

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7223	R	1/12/2010	
	EPA:906.0	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
	HASL-300:AM-241	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
	HASL-300:ISOPU	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
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		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
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		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
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		1	RE15-10-7218	R	1/12/2010	
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		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
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		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
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		1	RE15-10-7218	R	1/12/2010	
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		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174			

Friday, January 15, 2010

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REQUEST NUMBER: 10-1289

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:ISOU		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
		1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	

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Friday, January 15, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1289

LOS ALAMOS

REQUEST NUMBER: 10-1289

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/14/2010

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
RE15-10-7163	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7162	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7161	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7160	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7174	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7174	1	POLY	H3	Ice	R
RE15-10-7173	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7173	1	POLY	H3	Ice	R
RE15-10-7175	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7175	1	POLY	H3	Ice	R
RE15-10-7172	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7172	1	POLY	H3	Ice	R
RE15-10-7218	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7218	1	POLY	H3	Ice	R
RE15-10-7223	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7223	1	POLY	H3	Ice	R
RE15-10-7162	1	POLY	H3	Ice	R
RE15-10-7161	1	POLY	H3	Ice	R
RE15-10-7160	1	POLY	H3	Ice	R
RE15-10-7163	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL Rv:

Date

Time

Remarks:

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 13-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7160

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/12/2010	MEDIA:		OBT3
TIME COLLECTED (HH:MM)		1258	SUB-MEDIA:		TUFF 1
PRS ID: 15-014(h)		OK	SAMPLE TECH CODE:		HA
LOCATION ID: 15-610501		↓	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		SED	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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	
1		Met+U+CLO4+C N	1 GAL POLY Litter to 12/16/09	Ice	Yes	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Yes	
1	↓	H3	500 ML POLY	Ice	Yes	

SAMPLE DESC: moist dark brown silty sand, some clay, roots, and small rocks

FTB RE15-10-7235

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-2, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

HE neg

Alpha ≤ 49 dpm
Beta/Gamma ≤ 2150 dpmPID $\frac{\text{Ambient}}{\text{Reading}} \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/13/10 8:13	RECEIVED BY (Printed Name) Jay Wells (Signature) Jay Wells	Date/Time 1/13/10 8:13
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7161

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/12/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1308		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610501		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		R30110 0.5 1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		2.2		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		SED		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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	
1		Met+U+CLO4+C N	1 GAL POLY LITER RC 12/16/09	Ice	Yes	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Yes	
1		H3	500 ML POLY	Ice	Yes	

SAMPLE DESC: redish brown silty sand, some clay and white tuff fragments

FD: RE15-10-7223

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-2, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 38 dpm
Beta/Gamma ≤ 2340 dpm

PID Ambient Reading 0.0 ppm

COLLECTED BY (PRINT)

R. Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/13/10 813	RECEIVED BY (Printed Name) Jay Wells (Signature) Jay Wells	Date/Time 1/13/10 813
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7162

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/12/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1334		SUB-MEDIA:		TUFF 1	
PRS ID:	15-014(h)	OK		SAMPLE TECH CODE:		HA	
LOCATION ID:	15-610502	↓		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	SED		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NO	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	
1		Met+U+CLO4+CN	1 GAL POLY Liter 1/11/10	Ice	Yes	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Yes	
1	✓	H3	500 ML POLY	Ice	Yes	

SAMPLE DESC: Brown silty clay and white tuff fragments

SAMPLE COMMENTS: hit tuff at 0.5"

LOCATION DESC: 14h-3, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 44 dpm
Beta/Gamma \leq 2280 dpm

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

HE Neg

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R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) <i>Jon R. Marin</i>	Date/Time 1/13/10 8:14	RECEIVED BY (Printed Name) <i>Jeffrey</i> (Signature) <i>Jeffrey</i>	Date/Time 1/13/10 8:14
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7163

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/12/2010	MEDIA:		OBT3
TIME COLLECTED (HH:MM)		1345	SUB-MEDIA:		TUFF 1
PRS ID:	15-014(h)	OK	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610502	↓	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	↓	FIELD PREP:		NA
TOP DEPTH:	0	1.0	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	2.5	SCREEN/PORT DESC:		NA
FIELD MATRIX:	B	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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	
1		Met+U+CLO4+C N	1 GAL POLY Liter RC 12/16/09	Ice	Yes	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Yes	
1	↓	H3	500 ML POLY	Ice	Yes	

SAMPLE DESC: pinkish grey tuff, minor clay

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-3 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 11 dpm
Beta/Gamma ≤ 2730 dpmPID $\frac{\text{Ambient Reading}}{0.0}$ ppm

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R Saunders

REVIEWED BY (PRINT) TL McFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/13/10 8:13	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	Date/Time 1/13/10 8:13
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7172

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/12/2010		MEDIA: QBT3		ALLH	
TIME COLLECTED (HH:MM)		1424		SUB-MEDIA: TUFF 1		NA	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 15-610507		↓		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			
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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		H3	500 ML POLY	Ice	Yes	
1		Met+U+CLO4+C N	1 EA POLY Liter - RC 12/16/09	Ice	Yes	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: brown + black, silty clay, minor sand, Pine needles, roots

FR: RE15-10-7229

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-4 drainage
25 01.12.10

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 16 dpm
Beta/Gamma ≤ 2640 dpmHE neg
PID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{0.0} \text{ ppm}$

HE Neg.

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TH McFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/15/10 8:12	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	Date/Time 1/13/10 812
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7173

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/12/2010	MEDIA:		QBT3
TIME COLLECTED (HH:MM)		1430	SUB-MEDIA:		TUFF 1
PRS ID:	15-014(h)	OK	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610507	↓	FIELD QC TYPE:		NA
LOCATION TYPE:	GENERIC	↓	FIELD PREP:		NA
TOP DEPTH:	0	1.0	SAMPLE USAGE:		INV
BOTTOM DEPTH:	0	2.6	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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 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 Liter 12/16/09	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Light brown silty sand, numerous small tuff fragments

ED: RE15-10-7218

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-4

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 49 dpm
Beta/Gamma \leq 2240 dpm

PID Ambient Reading 0.0 ppm

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REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/13/10 8:10	RECEIVED BY (Printed Name) Jay Williams (Signature) Jay Williams	Date/Time 1/13/10 8:10
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7174

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/12/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1505		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 15-610508		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		1.0		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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		H3	500 ML POLY	Ice	Yes	
1		Met+U+CLO4+C N	1 GAL POLY Liter RC 12/16/09	Ice	Yes	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: Dark brown clayey silt and light brown silt, some rock + roots

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-5

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 27 dpm
Beta/Gamma \leq 2390 dpm

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

HE NEG

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R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/17/10 08:10	RECEIVED BY (Printed Name) Jay Wells (Signature) Jay Wells	Date/Time 1/13/16 8:10
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7175

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/12/2010	MEDIA:		OBT3
TIME COLLECTED (HH:MM)		1520	SUB-MEDIA:		TUFF 1
PRS ID:	15-014(h)	OK	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610508	↓	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	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	8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		H3	500 ML POLY	Ice	Yes	
1		Met+U+CLO4+C N	1 GAL POLY Liter RC 12/16/09	Ice	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: Weathered tuff pinkish grey

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h - 5

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 33 dpm
Beta/Gamma \leq 2460 dpm

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

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REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) JON MARIN	1/13/10	(Printed Name) Jay Williams	1/13/10
(Signature) Jon R. Marin	810	(Signature)	810
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7218

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/12/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1430		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: UNK		15-610507		FIELD QC TYPE:		ED	
LOCATION TYPE: GENERIC		OK		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		QC	
BOTTOM DEPTH: 0		2.6		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	RS 01-12-10 8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Yes	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		H3	500 ML POLY	Ice	Yes	
1		Met+U+CLO4+C N	1 GAL POLY Liter RC 12/17/09	Ice	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: QC Sample of RE 15-10-7173

Light brown silty sand, numerous small tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-4

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 49 dpm
Beta/Gamma \leq 2340 dpm

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

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REVIEWED BY (PRINT) T. L. McFarland

RELINQUISHED BY (Printed Name) JOW MARINX (Signature) J. R. Marin	Date/Time 1/13/10 812	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	Date/Time 1/13/10 812
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7223

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/12/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1308		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: UNK		15-610501		FIELD QC TYPE:		FD	
LOCATION TYPE: GENERIC		OK		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		QC	
BOTTOM DEPTH: 0		2.2		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		SED		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	8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Yes	
1		8260B	125 ML SEPTUM AMBER GLASS	Ice	Yes	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Yes	
1		H3	500 ML POLY	Ice	Yes	
1		Met+U+CLO4+C N	1 GAL POLY 6 liter 12/17/09	Ice	Yes	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: QC Sample of RE15-10-7161

redish brown silty sand, some clay and white tuff fragments

SAMPLE COMMENTS: NA

LOCATION DESC: 14h-2

FIELD SCREENING/MEASUREMENT RESULTS:

Alphas ≤ 38 dpm
Beta/Gamma ≤ 2340 dpm

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

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REVIEWED BY (PRINT) T. McFarland

RELINQUISHED BY (Printed Name) JON MARRIN (Signature) Jon R. Marlin	Date/Time 1/13/10 8:13	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) Sheri Sherwood	Date/Time 1/13/10 8:13
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7229

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/12/2010	MEDIA:	NA	ok
TIME COLLECTED (HH:MM)		1445	SUB-MEDIA:	OTHER	
PRS ID:	15-014(h)	ok	SAMPLE TECH CODE:	DC	
LOCATION ID:	UNK	15-1610507	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	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	Normal	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 RE15-10-7172

SAMPLE COMMENTS:

Rinsate

LOCATION DESC: 14h-4

FIELD SCREENING/MEASUREMENT RESULTS:

NA

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REVIEWED BY (PRINT)

TL McFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) JON MARIN	1/13/10	(Printed Name) Sherri Sherwood	1/13/10
(Signature) Jon R. Marin	8:12	(Signature) Sherri Sherwood	8:12
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

EVENT NAME: 4th Qtr. FY09 - AOC 15-014(h) - Threemile Canyon

SAMPLE ID: RE15-10-7235

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	01/12/2010	MEDIA:	NA
TIME COLLECTED (HH:MM)	1255	SUB-MEDIA:	OTHER
PRS ID: 15-014(h)	OK	SAMPLE TECH CODE:	DC
LOCATION ID: UNK	15-610501	FIELD QC TYPE:	FTB
LOCATION TYPE: GENERIC	OK	FIELD PREP:	NA
TOP DEPTH: 0		SAMPLE USAGE:	QC
BOTTOM DEPTH: 0		SCREEN/PORT DESC:	NA
FIELD MATRIX: 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	8260B Trip Blank	40 ML SEPTUM AMBER GLASS	Ice	Y	

SAMPLE DESC: QC Sample of RE15-10-8 7160

134
1/12/10

SAMPLE COMMENTS: FTB

LOCATION DESC: NA

FIELD SCREENING/MEASUREMENT RESULTS:

NA

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TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon A. Marin	Date/Time 1/13/10 8:13	RECEIVED BY (Printed Name) Jay W (Signature) Jay W	Date/Time 1/13/10 8:13
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Rad Screening Data Release Form

The Following samples were received at the Field Support Facility (FSF) without screening data (list sample number):

RE 12-10-7163

7218

7223

7172

7173

7160

7174

7175

RE 12-10-7161

"

7162

These samples will not be shipped until radiological screening data documentation arrives at the FSF. I understand that it is my responsibility to ensure this information arrives at the FSF in a timely manner. If holding times are missed because screening data does not arrive, I will pick up the samples.

.....

The following samples do not require rad screening data for the reasons stated (list sample numbers):

RE 12-10-7229 FR

7235 FTB

Reason:

.....

Print Last Name MARIN

Signature

John R. Marin

Date

1/13/10



2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

1 of 3

ARS Sample Delivery Group: ARS1-10-00060

Analysis Description: Gross Alpha/Beta In (Soil, Sludge, Waste, Sediment (SO))

Analysis Test Method: GPC-A-003

Request or PO Number: N/A

Date Received: 1/14/2010

Report Date: 01/15/10 10:01

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DIC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery	Sample Matrix	Collection Date
ARS1-10-00060-001	RE16-10-1374	GROSS ALPHA	7.558	4.686	13.085	3.783	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-001	RE16-10-1376	GROSS BETA	16.241	3.851	7.851	3.387		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-002	RE16-10-1376	GROSS ALPHA	23.939	7.972	13.415	3.921		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-002	RE16-10-1376	GROSS BETA	19.162	4.763	10.591	4.742		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-003	RE16-10-1378	GROSS ALPHA	9.494	5.272	14.237	4.512	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-003	RE16-10-1378	GROSS BETA	25.257	4.872	7.690	3.302		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-004	RE16-10-1380	GROSS ALPHA	16.399	6.502	13.362	4.038		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-004	RE16-10-1380	GROSS BETA	18.415	4.133	7.641	3.274		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-005	RE16-10-1382	GROSS ALPHA	8.992	6.107	19.348	6.986	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-005	RE16-10-1382	GROSS BETA	25.351	4.950	8.205	3.559		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-006	RE16-10-1396	GROSS ALPHA	1.535	3.471	15.114	4.887	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-006	RE16-10-1396	GROSS BETA	18.015	3.977	7.697	3.318		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-007	RE16-10-1502	GROSS ALPHA	9.248	5.126	14.139	4.521	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-007	RE16-10-1502	GROSS BETA	14.780	3.724	7.922	3.420		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-008	RE16-10-1504	GROSS ALPHA	-0.002	2.754	14.066	4.457	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-008	RE16-10-1504	GROSS BETA	26.457	4.994	8.076	3.502		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-009	RE16-10-1506	GROSS ALPHA	17.355	6.792	14.064	4.414		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-009	RE16-10-1506	GROSS BETA	23.293	4.622	7.420	3.180		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-010	RE16-10-1510	GROSS ALPHA	2.063	3.696	15.319	4.839	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-010	RE16-10-1510	GROSS BETA	18.484	4.131	8.190	3.549		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-011	RE16-10-1529	GROSS ALPHA	12.644	6.281	16.290	5.421	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-011	RE16-10-1529	GROSS BETA	21.960	4.489	7.679	3.306		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-012	RE16-10-1531	GROSS ALPHA	7.586	4.889	14.201	4.486	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-012	RE16-10-1531	GROSS BETA	26.910	5.024	7.615	3.273		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-013	RE16-10-1533	GROSS ALPHA	4.463	4.762	16.523	5.487	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-013	RE16-10-1533	GROSS BETA	34.905	5.990	7.905	3.407		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-014	RE16-10-1535	GROSS ALPHA	6.098	5.030	16.514	5.761	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-014	RE16-10-1535	GROSS BETA	31.741	5.644	8.076	3.497		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-015	RE16-10-1537	GROSS ALPHA	5.322	4.676	15.748	5.119	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-015	RE16-10-1537	GROSS BETA	33.705	5.857	7.812	3.354		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-016	RE16-10-1539	GROSS ALPHA	8.641	5.333	15.349	5.039	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-016	RE16-10-1539	GROSS BETA	29.563	5.381	7.824	3.367		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-017	RE16-10-1541	GROSS ALPHA	8.121	4.752	12.481	3.447	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-017	RE16-10-1541	GROSS BETA	25.234	4.819	7.528	3.232		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-018	RE16-10-1549	GROSS ALPHA	12.026	5.396	11.009	2.859		pCi/g	1/14/2010	CR	N/A	SO	

Request or PO Number:	N/A
Date Received:	1/14/
Report Date:	01/1

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery	Sample Matrix	Collection Date
ARS1-10-00060-018	RE16-10-1549	GROSS BETA	30.498	5.449	7.667	3.309		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-019	RE16-10-943	GROSS ALPHA	2.952	3.511	13.421	4.021	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-019	RE16-10-943	GROSS BETA	32.665	5.687	7.716	3.321		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-020	RE16-10-941	GROSS ALPHA	9.648	5.124	13.578	4.247	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-020	RE16-10-941	GROSS BETA	14.991	3.651	7.549	3.257		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-021	RE16-10-945	GROSS ALPHA	14.025	5.856	11.236	2.948		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-021	RE16-10-945	GROSS BETA	33.627	5.899	8.051	3.482		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-022	RE16-10-2798	GROSS ALPHA	1.842	3.154	13.530	3.816	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-022	RE16-10-2798	GROSS BETA	29.426	5.401	8.318	3.609		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-023	RE16-10-2797	GROSS ALPHA	5.495	4.127	12.955	3.745	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-023	RE16-10-2797	GROSS BETA	31.476	5.566	7.982	3.467		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-024	RE15-10-7163	GROSS ALPHA	-0.281	2.151	12.918	3.644	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-024	RE15-10-7163	GROSS BETA	32.626	5.724	8.211	3.567		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-025	RE15-10-7218	GROSS ALPHA	17.429	6.528	11.797	3.258		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-025	RE15-10-7218	GROSS BETA	18.644	4.281	8.556	3.746		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-026	RE15-10-7223	GROSS ALPHA	1.730	3.186	13.915	3.975	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-026	RE15-10-7223	GROSS BETA	24.675	4.858	8.389	3.649		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-027	RE15-10-7172	GROSS ALPHA	16.315	6.701	13.883	4.058		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-027	RE15-10-7172	GROSS BETA	33.494	5.865	7.838	3.377		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-028	RE15-10-7173	GROSS ALPHA	5.674	4.062	12.334	3.479	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-028	RE15-10-7173	GROSS BETA	22.517	4.732	9.115	4.022		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-029	RE15-10-7160	GROSS ALPHA	15.795	6.594	13.729	4.034		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-029	RE15-10-7160	GROSS BETA	25.552	4.957	7.960	3.443		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-030	RE15-10-7174	GROSS ALPHA	11.637	5.541	12.609	3.580	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-030	RE15-10-7174	GROSS BETA	28.941	5.280	7.675	3.306		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-031	RE15-10-7175	GROSS ALPHA	4.091	3.555	11.788	3.179	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-031	RE15-10-7175	GROSS BETA	29.055	5.248	7.574	3.254		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-032	RE15-10-7161	GROSS ALPHA	10.290	5.551	14.873	4.683	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-032	RE15-10-7161	GROSS BETA	22.332	4.583	8.164	3.551		pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-033	RE15-10-7162	GROSS ALPHA	2.165	2.686	10.612	2.784	U	pCi/g	1/14/2010	CR	N/A	SO	
ARS1-10-00060-033	RE15-10-7162	GROSS BETA	30.579	5.361	7.386	3.179		pCi/g	1/14/2010	CR	N/A	SO	
NOTES:													

NOTES:



2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

3 of 3

ARS Sample Delivery Group: ARS1-10-00060

Analysis Description: Gross Alpha/Beta in (Soil, Sludge, Waste, Sediment (SO))

Analysis Test Method: GPC-A-003

Request or PO Number: N/A

Date Received: 1/14/2010

Report Date: 01/15/10 10:01

ARS Sample ID	Client Sample ID	Isotope	Analysis Results	Analysis Error +/- 2 s	MDC	DLC	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Trace/Chem Recovery	Sample Matrix	Collection Date
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 Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

LELAP Certificate# 01949

LELAP Certificate # E87558

DATA VALIDATION COVER SHEET

5119-1

Data Validation Cover Sheet

Records Use only



Section I.

REQUEST NUMBER: 10-1289 VALIDATION DATE: 2/25/10 LAB CODE: GELCONTRACT LABORATORY NAME: GEL Laboratories, LLCVALIDATOR: Charissa Lewis 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 sample results that were rejected by the laboratory due to high counting uncertainty, interference or low abundance were qualified R,R5a. QC sample results were also rejected by the laboratory. Since these were QC samples, no sample data were qualified as a result.
- An MS was not analyzed for tritium. However, an LCS was analyzed and met acceptance criteria. Thus, no sample data were qualified as a result.


Reviewed by: Monica Dymerski Level I Date: 02/25/10

VALIDATOR'S SIGNATURE: _____


*Charissa Lewis*DATE: 2/25/10

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 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 type="checkbox"/>	<input checked="" 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 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 checked="" 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 type="checkbox"/>	<input checked="" 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

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: February 2, 2010

Client Sample ID: RE15-10-7163
Sample ID: 244924001
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 6.57%

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	0.00256	0.0186	+/-0.00168	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00483	0.0159	+/-0.00236	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	-0.00868	0.0182	+/-0.00348	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.477	0.092	+/-0.0506	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0477	0.0571	+/-0.0146	0.100	pCi/g						
Uranium-238		0.573	0.0533	+/-0.0572	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0636	0.374	+/-0.111	0.200	pCi/g		MXR1	01/27/10	1834	942723	4
Bismuth-211	UI	3.15	R,R5a	0.303	+/-0.255	pCi/g						
Bismuth-214		0.934		0.107	+/-0.0853	pCi/g						
Cadmium-109	UI	1.42	R,R5a	1.35	+/-0.506	pCi/g						
Cerium-139	U	-0.00228	0.0471	+/-0.0145	0.050	pCi/g						
Cesium-134	U	0.018	0.0849	+/-0.0249	0.100	pCi/g						
Cesium-137	U	0.0493	0.0736	+/-0.0202	0.100	pCi/g						
Cobalt-60	U	0.0096	0.0734	+/-0.0216	0.100	pCi/g						
Europium-152	U	-0.0618	0.155	+/-0.0502	0.200	pCi/g						
Lanthanum-140	U	0.0262	0.129	+/-0.0426	pCi/g							
Lead-212		1.28	0.126	+/-0.0805	0.100	pCi/g						
Lead-214		1.10	0.106	+/-0.0933	0.100	pCi/g						
Mercury-203	U	0.051	0.0634	+/-0.0266	0.100	pCi/g						
Potassium-40		33.9	0.534	+/-1.77	1.00	pCi/g						
Radium-223	U	0.0464	1.09	+/-0.324	pCi/g							
Radium-224	UI	2.89	R,R5a	1.14	+/-0.433	pCi/g						
Radium-226		0.934	0.107	+/-0.0853	pCi/g							
Radium-228		1.37	0.203	+/-0.176	0.500	pCi/g						
Ruthenium-106	U	0.341	0.566	+/-0.155	0.800	pCi/g						
Sodium-22	U	0.0316	0.084	+/-0.0237	0.080	pCi/g						
Strontium-85	U	0.0703	0.0746	+/-0.0233	pCi/g							

CLL
2/25/10

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: February 2, 2010

Client Sample ID: RE15-10-7163
Sample ID: 244924001

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		0.352	0.0578	+/-0.044	0.080	pCi/g						
Thorium-227	U	-0.0199	0.624	+/-0.184		pCi/g						
Thorium-231	U	0.0464	1.09	+/-0.324		pCi/g						
Thorium-234	U	0.495	2.98	+/-0.876	2.00	pCi/g						
Tin-113	U	0.0255	0.074	+/-0.0215	0.100	pCi/g						
Uranium-235	U	0.0841	0.333	+/-0.102	0.500	pCi/g						
Yttrium-88	U	-0.00153	0.0524	+/-0.0165	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		297	155	+/-55.1	250	pCi/L		KXK2	01/23/10	0205	943520	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"	90.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	102	(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: February 2, 2010

Client Sample ID: RE15-10-7162
Sample ID: 244924002
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.75%

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	0.000539	0.0201	+/-0.00185	0.050	pCi/g		KXM4	02/01/10	1937 942861	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00	0.0206	+/-0.00176	0.050	pCi/g		KXM4	02/01/10	1939 942862	2
Plutonium-239/240	U	0.0162	0.0235	+/-0.00577	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.52	0.0882	+/-0.124	0.100	pCi/g		KXM4	01/29/10	1657 942863	4
Uranium-235/236		0.0914	0.0547	+/-0.0196	0.100	pCi/g					
Uranium-238		2.69	0.0511	+/-0.205	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	-0.0718	0.469	+/-0.152	0.200	pCi/g		MXR1	01/27/10	1835 942723	5
Bismuth-211	UI	3.85	R,R5a	0.363	+/-0.285	pCi/g					
Bismuth-214		1.20		0.121	+/-0.0946	0.200	pCi/g				
Cadmium-109	UI	2.41	R,R5a	1.58	+/-0.560	pCi/g					
Cerium-139	U	0.00723		0.0597	+/-0.0175	0.050	pCi/g				
Cesium-134	UI	0.119	R,R5a	0.093	+/-0.0325	0.100	pCi/g				
Cesium-137		0.426		0.0617	+/-0.0438	0.100	pCi/g				
Cobalt-60	U	-0.000672		0.0652	+/-0.0201	0.100	pCi/g				
Europium-152	U	0.081		0.187	+/-0.0746	0.200	pCi/g				
Lanthanum-140	U	-0.00065		0.148	+/-0.0446	pCi/g					
Lead-212		1.36		0.108	+/-0.0823	0.100	pCi/g				
Lead-214		1.34		0.126	+/-0.105	0.100	pCi/g				
Mercury-203	U	0.0257		0.0806	+/-0.0226	0.100	pCi/g				
Potassium-40		21.5		0.583	+/-1.18	1.00	pCi/g				
Radium-223	U	-0.855		1.35	+/-0.418	pCi/g					
Radium-224	UI	3.80	R,R5a	1.23	+/-0.697	pCi/g					
Radium-226		1.20		0.121	+/-0.0946	pCi/g					
Radium-228		1.29		0.235	+/-0.166	0.500	pCi/g				
Ruthenium-106	U	-0.123		0.520	+/-0.163	0.800	pCi/g				
Sodium-22	U	0.0268		0.0753	+/-0.0216	0.080	pCi/g				
Strontium-85	UI	0.0797	R,R5a	0.076	+/-0.0228	pCi/g					
Thallium-208		0.426		0.0616	+/-0.0426	0.080	pCi/g				

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

Report Date: February 2, 2010

Client Sample ID: RE15-10-7162
Sample ID: 244924002
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	-0.147	0.732	+/-0.214		pCi/g						
Thorium-231	U	-0.855	1.35	+/-0.418		pCi/g						
Thorium-234	U	1.13	3.61	+/-1.37	2.00	pCi/g						
Tin-113	U	0.0159	0.0858	+/-0.0247	0.100	pCi/g						
Uranium-235	U	-0.132	0.416	+/-0.127	0.500	pCi/g						
Yttrium-88	U	0.00959	0.0574	+/-0.0165	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		339	152	+/-56.1	250	pCi/L		KXK2	01/23/10	0520	943520	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"	79.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	101	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7161
Sample ID: 244924003
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 10.9%

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	-0.00616	0.0184	+/-0.00287	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.001	0.0166	+/-0.00142	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.001	0.019	+/-0.00174	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.877	0.0975	+/-0.0807	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0584	0.0606	+/-0.0156	0.100	pCi/g						
Uranium-238		1.07	0.0566	+/-0.095	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0276	0.108	+/-0.0331	0.200	pCi/g		MXR1	01/27/10	1839	942723	4
Bismuth-211	UI	4.15	R,R5a	0.422	+/-0.307	pCi/g						
Bismuth-214		1.06		0.141	+/-0.118	pCi/g						
Cadmium-109	UI	3.83	R,R5a	1.03	+/-0.487	pCi/g						
Cerium-139	U	-0.0302	0.0519	+/-0.0165	0.050	pCi/g						
Cesium-134	U	0.113	0.124	+/-0.0335	0.100	pCi/g						
Cesium-137	U	-0.00199	0.0797	+/-0.0243	0.100	pCi/g						
Cobalt-60	U	-0.00255	0.0888	+/-0.0269	0.100	pCi/g						
Europium-152	U	-0.0497	0.188	+/-0.0667	0.200	pCi/g						
Lanthanum-140	U	-0.0607	0.168	+/-0.0561		pCi/g						
Lead-212		1.58	0.0964	+/-0.093	0.100	pCi/g						
Lead-214		1.44	0.147	+/-0.113	0.100	pCi/g						
Mercury-203	U	0.035	0.0796	+/-0.0227	0.100	pCi/g						
Potassium-40		22.4	0.590	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.127	1.24	+/-0.430		pCi/g						
Radium-224	UI	4.70	R,R5a	1.10	+/-0.799	pCi/g						
Radium-226		1.06	0.141	+/-0.118		pCi/g						
Radium-228		1.37	0.259	+/-0.176	0.500	pCi/g						
Ruthenium-106	U	0.0158	0.671	+/-0.202	0.800	pCi/g						
Sodium-22	U	-0.0256	0.089	+/-0.0279	0.080	pCi/g						
Strontium-85	U	0.0776	0.0844	+/-0.0258		pCi/g						
Thallium-208		0.561	0.0739	+/-0.0579	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7161
Sample ID: 244924003
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	0.122	0.711	+/-0.205		pCi/g					
Thorium-231	U	-0.127	1.24	+/-0.430		pCi/g					
Thorium-234	U	0.634	1.07	+/-0.606	2.00	pCi/g					
Tin-113	U	-0.00783	0.0901	+/-0.0277	0.100	pCi/g					
Uranium-235	U	0.238	0.408	+/-0.121	0.500	pCi/g					
Yttrium-88	U	0.0135	0.0775	+/-0.0224	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	119	155	+/-48.4	250	pCi/L		KXK2	01/23/10	0721 943520	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"	87.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.7	(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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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7160
Sample ID: 244924004
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 20%

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	0.00157	0.0192	+/-0.00209	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00105	0.0173	+/-0.00148	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00836	0.0198	+/-0.00298	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.06	0.0818	+/-0.0903	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236		0.0913	0.0508	+/-0.0184	0.100	pCi/g						
Uranium-238		1.37	0.0474	+/-0.112	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0774	0.366	+/-0.121	0.200	pCi/g		MXR1	01/27/10	1839	942723	4
Bismuth-211	UI	3.76	R,R5a	0.379	+/-0.290	pCi/g						
Bismuth-214		1.31		0.145	+/-0.108	pCi/g						
Cadmium-109	UI	2.40	R,R5a	1.59	+/-0.626	pCi/g						
Cerium-139	U	-0.00475	0.0583	+/-0.018	0.050	pCi/g						
Cesium-134	UI	0.148	R,R5a	0.108	+/-0.0325	0.100						
Cesium-137		0.105	0.0721	+/-0.035	0.100	pCi/g						
Cobalt-60	U	-0.00963	0.0791	+/-0.0252	0.100	pCi/g						
Europium-152	U	0.0119	0.200	+/-0.0778	0.200	pCi/g						
Lanthanum-140	U	-0.0577	0.166	+/-0.055		pCi/g						
Lead-212		1.50	0.107	+/-0.0836	0.100	pCi/g						
Lead-214		1.31	0.137	+/-0.106	0.100	pCi/g						
Mercury-203	U	0.0223	0.0842	+/-0.0244	0.100	pCi/g						
Potassium-40		19.8	0.514	+/-1.14	1.00	pCi/g						
Radium-223	U	-0.829	1.30	+/-0.416		pCi/g						
Radium-224	UI	4.41	R,R5a	1.22	+/-0.808	pCi/g						
Radium-226		1.31	0.145	+/-0.108		pCi/g						
Radium-228		1.47	0.259	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	-0.108	0.554	+/-0.177	0.800	pCi/g						
Sodium-22	U	-0.0406	0.0919	+/-0.0307	0.080	pCi/g						
Strontium-85	U	0.078	0.0863	+/-0.0267		pCi/g						
Thallium-208		0.545	0.0776	+/-0.0477	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7160
Sample ID: 244924004
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	0.274	0.761	+/-0.230		pCi/g						
Thorium-231	U	-0.829	1.30	+/-0.416		pCi/g						
Thorium-234		3.58	2.92	+/-1.16	2.00	pCi/g						
Tin-113	U	-0.0407	0.0865	+/-0.0274	0.100	pCi/g						
Uranium-235	U	0.00984	0.425	+/-0.131	0.500	pCi/g						
Yttrium-88	U	0.0315	0.073	+/-0.0188	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		164	154	+/-49.7	250	pCi/L		KXK2	01/23/10	0923	943520	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"	84.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	103	(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: February 2, 2010

Client Sample ID: RE15-10-7174
Sample ID: 244924005
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 19.7%

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	0.00586	0.0187	+/-0.00256	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00122	0.0201	+/-0.00173	0.050	pCi/g		KXM4	02/01/10	1939	942862	2
Plutonium-239/240		0.0317	0.023	+/-0.00688	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.21	0.0856	+/-0.172	0.100	pCi/g		KXM4	01/29/10	1657	942863	4
Uranium-235/236		0.133	0.0531	+/-0.0232	0.100	pCi/g						
Uranium-238		2.60	0.0496	+/-0.199	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.156	0.298	+/-0.0947	0.200	pCi/g		MXR1	01/27/10	1905	942723	5
Bismuth-211	UI	4.24	R,R5a	0.398	+/-0.350	pCi/g						
Bismuth-214		1.28		0.131	+/-0.109	pCi/g						
Cadmium-109	UI	2.93	R,R5a	1.78	+/-0.587	pCi/g						
Cerium-139	U	-0.0318		0.0573	+/-0.0174	pCi/g						
Cesium-134	UI	0.102	R,R5a	0.0984	+/-0.0351	pCi/g						
Cesium-137		0.539		0.0769	+/-0.048	pCi/g						
Cobalt-60	U	0.0078		0.0742	+/-0.0218	pCi/g						
Europium-152	U	-0.099		0.181	+/-0.0672	pCi/g						
Lanthanum-140	U	-0.12		0.121	+/-0.0493	pCi/g						
Lead-212		1.58		0.108	+/-0.102	pCi/g						
Lead-214		1.48		0.139	+/-0.128	pCi/g						
Mercury-203	U	0.040		0.0869	+/-0.025	pCi/g						
Potassium-40		21.3		0.643	+/-1.28	pCi/g						
Radium-223	U	0.174		1.32	+/-0.445	pCi/g						
Radium-224	UI	5.05	R,R5a	1.23	+/-0.803	pCi/g						
Radium-226		1.28		0.131	+/-0.109	pCi/g						
Radium-228		1.50		0.240	+/-0.181	pCi/g						
Ruthenium-106	U	-0.0456		0.565	+/-0.170	pCi/g						
Sodium-22	U	0.0119		0.0893	+/-0.0261	pCi/g						
Strontium-85	UI	0.0974	R,R5a	0.0861	+/-0.0261	pCi/g						
Thallium-208		0.490		0.0702	+/-0.0576	pCi/g						

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

Report Date: February 2, 2010

Client Sample ID: RE15-10-7174
Sample ID: 244924005

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	-0.432	0.696	+/-0.222		pCi/g					
Thorium-231	U	0.174	1.32	+/-0.445		pCi/g					
Thorium-234		3.66	2.40	+/-1.39	2.00	pCi/g					
Tin-113	U	0.00201	0.0919	+/-0.0279	0.100	pCi/g					
Uranium-235	U	0.0856	0.427	+/-0.123	0.500	pCi/g					
Yttrium-88	U	0.0144	0.0657	+/-0.0187	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	121	151	+/-47.5	250	pCi/L		KXK2	01/23/10	1124 943520	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"	87.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	103	(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: February 2, 2010

Client Sample ID: RE15-10-7173
Sample ID: 244924006
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.8%

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	0.00165	0.0196	+/-0.00138	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00212	0.0175	+/-0.00212	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00106	0.0201	+/-0.00281	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.0948	+/-0.101	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236		0.087	0.0589	+/-0.0191	0.100	pCi/g						
Uranium-238		1.24	0.055	+/-0.106	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00492	0.302	+/-0.0869	0.200	pCi/g		MXR1	01/27/10	1905	942723	4
Bismuth-211	UI	3.87	R,R5a	0.267	+/-0.220	pCi/g						
Bismuth-214		1.17		0.0978	+/-0.0846	pCi/g						
Cadmium-109	UI	3.49	R,R5a	1.15	+/-0.539	pCi/g						
Cerium-139	U	-0.0142		0.0426	+/-0.0126	pCi/g						
Cesium-134	UI	0.0799	R,R5a	0.0729	+/-0.0269	pCi/g						
Cesium-137	U	0.00865		0.0547	+/-0.0159	pCi/g						
Cobalt-60	U	0.0412		0.0564	+/-0.0154	pCi/g						
Europium-152	U	-0.0865		0.128	+/-0.0435	pCi/g						
Lanthanum-140	U	-0.0642		0.110	+/-0.037	pCi/g						
Lead-212		1.69		0.072	+/-0.0774	pCi/g						
Lead-214		1.35		0.0929	+/-0.084	pCi/g						
Mercury-203	U	0.0457		0.0578	+/-0.0211	pCi/g						
Potassium-40		21.1		0.450	+/-1.02	pCi/g						
Radium-223	U	-0.0358		0.874	+/-0.308	pCi/g						
Radium-224	UI	5.72	R,R5a	0.818	+/-0.588	pCi/g						
Radium-226		1.17		0.0978	+/-0.0846	pCi/g						
Radium-228		1.80		0.156	+/-0.166	pCi/g						
Ruthenium-106	U	0.206		0.424	+/-0.123	pCi/g						
Sodium-22	U	-0.0226		0.0555	+/-0.0179	pCi/g						
Strontium-85	UI	0.0771	R,R5a	0.0594	+/-0.018	pCi/g						
Thallium-208		0.512		0.0448	+/-0.0406	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7173
Sample ID: 244924006
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	-0.123	0.501	+/-0.153		pCi/g					
Thorium-231	U	-0.0358	0.874	+/-0.308		pCi/g					
Thorium-234	U	0.797	2.56	+/-0.739	2.00	pCi/g					
Tin-113	U	-0.00154	0.0561	+/-0.0165	0.100	pCi/g					
Uranium-235	U	0.136	0.325	+/-0.0984	0.500	pCi/g					
Yttrium-88	U	0.00464	0.0449	+/-0.0142	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	75.6	154	+/-47.1	250	pCi/L		KXX2	01/23/10	1325 943520	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"	80.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	97.5	(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: February 2, 2010

Client Sample ID: RE15-10-7175
Sample ID: 244924007
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.33%

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	-0.000703	0.0189	+/-0.00111	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0178	+/-0.00108	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00	0.0204	+/-0.00153	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.685	0.0945	+/-0.0662	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0415	0.0587	+/-0.0139	0.100	pCi/g						
Uranium-238		0.677	0.0548	+/-0.0658	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0359	0.171	+/-0.0564	0.200	pCi/g		MXR1	01/27/10	1906	942723	4
Bismuth-211	UI	3.71	R,R5a	0.307	+/-0.285	pCi/g						
Bismuth-214		1.02		0.104	+/-0.0839	pCi/g						
Cadmium-109	UI	2.66	R,R5a	1.13	+/-0.417	pCi/g						
Cerium-139	U	-0.0307	0.0414	+/-0.0134	0.050	pCi/g						
Cesium-134	UI	0.0887	R,R5a	0.0816	+/-0.0213	pCi/g						
Cesium-137	U	0.00524	0.056	+/-0.0162	0.100	pCi/g						
Cobalt-60	U	0.0512	0.0647	+/-0.017	0.100	pCi/g						
Europium-152	U	-0.0527	0.145	+/-0.0483	0.200	pCi/g						
Lanthanum-140	U	-0.0317	0.0964	+/-0.038		pCi/g						
Lead-212		1.61	0.0835	+/-0.100	0.100	pCi/g						
Lead-214		1.29	0.107	+/-0.105	0.100	pCi/g						
Mercury-203	U	0.0184	0.0637	+/-0.0204	0.100	pCi/g						
Potassium-40		28.8	0.439	+/-1.50	1.00	pCi/g						
Radium-223	U	-0.553	0.915	+/-0.333		pCi/g						
Radium-224	UI	4.73	R,R5a	0.950	+/-0.666	pCi/g						
Radium-226		1.02	0.104	+/-0.0839		pCi/g						
Radium-228		1.62	0.205	+/-0.159	0.500	pCi/g						
Ruthenium-106	U	0.0663	0.481	+/-0.145	0.800	pCi/g						
Sodium-22	U	0.0079	0.0744	+/-0.0226	0.080	pCi/g						
Strontium-85	U	0.0257	0.058	+/-0.0189		pCi/g						
Thallium-208		0.448	0.0535	+/-0.0439	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7175
Sample ID: 244924007

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	-0.0245	0.570	+/-0.166		pCi/g						
Thorium-231	U	-0.553	0.915	+/-0.333		pCi/g						
Thorium-234	U	0.923	1.56	+/-0.779	2.00	pCi/g						
Tin-113	U	0.00449	0.0622	+/-0.0183	0.100	pCi/g						
Uranium-235	U	0.159	0.322	+/-0.135	0.500	pCi/g						
Yttrium-88	U	0.0122	0.0513	+/-0.0145	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	105	154	+/-47.7	250	pCi/L		KXK2	01/23/10	1526	943520	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"	90.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.7	(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: February 2, 2010

Client Sample ID: RE15-10-7172
Sample ID: 244924008
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 21.2%

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	0.013	0.018	+/-0.00484	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0202	+/-0.00173	0.050	pCi/g		KXM4	02/01/10	1939	942862	2
Plutonium-239/240		0.0622	0.0231	+/-0.00947	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.12	0.0992	+/-0.170	0.100	pCi/g		KXM4	01/29/10	1657	942863	4
Uranium-235/236		0.0989	0.0616	+/-0.0217	0.100	pCi/g						
Uranium-238		2.72	0.0575	+/-0.212	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0109	0.377	+/-0.122	0.200	pCi/g		MXR1	01/27/10	2040	942723	5
Bismuth-211	UI	4.95	R,R5a	0.429	+/-0.431	pCi/g						
Bismuth-214		1.40		0.147	+/-0.126	pCi/g						
Cadmium-109	UI	2.91	R,R5a	1.84	+/-0.529	pCi/g						
Cerium-139	U	-0.0291	0.059	+/-0.019	0.050	pCi/g						
Cesium-134	U	0.0791	0.115	+/-0.0324	0.100	pCi/g						
Cesium-137		1.03	0.0839	+/-0.0758	0.100	pCi/g						
Cobalt-60	U	-0.00854	0.0785	+/-0.0247	0.100	pCi/g						
Europium-152	U	-0.0815	0.209	+/-0.0659	0.200	pCi/g						
Lanthanum-140	U	0.00705	0.206	+/-0.0615		pCi/g						
Lead-212		1.89	0.117	+/-0.138	0.100	pCi/g						
Lead-214		1.72	0.150	+/-0.157	0.100	pCi/g						
Mercury-203	U	-0.0251	0.0859	+/-0.0263	0.100	pCi/g						
Potassium-40		24.5	0.782	+/-1.53	1.00	pCi/g						
Radium-223	U	0.522	1.44	+/-0.474		pCi/g						
Radium-224	UI	5.80	R,R5a	1.33	+/-0.894	pCi/g						
Radium-226		1.40	0.147	+/-0.126		pCi/g						
Radium-228		1.78	0.267	+/-0.187	0.500	pCi/g						
Ruthenium-106	U	0.212	0.674	+/-0.194	0.800	pCi/g						
Sodium-22	U	-0.0139	0.0784	+/-0.0249	0.080	pCi/g						
Strontium-85	U	0.0695	0.0806	+/-0.0253		pCi/g						
Thallium-208		0.614	0.0817	+/-0.0579	0.080	pCi/g						

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Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7172
Sample ID: 244924008

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	-0.189	0.865	+/-0.261		pCi/g					
Thorium-231	U	0.522	1.44	+/-0.474		pCi/g					
Thorium-234	U	2.86	2.92	+/-1.60	2.00	pCi/g					
Tin-113	U	-0.00622	0.0969	+/-0.0298	0.100	pCi/g					
Uranium-235	UI	0.432	R,R5a	+/-0.237	0.500	pCi/g					
Yttrium-88	U	0.0131	0.0731	+/-0.0233	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	110	154	+/-48.0	250	pCi/L	KXK2	01/23/10	1728	943520	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"	87.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.8	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7218
Sample ID: 244924009
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.93%

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	-0.00182	0.0173	+/-0.00102	0.050	pCi/g		KXM4	02/01/10	1937 942861	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00	0.0167	+/-0.00102	0.050	pCi/g		KXM4	01/27/10	2101 942862	2
Plutonium-239/240	U	0.00101	0.0192	+/-0.00102	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.02	0.0897	+/-0.0897	0.100	pCi/g		KXM4	01/29/10	1657 942863	3
Uranium-235/236		0.0751	0.0557	+/-0.0172	0.100	pCi/g					
Uranium-238		1.06	0.052	+/-0.0919	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	0.0216	0.175	+/-0.0563	0.200	pCi/g		MXR1	01/27/10	2041 942723	4
Bismuth-211	UI	4.58	R,R5a	0.358	+/-0.325	pCi/g					
Bismuth-214		1.37		0.112	+/-0.114	pCi/g					
Cadmium-109	UI	4.36	R,R5a	1.09	+/-0.472	pCi/g					
Cerium-139	U	-0.00247	0.0492	+/-0.0152	0.050	pCi/g					
Cesium-134	U	0.0887	0.095	+/-0.0256	0.100	pCi/g					
Cesium-137	U	-0.00487	0.0665	+/-0.0201	0.100	pCi/g					
Cobalt-60	U	0.00196	0.0691	+/-0.0209	0.100	pCi/g					
Europium-152	U	-0.0104	0.171	+/-0.0558	0.200	pCi/g					
Lanthanum-140	U	0.0657	0.159	+/-0.0496		pCi/g					
Lead-212		1.85	0.0895	+/-0.107	0.100	pCi/g					
Lead-214		1.59	0.125	+/-0.120	0.100	pCi/g					
Mercury-203	U	0.0192	0.0719	+/-0.0208	0.100	pCi/g					
Potassium-40		21.9	0.597	+/-1.23	1.00	pCi/g					
Radium-223	U	-0.21	1.16	+/-0.405		pCi/g					
Radium-224	UI	5.55	R,R5a	1.02	+/-0.784	pCi/g					
Radium-226		1.37	0.112	+/-0.114		pCi/g					
Radium-228		1.85	0.225	+/-0.164	0.500	pCi/g					
Ruthenium-106	U	-0.19	0.551	+/-0.171	0.800	pCi/g					
Sodium-22	U	0.0137	0.0693	+/-0.0202	0.080	pCi/g					
Strontium-85	UI	0.114	R,R5a	0.0774	+/-0.0218	pCi/g					
Thallium-208		0.572	0.0585	+/-0.0512	0.080	pCi/g					

CLL
2/25/10

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: February 2, 2010

Client Sample ID: RE15-10-7218
Sample ID: 244924009

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	-0.335	0.642	+/-0.200		pCi/g						
Thorium-231	U	-0.21	1.16	+/-0.405		pCi/g						
Thorium-234		2.04	1.57	+/-0.757	2.00	pCi/g						
Tin-113	U	-0.00634	0.0768	+/-0.0235	0.100	pCi/g						
Uranium-235	U	0.0921	0.364	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.00534	0.0611	+/-0.0179	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		191	155	+/-50.9	250	pCi/L		KXK2	01/23/10	1929	943520	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"	96.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	92.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.6	(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

CLL
2/25/10

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: February 2, 2010

Client Sample ID: RE15-10-7223
Sample ID: 244924010
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-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	-0.00398	0.0184	+/-0.00272	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00112	0.0184	+/-0.00112	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00112	0.0211	+/-0.00112	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.978	0.115	+/-0.0916	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0549	0.0713	+/-0.0198	0.100	pCi/g						
Uranium-238		0.974	0.0666	+/-0.0917	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0531	0.194	+/-0.0632	0.200	pCi/g		MXR1	01/27/10	2042	942723	4
Bismuth-211	UI	3.18	R,R5a	0.318	+/-0.230	pCi/g						
Bismuth-214		1.15		0.0996	+/-0.0824	pCi/g						
Cadmium-109	UI	2.79	R,R5a	1.24	+/-0.349	pCi/g						
Cerium-139	U	0.0171	0.0495	+/-0.0146	0.050	pCi/g						
Cesium-134	U	0.0522	0.0865	+/-0.0247	0.100	pCi/g						
Cesium-137	U	-0.013	0.0609	+/-0.019	0.100	pCi/g						
Cobalt-60	U	-0.0335	0.0504	+/-0.0176	0.100	pCi/g						
Europium-152	U	-0.0218	0.150	+/-0.0549	0.200	pCi/g						
Lanthanum-140	U	-0.0478	0.121	+/-0.0412		pCi/g						
Lead-212		1.42	0.0846	+/-0.0726	0.100	pCi/g						
Lead-214		1.11	0.111	+/-0.0852	0.100	pCi/g						
Mercury-203	U	0.0426	0.0605	+/-0.0273	0.100	pCi/g						
Potassium-40		22.1	0.362	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.124	1.01	+/-0.345		pCi/g						
Radium-224	UI	3.74	R,R5a	0.962	+/-0.585	pCi/g						
Radium-226		1.15	0.0996	+/-0.0824		pCi/g						
Radium-228		1.34	0.183	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	-0.0509	0.480	+/-0.148	0.800	pCi/g						
Sodium-22	U	0.0277	0.0689	+/-0.0194	0.080	pCi/g						
Strontium-85	UI	0.118	R,R5a	0.0714	+/-0.0201	pCi/g						
Thallium-208		0.491	0.0533	+/-0.043	0.080	pCi/g						

CLL
2/25/10

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: February 2, 2010

Client Sample ID: RE15-10-7223
Sample ID: 244924010
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	-0.147	0.558	+/-0.166		pCi/g						
Thorium-231	U	-0.124	1.01	+/-0.345		pCi/g						
Thorium-234		2.65	1.66	+/-0.931	2.00	pCi/g						
Tin-113	U	-0.0152	0.0689	+/-0.0209	0.100	pCi/g						
Uranium-235	U	0.00538	0.339	+/-0.103	0.500	pCi/g						
Yttrium-88	U	0.0211	0.0542	+/-0.0146	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	119	155	+/-48.4	250	pCi/L		KXK2	01/23/10	2130	943520	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"	88.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.3	(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
- F Estimated Value
- H Analytical holding time was exceeded

CLL
2/25/10

Friday, January 15, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1289

LOS ALAMOS

REQUEST NUMBER: 10-1289

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/14/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

244924²/0

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7163	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7162	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7161	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7160	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7174	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7174	1	POLY	H3	Ice	R
RE15-10-7173	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7173	1	POLY	H3	Ice	R
RE15-10-7175	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7175	1	POLY	H3	Ice	R
RE15-10-7172	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7172	1	POLY	H3	Ice	R
RE15-10-7218	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7218	1	POLY	H3	Ice	R
RE15-10-7223	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7223	1	POLY	H3	Ice	R
RE15-10-7162	1	POLY	H3	Ice	R
RE15-10-7161	1	POLY	H3	Ice	R
RE15-10-7160	1	POLY	H3	Ice	R
RE15-10-7163	1	POLY	H3	Ice	R

Relinquished By: [Signature] Date 1/15/10 Time 1400 Received By: Patricia Dover-Dent Date 1-16-10 Time 08:55
 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:

REQUEST NUMBER: 10-1289

Friday, January 15, 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: 10-1289

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/15/2010

TURNAROUND/REPORT DUE: 2/14/2010

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	RE15-10-7160	1	RE15-10-7160	R	1/12/2010	
1	RE15-10-7161	1	RE15-10-7161	R	1/12/2010	
1	RE15-10-7162	1	RE15-10-7162	R	1/12/2010	
1	RE15-10-7163	1	RE15-10-7163	R	1/12/2010	
1	RE15-10-7172	1	RE15-10-7172	R	1/12/2010	
1	RE15-10-7173	1	RE15-10-7173	R	1/12/2010	
1	RE15-10-7174	1	RE15-10-7174	R	1/12/2010	
1	RE15-10-7175	1	RE15-10-7175	R	1/12/2010	
1	RE15-10-7218	1	RE15-10-7218	R	1/12/2010	

Friday, January 15, 2010

Page 2 of 3

REQUEST NUMBER: 10-1289

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE15-10-7223	R	1/12/2010	
	EPA-906.0	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
	HASL-300-AM-241	1	RE15-10-7223	R	1/12/2010	
		1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
	HASL-300-ISOPU	1	RE15-10-7223	R	1/12/2010	
		1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	

Friday, January 15, 2010

REQUEST NUMBER: 10-1289

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300 ISOPU	1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
	HASL-300 ISOU	1	RE15-10-7180	R	1/12/2010	
		1	RE15-10-7181	R	1/12/2010	
		1	RE15-10-7182	R	1/12/2010	
		1	RE15-10-7183	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	

Final Page of REQUEST NUMBER 10-1289



January 19, 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: 244924
SDG: 10-1289

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 16, 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: 10-1289
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 244924
SDG: 10-1289

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Standards Data.....	845
Runlogs.....	880

Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 244924
SDG # : 10-1289**

January 19, 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 January 16, 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 12/13C temperatures. Shipping container temperature was within specification (0 - 6C).

Sample Identification The laboratory received the following samples:

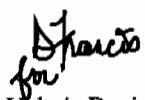
<u>Laboratory ID</u>	<u>Client ID</u>
244924001	RE15-10-7163
244924002	RE15-10-7162
244924003	RE15-10-7161
244924004	RE15-10-7160
244924005	RE15-10-7174
244924006	RE15-10-7173
244924007	RE15-10-7175
244924008	RE15-10-7172
244924009	RE15-10-7218
244924010	RE15-10-7223

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 19 January 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

Friday, January 15, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1289

LOS ALAMOS

REQUEST NUMBER: 10-1289

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/14/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

244924²/10

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7163	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7162	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7161	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7160	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7174	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7174	1	POLY	H3	Ice	R
RE15-10-7173	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7173	1	POLY	H3	Ice	R
RE15-10-7175	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7175	1	POLY	H3	Ice	R
RE15-10-7172	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7172	1	POLY	H3	Ice	R
RE15-10-7218	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7218	1	POLY	H3	Ice	R
RE15-10-7223	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7223	1	POLY	H3	Ice	R
RE15-10-7162	1	POLY	H3	Ice	R
RE15-10-7161	1	POLY	H3	Ice	R
RE15-10-7160	1	POLY	H3	Ice	R
RE15-10-7163	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

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:

Friday, January 15, 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: 1/15/2010

TURNAROUND/REPORT DUE: 2/14/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature: 

Page 1 of 3

REQUEST NUMBER: 10-1289

These Samples are on:

LANL Request Number: 10-1289

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1						
		1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	

Friday, January 15, 2010

Page 2 of 3

REQUEST NUMBER: 10-1289

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE15-10-7223	R	1/12/2010	
	EPA-906.0	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
	HASL-300:AM-241	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
	HASL-300:ISOPU	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	

Friday, January 15, 2010

REQUEST NUMBER: 10-1289

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOPU	1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	
	HASL-300:ISOU	1	RE15-10-7160	R	1/12/2010	
		1	RE15-10-7161	R	1/12/2010	
		1	RE15-10-7162	R	1/12/2010	
		1	RE15-10-7163	R	1/12/2010	
		1	RE15-10-7172	R	1/12/2010	
		1	RE15-10-7173	R	1/12/2010	
		1	RE15-10-7174	R	1/12/2010	
		1	RE15-10-7175	R	1/12/2010	
		1	RE15-10-7218	R	1/12/2010	
		1	RE15-10-7223	R	1/12/2010	

Final Page of REQUEST NUMBER 10-1289



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client:LANL			SDG/ARCOC/Work Order:10-1289		
Received By:Patricia Dover-Dent			Date Received: JANUARY 16, 2009		
Suspected Hazard Information		Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further	
COC/Samples marked as radioactive?			X	Maximum Counts Observed*:40CPM	
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 < 6 deg. C)?	X			Preservation Method: ice bags BLUE ICE dry ice NONE other (describe) 1,3-5,12&13
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable 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 Preservative 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: No Time on Chain of Custody
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:FED EX #'S

7209 7849 5335 1C	7209 7849 5302 12C
7209 7849 5265 3C	7209 7849 5313 13C
7209 7849 5368 3C	7209 7849 5298 13C
7209 7849 5416 3C	
7209 7849 5357 4C	
7209 7849 5380 4C	
7209 7849 5390 4C	
7209 7849 5346 5C	
7209 7849 5405 5C	

ORIGIN ID: SAFR (505) 665-0068
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU-03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15 JAN 10
ACTING: 85.0 LB MAN
CRD: 8814176/CAFE2449
BILL SENDER

ORIGIN ID: SAFR (505) 665-0068
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU-03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 15 JAN 10
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CRD: 8814176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 856-8171
REF: 6801AMR3A0352VE00

VALERIE DAVIS
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REF: 6801AMR3A0352VRA00

1 of 2

TRKH 7209 7849 5335
NN MASTER NN

X0 CHSA



LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU-03
LOS ALAMOS, NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
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(843) 856-8171
REF: 6801AMR3A0352VE00

1 of 2

TRKH 7209 7849 5368
NN MASTER NN

X0 CHSA

Page 1 of 2

SATURDAY ### A1
PRIORITY OVERNIGHT

29407
SC-US
CHS



1 of 3
TRKH 7209 7849 5265
NN MASTER NN

X0 CHSA



LOS ALAMOS NATL LAB
TR00 BLDG 1237 DPU-03
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REF: 6801AMR3A0352VE00

1 of 3

TRKH 7209 7849 5416
NN MASTER NN

X0 CHSA

Page 1 of 2

SATURDAY ### A1
PRIORITY OVERNIGHT

29407
SC-US
CHS



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: 15JAN10
ACTNGT: 55.0 LB PMN
CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
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CHARLESTON SC 29407
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1 of 2
TRK# 7209 7849 5357
0201
NM MASTER NM
SATURDAY ### A1
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS



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: 15JAN10
ACTNGT: 55.0 LB PMN
CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
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CHARLESTON SC 29407
(843) 556-8171
REF: 6B01AMR3A05529E00



SATURDAY ### A1
TRK# 7209 7849 5390
0201
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS

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: 15JAN10
ACTNGT: 55.0 LB PMN
CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
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CHARLESTON SC 29407
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REF: 6B01AMR3A05529E00



SATURDAY ### A1
TRK# 7209 7849 5380
0201
PRIORITY OVERNIGHT

X0 CHSA

29407
SC-US
CHS



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: 15JAN10
ACTNGT: 55.0 LB PMN
CAD: 0014176/CAFE2449
BILL SENDER

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CHARLESTON SC 29407
(843) 556-8171
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2 of 2
SATURDAY ### A1
PS# 7209 7849 5346
0201
PRIORITY OVERNIGHT

X0 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: 15JAN18
ACTWGT: 68.0 LB MM
CNO: 0014176/CAFE2449

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SATURDAY ### A1
PRIORITY OVERNIGHT

TRK# 7209 7849 5405
0201

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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: 15JAN18
ACTWGT: 68.0 LB MM
CNO: 0014176/CAFE2449

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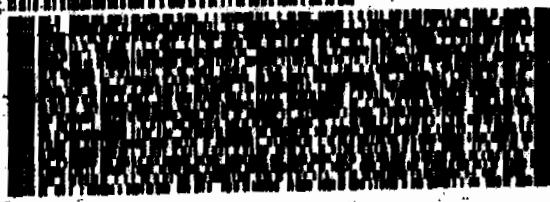
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GENERAL ENGINEERING LAB
2040 SAVAGE RD

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REF: 6801A03529E00

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SATURDAY ### A1
PRIORITY OVERNIGHT

1 of 2
TRK# 7209 7849 5313
0201

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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: 15JAN18
ACTWGT: 68.0 LB MM
CNO: 0014176/CAFE2449

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2 of 2
TRK# 7209 7849 5302
0201

SATURDAY ### A1
PRIORITY OVERNIGHT

7209 7849 5290

X0 CHSA

29407

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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: 15JAN18
ACTWGT: 68.0 LB MM
CNO: 0014176/CAFE2449

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GENERAL ENGINEERING LAB
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CHARLESTON SC 29407

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REF: 6801A0352VROO

130



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1 of 2
TRK# 7209 7849 5298
0201

SATURDAY ### A1
PRIORITY OVERNIGHT

MASTER

X0 CHSA

29407

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CHS

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 10-1289
Work Order 244924**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 942861
Prep Batch Number: 942709

Sample ID	Client ID
244924001	RE15-10-7163
244924002	RE15-10-7162
244924003	RE15-10-7161
244924004	RE15-10-7160
244924005	RE15-10-7174
244924006	RE15-10-7173
244924007	RE15-10-7175
244924008	RE15-10-7172
244924009	RE15-10-7218
244924010	RE15-10-7223
1202018651	Method Blank (MB)
1202018652	244924010(RE15-10-7223) Sample Duplicate (DUP)
1202018653	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 1202018651 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 244924010 (RE15-10-7223). The QC was from LANL work order 244924.

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.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample, 1202018653 (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: ISOPU
Analytical Method: DOE EML HASL-300, Pu-11-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 942862
Prep Batch Number: 942709

Sample ID	Client ID
244924001	RE15-10-7163
244924002	RE15-10-7162
244924003	RE15-10-7161
244924004	RE15-10-7160
244924005	RE15-10-7174
244924006	RE15-10-7173
244924007	RE15-10-7175
244924008	RE15-10-7172
244924009	RE15-10-7218
244924010	RE15-10-7223
1202018654	Method Blank (MB)
1202018655	244924010(RE15-10-7223) Sample Duplicate (DUP)
1202018656	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 1202018654 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 244924010 (RE15-10-7223). The QC was from LANL work order 244924.

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 244924002 (RE15-10-7162), 244924005 (RE15-10-7174) and 244924008 (RE15-10-7172) were 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.

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: 942863

Prep Batch Number: 942709

Sample ID	Client ID
244924001	RE15-10-7163
244924002	RE15-10-7162
244924003	RE15-10-7161
244924004	RE15-10-7160
244924005	RE15-10-7174
244924006	RE15-10-7173
244924007	RE15-10-7175
244924008	RE15-10-7172
244924009	RE15-10-7218
244924010	RE15-10-7223
1202018657	Method Blank (MB)
1202018658	244924010(RE15-10-7223) Sample Duplicate (DUP)
1202018659	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 1202018657 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 244924010 (RE15-10-7223). The QC was from LANL work order 244924.

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.

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:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	942723
Prep Batch Number:	942709

Sample ID	Client ID
244924001	RE15-10-7163
244924002	RE15-10-7162
244924003	RE15-10-7161
244924004	RE15-10-7160
244924005	RE15-10-7174
244924006	RE15-10-7173
244924007	RE15-10-7175
244924008	RE15-10-7172
244924009	RE15-10-7218
244924010	RE15-10-7223
1202018276	Method Blank (MB)
1202018277	244924001(RE15-10-7163) Sample Duplicate (DUP)
1202018278	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 January 2009, February 2009, March 2009, April 2009, June 2009, July 2009, August 2009, October 2009, November 2009 and January 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: 244924001 (RE15-10-7163). The QC was from LANL work order 244924.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The method blank, 1202018276 (MB), results for Ra-224 and Th-234 are greater than 1.65 time 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 method blank, 1202018276 (MB), results for Bi-214, Ra-224, Ra-226 and Th-234 are greater than the decision level, but less than the MDC.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to high counting uncertainty.	Uranium-235	244924008	RE15-10-7172
UI	Data rejected due to interference.	Bismuth-211	244924001	RE15-10-7163
			244924002	RE15-10-7162
			244924003	RE15-10-7161
			244924004	RE15-10-7160
			244924005	RE15-10-7174
			244924006	RE15-10-7173
			244924007	RE15-10-7175
			244924008	RE15-10-7172

			244924009	RE15-10-7218
			244924010	RE15-10-7223
			1202018277	RE15-10-7163(244924001DUP)
		Cadmium-109	244924001	RE15-10-7163
			244924002	RE15-10-7162
			244924003	RE15-10-7161
			244924004	RE15-10-7160
			244924005	RE15-10-7174
			244924006	RE15-10-7173
			244924007	RE15-10-7175
			244924008	RE15-10-7172
			244924009	RE15-10-7218
			244924010	RE15-10-7223
			1202018277	RE15-10-7163(244924001DUP)
		Radium-224	244924001	RE15-10-7163
			244924002	RE15-10-7162
			244924003	RE15-10-7161
			244924004	RE15-10-7160
			244924005	RE15-10-7174
			244924006	RE15-10-7173
			244924007	RE15-10-7175
			244924008	RE15-10-7172
			244924009	RE15-10-7218
			244924010	RE15-10-7223
			1202018277	RE15-10-7163(244924001DUP)
UI	Data rejected due to low abundance.	Cesium-134	244924002	RE15-10-7162
			244924004	RE15-10-7160
			244924005	RE15-10-7174
			244924006	RE15-10-7173

	244924007	RE15-10-7175
	1202018277	RE15-10-7163(244924001DUP)
Strontium-85	244924002	RE15-10-7162
	244924005	RE15-10-7174
	244924006	RE15-10-7173
	244924009	RE15-10-7218
	244924010	RE15-10-7223
	1202018277	RE15-10-7163(244924001DUP)

Method/Analysis Information

Product: H3

Analytical Method: GL-RAD-A-002

Analytical Batch Number: 943520

Sample ID	Client ID
244924001	RE15-10-7163
244924002	RE15-10-7162
244924003	RE15-10-7161
244924004	RE15-10-7160
244924005	RE15-10-7174
244924006	RE15-10-7173
244924007	RE15-10-7175
244924008	RE15-10-7172
244924009	RE15-10-7218
244924010	RE15-10-7223
1202020231	Method Blank (MB)
1202020232	244924005(RE15-10-7174) Sample Duplicate (DUP)
1202020233	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-002 REV# 18.

Calibration Information:**Calibration Information**

All initial and continuing calibration requirements have been met. The initial Calibration was performed in August 2009.

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: 244924005 (RE15-10-7174). The QC was from LANL work order 244924.

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: _____

CLP 2/6/10

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: 10-1289 GEL Work Order: 244924

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

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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: February 2, 2010

Client Sample ID: RE15-10-7163
Sample ID: 244924001
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 6.57%

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	0.00256	0.0186	+/-0.00168	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00483	0.0159	+/-0.00236	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	-0.00868	0.0182	+/-0.00348	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.477	0.092	+/-0.0506	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0477	0.0571	+/-0.0146	0.100	pCi/g						
Uranium-238		0.573	0.0533	+/-0.0572	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0636	0.374	+/-0.111	0.200	pCi/g		MXR1	01/27/10	1834	942723	4
Bismuth-211	UI	3.15	0.303	+/-0.255		pCi/g						
Bismuth-214		0.934	0.107	+/-0.0853	0.200	pCi/g						
Cadmium-109	UI	1.42	1.35	+/-0.506		pCi/g						
Cerium-139	U	-0.00228	0.0471	+/-0.0145	0.050	pCi/g						
Cesium-134	U	0.018	0.0849	+/-0.0249	0.100	pCi/g						
Cesium-137	U	0.0493	0.0736	+/-0.0202	0.100	pCi/g						
Cobalt-60	U	0.0096	0.0734	+/-0.0216	0.100	pCi/g						
Europium-152	U	-0.0618	0.155	+/-0.0502	0.200	pCi/g						
Lanthanum-140	U	0.0262	0.129	+/-0.0426		pCi/g						
Lead-212		1.28	0.126	+/-0.0805	0.100	pCi/g						
Lead-214		1.10	0.106	+/-0.0933	0.100	pCi/g						
Mercury-203	U	0.051	0.0634	+/-0.0266	0.100	pCi/g						
Potassium-40		33.9	0.534	+/-1.77	1.00	pCi/g						
Radium-223	U	0.0464	1.09	+/-0.324		pCi/g						
Radium-224	UI	2.89	1.14	+/-0.433		pCi/g						
Radium-226		0.934	0.107	+/-0.0853		pCi/g						
Radium-228		1.37	0.203	+/-0.176	0.500	pCi/g						
Ruthenium-106	U	0.341	0.566	+/-0.155	0.800	pCi/g						
Sodium-22	U	0.0316	0.084	+/-0.0237	0.080	pCi/g						
Strontium-85	U	0.0703	0.0746	+/-0.0233		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: February 2, 2010

Client Sample ID: RE15-10-7163
Sample ID: 244924001

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"											
Thallium-208		0.352	0.0578	+/-0.044	0.080	pCi/g					
Thorium-227	U	-0.0199	0.624	+/-0.184		pCi/g					
Thorium-231	U	0.0464	1.09	+/-0.324		pCi/g					
Thorium-234	U	0.495	2.98	+/-0.876	2.00	pCi/g					
Tin-113	U	0.0255	0.074	+/-0.0215	0.100	pCi/g					
Uranium-235	U	0.0841	0.333	+/-0.102	0.500	pCi/g					
Yttrium-88	U	-0.00153	0.0524	+/-0.0165	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
H3 "As Received"											
Tritium		297	155	+/-55.1	250	pCi/L		KXK2	01/23/10	0205 943520	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"	90.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	102	(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: February 2, 2010

Client Sample ID: RE15-10-7163
Sample ID: 244924001

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

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

Report Date: February 2, 2010

Client Sample ID: RE15-10-7162
Sample ID: 244924002
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.75%

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	0.000539	0.0201	+/-0.00185	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0206	+/-0.00176	0.050	pCi/g		KXM4	02/01/10	1939	942862	2
Plutonium-239/240	U	0.0162	0.0235	+/-0.00577	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.52	0.0882	+/-0.124	0.100	pCi/g		KXM4	01/29/10	1657	942863	4
Uranium-235/236		0.0914	0.0547	+/-0.0196	0.100	pCi/g						
Uranium-238		2.69	0.0511	+/-0.205	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0718	0.469	+/-0.152	0.200	pCi/g		MXR1	01/27/10	1835	942723	5
Bismuth-211	UI	3.85	0.363	+/-0.285		pCi/g						
Bismuth-214		1.20	0.121	+/-0.0946	0.200	pCi/g						
Cadmium-109	UI	2.41	1.58	+/-0.560		pCi/g						
Cerium-139	U	0.00723	0.0597	+/-0.0175	0.050	pCi/g						
Cesium-134	UI	0.119	0.093	+/-0.0325	0.100	pCi/g						
Cesium-137		0.426	0.0617	+/-0.0438	0.100	pCi/g						
Cobalt-60	U	-0.000672	0.0652	+/-0.0201	0.100	pCi/g						
Europium-152	U	0.081	0.187	+/-0.0746	0.200	pCi/g						
Lanthanum-140	U	-0.00065	0.148	+/-0.0446		pCi/g						
Lead-212		1.36	0.108	+/-0.0823	0.100	pCi/g						
Lead-214		1.34	0.126	+/-0.105	0.100	pCi/g						
Mercury-203	U	0.0257	0.0806	+/-0.0226	0.100	pCi/g						
Potassium-40		21.5	0.583	+/-1.18	1.00	pCi/g						
Radium-223	U	-0.855	1.35	+/-0.418		pCi/g						
Radium-224	UI	3.80	1.23	+/-0.697		pCi/g						
Radium-226		1.20	0.121	+/-0.0946		pCi/g						
Radium-228		1.29	0.235	+/-0.166	0.500	pCi/g						
Ruthenium-106	U	-0.123	0.520	+/-0.163	0.800	pCi/g						
Sodium-22	U	0.0268	0.0753	+/-0.0216	0.080	pCi/g						
Strontium-85	UI	0.0797	0.076	+/-0.0228		pCi/g						
Thallium-208		0.426	0.0616	+/-0.0426	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: February 2, 2010

Client Sample ID: RE15-10-7162
Sample ID: 244924002

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	-0.147	0.732	+/-0.214		pCi/g						
Thorium-231	U	-0.855	1.35	+/-0.418		pCi/g						
Thorium-234	U	1.13	3.61	+/-1.37	2.00	pCi/g						
Tin-113	U	0.0159	0.0858	+/-0.0247	0.100	pCi/g						
Uranium-235	U	-0.132	0.416	+/-0.127	0.500	pCi/g						
Yttrium-88	U	0.00959	0.0574	+/-0.0165	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		339	152	+/-56.1	250	pCi/L		KXK2	01/23/10	0520	943520	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"	79.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	101	(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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TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7162
Sample ID: 244924002

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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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: February 2, 2010

Client Sample ID: RE15-10-7161
Sample ID: 244924003
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 10.9%

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	-0.00616	0.0184	+/-0.00287	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.001	0.0166	+/-0.00142	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.001	0.019	+/-0.00174	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.877	0.0975	+/-0.0807	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0584	0.0606	+/-0.0156	0.100	pCi/g						
Uranium-238		1.07	0.0566	+/-0.095	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0276	0.108	+/-0.0331	0.200	pCi/g		MXR1	01/27/10	1839	942723	4
Bismuth-211	UI	4.15	0.422	+/-0.307		pCi/g						
Bismuth-214		1.06	0.141	+/-0.118	0.200	pCi/g						
Cadmium-109	UI	3.83	1.03	+/-0.487		pCi/g						
Cerium-139	U	-0.0302	0.0519	+/-0.0165	0.050	pCi/g						
Cesium-134	U	0.113	0.124	+/-0.0335	0.100	pCi/g						
Cesium-137	U	-0.00199	0.0797	+/-0.0243	0.100	pCi/g						
Cobalt-60	U	-0.00255	0.0888	+/-0.0269	0.100	pCi/g						
Europium-152	U	-0.0497	0.188	+/-0.0667	0.200	pCi/g						
Lanthanum-140	U	-0.0607	0.168	+/-0.0561		pCi/g						
Lead-212		1.58	0.0964	+/-0.093	0.100	pCi/g						
Lead-214		1.44	0.147	+/-0.113	0.100	pCi/g						
Mercury-203	U	0.035	0.0796	+/-0.0227	0.100	pCi/g						
Potassium-40		22.4	0.590	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.127	1.24	+/-0.430		pCi/g						
Radium-224	UI	4.70	1.10	+/-0.799		pCi/g						
Radium-226		1.06	0.141	+/-0.118		pCi/g						
Radium-228		1.37	0.259	+/-0.176	0.500	pCi/g						
Ruthenium-106	U	0.0158	0.671	+/-0.202	0.800	pCi/g						
Sodium-22	U	-0.0256	0.089	+/-0.0279	0.080	pCi/g						
Strontium-85	U	0.0776	0.0844	+/-0.0258		pCi/g						
Thallium-208		0.561	0.0739	+/-0.0579	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: February 2, 2010

Client Sample ID: RE15-10-7161
Sample ID: 244924003

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	0.122	0.711	+/-0.205		pCi/g					
Thorium-231	U	-0.127	1.24	+/-0.430		pCi/g					
Thorium-234	U	0.634	1.07	+/-0.606	2.00	pCi/g					
Tin-113	U	-0.00783	0.0901	+/-0.0277	0.100	pCi/g					
Uranium-235	U	0.238	0.408	+/-0.121	0.500	pCi/g					
Yttrium-88	U	0.0135	0.0775	+/-0.0224	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	119	155	+/-48.4	250	pCi/L		KXK2	01/23/10	0721 943520	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"	87.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.2	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.7	(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
- F Estimated Value
- H Analytical holding time was exceeded

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7161
Sample ID: 244924003
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: February 2, 2010

Client Sample ID: RE15-10-7160
Sample ID: 244924004
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 20%

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	0.00157	0.0192	+/-0.00209	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00105	0.0173	+/-0.00148	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00836	0.0198	+/-0.00298	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.06	0.0818	+/-0.0903	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236		0.0913	0.0508	+/-0.0184	0.100	pCi/g						
Uranium-238		1.37	0.0474	+/-0.112	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0774	0.366	+/-0.121	0.200	pCi/g		MXR1	01/27/10	1839	942723	4
Bismuth-211	UI	3.76	0.379	+/-0.290		pCi/g						
Bismuth-214		1.31	0.145	+/-0.108	0.200	pCi/g						
Cadmium-109	UI	2.40	1.59	+/-0.626		pCi/g						
Cerium-139	U	-0.00475	0.0583	+/-0.018	0.050	pCi/g						
Cesium-134	UI	0.148	0.108	+/-0.0325	0.100	pCi/g						
Cesium-137		0.105	0.0721	+/-0.035	0.100	pCi/g						
Cobalt-60	U	-0.00963	0.0791	+/-0.0252	0.100	pCi/g						
Europium-152	U	0.0119	0.200	+/-0.0778	0.200	pCi/g						
Lanthanum-140	U	-0.0577	0.166	+/-0.055		pCi/g						
Lead-212		1.50	0.107	+/-0.0836	0.100	pCi/g						
Lead-214		1.31	0.137	+/-0.106	0.100	pCi/g						
Mercury-203	U	0.0223	0.0842	+/-0.0244	0.100	pCi/g						
Potassium-40		19.8	0.514	+/-1.14	1.00	pCi/g						
Radium-223	U	-0.829	1.30	+/-0.416		pCi/g						
Radium-224	UI	4.41	1.22	+/-0.808		pCi/g						
Radium-226		1.31	0.145	+/-0.108		pCi/g						
Radium-228		1.47	0.259	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	-0.108	0.554	+/-0.177	0.800	pCi/g						
Sodium-22	U	-0.0406	0.0919	+/-0.0307	0.080	pCi/g						
Strontium-85	U	0.078	0.0863	+/-0.0267		pCi/g						
Thallium-208		0.545	0.0776	+/-0.0477	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7160
Sample ID: 244924004
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	0.274	0.761	+/-0.230		pCi/g						
Thorium-231	U	-0.829	1.30	+/-0.416		pCi/g						
Thorium-234		3.58	2.92	+/-1.16	2.00	pCi/g						
Tin-113	U	-0.0407	0.0865	+/-0.0274	0.100	pCi/g						
Uranium-235	U	0.00984	0.425	+/-0.131	0.500	pCi/g						
Yttrium-88	U	0.0315	0.073	+/-0.0188	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		164	154	+/-49.7	250	pCi/L		KXK2	01/23/10	0923	943520	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"	84.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	103	(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: February 2, 2010

Client Sample ID: RE15-10-7160
Sample ID: 244924004
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: February 2, 2010

Client Sample ID: RE15-10-7174
Sample ID: 244924005
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 19.7%

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	0.00586	0.0187	+/-0.00256	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00122	0.0201	+/-0.00173	0.050	pCi/g		KXM4	02/01/10	1939	942862	2
Plutonium-239/240		0.0317	0.023	+/-0.00688	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.21	0.0856	+/-0.172	0.100	pCi/g		KXM4	01/29/10	1657	942863	4
Uranium-235/236		0.133	0.0531	+/-0.0232	0.100	pCi/g						
Uranium-238		2.60	0.0496	+/-0.199	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.156	0.298	+/-0.0947	0.200	pCi/g		MXR1	01/27/10	1905	942723	5
Bismuth-211	UI	4.24	0.398	+/-0.350		pCi/g						
Bismuth-214		1.28	0.131	+/-0.109	0.200	pCi/g						
Cadmium-109	UI	2.93	1.78	+/-0.587		pCi/g						
Cerium-139	U	-0.0318	0.0573	+/-0.0174	0.050	pCi/g						
Cesium-134	UI	0.102	0.0984	+/-0.0351	0.100	pCi/g						
Cesium-137		0.539	0.0769	+/-0.048	0.100	pCi/g						
Cobalt-60	U	0.0078	0.0742	+/-0.0218	0.100	pCi/g						
Europium-152	U	-0.099	0.181	+/-0.0672	0.200	pCi/g						
Lanthanum-140	U	-0.12	0.121	+/-0.0493		pCi/g						
Lead-212		1.58	0.108	+/-0.102	0.100	pCi/g						
Lead-214		1.48	0.139	+/-0.128	0.100	pCi/g						
Mercury-203	U	0.040	0.0869	+/-0.025	0.100	pCi/g						
Potassium-40		21.3	0.643	+/-1.28	1.00	pCi/g						
Radium-223	U	0.174	1.32	+/-0.445		pCi/g						
Radium-224	UI	5.05	1.23	+/-0.803		pCi/g						
Radium-226		1.28	0.131	+/-0.109		pCi/g						
Radium-228		1.50	0.240	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	-0.0456	0.565	+/-0.170	0.800	pCi/g						
Sodium-22	U	0.0119	0.0893	+/-0.0261	0.080	pCi/g						
Strontium-85	UI	0.0974	0.0861	+/-0.0261		pCi/g						
Thallium-208		0.490	0.0702	+/-0.0576	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7174
Sample ID: 244924005

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	-0.432	0.696	+/-0.222		pCi/g						
Thorium-231	U	0.174	1.32	+/-0.445		pCi/g						
Thorium-234		3.66	2.40	+/-1.39	2.00	pCi/g						
Tin-113	U	0.00201	0.0919	+/-0.0279	0.100	pCi/g						
Uranium-235	U	0.0856	0.427	+/-0.123	0.500	pCi/g						
Yttrium-88	U	0.0144	0.0657	+/-0.0187	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	121	151	+/-47.5	250	pCi/L		KXK2	01/23/10	1124	943520	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"	87.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	103	(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: February 2, 2010

Client Sample ID:
Sample ID:

RE15-10-7174
244924005

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: February 2, 2010

Client Sample ID: RE15-10-7173
Sample ID: 244924006
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.8%

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	0.00165	0.0196	+/-0.00138	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00212	0.0175	+/-0.00212	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00106	0.0201	+/-0.00281	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.0948	+/-0.101	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236		0.087	0.0589	+/-0.0191	0.100	pCi/g						
Uranium-238		1.24	0.055	+/-0.106	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.00492	0.302	+/-0.0869	0.200	pCi/g		MXR1	01/27/10	1905	942723	4
Bismuth-211	UI	3.87	0.267	+/-0.220		pCi/g						
Bismuth-214		1.17	0.0978	+/-0.0846	0.200	pCi/g						
Cadmium-109	UI	3.49	1.15	+/-0.539		pCi/g						
Cerium-139	U	-0.0142	0.0426	+/-0.0126	0.050	pCi/g						
Cesium-134	UI	0.0799	0.0729	+/-0.0269	0.100	pCi/g						
Cesium-137	U	0.00865	0.0547	+/-0.0159	0.100	pCi/g						
Cobalt-60	U	0.0412	0.0564	+/-0.0154	0.100	pCi/g						
Europium-152	U	-0.0865	0.128	+/-0.0435	0.200	pCi/g						
Lanthanum-140	U	-0.0642	0.110	+/-0.037		pCi/g						
Lead-212		1.69	0.072	+/-0.0774	0.100	pCi/g						
Lead-214		1.35	0.0929	+/-0.084	0.100	pCi/g						
Mercury-203	U	0.0457	0.0578	+/-0.0211	0.100	pCi/g						
Potassium-40		21.1	0.450	+/-1.02	1.00	pCi/g						
Radium-223	U	-0.0358	0.874	+/-0.308		pCi/g						
Radium-224	UI	5.72	0.818	+/-0.588		pCi/g						
Radium-226		1.17	0.0978	+/-0.0846		pCi/g						
Radium-228		1.80	0.156	+/-0.166	0.500	pCi/g						
Ruthenium-106	U	0.206	0.424	+/-0.123	0.800	pCi/g						
Sodium-22	U	-0.0226	0.0555	+/-0.0179	0.080	pCi/g						
Strontium-85	UI	0.0771	0.0594	+/-0.018		pCi/g						
Thallium-208		0.512	0.0448	+/-0.0406	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: February 2, 2010

Client Sample ID: RE15-10-7173
Sample ID: 244924006

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	-0.123	0.501	+/-0.153		pCi/g						
Thorium-231	U	-0.0358	0.874	+/-0.308		pCi/g						
Thorium-234	U	0.797	2.56	+/-0.739	2.00	pCi/g						
Tin-113	U	-0.00154	0.0561	+/-0.0165	0.100	pCi/g						
Uranium-235	U	0.136	0.325	+/-0.0984	0.500	pCi/g						
Yttrium-88	U	0.00464	0.0449	+/-0.0142	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	75.6	154	+/-47.1	250	pCi/L		KXK2	01/23/10	1325	943520	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"	80.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.0	(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: February 2, 2010

Client Sample ID: RE15-10-7173
Sample ID: 244924006

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: February 2, 2010

Client Sample ID: RE15-10-7175
Sample ID: 244924007
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.33%

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	-0.000703	0.0189	+/-0.00111	0.050	pCi/g		KXM4	02/01/10	1937 942861	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238	U	0.00	0.0178	+/-0.00108	0.050	pCi/g		KXM4	01/27/10	2101 942862	2
Plutonium-239/240	U	0.00	0.0204	+/-0.00153	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		0.685	0.0945	+/-0.0662	0.100	pCi/g		KXM4	01/29/10	1657 942863	3
Uranium-235/236	U	0.0415	0.0587	+/-0.0139	0.100	pCi/g					
Uranium-238		0.677	0.0548	+/-0.0658	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	-0.0359	0.171	+/-0.0564	0.200	pCi/g		MXR1	01/27/10	1906 942723	4
Bismuth-211	UI	3.71	0.307	+/-0.285		pCi/g					
Bismuth-214		1.02	0.104	+/-0.0839	0.200	pCi/g					
Cadmium-109	UI	2.66	1.13	+/-0.417		pCi/g					
Cerium-139	U	-0.0307	0.0414	+/-0.0134	0.050	pCi/g					
Cesium-134	UI	0.0887	0.0816	+/-0.0213	0.100	pCi/g					
Cesium-137	U	0.00524	0.056	+/-0.0162	0.100	pCi/g					
Cobalt-60	U	0.0512	0.0647	+/-0.017	0.100	pCi/g					
Europium-152	U	-0.0527	0.145	+/-0.0483	0.200	pCi/g					
Lanthanum-140	U	-0.0317	0.0964	+/-0.038		pCi/g					
Lead-212		1.61	0.0835	+/-0.100	0.100	pCi/g					
Lead-214		1.29	0.107	+/-0.105	0.100	pCi/g					
Mercury-203	U	0.0184	0.0637	+/-0.0204	0.100	pCi/g					
Potassium-40		28.8	0.439	+/-1.50	1.00	pCi/g					
Radium-223	U	-0.553	0.915	+/-0.333		pCi/g					
Radium-224	UI	4.73	0.950	+/-0.666		pCi/g					
Radium-226		1.02	0.104	+/-0.0839		pCi/g					
Radium-228		1.62	0.205	+/-0.159	0.500	pCi/g					
Ruthenium-106	U	0.0663	0.481	+/-0.145	0.800	pCi/g					
Sodium-22	U	0.0079	0.0744	+/-0.0226	0.080	pCi/g					
Strontium-85	U	0.0257	0.058	+/-0.0189		pCi/g					
Thallium-208		0.448	0.0535	+/-0.0439	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7175
Sample ID: 244924007

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	-0.0245	0.570	+/-0.166		pCi/g						
Thorium-231	U	-0.553	0.915	+/-0.333		pCi/g						
Thorium-234	U	0.923	1.56	+/-0.779	2.00	pCi/g						
Tin-113	U	0.00449	0.0622	+/-0.0183	0.100	pCi/g						
Uranium-235	U	0.159	0.322	+/-0.135	0.500	pCi/g						
Yttrium-88	U	0.0122	0.0513	+/-0.0145	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	105	154	+/-47.7	250	pCi/L		KXX2	01/23/10	1526	943520	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"	90.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.7	(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
- F Estimated Value
- H Analytical holding time was exceeded

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Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7175
Sample ID: 244924007
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: February 2, 2010

Client Sample ID: RE15-10-7172
Sample ID: 244924008
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 21.2%

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	0.013	0.018	+/-0.00484	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0202	+/-0.00173	0.050	pCi/g		KXM4	02/01/10	1939	942862	2
Plutonium-239/240		0.0622	0.0231	+/-0.00947	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.12	0.0992	+/-0.170	0.100	pCi/g		KXM4	01/29/10	1657	942863	4
Uranium-235/236		0.0989	0.0616	+/-0.0217	0.100	pCi/g						
Uranium-238		2.72	0.0575	+/-0.212	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0109	0.377	+/-0.122	0.200	pCi/g		MXR1	01/27/10	2040	942723	5
Bismuth-211	UI	4.95	0.429	+/-0.431		pCi/g						
Bismuth-214		1.40	0.147	+/-0.126	0.200	pCi/g						
Cadmium-109	UI	2.91	1.84	+/-0.529		pCi/g						
Cerium-139	U	-0.0291	0.059	+/-0.019	0.050	pCi/g						
Cesium-134	U	0.0791	0.115	+/-0.0324	0.100	pCi/g						
Cesium-137		1.03	0.0839	+/-0.0758	0.100	pCi/g						
Cobalt-60	U	-0.00854	0.0785	+/-0.0247	0.100	pCi/g						
Europium-152	U	-0.0815	0.209	+/-0.0659	0.200	pCi/g						
Lanthanum-140	U	0.00705	0.206	+/-0.0615		pCi/g						
Lead-212		1.89	0.117	+/-0.138	0.100	pCi/g						
Lead-214		1.72	0.150	+/-0.157	0.100	pCi/g						
Mercury-203	U	-0.0251	0.0859	+/-0.0263	0.100	pCi/g						
Potassium-40		24.5	0.782	+/-1.53	1.00	pCi/g						
Radium-223	U	0.522	1.44	+/-0.474		pCi/g						
Radium-224	UI	5.80	1.33	+/-0.894		pCi/g						
Radium-226		1.40	0.147	+/-0.126		pCi/g						
Radium-228		1.78	0.267	+/-0.187	0.500	pCi/g						
Ruthenium-106	U	0.212	0.674	+/-0.194	0.800	pCi/g						
Sodium-22	U	-0.0139	0.0784	+/-0.0249	0.080	pCi/g						
Strontium-85	U	0.0695	0.0806	+/-0.0253		pCi/g						
Thallium-208		0.614	0.0817	+/-0.0579	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID:
Sample ID:

RE15-10-7172
244924008

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	-0.189	0.865	+/-0.261		pCi/g						
Thorium-231	U	0.522	1.44	+/-0.474		pCi/g						
Thorium-234	U	2.86	2.92	+/-1.60	2.00	pCi/g						
Tin-113	U	-0.00622	0.0969	+/-0.0298	0.100	pCi/g						
Uranium-235	UI	0.432	0.416	+/-0.237	0.500	pCi/g						
Yttrium-88	U	0.0131	0.0731	+/-0.0233	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	110	154	+/-48.0	250	pCi/L		KXK2	01/23/10	1728	943520	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"	87.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.8	(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

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Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7172
Sample ID: 244924008
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: February 2, 2010

Client Sample ID: RE15-10-7218
Sample ID: 244924009
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-10
Collector: Client
Moisture: 9.93%

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	-0.00182	0.0173	+/-0.00102	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0167	+/-0.00102	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00101	0.0192	+/-0.00102	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.0897	+/-0.0897	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236		0.0751	0.0557	+/-0.0172	0.100	pCi/g						
Uranium-238		1.06	0.052	+/-0.0919	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0216	0.175	+/-0.0563	0.200	pCi/g		MXR1	01/27/10	2041	942723	4
Bismuth-211	UI	4.58	0.358	+/-0.325		pCi/g						
Bismuth-214		1.37	0.112	+/-0.114	0.200	pCi/g						
Cadmium-109	UI	4.36	1.09	+/-0.472		pCi/g						
Cerium-139	U	-0.00247	0.0492	+/-0.0152	0.050	pCi/g						
Cesium-134	U	0.0887	0.095	+/-0.0256	0.100	pCi/g						
Cesium-137	U	-0.00487	0.0665	+/-0.0201	0.100	pCi/g						
Cobalt-60	U	0.00196	0.0691	+/-0.0209	0.100	pCi/g						
Europium-152	U	-0.0104	0.171	+/-0.0558	0.200	pCi/g						
Lanthanum-140	U	0.0657	0.159	+/-0.0496		pCi/g						
Lead-212		1.85	0.0895	+/-0.107	0.100	pCi/g						
Lead-214		1.59	0.125	+/-0.120	0.100	pCi/g						
Mercury-203	U	0.0192	0.0719	+/-0.0208	0.100	pCi/g						
Potassium-40		21.9	0.597	+/-1.23	1.00	pCi/g						
Radium-223	U	-0.21	1.16	+/-0.405		pCi/g						
Radium-224	UI	5.55	1.02	+/-0.784		pCi/g						
Radium-226		1.37	0.112	+/-0.114		pCi/g						
Radium-228		1.85	0.225	+/-0.164	0.500	pCi/g						
Ruthenium-106	U	-0.19	0.551	+/-0.171	0.800	pCi/g						
Sodium-22	U	0.0137	0.0693	+/-0.0202	0.080	pCi/g						
Strontium-85	UI	0.114	0.0774	+/-0.0218		pCi/g						
Thallium-208		0.572	0.0585	+/-0.0512	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 2, 2010

Client Sample ID: RE15-10-7218
Sample ID: 244924009

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	-0.335	0.642	+/-0.200		pCi/g						
Thorium-231	U	-0.21	1.16	+/-0.405		pCi/g						
Thorium-234		2.04	1.57	+/-0.757	2.00	pCi/g						
Tin-113	U	-0.00634	0.0768	+/-0.0235	0.100	pCi/g						
Uranium-235	U	0.0921	0.364	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.00534	0.0611	+/-0.0179	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		191	155	+/-50.9	250	pCi/L		KXK2	01/23/10	1929	943520	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"	96.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	92.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	95.6	(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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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: February 2, 2010

Client Sample ID: RE15-10-7218
Sample ID: 244924009

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

Report Date: February 2, 2010

Client Sample ID: RE15-10-7223
Sample ID: 244924010
Matrix: R
Collect Date: 12-JAN-10
Receive Date: 16-JAN-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	-0.00398	0.0184	+/-0.00272	0.050	pCi/g		KXM4	02/01/10	1937	942861	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00112	0.0184	+/-0.00112	0.050	pCi/g		KXM4	01/27/10	2101	942862	2
Plutonium-239/240	U	0.00112	0.0211	+/-0.00112	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.978	0.115	+/-0.0916	0.100	pCi/g		KXM4	01/29/10	1657	942863	3
Uranium-235/236	U	0.0549	0.0713	+/-0.0198	0.100	pCi/g						
Uranium-238		0.974	0.0666	+/-0.0917	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0531	0.194	+/-0.0632	0.200	pCi/g		MXR1	01/27/10	2042	942723	4
Bismuth-211	UI	3.18	0.318	+/-0.230		pCi/g						
Bismuth-214		1.15	0.0996	+/-0.0824	0.200	pCi/g						
Cadmium-109	UI	2.79	1.24	+/-0.349		pCi/g						
Cerium-139	U	0.0171	0.0495	+/-0.0146	0.050	pCi/g						
Cesium-134	U	0.0522	0.0865	+/-0.0247	0.100	pCi/g						
Cesium-137	U	-0.013	0.0609	+/-0.019	0.100	pCi/g						
Cobalt-60	U	-0.0335	0.0504	+/-0.0176	0.100	pCi/g						
Europium-152	U	-0.0218	0.150	+/-0.0549	0.200	pCi/g						
Lanthanum-140	U	-0.0478	0.121	+/-0.0412		pCi/g						
Lead-212		1.42	0.0846	+/-0.0726	0.100	pCi/g						
Lead-214		1.11	0.111	+/-0.0852	0.100	pCi/g						
Mercury-203	U	0.0426	0.0605	+/-0.0273	0.100	pCi/g						
Potassium-40		22.1	0.362	+/-1.11	1.00	pCi/g						
Radium-223	U	-0.124	1.01	+/-0.345		pCi/g						
Radium-224	UI	3.74	0.962	+/-0.585		pCi/g						
Radium-226		1.15	0.0996	+/-0.0824		pCi/g						
Radium-228		1.34	0.183	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	-0.0509	0.480	+/-0.148	0.800	pCi/g						
Sodium-22	U	0.0277	0.0689	+/-0.0194	0.080	pCi/g						
Strontium-85	UI	0.118	0.0714	+/-0.0201		pCi/g						
Thallium-208		0.491	0.0533	+/-0.043	0.080	pCi/g						

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

Report Date: February 2, 2010

Client Sample ID: RE15-10-7223
Sample ID: 244924010

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	-0.147	0.558	+/-0.166		pCi/g						
Thorium-231	U	-0.124	1.01	+/-0.345		pCi/g						
Thorium-234		2.65	1.66	+/-0.931	2.00	pCi/g						
Tin-113	U	-0.0152	0.0689	+/-0.0209	0.100	pCi/g						
Uranium-235	U	0.00538	0.339	+/-0.103	0.500	pCi/g						
Yttrium-88	U	0.0211	0.0542	+/-0.0146	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	119	155	+/-48.4	250	pCi/L		KXK2	01/23/10	2130	943520	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"	88.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.3	(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 :

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

Report Date: February 2, 2010

Client Sample ID: RE15-10-7223
Sample ID: 244924010
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: February 2, 2010

Page 1 of 6

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 244924

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	942861										
QC1202018652	244924010	DUP									
Americium-241		U	-0.00398	U	-0.00303	pCi/g	0.074	(0-1)	KXM4	02/01/1019:37	
		TPU:	+/-0.00272		+/-0.00374						
		Yield:	88.6		78.6						
QC1202018653	LCS										
Americium-241	33.2				30.7	pCi/g	92.6	(75%-125%)		02/01/1019:37	
		TPU:			+/-2.09						
		Yield:			109						
QC1202018651	MB										
Americium-241		U		U	0.00155	pCi/g				02/01/1019:37	
		TPU:			+/-0.00229						
		Yield:			91.8						
Batch	942862										
QC1202018655	244924010	DUP									
Plutonium-238		U	0.00112	U	-0.00109	pCi/g	0.415	(0-1)	KXM4	01/27/1021:01	
		TPU:	+/-0.00112		+/-0.00154						
		Yield:	85.3		86.0						
Plutonium-239/240		U	0.00112	U	0.00327	pCi/g	0.357	(0-1)			
		TPU:	+/-0.00112		+/-0.00189						
		Yield:	85.3		86.0						
QC1202018656	LCS										
Plutonium-238					7.03	pCi/g		(75%-125%)		01/27/1021:01	
		TPU:			+/-0.505						
		Yield:			101						
Plutonium-239/240	41.8				38.8	pCi/g	92.8	(75%-125%)			
		TPU:			+/-2.39						
		Yield:			101						
QC1202018654	MB										
Plutonium-238		U		U	0.00	pCi/g				01/27/1021:01	
		TPU:			+/-0.00121						
		Yield:			97.8						
Plutonium-239/240		U		U	0.00	pCi/g					
		TPU:			+/-0.00171						
		Yield:			97.8						
Batch	942863										
QC1202018658	244924010	DUP									
Uranium-233/234			0.978		0.917	pCi/g	0.174	(0-1)	KXM4	01/29/1016:57	
		TPU:	+/-0.0916		+/-0.0821						
		Yield:	81.4		103						
Uranium-235/236		U	0.0549		0.0642	pCi/g	0.125	(0-1)			
		TPU:	+/-0.0198		+/-0.0173						
		Yield:	81.4		103						
Uranium-238			0.974		0.941	pCi/g	0.094	(0-1)			
		TPU:	+/-0.0917		+/-0.0836						

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QC Summary

Workorder: 244924

Page 2 of 6

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	942863										
		Yield:	81.4	103							
QC1202018659	LCS			6.44	pCi/g			(75%-125%)		01/29/1016:54	
Uranium-233/234		TPU:		+/-0.591							
		Yield:		98.6							
Uranium-235/236				0.350	pCi/g			(75%-125%)			
		TPU:		+/-0.089							
		Yield:		98.6							
Uranium-238	5.75			5.20	pCi/g		90.4	(75%-125%)			
		TPU:		+/-0.494							
		Yield:		98.6							
QC1202018657	MB										
Uranium-233/234			U	-2.55E-05	pCi/g					01/29/1010:10	
		TPU:		+/-0.00496							
		Yield:		85.9							
Uranium-235/236			U	0.00	pCi/g						
		TPU:		+/-0.00251							
		Yield:		85.9							
Uranium-238			U	0.00	pCi/g						
		TPU:		+/-0.00287							
		Yield:		85.9							
Rad Gamma Spec											
Batch	942723										
QC1202018277	244924001	DUP									
Americium-241		U	-0.0636	U	-0.0106	pCi/g	0.142	(0-1)	MXR1	01/27/1020:43	
		TPU:	+/-0.111		+/-0.0757						
Bismuth-211		UI	3.15	UI	3.01	pCi/g	0.135	(0-1)			
		TPU:	+/-0.255		+/-0.254						
Bismuth-214			0.934		0.925	pCi/g	0.0254	(0-1)			
		TPU:	+/-0.0853		+/-0.0921						
Cadmium-109		UI	1.42	UI	2.66	pCi/g	0.654	(0-1)			
		TPU:	+/-0.506		+/-0.446						
Cerium-139		U	-0.00228	U	0.00268	pCi/g	0.0884	(0-1)			
		TPU:	+/-0.0145		+/-0.0135						
Cesium-134		U	0.018	UI	0.125	pCi/g	0.879	(0-1)			
		TPU:	+/-0.0249		+/-0.036						
Cesium-137		U	0.0493	U	0.0111	pCi/g	0.498	(0-1)			
		TPU:	+/-0.0202		+/-0.0183						
Cobalt-60		U	0.0096	U	-0.025	pCi/g	0.411	(0-1)			
		TPU:	+/-0.0216		+/-0.0204						
Europium-152		U	-0.0618	U	-0.0458	pCi/g	0.0864	(0-1)			
		TPU:	+/-0.0502		+/-0.0424						
Lanthanum-140		U	0.0262	U	-0.0402	pCi/g	0.409	(0-1)			
		TPU:	+/-0.0426		+/-0.0385						
Lead-212			1.28		1.47	pCi/g	0.536	(0-1)			
		TPU:	+/-0.0805		+/-0.103						
Lead-214			1.10		1.05	pCi/g	0.129	(0-1)			
		TPU:	+/-0.0933		+/-0.0925						
Mercury-203		U	0.051	U	0.017	pCi/g	0.368	(0-1)			
		TPU:	+/-0.0266		+/-0.0197						

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QC Summary

Workorder: 244924

Page 3 of 6

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	942723										
Potassium-40		33.9		34.0	pCi/g	0.0154		(0-1)			
	TPU:	+/-1.77		+/-1.79							
Radium-223	U	0.0464	U	0.207	pCi/g	0.122		(0-1)			
	TPU:	+/-0.324		+/-0.330							
Radium-224	UI	2.89	UI	3.23	pCi/g	0.172		(0-1)			
	TPU:	+/-0.433		+/-0.551							
Radium-226		0.934		0.925	pCi/g	0.0254		(0-1)			
	TPU:	+/-0.0853		+/-0.0921							
Radium-228		1.37		1.58	pCi/g	0.319		(0-1)			
	TPU:	+/-0.176		+/-0.160							
Ruthenium-106	U	0.341	U	-0.133	pCi/g	0.795		(0-1)			
	TPU:	+/-0.155		+/-0.144							
Sodium-22	U	0.0316	U	0.0258	pCi/g	0.0638		(0-1)			
	TPU:	+/-0.0237		+/-0.0215							
Strontium-85	U	0.0703	UI	0.0736	pCi/g	0.0388		(0-1)			
	TPU:	+/-0.0233		+/-0.0197							
Thallium-208		0.352		0.431	pCi/g	0.448		(0-1)			
	TPU:	+/-0.044		+/-0.0442							
Thorium-227	U	-0.0199	U	-0.151	pCi/g	0.184		(0-1)			
	TPU:	+/-0.184		+/-0.173							
Thorium-231	U	0.0464	U	0.207	pCi/g	0.122		(0-1)			
	TPU:	+/-0.324		+/-0.330							
Thorium-234	U	0.495	U	1.46	pCi/g	0.261		(0-1)			
	TPU:	+/-0.876		+/-0.973							
Tin-113	U	0.0255	U	0.0275	pCi/g	0.0238		(0-1)			
	TPU:	+/-0.0215		+/-0.0205							
Uranium-235	U	0.0841	U	-0.0133	pCi/g	0.250		(0-1)			
	TPU:	+/-0.102		+/-0.0934							
Yttrium-88	U	-0.00153	U	0.0218	pCi/g	0.362		(0-1)			
	TPU:	+/-0.0165		+/-0.0156							
QC1202018278	LCS										
Americium-241	15.9			13.4	pCi/g		83.9 (75%-125%)			01/27/1020:44	
	TPU:			+/-0.656							
Bismuth-211				2.25	pCi/g						
	TPU:			+/-0.339							
Bismuth-214				0.581	pCi/g						
	TPU:			+/-0.104							
Cadmium-109				30.4	pCi/g						
	TPU:			+/-1.92							
Cerium-139			U	0.0219	pCi/g						
	TPU:			+/-0.0237							
Cesium-134			U	-0.034	pCi/g						
	TPU:			+/-0.0463							
Cesium-137	5.57			5.73	pCi/g		103 (75%-125%)				
	TPU:			+/-0.216							
Cobalt-60	6.44			6.33	pCi/g		98.3 (75%-125%)				
	TPU:			+/-0.286							
Europium-152			U	-0.0123	pCi/g						
	TPU:			+/-0.105							
Lanthanum-140			U	-0.015	pCi/g						
	TPU:			+/-0.0336							

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QC Summary

Workorder: 244924

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch 942723									
Lead-212			0.945	pCi/g					
	TPU:		+/-0.0824						
Lead-214			0.783	pCi/g					
	TPU:		+/-0.120						
Mercury-203		U	-0.0466	pCi/g					
	TPU:		+/-0.0318						
Potassium-40		U	0.371	pCi/g					
	TPU:		+/-0.261						
Radium-223		U	-0.721	pCi/g					
	TPU:		+/-0.604						
Radium-224			2.73	pCi/g					
	TPU:		+/-0.885						
Radium-226			0.581	pCi/g					
	TPU:		+/-0.104						
Radium-228			1.20	pCi/g					
	TPU:		+/-0.300						
Ruthenium-106		U	0.00871	pCi/g					
	TPU:		+/-0.285						
Sodium-22		U	0.0192	pCi/g					
	TPU:		+/-0.0216						
Strontium-85		U	0.0492	pCi/g					
	TPU:		+/-0.0372						
Thallium-208			0.399	pCi/g					
	TPU:		+/-0.0603						
Thorium-227		U	-0.033	pCi/g					
	TPU:		+/-0.363						
Thorium-231		U	-0.721	pCi/g					
	TPU:		+/-0.604						
Thorium-234		U	-1.71	pCi/g					
	TPU:		+/-1.11						
Tin-113		U	0.0305	pCi/g					
	TPU:		+/-0.043						
Uranium-235		U	0.0852	pCi/g					
	TPU:		+/-0.162						
Yttrium-88		U	0.00299	pCi/g					
	TPU:		+/-0.026						
QC1202018276 MB									
Americium-241		U	-0.157	pCi/g					01/27/1020:43
	TPU:		+/-0.0845						
Bismuth-211		U	-0.0286	pCi/g					
	TPU:		+/-0.0831						
Bismuth-214		U	0.0554	pCi/g					
	TPU:		+/-0.0404						
Cadmium-109		U	0.109	pCi/g					
	TPU:		+/-0.274						
Cerium-139		U	0.00234	pCi/g					
	TPU:		+/-0.00935						
Cesium-134		U	0.0122	pCi/g					
	TPU:		+/-0.0122						
Cesium-137		U	-0.0111	pCi/g					
	TPU:		+/-0.0125						

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QC Summary

Workorder: 244924

Page 5 of 6

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	942723								
Cobalt-60		U	0.00744	pCi/g					
	TPU:		+/-0.012						
Europium-152		U	0.0333	pCi/g					
	TPU:		+/-0.0332						
Lanthanum-140		U	0.00717	pCi/g					
	TPU:		+/-0.0231						
Lead-212		U	0.000474	pCi/g					
	TPU:		+/-0.0277						
Lead-214		U	-0.0052	pCi/g					
	TPU:		+/-0.0283						
Mercury-203		U	0.0178	pCi/g					
	TPU:		+/-0.0125						
Potassium-40		U	-0.0138	pCi/g					
	TPU:		+/-0.128						
Radium-223		U	-0.217	pCi/g					
	TPU:		+/-0.235						
Radium-224		U	0.381	pCi/g					
	TPU:		+/-0.216						
Radium-226		U	0.0554	pCi/g					
	TPU:		+/-0.0404						
Radium-228		U	-0.0264	pCi/g					
	TPU:		+/-0.0408						
Ruthenium-106		U	0.00262	pCi/g					
	TPU:		+/-0.0927						
Sodium-22		U	-0.012	pCi/g					
	TPU:		+/-0.0112						
Strontium-85		U	-0.0781	pCi/g					
	TPU:		+/-0.0175						
Thallium-208		U	-0.0107	pCi/g					
	TPU:		+/-0.0152						
Thorium-227		U	0.118	pCi/g					
	TPU:		+/-0.123						
Thorium-231		U	-0.217	pCi/g					
	TPU:		+/-0.235						
Thorium-234		U	1.81	pCi/g					
	TPU:		+/-0.792						
Tin-113		U	0.0109	pCi/g					
	TPU:		+/-0.014						
Uranium-235		U	-0.143	pCi/g					
	TPU:		+/-0.075						
Yttrium-88		U	6.39E-05	pCi/g					
	TPU:		+/-0.0124						
Rad Liquid Scintillation									
Batch	943520								
QC1202020232	244924005	DUP							
Tritium		U	121	U	105	pCi/L	0.0819	(0-1) KXK2	01/24/1001:33
		TPU:	+/-47.5		+/-47.6				
QC1202020233	LCS								
Tritium		5580			5710	pCi/L	102 (75%-125%)		01/24/1003:35
		TPU:			+/-498				

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QC Summary

Workorder: 244924

Page 6 of 6

Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation									
Batch	943520								
QC1202020231	MB								
Tritium		U	28.1	pCi/L					01/23/1023:32
	TPU:		+/-45.9						

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.
- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- F Estimated Value
- H Analytical holding time was exceeded
- J Value is estimated
- M M if above MDC and less than LLD
- M Matrix Related Failure
- N/A RPD or %Recovery limits do not apply.
- ND Analyte concentration is not detected above the detection limit
- NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- R Sample results are rejected
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.
- UI Gamma Spectroscopy--Uncertain identification
- X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
- Y QC Samples were not spiked with this compound
- ^ 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# 942861 Product: Am Date: 2/2/10

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%.	✓		case narrative
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			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	✓		
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

RADcheck10, revised 1/13/2010

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

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

2/13
LANL

Am/Cm Que Sheet

18-JAN-10

Batch #: 942861
 Analyst: KXM4 First Client Due Date: 13-FEB-10 Internal Due Date: 02-FEB-10
 Tracer Code: 445-96-2-SS
 LCS Isotope(s): Am241/Cm244
 Spike Isotope(s): Am241/Cm244
 Prep Date: 125110 Initials: QJZB Balance ID: 50410272
 Expiration Date: 5/11/10
 Expiration Date: 4/30/20/ NA
 Expiration Date: NA / NA
 Vol: 0.1
 Vol(s): 0.104 NA
 Vol(s): NA / NA
 Witness: QJZB 01/25/10

Comments:

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Allquot (g/l/h)	Wet/Dry	Am/Cm Det #
244924001-1	RE15-10-7163	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	1	1	1.253	209		
244924002-1	RE15-10-7162	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	2	2	1.253	210		
244924003-1	RE15-10-7161	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	3	3	1.251	211		
244924004-1	RE15-10-7160	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	4	4	1.253	212		
244924005-1	RE15-10-7174	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	5	5	1.253	213		
244924006-1	RE15-10-7173	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	6	6	1.257	214		
244924007-1	RE15-10-7175	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	7	7	1.258	215		
244924008-1	RE15-10-7172	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	8	8	1.253	216		
244924009-1	RE15-10-7218	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	9	9	1.253	217		
244924010-1	RE15-10-7223	SAMPLE	.05 pCi/g	SOIL	LANL010	12-JAN-10	10	10	1.255	218		
1202018651-1	MB for batch 942861	MB	.05 pCi/g	SOIL	QC ACCOUNT	12-JAN-10	11	11	1	219		
1202018652-1	RE15-10-7223(244924010DUP)	DUP	.05 pCi/g	SOIL	QC ACCOUNT	12-JAN-10	12	12	1.258	221		
1202018653-1	LCS for batch 942861	LCS	.05 pCi/g	SOIL	QC ACCOUNT	12-JAN-10	13	13	0.104	222		

Choose SOP Used: GL-RAD-A-01P
 GL-RAD-A-036

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: QJZB 01/25/10

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

Blank Correction Report

Batch ID 942861

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018652	DUP	Americium-241	1.26 g	-0.00303	0.00374	0.0206	.001230159	pCi/g	YES
1202018653	LCS	Americium-241	0.104 g	30.7	2.09	0.188	.014903846	pCi/g	NO
1202018651	MB	Americium-241	1.00 g	0.00155	0.00229	0.0217	.00155	pCi/g	YES
244924001	RE15-10-7163	Americium-241	1.25 g	0.00256	0.00168	0.0186	.00124	pCi/g	YES
244924002	RE15-10-7162	Americium-241	1.25 g	0.000539	0.00185	0.0201	.00124	pCi/g	YES
244924003	RE15-10-7161	Americium-241	1.25 g	-0.00616	0.00287	0.0184	.00124	pCi/g	YES
244924004	RE15-10-7160	Americium-241	1.25 g	0.00157	0.00209	0.0192	.00124	pCi/g	YES
244924005	RE15-10-7174	Americium-241	1.25 g	0.00586	0.00256	0.0187	.00124	pCi/g	YES
244924006	RE15-10-7173	Americium-241	1.26 g	0.00165	0.00138	0.0196	.001230159	pCi/g	YES
244924007	RE15-10-7175	Americium-241	1.26 g	-0.000703	0.00111	0.0189	.001230159	pCi/g	YES
244924008	RE15-10-7172	Americium-241	1.25 g	0.013	0.00484	0.018	.00124	pCi/g	NO
244924009	RE15-10-7218	Americium-241	1.25 g	-0.00182	0.00102	0.0173	.00124	pCi/g	YES
244924010	RE15-10-7223	Americium-241	1.26 g	-0.00398	0.00272	0.0184	.001230159	pCi/g	YES

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861
SAMPLE DATE : 12-JAN-2010 00:00:00

SAMPLE ID : S0244924001_AM
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :79188
AVERAGE %EFFICIENCY :36.2314
% YIELD : 90.668

COUNT DATE: 1-FEB-2010 19:37:19
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91659 dpm
RESULTS : 2.64442 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B209.CNF;77
BKG DATE : 31-JAN-2010
EFF FILE : W209.CNF;31
CAL DATE : 29-JAN-2010

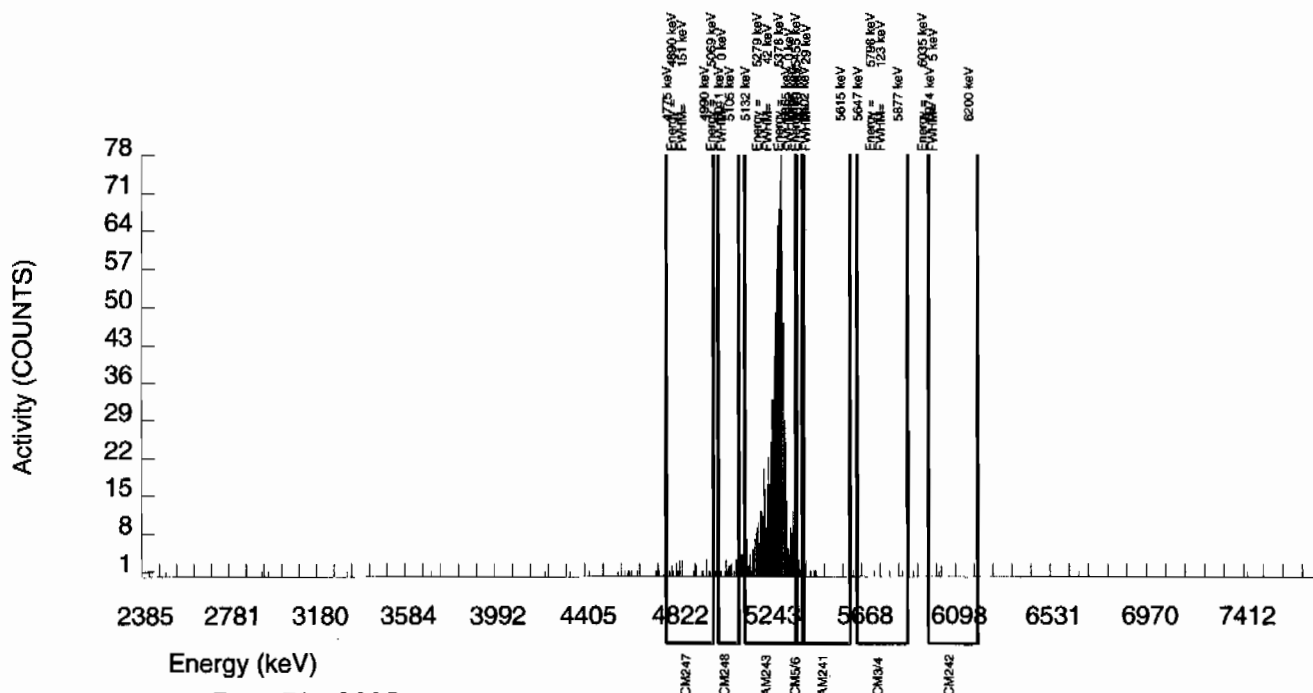
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	3.000	3.000	0.000	5.2338	100.0000	3.29E-03	1.91E-03	1.33E-02	2.96E-02	1.90E-03
CM-5/6	5386.000	15.000	15.000	0.000	19.8463	86.09000	1.91E-02	5.05E-03	5.87E-02	1.21E-01	4.92E-03
AM-241	5479.150	4.000	2.336	0.000	3.0704	99.94000	2.56E-03	1.68E-03	7.82E-03	1.86E-02	1.67E-03
CM-242	6102.000	3.000	3.000	0.000	4.3186	100.0000	3.59E-03	2.08E-03	1.10E-02	2.50E-02	2.07E-03
AM243	5270.000	956.000	956.000	0.000	0.0000	99.78000	1.05E+00	7.04E-02	0.00E+00	2.97E-03	3.39E-02
CM-247	4946.000	27.000	26.000	1.000	15.3366	79.30000	3.59E-02	7.60E-03	4.92E-02	1.02E-01	7.30E-03
CM-248	5078.600	27.000	27.000	0.000	22.1555	91.00000	3.25E-02	6.53E-03	6.20E-02	1.27E-01	6.25E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00			SAMPLE ID : S0244924002_AM SAMPLE QTY: 1.253 G		
DETECTOR NUMBER :79189 AVERAGE %EFFICIENCY :38.5227 % YIELD : 79.121			COUNT DATE: 1-FEB-2010 19:37:21 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.30762 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B210.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W210.CNF;29 CAL DATE : 29-JAN-2010		

