954009

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245978007	SAMPLE	HAKB	1107	19-FEB-10 15:53	DONE		
1202045187	MB	HAKB	1108	19-FEB-10 15:53	DONE		
1202045188	DUP	HAKB	1109	19-FEB-10 15:53	DONE		
1202045189	LCS	HAKB	1111	19-FEB-10 15:53	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 957873

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202054058	MB	CXM2	1072	26-FEB-10 23:40	DONE		
1202054059	DUP	CXM2	1073	26-FEB-10 23:40	DONE		
1202054060	LCS	CXM2	1074	26-FEB-10 23:40	DONE		
245978011	SAMPLE	CXM2	1233	27-FEB-10 20:08	DONE		