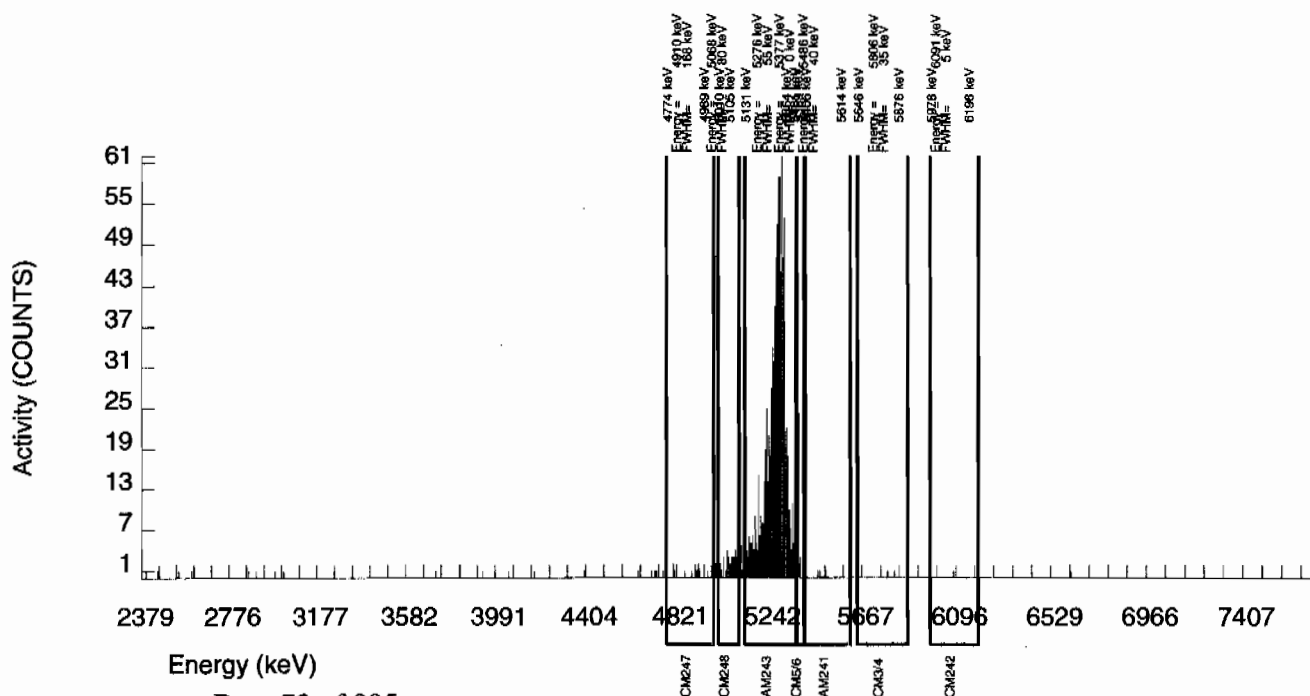
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	1.000	1.000	5.2338	100.0000	1.18E-03	2.05E-03	1.44E-02	3.19E-02	2.05E-03
CM-5/6	5386.000	20.000	20.000	0.000	19.8463	86.09000	2.74E-02	6.34E-03	6.33E-02	1.30E-01	6.13E-03
AM-241	5479.150	3.000	0.456	1.000	3.0704	99.94000	5.39E-04	1.85E-03	8.43E-03	2.01E-02	1.85E-03
CM-242	6102.000	1.000	1.000	0.000	4.3186	100.0000	1.29E-03	1.29E-03	1.18E-02	2.69E-02	1.29E-03
AM243	5270.000	888.000	887.000	1.000	1.0000	99.78000	1.05E+00	7.17E-02	2.75E-03	8.70E-03	3.52E-02
CM-247	4946.000	16.000	16.000	0.000	15.3366	79.30000	2.38E-02	6.12E-03	5.31E-02	1.10E-01	5.95E-03
CM-248	5078.600	39.000	39.000	0.000	22.1555	91.00000	5.05E-02	8.64E-03	6.68E-02	1.37E-01	8.09E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00			SAMPLE ID : S0244924003_AM SAMPLE QTY: 1.251 G		
DETECTOR NUMBER :79190 AVERAGE %EFFICIENCY :38.1959 % YIELD : 87.085			COUNT DATE: 1-FEB-2010 19:37:24 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.53990 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B211.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W211.CNF;29 CAL DATE : 29-JAN-2010		

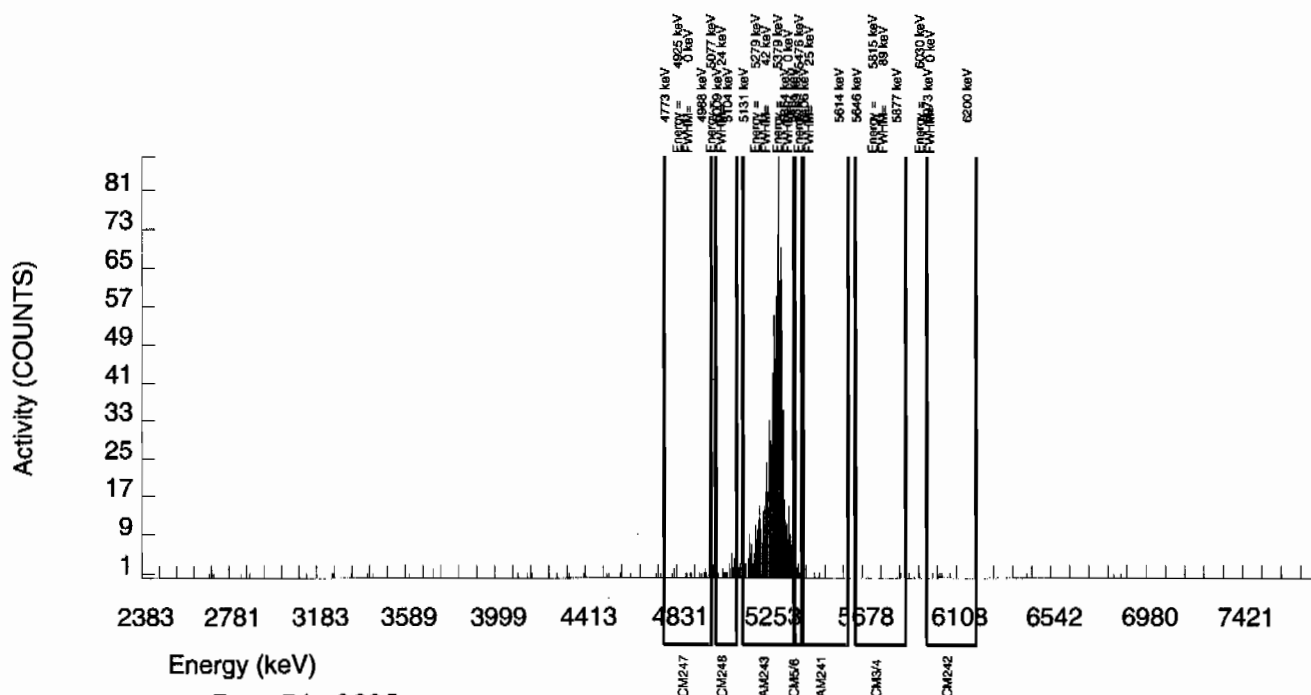
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	2.000	0.000	5.2338	100.0000	2.17E-03	1.54E-03	1.32E-02	2.93E-02	1.53E-03
CM-5/6	5386.000	18.000	18.000	0.000	19.8463	86.09000	2.26E-02	5.50E-03	5.81E-02	1.20E-01	5.33E-03
AM-241	5479.150	2.000	-5.685	6.000	3.0704	99.94000	-6.16E-03	2.87E-03	7.74E-03	1.84E-02	2.87E-03
CM-242	6102.000	6.000	6.000	0.000	4.3186	100.0000	7.11E-03	2.93E-03	1.09E-02	2.47E-02	2.90E-03
AM243	5270.000	974.000	968.000	6.000	2.4495	99.78000	1.05E+00	7.05E-02	6.18E-03	1.53E-02	3.40E-02
CM-247	4946.000	20.000	20.000	0.000	15.3366	79.30000	2.73E-02	6.31E-03	4.87E-02	1.01E-01	6.10E-03
CM-248	5078.600	24.000	19.000	5.000	22.1555	91.00000	2.26E-02	6.54E-03	6.13E-02	1.26E-01	6.41E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00				SAMPLE ID : S0244924004_AM SAMPLE QTY: 1.253 G			
DETECTOR NUMBER :79191 AVERAGE %EFFICIENCY :37.7948 % YIELD : 84.099				COUNT DATE: 1-FEB-2010 19:37:26 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4			
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01		LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01		TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.45283 dpm		LIB FILE : ENV_ALPHA_AM.N BKG FILE : B212.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W212.CNF;28 CAL DATE : 29-JAN-2010	

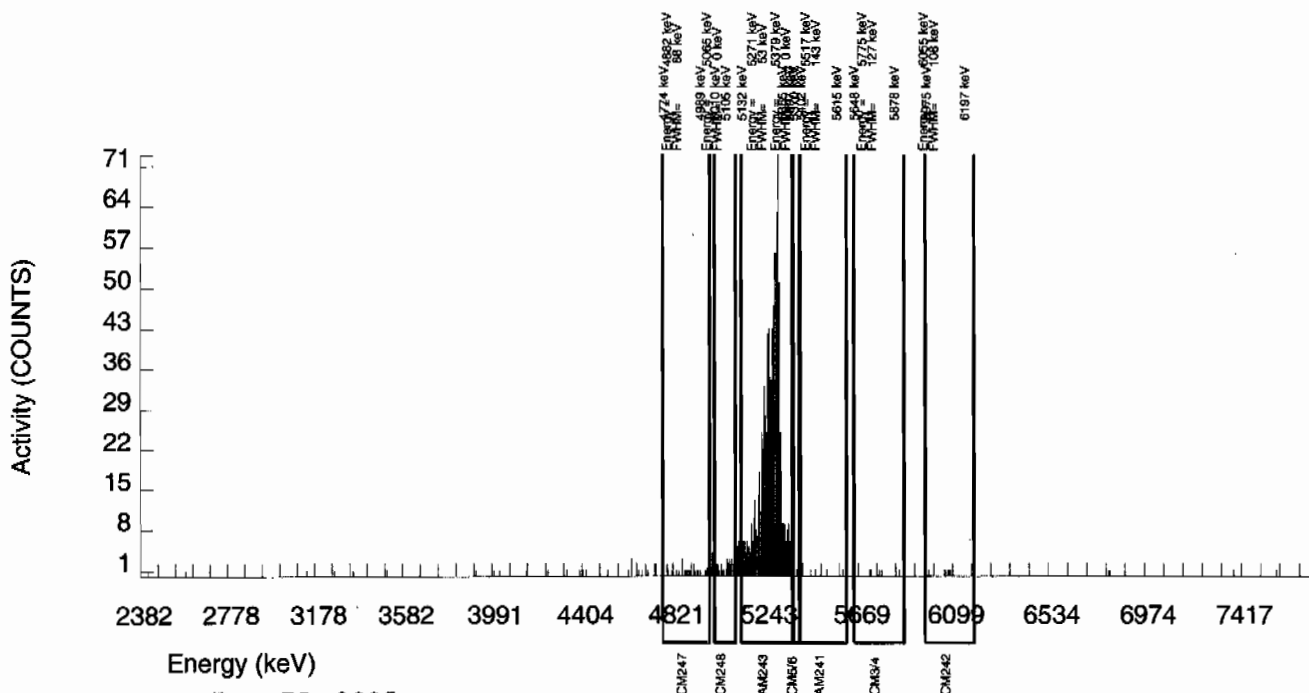
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	5.000	5.000	0.000	5.2338	100.0000	5.67E-03	2.56E-03	1.38E-02	3.06E-02	2.53E-03
CM-5/6	5386.000	15.000	15.000	0.000	19.8463	86.09000	1.97E-02	5.22E-03	6.07E-02	1.25E-01	5.09E-03
AM-241	5479.150	4.000	1.390	1.000	3.0704	99.94000	1.57E-03	2.09E-03	8.08E-03	1.92E-02	2.08E-03
CM-242	6102.000	7.000	7.000	0.000	4.3186	100.0000	8.66E-03	3.31E-03	1.14E-02	2.58E-02	3.27E-03
AM243	5270.000	925.000	925.000	0.000	0.0000	99.78000	1.05E+00	7.09E-02	0.00E+00	3.07E-03	3.45E-02
CM-247	4946.000	36.000	35.000	1.000	15.3366	79.30000	4.99E-02	9.16E-03	5.09E-02	1.06E-01	8.68E-03
CM-248	5078.600	38.000	38.000	0.000	22.1555	91.00000	4.72E-02	8.15E-03	6.41E-02	1.31E-01	7.66E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00			SAMPLE ID : S0244924005_AM SAMPLE QTY: 1.253 G		
DETECTOR NUMBER :79192 AVERAGE %EFFICIENCY :37.3130 % YIELD : 87.856			COUNT DATE: 1-FEB-2010 19:37:28 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.56240 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B213.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W213.CNF;28 CAL DATE : 29-JAN-2010		

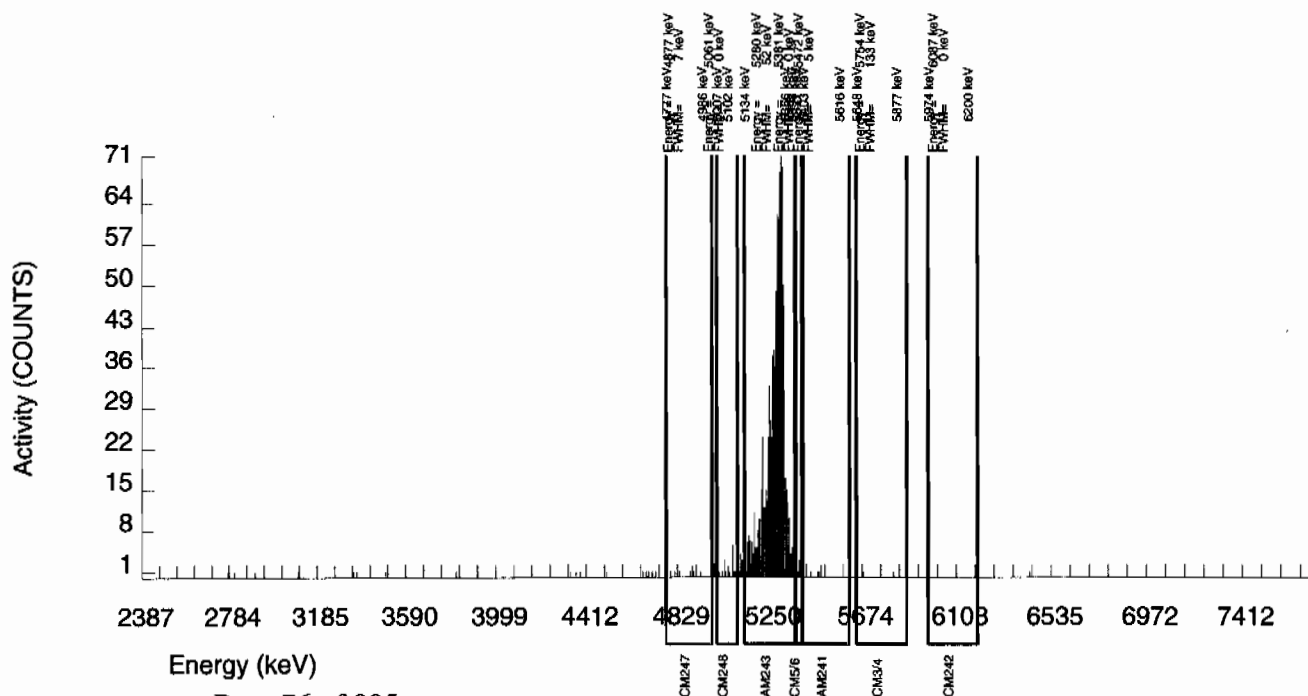
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	2.000	2.000	0.000	5.2338	100.0000	2.20E-03	1.56E-03	1.34E-02	2.97E-02	1.55E-03
CM-5/6	5386.000	13.000	13.000	0.000	19.8463	86.09000	1.66E-02	4.70E-03	5.88E-02	1.21E-01	4.59E-03
AM-241	5479.150	7.000	5.340	0.000	3.0704	99.94000	5.86E-03	2.56E-03	7.84E-03	1.86E-02	2.54E-03
CM-242	6102.000	0.000	0.000	0.000	4.3186	100.0000	0.00E+00	1.20E-03	1.10E-02	2.50E-02	1.20E-03
AM243	5270.000	954.000	954.000	0.000	0.0000	99.78000	1.05E+00	7.04E-02	0.00E+00	2.98E-03	3.39E-02
CM-247	4946.000	8.000	6.000	2.000	15.3366	79.30000	8.30E-03	4.40E-03	4.93E-02	1.02E-01	4.37E-03
CM-248	5078.600	25.000	24.000	1.000	22.1555	91.00000	2.89E-02	6.38E-03	6.21E-02	1.27E-01	6.14E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00			SAMPLE ID : S0244924006_AM SAMPLE QTY: 1.257 G		
DETECTOR NUMBER :79193 AVERAGE %EFFICIENCY :38.4008 % YIELD : 80.804			COUNT DATE: 1-FEB-2010 19:37:30 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.35671 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B214.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W214.CNF;28 CAL DATE : 29-JAN-2010		

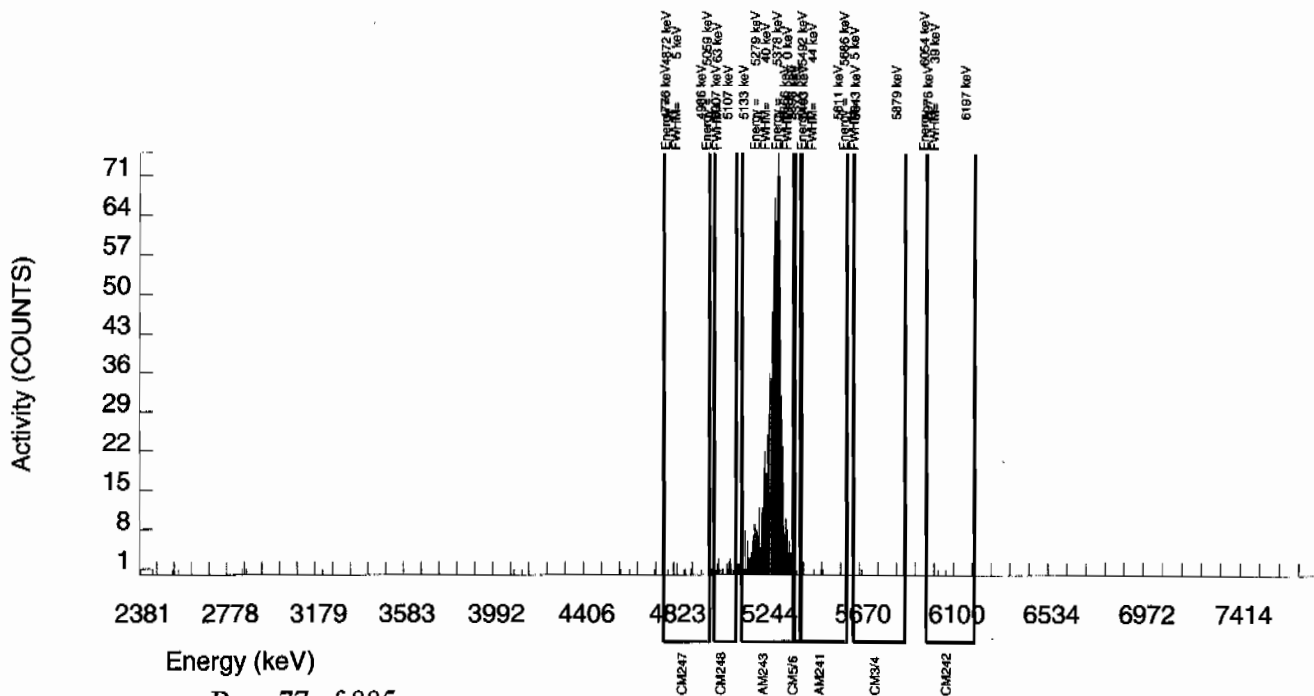
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	1.000	1.000	0.000	5.2338	100.0000	1.16E-03	1.16E-03	1.41E-02	3.13E-02	1.16E-03
CM-5/6	5386.000	11.000	11.000	0.000	19.8463	86.09000	1.48E-02	4.53E-03	6.19E-02	1.28E-01	4.45E-03
AM-241	5479.150	3.000	1.429	0.000	3.0704	99.94000	1.65E-03	1.38E-03	8.25E-03	1.96E-02	1.38E-03
CM-242	6102.000	2.000	2.000	0.000	4.3186	100.0000	2.53E-03	1.79E-03	1.16E-02	2.63E-02	1.79E-03
AM243	5270.000	903.000	903.000	0.000	0.0000	99.78000	1.05E+00	7.11E-02	0.00E+00	3.14E-03	3.48E-02
CM-247	4946.000	7.000	6.000	1.000	15.3366	79.30000	8.74E-03	4.15E-03	5.20E-02	1.08E-01	4.12E-03
CM-248	5078.600	23.000	23.000	0.000	22.1555	91.00000	2.92E-02	6.33E-03	6.54E-02	1.34E-01	6.09E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924007_AM SAMPLE QTY: 1.258 G	
DETECTOR NUMBER :79468 AVERAGE %EFFICIENCY :37.5541 % YIELD : 85.828		COUNT DATE: 1-FEB-2010 19:37:33 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.50325 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B215.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W215.CNF;33 CAL DATE : 29-JAN-2010

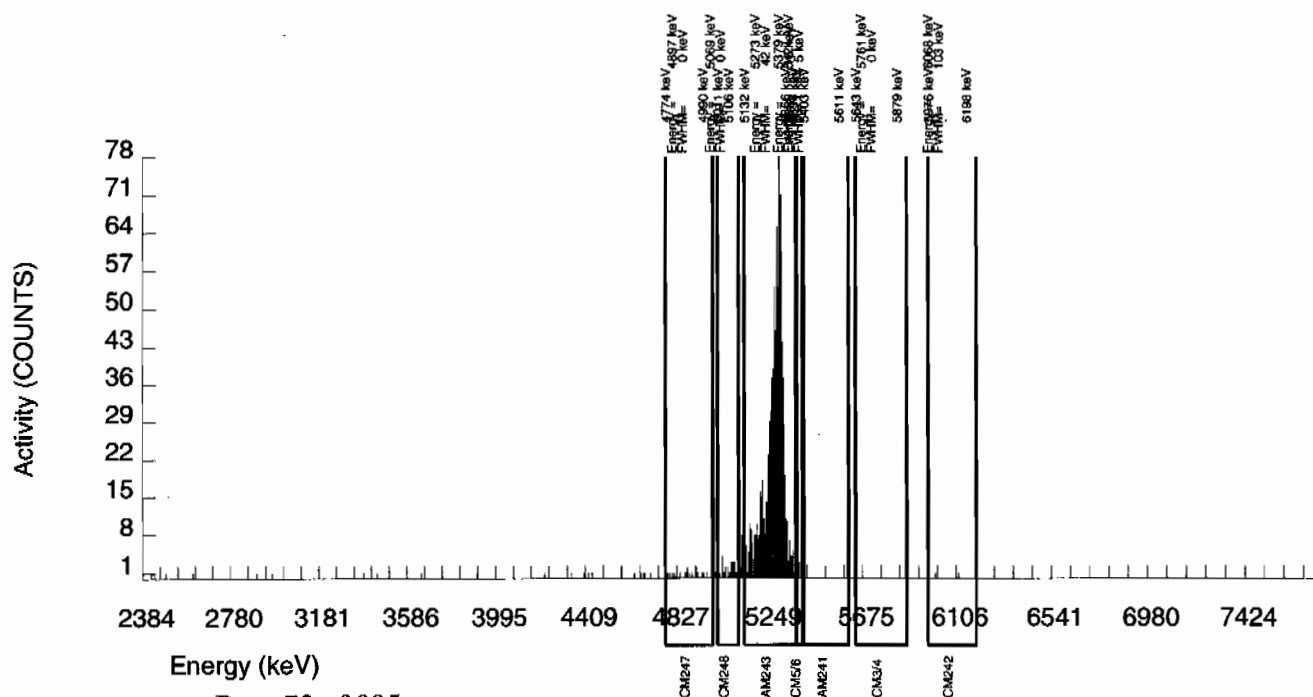
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	0.000	0.000	0.000	5.2338	100.0000	0.00E+00	1.12E-03	1.35E-02	3.01E-02	1.11E-03
CM-5/6	5386.000	13.000	13.000	0.000	19.8463	86.09000	1.68E-02	4.76E-03	5.96E-02	1.23E-01	4.65E-03
AM-241	5479.150	1.000	-0.632	0.000	3.0704	99.94000	-7.03E-04	1.11E-03	7.94E-03	1.89E-02	1.11E-03
CM-242	6102.000	2.000	2.000	0.000	4.3186	100.0000	2.43E-03	1.73E-03	1.12E-02	2.53E-02	1.72E-03
AM243	5270.000	938.000	938.000	0.000	0.0000	99.78000	1.04E+00	7.04E-02	0.00E+00	3.02E-03	3.41E-02
CM-247	4946.000	22.000	22.000	0.000	15.3366	79.30000	3.08E-02	6.82E-03	5.00E-02	1.04E-01	6.57E-03
CM-248	5078.600	31.000	31.000	0.000	22.1555	91.00000	3.78E-02	7.15E-03	6.29E-02	1.29E-01	6.80E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924008_AM SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :79195 AVERAGE %EFFICIENCY :38.5339 % YIELD : 87.926		COUNT DATE: 1-FEB-2010 19:37:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.56444 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B216.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W216.CNF;28 CAL DATE : 29-JAN-2010

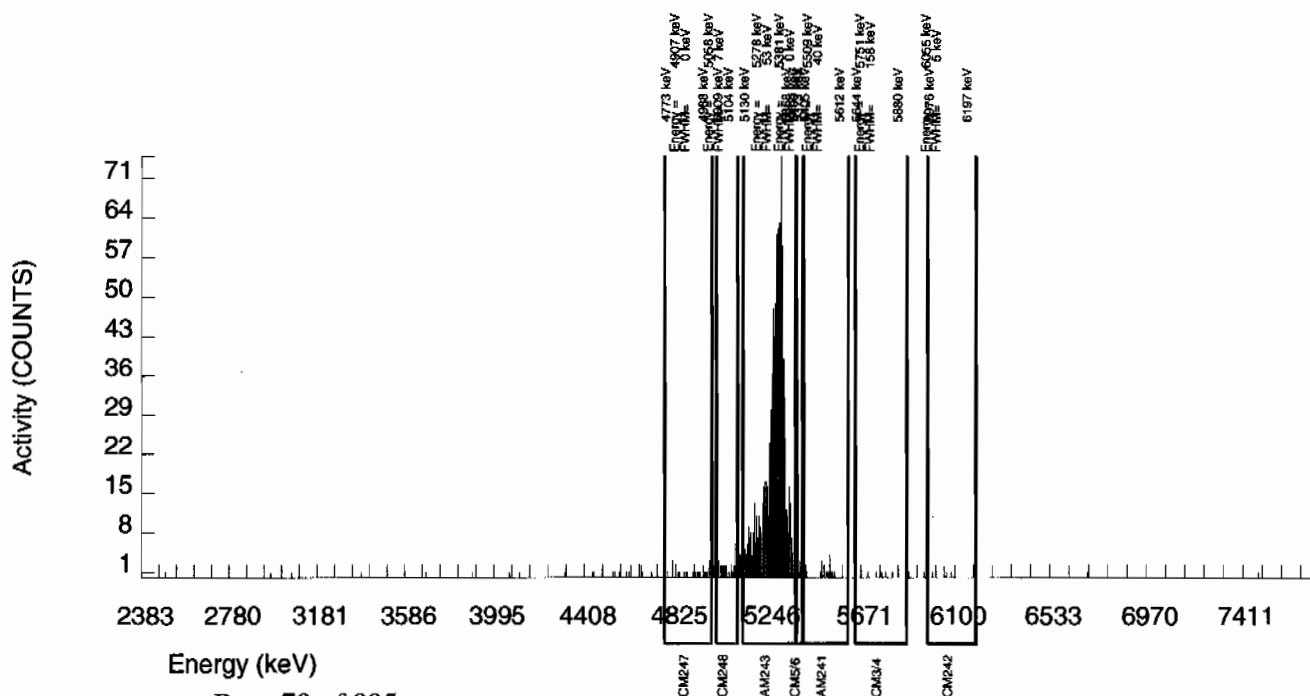
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	7.000	7.000	0.000	5.2338	100.0000	7.44E-03	2.85E-03	1.29E-02	2.87E-02	2.81E-03
CM-5/6	5386.000	20.000	20.000	0.000	19.8463	86.09000	2.46E-02	5.70E-03	5.69E-02	1.17E-01	5.51E-03
AM-241	5479.150	18.000	12.284	4.000	3.0704	99.94000	1.30E-02	4.84E-03	7.58E-03	1.80E-02	4.78E-03
CM-242	6102.000	5.000	5.000	0.000	4.3186	100.0000	5.81E-03	2.62E-03	1.07E-02	2.42E-02	2.60E-03
AM243	5270.000	987.000	986.000	1.000	1.0000	99.78000	1.05E+00	6.99E-02	2.47E-03	7.83E-03	3.34E-02
CM-247	4946.000	27.000	27.000	0.000	15.3366	79.30000	3.61E-02	7.27E-03	4.77E-02	9.91E-02	6.95E-03
CM-248	5078.600	35.000	35.000	0.000	22.1555	91.00000	4.08E-02	7.30E-03	6.01E-02	1.23E-01	6.90E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924009_AM SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :79410 AVERAGE %EFFICIENCY :36.8046 % YIELD : 96.259		COUNT DATE: 1-FEB-2010 19:37:37 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.80747 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B217.CNF;78 BKG DATE : 31-JAN-2010 EFF FILE : W217.CNF;30 CAL DATE : 29-JAN-2010

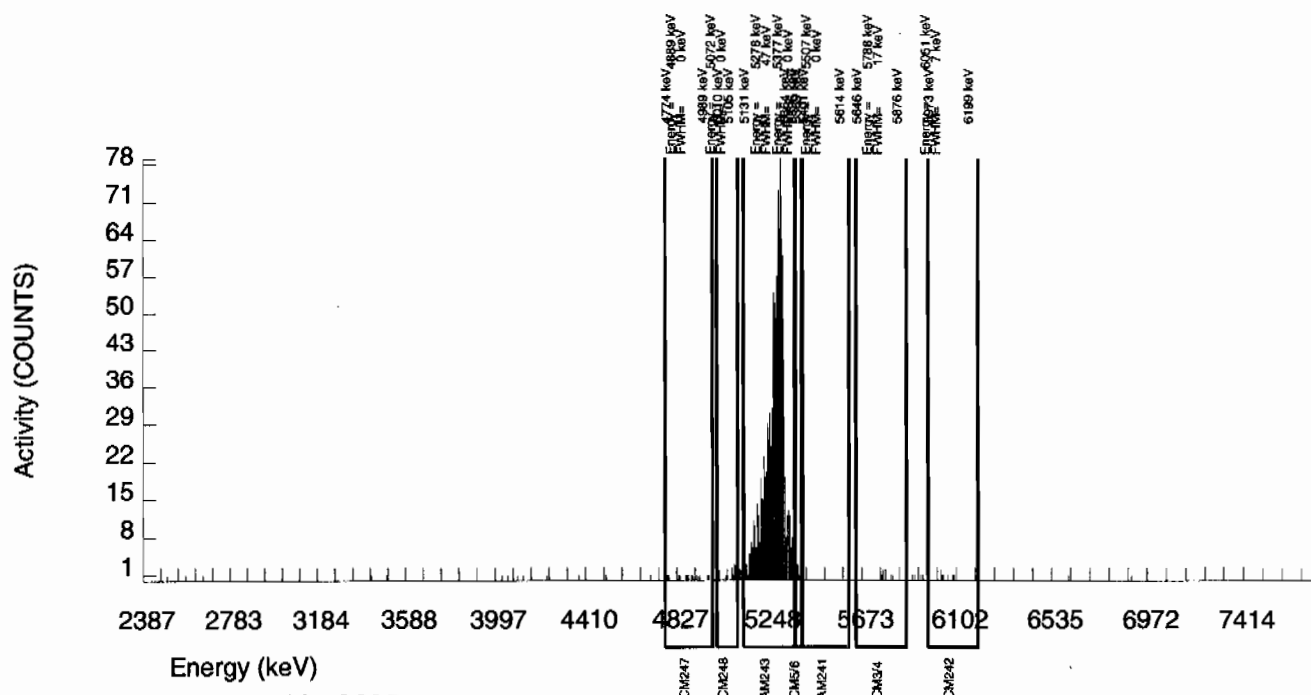
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	7.000	7.000	0.000	5.2338	100.0000	7.12E-03	2.72E-03	1.24E-02	2.75E-02	2.69E-03
CM-5/6	5386.000	14.000	14.000	0.000	19.8463	86.09000	1.65E-02	4.51E-03	5.44E-02	1.12E-01	4.41E-03
AM-241	5479.150	0.000	-1.794	0.000	3.0704	99.94000	-1.82E-03	1.02E-03	7.25E-03	1.73E-02	1.02E-03
CM-242	6102.000	8.000	7.000	1.000	4.3186	100.0000	7.77E-03	3.36E-03	1.02E-02	2.31E-02	3.33E-03
AM243	5270.000	1031.000	1031.000	0.000	0.0000	99.78000	1.05E+00	6.92E-02	0.00E+00	2.76E-03	3.27E-02
CM-247	4946.000	16.000	15.000	1.000	15.3366	79.30000	1.92E-02	5.39E-03	4.57E-02	9.48E-02	5.28E-03
CM-248	5078.600	20.000	19.000	1.000	22.1555	91.00000	2.12E-02	5.26E-03	5.75E-02	1.18E-01	5.11E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 12-JAN-2010 00:00:00			SAMPLE ID : S0244924010_AM SAMPLE QTY: 1.255 G		
DETECTOR NUMBER :79411 AVERAGE %EFFICIENCY :37.5225 % YIELD : 88.556			COUNT DATE: 1-FEB-2010 19:37:40 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4		
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91659 dpm RESULTS : 2.58281 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B218.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W218.CNF;28 CAL DATE : 29-JAN-2010		

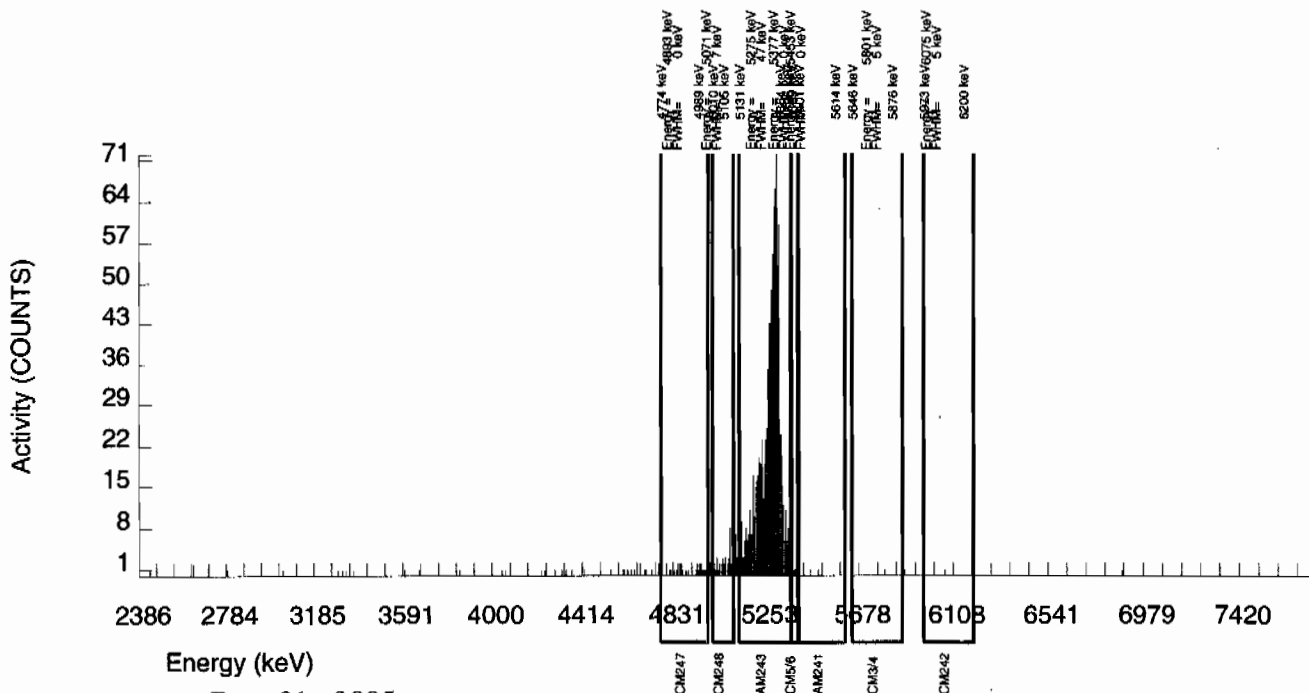
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	1.000	1.000	0.000	5.2338	100.0000	1.08E-03	1.08E-03	1.32E-02	2.92E-02	1.08E-03
CM-5/6	5386.000	15.000	15.000	0.000	19.8463	86.09000	1.88E-02	4.98E-03	5.79E-02	1.19E-01	4.86E-03
AM-241	5479.150	3.000	-3.683	5.000	3.0704	99.94000	-3.98E-03	2.72E-03	7.72E-03	1.84E-02	2.72E-03
CM-242	6102.000	1.000	0.000	1.000	4.3186	100.0000	0.00E+00	1.67E-03	1.09E-02	2.46E-02	1.67E-03
AM243	5270.000	967.000	967.000	0.000	0.0000	99.78000	1.05E+00	7.01E-02	0.00E+00	2.93E-03	3.37E-02
CM-247	4946.000	33.000	32.000	1.000	15.3366	79.30000	4.36E-02	8.34E-03	4.86E-02	1.01E-01	7.94E-03
CM-248	5078.600	40.000	40.000	0.000	22.1555	91.00000	4.75E-02	8.01E-03	6.12E-02	1.26E-01	7.51E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861
SAMPLE DATE : 25-JAN-2010 00:00:00

SAMPLE ID : S1202018651_AM
SAMPLE QTY: 1.000 G

DETECTOR NUMBER :79412
AVERAGE %EFFICIENCY :38.4458
% YIELD : 91.792

COUNT DATE: 1-FEB-2010 19:37:42
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91658 dpm
RESULTS : 2.67719 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B219.CNF;76
BKG DATE : 31-JAN-2010
EFF FILE : W219.CNF;28
CAL DATE : 29-JAN-2010

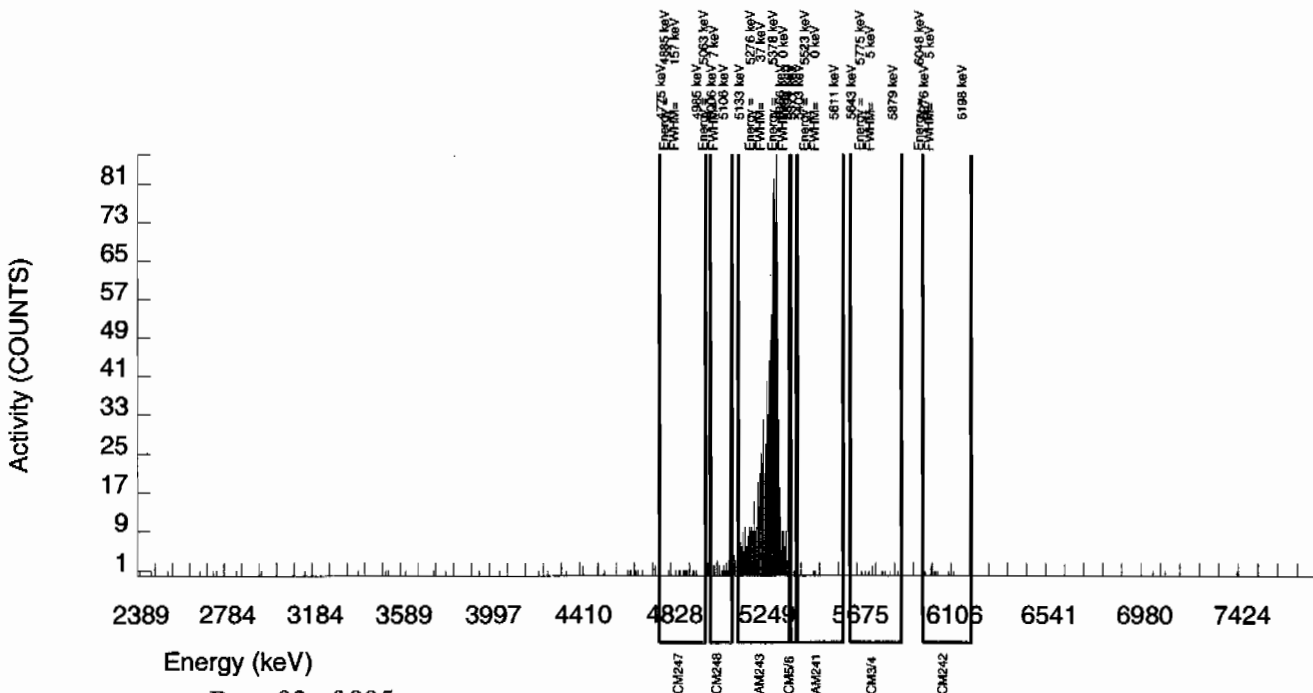
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	11.000	11.000	0.000	5.2338	100.0000	1.41E-02	4.32E-03	1.55E-02	3.45E-02	4.24E-03
CM-5/6	5386.000	15.000	15.000	0.000	19.8463	86.09000	2.22E-02	5.89E-03	6.85E-02	1.41E-01	5.74E-03
AM-241	5479.150	4.000	1.213	1.000	3.0704	99.94000	1.55E-03	2.29E-03	9.12E-03	2.17E-02	2.29E-03
CM-242	6102.000	8.000	8.000	0.000	4.3186	100.0000	1.06E-02	3.79E-03	1.28E-02	2.91E-02	3.74E-03
AM243	5270.000	1027.000	1027.000	0.000	0.0000	99.78000	1.31E+00	8.68E-02	0.00E+00	3.47E-03	4.10E-02
CM-247	4946.000	12.000	11.000	1.000	15.3366	79.30000	1.77E-02	5.89E-03	5.74E-02	1.19E-01	5.80E-03
CM-248	5078.600	34.000	34.000	0.000	22.1555	91.00000	4.77E-02	8.64E-03	7.23E-02	1.48E-01	8.18E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861
SAMPLE DATE : 12-JAN-2010 00:00:00

SAMPLE ID : S1202018652_AM
SAMPLE QTY: 1.256 G

DETECTOR NUMBER :79414
AVERAGE %EFFICIENCY :37.5959
% YIELD : 78.604

COUNT DATE: 1-FEB-2010 19:37:47
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : AM-241
PCI/G : 3.316E+01

TRACER
ID : 445-96-2-SS
ISOTOPE : AM243
NOMINAL : 2.91658 dpm
RESULTS : 2.29254 dpm

LIB FILE : ENV_ALPHA_AM.N
BKG FILE : B221.CNF;76
BKG DATE : 31-JAN-2010
EFF FILE : W221.CNF;28
CAL DATE : 29-JAN-2010

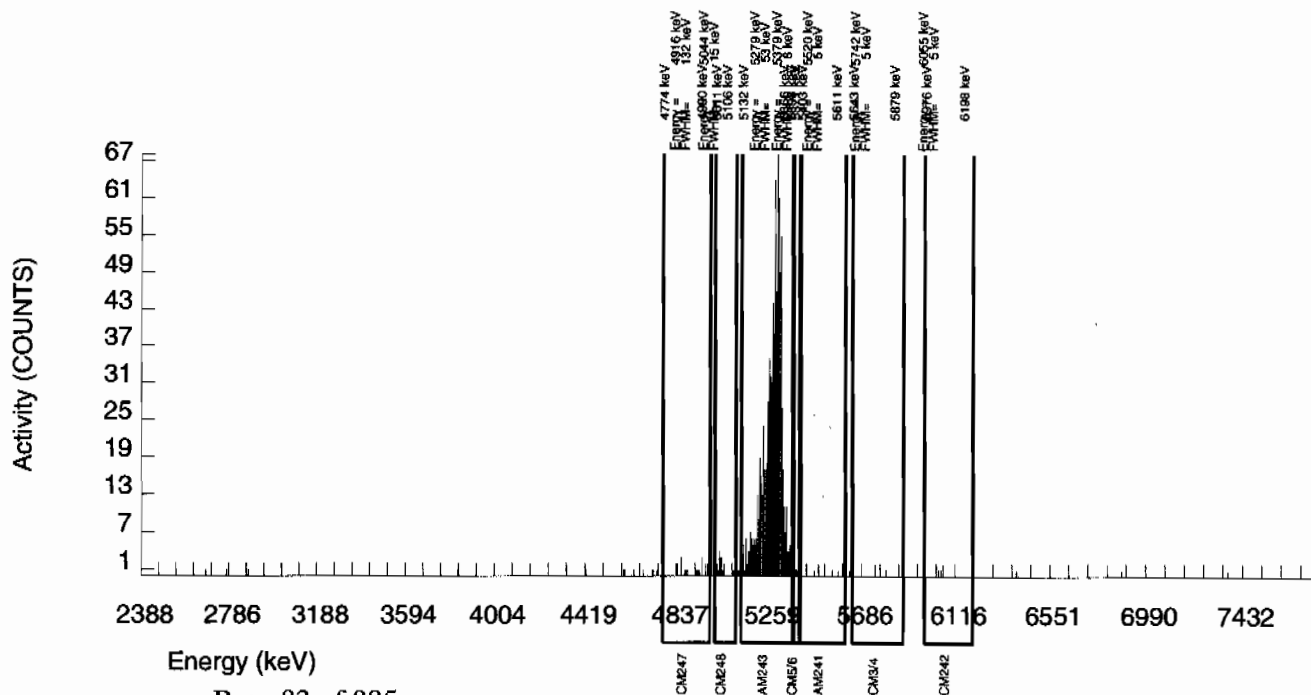
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	4.000	4.000	0.000	5.2338	100.0000	4.87E-03	2.45E-03	1.48E-02	3.28E-02	2.43E-03
CM-5/6	5386.000	9.000	9.000	0.000	19.8463	86.09000	1.27E-02	4.30E-03	6.51E-02	1.34E-01	4.23E-03
AM-241	5479.150	5.000	-2.497	6.000	3.0704	99.94000	-3.03E-03	3.74E-03	8.67E-03	2.06E-02	3.74E-03
CM-242	6102.000	5.000	5.000	0.000	4.3186	100.0000	6.64E-03	3.00E-03	1.22E-02	2.77E-02	2.97E-03
AM243	5270.000	860.000	860.000	0.000	0.0000	99.78000	1.05E+00	7.20E-02	0.00E+00	3.30E-03	3.57E-02
CM-247	4946.000	22.000	21.000	1.000	15.3366	79.30000	3.21E-02	7.59E-03	5.46E-02	1.13E-01	7.34E-03
CM-248	5078.600	21.000	21.000	0.000	22.1555	91.00000	2.80E-02	6.34E-03	6.87E-02	1.41E-01	6.11E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942861 SAMPLE DATE : 25-JAN-2010 00:00:00		SAMPLE ID : S1202018653_AM SAMPLE QTY: 0.104 G	
DETECTOR NUMBER :79415 AVERAGE %EFFICIENCY :36.0091 % YIELD : 108.596		COUNT DATE: 1-FEB-2010 19:37:49 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	LCS/LCSD ID : 0244-B ISOTOPE : AM-241 PCI/G : 3.316E+01	TRACER ID : 445-96-2-SS ISOTOPE : AM243 NOMINAL : 2.91657 dpm RESULTS : 3.16729 dpm	LIB FILE : ENV_ALPHA_AM.N BKG FILE : B222.CNF;76 BKG DATE : 31-JAN-2010 EFF FILE : W222.CNF;28 CAL DATE : 29-JAN-2010

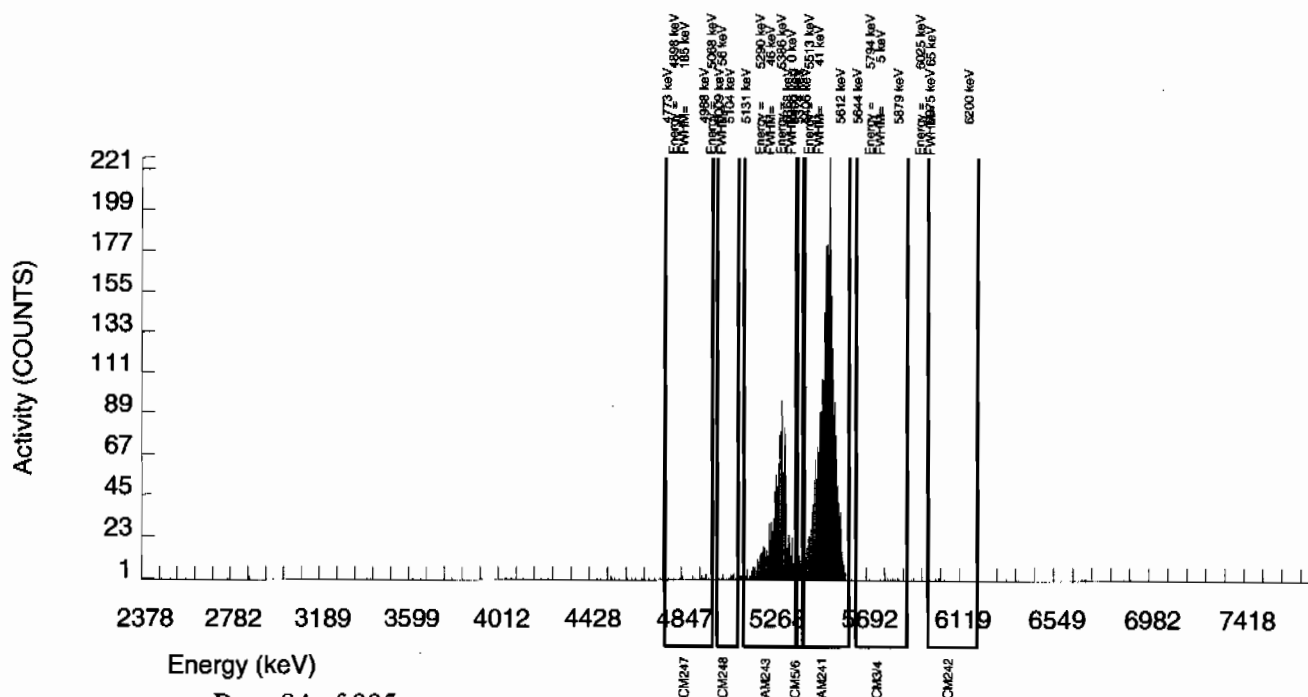
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
CM-3/4	5795.020	12.000	12.000	0.000	5.2338	100.0000	1.33E-01	3.94E-02	1.35E-01	3.00E-01	3.84E-02
CM-5/6	5386.000	79.000	79.000	0.000	19.8463	86.09000	1.02E+00	1.32E-01	5.94E-01	1.22E+00	1.14E-01
AM-241	5479.150	2773.000	2771.020	0.000	3.0704	99.94000	3.07E+01	2.09E+00	7.92E-02	1.88E-01	5.83E-01
CM-242	6102.000	5.000	5.000	0.000	4.3186	100.0000	5.73E-02	2.59E-02	1.11E-01	2.53E-01	2.56E-02
AM243	5270.000	1138.000	1138.000	0.000	0.0000	99.78000	1.26E+01	9.05E-01	0.00E+00	3.01E-02	3.74E-01
CM-247	4946.000	25.000	24.000	1.000	15.3366	79.30000	3.35E-01	7.45E-02	4.98E-01	1.03E+00	7.12E-02
CM-248	5078.600	25.000	25.000	0.000	22.1555	91.00000	3.04E-01	6.40E-02	6.27E-01	1.29E+00	6.09E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of AM243 calculated as sqrt(BKG AREA)

NOTE: Corrections made to AM-241 net area due to tracer impurity



Radiochemistry Batch Checklist, Rev10

Batch# 942862

Product: Pu

Date: 2/2/10

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 REF 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 initialed.	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 REMP, 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: M. J. L. Hew 2/2/10

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

0/2 2/13
LNL

Plutonium Que Sheet

18-JAN-10

Batch #: 942862 Analyte: KXM4 First Client Due Date: 13-FEB-10 Internal Due Date: 02-FEB-10
 Tracer Isotope(s): Pu-242/238 Tracer Code: 1375-A Expiration Date: 1/8/11 Vol: P-1
 LCS Isotope(s): Pu-239/Pu-238 LCS Code: SPMA 0244-B Expiration Date: 4/30/20 Vol: 0.104 g
 Spike Isotope(s): Pu-239/Pu-238 Spike Code: NA Expiration Date: NA Vol: NA
 Prep Date: 1/25/10 Initials: AKB Pipet ID: 2571058 Balance ID: 50410272 Witness: W.D. 01/25/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Allquot (g/l/l)	Pu Det #
244924001-1	RE15-10-7163	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	1	1	1.253	211
244924002-1	RE15-10-7162	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	2	2	1.253	212
244924003-1	RE15-10-7161	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	3	3	1.251	213
244924004-1	RE15-10-7160	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	4	4	1.253	214
244924005-1	RE15-10-7174	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	5	5	1.253	215
244924006-1	RE15-10-7173	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	6	6	1.257	216
244924007-1	RE15-10-7175	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	7	7	1.258	217
244924008-1	RE15-10-7172	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	8	8	1.253	218
244924009-1	RE15-10-7218	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	9	9	1.253	219
244924010-1	RE15-10-7223	SAMPLE	.85 pCi/g		SOIL	LANL010	12-JAN-10	10	10	1.255	220
1202018654-1	MB for batch 942862	MB	.85 pCi/g		SOIL	QC ACCOUNT	12-JAN-10	11	11		233
1202018655-1	RE15-10-7223(244924010DUP)	DUP	.85 pCi/g		SOIL	QC ACCOUNT	12-JAN-10	12	12	1.256	234
1202018656-1	LCS for batch 942862	LCS	.85 pCi/g		SOIL	QC ACCOUNT	12-JAN-10	13	13	0.104	235

Solid Sample Dissolution By: LEACH or DIGESTION
 Circle One

Choose SOP Used: GL-RAD-A-011 GL-RAD-A-036, GL-RAD-A-043, GL-RAD-A-045, GL-RAD-A-043

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: W.D. 01/25/10

Blank Correction Report

Batch ID 942862

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018655	DUP	Plutonium-238	1.26 g	-0.00109	0.00154	0.018	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00327	0.00189	0.0206	0	pCi/g	NO
1202018656	LCS	Plutonium-238	0.104 g	7.03	0.505	0.191	0	pCi/g	NO
		Plutonium-239/240	0.104 g	38.8	2.39	0.218	0	pCi/g	NO
1202018654	MB	Plutonium-238	1.00 g	0.00	0.00121	0.020	0	pCi/g	NO
		Plutonium-239/240	1.00 g	0.00	0.00171	0.0228	0	pCi/g	NO
244924001	RE15-10-7163	Plutonium-238	1.25 g	-0.00483	0.00236	0.0159	0	pCi/g	YES
		Plutonium-239/240	1.25 g	-0.00868	0.00348	0.0182	0	pCi/g	YES
244924002	RE15-10-7162	Plutonium-238	1.25 g	0.00	0.00176	0.0206	0	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0162	0.00577	0.0235	0	pCi/g	NO
244924003	RE15-10-7161	Plutonium-238	1.25 g	-0.001	0.00142	0.0166	0	pCi/g	YES
		Plutonium-239/240	1.25 g	0.001	0.00174	0.019	0	pCi/g	NO
244924004	RE15-10-7160	Plutonium-238	1.25 g	-0.00105	0.00148	0.0173	0	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00836	0.00298	0.0198	0	pCi/g	NO
244924005	RE15-10-7174	Plutonium-238	1.25 g	-0.00122	0.00173	0.0201	0	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0317	0.00688	0.023	0	pCi/g	NO
244924006	RE15-10-7173	Plutonium-238	1.26 g	-0.00212	0.00212	0.0175	0	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00106	0.00281	0.0201	0	pCi/g	NO
244924007	RE15-10-7175	Plutonium-238	1.26 g	0.00	0.00108	0.0178	0	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00	0.00153	0.0204	0	pCi/g	NO
244924008	RE15-10-7172	Plutonium-238	1.25 g	0.00	0.00173	0.0202	0	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0622	0.00947	0.0231	0	pCi/g	NO
244924009	RE15-10-7218	Plutonium-238	1.25 g	0.00	0.00102	0.0167	0	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00101	0.00102	0.0192	0	pCi/g	NO
244924010	RE15-10-7223	Plutonium-238	1.26 g	0.00112	0.00112	0.0184	0	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00112	0.00112	0.0211	0	pCi/g	NO

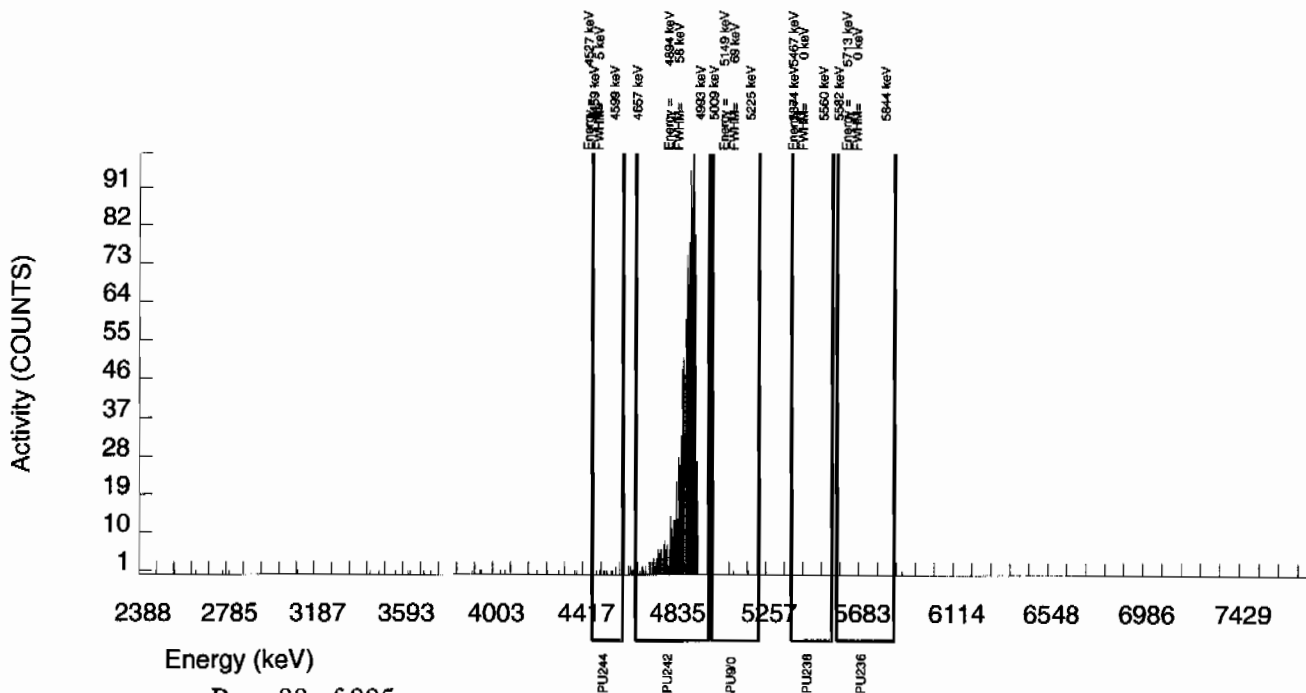
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00			SAMPLE ID : S0244924001_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :79190 AVERAGE %EFFICIENCY :38.4770 % YIELD : 96.939			COUNT DATE:27-JAN-2010 21:01:06 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.27728 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B211.CNF;74 BKG DATE : 26-JAN-2010 EFF FILE : W211.CNF;25 CAL DATE : 28-DEC-2009	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	2.000	-9.000	11.000	3.4797	99.90000	-8.68E-03	3.48E-03	7.81E-03	1.82E-02	3.48E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	9.75E-04	4.77E-03	1.22E-02	9.74E-04
PU-238	5499.000	0.000	-5.000	5.000	2.9680	99.90000	-4.83E-03	2.36E-03	6.66E-03	1.59E-02	2.36E-03
PU242	4890.000	1267.000	1261.000	6.000	2.4495	100.0000	1.22E+00	6.84E-02	5.49E-03	1.36E-02	3.44E-02
PU-244	4589.000	10.000	8.000	2.000	5.2050	99.90000	7.72E-03	3.36E-03	1.17E-02	2.60E-02	3.34E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



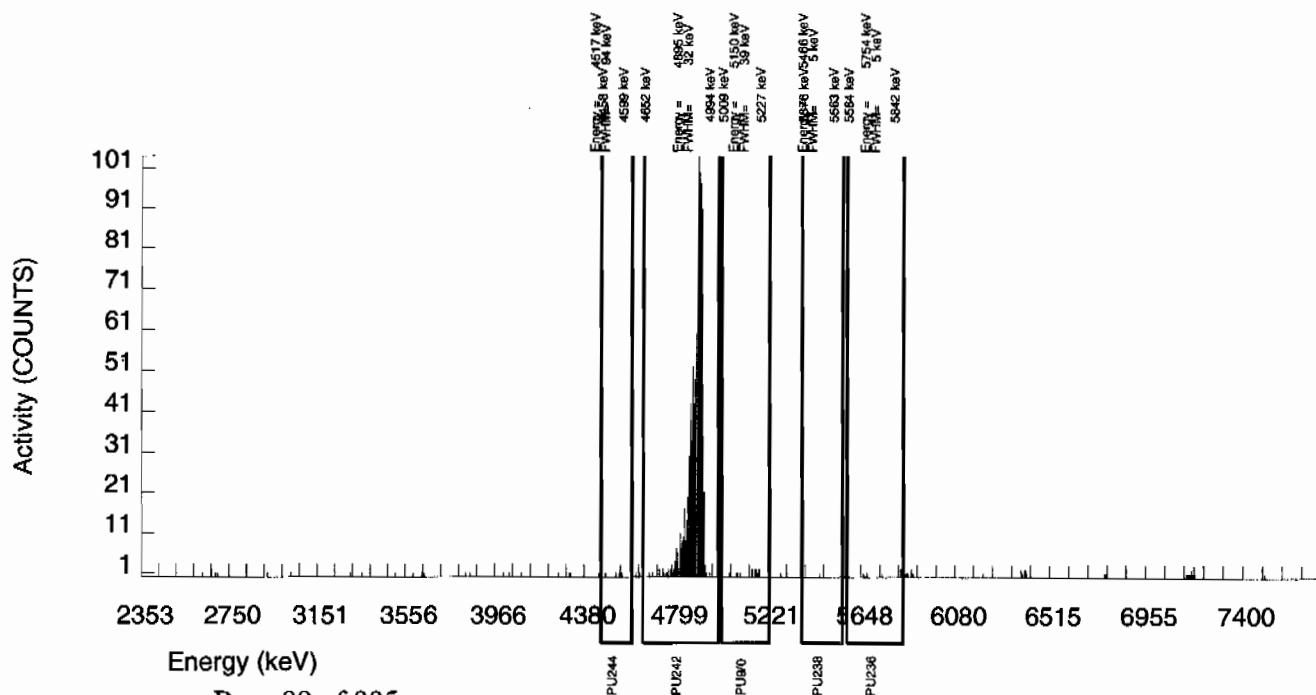
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924002_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :78204 AVERAGE %EFFICIENCY :31.5763 % YIELD : 91.520		COUNT DATE: 1-FEB-2010 19:39:03 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.09409 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B026.CNF;1109 BKG DATE : 31-JAN-2010 EFF FILE : W026.CNF;300 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	17.000	13.000	4.000	3.4797	99.90000	1.62E-02	5.77E-03	1.01E-02	2.35E-02	5.71E-03
PU-236	5749.000	5.000	3.000	2.000	2.1286	100.0000	3.78E-03	3.34E-03	6.16E-03	1.57E-02	3.34E-03
PU-238	5499.000	1.000	0.000	1.000	2.9680	99.90000	0.00E+00	1.76E-03	8.60E-03	2.06E-02	1.76E-03
PU242	4890.000	979.000	977.000	2.000	1.4142	100.0000	1.22E+00	7.53E-02	4.09E-03	1.16E-02	3.90E-02
PU-244	4589.000	5.000	4.000	1.000	5.2050	99.90000	4.98E-03	3.06E-03	1.51E-02	3.35E-02	3.05E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



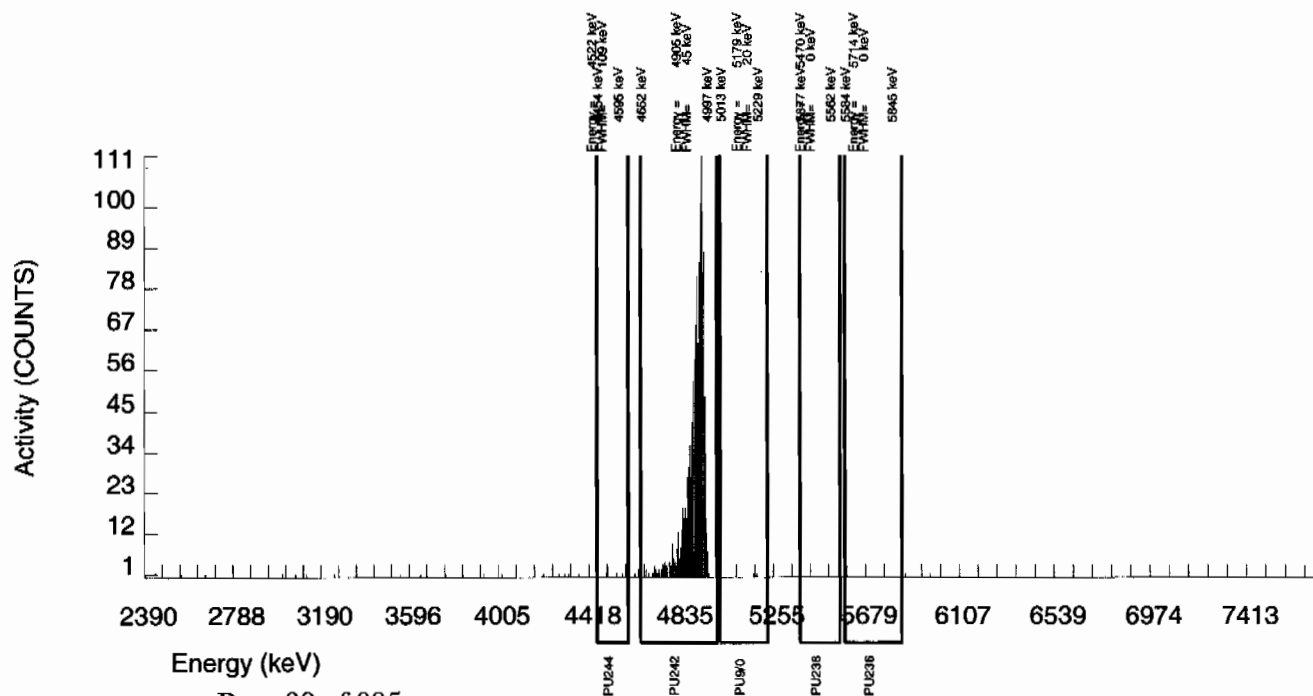
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924003_PU SAMPLE QTY: 1.251 G	
DETECTOR NUMBER :79192 AVERAGE %EFFICIENCY :37.2943 % YIELD : 96.206		COUNT DATE:27-JAN-2010 21:01:11 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.25250 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B213.CNF;74 BKG DATE : 26-JAN-2010 EFF FILE : W213.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	2.000	1.000	1.000	3.4797	99.90000	1.00E-03	1.74E-03	8.13E-03	1.90E-02	1.74E-03
PU-236	5749.000	0.000	-1.000	1.000	2.1286	100.0000	-1.01E-03	1.44E-03	4.97E-03	1.27E-02	1.43E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9680	99.90000	-1.00E-03	1.42E-03	6.94E-03	1.66E-02	1.42E-03
PU242	4890.000	1213.000	1213.000	0.000	0.0000	100.0000	1.22E+00	6.90E-02	0.00E+00	2.72E-03	3.50E-02
PU-244	4589.000	4.000	3.000	1.000	5.2050	99.90000	3.01E-03	2.25E-03	1.22E-02	2.71E-02	2.25E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862
SAMPLE DATE : 12-JAN-2010 00:00:00

SAMPLE ID : S0244924004_PU
SAMPLE QTY: 1.253 G

DETECTOR NUMBER :79193
AVERAGE %EFFICIENCY :38.4061
% YIELD : 89.647

COUNT DATE:27-JAN-2010 21:01:13
ELAPSED LIVE TIME(SEC): 60000.00
ANALYST :KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

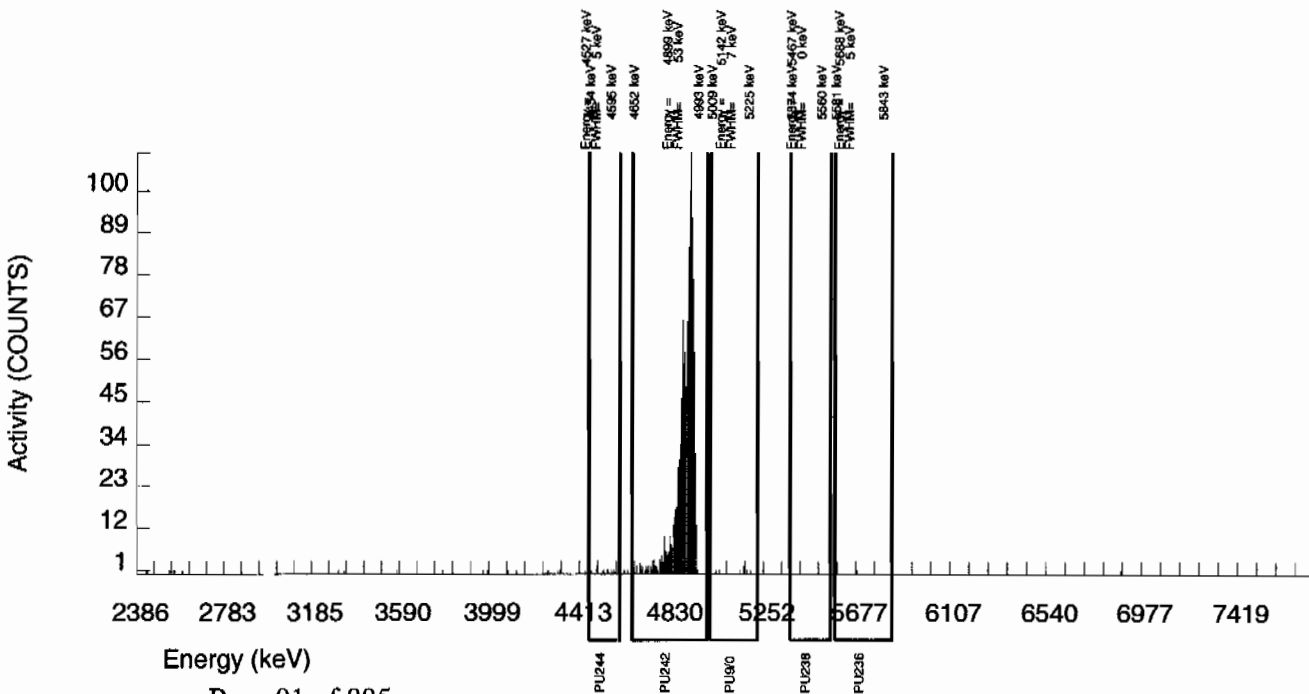
TRACER
ID : 1375-A
ISOTOPE : PU242
NOMINAL : 3.38076 dpm
RESULTS : 3.03077 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B214.CNF;74
BKG DATE : 26-JAN-2010
EFF FILE : W214.CNF;24
CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	8.000	8.000	0.000	3.4797	99.90000	8.36E-03	2.98E-03	8.46E-03	1.98E-02	2.96E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.06E-03	1.06E-03	5.17E-03	1.32E-02	1.06E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9680	99.90000	-1.05E-03	1.48E-03	7.22E-03	1.73E-02	1.48E-03
PU242	4890.000	1164.000	1164.000	0.000	0.0000	100.0000	1.22E+00	6.96E-02	0.00E+00	2.83E-03	3.56E-02
PU-244	4589.000	9.000	8.000	1.000	5.2050	99.90000	8.36E-03	3.33E-03	1.27E-02	2.81E-02	3.31E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862
SAMPLE DATE : 12-JAN-2010 00:00:00

SAMPLE ID : S0244924005_PU
SAMPLE QTY: 1.253 G

DETECTOR NUMBER : 42484
AVERAGE %EFFICIENCY : 33.2327
% YIELD : 88.828

COUNT DATE: 1-FEB-2010 19:39:03
ELAPSED LIVE TIME(SEC): 59999.99
ANALYST : KXM4

MS/MSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

LCS/LCSD
ID : 0244-B
ISOTOPE : PU-9/0
PCI/G : 4.178E+01

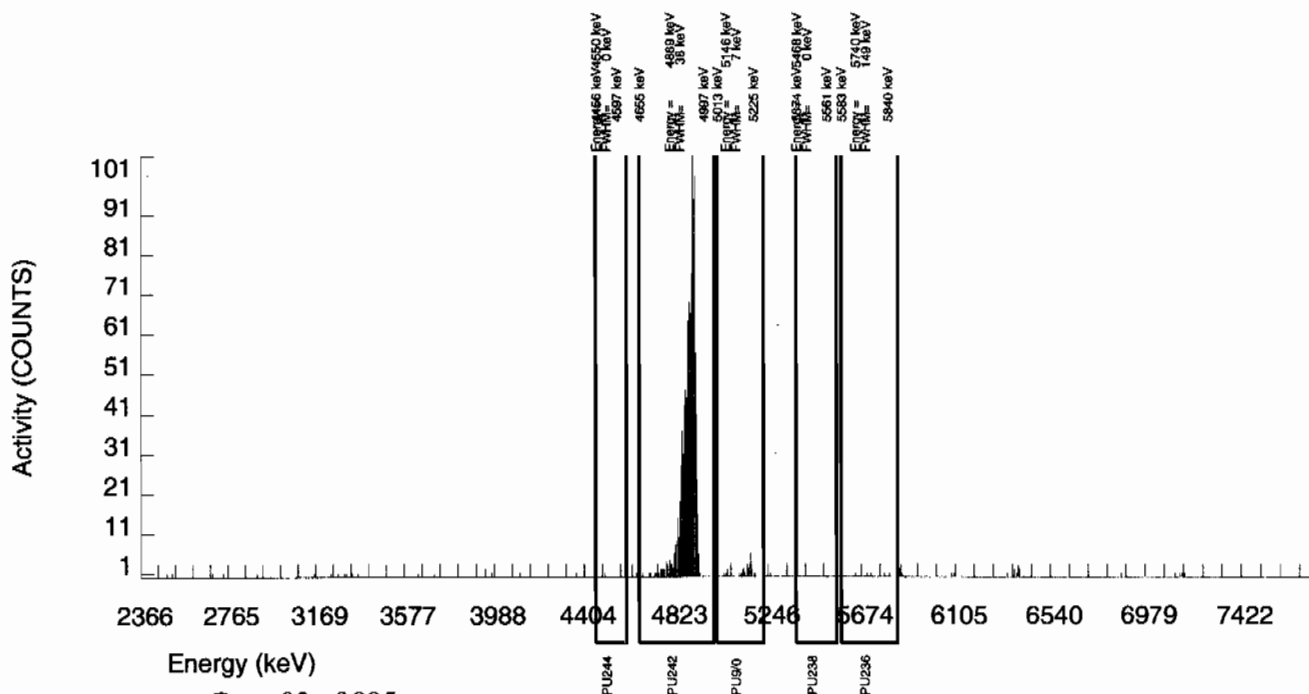
TRACER
ID : 1375-A
ISOTOPE : PU242
NOMINAL : 3.38076 dpm
RESULTS : 3.00306 dpm

LIB FILE : ENV_ALPHA_PU.N
BKG FILE : B027.CNF;1115
BKG DATE : 31-JAN-2010
EFF FILE : W027.CNF;327
CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	28.000	26.000	2.000	3.4797	99.90000	3.17E-02	6.88E-03	9.87E-03	2.30E-02	6.68E-03
PU-236	5749.000	6.000	0.000	6.000	2.1286	100.0000	0.00E+00	4.28E-03	6.03E-03	1.54E-02	4.28E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9680	99.90000	-1.22E-03	1.73E-03	8.42E-03	2.01E-02	1.72E-03
PU242	4890.000	1000.000	998.000	2.000	1.4142	100.0000	1.22E+00	7.49E-02	4.01E-03	1.13E-02	3.85E-02
PU-244	4589.000	2.000	-1.000	3.000	5.2050	99.90000	-1.22E-03	2.73E-03	1.48E-02	3.28E-02	2.73E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



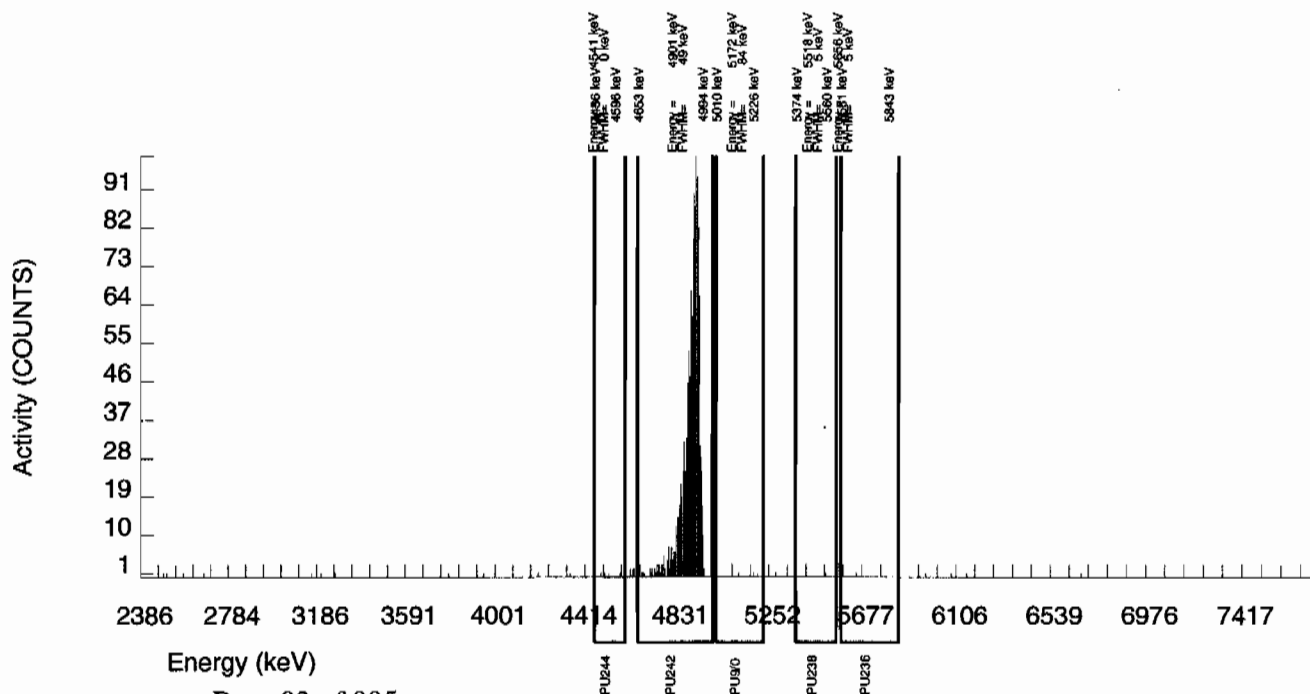
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924006_PU SAMPLE QTY: 1.257 G	
DETECTOR NUMBER :79195 AVERAGE %EFFICIENCY :39.3107 % YIELD : 86.004		COUNT DATE:27-JAN-2010 21:01:18 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 2.90760 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B216.CNF;74 BKG DATE : 26-JAN-2010 EFF FILE : W216.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	4.000	1.000	3.000	3.4797	99.90000	1.06E-03	2.81E-03	8.59E-03	2.01E-02	2.81E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.07E-03	1.07E-03	5.25E-03	1.34E-02	1.07E-03
PU-238	5499.000	1.000	-2.000	3.000	2.9680	99.90000	-2.12E-03	2.12E-03	7.33E-03	1.75E-02	2.12E-03
PU242	4890.000	1146.000	1143.000	3.000	1.7321	100.0000	1.21E+00	6.98E-02	4.27E-03	1.14E-02	3.59E-02
PU-244	4589.000	5.000	5.000	0.000	5.2050	99.90000	5.30E-03	2.39E-03	1.28E-02	2.86E-02	2.37E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



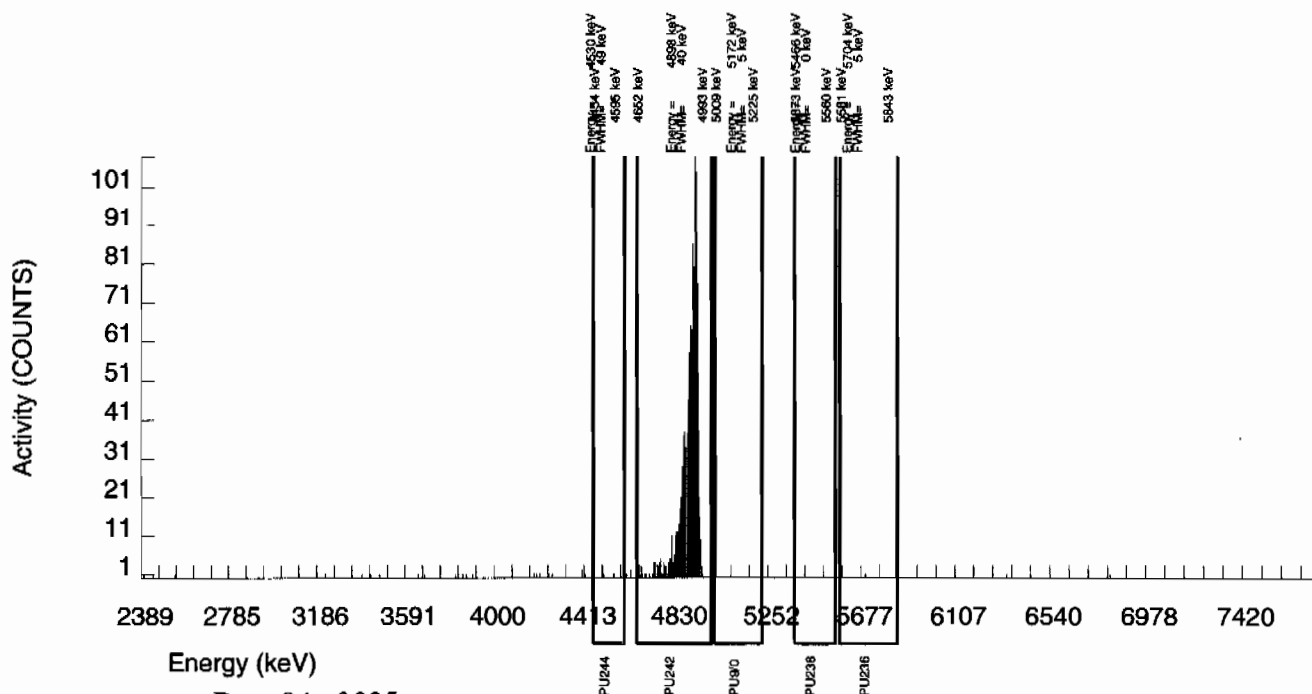
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924007_PU SAMPLE QTY: 1.258 G	
DETECTOR NUMBER :79410 AVERAGE %EFFICIENCY :36.7043 % YIELD : 90.581		COUNT DATE:27-JAN-2010 21:01:21 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.06231 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B217.CNF;76 BKG DATE : 26-JAN-2010 EFF FILE : W217.CNF;26 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	1.000	0.000	1.000	3.4797	99.90000	0.00E+00	1.53E-03	8.73E-03	2.04E-02	1.52E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.09E-03	1.09E-03	5.33E-03	1.36E-02	1.09E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.08E-03	7.44E-03	1.78E-02	1.08E-03
PU242	4890.000	1124.000	1124.000	0.000	0.0000	100.0000	1.21E+00	7.00E-02	0.00E+00	2.92E-03	3.61E-02
PU-244	4589.000	2.000	2.000	0.000	5.2050	99.90000	2.16E-03	1.53E-03	1.31E-02	2.90E-02	1.52E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



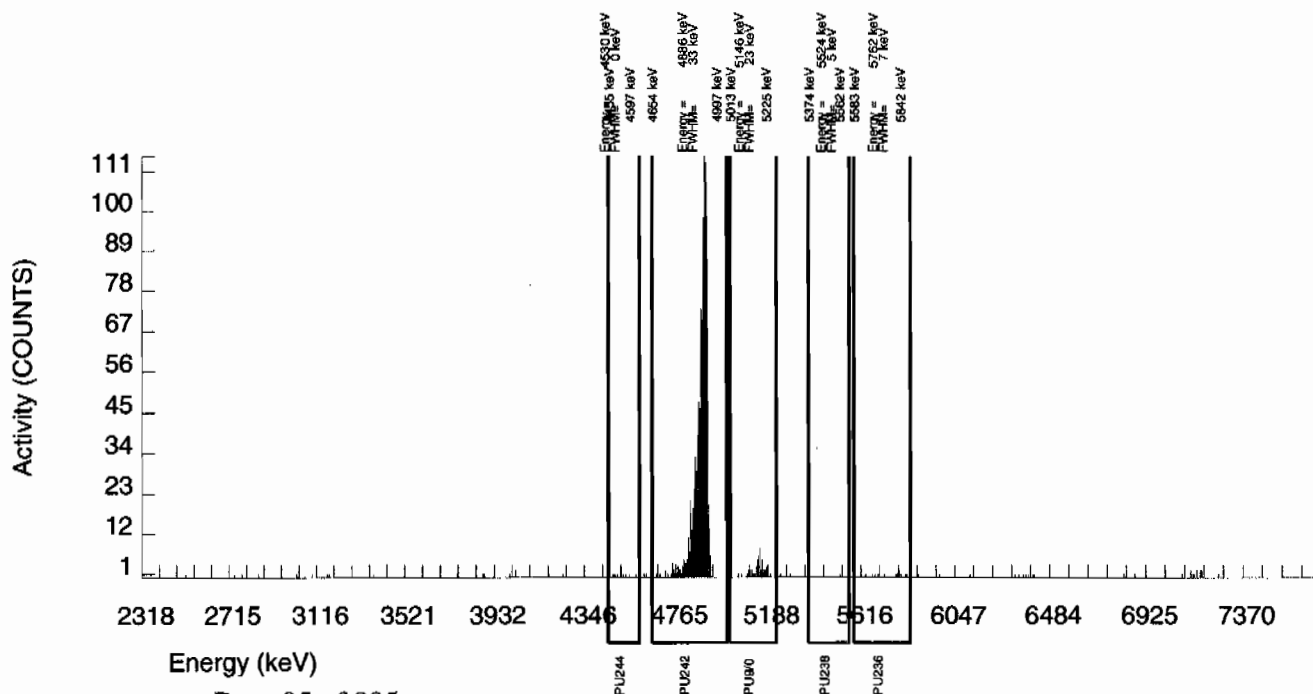
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924008_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :78792 AVERAGE %EFFICIENCY :30.5070 % YIELD : 96.668		COUNT DATE: 1-FEB-2010 19:39:03 ELAPSED LIVE TIME(SEC): 59999.99 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.26811 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B028.CNF;1119 BKG DATE : 31-JAN-2010 EFF FILE : W028.CNF;319 CAL DATE : 4-JAN-2010

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	52.000	51.000	1.000	3.4797	99.90000	6.22E-02	9.47E-03	9.88E-03	2.31E-02	8.88E-03
PU-236	5749.000	13.000	8.000	5.000	2.1286	100.0000	9.89E-03	5.27E-03	6.04E-03	1.54E-02	5.25E-03
PU-238	5499.000	1.000	0.000	1.000	2.9680	99.90000	0.00E+00	1.73E-03	8.43E-03	2.02E-02	1.73E-03
PU242	4890.000	1003.000	997.000	6.000	2.4495	100.0000	1.22E+00	7.51E-02	6.95E-03	1.72E-02	3.87E-02
PU-244	4589.000	9.000	9.000	0.000	5.2050	99.90000	1.10E-02	3.71E-03	1.48E-02	3.29E-02	3.66E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



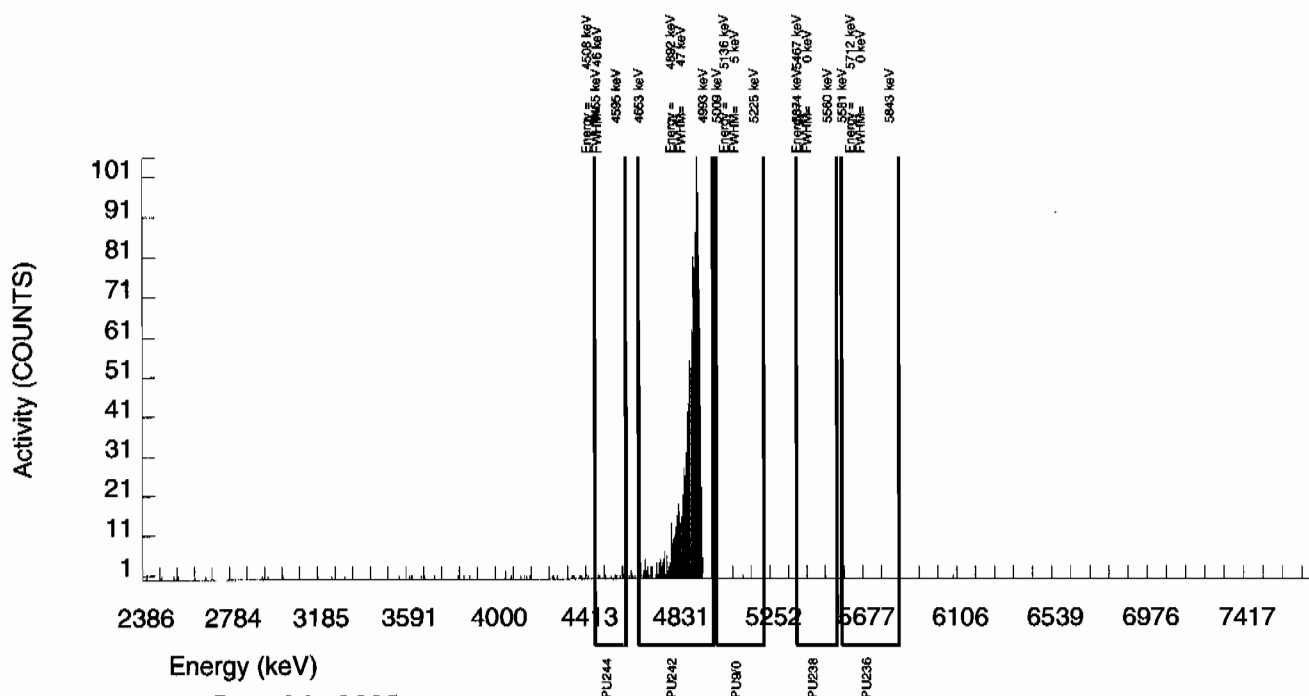
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924009_PU SAMPLE QTY: 1.253 G	
DETECTOR NUMBER :79412 AVERAGE %EFFICIENCY :38.2986 % YIELD : 92.680		COUNT DATE:27-JAN-2010 21:01:24 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.13327 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B219.CNF;74 BKG DATE : 26-JAN-2010 EFF FILE : W219.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	1.000	1.000	0.000	3.4797	99.90000	1.01E-03	1.02E-03	8.21E-03	1.92E-02	1.01E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.03E-03	5.02E-03	1.28E-02	1.02E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.02E-03	7.00E-03	1.67E-02	1.01E-03
PU242	4890.000	1204.000	1200.000	4.000	2.0000	100.0000	1.22E+00	6.92E-02	4.71E-03	1.22E-02	3.52E-02
PU-244	4589.000	14.000	12.000	2.000	5.2050	99.90000	1.22E-02	4.10E-03	1.23E-02	2.73E-02	4.06E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



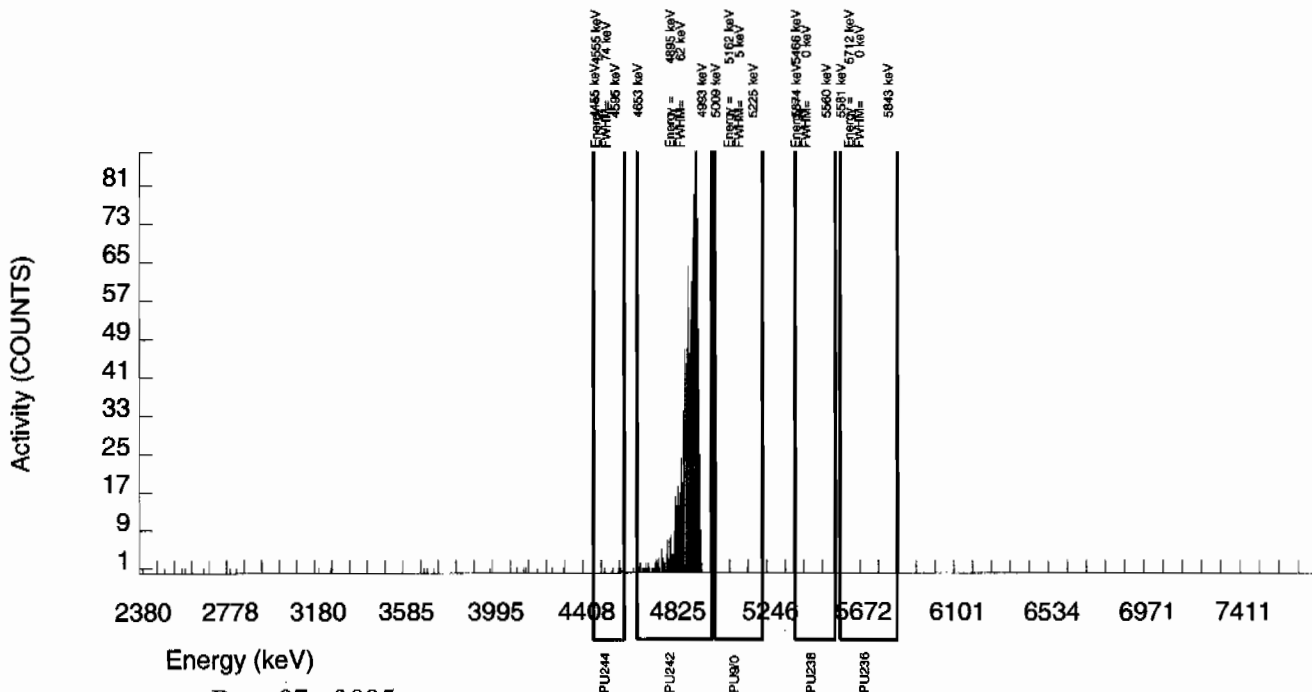
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924010_PU SAMPLE QTY: 1.255 G	
DETECTOR NUMBER :79413 AVERAGE %EFFICIENCY :37.7498 % YIELD : 85.251		COUNT DATE:27-JAN-2010 21:01:27 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 2.88213 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B220.CNF;74 BKG DATE : 26-JAN-2010 EFF FILE : W220.CNF;26 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	1.000	1.000	0.000	3.4797	99.90000	1.12E-03	1.12E-03	9.04E-03	2.11E-02	1.12E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.13E-03	5.52E-03	1.41E-02	1.13E-03
PU-238	5499.000	1.000	1.000	0.000	2.9680	99.90000	1.12E-03	1.12E-03	7.71E-03	1.84E-02	1.12E-03
PU242	4890.000	1088.000	1088.000	0.000	0.0000	100.0000	1.21E+00	7.08E-02	0.00E+00	3.02E-03	3.68E-02
PU-244	4589.000	4.000	4.000	0.000	5.2050	99.90000	4.47E-03	2.24E-03	1.35E-02	3.01E-02	2.23E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



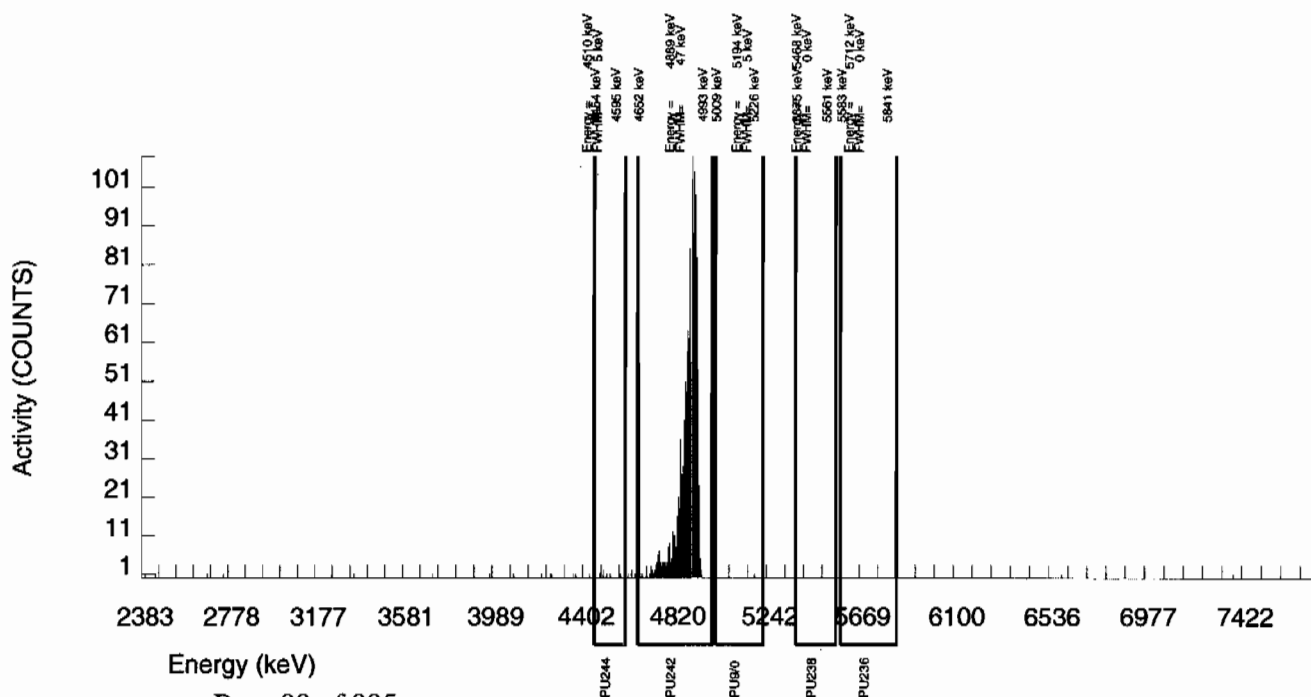
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 25-JAN-2010 00:00:00		SAMPLE ID : S1202018654_PU SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :SAMPLE AVERAGE %EFFICIENCY :38.1505 % YIELD : 97.769		COUNT DATE:27-JAN-2010 21:01:29 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.30533 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B233.CNF;74 BKG DATE : 24-JAN-2010 EFF FILE : W233.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	1.000	0.000	1.000	3.4797	99.90000	0.00E+00	1.71E-03	9.79E-03	2.28E-02	1.71E-03
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.21E-03	5.98E-03	1.52E-02	1.21E-03
PU-238	5499.000	0.000	0.000	0.000	2.9680	99.90000	0.00E+00	1.21E-03	8.35E-03	2.00E-02	1.21E-03
PU242	4890.000	1262.000	1261.000	1.000	1.0000	100.0000	1.52E+00	8.56E-02	2.81E-03	8.89E-03	4.29E-02
PU-244	4589.000	7.000	7.000	0.000	5.2050	99.90000	8.46E-03	3.22E-03	1.46E-02	3.26E-02	3.20E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



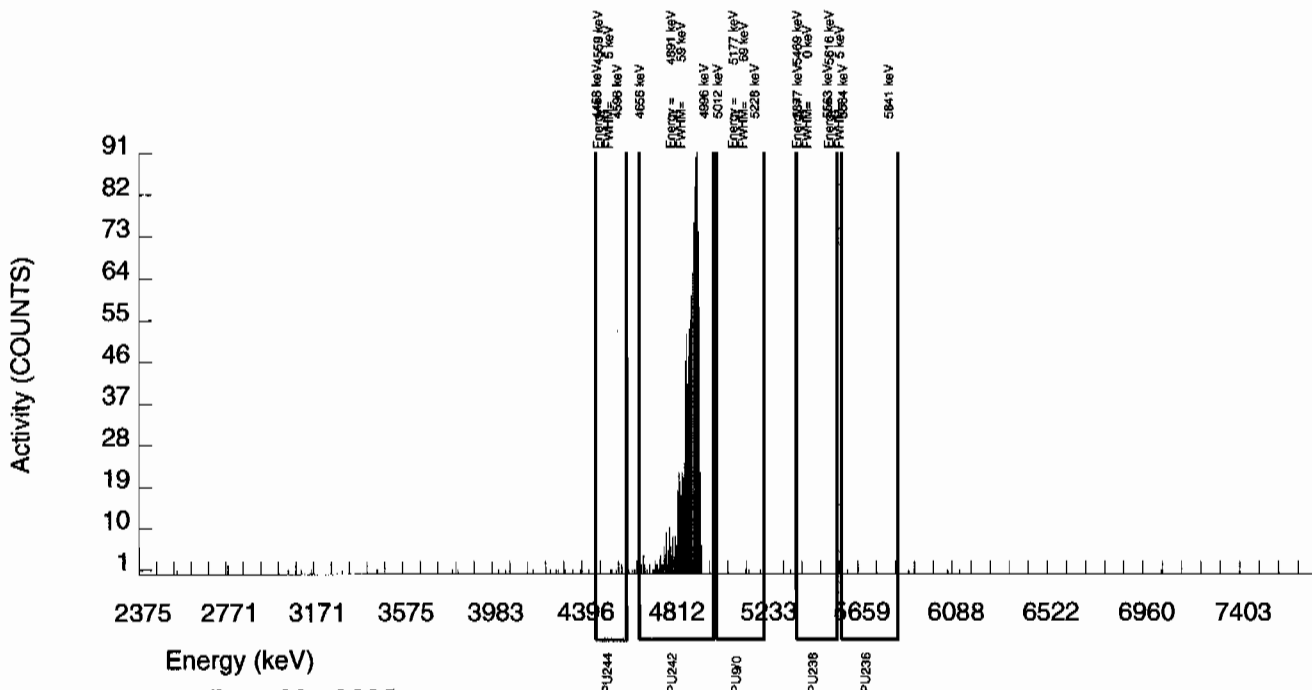
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S1202018655_PU SAMPLE QTY: 1.256 G	
DETECTOR NUMBER :79427 AVERAGE %EFFICIENCY :38.3332 % YIELD : 86.037		COUNT DATE:27-JAN-2010 21:01:32 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 2.90871 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B234.CNF;74 BKG DATE : 24-JAN-2010 EFF FILE : W234.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	3.000	3.000	0.000	3.4797	99.90000	3.27E-03	1.89E-03	8.81E-03	2.06E-02	1.89E-03
PU-236	5749.000	1.000	1.000	0.000	2.1286	100.0000	1.10E-03	1.10E-03	5.38E-03	1.37E-02	1.10E-03
PU-238	5499.000	0.000	-1.000	1.000	2.9680	99.90000	-1.09E-03	1.54E-03	7.52E-03	1.80E-02	1.54E-03
PU242	4890.000	1116.000	1115.000	1.000	1.0000	100.0000	1.21E+00	7.03E-02	2.53E-03	8.01E-03	3.63E-02
PU-244	4589.000	6.000	6.000	0.000	5.2050	99.90000	6.53E-03	2.69E-03	1.32E-02	2.93E-02	2.67E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



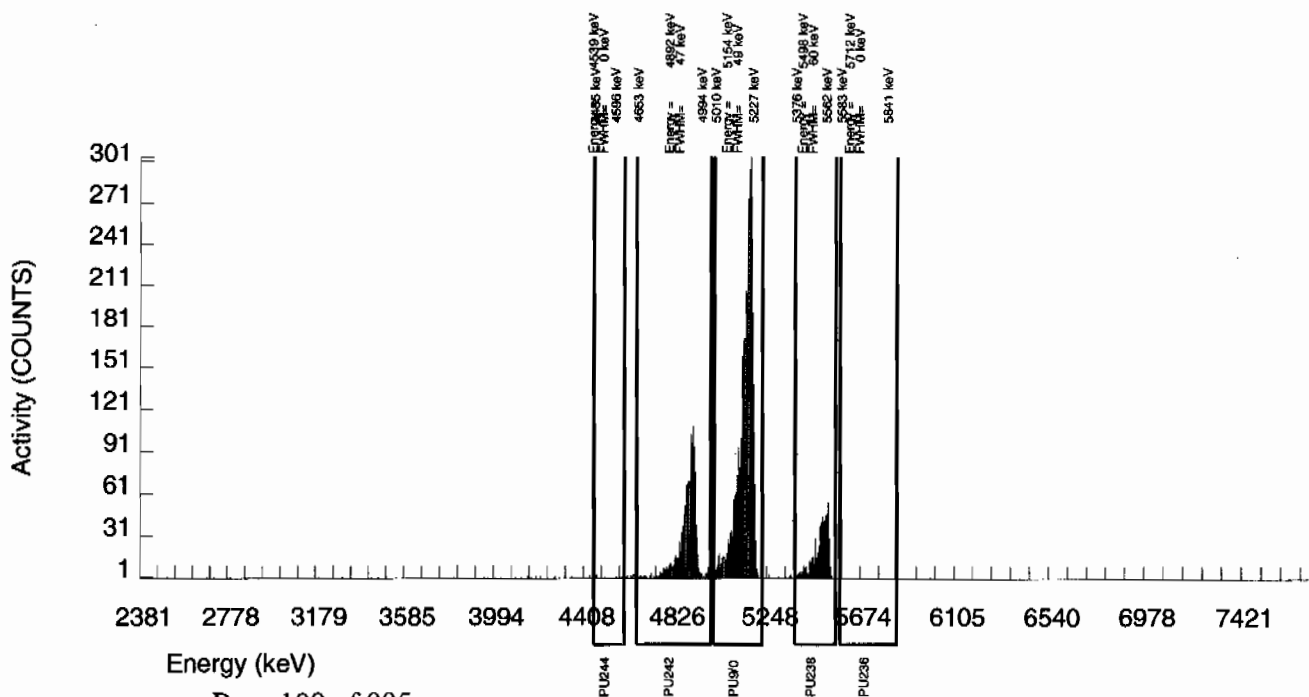
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942862 SAMPLE DATE : 25-JAN-2010 00:00:00		SAMPLE ID : S1202018656_PU SAMPLE QTY: 0.104 G	
DETECTOR NUMBER :79428 AVERAGE %EFFICIENCY :37.2918 % YIELD : 100.654		COUNT DATE:27-JAN-2010 21:01:35 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	LCS/LCSD ID : 0244-B ISOTOPE : PU-9/0 PCI/G : 4.178E+01	TRACER ID : 1375-A ISOTOPE : PU242 NOMINAL : 3.38076 dpm RESULTS : 3.40289 dpm	LIB FILE : ENV_ALPHA_PU.N BKG FILE : B235.CNF;74 BKG DATE : 24-JAN-2010 EFF FILE : W235.CNF;24 CAL DATE : 28-DEC-2009

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	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-9/0	5155.000	3358.000	3357.000	1.000	3.4797	99.90000	3.88E+01	2.39E+00	9.35E-02	2.18E-01	6.69E-01
PU-236	5749.000	0.000	0.000	0.000	2.1286	100.0000	0.00E+00	1.16E-02	5.71E-02	1.46E-01	1.16E-02
PU-238	5499.000	609.000	609.000	0.000	2.9680	99.90000	7.03E+00	5.05E-01	7.98E-02	1.91E-01	2.85E-01
PU242	4890.000	1270.000	1269.000	1.000	1.0000	100.0000	1.46E+01	9.60E-01	2.68E-02	8.50E-02	4.11E-01
PU-244	4589.000	14.000	13.000	1.000	5.2050	99.90000	1.50E-01	4.56E-02	1.40E-01	3.11E-01	4.47E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)
NOTE: Sg of PU242 calculated as sqrt(BKG AREA)



Radiochemistry Batch Checklist, Rev10

Batch#

942863

Product:

U

Date:

2/1/10

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.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initiated 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 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 Green 2/1/10

Secondary Review Performed By:

E. Hoff 2/2/10

2/13

LAW

Uranium Que Sheet

18-JAN-10

Batch #: 942863

Analyst: KXM4

First Client Due Date: 13-FEB-10

Internal Due Date: 02-FEB-10

Tracer Isotope: U-235

Tracer Code: 1283-44

Expiration Date: 12/9/10

Vol: 0.1

LCS Isotope: U-238

LCS Code: SEM 0244-A

Expiration Date: 10/31/20

Vol: 0.1093

Spike Isotope: U-238

Spike Code: MA

Expiration Date: NA

Vol: NA

Prep Date: 12/10/10

Initials: JAVB

Pipet ID: 2571058

Balance ID: 5040772

Witness: JAVB 01/25/10

Sample ID	Client Description	Type	Hazard Code	Mia CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Aliquot	U	Det #
244924001-1	RE15-10-7163	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	1	1	0.503			2
244924002-1	RE15-10-7162	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	2	2	0.505			3
244924003-1	RE15-10-7161	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	3	3	0.507			4
244924004-1	RE15-10-7160	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	4	4	0.516			5
244924005-1	RE15-10-7174	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	5	5	0.519			6
244924006-1	RE15-10-7173	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	6	6	0.509			7
244924007-1	RE15-10-7175	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	7	7	0.504			8
244924008-1	RE15-10-7172	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	8	8	0.511			9
244924009-1	RE15-10-7218	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	9	9	0.518			10
244924010-1	RE15-10-7223	SAMPLE		.1 pCi/g	SOIL	LANL010	12-JAN-10	10	10	0.505			11
1202018657-1	MB for batch 942863	MB		.1 pCi/g	SOIL	QC ACCOUNT		11	11	1		125	
1202018658-1	RE15-10-7223(244924010DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	12-JAN-10	12	12	0.505			12
1202018659-1	LCS for batch 942863	LCS		.1 pCi/g	SOIL	QC ACCOUNT		13	13	0.109			208

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION
Circle One

Data Reviewed By: DB 2/1/10

Blank Correction Report

Batch ID 942863

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202018658	DUP	Uranium-233/234	0.505 g	0.917	0.0821	0.0895	-0.00005050	pCi/g	NO
		Uranium-235/236	0.505 g	0.0642	0.0173	0.0556	0	pCi/g	NO
		Uranium-238	0.505 g	0.941	0.0836	0.0519	0	pCi/g	NO
1202018659	LCS	Uranium-233/234	0.109 g	6.44	0.591	0.516	-0.00023394	pCi/g	NO
		Uranium-235/236	0.109 g	0.350	0.089	0.320	0	pCi/g	NO
		Uranium-238	0.109 g	5.20	0.494	0.299	0	pCi/g	NO
1202018657	MB	Uranium-233/234	1.00 g	-2.55E-05	0.00496	0.0628	-0.0000255	pCi/g	NO
		Uranium-235/236	1.00 g	0.00	0.00251	0.039	0	pCi/g	NO
		Uranium-238	1.00 g	0.00	0.00287	0.0364	0	pCi/g	NO
244924001	RE15-10-7163	Uranium-233/234	0.503 g	0.477	0.0506	0.092	-0.00005070	pCi/g	NO
		Uranium-235/236	0.503 g	0.0477	0.0146	0.0571	0	pCi/g	NO
		Uranium-238	0.503 g	0.573	0.0572	0.0533	0	pCi/g	NO
244924002	RE15-10-7162	Uranium-233/234	0.505 g	1.52	0.124	0.0882	-0.00005050	pCi/g	NO
		Uranium-235/236	0.505 g	0.0914	0.0196	0.0547	0	pCi/g	NO
		Uranium-238	0.505 g	2.69	0.205	0.0511	0	pCi/g	NO
244924003	RE15-10-7161	Uranium-233/234	0.507 g	0.877	0.0807	0.0975	-0.00005030	pCi/g	NO
		Uranium-235/236	0.507 g	0.0584	0.0156	0.0606	0	pCi/g	NO
		Uranium-238	0.507 g	1.07	0.095	0.0566	0	pCi/g	NO
244924004	RE15-10-7160	Uranium-233/234	0.516 g	1.08	0.0903	0.0818	-0.00004942	pCi/g	NO
		Uranium-235/236	0.516 g	0.0913	0.0184	0.0508	0	pCi/g	NO
		Uranium-238	0.516 g	1.37	0.112	0.0474	0	pCi/g	NO
244924005	RE15-10-7174	Uranium-233/234	0.519 g	2.21	0.172	0.0856	-0.00004913	pCi/g	NO
		Uranium-235/236	0.519 g	0.133	0.0232	0.0531	0	pCi/g	NO
		Uranium-238	0.519 g	2.60	0.199	0.0496	0	pCi/g	NO
244924006	RE15-10-7173	Uranium-233/234	0.509 g	1.16	0.101	0.0948	-0.00005010	pCi/g	NO
		Uranium-235/236	0.509 g	0.087	0.0191	0.0589	0	pCi/g	NO
		Uranium-238	0.509 g	1.24	0.106	0.055	0	pCi/g	NO
244924007	RE15-10-7175	Uranium-233/234	0.504 g	0.685	0.0862	0.0945	-0.00005060	pCi/g	NO
		Uranium-235/236	0.504 g	0.0415	0.0139	0.0587	0	pCi/g	NO
		Uranium-238	0.504 g	0.677	0.0658	0.0548	0	pCi/g	NO
244924008	RE15-10-7172	Uranium-233/234	0.511 g	2.12	0.170	0.0992	-0.00004990	pCi/g	NO
		Uranium-235/236	0.511 g	0.0989	0.0217	0.0616	0	pCi/g	NO
		Uranium-238	0.511 g	2.72	0.212	0.0575	0	pCi/g	NO
244924009	RE15-10-7218	Uranium-233/234	0.518 g	1.02	0.0897	0.0897	-0.00004923	pCi/g	NO
		Uranium-235/236	0.518 g	0.0751	0.0172	0.0557	0	pCi/g	NO
		Uranium-238	0.518 g	1.06	0.0919	0.052	0	pCi/g	NO
244924010	RE15-10-7223	Uranium-233/234	0.505 g	0.978	0.0916	0.115	-0.00005050	pCi/g	NO
		Uranium-235/236	0.505 g	0.0549	0.0198	0.0713	0	pCi/g	NO
		Uranium-238	0.505 g	0.974	0.0917	0.0666	0	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924001_UU SAMPLE QTY: 0.503 G	
DETECTOR NUMBER :79452 AVERAGE %EFFICIENCY :29.6879 % YIELD : 101.666		COUNT DATE:29-JAN-2010 16:57:44 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.58327 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B002.CNF;1107 BKG DATE : 25-JAN-2010 EFF FILE : W002.CNF;326 CAL DATE : 4-JAN-2010

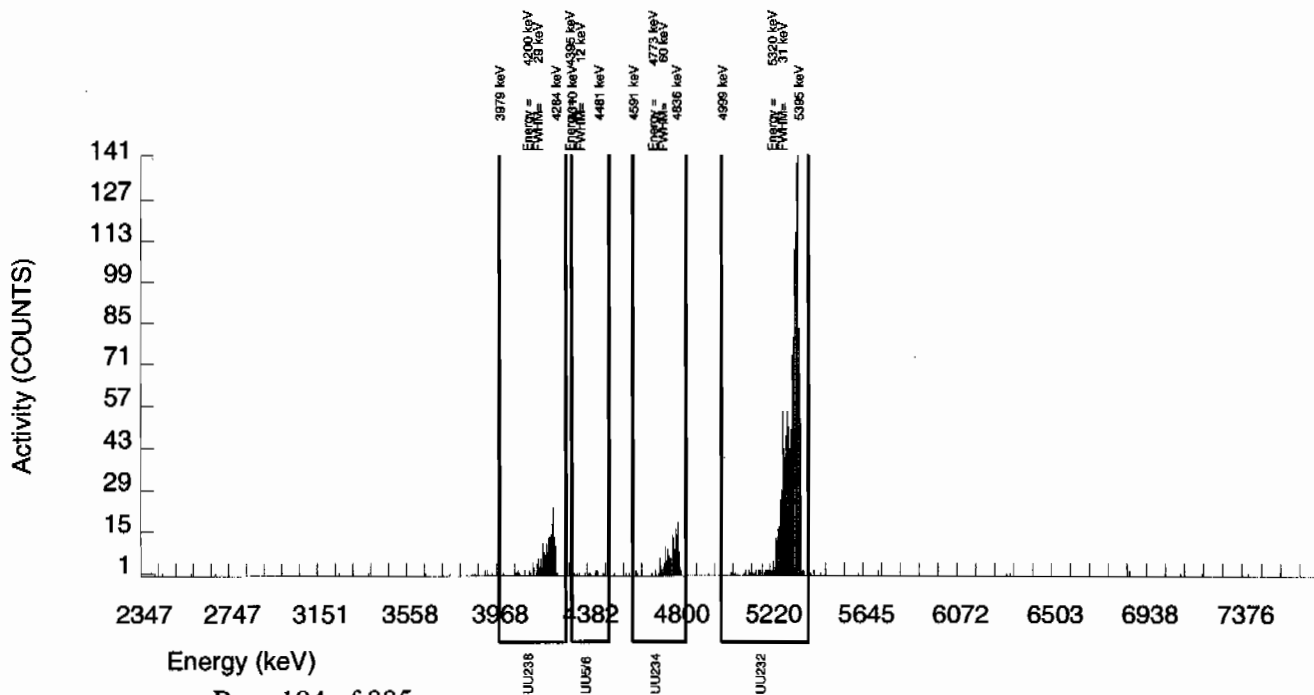
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	165.000	160.624	3.000	6.0782	100.0000	4.77E-01	5.06E-02	4.20E-02	9.19E-02	3.83E-02
U232	5302.100	1362.000	1360.000	2.000	1.4142	100.0000	4.04E+00	3.00E-01	9.76E-03	2.76E-02	1.10E-01
U-235	4391.000	14.000	13.000	1.000	2.7628	80.90000	4.77E-02	1.46E-02	2.36E-02	5.71E-02	1.42E-02
U-238	4184.730	193.000	193.000	0.000	3.2810	100.0000	5.73E-01	5.72E-02	2.26E-02	5.33E-02	4.12E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924002_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :79453 AVERAGE %EFFICIENCY :31.1793 % YIELD : 100.576		COUNT DATE:29-JAN-2010 16:57:44 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.53412 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B003.CNF;1102 BKG DATE : 25-JAN-2010 EFF FILE : W003.CNF;339 CAL DATE : 4-JAN-2010

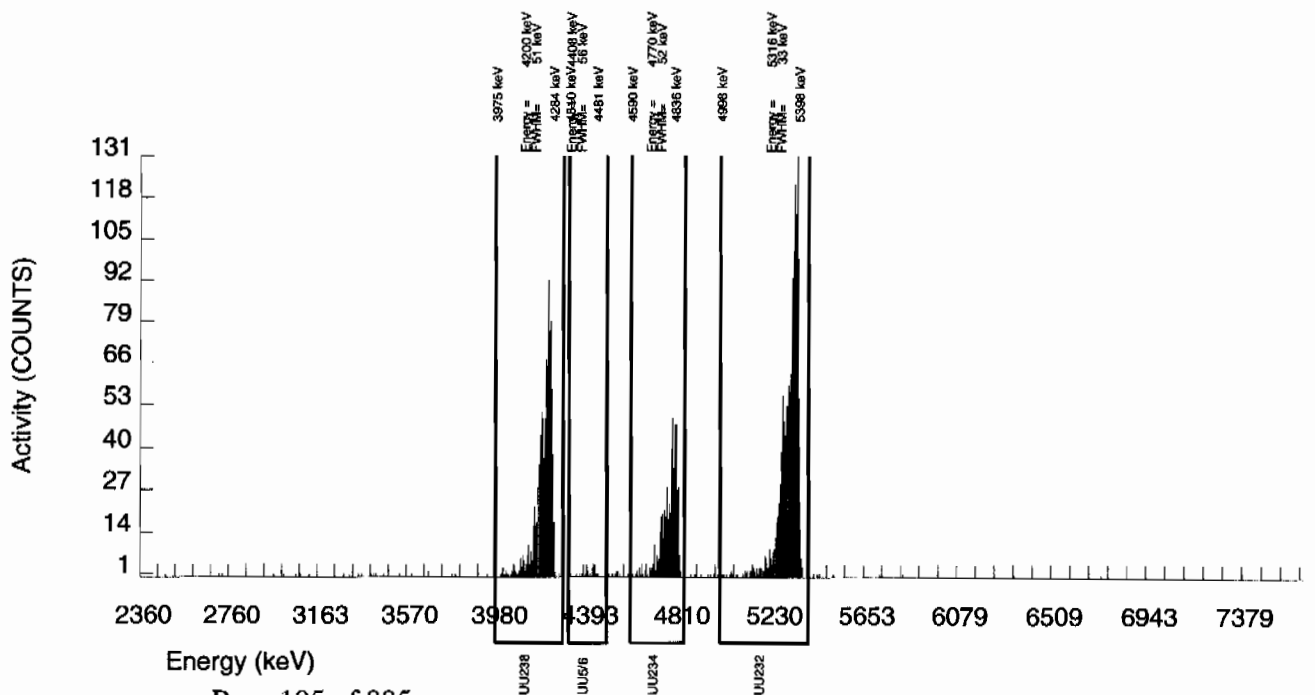
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	538.000	535.571	1.000	6.0782	100.0000	1.52E+00	1.24E-01	4.02E-02	8.82E-02	6.59E-02
U232	5302.100	1417.000	1413.000	4.000	2.0000	100.0000	4.02E+00	2.98E-01	1.32E-02	3.42E-02	1.07E-01
U-235	4391.000	27.000	26.000	1.000	2.7628	80.90000	9.14E-02	1.96E-02	2.26E-02	5.47E-02	1.86E-02
U-238	4184.730	945.000	944.000	1.000	3.2810	100.0000	2.69E+00	2.05E-01	2.17E-02	5.11E-02	8.75E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924003_UU SAMPLE QTY: 0.507 G	
DETECTOR NUMBER :68548 AVERAGE %EFFICIENCY :30.7853 % YIELD : 91.698		COUNT DATE:29-JAN-2010 16:57:44 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.13390 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B004.CNF;1111 BKG DATE : 25-JAN-2010 EFF FILE : W004.CNF;328 CAL DATE : 4-JAN-2010

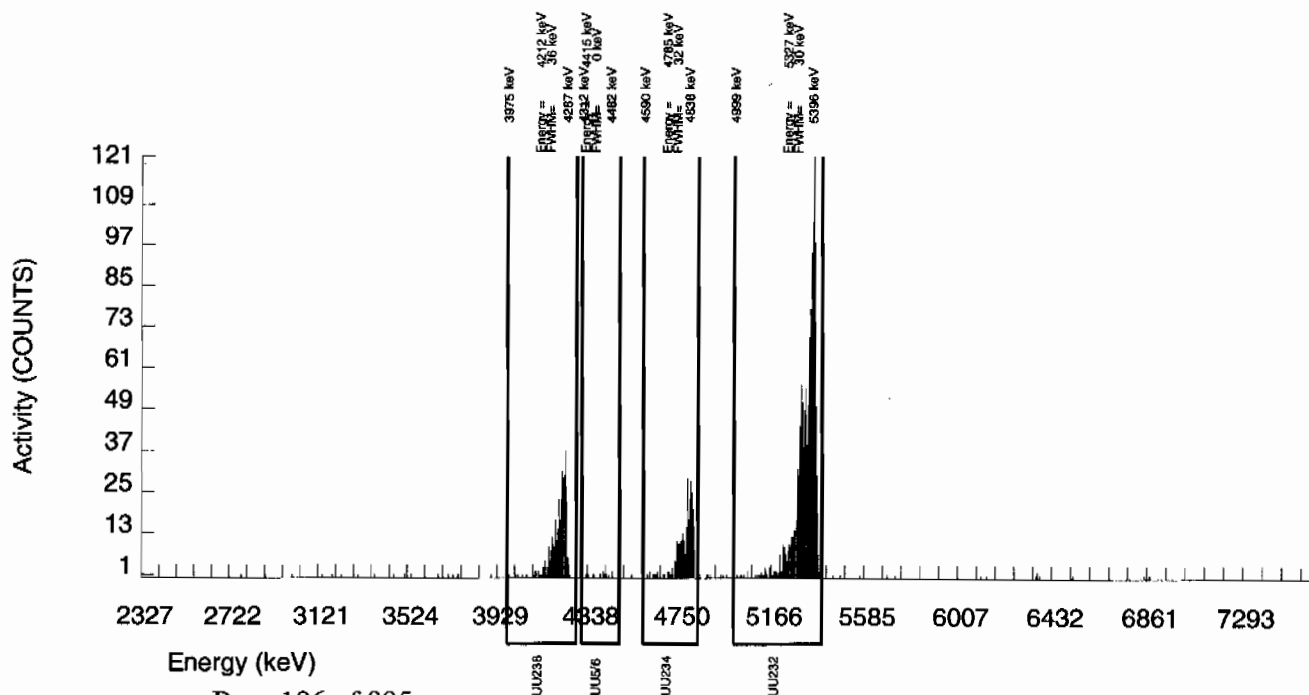
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	281.000	278.713	1.000	6.0782	100.0000	8.77E-01	8.07E-02	4.45E-02	9.75E-02	5.27E-02
U232	5302.100	1277.000	1272.000	5.000	2.2361	100.0000	4.01E+00	3.01E-01	1.64E-02	4.13E-02	1.13E-01
U-235	4391.000	15.000	15.000	0.000	2.7628	80.90000	5.84E-02	1.56E-02	2.50E-02	6.06E-02	1.51E-02
U-238	4184.730	344.000	341.000	3.000	3.2810	100.0000	1.07E+00	9.50E-02	2.40E-02	5.66E-02	5.86E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924004_UU SAMPLE QTY: 0.516 G	
DETECTOR NUMBER :79454 AVERAGE %EFFICIENCY :32.0695 % YIELD : 103.182		COUNT DATE:29-JAN-2010 16:57:44 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.65159 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B005.CNF;1097 BKG DATE : 25-JAN-2010 EFF FILE : W005.CNF;335 CAL DATE : 4-JAN-2010

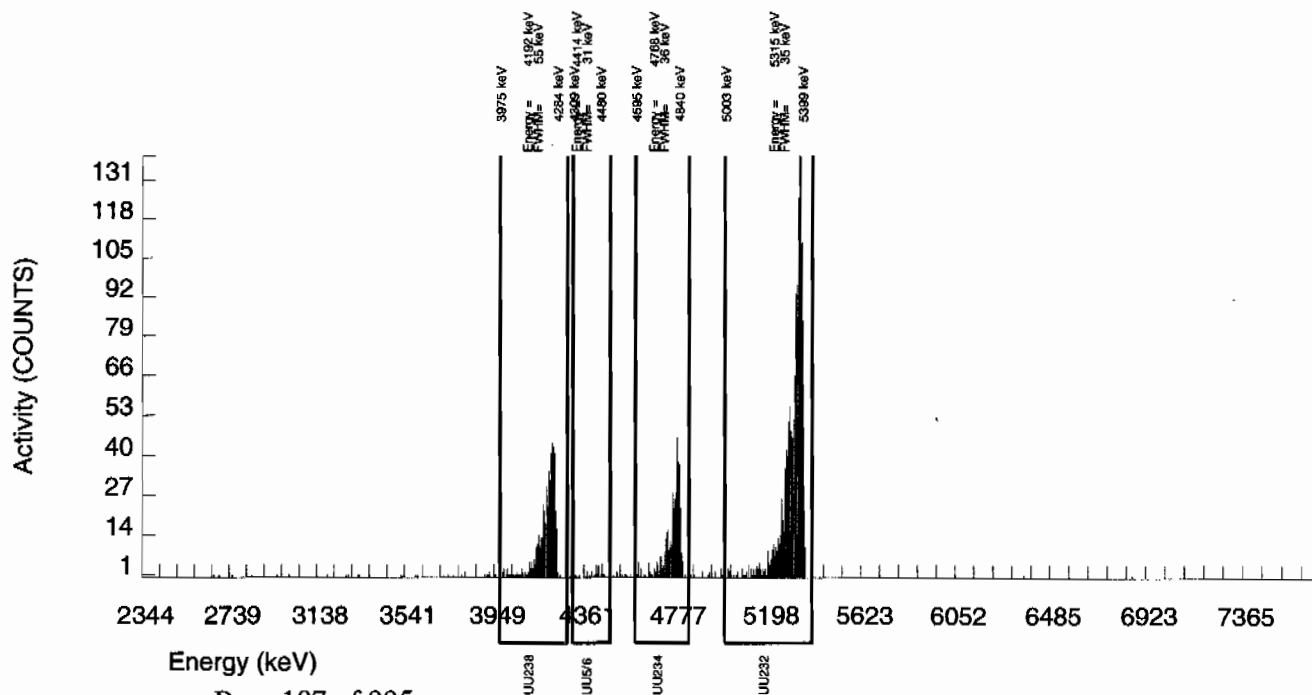
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	406.000	402.492	2.000	6.0782	100.0000	1.06E+00	9.03E-02	3.73E-02	8.18E-02	5.32E-02
U232	5302.100	1492.000	1491.000	1.000	1.0000	100.0000	3.94E+00	2.89E-01	6.14E-03	1.94E-02	1.02E-01
U-235	4391.000	28.000	28.000	0.000	2.7628	80.90000	9.13E-02	1.84E-02	2.10E-02	5.08E-02	1.73E-02
U-238	4184.730	525.000	521.000	4.000	3.2810	100.0000	1.37E+00	1.12E-01	2.01E-02	4.74E-02	6.07E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924005_UU SAMPLE QTY: 0.519 G	
DETECTOR NUMBER :79455 AVERAGE %EFFICIENCY :30.5320 % YIELD : 102.926		COUNT DATE:29-JAN-2010 16:57:44 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.64007 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B006.CNF;1110 BKG DATE : 25-JAN-2010 EFF FILE : W006.CNF;359 CAL DATE : 4-JAN-2010

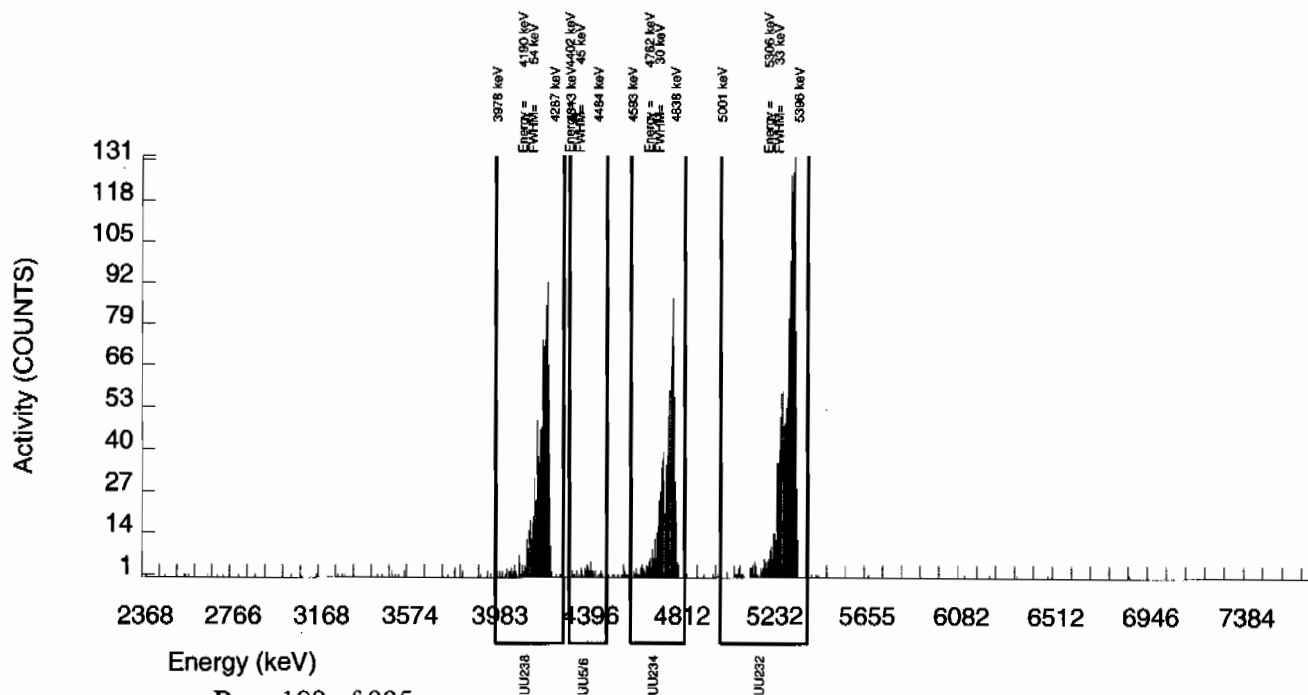
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	804.000	800.568	2.000	6.0782	100.0000	2.21E+00	1.72E-01	3.91E-02	8.56E-02	7.83E-02
U232	5302.100	1417.000	1416.000	1.000	1.0000	100.0000	3.91E+00	2.90E-01	6.43E-03	2.03E-02	1.04E-01
U-235	4391.000	39.000	39.000	0.000	2.7628	80.90000	1.33E-01	2.32E-02	2.19E-02	5.31E-02	2.13E-02
U-238	4184.730	943.000	942.000	1.000	3.2810	100.0000	2.60E+00	1.99E-01	2.11E-02	4.96E-02	8.49E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924006_UU SAMPLE QTY: 0.509 G	
DETECTOR NUMBER :67607 AVERAGE %EFFICIENCY :29.6523 % YIELD : 97.522		COUNT DATE:29-JAN-2010 16:57:45 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.39645 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B007.CNF;1105 BKG DATE : 25-JAN-2010 EFF FILE : W007.CNF;310 CAL DATE : 4-JAN-2010

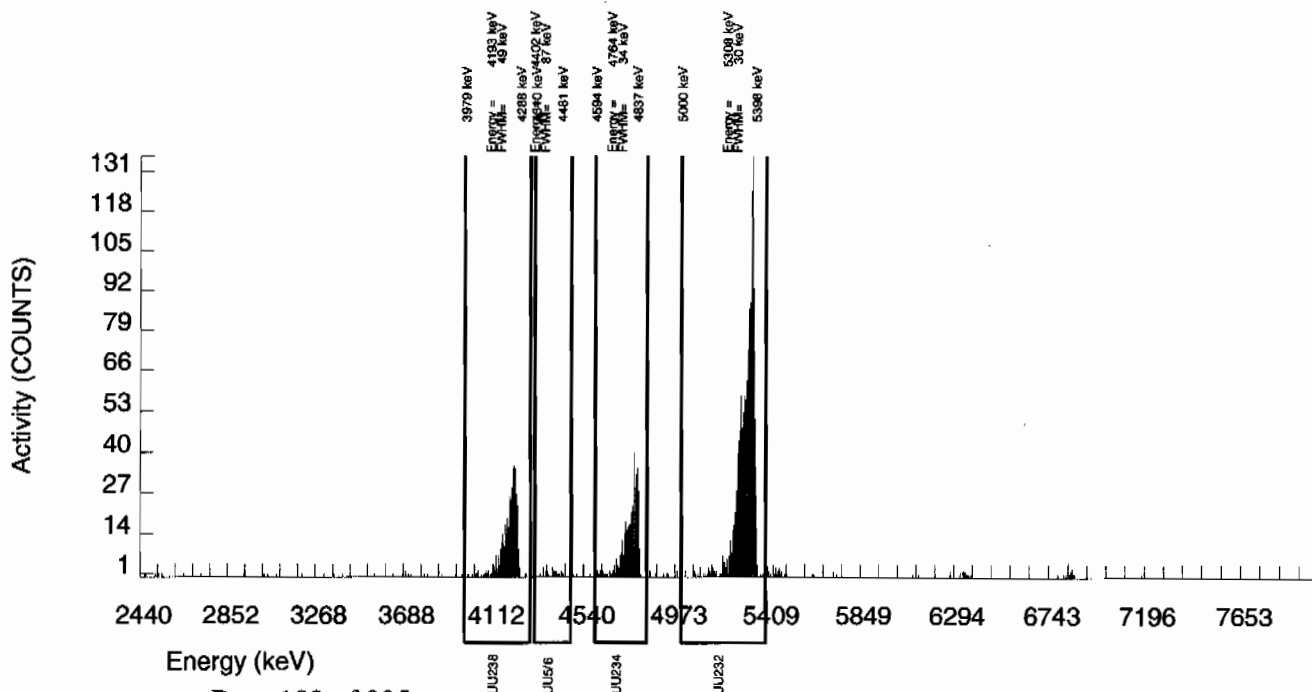
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	387.000	378.682	7.000	6.0782	100.0000	1.16E+00	1.01E-01	4.33E-02	9.48E-02	6.06E-02
U232	5302.100	1312.000	1303.000	9.000	3.0000	100.0000	3.99E+00	2.99E-01	2.14E-02	5.10E-02	1.11E-01
U-235	4391.000	23.000	23.000	0.000	2.7628	80.90000	8.70E-02	1.91E-02	2.43E-02	5.89E-02	1.81E-02
U-238	4184.730	408.000	406.000	2.000	3.2810	100.0000	1.24E+00	1.06E-01	2.34E-02	5.50E-02	6.20E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924007_UU SAMPLE QTY: 0.504 G	
DETECTOR NUMBER :78788 AVERAGE %EFFICIENCY :31.9627 % YIELD : 91.723		COUNT DATE:29-JAN-2010 16:57:45 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.13501 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B008.CNF;1107 BKG DATE : 25-JAN-2010 EFF FILE : W008.CNF;341 CAL DATE : 4-JAN-2010

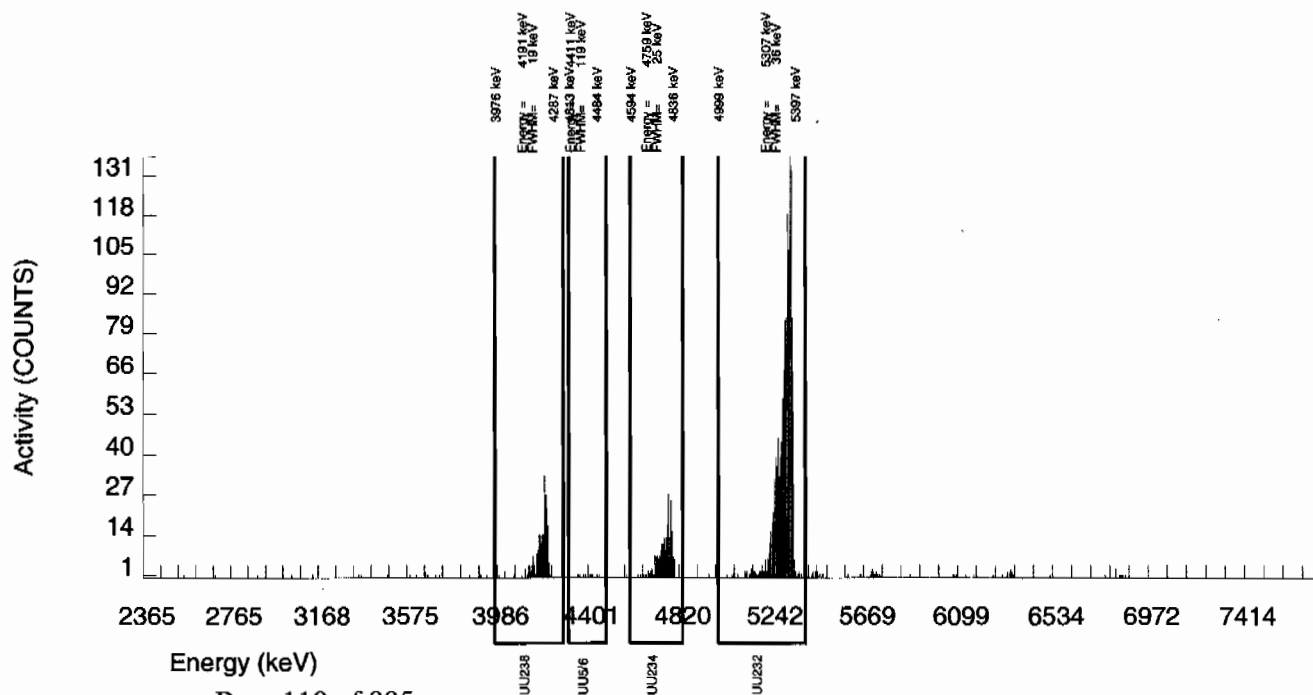
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	228.000	224.664	2.000	6.0782	100.0000	6.85E-01	6.62E-02	4.31E-02	9.45E-02	4.61E-02
U232	5302.100	1324.000	1321.000	3.000	1.7321	100.0000	4.03E+00	3.01E-01	1.23E-02	3.28E-02	1.11E-01
U-235	4391.000	12.000	11.000	1.000	2.7628	80.90000	4.15E-02	1.39E-02	2.42E-02	5.87E-02	1.36E-02
U-238	4184.730	225.000	222.000	3.000	3.2810	100.0000	6.77E-01	6.58E-02	2.33E-02	5.48E-02	4.60E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924008_UU SAMPLE QTY: 0.511 G	
DETECTOR NUMBER :72528 AVERAGE %EFFICIENCY :34.0896 % YIELD : 80.792		COUNT DATE:29-JAN-2010 16:57:45 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 3.64222 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B009.CNF;1098 BKG DATE : 25-JAN-2010 EFF FILE : W009.CNF;305 CAL DATE : 4-JAN-2010

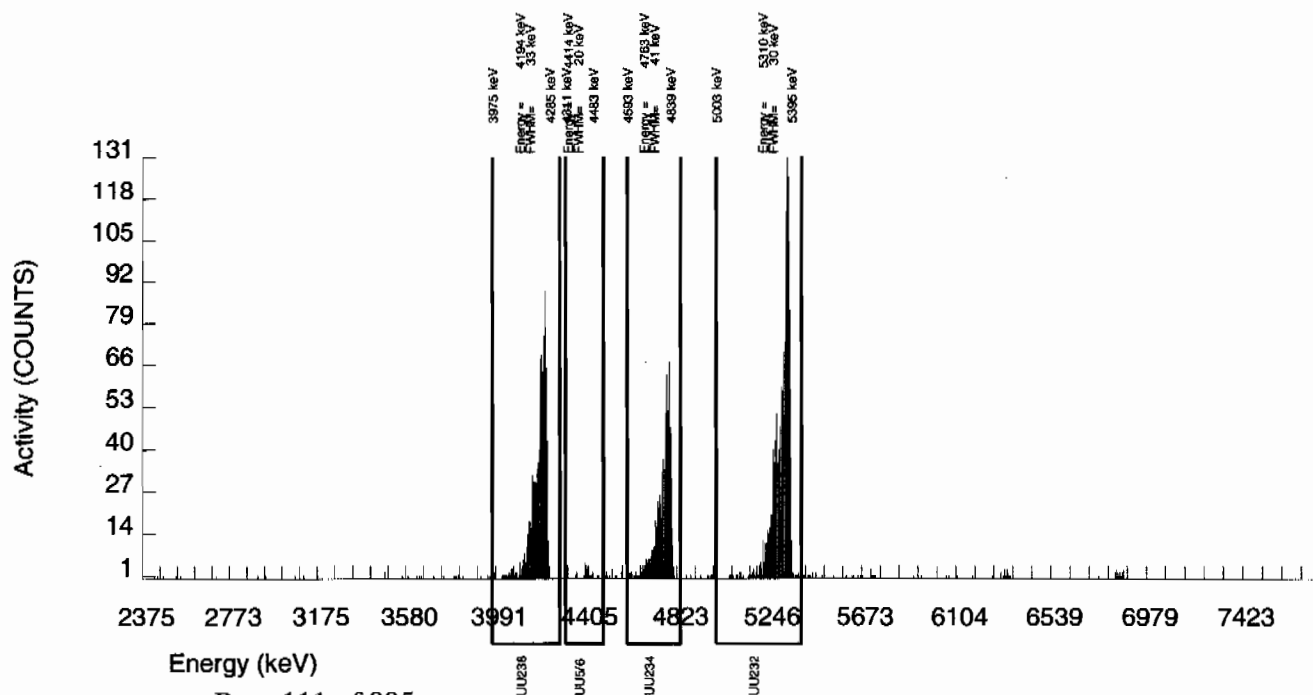
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	666.000	662.745	2.000	6.0782	100.0000	2.12E+00	1.70E-01	4.53E-02	9.92E-02	8.26E-02
U232	5302.100	1249.000	1241.000	8.000	2.8284	100.0000	3.97E+00	3.00E-01	2.11E-02	5.08E-02	1.14E-01
U-235	4391.000	26.000	25.000	1.000	2.7628	80.90000	9.89E-02	2.17E-02	2.54E-02	6.16E-02	2.06E-02
U-238	4184.730	853.000	851.000	2.000	3.2810	100.0000	2.72E+00	2.12E-01	2.44E-02	5.75E-02	9.36E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924009_UU SAMPLE QTY: 0.518 G	
DETECTOR NUMBER :72529 AVERAGE %EFFICIENCY :31.4316 % YIELD : 95.603		COUNT DATE:29-JAN-2010 16:57:45 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.30991 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B010.CNF;1116 BKG DATE : 25-JAN-2010 EFF FILE : W010.CNF;333 CAL DATE : 4-JAN-2010

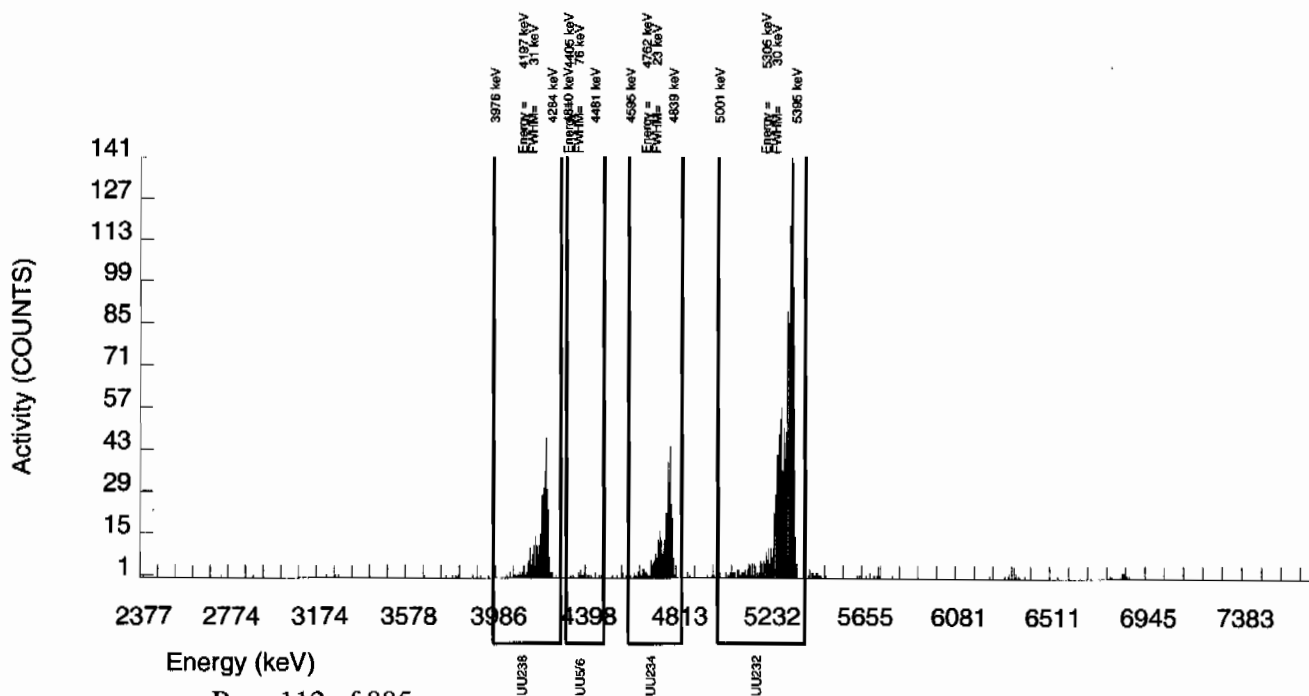
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	358.000	353.630	3.000	6.0782	100.0000	1.02E+00	8.97E-02	4.09E-02	8.97E-02	5.49E-02
U232	5302.100	1359.000	1354.000	5.000	2.2361	100.0000	3.92E+00	2.92E-01	1.51E-02	3.80E-02	1.07E-01
U-235	4391.000	21.000	21.000	0.000	2.7628	80.90000	7.51E-02	1.72E-02	2.30E-02	5.57E-02	1.64E-02
U-238	4184.730	367.000	365.000	2.000	3.2810	100.0000	1.06E+00	9.19E-02	2.21E-02	5.20E-02	5.56E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S0244924010_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :72531 AVERAGE %EFFICIENCY :29.5906 % YIELD : 81.376		COUNT DATE:29-JAN-2010 16:57:45 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 3.66853 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B011.CNF;1108 BKG DATE : 25-JAN-2010 EFF FILE : W011.CNF;311 CAL DATE : 4-JAN-2010

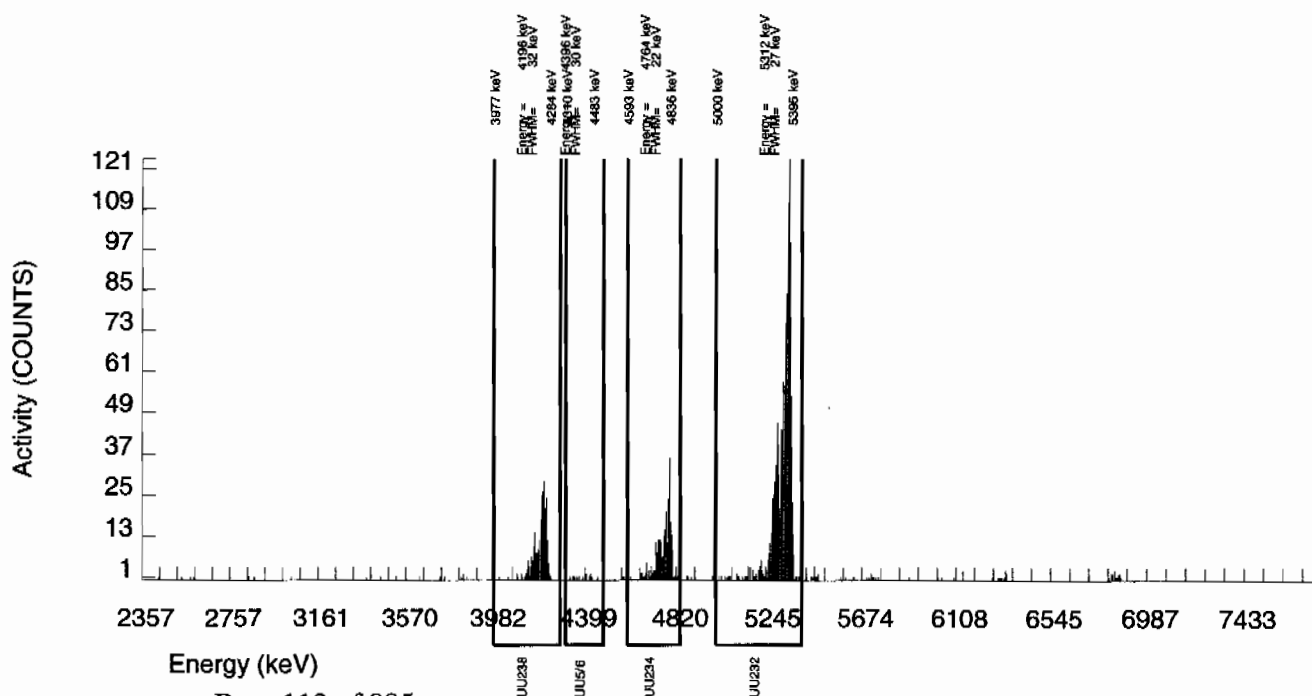
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	265.000	263.902	0.000	6.0782	100.0000	9.78E-01	9.16E-02	5.24E-02	1.15E-01	6.02E-02
U232	5302.100	1089.000	1085.000	4.000	2.0000	100.0000	4.02E+00	3.09E-01	1.72E-02	4.45E-02	1.23E-01
U-235	4391.000	15.000	12.000	3.000	2.7628	80.90000	5.49E-02	1.98E-02	2.94E-02	7.13E-02	1.94E-02
U-238	4184.730	265.000	263.000	2.000	3.2810	100.0000	9.74E-01	9.17E-02	2.83E-02	6.66E-02	6.05E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 25-JAN-2010 00:00:00		SAMPLE ID : S1202018657_UU SAMPLE QTY: 1.000 G	
DETECTOR NUMBER :75547 AVERAGE %EFFICIENCY :25.8749 % YIELD : 85.856		COUNT DATE:29-JAN-2010 10:10:43 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50654 dpm RESULTS : 3.86912 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B125.CNF;446 BKG DATE : 24-JAN-2010 EFF FILE : W125.CNF;130 CAL DATE : 18-JAN-2010

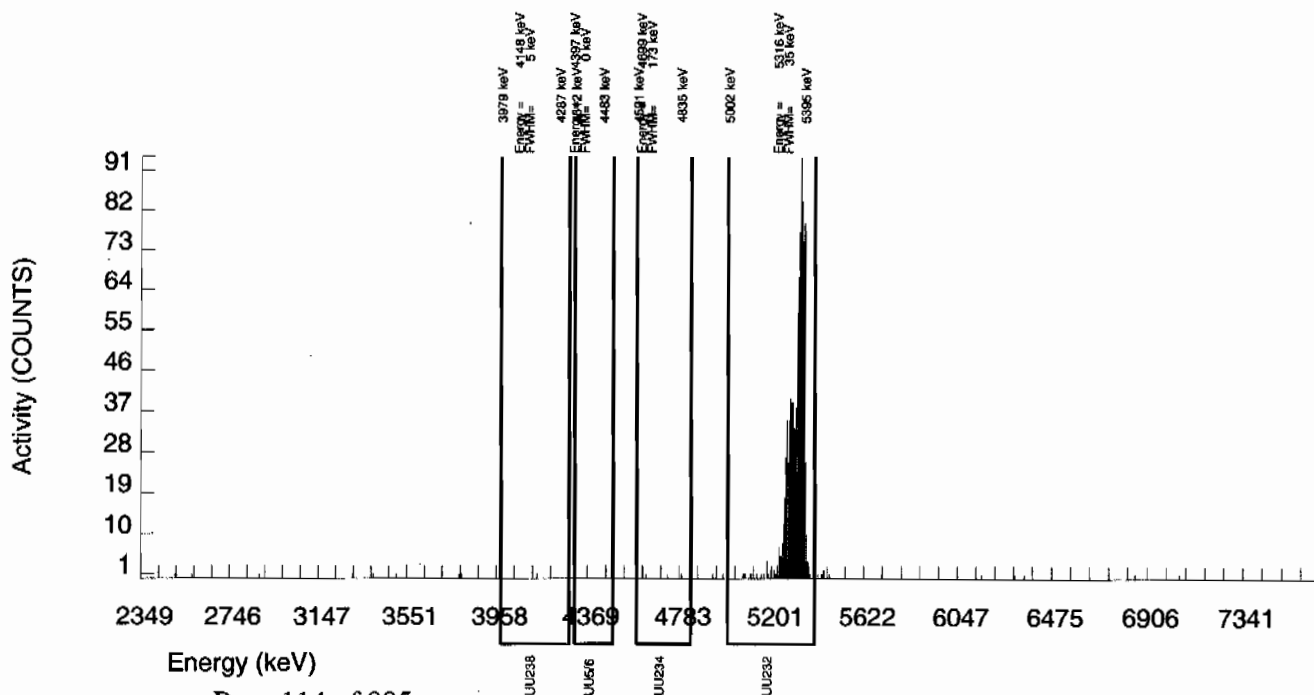
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	4.000	-0.013	3.000	6.0782	100.0000	-2.55E-05	4.96E-03	2.87E-02	6.28E-02	4.96E-03
U232	5302.100	1002.000	1001.000	1.000	1.0000	100.0000	2.03E+00	1.58E-01	4.72E-03	1.49E-02	6.42E-02
U-235	4391.000	0.000	0.000	0.000	2.7628	80.90000	0.00E+00	2.51E-03	1.61E-02	3.90E-02	2.51E-03
U-238	4184.730	1.000	0.000	1.000	3.2810	100.0000	0.00E+00	2.87E-03	1.55E-02	3.64E-02	2.87E-03

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 12-JAN-2010 00:00:00		SAMPLE ID : S1202018658_UU SAMPLE QTY: 0.505 G	
DETECTOR NUMBER :67594 AVERAGE %EFFICIENCY :29.8562 % YIELD : 103.472		COUNT DATE:29-JAN-2010 16:57:45 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50816 dpm RESULTS : 4.66466 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B012.CNF;1110 BKG DATE : 25-JAN-2010 EFF FILE : W012.CNF;312 CAL DATE : 4-JAN-2010

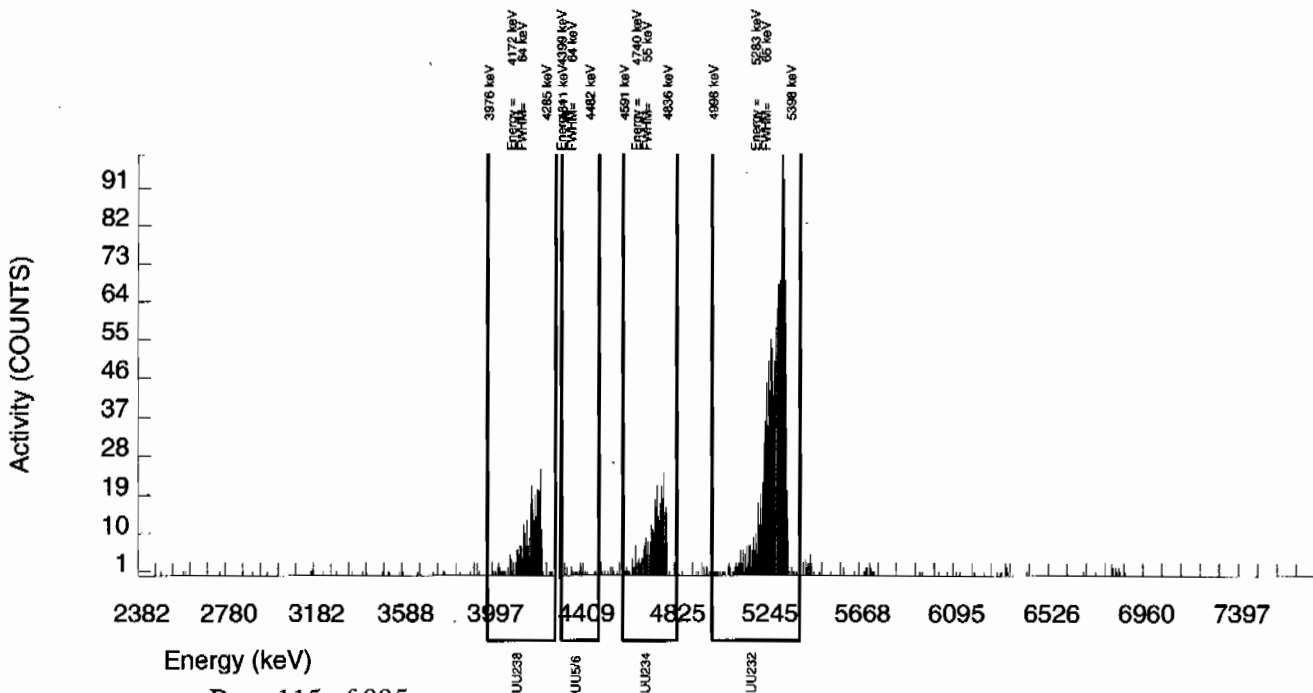
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	323.000	317.592	4.000	6.0782	100.0000	9.17E-01	8.21E-02	4.08E-02	8.95E-02	5.21E-02
U232	5302.100	1400.000	1392.000	8.000	2.8284	100.0000	4.02E+00	2.99E-01	1.90E-02	4.58E-02	1.08E-01
U-235	4391.000	20.000	18.000	2.000	2.7628	80.90000	6.42E-02	1.73E-02	2.29E-02	5.56E-02	1.67E-02
U-238	4184.730	328.000	326.000	2.000	3.2810	100.0000	9.41E-01	8.36E-02	2.20E-02	5.19E-02	5.25E-02

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER: 942863 SAMPLE DATE : 25-JAN-2010 00:00:00		SAMPLE ID : S1202018659_UU SAMPLE QTY: 0.109 G	
DETECTOR NUMBER :78911 AVERAGE %EFFICIENCY :25.1722 % YIELD : 98.568		COUNT DATE:29-JAN-2010 16:54:21 ELAPSED LIVE TIME(SEC): 60000.00 ANALYST :KXM4	
MS/MSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	LCS/LCSD ID : 0244-A ISOTOPE : U-238 PCI/G : 5.750E+00	TRACER ID : 1283-H ISOTOPE : U232 NOMINAL : 4.50654 dpm RESULTS : 4.44202 dpm	LIB FILE : ENV_ALPHA_UU.N BKG FILE : B208.CNF;94 BKG DATE : 24-JAN-2010 EFF FILE : W208.CNF;49 CAL DATE : 22-JAN-2010

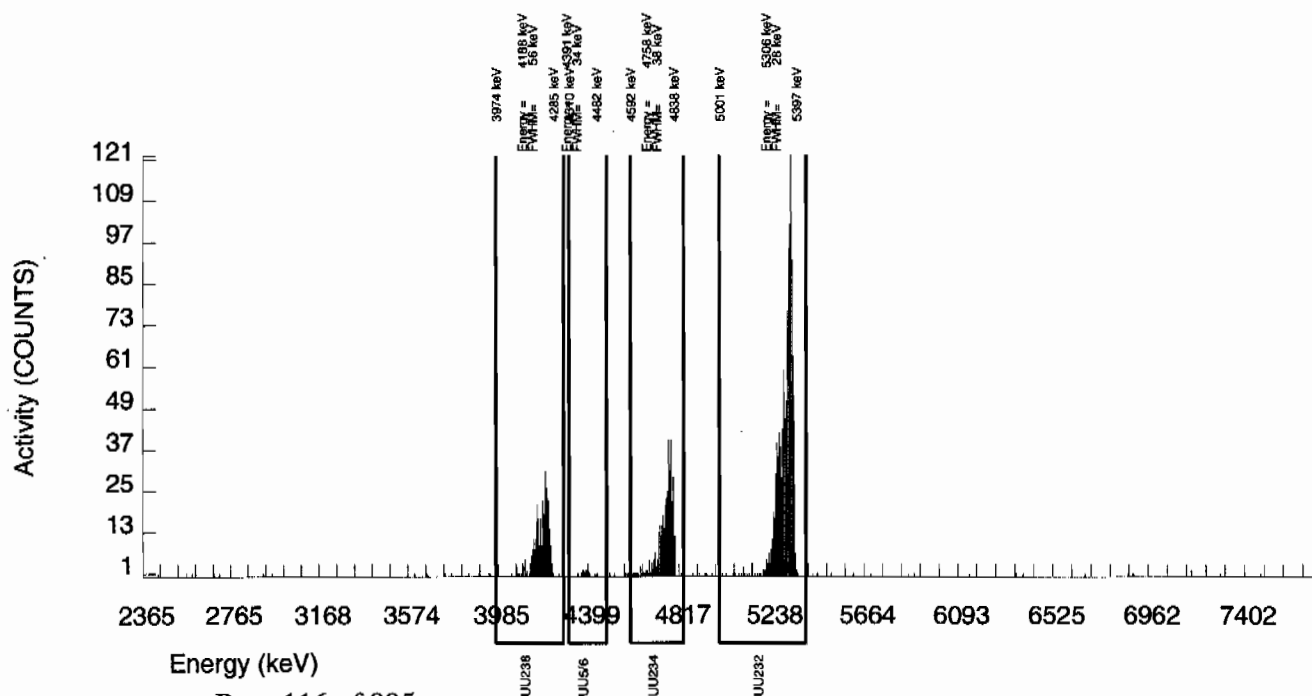
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	ENERGY	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U-3/4	4763.020	389.000	386.869	1.000	6.0782	100.0000	6.44E+00	5.91E-01	2.36E-01	5.16E-01	3.28E-01
U232	5302.100	1119.000	1118.000	1.000	1.0000	100.0000	1.86E+01	1.52E+00	3.87E-02	1.23E-01	5.57E-01
U-235	4391.000	17.000	17.000	0.000	2.7628	80.90000	3.50E-01	8.90E-02	1.32E-01	3.20E-01	8.49E-02
U-238	4184.730	313.000	312.000	1.000	3.2810	100.0000	5.20E+00	4.94E-01	1.27E-01	2.99E-01	2.95E-01

NOTE: Sg calculated via blank population (updated 5-JAN-2010)

NOTE: Sg of U232 calculated as sqrt(BKG AREA)

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



Radiochemistry Batch Checklist, Rev10

Batch# 942723

Product: Gamma Solid
LANL

Date: 01/29/10

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).			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%.			N/A
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.	✓		
Aux data is correct.	✓		
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	✓		
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: [Signature] 1/29/10

Secondary Review Performed By: [Signature] 1/29/10

2/13/10

Gamma Spec Que Sheet

I.G. - 1/26/10

01/18/2010

Batch #: 942723 Analyst: MXR1 First Client Due Date: 02/02/2010 Internal Due Date: 02/02/2010
 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: 1.0 mL Nominal Concentration: CS137-5.567
 Initials: U Prep Date: 1/19/10 Library: Solid Witness: NA CO60-6.443
 Am241-15.91

Hazard			Sealing Date/Time	
Sample ID	Client Description / Container ID	Type	Code	Client
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Sample ID	Client Description / Container ID			

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: Si Hady 1/29/10
Stedman 1/29/10
 Page 1 of 1

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
942723	244924001	SAMPLE	27-JAN-10		Americium-241	-0.0636	0.3744	0.200
					Sodium-22	0.0316	0.08398	0.080
					Thorium-234	0.4951	2.976	2.00
942723	244924002	SAMPLE	27-JAN-10		Americium-241	-0.07181	0.4694	0.200
					Cerium-139	0.00723	0.05967	0.050
					Thorium-234	1.132	3.61	2.00
942723	244924003	SAMPLE	27-JAN-10		Cerium-139	-0.0302	0.05189	0.050
					Cesium-134	0.1128	0.1236	0.100
					Sodium-22	-0.02561	0.08904	0.080
942723	244924004	SAMPLE	27-JAN-10		Americium-241	0.07738	0.3661	0.200
					Cerium-139	-0.00475	0.05832	0.050
					Sodium-22	-0.04064	0.09185	0.080
942723	244924005	SAMPLE	27-JAN-10		Americium-241	0.156	0.2975	0.200
					Cerium-139	-0.03178	0.05731	0.050
					Sodium-22	0.01194	0.08927	0.080
942723	244924006	SAMPLE	27-JAN-10		Americium-241	0.00492	0.302	0.200
					Thorium-234	0.7968	2.557	2.00
942723	244924007	SAMPLE	27-JAN-10					
942723	244924008	SAMPLE	27-JAN-10		Americium-241	-0.01085	0.3765	0.200
					Cerium-139	-0.02912	0.05897	0.050
					Cesium-134	0.07906	0.1154	0.100
					Europium-152	-0.08149	0.2091	0.200
					Thorium-234	2.863	2.917	2.00
942723	244924009	SAMPLE	27-JAN-10					
942723	244924010	SAMPLE	27-JAN-10					
942723	1202018276	MB	27-JAN-10		Americium-241	-0.1572	0.236	0.200
942723	1202018277	DUP	27-JAN-10		Americium-241	-0.0106	0.2227	0.200
942723	1202018278	LCS	27-JAN-10		Cerium-139	0.02187	0.08339	0.050
					Cesium-134	-0.03402	0.1498	0.100
					Europium-152	-0.01232	0.3002	0.200
					Mercury-203	-0.04664	0.1089	0.100
					Ruthenium-106	0.00871	0.9659	0.800
					Thorium-234	-1.712	3.369	2.00
					Tin-113	0.03051	0.1523	0.100
					Uranium-235	0.08521	0.571	0.500

GEL QUALS

Batch ID: 942723

Report run on: January 29, 2010 9:13 AM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244924001-1 27-JAN-2010 18:34	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.147			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		1.418			
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.891			
244924002-1 27-JAN-2010 18:35	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.847			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.408			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.119		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.802			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07971			
244924003-1 27-JAN-2010 18:39	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.147			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.831			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.701			
244924004-1 27-JAN-2010 18:39	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.755			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.403			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1477		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.407			
244924005-1 27-JAN-2010 19:05	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.241			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.933			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1019		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.05			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.0974			

GEL QUALS

Batch ID: 942723

Report run on: January 29, 2010 9:13 AM

Samp Id	Parmname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
244924008-1 27-JAN-2010 19:05	Bismuth-211	UI	UI	Data rejected due to interference.		3.866			
	Cadmium-109	UI	UI	Data rejected due to interference.		3.489			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.07989		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		5.715			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.0771			
244924007-1 27-JAN-2010 19:06	Bismuth-211	UI	UI	Data rejected due to interference.		3.705			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.662			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.08872		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.732			
244924008-1 27-JAN-2010 20:40	Bismuth-211	UI	UI	Data rejected due to interference.		4.949			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.905			
	Radium-224	UI	UI	Data rejected due to interference.		5.8			
	Uranium-235	UI	UI	Data rejected due to high counting uncertainty.		.432		.5	.5
244924009-1 27-JAN-2010 20:41	Bismuth-211	UI	UI	Data rejected due to interference.		4.575			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.359			
	Radium-224	UI	UI	Data rejected due to interference.		5.546			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.1143			
244924010-1 27-JAN-2010 20:42	Bismuth-211	UI	UI	Data rejected due to interference.		3.182			
	Cadmium-109	UI	UI	Data rejected due to interference.		2.789			
	Radium-224	UI	UI	Data rejected due to interference.		3.743			

GEL QUALS

Batch ID: 942723

Report run on: January 29, 2010 9:13 AM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
244924010-1 27-JAN-2010 20:42	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.1183			
1202018277-1 DUP 27-JAN-2010 20:43	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.009			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.663			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.125		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.228			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.07361			

Gamma Review Report based on Result > MDA for Batch:942723

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244924001	12-JAN-10 12:00	27-JAN-10 18:34	15.3	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	1.367	0.1764	pCi/g	0.2033	N	912.3	3	1.478 IDENTIFIED	11.33	□
Americium-243 int nr	0.1996	0.03893	pCi/g	0.1141	N	74.76	1	0.8332 IDENTIFIED	18.72	□
Annihilation Rad. HE	0.09146	0.03335	pCi/g	0.04295	N	511.2	1	1.925 IDENTIFIED	36.33	□
Bismuth-211 int	3.147	0.2554	pCi/g	0.3031	Y	352	4	1.119 IDENTIFIED	7.251	□ ui
Bismuth-212 HE	1.03	0.1815	pCi/g	0.6969	N	0	8	0 NOT_IDENTI	0	□
Bismuth-214 ✓	0.9341	0.08532	pCi/g	0.107	0.200	610.1	4	1.453 IDENTIFIED	8.305	□
Cadmium-109 int	1.418	0.506	pCi/g	1.353	Y	86.91	1	1.133 IDENTIFIED	35.24	□ ui
Cerium-143	240	87.99	pCi/g	0	N	0	8	0 SHORT_HLIF	0	□
Gold-195 HE	0.4815	0.1167	pCi/g	0.4193	N	0	8	0 FAIL_ABUND	0	□
Gross Gamma	7.961	1.362	pCi/g	2.479	N	0				□
Iodine-123 HE	4.13E+06	3.41E+06	pCi/g	0	N	0	8	0 SHORT_HLIF	0	□
Lead-212 ✓	1.276	0.08049	pCi/g	0.1261	0.100	238.6	4	1.09 IDENTIFIED	5.042	□
Lead-214 ✓	1.095	0.09333	pCi/g	0.1056	0.100	352	4	1.119 IDENTIFIED	7.251	□
Lutetium-177 HE	2.243	0.8388	pCi/g	2.003	N	0	8	0 FAIL_ABUND	0	□
Polonium-212 nr	1.276	0.08049	pCi/g	0.1261	N	238.6	4	1.09 IDENTIFIED	5.042	□
Polonium-214 nr	1.095	0.09333	pCi/g	0.1056	N	352	4	1.119 IDENTIFIED	7.251	□
Polonium-216 nr	1.276	0.08049	pCi/g	0.1261	N	238.6	4	1.09 IDENTIFIED	5.042	□
Polonium-218 nr	1.095	0.09333	pCi/g	0.1056	N	352	4	1.119 IDENTIFIED	7.251	□
Potassium-40 ✓	33.9	1.77	pCi/g	0.5335	1.00	1462	1	2.264 IDENTIFIED	2.958	□
Radium-224 int	2.891	0.433	pCi/g	1.144	Y	241.9	1	1.524 IDENTIFIED	14.66	□ ui
Radium-226 ✓	0.9341	0.08532	pCi/g	0.107	Y	610.1	4	1.453 IDENTIFIED	8.305	□
Radium-228 ✓	1.367	0.1764	pCi/g	0.2033	0.500	912.3	3	1.478 IDENTIFIED	11.33	□
Thallium-200 HE	122.7	240.3	pCi/g	0	N	0	8	0 SHORT_HLIF	0	□
Thallium-208 ✓	0.3515	0.04403	pCi/g	0.05781	0.080	584	1	1.193 IDENTIFIED	12.07	□
Thorium-228 nr	1.295	0.08173	pCi/g	0.128	N	238.6	4	1.09 IDENTIFIED	5.042	□
Thorium-230 nr	0.9341	0.08532	pCi/g	0.107	N	610.1	4	1.453 IDENTIFIED	8.305	□
Thorium-232 nr	1.367	0.1764	pCi/g	0.2033	N	912.3	3	1.478 IDENTIFIED	11.33	□
Titanium-44 1a nr	0.2681	0.02928	pCi/g	0.07881	N	0	8	0 FAIL_ABUND	0	□
Uranium-234 nr	0.9341	0.08532	pCi/g	0.107	N	610.1	4	1.453 IDENTIFIED	8.305	□
Zirconium-97 HE	2.34E+05	1.06E+06	pCi/g	0	N	0	8	0 SHORT_HLIF	0	□
*** = Number of isotopes identified with a skyline at this energy.										
Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
244924002	12-JAN-10 12:00	27-JAN-10 18:35	15.3	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	1.287	0.1662	pCi/g	0.2348	N	910.6	3	1.624 IDENTIFIED	11.66	□
Americium-243 int nr	0.3968	0.07006	pCi/g	0.1246	N	74.17	1	1.873 IDENTIFIED	16.76	□
Annihilation Rad.	0.1648	0.04207	pCi/g	0.05234	N	510	1	2.138 IDENTIFIED	25.37	□
Barium-137m	0.4027	0.04145	pCi/g	0.0584	N	661	2	1.388 IDENTIFIED	9.979	□
Bismuth-211 int	3.847	0.2853	pCi/g	0.3625	Y	351.3	4	1.6 IDENTIFIED	6.573	□ ui
Bismuth-214 ✓	1.2	0.09461	pCi/g	0.1213	0.200	608.7	4	1.731 IDENTIFIED	6.952	□

Cadmium-109	int	2.408	0.5601	pCi/g	1.584	Y	89.26	1	1.265	IDENTIFIED	22.57	<input type="checkbox"/>	ui
Cerium-143		1637	226.7	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	la	0.119	0.0325	pCi/g	0.093	0.100	0	11	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-137	✓	0.4257	0.04383	pCi/g	0.06174	0.100	661	2	1.388	IDENTIFIED	9.979	<input type="checkbox"/>	
Gross Gamma		8.312	1.462	pCi/g	3.144	N	0					<input type="checkbox"/>	
Iodine-135	HE	6.08E+15	4.29E+15	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Krypton-85	HE	15.52	4.435	pCi/g	14.8	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>	
Lead-212	✓	1.358	0.08234	pCi/g	0.1079	0.100	238	4	1.347	IDENTIFIED	4.434	<input type="checkbox"/>	
Lead-214	✓	1.338	0.1052	pCi/g	0.1263	0.100	351.3	4	1.6	IDENTIFIED	6.573	<input type="checkbox"/>	
Neptunium-237	int nr	1.057	0.2077	pCi/g	0.4697	N	86.66	2	1.315	IDENTIFIED	15.7	<input type="checkbox"/>	
Niobium-95m	la nr	1.425	0.1177	pCi/g	0.3945	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-97	la nr	3.34E+05	77440	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-212	nr	1.358	0.08234	pCi/g	0.1079	N	238	4	1.347	IDENTIFIED	4.434	<input type="checkbox"/>	
Polonium-214	nr	1.338	0.1052	pCi/g	0.1263	N	351.3	4	1.6	IDENTIFIED	6.573	<input type="checkbox"/>	
Polonium-216	nr	1.358	0.08234	pCi/g	0.1079	N	238	4	1.347	IDENTIFIED	4.434	<input type="checkbox"/>	
Polonium-218	nr	1.338	0.1052	pCi/g	0.1263	N	351.3	4	1.6	IDENTIFIED	6.573	<input type="checkbox"/>	
Potassium-40	✓	21.45	1.179	pCi/g	0.5834	1.00	1460	1	2.038	IDENTIFIED	3.951	<input type="checkbox"/>	
Radium-224	int	3.802	0.6969	pCi/g	1.228	Y	241	1	1.835	IDENTIFIED	18	<input type="checkbox"/>	ui
Radium-226	✓	1.2	0.09461	pCi/g	0.1213	Y	608.7	4	1.731	IDENTIFIED	6.952	<input type="checkbox"/>	
Radium-228	✓	1.287	0.1662	pCi/g	0.2348	0.500	910.6	3	1.624	IDENTIFIED	11.66	<input type="checkbox"/>	
Silver-110m	HE	0.08728	0.02329	pCi/g	0.07838	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>	
Strontium-82	HE	1.277	0.4838	pCi/g	0.6142	N	775.9	1	8.935	IDENTIFIED	37.74	<input type="checkbox"/>	
Strontium-85	la	0.07971	0.02278	pCi/g	0.07599	Y	0	11	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-200	HE	233.8	270.9	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.4257	0.0426	pCi/g	0.06163	0.080	582.8	1	1.709	IDENTIFIED	9.487	<input type="checkbox"/>	
Thorium-228	nr	1.378	0.08361	pCi/g	0.1096	N	238	4	1.347	IDENTIFIED	4.434	<input type="checkbox"/>	
Thorium-230	nr	1.2	0.0946	pCi/g	0.1213	N	608.7	4	1.731	IDENTIFIED	6.952	<input type="checkbox"/>	
Thorium-232	nr	1.287	0.1662	pCi/g	0.2348	N	910.6	3	1.624	IDENTIFIED	11.66	<input type="checkbox"/>	
Tin-126	int nr	0.3601	0.0602	pCi/g	0.1569	N	86.66	2	1.315	IDENTIFIED	15.7	<input type="checkbox"/>	
Titanium-44	la nr	0.1953	0.03066	pCi/g	0.09585	N	0	11	0	NOT_IDENTI	0	<input type="checkbox"/>	
Uranium-234	nr	1.2	0.0946	pCi/g	0.1213	N	608.7	4	1.731	IDENTIFIED	6.952	<input type="checkbox"/>	
Zirconium-97		1.07E+07	1.50E+06	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
244924003	12-JAN-10 12:00	27-JAN-10 18:39	15.3	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	1.368	0.1761	pCi/g	0.2586	N	910.9	3	1.852	IDENTIFIED 11.78 <input type="checkbox"/>
Americium-243	int nr	0.3071	0.03138	pCi/g	0.06358	N	74.64	1	1.219	IDENTIFIED 9.261 <input type="checkbox"/>
Annihilation Rad.		0.1854	0.04165	pCi/g	0.05725	N	510.5	1	1.921	IDENTIFIED 22.19 <input type="checkbox"/>
Bismuth-211	int	4.147	0.3067	pCi/g	0.4219	Y	351.5	4	1.344	IDENTIFIED 6.437 <input type="checkbox"/> ui
Bismuth-212	la nr	1.614	0.3088	pCi/g	0.8324	N	0	8	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.058	0.1175	pCi/g	0.1413	0.200	609	4	1.448	IDENTIFIED 10.07 <input type="checkbox"/>
Cadmium-109	int	3.831	0.4873	pCi/g	1.034	Y	87.11	3	1.307	IDENTIFIED 12.09 <input type="checkbox"/> ui
Cerium-143		889.3	142.7	pCi/g	0	N	0	8	0	SHORT_HLIF 0 <input type="checkbox"/>
Europium-155	HE	0.2302	0.07084	pCi/g	0.1736	N	105.5	1	1.743	IDENTIFIED 30.34 <input type="checkbox"/>
Gross Gamma		8.041	1.487	pCi/g	2.669	N	0			<input type="checkbox"/>
Iodine-123	HE	1.75E+06	3.73E+06	pCi/g	0	N	0	8	0	SHORT_HLIF 0 <input type="checkbox"/>

Iodine-135	HE	7.48E+15	4.93E+15	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.577	0.09301	pCi/g	0.0964	0.100	238.4	4	1.253	IDENTIFIED	3.759	<input type="checkbox"/>
Lead-214	✓	1.442	0.1131	pCi/g	0.1471	0.100	351.5	4	1.344	IDENTIFIED	6.437	<input type="checkbox"/>
Lutetium-177	HE	3.055	1.069	pCi/g	2.272	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	int nr	1.105	0.1811	pCi/g	0.2971	N	87.11	3	1.307	IDENTIFIED	12.09	<input type="checkbox"/>
Polonium-212	nr	1.577	0.09301	pCi/g	0.0964	N	238.4	4	1.253	IDENTIFIED	3.759	<input type="checkbox"/>
Polonium-214	nr	1.442	0.1131	pCi/g	0.1471	N	351.5	4	1.344	IDENTIFIED	6.437	<input type="checkbox"/>
Polonium-216	nr	1.577	0.09301	pCi/g	0.0964	N	238.4	4	1.253	IDENTIFIED	3.759	<input type="checkbox"/>
Polonium-218	nr	1.442	0.1131	pCi/g	0.1471	N	351.5	4	1.344	IDENTIFIED	6.437	<input type="checkbox"/>
Potassium-40	✓	22.4	1.111	pCi/g	0.5903	1.00	1460	1	1.955	IDENTIFIED	3.903	<input type="checkbox"/>
Radium-224	int	4.701	0.799	pCi/g	1.097	Y	241.3	1	2.012	IDENTIFIED	16.53	<input type="checkbox"/> ui
Radium-226	✓	1.058	0.1175	pCi/g	0.1413	Y	609	4	1.448	IDENTIFIED	10.07	<input type="checkbox"/>
Radium-228	✓	1.368	0.1761	pCi/g	0.2586	0.500	910.9	3	1.852	IDENTIFIED	11.78	<input type="checkbox"/>
Thallium-200	HE	238.6	304.3	pCi/g	0	N	0	8	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.5611	0.05787	pCi/g	0.07385	0.080	582.9	1	1.633	IDENTIFIED	9.448	<input type="checkbox"/>
Thorium-228	nr	1.602	0.09443	pCi/g	0.09788	N	238.4	4	1.253	IDENTIFIED	3.759	<input type="checkbox"/>
Thorium-230	nr	1.058	0.1175	pCi/g	0.1413	N	609	4	1.448	IDENTIFIED	10.07	<input type="checkbox"/>
Thorium-232	nr	1.368	0.1761	pCi/g	0.2586	N	910.9	3	1.852	IDENTIFIED	11.78	<input type="checkbox"/>
Tin-126	int nr	0.3764	0.04788	pCi/g	0.1015	N	87.11	3	1.307	IDENTIFIED	12.09	<input type="checkbox"/>
Titanium-44	la nr	0.3437	0.02408	pCi/g	0.05945	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		1.9955	1.80E-06	ug/g	1.5958	N		0				<input type="checkbox"/>
Uranium-234	nr	1.058	0.1175	pCi/g	0.1413	N	609	4	1.448	IDENTIFIED	10.07	<input type="checkbox"/>
Zirconium-97		5.82E+06	1.46E+06	pCi/g	0	N	0	8	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		
244924004	12-JAN-10 12:00	27-JAN-10 18:39	15.3	SAMPLE	LOAD	1	LANL	LANL010041CEL		N	RGSP		
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment		
Actinium-228	nr	1.465	0.1958	pCi/g	0.2591	N	910.4	3	1.865	IDENTIFIED	12.06	<input type="checkbox"/>	
Americium-243	int nr	0.457	0.05287	pCi/g	0.1205	N	74.63	1	1.385	IDENTIFIED	10.68	<input type="checkbox"/>	
Annihilation Rad.	HE	0.0907	0.04571	pCi/g	0.05943	N	510.4	1	1.962	IDENTIFIED	50.31	<input type="checkbox"/>	
Barium-137m	HE	0.09897	0.03313	pCi/g	0.06822	N	661.1	2	1.049	IDENTIFIED	33.38	<input type="checkbox"/>	
Bismuth-211	int	3.755	0.2898	pCi/g	0.3791	Y	351.4	4	1.374	IDENTIFIED	6.996	<input type="checkbox"/>	ui
Bismuth-212	HE	0.9179	0.2982	pCi/g	0.7359	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.308	0.108	pCi/g	0.145	0.200	608.7	4	1.404	IDENTIFIED	7.354	<input type="checkbox"/>	
Cadmium-109	int	2.403	0.6263	pCi/g	1.588	Y	87.07	3	1.199	IDENTIFIED	25.61	<input type="checkbox"/>	ui
Cerium-143		1266	181.7	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	la	0.1477	0.03246	pCi/g	0.1075	0.100	0	10	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-137	✓	0.1046	0.03502	pCi/g	0.07211	0.100	661.1	2	1.049	IDENTIFIED	33.38	<input type="checkbox"/>	
Gross Gamma		8.448	1.49	pCi/g	3.741	N	0					<input type="checkbox"/>	
Iodine-123	HE	4.97E+06	4.35E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>	
Iodine-135	HE	6.41E+14	5.04E+15	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.499	0.08362	pCi/g	0.1071	0.100	238.3	4	1.133	IDENTIFIED	4.264	<input type="checkbox"/>	
Lead-214	✓	1.306	0.1064	pCi/g	0.1374	0.100	351.4	4	1.374	IDENTIFIED	6.996	<input type="checkbox"/>	
Neptunium-237	HE	0.6934	0.1944	pCi/g	0.5462	N	87.07	3	1.199	IDENTIFIED	25.61	<input type="checkbox"/>	
Niobium-95	HE	0.1137	0.03021	pCi/g	0.1026	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-95m	la nr	0.59	0.09979	pCi/g	0.3228	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>	
Polonium-212	nr	1.499	0.08362	pCi/g	0.1071	N	238.3	4	1.133	IDENTIFIED	4.264	<input type="checkbox"/>	

Polonium-214	nr	1.306	0.1064	pCi/g	0.1374	N	351.4	4	1.374	IDENTIFIED	6.996	<input type="checkbox"/>
Polonium-216	nr	1.499	0.08362	pCi/g	0.1071	N	238.3	4	1.133	IDENTIFIED	4.264	<input type="checkbox"/>
Polonium-218	nr	1.306	0.1064	pCi/g	0.1374	N	351.4	4	1.374	IDENTIFIED	6.996	<input type="checkbox"/>
Potassium-40	✓	19.81	1.137	pCi/g	0.5138	1.00	1460	1	1.929	IDENTIFIED	4.35	<input type="checkbox"/>
Radium-224	int	4.407	0.8081	pCi/g	1.219	Y	241.4	1	1.887	IDENTIFIED	18.12	<input type="checkbox"/> ui
Radium-226	✓	1.308	0.108	pCi/g	0.145	Y	608.7	4	1.404	IDENTIFIED	7.354	<input type="checkbox"/>
Radium-228	✓	1.465	0.1958	pCi/g	0.2591	0.500	910.4	3	1.865	IDENTIFIED	12.06	<input type="checkbox"/>
Sodium-24	HE	1.12E+05	5.28E+05	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.5445	0.04774	pCi/g	0.07763	0.080	582.4	1	1.432	IDENTIFIED	8.144	<input type="checkbox"/>
Thorium-228	nr	1.522	0.0849	pCi/g	0.1087	N	238.3	4	1.133	IDENTIFIED	4.264	<input type="checkbox"/>
Thorium-230	nr	1.308	0.108	pCi/g	0.145	N	608.7	4	1.404	IDENTIFIED	7.354	<input type="checkbox"/>
Thorium-232	nr	1.465	0.1958	pCi/g	0.2591	N	910.4	3	1.865	IDENTIFIED	12.06	<input type="checkbox"/>
Thorium-234	✓	3.579	1.162	pCi/g	2.921	2.00	62.88	2	0.8971	IDENTIFIED	31.19	<input type="checkbox"/>
Tin-126	HE	0.2361	0.06155	pCi/g	0.1826	N	87.07	3	1.199	IDENTIFIED	25.61	<input type="checkbox"/>
Titanium-44	la nr	0.4253	0.03926	pCi/g	0.1043	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		10.653	3.46E-06	ug/g	4.3492	N	0					<input type="checkbox"/>
Uranium-234	nr	1.308	0.108	pCi/g	0.145	N	608.7	4	1.404	IDENTIFIED	7.354	<input type="checkbox"/>
Uranium-238	HE	3.579	1.162	pCi/g	2.921	N	62.88	2	0.8971	IDENTIFIED	31.19	<input type="checkbox"/>
Zirconium-97		7.06E+06	1.66E+06	pCi/g	0	N	0	10	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
244924005	12-JAN-10 12:00	27-JAN-10 19:05	15.3	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	1.495	0.1807	pCi/g	0.2397	N	911.4	3	1.363	IDENTIFIED	10.62 <input type="checkbox"/>
Americium-243	int nr	0.4032	0.04534	pCi/g	0.1019	N	74.94	1	1.229	IDENTIFIED	10.45 <input type="checkbox"/>
Annihilation Rad.		0.1475	0.03976	pCi/g	0.06053	N	511.5	1	2.044	IDENTIFIED	26.62 <input type="checkbox"/>
Barium-137m		0.5097	0.04534	pCi/g	0.07278	N	661.9	2	1.261	IDENTIFIED	7.896 <input type="checkbox"/>
Bismuth-211	int	4.241	0.3497	pCi/g	0.3984	Y	352.2	4	1.366	IDENTIFIED	6.882 <input type="checkbox"/> ui
Bismuth-212	HE	1.307	0.2978	pCi/g	0.7984	N	0	11	0	FAIL_ABUND	0 <input type="checkbox"/>
Bismuth-214	✓	1.276	0.1092	pCi/g	0.1305	0.200	609.6	4	1.395	IDENTIFIED	6.993 <input type="checkbox"/>
Cadmium-109	int	2.933	0.5871	pCi/g	1.776	Y	87.04	3	1.209	IDENTIFIED	19.47 <input type="checkbox"/> ui
Cerium-143		397.6	113.4	pCi/g	0	N	0	11	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-134	la	0.1019	0.03506	pCi/g	0.09836	0.100	0	11	0	FAIL_ABUND	0 <input type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.5388	0.04795	pCi/g	0.07693	0.100	661.9	2	1.261	IDENTIFIED	7.896 <input type="checkbox"/>
Gross Gamma		8.694	1.356	pCi/g	3.258	N	0				<input type="checkbox"/>
Iodine-133	HE	5646	3747	pCi/g	0	N	0	11	0	SHORT_HLIF	0 <input type="checkbox"/>
Iodine-135	HE	7.30E+15	5.23E+15	pCi/g	0	N	0	11	0	SHORT_HLIF	0 <input type="checkbox"/>
Krypton-85	HE	18.96	5.082	pCi/g	16.76	N	0	11	0	NOT_IDENTI	0 <input type="checkbox"/>
Lead-212	✓	1.584	0.102	pCi/g	0.1083	0.100	239	4	1.242	IDENTIFIED	3.975 <input type="checkbox"/>
Lead-214	✓	1.475	0.1276	pCi/g	0.1389	0.100	352.2	4	1.366	IDENTIFIED	6.882 <input type="checkbox"/>
Lutetium-177	HE	3.668	0.9427	pCi/g	2.388	N	0	11	0	FAIL_ABUND	0 <input type="checkbox"/>
Neptunium-237	HE	0.8462	0.1906	pCi/g	0.4774	N	87.04	3	1.209	IDENTIFIED	19.47 <input type="checkbox"/>
Polonium-212	nr	1.584	0.102	pCi/g	0.1083	N	239	4	1.242	IDENTIFIED	3.975 <input type="checkbox"/>
Polonium-214	nr	1.475	0.1276	pCi/g	0.1389	N	352.2	4	1.366	IDENTIFIED	6.882 <input type="checkbox"/>
Polonium-216	nr	1.584	0.102	pCi/g	0.1083	N	239	4	1.242	IDENTIFIED	3.975 <input type="checkbox"/>
Polonium-218	nr	1.475	0.1276	pCi/g	0.1389	N	352.2	4	1.366	IDENTIFIED	6.882 <input type="checkbox"/>
Potassium-40	✓	21.31	1.279	pCi/g	0.6431	1.00	1461	1	1.938	IDENTIFIED	4.035 <input type="checkbox"/>

Radium-224	int	5.05	0.8029	pCi/g	1.232	Y	242	1	1.879	IDENTIFIED	15.24	<input type="checkbox"/>	ui
Radium-226		1.276	0.1092	pCi/g	0.1305	Y	609.6	4	1.395	IDENTIFIED	6.993	<input type="checkbox"/>	
Radium-228		1.495	0.1807	pCi/g	0.2397	0.500	911.4	3	1.363	IDENTIFIED	10.62	<input type="checkbox"/>	
Sodium-24	HE	2.93E+05	4.65E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	<input type="checkbox"/>	
Strontium-85	la	0.0974	0.02611	pCi/g	0.08608	Y	0	11	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208		0.4903	0.05756	pCi/g	0.07015	0.080	583.5	1	1.439	IDENTIFIED	10.82	<input type="checkbox"/>	
Thorium-228	nr	1.608	0.1035	pCi/g	0.1099	N	239	4	1.242	IDENTIFIED	3.975	<input type="checkbox"/>	
Thorium-230	nr	1.276	0.1092	pCi/g	0.1305	N	609.6	4	1.395	IDENTIFIED	6.993	<input type="checkbox"/>	
Thorium-232	nr	1.495	0.1807	pCi/g	0.2397	N	911.4	3	1.363	IDENTIFIED	10.62	<input type="checkbox"/>	
Thorium-234		3.662	1.386	pCi/g	2.402	2.00	62.91	2	1.69	IDENTIFIED	36.81	<input type="checkbox"/>	
Tin-126	HE	0.2882	0.05769	pCi/g	0.1773	N	87.04	3	1.209	IDENTIFIED	19.47	<input type="checkbox"/>	
Titanium-44	la nr	0.3824	0.03415	pCi/g	0.09046	N	0	11	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		10.935	4.12E-06	ug/g	3.5763	N	0					<input type="checkbox"/>	
Uranium-234	nr	1.276	0.1092	pCi/g	0.1305	N	609.6	4	1.395	IDENTIFIED	6.993	<input type="checkbox"/>	
Uranium-238	HE	3.662	1.386	pCi/g	2.402	N	62.91	2	1.69	IDENTIFIED	36.81	<input type="checkbox"/>	
Zirconium-97	HE	1.67E+06	1.52E+06	pCi/g	0	N	0	11	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
244924006	12-JAN-10 12:00	27-JAN-10 19:05	15.3	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	1.801	0.1659	pCi/g	0.1559	N	910.8	3	1.608	IDENTIFIED 6.395 <input type="checkbox"/>
Americium-243	int nr	0.3946	0.04239	pCi/g	0.0884	N	75.02	1	1.185	IDENTIFIED 9.894 <input type="checkbox"/>
Annihilation Rad.		0.1132	0.02547	pCi/g	0.03834	N	510.8	1	2.292	IDENTIFIED 22.25 <input type="checkbox"/>
Bismuth-211	int	3.866	0.2195	pCi/g	0.2665	Y	351.9	4	1.313	IDENTIFIED 4.684 <input type="checkbox"/> ui
Bismuth-212	la nr	1.038	0.2214	pCi/g	0.5484	N	0	8	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214		1.171	0.08458	pCi/g	0.09776	0.200	609.2	4	1.551	IDENTIFIED 5.68 <input type="checkbox"/>
Cadmium-109	int	3.489	0.5389	pCi/g	1.148	Y	87.44	3	1.328	IDENTIFIED 14.75 <input type="checkbox"/> ui
Cerium-143		784.4	117.6	pCi/g	0	N	0	8	0	SHORT_HLIF 0 <input type="checkbox"/>
Cesium-134	la	0.07989	0.02694	pCi/g	0.07293	0.100	0	8	0	FAIL_ABUND 0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Gross Gamma		8.608	1.149	pCi/g	2.382	N	0			<input type="checkbox"/>
Krypton-85	HE	15.01	3.503	pCi/g	11.56	N	0	8	0	NOT_IDENTI 0 <input type="checkbox"/>
Lead-212		1.69	0.07743	pCi/g	0.07197	0.100	238.8	4	1.206	IDENTIFIED 2.87 <input type="checkbox"/>
Lead-214		1.345	0.08404	pCi/g	0.09286	0.100	351.9	4	1.313	IDENTIFIED 4.684 <input type="checkbox"/>
Lutetium-177	HE	2.934	0.745	pCi/g	1.784	N	0	8	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	int nr	1.007	0.187	pCi/g	0.3387	N	87.44	3	1.328	IDENTIFIED 14.75 <input type="checkbox"/>
Polonium-212	nr	1.69	0.07743	pCi/g	0.07197	N	238.8	4	1.206	IDENTIFIED 2.87 <input type="checkbox"/>
Polonium-214	nr	1.345	0.08404	pCi/g	0.09286	N	351.9	4	1.313	IDENTIFIED 4.684 <input type="checkbox"/>
Polonium-216	nr	1.69	0.07743	pCi/g	0.07197	N	238.8	4	1.206	IDENTIFIED 2.87 <input type="checkbox"/>
Polonium-218	nr	1.345	0.08404	pCi/g	0.09286	N	351.9	4	1.313	IDENTIFIED 4.684 <input type="checkbox"/>
Potassium-40		21.05	1.019	pCi/g	0.4504	1.00	1460	1	2.219	IDENTIFIED 3.001 <input type="checkbox"/>
Radium-224	int	5.715	0.5883	pCi/g	0.8179	Y	241.6	1	1.759	IDENTIFIED 9.909 <input type="checkbox"/> ui
Radium-226		1.171	0.08458	pCi/g	0.09776	Y	609.2	4	1.551	IDENTIFIED 5.68 <input type="checkbox"/>
Radium-228		1.801	0.1659	pCi/g	0.1559	0.500	910.8	3	1.608	IDENTIFIED 6.395 <input type="checkbox"/>
Strontium-85	la	0.0771	0.01799	pCi/g	0.05937	Y	0	8	0	NOT_IDENTI 0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thallium-208		0.5119	0.04062	pCi/g	0.0448	0.080	583.1	1	1.572	IDENTIFIED 6.901 <input type="checkbox"/>
Thorium-228	nr	1.716	0.07862	pCi/g	0.07308	N	238.8	4	1.206	IDENTIFIED 2.87 <input type="checkbox"/>
Thorium-230	nr	1.171	0.08458	pCi/g	0.09776	N	609.2	4	1.551	IDENTIFIED 5.68 <input type="checkbox"/>

Thorium-232	nr	1.801	0.1659	pCi/g	0.1559	N	910.8	3	1.608	IDENTIFIED	6.395	<input type="checkbox"/>
Tin-126	int nr	0.3428	0.05295	pCi/g	0.1135	N	87.44	3	1.328	IDENTIFIED	14.75	<input type="checkbox"/>
Titanium-44	la nr	0.3763	0.02875	pCi/g	0.08334	N	0	8	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	nr	1.171	0.08458	pCi/g	0.09776	N	609.2	4	1.551	IDENTIFIED	5.68	<input type="checkbox"/>
Zirconium-97		3.48E+06	1.09E+06	pCi/g	0	N	0	8	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
244924007	12-JAN-10 12:00	27-JAN-10 19:06	15.3	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	1.615	0.1592	pCi/g	0.2045	N	910.8	3	1.617	IDENTIFIED	7.723	<input type="checkbox"/>		
Americium-243	int nr	0.3287	0.03251	pCi/g	0.07201	N	74.93	1	1.14	IDENTIFIED	9.03	<input type="checkbox"/>		
Annihilation Rad. HE		0.1075	0.0333	pCi/g	0.04368	N	510.6	1	1.872	IDENTIFIED	30.63	<input type="checkbox"/>		
Bismuth-211	int	3.705	0.2848	pCi/g	0.3074	Y	351.8	4	1.305	IDENTIFIED	6.017	<input type="checkbox"/>	ui	
Bismuth-212	HE	0.9259	0.2135	pCi/g	0.6091	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>		
Bismuth-214	✓	1.017	0.08393	pCi/g	0.1041	0.200	609	4	1.436	IDENTIFIED	6.095	<input type="checkbox"/>		
Cadmium-109	int	2.662	0.417	pCi/g	1.134	Y	87.34	3	1.034	IDENTIFIED	14.95	<input type="checkbox"/>	ui	
Cerium-143		677.8	115.3	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>		
Cesium-134	la	0.08872	0.02134	pCi/g	0.08157	0.100	0	7	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI	Data rejected due to low abundance.
Gross Gamma		8.689	1.393	pCi/g	2.682	N	0					<input type="checkbox"/>		
Lead-212	✓	1.605	0.09996	pCi/g	0.08346	0.100	238.5	4	1.088	IDENTIFIED	3.243	<input type="checkbox"/>		
Lead-214	✓	1.289	0.1046	pCi/g	0.1071	0.100	351.8	4	1.305	IDENTIFIED	6.017	<input type="checkbox"/>		
Lutetium-177	HE	3.23	0.7649	pCi/g	1.89	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>		
Neptunium-237	int nr	0.7682	0.1441	pCi/g	0.3263	N	87.34	3	1.034	IDENTIFIED	14.95	<input type="checkbox"/>		
Polonium-212	nr	1.605	0.09996	pCi/g	0.08346	N	238.5	4	1.088	IDENTIFIED	3.243	<input type="checkbox"/>		
Polonium-214	nr	1.289	0.1046	pCi/g	0.1071	N	351.8	4	1.305	IDENTIFIED	6.017	<input type="checkbox"/>		
Polonium-216	nr	1.605	0.09996	pCi/g	0.08346	N	238.5	4	1.088	IDENTIFIED	3.243	<input type="checkbox"/>		
Polonium-218	nr	1.289	0.1046	pCi/g	0.1071	N	351.8	4	1.305	IDENTIFIED	6.017	<input type="checkbox"/>		
Potassium-40	✓	28.78	1.499	pCi/g	0.4389	1.00	1460	1	1.814	IDENTIFIED	2.848	<input type="checkbox"/>		
Radium-224	int	4.732	0.6658	pCi/g	0.9495	Y	-241.5	1	1.972	IDENTIFIED	13.21	<input type="checkbox"/>	ui	
Radium-226	✓	1.017	0.08393	pCi/g	0.1041	Y	609	4	1.436	IDENTIFIED	6.095	<input type="checkbox"/>		
Radium-228	✓	1.615	0.1592	pCi/g	0.2045	0.500	910.8	3	1.617	IDENTIFIED	7.723	<input type="checkbox"/>		
Sodium-24	HE	2.42E+05	3.33E+05	pCi/g	0	N	0	7	0	SHORT_HLIF	0	<input type="checkbox"/>		
Thallium-208	✓	0.448	0.04388	pCi/g	0.05348	0.080	583	1	1.13	IDENTIFIED	8.34	<input type="checkbox"/>		
Thorium-228	nr	1.63	0.1015	pCi/g	0.08474	N	238.5	4	1.088	IDENTIFIED	3.243	<input type="checkbox"/>		
Thorium-230	nr	1.017	0.08393	pCi/g	0.1041	N	609	4	1.436	IDENTIFIED	6.095	<input type="checkbox"/>		
Thorium-232	nr	1.615	0.1592	pCi/g	0.2045	N	910.8	3	1.617	IDENTIFIED	7.723	<input type="checkbox"/>		
Tin-126	int nr	0.2616	0.04098	pCi/g	0.1118	N	87.34	3	1.034	IDENTIFIED	14.95	<input type="checkbox"/>		
Titanium-44	la nr	0.3787	0.02546	pCi/g	0.07105	N	0	7	0	FAIL_ABUND	0	<input type="checkbox"/>		
Total Uranium		2.8183	2.32E-06	ug/g	2.322	N	0					<input type="checkbox"/>		
Uranium-234	nr	1.017	0.08393	pCi/g	0.1041	N	609	4	1.436	IDENTIFIED	6.095	<input type="checkbox"/>		
Zirconium-97		2.48E+06	1.11E+06	pCi/g	0	N	0	7	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
244924008	12-JAN-10 12:00	27-JAN-10 20:40	15.4	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	1.78	0.1874	pCi/g	0.2669	N	910.7	3	1.748	IDENTIFIED	8.484	<input type="checkbox"/>		

Americium-243 int nr	0.3973	0.05061	pCi/g	0.1134	N	74.6	1	0.9648	IDENTIFIED	11.97	□
Annihilation Rad. HE	0.09775	0.03999	pCi/g	0.06472	N	510.4	1	2.116	IDENTIFIED	40.6	□
Barium-137m	0.971	0.07165	pCi/g	0.07935	N	661.2	2	1.43	IDENTIFIED	5.989	□
Bismuth-211 int	4.949	0.4311	pCi/g	0.4292	Y	351.6	4	1.185	IDENTIFIED	6.534	□ ui
Bismuth-212 la nr	1.727	0.4035	pCi/g	0.8256	N	0	11	0	FAIL_ABUND	0	□
Bismuth-214 ✓	1.402	0.1262	pCi/g	0.1474	0.200	609	4	1.226	IDENTIFIED	7.281	□
Cadmium-109 int	2.905	0.5285	pCi/g	1.835	Y	86.93	3	0.9054	IDENTIFIED	17.5	□ ui
Cerium-143	1135	187.2	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Cesium-137 ✓	1.026	0.07579	pCi/g	0.08388	0.100	661.2	2	1.43	IDENTIFIED	5.989	□
Gross Gamma	10.88	1.783	pCi/g	3.981	N	0					□
Iodine-123	1.45E+07	5.12E+06	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Iodine-133 HE	1183	4682	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Iodine-135 HE	1.03E+16	6.91E+15	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Lead-212 ✓	1.885	0.1381	pCi/g	0.117	0.100	238.4	4	1.04	IDENTIFIED	3.759	□
Lead-214 ✓	1.722	0.1565	pCi/g	0.1496	0.100	351.6	4	1.185	IDENTIFIED	6.534	□
Lutetium-177 HE	3.298	1.071	pCi/g	2.755	N	0	11	0	FAIL_ABUND	0	□
Neptunium-237 HE	0.8382	0.1753	pCi/g	0.5085	N	86.93	3	0.9054	IDENTIFIED	17.5	□
Niobium-97	2.74E+05	92410	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Polonium-212 nr	1.885	0.1381	pCi/g	0.117	N	238.4	4	1.04	IDENTIFIED	3.759	□
Polonium-214 nr	1.722	0.1565	pCi/g	0.1496	N	351.6	4	1.185	IDENTIFIED	6.534	□
Polonium-216 nr	1.885	0.1381	pCi/g	0.117	N	238.4	4	1.04	IDENTIFIED	3.759	□
Polonium-218 nr	1.722	0.1565	pCi/g	0.1496	N	351.6	4	1.185	IDENTIFIED	6.534	□
Potassium-40 ✓	24.47	1.528	pCi/g	0.7815	1.00	1460	1	2.179	IDENTIFIED	4.05	□
Protactinium-234m HE	18.16	4.643	pCi/g	12.08	N	0	11	0	FAIL_ABUND	0	□
Radium-224 int	5.8	0.8941	pCi/g	1.332	Y	241.4	1	1.668	IDENTIFIED	14.24	□ ui
Radium-226 ✓	1.402	0.1262	pCi/g	0.1474	Y	609	4	1.226	IDENTIFIED	7.281	□
Radium-228 ✓	1.78	0.1874	pCi/g	0.2669	0.500	910.7	3	1.748	IDENTIFIED	8.484	□
Sodium-24 HE	4.65E+05	6.75E+05	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Thallium-208 ✓	0.6138	0.05789	pCi/g	0.08166	0.080	582.9	1	1.302	IDENTIFIED	7.99	□
Thorium-228 nr	1.914	0.1402	pCi/g	0.1188	N	238.4	4	1.04	IDENTIFIED	3.759	□
Thorium-230 nr	1.402	0.1262	pCi/g	0.1474	N	609	4	1.226	IDENTIFIED	7.281	□
Thorium-232 nr	1.78	0.1874	pCi/g	0.2669	N	910.7	3	1.748	IDENTIFIED	8.484	□
Tin-126 HE	0.2855	0.05193	pCi/g	0.1857	N	86.93	3	0.9054	IDENTIFIED	17.5	□
Titanium-44 la nr	0.4493	0.04023	pCi/g	0.08694	N	0	11	0	FAIL_ABUND	0	□
Total Uranium	8.7165	4.76E-06	ug/g	4.3429	N	0					□
Uranium-234 nr	1.402	0.1262	pCi/g	0.1474	N	609	4	1.226	IDENTIFIED	7.281	□
Uranium-235 unc	0.432	0.2367	pCi/g	0.4158	0.500	143.1	1	1.073	IDENTIFIED	54.08	□ ui
Zirconium-97 HE	2.31E+06	1.88E+06	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
244924009	12-JAN-10 12:00	27-JAN-10 20:41	15.4	SAMPLE	LOAD	1	LANL	LANL01004	GEL	N	RCSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228 nr	1.845	0.164	pCi/g	0.2253	N	911.5	3	1.75	IDENTIFIED	6.711	□
Americium-243 int nr	0.4768	0.03821	pCi/g	0.07518	N	74.81	1	1.217	IDENTIFIED	6.93	□
Annihilation Rad.	0.1317	0.03831	pCi/g	0.05023	N	511	1	2.219	IDENTIFIED	28.74	□
Bismuth-211 int	4.575	0.3246	pCi/g	0.3578	Y	352	4	1.231	IDENTIFIED	5.498	□ ui
Bismuth-212 nr	1.082	0.2571	pCi/g	0.4773	N	727.7	1	1.287	IDENTIFIED	23.17	□

Bismuth-214	✓	1.371	0.1135	pCi/g	0.1122	0.200	609.6	4	1.414	IDENTIFIED	6.468	□	
Cadmium-109	int	4.359	0.4722	pCi/g	1.092	Y	87.36	3	1.367	IDENTIFIED	9.773	□	ui
Cerium-143		645.3	118.4	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Gross Gamma		9.441	1.269	pCi/g	3.403	N		0				□	
Iodine-123	HE	3.18E+05	4.21E+06	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Iodine-133	HE	57.65	3607	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Iodine-135	HE	3.09E+15	5.41E+15	pCi/g	0	N	0	8	0	SHORT_HLIF	0	□	
Krypton-85	HE	22.24	4.238	pCi/g	15.06	N	0	8	0	NOT_IDENTI	0	□	
Lead-212	✓	1.853	0.107	pCi/g	0.0895	0.100	238.7	4	1.117	IDENTIFIED	3.238	□	
Lead-214	✓	1.592	0.1203	pCi/g	0.1247	0.100	352	4	1.231	IDENTIFIED	5.498	□	
Neptunium-237	int nr	1.258	0.1882	pCi/g	0.2929	N	87.36	3	1.367	IDENTIFIED	9.773	□	
Polonium-212	nr	1.853	0.107	pCi/g	0.0895	N	238.7	4	1.117	IDENTIFIED	3.238	□	
Polonium-214	nr	1.592	0.1203	pCi/g	0.1247	N	352	4	1.231	IDENTIFIED	5.498	□	
Polonium-216	nr	1.853	0.107	pCi/g	0.0895	N	238.7	4	1.117	IDENTIFIED	3.238	□	
Polonium-218	nr	1.592	0.1203	pCi/g	0.1247	N	352	4	1.231	IDENTIFIED	5.498	□	
Potassium-40	✓	21.91	1.23	pCi/g	0.5971	1.00	1461	1	1.936	IDENTIFIED	3.619	□	
Radium-224	int	5.546	0.7843	pCi/g	1.019	Y	241.7	1	1.83	IDENTIFIED	13.5	□	ui
Radium-226	✓	1.371	0.1135	pCi/g	0.1122	Y	609.6	4	1.414	IDENTIFIED	6.468	□	
Radium-228	✓	1.845	0.164	pCi/g	0.2253	0.500	911.5	3	1.75	IDENTIFIED	6.711	□	
Strontium-85	la	0.1143	0.02179	pCi/g	0.07741	Y	0	8	0	NOT_IDENTI	0	□	UI Data rejected due to low abundance.
Thallium-208	✓	0.5723	0.05116	pCi/g	0.05845	0.080	583.4	1	1.273	IDENTIFIED	7.551	□	
Thorium-228	nr	1.882	0.1087	pCi/g	0.09088	N	238.7	4	1.117	IDENTIFIED	3.238	□	
Thorium-230	nr	1.371	0.1135	pCi/g	0.1122	N	609.6	4	1.414	IDENTIFIED	6.468	□	
Thorium-232	nr	1.845	0.164	pCi/g	0.2253	N	911.5	3	1.75	IDENTIFIED	6.711	□	
Thorium-234	✓	2.036	0.7573	pCi/g	1.566	2.00	62.88	2	1.333	IDENTIFIED	36.16	□	
Tin-126	int nr	0.4283	0.04639	pCi/g	0.1075	N	87.36	3	1.367	IDENTIFIED	9.773	□	
Titanium-44	la nr	0.4488	0.02972	pCi/g	0.07642	N	0	8	0	FAIL_ABUND	0	□	
Total Uranium		6.0999	2.25E-06	ug/g	2.3326	N		0				□	
Uranium-234	nr	1.371	0.1135	pCi/g	0.1122	N	609.6	4	1.414	IDENTIFIED	6.468	□	
Uranium-238	HE	2.036	0.7573	pCi/g	1.566	N	62.88	2	1.333	IDENTIFIED	36.16	□	
Zirconium-97		4.15E+06	1.34E+06	pCi/g	0	N	0	8	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	
244924010	12-JAN-10 12:00	27-JAN-10 20:42	15.4	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	1.339	0.1552	pCi/g	0.1825	N	911.8	3	1.727	IDENTIFIED	9.995	☐
Americium-243	int nr	0.4054	0.03757	pCi/g	0.08078	N	74.86	1	1.536	IDENTIFIED	8.47	☐
Annihilation Rad.	HE	0.05867	0.02802	pCi/g	0.05087	N	511.2	1	2.167	IDENTIFIED	47.67	☐
Bismuth-211	int	3.182	0.2303	pCi/g	0.3176	Y	351.9	4	1.605	IDENTIFIED	6.508	☐ ui
Bismuth-212	la nr	1.244	0.2495	pCi/g	0.6156	N	0	11	0	FAIL_ABUND	0	☐
Bismuth-214	✓	1.148	0.08243	pCi/g	0.09963	0.200	609.5	4	1.491	IDENTIFIED	5.991	☐
Cadmium-109	int	2.789	0.3489	pCi/g	1.242	Y	87.27	3	1.198	IDENTIFIED	11.73	☐ ui
Cerium-143		930.3	138.6	pCi/g	0	N	0	11	0	SHORT_HLIF	0	☐
Cesium-135	HE	0.3494	0.08735	pCi/g	0.2892	N	0	11	0	NOT_IDENTI	0	☐
Gross Gamma		7.984	1.195	pCi/g	2.98	N		0				☐
Krypton-85	la nr	23.01	3.906	pCi/g	13.89	N	0	11	0	NOT_IDENTI	0	☐
Lead-212	✓	1.415	0.07263	pCi/g	0.08462	0.100	238.6	4	1.32	IDENTIFIED	3.617	☐

Lead-214	✓	1.107	0.08515	pCi/g	0.1106	0.100	351.9	4	1.605	IDENTIFIED	6.508	□
Lutetium-177	HE	2.384	0.7666	pCi/g	1.967	N	0	11	0	FAIL_ABUND	0	□
Neptunium-237	int nr	0.8047	0.1305	pCi/g	0.3687	N	87.27	3	1.198	IDENTIFIED	11.73	□
Niobium-95m	la nr	0.5993	0.07796	pCi/g	0.2659	N	0	11	0	NOT_IDENTI	0	□
Polonium-212	nr	1.415	0.07263	pCi/g	0.08462	N	238.6	4	1.32	IDENTIFIED	3.617	□
Polonium-214	nr	1.107	0.08515	pCi/g	0.1106	N	351.9	4	1.605	IDENTIFIED	6.508	□
Polonium-216	nr	1.415	0.07263	pCi/g	0.08462	N	238.6	4	1.32	IDENTIFIED	3.617	□
Polonium-218	nr	1.107	0.08515	pCi/g	0.1106	N	351.9	4	1.605	IDENTIFIED	6.508	□
Potassium-40	✓	22.11	1.11	pCi/g	0.3617	1.00	1462	1	2.022	IDENTIFIED	3.472	□
Radium-224	int	3.743	0.5845	pCi/g	0.9623	Y	241.6	1	1.874	IDENTIFIED	15.35	□ ui
Radium-226	✓	1.148	0.08243	pCi/g	0.09963	Y	609.5	4	1.491	IDENTIFIED	5.991	□
Radium-228	✓	1.339	0.1552	pCi/g	0.1825	0.500	911.8	3	1.727	IDENTIFIED	9.995	□
Strontium-85	la	0.1183	0.02008	pCi/g	0.07141	Y	0	11	0	NOT_IDENTI	0	□ UI Data rejected due to low abundance.
Technetium-99m		1.29E+16	0	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Thallium-200	HE	28.2	240.3	pCi/g	0	N	0	11	0	SHORT_HLIF	0	□
Thallium-208	✓	0.4905	0.04298	pCi/g	0.03326	0.080	583.4	1	1.607	IDENTIFIED	8.066	□
Thorium-228	nr	1.437	0.07375	pCi/g	0.08592	N	238.6	4	1.32	IDENTIFIED	3.617	□
Thorium-230	nr	1.148	0.08242	pCi/g	0.09962	N	609.5	4	1.491	IDENTIFIED	5.991	□
Thorium-232	nr	1.339	0.1552	pCi/g	0.1825	N	911.8	3	1.727	IDENTIFIED	9.995	□
Thorium-234	✓	2.651	0.9314	pCi/g	1.662	2.00	62.58	2	1.684	IDENTIFIED	34.06	□
Tin-126	int nr	0.274	0.03428	pCi/g	0.1383	N	87.27	3	1.198	IDENTIFIED	11.73	□
Titanium-44	la nr	0.3844	0.02761	pCi/g	0.07756	N	0	11	0	FAIL_ABUND	0	□
Total Uranium		7.8904	2.77E-06	ug/g	2.4756	N	0					□
Uranium-234	nr	1.148	0.08242	pCi/g	0.09962	N	609.5	4	1.491	IDENTIFIED	5.991	□
Uranium-238	HE	2.651	0.9314	pCi/g	1.662	N	62.58	2	1.684	IDENTIFIED	34.06	□
Zirconium-97		4.69E+06	1.26E+06	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
1202018276		27-JAN-10 20:43	0	MB	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Iodine-133	HE	16.32	12.21	pCi/g	0	N	0	3	0	SHORT_HLIF	0	□	
Technetium-99m	HE	3.18E+08	4.09E+08	pCi/g	0	N	0	3	0	SHORT_HLIF	0	□	
Total Uranium		5.3097	2.36E-06	ug/g	2.834	N	0					□	
Zirconium-97	HE	429.8	1849	pCi/g	0	N	0	3	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
1202018277	12-JAN-10 12:00	27-JAN-10 20:43	15.4	DUP	LOAD	1		LANL010041GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb	Act	Rpt	Err(%)	Qual	Qual Comment
Actinium-228	nr	1.582	0.1604	pCi/g	0.2033	N	911.3	3	1.616	IDENTIFIED	8.222	□	
Americium-243	int nr	0.2895	0.0324	pCi/g	0.07836	N	74.84	1	0.8608	IDENTIFIED	10.39	□	
Annihilation Rad.	HE	0.1023	0.03452	pCi/g	0.04653	N	510.9	1	1.646	IDENTIFIED	33.42	□	
Bismuth-211	int	3.009	0.254	pCi/g	0.29	Y	351.9	4	1.071	IDENTIFIED	6.441	□ ui	
Bismuth-212	HE	1.079	0.2705	pCi/g	0.665	N	0	10	0	FAIL_ABUND	0	□	
Bismuth-214	✓	0.9251	0.0921	pCi/g	0.1128	0.200	609.3	4	1.389	IDENTIFIED	8.436	□	
Cadmium-109	int	2.663	0.4456	pCi/g	1.068	Y	87.16	3	1.011	IDENTIFIED	16.04	□ ui	
Cerium-143		257.5	87.04	pCi/g	0	N	0	10	0	SHORT_HLIF	0	□	

Cesium-134	1a	0.125	0.03597	pCi/g	0.09158	0.100	0	10	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Gross Gamma		8.733	1.467	pCi/g	2.641	N		0				<input type="checkbox"/>	
Iodine-123	HE	6.36E+06	3.54E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>	
Iodine-133	HE	7317	3763	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>	
Krypton-85	HE	14.32	3.831	pCi/g	13.01	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>	
Lead-212	✓	1.473	0.1032	pCi/g	0.08722	0.100	238.6	4	0.9444	IDENTIFIED	3.74	<input type="checkbox"/>	
Lead-214	✓	1.047	0.09247	pCi/g	0.1011	0.100	351.9	4	1.071	IDENTIFIED	6.441	<input type="checkbox"/>	
Lutetium-177	HE	2.85	0.7433	pCi/g	1.893	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	int nr	0.7683	0.151	pCi/g	0.2683	N	87.16	3	1.011	IDENTIFIED	16.04	<input type="checkbox"/>	
Polonium-212	nr	1.473	0.1032	pCi/g	0.08722	N	238.6	4	0.9444	IDENTIFIED	3.74	<input type="checkbox"/>	
Polonium-214	nr	1.047	0.09247	pCi/g	0.1011	N	351.9	4	1.071	IDENTIFIED	6.441	<input type="checkbox"/>	
Polonium-216	nr	1.473	0.1032	pCi/g	0.08722	N	238.6	4	0.9444	IDENTIFIED	3.74	<input type="checkbox"/>	
Polonium-218	nr	1.047	0.09247	pCi/g	0.1011	N	351.9	4	1.071	IDENTIFIED	6.441	<input type="checkbox"/>	
Potassium-40	✓	34.01	1.794	pCi/g	0.4705	1.00	1461	1	1.7	IDENTIFIED	2.917	<input type="checkbox"/>	
Radium-224	int	3.229	0.5506	pCi/g	0.9926	Y	241.6	1	1.506	IDENTIFIED	16.13	<input type="checkbox"/> ui	
Radium-226	✓	0.9251	0.0921	pCi/g	0.1128	Y	609.3	4	1.389	IDENTIFIED	8.436	<input type="checkbox"/>	
Radium-228	✓	1.582	0.1604	pCi/g	0.2033	0.500	911.3	3	1.616	IDENTIFIED	8.222	<input type="checkbox"/>	
Strontium-85	1a	0.07361	0.01969	pCi/g	0.06687	Y	0	10	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI	Data rejected due to low abundance.
Thallium-208	✓	0.4305	0.04415	pCi/g	0.05871	0.080	583.3	1	1.307	IDENTIFIED	8.98	<input type="checkbox"/>	
Thorium-228	nr	1.496	0.1048	pCi/g	0.08856	N	238.6	4	0.9444	IDENTIFIED	3.74	<input type="checkbox"/>	
Thorium-230	nr	0.9251	0.09209	pCi/g	0.1128	N	609.3	4	1.389	IDENTIFIED	8.436	<input type="checkbox"/>	
Thorium-232	nr	1.582	0.1604	pCi/g	0.2033	N	911.3	3	1.616	IDENTIFIED	8.222	<input type="checkbox"/>	
Tin-126	int nr	0.2616	0.04378	pCi/g	0.1054	N	87.16	3	1.011	IDENTIFIED	16.04	<input type="checkbox"/>	
Titanium-44	1a nr	0.3253	0.0267	pCi/g	0.0682	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		4.334	2.89E-06	ug/g	2.7775	N		0				<input type="checkbox"/>	
Uranium-234	nr	0.9251	0.09209	pCi/g	0.1128	N	609.3	4	1.389	IDENTIFIED	8.436	<input type="checkbox"/>	
Zirconium-97		2.24E+06	1.12E+06	pCi/g	0	N	0	10	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	
1202018278		27-JAN-10 20:44	0	LCS	LOAD	1		GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.196	0.3	pCi/g	0.4809	N	912.2	3	1.736	IDENTIFIED	24.43	<input type="checkbox"/>
Americium-241 ✓	13.35	0.6555	pCi/g	0.5537	0.200	59.6	1	1.215	IDENTIFIED	2.676	<input type="checkbox"/>
Annihilation Rad. HE	0.1061	0.06243	pCi/g	0.09693	N	511	1	1.649	IDENTIFIED	58.76	<input type="checkbox"/>
Barium-137m	5.418	0.2041	pCi/g	0.09668	N	661.8	2	1.618	IDENTIFIED	2.388	<input type="checkbox"/>
Bismuth-211	2.25	0.3385	pCi/g	0.6214	Y	351.9	4	1.289	IDENTIFIED	14.7	<input type="checkbox"/>
Bismuth-214	0.5812	0.104	pCi/g	0.311	0.200	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Cadmium-109	30.44	1.915	pCi/g	2.373	Y	88.11	2	1.194	IDENTIFIED	4.425	<input type="checkbox"/>
Cesium-137 ✓	5.728	0.2163	pCi/g	0.1022	0.100	661.8	2	1.618	IDENTIFIED	2.388	<input type="checkbox"/>
Cobalt-57	0.2215	0.03762	pCi/g	0.06988	N	121.9	1	1.276	IDENTIFIED	16.72	<input type="checkbox"/>
Cobalt-60 ✓	6.332	0.286	pCi/g	0.07142	0.100	1333	1	2.036	IDENTIFIED	2.612	<input type="checkbox"/>
Gross Gamma	25.86	3.015	pCi/g	4.333	N		0				<input type="checkbox"/>
Iodine-123 HE	1499	1636	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133 HE	12.63	37.42	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135 HE	2.85E+08	4.37E+08	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	0.9445	0.0824	pCi/g	0.17	0.100	238.5	4	1.438	IDENTIFIED	7.942	<input type="checkbox"/>
Lead-214	0.7826	0.1195	pCi/g	0.2166	0.100	351.9	4	1.289	IDENTIFIED	14.7	<input type="checkbox"/>

Neptunium-237	6.725	0.8167	pCi/g 1.274	N	0	10	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97	929.5	247	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	0.9445	0.0824	pCi/g 0.17	N	238.5	4	1.438	IDENTIFIED	7.942	<input type="checkbox"/>
Polonium-214	0.7826	0.1195	pCi/g 0.2166	N	351.9	4	1.289	IDENTIFIED	14.7	<input type="checkbox"/>
Polonium-216	0.9445	0.0824	pCi/g 0.17	N	238.5	4	1.438	IDENTIFIED	7.942	<input type="checkbox"/>
Polonium-218	0.7826	0.1195	pCi/g 0.2166	N	351.9	4	1.289	IDENTIFIED	14.7	<input type="checkbox"/>
Radium-224	2.729	0.8852	pCi/g 1.933	Y	241.7	1	1.798	IDENTIFIED	32.32	<input type="checkbox"/>
Radium-226	0.5812	0.104	pCi/g 0.311	Y	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Radium-228	1.196	0.3	pCi/g 0.4809	0.500	912.2	3	1.736	IDENTIFIED	24.43	<input type="checkbox"/>
Thallium-208	0.3994	0.06033	pCi/g 0.1113	0.080	583.4	1	1.774	IDENTIFIED	14.72	<input type="checkbox"/>
Thorium-228	0.9529	0.08313	pCi/g 0.1715	N	238.5	4	1.438	IDENTIFIED	7.942	<input type="checkbox"/>
Thorium-230	0.5812	0.104	pCi/g 0.311	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Thorium-232	1.196	0.3	pCi/g 0.4809	N	912.2	3	1.736	IDENTIFIED	24.43	<input type="checkbox"/>
Tin-126	3.02	0.19	pCi/g 0.2365	N	88.11	2	1.194	IDENTIFIED	4.425	<input type="checkbox"/>
Uranium-234	0.5812	0.104	pCi/g 0.311	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Zirconium-97 HE	5450	4132	pCi/g 0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = 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
942723	244924009	SAMPLE	27-JAN-10	Radium-226	1.371	0.1135	pCi/g	0.05614	Y
				Radium-228	1.845	0.164	pCi/g	0.1127	5.00E-01
				Strontium-85	0.1143	0.02179	pCi/g	0.03873	Y
				Thallium-208	0.5723	0.05116	pCi/g	0.02924	8.00E-02
				Thorium-234	2.036	0.7573	pCi/g	0.7836	2.00E+00
				Zirconium-97	4.15E+06	1.34E+06	pCi/g	0	N
942723	244924010	SAMPLE	27-JAN-10	Bismuth-211	3.182	0.2303	pCi/g	0.1589	Y
				Bismuth-214	1.148	0.08243	pCi/g	0.04984	2.00E-01
				Cadmium-109	2.789	0.3489	pCi/g	0.6215	Y
				Cerium-143	930.3	138.6	pCi/g	0	N
				Cesium-134	0.00217	0.0247	pCi/g	0.04329	1.00E-01
				Gross Gamma	7.984	1.195	pCi/g	1.448	N
				Krypton-85	23.01	3.906	pCi/g	6.95	N
				Lead-212	1.415	0.07263	pCi/g	0.04233	1.00E-01
				Lead-214	1.107	0.08515	pCi/g	0.05533	1.00E-01
				Mercury-203	0.04256	0.02732	pCi/g	0.03028	1.00E-01
				Potassium-40	22.11	1.11	pCi/g	0.181	1.00E+00
				Radium-224	3.743	0.5845	pCi/g	0.4814	Y
				Radium-226	1.148	0.08243	pCi/g	0.04984	Y
				Radium-228	1.339	0.1552	pCi/g	0.09132	5.00E-01
				Strontium-85	0.1183	0.02008	pCi/g	0.03573	Y
				Technetium-99m	1.29E+16	0	pCi/g	0	N
				Thallium-200	28.2	240.3	pCi/g	0	N
				Thallium-208	0.4906	0.04298	pCi/g	0.02864	8.00E-02
				Thorium-234	2.651	0.8314	pCi/g	0.8317	2.00E+00
				Zirconium-97	4.69E+06	1.26E+06	pCi/g	0	N
942723	1202018276	MB	27-JAN-10	Bismuth-214	0.05537	0.04037	pCi/g	0.05138	2.00E-01
				Iodine-133	16.32	12.21	pCi/g	0	N
				Radium-224	0.3812	0.2163	pCi/g	0.3614	Y
				Radium-226	0.05537	0.04037	pCi/g	0.05138	Y
				Technetium-99m	3.18E+08	4.09E+08	pCi/g	0	N
				Thorium-234	1.807	0.7923	pCi/g	0.9524	2.00E+00
942723	1202018277	DUP	27-JAN-10	Zirconium-97	429.8	1849	pCi/g	0	N
				Bismuth-211	3.009	0.254	pCi/g	0.1451	Y
				Bismuth-214	0.9251	0.08243	pCi/g	0.05643	2.00E-01
				Cadmium-109	2.663	0.4456	pCi/g	0.6342	Y
				Cerium-143	257.5	87.04	pCi/g	0	N

ft 1/29/10

VAX/VMS Nuclide Identification Report Generated 28-JAN-2010 09:34:20.45

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924001.CNF;1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:34:57
Sample ID        : G244924001 Sample quantity   : 1.16894E+02 GRAM
Detector name    : GAM10 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.96 0.0%
Energy tolerance : 2.00000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 942723 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	2	74.76*	159	328	0.83	149.67	146	21	2.21E-02	18.7	2.60E+00
2	2	76.95	339	299	0.89	154.04	146	21	4.71E-02	9.5	
3	0	86.91*	84	312	1.13	173.94	172	6	1.17E-02	35.2	
4	6	89.63	94	197	0.98	179.36	177	14	1.31E-02	22.8	7.34E-01
5	6	92.72*	172	422	1.59	185.55	177	14	2.39E-02	24.7	
6	0	186.12*	193	353	1.38	372.18	368	12	2.68E-02	21.3	
7	0	209.71	88	279	1.04	419.33	413	10	1.22E-02	37.3	
8	0	238.65*	906	410	1.09	477.16	471	10	1.26E-01	5.0	
9	0	241.85	180	184	1.52	483.56	481	7	2.50E-02	14.7	
10	0	270.78	96	244	1.01	541.39	535	12	1.33E-02	34.3	
11	0	277.53*	45	144	1.52	554.86	551	9	6.26E-03	52.0	
12	0	295.42*	275	172	1.22	590.63	586	10	3.82E-02	11.0	
13	0	300.71	55	200	0.99	601.19	597	11	7.62E-03	52.0	
14	0	338.62	207	131	1.14	676.96	672	9	2.88E-02	12.1	
15	0	352.02*	493	162	1.12	703.75	697	14	6.84E-02	7.3	
16	0	409.81	45	95	0.99	819.25	814	9	6.20E-03	42.4	
17	0	511.17*	83	117	1.92	1021.86	1013	17	1.16E-02	36.3	
18	0	584.03*	242	134	1.19	1167.51	1162	13	3.36E-02	12.1	
19	0	610.07*	340	90	1.45	1219.56	1213	15	4.73E-02	8.3	
20	0	729.19	88	104	2.18	1457.71	1446	19	1.23E-02	29.7	
21	0	861.75	59	36	2.22	1722.76	1715	13	8.23E-03	24.5	
22	0	912.28*	205	67	1.48	1823.81	1817	15	2.85E-02	11.3	
23	0	970.60*	82	93	1.36	1940.41	1934	15	1.13E-02	29.0	
24	0	1122.02*	62	91	1.89	2243.24	2235	18	8.54E-03	40.1	
25	0	1462.49*	1246	15	2.26	2924.30	2914	20	1.73E-01	3.0	
26	0	1590.61	14	17	0.77	3180.62	3175	11	1.89E-03	64.4	
27	0	1766.55*	55	6	2.00	3532.69	3527	11	7.64E-03	17.6	

Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:34:57
Sample ID         : G244924001 Sample quantity : 116.89 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA10 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:00.96 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 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	*	3.390E+01	3.540E+00	5.353E-01	4.611E-02	63.318
CD-109	+	88.03	*	1.418E+00	1.012E+00	1.318E+00	1.495E-01	1.075
SN-126		64.28		-5.825E-02	6.480E-01	1.054E+00	1.802E-01	-0.055
	+	86.94		5.791E-01	4.752E-01	6.153E-01	2.584E-01	0.941
	+	87.57	*	1.393E-01	9.944E-02	1.417E-01	1.603E-02	0.983
HG-203		70.83		-5.873E-01	1.425E+00	2.074E+00	3.170E-01	-0.283
	+	72.87		2.068E+00	8.327E-01	1.121E+00	1.667E-01	1.844
		82.60		-1.941E+00	1.400E+00	1.855E+00	2.855E-01	-1.046
	+	279.20	*	5.102E-02	5.318E-02	6.254E-02	4.220E-03	0.816
TL-208	+	277.35		4.618E-01	4.830E-01	5.558E-01	6.061E-02	0.831
	+	510.84		4.234E-01	3.108E-01	1.973E-01	2.074E-02	2.146
	+	583.14	*	3.515E-01	8.807E-02	5.745E-02	3.860E-03	6.119
	+	860.37		8.310E-01	4.156E-01	4.394E-01	4.291E-02	1.891
BI-211	+	72.87		1.037E+01	4.046E+00	5.624E+00	6.185E-01	1.844
	+	351.07	*	3.147E+00	5.108E-01	2.996E-01	2.185E-02	10.503
PB-212	+	74.81		1.231E+00	4.938E-01	6.817E-01	9.814E-02	1.806
	+	77.11		1.453E+00	3.173E-01	3.777E-01	4.130E-02	3.846
	+	87.30		6.443E-01	4.644E-01	6.581E-01	9.929E-02	0.979
	+	238.63	*	1.276E+00	1.610E-01	1.241E-01	9.415E-03	10.280
	+	300.09		1.187E+00	1.239E+00	1.145E+00	1.006E-01	1.036
PO-212	+	74.81		1.231E+00	4.938E-01	6.817E-01	9.814E-02	1.806
	+	77.11		1.453E+00	3.173E-01	3.777E-01	4.130E-02	3.846
	+	87.30		6.443E-01	4.644E-01	6.581E-01	9.929E-02	0.979
		115.19		-7.174E-01	3.369E+00	5.414E+00	3.873E-01	-0.133
	+	238.63	*	1.276E+00	1.610E-01	1.241E-01	9.415E-03	10.280
	+	300.09		1.187E+00	1.239E+00	1.145E+00	1.006E-01	1.036
BI-214	+	609.31	*	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
	+	1120.29		9.258E-01	7.477E-01	5.002E-01	4.888E-02	1.851
		1764.49		1.037E+00	3.737E-01	7.922E-01	5.290E-02	1.310
PB-214	+	74.81		2.121E+00	8.422E-01	1.175E+00	1.553E-01	1.806
	+	77.11		2.490E+00	5.761E-01	6.476E-01	8.630E-02	3.846
	+	87.30		1.104E+00	7.924E-01	1.127E+00	1.542E-01	0.979
	+	241.98		1.525E+00	4.646E-01	6.964E-01	5.794E-02	2.189
	+	295.21		1.045E+00	2.476E-01	2.053E-01	1.854E-02	5.088

----- Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.095E+00	1.867E-01	1.044E-01	9.366E-03	10.482
	+	74.81		2.121E+00	8.422E-01	1.175E+00	1.553E-01	1.806
	+	77.11		2.490E+00	5.761E-01	6.476E-01	8.630E-02	3.846
	+	87.30		1.104E+00	7.924E-01	1.127E+00	1.542E-01	0.979
	+	241.98		1.525E+00	4.646E-01	6.964E-01	5.794E-02	2.189
PO-216	+	295.21		1.045E+00	2.476E-01	2.053E-01	1.854E-02	5.088
	+	351.92	*	1.095E+00	1.867E-01	1.044E-01	9.366E-03	10.482
	+	74.81		1.231E+00	4.938E-01	6.817E-01	9.814E-02	1.806
	+	77.11		1.453E+00	3.173E-01	3.777E-01	4.130E-02	3.846
	+	87.30		6.443E-01	4.644E-01	6.581E-01	9.929E-02	0.979
PO-218	+	238.63	*	1.276E+00	1.610E-01	1.241E-01	9.415E-03	10.280
	+	300.09		1.187E+00	1.239E+00	1.145E+00	1.006E-01	1.036
	+	74.81		2.121E+00	8.422E-01	1.175E+00	1.553E-01	1.806
	+	77.11		2.490E+00	5.761E-01	6.476E-01	8.630E-02	3.846
	+	87.30		1.104E+00	7.924E-01	1.127E+00	1.542E-01	0.979
RA-224	+	241.98		1.525E+00	4.646E-01	6.964E-01	5.794E-02	2.189
	+	295.21		1.045E+00	2.476E-01	2.053E-01	1.854E-02	5.088
	+	351.92	*	1.095E+00	1.867E-01	1.044E-01	9.366E-03	10.482
	+	240.98	*	2.891E+00	8.660E-01	1.127E+00	6.915E-02	2.566
	+	609.31	*	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
RA-226	+	1120.29		9.258E-01	7.477E-01	5.002E-01	4.888E-02	1.851
	+	1764.49		1.037E+00	3.737E-01	7.922E-01	5.290E-02	1.310
	+	338.32		1.462E+00	6.950E-01	3.759E-01	1.538E-01	3.888
	+	911.07	*	1.367E+00	3.528E-01	2.030E-01	2.505E-02	6.737
	+	969.11		9.653E-01	6.053E-01	5.090E-01	1.204E-01	1.896
RA-228	+	338.32		1.462E+00	6.950E-01	3.759E-01	1.538E-01	3.888
	+	911.07	*	1.367E+00	3.528E-01	2.030E-01	2.505E-02	6.737
	+	969.11		9.653E-01	6.053E-01	5.090E-01	1.204E-01	1.896
	+	74.81		1.250E+00	4.878E-01	6.922E-01	7.619E-02	1.806
	+	77.11		1.475E+00	3.222E-01	3.835E-01	4.193E-02	3.846
TH-228	+	87.30		6.542E-01	4.670E-01	6.681E-01	7.549E-02	0.979
	+	238.63	*	1.295E+00	1.635E-01	1.260E-01	9.560E-03	10.279
	+	300.09		1.205E+00	1.441E+00	1.163E+00	6.862E-01	1.036
	+	609.31	*	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
	+	1120.29		9.257E-01	7.477E-01	5.002E-01	4.888E-02	1.851
TH-230	+	1764.49		1.037E+00	3.737E-01	7.921E-01	5.290E-02	1.310
	+	338.32		1.462E+00	3.675E-01	3.759E-01	2.520E-02	3.888
	+	911.07	*	1.367E+00	3.528E-01	2.030E-01	2.505E-02	6.737
	+	969.11		9.653E-01	6.053E-01	5.090E-01	1.204E-01	1.896
	+	609.31	*	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
U-234	+	1120.29		9.257E-01	7.477E-01	5.002E-01	4.888E-02	1.851
	+	1764.49		1.037E+00	3.737E-01	7.921E-01	5.290E-02	1.310
	+	86.50	*	4.091E-01	3.040E-01	4.234E-01	9.950E-02	0.966
	+	95.87		-1.406E+00	1.137E+00	1.457E+00	3.640E-01	-0.965
	+	74.67	*	1.996E-01	7.785E-02	1.110E-01	1.216E-02	1.798
AM-243	+	86.72		1.534E+01	1.095E+01	1.659E+01	1.868E+00	0.925
	+	117.66		-1.521E+00	3.783E+00	6.017E+00	4.175E-01	-0.253
	+	142.18		-1.643E+01	1.711E+01	2.559E+01	1.527E+00	-0.642
	+	511.00	*	9.146E-02	6.671E-02	4.263E-02	2.731E-03	2.146
	+							

---- 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	*	-2.058E-01	3.216E-01	4.911E-01	3.652E-02	-0.419
NA-22		1274.54	*	3.160E-02	4.744E-02	8.415E-02	6.518E-03	0.376
NA-24		1368.53	*	-4.046E-01	4.744E-02	Half-Life too short		
AL-26		1129.67		-4.473E-01	2.108E+00	2.966E+00	2.081E-01	-0.151
		1808.65	*	-1.855E-02	2.329E-02	2.685E-02	1.702E-03	-0.691
TI-44		67.85		-1.585E-02	5.598E-02	9.095E-02	1.027E-02	-0.174
	+	78.38	*	2.681E-01	5.856E-02	7.673E-02	8.396E-03	3.494
SC-46		889.25	*	-4.502E-03	4.240E-02	6.858E-02	6.787E-03	-0.066
	+	1120.51		1.587E-01	1.277E-01	1.359E-01	9.764E-03	1.167
V-48		944.10		-5.630E-01	1.031E+00	1.551E+00	1.503E-01	-0.363
		983.50	*	-3.812E-02	8.104E-02	1.249E-01	1.155E-02	-0.305
		1312.09		4.813E-02	9.145E-02	1.603E-01	1.338E-02	0.300
CR-51		320.08	*	-8.733E-02	3.714E-01	6.063E-01	4.379E-02	-0.144
MN-52		744.21		-1.045E-01	2.436E-01	3.876E-01	2.528E-02	-0.270
		848.13		-1.053E+00	7.335E+00	1.187E+01	1.052E+00	-0.089
		935.52		1.283E-01	2.853E-01	4.841E-01	4.733E-02	0.265
		1246.25		-4.023E+00	8.912E+00	1.426E+01	1.039E+00	-0.282
		1333.61		3.440E-02	5.850E+00	9.704E+00	8.431E-01	0.004
		1434.06	*	-1.521E-01	2.396E-01	3.526E-01	2.979E-02	-0.431
MN-54		834.83	*	-1.005E-02	3.823E-02	6.125E-02	5.233E-03	-0.164
CO-56		846.75	*	-1.773E-02	4.171E-02	6.556E-02	5.790E-03	-0.270
		977.42		1.566E+00	3.648E+00	5.434E+00	5.064E-01	0.288
		1037.82		-2.794E-02	3.400E-01	5.443E-01	4.894E-02	-0.051
		1175.09		5.443E-01	2.703E+00	4.599E+00	2.849E-01	0.118
		1238.25		1.393E-01	1.132E-01	2.039E-01	1.521E-02	0.683
		1360.21		2.578E-01	1.157E+00	1.966E+00	1.698E-01	0.131
		1771.40		7.790E-02	2.371E-01	3.662E-01	2.426E-02	0.213
CO-57		122.06	*	-3.360E-04	2.431E-02	3.937E-02	2.596E-03	-0.009
		136.48		8.018E-02	1.910E-01	3.144E-01	2.199E-02	0.255
CO-58		810.76	*	2.945E-03	3.668E-02	6.089E-02	4.872E-03	0.048
FE-59		142.65		-2.233E+00	2.632E+00	3.960E+00	2.360E-01	-0.564
		192.34		4.332E-01	1.074E+00	1.540E+00	1.810E-01	0.281
		1099.22	*	-7.731E-02	1.174E-01	1.765E-01	1.473E-02	-0.438
		1291.56		-2.567E-02	1.277E-01	2.072E-01	1.918E-02	-0.124
CO-60		1173.22		3.248E-03	5.337E-02	8.981E-02	5.538E-03	0.036
		1332.49	*	9.604E-03	4.326E-02	7.359E-02	6.395E-03	0.131
ZN-65		1115.52	*	4.473E-04	1.215E-01	1.680E-01	1.224E-02	0.003
GE-68		1077.35	*	-8.234E-01	1.446E+00	2.185E+00	1.731E-01	-0.377
AS-73		53.44	*	-7.126E-02	1.551E+00	2.591E+00	3.428E-01	-0.028
AS-74		595.88	*	-2.976E-02	9.052E-02	1.484E-01	8.476E-03	-0.201
		634.78		1.701E-01	3.450E-01	6.009E-01	3.172E-02	0.283
SE-75		66.05		-5.354E+00	6.181E+00	9.751E+00	1.256E+00	-0.549
		96.73		-6.129E-01	8.862E-01	1.236E+00	1.749E-01	-0.496
		121.11		-8.354E-03	1.318E-01	2.129E-01	2.086E-02	-0.039
		136.00		-2.997E-02	3.671E-02	5.655E-02	3.511E-03	-0.530
		198.60		8.953E-02	1.859E+00	2.917E+00	2.067E-01	0.031
		264.65	*	6.635E-03	4.578E-02	6.828E-02	4.355E-03	0.097
		279.53		4.160E-02	1.129E-01	1.707E-01	1.170E-02	0.244
		303.91		8.537E-01	2.040E+00	3.090E+00	3.097E-01	0.276

----- 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		3.614E-02	2.549E-01	4.205E-01	4.106E-02	0.086
		87.88		3.206E+02	2.288E+02	3.583E+02	4.063E+01	0.895
		200.40		5.439E+01	1.724E+02	2.769E+02	1.597E+01	0.196
		239.00		2.145E+02	2.530E+01	3.936E+01	2.409E+00	5.450
	+	249.79		-8.529E+01	6.115E+01	9.379E+01	5.825E+00	-0.909
		281.68		-7.394E+00	9.947E+01	1.452E+02	9.347E+00	-0.051
		297.23		4.199E+02	9.598E+01	1.232E+02	8.041E+00	3.409
		303.76		8.899E+01	1.825E+02	2.781E+02	1.825E+01	0.320
	+	439.47		6.089E+01	1.558E+02	2.601E+02	1.749E+01	0.234
		484.57		-2.270E+01	2.305E+02	3.688E+02	2.416E+01	-0.062
		520.65	*	4.277E+00	1.061E+01	1.764E+01	1.119E+00	0.242
		574.64		-1.692E+02	2.044E+02	3.211E+02	1.901E+01	-0.527
	+	578.91		3.633E+01	9.592E+01	1.467E+02	8.625E+00	0.248
		585.48		1.642E+03	4.077E+02	5.541E+02	3.223E+01	2.963
		755.35		-7.222E+01	1.686E+02	2.676E+02	1.808E+01	-0.270
		817.79		4.155E+01	1.331E+02	2.259E+02	1.839E+01	0.184
SR-82		698.33		2.375E+01	3.557E+01	6.215E+01	3.487E+00	0.382
		776.49	*	-2.416E-01	3.710E-01	5.729E-01	4.130E-02	-0.422
RB-83		1395.20		-3.468E+00	1.067E+01	1.670E+01	1.430E+00	-0.208
		520.41	*	3.097E-02	6.743E-02	1.125E-01	7.143E-03	0.275
		529.64		1.775E-02	1.072E-01	1.743E-01	1.095E-02	0.102
RB-84		552.65		-3.070E-02	1.908E-01	3.004E-01	1.835E-02	-0.102
		881.50	*	1.095E-02	6.895E-02	1.147E-01	1.112E-02	0.095
KR-85		513.99	*	1.368E+01	9.058E+00	1.441E+01	9.205E-01	0.950
SR-85		513.99	*	7.028E-02	4.652E-02	7.401E-02	4.728E-03	0.950
RB-86		1076.63	*	-8.226E-01	9.599E-01	1.405E+00	1.114E-01	-0.586
Y-88		898.02		-2.393E-02	4.777E-02	7.411E-02	7.529E-03	-0.323
ZR-88		1836.01	*	-1.530E-03	3.301E-02	5.266E-02	3.231E-03	-0.029
		392.90	*	-6.569E-03	3.032E-02	4.882E-02	3.318E-03	-0.135
Y-91		1204.90	*	-4.828E+00	2.183E+01	3.579E+01	2.378E+00	-0.135
NB-94		702.63	*	-5.045E-03	3.339E-02	5.484E-02	3.122E-03	-0.092
		871.10		-7.125E-03	3.430E-02	5.492E-02	5.181E-03	-0.130
NB-95		765.79	*	-4.089E-02	4.319E-02	6.533E-02	4.559E-03	-0.626
NB-95M		235.69	*	8.829E-02	1.247E-01	1.938E-01	1.503E-02	0.456
ZR-95		724.18		-5.978E-02	1.014E-01	1.346E-01	9.594E-03	-0.444
NB-97		756.15	*	-1.164E-02	6.716E-02	1.093E-01	8.583E-03	-0.106
		657.90	*	-1.095E-02	6.716E-02	Half-Life	too short	
ZR-97		1024.50		-1.057E+01	6.716E-02	Half-Life	too short	
		254.15		1.278E+00	6.716E-02	Half-Life	too short	
		355.39		-1.697E+00	6.716E-02	Half-Life	too short	
		507.63	*	2.344E-01	6.716E-02	Half-Life	too short	
		602.52		-4.472E+00	6.716E-02	Half-Life	too short	
		1021.30		1.421E+00	6.716E-02	Half-Life	too short	
		1147.95		-4.430E+00	6.716E-02	Half-Life	too short	
		1362.66		1.170E+01	6.716E-02	Half-Life	too short	
		1750.46		-5.516E-01	6.716E-02	Half-Life	too short	
		140.51		-7.004E-01	2.602E+01	4.083E+01	1.102E+01	-0.017
MO-99		181.06		1.369E+01	1.953E+01	2.872E+01	4.902E+00	0.477
		366.43		4.442E+01	8.377E+01	1.426E+02	9.655E+00	0.312

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		4.526E+00	1.180E+01	2.021E+01	2.841E+00	0.224
	778.00			-3.592E+01	3.399E+01	4.990E+01	3.614E+00	-0.720
TC-99M	140.51	*		-1.511E+09	3.399E+01	Half-Life too short		
RH-101	127.23			3.583E-03	3.253E-02	5.287E-02	3.379E-03	0.068
	198.01	*		7.643E-03	3.342E-02	5.293E-02	3.040E-03	0.144
	325.23			-1.133E-01	2.276E-01	3.656E-01	2.434E-02	-0.310
RH-102	418.52			-1.329E-01	2.637E-01	4.119E-01	2.788E-02	-0.323
	475.06	*		1.985E-02	2.749E-02	4.703E-02	3.102E-03	0.422
	631.29			-4.624E-02	5.047E-02	7.746E-02	4.121E-03	-0.597
	697.49			6.564E-02	8.002E-02	1.413E-01	7.905E-03	0.464
	766.84			1.419E-02	1.092E-01	1.825E-01	1.277E-02	0.078
	1046.59			9.988E-02	1.179E-01	2.076E-01	1.744E-02	0.481
	1112.84			1.212E-01	2.665E-01	4.361E-01	3.192E-02	0.278
RU-103	497.08	*		9.802E-03	4.266E-02	6.993E-02	9.073E-03	0.140
	610.33	+		1.011E+01	2.286E+00	2.788E+00	4.275E-01	3.627
RH-106	511.85	+		4.570E-01	3.333E-01	4.248E-01	2.719E-02	1.076
	621.84	*		3.414E-01	3.114E-01	5.625E-01	6.502E-02	0.607
	1050.47			-1.454E+00	2.509E+00	3.781E+00	3.154E-01	-0.385
RU-106	511.85	+		4.570E-01	3.333E-01	4.248E-01	2.719E-02	1.076
	621.84	*		3.414E-01	3.094E-01	5.625E-01	3.055E-02	0.607
	1050.47			-1.454E+00	2.509E+00	3.781E+00	3.154E-01	-0.385
AG-108M	433.93	*		5.159E-04	3.309E-02	5.385E-02	3.861E-03	0.010
	614.37			2.629E-02	3.902E-02	6.150E-02	3.709E-03	0.427
	722.95			-4.868E-03	4.437E-02	6.301E-02	4.134E-03	-0.077
AG-110M	657.75	*		-7.413E-03	3.527E-02	5.793E-02	3.138E-03	-0.128
	677.61			-3.851E-02	3.096E-01	5.109E-01	2.868E-02	-0.075
	706.67			-1.336E-02	2.074E-01	3.430E-01	2.099E-02	-0.039
	763.93			-1.427E-01	1.672E-01	2.550E-01	1.846E-02	-0.560
	884.67			5.753E-03	5.290E-02	8.745E-02	8.766E-03	0.066
	937.48			8.893E-02	1.222E-01	2.123E-01	2.130E-02	0.419
	1384.27			-1.583E-01	1.944E-01	2.873E-01	2.537E-02	-0.551
IN-111	171.28			8.081E-02	1.003E+00	1.606E+00	8.833E-02	0.050
	245.39	*		5.511E-02	1.135E+00	1.688E+00	1.042E-01	0.033
IN-113M	391.69	*		2.551E-02	4.299E-02	7.320E-02	5.220E-03	0.349
SN-113	391.69	*		2.551E-02	4.299E-02	7.320E-02	5.220E-03	0.349
IN-114M	190.27	*		-6.101E-03	2.091E-01	2.937E-01	1.666E-02	-0.021
CD-115	260.90			4.997E+01	1.283E+02	2.195E+02	1.382E+01	0.228
	492.35			3.204E-01	3.747E+01	6.043E+01	3.936E+00	0.005
	527.90	*		6.124E+00	1.114E+01	1.871E+01	1.178E+00	0.327
SN-117M	156.02			-4.856E-01	2.256E+00	3.573E+00	2.023E-01	-0.136
	158.56	*		-1.184E-02	5.449E-02	8.620E-02	4.834E-03	-0.137
SB-122	563.90	*		7.164E-02	2.374E+00	3.799E+00	2.285E-01	0.019
	692.80			-5.053E+01	4.538E+01	6.813E+01	3.751E+00	-0.742
I-123	159.00	*		4.126E+00	4.538E+01	Half-Life too short		
	528.96			3.778E+02	4.538E+01	Half-Life too short		
TE-123M	159.00	*		1.671E-02	2.759E-02	4.548E-02	2.583E-03	0.368
I-124	602.71	*		-4.609E-01	6.870E-01	1.023E+00	5.770E-02	-0.451
	722.78			-1.937E-01	4.783E+00	6.856E+00	4.174E-01	-0.028
	1325.50			-3.459E+01	3.915E+01	5.748E+01	4.928E+00	-0.602

---- Non-Identified Nuclides ----

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SB-124	1376.25			8.055E-01	3.296E+01	5.467E+01	4.705E+00	0.015
	1509.49			1.044E+01	1.691E+01	3.025E+01	2.474E+00	0.345
	1691.02			-3.476E-01	3.463E+00	5.489E+00	3.948E-01	-0.063
	602.71			-2.614E-02	3.897E-02	5.801E-02	3.274E-03	-0.451
	645.85			-1.740E-01	5.150E-01	8.380E-01	5.001E-02	-0.208
	709.31			2.103E-01	2.751E+00	4.602E+00	2.679E-01	0.046
	713.82			-8.456E-02	1.610E+00	2.662E+00	2.735E-01	-0.032
	722.78			-1.592E-02	3.933E-01	5.638E-01	3.580E-02	-0.028
	968.20			9.652E+00	4.226E+00	7.029E+00	6.626E-01	1.373
	1045.16			-1.455E-01	2.674E+00	4.291E+00	3.614E-01	-0.034
	1325.50			-3.038E+00	3.438E+00	5.049E+00	4.328E-01	-0.602
	1368.21			-5.569E-01	1.875E+00	2.971E+00	4.004E-01	-0.187
	1436.60			3.610E+00	3.592E+00	6.812E+00	5.751E-01	0.530
	1691.02	*		-6.741E-03	6.717E-02	1.065E-01	8.089E-03	-0.063
SB-125	427.89	*		-5.916E-02	8.945E-02	1.378E-01	9.594E-03	-0.429
	463.38			5.278E-01	2.997E-01	5.380E-01	4.035E-02	0.981
	600.56			1.520E-01	1.687E-01	3.022E-01	1.992E-02	0.503
	635.90			-2.248E-02	2.703E-01	4.496E-01	2.850E-02	-0.050
TE-125M	109.28	*		5.415E+00	9.538E+00	1.582E+01	1.519E+00	0.342
I-126	388.63			4.269E-03	2.098E-01	3.439E-01	2.337E-02	0.012
	666.33	*		-8.172E-02	1.912E-01	3.085E-01	1.547E-02	-0.265
SB-126	753.82			-1.748E-01	1.417E+00	2.317E+00	1.558E-01	-0.075
	223.80			2.963E+00	3.888E+00	6.791E+00	4.066E-01	0.436
	278.60			3.080E+00	3.210E+00	4.202E+00	2.697E-01	0.733
	296.50			1.049E+01	2.399E+00	3.579E+00	2.335E-01	2.932
	414.70			3.126E-02	7.738E-02	1.209E-01	8.195E-03	0.258
	415.30			2.571E+00	6.100E+00	9.935E+00	6.731E-01	0.259
	555.20			-2.439E+00	3.753E+00	5.600E+00	3.409E-01	-0.436
	573.80			-1.099E+00	1.024E+00	1.578E+00	9.354E-02	-0.697
	593.00			7.776E-01	9.157E-01	1.637E+00	9.399E-02	0.475
	656.30			-2.146E+00	3.205E+00	5.039E+00	2.522E-01	-0.426
	666.33			-3.416E-02	7.992E-02	1.290E-01	6.469E-03	-0.265
	675.00			9.667E-02	2.052E+00	3.435E+00	1.777E-01	0.028
	695.00			4.939E-02	7.949E-02	1.387E-01	7.693E-03	0.356
	697.00			1.662E-01	2.807E-01	4.882E-01	2.727E-02	0.340
SB-127	720.50	*		3.556E-02	1.564E-01	2.321E-01	1.403E-02	0.153
	856.80			-2.890E-01	5.533E-01	7.237E-01	6.569E-02	-0.399
	989.30			7.192E-01	1.370E+00	2.340E+00	2.147E-01	0.307
	1034.80			-7.301E+00	9.933E+00	1.478E+01	1.267E+00	-0.494
	1213.00			-7.889E-01	5.763E+00	9.520E+00	6.441E-01	-0.083
	61.10			-1.376E+02	8.637E+01	1.277E+02	1.799E+01	-1.078
	252.40			4.686E+00	4.410E+00	7.072E+00	2.944E+00	0.663
	290.80			-1.282E-01	2.301E+01	3.369E+01	3.257E+00	-0.004
	411.60			1.897E+01	1.631E+01	2.228E+01	3.305E+00	0.851
	444.90			2.933E+00	9.972E+00	1.654E+01	1.877E+00	0.177
	473.00			-3.313E-01	1.651E+00	2.621E+00	3.056E-01	-0.126
	543.00			5.869E+00	1.614E+01	2.667E+01	3.500E+00	0.220
	603.60			1.195E+00	1.290E+01	1.907E+01	2.044E+00	0.063
	685.20	*		-3.696E-01	1.390E+00	2.262E+00	2.086E-01	-0.163

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	698.50			1.162E+01	1.616E+01	2.823E+01	4.076E+00	0.412
	722.20			-3.925E+00	3.448E+01	4.898E+01	4.600E+00	-0.080
	783.80			-4.172E-01	3.780E+00	6.180E+00	7.186E-01	-0.068
	57.60			1.433E+00	9.450E+00	1.588E+01	2.018E+00	0.090
	145.22			4.581E-01	6.736E-01	1.097E+00	6.468E-02	0.418
	172.10			1.594E-02	1.165E-01	1.870E-01	1.030E-02	0.085
I-131	202.84	*		-4.016E-03	4.486E-02	7.339E-02	4.250E-03	-0.055
	374.96			1.321E-01	2.015E-01	3.443E-01	2.336E-02	0.384
	80.18			-1.049E+01	5.161E+00	7.579E+00	8.352E-01	-1.385
	284.30			4.336E-01	1.458E+00	2.472E+00	1.741E-01	0.175
	364.48	*		1.687E-02	1.113E-01	1.849E-01	1.360E-02	0.091
	636.97			2.282E-01	1.596E+00	2.702E+00	1.624E-01	0.084
TE-132	722.89			-6.467E-01	7.589E+00	1.081E+01	6.671E-01	-0.060
	49.72			-1.515E+01	4.261E+01	7.025E+01	1.005E+01	-0.216
	111.76			6.421E+00	2.995E+01	4.921E+01	4.930E+00	0.130
	116.30			2.038E+01	2.714E+01	4.557E+01	4.424E+00	0.447
	228.16	*		5.522E-01	6.880E-01	1.196E+00	1.733E-01	0.462
	53.15			2.222E+00	6.766E+00	1.147E+01	1.519E+00	0.194
BA-133	79.62			-3.030E+00	1.487E+00	2.099E+00	3.498E-01	-1.443
	81.00			-2.458E-01	1.122E-01	1.541E-01	2.664E-02	-1.595
	276.40	+		4.564E-01	4.786E-01	6.361E-01	8.426E-02	0.717
	302.84			1.796E-01	1.414E-01	2.269E-01	2.735E-02	0.791
	356.01	*		-2.664E-02	4.410E-02	5.949E-02	7.178E-03	-0.448
	383.85			-2.499E-02	2.928E-01	4.767E-01	5.449E-02	-0.052
I-133	510.53	+		1.055E+00	2.928E-01	Half-Life	too short	
	529.87	*		-1.371E-03	2.928E-01	Half-Life	too short	
	706.58			-2.628E-02	2.928E-01	Half-Life	too short	
	856.28			-7.386E-01	2.928E-01	Half-Life	too short	
	875.33			-1.099E-01	2.928E-01	Half-Life	too short	
	1236.41			-2.744E-01	2.928E-01	Half-Life	too short	
CS-134	1298.22			3.741E-01	2.928E-01	Half-Life	too short	
	475.35			8.434E-01	1.823E+00	3.057E+00	2.016E-01	0.276
	563.23			-1.167E-01	4.028E-01	6.278E-01	3.853E-02	-0.186
	569.32			1.003E-01	2.182E-01	3.607E-01	2.213E-02	0.278
	604.70			-8.045E-03	3.463E-02	4.930E-02	2.787E-03	-0.163
	795.84	*		1.798E-02	4.986E-02	8.464E-02	6.525E-03	0.212
CS-135	801.93			-6.972E-02	4.207E-01	6.648E-01	5.205E-02	-0.105
	1038.57			1.965E+00	4.277E+00	7.235E+00	6.162E-01	0.272
	1167.94			-7.874E-01	2.748E+00	4.501E+00	2.824E-01	-0.175
	1365.15			-1.157E+00	1.424E+00	2.097E+00	1.892E-01	-0.552
	268.24	*		1.232E-01	1.705E-01	2.639E-01	2.132E-02	0.467
	288.45			2.190E+10	1.705E-01	Half-Life	too short	
I-135	417.63			-1.295E+10	1.705E-01	Half-Life	too short	
	546.56			6.419E+09	1.705E-01	Half-Life	too short	
	836.80			-7.317E+07	1.705E-01	Half-Life	too short	
	1038.76			1.346E+10	1.705E-01	Half-Life	too short	
	1124.00	+		2.131E+11	1.705E-01	Half-Life	too short	
	1131.51			4.975E+09	1.705E-01	Half-Life	too short	
	1260.41	*		-2.150E+09	1.705E-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			5.302E+10	1.705E-01	Half-Life	too short	
	1678.03			9.892E+09	1.705E-01	Half-Life	too short	
	1706.46			2.162E+10	1.705E-01	Half-Life	too short	
	1791.20			3.458E+09	1.705E-01	Half-Life	too short	
	66.91			5.860E-01	9.564E-01	1.605E+00	2.750E-01	0.365
	86.29			1.833E+00	1.320E+00	2.086E+00	3.073E-01	0.879
	153.22			4.955E-02	6.575E-01	1.058E+00	7.572E-02	0.047
	163.89			-3.810E-01	1.101E+00	1.702E+00	1.194E-01	-0.224
	176.55			-3.500E-02	3.742E-01	5.874E-01	3.696E-02	-0.060
	273.65			1.148E-01	6.389E-01	6.993E-01	4.989E-02	0.164
	340.57			7.699E-01	1.942E-01	2.676E-01	1.881E-02	2.876
	818.51			8.728E-03	7.007E-02	1.168E-01	9.537E-03	0.075
	1048.07	*		6.568E-02	1.130E-01	1.938E-01	1.696E-02	0.339
	1235.34			-6.921E-01	7.403E-01	1.141E+00	1.233E-01	-0.607
BA-137M	661.65	*		4.666E-02	3.821E-02	6.927E-02	3.417E-03	0.674
CS-137	661.65	*		4.933E-02	4.039E-02	7.322E-02	3.634E-03	0.674
CE-139	165.85	*		-2.280E-03	2.904E-02	4.616E-02	2.521E-03	-0.049
BA-140	162.64			1.405E-02	7.647E-01	1.205E+00	7.566E-02	0.012
	304.84			-1.237E+00	1.354E+00	1.747E+00	4.797E-01	-0.708
	423.70			1.475E+00	1.928E+00	3.220E+00	1.029E+00	0.458
LA-140	537.32	*		-2.022E-01	2.579E-01	3.680E-01	1.200E-01	-0.549
	328.77			2.077E-01	3.118E-01	5.336E-01	3.887E-02	0.389
	432.53			-4.786E-01	2.014E+00	3.212E+00	2.335E-01	-0.149
	487.03			-7.279E-02	1.284E-01	1.962E-01	1.418E-02	-0.371
	751.79			8.853E-02	1.635E+00	2.721E+00	2.131E-01	0.033
	815.85			-9.292E-03	3.015E-01	4.945E-01	4.523E-02	-0.019
	867.82			1.762E-01	1.521E+00	2.294E+00	2.242E-01	0.077
	919.63			1.617E+00	3.237E+00	4.902E+00	5.752E-01	0.330
	925.24			-1.686E-02	1.242E+00	2.022E+00	2.094E-01	-0.008
CE-141	1596.49	*		2.617E-02	8.512E-02	1.299E-01	1.008E-02	0.202
CE-143	145.44	*		3.641E-02	6.120E-02	9.923E-02	6.073E-03	0.367
	57.37			6.780E-04	6.120E-02	Half-Life	too short	
	231.56			-1.201E-03	6.120E-02	Half-Life	too short	
	293.26	*		2.400E-04	6.120E-02	Half-Life	too short	
	350.59			2.701E-02	6.120E-02	Half-Life	too short	
	490.36			-1.055E-04	6.120E-02	Half-Life	too short	
	664.57			5.315E-04	6.120E-02	Half-Life	too short	
	721.93			-2.678E-05	6.120E-02	Half-Life	too short	
CE-144	80.11			-4.791E+00	2.345E+00	3.443E+00	3.778E-01	-1.392
	133.54	*		-1.555E-01	1.981E-01	3.047E-01	4.378E-02	-0.510
PM-144	476.78			-9.993E-03	6.581E-02	1.049E-01	7.989E-03	-0.095
	618.01			-2.955E-02	3.302E-02	4.770E-02	2.787E-03	-0.620
	696.49	*		2.977E-02	3.536E-02	6.260E-02	3.493E-03	0.476
	778.57			-9.927E-01	2.161E+00	3.401E+00	2.469E-01	-0.292
PR-144	696.49	*		2.018E+00	2.396E+00	4.242E+00	2.365E-01	0.476
	1489.15			2.038E+00	1.041E+01	1.775E+01	1.466E+00	0.115
PM-146	453.90	*		8.046E-03	4.654E-02	7.528E-02	6.954E-03	0.107
	633.02			-4.706E-01	1.328E+00	2.138E+00	7.855E-01	-0.220
	735.90			-1.140E-01	1.744E-01	2.245E-01	6.287E-02	-0.508

---- 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		-3.555E-02	8.769E-02	1.394E-01	1.796E-02	-0.255
		91.11		5.188E-01	2.437E-01	5.121E-01	5.709E-02	1.013
		319.41		-2.640E-01	3.228E+00	5.320E+00	3.531E-01	-0.050
		439.89		-2.378E+00	6.331E+00	1.000E+01	6.725E-01	-0.238
		531.02	*	8.013E-02	5.727E-01	9.292E-01	1.276E-01	0.086
PM-149		285.90	*	1.054E+01	9.483E+01	1.590E+02	2.300E+01	0.066
EU-152		121.78		1.119E-02	7.060E-02	1.153E-01	9.502E-03	0.097
		244.69		2.023E-01	3.409E-01	5.265E-01	3.248E-02	0.384
		344.27	*	-6.179E-02	1.004E-01	1.528E-01	1.126E-02	-0.404
		443.98		-1.565E-01	9.657E-01	1.548E+00	1.039E-01	-0.101
		778.89		-1.600E-01	2.523E-01	3.895E-01	2.829E-02	-0.411
		867.32		1.672E-02	9.406E-01	1.337E+00	1.248E-01	0.013
		964.01		4.262E-01	3.521E-01	5.661E-01	5.363E-02	0.753
		1085.78		-2.713E-01	4.680E-01	7.063E-01	5.498E-02	-0.384
		1112.02		3.378E-01	3.596E-01	6.300E-01	4.621E-02	0.536
		1407.95		2.780E-02	2.121E-01	3.558E-01	3.034E-02	0.078
		69.67		-2.370E+00	1.986E+00	3.101E+00	3.459E-01	-0.764
		83.37		-7.848E+00	2.253E+01	2.560E+01	2.838E+00	-0.307
		97.43	*	6.014E-03	9.111E-02	1.338E-01	1.246E-02	0.045
		103.18		3.191E-02	1.086E-01	1.796E-01	1.518E-02	0.178
		123.07		-5.205E-02	5.065E-02	7.732E-02	7.641E-03	-0.673
EU-154		247.94		6.092E-02	3.184E-01	5.405E-01	5.290E-02	0.113
		591.81		3.378E-01	6.246E-01	1.068E+00	1.041E-01	0.316
		723.30		-5.327E-02	1.854E-01	2.570E-01	1.883E-02	-0.207
		756.87		-3.214E-02	7.256E-01	1.195E+00	1.283E-01	-0.027
		873.19		1.732E-01	2.822E-01	4.912E-01	6.322E-02	0.353
		996.32		-1.561E-01	3.918E-01	6.058E-01	1.090E-01	-0.258
		1004.76		1.324E-01	2.375E-01	4.050E-01	4.823E-02	0.327
		1274.45	*	1.229E-01	1.293E-01	2.350E-01	2.503E-02	0.523
EU-155		48.70		-2.148E+00	5.395E+00	8.885E+00	1.067E+00	-0.242
		60.01		-6.686E+00	7.199E+00	1.144E+01	1.409E+00	-0.584
		86.54		1.678E-01	1.198E-01	1.881E-01	2.129E-02	0.892
		105.31	*	-6.669E-02	1.161E-01	1.833E-01	1.520E-02	-0.364
TB-160	+	86.79		4.488E-01	3.204E-01	4.982E-01	5.613E-02	0.901
		197.04		-1.314E-01	5.726E-01	8.848E-01	5.074E-02	-0.148
		215.65		-1.752E-01	7.080E-01	1.184E+00	7.002E-02	-0.148
		298.57		1.962E-02	1.792E-01	1.926E-01	1.259E-02	0.102
		879.36	*	-3.865E-02	1.321E-01	2.089E-01	2.014E-02	-0.185
		962.29		-2.856E-01	5.934E-01	8.915E-01	8.463E-02	-0.320
		966.15		2.045E-01	2.588E-01	3.968E-01	3.749E-02	0.516
		1177.93		-3.565E-02	4.387E-01	7.294E-01	4.549E-02	-0.049
		1271.85		2.191E-02	7.963E-01	1.329E+00	1.022E-01	0.016
		80.57		-6.601E-01	2.981E-01	4.313E-01	4.738E-02	-1.531
HO-166M	+	184.41		1.441E-01	6.192E-02	6.346E-02	3.564E-03	2.270
		280.46		-1.836E-02	8.813E-02	1.272E-01	8.180E-03	-0.144
		410.95		3.686E-01	3.132E-01	4.393E-01	2.979E-02	0.839
		711.68	*	9.501E-03	5.893E-02	9.930E-02	5.827E-03	0.096
		752.31		-3.399E-02	2.619E-01	4.282E-01	2.866E-02	-0.079
		810.29		2.682E-02	5.388E-02	9.324E-02	7.428E-03	0.288

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TM-171		51.35		3.428E+01	6.165E+01	1.055E+02	1.387E+01	0.325
		52.39		3.277E+01	3.069E+01	5.320E+01	7.046E+00	0.616
		59.40		-1.297E+01	3.813E+01	6.258E+01	7.774E+00	-0.207
		66.72	*	2.747E+01	3.429E+01	5.809E+01	6.618E+00	0.473
LU-176	+	88.36		3.541E-01	1.658E-01	3.693E-01	4.153E-02	0.959
		201.83		-2.231E-03	2.658E-02	4.496E-02	2.599E-03	-0.050
		306.84	*	-7.774E-03	2.434E-02	3.651E-02	2.401E-03	-0.213
		401.10		2.939E+00	6.599E+00	1.111E+01	7.545E-01	0.265
LU-177	+	112.95		-1.179E+00	1.606E+00	2.514E+00	1.851E-01	-0.469
		208.36	*	2.243E+00	1.678E+00	1.969E+00	1.151E-01	1.139
LU-177M		52.97		1.933E+00	3.083E+00	5.281E+00	6.996E-01	0.366
		54.07		-8.585E-01	1.567E+00	2.552E+00	3.366E-01	-0.336
		61.30		-1.285E+00	2.032E+00	3.212E+00	3.887E-01	-0.400
		121.62		1.605E-01	3.575E-01	5.923E-01	3.919E-02	0.271
		147.16		-7.129E-01	6.407E-01	9.686E-01	5.669E-02	-0.736
		171.86		5.521E-02	4.668E-01	7.484E-01	4.120E-02	0.074
		218.09		2.366E-03	7.923E-01	1.340E+00	7.954E-02	0.002
	+	268.79		2.059E+00	1.420E+00	1.462E+00	9.290E-02	1.408
		319.02		-3.588E-02	2.474E-01	4.061E-01	2.693E-02	-0.088
		367.43		2.134E-01	8.592E-01	1.436E+00	9.723E-02	0.149
		413.65	*	1.477E-01	1.845E-01	2.850E-01	1.931E-02	0.518
HF-181		56.28		7.986E-01	1.563E+00	2.662E+00	3.439E-01	0.300
		57.53		2.878E-01	7.909E-01	1.340E+00	1.705E-01	0.215
		65.20		-1.886E+00	1.239E+00	1.878E+00	2.169E-01	-1.004
		133.02		-3.497E-02	6.328E-02	9.921E-02	6.161E-03	-0.352
		136.25		-1.883E-01	4.307E-01	6.783E-01	4.151E-02	-0.278
		345.85		1.422E-01	2.117E-01	3.242E-01	2.180E-02	0.439
		482.03	*	4.588E-02	4.232E-02	7.400E-02	4.857E-03	0.620
				3.116E-01	6.106E-01	1.040E+00	1.344E-01	0.300
W-181		56.28		3.116E-01	6.106E-01	1.040E+00	1.344E-01	0.300
		57.53		1.126E-01	3.093E-01	5.240E-01	6.668E-02	0.215
TA-182		65.20	*	-7.316E-01	4.806E-01	7.285E-01	8.417E-02	-1.004
		67.75		-3.679E-02	1.340E-01	2.179E-01	2.461E-02	-0.169
		100.10		3.195E-02	1.845E-01	3.039E-01	2.700E-02	0.105
		152.43		-1.472E-01	3.374E-01	5.290E-01	3.035E-02	-0.278
		222.10		2.343E-01	3.253E-01	5.677E-01	3.390E-02	0.413
		1001.68		7.363E-01	2.163E+00	3.624E+00	3.269E-01	0.203
	+	1121.28		4.381E-01	3.527E-01	3.653E-01	2.619E-02	1.199
		1189.05		-9.963E-02	3.457E-01	5.641E-01	3.611E-02	-0.177
RE-183		1221.42	*	-3.082E-02	2.450E-01	4.050E-01	2.792E-02	-0.076
		1230.97		1.438E-01	5.612E-01	9.549E-01	6.726E-02	0.151
		57.98		3.615E-02	3.026E-01	5.075E-01	6.421E-02	0.071
		59.32		-5.819E-02	1.572E-01	2.577E-01	3.204E-02	-0.226
		67.20		1.103E-01	2.418E-01	4.050E-01	4.595E-02	0.272
		162.32	*	5.204E-02	1.082E-01	1.744E-01	9.646E-03	0.298
	+	208.81		1.987E+00	1.486E+00	1.758E+00	1.028E-01	1.130
		291.72		-4.034E-01	9.510E-01	1.342E+00	8.718E-02	-0.301
RE-184		57.98		1.331E-01	1.114E+00	1.868E+00	2.364E-01	0.071
		59.32		-2.140E-01	5.784E-01	9.478E-01	1.179E-01	-0.226
		67.20		4.058E-01	8.901E-01	1.490E+00	1.691E-01	0.272

---- 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		-3.767E-01	3.590E-01	5.418E-01	3.008E-02	-0.695
		216.55		4.315E-02	2.470E-01	4.213E-01	2.494E-02	0.102
		252.85	*	2.547E-01	2.107E-01	3.757E-01	2.343E-02	0.678
		318.01		1.272E-01	4.346E-01	7.328E-01	4.858E-02	0.174
		792.07		-1.348E+00	1.055E+00	1.530E+00	1.156E-01	-0.881
		903.28		2.621E-01	1.077E+00	1.799E+00	1.813E-01	0.146
		920.93		4.136E-02	4.912E-01	7.865E-01	7.801E-02	0.053
		59.72		3.353E-02	4.120E-01	6.893E-01	8.525E-02	0.049
		61.14		-3.821E-01	2.372E-01	3.529E-01	4.278E-02	-1.083
		69.30		-3.633E-01	3.569E-01	5.634E-01	6.297E-02	-0.645
		592.07		1.326E+00	2.546E+00	4.350E+00	2.502E-01	0.305
		646.12	*	-1.220E-02	4.344E-02	7.101E-02	3.648E-03	-0.172
		717.42		-2.289E-01	8.559E-01	1.387E+00	8.294E-02	-0.165
		874.81		-5.080E-01	5.445E-01	7.874E-01	7.501E-02	-0.645
		880.27		2.028E-01	7.277E-01	1.227E+00	1.186E-01	0.165
RE-188		155.03	*	4.038E-02	1.695E-01	2.747E-01	1.561E-02	0.147
		477.96		-2.370E+00	3.110E+00	4.697E+00	3.092E-01	-0.504
		633.10		-9.526E-01	2.665E+00	4.327E+00	2.293E-01	-0.220
W-188		63.58		1.787E+01	6.914E+01	1.141E+02	1.342E+01	0.157
		227.08		-2.612E+00	1.230E+01	2.054E+01	1.236E+00	-0.127
IR-192		290.67	*	-1.691E-01	7.749E+00	1.133E+01	7.358E-01	-0.015
	+	295.96		7.978E-01	1.826E-01	2.760E-01	1.823E-02	2.890
		308.46		1.416E-01	8.832E-02	1.601E-01	1.064E-02	0.884
		316.51	*	-1.648E-02	3.342E-02	5.365E-02	3.567E-03	-0.307
		468.07		-4.469E-02	6.839E-02	1.048E-01	7.769E-03	-0.427
		604.41		-4.727E-02	4.735E-01	6.849E-01	7.713E-02	-0.069
		612.46		3.839E+00	1.016E+00	1.848E+00	1.363E-01	2.077
AU-195		65.12		-3.453E-01	2.228E-01	3.371E-01	3.898E-02	-1.024
		66.83		7.000E-02	1.139E-01	1.918E-01	2.182E-02	0.365
	+	75.70		6.463E-01	2.521E-01	5.109E-01	5.589E-02	1.265
		98.88	*	4.815E-01	2.333E-01	4.092E-01	3.713E-02	1.177
		129.76		4.676E+00	2.937E+00	5.053E+00	3.188E-01	0.925
TL-200		367.94	*	1.227E-04	2.937E+00	Half-Life	too short	
		579.30		1.531E-03	2.937E+00	Half-Life	too short	
		828.27		-7.282E-04	2.937E+00	Half-Life	too short	
		1205.75		-1.643E-03	2.937E+00	Half-Life	too short	
TL-201		68.90		-4.144E+00	5.942E+00	9.545E+00	1.070E+00	-0.434
		70.82		-1.586E+00	3.788E+00	5.515E+00	6.114E-01	-0.288
		80.30		-1.196E+01	5.738E+00	8.394E+00	9.214E-01	-1.424
		135.34		-2.025E+01	2.431E+01	3.740E+01	2.298E+00	-0.541
		167.43	*	1.506E+00	6.996E+00	1.129E+01	6.174E-01	0.133
TL-202		68.90		-3.628E-01	5.202E-01	8.356E-01	9.364E-02	-0.434
		70.82		-1.384E-01	3.307E-01	4.815E-01	5.338E-02	-0.288
		80.30		-1.044E+00	5.011E-01	7.331E-01	8.047E-02	-1.424
		439.56	*	9.162E-03	7.322E-02	1.200E-01	8.066E-03	0.076
BI-207	+	72.80		6.048E-01	2.359E-01	3.740E-01	4.114E-02	1.617
	+	74.97		3.583E-01	1.398E-01	2.532E-01	2.772E-02	1.415
		84.90		3.315E-01	2.658E-01	3.404E-01	3.798E-02	0.974
		569.67		7.906E-03	3.345E-02	5.439E-02	3.243E-03	0.145

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207	1063.62	*		1.588E-02	6.487E-02	1.070E-01	8.709E-03	0.148
	1770.23			1.238E+00	6.607E-01	1.287E+00	8.540E-02	0.962
	81.07			-5.433E-01	2.366E-01	3.397E-01	3.736E-02	-1.600
	83.78			-1.816E-02	1.925E-01	2.237E-01	2.483E-02	-0.081
	94.90			1.596E-01	2.502E-01	3.794E-01	3.704E-02	0.421
	122.32			-1.343E-01	1.675E+00	2.702E+00	1.994E-01	-0.050
	144.24			4.301E-01	6.563E-01	1.067E+00	7.822E-02	0.403
	154.21			1.927E-01	3.891E-01	6.383E-01	4.424E-02	0.302
	+	269.46		4.817E-01	3.323E-01	3.563E-01	2.351E-02	1.352
	323.87	*		4.639E-02	6.486E-01	1.078E+00	1.815E-01	0.043
PO-209	+	338.28		6.104E+00	1.626E+00	2.449E+00	2.707E-01	2.493
		445.03		5.767E-01	2.251E+00	3.724E+00	4.025E-01	0.155
		260.50		4.409E-01	9.064E+00	1.523E+01	9.582E-01	0.029
		262.80		-2.513E+01	2.528E+01	3.988E+01	2.516E+00	-0.630
		896.60	*	6.561E-01	8.173E+00	1.346E+01	1.357E+00	0.049
BI-210	46.50	*		-8.225E-01	8.535E+00	1.428E+01	1.401E+00	-0.058
PB-210	46.50	*		-8.225E-01	8.535E+00	1.428E+01	1.401E+00	-0.058
PO-210	46.50	*		-8.225E-01	8.535E+00	1.428E+01	1.282E+00	-0.058
PB-211	404.84	*		-4.994E-01	1.133E+00	1.488E+00	9.291E-01	-0.336
BI-212	427.08			-5.949E-01	2.021E+00	3.158E+00	1.955E+00	-0.188
	831.96			-4.857E-01	1.270E+00	1.948E+00	1.220E+00	-0.249
	727.18	*		1.030E+00	3.631E-01	6.941E-01	5.553E-02	1.483
	785.46			2.410E+00	1.695E+00	3.135E+00	2.322E-01	0.769
	1620.62			1.146E+00	1.394E+00	2.566E+00	1.957E-01	0.447
PO-215	81.07			-5.433E-01	2.366E-01	3.397E-01	3.736E-02	-1.600
	83.78			-1.816E-02	1.925E-01	2.237E-01	2.483E-02	-0.081
	94.90			1.596E-01	2.502E-01	3.794E-01	3.704E-02	0.421
	122.32			-1.343E-01	1.675E+00	2.702E+00	1.994E-01	-0.050
	144.24			4.301E-01	6.563E-01	1.067E+00	7.822E-02	0.403
	154.21			1.927E-01	3.891E-01	6.383E-01	4.424E-02	0.302
	+	269.46		4.817E-01	3.323E-01	3.563E-01	2.351E-02	1.352
	323.87	*		4.639E-02	6.486E-01	1.078E+00	1.815E-01	0.043
	+	338.28		6.104E+00	1.626E+00	2.449E+00	2.707E-01	2.493
		445.03		5.767E-01	2.251E+00	3.724E+00	4.025E-01	0.155
RN-219	+	271.23		6.180E-01	4.276E-01	4.680E-01	3.988E-02	1.320
RN-220	401.81	*		3.918E-02	4.089E-01	6.723E-01	9.451E-02	0.058
RA-223	549.76	*		1.174E+01	2.652E+01	4.404E+01	2.700E+00	0.267
	81.07			-5.433E-01	2.366E-01	3.397E-01	3.736E-02	-1.600
	83.78			-1.816E-02	1.925E-01	2.237E-01	2.483E-02	-0.081
	94.90			1.596E-01	2.502E-01	3.794E-01	3.704E-02	0.421
	122.32			-1.343E-01	1.675E+00	2.702E+00	1.994E-01	-0.050
	144.24			4.301E-01	6.563E-01	1.067E+00	7.822E-02	0.403
	154.21			1.927E-01	3.891E-01	6.383E-01	4.424E-02	0.302
	+	269.46		4.817E-01	3.323E-01	3.563E-01	2.351E-02	1.352
	323.87	*		4.639E-02	6.486E-01	1.078E+00	1.815E-01	0.043
	+	338.28		6.104E+00	1.626E+00	2.449E+00	2.707E-01	2.493
		445.03		5.767E-01	2.251E+00	3.724E+00	4.025E-01	0.155
AC-227	79.80			-3.830E+00	1.970E+00	2.658E+00	5.992E-01	-1.441
	236.00			2.637E-01	2.360E-01	3.735E-01	3.966E-02	0.706

----- Non-Identified Nuclides -----

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TH-227		256.20	*	-1.987E-02	3.674E-01	6.143E-01	8.698E-02	-0.032
		286.10		1.705E-01	1.508E+00	2.530E+00	3.012E-01	0.067
	+	299.80		2.200E+00	2.317E+00	2.616E+00	4.333E-01	0.841
		304.40		-5.183E-01	1.867E+00	2.654E+00	4.663E-01	-0.195
		334.20		-1.657E+00	2.626E+00	3.576E+00	6.664E-01	-0.463
		79.80		-3.830E+00	1.974E+00	2.658E+00	6.062E-01	-1.441
	+	94.00		6.912E+00	3.756E+00	3.647E+00	8.146E-01	1.895
		236.00		2.637E-01	2.356E-01	3.735E-01	3.454E-02	0.706
		256.20	*	-1.987E-02	3.674E-01	6.143E-01	1.048E-01	-0.032
		286.10		1.705E-01	1.518E+00	2.530E+00	2.535E+00	0.067
TH-229	+	299.80		2.200E+00	2.317E+00	2.616E+00	4.333E-01	0.841
		304.40		-5.183E-01	1.867E+00	2.654E+00	4.663E-01	-0.195
		334.20		-1.657E+00	2.626E+00	3.576E+00	6.664E-01	-0.463
	+	85.43		3.124E-01	2.230E-01	3.425E-01	3.831E-02	0.912
	+	88.47		2.039E-01	9.546E-02	2.117E-01	2.374E-02	0.963
		100.00		5.233E-02	1.923E-01	3.180E-01	2.831E-02	0.165
		193.63	*	8.601E-02	5.073E-01	7.984E-01	4.553E-02	0.108
	+	210.97		1.554E+00	1.162E+00	1.319E+00	7.740E-02	1.178
		283.67	*	-2.953E-01	1.517E+00	2.415E+00	3.397E-01	-0.122
	+	301.29		8.799E-01	9.204E-01	1.047E+00	1.140E-01	0.840
U-231	TH-231	81.07		-5.433E-01	2.366E-01	3.397E-01	3.736E-02	-1.600
		83.78		-1.816E-02	1.925E-01	2.237E-01	2.483E-02	-0.081
		94.90		1.596E-01	2.502E-01	3.794E-01	3.704E-02	0.421
		122.32		-1.343E-01	1.675E+00	2.702E+00	1.994E-01	-0.050
		144.24		4.301E-01	6.563E-01	1.067E+00	7.822E-02	0.403
		154.21		1.927E-01	3.891E-01	6.383E-01	4.424E-02	0.302
	+	269.46		4.817E-01	3.323E-01	3.563E-01	2.351E-02	1.352
		323.87	*	4.639E-02	6.486E-01	1.078E+00	1.815E-01	0.043
	+	338.28		6.104E+00	1.626E+00	2.449E+00	2.707E-01	2.493
		445.03		5.767E-01	2.251E+00	3.724E+00	4.025E-01	0.155
PA-233	U-231	84.21		6.773E-02	8.426E+00	9.868E+00	1.098E+00	0.007
	+	92.29		7.006E+00	3.540E+00	4.139E+00	4.261E-01	1.692
		95.87	*	-1.635E+00	1.267E+00	1.694E+00	1.624E-01	-0.965
		108.00		-1.490E+00	2.218E+00	3.480E+00	2.739E-01	-0.428
	+	75.28		1.045E+01	4.289E+00	7.667E+00	1.285E+00	1.364
	+	86.59		2.727E+00	2.066E+00	3.049E+00	8.469E-01	0.895
	+	300.12		6.132E-01	6.436E-01	7.245E-01	9.981E-02	0.846
		311.98	*	-2.981E-02	6.043E-02	9.703E-02	6.714E-03	-0.307
	+	340.50		3.703E+00	1.243E+00	1.320E+00	3.065E-01	2.805
		398.62		-3.940E-01	2.190E+00	3.353E+00	8.750E-01	-0.118
PA-234		415.76		1.292E-01	1.554E+00	2.548E+00	5.321E-01	0.051
		63.00		5.763E-01	2.085E+00	3.442E+00	6.022E-01	0.167
	+	94.67		6.164E-01	3.163E-01	2.828E-01	3.749E-02	2.180
		98.44		1.510E-01	1.269E-01	1.657E-01	9.258E-02	0.911
		99.86		1.980E-01	4.900E-01	8.149E-01	7.271E-02	0.243
		111.00		8.483E-02	1.856E-01	3.080E-01	3.497E-02	0.275
		131.20		-4.615E-02	1.075E-01	1.701E-01	1.066E-02	-0.271
		152.70		-5.577E-02	3.217E-01	5.110E-01	8.066E-02	-0.109
	+	186.00		5.187E+00	2.718E+00	2.581E+00	7.879E-01	2.009

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	226.40			-3.211E-01	3.941E-01	6.366E-01	7.428E-02	-0.504
	227.20			1.987E-02	4.116E-01	6.963E-01	4.190E-02	0.029
	248.90			-1.131E+00	7.657E-01	1.107E+00	2.391E-01	-1.022
+	293.70			5.015E+00	1.371E+00	1.491E+00	2.439E-01	3.362
	369.80			-5.214E-01	8.456E-01	1.317E+00	2.780E-01	-0.396
	568.70			6.461E-01	1.109E+00	1.849E+00	1.104E-01	0.349
	569.50			1.035E-01	2.993E-01	4.907E-01	2.927E-02	0.211
	574.00			-1.517E+00	1.462E+00	2.261E+00	1.339E-01	-0.671
	699.00			-1.011E-01	7.357E-01	1.210E+00	2.170E-01	-0.084
	706.10			3.091E-01	1.040E+00	1.757E+00	7.753E-01	0.176
	733.00			1.464E-01	3.898E-01	5.881E-01	1.259E-01	0.249
	742.81			1.125E+00	1.521E+00	2.356E+00	1.578E+00	0.478
	796.30			3.430E-01	9.799E-01	1.655E+00	4.429E-01	0.207
	805.60			4.523E-02	9.621E-01	1.592E+00	4.846E-01	0.028
	819.60			2.379E-01	1.233E+00	2.062E+00	7.820E-01	0.115
	826.30			-3.221E-01	8.707E-01	1.360E+00	6.079E-01	-0.237
	831.60			-1.542E-01	6.258E-01	1.001E+00	2.982E-01	-0.154
	876.40			-4.760E-01	9.227E-01	1.189E+00	1.223E+00	-0.400
	880.51			9.423E-02	2.652E-01	4.506E-01	4.358E-02	0.209
	883.24			3.785E-02	2.955E-01	4.879E-01	3.287E-01	0.078
	899.00			4.637E-02	9.527E-01	1.560E+00	6.871E-01	0.030
	925.00			7.456E-03	1.282E+00	2.091E+00	2.066E-01	0.004
	926.50			3.083E-02	1.881E-01	3.115E-01	8.013E-02	0.099
	946.00	*		-5.621E-02	3.371E-01	5.392E-01	1.039E-01	-0.104
	949.00			2.505E-01	5.253E-01	8.767E-01	8.449E-02	0.286
	980.50			3.249E-01	7.996E-01	1.351E+00	1.254E-01	0.241
PA-234M	1394.10			4.303E-01	1.142E+00	1.938E+00	1.261E+00	0.222
	766.42			-3.687E+00	1.151E+01	1.826E+01	9.219E+00	-0.202
TH-234	1001.03	*		-1.004E+00	5.100E+00	8.096E+00	8.356E-01	-0.124
	63.29	*		4.951E-01	1.752E+00	2.892E+00	5.699E-01	0.171
+	92.38			1.789E+00	9.475E-01	1.059E+00	2.004E-01	1.689
U-235	+	89.95		2.046E+00	1.134E+00	1.942E+00	6.126E-01	1.054
+	93.35			2.150E+00	1.229E+00	1.245E+00	3.549E-01	1.727
	105.00			2.426E-01	1.119E+00	1.828E+00	5.436E-01	0.133
	143.76	*		8.407E-02	2.032E-01	3.262E-01	5.333E-02	0.258
	163.35			-1.470E-01	4.805E-01	7.431E-01	1.330E-01	-0.198
+	185.71			1.921E-01	8.255E-02	9.540E-02	5.369E-03	2.014
	205.31			-4.293E-02	5.404E-01	8.058E-01	1.449E-01	-0.053
NP-236	+	94.67		4.675E-01	2.362E-01	2.148E-01	2.107E-02	2.177
	98.44			1.141E-01	7.239E-02	1.253E-01	1.146E-02	0.911
	111.00			6.417E-02	1.403E-01	2.330E-01	1.760E-02	0.275
	160.31	*		-2.309E-02	7.816E-02	1.230E-01	6.855E-03	-0.188
U-238	63.29	*		4.951E-01	1.752E+00	2.892E+00	5.699E-01	0.171
+	92.38			1.789E+00	9.038E-01	1.059E+00	1.088E-01	1.689
NP-239	99.55			1.819E-01	1.618E-01	2.763E-01	2.478E-02	0.659
	117.00	*		1.377E-01	1.812E-01	3.048E-01	2.132E-02	0.452
+	209.75			1.565E+00	1.171E+00	1.398E+00	8.189E-02	1.119
	228.18			1.756E-01	2.164E-01	3.785E-01	2.281E-02	0.464
+	277.60			2.227E-01	2.321E-01	3.107E-01	1.992E-02	0.717

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-9.703E-01	1.477E+00	2.020E+00	1.351E-01	-0.480
AM-241		59.54	*	-6.360E-02	2.210E-01	3.636E-01	4.669E-02	-0.175
CM-243		99.55		1.872E-01	1.665E-01	2.843E-01	2.550E-02	0.659
		103.76	*	1.272E-01	9.864E-02	1.694E-01	1.419E-02	0.751
		117.00		1.417E-01	1.864E-01	3.136E-01	2.193E-02	0.452
	+	209.75		1.543E+00	1.154E+00	1.378E+00	8.073E-02	1.119
		228.18		1.774E-01	2.187E-01	3.825E-01	2.305E-02	0.464
	+	277.60		2.245E-01	2.340E-01	3.133E-01	2.009E-02	0.717
AM-246		798.80		-4.743E-02	1.463E-01	2.340E-01	1.803E-02	-0.203
		1036.00		-3.038E-01	3.381E-01	4.930E-01	4.217E-02	-0.616
		1062.04		2.330E-01	2.732E-01	4.754E-01	3.882E-02	0.490
		1078.86	*	9.196E-03	1.647E-01	2.668E-01	2.107E-02	0.034
CM-247	+	278.00		9.236E-01	9.626E-01	1.284E+00	8.238E-02	0.719
		287.40		2.105E-01	1.200E+00	2.019E+00	1.307E-01	0.104
		402.60	*	1.371E-02	3.667E-02	6.142E-02	4.170E-03	0.223
CF-249		252.85		9.551E-01	7.902E-01	1.409E+00	8.784E-02	0.678
		333.44		-1.080E-01	1.983E-01	2.745E-01	1.836E-02	-0.394
		387.95	*	1.814E-02	3.979E-02	6.712E-02	4.560E-03	0.270
CF-251		176.60	*	5.715E-03	1.268E-01	2.005E-01	1.112E-02	0.029
		227.00		-1.821E-01	3.717E-01	6.125E-01	3.685E-02	-0.297
		285.00		6.543E-01	1.679E+00	2.860E+00	1.847E-01	0.229

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]G244924001      *
* Acquisition date   : 27-JAN-2010 18:34:57 Detector SN#                   *
* Detector ID        : GAM10                                           Sensitivity      : 5.000      *
* Geometry           : CAN                                           Energy tolerance : 2.000      *
* Elapsed live time   : 0 02:00:00.00                               Abundance limit  : 75.000     *
* Elapsed real time   : 0 02:00:00.96                               Half life ratio   : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924001                               Analyst initials : MXR1        *
* Batch Number       : 942723                                   Sample Quantity  : 1.1689E+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	3.390E+01	3.469E+00	5.335E-01	0.000E+00
CD-109	1.418E+00	9.917E-01	1.353E+00	0.000E+00
SN-126	1.393E-01	9.745E-02	1.453E-01	0.000E+00
HG-203	5.102E-02	5.212E-02	6.341E-02	0.000E+00
TL-208	3.515E-01	8.631E-02	5.781E-02	0.000E+00
BI-211	3.147E+00	5.006E-01	3.031E-01	0.000E+00
PB-212	1.276E+00	1.578E-01	1.261E-01	0.000E+00
PO-212	1.276E+00	1.578E-01	1.261E-01	0.000E+00
BI-214	9.341E-01	1.672E-01	1.070E-01	0.000E+00
PB-214	1.095E+00	1.829E-01	1.056E-01	0.000E+00
PO-214	1.095E+00	1.829E-01	1.056E-01	0.000E+00
PO-216	1.276E+00	1.578E-01	1.261E-01	0.000E+00
PO-218	1.095E+00	1.829E-01	1.056E-01	0.000E+00
RA-224	2.891E+00	8.487E-01	1.144E+00	0.000E+00
RA-226	9.341E-01	1.672E-01	1.070E-01	0.000E+00
AC-228	1.367E+00	3.457E-01	2.033E-01	0.000E+00
RA-228	1.367E+00	3.457E-01	2.033E-01	0.000E+00
TH-228	1.295E+00	1.602E-01	1.280E-01	0.000E+00
TH-230	9.341E-01	1.672E-01	1.070E-01	0.000E+00
TH-232	1.367E+00	3.457E-01	2.033E-01	0.000E+00
U-234	9.341E-01	1.672E-01	1.070E-01	0.000E+00
NP-237	4.091E-01	2.979E-01	4.344E-01	0.000E+00
AM-243	1.996E-01	7.630E-02	1.141E-01	0.000E+00
ANH-511	9.146E-02	6.537E-02	4.295E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)	
BE-7	-2.058E-01	3.152E-01	4.952E-01	0.000E+00 NOT IDENT.
NA-22	3.160E-02	4.649E-02	8.398E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	9.039E+05	0.000E+00	0.000E+00 SHORT HLIF

AL-26	-1.855E-02	2.282E-02	2.670E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.739E-02	7.881E-02	0.000E+00	FAIL ABUN
SC-46	-4.502E-03	4.155E-02	6.871E-02	0.000E+00	FAIL ABUN
V-48	-3.812E-02	7.942E-02	1.250E-01	0.000E+00	NOT IDENT.
CR-51	-8.733E-02	3.640E-01	6.139E-01	0.000E+00	NOT IDENT.
MN-52	-1.521E-01	2.348E-01	3.514E-01	0.000E+00	NOT IDENT.
MN-54	-1.005E-02	3.747E-02	6.141E-02	0.000E+00	NOT IDENT.
CO-56	-1.773E-02	4.087E-02	6.572E-02	0.000E+00	NOT IDENT.
CO-57	-3.360E-04	2.383E-02	4.025E-02	0.000E+00	NOT IDENT.
CO-58	2.945E-03	3.595E-02	6.106E-02	0.000E+00	NOT IDENT.
FE-59	-7.731E-02	1.151E-01	1.764E-01	0.000E+00	NOT IDENT.
CO-60	9.604E-03	4.239E-02	7.341E-02	0.000E+00	NOT IDENT.
ZN-65	4.473E-04	1.190E-01	1.679E-01	0.000E+00	NOT IDENT.
GE-68	-8.234E-01	1.417E+00	2.184E+00	0.000E+00	NOT IDENT.
AS-73	-7.126E-02	1.520E+00	2.671E+00	0.000E+00	NOT IDENT.
AS-74	-2.976E-02	8.871E-02	1.493E-01	0.000E+00	NOT IDENT.
SE-75	6.635E-03	4.486E-02	6.927E-02	0.000E+00	NOT IDENT.
BR-77	4.277E+00	1.040E+01	1.777E+01	0.000E+00	FAIL ABUN
SR-82	-2.416E-01	3.636E-01	5.747E-01	0.000E+00	NOT IDENT.
RB-83	3.097E-02	6.608E-02	1.134E-01	0.000E+00	NOT IDENT.
RB-84	1.095E-02	6.758E-02	1.149E-01	0.000E+00	NOT IDENT.
KR-85	1.368E+01	8.876E+00	1.452E+01	0.000E+00	NOT IDENT.
SR-85	7.028E-02	4.559E-02	7.458E-02	0.000E+00	NOT IDENT.
RB-86	-8.226E-01	9.407E-01	1.404E+00	0.000E+00	NOT IDENT.
Y-88	-1.530E-03	3.235E-02	5.236E-02	0.000E+00	NOT IDENT.
ZR-88	-6.569E-03	2.971E-02	4.933E-02	0.000E+00	NOT IDENT.
Y-91	-4.828E+00	2.139E+01	3.574E+01	0.000E+00	NOT IDENT.
NB-94	-5.045E-03	3.272E-02	5.507E-02	0.000E+00	NOT IDENT.
NB-95	-4.089E-02	4.232E-02	6.555E-02	0.000E+00	NOT IDENT.
NB-95M	8.829E-02	1.222E-01	1.968E-01	0.000E+00	NOT IDENT.
ZR-95	-1.164E-02	6.582E-02	1.097E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.136E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.081E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.526E+00	1.157E+01	2.028E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.502E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.643E-03	3.275E-02	5.385E-02	0.000E+00	NOT IDENT.
RH-102	1.985E-02	2.694E-02	4.742E-02	0.000E+00	NOT IDENT.
RU-103	9.802E-03	4.181E-02	7.048E-02	0.000E+00	FAIL ABUN
RH-106	3.414E-01	3.052E-01	5.656E-01	0.000E+00	FAIL ABUN
RU-106	3.414E-01	3.033E-01	5.656E-01	0.000E+00	FAIL ABUN
AG-108M	5.159E-04	3.243E-02	5.435E-02	0.000E+00	NOT IDENT.
AG-110M	-7.413E-03	3.456E-02	5.822E-02	0.000E+00	NOT IDENT.
IN-111	5.511E-02	1.112E+00	1.713E+00	0.000E+00	NOT IDENT.
IN-113M	2.551E-02	4.213E-02	7.397E-02	0.000E+00	NOT IDENT.
SN-113	2.551E-02	4.213E-02	7.397E-02	0.000E+00	NOT IDENT.
IN-114M	-6.101E-03	2.050E-01	2.990E-01	0.000E+00	NOT IDENT.
CD-115	6.124E+00	1.091E+01	1.885E+01	0.000E+00	NOT IDENT.
SN-117M	-1.184E-02	5.340E-02	8.791E-02	0.000E+00	NOT IDENT.
SB-122	7.164E-02	2.327E+00	3.824E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.674E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.671E-02	2.704E-02	4.638E-02	0.000E+00	NOT IDENT.
I-124	-4.609E-01	6.733E-01	1.029E+00	0.000E+00	NOT IDENT.
SB-124	-6.741E-03	6.583E-02	1.059E-01	0.000E+00	NOT IDENT.
SB-125	-5.916E-02	8.766E-02	1.391E-01	0.000E+00	NOT IDENT.
TE-125M	5.415E+00	9.347E+00	1.620E+01	0.000E+00	NOT IDENT.
I-126	-8.172E-02	1.874E-01	3.100E-01	0.000E+00	NOT IDENT.
SB-126	3.556E-02	1.533E-01	2.331E-01	0.000E+00	FAIL ABUN
SB-127	-3.696E-01	1.362E+00	2.272E+00	0.000E+00	FAIL ABUN
XE-127	-4.016E-03	4.396E-02	7.466E-02	0.000E+00	NOT IDENT.
I-131	1.687E-02	1.091E-01	1.870E-01	0.000E+00	NOT IDENT.
TE-132	5.522E-01	6.742E-01	1.215E+00	0.000E+00	NOT IDENT.
BA-133	-2.664E-02	4.322E-02	6.017E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.962E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.798E-02	4.887E-02	8.489E-02	0.000E+00	NOT IDENT.
CS-135	1.232E-01	1.670E-01	2.677E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.273E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	6.568E-02	1.107E-01	1.938E-01	0.000E+00	FAIL ABUN
BA-137M	4.666E-02	3.744E-02	6.961E-02	0.000E+00	NOT IDENT.
CS-137	4.933E-02	3.958E-02	7.358E-02	0.000E+00	NOT IDENT.
CE-139	-2.280E-03	2.846E-02	4.706E-02	0.000E+00	NOT IDENT.
BA-140	-2.022E-01	2.527E-01	3.706E-01	0.000E+00	NOT IDENT.
LA-140	2.617E-02	8.342E-02	1.293E-01	0.000E+00	NOT IDENT.
CE-141	3.641E-02	5.997E-02	1.013E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.725E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.555E-01	1.941E-01	3.113E-01	0.000E+00	NOT IDENT.
PM-144	2.977E-02	3.465E-02	6.288E-02	0.000E+00	NOT IDENT.
PR-144	2.018E+00	2.348E+00	4.261E+00	0.000E+00	NOT IDENT.
PM-146	8.046E-03	4.561E-02	7.595E-02	0.000E+00	NOT IDENT.

ND-147	8.013E-02	5.613E-01	9.359E-01	0.000E+00	FAIL ABUN
PM-149	1.054E+01	9.293E+01	1.612E+02	0.000E+00	NOT IDENT.
EU-152	-6.179E-02	9.836E-02	1.546E-01	0.000E+00	NOT IDENT.
GD-153	6.014E-03	8.929E-02	1.371E-01	0.000E+00	NOT IDENT.
EU-154	1.229E-01	1.267E-01	2.346E-01	0.000E+00	NOT IDENT.
EU-155	-6.669E-02	1.138E-01	1.877E-01	0.000E+00	FAIL ABUN
TB-160	-3.865E-02	1.295E-01	2.093E-01	0.000E+00	FAIL ABUN
HO-166M	9.501E-03	5.775E-02	9.971E-02	0.000E+00	FAIL ABUN
TM-171	2.747E+01	3.361E+01	5.976E+01	0.000E+00	NOT IDENT.
LU-176	-7.774E-03	2.385E-02	3.698E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.644E+00	2.003E+00	0.000E+00	FAIL ABUN
LU-177M	1.477E-01	1.808E-01	2.878E-01	0.000E+00	FAIL ABUN
HF-181	4.588E-02	4.147E-02	7.461E-02	0.000E+00	NOT IDENT.
W-181	-7.316E-01	4.710E-01	7.496E-01	0.000E+00	NOT IDENT.
TA-182	-3.082E-02	2.401E-01	4.043E-01	0.000E+00	FAIL ABUN
RE-183	5.204E-02	1.060E-01	1.778E-01	0.000E+00	FAIL ABUN
RE-184	2.547E-01	2.065E-01	3.814E-01	0.000E+00	NOT IDENT.
OS-185	-1.220E-02	4.257E-02	7.138E-02	0.000E+00	NOT IDENT.
RE-188	4.038E-02	1.661E-01	2.802E-01	0.000E+00	NOT IDENT.
W-188	-1.691E-01	7.594E+00	1.149E+01	0.000E+00	NOT IDENT.
IR-192	-1.648E-02	3.276E-02	5.433E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.287E-01	4.193E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.709E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.506E+00	6.856E+00	1.151E+01	0.000E+00	NOT IDENT.
TL-202	9.162E-03	7.175E-02	1.211E-01	0.000E+00	NOT IDENT.
BI-207	1.588E-02	6.357E-02	1.070E-01	0.000E+00	FAIL ABUN
TL-207	4.639E-02	6.356E-01	1.091E+00	0.000E+00	FAIL ABUN
PO-209	6.561E-01	8.009E+00	1.348E+01	0.000E+00	NOT IDENT.
BI-210	-8.225E-01	8.365E+00	1.475E+01	0.000E+00	NOT IDENT.
PB-210	-8.225E-01	8.365E+00	1.475E+01	0.000E+00	NOT IDENT.
PO-210	-8.225E-01	8.365E+00	1.475E+01	0.000E+00	NOT IDENT.
PB-211	-4.994E-01	1.111E+00	1.503E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.558E-01	6.969E-01	0.000E+00	NOT IDENT.
PO-215	4.639E-02	6.356E-01	1.091E+00	0.000E+00	FAIL ABUN
RN-219	3.918E-02	4.007E-01	6.792E-01	0.000E+00	FAIL ABUN
RN-220	1.174E+01	2.599E+01	4.434E+01	0.000E+00	NOT IDENT.
RA-223	4.639E-02	6.356E-01	1.091E+00	0.000E+00	FAIL ABUN
AC-227	-1.987E-02	3.600E-01	6.235E-01	0.000E+00	FAIL ABUN
TH-227	-1.987E-02	3.600E-01	6.235E-01	0.000E+00	FAIL ABUN
TH-229	8.601E-02	4.972E-01	8.126E-01	0.000E+00	FAIL ABUN
PA-231	-2.953E-01	1.486E+00	2.448E+00	0.000E+00	FAIL ABUN
TH-231	4.639E-02	6.356E-01	1.091E+00	0.000E+00	FAIL ABUN
U-231	-1.635E+00	1.242E+00	1.737E+00	0.000E+00	FAIL ABUN
PA-233	-2.981E-02	5.922E-02	9.827E-02	0.000E+00	FAIL ABUN
PA-234	-5.621E-02	3.304E-01	5.398E-01	0.000E+00	FAIL ABUN
PA-234M	-1.004E+00	4.998E+00	8.100E+00	0.000E+00	NOT IDENT.
TH-234	4.951E-01	1.717E+00	2.976E+00	0.000E+00	FAIL ABUN
U-235	8.407E-02	1.991E-01	3.330E-01	0.000E+00	FAIL ABUN
NP-236	-2.309E-02	7.659E-02	1.255E-01	0.000E+00	FAIL ABUN
U-238	4.951E-01	1.717E+00	2.976E+00	0.000E+00	FAIL ABUN
NP-239	1.377E-01	1.776E-01	3.118E-01	0.000E+00	FAIL ABUN
AM-241	-6.360E-02	2.166E-01	3.744E-01	0.000E+00	NOT IDENT.
CM-243	1.272E-01	9.666E-02	1.735E-01	0.000E+00	FAIL ABUN
AM-246	9.196E-03	1.614E-01	2.667E-01	0.000E+00	NOT IDENT.
CM-247	1.371E-02	3.593E-02	6.204E-02	0.000E+00	FAIL ABUN
CF-249	1.814E-02	3.899E-02	6.782E-02	0.000E+00	NOT IDENT.
CF-251	5.715E-03	1.243E-01	2.042E-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]G244924001.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:34:57
Sample ID          : G244924001 Sample quantity : 1.16894E+02 GRAM
Detector name      : GAM10 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.96 0.0%
Energy tolerance   : 2.00000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	1246	10.67*	1.106E+00	3.390E+01	3.390E+01	10.44
CD-109	88.03	84	3.72*	5.245E+00	1.386E+00	1.418E+00	71.38
SN-126	64.28	-----	9.60	2.419E+00	-----	Line Not Found	-----
	86.94	84	8.90	5.245E+00	5.791E-01	5.791E-01	82.04
	87.57	84	37.00*	5.245E+00	1.393E-01	1.393E-01	71.38
HG-203	70.83	-----	4.75	3.353E+00	-----	Line Not Found	-----
	72.87	159	8.00	3.885E+00	1.647E+00	2.068E+00	40.27
	82.60	-----	3.55	4.818E+00	-----	Line Not Found	-----
	279.20	45	77.30*	4.607E+00	4.062E-02	5.102E-02	104.24
TL-208	277.35	45	6.80	4.607E+00	4.618E-01	4.618E-01	104.60
	510.84	83	21.60	2.928E+00	4.234E-01	4.234E-01	73.41
	583.14	242	84.20*	2.624E+00	3.515E-01	3.515E-01	25.05
	860.37	59	12.46	1.838E+00	8.310E-01	8.310E-01	50.01
BI-211	72.87	159	1.27	3.885E+00	1.037E+01	1.037E+01	39.01
	351.07	493	12.94*	3.886E+00	3.147E+00	3.147E+00	16.23
PB-212	74.81	159	10.70	3.885E+00	1.231E+00	1.231E+00	40.11
	77.11	339	18.00	4.164E+00	1.453E+00	1.453E+00	21.84
	87.30	84	8.00	5.245E+00	6.443E-01	6.443E-01	72.08
	238.63	906	44.60*	5.113E+00	1.276E+00	1.276E+00	12.62
	300.09	55	3.41	4.353E+00	1.187E+00	1.187E+00	104.41
PO-212	74.81	159	10.70	3.885E+00	1.231E+00	1.231E+00	40.11
	77.11	339	18.00	4.164E+00	1.453E+00	1.453E+00	21.84
	87.30	84	8.00	5.245E+00	6.443E-01	6.443E-01	72.08
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	906	44.60*	5.113E+00	1.276E+00	1.276E+00	12.62
	300.09	55	3.41	4.353E+00	1.187E+00	1.187E+00	104.41
BI-214	609.31	340	46.30*	2.528E+00	9.341E-01	9.341E-01	18.27
	1120.29	62	15.10	1.413E+00	9.257E-01	9.258E-01	80.77
	1764.49	-----	15.80	9.764E-01	-----	Line Not Found	-----
PB-214	74.81	159	6.21	3.885E+00	2.121E+00	2.121E+00	39.70
	77.11	339	10.50	4.164E+00	2.490E+00	2.490E+00	23.14
	87.30	84	4.67	5.245E+00	1.104E+00	1.104E+00	71.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	180	7.49	5.068E+00	1.525E+00	1.525E+00	30.47
	295.21	275	19.20	4.408E+00	1.045E+00	1.045E+00	23.70
	351.92	493	37.20*	3.886E+00	1.095E+00	1.095E+00	17.05
	74.81	159	6.21	3.885E+00	2.121E+00	2.121E+00	39.70
	77.11	339	10.50	4.164E+00	2.490E+00	2.490E+00	23.14
	87.30	84	4.67	5.245E+00	1.104E+00	1.104E+00	71.79
PO-216	241.98	180	7.49	5.068E+00	1.525E+00	1.525E+00	30.47
	295.21	275	19.20	4.408E+00	1.045E+00	1.045E+00	23.70
	351.92	493	37.20*	3.886E+00	1.095E+00	1.095E+00	17.05
	74.81	159	10.70	3.885E+00	1.231E+00	1.231E+00	40.11
	77.11	339	18.00	4.164E+00	1.453E+00	1.453E+00	21.84
	87.30	84	8.00	5.245E+00	6.443E-01	6.443E-01	72.08
PO-218	238.63	906	44.60*	5.113E+00	1.276E+00	1.276E+00	12.62
	300.09	55	3.41	4.353E+00	1.187E+00	1.187E+00	104.41
	74.81	159	6.21	3.885E+00	2.121E+00	2.121E+00	39.70
	77.11	339	10.50	4.164E+00	2.490E+00	2.490E+00	23.14
	87.30	84	4.67	5.245E+00	1.104E+00	1.104E+00	71.79
	241.98	180	7.49	5.068E+00	1.525E+00	1.525E+00	30.47
RA-224	295.21	275	19.20	4.408E+00	1.045E+00	1.045E+00	23.70
	351.92	493	37.20*	3.886E+00	1.095E+00	1.095E+00	17.05
	240.98	180	3.95*	5.068E+00	2.891E+00	2.891E+00	29.95
	609.31	340	46.30*	2.528E+00	9.341E-01	9.341E-01	18.27
	1120.29	62	15.10	1.413E+00	9.257E-01	9.258E-01	80.77
	1764.49	-----	15.80	9.764E-01	-----	Line Not Found	-----
AC-228	338.32	207	11.40	3.997E+00	1.462E+00	1.462E+00	47.54
	911.07	205	27.70*	1.738E+00	1.367E+00	1.367E+00	25.80
	969.11	82	16.60	1.633E+00	9.653E-01	9.653E-01	62.70
RA-228	338.32	207	11.40	3.997E+00	1.462E+00	1.462E+00	47.54
	911.07	205	27.70*	1.738E+00	1.367E+00	1.367E+00	25.80
	969.11	82	16.60	1.633E+00	9.653E-01	9.653E-01	62.70
TH-228	74.81	159	10.70	3.885E+00	1.231E+00	1.250E+00	39.02
	77.11	339	18.00	4.164E+00	1.453E+00	1.475E+00	21.84
	87.30	84	8.00	5.245E+00	6.443E-01	6.542E-01	71.38
TH-230	238.63	906	44.60*	5.113E+00	1.276E+00	1.295E+00	12.62
	300.09	55	3.41	4.353E+00	1.187E+00	1.205E+00	119.62
	609.31	340	46.30*	2.528E+00	9.341E-01	9.341E-01	18.27
	1120.29	62	15.10	1.413E+00	9.257E-01	9.257E-01	80.77
	1764.49	-----	15.80	9.764E-01	-----	Line Not Found	-----
	338.32	207	11.40	3.997E+00	1.462E+00	1.462E+00	25.14
TH-232	911.07	205	27.70*	1.738E+00	1.367E+00	1.367E+00	25.80
	969.11	82	16.60	1.633E+00	9.653E-01	9.653E-01	62.70
	609.31	340	46.30*	2.528E+00	9.341E-01	9.341E-01	18.27
U-234	1120.29	62	15.10	1.413E+00	9.257E-01	9.257E-01	80.77
	1764.49	-----	15.80	9.764E-01	-----	Line Not Found	-----
	86.50	84	12.60*	5.245E+00	4.091E-01	4.091E-01	74.30
NP-237	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
	74.67	159	66.00*	3.885E+00	1.996E-01	1.996E-01	39.01
	86.72	84	0.34	5.245E+00	1.534E+01	1.534E+01	71.38
AM-243	117.66	-----	0.55	6.694E+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	6.676E+00	-----	Line Not Found	-----
ANH-511	511.00	83	100.00*	2.928E+00	9.146E-02	9.146E-02	72.94

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G244924001

Page : 4
Acquisition date : 27-JAN-2010 18:34:57

Total number of lines in spectrum 27
Number of unidentified lines 3
Number of lines tentatively identified by NID 24 88.89%

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	3.390E+01	3.390E+01	0.354E+01	10.44	
CD-109	464.00D	1.02	1.386E+00	1.418E+00	1.012E+00	71.38	
SN-126	1.00E+05Y	1.00	1.393E-01	1.393E-01	0.994E-01	71.38	
HG-203	46.60D	1.26	4.062E-02	5.102E-02	5.318E-02	104.24	
TL-208	1.41E+10Y	1.00	3.515E-01	3.515E-01	0.881E-01	25.05	
BI-211	7.04E+08Y	1.00	3.147E+00	3.147E+00	0.511E+00	16.23	
PB-212	1.41E+10Y	1.00	1.276E+00	1.276E+00	0.161E+00	12.62	
PO-212	1.41E+10Y	1.00	1.276E+00	1.276E+00	0.161E+00	12.62	
BI-214	1600.00Y	1.00	9.341E-01	9.341E-01	1.706E-01	18.27	
PB-214	1600.00Y	1.00	1.095E+00	1.095E+00	0.187E+00	17.05	
PO-214	1600.00Y	1.00	1.095E+00	1.095E+00	0.187E+00	17.05	
PO-216	1.41E+10Y	1.00	1.276E+00	1.276E+00	0.161E+00	12.62	
PO-218	1600.00Y	1.00	1.095E+00	1.095E+00	0.187E+00	17.05	
RA-224	1.41E+10Y	1.00	2.891E+00	2.891E+00	0.866E+00	29.95	
RA-226	1600.00Y	1.00	9.341E-01	9.341E-01	1.706E-01	18.27	
AC-228	1.41E+10Y	1.00	1.367E+00	1.367E+00	0.353E+00	25.80	
RA-228	1.41E+10Y	1.00	1.367E+00	1.367E+00	0.353E+00	25.80	
TH-228	1.91Y	1.02	1.276E+00	1.295E+00	0.163E+00	12.62	
TH-230	4.47E+09Y	1.00	9.341E-01	9.341E-01	1.706E-01	18.27	
TH-232	1.41E+10Y	1.00	1.367E+00	1.367E+00	0.353E+00	25.80	
U-234	4.47E+09Y	1.00	9.341E-01	9.341E-01	1.706E-01	18.27	
NP-237	2.14E+06Y	1.00	4.091E-01	4.091E-01	3.040E-01	74.30	
AM-243	7380.00Y	1.00	1.996E-01	1.996E-01	0.779E-01	39.01	
ANH-511	1.00E+09Y	1.00	9.146E-02	9.146E-02	6.671E-02	72.94	

Total Activity : 5.878E+01 5.884E+01

Grand Total Activity : 5.878E+01 5.884E+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
6	89.63	94	197	0.98	179.36	177	14	1.31E-02	45.5	5.48E+00	T
6	92.72	172	422	1.59	185.55	177	14	2.39E-02	49.5	5.72E+00	T
0	186.12	193	353	1.38	372.18	368	12	2.68E-02	42.6	5.97E+00	T
0	209.71	88	279	1.04	419.33	413	10	1.22E-02	74.6	5.56E+00	T
0	270.78	96	244	1.01	541.39	535	12	1.33E-02	68.7	4.69E+00	T
0	409.81	45	95	0.99	819.25	814	9	6.20E-03	84.7	3.47E+00	T
0	729.19	88	104	2.18	1457.71	1446	19	1.23E-02	59.4	2.16E+00	
0	1590.61	14	17	0.77	3180.62	3175	11	1.89E-03	****	1.04E+00	
0	1766.55	55	6	2.00	3532.69	3527	11	7.64E-03	35.1	9.76E-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]G244924001.CNF;1
* Acquisition date   : 27-JAN-2010 18:34:57  Detector SN#      :
* Detector ID        : GAM10                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 2.00000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:00.96          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244924001            Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity  : 1.16894E+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	3.390E+01	3.540E+00	5.353E-01	4.611E-02	63.318
CD-109	1.418E+00	1.012E+00	1.318E+00	1.495E-01	1.075
SN-126	1.393E-01	9.944E-02	1.417E-01	1.603E-02	0.983
HG-203	5.102E-02	5.318E-02	6.254E-02	4.220E-03	0.816
TL-208	3.515E-01	8.807E-02	5.745E-02	3.860E-03	6.119
BI-211	3.147E+00	5.108E-01	2.996E-01	2.185E-02	10.503
PB-212	1.276E+00	1.610E-01	1.241E-01	9.415E-03	10.280
PO-212	1.276E+00	1.610E-01	1.241E-01	9.415E-03	10.280
BI-214	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
PB-214	1.095E+00	1.867E-01	1.044E-01	9.366E-03	10.482
PO-214	1.095E+00	1.867E-01	1.044E-01	9.366E-03	10.482
PO-216	1.276E+00	1.610E-01	1.241E-01	9.415E-03	10.280
PO-218	1.095E+00	1.867E-01	1.044E-01	9.366E-03	10.482
RA-224	2.891E+00	8.660E-01	1.127E+00	6.915E-02	2.566
RA-226	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
AC-228	1.367E+00	3.528E-01	2.030E-01	2.505E-02	6.737
RA-228	1.367E+00	3.528E-01	2.030E-01	2.505E-02	6.737
TH-228	1.295E+00	1.635E-01	1.260E-01	9.560E-03	10.279

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
TH-232	1.367E+00	3.528E-01	2.030E-01	2.505E-02	6.737
U-234	9.341E-01	1.706E-01	1.064E-01	8.093E-03	8.783
NP-237	4.091E-01	3.040E-01	4.234E-01	9.950E-02	0.966
AM-243	1.996E-01	7.785E-02	1.110E-01	1.216E-02	1.798
ANH-511	9.146E-02	6.671E-02	4.263E-02	2.731E-03	2.146

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.058E-01		3.216E-01	4.911E-01	3.652E-02	-0.419
NA-22	3.160E-02		4.744E-02	8.415E-02	6.518E-03	0.376
NA-24	-4.046E-01		4.612E-01	Half-Life too short		
AL-26	-1.855E-02		2.329E-02	2.685E-02	1.702E-03	-0.691
TI-44	2.681E-01	+	5.856E-02	7.673E-02	8.396E-03	3.494
SC-46	-4.502E-03		4.240E-02	6.858E-02	6.787E-03	-0.066
V-48	-3.812E-02		8.104E-02	1.249E-01	1.155E-02	-0.305
CR-51	-8.733E-02		3.714E-01	6.063E-01	4.379E-02	-0.144
MN-52	-1.521E-01		2.396E-01	3.526E-01	2.979E-02	-0.431
MN-54	-1.005E-02		3.823E-02	6.125E-02	5.233E-03	-0.164
CO-56	-1.773E-02		4.171E-02	6.556E-02	5.790E-03	-0.270
CO-57	-3.360E-04		2.431E-02	3.937E-02	2.596E-03	-0.009
CO-58	2.945E-03		3.668E-02	6.089E-02	4.872E-03	0.048
FE-59	-7.731E-02		1.174E-01	1.765E-01	1.473E-02	-0.438
CO-60	9.604E-03		4.326E-02	7.359E-02	6.395E-03	0.131
ZN-65	4.473E-04		1.215E-01	1.680E-01	1.224E-02	0.003
GE-68	-8.234E-01		1.446E+00	2.185E+00	1.731E-01	-0.377
AS-73	-7.126E-02		1.551E+00	2.591E+00	3.428E-01	-0.028
AS-74	-2.976E-02		9.052E-02	1.484E-01	8.476E-03	-0.201
SE-75	6.635E-03		4.578E-02	6.828E-02	4.355E-03	0.097
BR-77	4.277E+00		1.061E+01	1.764E+01	1.119E+00	0.242
SR-82	-2.416E-01		3.710E-01	5.729E-01	4.130E-02	-0.422
RB-83	3.097E-02		6.743E-02	1.125E-01	7.143E-03	0.275
RB-84	1.095E-02		6.895E-02	1.147E-01	1.112E-02	0.095
KR-85	1.368E+01		9.058E+00	1.441E+01	9.205E-01	0.950
SR-85	7.028E-02		4.652E-02	7.401E-02	4.728E-03	0.950
RB-86	-8.226E-01		9.599E-01	1.405E+00	1.114E-01	-0.586
Y-88	-1.530E-03		3.301E-02	5.266E-02	3.231E-03	-0.029
ZR-88	-6.569E-03		3.032E-02	4.882E-02	3.318E-03	-0.135
Y-91	-4.828E+00		2.183E+01	3.579E+01	2.378E+00	-0.135
NB-94	-5.045E-03		3.339E-02	5.484E-02	3.122E-03	-0.092
NB-95	-4.089E-02		4.319E-02	6.533E-02	4.559E-03	-0.626
NB-95M	8.829E-02		1.247E-01	1.938E-01	1.503E-02	0.456
ZR-95	-1.164E-02		6.716E-02	1.093E-01	8.583E-03	-0.106
NB-97	-1.095E-02		5.794E-02	Half-Life too short		
ZR-97	2.344E-01		1.061E+00	Half-Life too short		
MO-99	4.526E+00		1.180E+01	2.021E+01	2.841E+00	0.224

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	-1.511E+09		2.807E+10	Half-Life too short		
RH-101	7.643E-03		3.342E-02	5.293E-02	3.040E-03	0.144
RH-102	1.985E-02		2.749E-02	4.703E-02	3.102E-03	0.422
RU-103	9.802E-03		4.266E-02	6.993E-02	9.073E-03	0.140
RH-106	3.414E-01		3.114E-01	5.625E-01	6.502E-02	0.607
RU-106	3.414E-01		3.094E-01	5.625E-01	3.055E-02	0.607
AG-108M	5.159E-04		3.309E-02	5.385E-02	3.861E-03	0.010
AG-110M	-7.413E-03		3.527E-02	5.793E-02	3.138E-03	-0.128
IN-111	5.511E-02		1.135E+00	1.688E+00	1.042E-01	0.033
IN-113M	2.551E-02		4.299E-02	7.320E-02	5.220E-03	0.349
SN-113	2.551E-02		4.299E-02	7.320E-02	5.220E-03	0.349
IN-114M	-6.101E-03		2.091E-01	2.937E-01	1.666E-02	-0.021
CD-115	6.124E+00		1.114E+01	1.871E+01	1.178E+00	0.327
SN-117M	-1.184E-02		5.449E-02	8.620E-02	4.834E-03	-0.137
SB-122	7.164E-02		2.374E+00	3.799E+00	2.285E-01	0.019
I-123	4.126E+00		3.405E+00	Half-Life too short		
TE-123M	1.671E-02		2.759E-02	4.548E-02	2.583E-03	0.368
I-124	-4.609E-01		6.870E-01	1.023E+00	5.770E-02	-0.451
SB-124	-6.741E-03		6.717E-02	1.065E-01	8.089E-03	-0.063
SB-125	-5.916E-02		8.945E-02	1.378E-01	9.594E-03	-0.429
TE-125M	5.415E+00		9.538E+00	1.582E+01	1.519E+00	0.342
I-126	-8.172E-02		1.912E-01	3.085E-01	1.547E-02	-0.265
SB-126	3.556E-02		1.564E-01	2.321E-01	1.403E-02	0.153
SB-127	-3.696E-01		1.390E+00	2.262E+00	2.086E-01	-0.163
XE-127	-4.016E-03		4.486E-02	7.339E-02	4.250E-03	-0.055
I-131	1.687E-02		1.113E-01	1.849E-01	1.360E-02	0.091
TE-132	5.522E-01		6.880E-01	1.196E+00	1.733E-01	0.462
BA-133	-2.664E-02		4.410E-02	5.949E-02	7.178E-03	-0.448
I-133	-1.371E-03		3.552E-03	Half-Life too short		
CS-134	1.798E-02		4.986E-02	8.464E-02	6.525E-03	0.212
CS-135	1.232E-01		1.705E-01	2.639E-01	2.132E-02	0.467
I-135	-2.150E+09		4.731E+09	Half-Life too short		
CS-136	6.568E-02		1.130E-01	1.938E-01	1.696E-02	0.339
BA-137M	4.666E-02		3.821E-02	6.927E-02	3.417E-03	0.674
CS-137	4.933E-02		4.039E-02	7.322E-02	3.634E-03	0.674
CE-139	-2.280E-03		2.904E-02	4.616E-02	2.521E-03	-0.049
BA-140	-2.022E-01		2.579E-01	3.680E-01	1.200E-01	-0.549
LA-140	2.617E-02		8.512E-02	1.299E-01	1.008E-02	0.202
CE-141	3.641E-02		6.120E-02	9.923E-02	6.073E-03	0.367
CE-143	2.400E-04		8.799E-05	Half-Life too short		
CE-144	-1.555E-01		1.981E-01	3.047E-01	4.378E-02	-0.510
PM-144	2.977E-02		3.536E-02	6.260E-02	3.493E-03	0.476
PR-144	2.018E+00		2.396E+00	4.242E+00	2.365E-01	0.476
PM-146	8.046E-03		4.654E-02	7.528E-02	6.954E-03	0.107
ND-147	8.013E-02		5.727E-01	9.292E-01	1.276E-01	0.086
PM-149	1.054E+01		9.483E+01	1.590E+02	2.300E+01	0.066
EU-152	-6.179E-02		1.004E-01	1.528E-01	1.126E-02	-0.404
GD-153	6.014E-03		9.111E-02	1.338E-01	1.246E-02	0.045

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	1.229E-01		1.293E-01	2.350E-01	2.503E-02	0.523
EU-155	-6.669E-02		1.161E-01	1.833E-01	1.520E-02	-0.364
TB-160	-3.865E-02		1.321E-01	2.089E-01	2.014E-02	-0.185
HO-166M	9.501E-03		5.893E-02	9.930E-02	5.827E-03	0.096
TM-171	2.747E+01		3.429E+01	5.809E+01	6.618E+00	0.473
LU-176	-7.774E-03		2.434E-02	3.651E-02	2.401E-03	-0.213
LU-177	2.243E+00	+	1.678E+00	1.969E+00	1.151E-01	1.139
LU-177M	1.477E-01		1.845E-01	2.850E-01	1.931E-02	0.518
HF-181	4.588E-02		4.232E-02	7.400E-02	4.857E-03	0.620
W-181	-7.316E-01		4.806E-01	7.285E-01	8.417E-02	-1.004
TA-182	-3.082E-02		2.450E-01	4.050E-01	2.792E-02	-0.076
RE-183	5.204E-02		1.082E-01	1.744E-01	9.646E-03	0.298
RE-184	2.547E-01		2.107E-01	3.757E-01	2.343E-02	0.678
OS-185	-1.220E-02		4.344E-02	7.101E-02	3.648E-03	-0.172
RE-188	4.038E-02		1.695E-01	2.747E-01	1.561E-02	0.147
W-188	-1.691E-01		7.749E+00	1.133E+01	7.358E-01	-0.015
IR-192	-1.648E-02		3.342E-02	5.365E-02	3.567E-03	-0.307
AU-195	4.815E-01		2.333E-01	4.092E-01	3.713E-02	1.177
TL-200	1.227E-04		2.403E-04	Half-Life	too short	
TL-201	1.506E+00		6.996E+00	1.129E+01	6.174E-01	0.133
TL-202	9.162E-03		7.322E-02	1.200E-01	8.066E-03	0.076
BI-207	1.588E-02		6.487E-02	1.070E-01	8.709E-03	0.148
TL-207	4.639E-02		6.486E-01	1.078E+00	1.815E-01	0.043
PO-209	6.561E-01		8.173E+00	1.346E+01	1.357E+00	0.049
BI-210	-8.225E-01		8.535E+00	1.428E+01	1.401E+00	-0.058
PB-210	-8.225E-01		8.535E+00	1.428E+01	1.401E+00	-0.058
PO-210	-8.225E-01		8.535E+00	1.428E+01	1.282E+00	-0.058
PB-211	-4.994E-01		1.133E+00	1.488E+00	9.291E-01	-0.336
BI-212	1.030E+00		3.631E-01	6.941E-01	5.553E-02	1.483
PO-215	4.639E-02		6.486E-01	1.078E+00	1.815E-01	0.043
RN-219	3.918E-02		4.089E-01	6.723E-01	9.451E-02	0.058
RN-220	1.174E+01		2.652E+01	4.404E+01	2.700E+00	0.267
RA-223	4.639E-02		6.486E-01	1.078E+00	1.815E-01	0.043
AC-227	-1.987E-02		3.674E-01	6.143E-01	8.698E-02	-0.032
TH-227	-1.987E-02		3.674E-01	6.143E-01	1.048E-01	-0.032
TH-229	8.601E-02		5.073E-01	7.984E-01	4.553E-02	0.108
PA-231	-2.953E-01		1.517E+00	2.415E+00	3.397E-01	-0.122
TH-231	4.639E-02		6.486E-01	1.078E+00	1.815E-01	0.043
U-231	-1.635E+00		1.267E+00	1.694E+00	1.624E-01	-0.965
PA-233	-2.981E-02		6.043E-02	9.703E-02	6.714E-03	-0.307
PA-234	-5.621E-02		3.371E-01	5.392E-01	1.039E-01	-0.104
PA-234M	-1.004E+00		5.100E+00	8.096E+00	8.356E-01	-0.124
TH-234	4.951E-01		1.752E+00	2.892E+00	5.699E-01	0.171
U-235	8.407E-02		2.032E-01	3.262E-01	5.333E-02	0.258
NP-236	-2.309E-02		7.816E-02	1.230E-01	6.855E-03	-0.188
U-238	4.951E-01		1.752E+00	2.892E+00	5.699E-01	0.171
NP-239	1.377E-01		1.812E-01	3.048E-01	2.132E-02	0.452
AM-241	-6.360E-02		2.210E-01	3.636E-01	4.669E-02	-0.175

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.272E-01		9.864E-02	1.694E-01	1.419E-02	0.751
AM-246	9.196E-03		1.647E-01	2.668E-01	2.107E-02	0.034
CM-247	1.371E-02		3.667E-02	6.142E-02	4.170E-03	0.223
CF-249	1.814E-02		3.979E-02	6.712E-02	4.560E-03	0.270
CF-251	5.715E-03		1.268E-01	2.005E-01	1.112E-02	0.029

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]G244924001          *
* Acquisition date   : 27-JAN-2010 18:34:57 Detector SN#      :              *
* Detector ID        : GAM10                      Sensitivity    : 5.000        *
* Geometry           : CAN                      Energy tolerance: 2.000        *
* Elapsed live time: 0 02:00:00.00              Abundance limit : 75.000        *
* Elapsed real time: 0 02:00:00.96              Half life ratio : 8.000        *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924001              Analyst initials: MXR1         *
* Batch Number       : 942723                  Sample Quantity : 1.1689E+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	3.390E+01	3.469E+00	2.669E-01	1.770E+00
CD-109	1.418E+00	9.917E-01	6.767E-01	5.060E-01
SN-126	1.393E-01	9.745E-02	7.272E-02	4.972E-02
HG-203	5.102E-02	5.212E-02	3.172E-02	2.659E-02
TL-208	3.515E-01	8.631E-02	2.892E-02	4.403E-02
BI-211	3.147E+00	5.006E-01	1.516E-01	2.554E-01
PB-212	1.276E+00	1.578E-01	6.306E-02	8.049E-02
PO-212	1.276E+00	1.578E-01	6.306E-02	8.049E-02
BI-214	9.341E-01	1.672E-01	5.352E-02	8.532E-02
PB-214	1.095E+00	1.829E-01	5.286E-02	9.333E-02
PO-214	1.095E+00	1.829E-01	5.286E-02	9.333E-02
PO-216	1.276E+00	1.578E-01	6.306E-02	8.049E-02
PO-218	1.095E+00	1.829E-01	5.286E-02	9.333E-02
RA-224	2.891E+00	8.487E-01	5.724E-01	4.330E-01
RA-226	9.341E-01	1.672E-01	5.352E-02	8.532E-02
AC-228	1.367E+00	3.457E-01	1.017E-01	1.764E-01
RA-228	1.367E+00	3.457E-01	1.017E-01	1.764E-01
TH-228	1.295E+00	1.602E-01	6.403E-02	8.173E-02
TH-230	9.341E-01	1.672E-01	5.352E-02	8.532E-02
TH-232	1.367E+00	3.457E-01	1.017E-01	1.764E-01
U-234	9.341E-01	1.672E-01	5.352E-02	8.532E-02
NP-237	4.091E-01	2.979E-01	2.173E-01	1.520E-01
AM-243	1.996E-01	7.630E-02	5.708E-02	3.893E-02
ANH-511	9.146E-02	6.537E-02	2.149E-02	3.335E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.058E-01	3.152E-01	2.477E-01	1.608E-01 NOT IDENT.
NA-22	3.160E-02	4.649E-02	4.202E-02	2.372E-02 NOT IDENT.
NA-24	-4.046E+05	9.039E+05	0.000E+00	4.612E+05 SHORT HLIF

AL-26	-1.855E-02	2.282E-02	1.336E-02	1.164E-02	NOT IDENT.
TI-44	2.681E-01	5.739E-02	3.943E-02	2.928E-02	FAIL ABUN
SC-46	-4.502E-03	4.155E-02	3.438E-02	2.120E-02	FAIL ABUN
V-48	-3.812E-02	7.942E-02	6.256E-02	4.052E-02	NOT IDENT.
CR-51	-8.733E-02	3.640E-01	3.072E-01	1.857E-01	NOT IDENT.
MN-52	-1.521E-01	2.348E-01	1.758E-01	1.198E-01	NOT IDENT.
MN-54	-1.005E-02	3.747E-02	3.072E-02	1.912E-02	NOT IDENT.
CO-56	-1.773E-02	4.087E-02	3.288E-02	2.085E-02	NOT IDENT.
CO-57	-3.360E-04	2.383E-02	2.014E-02	1.216E-02	NOT IDENT.
CO-58	2.945E-03	3.595E-02	3.055E-02	1.834E-02	NOT IDENT.
FE-59	-7.731E-02	1.151E-01	8.828E-02	5.870E-02	NOT IDENT.
CO-60	9.604E-03	4.239E-02	3.673E-02	2.163E-02	NOT IDENT.
ZN-65	4.473E-04	1.190E-01	8.402E-02	6.073E-02	NOT IDENT.
GE-68	-8.234E-01	1.417E+00	1.093E+00	7.229E-01	NOT IDENT.
AS-73	-7.126E-02	1.520E+00	1.336E+00	7.757E-01	NOT IDENT.
AS-74	-2.976E-02	8.871E-02	7.468E-02	4.526E-02	NOT IDENT.
SE-75	6.635E-03	4.486E-02	3.466E-02	2.289E-02	NOT IDENT.
BR-77	4.277E+00	1.040E+01	8.890E+00	5.307E+00	FAIL ABUN
SR-82	-2.416E-01	3.636E-01	2.875E-01	1.855E-01	NOT IDENT.
RB-83	3.097E-02	6.608E-02	5.673E-02	3.372E-02	NOT IDENT.
RB-84	1.095E-02	6.758E-02	5.750E-02	3.448E-02	NOT IDENT.
KR-85	1.368E+01	8.876E+00	7.265E+00	4.529E+00	NOT IDENT.
SR-85	7.028E-02	4.559E-02	3.731E-02	2.326E-02	NOT IDENT.
RB-86	-8.226E-01	9.407E-01	7.026E-01	4.800E-01	NOT IDENT.
Y-88	-1.530E-03	3.235E-02	2.619E-02	1.650E-02	NOT IDENT.
ZR-88	-6.569E-03	2.971E-02	2.468E-02	1.516E-02	NOT IDENT.
Y-91	-4.828E+00	2.139E+01	1.788E+01	1.092E+01	NOT IDENT.
NB-94	-5.045E-03	3.272E-02	2.755E-02	1.669E-02	NOT IDENT.
NB-95	-4.089E-02	4.232E-02	3.280E-02	2.159E-02	NOT IDENT.
NB-95M	8.829E-02	1.222E-01	9.848E-02	6.235E-02	NOT IDENT.
ZR-95	-1.164E-02	6.582E-02	5.486E-02	3.358E-02	NOT IDENT.
NB-97	-1.095E+04	1.136E+05	0.000E+00	5.794E+04	SHORT HLIF
ZR-97	2.344E+05	2.081E+06	0.000E+00	1.061E+06	SHORT HLIF
MO-99	4.526E+00	1.157E+01	1.015E+01	5.901E+00	NOT IDENT.
TC-99M	-1.511E+15	5.502E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.643E-03	3.275E-02	2.694E-02	1.671E-02	NOT IDENT.
RH-102	1.985E-02	2.694E-02	2.373E-02	1.374E-02	NOT IDENT.
RU-103	9.802E-03	4.181E-02	3.526E-02	2.133E-02	FAIL ABUN
RH-106	3.414E-01	3.052E-01	2.830E-01	1.557E-01	FAIL ABUN
RU-106	3.414E-01	3.033E-01	2.830E-01	1.547E-01	FAIL ABUN
AG-108M	5.159E-04	3.243E-02	2.719E-02	1.655E-02	NOT IDENT.
AG-110M	-7.413E-03	3.456E-02	2.913E-02	1.763E-02	NOT IDENT.
IN-111	5.511E-02	1.112E+00	8.573E-01	5.673E-01	NOT IDENT.
IN-113M	2.551E-02	4.213E-02	3.701E-02	2.150E-02	NOT IDENT.
SN-113	2.551E-02	4.213E-02	3.701E-02	2.150E-02	NOT IDENT.
IN-114M	-6.101E-03	2.050E-01	1.496E-01	1.046E-01	NOT IDENT.
CD-115	6.124E+00	1.091E+01	9.431E+00	5.569E+00	NOT IDENT.
SN-117M	-1.184E-02	5.340E-02	4.398E-02	2.725E-02	NOT IDENT.
SB-122	7.164E-02	2.327E+00	1.913E+00	1.187E+00	NOT IDENT.
I-123	4.126E+06	6.674E+06	0.000E+00	3.405E+06	SHORT HLIF
TE-123M	1.671E-02	2.704E-02	2.320E-02	1.379E-02	NOT IDENT.
I-124	-4.609E-01	6.733E-01	5.147E-01	3.435E-01	NOT IDENT.
SB-124	-6.741E-03	6.583E-02	5.300E-02	3.358E-02	NOT IDENT.
SB-125	-5.916E-02	8.766E-02	6.958E-02	4.472E-02	NOT IDENT.
TE-125M	5.415E+00	9.347E+00	8.104E+00	4.769E+00	NOT IDENT.
I-126	-8.172E-02	1.874E-01	1.551E-01	9.559E-02	NOT IDENT.
SB-126	3.556E-02	1.533E-01	1.166E-01	7.822E-02	FAIL ABUN
SB-127	-3.696E-01	1.362E+00	1.137E+00	6.948E-01	FAIL ABUN
XE-127	-4.016E-03	4.396E-02	3.735E-02	2.243E-02	NOT IDENT.
I-131	1.687E-02	1.091E-01	9.354E-02	5.567E-02	NOT IDENT.
TE-132	5.522E-01	6.742E-01	6.081E-01	3.440E-01	NOT IDENT.
BA-133	-2.664E-02	4.322E-02	3.010E-02	2.205E-02	FAIL ABUN
I-133	-1.371E+03	6.962E+03	0.000E+00	3.552E+03	SHORT HLIF
CS-134	1.798E-02	4.887E-02	4.247E-02	2.493E-02	NOT IDENT.
CS-135	1.232E-01	1.670E-01	1.339E-01	8.523E-02	NOT IDENT.
I-135	-2.150E+15	9.273E+15	0.000E+00	4.731E+15	SHORT HLIF
CS-136	6.568E-02	1.107E-01	9.695E-02	5.648E-02	FAIL ABUN
BA-137M	4.666E-02	3.744E-02	3.482E-02	1.910E-02	NOT IDENT.
CS-137	4.933E-02	3.958E-02	3.681E-02	2.019E-02	NOT IDENT.
CE-139	-2.280E-03	2.846E-02	2.354E-02	1.452E-02	NOT IDENT.
BA-140	-2.022E-01	2.527E-01	1.854E-01	1.289E-01	NOT IDENT.
LA-140	2.617E-02	8.342E-02	6.471E-02	4.256E-02	NOT IDENT.
CE-141	3.641E-02	5.997E-02	5.067E-02	3.060E-02	NOT IDENT.
CE-143	2.400E+02	1.725E+02	0.000E+00	8.799E+01	SHORT HLIF
CE-144	-1.555E-01	1.941E-01	1.557E-01	9.903E-02	NOT IDENT.
PM-144	2.977E-02	3.465E-02	3.146E-02	1.768E-02	NOT IDENT.
PR-144	2.018E+00	2.348E+00	2.132E+00	1.198E+00	NOT IDENT.
PM-146	8.046E-03	4.561E-02	3.800E-02	2.327E-02	NOT IDENT.

ND-147	8.013E-02	5.613E-01	4.682E-01	2.864E-01	FAIL ABUN
PM-149	1.054E+01	9.293E+01	8.066E+01	4.742E+01	NOT IDENT.
EU-152	-6.179E-02	9.836E-02	7.735E-02	5.018E-02	NOT IDENT.
GD-153	6.014E-03	8.929E-02	6.859E-02	4.556E-02	NOT IDENT.
EU-154	1.229E-01	1.267E-01	1.174E-01	6.466E-02	NOT IDENT.
EU-155	-6.669E-02	1.138E-01	9.391E-02	5.805E-02	FAIL ABUN
TB-160	-3.865E-02	1.295E-01	1.047E-01	6.606E-02	FAIL ABUN
HO-166M	9.501E-03	5.775E-02	4.989E-02	2.947E-02	FAIL ABUN
TM-171	2.747E+01	3.361E+01	2.990E+01	1.715E+01	NOT IDENT.
LU-176	-7.774E-03	2.385E-02	1.850E-02	1.217E-02	FAIL ABUN
LU-177	2.243E+00	1.644E+00	1.002E+00	8.388E-01	FAIL ABUN
LU-177M	1.477E-01	1.808E-01	1.440E-01	9.226E-02	FAIL ABUN
HF-181	4.588E-02	4.147E-02	3.733E-02	2.116E-02	NOT IDENT.
W-181	-7.316E-01	4.710E-01	3.750E-01	2.403E-01	NOT IDENT.
TA-182	-3.082E-02	2.401E-01	2.023E-01	1.225E-01	FAIL ABUN
RE-183	5.204E-02	1.060E-01	8.896E-02	5.409E-02	FAIL ABUN
RE-184	2.547E-01	2.065E-01	1.908E-01	1.054E-01	NOT IDENT.
OS-185	-1.220E-02	4.257E-02	3.571E-02	2.172E-02	NOT IDENT.
RE-188	4.038E-02	1.661E-01	1.402E-01	8.475E-02	NOT IDENT.
W-188	-1.691E-01	7.594E+00	5.747E+00	3.875E+00	NOT IDENT.
IR-192	-1.648E-02	3.276E-02	2.718E-02	1.671E-02	FAIL ABUN
AU-195	4.815E-01	2.287E-01	2.098E-01	1.167E-01	FAIL ABUN
TL-200	1.227E+02	4.709E+02	0.000E+00	2.403E+02	SHORT HLIF
TL-201	1.506E+00	6.856E+00	5.756E+00	3.498E+00	NOT IDENT.
TL-202	9.162E-03	7.175E-02	6.058E-02	3.661E-02	NOT IDENT.
BI-207	1.588E-02	6.357E-02	5.352E-02	3.243E-02	FAIL ABUN
TL-207	4.639E-02	6.356E-01	5.460E-01	3.243E-01	FAIL ABUN
PO-209	6.561E-01	8.009E+00	6.744E+00	4.086E+00	NOT IDENT.
BI-210	-8.225E-01	8.365E+00	7.378E+00	4.268E+00	NOT IDENT.
PB-210	-8.225E-01	8.365E+00	7.378E+00	4.268E+00	NOT IDENT.
PO-210	-8.225E-01	8.365E+00	7.378E+00	4.268E+00	NOT IDENT.
PB-211	-4.994E-01	1.111E+00	7.520E-01	5.666E-01	NOT IDENT.
BI-212	1.030E+00	3.558E-01	3.486E-01	1.815E-01	NOT IDENT.
PO-215	4.639E-02	6.356E-01	5.460E-01	3.243E-01	FAIL ABUN
RN-219	3.918E-02	4.007E-01	3.398E-01	2.044E-01	FAIL ABUN
RN-220	1.174E+01	2.599E+01	2.218E+01	1.326E+01	NOT IDENT.
RA-223	4.639E-02	6.356E-01	5.460E-01	3.243E-01	FAIL ABUN
AC-227	-1.987E-02	3.600E-01	3.119E-01	1.837E-01	FAIL ABUN
TH-227	-1.987E-02	3.600E-01	3.119E-01	1.837E-01	FAIL ABUN
TH-229	8.601E-02	4.972E-01	4.065E-01	2.537E-01	FAIL ABUN
PA-231	-2.953E-01	1.486E+00	1.225E+00	7.583E-01	FAIL ABUN
TH-231	4.639E-02	6.356E-01	5.460E-01	3.243E-01	FAIL ABUN
U-231	-1.635E+00	1.242E+00	8.688E-01	6.336E-01	FAIL ABUN
PA-233	-2.981E-02	5.922E-02	4.916E-02	3.021E-02	FAIL ABUN
PA-234	-5.621E-02	3.304E-01	2.701E-01	1.686E-01	FAIL ABUN
PA-234M	-1.004E+00	4.998E+00	4.053E+00	2.550E+00	NOT IDENT.
TH-234	4.951E-01	1.717E+00	1.489E+00	8.759E-01	FAIL ABUN
U-235	8.407E-02	1.991E-01	1.666E-01	1.016E-01	FAIL ABUN
NP-236	-2.309E-02	7.659E-02	6.277E-02	3.908E-02	FAIL ABUN
U-238	4.951E-01	1.717E+00	1.489E+00	8.759E-01	FAIL ABUN
NP-239	1.377E-01	1.776E-01	1.560E-01	9.059E-02	FAIL ABUN
AM-241	-6.360E-02	2.166E-01	1.873E-01	1.105E-01	NOT IDENT.
CM-243	1.272E-01	9.666E-02	8.679E-02	4.932E-02	FAIL ABUN
AM-246	9.196E-03	1.614E-01	1.334E-01	8.236E-02	NOT IDENT.
CM-247	1.371E-02	3.593E-02	3.104E-02	1.833E-02	FAIL ABUN
CF-249	1.814E-02	3.899E-02	3.393E-02	1.989E-02	NOT IDENT.
CF-251	5.715E-03	1.243E-01	1.022E-01	6.340E-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	225.6271
46.50	225.6271
46.50	225.6271
48.70	236.1702
49.72	237.7342
51.35	223.9443
52.39	214.3384
52.97	227.6650
53.15	236.1361
53.44	245.6127
54.07	259.9803
56.28	229.5492
56.28	229.5510
57.37	0.0000
57.53	227.4295
57.53	227.4304
57.60	235.9272
57.98	233.3205
57.98	233.3205
59.32	247.2794
59.32	247.2794
59.40	247.3261
59.54	247.4080
59.72	233.3427
60.01	277.9331
61.10	284.3277
61.14	284.3536
61.30	239.8937
63.00	247.4948
63.29	245.7527
63.29	245.7527
63.58	245.9141
64.28	251.0759
65.12	310.8484
65.20	310.9033
65.20	310.9033
66.05	297.1133
66.72	234.2007
66.83	242.8984
66.91	242.9409
67.20	248.8604
67.20	248.8604
67.75	272.2462
67.85	272.3052
68.90	305.7120
68.90	305.7120
69.30	317.5574
69.67	323.6060
70.82	313.7415
70.82	313.7415
70.83	313.7481
72.80	301.9166
72.87	301.9608
72.87	301.9608
74.67	361.1569
74.81	361.2604
74.81	361.2604
74.81	361.2604
74.81	361.2604
74.81	361.2604
74.81	361.2604
74.81	361.2604
74.97	361.3771
75.28	361.6048
75.70	361.9115
77.11	362.9372
77.11	362.9372

77.11	362.9372
77.11	362.9372
77.11	362.9372
77.11	362.9372
77.11	362.9372
78.38	363.8537
79.62	364.7401
79.80	364.8680
79.80	364.8680
80.11	365.0901
80.18	365.1390
80.30	365.2237
80.30	365.2237
80.57	365.4156
81.00	365.7205
81.07	365.7695
81.07	365.7695
81.07	365.7695
81.07	365.7695
82.60	355.4421
83.37	324.6848
83.78	327.9204
83.78	327.9204
83.78	327.9204
83.78	327.9204
84.21	325.2021
84.90	253.9274
85.43	325.9472
86.29	345.9360
86.50	346.0717
86.54	346.0964
86.59	346.1281
86.72	380.6841
86.79	380.7307
86.94	370.3417
87.30	346.5828
87.30	346.5828
87.30	346.5828
87.30	346.5828
87.30	346.5828
87.30	346.5828
87.57	346.7538
87.88	294.3828
88.03	294.4636
88.36	294.6415
88.47	294.6998
89.95	250.2639
91.11	250.7857
92.29	251.3126
92.38	251.3531
92.38	251.3531
93.35	251.7837
94.00	209.5532
94.67	235.6409
94.67	235.6432
94.90	246.3841
94.90	246.3841
94.90	246.3841
94.90	246.3841
95.87	294.0249
95.87	294.0249
96.73	274.6280
97.43	258.1533
98.44	221.3641
98.44	221.3641
98.88	202.1331
99.55	227.9124
99.55	227.9124
99.86	252.5730
100.00	252.6333
100.10	252.6773
103.18	246.7737
103.76	215.1039
105.00	249.5723
105.31	278.5899
108.00	274.6170
109.28	232.6019

111.00	235.3144
111.00	235.3144
111.76	229.3401
112.95	246.4743
115.19	220.0777
116.30	199.4542
117.00	197.5641
117.00	197.5641
117.66	240.8898
121.11	217.8136
121.62	198.9315
121.78	210.6207
122.06	213.8832
122.32	213.9644
122.32	213.9644
122.32	213.9644
122.32	213.9644
123.07	242.8315
127.23	254.9629
129.76	230.1850
131.20	266.0530
133.02	235.5368
133.54	238.9350
135.34	221.1846
136.00	224.6245
136.25	219.2992
136.48	191.2729
140.51	208.6113
140.51	0.0000
142.18	241.7443
142.65	238.6245
143.76	209.5117
144.24	203.0912
144.24	203.0912
144.24	203.0912
144.24	203.0912
145.22	203.3524
145.44	205.5982
147.16	258.6675
152.43	249.3808
152.70	239.5313
153.22	234.1653
154.21	220.0774
154.21	220.0774
154.21	220.0774
154.21	220.0774
155.03	226.9464
156.02	234.9848
158.56	226.8271
159.00	0.0000
159.00	202.4746
160.31	226.1985
161.27	254.3523
162.32	193.2418
162.64	214.5469
163.35	224.7960
163.89	227.1793
165.85	215.3730
167.43	203.4151
171.28	198.6911
171.86	199.9550
172.10	201.1409
176.55	213.5291
176.60	206.7254
181.06	198.6369
184.41	216.5663
185.71	215.7284
186.00	215.7972
190.27	223.1458
192.34	194.1714
193.63	192.1249
197.04	205.5979
198.01	194.1793
198.60	205.9346
200.40	203.9904
201.83	207.5052
202.84	205.3432
205.31	208.0744

208.36	203.6089
208.81	203.7023
209.75	211.8402
209.75	211.8402
210.97	206.4442
215.65	202.4363
216.55	185.7324
218.09	186.9031
222.10	172.4458
223.80	176.3083
226.40	215.3284
227.00	205.5762
227.08	196.6141
227.20	188.5565
228.16	173.4500
228.18	173.4529
228.18	173.4529
231.56	0.0000
235.69	170.8782
236.00	170.9286
236.00	170.9286
238.63	359.3856
238.63	359.3856
238.63	359.3856
238.63	359.3856
239.00	228.7768
240.98	229.1921
241.98	313.1515
241.98	313.1515
241.98	313.1515
244.69	151.8512
245.39	154.8684
247.94	134.5388
248.90	164.8828
249.79	158.5974
252.40	115.7775
252.85	120.4198
252.85	120.4198
254.15	0.0000
256.20	161.3388
256.20	161.3388
260.50	148.9869
260.90	140.7072
262.80	165.9716
264.65	136.7040
268.24	149.0430
268.79	158.0606
269.46	147.3318
269.46	147.3318
269.46	147.3318
269.46	147.3318
271.23	147.5512
273.65	142.2356
276.40	127.5540
277.35	136.1012
277.60	136.1300
277.60	136.1300
278.00	132.2299
278.60	136.8066
279.20	139.8815
279.53	132.3975
280.46	138.5211
281.68	138.6581
283.67	144.4898
284.30	136.8778
285.00	134.1217
285.90	146.5069
286.10	145.5852
286.10	145.5852
287.40	141.9502
288.45	0.0000
290.67	135.1122
290.80	135.1253
291.72	133.7059
293.26	0.0000
293.70	147.6124
295.21	135.5990
295.21	135.5990

295.21	135.5990
295.96	156.2599
296.50	167.7634
297.23	167.8601
298.57	168.0374
299.80	129.9716
299.80	129.9716
300.09	130.0006
300.09	130.0006
300.09	130.0006
300.09	130.0006
300.12	130.0027
301.29	108.6893
302.84	93.4941
303.76	102.7622
303.91	102.7753
304.40	116.6236
304.40	116.6236
304.84	130.4800
306.84	120.4299
308.46	90.4343
311.98	128.2978
316.51	132.6080
318.01	120.1591
319.02	124.1289
319.41	125.1341
320.08	135.8728
323.87	131.3869
323.87	131.3869
323.87	131.3869
323.87	131.3869
325.23	155.8740
328.77	146.5118
333.44	153.6705
334.20	147.4809
334.20	147.4809
334.30	147.4900
338.28	131.7815
338.28	131.7815
338.28	131.7815
338.28	131.7815
338.32	131.7856
338.32	131.7856
338.32	131.7856
340.50	119.7761
340.57	119.7816
344.27	134.3170
345.85	107.5732
350.59	0.0000
351.07	102.2095
351.92	102.2708
351.92	102.2708
351.92	102.2708
355.39	0.0000
356.01	103.5541
364.48	99.1450
366.43	93.2597
367.43	96.3325
367.94	0.0000
369.80	116.5859
374.96	103.8754
383.85	104.4805
387.95	101.7075
388.63	112.9444
391.69	91.7564
391.69	91.7564
392.90	107.1309
398.62	99.3282
400.65	103.5567
401.10	97.4324
401.81	103.6323
402.60	99.5769
404.84	118.4256
410.95	94.1098
411.60	92.4957
413.65	77.7279
414.70	85.5010
415.30	82.7734

415.76	87.9714
417.63	0.0000
418.52	90.1927
423.70	82.1559
427.08	93.7848
427.89	99.0443
432.53	90.9547
433.93	95.2142
439.47	94.4756
439.56	99.7300
439.89	112.3487
443.98	94.7255
444.90	85.2974
445.03	85.3049
445.03	85.3049
445.03	85.3049
445.03	85.3049
453.90	94.2094
463.38	83.0107
468.07	102.4365
473.00	80.2483
475.06	66.4142
475.35	71.7815
476.78	82.5598
477.59	92.2503
477.96	95.4887
482.03	67.7440
484.57	77.5283
487.03	76.5545
490.36	0.0000
492.35	77.8557
497.08	84.5567
507.63	0.0000
510.53	0.0000
510.84	69.8862
511.00	69.8921
511.85	69.9224
511.85	69.9224
513.99	94.5007
513.99	94.5007
520.41	66.9421
520.65	66.9496
527.90	64.9958
528.96	0.0000
529.64	74.9768
529.87	0.0000
531.02	73.9253
537.32	76.3742
543.00	61.0509
546.56	0.0000
549.76	69.0528
552.65	68.0349
555.20	69.2372
563.23	96.4167
563.90	89.7192
568.70	83.1823
569.32	84.3315
569.50	84.3384
569.67	84.3452
573.80	90.1465
574.00	90.1538
574.64	80.2630
578.91	67.7747
579.30	0.0000
583.14	72.4375
585.48	66.4744
591.81	66.6714
592.07	66.6803
593.00	61.8574
595.88	79.2473
600.56	62.0732
602.52	0.0000
602.71	83.3792
602.71	83.3792
603.60	74.6544
604.41	71.6341
604.70	71.6436
609.31	69.6562

609.31	69.6562
609.31	69.6562
609.31	69.6562
610.33	69.6877
612.46	68.8367
614.37	55.1177
618.01	80.5124
621.84	54.3820
621.84	54.3820
631.29	69.4208
633.02	66.6949
633.10	66.6984
634.78	58.4042
635.90	69.5636
636.97	69.5966
645.85	75.4570
646.12	73.6015
656.30	70.1843
657.75	73.9738
657.90	0.0000
661.65	65.6558
661.65	65.6558
664.57	0.0000
666.33	83.6417
666.33	83.6417
675.00	68.8581
677.61	67.9887
685.20	67.2576
692.80	81.7231
695.00	63.7269
696.49	62.8128
696.49	62.8128
697.00	67.5869
697.49	65.6949
698.33	67.6233
698.50	65.7235
699.00	76.2168
702.63	70.6053
706.10	63.0609
706.58	0.0000
706.67	67.8539
709.31	64.0998
711.68	59.3723
713.82	62.2991
717.42	60.4698
720.50	54.4580
721.93	0.0000
722.20	65.7141
722.78	59.3165
722.78	59.3165
722.89	59.3195
722.95	59.3210
723.30	60.9336
724.18	67.3699
727.18	58.7780
733.00	46.6801
735.90	66.0728
739.58	52.2888
742.81	46.5375
744.21	64.0245
747.13	58.2700
751.79	52.5379
752.31	55.4678
753.82	55.4999
755.35	60.4031
756.15	54.5754
756.87	52.6408
763.93	76.2423
765.79	80.2083
766.42	72.4011
766.84	68.4978
776.49	60.8920
778.00	62.8922
778.57	55.0430
778.89	57.9975
783.80	58.1055
785.46	39.4180
792.07	81.9929

795.84	64.3018
796.30	65.3007
798.80	66.3522
801.93	53.5399
805.60	49.6399
810.29	38.7858
810.76	44.7605
815.85	43.8464
817.79	42.8803
818.51	42.8919
819.60	47.8980
826.30	59.0158
828.27	0.0000
831.60	56.1217
831.96	60.1377
834.83	62.2059
836.80	0.0000
846.75	60.4541
848.13	57.4592
856.28	0.0000
856.80	57.2961
860.37	45.5570
867.32	45.6669
867.82	44.9496
871.10	48.7746
873.19	35.5905
874.81	47.8193
875.33	0.0000
876.40	45.8097
879.36	43.8178
880.27	37.7154
880.51	37.7181
881.50	42.8295
883.24	46.9366
884.67	51.0425
889.25	54.1891
896.60	54.3237
898.02	61.5278
899.00	54.3677
903.28	52.3908
911.07	42.9138
911.07	42.9138
911.07	42.9138
919.63	39.5930
920.93	48.2207
925.00	51.7346
925.24	51.7383
926.50	48.6535
935.52	50.8734
937.48	46.7501
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946.00	56.2557
949.00	52.1387
962.29	69.8128
964.01	48.8963
966.15	61.1617
968.20	68.1960
969.11	85.7061
969.11	85.7061
969.11	85.7061
977.42	43.8426
980.50	45.2886
983.50	57.9823
989.30	42.2451
996.32	51.8627
1001.03	56.1779
1001.68	46.6469
1004.76	46.6909
1021.30	0.0000
1024.50	0.0000
1034.80	52.4716
1036.00	55.7045
1037.82	48.2322
1038.57	43.9549
1038.76	0.0000
1045.16	47.2635
1046.59	34.3891
1048.07	37.6284

1050.47	52.7181
1050.47	52.7181
1062.04	47.4998
1063.62	58.3216
1076.63	66.1320
1077.35	58.5563
1078.86	52.0734
1085.78	59.7856
1099.22	73.1111
1112.02	43.8066
1112.84	51.1191
1115.52	60.2932
1120.29	51.2262
1120.29	51.2262
1120.29	51.2262
1120.29	51.2262
1120.51	40.6187
1121.28	40.6277
1124.00	0.0000
1129.67	53.4582
1131.51	0.0000
1147.95	0.0000
1167.94	56.5397
1173.22	64.0474
1175.09	64.0782
1177.93	68.7758
1189.05	58.7267
1204.90	67.4004
1205.75	0.0000
1213.00	75.0488
1221.42	78.9756
1230.97	68.8029
1235.34	99.0784
1236.41	0.0000
1238.25	72.7107
1246.25	69.0761
1260.41	0.0000
1271.85	44.7644
1274.45	31.4518
1274.54	36.2172
1291.56	37.3306
1298.22	0.0000
1312.09	33.6727
1325.50	40.5405
1325.50	40.5405
1332.49	30.9401
1333.61	34.8179
1360.21	30.1750
1362.66	0.0000
1365.15	37.0321
1368.21	28.2826
1368.53	0.0000
1376.25	29.3127
1384.27	40.1375
1394.10	16.6811
1395.20	22.5742
1407.95	29.5325
1434.06	23.7686
1436.60	11.8911
1457.56	0.0000
1460.81	17.9355
1489.15	12.0327
1509.49	17.1231
1596.49	10.5557
1620.62	13.4084
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	7.2866
1771.40	7.2882
1791.20	0.0000
1808.65	8.5635

1836.01

9.6833

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924001

Total Uranium Activity	1.5120E+00	ug/g
Total Uranium Counting Unc.	5.1084E+00	ug/g
Total Uranium Tpu	2.6063E-06	ug/g
Total Uranium Mda	4.4306E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 942723          SAMPLE ID   : G244924001
*  ANALYST       : MXR1            DETECTOR    : GAM10
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 18:34:57.56  SAMPLE ALQT: 116.894 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.961E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.362E+00
GROSS GAMMA MDA (pCi/GRAM ) : 2.479E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.195E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 20:36:21.32

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924002.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:35:26
Sample ID          : G244924002 Sample quantity : 1.39513E+02 GRAM
Detector name      : GAM15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.24 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	62.66*	28	340	1.15	125.82	122	8	3.84E-03	120.6	
2	4	74.17*	306	537	1.87	148.84	141	17	4.25E-02	16.8	1.06E+00
3	4	76.54*	409	340	1.20	153.57	141	17	5.67E-02	9.6	
4	3	86.66	218	315	1.31	173.79	165	28	3.03E-02	15.7	2.23E+00
5	3	89.26	150	309	1.26	178.98	165	28	2.08E-02	22.6	
6	3	92.15*	355	375	1.65	184.77	165	28	4.93E-02	12.3	
7	0	127.83	140	447	1.70	256.11	251	12	1.95E-02	31.2	
8	0	185.40*	206	314	1.82	371.19	366	11	2.86E-02	19.1	
9	0	208.64	77	273	1.69	417.64	414	9	1.07E-02	40.2	
10	2	238.04*	950	226	1.35	476.43	471	17	1.32E-01	4.4	1.73E+00
11	2	241.01	234	249	1.84	482.36	471	17	3.24E-02	18.0	
12	0	294.73*	411	186	1.63	589.75	585	11	5.71E-02	8.2	
13	0	299.38	59	177	1.08	599.06	596	9	8.14E-03	42.9	
14	0	337.89	223	217	0.96	676.03	669	14	3.09E-02	15.6	
15	0	351.28*	593	183	1.60	702.81	697	15	8.24E-02	6.6	
16	0	461.65	83	151	2.51	923.47	917	17	1.15E-02	35.5	
17	0	510.01*	151	171	2.14	1020.16	1011	21	2.10E-02	25.4	
18	0	582.80*	297	98	1.71	1165.70	1158	14	4.13E-02	9.5	
19	0	608.65*	445	103	1.73	1217.38	1210	14	6.19E-02	7.0	
20	0	661.00	272	98	1.39	1322.05	1315	15	3.77E-02	10.0	
21	0	726.99*	38	66	1.26	1453.98	1447	13	5.26E-03	49.6	
22	0	768.02*	50	85	1.88	1536.01	1526	14	6.98E-03	42.0	
23	0	775.89	74	95	8.94	1551.74	1541	24	1.03E-02	37.7	
24	0	794.45	58	42	1.75	1588.86	1582	14	8.06E-03	27.1	
25	0	910.58*	203	68	1.62	1821.06	1814	16	2.82E-02	11.7	
26	1	964.05	42	26	2.07	1927.97	1925	22	5.89E-03	23.9	1.57E+00
27	1	968.59	118	43	1.94	1937.07	1925	22	1.64E-02	14.6	
28	0	1120.11	64	68	1.14	2240.04	2234	12	8.86E-03	28.9	
29	0	1239.22	61	96	0.68	2478.22	2468	22	8.53E-03	43.1	
30	0	1460.35*	850	42	2.04	2920.43	2910	21	1.18E-01	4.0	
31	0	1763.83*	59	3	2.23	3527.35	3519	15	8.19E-03	15.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 20:36:24

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:35:26
Sample ID         : G244924002 Sample quantity : 139.51 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA15 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.24 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	*	2.145E+01	2.358E+00	5.813E-01	4.444E-02	36.894
SR-82		698.33		1.348E+01	3.575E+01	6.157E+01	3.390E+00	0.219
	+	776.49	*	1.277E+00	9.676E-01	6.039E-01	3.987E-02	2.114
		1395.20		2.568E-01	1.128E+01	1.892E+01	1.415E+00	0.014
CD-109	+	88.03	*	2.408E+00	1.120E+00	1.492E+00	1.726E-01	1.613
SN-126		64.28		-2.358E-01	9.199E-01	1.322E+00	2.267E-01	-0.178
	+	86.94		1.497E+00	7.856E-01	6.213E-01	2.613E-01	2.410
	+	87.57	*	3.601E-01	1.204E-01	1.478E-01	1.705E-02	2.436
BA-137M	+	661.65	*	4.027E-01	8.290E-02	5.724E-02	2.880E-03	7.035
CS-137	+	661.65	*	4.257E-01	8.766E-02	6.051E-02	3.062E-03	7.035
TL-208		277.35		1.489E-01	4.256E-01	7.230E-01	8.101E-02	0.206
	+	510.84		7.629E-01	3.947E-01	2.362E-01	2.378E-02	3.230
	+	583.14	*	4.257E-01	8.520E-02	6.026E-02	3.836E-03	7.065
		860.37		5.741E-01	3.182E-01	5.944E-01	5.109E-02	0.966
BI-211	+	72.87		2.062E+01	7.282E+00	6.505E+00	7.253E-01	3.170
	+	351.07	*	3.847E+00	5.706E-01	3.508E-01	2.410E-02	10.968
PB-212	+	74.81		2.448E+00	8.941E-01	7.182E-01	1.043E-01	3.408
	+	77.11		1.786E+00	3.948E-01	4.078E-01	4.528E-02	4.380
	+	87.30		1.665E+00	5.812E-01	6.868E-01	1.048E-01	2.425
	+	238.63	*	1.358E+00	1.647E-01	1.037E-01	8.581E-03	13.096
	+	300.09		1.288E+00	1.111E+00	1.382E+00	1.239E-01	0.932
PO-212	+	74.81		2.448E+00	8.941E-01	7.182E-01	1.043E-01	3.408
	+	77.11		1.786E+00	3.948E-01	4.078E-01	4.528E-02	4.380
	+	87.30		1.665E+00	5.812E-01	6.868E-01	1.048E-01	2.425
		115.19		-3.147E+00	4.114E+00	6.498E+00	4.972E-01	-0.484
	+	238.63	*	1.358E+00	1.647E-01	1.037E-01	8.581E-03	13.096
	+	300.09		1.288E+00	1.111E+00	1.382E+00	1.239E-01	0.932
BI-214	+	609.31	*	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
	+	1120.29		8.998E-01	5.260E-01	4.463E-01	4.117E-02	2.016
	+	1764.49		1.138E+00	3.681E-01	3.550E-01	2.209E-02	3.206
PB-214	+	74.81		4.218E+00	1.522E+00	1.238E+00	1.653E-01	3.408
	+	77.11		3.062E+00	7.159E-01	6.991E-01	9.415E-02	4.380
	+	87.30		2.853E+00	9.789E-01	1.177E+00	1.631E-01	2.425
	+	241.98		2.005E+00	7.436E-01	5.978E-01	5.343E-02	3.354

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.587E+00	2.995E-01	2.327E-01	2.152E-02	6.822
	+	351.92	*	1.338E+00	2.104E-01	1.222E-01	1.054E-02	10.948
	+	74.81		4.218E+00	1.522E+00	1.238E+00	1.653E-01	3.408
	+	77.11		3.062E+00	7.159E-01	6.991E-01	9.415E-02	4.380
	+	87.30		2.853E+00	9.789E-01	1.177E+00	1.631E-01	2.425
PO-216	+	241.98		2.005E+00	7.436E-01	5.978E-01	5.343E-02	3.354
	+	295.21		1.587E+00	2.995E-01	2.327E-01	2.152E-02	6.822
	+	351.92	*	1.338E+00	2.104E-01	1.222E-01	1.054E-02	10.948
	+	74.81		2.448E+00	8.941E-01	7.182E-01	1.043E-01	3.408
	+	77.11		1.786E+00	3.948E-01	4.078E-01	4.528E-02	4.380
PO-218	+	87.30		1.665E+00	5.812E-01	6.868E-01	1.048E-01	2.425
	+	238.63	*	1.358E+00	1.647E-01	1.037E-01	8.581E-03	13.096
	+	300.09		1.288E+00	1.111E+00	1.382E+00	1.239E-01	0.932
	+	74.81		4.218E+00	1.522E+00	1.238E+00	1.653E-01	3.408
	+	77.11		3.062E+00	7.159E-01	6.991E-01	9.415E-02	4.380
RA-224	+	87.30		2.853E+00	9.789E-01	1.177E+00	1.631E-01	2.425
	+	241.98		2.005E+00	7.436E-01	5.978E-01	5.343E-02	3.354
	+	295.21		1.587E+00	2.995E-01	2.327E-01	2.152E-02	6.822
	+	351.92	*	1.338E+00	2.104E-01	1.222E-01	1.054E-02	10.948
	+	240.98	*	3.802E+00	1.394E+00	1.179E+00	8.209E-02	3.224
RA-226	+	609.31	*	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
	+	1120.29		8.998E-01	5.260E-01	4.463E-01	4.117E-02	2.016
	+	1764.49		1.138E+00	3.681E-01	3.550E-01	2.209E-02	3.206
	+	338.32		1.595E+00	8.191E-01	3.976E-01	1.625E-01	4.012
	+	911.07	*	1.287E+00	3.324E-01	2.316E-01	2.575E-02	5.555
AC-228	+	969.11		1.324E+00	4.937E-01	3.598E-01	8.319E-02	3.679
	+	338.32		1.595E+00	8.191E-01	3.976E-01	1.625E-01	4.012
	+	911.07	*	1.287E+00	3.324E-01	2.316E-01	2.575E-02	5.555
	+	969.11		1.324E+00	4.937E-01	3.598E-01	8.319E-02	3.679
	+	74.81		2.485E+00	8.780E-01	7.292E-01	8.144E-02	3.408
TH-228	+	77.11		1.814E+00	4.009E-01	4.140E-01	4.598E-02	4.380
	+	87.30		1.691E+00	5.654E-01	6.973E-01	8.033E-02	2.425
	+	238.63	*	1.378E+00	1.672E-01	1.053E-01	8.712E-03	13.096
	+	300.09		1.308E+00	1.362E+00	1.403E+00	8.285E-01	0.932
	+	609.31	*	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
TH-230	+	1120.29		8.998E-01	5.260E-01	4.463E-01	4.117E-02	2.016
	+	1764.49		1.138E+00	3.681E-01	3.550E-01	2.209E-02	3.206
	+	338.32		1.595E+00	5.066E-01	3.976E-01	2.559E-02	4.012
	+	911.07	*	1.287E+00	3.324E-01	2.316E-01	2.575E-02	5.555
	+	969.11		1.324E+00	4.937E-01	3.598E-01	8.319E-02	3.679
TH-232	+	63.29	*	1.132E+00	2.740E+00	3.381E+00	6.672E-01	0.335
	+	92.38		3.669E+00	1.144E+00	9.406E-01	1.793E-01	3.900
	+	609.31	*	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
	+	1120.29		8.998E-01	5.260E-01	4.463E-01	4.117E-02	2.016
	+	1764.49		1.138E+00	3.681E-01	3.550E-01	2.209E-02	3.206
NP-237	+	86.50	*	1.057E+00	4.155E-01	4.423E-01	1.044E-01	2.390
	+	95.87		8.251E-01	1.231E+00	1.809E+00	4.539E-01	0.456
	+	63.29	*	1.132E+00	2.740E+00	3.381E+00	6.672E-01	0.335
	+	92.38		3.669E+00	9.846E-01	9.406E-01	9.895E-02	3.900
	+	92.38		3.669E+00	9.846E-01	9.406E-01	9.895E-02	3.900

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	3.968E-01	1.401E-01	1.170E-01	1.300E-02	3.391
	+	86.72		3.965E+01	1.326E+01	1.652E+01	1.897E+00	2.400
		117.66		-1.852E+00	4.253E+00	6.809E+00	5.086E-01	-0.272
		142.18		-1.225E+01	2.124E+01	3.317E+01	2.260E+00	-0.369
ANH-511	+	511.00	*	1.648E-01	8.413E-02	5.103E-02	2.882E-03	3.229

---- 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	*	9.280E-02	3.541E-01	5.891E-01	3.926E-02	0.158
NA-22		1274.54	*	2.683E-02	4.317E-02	7.484E-02	5.136E-03	0.358
NA-24		1368.53	*	-5.100E-01	4.317E-02	Half-Life too short		
AL-26		1129.67		-1.540E-01	1.706E+00	2.757E+00	1.737E-01	-0.056
		1808.65	*	3.082E-03	2.966E-02	4.982E-02	2.981E-03	0.062
TI-44		67.85		5.333E-03	8.854E-02	1.091E-01	1.245E-02	0.049
		78.38	*	1.953E-01	6.133E-02	9.011E-02	1.002E-02	2.168
SC-46		889.25	*	-1.151E-02	4.117E-02	6.634E-02	5.565E-03	-0.173
	+	1120.51		1.542E-01	8.958E-02	1.290E-01	8.280E-03	1.196
V-48		944.10		-7.999E-01	8.945E-01	1.332E+00	1.095E-01	-0.600
		983.50	*	-4.500E-03	6.968E-02	1.139E-01	8.995E-03	-0.040
		1312.09		-1.893E-02	9.497E-02	1.500E-01	1.095E-02	-0.126
CR-51		320.08	*	-4.556E-02	4.420E-01	7.316E-01	5.276E-02	-0.062
MN-52		744.21		-1.209E-01	2.345E-01	3.738E-01	2.293E-02	-0.323
		848.13		9.692E-01	7.029E+00	1.181E+01	9.102E-01	0.082
		935.52		2.600E-01	2.864E-01	5.076E-01	4.205E-02	0.512
		1246.25		5.455E+00	9.046E+00	1.362E+01	8.880E-01	0.401
		1333.61		-3.843E+00	5.364E+00	7.785E+00	5.875E-01	-0.494
		1434.06	*	-2.234E-02	2.405E-01	3.965E-01	2.940E-02	-0.056
MN-54		834.83	*	2.356E-02	4.162E-02	7.204E-02	5.400E-03	0.327
CO-56		846.75	*	1.989E-02	3.896E-02	6.761E-02	5.196E-03	0.294
		977.42		-4.247E-01	3.098E+00	4.470E+00	3.555E-01	-0.095
		1037.82		-2.048E-02	3.302E-01	5.383E-01	4.260E-02	-0.038
		1175.09		7.192E-01	2.137E+00	3.603E+00	2.060E-01	0.200
	+	1238.25		2.453E-01	2.122E-01	1.944E-01	1.314E-02	1.262
		1360.21		2.156E-01	1.003E+00	1.667E+00	1.254E-01	0.129
		1771.40		-4.446E-01	2.853E-01	3.480E-01	2.153E-02	-1.278
CO-57		122.06	*	2.771E-04	3.271E-02	4.669E-02	3.357E-03	0.006
		136.48		1.031E-01	2.475E-01	4.082E-01	3.133E-02	0.253
CO-58		810.76	*	-3.441E-02	3.917E-02	5.964E-02	4.261E-03	-0.577
FE-59		142.65		-1.761E+00	3.250E+00	5.081E+00	3.459E-01	-0.347
		192.34		3.800E-01	1.141E+00	1.855E+00	2.287E-01	0.205
		1099.22	*	5.970E-02	9.394E-02	1.631E-01	1.234E-02	0.366
		1291.56		3.635E-02	1.292E-01	2.158E-01	1.821E-02	0.168
CO-60		1173.22		1.483E-02	4.426E-02	7.452E-02	4.244E-03	0.199
		1332.49	*	-6.720E-04	4.025E-02	6.483E-02	4.893E-03	-0.010
ZN-65		1115.52	*	-7.678E-03	1.150E-01	1.594E-01	1.036E-02	-0.048
GE-68		1077.35	*	1.532E-01	1.341E+00	2.220E+00	1.542E-01	0.069
AS-73		53.44	*	-1.921E+00	1.964E+00	3.037E+00	4.150E-01	-0.633

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AS-74	595.88	*		4.608E-02	1.055E-01	1.760E-01	9.464E-03	0.262
	634.78			-2.484E-01	3.657E-01	5.512E-01	2.859E-02	-0.451
SE-75	66.05			-6.536E+00	8.318E+00	1.156E+01	1.500E+00	-0.565
	96.73			5.542E-01	9.864E-01	1.458E+00	2.091E-01	0.380
	121.11			-7.596E-02	1.615E-01	2.485E-01	2.534E-02	-0.306
	136.00			2.542E-03	4.628E-02	7.533E-02	5.245E-03	0.034
	198.60			-2.163E-01	2.123E+00	3.388E+00	2.704E-01	-0.064
	264.65	*		-4.247E-02	5.047E-02	8.113E-02	5.674E-03	-0.524
	279.53			5.313E-02	1.197E-01	2.044E-01	1.491E-02	0.260
	303.91			7.884E-01	2.709E+00	4.007E+00	4.068E-01	0.197
	400.65			2.721E-01	2.947E-01	5.099E-01	4.605E-02	0.533
BR-77	87.88	+		8.288E+02	2.771E+02	4.376E+02	5.059E+01	1.894
	200.40			1.810E+01	2.016E+02	3.242E+02	2.216E+01	0.056
	239.00	+		2.283E+02	2.573E+01	4.195E+01	2.919E+00	5.441
	249.79			-2.049E+01	7.835E+01	1.301E+02	9.056E+00	-0.158
	281.68			-8.420E+01	1.040E+02	1.667E+02	1.148E+01	-0.505
	297.23			3.312E+02	1.095E+02	1.418E+02	9.648E+00	2.336
	303.76			7.863E+01	2.418E+02	3.586E+02	2.424E+01	0.219
	439.47			1.461E+01	1.630E+02	2.691E+02	1.538E+01	0.054
	484.57			-2.115E+02	2.651E+02	4.008E+02	2.280E+01	-0.528
	520.65	*		-3.898E+00	1.214E+01	1.870E+01	1.052E+00	-0.208
	574.64			1.575E+02	2.528E+02	3.937E+02	2.150E+01	0.400
	578.91			4.479E+01	1.179E+02	1.710E+02	9.314E+00	0.262
	585.48			8.930E+02	2.398E+02	4.363E+02	2.365E+01	2.047
	755.35			7.171E+01	1.740E+02	3.003E+02	1.890E+01	0.239
	817.79			1.493E+00	1.438E+02	2.393E+02	1.729E+01	0.006
RB-83	520.41	*		-4.525E-02	7.820E-02	1.178E-01	6.628E-03	-0.384
	529.64			-3.622E-02	1.136E-01	1.802E-01	1.010E-02	-0.201
	552.65			2.229E-01	2.258E-01	3.919E-01	2.171E-02	0.569
RB-84	881.50	*		6.817E-02	7.492E-02	1.335E-01	1.103E-02	0.511
KR-85	513.99	*		1.552E+01	8.869E+00	1.443E+01	8.138E-01	1.076
SR-85	513.99	*		7.971E-02	4.555E-02	7.410E-02	4.180E-03	1.076
RB-86	1076.63	*		6.690E-01	8.291E-01	1.462E+00	1.017E-01	0.458
Y-88	898.02			1.400E-03	4.387E-02	7.279E-02	6.245E-03	0.019
	1836.01	*		9.589E-03	3.303E-02	5.747E-02	3.357E-03	0.167
ZR-88	392.90	*		4.964E-03	3.400E-02	5.658E-02	3.209E-03	0.088
Y-91	1204.90	*		2.985E+01	1.991E+01	3.660E+01	2.213E+00	0.816
NB-94	702.63	*		7.226E-03	3.597E-02	6.117E-02	3.402E-03	0.118
	871.10			-4.060E-03	3.416E-02	5.595E-02	4.523E-03	-0.073
NB-95	765.79	*		8.999E-02	5.354E-02	8.943E-02	5.763E-03	1.006
NB-95M	235.69	*		1.425E+00	2.354E-01	3.788E-01	3.200E-02	3.763
ZR-95	724.18			1.503E-01	1.124E-01	1.840E-01	1.270E-02	0.817
	756.15	*		3.413E-02	7.122E-02	1.235E-01	9.210E-03	0.276
NB-97	657.90	*		3.342E-01	7.122E-02	Half-Life	too short	
	1024.50			4.129E+00	7.122E-02	Half-Life	too short	
ZR-97	254.15			-1.618E+00	7.122E-02	Half-Life	too short	
	355.39			-1.929E+00	7.122E-02	Half-Life	too short	
	507.63	*		1.068E+01	7.122E-02	Half-Life	too short	
	602.52			1.797E+00	7.122E-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			-5.219E+00	7.122E-02	Half-Life	too short	
	1147.95			-4.364E+00	7.122E-02	Half-Life	too short	
	1362.66			4.149E+00	7.122E-02	Half-Life	too short	
	1750.46			2.449E+00	7.122E-02	Half-Life	too short	
MO-99	140.51			-4.609E+00	3.257E+01	5.154E+01	1.401E+01	-0.089
	181.06			-2.099E+01	2.400E+01	3.148E+01	5.502E+00	-0.667
	366.43			1.386E+01	9.519E+01	1.589E+02	9.649E+00	0.087
	739.58	*		2.199E+00	1.185E+01	2.012E+01	2.796E+00	0.109
	778.00			2.435E+01	4.118E+01	6.339E+01	4.199E+00	0.384
TC-99M	140.51	*		-9.954E+09	4.118E+01	Half-Life	too short	
RH-101	127.23	+		9.765E-02	6.139E-02	6.785E-02	4.780E-03	1.439
	198.01	*		-1.450E-02	3.902E-02	6.150E-02	4.195E-03	-0.236
	325.23			1.920E-01	2.726E-01	4.679E-01	3.077E-02	0.410
RH-102	418.52			2.370E-02	2.911E-01	4.815E-01	2.746E-02	0.049
	475.06	*		1.715E-02	3.152E-02	5.347E-02	3.048E-03	0.321
	631.29			5.039E-02	5.513E-02	9.582E-02	4.987E-03	0.526
	697.49			2.006E-02	8.049E-02	1.374E-01	7.550E-03	0.146
	766.84	+		2.253E-01	1.899E-01	2.262E-01	1.461E-02	0.996
	1046.59			6.178E-02	1.235E-01	2.120E-01	1.546E-02	0.291
	1112.84			-6.755E-02	2.883E-01	3.902E-01	2.544E-02	-0.173
RU-103	497.08	*		-2.516E-02	4.657E-02	7.285E-02	9.169E-03	-0.345
	610.33			1.239E+01	2.451E+00	3.124E+00	4.761E-01	3.966
RH-106	511.85			3.955E-01	2.549E-01	4.748E-01	2.680E-02	0.833
	621.84	*		-1.227E-01	3.270E-01	5.089E-01	5.841E-02	-0.241
	1050.47			2.754E-01	2.483E+00	4.113E+00	2.982E-01	0.067
RU-106	511.85			3.955E-01	2.549E-01	4.748E-01	2.680E-02	0.833
	621.84	*		-1.227E-01	3.267E-01	5.089E-01	2.674E-02	-0.241
	1050.47			2.754E-01	2.483E+00	4.113E+00	2.981E-01	0.067
AG-108M	433.93	*		1.852E-02	3.832E-02	6.476E-02	4.027E-03	0.286
	614.37	*		-1.460E-02	4.984E-02	6.674E-02	3.889E-03	-0.219
	722.95			6.880E-03	4.814E-02	7.065E-02	4.469E-03	0.097
AG-110M	657.75	*		8.728E-02	4.658E-02	7.681E-02	4.210E-03	1.136
	677.61			2.488E-01	2.944E-01	5.099E-01	2.868E-02	0.488
	706.67			-1.020E-01	2.222E-01	3.595E-01	2.148E-02	-0.284
	763.93			1.168E-01	1.850E-01	2.857E-01	1.926E-02	0.409
	884.67			-1.982E-02	5.398E-02	8.637E-02	7.426E-03	-0.229
	937.48			-1.276E-01	1.245E-01	1.815E-01	1.559E-02	-0.703
	1384.27			-7.790E-02	1.735E-01	2.743E-01	2.132E-02	-0.284
IN-111	171.28			-8.244E-01	1.216E+00	1.898E+00	1.267E-01	-0.434
	245.39	*		2.357E-01	1.362E+00	2.017E+00	1.404E-01	0.117
IN-113M	391.69	*		1.590E-02	4.947E-02	8.318E-02	5.046E-03	0.191
SN-113	391.69	*		1.590E-02	4.947E-02	8.318E-02	5.046E-03	0.191
IN-114M	190.27	*		-1.378E-02	2.462E-01	3.437E-01	2.330E-02	-0.040
CD-115	260.90			-1.715E+02	1.541E+02	2.440E+02	1.696E+01	-0.703
	492.35			1.473E+01	4.208E+01	7.037E+01	3.997E+00	0.209
	527.90	*		-6.411E+00	1.221E+01	1.903E+01	1.067E+00	-0.337
SN-117M	156.02			-2.199E+00	2.698E+00	4.209E+00	2.821E-01	-0.523
	158.56	*		-3.011E-02	6.598E-02	1.026E-01	6.862E-03	-0.293
SB-122	563.90	*		1.821E+00	2.259E+00	3.885E+00	2.137E-01	0.469

---- 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			-3.347E+01	4.711E+01	7.467E+01	4.056E+00	-0.448
	159.00	*		-4.665E+00	4.711E+01	Half-Life	too short	
	528.96			2.680E+00	4.711E+01	Half-Life	too short	
TE-123M	159.00	*		-1.889E-02	3.381E-02	5.232E-02	3.532E-03	-0.361
I-124	602.71	*		4.159E-02	8.427E-01	1.180E+00	6.308E-02	0.035
	722.78			3.553E-01	5.134E+00	7.472E+00	4.360E-01	0.048
	1325.50			-5.969E+00	3.783E+01	5.984E+01	4.465E+00	-0.100
	1376.25			8.521E+01	3.763E+01	7.410E+01	5.561E+00	1.150
	1509.49			2.847E+01	1.859E+01	3.616E+01	2.619E+00	0.787
	1691.02			3.178E+00	3.525E+00	6.822E+00	4.490E-01	0.466
SB-124	602.71			2.359E-03	4.780E-02	6.693E-02	3.580E-03	0.035
	645.85			2.602E-01	5.473E-01	9.152E-01	5.449E-02	0.284
	709.31			8.630E-02	2.942E+00	4.940E+00	2.792E-01	0.017
	713.82			4.998E-02	1.704E+00	2.860E+00	2.906E-01	0.017
	722.78			2.922E-02	4.221E-01	6.144E-01	3.753E-02	0.048
	968.20	+		1.365E+01	4.142E+00	6.883E+00	5.527E-01	1.983
	1045.16			-2.833E-01	2.681E+00	4.350E+00	3.178E-01	-0.065
	1325.50			-5.242E-01	3.322E+00	5.255E+00	3.922E-01	-0.100
	1368.21			-1.017E+00	1.835E+00	2.704E+00	3.460E-01	-0.376
	1436.60			2.049E+00	3.684E+00	6.613E+00	4.900E-01	0.310
	1691.02	*		6.164E-02	6.839E-02	1.323E-01	9.292E-03	0.466
SB-125	427.89	*		-6.662E-02	1.086E-01	1.714E-01	1.022E-02	-0.389
	463.38			5.948E-01	3.352E-01	6.011E-01	4.019E-02	0.989
	600.56			-5.175E-02	2.278E-01	3.257E-01	2.061E-02	-0.159
	635.90			-6.073E-02	2.656E-01	4.184E-01	2.623E-02	-0.145
TE-125M	109.28	*		-2.099E+00	1.089E+01	1.768E+01	1.757E+00	-0.119
I-126	388.63			-5.840E-02	2.292E-01	3.724E-01	2.131E-02	-0.157
	666.33	*		-1.453E-01	2.344E-01	2.994E-01	1.524E-02	-0.485
	753.82			5.504E-01	1.489E+00	2.562E+00	1.607E-01	0.215
SB-126	223.80			4.125E+00	4.863E+00	8.053E+00	5.579E-01	0.512
	278.60			3.218E+00	2.772E+00	4.871E+00	3.362E-01	0.661
	296.50			1.333E+01	2.959E+00	4.097E+00	2.789E-01	3.255
	414.70			1.477E-03	7.929E-02	1.306E-01	7.446E-03	0.011
	415.30			-2.879E-01	6.495E+00	1.065E+01	6.074E-01	-0.027
	555.20			1.048E+00	4.373E+00	7.223E+00	3.995E-01	0.145
	573.80			-1.100E-01	1.171E+00	1.830E+00	1.000E-01	-0.060
	593.00			-4.820E-01	1.061E+00	1.653E+00	8.909E-02	-0.292
	656.30			-3.098E-01	4.307E+00	5.911E+00	2.993E-01	-0.052
	666.33			-6.073E-02	9.799E-02	1.251E-01	6.369E-03	-0.485
	675.00			-1.377E+00	2.096E+00	3.156E+00	1.641E-01	-0.436
	695.00			9.807E-03	7.983E-02	1.351E-01	7.380E-03	0.073
	697.00			9.221E-02	2.893E-01	4.961E-01	2.722E-02	0.186
	720.50	*		6.334E-02	1.656E-01	2.499E-01	1.450E-02	0.253
	856.80			-1.518E-01	5.318E-01	8.612E-01	6.759E-02	-0.176
	989.30			6.622E-01	1.203E+00	2.093E+00	1.643E-01	0.316
	1034.80			3.801E+00	8.898E+00	1.523E+01	1.129E+00	0.249
	1213.00			-1.585E+00	4.989E+00	7.854E+00	4.822E-01	-0.202
SB-127	61.10			5.129E+01	1.150E+02	1.724E+02	2.423E+01	0.298
	252.40			3.173E+00	5.149E+00	8.599E+00	3.589E+00	0.369

---- Non-Identified Nuclides ----

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	290.80			-7.398E+00	2.731E+01	3.886E+01	3.849E+00	-0.190
	411.60			-1.825E+00	1.379E+01	2.250E+01	3.233E+00	-0.081
	444.90			1.566E+00	1.073E+01	1.777E+01	1.918E+00	0.088
	473.00			-7.905E-01	1.915E+00	3.037E+00	3.392E-01	-0.260
	543.00			3.316E+00	1.936E+01	3.182E+01	4.087E+00	0.104
	603.60			-5.517E+00	1.476E+01	1.966E+01	2.078E+00	-0.281
	685.20	*		6.571E-01	1.422E+00	2.470E+00	2.274E-01	0.266
	698.50			6.500E+00	1.608E+01	2.773E+01	3.992E+00	0.234
	722.20			1.076E+01	3.400E+01	5.092E+01	4.702E+00	0.211
	783.80			1.476E+00	3.970E+00	5.974E+00	6.704E-01	0.247
XE-127	57.60			6.432E+00	1.284E+01	1.925E+01	2.452E+00	0.334
	145.22			2.196E-01	8.040E-01	1.317E+00	8.932E-02	0.167
	172.10			-1.316E-01	1.394E-01	2.147E-01	1.434E-02	-0.613
	202.84	*		-2.389E-03	5.698E-02	8.783E-02	6.013E-03	-0.027
	374.96			1.044E-02	2.126E-01	3.525E-01	2.095E-02	0.030
I-131	80.18			3.147E+00	8.605E+00	9.283E+00	1.040E+00	0.339
	284.30			-1.501E+00	1.689E+00	2.690E+00	1.999E-01	-0.558
	364.48	*		-1.171E-01	1.308E-01	2.043E-01	1.379E-02	-0.573
	636.97			5.675E-01	1.499E+00	2.500E+00	1.486E-01	0.227
	722.89			9.597E-01	8.203E+00	1.200E+01	7.106E-01	0.080
TE-132	49.72			-4.620E-01	5.579E+01	9.298E+01	1.397E+01	-0.005
	111.76			-2.549E+01	3.762E+01	5.864E+01	6.074E+00	-0.435
	116.30			-8.920E+00	3.245E+01	5.235E+01	5.280E+00	-0.170
	228.16	*		-2.918E-01	8.192E-01	1.359E+00	2.024E-01	-0.215
BA-133	53.15			-9.262E+00	8.704E+00	1.339E+01	1.836E+00	-0.692
	79.62			1.038E+00	2.449E+00	2.650E+00	4.447E-01	0.392
	81.00			6.591E-02	1.794E-01	1.933E-01	3.363E-02	0.341
	276.40			1.603E-01	4.193E-01	7.132E-01	9.625E-02	0.225
	302.84			6.284E-03	1.879E-01	2.730E-01	3.322E-02	0.023
	356.01	*		-4.922E-02	5.516E-02	7.271E-02	8.561E-03	-0.677
	383.85			4.076E-01	3.420E-01	5.988E-01	6.510E-02	0.681
I-133	510.53	+		1.902E+00	3.420E-01	Half-Life	too short	
	529.87	*		-4.225E-03	3.420E-01	Half-Life	too short	
	706.58			-2.428E-01	3.420E-01	Half-Life	too short	
	856.28			-4.538E-01	3.420E-01	Half-Life	too short	
	875.33			-8.616E-02	3.420E-01	Half-Life	too short	
	1236.41			1.542E+00	3.420E-01	Half-Life	too short	
	1298.22			-1.603E-01	3.420E-01	Half-Life	too short	
CS-134	475.35			5.418E-01	2.102E+00	3.498E+00	1.994E-01	0.155
	563.23			2.624E-01	3.793E-01	6.472E-01	3.645E-02	0.405
	569.32			-5.642E-02	2.069E-01	3.277E-01	1.856E-02	-0.172
	604.70			2.479E-02	4.071E-02	6.044E-02	3.247E-03	0.410
	795.84	+	*	1.190E-01	6.500E-02	9.150E-02	6.376E-03	1.300
	801.93			-8.775E-02	4.369E-01	6.364E-01	4.482E-02	-0.138
	1038.57			-1.210E+00	4.016E+00	6.380E+00	4.705E-01	-0.190
	1167.94			-2.430E+00	2.593E+00	3.799E+00	2.192E-01	-0.640
	1365.15			0.000E+00	1.249E+00	2.013E+00	1.603E-01	0.000
CS-135	268.24	*		1.272E-01	1.830E-01	3.154E-01	2.697E-02	0.403
I-135	288.45			-1.540E+10	1.830E-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
		417.63		1.750E+10	1.830E-01	Half-Life too short		
		546.56		-1.085E+10	1.830E-01	Half-Life too short		
		836.80		3.951E+10	1.830E-01	Half-Life too short		
		1038.76		-9.350E+09	1.830E-01	Half-Life too short		
		1124.00		-3.961E+10	1.830E-01	Half-Life too short		
		1131.51		2.693E+09	1.830E-01	Half-Life too short		
		1260.41	*	6.078E+09	1.830E-01	Half-Life too short		
		1457.56		1.083E+12	1.830E-01	Half-Life too short		
		1678.03		-7.202E+09	1.830E-01	Half-Life too short		
		1706.46		-6.912E+07	1.830E-01	Half-Life too short		
		1791.20		3.108E+09	1.830E-01	Half-Life too short		
CS-136		66.91		7.608E-02	1.514E+00	1.877E+00	3.228E-01	0.041
	+	86.29		4.738E+00	1.647E+00	2.412E+00	3.593E-01	1.964
		153.22		5.772E-01	7.693E-01	1.280E+00	1.021E-01	0.451
		163.89		-1.404E-02	1.264E+00	2.039E+00	1.622E-01	-0.007
		176.55		5.857E-01	4.332E-01	7.340E-01	5.382E-02	0.798
		273.65		-8.934E-01	5.452E-01	8.395E-01	6.393E-02	-1.064
		340.57		2.228E-01	1.633E-01	2.572E-01	1.735E-02	0.866
		818.51		-3.909E-02	7.732E-02	1.226E-01	8.884E-03	-0.319
		1048.07	*	1.017E-02	1.158E-01	1.914E-01	1.475E-02	0.053
		1235.34		5.946E-01	8.333E-01	1.245E+00	1.288E-01	0.478
CE-139		165.85	*	7.229E-03	3.497E-02	5.690E-02	3.784E-03	0.127
BA-140		162.64		-3.689E-01	9.041E-01	1.408E+00	1.028E-01	-0.262
		304.84		1.400E+00	1.642E+00	2.463E+00	6.775E-01	0.568
		423.70		2.441E-01	2.108E+00	3.488E+00	1.108E+00	0.070
		537.32	*	3.083E-03	2.960E-01	4.813E-01	1.563E-01	0.006
LA-140		328.77		7.030E-01	3.529E-01	6.353E-01	4.552E-02	1.107
		432.53		1.620E+00	2.478E+00	4.225E+00	2.674E-01	0.383
		487.03		2.041E-02	1.508E-01	2.450E-01	1.584E-02	0.083
		751.79		-2.641E-01	1.731E+00	2.854E+00	2.130E-01	-0.093
		815.85		1.459E-01	3.149E-01	5.457E-01	4.562E-02	0.267
		867.82		1.761E-01	1.469E+00	2.325E+00	1.981E-01	0.076
		919.63		2.280E+00	2.884E+00	4.826E+00	5.051E-01	0.472
		925.24		-4.552E-01	1.115E+00	1.762E+00	1.570E-01	-0.258
		1596.49	*	-6.497E-04	8.918E-02	1.477E-01	1.030E-02	-0.004
CE-141		145.44	*	3.155E-02	7.254E-02	1.195E-01	8.344E-03	0.264
CE-143		57.37		6.303E-04	7.254E-02	Half-Life too short		
		231.56		-2.671E-03	7.254E-02	Half-Life too short		
	+	293.26	*	1.637E-03	7.254E-02	Half-Life too short		
	+	350.59		3.302E-02	7.254E-02	Half-Life too short		
		490.36		1.846E-04	7.254E-02	Half-Life too short		
		664.57		2.904E-03	7.254E-02	Half-Life too short		
		721.93		4.888E-04	7.254E-02	Half-Life too short		
CE-144		80.11		1.450E+00	3.913E+00	4.223E+00	4.712E-01	0.343
		133.54	*	1.477E-01	2.653E-01	3.878E-01	5.699E-02	0.381
PM-144		476.78		1.834E-02	7.469E-02	1.241E-01	8.514E-03	0.148
		618.01		4.575E-03	3.432E-02	5.595E-02	3.164E-03	0.082
		696.49	*	1.990E-02	3.650E-02	6.358E-02	3.488E-03	0.313
		778.57		1.568E+00	2.665E+00	4.101E+00	2.721E-01	0.382

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49	*		1.348E+00	2.474E+00	4.309E+00	2.361E-01	0.313
	1489.15			-3.538E+00	1.060E+01	1.662E+01	1.213E+00	-0.213
PM-146	453.90	*		1.064E-02	4.985E-02	7.828E-02	6.704E-03	0.136
	633.02			-1.165E+00	1.511E+00	2.162E+00	7.943E-01	-0.539
	735.90			9.633E-02	1.519E-01	2.630E-01	7.344E-02	0.366
	747.13			-2.816E-02	8.654E-02	1.402E-01	1.779E-02	-0.201
ND-147	91.11	+		1.864E+00	5.047E-01	7.029E-01	7.994E-02	2.652
	319.41			2.220E+00	3.921E+00	6.707E+00	4.450E-01	0.331
	439.89			6.289E-01	6.261E+00	1.034E+01	5.914E-01	0.061
	531.02	*		-5.234E-01	6.243E-01	9.414E-01	1.265E-01	-0.556
PM-149	285.90	*		5.696E+01	1.058E+02	1.810E+02	2.651E+01	0.315
EU-152	121.78			-4.092E-02	9.154E-02	1.347E-01	1.175E-02	-0.304
	244.69			2.160E-01	3.978E-01	6.029E-01	4.198E-02	0.358
	344.27	*		8.104E-02	1.492E-01	1.808E-01	1.274E-02	0.448
	443.98			-2.581E-01	1.032E+00	1.662E+00	9.500E-02	-0.155
	778.89			1.803E-01	3.075E-01	4.731E-01	3.140E-02	0.381
	867.32			3.928E-01	8.671E-01	1.416E+00	1.136E-01	0.277
	964.01	+		5.466E-01	2.649E-01	6.023E-01	4.857E-02	0.907
	1085.78			1.883E-01	4.144E-01	7.083E-01	4.852E-02	0.266
	1112.02			-8.200E-02	3.694E-01	5.432E-01	3.546E-02	-0.151
	1407.95			3.481E-02	1.999E-01	3.410E-01	2.544E-02	0.102
GD-153	69.67			1.494E+00	2.568E+00	3.834E+00	4.328E-01	0.390
	83.37			1.294E+00	2.020E+01	2.905E+01	3.277E+00	0.045
	97.43	*		7.155E-04	1.024E-01	1.473E-01	1.413E-02	0.005
	103.18			6.984E-02	1.203E-01	2.012E-01	1.770E-02	0.347
EU-154	123.07			4.303E-02	6.648E-02	9.810E-02	1.010E-02	0.439
	247.94			-1.221E-01	4.164E-01	6.720E-01	6.915E-02	-0.182
	591.81			-5.961E-01	7.113E-01	1.070E+00	1.021E-01	-0.557
	723.30			7.273E-02	2.024E-01	3.039E-01	2.162E-02	0.239
	756.87			1.688E-01	7.836E-01	1.331E+00	1.390E-01	0.127
	873.19			-1.249E-01	2.986E-01	4.739E-01	5.638E-02	-0.264
	996.32			-3.715E-01	3.624E-01	5.187E-01	9.013E-02	-0.716
	1004.76			-1.148E-01	2.090E-01	3.228E-01	3.545E-02	-0.356
	1274.45	*		7.494E-02	1.207E-01	2.090E-01	2.096E-02	0.358
EU-155	48.70			8.171E-01	7.159E+00	1.199E+01	1.543E+00	0.068
	60.01			-1.576E+00	9.614E+00	1.390E+01	1.700E+00	-0.113
	86.54	+		4.337E-01	1.451E-01	2.188E-01	2.523E-02	1.982
	105.31	*		-2.275E-02	1.264E-01	2.054E-01	1.778E-02	-0.111
TB-160	86.79	+		1.160E+00	3.879E-01	5.893E-01	6.768E-02	1.969
	197.04			-2.716E-01	6.749E-01	1.063E+00	7.244E-02	-0.256
	215.65			3.908E-01	9.134E-01	1.487E+00	1.026E-01	0.263
	298.57	+		1.877E-01	1.615E-01	2.345E-01	1.593E-02	0.800
	879.36	*		5.671E-02	1.510E-01	2.582E-01	2.123E-02	0.220
	962.29			1.148E+00	6.471E-01	1.092E+00	8.822E-02	1.051
	966.15			1.166E+00	2.831E-01	5.522E-01	4.443E-02	2.111
	1177.93			-1.190E-01	3.623E-01	5.691E-01	3.271E-02	-0.209
	1271.85			7.370E-02	7.114E-01	1.166E+00	7.952E-02	0.063
HO-166M	80.57			3.289E-01	4.833E-01	5.353E-01	5.979E-02	0.614
	184.41	+		1.542E-01	5.973E-02	8.071E-02	5.446E-03	1.910

----- 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		-4.999E-02	9.476E-02	1.544E-01	1.064E-02	-0.324
		410.95		1.899E-01	2.620E-01	4.504E-01	2.566E-02	0.422
		711.68	*	5.570E-02	6.254E-02	1.116E-01	6.346E-03	0.499
		752.31		1.013E-01	2.795E-01	4.804E-01	3.002E-02	0.211
		810.29		-4.192E-02	5.925E-02	9.200E-02	6.542E-03	-0.456
		51.35		-5.174E+00	7.886E+01	1.280E+02	1.768E+01	-0.040
		52.39		-1.993E+01	3.876E+01	6.156E+01	8.491E+00	-0.324
		59.40		2.130E+01	5.105E+01	7.620E+01	9.378E+00	0.280
		66.72	*	4.534E+00	5.490E+01	6.822E+01	7.845E+00	0.066
		88.36		5.612E-01	2.611E-01	4.356E-01	4.998E-02	1.288
LU-176	+	201.83		7.260E-03	3.326E-02	5.380E-02	3.680E-03	0.135
		306.84	*	-3.980E-03	2.916E-02	4.699E-02	3.166E-03	-0.085
		401.10		7.636E+00	7.520E+00	1.311E+01	7.454E-01	0.582
LU-177		112.95		1.708E+00	1.962E+00	3.242E+00	2.538E-01	0.527
	+	208.36	*	1.983E+00	1.600E+00	2.206E+00	1.516E-01	0.899
LU-177M		52.97		-2.536E+00	3.884E+00	6.122E+00	8.407E-01	-0.414
		54.07		-1.649E+00	1.873E+00	2.979E+00	4.038E-01	-0.554
	+	61.30		1.210E+00	2.921E+00	4.339E+00	5.238E-01	0.279
		121.62		-2.072E-01	4.698E-01	6.919E-01	4.985E-02	-0.300
		147.16		2.328E-01	7.528E-01	1.234E+00	8.351E-02	0.189
		171.86		-4.781E-01	5.602E-01	8.670E-01	5.789E-02	-0.551
		218.09		2.355E-02	1.027E+00	1.642E+00	1.135E-01	0.014
		268.79		5.048E-01	9.437E-01	1.616E+00	1.121E-01	0.312
		319.02		1.480E-01	3.064E-01	5.220E-01	3.464E-02	0.284
		367.43		6.206E-01	9.710E-01	1.668E+00	1.010E-01	0.372
HF-181		413.65	*	-1.401E-01	1.868E-01	2.917E-01	1.662E-02	-0.480
		56.28		-6.159E-02	1.880E+00	3.121E+00	4.076E-01	-0.020
		57.53		3.355E-01	1.037E+00	1.622E+00	2.069E-01	0.207
		65.20		-1.225E+00	1.664E+00	2.324E+00	2.705E-01	-0.527
		133.02		-2.675E-03	8.759E-02	1.243E-01	8.622E-03	-0.022
		136.25		1.741E-01	5.421E-01	8.913E-01	6.138E-02	0.195
		345.85		1.377E-01	2.502E-01	3.570E-01	2.267E-02	0.386
		482.03	*	-1.271E-02	4.554E-02	7.284E-02	4.147E-03	-0.175
		56.28		-2.379E-02	7.344E-01	1.220E+00	1.593E-01	-0.020
		57.53		1.311E-01	4.055E-01	6.344E-01	8.091E-02	0.207
TA-182		65.20	*	-4.753E-01	6.456E-01	9.018E-01	1.050E-01	-0.527
		67.75		7.999E-03	2.119E-01	2.607E-01	2.976E-02	0.031
		100.10		-6.295E-02	2.030E-01	3.285E-01	3.021E-02	-0.192
		152.43		2.554E-01	3.910E-01	6.486E-01	4.362E-02	0.394
W-181		222.10		1.828E-01	4.105E-01	6.687E-01	4.629E-02	0.273
		1001.68		2.621E+00	2.062E+00	3.734E+00	2.888E-01	0.702
	+	1121.28		4.258E-01	2.473E-01	3.534E-01	2.265E-02	1.205
		1189.05		2.499E-01	3.217E-01	5.613E-01	3.295E-02	0.445
		1221.42	*	-1.279E-01	2.066E-01	3.147E-01	1.962E-02	-0.407
		1230.97		-5.310E-01	6.418E-01	7.923E-01	5.027E-02	-0.670
		57.98		3.553E-01	4.099E-01	6.246E-01	7.898E-02	0.569
		59.32		9.869E-02	2.114E-01	3.163E-01	3.898E-02	0.312
		67.20		-1.877E-01	4.685E-01	4.743E-01	5.435E-02	-0.396
		162.32	*	-2.390E-02	1.314E-01	2.068E-01	1.378E-02	-0.116

---- 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		1.756E+00	1.417E+00	1.977E+00	1.359E-01	0.888
		291.72		9.463E-01	1.252E+00	1.907E+00	1.304E-01	0.496
		57.98		1.308E+00	1.509E+00	2.300E+00	2.908E-01	0.569
		59.32		3.630E-01	7.775E-01	1.163E+00	1.434E-01	0.312
		67.20		-6.908E-01	1.724E+00	1.746E+00	2.000E-01	-0.396
		161.27		4.163E-02	4.177E-01	6.648E-01	4.435E-02	0.063
		216.55		2.210E-01	3.208E-01	5.280E-01	3.645E-02	0.418
		252.85	*	3.223E-02	2.605E-01	4.400E-01	3.063E-02	0.073
		318.01		-2.629E-02	5.331E-01	8.851E-01	5.881E-02	-0.030
		792.07		1.281E+00	1.160E+00	1.872E+00	1.279E-01	0.684
OS-185		903.28		-6.352E-02	1.246E+00	1.760E+00	1.497E-01	-0.036
		920.93		5.346E-02	4.316E-01	7.219E-01	6.055E-02	0.074
		59.72		-1.182E-01	5.756E-01	8.305E-01	1.018E-01	-0.142
		61.14		1.486E-01	3.179E-01	4.773E-01	5.771E-02	0.311
		69.30		2.278E-01	4.609E-01	6.857E-01	7.756E-02	0.332
		592.07		-2.865E+00	2.920E+00	4.347E+00	2.344E-01	-0.659
		646.12	*	1.038E-02	4.818E-02	7.887E-02	4.041E-03	0.132
		717.42		-6.742E-01	9.148E-01	1.438E+00	8.287E-02	-0.469
		874.81		-1.817E-01	6.414E-01	9.519E-01	7.754E-02	-0.191
		880.27		4.490E-01	8.274E-01	1.435E+00	1.182E-01	0.313
RE-188		155.03	*	-2.024E-02	2.007E-01	3.232E-01	2.168E-02	-0.063
		477.96		1.649E+00	3.378E+00	5.705E+00	3.251E-01	0.289
		633.10		-2.567E+00	2.919E+00	4.315E+00	2.242E-01	-0.595
W-188	+	63.58		4.557E+01	1.101E+02	1.445E+02	1.706E+01	0.315
		227.08		1.045E+00	1.476E+01	2.496E+01	1.732E+00	0.042
		290.67	*	-2.195E+00	9.217E+00	1.315E+01	9.001E-01	-0.167
IR-192	+	295.96		1.212E+00	2.162E-01	3.297E-01	2.271E-02	3.677
		308.46		-5.592E-03	1.081E-01	1.797E-01	1.219E-02	-0.031
		316.51	*	-4.067E-03	3.980E-02	6.590E-02	4.404E-03	-0.062
		468.07		-8.442E-03	8.262E-02	1.157E-01	7.642E-03	-0.073
		604.41		1.979E-01	5.426E-01	7.859E-01	8.740E-02	0.252
		612.46		7.651E-01	8.736E-01	1.326E+00	9.545E-02	0.577
AU-195		65.12		-2.113E-01	2.999E-01	4.197E-01	4.888E-02	-0.504
		66.83		1.153E-02	1.810E-01	2.246E-01	2.580E-02	0.051
	+	75.70		1.577E+00	3.487E-01	6.009E-01	6.672E-02	2.625
		98.88	*	7.804E-02	2.920E-01	4.258E-01	3.991E-02	0.183
		129.76		5.595E+00	3.871E+00	5.890E+00	4.119E-01	0.950
TL-200		367.94	*	2.338E-04	3.871E+00	Half-Life	too short	
		579.30		7.976E-03	3.871E+00	Half-Life	too short	
		828.27		-4.765E-03	3.871E+00	Half-Life	too short	
		1205.75		3.796E-03	3.871E+00	Half-Life	too short	
TL-201		68.90		2.500E+00	7.759E+00	1.146E+01	1.299E+00	0.218
		70.82		1.327E+00	4.405E+00	6.490E+00	7.287E-01	0.204
		80.30		3.420E+00	9.571E+00	1.032E+01	1.152E+00	0.331
		135.34		-2.288E+01	3.143E+01	4.952E+01	3.416E+00	-0.462
		167.43	*	6.118E+00	8.398E+00	1.395E+01	9.280E-01	0.439
TL-202		68.90		2.189E-01	6.792E-01	1.003E+00	1.137E-01	0.218
		70.82		1.159E-01	3.846E-01	5.666E-01	6.362E-02	0.204
		80.30		2.986E-01	8.359E-01	9.010E-01	1.006E-01	0.331

---- 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	*	3.596E-03	7.583E-02	1.248E-01	7.133E-03	0.029
		70.83		5.075E-01	1.657E+00	2.440E+00	3.755E-01	0.208
	+	72.87		4.111E+00	1.509E+00	1.718E+00	2.573E-01	2.393
		82.60		5.313E-01	1.534E+00	2.234E+00	3.468E-01	0.238
BI-207		279.20	*	2.573E-02	4.523E-02	7.764E-02	5.592E-03	0.331
	+	72.80		1.202E+00	4.246E-01	5.007E-01	5.584E-02	2.402
	+	74.97		7.123E-01	2.515E-01	3.401E-01	3.779E-02	2.094
		84.90		5.572E-01	2.467E-01	4.169E-01	4.738E-02	1.336
TL-207		569.67		-3.188E-03	3.147E-02	5.055E-02	2.770E-03	-0.063
		1063.62	*	4.101E-02	5.349E-02	9.413E-02	6.688E-03	0.436
		1770.23		5.038E-01	3.594E-01	7.500E-01	4.644E-02	0.672
		81.07		1.487E-01	3.952E-01	4.265E-01	4.771E-02	0.349
PO-209		83.78		2.617E-02	1.725E-01	2.491E-01	2.815E-02	0.105
		94.90		3.240E-01	3.025E-01	4.563E-01	4.575E-02	0.710
		122.32		7.362E-01	2.262E+00	3.285E+00	2.601E-01	0.224
		144.24		-5.091E-01	8.219E-01	1.280E+00	1.030E-01	-0.398
BI-210		154.21		3.300E-01	4.605E-01	7.652E-01	5.957E-02	0.431
		269.46		1.483E-01	2.219E-01	3.818E-01	2.731E-02	0.388
		323.87	*	-8.554E-01	8.352E-01	1.299E+00	2.184E-01	-0.658
	+	338.28		6.661E+00	2.195E+00	2.683E+00	2.923E-01	2.483
PB-210		445.03		4.428E-01	2.436E+00	4.044E+00	4.133E-01	0.109
		260.50		-3.233E+00	1.071E+01	1.770E+01	1.231E+00	-0.183
		262.80		-2.376E+01	2.966E+01	4.774E+01	3.317E+00	-0.498
		896.60	*	5.675E+00	7.602E+00	1.341E+01	1.142E+00	0.423
PO-210		46.50	*	-1.001E+01	1.241E+01	1.955E+01	2.031E+00	-0.512
PB-211		46.50	*	-1.001E+01	1.241E+01	1.955E+01	2.031E+00	-0.512
		46.50	*	-1.001E+01	1.241E+01	1.955E+01	1.878E+00	-0.512
		404.84	*	-1.213E+00	1.316E+00	1.653E+00	1.031E+00	-0.733
BI-212		427.08		-1.721E-01	2.401E+00	3.924E+00	2.425E+00	-0.044
		831.96		4.380E-01	1.274E+00	2.129E+00	1.331E+00	0.206
	+	727.18	*	4.620E-01	4.596E-01	5.809E-01	4.522E-02	0.795
		785.46		1.015E+00	2.032E+00	2.830E+00	1.906E-01	0.359
PO-215		1620.62		7.396E-01	1.228E+00	2.228E+00	1.533E-01	0.332
		81.07		1.487E-01	3.952E-01	4.265E-01	4.771E-02	0.349
		83.78		2.617E-02	1.725E-01	2.491E-01	2.815E-02	0.105
		94.90		3.240E-01	3.025E-01	4.563E-01	4.575E-02	0.710
RN-219		122.32		7.362E-01	2.262E+00	3.285E+00	2.601E-01	0.224
		144.24		-5.091E-01	8.219E-01	1.280E+00	1.030E-01	-0.398
		154.21		3.300E-01	4.605E-01	7.652E-01	5.957E-02	0.431
		269.46		1.483E-01	2.219E-01	3.818E-01	2.731E-02	0.388
RA-223		323.87	*	-8.554E-01	8.352E-01	1.299E+00	2.184E-01	-0.658
	+	338.28		6.661E+00	2.195E+00	2.683E+00	2.923E-01	2.483
		445.03		4.428E-01	2.436E+00	4.044E+00	4.133E-01	0.109
		271.23		4.626E-01	2.813E-01	4.989E-01	4.463E-02	0.927
		401.81	*	1.663E-01	4.685E-01	7.874E-01	1.067E-01	0.211
		549.76	*	-6.798E-01	3.035E+01	4.917E+01	2.728E+00	-0.014
		81.07		1.487E-01	3.952E-01	4.265E-01	4.771E-02	0.349
		83.78		2.617E-02	1.725E-01	2.491E-01	2.815E-02	0.105
		94.90		3.240E-01	3.025E-01	4.563E-01	4.575E-02	0.710

---- 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		7.362E-01	2.262E+00	3.285E+00	2.601E-01	0.224
		144.24		-5.091E-01	8.219E-01	1.280E+00	1.030E-01	-0.398
		154.21		3.300E-01	4.605E-01	7.652E-01	5.957E-02	0.431
		269.46		1.483E-01	2.219E-01	3.818E-01	2.731E-02	0.388
		323.87	*	-8.554E-01	8.352E-01	1.299E+00	2.184E-01	-0.658
	+	338.28		6.661E+00	2.195E+00	2.683E+00	2.923E-01	2.483
		445.03		4.428E-01	2.436E+00	4.044E+00	4.133E-01	0.109
		79.80		1.031E+00	3.093E+00	3.320E+00	7.515E-01	0.310
		236.00		3.795E+00	5.839E-01	7.885E-01	8.780E-02	4.813
		256.20	*	-1.468E-01	4.268E-01	7.043E-01	1.020E-01	-0.208
		286.10		1.402E+00	1.687E+00	2.921E+00	3.543E-01	0.480
	+	299.80		2.387E+00	2.085E+00	2.963E+00	4.938E-01	0.806
TH-227		304.40		9.645E-01	2.423E+00	3.604E+00	6.358E-01	0.268
		334.20		-1.725E+00	2.934E+00	4.009E+00	7.441E-01	-0.430
		79.80		1.031E+00	3.093E+00	3.320E+00	7.601E-01	0.310
		94.00		8.339E+00	3.084E+00	4.441E+00	9.969E-01	1.878
		236.00		3.795E+00	5.493E-01	7.885E-01	7.756E-02	4.813
		256.20	*	-1.468E-01	4.271E-01	7.043E-01	1.221E-01	-0.208
		286.10		1.402E+00	2.189E+00	2.921E+00	2.928E+00	0.480
	+	299.80		2.387E+00	2.085E+00	2.963E+00	4.938E-01	0.806
		304.40		9.645E-01	2.423E+00	3.604E+00	6.358E-01	0.268
		334.20		-1.725E+00	2.934E+00	4.009E+00	7.441E-01	-0.430
	+	85.43		8.075E-01	2.700E-01	4.224E-01	4.813E-02	1.912
	+	88.47		3.231E-01	1.503E-01	2.480E-01	2.838E-02	1.303
PA-231		100.00		-3.523E-02	2.172E-01	3.415E-01	3.145E-02	-0.103
		193.63	*	7.573E-02	6.134E-01	9.892E-01	6.725E-02	0.077
		210.97		4.403E-01	1.053E+00	1.504E+00	1.035E-01	0.293
		283.67	*	-9.780E-01	1.711E+00	2.769E+00	3.951E-01	-0.353
		301.29		9.903E-01	7.723E-01	1.201E+00	1.324E-01	0.824
TH-231		81.07		1.487E-01	3.952E-01	4.265E-01	4.771E-02	0.349
		83.78		2.617E-02	1.725E-01	2.491E-01	2.815E-02	0.105
		94.90		3.240E-01	3.025E-01	4.563E-01	4.575E-02	0.710
		122.32		7.362E-01	2.262E+00	3.285E+00	2.601E-01	0.224
		144.24		-5.091E-01	8.219E-01	1.280E+00	1.030E-01	-0.398
U-231		154.21		3.300E-01	4.605E-01	7.652E-01	5.957E-02	0.431
		269.46		1.483E-01	2.219E-01	3.818E-01	2.731E-02	0.388
		323.87	*	-8.554E-01	8.352E-01	1.299E+00	2.184E-01	-0.658
	+	338.28		6.661E+00	2.195E+00	2.683E+00	2.923E-01	2.483
		445.03		4.428E-01	2.436E+00	4.044E+00	4.133E-01	0.109
		84.21		7.351E+00	6.794E+00	1.137E+01	1.287E+00	0.647
	+	92.29		1.437E+01	3.856E+00	5.219E+00	5.501E-01	2.753
		95.87	*	9.596E-01	1.414E+00	2.104E+00	2.073E-01	0.456
		108.00		-1.970E+00	2.484E+00	3.928E+00	3.250E-01	-0.502
	+	75.28		2.079E+01	7.800E+00	9.942E+00	1.677E+00	2.091
	+	86.59		7.049E+00	2.960E+00	3.561E+00	9.924E-01	1.980
	+	300.12		6.655E-01	5.781E-01	8.333E-01	1.158E-01	0.799
PA-233		311.98	*	2.173E-02	7.128E-02	1.206E-01	8.454E-03	0.180
		340.50		1.227E+00	8.389E-01	1.262E+00	2.918E-01	0.973
		398.62		-4.254E-01	2.434E+00	3.966E+00	1.024E+00	-0.107

---- 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		3.719E-02	1.680E+00	2.769E+00	5.692E-01	0.013
		63.00		1.320E+00	3.191E+00	4.316E+00	7.562E-01	0.306
		94.67		3.677E-01	2.249E-01	3.415E-01	4.593E-02	1.077
		98.44		6.332E-02	1.229E-01	1.742E-01	9.739E-02	0.364
		99.86		-2.030E-02	5.489E-01	8.677E-01	8.010E-02	-0.023
		111.00		4.111E-02	2.219E-01	3.584E-01	4.175E-02	0.115
		131.20		-3.754E-02	1.423E-01	1.994E-01	1.389E-02	-0.188
		152.70		2.898E-01	3.780E-01	6.257E-01	1.012E-01	0.463
	+	186.00		5.550E+00	2.720E+00	2.909E+00	8.944E-01	1.908
		226.40		-3.674E-02	4.579E-01	7.697E-01	9.367E-02	-0.048
		227.20		5.342E-02	4.987E-01	8.445E-01	5.858E-02	0.063
		248.90		-8.530E-01	9.451E-01	1.492E+00	3.256E-01	-0.572
	+	293.70		7.620E+00	1.774E+00	2.041E+00	3.364E-01	3.733
		369.80		-2.174E-01	9.409E-01	1.532E+00	3.201E-01	-0.142
		568.70		-3.640E-01	1.062E+00	1.673E+00	9.173E-02	-0.218
		569.50		-8.256E-02	2.841E-01	4.493E-01	2.463E-02	-0.184
		574.00		-6.817E-02	1.674E+00	2.627E+00	1.436E-01	-0.026
		699.00		2.178E-02	7.717E-01	1.297E+00	2.320E-01	0.017
		706.10		-5.586E-01	1.150E+00	1.813E+00	7.999E-01	-0.308
		733.00		1.578E-01	4.170E-01	6.278E-01	1.338E-01	0.251
		742.81		-4.767E-01	1.360E+00	2.140E+00	1.433E+00	-0.223
		796.30		1.759E+00	1.087E+00	1.709E+00	4.539E-01	1.029
		805.60		1.125E+00	1.035E+00	1.788E+00	5.408E-01	0.629
		819.60		3.496E-02	1.256E+00	2.094E+00	7.902E-01	0.017
		826.30		-1.019E+00	9.239E-01	1.169E+00	5.204E-01	-0.872
		831.60		-1.322E-01	6.568E-01	1.071E+00	3.161E-01	-0.124
		876.40		-1.234E-01	9.358E-01	1.402E+00	1.441E+00	-0.088
		880.51		2.414E-01	2.966E-01	5.253E-01	4.329E-02	0.459
		883.24		8.927E-03	3.137E-01	5.206E-01	3.497E-01	0.017
		899.00		-1.100E-01	8.949E-01	1.462E+00	6.387E-01	-0.075
		925.00		-4.120E-01	1.154E+00	1.835E+00	1.534E-01	-0.225
		926.50		-1.738E-01	1.830E-01	2.638E-01	6.645E-02	-0.659
		946.00	*	-1.823E-01	2.865E-01	4.364E-01	8.108E-02	-0.418
		949.00		1.691E-01	4.383E-01	7.499E-01	6.136E-02	0.225
		980.50		4.592E-01	6.975E-01	1.225E+00	9.708E-02	0.375
		1394.10		2.991E-01	1.138E+00	1.945E+00	1.263E+00	0.154
		766.42		2.333E+01	1.872E+01	2.395E+01	1.207E+01	0.974
PA-234M		1001.03	*	6.495E+00	4.699E+00	8.557E+00	7.887E-01	0.759
U-235	+	89.95		3.242E+00	1.789E+00	2.503E+00	7.916E-01	1.296
	+	93.35		4.410E+00	1.669E+00	1.536E+00	4.392E-01	2.871
		105.00		-2.349E-01	1.245E+00	2.020E+00	6.028E-01	-0.116
		143.76	*	-1.315E-01	2.538E-01	3.958E-01	6.604E-02	-0.332
		163.35		-9.731E-02	5.584E-01	8.778E-01	1.605E-01	-0.111
	+	185.71		2.056E-01	7.964E-02	1.083E-01	7.313E-03	1.899
NP-236		205.31		-6.926E-02	6.751E-01	9.357E-01	1.717E-01	-0.074
		94.67		2.812E-01	1.689E-01	2.593E-01	2.611E-02	1.084
		98.44		4.788E-02	8.905E-02	1.317E-01	1.243E-02	0.364
		111.00		3.110E-02	1.678E-01	2.711E-01	2.167E-02	0.115
		160.31	*	-1.011E-02	9.458E-02	1.493E-01	9.971E-03	-0.068

----- 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		8.379E-03	1.840E-01	2.919E-01	2.708E-02	0.029
		117.00	*	-7.395E-03	2.125E-01	3.462E-01	2.603E-02	-0.021
	+	209.75		1.383E+00	1.116E+00	1.582E+00	1.088E-01	0.874
		228.18		-9.367E-02	2.588E-01	4.297E-01	2.982E-02	-0.218
		277.60		1.249E-01	2.045E-01	3.513E-01	2.426E-02	0.356
AM-241		334.30		-8.888E-01	1.658E+00	2.289E+00	1.484E-01	-0.388
		59.54	*	-7.181E-02	3.048E-01	4.390E-01	5.587E-02	-0.164
CM-243		99.55		8.622E-03	1.893E-01	3.004E-01	2.786E-02	0.029
		103.76	*	5.488E-02	1.118E-01	1.864E-01	1.627E-02	0.294
		117.00		-7.608E-03	2.186E-01	3.562E-01	2.678E-02	-0.021
	+	209.75		1.364E+00	1.100E+00	1.560E+00	1.073E-01	0.874
		228.18		-9.465E-02	2.615E-01	4.342E-01	3.013E-02	-0.218
AM-246		277.60		1.259E-01	2.061E-01	3.542E-01	2.446E-02	0.356
		798.80		-1.907E-01	1.546E-01	1.808E-01	1.254E-02	-1.055
		1036.00		3.499E-02	3.014E-01	5.004E-01	3.703E-02	0.070
		1062.04		1.779E-03	2.374E-01	3.892E-01	2.772E-02	0.005
		1078.86	*	-5.401E-02	1.523E-01	2.401E-01	1.664E-02	-0.225
CM-247		278.00		6.691E-01	8.476E-01	1.467E+00	1.013E-01	0.456
		287.40		8.433E-01	1.391E+00	2.337E+00	1.603E-01	0.361
		402.60	*	1.140E-02	4.237E-02	7.090E-02	4.032E-03	0.161
CF-249		252.85		1.209E-01	9.768E-01	1.650E+00	1.148E-01	0.073
		333.44		-1.654E-01	2.186E-01	2.961E-01	1.922E-02	-0.559
		387.95	*	-2.943E-03	4.540E-02	7.463E-02	4.279E-03	-0.039
CF-251		176.60	*	1.977E-01	1.479E-01	2.507E-01	1.680E-02	0.788
		227.00		2.008E-02	4.418E-01	7.463E-01	5.177E-02	0.027
		285.00		-2.777E-01	1.896E+00	3.146E+00	2.162E-01	-0.088

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]G244924002
* Acquisition date   : 27-JAN-2010 18:35:26 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 02:00:01.24             Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244924002             Analyst initials: MXR1
* Batch Number       : 942723                 Sample Quantity : 1.3951E+02 GRAM
* Recovery           : 1.00000                Carrier Weight  : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 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	2.145E+01	2.311E+00	5.834E-01	0.000E+00
SR-82	1.277E+00	9.483E-01	6.142E-01	0.000E+00
CD-109	2.408E+00	1.098E+00	1.584E+00	0.000E+00
SN-126	3.601E-01	1.180E-01	1.569E-01	0.000E+00
BA-137M	4.027E-01	8.124E-02	5.840E-02	0.000E+00
CS-137	4.257E-01	8.590E-02	6.174E-02	0.000E+00
TL-208	4.257E-01	8.350E-02	6.163E-02	0.000E+00
BI-211	3.847E+00	5.592E-01	3.625E-01	0.000E+00
PB-212	1.358E+00	1.614E-01	1.079E-01	0.000E+00
PO-212	1.358E+00	1.614E-01	1.079E-01	0.000E+00
BI-214	1.200E+00	1.854E-01	1.213E-01	0.000E+00
PB-214	1.338E+00	2.062E-01	1.263E-01	0.000E+00
PO-214	1.338E+00	2.062E-01	1.263E-01	0.000E+00
PO-216	1.358E+00	1.614E-01	1.079E-01	0.000E+00
PO-218	1.338E+00	2.062E-01	1.263E-01	0.000E+00
RA-224	3.802E+00	1.366E+00	1.228E+00	0.000E+00
RA-226	1.200E+00	1.854E-01	1.213E-01	0.000E+00
AC-228	1.287E+00	3.257E-01	2.348E-01	0.000E+00
RA-228	1.287E+00	3.257E-01	2.348E-01	0.000E+00
TH-228	1.378E+00	1.639E-01	1.096E-01	0.000E+00
TH-230	1.200E+00	1.854E-01	1.213E-01	0.000E+00
TH-232	1.287E+00	3.257E-01	2.348E-01	0.000E+00
TH-234	1.132E+00	2.685E+00	3.610E+00	0.000E+00
U-234	1.200E+00	1.854E-01	1.213E-01	0.000E+00
NP-237	1.057E+00	4.072E-01	4.697E-01	0.000E+00
U-238	1.132E+00	2.685E+00	3.610E+00	0.000E+00
AM-243	3.968E-01	1.373E-01	1.246E-01	0.000E+00
ANH-511	1.648E-01	8.245E-02	5.234E-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	9.280E-02	3.470E-01	6.051E-01	0.000E+00	NOT IDENT.
NA-22	2.683E-02	4.231E-02	7.533E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	9.010E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	3.082E-03	2.906E-02	4.977E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.010E-02	9.585E-02	0.000E+00	NOT IDENT.
SC-46	-1.151E-02	4.035E-02	6.728E-02	0.000E+00	FAIL ABUN
V-48	-4.500E-03	6.828E-02	1.152E-01	0.000E+00	NOT IDENT.
CR-51	-4.556E-02	4.331E-01	7.574E-01	0.000E+00	NOT IDENT.
MN-52	-2.234E-02	2.357E-01	3.981E-01	0.000E+00	NOT IDENT.
MN-54	2.356E-02	4.079E-02	7.315E-02	0.000E+00	NOT IDENT.
CO-56	1.989E-02	3.818E-02	6.863E-02	0.000E+00	FAIL ABUN
CO-57	2.771E-04	3.206E-02	4.925E-02	0.000E+00	NOT IDENT.
CO-58	-3.441E-02	3.838E-02	6.060E-02	0.000E+00	NOT IDENT.
FE-59	5.970E-02	9.207E-02	1.646E-01	0.000E+00	NOT IDENT.
CO-60	-6.720E-04	3.944E-02	6.519E-02	0.000E+00	NOT IDENT.
ZN-65	-7.678E-03	1.127E-01	1.609E-01	0.000E+00	NOT IDENT.
GE-68	1.532E-01	1.315E+00	2.242E+00	0.000E+00	NOT IDENT.
AS-73	-1.921E+00	1.925E+00	3.253E+00	0.000E+00	NOT IDENT.
AS-74	4.608E-02	1.034E-01	1.800E-01	0.000E+00	NOT IDENT.
SE-75	-4.247E-02	4.946E-02	8.431E-02	0.000E+00	NOT IDENT.
BR-77	-3.898E+00	1.190E+01	1.917E+01	0.000E+00	FAIL ABUN
RB-83	-4.525E-02	7.663E-02	1.208E-01	0.000E+00	NOT IDENT.
RB-84	6.817E-02	7.342E-02	1.354E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.692E+00	1.480E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.464E-02	7.599E-02	0.000E+00	NOT IDENT.
RB-86	6.690E-01	8.126E-01	1.476E+00	0.000E+00	NOT IDENT.
Y-88	9.589E-03	3.237E-02	5.740E-02	0.000E+00	NOT IDENT.
ZR-88	4.964E-03	3.332E-02	5.834E-02	0.000E+00	NOT IDENT.
Y-91	2.985E+01	1.952E+01	3.688E+01	0.000E+00	NOT IDENT.
NB-94	7.226E-03	3.525E-02	6.233E-02	0.000E+00	NOT IDENT.
NB-95	8.999E-02	5.247E-02	9.097E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.306E-01	3.945E-01	0.000E+00	NOT IDENT.
ZR-95	3.413E-02	6.980E-02	1.257E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.518E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.940E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.199E+00	1.161E+01	2.048E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.895E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.450E-02	3.824E-02	6.427E-02	0.000E+00	FAIL ABUN
RH-102	1.715E-02	3.089E-02	5.492E-02	0.000E+00	FAIL ABUN
RU-103	-2.516E-02	4.564E-02	7.476E-02	0.000E+00	NOT IDENT.
RH-106	-1.227E-01	3.204E-01	5.199E-01	0.000E+00	NOT IDENT.
RU-106	-1.227E-01	3.202E-01	5.199E-01	0.000E+00	NOT IDENT.
AG-108M	1.852E-02	3.755E-02	6.664E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	4.565E-02	7.838E-02	0.000E+00	NOT IDENT.
IN-111	2.357E-01	1.335E+00	2.099E+00	0.000E+00	NOT IDENT.
IN-113M	1.590E-02	4.848E-02	8.576E-02	0.000E+00	NOT IDENT.
SN-113	1.590E-02	4.848E-02	8.576E-02	0.000E+00	NOT IDENT.
IN-114M	-1.378E-02	2.413E-01	3.594E-01	0.000E+00	NOT IDENT.
CD-115	-6.411E+00	1.197E+01	1.950E+01	0.000E+00	NOT IDENT.
SN-117M	-3.011E-02	6.466E-02	1.077E-01	0.000E+00	NOT IDENT.
SB-122	1.821E+00	2.213E+00	3.976E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.182E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.889E-02	3.313E-02	5.491E-02	0.000E+00	NOT IDENT.
I-124	4.159E-02	8.258E-01	1.206E+00	0.000E+00	NOT IDENT.
SB-124	6.164E-02	6.702E-02	1.324E-01	0.000E+00	FAIL ABUN
SB-125	-6.662E-02	1.064E-01	1.764E-01	0.000E+00	NOT IDENT.
TE-125M	-2.099E+00	1.068E+01	1.869E+01	0.000E+00	NOT IDENT.
I-126	-1.453E-01	2.297E-01	3.054E-01	0.000E+00	NOT IDENT.
SB-126	6.334E-02	1.623E-01	2.545E-01	0.000E+00	NOT IDENT.
SB-127	6.571E-01	1.394E+00	2.518E+00	0.000E+00	NOT IDENT.
XE-127	-2.389E-03	5.584E-02	9.174E-02	0.000E+00	NOT IDENT.
I-131	-1.171E-01	1.282E-01	2.110E-01	0.000E+00	NOT IDENT.
TE-132	-2.918E-01	8.028E-01	1.417E+00	0.000E+00	NOT IDENT.
BA-133	-4.922E-02	5.406E-02	7.511E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.276E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.370E-02	9.300E-02	0.000E+00	FAIL ABUN
CS-135	1.272E-01	1.794E-01	3.277E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.402E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.017E-02	1.135E-01	1.935E-01	0.000E+00	FAIL ABUN
CE-139	7.229E-03	3.427E-02	5.967E-02	0.000E+00	NOT IDENT.
BA-140	3.083E-03	2.901E-01	4.931E-01	0.000E+00	NOT IDENT.
LA-140	-6.497E-04	8.740E-02	1.480E-01	0.000E+00	NOT IDENT.
CE-141	3.155E-02	7.109E-02	1.257E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	4.443E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.477E-01	2.600E-01	4.084E-01	0.000E+00	NOT IDENT.
PM-144	1.990E-02	3.577E-02	6.480E-02	0.000E+00	NOT IDENT.
PR-144	1.348E+00	2.424E+00	4.391E+00	0.000E+00	NOT IDENT.

PM-146	1.064E-02	4.885E-02	8.048E-02	0.000E+00	NOT IDENT.
ND-147	-5.234E-01	6.118E-01	9.648E-01	0.000E+00	FAIL ABUN
PM-149	5.696E+01	1.037E+02	1.878E+02	0.000E+00	NOT IDENT.
EU-152	8.104E-02	1.462E-01	1.869E-01	0.000E+00	FAIL ABUN
GD-153	7.155E-04	1.003E-01	1.560E-01	0.000E+00	NOT IDENT.
EU-154	7.494E-02	1.183E-01	2.104E-01	0.000E+00	NOT IDENT.
EU-155	-2.275E-02	1.238E-01	2.172E-01	0.000E+00	FAIL ABUN
TB-160	5.671E-02	1.480E-01	2.619E-01	0.000E+00	FAIL ABUN
HO-166M	5.570E-02	6.129E-02	1.137E-01	0.000E+00	FAIL ABUN
TM-171	4.534E+00	5.381E+01	7.279E+01	0.000E+00	NOT IDENT.
LU-176	-3.980E-03	2.858E-02	4.869E-02	0.000E+00	FAIL ABUN
LU-177	1.983E+00	1.568E+00	2.303E+00	0.000E+00	FAIL ABUN
LU-177M	-1.401E-01	1.831E-01	3.004E-01	0.000E+00	FAIL ABUN
HF-181	-1.271E-02	4.463E-02	7.479E-02	0.000E+00	NOT IDENT.
W-181	-4.753E-01	6.327E-01	9.626E-01	0.000E+00	NOT IDENT.
TA-182	-1.279E-01	2.024E-01	3.171E-01	0.000E+00	FAIL ABUN
RE-183	-2.390E-02	2.288E-01	2.169E-01	0.000E+00	FAIL ABUN
RE-184	3.223E-02	2.553E-01	4.576E-01	0.000E+00	NOT IDENT.
OS-185	1.038E-02	4.721E-02	8.051E-02	0.000E+00	NOT IDENT.
RE-188	-2.024E-02	1.967E-01	3.394E-01	0.000E+00	NOT IDENT.
W-188	-2.195E+00	9.033E+00	1.364E+01	0.000E+00	FAIL ABUN
IR-192	-4.067E-03	3.900E-02	6.824E-02	0.000E+00	FAIL ABUN
AU-195	7.804E-02	2.862E-01	4.510E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.309E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	6.118E+00	8.230E+00	1.462E+01	0.000E+00	NOT IDENT.
TL-202	3.596E-03	7.431E-02	1.284E-01	0.000E+00	NOT IDENT.
HG-203	2.573E-02	4.432E-02	8.060E-02	0.000E+00	FAIL ABUN
BI-207	4.101E-02	5.242E-02	9.510E-02	0.000E+00	FAIL ABUN
TL-207	-8.554E-01	8.185E-01	1.345E+00	0.000E+00	FAIL ABUN
PO-209	5.675E+00	7.450E+00	1.360E+01	0.000E+00	NOT IDENT.
BI-210	-1.001E+01	1.217E+01	2.100E+01	0.000E+00	NOT IDENT.
PB-210	-1.001E+01	1.217E+01	2.100E+01	0.000E+00	NOT IDENT.
PO-210	-1.001E+01	1.216E+01	2.100E+01	0.000E+00	NOT IDENT.
PB-211	-1.213E+00	1.290E+00	1.704E+00	0.000E+00	NOT IDENT.
BI-212	4.620E-01	4.504E-01	5.915E-01	0.000E+00	FAIL ABUN
PO-215	-8.554E-01	8.185E-01	1.345E+00	0.000E+00	FAIL ABUN
RN-219	1.663E-01	4.592E-01	8.115E-01	0.000E+00	NOT IDENT.
RN-220	-6.798E-01	2.974E+01	5.035E+01	0.000E+00	NOT IDENT.
RA-223	-8.554E-01	8.185E-01	1.345E+00	0.000E+00	FAIL ABUN
AC-227	-1.468E-01	4.183E-01	7.323E-01	0.000E+00	FAIL ABUN
TH-227	-1.468E-01	4.185E-01	7.323E-01	0.000E+00	FAIL ABUN
TH-229	7.573E-02	6.011E-01	1.034E+00	0.000E+00	FAIL ABUN
PA-231	-9.780E-01	1.676E+00	2.873E+00	0.000E+00	NOT IDENT.
TH-231	-8.554E-01	8.185E-01	1.345E+00	0.000E+00	FAIL ABUN
U-231	9.596E-01	1.386E+00	2.230E+00	0.000E+00	FAIL ABUN
PA-233	2.173E-02	6.985E-02	1.249E-01	0.000E+00	FAIL ABUN
PA-234	-1.823E-01	2.808E-01	4.420E-01	0.000E+00	FAIL ABUN
PA-234M	6.495E+00	4.605E+00	8.656E+00	0.000E+00	NOT IDENT.
U-235	-1.315E-01	2.487E-01	4.162E-01	0.000E+00	FAIL ABUN
NP-236	-1.011E-02	9.269E-02	1.567E-01	0.000E+00	NOT IDENT.
NP-239	-7.395E-03	2.082E-01	3.655E-01	0.000E+00	FAIL ABUN
AM-241	-7.181E-02	2.987E-01	4.694E-01	0.000E+00	NOT IDENT.
CM-243	5.488E-02	1.096E-01	1.973E-01	0.000E+00	FAIL ABUN
AM-246	-5.401E-02	1.492E-01	2.425E-01	0.000E+00	NOT IDENT.
CM-247	1.140E-02	4.152E-02	7.307E-02	0.000E+00	NOT IDENT.
CF-249	-2.943E-03	4.449E-02	7.697E-02	0.000E+00	NOT IDENT.
CF-251	1.977E-01	1.450E-01	2.626E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924002.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:35:26
Sample ID          : G244924002          Sample quantity   : 1.39513E+02 GRAM
Detector name      : GAM15              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.24 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity        : 5.00000
Batch ID           : 942723             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	850	10.67*	9.990E-01	2.145E+01	2.145E+01	11.00
SR-82	698.33	-----	0.15	1.931E+00	-----	Line Not Found	-----
	776.49	74	13.50*	1.767E+00	8.351E-01	1.277E+00	75.78
	1395.20	-----	0.51	1.037E+00	-----	Line Not Found	-----
CD-109	88.03	150	3.72*	4.613E+00	2.353E+00	2.408E+00	46.53
SN-126	64.28	-----	9.60	1.930E+00	-----	Line Not Found	-----
	86.94	218	8.90	4.409E+00	1.497E+00	1.497E+00	52.48
	87.57	218	37.00*	4.409E+00	3.601E-01	3.601E-01	33.44
BA-137M	661.65	272	89.98*	2.020E+00	4.023E-01	4.027E-01	20.58
CS-137	661.65	272	85.12*	2.020E+00	4.253E-01	4.257E-01	20.59
TL-208	277.35	-----	6.80	3.788E+00	-----	Line Not Found	-----
	510.84	151	21.60	2.463E+00	7.629E-01	7.629E-01	51.73
	583.14	297	84.20*	2.230E+00	4.257E-01	4.257E-01	20.01
	860.37	-----	12.46	1.613E+00	-----	Line Not Found	-----
BI-211	72.87	306	1.27	3.147E+00	2.062E+01	2.062E+01	35.31
	351.07	593	12.94*	3.207E+00	3.847E+00	3.847E+00	14.83
PB-212	74.81	306	10.70	3.147E+00	2.448E+00	2.448E+00	36.53
	77.11	409	18.00	3.419E+00	1.786E+00	1.786E+00	22.10
	87.30	218	8.00	4.409E+00	1.665E+00	1.665E+00	34.90
	238.63	950	44.60*	4.221E+00	1.358E+00	1.358E+00	12.13
	300.09	59	3.41	3.589E+00	1.288E+00	1.288E+00	86.22
PO-212	74.81	306	10.70	3.147E+00	2.448E+00	2.448E+00	36.53
	77.11	409	18.00	3.419E+00	1.786E+00	1.786E+00	22.10
	87.30	218	8.00	4.409E+00	1.665E+00	1.665E+00	34.90
	115.19	-----	0.60	5.666E+00	-----	Line Not Found	-----
	238.63	950	44.60*	4.221E+00	1.358E+00	1.358E+00	12.13
	300.09	59	3.41	3.589E+00	1.288E+00	1.288E+00	86.22
BI-214	609.31	445	46.30*	2.156E+00	1.200E+00	1.200E+00	15.76
	1120.29	64	15.10	1.263E+00	8.998E-01	8.998E-01	58.45
	1764.49	59	15.80	8.817E-01	1.138E+00	1.138E+00	32.34
PB-214	74.81	306	6.21	3.147E+00	4.217E+00	4.218E+00	36.08
	77.11	409	10.50	3.419E+00	3.062E+00	3.062E+00	23.38

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	218	4.67	4.409E+00	2.853E+00	2.853E+00	34.31
	241.98	234	7.49	4.184E+00	2.005E+00	2.005E+00	37.08
	295.21	411	19.20	3.629E+00	1.587E+00	1.587E+00	18.87
	351.92	593	37.20*	3.207E+00	1.338E+00	1.338E+00	15.72
	74.81	306	6.21	3.147E+00	4.217E+00	4.218E+00	36.08
	77.11	409	10.50	3.419E+00	3.062E+00	3.062E+00	23.38
	87.30	218	4.67	4.409E+00	2.853E+00	2.853E+00	34.31
	241.98	234	7.49	4.184E+00	2.005E+00	2.005E+00	37.08
PO-216	295.21	411	19.20	3.629E+00	1.587E+00	1.587E+00	18.87
	351.92	593	37.20*	3.207E+00	1.338E+00	1.338E+00	15.72
	74.81	306	10.70	3.147E+00	2.448E+00	2.448E+00	36.53
	77.11	409	18.00	3.419E+00	1.786E+00	1.786E+00	22.10
	87.30	218	8.00	4.409E+00	1.665E+00	1.665E+00	34.90
	238.63	950	44.60*	4.221E+00	1.358E+00	1.358E+00	12.13
	300.09	59	3.41	3.589E+00	1.288E+00	1.288E+00	86.22
	74.81	306	6.21	3.147E+00	4.217E+00	4.218E+00	36.08
PO-218	77.11	409	10.50	3.419E+00	3.062E+00	3.062E+00	23.38
	87.30	218	4.67	4.409E+00	2.853E+00	2.853E+00	34.31
	241.98	234	7.49	4.184E+00	2.005E+00	2.005E+00	37.08
	295.21	411	19.20	3.629E+00	1.587E+00	1.587E+00	18.87
	351.92	593	37.20*	3.207E+00	1.338E+00	1.338E+00	15.72
	240.98	234	3.95*	4.184E+00	3.802E+00	3.802E+00	36.66
	609.31	445	46.30*	2.156E+00	1.200E+00	1.200E+00	15.76
	1120.29	64	15.10	1.263E+00	8.998E-01	8.998E-01	58.45
AC-228	1764.49	59	15.80	8.817E-01	1.138E+00	1.138E+00	32.34
	338.32	223	11.40	3.295E+00	1.595E+00	1.595E+00	51.35
	911.07	203	27.70*	1.532E+00	1.287E+00	1.287E+00	25.83
	969.11	118	16.60	1.447E+00	1.324E+00	1.324E+00	37.30
	338.32	223	11.40	3.295E+00	1.595E+00	1.595E+00	51.35
	911.07	203	27.70*	1.532E+00	1.287E+00	1.287E+00	25.83
	969.11	118	16.60	1.447E+00	1.324E+00	1.324E+00	37.30
	74.81	306	10.70	3.147E+00	2.448E+00	2.485E+00	35.33
TH-228	77.11	409	18.00	3.419E+00	1.786E+00	1.814E+00	22.10
	87.30	218	8.00	4.409E+00	1.665E+00	1.691E+00	33.44
	238.63	950	44.60*	4.221E+00	1.358E+00	1.378E+00	12.13
	300.09	59	3.41	3.589E+00	1.288E+00	1.308E+00	104.11
	609.31	445	46.30*	2.156E+00	1.200E+00	1.200E+00	15.76
	1120.29	64	15.10	1.263E+00	8.998E-01	8.998E-01	58.45
	1764.49	59	15.80	8.817E-01	1.138E+00	1.138E+00	32.34
	338.32	223	11.40	3.295E+00	1.595E+00	1.595E+00	31.76
TH-232	911.07	203	27.70*	1.532E+00	1.287E+00	1.287E+00	25.83
	969.11	118	16.60	1.447E+00	1.324E+00	1.324E+00	37.30
	63.29	28	3.80*	1.731E+00	1.132E+00	1.132E+00	242.01
	92.38	355	5.41	4.816E+00	3.669E+00	3.669E+00	31.19
	609.31	445	46.30*	2.156E+00	1.200E+00	1.200E+00	15.76
	1120.29	64	15.10	1.263E+00	8.998E-01	8.998E-01	58.45
	1764.49	59	15.80	8.817E-01	1.138E+00	1.138E+00	32.34
	86.50	218	12.60*	4.409E+00	1.057E+00	1.057E+00	39.29
NP-237	95.87	-----	2.60	5.041E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-238	63.29	28	3.80*	1.731E+00	1.132E+00	1.132E+00	242.01
	92.38	355	5.41	4.816E+00	3.669E+00	3.669E+00	26.84
AM-243	74.67	306	66.00*	3.147E+00	3.968E-01	3.968E-01	35.31
	86.72	218	0.34	4.409E+00	3.965E+01	3.965E+01	33.44
	117.66	-----	0.55	5.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.637E+00	-----	Line Not Found	-----
ANH-511	511.00	151	100.00*	2.463E+00	1.648E-01	1.648E-01	51.05

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	2.145E+01	2.145E+01	0.236E+01	11.00	
SR-82	25.00D	1.53	8.351E-01	1.277E+00	0.968E+00	75.78	
CD-109	464.00D	1.02	2.353E+00	2.408E+00	1.120E+00	46.53	
SN-126	1.00E+05Y	1.00	3.601E-01	3.601E-01	1.204E-01	33.44	
BA-137M	30.17Y	1.00	4.023E-01	4.027E-01	0.829E-01	20.58	
CS-137	30.17Y	1.00	4.253E-01	4.257E-01	0.877E-01	20.59	
TL-208	1.41E+10Y	1.00	4.257E-01	4.257E-01	0.852E-01	20.01	
BI-211	7.04E+08Y	1.00	3.847E+00	3.847E+00	0.571E+00	14.83	
PB-212	1.41E+10Y	1.00	1.358E+00	1.358E+00	0.165E+00	12.13	
PO-212	1.41E+10Y	1.00	1.358E+00	1.358E+00	0.165E+00	12.13	
BI-214	1600.00Y	1.00	1.200E+00	1.200E+00	0.189E+00	15.76	
PB-214	1600.00Y	1.00	1.338E+00	1.338E+00	0.210E+00	15.72	
PO-214	1600.00Y	1.00	1.338E+00	1.338E+00	0.210E+00	15.72	
PO-216	1.41E+10Y	1.00	1.358E+00	1.358E+00	0.165E+00	12.13	
PO-218	1600.00Y	1.00	1.338E+00	1.338E+00	0.210E+00	15.72	
RA-224	1.41E+10Y	1.00	3.802E+00	3.802E+00	1.394E+00	36.66	
RA-226	1600.00Y	1.00	1.200E+00	1.200E+00	0.189E+00	15.76	
AC-228	1.41E+10Y	1.00	1.287E+00	1.287E+00	0.332E+00	25.83	
RA-228	1.41E+10Y	1.00	1.287E+00	1.287E+00	0.332E+00	25.83	
TH-228	1.91Y	1.02	1.358E+00	1.378E+00	0.167E+00	12.13	
TH-230	4.47E+09Y	1.00	1.200E+00	1.200E+00	0.189E+00	15.76	
TH-232	1.41E+10Y	1.00	1.287E+00	1.287E+00	0.332E+00	25.83	
TH-234	4.47E+09Y	1.00	1.132E+00	1.132E+00	2.740E+00	242.01	
U-234	4.47E+09Y	1.00	1.200E+00	1.200E+00	0.189E+00	15.76	
NP-237	2.14E+06Y	1.00	1.057E+00	1.057E+00	0.415E+00	39.29	
U-238	4.47E+09Y	1.00	1.132E+00	1.132E+00	2.740E+00	242.01	
AM-243	7380.00Y	1.00	3.968E-01	3.968E-01	1.401E-01	35.31	
ANH-511	1.00E+09Y	1.00	1.648E-01	1.648E-01	0.841E-01	51.05	

Total Activity : 5.589E+01 5.641E+01

Grand Total Activity : 5.589E+01 5.641E+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	127.83	140	447	1.70	256.11	251	12	1.95E-02	62.5	5.73E+00	T
0	185.40	206	314	1.82	371.19	366	11	2.86E-02	38.1	4.98E+00	T
0	208.64	77	273	1.69	417.64	414	9	1.07E-02	80.4	4.62E+00	T
0	461.65	83	151	2.51	923.47	917	17	1.15E-02	71.0	2.65E+00	
0	726.99	38	66	1.26	1453.98	1447	13	5.26E-03	99.2	1.87E+00	T
0	768.02	50	85	1.88	1536.01	1526	14	6.98E-03	84.1	1.78E+00	T
0	794.45	58	42	1.75	1588.86	1582	14	8.06E-03	54.2	1.73E+00	T
1	964.05	42	26	2.07	1927.97	1925	22	5.89E-03	47.8	1.45E+00	T
0	1239.22	61	96	0.68	2478.22	2468	22	8.53E-03	86.2	1.15E+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]G244924002.CNF;1
* Acquisition date   : 27-JAN-2010 18:35:26   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 02:00:01.24           Half life ratio      : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 12-JAN-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G244924002             Analyst initials  : MXR1
* Batch Number       : 942723                 Sample Quantity   : 1.39513E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12.9MS 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	2.145E+01	2.358E+00	5.813E-01	4.444E-02	36.894
SR-82	1.277E+00	9.676E-01	6.039E-01	3.987E-02	2.114
CD-109	2.408E+00	1.120E+00	1.492E+00	1.726E-01	1.613
SN-126	3.601E-01	1.204E-01	1.478E-01	1.705E-02	2.436
BA-137M	4.027E-01	8.290E-02	5.724E-02	2.880E-03	7.035
CS-137	4.257E-01	8.766E-02	6.051E-02	3.062E-03	7.035
TL-208	4.257E-01	8.520E-02	6.026E-02	3.836E-03	7.065
BI-211	3.847E+00	5.706E-01	3.508E-01	2.410E-02	10.968
PB-212	1.358E+00	1.647E-01	1.037E-01	8.581E-03	13.096
PO-212	1.358E+00	1.647E-01	1.037E-01	8.581E-03	13.096
BI-214	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
PB-214	1.338E+00	2.104E-01	1.222E-01	1.054E-02	10.948
PO-214	1.338E+00	2.104E-01	1.222E-01	1.054E-02	10.948
PO-216	1.358E+00	1.647E-01	1.037E-01	8.581E-03	13.096
PO-218	1.338E+00	2.104E-01	1.222E-01	1.054E-02	10.948
RA-224	3.802E+00	1.394E+00	1.179E+00	8.209E-02	3.224
RA-226	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
AC-228	1.287E+00	3.324E-01	2.316E-01	2.575E-02	5.555

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.287E+00	3.324E-01	2.316E-01	2.575E-02	5.555
TH-228	1.378E+00	1.672E-01	1.053E-01	8.712E-03	13.096
TH-230	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
TH-232	1.287E+00	3.324E-01	2.316E-01	2.575E-02	5.555
TH-234	1.132E+00	2.740E+00	3.381E+00	6.672E-01	0.335
U-234	1.200E+00	1.892E-01	1.187E-01	8.814E-03	10.110
NP-237	1.057E+00	4.155E-01	4.423E-01	1.044E-01	2.390
U-238	1.132E+00	2.740E+00	3.381E+00	6.672E-01	0.335
AM-243	3.968E-01	1.401E-01	1.170E-01	1.300E-02	3.391
ANH-511	1.648E-01	8.413E-02	5.103E-02	2.882E-03	3.229

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.280E-02		3.541E-01	5.891E-01	3.926E-02	0.158
NA-22	2.683E-02		4.317E-02	7.484E-02	5.136E-03	0.358
NA-24	-5.100E-01		4.597E-01	Half-Life too short		
AL-26	3.082E-03		2.966E-02	4.982E-02	2.981E-03	0.062
TI-44	1.953E-01		6.133E-02	9.011E-02	1.002E-02	2.168
SC-46	-1.151E-02		4.117E-02	6.634E-02	5.565E-03	-0.173
V-48	-4.500E-03		6.968E-02	1.139E-01	8.995E-03	-0.040
CR-51	-4.556E-02		4.420E-01	7.316E-01	5.276E-02	-0.062
MN-52	-2.234E-02		2.405E-01	3.965E-01	2.940E-02	-0.056
MN-54	2.356E-02		4.162E-02	7.204E-02	5.400E-03	0.327
CO-56	1.989E-02		3.896E-02	6.761E-02	5.196E-03	0.294
CO-57	2.771E-04		3.271E-02	4.669E-02	3.357E-03	0.006
CO-58	-3.441E-02		3.917E-02	5.964E-02	4.261E-03	-0.577
FE-59	5.970E-02		9.394E-02	1.631E-01	1.234E-02	0.366
CO-60	-6.720E-04		4.025E-02	6.483E-02	4.893E-03	-0.010
ZN-65	-7.678E-03		1.150E-01	1.594E-01	1.036E-02	-0.048
GE-68	1.532E-01		1.341E+00	2.220E+00	1.542E-01	0.069
AS-73	-1.921E+00		1.964E+00	3.037E+00	4.150E-01	-0.633
AS-74	4.608E-02		1.055E-01	1.760E-01	9.464E-03	0.262
SE-75	-4.247E-02		5.047E-02	8.113E-02	5.674E-03	-0.524
BR-77	-3.898E+00		1.214E+01	1.870E+01	1.052E+00	-0.208
RB-83	-4.525E-02		7.820E-02	1.178E-01	6.628E-03	-0.384
RB-84	6.817E-02		7.492E-02	1.335E-01	1.103E-02	0.511
KR-85	1.552E+01		8.869E+00	1.443E+01	8.138E-01	1.076
SR-85	7.971E-02		4.555E-02	7.410E-02	4.180E-03	1.076
RB-86	6.690E-01		8.291E-01	1.462E+00	1.017E-01	0.458
Y-88	9.589E-03		3.303E-02	5.747E-02	3.357E-03	0.167
ZR-88	4.964E-03		3.400E-02	5.658E-02	3.209E-03	0.088
Y-91	2.985E+01		1.991E+01	3.660E+01	2.213E+00	0.816
NB-94	7.226E-03		3.597E-02	6.117E-02	3.402E-03	0.118
NB-95	8.999E-02		5.354E-02	8.943E-02	5.763E-03	1.006
NB-95M	1.425E+00		2.354E-01	3.788E-01	3.200E-02	3.763
ZR-95	3.413E-02		7.122E-02	1.235E-01	9.210E-03	0.276

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	3.342E-01		7.744E-02	Half-Life too short		
ZR-97	1.068E+01		1.500E+00	Half-Life too short		
MO-99	2.199E+00		1.185E+01	2.012E+01	2.796E+00	0.109
TC-99M	-9.954E+09		3.518E+10	Half-Life too short		
RH-101	-1.450E-02		3.902E-02	6.150E-02	4.195E-03	-0.236
RH-102	1.715E-02		3.152E-02	5.347E-02	3.048E-03	0.321
RU-103	-2.516E-02		4.657E-02	7.285E-02	9.169E-03	-0.345
RH-106	-1.227E-01		3.270E-01	5.089E-01	5.841E-02	-0.241
RU-106	-1.227E-01		3.267E-01	5.089E-01	2.674E-02	-0.241
AG-108M	1.852E-02		3.832E-02	6.476E-02	4.027E-03	0.286
AG-110M	8.728E-02		4.658E-02	7.681E-02	4.210E-03	1.136
IN-111	2.357E-01		1.362E+00	2.017E+00	1.404E-01	0.117
IN-113M	1.590E-02		4.947E-02	8.318E-02	5.046E-03	0.191
SN-113	1.590E-02		4.947E-02	8.318E-02	5.046E-03	0.191
IN-114M	-1.378E-02		2.462E-01	3.437E-01	2.330E-02	-0.040
CD-115	-6.411E+00		1.221E+01	1.903E+01	1.067E+00	-0.337
SN-117M	-3.011E-02		6.598E-02	1.026E-01	6.862E-03	-0.293
SB-122	1.821E+00		2.259E+00	3.885E+00	2.137E-01	0.469
I-123	-4.665E+00		4.174E+00	Half-Life too short		
TE-123M	-1.889E-02		3.381E-02	5.232E-02	3.532E-03	-0.361
I-124	4.159E-02		8.427E-01	1.180E+00	6.308E-02	0.035
SB-124	6.164E-02		6.839E-02	1.323E-01	9.292E-03	0.466
SB-125	-6.662E-02		1.086E-01	1.714E-01	1.022E-02	-0.389
TE-125M	-2.099E+00		1.089E+01	1.768E+01	1.757E+00	-0.119
I-126	-1.453E-01		2.344E-01	2.994E-01	1.524E-02	-0.485
SB-126	6.334E-02		1.656E-01	2.499E-01	1.450E-02	0.253
SB-127	6.571E-01		1.422E+00	2.470E+00	2.274E-01	0.266
XE-127	-2.389E-03		5.698E-02	8.783E-02	6.013E-03	-0.027
I-131	-1.171E-01		1.308E-01	2.043E-01	1.379E-02	-0.573
TE-132	-2.918E-01		8.192E-01	1.359E+00	2.024E-01	-0.215
BA-133	-4.922E-02		5.516E-02	7.271E-02	8.561E-03	-0.677
I-133	-4.225E-03		3.712E-03	Half-Life too short		
CS-134	1.190E-01	+	6.500E-02	9.150E-02	6.376E-03	1.300
CS-135	1.272E-01		1.830E-01	3.154E-01	2.697E-02	0.403
I-135	6.078E+09		4.287E+09	Half-Life too short		
CS-136	1.017E-02		1.158E-01	1.914E-01	1.475E-02	0.053
CE-139	7.229E-03		3.497E-02	5.690E-02	3.784E-03	0.127
BA-140	3.083E-03		2.960E-01	4.813E-01	1.563E-01	0.006
LA-140	-6.497E-04		8.918E-02	1.477E-01	1.030E-02	-0.004
CE-141	3.155E-02		7.254E-02	1.195E-01	8.344E-03	0.264
CE-143	1.637E-03	+	2.267E-04	Half-Life too short		
CE-144	1.477E-01		2.653E-01	3.878E-01	5.699E-02	0.381
PM-144	1.990E-02		3.650E-02	6.358E-02	3.488E-03	0.313
PR-144	1.348E+00		2.474E+00	4.309E+00	2.361E-01	0.313
PM-146	1.064E-02		4.985E-02	7.828E-02	6.704E-03	0.136
ND-147	-5.234E-01		6.243E-01	9.414E-01	1.265E-01	-0.556
PM-149	5.696E+01		1.058E+02	1.810E+02	2.651E+01	0.315
EU-152	8.104E-02		1.492E-01	1.808E-01	1.274E-02	0.448

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	7.155E-04		1.024E-01	1.473E-01	1.413E-02	0.005
EU-154	7.494E-02		1.207E-01	2.090E-01	2.096E-02	0.358
EU-155	-2.275E-02		1.264E-01	2.054E-01	1.778E-02	-0.111
TB-160	5.671E-02		1.510E-01	2.582E-01	2.123E-02	0.220
HO-166M	5.570E-02		6.254E-02	1.116E-01	6.346E-03	0.499
TM-171	4.534E+00		5.490E+01	6.822E+01	7.845E+00	0.066
LU-176	-3.980E-03		2.916E-02	4.699E-02	3.166E-03	-0.085
LU-177	1.983E+00	+	1.600E+00	2.206E+00	1.516E-01	0.899
LU-177M	-1.401E-01		1.868E-01	2.917E-01	1.662E-02	-0.480
HF-181	-1.271E-02		4.554E-02	7.284E-02	4.147E-03	-0.175
W-181	-4.753E-01		6.456E-01	9.018E-01	1.050E-01	-0.527
TA-182	-1.279E-01		2.066E-01	3.147E-01	1.962E-02	-0.407
RE-183	-2.390E-02		1.314E-01	2.068E-01	1.378E-02	-0.116
RE-184	3.223E-02		2.605E-01	4.400E-01	3.063E-02	0.073
OS-185	1.038E-02		4.818E-02	7.887E-02	4.041E-03	0.132
RE-188	-2.024E-02		2.007E-01	3.232E-01	2.168E-02	-0.063
W-188	-2.195E+00		9.217E+00	1.315E+01	9.001E-01	-0.167
IR-192	-4.067E-03		3.980E-02	6.590E-02	4.404E-03	-0.062
AU-195	7.804E-02		2.920E-01	4.258E-01	3.991E-02	0.183
TL-200	2.338E-04		2.709E-04	Half-Life too short		
TL-201	6.118E+00		8.398E+00	1.395E+01	9.280E-01	0.439
TL-202	3.596E-03		7.583E-02	1.248E-01	7.133E-03	0.029
HG-203	2.573E-02		4.523E-02	7.764E-02	5.592E-03	0.331
BI-207	4.101E-02		5.349E-02	9.413E-02	6.688E-03	0.436
TL-207	-8.554E-01		8.352E-01	1.299E+00	2.184E-01	-0.658
PO-209	5.675E+00		7.602E+00	1.341E+01	1.142E+00	0.423
BI-210	-1.001E+01		1.241E+01	1.955E+01	2.031E+00	-0.512
PB-210	-1.001E+01		1.241E+01	1.955E+01	2.031E+00	-0.512
PO-210	-1.001E+01		1.241E+01	1.955E+01	1.878E+00	-0.512
PB-211	-1.213E+00		1.316E+00	1.653E+00	1.031E+00	-0.733
BI-212	4.620E-01	+	4.596E-01	5.809E-01	4.522E-02	0.795
PO-215	-8.554E-01		8.352E-01	1.299E+00	2.184E-01	-0.658
RN-219	1.663E-01		4.685E-01	7.874E-01	1.067E-01	0.211
RN-220	-6.798E-01		3.035E+01	4.917E+01	2.728E+00	-0.014
RA-223	-8.554E-01		8.352E-01	1.299E+00	2.184E-01	-0.658
AC-227	-1.468E-01		4.268E-01	7.043E-01	1.020E-01	-0.208
TH-227	-1.468E-01		4.271E-01	7.043E-01	1.221E-01	-0.208
TH-229	7.573E-02		6.134E-01	9.892E-01	6.725E-02	0.077
PA-231	-9.780E-01		1.711E+00	2.769E+00	3.951E-01	-0.353
TH-231	-8.554E-01		8.352E-01	1.299E+00	2.184E-01	-0.658
U-231	9.596E-01		1.414E+00	2.104E+00	2.073E-01	0.456
PA-233	2.173E-02		7.128E-02	1.206E-01	8.454E-03	0.180
PA-234	-1.823E-01		2.865E-01	4.364E-01	8.108E-02	-0.418
PA-234M	6.495E+00		4.699E+00	8.557E+00	7.887E-01	0.759
U-235	-1.315E-01		2.538E-01	3.958E-01	6.604E-02	-0.332
NP-236	-1.011E-02		9.458E-02	1.493E-01	9.971E-03	-0.068
NP-239	-7.395E-03		2.125E-01	3.462E-01	2.603E-02	-0.021
AM-241	-7.181E-02		3.048E-01	4.390E-01	5.587E-02	-0.164

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	5.488E-02		1.118E-01	1.864E-01	1.627E-02	0.294
AM-246	-5.401E-02		1.523E-01	2.401E-01	1.664E-02	-0.225
CM-247	1.140E-02		4.237E-02	7.090E-02	4.032E-03	0.161
CF-249	-2.943E-03		4.540E-02	7.463E-02	4.279E-03	-0.039
CF-251	1.977E-01		1.479E-01	2.507E-01	1.680E-02	0.788

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]G244924002          *
* Acquisition date   : 27-JAN-2010 18:35:26 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 02:00:01.24          Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924002          Analyst initials: MXR1          *
* Batch Number       : 942723              Sample Quantity  : 1.3951E+02 GRAM *
* Recovery           : 1.00000             Carrier Weight   : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 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	2.145E+01	2.311E+00	2.919E-01	1.179E+00
SR-82	1.277E+00	9.483E-01	3.073E-01	4.838E-01
CD-109	2.408E+00	1.098E+00	7.925E-01	5.601E-01
SN-126	3.601E-01	1.180E-01	7.849E-02	6.020E-02
BA-137M	4.027E-01	8.124E-02	2.922E-02	4.145E-02
CS-137	4.257E-01	8.590E-02	3.089E-02	4.383E-02
TL-208	4.257E-01	8.350E-02	3.084E-02	4.260E-02
BI-211	3.847E+00	5.592E-01	1.813E-01	2.853E-01
PB-212	1.358E+00	1.614E-01	5.400E-02	8.234E-02
PO-212	1.358E+00	1.614E-01	5.400E-02	8.234E-02
BI-214	1.200E+00	1.854E-01	6.070E-02	9.461E-02
PB-214	1.338E+00	2.062E-01	6.320E-02	1.052E-01
PO-214	1.338E+00	2.062E-01	6.320E-02	1.052E-01
PO-216	1.358E+00	1.614E-01	5.400E-02	8.234E-02
PO-218	1.338E+00	2.062E-01	6.320E-02	1.052E-01
RA-224	3.802E+00	1.366E+00	6.143E-01	6.969E-01
RA-226	1.200E+00	1.854E-01	6.070E-02	9.461E-02
AC-228	1.287E+00	3.257E-01	1.175E-01	1.662E-01
RA-228	1.287E+00	3.257E-01	1.175E-01	1.662E-01
TH-228	1.378E+00	1.639E-01	5.483E-02	8.361E-02
TH-230	1.200E+00	1.854E-01	6.070E-02	9.460E-02
TH-232	1.287E+00	3.257E-01	1.175E-01	1.662E-01
TH-234	1.132E+00	2.685E+00	1.806E+00	1.370E+00
U-234	1.200E+00	1.854E-01	6.070E-02	9.460E-02
NP-237	1.057E+00	4.072E-01	2.350E-01	2.077E-01
U-238	1.132E+00	2.685E+00	1.806E+00	1.370E+00
AM-243	3.968E-01	1.373E-01	6.233E-02	7.006E-02
ANH-511	1.648E-01	8.245E-02	2.618E-02	4.207E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	9.280E-02	3.470E-01	3.027E-01	1.770E-01	NOT IDENT.
NA-22	2.683E-02	4.231E-02	3.769E-02	2.158E-02	NOT IDENT.
NA-24	-5.100E+05	9.010E+05	0.000E+00	4.597E+05	SHORT HLIF
AL-26	3.082E-03	2.906E-02	2.490E-02	1.483E-02	NOT IDENT.
TI-44	1.953E-01	6.010E-02	4.795E-02	3.066E-02	NOT IDENT.
SC-46	-1.151E-02	4.035E-02	3.366E-02	2.059E-02	FAIL ABUN
V-48	-4.500E-03	6.828E-02	5.765E-02	3.484E-02	NOT IDENT.
CR-51	-4.556E-02	4.331E-01	3.789E-01	2.210E-01	NOT IDENT.
MN-52	-2.234E-02	2.357E-01	1.992E-01	1.203E-01	NOT IDENT.
MN-54	2.356E-02	4.079E-02	3.660E-02	2.081E-02	NOT IDENT.
CO-56	1.989E-02	3.818E-02	3.433E-02	1.948E-02	FAIL ABUN
CO-57	2.771E-04	3.206E-02	2.464E-02	1.636E-02	NOT IDENT.
CO-58	-3.441E-02	3.838E-02	3.032E-02	1.958E-02	NOT IDENT.
FE-59	5.970E-02	9.207E-02	8.236E-02	4.697E-02	NOT IDENT.
CO-60	-6.720E-04	3.944E-02	3.261E-02	2.012E-02	NOT IDENT.
ZN-65	-7.678E-03	1.127E-01	8.049E-02	5.748E-02	NOT IDENT.
GE-68	1.532E-01	1.315E+00	1.122E+00	6.707E-01	NOT IDENT.
AS-73	-1.921E+00	1.925E+00	1.628E+00	9.822E-01	NOT IDENT.
AS-74	4.608E-02	1.034E-01	9.005E-02	5.277E-02	NOT IDENT.
SE-75	-4.247E-02	4.946E-02	4.218E-02	2.523E-02	NOT IDENT.
BR-77	-3.898E+00	1.190E+01	9.592E+00	6.070E+00	FAIL ABUN
RB-83	-4.525E-02	7.663E-02	6.042E-02	3.910E-02	NOT IDENT.
RB-84	6.817E-02	7.342E-02	6.775E-02	3.746E-02	NOT IDENT.
KR-85	1.552E+01	8.692E+00	7.402E+00	4.435E+00	NOT IDENT.
SR-85	7.971E-02	4.464E-02	3.802E-02	2.278E-02	NOT IDENT.
RB-86	6.690E-01	8.126E-01	7.387E-01	4.146E-01	NOT IDENT.
Y-88	9.589E-03	3.237E-02	2.872E-02	1.652E-02	NOT IDENT.
ZR-88	4.964E-03	3.332E-02	2.919E-02	1.700E-02	NOT IDENT.
Y-91	2.985E+01	1.952E+01	1.845E+01	9.957E+00	NOT IDENT.
NB-94	7.226E-03	3.525E-02	3.118E-02	1.799E-02	NOT IDENT.
NB-95	8.999E-02	5.247E-02	4.551E-02	2.677E-02	NOT IDENT.
NB-95M	1.425E+00	2.306E-01	1.974E-01	1.177E-01	NOT IDENT.
ZR-95	3.413E-02	6.980E-02	6.289E-02	3.561E-02	NOT IDENT.
NB-97	3.342E+05	1.518E+05	0.000E+00	7.744E+04	SHORT HLIF
ZR-97	1.068E+07	2.940E+06	0.000E+00	1.500E+06	SHORT HLIF
MO-99	2.199E+00	1.161E+01	1.025E+01	5.926E+00	NOT IDENT.
TC-99M	-9.954E+15	6.895E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.450E-02	3.824E-02	3.215E-02	1.951E-02	FAIL ABUN
RH-102	1.715E-02	3.089E-02	2.748E-02	1.576E-02	FAIL ABUN
RU-103	-2.516E-02	4.564E-02	3.740E-02	2.328E-02	NOT IDENT.
RH-106	-1.227E-01	3.204E-01	2.601E-01	1.635E-01	NOT IDENT.
RU-106	-1.227E-01	3.202E-01	2.601E-01	1.634E-01	NOT IDENT.
AG-108M	1.852E-02	3.755E-02	3.334E-02	1.916E-02	NOT IDENT.
AG-110M	8.728E-02	4.565E-02	3.921E-02	2.329E-02	NOT IDENT.
IN-111	2.357E-01	1.335E+00	1.050E+00	6.809E-01	NOT IDENT.
IN-113M	1.590E-02	4.848E-02	4.291E-02	2.474E-02	NOT IDENT.
SN-113	1.590E-02	4.848E-02	4.291E-02	2.474E-02	NOT IDENT.
IN-114M	-1.378E-02	2.413E-01	1.798E-01	1.231E-01	NOT IDENT.
CD-115	-6.411E+00	1.197E+01	9.757E+00	6.107E+00	NOT IDENT.
SN-117M	-3.011E-02	6.466E-02	5.389E-02	3.299E-02	NOT IDENT.
SB-122	1.821E+00	2.213E+00	1.989E+00	1.129E+00	NOT IDENT.
I-123	-4.665E+06	8.182E+06	0.000E+00	4.174E+06	SHORT HLIF
TE-123M	-1.889E-02	3.313E-02	2.747E-02	1.690E-02	NOT IDENT.
I-124	4.159E-02	8.258E-01	6.034E-01	4.213E-01	NOT IDENT.
SB-124	6.164E-02	6.702E-02	6.623E-02	3.419E-02	FAIL ABUN
SB-125	-6.662E-02	1.064E-01	8.827E-02	5.429E-02	NOT IDENT.
TE-125M	-2.099E+00	1.068E+01	9.349E+00	5.447E+00	NOT IDENT.
I-126	-1.453E-01	2.297E-01	1.528E-01	1.172E-01	NOT IDENT.
SB-126	6.334E-02	1.623E-01	1.273E-01	8.281E-02	NOT IDENT.
SB-127	6.571E-01	1.394E+00	1.260E+00	7.112E-01	NOT IDENT.
XE-127	-2.389E-03	5.584E-02	4.590E-02	2.849E-02	NOT IDENT.
I-131	-1.171E-01	1.282E-01	1.056E-01	6.542E-02	NOT IDENT.
TE-132	-2.918E-01	8.028E-01	7.087E-01	4.096E-01	NOT IDENT.
BA-133	-4.922E-02	5.406E-02	3.758E-02	2.758E-02	NOT IDENT.
I-133	-4.225E+03	7.276E+03	0.000E+00	3.712E+03	SHORT HLIF
CS-134	1.190E-01	6.370E-02	4.653E-02	3.250E-02	FAIL ABUN
CS-135	1.272E-01	1.794E-01	1.639E-01	9.152E-02	NOT IDENT.
I-135	6.078E+15	8.402E+15	0.000E+00	4.287E+15	SHORT HLIF
CS-136	1.017E-02	1.135E-01	9.679E-02	5.790E-02	FAIL ABUN
CE-139	7.229E-03	3.427E-02	2.985E-02	1.749E-02	NOT IDENT.
BA-140	3.083E-03	2.901E-01	2.467E-01	1.480E-01	NOT IDENT.
LA-140	-6.497E-04	8.740E-02	7.404E-02	4.459E-02	NOT IDENT.
CE-141	3.155E-02	7.109E-02	6.288E-02	3.627E-02	NOT IDENT.
CE-143	1.637E+03	4.443E+02	0.000E+00	2.267E+02	SHORT HLIF
CE-144	1.477E-01	2.600E-01	2.043E-01	1.327E-01	NOT IDENT.
PM-144	1.990E-02	3.577E-02	3.242E-02	1.825E-02	NOT IDENT.
PR-144	1.348E+00	2.424E+00	2.197E+00	1.237E+00	NOT IDENT.

PM-146	1.064E-02	4.885E-02	4.026E-02	2.492E-02	NOT IDENT.
ND-147	-5.234E-01	6.118E-01	4.827E-01	3.121E-01	FAIL ABUN
PM-149	5.696E+01	1.037E+02	9.398E+01	5.290E+01	NOT IDENT.
EU-152	8.104E-02	1.462E-01	9.351E-02	7.459E-02	FAIL ABUN
GD-153	7.155E-04	1.003E-01	7.806E-02	5.119E-02	NOT IDENT.
EU-154	7.494E-02	1.183E-01	1.053E-01	6.035E-02	NOT IDENT.
EU-155	-2.275E-02	1.238E-01	1.087E-01	6.318E-02	FAIL ABUN
TB-160	5.671E-02	1.480E-01	1.310E-01	7.551E-02	FAIL ABUN
HO-166M	5.570E-02	6.129E-02	5.690E-02	3.127E-02	FAIL ABUN
TM-171	4.534E+00	5.381E+01	3.641E+01	2.745E+01	NOT IDENT.
LU-176	-3.980E-03	2.858E-02	2.436E-02	1.458E-02	FAIL ABUN
LU-177	1.983E+00	1.568E+00	1.152E+00	7.999E-01	FAIL ABUN
LU-177M	-1.401E-01	1.831E-01	1.503E-01	9.341E-02	FAIL ABUN
HF-181	-1.271E-02	4.463E-02	3.742E-02	2.277E-02	NOT IDENT.
W-181	-4.753E-01	6.327E-01	4.816E-01	3.228E-01	NOT IDENT.
TA-182	-1.279E-01	2.024E-01	1.586E-01	1.033E-01	FAIL ABUN
RE-183	-2.390E-02	1.288E-01	1.085E-01	6.572E-02	FAIL ABUN
RE-184	3.223E-02	2.553E-01	2.289E-01	1.302E-01	NOT IDENT.
OS-185	1.038E-02	4.721E-02	4.028E-02	2.409E-02	NOT IDENT.
RE-188	-2.024E-02	1.967E-01	1.698E-01	1.004E-01	NOT IDENT.
W-188	-2.195E+00	9.033E+00	6.826E+00	4.609E+00	FAIL ABUN
IR-192	-4.067E-03	3.900E-02	3.414E-02	1.990E-02	FAIL ABUN
AU-195	7.804E-02	2.862E-01	2.256E-01	1.460E-01	FAIL ABUN
TL-200	2.338E+02	5.309E+02	0.000E+00	2.709E+02	SHORT HLIF
TL-201	6.118E+00	8.230E+00	7.315E+00	4.199E+00	NOT IDENT.
TL-202	3.596E-03	7.431E-02	6.424E-02	3.792E-02	NOT IDENT.
HG-203	2.573E-02	4.432E-02	4.032E-02	2.261E-02	FAIL ABUN
BI-207	4.101E-02	5.242E-02	4.758E-02	2.674E-02	FAIL ABUN
TL-207	-8.554E-01	8.185E-01	6.727E-01	4.176E-01	FAIL ABUN
PO-209	5.675E+00	7.450E+00	6.802E+00	3.801E+00	NOT IDENT.
BI-210	-1.001E+01	1.217E+01	1.050E+01	6.207E+00	NOT IDENT.
PB-210	-1.001E+01	1.217E+01	1.050E+01	6.207E+00	NOT IDENT.
PO-210	-1.001E+01	1.216E+01	1.050E+01	6.204E+00	NOT IDENT.
PB-211	-1.213E+00	1.290E+00	8.524E-01	6.582E-01	NOT IDENT.
BI-212	4.620E-01	4.504E-01	2.959E-01	2.298E-01	FAIL ABUN
PO-215	-8.554E-01	8.185E-01	6.727E-01	4.176E-01	FAIL ABUN
RN-219	1.663E-01	4.592E-01	4.060E-01	2.343E-01	NOT IDENT.
RN-220	-6.798E-01	2.974E+01	2.519E+01	1.517E+01	NOT IDENT.
RA-223	-8.554E-01	8.185E-01	6.727E-01	4.176E-01	FAIL ABUN
AC-227	-1.468E-01	4.183E-01	3.664E-01	2.134E-01	FAIL ABUN
TH-227	-1.468E-01	4.185E-01	3.664E-01	2.135E-01	FAIL ABUN
TH-229	7.573E-02	6.011E-01	5.174E-01	3.067E-01	FAIL ABUN
PA-231	-9.780E-01	1.676E+00	1.438E+00	8.553E-01	NOT IDENT.
TH-231	-8.554E-01	8.185E-01	6.727E-01	4.176E-01	FAIL ABUN
U-231	9.596E-01	1.386E+00	1.115E+00	7.070E-01	FAIL ABUN
PA-233	2.173E-02	6.985E-02	6.250E-02	3.564E-02	FAIL ABUN
PA-234	-1.823E-01	2.808E-01	2.211E-01	1.433E-01	FAIL ABUN
PA-234M	6.495E+00	4.605E+00	4.331E+00	2.349E+00	NOT IDENT.
U-235	-1.315E-01	2.487E-01	2.082E-01	1.269E-01	FAIL ABUN
NP-236	-1.011E-02	9.269E-02	7.841E-02	4.729E-02	NOT IDENT.
NP-239	-7.395E-03	2.082E-01	1.829E-01	1.062E-01	FAIL ABUN
AM-241	-7.181E-02	2.987E-01	2.348E-01	1.524E-01	NOT IDENT.
CM-243	5.488E-02	1.096E-01	9.869E-02	5.590E-02	FAIL ABUN
AM-246	-5.401E-02	1.492E-01	1.213E-01	7.613E-02	NOT IDENT.
CM-247	1.140E-02	4.152E-02	3.656E-02	2.118E-02	NOT IDENT.
CF-249	-2.943E-03	4.449E-02	3.851E-02	2.270E-02	NOT IDENT.
CF-251	1.977E-01	1.450E-01	1.314E-01	7.396E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	287.5515
46.50	287.5515
46.50	287.5515
48.70	273.5626
49.72	279.7092
51.35	260.5783
52.39	276.2143
52.97	281.2279
53.15	302.2191
53.44	293.8043
54.07	294.1048
56.28	284.6366
56.28	284.6377
57.37	0.0000
57.53	280.7303
57.53	280.7314
57.60	271.0620
57.98	257.4310
57.98	257.4310
59.32	273.3181
59.32	273.3181
59.40	273.3518
59.54	307.2021
59.72	307.2870
60.01	310.4967
61.10	307.9297
61.14	307.9480
61.30	308.0219
63.00	341.2271
63.29	344.4618
63.29	344.4618
63.58	356.9718
64.28	385.1825
65.12	377.9092
65.20	377.9528
65.20	377.9528
66.05	378.4159
66.72	338.9337
66.83	338.9884
66.91	339.0270
67.20	392.2427
67.20	392.2427
67.75	357.5683
67.85	357.6188
68.90	350.3622
68.90	350.3622
69.30	345.8845
69.67	349.1811
70.82	390.3305
70.82	390.3305
70.83	390.3366
72.80	390.4095
72.87	390.4460
72.87	390.4460
74.67	391.3927
74.81	391.4658
74.81	391.4658
74.81	391.4658
74.81	391.4658
74.81	391.4658
74.81	391.4658
74.81	391.4658
74.97	391.5495
75.28	391.7108
75.70	391.9285
77.11	417.2585
77.11	417.2585

77.11	417.2585
77.11	417.2585
77.11	417.2585
77.11	417.2585
77.11	417.2585
78.38	390.3488
79.62	371.2280
79.80	371.3141
79.80	371.3141
80.11	359.6066
80.18	359.6386
80.30	359.6941
80.30	359.6941
80.57	332.1394
81.00	360.0149
81.07	360.0468
81.07	360.0468
81.07	360.0468
81.07	360.0468
82.60	386.9062
83.37	393.6273
83.78	400.1823
83.78	400.1823
83.78	400.1823
83.78	400.1823
84.21	382.3226
84.90	382.6501
85.43	382.8998
86.29	383.3037
86.50	383.4021
86.54	383.4212
86.59	383.4447
86.72	383.5049
86.79	383.5372
86.94	383.6077
87.30	383.7766
87.30	383.7766
87.30	383.7766
87.30	383.7766
87.30	383.7766
87.30	383.7766
87.30	383.7766
87.57	383.9015
87.88	384.0454
88.03	384.1159
88.36	384.2686
88.47	384.3200
89.95	385.0015
91.11	385.5331
92.29	386.0692
92.38	386.1103
92.38	386.1103
93.35	386.5480
94.00	386.8417
94.67	347.5208
94.67	347.5222
94.90	347.6145
94.90	347.6145
94.90	347.6145
94.90	347.6145
95.87	319.0031
95.87	319.0031
96.73	309.6416
97.43	326.0271
98.44	303.7788
98.44	303.7788
98.88	315.2456
99.55	318.9505
99.55	318.9505
99.86	319.0612
100.00	323.7354
100.10	329.8439
103.18	307.6188
103.76	315.9412
105.00	349.9380
105.31	348.0196
108.00	371.4801
109.28	352.5687

111.00	334.7801
111.00	334.7801
111.76	375.0067
112.95	308.7884
115.19	353.7173
116.30	328.3834
117.00	306.9845
117.00	306.9845
117.66	316.4673
121.11	326.2820
121.62	329.7993
121.78	329.8515
122.06	308.1306
122.32	301.5808
122.32	301.5808
122.32	301.5808
122.32	301.5808
123.07	291.8545
127.23	343.4055
129.76	333.8080
131.20	362.6750
133.02	341.5331
133.54	306.5250
135.34	373.3122
136.00	342.0622
136.25	336.8943
136.48	335.9155
140.51	337.1558
140.51	0.0000
142.18	355.6020
142.65	349.4185
143.76	351.8791
144.24	355.2004
144.24	355.2004
144.24	355.2004
144.24	355.2004
145.22	334.3493
145.44	325.9482
147.16	327.5039
152.43	314.1014
152.70	309.9157
153.22	311.1188
154.21	312.4481
154.21	312.4481
154.21	312.4481
154.21	312.4481
155.03	336.1439
156.02	357.7879
158.56	325.3773
159.00	0.0000
159.00	324.4249
160.31	312.9902
161.27	300.3668
162.32	318.8798
162.64	323.2618
163.35	311.6296
163.89	320.3696
165.85	311.1923
167.43	286.7944
171.28	314.7224
171.86	315.9509
172.10	318.1755
176.55	263.9088
176.60	263.9180
181.06	327.8296
184.41	295.4550
185.71	293.1230
186.00	299.3126
190.27	302.0330
192.34	296.7833
193.63	303.6680
197.04	317.6653
198.01	307.9575
198.60	299.2533
200.40	287.4834
201.83	275.6037
202.84	284.8225
205.31	275.1818

208.36	295.7919
208.81	282.5370
209.75	283.1702
209.75	283.1702
210.97	299.4530
215.65	274.9464
216.55	260.5767
218.09	272.0476
222.10	248.0939
223.80	240.5116
226.40	263.8985
227.00	266.7071
227.08	266.7216
227.20	266.7415
228.16	271.4218
228.18	271.4254
228.18	271.4254
231.56	0.0000
235.69	265.8208
236.00	258.3213
236.00	258.3213
238.63	242.4185
238.63	242.4185
238.63	242.4185
238.63	242.4185
239.00	242.4756
240.98	242.7852
241.98	222.9225
241.98	222.9225
241.98	222.9225
244.69	197.4835
245.39	208.2092
247.94	222.2451
248.90	237.6102
249.79	221.2844
252.40	194.1682
252.85	207.0485
252.85	207.0485
254.15	0.0000
256.20	215.7399
256.20	215.7399
260.50	208.0251
260.90	227.4107
262.80	213.8467
264.65	227.0035
268.24	215.4709
268.79	230.3432
269.46	228.5866
269.46	228.5866
269.46	228.5866
269.46	228.5866
271.23	194.5474
273.65	282.0349
276.40	206.2931
277.35	207.3366
277.60	199.9274
277.60	199.9274
278.00	195.3241
278.60	178.6453
279.20	185.2240
279.53	184.3271
280.46	205.8494
281.68	203.1988
283.67	195.9675
284.30	200.7069
285.00	176.5069
285.90	167.2531
286.10	160.7314
286.10	160.7314
287.40	167.2934
288.45	0.0000
290.67	184.2598
290.80	184.2742
291.72	195.3074
293.26	0.0000
293.70	159.5493
295.21	167.5119
295.21	167.5119

295.21	167.5119
295.96	169.1477
296.50	169.2004
297.23	169.2686
298.57	169.3960
299.80	186.7752
299.80	186.7752
300.09	182.0973
300.09	182.0973
300.09	182.0973
300.09	182.0973
300.12	182.0996
301.29	188.5010
302.84	188.6621
303.76	176.1735
303.91	176.1895
304.40	173.0880
304.40	173.0880
304.84	151.0957
306.84	180.6737
308.46	170.3188
311.98	157.3717
316.51	173.9125
318.01	183.5620
319.02	172.2417
319.41	166.5662
320.08	183.7646
323.87	228.9756
323.87	228.9756
323.87	228.9756
323.87	228.9756
325.23	190.9497
328.77	153.9995
333.44	180.5811
334.20	174.2576
334.20	174.2576
334.30	174.2665
338.28	142.2621
338.28	142.2621
338.28	142.2621
338.28	142.2621
338.32	142.2657
338.32	142.2657
338.32	142.2657
340.50	153.9707
340.57	153.9766
344.27	128.5547
345.85	131.2304
350.59	0.0000
351.07	135.4456
351.92	135.5020
351.92	135.5020
351.92	135.5020
355.39	0.0000
356.01	156.7902
364.48	151.9248
366.43	125.7498
367.43	115.0831
367.94	0.0000
369.80	136.6948
374.96	124.3087
383.85	116.9707
387.95	140.8302
388.63	137.9202
391.69	126.2781
391.69	126.2781
392.90	127.3355
398.62	145.4855
400.65	123.8266
401.10	116.9168
401.81	130.8302
402.60	134.8445
404.84	161.7783
410.95	111.4682
411.60	130.4147
413.65	127.5453
414.70	110.6572
415.30	107.6955

415.76	103.7283
417.63	0.0000
418.52	100.8595
423.70	116.1034
427.08	132.3142
427.89	143.3910
432.53	122.5808
433.93	120.6431
439.47	108.8385
439.56	108.8424
439.89	103.8185
443.98	110.0578
444.90	102.0196
445.03	102.0258
445.03	102.0258
445.03	102.0258
445.03	102.0258
453.90	102.6615
463.38	108.9200
468.07	105.3907
473.00	112.4170
475.06	93.0773
475.35	101.2720
476.78	102.3547
477.59	100.3399
477.96	96.2593
482.03	100.5194
484.57	106.7828
487.03	89.4161
490.36	0.0000
492.35	95.7848
497.08	114.5379
507.63	0.0000
510.53	0.0000
510.84	100.6292
511.00	100.6357
511.85	100.6689
511.85	100.6689
513.99	88.2871
513.99	88.2871
520.41	102.9666
520.65	96.0340
527.90	96.0654
528.96	0.0000
529.64	94.0386
529.87	0.0000
531.02	103.4956
537.32	98.5003
543.00	95.5589
546.56	0.0000
549.76	102.1129
552.65	83.2528
555.20	85.4396
563.23	77.2257
563.90	75.1272
568.70	92.2166
569.32	89.0572
569.50	88.0011
569.67	82.7055
573.80	90.8506
574.00	90.8568
574.64	75.8719
578.91	95.7437
579.30	0.0000
583.14	81.6811
585.48	62.1999
591.81	105.7966
592.07	109.0100
593.00	98.3564
595.88	90.9620
600.56	107.1875
602.52	0.0000
602.71	89.3901
602.71	89.3901
603.60	96.5698
604.41	82.2866
604.70	82.2950
609.31	89.5915

609.31	89.5915
609.31	89.5915
609.31	89.5915
610.33	103.9639
612.46	82.5121
614.37	93.3359
618.01	79.7921
621.84	76.6561
621.84	76.6561
631.29	57.4033
633.02	82.3624
633.10	82.3643
634.78	76.9889
635.90	66.1692
636.97	56.4269
645.85	71.8282
646.12	80.5418
656.30	81.9012
657.75	67.3726
657.90	0.0000
661.65	68.9155
661.65	68.9155
664.57	0.0000
666.33	91.2943
666.33	91.2943
675.00	77.9977
677.61	49.4769
685.20	66.1260
692.80	88.3789
695.00	75.5420
696.49	76.4987
696.49	76.4987
697.00	81.1196
697.49	79.2882
698.33	77.4631
698.50	74.7015
699.00	87.6264
702.63	83.1079
706.10	91.5154
706.58	0.0000
706.67	88.7578
709.31	79.5769
711.68	62.9670
713.82	74.1260
717.42	79.7729
720.50	63.6663
721.93	0.0000
722.20	63.6984
722.78	71.6732
722.78	71.6732
722.89	71.6764
722.95	71.6779
723.30	70.0928
724.18	65.3309
727.18	57.4152
733.00	57.5156
735.90	57.8311
739.58	59.7630
742.81	64.4938
744.21	65.4555
747.13	60.8317
751.79	66.5379
752.31	62.7989
753.82	60.9520
755.35	60.0404
756.15	59.1163
756.87	63.8219
763.93	59.6540
765.79	66.1388
766.42	66.1503
766.84	66.1588
776.49	56.6345
778.00	56.6589
778.57	56.6675
778.89	56.6736
783.80	51.8884
785.46	47.6950
792.07	55.2607

795.84	34.1675
796.30	40.6808
798.80	68.3921
801.93	61.3217
805.60	44.7299
810.29	65.7530
810.76	66.7159
815.85	47.7214
817.79	59.2060
818.51	64.9481
819.60	57.3242
826.30	67.0022
828.27	0.0000
831.60	68.0576
831.96	59.4368
834.83	70.9965
836.80	0.0000
846.75	49.0877
848.13	55.8465
856.28	0.0000
856.80	76.2436
860.37	48.3012
867.32	44.5185
867.82	48.3968
871.10	53.2824
873.19	56.2194
874.81	52.3641
875.33	0.0000
876.40	52.3861
879.36	56.3102
880.27	52.4399
880.51	48.5586
881.50	48.5708
883.24	61.2274
884.67	65.1393
889.25	59.3767
896.60	45.8363
898.02	57.5596
899.00	60.5027
903.28	61.9639
911.07	61.6683
911.07	61.6683
911.07	61.6683
919.63	37.9319
920.93	44.1595
925.00	51.0817
925.24	51.0849
926.50	60.9278
935.52	53.1870
937.48	71.9351
944.10	57.2483
946.00	50.3629
949.00	44.4708
962.29	49.2915
964.01	54.4129
966.15	47.6367
968.20	47.6602
969.11	47.6709
969.11	47.6709
969.11	47.6709
977.42	43.2894
980.50	36.8479
983.50	45.8446
989.30	36.9262
996.32	55.9829
1001.03	33.0269
1001.68	34.0332
1004.76	52.0889
1021.30	0.0000
1024.50	0.0000
1034.80	41.3604
1036.00	45.4083
1037.82	52.4951
1038.57	52.5036
1038.76	0.0000
1045.16	55.6177
1046.59	48.5547
1048.07	51.6060

1050.47	52.6475
1050.47	52.6475
1062.04	49.7417
1063.62	40.6201
1076.63	41.7591
1077.35	51.9525
1078.86	56.0451
1085.78	44.9059
1099.22	42.9946
1112.02	58.8567
1112.84	61.6064
1115.52	63.4018
1120.29	46.2799
1120.29	46.2799
1120.29	46.2799
1120.29	46.2799
1120.51	37.0254
1121.28	37.0313
1124.00	0.0000
1129.67	49.4668
1131.51	0.0000
1147.95	0.0000
1167.94	62.3438
1173.22	44.7304
1175.09	41.6260
1177.93	53.1042
1189.05	46.9666
1204.90	41.8864
1205.75	0.0000
1213.00	62.9346
1221.42	66.1967
1230.97	83.0188
1235.34	79.4799
1236.41	0.0000
1238.25	62.2074
1246.25	47.0706
1260.41	0.0000
1271.85	38.2148
1274.45	32.9236
1274.54	32.9236
1291.56	37.2986
1298.22	0.0000
1312.09	47.0776
1325.50	35.3995
1325.50	35.3995
1332.49	31.1512
1333.61	37.6048
1360.21	24.8371
1362.66	0.0000
1365.15	25.9414
1368.21	31.3636
1368.53	0.0000
1376.25	20.5795
1384.27	35.3321
1394.10	21.4245
1395.20	27.0196
1407.95	30.8190
1434.06	24.3977
1436.60	18.7765
1457.56	0.0000
1460.81	24.5156
1489.15	18.0060
1509.49	18.0709
1596.49	21.2381
1620.62	13.5693
1678.03	0.0000
1691.02	6.8630
1691.02	6.8630
1706.46	0.0000
1750.46	0.0000
1764.49	15.6220
1764.49	15.6220
1764.49	15.6220
1764.49	15.6220
1770.23	1.7373
1771.40	25.8159
1791.20	0.0000
1808.65	10.9847

1836.01

10.0276

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924002

Total Uranium Activity	3.3072E+00	ug/g
Total Uranium Counting Unc.	7.9887E+00	ug/g
Total Uranium Tpu	4.0759E-06	ug/g
Total Uranium Mda	5.3746E+00	ug/g

```

*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 942723                SAMPLE ID   : G244924002                *
*  ANALYST       : MXR1                  DETECTOR    : GAM15                  *
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 27-JAN-2010 18:35:26.14  SAMPLE ALQT: 139.513 GRAM        *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.312E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.462E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.144E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.521E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 20:39:29.98

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924003.CNF;1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:39:02
Sample ID        : G244924003 Sample quantity   : 1.28190E+02 GRAM
Detector name    : GAM13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.59 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity      : 5.00000
Batch ID        : 942723 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	46.37*	75	420	1.09	92.51	89	8	1.05E-02	51.6	
2	0	63.23*	61	804	1.19	126.23	122	10	8.44E-03	95.1	
3	3	74.64*	509	571	1.22	149.06	142	16	7.07E-02	9.3	1.71E+00
4	3	77.00*	841	495	1.05	153.77	142	16	1.17E-01	5.6	
5	6	84.24*	109	440	1.45	168.26	165	26	1.52E-02	33.4	1.27E+00
6	6	87.11	345	473	1.31	174.00	165	26	4.79E-02	12.1	
7	6	89.67	176	387	1.13	179.12	165	26	2.45E-02	20.3	
8	6	92.61*	333	457	1.52	185.00	165	26	4.62E-02	15.2	
9	0	105.52	113	355	1.74	210.82	207	8	1.57E-02	30.3	
10	0	129.18	93	353	1.24	258.17	254	8	1.29E-02	36.7	
11	0	185.53*	120	428	1.28	370.89	366	11	1.66E-02	37.8	
12	0	209.46*	121	397	1.40	418.75	413	12	1.68E-02	34.8	
13	5	238.45*	1133	181	1.25	476.75	469	20	1.57E-01	3.8	1.97E+00
14	5	241.34	297	259	2.01	482.53	469	20	4.12E-02	16.5	
15	0	294.95*	371	259	1.35	589.79	584	13	5.15E-02	10.4	
16	0	300.11	39	224	1.01	600.11	596	9	5.35E-03	72.0	
17	0	328.92	73	267	1.39	657.74	652	14	1.02E-02	49.5	
18	0	337.93*	197	181	1.44	675.77	671	10	2.73E-02	15.0	
19	0	351.49*	641	224	1.34	702.90	696	14	8.91E-02	6.4	
20	0	462.54	74	161	1.59	925.06	918	14	1.03E-02	38.2	
21	0	510.55*	161	150	1.92	1021.10	1013	18	2.23E-02	22.2	
22	0	582.88*	364	148	1.63	1165.81	1157	17	5.06E-02	9.4	
23	0	609.02*	363	195	1.45	1218.12	1210	15	5.04E-02	10.1	
24	0	726.88	121	86	3.27	1453.92	1445	14	1.68E-02	18.5	
25	0	910.86*	198	73	1.85	1822.02	1816	13	2.75E-02	11.8	
26	0	969.26*	120	122	2.12	1938.87	1933	18	1.67E-02	24.7	
27	0	1120.06	97	77	1.32	2240.59	2234	13	1.35E-02	21.3	
28	0	1460.05*	850	37	1.95	2920.89	2911	21	1.18E-01	3.9	
29	0	1763.82	76	20	1.85	3528.75	3519	20	1.06E-02	18.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 20:39:33

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:39:02
Sample ID         : G244924003 Sample quantity : 128.19 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.59 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	*	2.240E+01	2.222E+00	5.903E-01	3.609E-02	37.956
CD-109	+	88.03	*	3.831E+00	9.746E-01	9.906E-01	7.817E-02	3.867
SN-126	+	64.28		2.508E-01	4.787E-01	4.046E-01	6.300E-02	0.620
	+	86.94		1.565E+00	7.478E-01	4.034E-01	1.663E-01	3.880
	+	87.57	*	3.764E-01	9.577E-02	9.721E-02	7.690E-03	3.872
EU-155		48.70		-1.082E-01	4.446E-01	6.803E-01	5.135E-02	-0.159
		60.01		-4.061E-02	2.208E+00	3.377E+00	3.232E-01	-0.012
	+	86.54		4.534E-01	1.155E-01	1.167E-01	9.409E-03	3.884
	+	105.31	*	2.302E-01	1.417E-01	1.667E-01	1.711E-02	1.380
TL-208		277.35		3.436E-01	4.211E-01	7.194E-01	8.426E-02	0.478
	+	510.84		8.583E-01	3.922E-01	2.606E-01	2.832E-02	3.294
	+	583.14	*	5.611E-01	1.157E-01	7.279E-02	6.025E-03	7.709
		860.37		3.925E-01	4.498E-01	7.389E-01	6.230E-02	0.531
BI-210	+	46.50	*	7.483E-01	7.751E-01	7.675E-01	6.256E-02	0.975
PB-210	+	46.50	*	7.483E-01	7.751E-01	7.675E-01	6.256E-02	0.975
PO-210	+	46.50	*	7.483E-01	7.745E-01	7.675E-01	5.472E-02	0.975
BI-211		72.87		4.650E+00	2.060E+00	3.611E+00	3.158E-01	1.288
	+	351.07	*	4.147E+00	6.133E-01	4.126E-01	3.008E-02	10.049
PB-212	+	74.81		1.894E+00	4.256E-01	3.750E-01	4.770E-02	5.051
	+	77.11		1.862E+00	2.610E-01	2.241E-01	1.904E-02	8.308
	+	87.30		1.741E+00	4.759E-01	4.492E-01	5.732E-02	3.875
	+	238.63	*	1.577E+00	1.860E-01	9.373E-02	8.515E-03	16.829
	+	300.09		8.318E-01	1.201E+00	1.322E+00	1.258E-01	0.629
PO-212	+	74.81		1.894E+00	4.256E-01	3.750E-01	4.770E-02	5.051
	+	77.11		1.862E+00	2.610E-01	2.241E-01	1.904E-02	8.308
	+	87.30		1.741E+00	4.759E-01	4.492E-01	5.732E-02	3.875
		115.19		-4.038E+00	3.630E+00	5.619E+00	6.516E-01	-0.719
	+	238.63	*	1.577E+00	1.860E-01	9.373E-02	8.515E-03	16.829
	+	300.09		8.318E-01	1.201E+00	1.322E+00	1.258E-01	0.629
BI-214	+	609.31	*	1.058E+00	2.350E-01	1.394E-01	1.303E-02	7.593
	+	1120.29		1.461E+00	6.365E-01	6.049E-01	5.411E-02	2.415
	+	1764.49		1.567E+00	5.841E-01	3.855E-01	2.190E-02	4.064
PB-214	+	74.81		3.263E+00	7.094E-01	6.461E-01	7.348E-02	5.051
	+	77.11		3.193E+00	5.093E-01	3.843E-01	4.385E-02	8.308

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	87.30		2.983E+00	7.928E-01	7.696E-01	8.508E-02	3.875
	+	241.98		2.479E+00	8.541E-01	5.648E-01	5.467E-02	4.390
	+	295.21		1.404E+00	3.238E-01	2.225E-01	2.180E-02	6.311
	+	351.92	*	1.442E+00	2.262E-01	1.439E-01	1.288E-02	10.025
	+	74.81		3.263E+00	7.094E-01	6.461E-01	7.348E-02	5.051
	+	77.11		3.193E+00	5.093E-01	3.843E-01	4.385E-02	8.308
	+	87.30		2.983E+00	7.928E-01	7.696E-01	8.508E-02	3.875
	+	241.98		2.479E+00	8.541E-01	5.648E-01	5.467E-02	4.390
PO-216	+	295.21		1.404E+00	3.238E-01	2.225E-01	2.180E-02	6.311
	+	351.92	*	1.442E+00	2.262E-01	1.439E-01	1.288E-02	10.025
	+	74.81		1.894E+00	4.256E-01	3.750E-01	4.770E-02	5.051
	+	77.11		1.862E+00	2.610E-01	2.241E-01	1.904E-02	8.308
	+	87.30		1.741E+00	4.759E-01	4.492E-01	5.732E-02	3.875
	+	238.63	*	1.577E+00	1.860E-01	9.373E-02	8.515E-03	16.829
	+	300.09		8.318E-01	1.201E+00	1.322E+00	1.258E-01	0.629
	+	74.81		3.263E+00	7.094E-01	6.461E-01	7.348E-02	5.051
PO-218	+	77.11		3.193E+00	5.093E-01	3.843E-01	4.385E-02	8.308
	+	87.30		2.983E+00	7.928E-01	7.696E-01	8.508E-02	3.875
	+	241.98		2.479E+00	8.541E-01	5.648E-01	5.467E-02	4.390
	+	295.21		1.404E+00	3.238E-01	2.225E-01	2.180E-02	6.311
	+	351.92	*	1.442E+00	2.262E-01	1.439E-01	1.288E-02	10.025
	+	240.98	*	4.701E+00	1.598E+00	1.067E+00	8.424E-02	4.406
	+	609.31	*	1.058E+00	2.350E-01	1.394E-01	1.303E-02	7.593
	+	1120.29		1.461E+00	6.365E-01	6.049E-01	5.411E-02	2.415
RA-224	+	1764.49		1.567E+00	5.841E-01	3.855E-01	2.190E-02	4.064
	+	338.32		1.399E+00	7.102E-01	4.559E-01	1.867E-01	3.069
	+	911.07	*	1.368E+00	3.521E-01	2.567E-01	2.665E-02	5.330
	+	969.11		1.458E+00	7.924E-01	5.746E-01	1.312E-01	2.537
	+	338.32		1.399E+00	7.102E-01	4.559E-01	1.867E-01	3.069
	+	911.07	*	1.368E+00	3.521E-01	2.567E-01	2.665E-02	5.330
	+	969.11		1.458E+00	7.924E-01	5.746E-01	1.312E-01	2.537
	+	74.81		1.923E+00	3.936E-01	3.807E-01	3.313E-02	5.051
TH-228	+	77.11		1.891E+00	2.650E-01	2.276E-01	1.933E-02	8.308
	+	87.30		1.768E+00	4.497E-01	4.561E-01	3.615E-02	3.875
	+	238.63	*	1.602E+00	1.889E-01	9.517E-02	8.645E-03	16.829
	+	300.09		8.445E-01	1.315E+00	1.342E+00	7.937E-01	0.629
	+	609.31	*	1.058E+00	2.350E-01	1.393E-01	1.303E-02	7.593
	+	1120.29		1.461E+00	6.365E-01	6.049E-01	5.411E-02	2.415
	+	1764.49		1.567E+00	5.841E-01	3.855E-01	2.190E-02	4.064
	+	338.32		1.399E+00	4.310E-01	4.559E-01	3.175E-02	3.069
TH-232	+	911.07	*	1.368E+00	3.521E-01	2.567E-01	2.665E-02	5.330
	+	969.11		1.458E+00	7.924E-01	5.746E-01	1.312E-01	2.537
	+	63.29	*	6.337E-01	1.211E+00	1.020E+00	1.873E-01	0.621
	+	92.38		2.509E+00	8.888E-01	6.747E-01	1.214E-01	3.719
	+	609.31	*	1.058E+00	2.350E-01	1.393E-01	1.303E-02	7.593
	+	1120.29		1.461E+00	6.365E-01	6.049E-01	5.411E-02	2.415
	+	1764.49		1.567E+00	5.841E-01	3.855E-01	2.190E-02	4.064
	+	89.95		2.651E+00	1.351E+00	1.342E+00	4.123E-01	1.976
U-235	+	93.35		3.017E+00	1.249E+00	8.137E-01	2.279E-01	3.708

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	105.00		2.256E+00	1.530E+00	1.632E+00	4.948E-01	1.382
		143.76	*	2.380E-01	2.423E-01	3.933E-01	7.261E-02	0.605
		163.35		2.634E-01	5.292E-01	8.511E-01	1.606E-01	0.309
	+	185.71		1.172E-01	8.916E-02	7.742E-02	6.111E-03	1.514
		205.31		2.300E-01	6.124E-01	8.997E-01	1.689E-01	0.256
NP-237	+	86.50	*	1.105E+00	3.621E-01	2.846E-01	6.295E-02	3.885
		95.87		-9.110E-01	9.543E-01	1.286E+00	3.180E-01	-0.708
U-238	+	63.29	*	6.337E-01	1.211E+00	1.020E+00	1.873E-01	0.621
	+	92.38		2.509E+00	7.942E-01	6.747E-01	5.695E-02	3.719
AM-243	+	74.67	*	3.071E-01	6.276E-02	6.077E-02	5.249E-03	5.053
	+	86.72		4.145E+01	1.055E+01	1.068E+01	8.496E-01	3.882
		117.66		9.660E-01	3.763E+00	6.214E+00	7.437E-01	0.155
		142.18		-8.651E+00	2.001E+01	3.116E+01	3.302E+00	-0.278
ANH-511	+	511.00	*	1.854E-01	8.330E-02	5.631E-02	3.930E-03	3.292

---- 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	*	7.500E-02	3.677E-01	6.227E-01	4.682E-02	0.120
NA-22		1274.54	*	-2.561E-02	5.574E-02	8.884E-02	5.014E-03	-0.288
NA-24		1368.53	*	-5.965E-01	5.574E-02	Half-Life too short		
AL-26		1129.67		-3.947E-01	2.139E+00	3.403E+00	2.017E-01	-0.116
		1808.65	*	9.988E-03	3.832E-02	6.634E-02	3.744E-03	0.151
TI-44		67.85		-1.214E-02	2.865E-02	4.271E-02	3.867E-03	-0.284
	+	78.38	*	3.437E-01	4.817E-02	5.686E-02	4.789E-03	6.044
SC-46		889.25	*	-2.528E-02	5.401E-02	8.537E-02	6.465E-03	-0.296
	+	1120.51		2.504E-01	1.078E-01	1.573E-01	9.459E-03	1.591
V-48		944.10		5.321E-02	1.295E+00	2.139E+00	1.562E-01	0.025
		983.50	*	1.731E-02	9.270E-02	1.545E-01	1.093E-02	0.112
		1312.09		-4.273E-02	1.001E-01	1.588E-01	9.000E-03	-0.269
CR-51		320.08	*	-1.002E-01	4.158E-01	6.700E-01	5.214E-02	-0.150
MN-52		744.21		1.092E-01	3.231E-01	5.331E-01	4.328E-02	0.205
		848.13		-7.584E+00	9.248E+00	1.437E+01	1.119E+00	-0.528
		935.52		5.822E-02	3.609E-01	6.019E-01	4.421E-02	0.097
		1246.25		-8.470E-01	8.739E+00	1.444E+01	8.082E-01	-0.059
		1333.61		-8.982E-01	7.192E+00	1.177E+01	6.693E-01	-0.076
		1434.06	*	-3.928E-02	3.228E-01	5.232E-01	3.007E-02	-0.075
MN-54		834.83	*	2.621E-02	4.925E-02	8.499E-02	6.669E-03	0.308
CO-56		846.75	*	3.336E-02	5.153E-02	8.973E-02	6.993E-03	0.372
		977.42		-1.605E+00	4.376E+00	5.861E+00	4.168E-01	-0.274
		1037.82		2.502E-01	4.125E-01	7.071E-01	5.150E-02	0.354
		1175.09		5.218E-01	3.122E+00	5.102E+00	2.806E-01	0.102
		1238.25		8.563E-02	1.091E-01	1.919E-01	1.145E-02	0.446
		1360.21		2.296E-01	1.291E+00	2.174E+00	1.241E-01	0.106
		1771.40		-3.511E-02	3.204E-01	4.411E-01	2.503E-02	-0.080
CO-57		122.06	*	2.446E-02	2.601E-02	4.377E-02	5.536E-03	0.559
		136.48		-4.451E-02	2.226E-01	3.570E-01	4.179E-02	-0.125
CO-58		810.76	*	2.695E-03	5.294E-02	8.870E-02	7.065E-03	0.030

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
FE-59	142.65			2.415E-02	3.101E+00	4.924E+00	5.193E-01	0.005
	192.34			-5.575E-01	9.722E-01	1.607E+00	2.086E-01	-0.347
	1099.22	*		6.498E-02	1.193E-01	2.026E-01	1.447E-02	0.321
CO-60	1291.56			-5.114E-03	1.464E-01	2.422E-01	1.769E-02	-0.021
	1173.22			5.103E-02	6.153E-02	1.057E-01	5.812E-03	0.483
	1332.49	*		-2.552E-03	5.378E-02	8.864E-02	5.041E-03	-0.029
ZN-65	1115.52	*		1.182E-02	1.375E-01	1.925E-01	1.169E-02	0.061
GE-68	1077.35	*		1.060E+00	1.653E+00	2.833E+00	1.811E-01	0.374
AS-73	53.44	*		3.070E-01	2.412E-01	4.100E-01	3.464E-02	0.749
AS-74	595.88	*		-1.242E-03	1.225E-01	2.008E-01	1.542E-02	-0.006
SE-75	634.78			7.372E-02	4.688E-01	7.733E-01	6.162E-02	0.095
	66.05			1.156E+00	2.747E+00	4.247E+00	4.626E-01	0.272
	96.73			-4.561E-01	7.739E-01	1.109E+00	1.539E-01	-0.411
	121.11			8.054E-02	1.370E-01	2.283E-01	3.291E-02	0.353
	136.00			-9.689E-03	4.188E-02	6.710E-02	7.580E-03	-0.144
	198.60			6.312E-01	1.898E+00	3.119E+00	2.787E-01	0.202
	264.65	*		-2.551E-02	4.765E-02	7.685E-02	6.020E-03	-0.332
	279.53			1.946E-02	1.217E-01	2.025E-01	1.629E-02	0.096
	303.91			7.465E-01	2.649E+00	3.889E+00	4.132E-01	0.192
BR-77	400.65			1.255E-01	3.202E-01	5.256E-01	4.831E-02	0.239
	87.88	+		8.671E+02	2.206E+02	3.062E+02	2.417E+01	2.832
	200.40			3.495E+01	1.726E+02	2.945E+02	2.333E+01	0.119
	239.00	+		2.654E+02	2.895E+01	4.088E+01	3.230E+00	6.492
	249.79			3.674E+00	7.495E+01	1.252E+02	9.841E+00	0.029
	281.68			-7.566E+01	1.065E+02	1.693E+02	1.298E+01	-0.447
	297.23			1.282E+02	1.031E+02	1.216E+02	9.148E+00	1.054
	303.76			6.138E+01	2.370E+02	3.475E+02	2.589E+01	0.177
	439.47			2.827E+01	1.735E+02	2.948E+02	1.863E+01	0.096
	484.57			-1.659E+02	2.824E+02	4.531E+02	3.054E+01	-0.366
	520.65	*		1.419E+01	1.370E+01	2.414E+01	1.705E+00	0.588
	574.64			-2.599E+02	3.141E+02	4.340E+02	3.260E+01	-0.599
	578.91			1.741E+02	1.299E+02	2.069E+02	1.562E+01	0.841
	585.48			9.102E+02	3.045E+02	5.167E+02	3.926E+01	1.762
	755.35			-3.781E+01	2.325E+02	3.683E+02	2.982E+01	-0.103
SR-82	817.79			3.316E+01	1.776E+02	3.005E+02	2.379E+01	0.110
	698.33			1.415E+01	4.728E+01	7.801E+01	6.369E+00	0.181
	776.49	*		-3.090E-01	4.996E-01	7.991E-01	6.431E-02	-0.387
RB-83	1395.20			1.253E+01	1.369E+01	2.484E+01	1.423E+00	0.504
	520.41	*		1.021E-01	8.635E-02	1.534E-01	1.083E-02	0.666
	529.64			3.018E-02	1.250E-01	2.106E-01	1.504E-02	0.143
RB-84	552.65			-1.737E-01	2.463E-01	3.860E-01	2.831E-02	-0.450
	881.50	*		-3.126E-02	9.714E-02	1.569E-01	1.195E-02	-0.199
KR-85	513.99	*		1.511E+01	1.004E+01	1.617E+01	1.133E+00	0.934
SR-85	513.99	*		7.759E-02	5.157E-02	8.304E-02	5.817E-03	0.934
RB-86	1076.63	*		7.270E-01	1.058E+00	1.820E+00	1.164E-01	0.399
Y-88	898.02			2.779E-03	5.864E-02	9.611E-02	7.274E-03	0.029
ZR-88	1836.01	*		1.345E-02	4.476E-02	7.772E-02	4.377E-03	0.173
	392.90	*		-4.292E-02	3.869E-02	5.770E-02	3.379E-03	-0.744
Y-91	1204.90	*		4.712E+00	2.360E+01	4.004E+01	2.219E+00	0.118

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	702.63	*		4.529E-02	4.689E-02	8.050E-02	6.570E-03	0.563
	871.10			1.318E-02	4.809E-02	8.136E-02	6.243E-03	0.162
NB-95	765.79	*		7.161E-03	5.513E-02	9.329E-02	7.533E-03	0.077
NB-95M	235.69	*		1.480E-01	1.491E-01	2.312E-01	2.139E-02	0.640
ZR-95	724.18			2.384E-01	1.445E-01	2.312E-01	2.065E-02	1.031
	756.15	*		-1.917E-02	9.614E-02	1.518E-01	1.369E-02	-0.126
NB-97	657.90	*		-7.990E-02	9.614E-02	Half-Life	too short	
	1024.50			2.284E+01	9.614E-02	Half-Life	too short	
ZR-97	254.15			-3.258E+00	9.614E-02	Half-Life	too short	
	355.39			5.896E+00	9.614E-02	Half-Life	too short	
	507.63	*		5.819E+00	9.614E-02	Half-Life	too short	
	602.52			9.606E+00	9.614E-02	Half-Life	too short	
	1021.30			9.672E+00	9.614E-02	Half-Life	too short	
	1147.95			-2.058E+00	9.614E-02	Half-Life	too short	
	1362.66			8.990E+00	9.614E-02	Half-Life	too short	
	1750.46			-5.760E-01	9.614E-02	Half-Life	too short	
MO-99	140.51			-4.262E+01	3.175E+01	4.442E+01	1.263E+01	-0.960
	181.06			-4.601E+00	2.273E+01	3.123E+01	5.606E+00	-0.147
	366.43			2.463E+01	1.044E+02	1.711E+02	1.101E+01	0.144
	739.58	*		-5.728E+00	1.582E+01	2.463E+01	3.673E+00	-0.233
	778.00			-1.962E+00	4.574E+01	7.640E+01	6.147E+00	-0.026
TC-99M	140.51	*		-9.263E+10	4.574E+01	Half-Life	too short	
RH-101	127.23			2.604E-02	3.648E-02	5.485E-02	6.661E-03	0.475
	198.01	*		1.349E-02	3.520E-02	5.802E-02	4.594E-03	0.232
	325.23			1.202E-01	2.847E-01	4.198E-01	3.010E-02	0.286
RH-102	418.52			-1.993E-01	3.684E-01	5.678E-01	3.471E-02	-0.351
	475.06	*		1.233E-02	3.512E-02	5.996E-02	3.990E-03	0.206
	631.29			-3.642E-02	7.268E-02	1.142E-01	9.072E-03	-0.319
	697.49			3.124E-02	1.053E-01	1.737E-01	1.418E-02	0.180
	766.84			9.182E-02	1.392E-01	2.430E-01	1.962E-02	0.378
	1046.59			-1.025E-01	1.642E-01	2.536E-01	1.683E-02	-0.404
	1112.84			5.898E-02	3.392E-01	4.806E-01	2.923E-02	0.123
RU-103	497.08	*		1.886E-02	4.985E-02	8.492E-02	1.118E-02	0.222
	610.33			1.146E+01	2.967E+00	3.296E+00	5.362E-01	3.477
RH-106	511.85	+		9.263E-01	4.162E-01	5.054E-01	3.531E-02	1.833
	621.84	*		1.582E-02	4.040E-01	6.620E-01	8.533E-02	0.024
	1050.47			1.504E+00	3.325E+00	5.609E+00	3.706E-01	0.268
RU-106	511.85	+		9.263E-01	4.162E-01	5.054E-01	3.531E-02	1.833
	621.84	*		1.582E-02	4.040E-01	6.620E-01	5.213E-02	0.024
	1050.47			1.504E+00	3.325E+00	5.609E+00	3.706E-01	0.268
AG-108M	433.93	*		9.171E-03	3.831E-02	6.543E-02	4.401E-03	0.140
	614.37			2.306E-02	5.507E-02	8.116E-02	6.648E-03	0.284
	722.95			5.964E-02	5.983E-02	9.189E-02	7.814E-03	0.649
AG-110M	657.75	*		-1.737E-02	4.425E-02	6.975E-02	5.860E-03	-0.249
	677.61			2.065E-01	3.996E-01	6.726E-01	5.663E-02	0.307
	706.67			-2.041E-01	2.991E-01	4.589E-01	3.860E-02	-0.445
	763.93			-2.408E-01	2.150E-01	3.314E-01	2.763E-02	-0.727
	884.67			2.131E-02	6.770E-02	1.148E-01	9.082E-03	0.186
	937.48			2.384E-02	1.542E-01	2.570E-01	1.979E-02	0.093

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111	1384.27			-2.621E-01	2.313E-01	3.350E-01	2.038E-02	-0.782
	171.28			4.505E-01	1.170E+00	1.895E+00	1.488E-01	0.238
	245.39		*	1.638E-01	1.257E+00	1.861E+00	1.466E-01	0.088
IN-113M	391.69		*	-7.833E-03	5.537E-02	8.822E-02	5.497E-03	-0.089
SN-113	391.69		*	-7.833E-03	5.537E-02	8.822E-02	5.497E-03	-0.089
IN-114M	190.27		*	1.569E-01	2.174E-01	3.188E-01	2.520E-02	0.492
CD-115	260.90			-2.611E+01	1.497E+02	2.464E+02	1.925E+01	-0.106
	492.35			1.752E+01	4.705E+01	8.023E+01	5.465E+00	0.218
	527.90		*	1.344E+01	1.358E+01	2.394E+01	1.706E+00	0.561
SN-117M	156.02			-3.213E+00	2.482E+00	3.714E+00	3.356E-01	-0.865
	158.56		*	5.723E-03	5.811E-02	9.348E-02	8.163E-03	0.061
	563.90		*	8.359E-01	2.843E+00	4.772E+00	3.544E-01	0.175
SB-122	692.80			-1.049E+01	5.951E+01	9.502E+01	7.759E+00	-0.110
	159.00		*	1.754E+00	5.951E+01	Half-Life	too short	
	528.96			6.233E+02	5.951E+01	Half-Life	too short	
TE-123M	159.00		*	7.081E-03	3.012E-02	4.874E-02	4.256E-03	0.145
I-124	602.71		*	8.448E-01	1.007E+00	1.537E+00	1.188E-01	0.550
	722.78			5.630E+00	6.295E+00	9.597E+00	7.819E-01	0.587
	1325.50			-1.608E+01	4.904E+01	7.868E+01	4.470E+00	-0.204
SB-124	1376.25			5.055E+01	4.418E+01	8.021E+01	4.586E+00	0.630
	1509.49			-5.291E-01	2.101E+01	3.425E+01	1.975E+00	-0.015
	1691.02			1.892E+00	5.017E+00	8.609E+00	4.930E-01	0.220
+ SB-124	602.71			4.790E-02	5.713E-02	8.715E-02	6.739E-03	0.550
	645.85			2.368E-01	6.579E-01	1.099E+00	9.450E-02	0.215
	709.31			-1.136E+00	3.869E+00	6.112E+00	4.987E-01	-0.186
+ SB-124	713.82			1.917E+00	2.192E+00	3.749E+00	4.390E-01	0.511
	722.78			4.628E-01	5.175E-01	7.889E-01	6.582E-02	0.587
	968.20			1.504E+01	7.493E+00	8.562E+00	6.136E-01	1.756
+ SB-124	1045.16			-2.152E+00	3.428E+00	5.286E+00	3.514E-01	-0.407
	1325.50			-1.412E+00	4.305E+00	6.907E+00	3.924E-01	-0.204
	1368.21			-1.046E-01	2.143E+00	3.519E+00	4.163E-01	-0.030
+ SB-124	1436.60			1.745E+00	5.203E+00	8.865E+00	5.095E-01	0.197
	1691.02		*	3.668E-02	9.727E-02	1.669E-01	1.040E-02	0.220
	427.89		*	-7.235E-02	1.027E-01	1.656E-01	1.066E-02	-0.437
+ SB-125	463.38			7.644E-01	5.865E-01	6.428E-01	4.765E-02	1.189
	600.56			1.576E-02	2.465E-01	3.827E-01	3.222E-02	0.041
	635.90			1.784E-01	3.605E-01	6.079E-01	5.304E-02	0.293
TE-125M	109.28		*	-3.545E-01	1.042E+01	1.528E+01	1.856E+00	-0.023
I-126	388.63			3.664E-01	2.573E-01	4.465E-01	2.644E-02	0.821
	666.33		*	4.504E-02	2.477E-01	4.073E-01	3.323E-02	0.111
	753.82			1.155E+00	1.945E+00	3.267E+00	2.646E-01	0.354
SB-126	223.80			-7.791E-01	4.451E+00	7.418E+00	5.881E-01	-0.105
	278.60			2.713E+00	2.779E+00	4.789E+00	3.684E-01	0.566
	296.50			9.248E+00	2.855E+00	3.795E+00	2.857E-01	2.437
+ SB-126	414.70			-8.436E-03	9.467E-02	1.505E-01	9.146E-03	-0.056
	415.30			9.135E-01	7.807E+00	1.258E+01	7.649E-01	0.073
	555.20			-4.944E-01	4.754E+00	7.788E+00	5.728E-01	-0.063
+ SB-126	573.80			-2.825E-01	1.400E+00	2.137E+00	1.604E-01	-0.132
	593.00			3.120E-01	1.226E+00	2.047E+00	1.567E-01	0.152

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SB-127		656.30		-2.750E-01	4.249E+00	6.876E+00	5.583E-01	-0.040
		666.33		1.883E-02	1.035E-01	1.703E-01	1.389E-02	0.111
		675.00		-6.033E-01	2.640E+00	4.208E+00	3.435E-01	-0.143
		695.00		-9.747E-04	1.052E-01	1.700E-01	1.388E-02	-0.006
		697.00		-4.530E-02	3.759E-01	6.028E-01	4.922E-02	-0.075
		720.50	*	-1.439E-02	2.074E-01	2.858E-01	2.330E-02	-0.050
		856.80		-7.061E-02	6.544E-01	1.079E+00	8.355E-02	-0.065
		989.30		2.982E-01	1.636E+00	2.724E+00	1.917E-01	0.109
		1034.80		-8.604E+00	1.195E+01	1.823E+01	1.226E+00	-0.472
		1213.00		-2.427E+00	5.743E+00	9.269E+00	5.148E-01	-0.262
		61.10		8.317E-01	2.739E+01	4.192E+01	4.987E+00	0.020
		252.40		-1.914E+00	4.800E+00	7.720E+00	3.234E+00	-0.248
		290.80		-1.664E+01	2.755E+01	3.796E+01	3.961E+00	-0.438
		411.60		-5.984E+00	1.624E+01	2.537E+01	3.682E+00	-0.236
		444.90		-2.285E+00	1.207E+01	1.924E+01	2.146E+00	-0.119
		473.00		3.499E-01	2.107E+00	3.480E+00	4.063E-01	0.101
		543.00		-1.385E+01	2.092E+01	3.285E+01	4.487E+00	-0.422
		603.60		7.528E+00	1.739E+01	2.563E+01	3.066E+00	0.294
		685.20	*	5.456E-01	1.789E+00	2.965E+00	3.289E-01	0.184
		698.50		4.373E+00	2.165E+01	3.548E+01	5.537E+00	0.123
XE-127		722.20		2.408E+01	4.186E+01	6.198E+01	6.724E+00	0.389
		783.80		6.046E+00	4.828E+00	8.674E+00	1.046E+00	0.697
		57.60		1.897E-01	2.119E+00	3.618E+00	3.343E-01	0.052
		145.22		1.230E-01	7.511E-01	1.219E+00	1.251E-01	0.101
		172.10		-3.054E-02	1.335E-01	2.102E-01	1.650E-02	-0.145
I-131		202.84	*	-5.112E-02	4.943E-02	7.674E-02	6.082E-03	-0.666
		374.96		-2.621E-03	2.429E-01	3.916E-01	2.446E-02	-0.007
		80.18		-2.001E+00	4.786E+00	5.599E+00	4.691E-01	-0.357
		284.30		1.242E-01	1.711E+00	2.833E+00	2.309E-01	0.044
TE-132		364.48	*	-1.016E-01	1.422E-01	2.196E-01	1.556E-02	-0.463
		636.97		1.364E+00	2.133E+00	3.625E+00	3.083E-01	0.376
		722.89		9.634E+00	1.018E+01	1.557E+01	1.277E+00	0.619
		49.72		-1.272E+00	4.253E+00	6.484E+00	6.624E-01	-0.196
BA-133		111.76		1.343E+01	3.177E+01	5.244E+01	6.786E+00	0.256
		116.30		6.629E+00	2.817E+01	4.651E+01	6.288E+00	0.143
		228.16	*	-4.114E-01	7.390E-01	1.203E+00	1.850E-01	-0.342
		53.15		1.558E+00	1.032E+00	1.764E+00	1.480E-01	0.884
I-133		79.62		-9.012E-02	1.131E+00	1.545E+00	2.329E-01	-0.058
		81.00		-7.382E-02	1.019E-01	1.158E-01	1.817E-02	-0.638
		276.40		5.564E-01	4.175E-01	7.210E-01	1.004E-01	0.772
		302.84		3.092E-02	1.803E-01	2.627E-01	3.302E-02	0.118
I-133 +		356.01	*	3.590E-02	6.031E-02	8.936E-02	1.073E-02	0.402
		383.85		-4.407E-02	3.777E-01	6.038E-01	6.642E-02	-0.073
		510.53		2.144E+00	3.777E-01	Half-Life too short		
		529.87	*	-1.384E-03	3.777E-01	Half-Life too short		
		706.58		-4.427E-01	3.777E-01	Half-Life too short		
		856.28		-5.020E-01	3.777E-01	Half-Life too short		
		875.33		-9.316E-02	3.777E-01	Half-Life too short		
		1236.41		1.731E+00	3.777E-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			2.072E-01	3.777E-01	Half-Life	too short	
	475.35			9.982E-01	2.291E+00	3.931E+00	2.617E-01	0.254
	563.23			1.958E-01	4.771E-01	8.062E-01	6.060E-02	0.243
	569.32			1.148E-01	2.498E-01	4.236E-01	3.222E-02	0.271
	604.70			-2.920E-02	5.128E-02	6.871E-02	5.339E-03	-0.425
	795.84	*		1.128E-01	6.704E-02	1.224E-01	9.867E-03	0.921
	801.93			-3.978E-01	5.575E-01	8.757E-01	7.028E-02	-0.454
	1038.57			4.796E+00	5.127E+00	9.006E+00	6.032E-01	0.532
	1167.94			-1.425E+00	3.443E+00	5.357E+00	2.973E-01	-0.266
	1365.15			6.080E-01	1.580E+00	2.718E+00	1.709E-01	0.224
	268.24	*		1.077E-01	1.758E-01	2.991E-01	2.763E-02	0.360
	288.45			1.595E+10	1.758E-01	Half-Life	too short	
	417.63			4.042E+09	1.758E-01	Half-Life	too short	
	546.56			-1.037E+10	1.758E-01	Half-Life	too short	
CS-135 I-135	836.80			1.851E+10	1.758E-01	Half-Life	too short	
	1038.76			3.414E+10	1.758E-01	Half-Life	too short	
	1124.00			5.646E+10	1.758E-01	Half-Life	too short	
	1131.51			8.646E+09	1.758E-01	Half-Life	too short	
	1260.41	*		7.475E+09	1.758E-01	Half-Life	too short	
	1457.56			1.296E+12	1.758E-01	Half-Life	too short	
	1678.03			-1.862E+10	1.758E-01	Half-Life	too short	
	1706.46			1.234E+10	1.758E-01	Half-Life	too short	
	1791.20			6.953E+08	1.758E-01	Half-Life	too short	
	66.91			-7.279E-02	4.687E-01	7.076E-01	1.112E-01	-0.103
	86.29	+		4.954E+00	1.346E+00	1.706E+00	2.120E-01	2.904
	153.22			9.100E-01	7.106E-01	1.195E+00	1.231E-01	0.762
	163.89			5.127E-01	1.206E+00	1.940E+00	1.781E-01	0.264
	176.55			-1.893E-01	4.026E-01	6.245E-01	5.252E-02	-0.303
	273.65			-9.566E-01	5.355E-01	7.840E-01	6.553E-02	-1.220
CS-136	340.57			1.471E-01	1.730E-01	2.605E-01	1.884E-02	0.565
	818.51			6.900E-02	9.257E-02	1.631E-01	1.292E-02	0.423
	1048.07	*		5.305E-03	1.537E-01	2.513E-01	1.783E-02	0.021
	1235.34			1.357E+00	7.300E-01	1.353E+00	1.335E-01	1.003
	661.65	*		-1.887E-03	4.594E-02	7.442E-02	6.070E-03	-0.025
	661.65	*		-1.994E-03	4.856E-02	7.867E-02	6.430E-03	-0.025
	165.85	*		-3.020E-02	3.293E-02	5.018E-02	3.934E-03	-0.602
	162.64			2.505E-01	8.607E-01	1.378E+00	1.207E-01	0.182
	304.84			4.959E-01	1.605E+00	2.355E+00	6.519E-01	0.211
	423.70			6.116E-01	2.360E+00	3.818E+00	1.216E+00	0.160
	537.32	*		2.751E-01	3.453E-01	5.804E-01	1.904E-01	0.474
	328.77	+		6.501E-01	6.461E-01	6.289E-01	4.839E-02	1.034
	432.53			1.599E+00	2.375E+00	4.154E+00	2.832E-01	0.385
	487.03			-9.968E-02	1.696E-01	2.722E-01	2.023E-02	-0.366
	751.79			2.008E-01	2.208E+00	3.572E+00	3.243E-01	0.056
BA-137M CS-137 CE-139 BA-140	815.85			-1.197E-01	4.220E-01	6.886E-01	6.193E-02	-0.174
	867.82			1.038E+00	1.937E+00	3.336E+00	2.735E-01	0.311
	919.63			1.334E+00	3.371E+00	5.645E+00	5.478E-01	0.236
	925.24			-8.365E-01	1.505E+00	2.364E+00	1.896E-01	-0.354
	1596.49	*		-6.065E-02	1.122E-01	1.685E-01	9.710E-03	-0.360
	328.77			6.501E-01	6.461E-01	6.289E-01	4.839E-02	1.034
	432.53			1.599E+00	2.375E+00	4.154E+00	2.832E-01	0.385
	487.03			-9.968E-02	1.696E-01	2.722E-01	2.023E-02	-0.366
	751.79			2.008E-01	2.208E+00	3.572E+00	3.243E-01	0.056
	815.85			-1.197E-01	4.220E-01	6.886E-01	6.193E-02	-0.174
	867.82			1.038E+00	1.937E+00	3.336E+00	2.735E-01	0.311
	919.63			1.334E+00	3.371E+00	5.645E+00	5.478E-01	0.236
	925.24			-8.365E-01	1.505E+00	2.364E+00	1.896E-01	-0.354
	1596.49	*		-6.065E-02	1.122E-01	1.685E-01	9.710E-03	-0.360
LA-140	328.77	+		6.501E-01	6.461E-01	6.289E-01	4.839E-02	1.034
	432.53			1.599E+00	2.375E+00	4.154E+00	2.832E-01	0.385
	487.03			-9.968E-02	1.696E-01	2.722E-01	2.023E-02	-0.366
	751.79			2.008E-01	2.208E+00	3.572E+00	3.243E-01	0.056
	815.85			-1.197E-01	4.220E-01	6.886E-01	6.193E-02	-0.174
	867.82			1.038E+00	1.937E+00	3.336E+00	2.735E-01	0.311
	919.63			1.334E+00	3.371E+00	5.645E+00	5.478E-01	0.236
	925.24			-8.365E-01	1.505E+00	2.364E+00	1.896E-01	-0.354
	1596.49	*		-6.065E-02	1.122E-01	1.685E-01	9.710E-03	-0.360
	328.77			6.501E-01	6.461E-01	6.289E-01	4.839E-02	1.034
	432.53			1.599E+00	2.375E+00	4.154E+00	2.832E-01	0.385
	487.03			-9.968E-02	1.696E-01	2.722E-01	2.023E-02	-0.366
	751.79			2.008E-01	2.208E+00	3.572E+00	3.243E-01	0.056
	815.85			-1.197E-01	4.220E-01	6.886E-01	6.193E-02	-0.174
	867.82			1.038E+00	1.937E+00	3.336E+00	2.735E-01	0.311

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-141		145.44	*	-2.786E-02	6.863E-02	1.086E-01	1.126E-02	-0.257
CE-143		57.37		-8.529E-05	6.863E-02	Half-Life	too short	
		231.56		2.367E-03	6.863E-02	Half-Life	too short	
		293.26	*	8.893E-04	6.863E-02	Half-Life	too short	
	+	350.59		3.563E-02	6.863E-02	Half-Life	too short	
		490.36		1.840E-03	6.863E-02	Half-Life	too short	
		664.57		-2.702E-04	6.863E-02	Half-Life	too short	
		721.93		1.121E-03	6.863E-02	Half-Life	too short	
CE-144		80.11		-8.641E-01	2.172E+00	2.545E+00	2.119E-01	-0.339
		133.54	*	2.073E-01	2.289E-01	3.642E-01	6.312E-02	0.569
PM-144		476.78		-5.652E-03	8.093E-02	1.347E-01	1.035E-02	-0.042
		618.01		-9.721E-03	4.035E-02	6.480E-02	5.253E-03	-0.150
		696.49	*	2.642E-03	4.660E-02	7.567E-02	6.181E-03	0.035
		778.57		-5.613E-01	2.973E+00	4.914E+00	3.954E-01	-0.114
PR-144		696.49	*	1.791E-01	3.158E+00	5.128E+00	4.187E-01	0.035
		1489.15		-1.095E+01	1.487E+01	2.177E+01	1.254E+00	-0.503
PM-146		453.90	*	2.271E-02	5.029E-02	8.665E-02	7.864E-03	0.262
		633.02		-1.181E+00	1.907E+00	2.888E+00	1.075E+00	-0.409
		735.90		-8.085E-02	1.953E-01	3.012E-01	8.573E-02	-0.268
		747.13		-4.710E-02	1.207E-01	1.873E-01	2.573E-02	-0.251
ND-147	+	91.11		6.724E-01	2.799E-01	4.890E-01	4.410E-02	1.375
		319.41		1.190E-01	3.714E+00	6.083E+00	4.412E-01	0.020
		439.89		-8.996E-02	6.787E+00	1.141E+01	7.217E-01	-0.008
		531.02	*	-2.047E-01	6.972E-01	1.131E+00	1.601E-01	-0.181
PM-149		285.90	*	2.239E+01	1.090E+02	1.815E+02	2.726E+01	0.123
EU-152		121.78		5.081E-02	7.551E-02	1.261E-01	1.706E-02	0.403
		244.69		-1.256E-01	3.738E-01	5.359E-01	4.224E-02	-0.234
		344.27	*	-4.973E-02	1.334E-01	1.839E-01	1.379E-02	-0.270
		443.98		-7.992E-01	1.094E+00	1.755E+00	1.116E-01	-0.455
		778.89		-6.063E-02	3.416E-01	5.651E-01	4.544E-02	-0.107
		867.32		1.458E-01	1.152E+00	1.930E+00	1.485E-01	0.076
		964.01		5.893E-01	4.737E-01	7.453E-01	5.359E-02	0.791
		1085.78		3.656E-01	5.321E-01	9.142E-01	5.779E-02	0.400
		1112.02		-8.921E-03	4.675E-01	6.744E-01	4.107E-02	-0.013
		1407.95		2.120E-01	2.331E-01	4.209E-01	2.414E-02	0.504
GD-153		69.67		-1.579E-01	1.066E+00	1.605E+00	1.435E-01	-0.098
	+	83.37		2.088E+01	1.405E+01	1.945E+01	1.584E+00	1.073
		97.43	*	4.241E-03	8.163E-02	1.192E-01	1.085E-02	0.036
		103.18		7.721E-03	1.066E-01	1.578E-01	1.559E-02	0.049
EU-154		123.07		1.201E-02	5.242E-02	8.622E-02	1.257E-02	0.139
		247.94		3.311E-01	3.955E-01	6.626E-01	7.238E-02	0.500
		591.81		3.351E-01	8.041E-01	1.356E+00	1.487E-01	0.247
		723.30		2.910E-01	2.533E-01	3.935E-01	3.582E-02	0.740
		756.87		-1.038E-01	1.052E+00	1.675E+00	1.944E-01	-0.062
		873.19		5.952E-02	4.164E-01	6.978E-01	8.087E-02	0.085
		996.32		-4.293E-01	5.148E-01	7.765E-01	1.323E-01	-0.553
		1004.76		-2.870E-01	2.965E-01	4.435E-01	4.636E-02	-0.647
		1274.45	*	-6.509E-02	1.563E-01	2.501E-01	2.310E-02	-0.260
TB-160	+	86.79		1.213E+00	3.086E-01	4.257E-01	3.386E-02	2.849

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		197.04		-1.776E-01	5.978E-01	9.581E-01	7.585E-02	-0.185
		215.65		4.069E-01	7.914E-01	1.319E+00	1.047E-01	0.308
		298.57		7.790E-02	2.049E-01	2.226E-01	1.671E-02	0.350
		879.36	*	1.871E-02	1.879E-01	3.139E-01	2.394E-02	0.060
		962.29		1.007E+00	8.399E-01	1.322E+00	9.521E-02	0.761
		966.15		1.028E+00	3.906E-01	6.541E-01	4.695E-02	1.572
		1177.93		4.470E-02	4.888E-01	7.937E-01	4.368E-02	0.056
		1271.85		7.788E-01	8.690E-01	1.558E+00	8.765E-02	0.500
		80.57		-2.823E-03	2.671E-01	3.215E-01	2.668E-02	-0.009
	+	184.41		8.790E-02	6.687E-02	8.040E-02	6.344E-03	1.093
		280.46		-1.136E-01	9.585E-02	1.482E-01	1.138E-02	-0.767
		410.95		1.715E-01	3.063E-01	5.066E-01	3.059E-02	0.339
		711.68	*	2.151E-02	8.474E-02	1.392E-01	1.136E-02	0.154
		752.31		3.176E-01	3.447E-01	5.940E-01	4.813E-02	0.535
		810.29		1.068E-02	7.963E-02	1.342E-01	1.066E-02	0.080
TM-171		51.35		-7.106E+00	7.455E+00	1.178E+01	9.480E-01	-0.603
		52.39		3.027E+00	4.211E+00	7.063E+00	5.825E-01	0.429
		59.40		4.186E+00	1.130E+01	1.757E+01	1.685E+00	0.238
LU-176		66.72	*	-3.087E+00	1.677E+01	2.530E+01	2.309E+00	-0.122
	+	88.36		8.928E-01	2.271E-01	3.081E-01	2.444E-02	2.898
		201.83		-2.261E-02	2.877E-02	4.696E-02	3.721E-03	-0.482
		306.84	*	1.623E-02	2.710E-02	4.586E-02	3.400E-03	0.354
LU-177		401.10		1.375E+00	8.463E+00	1.371E+01	8.141E-01	0.100
		112.95		1.433E-01	1.694E+00	2.762E+00	3.111E-01	0.052
LU-177M	+	208.36	*	3.055E+00	2.139E+00	2.204E+00	1.748E-01	1.386
		52.97		5.496E-01	4.611E-01	7.830E-01	6.544E-02	0.702
		54.07		2.075E-01	2.547E-01	4.276E-01	3.663E-02	0.485
		61.30		5.967E-01	7.093E-01	1.118E+00	1.060E-01	0.534
		121.62		2.178E-01	3.849E-01	6.412E-01	8.062E-02	0.340
		147.16		-2.542E-01	6.865E-01	1.086E+00	1.092E-01	-0.234
		171.86		9.868E-02	5.335E-01	8.566E-01	6.726E-02	0.115
		218.09		3.904E-01	8.922E-01	1.528E+00	1.212E-01	0.256
		268.79		1.576E+00	8.937E-01	1.584E+00	1.230E-01	0.995
		319.02		-3.119E-02	2.901E-01	4.713E-01	3.421E-02	-0.066
HF-181		367.43		1.799E-01	1.092E+00	1.781E+00	1.142E-01	0.101
		413.65	*	-1.801E-01	2.262E-01	3.433E-01	2.082E-02	-0.525
		56.28		-2.299E-01	3.080E-01	5.107E-01	4.590E-02	-0.450
		57.53		-2.069E-02	1.778E-01	3.016E-01	2.783E-02	-0.069
		65.20		1.716E-01	5.338E-01	8.227E-01	7.589E-02	0.209
		133.02		6.798E-02	7.787E-02	1.175E-01	1.358E-02	0.579
		136.25		-1.232E-01	4.892E-01	7.830E-01	8.789E-02	-0.157
		345.85		-8.955E-02	2.574E-01	3.551E-01	2.426E-02	-0.252
		482.03	*	2.557E-02	5.033E-02	8.669E-02	5.824E-03	0.295
		56.28		-8.976E-02	1.204E-01	1.996E-01	1.794E-02	-0.450
W-181		57.53		-8.176E-03	6.953E-02	1.179E-01	1.088E-02	-0.069
		65.20	*	6.656E-02	2.071E-01	3.192E-01	2.944E-02	0.209
TA-182		67.75		-2.391E-02	6.836E-02	1.023E-01	9.267E-03	-0.234
		100.10		4.597E-03	1.640E-01	2.711E-01	2.564E-02	0.017
		152.43		2.131E-01	3.623E-01	5.959E-01	5.633E-02	0.358

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		222.10		-1.339E-02	3.702E-01	6.210E-01	4.924E-02	-0.022
		1001.68		2.627E+00	3.055E+00	4.993E+00	3.474E-01	0.526
	+	1121.28		6.912E-01	2.977E-01	4.351E-01	2.613E-02	1.589
		1189.05		1.616E-01	3.891E-01	6.715E-01	3.707E-02	0.241
		1221.42	*	-7.109E-02	2.431E-01	3.966E-01	2.207E-02	-0.179
		1230.97		-5.779E-01	6.041E-01	9.330E-01	5.204E-02	-0.619
		57.98		4.314E-02	7.187E-02	1.245E-01	1.160E-02	0.346
		59.32		1.593E-02	4.632E-02	7.194E-02	6.887E-03	0.221
		67.20		1.082E-02	1.202E-01	1.833E-01	1.667E-02	0.059
		162.32	*	2.218E-02	1.252E-01	1.995E-01	1.651E-02	0.111
RE-184	+	208.81		2.706E+00	1.894E+00	1.952E+00	1.548E-01	1.386
		291.72		-1.847E-01	1.133E+00	1.616E+00	1.225E-01	-0.114
		57.98		1.588E-01	2.646E-01	4.583E-01	4.269E-02	0.346
		59.32		5.859E-02	1.704E-01	2.646E-01	2.533E-02	0.221
		67.20		3.981E-02	4.423E-01	6.745E-01	6.135E-02	0.059
		161.27		-5.886E-02	3.975E-01	6.316E-01	5.309E-02	-0.093
		216.55		1.208E-01	2.793E-01	4.782E-01	3.793E-02	0.253
		252.85	*	-6.023E-02	2.497E-01	4.106E-01	3.223E-02	-0.147
		318.01		-3.043E-01	5.149E-01	8.133E-01	5.913E-02	-0.374
		792.07		4.158E-01	1.367E+00	2.332E+00	1.866E-01	0.178
OS-185		903.28		-1.384E-01	1.539E+00	2.257E+00	1.692E-01	-0.061
		920.93		8.897E-02	5.318E-01	8.909E-01	6.609E-02	0.100
		59.72		-1.210E-02	1.296E-01	1.976E-01	1.895E-02	-0.061
		61.14		1.347E-02	7.629E-02	1.175E-01	1.115E-02	0.115
		69.30		-4.390E-02	1.893E-01	2.842E-01	2.547E-02	-0.154
		592.07		1.137E+00	3.268E+00	5.489E+00	4.200E-01	0.207
		646.12	*	1.057E-02	5.555E-02	9.172E-02	7.382E-03	0.115
		717.42		-1.171E+00	1.211E+00	1.730E+00	1.410E-01	-0.677
		874.81		-4.953E-01	8.191E-01	1.294E+00	9.901E-02	-0.383
		880.27		2.767E-01	1.055E+00	1.784E+00	1.360E-01	0.155
RE-188		155.03	*	9.896E-02	1.828E-01	2.999E-01	2.744E-02	0.330
		477.96		-9.952E-01	3.647E+00	5.989E+00	4.002E-01	-0.166
		633.10		-2.473E+00	3.756E+00	5.826E+00	4.636E-01	-0.424
W-188	+	63.58		2.551E+01	4.858E+01	5.748E+01	5.362E+00	0.444
IR-192		227.08		5.003E+00	1.327E+01	2.263E+01	1.793E+00	0.221
		290.67	*	-5.288E+00	9.288E+00	1.285E+01	9.748E-01	-0.412
	+	295.96		1.072E+00	2.383E-01	3.048E-01	2.318E-02	3.518
		308.46		-9.560E-03	1.058E-01	1.725E-01	1.284E-02	-0.055
		316.51	*	2.880E-04	4.019E-02	6.577E-02	4.811E-03	0.004
AU-195		468.07		3.548E-02	8.734E-02	1.318E-01	9.729E-03	0.269
		604.41		-3.426E-01	6.977E-01	9.417E-01	1.173E-01	-0.364
		612.46		3.415E-01	1.076E+00	1.566E+00	1.441E-01	0.218
		65.12		5.383E-02	9.643E-02	1.499E-01	1.383E-02	0.359
		66.83		-9.319E-03	5.571E-02	8.408E-02	7.667E-03	-0.111
TL-200	+	75.70		9.943E-01	2.032E-01	3.335E-01	2.860E-02	2.982
		98.88	*	2.452E-03	2.168E-01	3.477E-01	3.232E-02	0.007
	+	129.76		5.404E+00	4.023E+00	5.089E+00	6.050E-01	1.062
TL-200		367.94	*	2.386E-04	4.023E+00	Half-Life too short		
		579.30		8.468E-03	4.023E+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			-5.706E-05	4.023E+00	Half-Life	too short	
	1205.75			1.304E-03	4.023E+00	Half-Life	too short	
TL-201	68.90			-1.107E+00	3.141E+00	4.693E+00	4.218E-01	-0.236
	70.82			1.415E+00	1.822E+00	2.840E+00	2.519E-01	0.498
	80.30			-3.397E-01	5.191E+00	6.226E+00	5.175E-01	-0.055
	135.34			-6.960E+00	2.821E+01	4.519E+01	5.115E+00	-0.154
	167.43	*		-5.059E+00	7.932E+00	1.226E+01	9.605E-01	-0.413
TL-202	68.90			-9.685E-02	2.748E-01	4.107E-01	3.691E-02	-0.236
	70.82			1.235E-01	1.590E-01	2.478E-01	2.198E-02	0.498
	80.30			-2.965E-02	4.532E-01	5.435E-01	4.518E-02	-0.055
	439.56	*		7.643E-03	8.113E-02	1.373E-01	8.675E-03	0.056
HG-203	70.83			5.290E-01	6.867E-01	1.067E+00	1.468E-01	0.496
	72.87			9.270E-01	4.211E-01	7.199E-01	9.563E-02	1.288
	82.60			-5.827E-01	9.367E-01	1.360E+00	1.832E-01	-0.429
	279.20	*		3.497E-02	4.535E-02	7.756E-02	6.176E-03	0.451
BI-207	72.80			2.400E-01	1.186E-01	2.076E-01	1.816E-02	1.156
	74.97		+	5.512E-01	1.126E-01	1.629E-01	1.404E-02	3.384
	84.90		+	2.700E-01	1.817E-01	2.591E-01	2.088E-02	1.042
	569.67			1.699E-02	3.889E-02	6.586E-02	4.922E-03	0.258
	1063.62	*		-1.938E-02	7.488E-02	1.193E-01	7.759E-03	-0.162
	1770.23			1.000E-01	6.277E-01	9.251E-01	5.250E-02	0.108
TL-207	81.07			-1.661E-01	2.240E-01	2.554E-01	2.112E-02	-0.650
	83.78		+	1.780E-01	1.198E-01	1.684E-01	1.367E-02	1.057
	94.90			1.716E-01	2.164E-01	3.284E-01	2.879E-02	0.523
	122.32			1.313E+00	1.804E+00	3.018E+00	3.943E-01	0.435
	144.24			8.566E-01	7.756E-01	1.276E+00	1.433E-01	0.671
	154.21			6.682E-01	4.259E-01	7.215E-01	7.253E-02	0.926
	269.46			5.107E-01	2.078E-01	3.757E-01	2.989E-02	1.359
	323.87	*		-1.266E-01	8.602E-01	1.215E+00	2.073E-01	-0.104
	338.28		+	5.842E+00	1.872E+00	2.649E+00	2.971E-01	2.205
	445.03			-4.461E-01	2.726E+00	4.353E+00	4.615E-01	-0.102
PO-209	260.50			-1.361E+00	1.053E+01	1.738E+01	1.357E+00	-0.078
	262.80			9.722E+00	2.848E+01	4.805E+01	3.748E+00	0.202
	896.60	*		1.336E+00	1.054E+01	1.738E+01	1.308E+00	0.077
PB-211	404.84	*		-1.152E+00	1.392E+00	1.797E+00	1.120E+00	-0.641
	427.08			-1.714E+00	2.696E+00	3.761E+00	2.326E+00	-0.456
	831.96			-8.373E-01	1.690E+00	2.574E+00	1.610E+00	-0.325
BI-212	727.18	*	+	1.614E+00	6.177E-01	8.232E-01	7.903E-02	1.961
	785.46			3.684E-01	2.284E+00	3.866E+00	3.102E-01	0.095
	1620.62			1.355E+00	1.745E+00	3.111E+00	1.790E-01	0.436
PO-215	81.07			-1.661E-01	2.240E-01	2.554E-01	2.112E-02	-0.650
	83.78		+	1.780E-01	1.198E-01	1.684E-01	1.367E-02	1.057
	94.90			1.716E-01	2.164E-01	3.284E-01	2.879E-02	0.523
	122.32			1.313E+00	1.804E+00	3.018E+00	3.943E-01	0.435
	144.24			8.566E-01	7.756E-01	1.276E+00	1.433E-01	0.671
	154.21			6.682E-01	4.259E-01	7.215E-01	7.253E-02	0.926
	269.46			5.107E-01	2.078E-01	3.757E-01	2.989E-02	1.359
	323.87	*		-1.266E-01	8.602E-01	1.215E+00	2.073E-01	-0.104
	338.28		+	5.842E+00	1.872E+00	2.649E+00	2.971E-01	2.205

---- 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		-4.461E-01	2.726E+00	4.353E+00	4.615E-01	-0.102
		271.23		1.941E-01	2.774E-01	4.639E-01	4.450E-02	0.418
		401.81	*	-2.964E-01	5.226E-01	8.060E-01	1.102E-01	-0.368
RN-220		549.76	*	3.700E+01	3.195E+01	5.665E+01	4.142E+00	0.653
RA-223		81.07		-1.661E-01	2.240E-01	2.554E-01	2.112E-02	-0.650
	+	83.78		1.780E-01	1.198E-01	1.684E-01	1.367E-02	1.057
		94.90		1.716E-01	2.164E-01	3.284E-01	2.879E-02	0.523
		122.32		1.313E+00	1.804E+00	3.018E+00	3.943E-01	0.435
		144.24		8.566E-01	7.756E-01	1.276E+00	1.433E-01	0.671
		154.21		6.682E-01	4.259E-01	7.215E-01	7.253E-02	0.926
		269.46		5.107E-01	2.078E-01	3.757E-01	2.989E-02	1.359
		323.87	*	-1.266E-01	8.602E-01	1.215E+00	2.073E-01	-0.104
	+	338.28		5.842E+00	1.872E+00	2.649E+00	2.971E-01	2.205
		445.03		-4.461E-01	2.726E+00	4.353E+00	4.615E-01	-0.102
AC-227		79.80		-1.274E-01	1.439E+00	1.964E+00	4.201E-01	-0.065
		236.00		7.536E-01	3.052E-01	4.873E-01	5.727E-02	1.547
		256.20	*	1.218E-01	4.105E-01	6.917E-01	1.032E-01	0.176
		286.10		7.651E-01	1.760E+00	2.960E+00	3.723E-01	0.258
	+	299.80		1.541E+00	2.236E+00	2.890E+00	4.903E-01	0.533
		304.40		1.210E+00	2.321E+00	3.456E+00	6.192E-01	0.350
		334.20		-2.285E+00	4.027E+00	3.747E+00	7.030E-01	-0.610
TH-227		79.80		-1.274E-01	1.439E+00	1.964E+00	4.256E-01	-0.065
	+	94.00		9.697E+00	3.630E+00	3.605E+00	7.856E-01	2.690
		236.00		7.536E-01	3.027E-01	4.873E-01	5.132E-02	1.547
		256.20	*	1.218E-01	4.107E-01	6.917E-01	1.224E-01	0.176
		286.10		7.651E-01	1.918E+00	2.960E+00	2.969E+00	0.258
	+	299.80		1.541E+00	2.236E+00	2.890E+00	4.903E-01	0.533
		304.40		1.210E+00	2.321E+00	3.456E+00	6.192E-01	0.350
		334.20		-2.285E+00	4.027E+00	3.747E+00	7.030E-01	-0.610
TH-229	+	85.43		2.665E-01	1.793E-01	2.666E-01	2.140E-02	1.000
	+	88.47		2.641E-01	1.096E-01	1.754E-01	1.394E-02	1.506
		100.00		2.073E-02	1.705E-01	2.829E-01	2.672E-02	0.073
		193.63	*	3.801E-02	5.156E-01	8.771E-01	6.938E-02	0.043
PA-231		210.97		1.233E+00	8.455E-01	1.355E+00	1.075E-01	0.910
		283.67	*	-3.548E-01	1.709E+00	2.788E+00	4.086E-01	-0.127
	+	301.29		6.166E-01	8.909E-01	1.166E+00	1.337E-01	0.529
TH-231		81.07		-1.661E-01	2.240E-01	2.554E-01	2.112E-02	-0.650
	+	83.78		1.780E-01	1.198E-01	1.684E-01	1.367E-02	1.057
		94.90		1.716E-01	2.164E-01	3.284E-01	2.879E-02	0.523
		122.32		1.313E+00	1.804E+00	3.018E+00	3.943E-01	0.435
		144.24		8.566E-01	7.756E-01	1.276E+00	1.433E-01	0.671
		154.21		6.682E-01	4.259E-01	7.215E-01	7.253E-02	0.926
		269.46		5.107E-01	2.078E-01	3.757E-01	2.989E-02	1.359
		323.87	*	-1.266E-01	8.602E-01	1.215E+00	2.073E-01	-0.104
	+	338.28		5.842E+00	1.872E+00	2.649E+00	2.971E-01	2.205
		445.03		-4.461E-01	2.726E+00	4.353E+00	4.615E-01	-0.102
U-231	+	84.21		7.870E+00	5.295E+00	7.520E+00	6.087E-01	1.047
	+	92.29		9.833E+00	3.112E+00	4.436E+00	3.740E-01	2.216
		95.87	*	-1.060E+00	1.083E+00	1.496E+00	1.331E-01	-0.708

---- 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		1.374E-02	2.271E+00	3.339E+00	3.523E-01	0.004
	+	75.28		1.608E+01	3.870E+00	5.061E+00	7.762E-01	3.178
	+	86.59		7.369E+00	2.649E+00	2.578E+00	6.860E-01	2.859
	+	300.12		4.297E-01	6.220E-01	8.023E-01	1.143E-01	0.536
		311.98	*	-4.513E-02	7.212E-02	1.138E-01	8.691E-03	-0.397
		340.50		8.442E-01	8.590E-01	1.274E+00	2.965E-01	0.663
		398.62		6.897E-01	2.592E+00	4.218E+00	1.092E+00	0.164
PA-234		415.76		6.330E-01	2.052E+00	3.339E+00	6.901E-01	0.190
	+	63.00		7.387E-01	1.410E+00	1.658E+00	2.641E-01	0.446
		94.67		2.694E-01	1.623E-01	2.512E-01	3.136E-02	1.073
		98.44		2.281E-02	8.901E-02	1.427E-01	7.977E-02	0.160
		99.86		-1.149E-01	4.554E-01	7.224E-01	6.809E-02	-0.159
		111.00		2.549E-02	1.897E-01	3.106E-01	4.309E-02	0.082
		131.20		5.989E-02	1.224E-01	1.818E-01	2.135E-02	0.329
		152.70		2.324E-01	3.522E-01	5.781E-01	1.010E-01	0.402
	+	186.00		3.164E+00	2.588E+00	3.006E+00	9.326E-01	1.053
		226.40		1.667E-01	4.274E-01	7.282E-01	9.291E-02	0.229
		227.20		1.247E-01	4.473E-01	7.594E-01	6.017E-02	0.164
		248.90		6.008E-01	8.800E-01	1.497E+00	3.314E-01	0.401
	+	293.70		6.740E+00	1.805E+00	1.846E+00	3.100E-01	3.651
		369.80		-2.961E-01	1.030E+00	1.631E+00	3.423E-01	-0.182
		568.70		-4.651E-01	1.290E+00	2.074E+00	1.548E-01	-0.224
		569.50		1.547E-01	3.454E-01	5.852E-01	4.373E-02	0.264
		574.00		-5.296E-01	1.985E+00	3.012E+00	2.262E-01	-0.176
		699.00		1.818E-01	9.946E-01	1.628E+00	3.072E-01	0.112
		706.10		-7.058E-01	1.529E+00	2.338E+00	1.040E+00	-0.302
		733.00		1.155E-01	5.165E-01	7.689E-01	1.693E-01	0.150
		742.81		1.126E+00	1.933E+00	3.005E+00	2.018E+00	0.375
		796.30		2.248E+00	1.395E+00	2.334E+00	6.268E-01	0.963
		805.60		9.070E-01	1.386E+00	2.372E+00	7.228E-01	0.382
		819.60		-1.109E-01	1.550E+00	2.570E+00	9.734E-01	-0.043
		826.30		3.622E-01	1.078E+00	1.822E+00	8.126E-01	0.199
		831.60		-4.045E-01	8.469E-01	1.347E+00	3.993E-01	-0.300
		876.40		5.254E-02	1.161E+00	1.929E+00	1.982E+00	0.027
		880.51		1.218E-01	3.829E-01	6.497E-01	4.952E-02	0.188
		883.24		-2.917E-01	4.442E-01	6.230E-01	4.180E-01	-0.468
		899.00		3.535E-01	1.185E+00	1.987E+00	8.644E-01	0.178
		925.00		-6.462E-01	1.525E+00	2.424E+00	1.793E-01	-0.267
		926.50		-4.396E-02	2.345E-01	3.805E-01	9.469E-02	-0.116
		946.00	*	1.609E-01	4.386E-01	7.400E-01	1.346E-01	0.217
		949.00		6.818E-01	6.376E-01	1.128E+00	8.208E-02	0.604
		980.50		1.000E-01	9.785E-01	1.546E+00	1.096E-01	0.065
PA-234M		1394.10		1.419E+00	1.758E+00	2.726E+00	1.766E+00	0.521
		766.42		1.009E+01	1.551E+01	2.565E+01	1.299E+01	0.393
NP-236		1001.03	*	6.683E+00	6.915E+00	1.137E+01	9.746E-01	0.588
		94.67		2.078E-01	1.219E-01	1.909E-01	1.668E-02	1.088
		98.44		1.727E-02	6.661E-02	1.079E-01	9.964E-03	0.160
		111.00		1.928E-02	1.435E-01	2.350E-01	2.580E-02	0.082
		160.31	*	9.783E-03	8.747E-02	1.407E-01	1.199E-02	0.070

----- 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		3.501E-02	1.513E-01	2.446E-01	2.295E-02	0.143
		117.00	*	1.582E-01	1.870E-01	3.151E-01	3.740E-02	0.502
	+	209.75		2.131E+00	1.492E+00	1.535E+00	1.217E-01	1.389
		228.18		-1.636E-01	2.344E-01	3.801E-01	3.011E-02	-0.430
		277.60		1.392E-01	2.023E-01	3.446E-01	2.654E-02	0.404
AM-241		334.30		-1.303E+00	2.271E+00	2.122E+00	1.492E-01	-0.614
		59.54	*	2.758E-02	6.619E-02	1.031E-01	1.048E-02	0.268
CM-243		99.55		3.603E-02	1.557E-01	2.517E-01	2.361E-02	0.143
		103.76	*	5.096E-02	1.008E-01	1.524E-01	1.517E-02	0.334
		117.00		1.628E-01	1.924E-01	3.242E-01	3.848E-02	0.502
	+	209.75		2.101E+00	1.471E+00	1.513E+00	1.200E-01	1.389
		228.18		-1.653E-01	2.368E-01	3.841E-01	3.043E-02	-0.430
AM-246		277.60		1.403E-01	2.039E-01	3.474E-01	2.675E-02	0.404
		798.80		-2.926E-01	2.033E-01	3.047E-01	2.433E-02	-0.960
		1036.00		1.091E-02	3.983E-01	6.517E-01	4.377E-02	0.017
		1062.04		-1.272E-01	3.323E-01	5.241E-01	3.415E-02	-0.243
		1078.86	*	-3.400E-02	1.914E-01	3.062E-01	1.953E-02	-0.111
CM-247		278.00		6.755E-01	8.355E-01	1.431E+00	1.101E-01	0.472
		287.40		8.926E-01	1.392E+00	2.366E+00	1.802E-01	0.377
		402.60	*	9.502E-03	4.525E-02	7.349E-02	4.376E-03	0.129
CF-249		252.85		-2.258E-01	9.362E-01	1.540E+00	1.209E-01	-0.147
		333.44		-1.711E-01	2.965E-01	2.770E-01	1.951E-02	-0.618
		387.95	*	5.437E-02	5.038E-02	8.592E-02	5.102E-03	0.633
CF-251		176.60	*	-7.803E-02	1.384E-01	2.136E-01	1.680E-02	-0.365
		227.00		1.686E-01	3.986E-01	6.807E-01	5.393E-02	0.248
		285.00		8.840E-01	1.962E+00	3.308E+00	2.527E-01	0.267

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]G244924003      *
* Acquisition date   : 27-JAN-2010 18:39:02 Detector SN#                   *
* Detector ID        : GAM13                                           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 02:00:01.59                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924003                               Analyst initials: MXR1        *
* Batch Number       : 942723                                   Sample Quantity : 1.2819E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                         *
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 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	2.240E+01	2.177E+00	5.903E-01	0.000E+00
CD-109	3.831E+00	9.551E-01	1.034E+00	0.000E+00
SN-126	3.764E-01	9.385E-02	1.015E-01	0.000E+00
EU-155	2.302E-01	1.388E-01	1.736E-01	0.000E+00
TL-208	5.611E-01	1.134E-01	7.385E-02	0.000E+00
BI-210	7.483E-01	7.596E-01	8.086E-01	0.000E+00
PB-210	7.483E-01	7.596E-01	8.086E-01	0.000E+00
PO-210	7.483E-01	7.591E-01	8.086E-01	0.000E+00
BI-211	4.147E+00	6.010E-01	4.219E-01	0.000E+00
PB-212	1.577E+00	1.823E-01	9.640E-02	0.000E+00
PO-212	1.577E+00	1.823E-01	9.640E-02	0.000E+00
BI-214	1.058E+00	2.303E-01	1.413E-01	0.000E+00
PB-214	1.442E+00	2.217E-01	1.471E-01	0.000E+00
PO-214	1.442E+00	2.217E-01	1.471E-01	0.000E+00
PO-216	1.577E+00	1.823E-01	9.640E-02	0.000E+00
PO-218	1.442E+00	2.217E-01	1.471E-01	0.000E+00
RA-224	4.701E+00	1.566E+00	1.097E+00	0.000E+00
RA-226	1.058E+00	2.303E-01	1.413E-01	0.000E+00
AC-228	1.368E+00	3.451E-01	2.586E-01	0.000E+00
RA-228	1.368E+00	3.451E-01	2.586E-01	0.000E+00
TH-228	1.602E+00	1.851E-01	9.788E-02	0.000E+00
TH-230	1.058E+00	2.303E-01	1.413E-01	0.000E+00
TH-232	1.368E+00	3.451E-01	2.586E-01	0.000E+00
TH-234	6.337E-01	1.187E+00	1.070E+00	0.000E+00
U-234	1.058E+00	2.303E-01	1.413E-01	0.000E+00
U-235	2.380E-01	2.378E-01	4.075E-01	0.000E+00
NP-237	1.105E+00	3.549E-01	2.971E-01	0.000E+00
U-238	6.337E-01	1.187E+00	1.070E+00	0.000E+00
AM-243	3.071E-01	6.150E-02	6.358E-02	0.000E+00
ANH-511	1.854E-01	8.163E-02	5.725E-02	0.000E+00

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	7.500E-02	3.604E-01	6.337E-01	0.000E+00	NOT IDENT.
NA-22	-2.561E-02	5.463E-02	8.904E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.095E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	9.988E-03	3.756E-02	6.612E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.720E-02	5.945E-02	0.000E+00	FAIL ABUN
SC-46	-2.528E-02	5.293E-02	8.605E-02	0.000E+00	FAIL ABUN
V-48	1.731E-02	9.084E-02	1.555E-01	0.000E+00	NOT IDENT.
CR-51	-1.002E-01	4.075E-01	6.861E-01	0.000E+00	NOT IDENT.
MN-52	-3.928E-02	3.164E-01	5.234E-01	0.000E+00	NOT IDENT.
MO-54	2.621E-02	4.827E-02	8.575E-02	0.000E+00	NOT IDENT.
CO-56	3.336E-02	5.050E-02	9.051E-02	0.000E+00	NOT IDENT.
CO-57	2.446E-02	2.549E-02	4.547E-02	0.000E+00	NOT IDENT.
CO-58	2.695E-03	5.188E-02	8.954E-02	0.000E+00	NOT IDENT.
FE-59	6.498E-02	1.169E-01	2.035E-01	0.000E+00	NOT IDENT.
CO-60	-2.552E-03	5.271E-02	8.878E-02	0.000E+00	NOT IDENT.
ZN-65	1.182E-02	1.348E-01	1.934E-01	0.000E+00	NOT IDENT.
GE-68	1.060E+00	1.620E+00	2.847E+00	0.000E+00	NOT IDENT.
AS-73	3.070E-01	2.364E-01	4.311E-01	0.000E+00	NOT IDENT.
AS-74	-1.242E-03	1.200E-01	2.037E-01	0.000E+00	NOT IDENT.
SE-75	-2.551E-02	4.670E-02	7.892E-02	0.000E+00	NOT IDENT.
BR-77	1.419E+01	1.343E+01	2.454E+01	0.000E+00	FAIL ABUN
SR-82	-3.090E-01	4.896E-01	8.072E-01	0.000E+00	NOT IDENT.
RB-83	1.021E-01	8.463E-02	1.559E-01	0.000E+00	NOT IDENT.
RB-84	-3.126E-02	9.519E-02	1.582E-01	0.000E+00	NOT IDENT.
KR-85	1.511E+01	9.841E+00	1.644E+01	0.000E+00	NOT IDENT.
SR-85	7.759E-02	5.054E-02	8.442E-02	0.000E+00	NOT IDENT.
RB-86	7.270E-01	1.037E+00	1.829E+00	0.000E+00	NOT IDENT.
Y-88	1.345E-02	4.387E-02	7.745E-02	0.000E+00	NOT IDENT.
ZR-88	-4.292E-02	3.792E-02	5.889E-02	0.000E+00	NOT IDENT.
Y-91	4.712E+00	2.313E+01	4.017E+01	0.000E+00	NOT IDENT.
NB-94	4.529E-02	4.595E-02	8.144E-02	0.000E+00	NOT IDENT.
NB-95	7.161E-03	5.403E-02	9.425E-02	0.000E+00	NOT IDENT.
NB-95M	1.480E-01	1.462E-01	2.378E-01	0.000E+00	NOT IDENT.
ZR-95	-1.917E-02	9.422E-02	1.534E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.423E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.861E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.728E+00	1.550E+01	2.490E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.823E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.349E-02	3.450E-02	5.984E-02	0.000E+00	NOT IDENT.
RH-102	1.233E-02	3.442E-02	6.103E-02	0.000E+00	NOT IDENT.
RU-103	1.886E-02	4.886E-02	8.637E-02	0.000E+00	FAIL ABUN
RH-106	1.582E-02	3.959E-01	6.710E-01	0.000E+00	FAIL ABUN
RU-106	1.582E-02	3.959E-01	6.710E-01	0.000E+00	FAIL ABUN
AG-108M	9.171E-03	3.755E-02	6.669E-02	0.000E+00	NOT IDENT.
AG-110M	-1.737E-02	4.337E-02	7.064E-02	0.000E+00	NOT IDENT.
IN-111	1.638E-01	1.231E+00	1.913E+00	0.000E+00	NOT IDENT.
IN-113M	-7.833E-03	5.427E-02	9.005E-02	0.000E+00	NOT IDENT.
SN-113	-7.833E-03	5.427E-02	9.005E-02	0.000E+00	NOT IDENT.
IN-114M	1.569E-01	2.130E-01	3.290E-01	0.000E+00	NOT IDENT.
CD-115	1.344E+01	1.331E+01	2.433E+01	0.000E+00	NOT IDENT.
SN-117M	5.723E-03	5.695E-02	9.674E-02	0.000E+00	NOT IDENT.
SB-122	8.359E-01	2.786E+00	4.844E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.312E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	7.081E-03	2.952E-02	5.043E-02	0.000E+00	NOT IDENT.
I-124	8.448E-01	9.873E-01	1.559E+00	0.000E+00	NOT IDENT.
SB-124	3.668E-02	9.532E-02	1.665E-01	0.000E+00	FAIL ABUN
SB-125	-7.235E-02	1.007E-01	1.688E-01	0.000E+00	FAIL ABUN
TE-125M	-3.545E-01	1.021E+01	1.590E+01	0.000E+00	NOT IDENT.
I-126	4.504E-02	2.427E-01	4.124E-01	0.000E+00	NOT IDENT.
SB-126	-1.439E-02	2.033E-01	2.891E-01	0.000E+00	NOT IDENT.
SB-127	5.456E-01	1.754E+00	3.001E+00	0.000E+00	NOT IDENT.
XE-127	-5.112E-02	4.844E-02	7.912E-02	0.000E+00	NOT IDENT.
I-131	-1.016E-01	1.394E-01	2.244E-01	0.000E+00	NOT IDENT.
TE-132	-4.114E-01	7.242E-01	1.239E+00	0.000E+00	NOT IDENT.
BA-133	3.590E-02	5.910E-02	9.135E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	8.115E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.128E-01	6.570E-02	1.236E-01	0.000E+00	NOT IDENT.
CS-135	1.077E-01	1.723E-01	3.071E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.659E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.305E-03	1.506E-01	2.526E-01	0.000E+00	FAIL ABUN
BA-137M	-1.887E-03	4.502E-02	7.536E-02	0.000E+00	NOT IDENT.
CS-137	-1.994E-03	4.759E-02	7.967E-02	0.000E+00	NOT IDENT.
CE-139	-3.020E-02	3.227E-02	5.189E-02	0.000E+00	NOT IDENT.
BA-140	2.751E-01	3.384E-01	5.896E-01	0.000E+00	NOT IDENT.
LA-140	-6.065E-02	1.099E-01	1.683E-01	0.000E+00	FAIL ABUN

CE-141	-2.786E-02	6.726E-02	1.125E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.797E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.073E-01	2.243E-01	3.778E-01	0.000E+00	NOT IDENT.
PM-144	2.642E-03	4.567E-02	7.656E-02	0.000E+00	NOT IDENT.
PR-144	1.791E-01	3.095E+00	5.189E+00	0.000E+00	NOT IDENT.
PM-146	2.271E-02	4.929E-02	8.825E-02	0.000E+00	NOT IDENT.
ND-147	-2.047E-01	6.833E-01	1.150E+00	0.000E+00	FAIL ABUN
PM-149	2.239E+01	1.068E+02	1.862E+02	0.000E+00	NOT IDENT.
EU-152	-4.973E-02	1.307E-01	1.881E-01	0.000E+00	NOT IDENT.
GD-153	4.241E-03	8.000E-02	1.242E-01	0.000E+00	FAIL ABUN
EU-154	-6.509E-02	1.532E-01	2.507E-01	0.000E+00	NOT IDENT.
TB-160	1.871E-02	1.842E-01	3.164E-01	0.000E+00	FAIL ABUN
HO-166M	2.151E-02	8.304E-02	1.408E-01	0.000E+00	FAIL ABUN
TM-171	-3.087E+00	1.644E+01	2.652E+01	0.000E+00	NOT IDENT.
LU-176	1.623E-02	2.656E-02	4.699E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.096E+00	2.272E+00	0.000E+00	FAIL ABUN
LU-177M	-1.801E-01	2.217E-01	3.501E-01	0.000E+00	NOT IDENT.
HF-181	2.557E-02	4.932E-02	8.821E-02	0.000E+00	NOT IDENT.
W-181	6.656E-02	2.030E-01	3.346E-01	0.000E+00	NOT IDENT.
TA-182	-7.109E-02	2.383E-01	3.978E-01	0.000E+00	FAIL ABUN
RE-183	2.218E-02	1.227E-01	2.064E-01	0.000E+00	FAIL ABUN
RE-184	-6.023E-02	2.447E-01	4.219E-01	0.000E+00	NOT IDENT.
OS-185	1.057E-02	5.444E-02	9.291E-02	0.000E+00	NOT IDENT.
RE-188	9.896E-02	1.791E-01	3.105E-01	0.000E+00	NOT IDENT.
W-188	-5.288E+00	9.102E+00	1.317E+01	0.000E+00	FAIL ABUN
IR-192	2.880E-04	3.939E-02	6.736E-02	0.000E+00	FAIL ABUN
AU-195	2.452E-03	2.124E-01	3.624E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.964E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-5.059E+00	7.773E+00	1.267E+01	0.000E+00	NOT IDENT.
TL-202	7.643E-03	7.951E-02	1.399E-01	0.000E+00	NOT IDENT.
HG-203	3.497E-02	4.445E-02	7.959E-02	0.000E+00	NOT IDENT.
BI-207	-1.938E-02	7.338E-02	1.199E-01	0.000E+00	FAIL ABUN
TL-207	-1.266E-01	8.430E-01	1.244E+00	0.000E+00	FAIL ABUN
PO-209	1.336E+00	1.033E+01	1.751E+01	0.000E+00	NOT IDENT.
PB-211	-1.152E+00	1.365E+00	1.833E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.053E-01	8.324E-01	0.000E+00	FAIL ABUN
PO-215	-1.266E-01	8.430E-01	1.244E+00	0.000E+00	FAIL ABUN
RN-219	-2.964E-01	5.121E-01	8.225E-01	0.000E+00	NOT IDENT.
RN-220	3.700E+01	3.131E+01	5.753E+01	0.000E+00	NOT IDENT.
RA-223	-1.266E-01	8.430E-01	1.244E+00	0.000E+00	FAIL ABUN
AC-227	1.218E-01	4.023E-01	7.106E-01	0.000E+00	FAIL ABUN
TH-227	1.218E-01	4.025E-01	7.106E-01	0.000E+00	FAIL ABUN
TH-229	3.801E-02	5.053E-01	9.049E-01	0.000E+00	FAIL ABUN
PA-231	-3.548E-01	1.674E+00	2.860E+00	0.000E+00	FAIL ABUN
TH-231	-1.266E-01	8.430E-01	1.244E+00	0.000E+00	FAIL ABUN
U-231	-1.060E+00	1.061E+00	1.560E+00	0.000E+00	FAIL ABUN
PA-233	-4.513E-02	7.068E-02	1.166E-01	0.000E+00	FAIL ABUN
PA-234	1.609E-01	4.299E-01	7.452E-01	0.000E+00	FAIL ABUN
PA-234M	6.683E+00	6.777E+00	1.144E+01	0.000E+00	NOT IDENT.
NP-236	9.783E-03	8.572E-02	1.455E-01	0.000E+00	NOT IDENT.
NP-239	1.582E-01	1.833E-01	3.276E-01	0.000E+00	FAIL ABUN
AM-241	2.758E-02	6.486E-02	1.082E-01	0.000E+00	NOT IDENT.
CM-243	5.096E-02	9.875E-02	1.587E-01	0.000E+00	FAIL ABUN
AM-246	-3.400E-02	1.875E-01	3.077E-01	0.000E+00	NOT IDENT.
CM-247	9.502E-03	4.434E-02	7.499E-02	0.000E+00	NOT IDENT.
CF-249	5.437E-02	4.937E-02	8.772E-02	0.000E+00	NOT IDENT.
CF-251	-7.803E-02	1.356E-01	2.206E-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]G244924003.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:39:02
Sample ID          : G244924003          Sample quantity  : 1.28190E+02 GRAM
Detector name      : GAM13              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.59 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 942723             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	850	10.67*	1.041E+00	2.240E+01	2.240E+01	9.92
CD-109	88.03	345	3.72*	7.248E+00	3.744E+00	3.831E+00	25.44
SN-126	64.28	61	9.60	7.391E+00	2.508E-01	2.508E-01	190.85
	86.94	345	8.90	7.248E+00	1.565E+00	1.565E+00	47.78
	87.57	345	37.00*	7.248E+00	3.764E-01	3.764E-01	25.44
EU-155	48.70	-----	4.60	7.317E+00	-----	Line Not Found	-----
	60.01	-----	1.11	7.386E+00	-----	Line Not Found	-----
	86.54	345	30.90	7.248E+00	4.508E-01	4.534E-01	25.47
	105.31	113	20.70*	6.987E+00	2.288E-01	2.302E-01	61.55
TL-208	277.35	-----	6.80	4.225E+00	-----	Line Not Found	-----
	510.84	161	21.60	2.538E+00	8.583E-01	8.583E-01	45.70
	583.14	364	84.20*	2.257E+00	5.611E-01	5.611E-01	20.63
	860.37	-----	12.46	1.606E+00	-----	Line Not Found	-----
BI-210	46.50	75	4.05*	7.296E+00	7.473E-01	7.483E-01	103.59
PB-210	46.50	75	4.05*	7.296E+00	7.473E-01	7.483E-01	103.59
PO-210	46.50	75	4.05*	7.296E+00	7.473E-01	7.483E-01	103.51
BI-211	72.87	-----	1.27	7.369E+00	-----	Line Not Found	-----
	351.07	641	12.94*	3.500E+00	4.147E+00	4.147E+00	14.79
PB-212	74.81	509	10.70	7.359E+00	1.894E+00	1.894E+00	22.47
	77.11	841	18.00	7.344E+00	1.862E+00	1.862E+00	14.02
	87.30	345	8.00	7.248E+00	1.741E+00	1.741E+00	27.34
	238.63	1133	44.60*	4.716E+00	1.577E+00	1.577E+00	11.79
	300.09	39	3.41	3.976E+00	8.318E-01	8.318E-01	144.35
PO-212	74.81	509	10.70	7.359E+00	1.894E+00	1.894E+00	22.47
	77.11	841	18.00	7.344E+00	1.862E+00	1.862E+00	14.02
	87.30	345	8.00	7.248E+00	1.741E+00	1.741E+00	27.34
	115.19	-----	0.60	6.822E+00	-----	Line Not Found	-----
	238.63	1133	44.60*	4.716E+00	1.577E+00	1.577E+00	11.79
	300.09	39	3.41	3.976E+00	8.318E-01	8.318E-01	144.35
BI-214	609.31	363	46.30*	2.171E+00	1.058E+00	1.058E+00	22.21
	1120.29	97	15.10	1.287E+00	1.461E+00	1.461E+00	43.58
	1764.49	76	15.80	8.990E-01	1.567E+00	1.567E+00	37.28

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	74.81	509	6.21	7.359E+00	3.263E+00	3.263E+00	21.74
	77.11	841	10.50	7.344E+00	3.192E+00	3.193E+00	15.95
	87.30	345	4.67	7.248E+00	2.982E+00	2.983E+00	26.58
	241.98	297	7.49	4.676E+00	2.479E+00	2.479E+00	34.45
	295.21	371	19.20	4.030E+00	1.404E+00	1.404E+00	23.06
PO-214	351.92	641	37.20*	3.500E+00	1.442E+00	1.442E+00	15.68
	74.81	509	6.21	7.359E+00	3.263E+00	3.263E+00	21.74
	77.11	841	10.50	7.344E+00	3.192E+00	3.193E+00	15.95
	87.30	345	4.67	7.248E+00	2.982E+00	2.983E+00	26.58
	241.98	297	7.49	4.676E+00	2.479E+00	2.479E+00	34.45
PO-216	295.21	371	19.20	4.030E+00	1.404E+00	1.404E+00	23.06
	351.92	641	37.20*	3.500E+00	1.442E+00	1.442E+00	15.68
	74.81	509	10.70	7.359E+00	1.894E+00	1.894E+00	22.47
	77.11	841	18.00	7.344E+00	1.862E+00	1.862E+00	14.02
	87.30	345	8.00	7.248E+00	1.741E+00	1.741E+00	27.34
PO-218	238.63	1133	44.60*	4.716E+00	1.577E+00	1.577E+00	11.79
	300.09	39	3.41	3.976E+00	8.318E-01	8.318E-01	144.35
	74.81	509	6.21	7.359E+00	3.263E+00	3.263E+00	21.74
	77.11	841	10.50	7.344E+00	3.192E+00	3.193E+00	15.95
	87.30	345	4.67	7.248E+00	2.982E+00	2.983E+00	26.58
RA-224	241.98	297	7.49	4.676E+00	2.479E+00	2.479E+00	34.45
	295.21	371	19.20	4.030E+00	1.404E+00	1.404E+00	23.06
	351.92	641	37.20*	3.500E+00	1.442E+00	1.442E+00	15.68
	240.98	297	3.95*	4.676E+00	4.701E+00	4.701E+00	33.99
	609.31	363	46.30*	2.171E+00	1.058E+00	1.058E+00	22.21
AC-228	1120.29	97	15.10	1.287E+00	1.461E+00	1.461E+00	43.58
	1764.49	76	15.80	8.990E-01	1.567E+00	1.567E+00	37.28
	338.32	197	11.40	3.615E+00	1.399E+00	1.399E+00	50.77
	911.07	198	27.70*	1.529E+00	1.368E+00	1.368E+00	25.74
	969.11	120	16.60	1.451E+00	1.458E+00	1.458E+00	54.34
RA-228	338.32	197	11.40	3.615E+00	1.399E+00	1.399E+00	50.77
	911.07	198	27.70*	1.529E+00	1.368E+00	1.368E+00	25.74
	969.11	120	16.60	1.451E+00	1.458E+00	1.458E+00	54.34
	74.81	509	10.70	7.359E+00	1.894E+00	1.923E+00	20.47
	77.11	841	18.00	7.344E+00	1.862E+00	1.891E+00	14.02
TH-228	87.30	345	8.00	7.248E+00	1.741E+00	1.768E+00	25.44
	238.63	1133	44.60*	4.716E+00	1.577E+00	1.602E+00	11.79
	300.09	39	3.41	3.976E+00	8.318E-01	8.445E-01	155.70
	609.31	363	46.30*	2.171E+00	1.058E+00	1.058E+00	22.21
	1120.29	97	15.10	1.287E+00	1.461E+00	1.461E+00	43.58
TH-230	1764.49	76	15.80	8.990E-01	1.567E+00	1.567E+00	37.28
	338.32	197	11.40	3.615E+00	1.399E+00	1.399E+00	30.81
	911.07	198	27.70*	1.529E+00	1.368E+00	1.368E+00	25.74
	969.11	120	16.60	1.451E+00	1.458E+00	1.458E+00	54.34
	63.29	61	3.80*	7.391E+00	6.337E-01	6.337E-01	191.09
TH-232	92.38	333	5.41	7.180E+00	2.509E+00	2.509E+00	35.42
	609.31	363	46.30*	2.171E+00	1.058E+00	1.058E+00	22.21
	1120.29	97	15.10	1.287E+00	1.461E+00	1.461E+00	43.58
	1764.49	76	15.80	8.990E-01	1.567E+00	1.567E+00	37.28

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-235	89.95	176	2.70	7.217E+00	2.651E+00	2.651E+00	50.97
	93.35	333	4.50	7.180E+00	3.017E+00	3.017E+00	41.39
	105.00	113	2.10	6.987E+00	2.256E+00	2.256E+00	67.84
	143.76	-----	10.50*	6.293E+00	-----	Line Not Found	-----
	163.35	-----	4.70	5.928E+00	-----	Line Not Found	-----
	185.71	120	54.00	5.534E+00	1.172E-01	1.172E-01	76.08
NP-237	205.31	-----	4.70	5.207E+00	-----	Line Not Found	-----
	86.50	345	12.60*	7.248E+00	1.105E+00	1.105E+00	32.76
	95.87	-----	2.60	7.135E+00	-----	Line Not Found	-----
U-238	63.29	61	3.80*	7.391E+00	6.337E-01	6.337E-01	191.09
	92.38	333	5.41	7.180E+00	2.509E+00	2.509E+00	31.65
AM-243	74.67	509	66.00*	7.359E+00	3.071E-01	3.071E-01	20.44
	86.72	345	0.34	7.248E+00	4.145E+01	4.145E+01	25.44
	117.66	-----	0.55	6.778E+00	-----	Line Not Found	-----
ANH-511	142.18	-----	0.13	6.323E+00	-----	Line Not Found	-----
	511.00	161	100.00*	2.538E+00	1.854E-01	1.854E-01	44.93

Flag: "*" = Keyline

Total number of lines in spectrum 29
Number of unidentified lines 0
Number of lines tentatively identified by NID 29 100.00%

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	2.240E+01	2.240E+01	0.222E+01	9.92	
CD-109	464.00D	1.02	3.744E+00	3.831E+00	0.975E+00	25.44	
SN-126	1.00E+05Y	1.00	3.764E-01	3.764E-01	0.958E-01	25.44	
EU-155	4.96Y	1.01	2.288E-01	2.302E-01	1.417E-01	61.55	
TL-208	1.41E+10Y	1.00	5.611E-01	5.611E-01	1.157E-01	20.63	
BI-210	22.26Y	1.00	7.473E-01	7.483E-01	7.751E-01	103.59	
PB-210	22.26Y	1.00	7.473E-01	7.483E-01	7.751E-01	103.59	
PO-210	22.26Y	1.00	7.473E-01	7.483E-01	7.745E-01	103.51	
BI-211	7.04E+08Y	1.00	4.147E+00	4.147E+00	0.613E+00	14.79	
PB-212	1.41E+10Y	1.00	1.577E+00	1.577E+00	0.186E+00	11.79	
PO-212	1.41E+10Y	1.00	1.577E+00	1.577E+00	0.186E+00	11.79	
BI-214	1600.00Y	1.00	1.058E+00	1.058E+00	0.235E+00	22.21	
PB-214	1600.00Y	1.00	1.442E+00	1.442E+00	0.226E+00	15.68	
PO-214	1600.00Y	1.00	1.442E+00	1.442E+00	0.226E+00	15.68	
PO-216	1.41E+10Y	1.00	1.577E+00	1.577E+00	0.186E+00	11.79	
PO-218	1600.00Y	1.00	1.442E+00	1.442E+00	0.226E+00	15.68	
RA-224	1.41E+10Y	1.00	4.701E+00	4.701E+00	1.598E+00	33.99	
RA-226	1600.00Y	1.00	1.058E+00	1.058E+00	0.235E+00	22.21	
AC-228	1.41E+10Y	1.00	1.368E+00	1.368E+00	0.352E+00	25.74	
RA-228	1.41E+10Y	1.00	1.368E+00	1.368E+00	0.352E+00	25.74	
TH-228	1.91Y	1.02	1.577E+00	1.602E+00	0.189E+00	11.79	
TH-230	4.47E+09Y	1.00	1.058E+00	1.058E+00	0.235E+00	22.21	
TH-232	1.41E+10Y	1.00	1.368E+00	1.368E+00	0.352E+00	25.74	
TH-234	4.47E+09Y	1.00	6.337E-01	6.337E-01	12.11E-01	191.09	
U-234	4.47E+09Y	1.00	1.058E+00	1.058E+00	0.235E+00	22.21	
U-235	7.04E+08Y	1.00	1.172E-01	1.172E-01	0.892E-01	76.08	K
NP-237	2.14E+06Y	1.00	1.105E+00	1.105E+00	0.362E+00	32.76	
U-238	4.47E+09Y	1.00	6.337E-01	6.337E-01	12.11E-01	191.09	
AM-243	7380.00Y	1.00	3.071E-01	3.071E-01	0.628E-01	20.44	
ANH-511	1.00E+09Y	1.00	1.854E-01	1.854E-01	0.833E-01	44.93	

Total Activity : 6.036E+01 6.048E+01

Grand Total Activity : 6.036E+01 6.048E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G244924003

Page : 5
Acquisition date : 27-JAN-2010 18:39:02

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
6	84.24	109	440	1.45	168.26	165	26	1.52E-02	66.8	7.28E+00	T
0	129.18	93	353	1.24	258.17	254	8	1.29E-02	73.5	6.57E+00	T
0	209.46	121	397	1.40	418.75	413	12	1.68E-02	69.6	5.14E+00	T
0	328.92	73	267	1.39	657.74	652	14	1.02E-02	99.1	3.70E+00	T
0	462.54	74	161	1.59	925.06	918	14	1.03E-02	76.4	2.77E+00	T
0	726.88	121	86	3.27	1453.92	1445	14	1.68E-02	37.0	1.86E+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]G244924003.CNF;1
* Acquisition date   : 27-JAN-2010 18:39:02   Detector SN#      :
* Detector ID        : GAM13                  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 02:00:01.59          Half life ratio     : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 12-JAN-2010 12:00:00   Nuclide Library   : SOLID
* Sample ID          : G244924003             Analyst initials    : MXR1
* Batch Number       : 942723                 Sample Quantity     : 1.28190E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22.03MS 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	2.240E+01	2.222E+00	5.903E-01	3.609E-02	37.956
CD-109	3.831E+00	9.746E-01	9.906E-01	7.817E-02	3.867
SN-126	3.764E-01	9.577E-02	9.721E-02	7.690E-03	3.872
EU-155	2.302E-01	1.417E-01	1.667E-01	1.711E-02	1.380
TL-208	5.611E-01	1.157E-01	7.279E-02	6.025E-03	7.709
BI-210	7.483E-01	7.751E-01	7.675E-01	6.256E-02	0.975
PB-210	7.483E-01	7.751E-01	7.675E-01	6.256E-02	0.975
PO-210	7.483E-01	7.745E-01	7.675E-01	5.472E-02	0.975
BI-211	4.147E+00	6.133E-01	4.126E-01	3.008E-02	10.049
PB-212	1.577E+00	1.860E-01	9.373E-02	8.515E-03	16.829
PO-212	1.577E+00	1.860E-01	9.373E-02	8.515E-03	16.829
BI-214	1.058E+00	2.350E-01	1.394E-01	1.303E-02	7.593
PB-214	1.442E+00	2.262E-01	1.439E-01	1.288E-02	10.025
PO-214	1.442E+00	2.262E-01	1.439E-01	1.288E-02	10.025
PO-216	1.577E+00	1.860E-01	9.373E-02	8.515E-03	16.829
PO-218	1.442E+00	2.262E-01	1.439E-01	1.288E-02	10.025
RA-224	4.701E+00	1.598E+00	1.067E+00	8.424E-02	4.406
RA-226	1.058E+00	2.350E-01	1.394E-01	1.303E-02	7.593

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.368E+00	3.521E-01	2.567E-01	2.665E-02	5.330
RA-228	1.368E+00	3.521E-01	2.567E-01	2.665E-02	5.330
TH-228	1.602E+00	1.889E-01	9.517E-02	8.645E-03	16.829
TH-230	1.058E+00	2.350E-01	1.393E-01	1.303E-02	7.593
TH-232	1.368E+00	3.521E-01	2.567E-01	2.665E-02	5.330
TH-234	6.337E-01	1.211E+00	1.020E+00	1.873E-01	0.621
U-234	1.058E+00	2.350E-01	1.393E-01	1.303E-02	7.593
U-235	1.172E-01	8.916E-02	3.933E-01	7.261E-02	0.298
NP-237	1.105E+00	3.621E-01	2.846E-01	6.295E-02	3.885
U-238	6.337E-01	1.211E+00	1.020E+00	1.873E-01	0.621
AM-243	3.071E-01	6.276E-02	6.077E-02	5.249E-03	5.053
ANH-511	1.854E-01	8.330E-02	5.631E-02	3.930E-03	3.292

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	7.500E-02		3.677E-01	6.227E-01	4.682E-02	0.120
NA-22	-2.561E-02		5.574E-02	8.884E-02	5.014E-03	-0.288
NA-24	-5.965E-01		5.586E-01	Half-Life too short		
AL-26	9.988E-03		3.832E-02	6.634E-02	3.744E-03	0.151
TI-44	3.437E-01	+	4.817E-02	5.686E-02	4.789E-03	6.044
SC-46	-2.528E-02		5.401E-02	8.537E-02	6.465E-03	-0.296
V-48	1.731E-02		9.270E-02	1.545E-01	1.093E-02	0.112
CR-51	-1.002E-01		4.158E-01	6.700E-01	5.214E-02	-0.150
MN-52	-3.928E-02		3.228E-01	5.232E-01	3.007E-02	-0.075
MN-54	2.621E-02		4.925E-02	8.499E-02	6.669E-03	0.308
CO-56	3.336E-02		5.153E-02	8.973E-02	6.993E-03	0.372
CO-57	2.446E-02		2.601E-02	4.377E-02	5.536E-03	0.559
CO-58	2.695E-03		5.294E-02	8.870E-02	7.065E-03	0.030
FE-59	6.498E-02		1.193E-01	2.026E-01	1.447E-02	0.321
CO-60	-2.552E-03		5.378E-02	8.864E-02	5.041E-03	-0.029
ZN-65	1.182E-02		1.375E-01	1.925E-01	1.169E-02	0.061
GE-68	1.060E+00		1.653E+00	2.833E+00	1.811E-01	0.374
AS-73	3.070E-01		2.412E-01	4.100E-01	3.464E-02	0.749
AS-74	-1.242E-03		1.225E-01	2.008E-01	1.542E-02	-0.006
SE-75	-2.551E-02		4.765E-02	7.685E-02	6.020E-03	-0.332
BR-77	1.419E+01		1.370E+01	2.414E+01	1.705E+00	0.588
SR-82	-3.090E-01		4.996E-01	7.991E-01	6.431E-02	-0.387
RB-83	1.021E-01		8.635E-02	1.534E-01	1.083E-02	0.666
RB-84	-3.126E-02		9.714E-02	1.569E-01	1.195E-02	-0.199
KR-85	1.511E+01		1.004E+01	1.617E+01	1.133E+00	0.934
SR-85	7.759E-02		5.157E-02	8.304E-02	5.817E-03	0.934
RB-86	7.270E-01		1.058E+00	1.820E+00	1.164E-01	0.399
Y-88	1.345E-02		4.476E-02	7.772E-02	4.377E-03	0.173
ZR-88	-4.292E-02		3.869E-02	5.770E-02	3.379E-03	-0.744
Y-91	4.712E+00		2.360E+01	4.004E+01	2.219E+00	0.118
NB-94	4.529E-02		4.689E-02	8.050E-02	6.570E-03	0.563

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	7.161E-03		5.513E-02	9.329E-02	7.533E-03	0.077
NB-95M	1.480E-01		1.491E-01	2.312E-01	2.139E-02	0.640
ZR-95	-1.917E-02		9.614E-02	1.518E-01	1.369E-02	-0.126
NB-97	-7.990E-02		7.260E-02	Half-Life too short		
ZR-97	5.819E+00		1.460E+00	Half-Life too short		
MO-99	-5.728E+00		1.582E+01	2.463E+01	3.673E+00	-0.233
TC-99M	-9.263E+10		3.481E+10	Half-Life too short		
RH-101	1.349E-02		3.520E-02	5.802E-02	4.594E-03	0.232
RH-102	1.233E-02		3.512E-02	5.996E-02	3.990E-03	0.206
RU-103	1.886E-02		4.985E-02	8.492E-02	1.118E-02	0.222
RH-106	1.582E-02		4.040E-01	6.620E-01	8.533E-02	0.024
RU-106	1.582E-02		4.040E-01	6.620E-01	5.213E-02	0.024
AG-108M	9.171E-03		3.831E-02	6.543E-02	4.401E-03	0.140
AG-110M	-1.737E-02		4.425E-02	6.975E-02	5.860E-03	-0.249
IN-111	1.638E-01		1.257E+00	1.861E+00	1.466E-01	0.088
IN-113M	-7.833E-03		5.537E-02	8.822E-02	5.497E-03	-0.089
SN-113	-7.833E-03		5.537E-02	8.822E-02	5.497E-03	-0.089
IN-114M	1.569E-01		2.174E-01	3.188E-01	2.520E-02	0.492
CD-115	1.344E+01		1.358E+01	2.394E+01	1.706E+00	0.561
SN-117M	5.723E-03		5.811E-02	9.348E-02	8.163E-03	0.061
SB-122	8.359E-01		2.843E+00	4.772E+00	3.544E-01	0.175
I-123	1.754E+00		3.731E+00	Half-Life too short		
TE-123M	7.081E-03		3.012E-02	4.874E-02	4.256E-03	0.145
I-124	8.448E-01		1.007E+00	1.537E+00	1.188E-01	0.550
SB-124	3.668E-02		9.727E-02	1.669E-01	1.040E-02	0.220
SB-125	-7.235E-02		1.027E-01	1.656E-01	1.066E-02	-0.437
TE-125M	-3.545E-01		1.042E+01	1.528E+01	1.856E+00	-0.023
I-126	4.504E-02		2.477E-01	4.073E-01	3.323E-02	0.111
SB-126	-1.439E-02		2.074E-01	2.858E-01	2.330E-02	-0.050
SB-127	5.456E-01		1.789E+00	2.965E+00	3.289E-01	0.184
XE-127	-5.112E-02		4.943E-02	7.674E-02	6.082E-03	-0.666
I-131	-1.016E-01		1.422E-01	2.196E-01	1.556E-02	-0.463
TE-132	-4.114E-01		7.390E-01	1.203E+00	1.850E-01	-0.342
BA-133	3.590E-02		6.031E-02	8.936E-02	1.073E-02	0.402
I-133	-1.384E-03		4.140E-03	Half-Life too short		
CS-134	1.128E-01		6.704E-02	1.224E-01	9.867E-03	0.921
CS-135	1.077E-01		1.758E-01	2.991E-01	2.763E-02	0.360
I-135	7.475E+09		4.928E+09	Half-Life too short		
CS-136	5.305E-03		1.537E-01	2.513E-01	1.783E-02	0.021
BA-137M	-1.887E-03		4.594E-02	7.442E-02	6.070E-03	-0.025
CS-137	-1.994E-03		4.856E-02	7.867E-02	6.430E-03	-0.025
CE-139	-3.020E-02		3.293E-02	5.018E-02	3.934E-03	-0.602
BA-140	2.751E-01		3.453E-01	5.804E-01	1.904E-01	0.474
LA-140	-6.065E-02		1.122E-01	1.685E-01	9.710E-03	-0.360
CE-141	-2.786E-02		6.863E-02	1.086E-01	1.126E-02	-0.257
CE-143	8.893E-04		1.427E-04	Half-Life too short		
CE-144	2.073E-01		2.289E-01	3.642E-01	6.312E-02	0.569
PM-144	2.642E-03		4.660E-02	7.567E-02	6.181E-03	0.035

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	1.791E-01		3.158E+00	5.128E+00	4.187E-01	0.035
PM-146	2.271E-02		5.029E-02	8.665E-02	7.864E-03	0.262
ND-147	-2.047E-01		6.972E-01	1.131E+00	1.601E-01	-0.181
PM-149	2.239E+01		1.090E+02	1.815E+02	2.726E+01	0.123
EU-152	-4.973E-02		1.334E-01	1.839E-01	1.379E-02	-0.270
GD-153	4.241E-03		8.163E-02	1.192E-01	1.085E-02	0.036
EU-154	-6.509E-02		1.563E-01	2.501E-01	2.310E-02	-0.260
TB-160	1.871E-02		1.879E-01	3.139E-01	2.394E-02	0.060
HO-166M	2.151E-02		8.474E-02	1.392E-01	1.136E-02	0.154
TM-171	-3.087E+00		1.677E+01	2.530E+01	2.309E+00	-0.122
LU-176	1.623E-02		2.710E-02	4.586E-02	3.400E-03	0.354
LU-177	3.055E+00	+	2.139E+00	2.204E+00	1.748E-01	1.386
LU-177M	-1.801E-01		2.262E-01	3.433E-01	2.082E-02	-0.525
HF-181	2.557E-02		5.033E-02	8.669E-02	5.824E-03	0.295
W-181	6.656E-02		2.071E-01	3.192E-01	2.944E-02	0.209
TA-182	-7.109E-02		2.431E-01	3.966E-01	2.207E-02	-0.179
RE-183	2.218E-02		1.252E-01	1.995E-01	1.651E-02	0.111
RE-184	-6.023E-02		2.497E-01	4.106E-01	3.223E-02	-0.147
OS-185	1.057E-02		5.555E-02	9.172E-02	7.382E-03	0.115
RE-188	9.896E-02		1.828E-01	2.999E-01	2.744E-02	0.330
W-188	-5.288E+00		9.288E+00	1.285E+01	9.748E-01	-0.412
IR-192	2.880E-04		4.019E-02	6.577E-02	4.811E-03	0.004
AU-195	2.452E-03		2.168E-01	3.477E-01	3.232E-02	0.007
TL-200	2.386E-04		3.043E-04	Half-Life too short		
TL-201	-5.059E+00		7.932E+00	1.226E+01	9.605E-01	-0.413
TL-202	7.643E-03		8.113E-02	1.373E-01	8.675E-03	0.056
HG-203	3.497E-02		4.535E-02	7.756E-02	6.176E-03	0.451
BI-207	-1.938E-02		7.488E-02	1.193E-01	7.759E-03	-0.162
TL-207	-1.266E-01		8.602E-01	1.215E+00	2.073E-01	-0.104
PO-209	1.336E+00		1.054E+01	1.738E+01	1.308E+00	0.077
PB-211	-1.152E+00		1.392E+00	1.797E+00	1.120E+00	-0.641
BI-212	1.614E+00	+	6.177E-01	8.232E-01	7.903E-02	1.961
PO-215	-1.266E-01		8.602E-01	1.215E+00	2.073E-01	-0.104
RN-219	-2.964E-01		5.226E-01	8.060E-01	1.102E-01	-0.368
RN-220	3.700E+01		3.195E+01	5.665E+01	4.142E+00	0.653
RA-223	-1.266E-01		8.602E-01	1.215E+00	2.073E-01	-0.104
AC-227	1.218E-01		4.105E-01	6.917E-01	1.032E-01	0.176
TH-227	1.218E-01		4.107E-01	6.917E-01	1.224E-01	0.176
TH-229	3.801E-02		5.156E-01	8.771E-01	6.938E-02	0.043
PA-231	-3.548E-01		1.709E+00	2.788E+00	4.086E-01	-0.127
TH-231	-1.266E-01		8.602E-01	1.215E+00	2.073E-01	-0.104
U-231	-1.060E+00		1.083E+00	1.496E+00	1.331E-01	-0.708
PA-233	-4.513E-02		7.212E-02	1.138E-01	8.691E-03	-0.397
PA-234	1.609E-01		4.386E-01	7.400E-01	1.346E-01	0.217
PA-234M	6.683E+00		6.915E+00	1.137E+01	9.746E-01	0.588
NP-236	9.783E-03		8.747E-02	1.407E-01	1.199E-02	0.070
NP-239	1.582E-01		1.870E-01	3.151E-01	3.740E-02	0.502
AM-241	2.758E-02		6.619E-02	1.031E-01	1.048E-02	0.268

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	5.096E-02		1.008E-01	1.524E-01	1.517E-02	0.334
AM-246	-3.400E-02		1.914E-01	3.062E-01	1.953E-02	-0.111
CM-247	9.502E-03		4.525E-02	7.349E-02	4.376E-03	0.129
CF-249	5.437E-02		5.038E-02	8.592E-02	5.102E-03	0.633
CF-251	-7.803E-02		1.384E-01	2.136E-01	1.680E-02	-0.365

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]G244924003          *
* Acquisition date   : 27-JAN-2010 18:39:02 Detector SN# :                *
* Detector ID        : GAM13                      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 02:00:01.59              Half life ratio : 8.000    *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID           : G244924003              Analyst initials: MXR1        *
* Batch Number        : 942723                  Sample Quantity : 1.2819E+02 GRAM *
* Recovery            : 1.00000                  Carrier Weight  : 0.00000      *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-FEB-2009 10:41:22 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	2.240E+01	2.177E+00	2.953E-01	1.111E+00
CD-109	3.831E+00	9.551E-01	5.173E-01	4.873E-01
SN-126	3.764E-01	9.385E-02	5.077E-02	4.788E-02
EU-155	2.302E-01	1.388E-01	8.684E-02	7.084E-02
TL-208	5.611E-01	1.134E-01	3.695E-02	5.787E-02
BI-210	7.483E-01	7.596E-01	4.045E-01	3.876E-01
PB-210	7.483E-01	7.596E-01	4.045E-01	3.876E-01
PO-210	7.483E-01	7.591E-01	4.045E-01	3.873E-01
BI-211	4.147E+00	6.010E-01	2.111E-01	3.067E-01
PB-212	1.577E+00	1.823E-01	4.823E-02	9.301E-02
PO-212	1.577E+00	1.823E-01	4.823E-02	9.301E-02
BI-214	1.058E+00	2.303E-01	7.069E-02	1.175E-01
PB-214	1.442E+00	2.217E-01	7.360E-02	1.131E-01
PO-214	1.442E+00	2.217E-01	7.360E-02	1.131E-01
PO-216	1.577E+00	1.823E-01	4.823E-02	9.301E-02
PO-218	1.442E+00	2.217E-01	7.360E-02	1.131E-01
RA-224	4.701E+00	1.566E+00	5.490E-01	7.990E-01
RA-226	1.058E+00	2.303E-01	7.069E-02	1.175E-01
AC-228	1.368E+00	3.451E-01	1.294E-01	1.761E-01
RA-228	1.368E+00	3.451E-01	1.294E-01	1.761E-01
TH-228	1.602E+00	1.851E-01	4.897E-02	9.443E-02
TH-230	1.058E+00	2.303E-01	7.069E-02	1.175E-01
TH-232	1.368E+00	3.451E-01	1.294E-01	1.761E-01
TH-234	6.337E-01	1.187E+00	5.355E-01	6.055E-01
U-234	1.058E+00	2.303E-01	7.069E-02	1.175E-01
U-235	2.380E-01	2.374E-01	2.039E-01	1.211E-01
NP-237	1.105E+00	3.549E-01	1.486E-01	1.811E-01
U-238	6.337E-01	1.187E+00	5.355E-01	6.055E-01
AM-243	3.071E-01	6.150E-02	3.181E-02	3.138E-02
ANH-511	1.854E-01	8.163E-02	2.864E-02	4.165E-02

---- Non-Identified Nuclides ----

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	7.500E-02	3.604E-01	3.171E-01	1.839E-01 NOT IDENT.
NA-22	-2.561E-02	5.463E-02	4.455E-02	2.787E-02 NOT IDENT.
NA-24	-5.965E+05	1.095E+06	0.000E+00	5.586E+05 SHORT HLIF
AL-26	9.988E-03	3.756E-02	3.308E-02	1.916E-02 NOT IDENT.
TI-44	3.437E-01	4.720E-02	2.974E-02	2.408E-02 FAIL ABUN
SC-46	-2.528E-02	5.293E-02	4.305E-02	2.701E-02 FAIL ABUN
V-48	1.731E-02	9.084E-02	7.777E-02	4.635E-02 NOT IDENT.
CR-51	-1.002E-01	4.075E-01	3.432E-01	2.079E-01 NOT IDENT.
MN-52	-3.928E-02	3.164E-01	2.619E-01	1.614E-01 NOT IDENT.
MN-54	2.621E-02	4.827E-02	4.290E-02	2.463E-02 NOT IDENT.
CO-56	3.336E-02	5.050E-02	4.528E-02	2.576E-02 NOT IDENT.
CO-57	2.446E-02	2.549E-02	2.275E-02	1.300E-02 NOT IDENT.
CO-58	2.695E-03	5.188E-02	4.479E-02	2.647E-02 NOT IDENT.
FE-59	6.498E-02	1.169E-01	1.018E-01	5.965E-02 NOT IDENT.
CO-60	-2.552E-03	5.271E-02	4.442E-02	2.689E-02 NOT IDENT.
ZN-65	1.182E-02	1.348E-01	9.675E-02	6.875E-02 NOT IDENT.
GE-68	1.060E+00	1.620E+00	1.424E+00	8.266E-01 NOT IDENT.
AS-73	3.070E-01	2.364E-01	2.157E-01	1.206E-01 NOT IDENT.
AS-74	-1.242E-03	1.200E-01	1.019E-01	6.124E-02 NOT IDENT.
SE-75	-2.551E-02	4.670E-02	3.948E-02	2.383E-02 NOT IDENT.
BR-77	1.419E+01	1.343E+01	1.228E+01	6.850E+00 FAIL ABUN
SR-82	-3.090E-01	4.896E-01	4.038E-01	2.498E-01 NOT IDENT.
RB-83	1.021E-01	8.463E-02	7.799E-02	4.318E-02 NOT IDENT.
RB-84	-3.126E-02	9.519E-02	7.915E-02	4.857E-02 NOT IDENT.
KR-85	1.511E+01	9.841E+00	8.223E+00	5.021E+00 NOT IDENT.
SR-85	7.759E-02	5.054E-02	4.223E-02	2.579E-02 NOT IDENT.
RB-86	7.270E-01	1.037E+00	9.150E-01	5.292E-01 NOT IDENT.
Y-88	1.345E-02	4.387E-02	3.875E-02	2.238E-02 NOT IDENT.
ZR-88	-4.292E-02	3.792E-02	2.946E-02	1.935E-02 NOT IDENT.
Y-91	4.712E+00	2.313E+01	2.010E+01	1.180E+01 NOT IDENT.
NB-94	4.529E-02	4.595E-02	4.074E-02	2.344E-02 NOT IDENT.
NB-95	7.161E-03	5.403E-02	4.715E-02	2.757E-02 NOT IDENT.
NB-95M	1.480E-01	1.462E-01	1.190E-01	7.457E-02 NOT IDENT.
ZR-95	-1.917E-02	9.422E-02	7.674E-02	4.807E-02 NOT IDENT.
NB-97	-7.990E+04	1.423E+05	0.000E+00	7.260E+04 SHORT HLIF
ZR-97	5.819E+06	2.861E+06	0.000E+00	1.460E+06 SHORT HLIF
MO-99	-5.728E+00	1.550E+01	1.246E+01	7.908E+00 NOT IDENT.
TC-99M	-9.263E+16	6.823E+16	0.000E+00	0.000E+00 SHORT HLIF
RH-101	1.349E-02	3.450E-02	2.994E-02	1.760E-02 NOT IDENT.
RH-102	1.233E-02	3.442E-02	3.053E-02	1.756E-02 NOT IDENT.
RU-103	1.886E-02	4.886E-02	4.321E-02	2.493E-02 FAIL ABUN
RH-106	1.582E-02	3.959E-01	3.357E-01	2.020E-01 FAIL ABUN
RU-106	1.582E-02	3.959E-01	3.357E-01	2.020E-01 FAIL ABUN
AG-108M	9.171E-03	3.755E-02	3.336E-02	1.916E-02 NOT IDENT.
AG-110M	-1.737E-02	4.337E-02	3.534E-02	2.213E-02 NOT IDENT.
IN-111	1.638E-01	1.231E+00	9.572E-01	6.283E-01 NOT IDENT.
IN-113M	-7.833E-03	5.427E-02	4.505E-02	2.769E-02 NOT IDENT.
SN-113	-7.833E-03	5.427E-02	4.505E-02	2.769E-02 NOT IDENT.
IN-114M	1.569E-01	2.130E-01	1.646E-01	1.087E-01 NOT IDENT.
CD-115	1.344E+01	1.331E+01	1.217E+01	6.792E+00 NOT IDENT.
SN-117M	5.723E-03	5.695E-02	4.840E-02	2.905E-02 NOT IDENT.
SB-122	8.359E-01	2.786E+00	2.423E+00	1.421E+00 NOT IDENT.
I-123	1.754E+06	7.312E+06	0.000E+00	3.731E+06 SHORT HLIF
TE-123M	7.081E-03	2.952E-02	5.523E-02	1.506E-02 NOT IDENT.
I-124	8.448E-01	9.873E-01	7.797E-01	5.037E-01 NOT IDENT.
SB-124	3.668E-02	9.532E-02	8.332E-02	4.863E-02 FAIL ABUN
SB-125	-7.235E-02	1.007E-01	8.446E-02	5.135E-02 FAIL ABUN
TE-125M	-3.545E-01	1.021E+01	7.954E+00	5.211E+00 NOT IDENT.
I-126	4.504E-02	2.427E-01	2.063E-01	1.238E-01 NOT IDENT.
SB-126	-1.439E-02	2.033E-01	1.446E-01	1.037E-01 NOT IDENT.
SB-127	5.456E-01	1.754E+00	1.501E+00	8.947E-01 NOT IDENT.
XE-127	-5.112E-02	4.844E-02	3.958E-02	2.472E-02 NOT IDENT.
I-131	-1.016E-01	1.394E-01	1.123E-01	7.111E-02 NOT IDENT.
TE-132	-4.114E-01	7.242E-01	6.197E-01	3.695E-01 NOT IDENT.
BA-133	3.590E-02	5.910E-02	4.570E-02	3.015E-02 NOT IDENT.
I-133	-1.384E+03	8.115E+03	0.000E+00	4.140E+03 SHORT HLIF
CS-134	1.128E-01	6.570E-02	6.184E-02	3.352E-02 NOT IDENT.
CS-135	1.077E-01	1.723E-01	1.536E-01	8.791E-02 NOT IDENT.
I-135	7.475E+15	9.659E+15	0.000E+00	4.928E+15 SHORT HLIF
CS-136	5.305E-03	1.506E-01	1.264E-01	7.686E-02 FAIL ABUN
BA-137M	-1.887E-03	4.502E-02	3.770E-02	2.297E-02 NOT IDENT.
CS-137	-1.994E-03	4.759E-02	3.986E-02	2.428E-02 NOT IDENT.
CE-139	-3.020E-02	3.227E-02	2.596E-02	1.647E-02 NOT IDENT.
BA-140	2.751E-01	3.384E-01	2.950E-01	1.727E-01 NOT IDENT.
LA-140	-6.065E-02	1.099E-01	8.419E-02	5.609E-02 FAIL ABUN

CE-141	-2.786E-02	6.726E-02	5.628E-02	3.431E-02	NOT IDENT.
CE-143	8.893E+02	2.797E+02	0.000E+00	1.427E+02	SHORT HLIF
CE-144	2.073E-01	2.243E-01	1.890E-01	1.144E-01	NOT IDENT.
PM-144	2.642E-03	4.567E-02	3.830E-02	2.330E-02	NOT IDENT.
PR-144	1.791E-01	3.095E+00	2.596E+00	1.579E+00	NOT IDENT.
PM-146	2.271E-02	4.929E-02	4.415E-02	2.515E-02	NOT IDENT.
ND-147	-2.047E-01	6.833E-01	5.751E-01	3.486E-01	FAIL ABUN
PM-149	2.239E+01	1.068E+02	9.314E+01	5.450E+01	NOT IDENT.
EU-152	-4.973E-02	1.307E-01	9.411E-02	6.671E-02	NOT IDENT.
GD-153	4.241E-03	8.000E-02	6.215E-02	4.081E-02	FAIL ABUN
EU-154	-6.509E-02	1.532E-01	1.254E-01	7.817E-02	NOT IDENT.
TB-160	1.871E-02	1.842E-01	1.583E-01	9.397E-02	FAIL ABUN
HO-166M	2.151E-02	8.304E-02	7.046E-02	4.237E-02	FAIL ABUN
TM-171	-3.087E+00	1.644E+01	1.327E+01	8.387E+00	NOT IDENT.
LU-176	1.623E-02	2.656E-02	2.351E-02	1.355E-02	FAIL ABUN
LU-177	3.055E+00	2.096E+00	1.137E+00	1.069E+00	FAIL ABUN
LU-177M	-1.801E-01	2.217E-01	1.752E-01	1.131E-01	NOT IDENT.
HF-181	2.557E-02	4.932E-02	4.413E-02	2.517E-02	NOT IDENT.
W-181	6.656E-02	2.030E-01	1.674E-01	1.036E-01	NOT IDENT.
TA-182	-7.109E-02	2.383E-01	1.990E-01	1.216E-01	FAIL ABUN
RE-183	2.218E-02	1.227E-01	1.032E-01	6.259E-02	FAIL ABUN
RE-184	-6.023E-02	2.447E-01	2.111E-01	1.248E-01	NOT IDENT.
OS-185	1.057E-02	5.444E-02	4.648E-02	2.777E-02	NOT IDENT.
RE-188	9.896E-02	1.791E-01	1.553E-01	9.139E-02	NOT IDENT.
W-188	-5.288E+00	9.102E+00	6.591E+00	4.644E+00	FAIL ABUN
IR-192	2.880E-04	3.939E-02	3.370E-02	2.010E-02	FAIL ABUN
AU-195	2.452E-03	2.124E-01	1.813E-01	1.084E-01	FAIL ABUN
TL-200	2.386E+02	5.964E+02	0.000E+00	3.043E+02	SHORT HLIF
TL-201	-5.059E+00	7.773E+00	6.340E+00	3.966E+00	NOT IDENT.
TL-202	7.643E-03	7.951E-02	6.999E-02	4.056E-02	NOT IDENT.
HG-203	3.497E-02	4.445E-02	3.982E-02	2.268E-02	NOT IDENT.
BI-207	-1.938E-02	7.338E-02	5.999E-02	3.744E-02	FAIL ABUN
TL-207	-1.266E-01	8.430E-01	6.225E-01	4.301E-01	FAIL ABUN
PO-209	1.336E+00	1.033E+01	8.762E+00	5.269E+00	NOT IDENT.
PB-211	-1.152E+00	1.365E+00	9.171E-01	6.962E-01	NOT IDENT.
BI-212	1.614E+00	6.053E-01	4.164E-01	3.088E-01	FAIL ABUN
PO-215	-1.266E-01	8.430E-01	6.225E-01	4.301E-01	FAIL ABUN
RN-219	-2.964E-01	5.121E-01	4.115E-01	2.613E-01	NOT IDENT.
RN-220	3.700E+01	3.131E+01	2.878E+01	1.598E+01	NOT IDENT.
RA-223	-1.266E-01	8.430E-01	6.225E-01	4.301E-01	FAIL ABUN
AC-227	1.218E-01	4.023E-01	3.555E-01	2.053E-01	FAIL ABUN
TH-227	1.218E-01	4.025E-01	3.555E-01	2.053E-01	FAIL ABUN
TH-229	3.801E-02	5.053E-01	4.527E-01	2.578E-01	FAIL ABUN
PA-231	-3.548E-01	1.674E+00	1.431E+00	8.543E-01	FAIL ABUN
TH-231	-1.266E-01	8.430E-01	6.225E-01	4.301E-01	FAIL ABUN
U-231	-1.060E+00	1.061E+00	7.804E-01	5.415E-01	FAIL ABUN
PA-233	-4.513E-02	7.068E-02	5.832E-02	3.606E-02	FAIL ABUN
PA-234	1.609E-01	4.299E-01	3.728E-01	2.193E-01	FAIL ABUN
PA-234M	6.683E+00	6.777E+00	5.723E+00	3.458E+00	NOT IDENT.
NP-236	9.783E-03	8.572E-02	7.281E-02	4.374E-02	NOT IDENT.
NP-239	1.582E-01	1.833E-01	1.639E-01	9.352E-02	FAIL ABUN
AM-241	2.758E-02	6.486E-02	5.413E-02	3.309E-02	NOT IDENT.
CM-243	5.096E-02	9.875E-02	7.938E-02	5.038E-02	FAIL ABUN
AM-246	-3.400E-02	1.875E-01	1.540E-01	9.568E-02	NOT IDENT.
CM-247	9.502E-03	4.434E-02	3.752E-02	2.262E-02	NOT IDENT.
CF-249	5.437E-02	4.937E-02	4.389E-02	2.519E-02	NOT IDENT.
CF-251	-7.803E-02	1.356E-01	1.104E-01	6.918E-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	276.7917
46.50	276.7917
46.50	276.7917
48.70	291.9095
49.72	324.5953
51.35	361.3666
52.39	323.8669
52.97	322.9076
53.15	311.2307
53.44	311.5835
54.07	316.6137
56.28	381.2541
56.28	381.2585
57.37	0.0000
57.53	370.0700
57.53	370.0732
57.60	363.2468
57.98	361.1580
57.98	361.1580
59.32	377.2895
59.32	377.2895
59.40	377.3987
59.54	377.5894
59.72	409.2126
60.01	409.6400
61.10	417.8044
61.14	417.8639
61.30	411.5265
63.00	442.6414
63.29	443.0857
63.29	443.0857
63.58	443.5300
64.28	444.5966
65.12	458.3027
65.20	458.4268
65.20	458.4268
66.05	435.6848
66.72	468.8038
66.83	468.9800
66.91	469.1029
67.20	461.5046
67.20	461.5046
67.75	481.1581
67.85	481.3192
68.90	477.5781
68.90	477.5781
69.30	470.0915
69.67	467.9534
70.82	427.5975
70.82	427.5975
70.83	427.6119
72.80	467.1581
72.87	467.2598
72.87	467.2598
74.67	469.8690
74.81	470.0700
74.81	470.0700
74.81	470.0700
74.81	470.0700
74.81	470.0700
74.81	470.0700
74.97	470.3022
75.28	470.7458
75.70	471.3485
77.11	473.3576
77.11	473.3576

77.11	473.3576
77.11	473.3576
77.11	473.3576
77.11	473.3576
77.11	473.3576
78.38	462.6462
79.62	412.7451
79.80	412.9619
79.80	412.9619
80.11	438.4698
80.18	438.5608
80.30	405.1796
80.30	405.1796
80.57	388.7190
81.00	439.6029
81.07	439.6927
81.07	439.6927
81.07	439.6927
81.07	439.6927
82.60	421.9368
83.37	408.7595
83.78	362.1986
83.78	362.1986
83.78	362.1986
83.78	362.1986
84.21	362.6372
84.90	363.3383
85.43	363.8748
86.29	364.7423
86.50	364.9538
86.54	364.9930
86.59	365.0439
86.72	365.1731
86.79	365.2416
86.94	365.3944
87.30	365.7547
87.30	365.7547
87.30	365.7547
87.30	365.7547
87.30	365.7547
87.30	365.7547
87.57	366.0249
87.88	366.3343
88.03	366.4832
88.36	366.8121
88.47	366.9218
89.95	368.3846
91.11	369.5242
92.29	370.6757
92.38	370.7638
92.38	370.7638
93.35	371.7037
94.00	330.7454
94.67	309.5172
94.67	309.5221
94.90	309.7041
94.90	309.7041
94.90	309.7041
94.90	309.7041
95.87	348.3727
95.87	348.3727
96.73	362.2860
97.43	317.5582
98.44	315.9193
98.44	315.9193
98.88	319.2050
99.55	309.9294
99.55	309.9294
99.86	324.8904
100.00	325.9850
100.10	326.0678
103.18	295.3770
103.76	297.2763
105.00	310.0878
105.31	310.3163
108.00	316.7930
109.28	337.3125

111.00	325.5464
111.00	325.5464
111.76	311.9752
112.95	309.7805
115.19	343.8967
116.30	288.6454
117.00	263.5522
117.00	263.5522
117.66	281.3250
121.11	267.9729
121.62	276.5195
121.78	276.6136
122.06	267.4837
122.32	275.8978
122.32	275.8978
122.32	275.8978
122.32	275.8978
123.07	280.4763
127.23	281.8783
129.76	313.2483
131.20	288.9030
133.02	282.0361
133.54	277.8857
135.34	313.0474
136.00	307.0772
136.25	307.2271
136.48	305.2382
140.51	349.4259
140.51	0.0000
142.18	307.5262
142.65	300.2661
143.76	267.4633
144.24	261.2263
144.24	261.2263
144.24	261.2263
144.24	261.2263
145.22	307.1235
145.44	324.5605
147.16	298.4622
152.43	278.3267
152.70	279.5573
153.22	255.6757
154.21	247.3320
154.21	247.3320
154.21	247.3320
154.21	247.3320
155.03	270.8117
156.02	319.8071
158.56	262.5265
159.00	0.0000
159.00	262.7266
160.31	285.5433
161.27	301.5972
162.32	286.5316
162.64	282.2264
163.35	266.9300
163.89	268.2935
165.85	305.0731
167.43	290.1371
171.28	271.6187
171.86	268.4790
172.10	281.0485
176.55	271.6624
176.60	276.2503
181.06	286.2573
184.41	280.8204
185.71	288.3318
186.00	288.4610
190.27	230.8751
192.34	271.0705
193.63	251.3781
197.04	256.1816
198.01	241.5056
198.60	235.5161
200.40	243.2348
201.83	262.4193
202.84	272.8535
205.31	236.0153

208.36	236.1366
208.81	236.2850
209.75	236.5961
209.75	236.5961
210.97	206.1805
215.65	222.8548
216.55	235.1930
218.09	230.2271
222.10	246.1106
223.80	258.5875
226.40	229.1137
227.00	218.2439
227.08	218.2674
227.20	220.1421
228.16	234.2531
228.18	239.7926
228.18	239.7926
231.56	0.0000
235.69	241.3824
236.00	241.4773
236.00	241.4773
238.63	209.3796
238.63	209.3796
238.63	209.3796
238.63	209.3796
239.00	209.4771
240.98	209.9991
241.98	210.2615
241.98	210.2615
241.98	210.2615
244.69	200.4222
245.39	188.5284
247.94	181.5557
248.90	185.5549
249.79	203.7622
252.40	202.5054
252.85	204.5184
252.85	204.5184
254.15	0.0000
256.20	193.8785
256.20	193.8785
260.50	204.4684
260.90	203.6023
262.80	181.9171
264.65	203.5305
268.24	206.3112
268.79	182.2139
269.46	160.0426
269.46	160.0426
269.46	160.0426
269.46	160.0426
271.23	205.0759
273.65	266.0642
276.40	182.8112
277.35	196.7062
277.60	198.7192
277.60	198.7192
278.00	193.9123
278.60	188.1621
279.20	186.3268
279.53	201.1087
280.46	226.8513
281.68	214.3709
283.67	193.1618
284.30	191.3210
285.00	180.6125
285.90	188.6918
286.10	188.7326
286.10	188.7326
287.40	179.1054
288.45	0.0000
290.67	198.6053
290.80	198.6343
291.72	179.7434
293.26	0.0000
293.70	180.1241
295.21	159.6582
295.21	159.6582

295.21	159.6582
295.96	159.7852
296.50	207.8381
297.23	208.0000
298.57	208.2952
299.80	208.5618
299.80	208.5618
300.09	173.3194
300.09	173.3194
300.09	173.3194
300.09	173.3194
300.12	184.5587
301.29	200.8545
302.84	175.4272
303.76	173.9839
303.91	172.3990
304.40	159.5916
304.40	159.5916
304.84	164.5024
306.84	151.5106
308.46	163.9034
311.98	177.6917
316.51	174.4259
318.01	179.7947
319.02	163.6157
319.41	157.5412
320.08	163.7866
323.87	174.2686
323.87	174.2686
323.87	174.2686
323.87	174.2686
325.23	162.9778
328.77	152.8034
333.44	165.9399
334.20	166.0620
334.20	166.0620
334.30	166.0791
338.28	190.0482
338.28	190.0482
338.28	190.0482
338.28	190.0482
338.32	190.0566
338.32	190.0566
338.32	190.0566
340.50	182.0960
340.57	182.1093
344.27	177.7130
345.85	167.9028
350.59	0.0000
351.07	188.7508
351.92	188.8983
351.92	188.8983
351.92	188.8983
355.39	0.0000
356.01	132.1963
364.48	166.5117
366.43	142.2095
367.43	147.6863
367.94	0.0000
369.80	155.5029
374.96	154.0540
383.85	160.6713
387.95	140.5347
388.63	130.8051
391.69	155.1868
391.69	155.1868
392.90	173.9426
398.62	143.9969
400.65	145.3378
401.10	153.1034
401.81	165.3168
402.60	142.2649
404.84	176.7773
410.95	143.2373
411.60	167.7529
413.65	168.0294
414.70	144.7841
415.30	138.1680

415.76	134.8750
417.63	0.0000
418.52	156.3977
423.70	127.8760
427.08	136.0899
427.89	130.5478
432.53	111.1414
433.93	123.9255
439.47	120.8219
439.56	122.6470
439.89	122.6783
443.98	129.4415
444.90	120.4097
445.03	119.5087
445.03	119.5087
445.03	119.5087
445.03	119.5087
453.90	111.1230
463.38	115.6021
468.07	108.2656
473.00	109.8933
475.06	114.7194
475.35	112.8762
476.78	120.4635
477.59	104.6486
477.96	119.6297
482.03	104.9795
484.57	120.1922
487.03	127.9250
490.36	0.0000
492.35	113.2939
497.08	109.8772
507.63	0.0000
510.53	0.0000
510.84	109.9561
511.00	109.9680
511.85	110.0319
511.85	110.0319
513.99	111.7868
513.99	111.7868
520.41	95.2657
520.65	98.1675
527.90	87.0337
528.96	0.0000
529.64	96.8140
529.87	0.0000
531.02	111.4371
537.32	102.1648
543.00	113.2784
546.56	0.0000
549.76	85.3263
552.65	114.9576
555.20	96.4448
563.23	116.7123
563.90	117.7478
568.70	122.0691
569.32	105.2366
569.50	105.2495
569.67	105.2599
573.80	110.7530
574.00	110.7665
574.64	126.6400
578.91	91.5413
579.30	0.0000
583.14	103.1232
585.48	110.2847
591.81	101.6460
592.07	101.6608
593.00	105.7460
595.88	116.0164
600.56	116.3364
602.52	0.0000
602.71	102.9772
602.71	102.9772
603.60	108.0990
604.41	133.4957
604.70	133.5182
609.31	105.7469

609.31	105.7469
609.31	105.7469
609.31	105.7469
610.33	105.1321
612.46	120.5405
614.37	96.8787
618.01	102.1899
621.84	96.2697
621.84	96.2697
631.29	110.1713
633.02	113.3704
633.10	113.3757
634.78	96.9765
635.90	94.9738
636.97	97.0958
645.85	92.3853
646.12	93.4365
656.30	92.9155
657.75	99.2583
657.90	0.0000
661.65	99.4694
661.65	99.4694
664.57	0.0000
666.33	107.0676
666.33	107.0676
675.00	99.1291
677.61	85.5365
685.20	84.8203
692.80	101.1254
695.00	104.4360
696.49	105.5839
696.49	105.5839
697.00	114.1473
697.49	105.6395
698.33	107.8205
698.50	109.9631
699.00	111.0611
702.63	98.4306
706.10	124.3290
706.58	0.0000
706.67	126.5072
709.31	111.6477
711.68	102.1111
713.82	82.8521
717.42	103.0068
720.50	82.7723
721.93	0.0000
722.20	72.0378
722.78	73.8604
722.78	73.8604
722.89	75.6653
722.95	75.6687
723.30	75.6807
724.18	81.1230
727.18	66.8005
733.00	77.6001
735.90	90.3010
739.58	89.3732
742.81	76.4155
744.21	83.0229
747.13	90.7975
751.79	80.0398
752.31	66.8989
753.82	77.9232
755.35	91.1602
756.15	93.3942
756.87	93.4253
763.93	116.7190
765.79	102.1046
766.42	94.7750
766.84	94.7939
776.49	98.9258
778.00	87.8932
778.57	90.6927
778.89	89.7810
783.80	73.2894
785.46	90.0573
792.07	100.5798

795.84	86.7618
796.30	80.2471
798.80	132.6541
801.93	100.1013
805.60	83.4013
810.29	86.3979
810.76	87.3559
815.85	82.8491
817.79	73.4995
818.51	62.2120
819.60	74.5013
826.30	74.7263
828.27	0.0000
831.60	96.7083
831.96	95.7766
834.83	84.5040
836.80	0.0000
846.75	71.5851
848.13	93.5957
856.28	0.0000
856.80	93.9486
860.37	80.6504
867.32	84.7433
867.82	78.0205
871.10	82.9521
873.19	83.0256
874.81	92.7441
875.33	0.0000
876.40	83.1393
879.36	77.4365
880.27	76.4975
880.51	76.5055
881.50	87.1930
883.24	93.0742
884.67	76.6389
889.25	80.6747
896.60	75.0731
898.02	76.0925
899.00	81.9783
903.28	86.5230
911.07	63.7529
911.07	63.7529
911.07	63.7529
919.63	53.6854
920.93	56.1314
925.00	74.9656
925.24	78.9193
926.50	76.9844
935.52	83.2087
937.48	81.2910
944.10	85.4821
946.00	83.5557
949.00	71.7056
962.29	82.3778
964.01	89.3025
966.15	106.5647
968.20	130.7310
969.11	103.3898
969.11	103.3898
969.11	103.3898
977.42	69.0527
980.50	64.1215
983.50	65.6096
989.30	63.7319
996.32	90.2747
1001.03	57.9185
1001.68	59.9663
1004.76	91.5802
1021.30	0.0000
1024.50	0.0000
1034.80	78.2018
1036.00	68.9711
1037.82	61.8066
1038.57	57.7021
1038.76	0.0000
1045.16	83.6631
1046.59	88.8730
1048.07	78.5822

1050.47	76.5805
1050.47	76.5805
1062.04	88.3307
1063.62	84.2201
1076.63	61.6312
1077.35	61.6456
1078.86	73.1787
1085.78	61.8304
1099.22	62.1209
1112.02	72.9728
1112.84	68.9121
1115.52	76.2363
1120.29	74.5442
1120.29	74.5442
1120.29	74.5442
1120.29	74.5442
1120.51	65.4584
1121.28	65.4760
1124.00	0.0000
1129.67	68.0938
1131.51	0.0000
1147.95	0.0000
1167.94	86.2142
1173.22	70.1707
1175.09	81.0150
1177.93	77.8477
1189.05	70.6881
1204.90	74.7907
1205.75	0.0000
1213.00	79.6697
1221.42	81.7628
1230.97	98.0368
1235.34	59.4690
1236.41	0.0000
1238.25	75.5859
1246.25	64.4070
1260.41	0.0000
1271.85	45.8237
1274.45	65.9245
1274.54	65.9269
1291.56	48.9811
1298.22	0.0000
1312.09	52.1807
1325.50	58.2087
1325.50	58.2087
1332.49	53.4692
1333.61	56.4039
1360.21	40.1806
1362.66	0.0000
1365.15	36.3122
1368.21	36.3432
1368.53	0.0000
1376.25	43.3186
1384.27	61.1805
1394.10	28.6956
1395.20	27.7148
1407.95	30.7946
1434.06	39.0218
1436.60	37.0465
1457.56	0.0000
1460.81	23.1813
1489.15	33.5133
1509.49	34.7151
1596.49	33.4074
1620.62	24.1551
1678.03	0.0000
1691.02	17.0915
1691.02	17.0915
1706.46	0.0000
1750.46	0.0000
1764.49	16.1637
1764.49	16.1637
1764.49	16.1637
1764.49	16.1637
1770.23	15.2324
1771.40	16.9298
1791.20	0.0000
1808.65	15.3647

1836.01

16.4241

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924003

Total Uranium Activity	1.9955E+00	ug/g
Total Uranium Counting Unc.	3.5324E+00	ug/g
Total Uranium Tpu	1.8022E-06	ug/g
Total Uranium Mda	1.5958E+00	ug/g


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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 942723              SAMPLE ID   : G244924003              *
*  ANALYST       : MXR1                DETECTOR    : GAM13                  *
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00      *
*  ANALYSIS DATE : 27-JAN-2010 18:39:02.85  SAMPLE ALQT: 128.190 GRAM      *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.041E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.487E+00
GROSS GAMMA MDA (pCi/GRAM )     : 2.669E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.296E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 20:40:30.09

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924004.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:39:29
Sample ID          : G244924004 Sample quantity : 1.05392E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	62.88*	97	255	0.90	125.77	122	8	1.34E-02	31.2	
2	1	74.63	342	339	1.38	149.25	144	22	4.74E-02	10.7	2.68E+00
3	1	76.97*	500	320	1.27	153.93	144	22	6.95E-02	8.1	
4	0	87.07	128	345	1.20	174.14	171	7	1.78E-02	25.6	
5	0	92.64*	213	362	1.48	185.28	182	9	2.96E-02	18.3	
6	0	128.45	102	233	1.36	256.91	252	9	1.41E-02	28.8	
7	0	185.77*	196	340	1.62	371.54	364	15	2.72E-02	22.2	
8	0	208.41	40	240	1.19	416.82	414	9	5.59E-03	71.0	
9	4	238.32*	871	174	1.13	476.65	472	18	1.21E-01	4.3	2.42E+00
10	4	241.37	225	222	1.89	482.75	472	18	3.12E-02	18.1	
11	0	270.58	36	204	0.54	541.15	533	11	4.93E-03	79.6	
12	2	294.90	323	99	1.36	589.80	584	19	4.48E-02	7.6	1.19E+00
13	2	299.70	74	82	1.48	599.40	584	19	1.03E-02	23.6	
14	0	337.95	182	135	1.27	675.90	671	12	2.53E-02	14.7	
15	0	351.38*	470	145	1.37	702.76	697	12	6.52E-02	7.0	
16	0	462.38*	59	60	1.98	924.76	919	10	8.26E-03	29.1	
17	0	510.37*	65	146	1.96	1020.74	1013	18	9.01E-03	50.3	
18	0	582.45*	293	54	1.43	1164.90	1157	14	4.07E-02	8.1	
19	0	608.70	373	85	1.40	1217.40	1211	14	5.18E-02	7.4	
20	0	661.14	51	70	1.05	1322.29	1319	10	7.08E-03	33.4	
21	0	727.19	57	61	1.07	1454.38	1448	14	7.92E-03	32.2	
22	0	768.07	44	72	0.87	1536.14	1529	15	6.10E-03	44.6	
23	0	794.71	54	22	1.38	1589.42	1585	12	7.56E-03	21.7	
24	0	910.45	174	55	1.87	1820.89	1812	15	2.42E-02	12.1	
25	0	968.32	126	26	1.62	1936.63	1932	14	1.76E-02	12.8	
26	0	1119.63	61	70	1.57	2239.27	2232	17	8.48E-03	33.6	
27	0	1240.20	86	55	7.18	2480.40	2466	32	1.19E-02	28.2	
28	0	1459.57	592	15	1.93	2919.15	2911	15	8.22E-02	4.4	
29	7	1759.56	9	0	1.40	3519.13	3517	17	1.32E-03	31.6	5.14E-01
30	7	1763.41*	79	0	2.87	3526.82	3517	17	1.09E-02	12.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 20:40:33

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:39:29
Sample ID         : G244924004 Sample quantity : 105.39 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA23 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 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	*	1.981E+01	2.274E+00	5.175E-01	3.871E-02	38.291
CD-109	+	88.03	*	2.403E+00	1.253E+00	1.576E+00	1.539E-01	1.525
SN-126	+	64.28		1.417E+00	9.098E-01	1.104E+00	1.680E-01	1.283
	+	86.94		9.817E-01	6.477E-01	7.665E-01	3.188E-01	1.281
	+	87.57	*	2.361E-01	1.231E-01	1.812E-01	1.763E-02	1.303
BA-137M	+	661.65	*	9.897E-02	6.626E-02	6.842E-02	3.495E-03	1.447
CS-137	+	661.65	*	1.046E-01	7.005E-02	7.232E-02	3.715E-03	1.447
TL-208		277.35		1.025E-01	4.553E-01	7.362E-01	7.779E-02	0.139
	+	510.84		4.199E-01	4.247E-01	2.755E-01	2.799E-02	1.524
	+	583.14	*	5.445E-01	9.549E-02	7.780E-02	5.051E-03	6.999
		860.37		7.344E-01	3.765E-01	7.207E-01	6.515E-02	1.019
BI-211		72.87		1.226E+01	4.771E+00	7.631E+00	6.731E-01	1.607
	+	351.07	*	3.755E+00	5.796E-01	3.790E-01	2.469E-02	9.908
PB-212	+	74.81		2.819E+00	7.034E-01	7.344E-01	9.474E-02	3.838
	+	77.11		2.305E+00	4.255E-01	4.115E-01	3.702E-02	5.601
	+	87.30		1.092E+00	5.797E-01	8.545E-01	1.191E-01	1.278
	+	238.63	*	1.499E+00	1.672E-01	1.069E-01	7.683E-03	14.032
	+	300.09		1.994E+00	9.562E-01	1.490E+00	1.237E-01	1.338
PO-212	+	74.81		2.819E+00	7.034E-01	7.344E-01	9.474E-02	3.838
	+	77.11		2.305E+00	4.255E-01	4.115E-01	3.702E-02	5.601
	+	87.30		1.092E+00	5.797E-01	8.545E-01	1.191E-01	1.278
		115.19		-2.609E+00	4.424E+00	7.100E+00	4.529E-01	-0.367
	+	238.63	*	1.499E+00	1.672E-01	1.069E-01	7.683E-03	14.032
	+	300.09		1.994E+00	9.562E-01	1.490E+00	1.237E-01	1.338
BI-214	+	609.31	*	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
	+	1120.29		1.144E+00	7.756E-01	5.985E-01	5.561E-02	1.912
	+	1764.49		2.025E+00	5.174E-01	3.825E-01	2.378E-02	5.294
PB-214	+	74.81		4.857E+00	1.180E+00	1.265E+00	1.465E-01	3.838
	+	77.11		3.951E+00	7.891E-01	7.054E-01	8.317E-02	5.601
	+	87.30		1.871E+00	9.859E-01	1.464E+00	1.815E-01	1.278
	+	241.98		2.324E+00	8.623E-01	6.436E-01	5.119E-02	3.612
	+	295.21		1.516E+00	2.651E-01	2.458E-01	2.107E-02	6.167
	+	351.92	*	1.306E+00	2.128E-01	1.374E-01	1.147E-02	9.509
PO-214	+	74.81		4.857E+00	1.180E+00	1.265E+00	1.465E-01	3.838

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.951E+00	7.891E-01	7.054E-01	8.317E-02	5.601
	+	87.30		1.871E+00	9.859E-01	1.464E+00	1.815E-01	1.278
	+	241.98		2.324E+00	8.623E-01	6.436E-01	5.119E-02	3.612
	+	295.21		1.516E+00	2.651E-01	2.458E-01	2.107E-02	6.167
	+	351.92	*	1.306E+00	2.128E-01	1.374E-01	1.147E-02	9.509
PO-216	+	74.81		2.819E+00	7.034E-01	7.344E-01	9.474E-02	3.838
	+	77.11		2.305E+00	4.255E-01	4.115E-01	3.702E-02	5.601
	+	87.30		1.092E+00	5.797E-01	8.545E-01	1.191E-01	1.278
	+	238.63	*	1.499E+00	1.672E-01	1.069E-01	7.683E-03	14.032
	+	300.09		1.994E+00	9.562E-01	1.490E+00	1.237E-01	1.338
PO-218	+	74.81		4.857E+00	1.180E+00	1.265E+00	1.465E-01	3.838
	+	77.11		3.951E+00	7.891E-01	7.054E-01	8.317E-02	5.601
	+	87.30		1.871E+00	9.859E-01	1.464E+00	1.815E-01	1.278
	+	241.98		2.324E+00	8.623E-01	6.436E-01	5.119E-02	3.612
	+	295.21		1.516E+00	2.651E-01	2.458E-01	2.107E-02	6.167
	+	351.92	*	1.306E+00	2.128E-01	1.374E-01	1.147E-02	9.509
RA-224	+	240.98	*	4.407E+00	1.616E+00	1.216E+00	6.852E-02	3.624
RA-226	+	609.31	*	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
	+	1120.29		1.144E+00	7.756E-01	5.985E-01	5.561E-02	1.912
	+	1764.49		2.025E+00	5.174E-01	3.825E-01	2.378E-02	5.294
AC-228	+	338.32		1.606E+00	8.078E-01	4.558E-01	1.859E-01	3.523
	+	911.07	*	1.465E+00	3.917E-01	2.602E-01	3.003E-02	5.628
	+	969.11		1.882E+00	6.516E-01	5.576E-01	1.298E-01	3.375
RA-228	+	338.32		1.606E+00	8.078E-01	4.558E-01	1.859E-01	3.523
	+	911.07	*	1.465E+00	3.917E-01	2.602E-01	3.003E-02	5.628
	+	969.11		1.882E+00	6.516E-01	5.576E-01	1.298E-01	3.375
TH-228	+	74.81		2.862E+00	6.630E-01	7.457E-01	6.684E-02	3.838
	+	77.11		2.340E+00	4.320E-01	4.178E-01	3.759E-02	5.601
	+	87.30		1.109E+00	5.780E-01	8.676E-01	8.422E-02	1.278
	+	238.63	*	1.522E+00	1.698E-01	1.085E-01	7.801E-03	14.032
	+	300.09		2.024E+00	1.529E+00	1.513E+00	8.918E-01	1.338
TH-230	+	609.31	*	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
	+	1120.29		1.144E+00	7.756E-01	5.985E-01	5.561E-02	1.912
	+	1764.49		2.025E+00	5.174E-01	3.825E-01	2.378E-02	5.294
TH-232	+	338.32		1.606E+00	4.824E-01	4.558E-01	2.692E-02	3.523
	+	911.07	*	1.465E+00	3.917E-01	2.602E-01	3.003E-02	5.628
	+	969.11		1.882E+00	6.516E-01	5.576E-01	1.298E-01	3.375
TH-234	+	63.29	*	3.579E+00	2.324E+00	2.895E+00	5.217E-01	1.236
	+	92.38		2.509E+00	1.026E+00	1.196E+00	2.181E-01	2.098
U-234	+	609.31	*	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
	+	1120.29		1.144E+00	7.756E-01	5.985E-01	5.561E-02	1.912
	+	1764.49		2.025E+00	5.174E-01	3.825E-01	2.378E-02	5.294
NP-237	+	86.50	*	6.934E-01	3.888E-01	5.421E-01	1.235E-01	1.279
	+	95.87		-1.117E-01	1.274E+00	1.844E+00	4.529E-01	-0.061
U-238	+	63.29	*	3.579E+00	2.324E+00	2.895E+00	5.217E-01	1.236
	+	92.38		2.509E+00	9.453E-01	1.196E+00	1.069E-01	2.098
AM-243	+	74.67	*	4.570E-01	1.057E-01	1.195E-01	1.062E-02	3.823
	+	86.72		2.600E+01	1.356E+01	2.011E+01	1.942E+00	1.293
	+	117.66		-1.830E+00	4.633E+00	7.492E+00	4.640E-01	-0.244

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	142.18	*	-1.366E+00	2.187E+01	3.507E+01	1.910E+00	-0.039
		511.00	*	9.070E-02	9.142E-02	5.953E-02	3.458E-03	1.524

---- 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	*	3.609E-01	3.904E-01	6.870E-01	4.669E-02	0.525
NA-22		1274.54	*	-4.064E-02	6.144E-02	9.244E-02	6.208E-03	-0.440
NA-24		1368.53	*	1.121E-01	6.144E-02	Half-Life too short		
AL-26		1129.67	*	-4.052E-01	2.191E+00	3.350E+00	2.134E-01	-0.121
		1808.65	*	2.319E-03	3.930E-02	6.277E-02	3.773E-03	0.037
TI-44		67.85	*	5.181E-02	6.498E-02	1.042E-01	9.075E-03	0.497
+		78.38	*	4.253E-01	7.852E-02	1.035E-01	9.380E-03	4.110
SC-46		889.25	*	1.568E-02	4.469E-02	7.724E-02	6.901E-03	0.203
+		1120.51	*	1.961E-01	1.323E-01	1.600E-01	1.042E-02	1.226
V-48		944.10	*	1.020E-01	1.062E+00	1.781E+00	1.552E-01	0.057
		983.50	*	1.252E-04	8.203E-02	1.359E-01	1.131E-02	0.001
		1312.09	*	-5.520E-02	9.896E-02	1.480E-01	1.053E-02	-0.373
CR-51		320.08	*	-2.366E-01	4.453E-01	7.224E-01	4.737E-02	-0.327
MN-52		744.21	*	-5.777E-02	3.019E-01	4.756E-01	3.028E-02	-0.121
		848.13	*	-5.024E+00	7.928E+00	1.232E+01	1.006E+00	-0.408
		935.52	*	6.705E-02	3.009E-01	5.117E-01	4.499E-02	0.131
		1246.25	*	6.117E+00	1.016E+01	1.560E+01	9.984E-01	0.392
		1333.61	*	-1.706E+00	6.909E+00	1.085E+01	7.964E-01	-0.157
		1434.06	*	-1.766E-01	3.098E-01	4.517E-01	3.268E-02	-0.391
MN-54		834.83	*	2.141E-02	4.455E-02	7.771E-02	6.153E-03	0.276
CO-56		846.75	*	-1.062E-02	4.341E-02	7.058E-02	5.741E-03	-0.151
		977.42	*	2.760E+00	3.771E+00	6.339E+00	5.315E-01	0.435
		1037.82	*	-3.974E-01	3.976E-01	5.801E-01	4.755E-02	-0.685
		1175.09	*	7.201E-01	2.891E+00	4.857E+00	2.749E-01	0.148
		1238.25	*	1.692E-01	1.070E-01	2.000E-01	1.330E-02	0.846
		1360.21	*	-5.876E-02	9.419E-01	1.509E+00	1.105E-01	-0.039
		1771.40	*	-3.560E-01	3.422E-01	4.538E-01	2.807E-02	-0.785
CO-57		122.06	*	4.230E-03	3.168E-02	5.067E-02	2.987E-03	0.083
		136.48	*	8.668E-02	2.505E-01	4.167E-01	2.710E-02	0.208
CO-58		810.76	*	1.095E-02	4.790E-02	8.193E-02	6.155E-03	0.134
FE-59		142.65	*	-6.336E-01	3.379E+00	5.387E+00	2.929E-01	-0.118
		192.34	*	5.864E-01	1.290E+00	1.881E+00	2.177E-01	0.312
		1099.22	*	4.402E-02	1.123E-01	1.926E-01	1.483E-02	0.229
		1291.56	*	-6.558E-02	1.624E-01	2.510E-01	2.083E-02	-0.261
CO-60		1173.22	*	3.746E-02	5.897E-02	1.026E-01	5.790E-03	0.365
		1332.49	*	-9.633E-03	5.034E-02	7.958E-02	5.842E-03	-0.121
ZN-65		1115.52	*	8.866E-02	1.276E-01	1.996E-01	1.318E-02	0.444
GE-68		1077.35	*	-7.182E-01	1.566E+00	2.446E+00	1.751E-01	-0.294
AS-73		53.44	*	5.345E-01	1.372E+00	2.340E+00	2.065E-01	0.228
AS-74		595.88	*	5.016E-02	1.126E-01	1.905E-01	1.050E-02	0.263
		634.78	*	-3.148E-01	4.165E-01	6.216E-01	3.291E-02	-0.506
SE-75		66.05	*	-2.732E+00	7.205E+00	1.033E+01	1.084E+00	-0.264

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		1.766E-01	1.021E+00	1.500E+00	2.011E-01	0.118
		121.11		3.057E-02	1.657E-01	2.748E-01	2.563E-02	0.111
		136.00		-3.234E-03	4.686E-02	7.656E-02	4.323E-03	-0.042
		198.60		1.051E+00	2.188E+00	3.532E+00	2.385E-01	0.298
		264.65	*	5.837E-04	6.770E-02	9.437E-02	5.493E-03	0.006
		279.53		2.922E-02	1.298E-01	2.214E-01	1.392E-02	0.132
		303.91		-2.382E+00	2.948E+00	4.006E+00	3.843E-01	-0.595
		400.65		-2.441E-01	3.092E-01	4.836E-01	4.400E-02	-0.505
BR-77	+	87.88		5.440E+02	2.835E+02	4.528E+02	4.419E+01	1.201
		200.40		4.404E+01	2.087E+02	3.410E+02	1.824E+01	0.129
	+	239.00		2.523E+02	2.577E+01	4.636E+01	2.607E+00	5.442
		249.79		-9.736E+00	8.461E+01	1.346E+02	7.654E+00	-0.072
		281.68		9.045E-01	1.169E+02	1.971E+02	1.149E+01	0.005
		297.23		2.992E+02	7.797E+01	1.490E+02	8.748E+00	2.008
		303.76		-1.579E+02	2.579E+02	3.581E+02	2.108E+01	-0.441
		439.47		-4.147E+01	1.853E+02	3.013E+02	1.763E+01	-0.138
		484.57		9.336E+01	2.796E+02	4.727E+02	2.764E+01	0.198
		520.65	*	-7.202E+00	1.354E+01	2.120E+01	1.227E+00	-0.340
		574.64		-6.024E+01	2.885E+02	4.160E+02	2.335E+01	-0.145
		578.91		5.251E+01	1.214E+02	1.804E+02	1.009E+01	0.291
		585.48		8.421E+02	2.857E+02	5.079E+02	2.827E+01	1.658
		755.35		2.872E+01	2.252E+02	3.528E+02	2.310E+01	0.081
		817.79		5.748E+01	1.492E+02	2.601E+02	1.980E+01	0.221
SR-82		698.33		-1.038E+01	4.584E+01	7.248E+01	4.094E+00	-0.143
		776.49	*	-2.661E-01	4.689E-01	6.791E-01	4.685E-02	-0.392
		1395.20		-1.306E+01	1.375E+01	1.853E+01	1.350E+00	-0.705
RB-83		520.41	*	-5.220E-02	8.501E-02	1.320E-01	7.640E-03	-0.396
		529.64		5.993E-02	1.274E-01	2.169E-01	1.251E-02	0.276
		552.65		-1.204E-01	2.325E-01	3.616E-01	2.060E-02	-0.333
RB-84		881.50	*	-9.021E-03	7.816E-02	1.286E-01	1.130E-02	-0.070
KR-85		513.99	*	1.519E+01	1.040E+01	1.684E+01	9.769E-01	0.902
SR-85		513.99	*	7.803E-02	5.340E-02	8.646E-02	5.017E-03	0.902
RB-86		1076.63	*	-3.187E-02	9.851E-01	1.617E+00	1.159E-01	-0.020
Y-88		898.02		-4.155E-03	4.871E-02	8.038E-02	7.349E-03	-0.052
		1836.01	*	3.154E-02	3.765E-02	7.365E-02	4.336E-03	0.428
ZR-88		392.90	*	-1.761E-02	3.838E-02	6.181E-02	3.569E-03	-0.285
Y-91		1204.90	*	-8.445E+00	2.296E+01	3.602E+01	2.149E+00	-0.234
NB-94		702.63	*	1.212E-02	4.370E-02	7.224E-02	4.128E-03	0.168
		871.10		7.582E-03	4.236E-02	7.190E-02	6.175E-03	0.105
NB-95		765.79	*	1.137E-01	6.042E-02	1.030E-01	6.919E-03	1.104
NB-95M		235.69	*	5.900E-01	1.996E-01	3.221E-01	2.376E-02	1.832
ZR-95		724.18		6.428E-02	1.447E-01	2.118E-01	1.497E-02	0.304
		756.15	*	2.164E-02	9.048E-02	1.432E-01	1.099E-02	0.151
NB-97		657.90	*	-4.966E-03	9.048E-02	Half-Life	too short	
		1024.50		1.053E+01	9.048E-02	Half-Life	too short	
ZR-97		254.15		-2.827E+00	9.048E-02	Half-Life	too short	
		355.39		-7.928E-01	9.048E-02	Half-Life	too short	
		507.63	*	7.055E+00	9.048E-02	Half-Life	too short	
		602.52		1.082E+01	9.048E-02	Half-Life	too short	

---- Non-Identified Nuclides ----

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	1021.30			-3.364E+00	9.048E-02	Half-Life	too short	
	1147.95			-3.099E+00	9.048E-02	Half-Life	too short	
	1362.66			-3.209E+00	9.048E-02	Half-Life	too short	
	1750.46			6.337E-02	9.048E-02	Half-Life	too short	
MO-99	140.51			-3.464E+01	3.516E+01	5.183E+01	1.393E+01	-0.668
	181.06			9.196E+00	2.315E+01	3.369E+01	5.709E+00	0.273
	366.43			-3.068E+01	1.094E+02	1.790E+02	1.049E+01	-0.171
	739.58	*		2.856E+00	1.326E+01	2.185E+01	3.058E+00	0.131
	778.00			-3.171E+01	4.141E+01	6.418E+01	4.444E+00	-0.494
TC-99M	140.51	*		-7.534E+10	4.141E+01	Half-Life	too short	
RH-101	127.23	+		8.508E-02	4.927E-02	6.570E-02	3.773E-03	1.295
	198.01	*		-2.382E-03	4.064E-02	6.390E-02	3.406E-03	-0.037
	325.23			3.718E-01	2.693E-01	4.842E-01	2.861E-02	0.768
RH-102	418.52			-9.862E-02	3.348E-01	5.425E-01	3.161E-02	-0.182
	475.06	*		3.216E-02	3.433E-02	6.061E-02	3.548E-03	0.531
	631.29			1.295E-02	6.466E-02	1.070E-01	5.687E-03	0.121
	697.49			-4.736E-02	1.042E-01	1.614E-01	9.094E-03	-0.293
	766.84	+		2.603E-01	2.327E-01	2.605E-01	1.755E-02	0.999
	1046.59			-1.483E-01	1.426E-01	2.060E-01	1.560E-02	-0.720
	1112.84			9.774E-02	2.988E-01	4.446E-01	2.949E-02	0.220
RU-103	497.08	*		-5.901E-04	4.766E-02	7.825E-02	9.906E-03	-0.008
	610.33			1.290E+01	2.648E+00	3.592E+00	5.491E-01	3.591
RH-106	511.85	+		4.532E-01	4.568E-01	5.174E-01	3.004E-02	0.876
	621.84	*		-1.084E-01	3.534E-01	5.552E-01	6.402E-02	-0.195
	1050.47			1.875E+00	2.595E+00	4.633E+00	3.485E-01	0.405
RU-106	511.85	+		4.532E-01	4.568E-01	5.174E-01	3.004E-02	0.876
	621.84	*		-1.084E-01	3.532E-01	5.552E-01	2.983E-02	-0.195
	1050.47			1.875E+00	2.595E+00	4.633E+00	3.485E-01	0.405
AG-108M	433.93	*		-1.183E-03	3.969E-02	6.551E-02	4.153E-03	-0.018
	614.37			5.971E-02	4.972E-02	8.053E-02	4.784E-03	0.741
	722.95			-4.894E-02	6.210E-02	7.642E-02	4.969E-03	-0.640
AG-110M	657.75	*		-9.589E-03	5.306E-02	7.240E-02	4.023E-03	-0.132
	677.61			1.968E-01	4.170E-01	6.785E-01	3.883E-02	0.290
	706.67			-9.625E-02	2.647E-01	4.119E-01	2.523E-02	-0.234
	763.93			1.619E-01	2.175E-01	3.334E-01	2.334E-02	0.486
	884.67			-3.997E-02	5.640E-02	8.617E-02	7.856E-03	-0.464
	937.48			-3.173E-02	1.311E-01	2.120E-01	1.925E-02	-0.150
	1384.27			1.152E-01	1.874E-01	3.330E-01	2.525E-02	0.346
IN-111	171.28			2.298E-01	1.251E+00	2.052E+00	1.053E-01	0.112
	245.39	*		-1.613E-01	1.589E+00	2.169E+00	1.228E-01	-0.074
IN-113M	391.69	*		-4.071E-02	5.488E-02	8.652E-02	5.330E-03	-0.471
SN-113	391.69	*		-4.071E-02	5.488E-02	8.652E-02	5.330E-03	-0.471
IN-114M	190.27	*		4.119E-02	2.462E-01	3.526E-01	1.859E-02	0.117
CD-115	260.90			3.132E+01	1.784E+02	2.882E+02	1.655E+01	0.109
	492.35			2.441E+01	4.554E+01	7.809E+01	4.559E+00	0.313
	527.90	*		5.855E+00	1.409E+01	2.387E+01	1.377E+00	0.245
SN-117M	156.02			-1.639E-01	2.822E+00	4.591E+00	2.403E-01	-0.036
	158.56	*		4.101E-02	6.846E-02	1.146E-01	5.954E-03	0.358
SB-122	563.90	*		-6.626E-01	2.502E+00	3.986E+00	2.254E-01	-0.166

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I-123	692.80			3.860E+01	5.846E+01	9.991E+01	5.560E+00	0.386
	159.00	*		4.973E+00	5.846E+01	Half-Life too short		
	528.96			5.373E+02	5.846E+01	Half-Life too short		
TE-123M	159.00	*		2.007E-02	3.514E-02	5.874E-02	3.100E-03	0.342
I-124	602.71	*		7.459E-01	9.129E-01	1.413E+00	7.744E-02	0.528
	722.78			-5.587E+00	6.636E+00	8.088E+00	4.873E-01	-0.691
	1325.50			-1.884E+00	4.598E+01	7.432E+01	5.398E+00	-0.025
	1376.25			7.090E+00	3.945E+01	6.557E+01	4.792E+00	0.108
	1509.49			5.985E+00	1.960E+01	3.322E+01	2.356E+00	0.180
	1691.02			2.907E-01	3.937E+00	6.659E+00	4.347E-01	0.044
SB-124	602.71			4.229E-02	5.176E-02	8.012E-02	4.393E-03	0.528
	645.85			-9.339E-02	6.443E-01	1.030E+00	6.219E-02	-0.091
	709.31			1.393E+00	3.529E+00	5.898E+00	3.431E-01	0.236
	713.82			-1.237E+00	2.234E+00	3.409E+00	3.498E-01	-0.363
	722.78			-4.592E-01	5.455E-01	6.647E-01	4.181E-02	-0.691
	968.20	+		1.941E+01	5.238E+00	8.717E+00	7.392E-01	2.226
	1045.16			-8.612E-01	3.064E+00	4.898E+00	3.718E-01	-0.176
	1325.50			-1.654E-01	4.036E+00	6.524E+00	4.738E-01	-0.025
	1368.21			1.942E-01	2.096E+00	3.449E+00	4.374E-01	0.056
	1436.60			-3.341E-01	4.978E+00	7.961E+00	5.757E-01	-0.042
	1691.02	*		5.635E-03	7.632E-02	1.291E-01	9.000E-03	0.044
SB-125	427.89	*		9.100E-02	1.094E-01	1.917E-01	1.166E-02	0.475
	463.38	+		7.491E-01	4.391E-01	6.514E-01	4.438E-02	1.150
	600.56			-1.100E-01	2.342E-01	3.546E-01	2.285E-02	-0.310
	635.90			-1.744E-01	3.091E-01	4.712E-01	2.996E-02	-0.370
TE-125M	109.28	*		-1.612E+01	1.143E+01	1.755E+01	1.566E+00	-0.918
I-126	388.63			6.736E-02	2.322E-01	3.940E-01	2.279E-02	0.171
	666.33	*		2.230E-01	2.232E-01	3.569E-01	1.847E-02	0.625
	753.82			5.801E-01	1.888E+00	3.126E+00	2.039E-01	0.186
SB-126	223.80			-2.355E+00	5.019E+00	7.870E+00	4.346E-01	-0.299
	278.60			1.211E+00	2.952E+00	5.082E+00	2.956E-01	0.238
	296.50			1.283E+01	2.274E+00	4.392E+00	2.578E-01	2.921
	414.70			4.005E-03	8.857E-02	1.473E-01	8.575E-03	0.027
	415.30			2.996E+00	7.311E+00	1.248E+01	7.264E-01	0.240
	555.20			1.411E+00	4.752E+00	7.970E+00	4.533E-01	0.177
	573.80			-3.901E-01	1.364E+00	2.033E+00	1.142E-01	-0.192
	593.00			-3.758E-01	1.164E+00	1.840E+00	1.018E-01	-0.204
	656.30			-6.222E+00	5.429E+00	6.429E+00	3.309E-01	-0.968
	666.33			9.324E-02	9.329E-02	1.492E-01	7.722E-03	0.625
	675.00			-5.653E-01	2.553E+00	4.040E+00	2.142E-01	-0.140
	695.00			-3.315E-02	1.058E-01	1.660E-01	9.293E-03	-0.200
	697.00			-1.305E-01	3.712E-01	5.805E-01	3.268E-02	-0.225
	720.50	*		-1.808E-02	2.180E-01	2.992E-01	1.792E-02	-0.060
	856.80			-4.910E-01	6.173E-01	9.518E-01	7.919E-02	-0.516
	989.30			2.756E-01	1.402E+00	2.376E+00	1.962E-01	0.116
	1034.80			-1.676E+00	1.115E+01	1.811E+01	1.398E+00	-0.093
	1213.00			-1.102E+00	6.237E+00	1.002E+01	6.060E-01	-0.110
SB-127	61.10			8.404E+01	9.154E+01	1.412E+02	1.590E+01	0.595
	252.40			-4.029E+00	5.705E+00	8.331E+00	3.461E+00	-0.484

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	290.80			-1.878E+01	2.920E+01	4.049E+01	3.747E+00	-0.464
	411.60			5.819E+00	1.530E+01	2.599E+01	3.747E+00	0.224
	444.90			2.127E+00	1.233E+01	2.062E+01	2.241E+00	0.103
	473.00			-2.066E+00	2.035E+00	3.042E+00	3.422E-01	-0.679
	543.00			1.371E+00	2.000E+01	3.293E+01	4.252E+00	0.042
	603.60			3.634E+00	1.656E+01	2.389E+01	2.542E+00	0.152
	685.20	*		-1.547E+00	1.668E+00	2.416E+00	2.241E-01	-0.640
	698.50			-5.008E+00	2.091E+01	3.300E+01	4.770E+00	-0.152
	722.20			-4.249E+01	4.615E+01	5.537E+01	5.180E+00	-0.767
	783.80			3.664E-01	4.410E+00	7.455E+00	8.508E-01	0.049
XE-127	57.60			2.763E-01	9.721E+00	1.516E+01	1.328E+00	0.018
	145.22			6.717E-01	8.269E-01	1.400E+00	7.551E-02	0.480
	172.10			1.971E-02	1.423E-01	2.328E-01	1.196E-02	0.085
	202.84	*		-3.758E-02	6.082E-02	9.154E-02	4.914E-03	-0.410
	374.96			-1.775E-01	2.639E-01	3.972E-01	2.317E-02	-0.447
I-131	80.18			-4.853E+00	5.779E+00	9.290E+00	8.569E-01	-0.522
	284.30			1.019E-01	1.863E+00	3.148E+00	2.041E-01	0.032
	364.48	*		1.267E-02	1.405E-01	2.357E-01	1.540E-02	0.054
	636.97			7.044E-02	1.746E+00	2.845E+00	1.717E-01	0.025
	722.89			-8.547E+00	1.059E+01	1.299E+01	7.932E-01	-0.658
TE-132	49.72			-3.426E+01	3.532E+01	5.668E+01	6.076E+00	-0.604
	111.76			2.971E+01	3.756E+01	6.380E+01	6.011E+00	0.466
	116.30			-1.559E+01	3.516E+01	5.675E+01	5.203E+00	-0.275
	228.16	*		4.027E-01	9.148E-01	1.502E+00	2.147E-01	0.268
BA-133	53.15			2.888E+00	5.890E+00	1.009E+01	8.897E-01	0.286
	79.62			-1.752E-01	1.647E+00	2.731E+00	4.240E-01	-0.064
	81.00			-2.435E-01	1.461E-01	1.872E-01	3.034E-02	-1.301
	276.40			3.935E-02	4.550E-01	7.296E-01	9.462E-02	0.054
	302.84			-9.279E-03	1.923E-01	2.805E-01	3.281E-02	-0.033
	356.01	*		-2.996E-02	5.943E-02	8.200E-02	9.514E-03	-0.365
	383.85			-4.404E-01	3.595E-01	5.276E-01	5.736E-02	-0.835
I-133	510.53	+		1.049E+00	3.595E-01	Half-Life	too short	
	529.87	*		-1.122E-03	3.595E-01	Half-Life	too short	
	706.58			-2.489E-01	3.595E-01	Half-Life	too short	
	856.28			-7.306E-01	3.595E-01	Half-Life	too short	
	875.33			-5.021E-02	3.595E-01	Half-Life	too short	
	1236.41			1.760E+00	3.595E-01	Half-Life	too short	
	1298.22			-4.937E-01	3.595E-01	Half-Life	too short	
CS-134	475.35			1.857E+00	2.282E+00	3.992E+00	2.337E-01	0.465
	563.23			-1.876E-01	4.316E-01	6.772E-01	3.917E-02	-0.277
	569.32			1.854E-01	2.274E-01	3.975E-01	2.310E-02	0.466
	604.70			1.841E-02	4.872E-02	7.148E-02	3.934E-03	0.258
	795.84	+	*	1.477E-01	6.492E-02	1.079E-01	7.881E-03	1.369
	801.93			2.120E-02	5.467E-01	8.265E-01	6.109E-02	0.026
	1038.57			-8.726E-01	4.748E+00	7.676E+00	5.892E-01	-0.114
	1167.94			-1.240E+00	3.223E+00	5.064E+00	2.903E-01	-0.245
	1365.15			3.031E-01	1.338E+00	2.255E+00	1.754E-01	0.134
CS-135	268.24	*		8.391E-02	2.404E-01	3.435E-01	2.624E-02	0.244
I-135	288.45			-5.542E+08	2.404E-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
		417.63		-8.403E+08	2.404E-01	Half-Life too short		
		546.56		-1.369E+09	2.404E-01	Half-Life too short		
		836.80		1.816E+10	2.404E-01	Half-Life too short		
		1038.76		6.838E+09	2.404E-01	Half-Life too short		
		1124.00		4.626E+10	2.404E-01	Half-Life too short		
		1131.51		3.529E+09	2.404E-01	Half-Life too short		
		1260.41	*	6.408E+08	2.404E-01	Half-Life too short		
		1457.56		1.182E+12	2.404E-01	Half-Life too short		
		1678.03		-4.121E+08	2.404E-01	Half-Life too short		
		1706.46		9.629E+09	2.404E-01	Half-Life too short		
		1791.20		-2.577E+09	2.404E-01	Half-Life too short		
CS-136		66.91		5.473E-01	1.166E+00	1.747E+00	2.704E-01	0.313
	+	86.29		3.108E+00	1.647E+00	2.558E+00	3.464E-01	1.215
		153.22		2.061E-01	8.148E-01	1.345E+00	9.155E-02	0.153
		163.89		7.156E-01	1.282E+00	2.141E+00	1.439E-01	0.334
		176.55		-1.047E-01	4.490E-01	7.209E-01	4.298E-02	-0.145
		273.65		-4.282E-01	6.497E-01	8.515E-01	5.632E-02	-0.503
		340.57		1.626E-01	1.773E-01	2.763E-01	1.731E-02	0.589
		818.51		-2.960E-03	7.910E-02	1.318E-01	1.007E-02	-0.022
		1048.07	*	-1.697E-03	1.256E-01	2.069E-01	1.649E-02	-0.008
		1235.34		1.094E+00	8.206E-01	1.351E+00	1.388E-01	0.810
CE-139		165.85	*	-4.752E-03	3.590E-02	5.808E-02	2.961E-03	-0.082
BA-140		162.64		-2.885E-01	9.279E-01	1.490E+00	8.854E-02	-0.194
		304.84		-3.482E-01	1.738E+00	2.606E+00	7.116E-01	-0.134
		423.70		-6.363E-01	2.245E+00	3.624E+00	1.152E+00	-0.176
		537.32	*	2.198E-02	3.208E-01	5.280E-01	1.717E-01	0.042
LA-140		328.77		2.081E-01	3.629E-01	6.267E-01	4.132E-02	0.332
		432.53		-9.409E-01	2.507E+00	4.030E+00	2.598E-01	-0.233
		487.03		-1.506E-01	1.638E-01	2.475E-01	1.635E-02	-0.608
		751.79		-5.013E-01	2.265E+00	3.559E+00	2.730E-01	-0.141
		815.85		8.912E-02	3.792E-01	6.496E-01	5.646E-02	0.137
		867.82		1.427E-01	1.736E+00	2.920E+00	2.625E-01	0.049
		919.63		1.165E+00	3.006E+00	5.219E+00	5.689E-01	0.223
		925.24		-6.818E-01	1.331E+00	2.082E+00	1.959E-01	-0.328
		1596.49	*	-5.773E-02	1.099E-01	1.674E-01	1.149E-02	-0.345
CE-141		145.44	*	3.034E-02	7.622E-02	1.268E-01	7.150E-03	0.239
CE-143		57.37		-3.207E-04	7.622E-02	Half-Life too short		
		231.56		-1.879E-04	7.622E-02	Half-Life too short		
		293.26	*	1.266E-03	7.622E-02	Half-Life too short		
	+	350.59		3.227E-02	7.622E-02	Half-Life too short		
		490.36		2.896E-04	7.622E-02	Half-Life too short		
		664.57		2.713E-03	7.622E-02	Half-Life too short		
		721.93		-1.782E-03	7.622E-02	Half-Life too short		
CE-144		80.11		-2.065E+00	2.630E+00	4.240E+00	3.886E-01	-0.487
		133.54	*	-9.468E-02	2.593E-01	3.849E-01	5.435E-02	-0.246
PM-144		476.78		6.242E-02	8.106E-02	1.412E-01	9.868E-03	0.442
		618.01		-2.647E-02	3.728E-02	5.622E-02	3.243E-03	-0.471
		696.49	*	-2.085E-02	4.695E-02	7.277E-02	4.094E-03	-0.286
		778.57		-5.873E-01	2.575E+00	4.223E+00	2.930E-01	-0.139

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49	*	-1.413E+00	3.181E+00	4.932E+00	2.772E-01	-0.286	
	1489.15		2.337E+00	1.716E+01	2.826E+01	2.017E+00	0.083	
PM-146	453.90	*	2.238E-02	5.113E-02	8.719E-02	7.551E-03	0.257	
	633.02		-2.878E-01	1.603E+00	2.549E+00	9.365E-01	-0.113	
	735.90		9.979E-02	1.652E-01	2.742E-01	7.672E-02	0.364	
	747.13		7.302E-02	1.172E-01	1.993E-01	2.552E-02	0.366	
ND-147	91.11		1.055E+00	5.624E-01	6.951E-01	6.834E-02	1.518	
	319.41		1.415E+00	3.958E+00	6.777E+00	4.004E-01	0.209	
	439.89		-9.229E-01	7.289E+00	1.194E+01	6.988E-01	-0.077	
	531.02	*	-4.863E-01	7.211E-01	1.109E+00	1.498E-01	-0.439	
PM-149	285.90	*	6.989E+00	1.166E+02	1.970E+02	2.796E+01	0.035	
EU-152	121.78		2.450E-02	9.245E-02	1.488E-01	1.144E-02	0.165	
	244.69		1.911E-01	4.502E-01	6.511E-01	3.683E-02	0.293	
	344.27	*	1.190E-02	1.555E-01	1.998E-01	1.324E-02	0.060	
	443.98		2.976E-01	1.172E+00	1.973E+00	1.155E-01	0.151	
	778.89		-3.728E-02	3.003E-01	4.980E-01	3.456E-02	-0.075	
	867.32		-2.472E-01	1.043E+00	1.699E+00	1.447E-01	-0.145	
	964.01		5.880E-01	4.082E-01	6.854E-01	5.841E-02	0.858	
	1085.78		2.995E-01	5.297E-01	9.210E-01	6.481E-02	0.325	
	1112.02		1.629E-01	4.055E-01	6.118E-01	4.067E-02	0.266	
	1407.95		1.148E-01	2.118E-01	3.726E-01	2.710E-02	0.308	
GD-153	69.67		6.450E-01	2.413E+00	3.596E+00	3.142E-01	0.179	
	83.37		1.884E+00	2.836E+01	3.047E+01	2.860E+00	0.062	
	97.43	*	8.704E-02	1.011E-01	1.544E-01	1.261E-02	0.564	
	103.18		4.181E-02	1.269E-01	2.127E-01	1.589E-02	0.197	
EU-154	123.07		2.151E-02	7.067E-02	1.038E-01	9.799E-03	0.207	
	247.94		-2.959E-02	5.084E-01	7.071E-01	6.693E-02	-0.042	
	591.81		-6.082E-01	8.048E-01	1.220E+00	1.174E-01	-0.499	
	723.30		-2.341E-01	2.719E-01	3.323E-01	2.417E-02	-0.704	
	756.87		2.457E-01	9.746E-01	1.544E+00	1.636E-01	0.159	
	873.19		-1.278E-02	3.582E-01	5.951E-01	7.290E-02	-0.021	
	996.32		-4.618E-01	4.530E-01	6.498E-01	1.141E-01	-0.711	
	1004.76		-1.061E-01	2.618E-01	4.135E-01	4.651E-02	-0.257	
	1274.45	*	-1.151E-01	1.716E-01	2.576E-01	2.557E-02	-0.447	
EU-155	48.70		-5.257E+00	4.450E+00	7.089E+00	5.717E-01	-0.742	
	60.01		1.328E+00	7.766E+00	1.158E+01	1.006E+00	0.115	
	86.54	+	2.844E-01	1.483E-01	2.335E-01	2.270E-02	1.218	
	105.31	*	7.994E-02	1.302E-01	2.204E-01	1.626E-02	0.363	
TB-160	86.79	+	7.609E-01	3.966E-01	6.240E-01	6.029E-02	1.219	
	197.04		-3.588E-01	6.942E-01	1.065E+00	5.671E-02	-0.337	
	215.65		-7.410E-02	9.502E-01	1.526E+00	8.336E-02	-0.049	
	298.57	+	2.906E-01	1.383E-01	2.498E-01	1.468E-02	1.163	
	879.36	*	7.742E-02	1.547E-01	2.718E-01	2.377E-02	0.285	
	962.29		4.676E-01	8.003E-01	1.225E+00	1.046E-01	0.382	
	966.15		1.176E+00	3.859E-01	6.854E-01	5.826E-02	1.716	
	1177.93		-5.649E-01	4.659E-01	6.578E-01	3.743E-02	-0.859	
	1271.85		-1.672E-01	9.712E-01	1.552E+00	1.036E-01	-0.108	
HO-166M	80.57		-3.285E-01	3.336E-01	5.325E-01	4.897E-02	-0.617	
	184.41	+	1.767E-01	7.909E-02	8.228E-02	4.300E-03	2.148	

---- 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		3.090E-02	1.021E-01	1.749E-01	1.019E-02	0.177
		410.95		2.062E-01	3.072E-01	5.311E-01	3.088E-02	0.388
		711.68	*	-1.088E-02	8.033E-02	1.279E-01	7.484E-03	-0.085
		752.31		-1.230E-01	3.654E-01	5.676E-01	3.688E-02	-0.217
		810.29		3.090E-02	7.147E-02	1.245E-01	9.311E-03	0.248
		51.35		1.281E+01	5.182E+01	8.802E+01	7.651E+00	0.146
		52.39		2.050E+01	2.619E+01	4.532E+01	3.981E+00	0.452
		59.40		1.362E+01	4.164E+01	6.265E+01	5.443E+00	0.217
		66.72	*	2.926E+00	4.243E+01	6.240E+01	5.426E+00	0.047
		88.36		5.601E-01	2.920E-01	4.721E-01	4.576E-02	1.186
LU-176	+	201.83		-2.038E-03	3.513E-02	5.661E-02	3.035E-03	-0.036
		306.84	*	-5.299E-03	3.091E-02	5.083E-02	2.995E-03	-0.104
		401.10		-1.079E+01	8.261E+00	1.242E+01	7.194E-01	-0.869
LU-177		112.95		3.308E+00	2.026E+00	3.544E+00	2.324E-01	0.933
LU-177M	+	208.36	*	1.244E+00	1.768E+00	2.371E+00	1.283E-01	0.525
		52.97		1.404E+00	2.668E+00	4.576E+00	4.033E-01	0.307
HF-181		54.07		5.510E-01	1.395E+00	2.379E+00	2.102E-01	0.232
		61.30		2.571E+00	2.325E+00	3.620E+00	3.144E-01	0.710
		121.62		1.909E-01	4.563E-01	7.642E-01	4.517E-02	0.250
		147.16		-4.706E-01	7.876E-01	1.252E+00	6.716E-02	-0.376
		171.86		1.117E-01	5.734E-01	9.412E-01	4.832E-02	0.119
		218.09		4.200E-01	1.063E+00	1.748E+00	9.581E-02	0.240
		268.79		4.798E-01	1.063E+00	1.739E+00	1.005E-01	0.276
		319.02		1.079E-01	3.055E-01	5.231E-01	3.089E-02	0.206
		367.43		-1.493E-01	1.100E+00	1.817E+00	1.064E-01	-0.082
		413.65	*	-2.618E-01	2.195E-01	3.324E-01	1.934E-02	-0.788
		56.28		-8.495E-01	1.483E+00	2.428E+00	2.138E-01	-0.350
		57.53		4.082E-03	8.179E-01	1.274E+00	1.117E-01	0.003
		65.20		-1.264E+00	1.472E+00	2.054E+00	1.785E-01	-0.615
		133.02		-4.435E-02	8.887E-02	1.236E-01	6.940E-03	-0.359
		136.25		9.219E-02	5.511E-01	9.099E-01	5.050E-02	0.101
		345.85		-1.673E-01	2.936E-01	3.798E-01	2.241E-02	-0.441
		482.03	*	2.209E-02	5.167E-02	8.788E-02	5.140E-03	0.251
W-181		56.28		-3.316E-01	5.794E-01	9.487E-01	8.353E-02	-0.349
		57.53		1.385E-03	3.199E-01	4.984E-01	4.367E-02	0.003
		65.20	*	-4.903E-01	5.713E-01	7.970E-01	6.924E-02	-0.615
TA-182		67.75		1.280E-01	1.556E-01	2.498E-01	2.175E-02	0.512
		100.10		-3.053E-02	2.069E-01	3.401E-01	2.662E-02	-0.090
		152.43		3.207E-01	4.056E-01	6.851E-01	3.621E-02	0.468
		222.10		-1.992E-01	4.274E-01	6.705E-01	3.695E-02	-0.297
		1001.68		1.307E+00	2.441E+00	4.259E+00	3.458E-01	0.307
RE-183		1121.28		5.702E-01	2.478E-01	4.343E-01	2.825E-02	1.313
		1189.05		1.511E-01	3.940E-01	6.701E-01	3.888E-02	0.226
		1221.42	*	-2.903E-02	2.548E-01	4.117E-01	2.527E-02	-0.071
		1230.97		-2.263E-01	6.670E-01	8.828E-01	5.507E-02	-0.256
		57.98		7.841E-02	3.330E-01	4.987E-01	4.362E-02	0.157
		59.32		6.050E-02	1.719E-01	2.590E-01	2.251E-02	0.234
		67.20		2.083E-01	2.972E-01	4.507E-01	3.921E-02	0.462
		162.32	*	-4.174E-02	1.346E-01	2.162E-01	1.112E-02	-0.193

---- Non-Identified Nuclides ----

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RE-184	+	208.81		1.102E+00	1.566E+00	2.100E+00	1.137E-01	0.525
		291.72		-3.735E-01	1.261E+00	1.806E+00	1.058E-01	-0.207
		57.98		2.887E-01	1.226E+00	1.836E+00	1.606E-01	0.157
		59.32		2.226E-01	6.325E-01	9.529E-01	8.281E-02	0.234
		67.20		7.665E-01	1.094E+00	1.659E+00	1.443E-01	0.462
		161.27		-9.105E-02	4.362E-01	7.039E-01	3.631E-02	-0.129
		216.55		1.141E-01	3.336E-01	5.470E-01	2.992E-02	0.209
		252.85	*	-1.475E-01	2.835E-01	4.390E-01	2.503E-02	-0.336
		318.01		2.890E-01	5.328E-01	9.219E-01	5.443E-02	0.313
		792.07		9.871E-01	1.330E+00	2.109E+00	1.511E-01	0.468
OS-185		903.28		-3.164E-02	1.386E+00	1.980E+00	1.795E-01	-0.016
		920.93		6.903E-02	4.908E-01	8.294E-01	7.397E-02	0.083
		59.72		4.094E-02	4.639E-01	6.886E-01	5.980E-02	0.059
		61.14		2.257E-01	2.542E-01	3.923E-01	3.407E-02	0.576
		69.30		5.014E-02	4.372E-01	6.468E-01	5.647E-02	0.078
		592.07		-1.290E+00	3.143E+00	4.927E+00	2.727E-01	-0.262
		646.12	*	-7.230E-03	5.394E-02	8.632E-02	4.505E-03	-0.084
		717.42		1.475E+00	1.188E+00	2.120E+00	1.260E-01	0.696
		874.81		-3.312E-02	7.114E-01	1.181E+00	1.022E-01	-0.028
		880.27		7.116E-03	8.561E-01	1.428E+00	1.252E-01	0.005
RE-188		155.03	*	-7.377E-02	2.135E-01	3.430E-01	1.800E-02	-0.215
		477.96		2.966E+00	3.767E+00	6.569E+00	3.844E-01	0.451
		633.10		-5.081E-01	3.246E+00	5.183E+00	2.749E-01	-0.098
W-188	+	63.58		1.441E+02	9.076E+01	1.234E+02	1.071E+01	1.168
IR-192		227.08		8.563E+00	1.597E+01	2.641E+01	1.465E+00	0.324
	*	290.67		-6.124E+00	9.839E+00	1.369E+01	8.015E-01	-0.447
	+	295.96		1.158E+00	1.895E-01	3.440E-01	2.050E-02	3.365
AU-195		308.46		2.400E-02	1.205E-01	2.046E-01	1.219E-02	0.117
		316.51	*	-1.037E-02	4.245E-02	7.021E-02	4.165E-03	-0.148
		468.07		1.259E-02	8.261E-02	1.256E-01	8.462E-03	0.100
		604.41		1.682E-01	6.542E-01	9.470E-01	1.059E-01	0.178
		612.46		6.350E-01	1.033E+00	1.551E+00	1.131E-01	0.409
		65.12		-2.141E-01	2.652E-01	3.713E-01	3.225E-02	-0.577
		66.83		2.020E-02	1.405E-01	2.074E-01	1.804E-02	0.097
TL-200	+	75.70		1.480E+00	3.424E-01	6.236E-01	5.569E-02	2.373
	*	98.88		-1.512E-01	2.759E-01	4.293E-01	3.426E-02	-0.352
	+	129.76		7.503E+00	4.345E+00	5.882E+00	3.343E-01	1.276
TL-201		367.94	*	-4.478E-06	4.345E+00	Half-Life	too short	
		579.30		7.150E-03	4.345E+00	Half-Life	too short	
		828.27		2.144E-03	4.345E+00	Half-Life	too short	
		1205.75		-1.305E-03	4.345E+00	Half-Life	too short	
TL-202		68.90		2.761E+00	7.238E+00	1.085E+01	9.466E-01	0.254
		70.82		-1.143E+00	4.109E+00	5.950E+00	5.214E-01	-0.192
		80.30		-5.582E+00	6.430E+00	1.032E+01	9.476E-01	-0.541
		135.34		3.213E+00	3.103E+01	5.111E+01	2.846E+00	0.063
TL-202	*	167.43		2.860E-01	8.441E+00	1.376E+01	7.023E-01	0.021
		68.90		2.416E-01	6.333E-01	9.495E-01	8.283E-02	0.254
		70.82		-9.971E-02	3.586E-01	5.192E-01	4.550E-02	-0.192
		80.30		-4.873E-01	5.613E-01	9.012E-01	8.271E-02	-0.541

---- 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	*		-1.585E-02	8.663E-02	1.413E-01	8.268E-03	-0.112
	70.83			-4.270E-01	1.544E+00	2.235E+00	3.061E-01	-0.191
	72.87			2.444E+00	9.821E-01	1.521E+00	2.029E-01	1.607
	82.60			8.197E-02	2.117E+00	2.250E+00	3.196E-01	0.036
BI-207	279.20	*		2.227E-02	4.870E-02	8.402E-02	5.190E-03	0.265
	72.80			6.513E-01	2.755E-01	4.391E-01	3.872E-02	1.483
	74.97		+	8.203E-01	1.898E-01	3.153E-01	2.806E-02	2.601
	84.90			5.177E-01	3.537E-01	4.223E-01	4.014E-02	1.226
	569.67			3.709E-02	3.592E-02	6.374E-02	3.591E-03	0.582
	1063.62	*		6.247E-02	6.787E-02	1.220E-01	8.962E-03	0.512
TL-207	1770.23			-2.254E+00	9.186E-01	9.107E-01	5.638E-02	-2.475
	81.07			-5.478E-01	3.139E-01	4.114E-01	3.796E-02	-1.332
	83.78			3.962E-02	2.407E-01	2.608E-01	2.456E-02	0.152
	94.90			5.899E-01	3.195E-01	5.042E-01	4.302E-02	1.170
	122.32			-3.136E-02	2.282E+00	3.472E+00	2.349E-01	-0.009
	144.24			4.050E-02	8.585E-01	1.383E+00	9.579E-02	0.029
	154.21			-1.693E-01	4.894E-01	7.861E-01	5.167E-02	-0.215
	269.46		+	2.204E-01	3.511E-01	4.102E-01	2.479E-02	0.537
	323.87	*		-8.288E-01	8.318E-01	1.295E+00	2.143E-01	-0.640
	338.28		+	6.705E+00	2.099E+00	2.911E+00	3.083E-01	2.304
PO-209	445.03			5.091E-01	2.792E+00	4.675E+00	4.815E-01	0.109
	260.50			5.130E+00	1.256E+01	2.056E+01	1.181E+00	0.249
	262.80			5.841E+00	3.894E+01	5.801E+01	3.337E+00	0.101
	896.60	*		4.255E-01	8.575E+00	1.436E+01	1.303E+00	0.030
BI-210	46.50	*		4.435E+00	6.917E+00	1.164E+01	9.064E-01	0.381
PB-210	46.50	*		4.435E+00	6.917E+00	1.164E+01	9.064E-01	0.381
PO-210	46.50	*		4.435E+00	6.915E+00	1.164E+01	7.810E-01	0.381
PB-211	404.84	*		-9.582E-01	1.298E+00	1.804E+00	1.125E+00	-0.531
BI-212	427.08			1.287E+00	2.572E+00	4.205E+00	2.599E+00	0.306
	831.96			2.620E-01	1.469E+00	2.482E+00	1.553E+00	0.106
	727.18	*	+	9.179E-01	5.965E-01	7.384E-01	5.861E-02	1.243
	785.46			7.940E-01	2.026E+00	3.521E+00	2.483E-01	0.225
PO-215	1620.62			1.846E+00	1.438E+00	2.903E+00	1.969E-01	0.636
	81.07			-5.478E-01	3.139E-01	4.114E-01	3.796E-02	-1.332
	83.78			3.962E-02	2.407E-01	2.608E-01	2.456E-02	0.152
	94.90			5.899E-01	3.195E-01	5.042E-01	4.302E-02	1.170
	122.32			-3.136E-02	2.282E+00	3.472E+00	2.349E-01	-0.009
	144.24			4.050E-02	8.585E-01	1.383E+00	9.579E-02	0.029
	154.21			-1.693E-01	4.894E-01	7.861E-01	5.167E-02	-0.215
	269.46		+	2.204E-01	3.511E-01	4.102E-01	2.479E-02	0.537
	323.87	*		-8.288E-01	8.318E-01	1.295E+00	2.143E-01	-0.640
	338.28		+	6.705E+00	2.099E+00	2.911E+00	3.083E-01	2.304
RN-219	445.03			5.091E-01	2.792E+00	4.675E+00	4.815E-01	0.109
	271.23		+	2.828E-01	4.508E-01	5.338E-01	4.322E-02	0.530
	401.81	*		-1.230E-01	4.897E-01	7.982E-01	1.086E-01	-0.154
	549.76	*		-5.099E+00	2.942E+01	4.731E+01	2.700E+00	-0.108
RA-223	81.07			-5.478E-01	3.139E-01	4.114E-01	3.796E-02	-1.332
	83.78			3.962E-02	2.407E-01	2.608E-01	2.456E-02	0.152
	94.90			5.899E-01	3.195E-01	5.042E-01	4.302E-02	1.170

---- 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		-3.136E-02	2.282E+00	3.472E+00	2.349E-01	-0.009
		144.24		4.050E-02	8.585E-01	1.383E+00	9.579E-02	0.029
		154.21		-1.693E-01	4.894E-01	7.861E-01	5.167E-02	-0.215
	+	269.46		2.204E-01	3.511E-01	4.102E-01	2.479E-02	0.537
		323.87	*	-8.288E-01	8.318E-01	1.295E+00	2.143E-01	-0.640
	+	338.28		6.705E+00	2.099E+00	2.911E+00	3.083E-01	2.304
		445.03		5.091E-01	2.792E+00	4.675E+00	4.815E-01	0.109
		79.80		-8.889E-01	2.070E+00	3.378E+00	7.337E-01	-0.263
		236.00		2.246E+00	4.632E-01	7.213E-01	7.462E-02	3.114
		256.20	*	2.743E-01	4.592E-01	7.593E-01	1.057E-01	0.361
		286.10		-4.493E-01	1.876E+00	3.119E+00	3.612E-01	-0.144
	+	299.80		3.695E+00	1.847E+00	3.157E+00	5.149E-01	1.171
TH-227		304.40		-1.296E+00	2.632E+00	3.675E+00	6.368E-01	-0.353
		334.20		-9.796E-01	2.984E+00	4.207E+00	7.728E-01	-0.233
		79.80		-8.889E-01	2.071E+00	3.378E+00	7.429E-01	-0.263
	+	94.00		9.697E+00	4.136E+00	4.868E+00	1.061E+00	1.992
		236.00		2.246E+00	4.481E-01	7.213E-01	6.443E-02	3.114
		256.20	*	2.743E-01	4.599E-01	7.593E-01	1.281E-01	0.361
		286.10		-4.493E-01	1.928E+00	3.119E+00	3.124E+00	-0.144
	+	299.80		3.695E+00	1.847E+00	3.157E+00	5.149E-01	1.171
		304.40		-1.296E+00	2.632E+00	3.675E+00	6.368E-01	-0.353
		334.20		-9.796E-01	2.984E+00	4.207E+00	7.728E-01	-0.233
		85.43		5.821E-01	3.679E-01	4.390E-01	4.192E-02	1.326
	+	88.47		3.224E-01	1.681E-01	2.691E-01	2.602E-02	1.198
TH-229		100.00		-2.866E-02	2.148E-01	3.532E-01	2.769E-02	-0.081
		193.63	*	-4.926E-02	6.021E-01	9.705E-01	5.141E-02	-0.051
		210.97		8.797E-01	1.090E+00	1.617E+00	8.778E-02	0.544
		283.67	*	8.150E-01	1.878E+00	3.230E+00	4.456E-01	0.252
		301.29		1.170E+00	7.759E-01	1.250E+00	1.312E-01	0.936
	TH-231	81.07		-5.478E-01	3.139E-01	4.114E-01	3.796E-02	-1.332
		83.78		3.962E-02	2.407E-01	2.608E-01	2.456E-02	0.152
		94.90		5.899E-01	3.195E-01	5.042E-01	4.302E-02	1.170
		122.32		-3.136E-02	2.282E+00	3.472E+00	2.349E-01	-0.009
		144.24		4.050E-02	8.585E-01	1.383E+00	9.579E-02	0.029
		154.21		-1.693E-01	4.894E-01	7.861E-01	5.167E-02	-0.215
	+	269.46		2.204E-01	3.511E-01	4.102E-01	2.479E-02	0.537
U-231		323.87	*	-8.288E-01	8.318E-01	1.295E+00	2.143E-01	-0.640
	+	338.28		6.705E+00	2.099E+00	2.911E+00	3.083E-01	2.304
		445.03		5.091E-01	2.792E+00	4.675E+00	4.815E-01	0.109
		84.21		2.960E+00	1.060E+01	1.160E+01	1.096E+00	0.255
	+	92.29		9.833E+00	3.704E+00	5.246E+00	4.696E-01	1.874
		95.87	*	-1.299E-01	1.482E+00	2.146E+00	1.800E-01	-0.061
		108.00		-2.657E+00	2.545E+00	3.997E+00	2.793E-01	-0.665
	PA-233	75.28		2.394E+01	6.318E+00	9.730E+00	1.509E+00	2.460
	+	86.59		4.623E+00	2.681E+00	3.794E+00	1.031E+00	1.219
	+	300.12		1.030E+00	5.060E-01	8.827E-01	1.189E-01	1.167
		311.98	*	-2.999E-02	7.831E-02	1.285E-01	8.035E-03	-0.233
		340.50		9.986E-01	8.927E-01	1.367E+00	3.144E-01	0.730
		398.62		9.138E-01	2.498E+00	4.235E+00	1.095E+00	0.216

---- 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		9.102E-01	1.926E+00	3.287E+00	6.770E-01	0.277
		63.00		4.172E+00	2.682E+00	3.727E+00	5.791E-01	1.119
		94.67		6.370E-01	2.419E-01	3.797E-01	4.695E-02	1.678
		98.44		-2.265E-02	1.172E-01	1.769E-01	9.851E-02	-0.128
		99.86		-6.233E-02	5.444E-01	8.961E-01	7.040E-02	-0.070
		111.00		1.049E-01	2.247E-01	3.775E-01	4.082E-02	0.278
		131.20		8.958E-02	1.367E-01	2.047E-01	1.157E-02	0.438
		152.70		2.643E-01	3.941E-01	6.591E-01	1.030E-01	0.401
	+	186.00		6.363E+00	3.428E+00	3.049E+00	9.284E-01	2.087
		226.40		4.261E-01	5.016E-01	8.392E-01	9.594E-02	0.508
		227.20		2.920E-01	5.389E-01	8.913E-01	4.943E-02	0.328
		248.90		-1.375E-01	1.043E+00	1.597E+00	4.27E-01	-0.086
	+	293.70		7.276E+00	1.614E+00	2.144E+00	3.453E-01	3.394
		369.80		7.492E-01	1.058E+00	1.824E+00	3.800E-01	0.411
		568.70		9.846E-01	1.175E+00	2.054E+00	1.158E-01	0.479
		569.50		3.006E-01	3.161E-01	5.580E-01	3.144E-02	0.539
		574.00		-3.607E-01	1.920E+00	2.893E+00	1.625E-01	-0.125
		699.00		2.796E-01	9.496E-01	1.570E+00	2.816E-01	0.178
		706.10		-1.085E+00	1.440E+00	2.023E+00	8.928E-01	-0.536
		733.00		5.186E-01	4.383E-01	7.090E-01	1.515E-01	0.732
		742.81		-2.129E-01	1.619E+00	2.555E+00	1.711E+00	-0.083
		796.30		9.483E-01	1.348E+00	2.082E+00	5.547E-01	0.456
		805.60		-1.113E+00	1.289E+00	1.907E+00	5.783E-01	-0.584
		819.60		-1.495E+00	1.479E+00	2.003E+00	7.573E-01	-0.747
		826.30		9.628E-01	1.060E+00	1.776E+00	7.916E-01	0.542
		831.60		-1.897E-01	7.665E-01	1.249E+00	3.700E-01	-0.152
		876.40		-7.927E-01	1.281E+00	1.503E+00	1.546E+00	-0.527
		880.51		-2.351E-02	3.141E-01	5.193E-01	4.553E-02	-0.045
		883.24		1.590E-03	3.079E-01	5.135E-01	3.453E-01	0.003
		899.00		-1.258E-01	1.001E+00	1.642E+00	7.196E-01	-0.077
		925.00		-8.336E-01	1.373E+00	2.122E+00	1.885E-01	-0.393
		926.50		8.831E-02	2.069E-01	3.576E-01	9.071E-02	0.247
		946.00	*	-2.379E-01	3.603E-01	5.491E-01	1.032E-01	-0.433
		949.00		8.600E-02	5.136E-01	8.681E-01	7.524E-02	0.099
		980.50		-5.911E-02	8.892E-01	1.462E+00	1.221E-01	-0.040
		1394.10		-1.597E-01	1.408E+00	2.231E+00	1.449E+00	-0.072
PA-234M		766.42		2.477E+01	2.065E+01	2.704E+01	1.364E+01	0.916
		1001.03	*	1.765E+00	5.526E+00	9.446E+00	9.013E-01	0.187
U-235		89.95		2.454E+00	2.163E+00	2.364E+00	7.348E-01	1.038
	+	93.35		3.017E+00	1.392E+00	1.583E+00	4.445E-01	1.905
		105.00		1.082E+00	1.312E+00	2.178E+00	6.421E-01	0.497
		143.76	*	9.840E-03	2.626E-01	4.229E-01	6.839E-02	0.023
		163.35		-1.571E-01	5.687E-01	9.131E-01	1.623E-01	-0.172
	+	185.71		2.357E-01	1.054E-01	1.127E-01	5.899E-03	2.092
		205.31		4.802E-01	7.170E-01	1.049E+00	1.872E-01	0.458
NP-236		94.67		4.862E-01	1.785E-01	2.883E-01	2.470E-02	1.686
		98.44		-1.708E-02	8.809E-02	1.337E-01	1.074E-02	-0.128
		111.00		7.936E-02	1.698E-01	2.855E-01	1.919E-02	0.278
		160.31	*	-3.083E-02	9.798E-02	1.574E-01	8.139E-03	-0.196

---- 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		-8.087E-02	1.841E-01	2.986E-01	2.357E-02	-0.271
		117.00	*	-6.574E-02	2.310E-01	3.756E-01	2.345E-02	-0.175
	+	209.75		8.681E-01	1.233E+00	1.673E+00	9.070E-02	0.519
		228.18		1.229E-01	2.885E-01	4.741E-01	2.632E-02	0.259
		277.60		3.132E-02	2.211E-01	3.558E-01	2.068E-02	0.088
		334.30		-5.453E-01	1.689E+00	2.386E+00	1.410E-01	-0.229
AM-241		59.54	*	7.738E-02	2.412E-01	3.627E-01	3.374E-02	0.213
CM-243		99.55		-8.322E-02	1.895E-01	3.073E-01	2.426E-02	-0.271
		103.76	*	1.400E-01	1.154E-01	1.998E-01	1.481E-02	0.700
		117.00		-6.764E-02	2.377E-01	3.865E-01	2.412E-02	-0.175
	+	209.75		8.558E-01	1.216E+00	1.650E+00	8.941E-02	0.519
		228.18		1.241E-01	2.915E-01	4.790E-01	2.660E-02	0.259
		277.60		3.158E-02	2.229E-01	3.587E-01	2.085E-02	0.088
AM-246		798.80		-5.354E-02	1.861E-01	2.579E-01	1.877E-02	-0.208
		1036.00		-3.635E-01	3.761E-01	5.503E-01	4.242E-02	-0.661
		1062.04		3.565E-01	2.993E-01	5.495E-01	4.049E-02	0.649
		1078.86	*	3.513E-02	1.831E-01	3.077E-01	2.196E-02	0.114
CM-247		278.00		1.571E-01	8.788E-01	1.496E+00	8.699E-02	0.105
		287.40		5.184E-01	1.517E+00	2.539E+00	1.485E-01	0.204
CF-249		402.60	*	2.504E-03	4.379E-02	7.300E-02	4.231E-03	0.034
		252.85		-5.530E-01	1.063E+00	1.646E+00	9.387E-02	-0.336
		333.44		-1.327E-03	2.173E-01	3.163E-01	1.869E-02	-0.004
CF-251		387.95	*	-1.795E-02	4.711E-02	7.625E-02	4.412E-03	-0.235
		176.60	*	-4.006E-02	1.533E-01	2.459E-01	1.271E-02	-0.163
		227.00		2.135E-01	4.816E-01	7.926E-01	4.394E-02	0.269
		285.00		3.753E-02	2.104E+00	3.549E+00	2.073E-01	0.011

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]G244924004      *
* Acquisition date   : 27-JAN-2010 18:39:29 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 02:00:01.48             Half life ratio : 8.000        *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924004             Analyst initials: MXR1          *
* Batch Number       : 942723                 Sample Quantity : 1.0539E+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	1.981E+01	2.228E+00	5.138E-01	0.000E+00
CD-109	2.403E+00	1.228E+00	1.588E+00	0.000E+00
SN-126	2.361E-01	1.206E-01	1.826E-01	0.000E+00
BA-137M	9.897E-02	6.494E-02	6.822E-02	0.000E+00
CS-137	1.046E-01	6.865E-02	7.211E-02	0.000E+00
TL-208	5.445E-01	9.358E-02	7.763E-02	0.000E+00
BI-211	3.755E+00	5.680E-01	3.791E-01	0.000E+00
PB-212	1.499E+00	1.639E-01	1.071E-01	0.000E+00
PO-212	1.499E+00	1.639E-01	1.071E-01	0.000E+00
BI-214	1.308E+00	2.117E-01	1.450E-01	0.000E+00
PB-214	1.306E+00	2.086E-01	1.374E-01	0.000E+00
PO-214	1.306E+00	2.086E-01	1.374E-01	0.000E+00
PO-216	1.499E+00	1.639E-01	1.071E-01	0.000E+00
PO-218	1.306E+00	2.086E-01	1.374E-01	0.000E+00
RA-224	4.407E+00	1.584E+00	1.219E+00	0.000E+00
RA-226	1.308E+00	2.117E-01	1.450E-01	0.000E+00
AC-228	1.465E+00	3.839E-01	2.591E-01	0.000E+00
RA-228	1.465E+00	3.839E-01	2.591E-01	0.000E+00
TH-228	1.522E+00	1.664E-01	1.087E-01	0.000E+00
TH-230	1.308E+00	2.117E-01	1.450E-01	0.000E+00
TH-232	1.465E+00	3.839E-01	2.591E-01	0.000E+00
TH-234	3.579E+00	2.278E+00	2.921E+00	0.000E+00
U-234	1.308E+00	2.117E-01	1.450E-01	0.000E+00
NP-237	6.934E-01	3.810E-01	5.462E-01	0.000E+00
U-238	3.579E+00	2.278E+00	2.921E+00	0.000E+00
AM-243	4.570E-01	1.036E-01	1.205E-01	0.000E+00
ANH-511	9.070E-02	8.959E-02	5.943E-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	3.609E-01	3.826E-01	6.862E-01	0.000E+00	NOT IDENT.
NA-22	-4.064E-02	6.021E-02	9.185E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.035E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.319E-03	3.851E-02	6.226E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.695E-02	1.043E-01	0.000E+00	FAIL ABUN
SC-46	1.568E-02	4.380E-02	7.690E-02	0.000E+00	FAIL ABUN
V-48	1.252E-04	8.039E-02	1.352E-01	0.000E+00	NOT IDENT.
CR-51	-2.366E-01	4.364E-01	7.230E-01	0.000E+00	NOT IDENT.
MN-52	-1.766E-01	3.036E-01	4.486E-01	0.000E+00	NOT IDENT.
MN-54	2.141E-02	4.366E-02	7.739E-02	0.000E+00	NOT IDENT.
CO-56	-1.062E-02	4.254E-02	7.028E-02	0.000E+00	NOT IDENT.
CO-57	4.230E-03	3.105E-02	5.096E-02	0.000E+00	NOT IDENT.
CO-58	1.095E-02	4.694E-02	8.161E-02	0.000E+00	NOT IDENT.
FE-59	4.402E-02	1.101E-01	1.915E-01	0.000E+00	NOT IDENT.
CO-60	-9.633E-03	4.933E-02	7.907E-02	0.000E+00	NOT IDENT.
ZN-65	8.866E-02	1.250E-01	1.985E-01	0.000E+00	NOT IDENT.
GE-68	-7.182E-01	1.535E+00	2.433E+00	0.000E+00	NOT IDENT.
AS-73	5.345E-01	1.344E+00	2.363E+00	0.000E+00	NOT IDENT.
AS-74	5.016E-02	1.104E-01	1.900E-01	0.000E+00	NOT IDENT.
SE-75	5.837E-04	6.634E-02	9.453E-02	0.000E+00	NOT IDENT.
BR-77	-7.202E+00	1.327E+01	2.116E+01	0.000E+00	FAIL ABUN
SR-82	-2.661E-01	4.595E-01	6.766E-01	0.000E+00	NOT IDENT.
RB-83	-5.220E-02	8.330E-02	1.318E-01	0.000E+00	NOT IDENT.
RB-84	-9.021E-03	7.659E-02	1.280E-01	0.000E+00	NOT IDENT.
KR-85	1.519E+01	1.019E+01	1.681E+01	0.000E+00	NOT IDENT.
SR-85	7.803E-02	5.233E-02	8.632E-02	0.000E+00	NOT IDENT.
RB-86	-3.187E-02	9.654E-01	1.608E+00	0.000E+00	NOT IDENT.
Y-88	3.154E-02	3.690E-02	7.304E-02	0.000E+00	NOT IDENT.
ZR-88	-1.761E-02	3.761E-02	6.180E-02	0.000E+00	NOT IDENT.
Y-91	-8.445E+00	2.250E+01	3.581E+01	0.000E+00	NOT IDENT.
NB-94	1.212E-02	4.283E-02	7.201E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	5.922E-02	1.026E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.956E-01	3.228E-01	0.000E+00	NOT IDENT.
ZR-95	2.164E-02	8.867E-02	1.427E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.716E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.252E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.856E+00	1.299E+01	2.177E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.529E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.382E-03	3.982E-02	6.411E-02	0.000E+00	FAIL ABUN
RH-102	3.216E-02	3.364E-02	6.054E-02	0.000E+00	FAIL ABUN
RU-103	-5.901E-04	4.671E-02	7.813E-02	0.000E+00	NOT IDENT.
RH-106	-1.084E-01	3.463E-01	5.537E-01	0.000E+00	FAIL ABUN
RU-106	-1.084E-01	3.461E-01	5.537E-01	0.000E+00	FAIL ABUN
AG-108M	-1.183E-03	3.889E-02	6.546E-02	0.000E+00	NOT IDENT.
AG-110M	-9.589E-03	5.200E-02	7.219E-02	0.000E+00	NOT IDENT.
IN-111	-1.613E-01	1.557E+00	2.174E+00	0.000E+00	NOT IDENT.
IN-113M	-4.071E-02	5.379E-02	8.650E-02	0.000E+00	NOT IDENT.
SN-113	-4.071E-02	5.379E-02	8.650E-02	0.000E+00	NOT IDENT.
IN-114M	4.119E-02	2.413E-01	3.539E-01	0.000E+00	NOT IDENT.
CD-115	5.855E+00	1.381E+01	2.383E+01	0.000E+00	NOT IDENT.
SN-117M	4.101E-02	6.709E-02	1.151E-01	0.000E+00	NOT IDENT.
SB-122	-6.626E-01	2.452E+00	3.977E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.534E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.007E-02	3.444E-02	5.899E-02	0.000E+00	NOT IDENT.
I-124	7.459E-01	8.946E-01	1.410E+00	0.000E+00	NOT IDENT.
SB-124	5.635E-03	7.479E-02	1.281E-01	0.000E+00	FAIL ABUN
SB-125	9.100E-02	1.072E-01	1.916E-01	0.000E+00	FAIL ABUN
TE-125M	-1.612E+01	1.120E+01	1.766E+01	0.000E+00	NOT IDENT.
I-126	2.230E-01	2.187E-01	3.559E-01	0.000E+00	NOT IDENT.
SB-126	-1.808E-02	2.137E-01	2.982E-01	0.000E+00	NOT IDENT.
SB-127	-1.547E+00	1.635E+00	2.408E+00	0.000E+00	NOT IDENT.
XE-127	-3.758E-02	5.960E-02	9.183E-02	0.000E+00	NOT IDENT.
I-131	1.267E-02	1.377E-01	2.357E-01	0.000E+00	NOT IDENT.
TE-132	4.027E-01	8.965E-01	1.506E+00	0.000E+00	NOT IDENT.
BA-133	-2.996E-02	5.824E-02	8.202E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	8.464E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.362E-02	1.075E-01	0.000E+00	FAIL ABUN
CS-135	8.391E-02	2.356E-01	3.441E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.873E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.697E-03	1.231E-01	2.058E-01	0.000E+00	FAIL ABUN
CE-139	-4.752E-03	3.519E-02	5.832E-02	0.000E+00	NOT IDENT.
BA-140	2.198E-02	3.144E-01	5.270E-01	0.000E+00	NOT IDENT.
LA-140	-5.773E-02	1.077E-01	1.662E-01	0.000E+00	NOT IDENT.
CE-141	3.034E-02	7.469E-02	1.274E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.561E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-9.468E-02	2.542E-01	3.869E-01	0.000E+00	NOT IDENT.
PM-144	-2.085E-02	4.601E-02	7.254E-02	0.000E+00	NOT IDENT.
PR-144	-1.413E+00	3.118E+00	4.916E+00	0.000E+00	NOT IDENT.

PM-146	2.238E-02	5.010E-02	8.710E-02	0.000E+00	NOT IDENT.
ND-147	-4.863E-01	7.066E-01	1.107E+00	0.000E+00	NOT IDENT.
PM-149	6.989E+00	1.142E+02	1.973E+02	0.000E+00	NOT IDENT.
EU-152	1.190E-02	1.524E-01	1.999E-01	0.000E+00	NOT IDENT.
GD-153	8.704E-02	9.905E-02	1.555E-01	0.000E+00	NOT IDENT.
EU-154	-1.151E-01	1.682E-01	2.559E-01	0.000E+00	NOT IDENT.
EU-155	7.994E-02	1.276E-01	2.219E-01	0.000E+00	FAIL ABUN
TB-160	7.742E-02	1.516E-01	2.706E-01	0.000E+00	FAIL ABUN
HO-166M	-1.088E-02	7.873E-02	1.274E-01	0.000E+00	FAIL ABUN
TM-171	2.926E+00	4.158E+01	6.295E+01	0.000E+00	NOT IDENT.
LU-176	-5.299E-03	3.029E-02	5.088E-02	0.000E+00	FAIL ABUN
LU-177	1.244E+00	1.732E+00	2.378E+00	0.000E+00	FAIL ABUN
LU-177M	-2.618E-01	2.151E-01	3.322E-01	0.000E+00	NOT IDENT.
HF-181	2.209E-02	5.064E-02	8.776E-02	0.000E+00	NOT IDENT.
W-181	-4.903E-01	5.598E-01	8.041E-01	0.000E+00	NOT IDENT.
TA-182	-2.903E-02	2.497E-01	4.092E-01	0.000E+00	NOT IDENT.
RE-183	-4.174E-02	1.320E-01	2.171E-01	0.000E+00	FAIL ABUN
RE-184	-1.475E-01	2.778E-01	4.399E-01	0.000E+00	NOT IDENT.
OS-185	-7.230E-03	5.286E-02	8.608E-02	0.000E+00	NOT IDENT.
RE-188	-7.377E-02	2.093E-01	3.445E-01	0.000E+00	NOT IDENT.
W-188	-6.124E+00	9.642E+00	1.370E+01	0.000E+00	FAIL ABUN
IR-192	-1.037E-02	4.160E-02	7.027E-02	0.000E+00	FAIL ABUN
AU-195	-1.512E-01	2.704E-01	4.322E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.038E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.860E-01	8.272E+00	1.382E+01	0.000E+00	NOT IDENT.
TL-202	-1.585E-02	8.490E-02	1.412E-01	0.000E+00	NOT IDENT.
HG-203	2.227E-02	4.772E-02	8.415E-02	0.000E+00	NOT IDENT.
BI-207	6.247E-02	6.651E-02	1.213E-01	0.000E+00	FAIL ABUN
TL-207	-8.288E-01	8.152E-01	1.296E+00	0.000E+00	FAIL ABUN
PO-209	4.255E-01	8.404E+00	1.429E+01	0.000E+00	NOT IDENT.
BI-210	4.435E+00	6.779E+00	1.176E+01	0.000E+00	NOT IDENT.
PB-210	4.435E+00	6.779E+00	1.176E+01	0.000E+00	NOT IDENT.
PO-210	4.435E+00	6.777E+00	1.176E+01	0.000E+00	NOT IDENT.
PB-211	-9.582E-01	1.272E+00	1.803E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.845E-01	7.359E-01	0.000E+00	FAIL ABUN
PO-215	-8.288E-01	8.152E-01	1.296E+00	0.000E+00	FAIL ABUN
RN-219	-1.230E-01	4.799E-01	7.980E-01	0.000E+00	FAIL ABUN
RN-220	-5.099E+00	2.883E+01	4.722E+01	0.000E+00	NOT IDENT.
RA-223	-8.288E-01	8.152E-01	1.296E+00	0.000E+00	FAIL ABUN
AC-227	2.743E-01	4.500E-01	7.607E-01	0.000E+00	FAIL ABUN
TH-227	2.743E-01	4.507E-01	7.607E-01	0.000E+00	FAIL ABUN
TH-229	-4.926E-02	5.901E-01	9.738E-01	0.000E+00	FAIL ABUN
PA-231	8.150E-01	1.840E+00	3.235E+00	0.000E+00	NOT IDENT.
TH-231	-8.288E-01	8.152E-01	1.296E+00	0.000E+00	FAIL ABUN
U-231	-1.299E-01	1.453E+00	2.161E+00	0.000E+00	FAIL ABUN
PA-233	-2.999E-02	7.674E-02	1.286E-01	0.000E+00	FAIL ABUN
PA-234	-2.379E-01	3.531E-01	5.465E-01	0.000E+00	FAIL ABUN
PA-234M	1.765E+00	5.415E+00	9.398E+00	0.000E+00	NOT IDENT.
U-235	9.840E-03	2.573E-01	4.249E-01	0.000E+00	FAIL ABUN
NP-236	-3.083E-02	9.602E-02	1.580E-01	0.000E+00	NOT IDENT.
NP-239	-6.574E-02	2.264E-01	3.779E-01	0.000E+00	FAIL ABUN
AM-241	7.738E-02	2.363E-01	3.661E-01	0.000E+00	NOT IDENT.
CM-243	1.400E-01	1.131E-01	2.011E-01	0.000E+00	FAIL ABUN
AM-246	3.513E-02	1.795E-01	3.060E-01	0.000E+00	NOT IDENT.
CM-247	2.504E-03	4.292E-02	7.297E-02	0.000E+00	NOT IDENT.
CF-249	-1.795E-02	4.617E-02	7.623E-02	0.000E+00	NOT IDENT.
CF-251	-4.006E-02	1.503E-01	2.468E-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]G244924004.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 18:39:29
Sample ID          : G244924004 Sample quantity : 1.05392E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	592	10.67*	9.973E-01	1.981E+01	1.981E+01	11.48
CD-109	88.03	128	3.72*	5.215E+00	2.349E+00	2.403E+00	52.13
SN-126	64.28	97	9.60	2.534E+00	1.417E+00	1.417E+00	64.22
	86.94	128	8.90	5.215E+00	9.817E-01	9.817E-01	65.98
	87.57	128	37.00*	5.215E+00	2.361E-01	2.361E-01	52.13
BA-137M	661.65	51	89.98*	2.042E+00	9.888E-02	9.897E-02	66.95
CS-137	661.65	51	85.12*	2.042E+00	1.045E-01	1.046E-01	66.95
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	65	21.60	2.546E+00	4.199E-01	4.199E-01	101.13
	583.14	293	84.20*	2.278E+00	5.445E-01	5.445E-01	17.54
	860.37	-----	12.46	1.609E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	470	12.94*	3.442E+00	3.755E+00	3.755E+00	15.43
PB-212	74.81	342	10.70	4.035E+00	2.819E+00	2.819E+00	24.96
	77.11	500	18.00	4.294E+00	2.305E+00	2.305E+00	18.46
	87.30	128	8.00	5.215E+00	1.092E+00	1.092E+00	53.08
	238.63	871	44.60*	4.638E+00	1.499E+00	1.499E+00	11.15
	300.09	74	3.41	3.899E+00	1.994E+00	1.994E+00	47.96
PO-212	74.81	342	10.70	4.035E+00	2.819E+00	2.819E+00	24.96
	77.11	500	18.00	4.294E+00	2.305E+00	2.305E+00	18.46
	87.30	128	8.00	5.215E+00	1.092E+00	1.092E+00	53.08
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	871	44.60*	4.638E+00	1.499E+00	1.499E+00	11.15
	300.09	74	3.41	3.899E+00	1.994E+00	1.994E+00	47.96
BI-214	609.31	373	46.30*	2.194E+00	1.308E+00	1.308E+00	16.52
	1120.29	61	15.10	1.258E+00	1.144E+00	1.144E+00	67.79
	1764.49	79	15.80	8.743E-01	2.025E+00	2.025E+00	25.56
PB-214	74.81	342	6.21	4.035E+00	4.857E+00	4.857E+00	24.30
	77.11	500	10.50	4.294E+00	3.951E+00	3.951E+00	19.97
	87.30	128	4.67	5.215E+00	1.871E+00	1.871E+00	52.69
	241.98	225	7.49	4.595E+00	2.324E+00	2.324E+00	37.10
	295.21	323	19.20	3.949E+00	1.516E+00	1.516E+00	17.49

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	470	37.20*	3.442E+00	1.306E+00	1.306E+00	16.29
	74.81	342	6.21	4.035E+00	4.857E+00	4.857E+00	24.30
	77.11	500	10.50	4.294E+00	3.951E+00	3.951E+00	19.97
	87.30	128	4.67	5.215E+00	1.871E+00	1.871E+00	52.69
	241.98	225	7.49	4.595E+00	2.324E+00	2.324E+00	37.10
PO-216	295.21	323	19.20	3.949E+00	1.516E+00	1.516E+00	17.49
	351.92	470	37.20*	3.442E+00	1.306E+00	1.306E+00	16.29
	74.81	342	10.70	4.035E+00	2.819E+00	2.819E+00	24.96
	77.11	500	18.00	4.294E+00	2.305E+00	2.305E+00	18.46
	87.30	128	8.00	5.215E+00	1.092E+00	1.092E+00	53.08
PO-218	238.63	871	44.60*	4.638E+00	1.499E+00	1.499E+00	11.15
	300.09	74	3.41	3.899E+00	1.994E+00	1.994E+00	47.96
	74.81	342	6.21	4.035E+00	4.857E+00	4.857E+00	24.30
	77.11	500	10.50	4.294E+00	3.951E+00	3.951E+00	19.97
	87.30	128	4.67	5.215E+00	1.871E+00	1.871E+00	52.69
RA-224	241.98	225	7.49	4.595E+00	2.324E+00	2.324E+00	37.10
	295.21	323	19.20	3.949E+00	1.516E+00	1.516E+00	17.49
	351.92	470	37.20*	3.442E+00	1.306E+00	1.306E+00	16.29
	240.98	225	3.95*	4.595E+00	4.407E+00	4.407E+00	36.67
	609.31	373	46.30*	2.194E+00	1.308E+00	1.308E+00	16.52
AC-228	1120.29	61	15.10	1.258E+00	1.144E+00	1.144E+00	67.79
	1764.49	79	15.80	8.743E-01	2.025E+00	2.025E+00	25.56
	338.32	182	11.40	3.550E+00	1.606E+00	1.606E+00	50.31
	911.07	174	27.70*	1.527E+00	1.465E+00	1.465E+00	26.74
	969.11	126	16.60	1.441E+00	1.882E+00	1.882E+00	34.62
RA-228	338.32	182	11.40	3.550E+00	1.606E+00	1.606E+00	50.31
	911.07	174	27.70*	1.527E+00	1.465E+00	1.465E+00	26.74
	969.11	126	16.60	1.441E+00	1.882E+00	1.882E+00	34.62
	74.81	342	10.70	4.035E+00	2.819E+00	2.862E+00	23.17
	77.11	500	18.00	4.294E+00	2.305E+00	2.340E+00	18.46
TH-228	87.30	128	8.00	5.215E+00	1.092E+00	1.109E+00	52.13
	238.63	871	44.60*	4.638E+00	1.499E+00	1.522E+00	11.15
	300.09	74	3.41	3.899E+00	1.994E+00	2.024E+00	75.54
	609.31	373	46.30*	2.194E+00	1.308E+00	1.308E+00	16.52
	1120.29	61	15.10	1.258E+00	1.144E+00	1.144E+00	67.79
TH-230	1764.49	79	15.80	8.743E-01	2.025E+00	2.025E+00	25.56
	338.32	182	11.40	3.550E+00	1.606E+00	1.606E+00	30.04
	911.07	174	27.70*	1.527E+00	1.465E+00	1.465E+00	26.74
	969.11	126	16.60	1.441E+00	1.882E+00	1.882E+00	34.62
	63.29	97	3.80*	2.534E+00	3.579E+00	3.579E+00	64.94
TH-234	92.38	213	5.41	5.584E+00	2.509E+00	2.509E+00	40.89
	609.31	373	46.30*	2.194E+00	1.308E+00	1.308E+00	16.52
	1120.29	61	15.10	1.258E+00	1.144E+00	1.144E+00	67.79
	1764.49	79	15.80	8.743E-01	2.025E+00	2.025E+00	25.56
	86.50	128	12.60*	5.215E+00	6.934E-01	6.934E-01	56.06
NP-237	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	97	3.80*	2.534E+00	3.579E+00	3.579E+00	64.94
	92.38	213	5.41	5.584E+00	2.509E+00	2.509E+00	37.67
AM-243	74.67	342	66.00*	4.035E+00	4.570E-01	4.570E-01	23.14

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	128	0.34	5.215E+00	2.600E+01	2.600E+01	52.13
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	65	100.00*	2.546E+00	9.070E-02	9.070E-02	100.79

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 2
Number of lines tentatively identified by NID 28 93.33%

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	1.981E+01	1.981E+01	0.227E+01	11.48	
CD-109	464.00D	1.02	2.349E+00	2.403E+00	1.253E+00	52.13	
SN-126	1.00E+05Y	1.00	2.361E-01	2.361E-01	1.231E-01	52.13	
BA-137M	30.17Y	1.00	9.888E-02	9.897E-02	6.626E-02	66.95	
CS-137	30.17Y	1.00	1.045E-01	1.046E-01	0.700E-01	66.95	
TL-208	1.41E+10Y	1.00	5.445E-01	5.445E-01	0.955E-01	17.54	
BI-211	7.04E+08Y	1.00	3.755E+00	3.755E+00	0.580E+00	15.43	
PB-212	1.41E+10Y	1.00	1.499E+00	1.499E+00	0.167E+00	11.15	
PO-212	1.41E+10Y	1.00	1.499E+00	1.499E+00	0.167E+00	11.15	
BI-214	1600.00Y	1.00	1.308E+00	1.308E+00	0.216E+00	16.52	
PB-214	1600.00Y	1.00	1.306E+00	1.306E+00	0.213E+00	16.29	
PO-214	1600.00Y	1.00	1.306E+00	1.306E+00	0.213E+00	16.29	
PO-216	1.41E+10Y	1.00	1.499E+00	1.499E+00	0.167E+00	11.15	
PO-218	1600.00Y	1.00	1.306E+00	1.306E+00	0.213E+00	16.29	
RA-224	1.41E+10Y	1.00	4.407E+00	4.407E+00	1.616E+00	36.67	
RA-226	1600.00Y	1.00	1.308E+00	1.308E+00	0.216E+00	16.52	
AC-228	1.41E+10Y	1.00	1.465E+00	1.465E+00	0.392E+00	26.74	
RA-228	1.41E+10Y	1.00	1.465E+00	1.465E+00	0.392E+00	26.74	
TH-228	1.91Y	1.02	1.499E+00	1.522E+00	0.170E+00	11.15	
TH-230	4.47E+09Y	1.00	1.308E+00	1.308E+00	0.216E+00	16.52	
TH-232	1.41E+10Y	1.00	1.465E+00	1.465E+00	0.392E+00	26.74	
TH-234	4.47E+09Y	1.00	3.579E+00	3.579E+00	2.324E+00	64.94	
U-234	4.47E+09Y	1.00	1.308E+00	1.308E+00	0.216E+00	16.52	
NP-237	2.14E+06Y	1.00	6.934E-01	6.934E-01	3.888E-01	56.06	
U-238	4.47E+09Y	1.00	3.579E+00	3.579E+00	2.324E+00	64.94	
AM-243	7380.00Y	1.00	4.570E-01	4.570E-01	1.057E-01	23.14	
ANH-511	1.00E+09Y	1.00	9.070E-02	9.070E-02	9.142E-02	100.79	
Total Activity :			5.925E+01	5.933E+01			

Grand Total Activity : 5.925E+01 5.933E+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	128.45	102	233	1.36	256.91	252	9	1.41E-02	57.6	6.33E+00	T
0	185.77	196	340	1.62	371.54	364	15	2.72E-02	44.4	5.49E+00	T
0	208.41	40	240	1.19	416.82	414	9	5.59E-03	****	5.10E+00	T
0	270.58	36	204	0.54	541.15	533	11	4.93E-03	****	4.22E+00	T
0	462.38	59	60	1.98	924.76	919	10	8.26E-03	58.2	2.76E+00	T
0	727.19	57	61	1.07	1454.38	1448	14	7.92E-03	64.5	1.88E+00	T
0	768.07	44	72	0.87	1536.14	1529	15	6.10E-03	89.1	1.79E+00	T
0	794.71	54	22	1.38	1589.42	1585	12	7.56E-03	43.3	1.73E+00	T
0	1240.20	86	55	7.18	2480.40	2466	32	1.19E-02	56.5	1.15E+00	
7	1759.56	9	0	1.40	3519.13	3517	17	1.32E-03	63.3	8.75E-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]G244924004.CNF;1
* Acquisition date   : 27-JAN-2010 18:39:29  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 02:00:01.48             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244924004             Analyst initials: MXR1
* Batch Number       : 942723                 Sample Quantity : 1.05392E+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      :
*****

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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	1.981E+01	2.274E+00	5.175E-01	3.871E-02	38.291
CD-109	2.403E+00	1.253E+00	1.576E+00	1.539E-01	1.525
SN-126	2.361E-01	1.231E-01	1.812E-01	1.763E-02	1.303
BA-137M	9.897E-02	6.626E-02	6.842E-02	3.495E-03	1.447
CS-137	1.046E-01	7.005E-02	7.232E-02	3.715E-03	1.447
TL-208	5.445E-01	9.549E-02	7.780E-02	5.051E-03	6.999
BI-211	3.755E+00	5.796E-01	3.790E-01	2.469E-02	9.908
PB-212	1.499E+00	1.672E-01	1.069E-01	7.683E-03	14.032
PO-212	1.499E+00	1.672E-01	1.069E-01	7.683E-03	14.032
BI-214	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
PB-214	1.306E+00	2.128E-01	1.374E-01	1.147E-02	9.509
PO-214	1.306E+00	2.128E-01	1.374E-01	1.147E-02	9.509
PO-216	1.499E+00	1.672E-01	1.069E-01	7.683E-03	14.032
PO-218	1.306E+00	2.128E-01	1.374E-01	1.147E-02	9.509
RA-224	4.407E+00	1.616E+00	1.216E+00	6.852E-02	3.624
RA-226	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
AC-228	1.465E+00	3.917E-01	2.602E-01	3.003E-02	5.628
RA-228	1.465E+00	3.917E-01	2.602E-01	3.003E-02	5.628

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.522E+00	1.698E-01	1.085E-01	7.801E-03	14.032
TH-230	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
TH-232	1.465E+00	3.917E-01	2.602E-01	3.003E-02	5.628
TH-234	3.579E+00	2.324E+00	2.895E+00	5.217E-01	1.236
U-234	1.308E+00	2.160E-01	1.454E-01	1.093E-02	8.993
NP-237	6.934E-01	3.888E-01	5.421E-01	1.235E-01	1.279
U-238	3.579E+00	2.324E+00	2.895E+00	5.217E-01	1.236
AM-243	4.570E-01	1.057E-01	1.195E-01	1.062E-02	3.823
ANH-511	9.070E-02	9.142E-02	5.953E-02	3.458E-03	1.524

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.609E-01		3.904E-01	6.870E-01	4.669E-02	0.525
NA-22	-4.064E-02		6.144E-02	9.244E-02	6.208E-03	-0.440
NA-24	1.121E-01		5.280E-01	Half-Life too short		
AL-26	2.319E-03		3.930E-02	6.277E-02	3.773E-03	0.037
TI-44	4.253E-01	+	7.852E-02	1.035E-01	9.380E-03	4.110
SC-46	1.568E-02		4.469E-02	7.724E-02	6.901E-03	0.203
V-48	1.252E-04		8.203E-02	1.359E-01	1.131E-02	0.001
CR-51	-2.366E-01		4.453E-01	7.224E-01	4.737E-02	-0.327
MN-52	-1.766E-01		3.098E-01	4.517E-01	3.268E-02	-0.391
MN-54	2.141E-02		4.455E-02	7.771E-02	6.153E-03	0.276
CO-56	-1.062E-02		4.341E-02	7.058E-02	5.741E-03	-0.151
CO-57	4.230E-03		3.168E-02	5.067E-02	2.987E-03	0.083
CO-58	1.095E-02		4.790E-02	8.193E-02	6.155E-03	0.134
FE-59	4.402E-02		1.123E-01	1.926E-01	1.483E-02	0.229
CO-60	-9.633E-03		5.034E-02	7.958E-02	5.842E-03	-0.121
ZN-65	8.866E-02		1.276E-01	1.996E-01	1.318E-02	0.444
GE-68	-7.182E-01		1.566E+00	2.446E+00	1.751E-01	-0.294
AS-73	5.345E-01		1.372E+00	2.340E+00	2.065E-01	0.228
AS-74	5.016E-02		1.126E-01	1.905E-01	1.050E-02	0.263
SE-75	5.837E-04		6.770E-02	9.437E-02	5.493E-03	0.006
BR-77	-7.202E+00		1.354E+01	2.120E+01	1.227E+00	-0.340
SR-82	-2.661E-01		4.689E-01	6.791E-01	4.685E-02	-0.392
RB-83	-5.220E-02		8.501E-02	1.320E-01	7.640E-03	-0.396
RB-84	-9.021E-03		7.816E-02	1.286E-01	1.130E-02	-0.070
KR-85	1.519E+01		1.040E+01	1.684E+01	9.769E-01	0.902
SR-85	7.803E-02		5.340E-02	8.646E-02	5.017E-03	0.902
RB-86	-3.187E-02		9.851E-01	1.617E+00	1.159E-01	-0.020
Y-88	3.154E-02		3.765E-02	7.365E-02	4.336E-03	0.428
ZR-88	-1.761E-02		3.838E-02	6.181E-02	3.569E-03	-0.285
Y-91	-8.445E+00		2.296E+01	3.602E+01	2.149E+00	-0.234
NB-94	1.212E-02		4.370E-02	7.224E-02	4.128E-03	0.168
NB-95	1.137E-01		6.042E-02	1.030E-01	6.919E-03	1.104
NB-95M	5.900E-01		1.996E-01	3.221E-01	2.376E-02	1.832
ZR-95	2.164E-02		9.048E-02	1.432E-01	1.099E-02	0.151

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	-4.966E-03		8.754E-02	Half-Life too short		
ZR-97	7.055E+00		1.659E+00	Half-Life too short		
MO-99	2.856E+00		1.326E+01	2.185E+01	3.058E+00	0.131
TC-99M	-7.534E+10		3.841E+10	Half-Life too short		
RH-101	-2.382E-03		4.064E-02	6.390E-02	3.406E-03	-0.037
RH-102	3.216E-02		3.433E-02	6.061E-02	3.548E-03	0.531
RU-103	-5.901E-04		4.766E-02	7.825E-02	9.906E-03	-0.008
RH-106	-1.084E-01		3.534E-01	5.552E-01	6.402E-02	-0.195
RU-106	-1.084E-01		3.532E-01	5.552E-01	2.983E-02	-0.195
AG-108M	-1.183E-03		3.969E-02	6.551E-02	4.153E-03	-0.018
AG-110M	-9.589E-03		5.306E-02	7.240E-02	4.023E-03	-0.132
IN-111	-1.613E-01		1.589E+00	2.169E+00	1.228E-01	-0.074
IN-113M	-4.071E-02		5.488E-02	8.652E-02	5.330E-03	-0.471
SN-113	-4.071E-02		5.488E-02	8.652E-02	5.330E-03	-0.471
IN-114M	4.119E-02		2.462E-01	3.526E-01	1.859E-02	0.117
CD-115	5.855E+00		1.409E+01	2.387E+01	1.377E+00	0.245
SN-117M	4.101E-02		6.846E-02	1.146E-01	5.954E-03	0.358
SB-122	-6.626E-01		2.502E+00	3.986E+00	2.254E-01	-0.166
I-123	4.973E+00		4.354E+00	Half-Life too short		
TE-123M	2.007E-02		3.514E-02	5.874E-02	3.100E-03	0.342
I-124	7.459E-01		9.129E-01	1.413E+00	7.744E-02	0.528
SB-124	5.635E-03		7.632E-02	1.291E-01	9.000E-03	0.044
SB-125	9.100E-02		1.094E-01	1.917E-01	1.166E-02	0.475
TE-125M	-1.612E+01		1.143E+01	1.755E+01	1.566E+00	-0.918
I-126	2.230E-01		2.232E-01	3.569E-01	1.847E-02	0.625
SB-126	-1.808E-02		2.180E-01	2.992E-01	1.792E-02	-0.060
SB-127	-1.547E+00		1.668E+00	2.416E+00	2.241E-01	-0.640
XE-127	-3.758E-02		6.082E-02	9.154E-02	4.914E-03	-0.410
I-131	1.267E-02		1.405E-01	2.357E-01	1.540E-02	0.054
TE-132	4.027E-01		9.148E-01	1.502E+00	2.147E-01	0.268
BA-133	-2.996E-02		5.943E-02	8.200E-02	9.514E-03	-0.365
I-133	-1.122E-03		4.318E-03	Half-Life too short		
CS-134	1.477E-01	+	6.492E-02	1.079E-01	7.881E-03	1.369
CS-135	8.391E-02		2.404E-01	3.435E-01	2.624E-02	0.244
I-135	6.408E+08		5.037E+09	Half-Life too short		
CS-136	-1.697E-03		1.256E-01	2.069E-01	1.649E-02	-0.008
CE-139	-4.752E-03		3.590E-02	5.808E-02	2.961E-03	-0.082
BA-140	2.198E-02		3.208E-01	5.280E-01	1.717E-01	0.042
LA-140	-5.773E-02		1.099E-01	1.674E-01	1.149E-02	-0.345
CE-141	3.034E-02		7.622E-02	1.268E-01	7.150E-03	0.239
CE-143	1.266E-03		1.817E-04	Half-Life too short		
CE-144	-9.468E-02		2.593E-01	3.849E-01	5.435E-02	-0.246
PM-144	-2.085E-02		4.695E-02	7.277E-02	4.094E-03	-0.286
PR-144	-1.413E+00		3.181E+00	4.932E+00	2.772E-01	-0.286
PM-146	2.238E-02		5.113E-02	8.719E-02	7.551E-03	0.257
ND-147	-4.863E-01		7.211E-01	1.109E+00	1.498E-01	-0.439
PM-149	6.989E+00		1.166E+02	1.970E+02	2.796E+01	0.035
EU-152	1.190E-02		1.555E-01	1.998E-01	1.324E-02	0.060

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	8.704E-02		1.011E-01	1.544E-01	1.261E-02	0.564
EU-154	-1.151E-01		1.716E-01	2.576E-01	2.557E-02	-0.447
EU-155	7.994E-02		1.302E-01	2.204E-01	1.626E-02	0.363
TB-160	7.742E-02		1.547E-01	2.718E-01	2.377E-02	0.285
HO-166M	-1.088E-02		8.033E-02	1.279E-01	7.484E-03	-0.085
TM-171	2.926E+00		4.243E+01	6.240E+01	5.426E+00	0.047
LU-176	-5.299E-03		3.091E-02	5.083E-02	2.995E-03	-0.104
LU-177	1.244E+00	+	1.768E+00	2.371E+00	1.283E-01	0.525
LU-177M	-2.618E-01		2.195E-01	3.324E-01	1.934E-02	-0.788
HF-181	2.209E-02		5.167E-02	8.788E-02	5.140E-03	0.251
W-181	-4.903E-01		5.713E-01	7.970E-01	6.924E-02	-0.615
TA-182	-2.903E-02		2.548E-01	4.117E-01	2.527E-02	-0.071
RE-183	-4.174E-02		1.346E-01	2.162E-01	1.112E-02	-0.193
RE-184	-1.475E-01		2.835E-01	4.390E-01	2.503E-02	-0.336
OS-185	-7.230E-03		5.394E-02	8.632E-02	4.505E-03	-0.084
RE-188	-7.377E-02		2.135E-01	3.430E-01	1.800E-02	-0.215
W-188	-6.124E+00		9.839E+00	1.369E+01	8.015E-01	-0.447
IR-192	-1.037E-02		4.245E-02	7.021E-02	4.165E-03	-0.148
AU-195	-1.512E-01		2.759E-01	4.293E-01	3.426E-02	-0.352
TL-200	-4.478E-06		3.081E-04	Half-Life too short		
TL-201	2.860E-01		8.441E+00	1.376E+01	7.023E-01	0.021
TL-202	-1.585E-02		8.663E-02	1.413E-01	8.268E-03	-0.112
HG-203	2.227E-02		4.870E-02	8.402E-02	5.190E-03	0.265
BI-207	6.247E-02		6.787E-02	1.220E-01	8.962E-03	0.512
TL-207	-8.288E-01		8.318E-01	1.295E+00	2.143E-01	-0.640
PO-209	4.255E-01		8.575E+00	1.436E+01	1.303E+00	0.030
BI-210	4.435E+00		6.917E+00	1.164E+01	9.064E-01	0.381
PB-210	4.435E+00		6.917E+00	1.164E+01	9.064E-01	0.381
PO-210	4.435E+00		6.915E+00	1.164E+01	7.810E-01	0.381
PB-211	-9.582E-01		1.298E+00	1.804E+00	1.125E+00	-0.531
BI-212	9.179E-01	+	5.965E-01	7.384E-01	5.861E-02	1.243
PO-215	-8.288E-01		8.318E-01	1.295E+00	2.143E-01	-0.640
RN-219	-1.230E-01		4.897E-01	7.982E-01	1.086E-01	-0.154
RN-220	-5.099E+00		2.942E+01	4.731E+01	2.700E+00	-0.108
RA-223	-8.288E-01		8.318E-01	1.295E+00	2.143E-01	-0.640
AC-227	2.743E-01		4.592E-01	7.593E-01	1.057E-01	0.361
TH-227	2.743E-01		4.599E-01	7.593E-01	1.281E-01	0.361
TH-229	-4.926E-02		6.021E-01	9.705E-01	5.141E-02	-0.051
PA-231	8.150E-01		1.878E+00	3.230E+00	4.456E-01	0.252
TH-231	-8.288E-01		8.318E-01	1.295E+00	2.143E-01	-0.640
U-231	-1.299E-01		1.482E+00	2.146E+00	1.800E-01	-0.061
PA-233	-2.999E-02		7.831E-02	1.285E-01	8.035E-03	-0.233
PA-234	-2.379E-01		3.603E-01	5.491E-01	1.032E-01	-0.433
PA-234M	1.765E+00		5.526E+00	9.446E+00	9.013E-01	0.187
U-235	9.840E-03		2.626E-01	4.229E-01	6.839E-02	0.023
NP-236	-3.083E-02		9.798E-02	1.574E-01	8.139E-03	-0.196
NP-239	-6.574E-02		2.310E-01	3.756E-01	2.345E-02	-0.175
AM-241	7.738E-02		2.412E-01	3.627E-01	3.374E-02	0.213

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.400E-01		1.154E-01	1.998E-01	1.481E-02	0.700
AM-246	3.513E-02		1.831E-01	3.077E-01	2.196E-02	0.114
CM-247	2.504E-03		4.379E-02	7.300E-02	4.231E-03	0.034
CF-249	-1.795E-02		4.711E-02	7.625E-02	4.412E-03	-0.235
CF-251	-4.006E-02		1.533E-01	2.459E-01	1.271E-02	-0.163

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]G244924004          *
* Acquisition date   : 27-JAN-2010 18:39:29 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 02:00:01.48                               Half life ratio  : 8.000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924004                               Analyst initials: MXR1          *
* Batch Number       : 942723                                   Sample Quantity : 1.0539E+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	1.981E+01	2.228E+00	2.571E-01	1.137E+00
CD-109	2.403E+00	1.228E+00	7.944E-01	6.263E-01
SN-126	2.361E-01	1.206E-01	9.134E-02	6.155E-02
BA-137M	9.897E-02	6.494E-02	3.413E-02	3.313E-02
CS-137	1.046E-01	6.865E-02	3.608E-02	3.502E-02
TL-208	5.445E-01	9.358E-02	3.884E-02	4.774E-02
BI-211	3.755E+00	5.680E-01	1.897E-01	2.898E-01
PB-212	1.499E+00	1.639E-01	5.358E-02	8.362E-02
PO-212	1.499E+00	1.639E-01	5.358E-02	8.362E-02
BI-214	1.308E+00	2.117E-01	7.256E-02	1.080E-01
PB-214	1.306E+00	2.086E-01	6.874E-02	1.064E-01
PO-214	1.306E+00	2.086E-01	6.874E-02	1.064E-01
PO-216	1.499E+00	1.639E-01	5.358E-02	8.362E-02
PO-218	1.306E+00	2.086E-01	6.874E-02	1.064E-01
RA-224	4.407E+00	1.584E+00	6.098E-01	8.081E-01
RA-226	1.308E+00	2.117E-01	7.256E-02	1.080E-01
AC-228	1.465E+00	3.839E-01	1.296E-01	1.958E-01
RA-228	1.465E+00	3.839E-01	1.296E-01	1.958E-01
TH-228	1.522E+00	1.664E-01	5.441E-02	8.490E-02
TH-230	1.308E+00	2.117E-01	7.256E-02	1.080E-01
TH-232	1.465E+00	3.839E-01	1.296E-01	1.958E-01
TH-234	3.579E+00	2.278E+00	1.462E+00	1.162E+00
U-234	1.308E+00	2.117E-01	7.256E-02	1.080E-01
NP-237	6.934E-01	3.810E-01	2.733E-01	1.944E-01
U-238	3.579E+00	2.278E+00	1.462E+00	1.162E+00
AM-243	4.570E-01	1.036E-01	6.029E-02	5.287E-02
ANH-511	9.070E-02	8.959E-02	2.973E-02	4.571E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	3.609E-01	3.826E-01	3.433E-01	1.952E-01	NOT IDENT.
NA-22	-4.064E-02	6.021E-02	4.595E-02	3.072E-02	NOT IDENT.
NA-24	1.121E+05	1.035E+06	0.000E+00	5.280E+05	SHORT HLIF
AL-26	2.319E-03	3.851E-02	3.115E-02	1.965E-02	NOT IDENT.
TI-44	4.253E-01	7.695E-02	5.218E-02	3.926E-02	FAIL ABUN
SC-46	1.568E-02	4.380E-02	3.847E-02	2.235E-02	FAIL ABUN
V-48	1.252E-04	8.039E-02	6.765E-02	4.102E-02	NOT IDENT.
CR-51	-2.366E-01	4.364E-01	3.617E-01	2.227E-01	NOT IDENT.
MN-52	-1.766E-01	3.036E-01	2.244E-01	1.549E-01	NOT IDENT.
MN-54	2.141E-02	4.366E-02	3.872E-02	2.228E-02	NOT IDENT.
CO-56	-1.062E-02	4.254E-02	3.516E-02	2.171E-02	NOT IDENT.
CO-57	4.230E-03	3.105E-02	2.549E-02	1.584E-02	NOT IDENT.
CO-58	1.095E-02	4.694E-02	4.083E-02	2.395E-02	NOT IDENT.
FE-59	4.402E-02	1.101E-01	9.581E-02	5.616E-02	NOT IDENT.
CO-60	-9.633E-03	4.933E-02	3.956E-02	2.517E-02	NOT IDENT.
ZN-65	8.866E-02	1.250E-01	9.929E-02	6.380E-02	NOT IDENT.
GE-68	-7.182E-01	1.535E+00	1.217E+00	7.831E-01	NOT IDENT.
AS-73	5.345E-01	1.344E+00	1.182E+00	6.858E-01	NOT IDENT.
AS-74	5.016E-02	1.104E-01	9.506E-02	5.631E-02	NOT IDENT.
SE-75	5.837E-04	6.634E-02	4.730E-02	3.385E-02	NOT IDENT.
BR-77	-7.202E+00	1.327E+01	1.059E+01	6.771E+00	FAIL ABUN
SR-82	-2.661E-01	4.595E-01	3.385E-01	2.344E-01	NOT IDENT.
RB-83	-5.220E-02	8.330E-02	6.592E-02	4.250E-02	NOT IDENT.
RB-84	-9.021E-03	7.659E-02	6.405E-02	3.908E-02	NOT IDENT.
KR-85	1.519E+01	1.019E+01	8.409E+00	5.199E+00	NOT IDENT.
SR-85	7.803E-02	5.233E-02	4.319E-02	2.670E-02	NOT IDENT.
RB-86	-3.187E-02	9.654E-01	8.045E-01	4.925E-01	NOT IDENT.
Y-88	3.154E-02	3.690E-02	3.654E-02	1.883E-02	NOT IDENT.
ZR-88	-1.761E-02	3.761E-02	3.092E-02	1.919E-02	NOT IDENT.
Y-91	-8.445E+00	2.250E+01	1.791E+01	1.148E+01	NOT IDENT.
NB-94	1.212E-02	4.283E-02	3.603E-02	2.185E-02	NOT IDENT.
NB-95	1.137E-01	5.922E-02	5.133E-02	3.021E-02	NOT IDENT.
NB-95M	5.900E-01	1.956E-01	1.615E-01	9.979E-02	NOT IDENT.
ZR-95	2.164E-02	8.867E-02	7.140E-02	4.524E-02	NOT IDENT.
NB-97	-4.966E+03	1.716E+05	0.000E+00	8.754E+04	SHORT HLIF
ZR-97	7.055E+06	3.252E+06	0.000E+00	1.659E+06	SHORT HLIF
MO-99	2.856E+00	1.299E+01	1.089E+01	6.630E+00	NOT IDENT.
TC-99M	-7.534E+16	7.529E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.382E-03	3.982E-02	3.207E-02	2.032E-02	FAIL ABUN
RH-102	3.216E-02	3.364E-02	3.029E-02	1.717E-02	FAIL ABUN
RU-103	-5.901E-04	4.671E-02	3.909E-02	2.383E-02	NOT IDENT.
RH-106	-1.084E-01	3.463E-01	2.770E-01	1.767E-01	FAIL ABUN
RU-106	-1.084E-01	3.461E-01	2.770E-01	1.766E-01	FAIL ABUN
AG-108M	-1.183E-03	3.889E-02	3.275E-02	1.984E-02	NOT IDENT.
AG-110M	-9.589E-03	5.200E-02	3.611E-02	2.653E-02	NOT IDENT.
IN-111	-1.613E-01	1.557E+00	1.087E+00	7.946E-01	NOT IDENT.
IN-113M	-4.071E-02	5.379E-02	4.328E-02	2.744E-02	NOT IDENT.
SN-113	-4.071E-02	5.379E-02	4.328E-02	2.744E-02	NOT IDENT.
IN-114M	4.119E-02	2.413E-01	1.770E-01	1.231E-01	NOT IDENT.
CD-115	5.855E+00	1.381E+01	1.192E+01	7.045E+00	NOT IDENT.
SN-117M	4.101E-02	6.709E-02	5.757E-02	3.423E-02	NOT IDENT.
SB-122	-6.626E-01	2.452E+00	1.990E+00	1.251E+00	NOT IDENT.
I-123	4.973E+06	8.534E+06	0.000E+00	4.354E+06	SHORT HLIF
TE-123M	2.007E-02	3.444E-02	2.951E-02	1.757E-02	NOT IDENT.
I-124	7.459E-01	8.946E-01	7.053E-01	4.564E-01	NOT IDENT.
SB-124	5.635E-03	7.479E-02	6.408E-02	3.816E-02	FAIL ABUN
SB-125	9.100E-02	1.072E-01	9.585E-02	5.469E-02	FAIL ABUN
TE-125M	-1.612E+01	1.120E+01	8.838E+00	5.717E+00	NOT IDENT.
I-126	2.230E-01	2.187E-01	1.780E-01	1.116E-01	NOT IDENT.
SB-126	-1.808E-02	2.137E-01	1.492E-01	1.090E-01	NOT IDENT.
SB-127	-1.547E+00	1.635E+00	1.205E+00	8.342E-01	NOT IDENT.
XE-127	-3.758E-02	5.960E-02	4.594E-02	3.041E-02	NOT IDENT.
I-131	1.267E-02	1.377E-01	1.179E-01	7.024E-02	NOT IDENT.
TE-132	4.027E-01	8.965E-01	7.533E-01	4.574E-01	NOT IDENT.
BA-133	-2.996E-02	5.824E-02	4.104E-02	2.972E-02	NOT IDENT.
I-133	-1.122E+03	8.464E+03	0.000E+00	4.318E+03	SHORT HLIF
CS-134	1.477E-01	6.362E-02	5.378E-02	3.246E-02	FAIL ABUN
CS-135	8.391E-02	2.356E-01	1.721E-01	1.202E-01	NOT IDENT.
I-135	6.408E+14	9.873E+15	0.000E+00	5.037E+15	SHORT HLIF
CS-136	-1.697E-03	1.231E-01	1.029E-01	6.279E-02	FAIL ABUN
CE-139	-4.752E-03	3.519E-02	2.918E-02	1.795E-02	NOT IDENT.
BA-140	2.198E-02	3.144E-01	2.637E-01	1.604E-01	NOT IDENT.
LA-140	-5.773E-02	1.077E-01	8.314E-02	5.497E-02	NOT IDENT.
CE-141	3.034E-02	7.469E-02	6.374E-02	3.811E-02	NOT IDENT.
CE-143	1.266E+03	3.561E+02	0.000E+00	1.817E+02	SHORT HLIF
CE-144	-9.468E-02	2.542E-01	1.936E-01	1.297E-01	NOT IDENT.
PM-144	-2.085E-02	4.601E-02	3.629E-02	2.347E-02	NOT IDENT.
PR-144	-1.413E+00	3.118E+00	2.460E+00	1.591E+00	NOT IDENT.

PM-146	2.238E-02	5.010E-02	4.358E-02	2.556E-02	NOT IDENT.
ND-147	-4.863E-01	7.066E-01	5.538E-01	3.605E-01	NOT IDENT.
PM-149	6.989E+00	1.142E+02	9.871E+01	5.829E+01	NOT IDENT.
EU-152	1.190E-02	1.524E-01	9.999E-02	7.777E-02	NOT IDENT.
GD-153	8.704E-02	9.905E-02	7.777E-02	5.053E-02	NOT IDENT.
EU-154	-1.151E-01	1.682E-01	1.280E-01	8.581E-02	NOT IDENT.
EU-155	7.994E-02	1.276E-01	1.110E-01	6.511E-02	FAIL ABUN
TB-160	7.742E-02	1.516E-01	1.354E-01	7.737E-02	FAIL ABUN
HO-166M	-1.088E-02	7.873E-02	6.376E-02	4.017E-02	FAIL ABUN
TM-171	2.926E+00	4.158E+01	3.149E+01	2.121E+01	NOT IDENT.
LU-176	-5.299E-03	3.029E-02	2.546E-02	1.545E-02	FAIL ABUN
LU-177	1.244E+00	1.732E+00	1.190E+00	8.839E-01	FAIL ABUN
LU-177M	-2.618E-01	2.151E-01	1.662E-01	1.098E-01	NOT IDENT.
HF-181	2.209E-02	5.064E-02	4.391E-02	2.584E-02	NOT IDENT.
W-181	-4.903E-01	5.598E-01	4.023E-01	2.856E-01	NOT IDENT.
TA-182	-2.903E-02	2.497E-01	2.047E-01	1.274E-01	NOT IDENT.
RE-183	-4.174E-02	1.320E-01	1.086E-01	6.732E-02	FAIL ABUN
RE-184	-1.475E-01	2.778E-01	2.201E-01	1.417E-01	NOT IDENT.
OS-185	-7.230E-03	5.286E-02	4.306E-02	2.697E-02	NOT IDENT.
RE-188	-7.377E-02	2.093E-01	1.724E-01	1.068E-01	NOT IDENT.
W-188	-6.124E+00	9.642E+00	6.856E+00	4.919E+00	FAIL ABUN
IR-192	-1.037E-02	4.160E-02	3.515E-02	2.122E-02	FAIL ABUN
AU-195	-1.512E-01	2.704E-01	2.163E-01	1.380E-01	FAIL ABUN
TL-200	-4.478E+00	6.038E+02	0.000E+00	3.081E+02	SHORT HLIF
TL-201	2.860E-01	8.272E+00	6.912E+00	4.220E+00	NOT IDENT.
TL-202	-1.585E-02	8.490E-02	7.064E-02	4.332E-02	NOT IDENT.
HG-203	2.227E-02	4.772E-02	4.210E-02	2.435E-02	NOT IDENT.
BI-207	6.247E-02	6.651E-02	6.070E-02	3.393E-02	FAIL ABUN
TL-207	-8.288E-01	8.152E-01	6.482E-01	4.159E-01	FAIL ABUN
PO-209	4.255E-01	8.404E+00	7.150E+00	4.288E+00	NOT IDENT.
BI-210	4.435E+00	6.779E+00	5.886E+00	3.459E+00	NOT IDENT.
PB-210	4.435E+00	6.779E+00	5.886E+00	3.459E+00	NOT IDENT.
PO-210	4.435E+00	6.779E+00	5.886E+00	3.458E+00	NOT IDENT.
PB-211	-9.582E-01	1.272E+00	9.021E-01	6.491E-01	NOT IDENT.
BI-212	9.179E-01	5.845E-01	3.682E-01	2.982E-01	FAIL ABUN
PO-215	-8.288E-01	8.152E-01	6.482E-01	4.159E-01	FAIL ABUN
RN-219	-1.230E-01	4.799E-01	3.992E-01	2.448E-01	FAIL ABUN
RN-220	-5.099E+00	2.883E+01	2.362E+01	1.471E+01	NOT IDENT.
RA-223	-8.288E-01	8.152E-01	6.482E-01	4.159E-01	FAIL ABUN
AC-227	2.743E-01	4.500E-01	3.806E-01	2.296E-01	FAIL ABUN
TH-227	2.743E-01	4.507E-01	3.806E-01	2.300E-01	FAIL ABUN
TH-229	-4.926E-02	5.901E-01	4.872E-01	3.010E-01	FAIL ABUN
PA-231	8.150E-01	1.840E+00	1.618E+00	9.388E-01	NOT IDENT.
TH-231	-8.288E-01	8.152E-01	6.482E-01	4.159E-01	FAIL ABUN
U-231	-1.299E-01	1.453E+00	1.081E+00	7.411E-01	FAIL ABUN
PA-233	-2.999E-02	7.674E-02	6.436E-02	3.916E-02	FAIL ABUN
PA-234	-2.379E-01	3.531E-01	2.734E-01	1.802E-01	FAIL ABUN
PA-234M	1.765E+00	5.415E+00	4.702E+00	2.763E+00	NOT IDENT.
U-235	9.840E-03	2.573E-01	2.126E-01	1.313E-01	FAIL ABUN
NP-236	-3.083E-02	9.602E-02	7.907E-02	4.899E-02	NOT IDENT.
NP-239	-6.574E-02	2.264E-01	1.890E-01	1.155E-01	FAIL ABUN
AM-241	7.738E-02	2.363E-01	1.831E-01	1.206E-01	NOT IDENT.
CM-243	1.400E-01	1.131E-01	1.006E-01	5.772E-02	FAIL ABUN
AM-246	3.513E-02	1.795E-01	1.531E-01	9.157E-02	NOT IDENT.
CM-247	2.504E-03	4.292E-02	3.651E-02	2.190E-02	NOT IDENT.
CF-249	-1.795E-02	4.617E-02	3.814E-02	2.356E-02	NOT IDENT.
CF-251	-4.006E-02	1.503E-01	1.235E-01	7.667E-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	241.2155
46.50	241.2155
46.50	241.2155
48.70	288.4313
49.72	275.3219
51.35	246.9439
52.39	236.4300
52.97	244.8865
53.15	247.7032
53.44	256.0545
54.07	258.1561
56.28	288.5003
56.28	288.5015
57.37	0.0000
57.53	265.1501
57.53	265.1506
57.60	265.1797
57.98	262.3936
57.98	262.3936
59.32	251.1360
59.32	251.1360
59.40	251.1676
59.54	251.2231
59.72	264.5986
60.01	264.7193
61.10	260.7263
61.14	265.1869
61.30	265.2530
63.00	297.1484
63.29	295.7930
63.29	295.7930
63.58	306.3332
64.28	303.6803
65.12	336.8550
65.20	336.8951
65.20	336.8951
66.05	305.9785
66.72	303.2920
66.83	303.3427
66.91	288.4339
67.20	287.0613
67.20	287.0613
67.75	299.2627
67.85	299.3066
68.90	313.2538
68.90	313.2538
69.30	328.4318
69.67	321.1058
70.82	350.1883
70.82	350.1883
70.83	350.1940
72.80	334.5908
72.87	334.6233
72.87	334.6233
74.67	370.2156
74.81	370.2874
74.81	370.2874
74.81	370.2874
74.81	370.2874
74.81	370.2874
74.81	370.2874
74.97	370.3681
75.28	370.5266
75.70	370.7390
77.11	371.4507
77.11	371.4507

77.11	371.4507
77.11	371.4507
77.11	371.4507
77.11	371.4507
77.11	371.4507
78.38	372.0863
79.62	372.7009
79.80	372.7891
79.80	372.7891
80.11	372.9431
80.18	372.9775
80.30	373.0358
80.30	373.0358
80.57	373.1689
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81.07	411.5176
81.07	411.5176
81.07	411.5176
81.07	411.5176
82.60	343.6166
83.37	343.9572
83.78	344.1399
83.78	344.1399
83.78	344.1399
83.78	344.1399
84.21	344.3307
84.90	306.3416
85.43	344.8663
86.29	418.1272
86.50	454.9647
86.54	454.9864
86.59	455.0153
86.72	448.1005
86.79	448.1379
86.94	459.6038
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87.30	466.3965
87.30	466.3965
87.30	466.3965
87.30	466.3965
87.30	466.3965
87.30	466.3965
87.57	452.0999
87.88	334.4023
88.03	334.4647
88.36	357.6774
88.47	357.7270
89.95	335.2612
91.11	362.7526
92.29	473.4146
92.38	473.4669
92.38	473.4669
93.35	258.4872
94.00	254.0418
94.67	260.4446
94.67	260.4461
94.90	272.9236
94.90	272.9236
94.90	272.9236
94.90	272.9236
95.87	282.5532
95.87	282.5532
96.73	259.5299
97.43	222.4146
98.44	263.4225
98.44	263.4236
98.88	272.6460
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99.55	266.0371
99.86	252.4841
100.00	252.5246
100.10	252.5552
103.18	257.3586
103.76	228.1515
105.00	245.1391
105.31	252.0903
108.00	291.2124
109.28	306.3993

111.00	259.5949
111.00	259.5949
111.76	255.8562
112.95	234.4225
115.19	291.4968
116.30	279.9260
117.00	265.2308
117.00	265.2308
117.66	268.3963
121.11	249.4030
121.62	241.5486
121.78	247.5771
122.06	247.6481
122.32	250.3769
122.32	250.3769
122.32	250.3769
122.32	250.3769
123.07	241.5051
127.23	236.0914
129.76	231.8519
131.20	220.8924
133.02	258.4316
133.54	249.1357
135.34	241.8099
136.00	250.0604
136.25	248.0954
136.48	243.0853
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140.51	0.0000
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142.65	253.6638
143.76	249.8450
144.24	254.0362
144.24	254.0362
144.24	254.0362
144.24	254.0362
145.22	235.8836
145.44	253.2941
147.16	272.1045
152.43	233.3092
152.70	238.5048
153.22	256.0992
154.21	271.7626
154.21	271.7626
154.21	271.7626
154.21	271.7626
155.03	274.0203
156.02	261.8852
158.56	239.7314
159.00	0.0000
159.00	238.7880
160.31	256.6506
161.27	252.7196
162.32	253.9815
162.64	254.0507
163.35	244.8658
163.89	220.0653
165.85	238.1060
167.43	216.5566
171.28	219.3375
171.86	215.2633
172.10	215.3058
176.55	231.8214
176.60	231.8298
181.06	200.4450
184.41	222.7194
185.71	222.9464
186.00	222.9979
190.27	210.3762
192.34	202.2128
193.63	210.4913
197.04	220.6277
198.01	210.1226
198.60	192.0740
200.40	214.7724
201.83	222.4869
202.84	241.0041
205.31	192.1732

208.36	220.1156
208.81	238.6798
209.75	228.9428
209.75	228.9428
210.97	218.8068
215.65	219.3240
216.55	204.3280
218.09	198.0564
222.10	206.2107
223.80	204.2810
226.40	179.6102
227.00	191.6635
227.08	187.3180
227.20	187.3337
228.16	197.2645
228.18	197.2672
228.18	197.2672
231.56	0.0000
235.69	206.8155
236.00	208.6117
236.00	208.6117
238.63	177.8067
238.63	177.8067
238.63	177.8067
238.63	177.8067
239.00	177.8500
240.98	178.0836
241.98	178.2010
241.98	178.2010
241.98	178.2010
244.69	160.4453
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247.94	162.5509
248.90	162.9046
249.79	159.2073
252.40	168.3339
252.85	163.9515
252.85	163.9515
254.15	0.0000
256.20	139.8774
256.20	139.8774
260.50	165.8584
260.90	168.1285
262.80	178.3594
264.65	178.5645
268.24	182.5392
268.79	182.3776
269.46	182.4523
269.46	182.4523
269.46	182.4523
269.46	182.4523
271.23	132.6743
273.65	175.9622
276.40	155.1216
277.35	148.4617
277.60	151.8585
277.60	151.8585
278.00	154.8210
278.60	152.1743
279.20	149.5277
279.53	153.1598
280.46	151.4420
281.68	163.2800
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284.30	153.5956
285.00	147.3307
285.90	148.3147
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286.10	156.4708
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290.80	151.1576
291.72	151.2390
293.26	0.0000
293.70	128.7019
295.21	126.3878
295.21	126.3878

295.21	126.3878
295.96	126.4438
296.50	126.4829
297.23	126.5355
298.57	126.6322
299.80	139.7894
299.80	139.7894
300.09	142.8512
300.09	142.8512
300.09	142.8512
300.09	142.8512
300.12	142.8531
301.29	123.1793
302.84	136.9867
303.76	150.7639
303.91	150.7760
304.40	144.7246
304.40	144.7246
304.84	141.0588
306.84	136.3808
308.46	140.1691
311.98	140.4436
316.51	137.1138
318.01	115.1245
319.02	117.0301
319.41	117.0549
320.08	133.6949
323.87	157.0695
323.87	157.0695
323.87	157.0695
323.87	157.0695
325.23	111.8777
328.77	131.5459
333.44	112.9902
334.20	120.7784
334.20	120.7784
334.30	120.7848
338.28	123.8319
338.28	123.8319
338.28	123.8319
338.28	123.8319
338.32	123.8335
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338.32	123.8335
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340.57	127.3976
344.27	121.4180
345.85	136.4722
350.59	0.0000
351.07	104.0368
351.92	112.5205
351.92	112.5205
351.92	112.5205
355.39	0.0000
356.01	119.0190
364.48	103.8004
366.43	116.1818
367.43	108.6786
367.94	0.0000
369.80	98.3988
374.96	121.4141
383.85	109.5560
387.95	104.0450
388.63	85.9362
391.69	116.6610
391.69	116.6610
392.90	114.8145
398.62	92.1000
400.65	111.3937
401.10	123.9042
401.81	100.8856
402.60	96.1169
404.84	118.3470
410.95	99.3839
411.60	96.5186
413.65	120.7611
414.70	88.9229
415.30	82.1798

415.76	81.2304
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427.08	80.6747
427.89	75.8424
432.53	92.5635
433.93	88.7206
439.47	93.8250
439.56	93.8285
439.89	92.8651
443.98	84.2174
444.90	85.2307
445.03	85.2360
445.03	85.2360
445.03	85.2360
445.03	85.2360
453.90	73.7613
463.38	74.0607
468.07	70.6735
473.00	87.2502
475.06	63.5086
475.35	67.4862
476.78	68.5191
477.59	67.5493
477.96	70.5398
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484.57	67.7435
487.03	83.7683
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497.08	70.0923
507.63	0.0000
510.53	0.0000
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511.00	83.5719
511.85	83.6008
511.85	83.6008
513.99	77.2862
513.99	77.2862
520.41	80.8496
520.65	80.8574
527.90	67.9095
528.96	0.0000
529.64	63.8982
529.87	0.0000
531.02	84.2280
537.32	70.1893
543.00	63.2049
546.56	0.0000
549.76	60.3007
552.65	68.5507
555.20	60.4231
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563.90	66.7837
568.70	55.5794
569.32	53.5336
569.50	52.5078
569.67	52.5103
573.80	72.1824
574.00	69.6094
574.64	67.7839
578.91	60.2631
579.30	0.0000
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591.81	81.9934
592.07	71.6212
593.00	70.6064
595.88	61.3234
600.56	82.1323
602.52	0.0000
602.71	55.5677
602.71	55.5677
603.60	67.7454
604.41	72.9771
604.70	72.9839
609.31	79.3677

609.31	79.3677
609.31	79.3677
609.31	79.3677
610.33	73.1274
612.46	71.4397
614.37	45.3339
618.01	64.9441
621.84	53.4915
621.84	53.4915
631.29	53.6658
633.02	54.7498
633.10	54.7511
634.78	61.1039
635.90	56.9109
636.97	48.4977
645.85	65.5617
646.12	63.4526
656.30	88.4277
657.75	70.7764
657.90	0.0000
661.65	57.4027
661.65	57.4027
664.57	0.0000
666.33	37.2627
666.33	37.2627
675.00	64.0591
677.61	56.6334
685.20	62.1277
692.80	57.9841
695.00	76.2921
696.49	79.5536
696.49	79.5536
697.00	79.5663
697.49	79.5789
698.33	75.2961
698.50	75.3013
699.00	67.7819
702.63	64.6274
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706.58	0.0000
706.67	66.8665
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711.68	66.9724
713.82	74.5827
717.42	49.7779
720.50	63.1840
721.93	0.0000
722.20	74.0547
722.78	72.2607
722.78	72.2607
722.89	72.2640
722.95	72.2656
723.30	79.5011
724.18	66.8713
727.18	33.6474
733.00	25.3710
735.90	33.8584
739.58	39.2221
742.81	49.0759
744.21	54.5520
747.13	49.1407
751.79	61.2377
752.31	64.5284
753.82	52.5223
755.35	50.3563
756.15	47.0837
756.87	45.9990
763.93	42.0712
765.79	40.2644
766.42	47.5937
766.84	54.9231
776.49	52.6314
778.00	56.9406
778.57	47.7640
778.89	47.7682
783.80	52.4367
785.46	46.0195
792.07	44.2637

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796.30	53.8140
798.80	50.6853
801.93	39.6336
805.60	62.9504
810.29	44.4951
810.76	47.2823
815.85	41.7801
817.79	33.4424
818.51	36.2364
819.60	49.2594
826.30	35.3846
828.27	0.0000
831.60	54.0883
831.96	48.4982
834.83	46.6705
836.80	0.0000
846.75	41.2052
848.13	47.7793
856.28	0.0000
856.80	64.7956
860.37	34.7793
867.32	50.8546
867.82	46.1518
871.10	44.3073
873.19	43.3889
874.81	44.3522
875.33	0.0000
876.40	49.0907
879.36	32.1233
880.27	35.9118
880.51	37.8044
881.50	37.8141
883.24	34.0481
884.67	44.4689
889.25	35.0503
896.60	38.9155
898.02	41.7782
899.00	43.6884
903.28	44.0097
911.07	44.0991
911.07	44.0991
911.07	44.0991
919.63	29.6011
920.93	32.4768
925.00	43.9851
925.24	43.0316
926.50	35.3936
935.52	38.3521
937.48	43.1671
944.10	38.4359
946.00	46.1455
949.00	36.5597
962.29	54.6091
964.01	39.7324
966.15	56.3184
968.20	84.5203
969.11	64.7863
969.11	64.7863
969.11	64.7863
977.42	32.2984
980.50	40.7268
983.50	35.9055
989.30	31.0977
996.32	50.6204
1001.03	38.9836
1001.68	37.0398
1004.76	45.8468
1021.30	0.0000
1024.50	0.0000
1034.80	42.2494
1036.00	50.1222
1037.82	52.1115
1038.57	41.3027
1038.76	0.0000
1045.16	43.3376
1046.59	50.2488
1048.07	35.4814

1050.47	27.6126
1050.47	27.6126
1062.04	33.6209
1063.62	35.6118
1076.63	40.6797
1077.35	45.6481
1078.86	41.6924
1085.78	40.7648
1099.22	36.9006
1112.02	30.8634
1112.84	34.2997
1115.52	34.3192
1120.29	47.0975
1120.29	47.0975
1120.29	47.0975
1120.29	47.0975
1120.51	47.0994
1121.28	46.3912
1124.00	0.0000
1129.67	43.3793
1131.51	0.0000
1147.95	0.0000
1167.94	50.6307
1173.22	42.5793
1175.09	44.6248
1177.93	58.8591
1189.05	43.7419
1204.90	47.9715
1205.75	0.0000
1213.00	55.2107
1221.42	53.2611
1230.97	49.2617
1235.34	36.9800
1236.41	0.0000
1238.25	33.9185
1246.25	33.5336
1260.41	0.0000
1271.85	43.4680
1274.45	48.6676
1274.54	48.6696
1291.56	39.4844
1298.22	0.0000
1312.09	32.3434
1325.50	29.2909
1325.50	29.2909
1332.49	29.3319
1333.61	32.4809
1360.21	13.6919
1362.66	0.0000
1365.15	15.8130
1368.21	20.0422
1368.53	0.0000
1376.25	25.3555
1384.27	15.8716
1394.10	20.1411
1395.20	27.5679
1407.95	15.9424
1434.06	24.5648
1436.60	22.4390
1457.56	0.0000
1460.81	11.0399
1489.15	21.5771
1509.49	16.2415
1596.49	21.6724
1620.62	6.6230
1678.03	0.0000
1691.02	7.6582
1691.02	7.6582
1706.46	0.0000
1750.46	0.0000
1764.49	10.1708
1764.49	10.1708
1764.49	10.1708
1764.49	10.1708
1770.23	48.4759
1771.40	22.3029
1791.20	0.0000
1808.65	6.8276

1836.01

4.8975

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924004

Total Uranium Activity	1.0653E+01	ug/g
Total Uranium Counting Unc.	6.7776E+00	ug/g
Total Uranium Tpu	3.4580E-06	ug/g
Total Uranium Mda	4.3492E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942723                          SAMPLE ID   : G244924004
*  ANALYST       : MXR1                             DETECTOR    : GAM23
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 18:39:29.81          SAMPLE ALQT  : 105.392 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.448E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.490E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.741E+00
GROSS GAMMA DLC       (pCi/GRAM ) : 1.806E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 21:05:44.09

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924005.CNF;1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:05:20
Sample ID        : G244924005 Sample quantity   : 1.18558E+02 GRAM
Detector name    : GAM01 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.07 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID         : 942723 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	62.91*	120	465	1.69	126.55	120	11	1.66E-02	36.8	
2	3	74.94	350	347	1.23	150.59	145	17	4.86E-02	10.4	2.24E+00
3	3	77.11*	516	328	1.19	154.93	145	17	7.17E-02	7.9	
4	1	84.06*	102	352	1.20	168.83	165	14	1.42E-02	32.6	2.07E+00
5	1	87.04	174	355	1.21	174.78	165	14	2.42E-02	19.5	
6	0	93.36*	412	538	1.50	187.42	183	13	5.72E-02	13.5	
7	0	186.31*	251	250	1.26	373.21	368	9	3.49E-02	13.8	
8	0	209.59	125	247	0.89	419.74	415	10	1.73E-02	25.3	
9	4	239.00*	970	153	1.24	478.53	471	20	1.35E-01	4.0	2.70E+00
10	4	242.04	271	210	1.88	484.60	471	20	3.77E-02	15.2	
11	0	270.25	140	179	2.38	541.01	536	12	1.95E-02	20.8	
12	0	295.64*	304	181	1.30	591.75	587	9	4.22E-02	10.0	
13	0	328.29	49	134	1.18	657.01	653	8	6.74E-03	43.8	
14	0	338.89	156	178	1.32	678.20	673	10	2.17E-02	17.8	
15	0	352.20*	559	189	1.37	704.80	697	14	7.77E-02	6.9	
16	0	464.30	55	133	1.48	928.86	921	13	7.67E-03	45.1	
17	0	511.50*	111	108	2.04	1023.21	1015	17	1.55E-02	26.6	
18	0	583.50*	279	129	1.44	1167.11	1160	15	3.88E-02	10.8	
19	0	609.63*	385	73	1.39	1219.36	1214	13	5.35E-02	7.0	
20	0	661.87	278	52	1.26	1323.76	1318	12	3.87E-02	7.9	
21	0	728.00	86	61	1.71	1455.94	1449	14	1.20E-02	22.2	
22	0	795.69	40	37	2.25	1591.23	1587	12	5.54E-03	34.1	
23	0	911.41*	189	48	1.36	1822.51	1815	13	2.62E-02	10.6	
24	0	969.69*	87	68	1.15	1939.00	1932	12	1.21E-02	22.6	
25	0	1121.57*	28	66	0.80	2242.54	2239	14	3.82E-03	75.9	
26	0	1239.30	30	55	1.20	2477.83	2471	13	4.18E-03	54.0	
27	0	1461.08*	679	10	1.94	2921.05	2914	14	9.43E-02	4.0	
28	0	1729.79	13	5	2.55	3458.04	3453	10	1.81E-03	42.5	
29	0	1765.03*	63	5	2.49	3528.46	3520	19	8.81E-03	16.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 21:05:47

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924005.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:05:20
 Sample ID : G244924005 Sample quantity : 118.56 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA1 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.07 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	*	2.131E+01	2.558E+00	6.450E-01	5.734E-02	33.033
CD-109	+	88.03	*	2.933E+00	1.174E+00	1.727E+00	1.634E-01	1.698
SN-126	+	64.28		1.450E+00	1.088E+00	9.957E-01	1.465E-01	1.456
	+	86.94		1.198E+00	6.819E-01	6.535E-01	2.713E-01	1.833
	+	87.57	*	2.882E-01	1.154E-01	1.723E-01	1.623E-02	1.672
BA-137M	+	661.65	*	5.097E-01	9.067E-02	7.234E-02	5.925E-03	7.046
CS-137	+	661.65	*	5.388E-01	9.589E-02	7.647E-02	6.277E-03	7.046
TL-208		277.35		8.372E-01	4.670E-01	8.003E-01	1.017E-01	1.046
	+	510.84		6.828E-01	3.725E-01	2.777E-01	3.300E-02	2.459
	+	583.14	*	4.903E-01	1.151E-01	6.963E-02	6.323E-03	7.043
		860.37		3.167E-01	3.742E-01	6.531E-01	6.259E-02	0.485
BI-211		72.87		7.270E+00	4.024E+00	6.237E+00	5.116E-01	1.165
	+	351.07	*	4.241E+00	6.993E-01	3.932E-01	3.577E-02	10.784
PB-212	+	74.81		2.487E+00	6.057E-01	6.079E-01	7.609E-02	4.090
	+	77.11		2.072E+00	3.701E-01	3.430E-01	2.911E-02	6.040
	+	87.30		1.333E+00	5.501E-01	7.995E-01	1.097E-01	1.667
	+	238.63	*	1.584E+00	2.039E-01	1.064E-01	1.077E-02	14.884
		300.09		1.804E+00	1.090E+00	1.732E+00	1.873E-01	1.042
PO-212	+	74.81		2.487E+00	6.057E-01	6.079E-01	7.609E-02	4.090
	+	77.11		2.072E+00	3.701E-01	3.430E-01	2.911E-02	6.040
	+	87.30		1.333E+00	5.501E-01	7.995E-01	1.097E-01	1.667
		115.19		-2.242E+00	4.076E+00	6.296E+00	5.470E-01	-0.356
	+	238.63	*	1.584E+00	2.039E-01	1.064E-01	1.077E-02	14.884
		300.09		1.804E+00	1.090E+00	1.732E+00	1.873E-01	1.042
BI-214	+	609.31	*	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
	+	1120.29		4.841E-01	7.365E-01	4.795E-01	5.131E-02	1.009
	+	1764.49		1.539E+00	5.104E-01	2.294E-01	1.924E-02	6.710
PB-214	+	74.81		4.285E+00	1.015E+00	1.048E+00	1.167E-01	4.090
	+	77.11		3.552E+00	6.897E-01	5.881E-01	6.707E-02	6.040
	+	87.30		2.283E+00	9.310E-01	1.370E+00	1.664E-01	1.667
	+	241.98		2.663E+00	8.600E-01	6.410E-01	6.847E-02	4.154
	+	295.21		1.354E+00	3.092E-01	2.641E-01	2.917E-02	5.128
	+	351.92	*	1.475E+00	2.552E-01	1.371E-01	1.436E-02	10.761
PO-214	+	74.81		4.285E+00	1.015E+00	1.048E+00	1.167E-01	4.090

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.552E+00	6.897E-01	5.881E-01	6.707E-02	6.040
	+	87.30		2.283E+00	9.310E-01	1.370E+00	1.664E-01	1.667
	+	241.98		2.663E+00	8.600E-01	6.410E-01	6.847E-02	4.154
	+	295.21		1.354E+00	3.092E-01	2.641E-01	2.917E-02	5.128
	+	351.92	*	1.475E+00	2.552E-01	1.371E-01	1.436E-02	10.761
PO-216	+	74.81		2.487E+00	6.057E-01	6.079E-01	7.609E-02	4.090
	+	77.11		2.072E+00	3.701E-01	3.430E-01	2.911E-02	6.040
	+	87.30		1.333E+00	5.501E-01	7.995E-01	1.097E-01	1.667
	+	238.63	*	1.584E+00	2.039E-01	1.064E-01	1.077E-02	14.884
	+	300.09		1.804E+00	1.090E+00	1.732E+00	1.873E-01	1.042
PO-218	+	74.81		4.285E+00	1.015E+00	1.048E+00	1.167E-01	4.090
	+	77.11		3.552E+00	6.897E-01	5.881E-01	6.707E-02	6.040
	+	87.30		2.283E+00	9.310E-01	1.370E+00	1.664E-01	1.667
	+	241.98		2.663E+00	8.600E-01	6.410E-01	6.847E-02	4.154
	+	295.21		1.354E+00	3.092E-01	2.641E-01	2.917E-02	5.128
	+	351.92	*	1.475E+00	2.552E-01	1.371E-01	1.436E-02	10.761
RA-224	+	240.98	*	5.050E+00	1.606E+00	1.211E+00	1.101E-01	4.169
RA-226	+	609.31	*	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
	+	1120.29		4.841E-01	7.365E-01	4.795E-01	5.131E-02	1.009
	+	1764.49		1.539E+00	5.104E-01	2.294E-01	1.924E-02	6.710
AC-228	+	338.32		1.306E+00	7.129E-01	4.477E-01	1.849E-01	2.918
	+	911.07	*	1.495E+00	3.614E-01	2.391E-01	2.767E-02	6.252
	+	969.11		1.215E+00	6.193E-01	5.319E-01	1.248E-01	2.284
RA-228	+	338.32		1.306E+00	7.129E-01	4.477E-01	1.849E-01	2.918
	+	911.07	*	1.495E+00	3.614E-01	2.391E-01	2.767E-02	6.252
	+	969.11		1.215E+00	6.193E-01	5.319E-01	1.248E-01	2.284
TH-228	+	74.81		2.525E+00	5.686E-01	6.173E-01	5.185E-02	4.090
	+	77.11		2.104E+00	3.758E-01	3.483E-01	2.956E-02	6.040
	+	87.30		1.353E+00	5.419E-01	8.118E-01	7.624E-02	1.667
	+	238.63	*	1.608E+00	2.071E-01	1.081E-01	1.094E-02	14.884
	+	300.09		1.832E+00	1.539E+00	1.759E+00	1.044E+00	1.042
TH-230	+	609.31	*	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
	+	1120.29		4.841E-01	7.365E-01	4.795E-01	5.131E-02	1.009
	+	1764.49		1.539E+00	5.104E-01	2.294E-01	1.924E-02	6.710
TH-232	+	338.32		1.306E+00	4.798E-01	4.477E-01	3.941E-02	2.918
	+	911.07	*	1.495E+00	3.614E-01	2.391E-01	2.767E-02	6.252
	+	969.11		1.215E+00	6.193E-01	5.319E-01	1.248E-01	2.284
TH-234	+	63.29	*	3.662E+00	2.772E+00	2.327E+00	4.090E-01	1.574
	+	92.38		4.362E+00	1.421E+00	1.125E+00	2.062E-01	3.879
U-234	+	609.31	*	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
	+	1120.29		4.841E-01	7.365E-01	4.795E-01	5.131E-02	1.009
	+	1764.49		1.539E+00	5.104E-01	2.294E-01	1.924E-02	6.710
NP-237	+	86.50	*	8.462E-01	3.812E-01	4.640E-01	1.050E-01	1.824
	+	95.87		6.806E-01	1.224E+00	1.783E+00	4.413E-01	0.382
U-238	+	63.29	*	3.662E+00	2.772E+00	2.327E+00	4.090E-01	1.574
	+	92.38		4.362E+00	1.240E+00	1.125E+00	1.027E-01	3.879
AM-243	+	74.67	*	4.032E-01	9.068E-02	9.890E-02	8.224E-03	4.077
	+	86.72		3.173E+01	1.271E+01	1.735E+01	1.619E+00	1.828
	+	117.66		-1.378E+00	4.355E+00	6.805E+00	5.932E-01	-0.203

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	142.18			1.329E+01	1.981E+01	3.438E+01	2.940E+00	0.387
	511.00	*		1.475E-01	7.952E-02	5.999E-02	5.085E-03	2.458

---- 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	*		-8.570E-02	4.028E-01	6.347E-01	5.775E-02	-0.135
NA-22	1274.54	*		1.194E-02	5.227E-02	8.939E-02	7.506E-03	0.134
NA-24	1368.53	*		2.925E-01	5.227E-02	Half-Life too short		
AL-26	1129.67			3.325E-01	2.197E+00	3.124E+00	2.609E-01	0.106
	1808.65	*		-1.431E-03	3.378E-02	5.441E-02	4.508E-03	-0.026
TI-44	67.85			1.846E-02	5.697E-02	8.902E-02	7.059E-03	0.207
	78.38	*		3.824E-01	6.829E-02	8.784E-02	7.538E-03	4.353
SC-46	889.25	*		-1.188E-02	4.411E-02	6.985E-02	6.314E-03	-0.170
	1120.51	*		8.299E-02	1.261E-01	1.352E-01	1.136E-02	0.614
V-48	944.10			-5.680E-02	1.040E+00	1.682E+00	1.515E-01	-0.034
	983.50	*		-5.216E-02	8.042E-02	1.198E-01	1.069E-02	-0.435
	1312.09			3.117E-02	7.916E-02	1.392E-01	1.180E-02	0.224
CR-51	320.08	*		-1.528E-01	4.457E-01	7.143E-01	6.719E-02	-0.214
MN-52	744.21			-2.046E-02	2.702E-01	4.434E-01	3.804E-02	-0.046
	848.13			-4.341E+00	7.366E+00	1.122E+01	1.003E+00	-0.387
	935.52			-5.661E-02	3.079E-01	4.916E-01	4.434E-02	-0.115
	1246.25			1.937E+00	9.059E+00	1.400E+01	1.164E+00	0.138
	1333.61			-3.178E+00	5.570E+00	8.485E+00	7.234E-01	-0.375
	1434.06	*		-2.165E-01	2.286E-01	3.022E-01	2.609E-02	-0.716
MN-54	834.83	*		7.237E-02	4.385E-02	8.193E-02	7.293E-03	0.883
CO-56	846.75	*		4.546E-03	4.011E-02	6.665E-02	5.955E-03	0.068
	977.42			1.579E+00	3.268E+00	5.605E+00	5.012E-01	0.282
	1037.82			-4.563E-02	3.437E-01	5.466E-01	5.039E-02	-0.083
	1175.09			-3.322E+00	2.422E+00	3.396E+00	2.751E-01	-0.978
	1238.25	*		1.495E-01	1.621E-01	2.055E-01	1.757E-02	0.728
	1360.21			9.943E-01	9.623E-01	1.850E+00	1.584E-01	0.537
	1771.40			-1.169E-01	2.859E-01	3.367E-01	2.819E-02	-0.347
CO-57	122.06	*		1.327E-02	3.009E-02	4.870E-02	4.287E-03	0.272
	136.48			8.865E-02	2.334E-01	4.018E-01	3.711E-02	0.221
CO-58	810.76	*		-3.061E-02	4.393E-02	6.661E-02	5.893E-03	-0.460
FE-59	142.65			2.738E+00	3.089E+00	5.393E+00	4.612E-01	0.508
	192.34			9.733E-01	1.070E+00	1.851E+00	2.500E-01	0.526
	1099.22	*		6.030E-02	1.148E-01	1.953E-01	1.800E-02	0.309
	1291.56			-2.691E-02	1.414E-01	2.205E-01	2.120E-02	-0.122
CO-60	1173.22			-3.051E-02	5.003E-02	7.848E-02	6.352E-03	-0.389
	1332.49	*		7.799E-03	4.361E-02	7.431E-02	6.334E-03	0.105
ZN-65	1115.52	*		-8.725E-02	1.084E-01	1.361E-01	1.149E-02	-0.641
GE-68	1077.35	*		2.485E+00	1.518E+00	2.851E+00	2.455E-01	0.872
AS-73	53.44	*		6.979E-01	1.034E+00	1.735E+00	1.404E-01	0.402
AS-74	595.88	*		-2.841E-02	9.733E-02	1.588E-01	1.338E-02	-0.179
	634.78			2.392E-01	3.864E-01	6.796E-01	5.646E-02	0.352
SE-75	66.05			2.446E+00	6.253E+00	9.214E+00	9.034E-01	0.265

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-3.929E-02	9.808E-01	1.392E+00	1.923E-01	-0.028
		121.11		6.939E-02	1.603E-01	2.593E-01	2.941E-02	0.268
		136.00		1.988E-02	4.349E-02	7.511E-02	6.500E-03	0.265
		198.60		2.966E+00	2.071E+00	3.643E+00	3.545E-01	0.814
		264.65	*	1.091E-02	5.828E-02	8.534E-02	7.839E-03	0.128
		279.53		6.664E-02	1.322E-01	2.235E-01	2.112E-02	0.298
		303.91		-3.491E+00	2.685E+00	4.032E+00	4.764E-01	-0.866
		400.65		-6.224E-02	3.192E-01	5.098E-01	5.464E-02	-0.122
BR-77	+	87.88		6.673E+02	2.672E+02	3.949E+02	3.733E+01	1.690
		200.40		-5.678E+01	2.066E+02	3.415E+02	3.013E+01	-0.166
	+	239.00		2.679E+02	3.234E+01	4.495E+01	4.081E+00	5.961
		249.79		-3.005E+01	7.556E+01	1.223E+02	1.115E+01	-0.246
		281.68		-1.560E+02	1.145E+02	1.727E+02	1.578E+01	-0.904
		297.23		2.939E+02	1.029E+02	1.661E+02	1.511E+01	1.769
		303.76		-2.877E+02	2.407E+02	3.664E+02	3.322E+01	-0.785
		439.47		-1.179E+02	1.966E+02	3.024E+02	2.507E+01	-0.390
		484.57		-3.185E+02	3.164E+02	4.638E+02	3.911E+01	-0.687
		520.65	*	-4.666E+00	1.332E+01	2.058E+01	1.746E+00	-0.227
		574.64		-2.169E+02	2.404E+02	3.710E+02	3.141E+01	-0.585
		578.91		8.519E+01	1.127E+02	1.784E+02	1.509E+01	0.478
		585.48		1.639E+03	3.501E+02	6.308E+02	5.328E+01	2.599
		755.35		3.643E+01	2.095E+02	3.514E+02	3.031E+01	0.104
		817.79		-5.516E+01	1.493E+02	2.349E+02	2.079E+01	-0.235
SR-82		698.33		7.774E+00	4.226E+01	7.116E+01	5.959E+00	0.109
		776.49	*	-2.659E-01	4.736E-01	7.395E-01	6.438E-02	-0.360
		1395.20		-1.309E+00	1.107E+01	1.799E+01	1.547E+00	-0.073
RB-83		520.41	*	-3.250E-02	8.347E-02	1.284E-01	1.090E-02	-0.253
		529.64		7.158E-02	1.119E-01	1.980E-01	1.680E-02	0.362
		552.65		2.050E-01	2.363E-01	4.215E-01	3.577E-02	0.486
RB-84		881.50	*	-1.691E-02	8.185E-02	1.308E-01	1.180E-02	-0.129
KR-85		513.99	*	1.896E+01	1.016E+01	1.661E+01	1.408E+00	1.142
SR-85		513.99	*	9.740E-02	5.221E-02	8.532E-02	7.234E-03	1.142
RB-86		1076.63	*	9.709E-01	9.946E-01	1.766E+00	1.521E-01	0.550
Y-88		898.02		6.537E-03	4.850E-02	8.038E-02	7.313E-03	0.081
		1836.01	*	1.439E-02	3.731E-02	6.610E-02	5.436E-03	0.218
ZR-88		392.90	*	1.405E-02	3.885E-02	6.449E-02	5.193E-03	0.218
Y-91		1204.90	*	1.728E+01	2.358E+01	4.195E+01	3.437E+00	0.412
NB-94		702.63	*	4.575E-03	3.976E-02	6.660E-02	5.590E-03	0.069
		871.10		-3.437E-03	4.008E-02	6.500E-02	5.849E-03	-0.053
NB-95		765.79	*	-7.524E-02	5.280E-02	7.543E-02	6.536E-03	-0.997
NB-95M		235.69	*	1.513E-01	1.586E-01	2.448E-01	2.511E-02	0.618
ZR-95		724.18		3.640E-02	1.202E-01	1.793E-01	1.658E-02	0.203
		756.15	*	-4.673E-03	8.495E-02	1.396E-01	1.326E-02	-0.033
NB-97		657.90	*	-2.694E-02	8.495E-02	Half-Life too short		
		1024.50		9.458E+00	8.495E-02	Half-Life too short		
ZR-97		254.15		6.899E+00	8.495E-02	Half-Life too short		
		355.39		4.264E+00	8.495E-02	Half-Life too short		
		507.63	*	1.671E+00	8.495E-02	Half-Life too short		
		602.52		-5.859E+00	8.495E-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			5.075E+00	8.495E-02	Half-Life	too short	
	1147.95			6.617E+00	8.495E-02	Half-Life	too short	
	1362.66			-1.483E+00	8.495E-02	Half-Life	too short	
	1750.46			1.141E+01	8.495E-02	Half-Life	too short	
MO-99	140.51			-7.378E+00	3.126E+01	5.242E+01	1.451E+01	-0.141
	181.06			-2.295E+01	2.346E+01	3.211E+01	5.877E+00	-0.715
	366.43			-5.167E+01	1.065E+02	1.672E+02	1.414E+01	-0.309
	739.58	*		-1.020E+01	1.524E+01	2.356E+01	3.569E+00	-0.433
	778.00			-2.366E+01	4.075E+01	6.316E+01	5.503E+00	-0.375
TC-99M	140.51	*		-1.679E+10	4.075E+01	Half-Life	too short	
RH-101	127.23			-1.268E-02	3.897E-02	6.075E-02	5.285E-03	-0.209
	198.01	*		2.923E-02	3.799E-02	6.554E-02	5.767E-03	0.446
	325.23			-1.291E-01	3.063E-01	4.232E-01	3.777E-02	-0.305
RH-102	418.52			7.604E-02	3.433E-01	5.638E-01	4.621E-02	0.135
	475.06	*		-1.643E-02	3.680E-02	5.593E-02	4.703E-03	-0.294
	631.29			4.128E-02	5.918E-02	1.047E-01	8.711E-03	0.394
	697.49			6.668E-02	9.173E-02	1.609E-01	1.347E-02	0.414
	766.84			1.194E-02	1.322E-01	2.198E-01	1.906E-02	0.054
	1046.59			-1.329E-02	1.324E-01	2.114E-01	1.847E-02	-0.063
	1112.84			2.823E-02	2.268E-01	3.712E-01	3.133E-02	0.076
RU-103	497.08	*		-1.862E-02	4.669E-02	7.183E-02	1.010E-02	-0.259
	610.33	+		1.382E+01	2.996E+00	3.524E+00	5.837E-01	3.922
RH-106	511.85	+		7.369E-01	3.973E-01	4.924E-01	4.174E-02	1.497
	621.84	*		-4.561E-02	3.403E-01	5.615E-01	7.405E-02	-0.081
	1050.47			-7.214E-01	2.574E+00	4.012E+00	3.499E-01	-0.180
RU-106	511.85	+		7.369E-01	3.973E-01	4.924E-01	4.174E-02	1.497
	621.84	*		-4.561E-02	3.402E-01	5.615E-01	4.691E-02	-0.081
	1050.47			-7.214E-01	2.574E+00	4.012E+00	3.499E-01	-0.180
AG-108M	433.93	*		-1.050E-02	4.357E-02	6.904E-02	5.954E-03	-0.152
	614.37			7.559E-03	5.096E-02	7.536E-02	6.575E-03	0.100
	722.95			1.248E-02	5.231E-02	7.751E-02	6.844E-03	0.161
AG-110M	657.75	*		-9.997E-03	4.547E-02	6.394E-02	5.421E-03	-0.156
	677.61			1.111E-01	3.318E-01	5.687E-01	4.848E-02	0.195
	706.67			-1.976E-02	2.366E-01	3.895E-01	3.372E-02	-0.051
	763.93			-1.579E-01	2.017E-01	3.091E-01	2.751E-02	-0.511
	884.67			-9.465E-03	5.747E-02	9.227E-02	8.576E-03	-0.103
	937.48			9.378E-04	1.248E-01	2.034E-01	1.895E-02	0.005
	1384.27			-3.775E-02	1.875E-01	3.022E-01	2.670E-02	-0.125
IN-111	171.28			-1.050E-01	1.205E+00	2.021E+00	1.730E-01	-0.052
	245.39	*		6.478E-02	1.389E+00	2.033E+00	1.851E-01	0.032
IN-113M	391.69	*		2.006E-03	5.589E-02	9.085E-02	7.567E-03	0.022
SN-113	391.69	*		2.006E-03	5.589E-02	9.085E-02	7.567E-03	0.022
IN-114M	190.27	*		1.615E-01	2.269E-01	3.494E-01	3.051E-02	0.462
CD-115	260.90			8.647E+01	1.589E+02	2.703E+02	2.471E+01	0.320
	492.35			-2.576E+01	4.601E+01	6.993E+01	5.908E+00	-0.368
	527.90	*		-1.299E+01	1.225E+01	1.871E+01	1.588E+00	-0.694
SN-117M	156.02			2.322E+00	2.652E+00	4.619E+00	3.933E-01	0.503
	158.56	*		-8.202E-03	6.304E-02	1.059E-01	9.014E-03	-0.077
SB-122	563.90	*		2.499E+00	2.505E+00	4.503E+00	3.817E-01	0.555

---- Non-Identified Nuclides ----

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I-123		692.80		-1.189E+01	5.064E+01	8.226E+01	6.867E+00	-0.145
		159.00	*	-6.944E+00	5.064E+01	Half-Life	too short	
		528.96		-6.143E+01	5.064E+01	Half-Life	too short	
TE-123M		159.00	*	-2.739E-02	3.282E-02	5.339E-02	4.574E-03	-0.513
I-124		602.71	*	-6.687E-01	7.984E-01	1.154E+00	9.703E-02	-0.579
		722.78		1.297E+00	5.624E+00	8.326E+00	7.065E-01	0.156
		1325.50		2.002E+01	3.959E+01	7.020E+01	5.973E+00	0.285
SB-124		1376.25		5.774E+01	4.221E+01	7.984E+01	6.852E+00	0.723
		1509.49		6.359E+00	1.842E+01	3.201E+01	2.772E+00	0.199
		1691.02		-2.783E+00	5.078E+00	7.387E+00	6.293E-01	-0.377
		602.71		-3.781E-02	4.514E-02	6.525E-02	5.487E-03	-0.579
		645.85		-1.197E-01	5.587E-01	9.133E-01	8.038E-02	-0.131
		709.31		8.706E-01	3.036E+00	5.165E+00	4.352E-01	0.169
		713.82		9.248E-01	1.816E+00	3.146E+00	3.748E-01	0.294
		722.78		1.063E-01	4.609E-01	6.824E-01	5.920E-02	0.156
	+	968.20		1.253E+01	5.782E+00	8.391E+00	7.520E-01	1.494
		1045.16		7.722E-01	2.815E+00	4.699E+00	4.107E-01	0.164
		1325.50		1.752E+00	3.466E+00	6.145E+00	5.229E-01	0.285
SB-125		1368.21		5.221E-01	1.756E+00	3.087E+00	4.151E-01	0.169
		1436.60		-2.640E-01	3.399E+00	5.539E+00	4.783E-01	-0.048
		1691.02	*	-5.380E-02	9.817E-02	1.428E-01	1.266E-02	-0.377
		427.89	*	-3.884E-02	1.230E-01	1.873E-01	1.576E-02	-0.207
	+	463.38		6.600E-01	5.985E-01	6.841E-01	6.205E-02	0.965
		600.56		1.970E-02	1.929E-01	3.257E-01	2.952E-02	0.060
		635.90		6.742E-02	2.862E-01	4.879E-01	4.403E-02	0.138
		109.28	*	-5.491E+00	1.117E+01	1.736E+01	1.799E+00	-0.316
		388.63	*	-4.489E-02	2.496E-01	3.998E-01	3.238E-02	-0.112
		666.33	*	4.395E-02	2.465E-01	3.639E-01	2.989E-02	0.121
SB-126		753.82		2.243E-01	1.755E+00	2.932E+00	2.527E-01	0.076
		223.80		2.286E+00	4.684E+00	7.974E+00	7.174E-01	0.287
		278.60		3.988E+00	3.017E+00	5.277E+00	4.826E-01	0.756
	+	296.50		1.362E+01	2.990E+00	4.538E+00	4.129E-01	3.002
		414.70		-5.825E-02	9.302E-02	1.432E-01	1.170E-02	-0.407
		415.30		-5.671E+00	7.628E+00	1.161E+01	9.494E-01	-0.489
		555.20		-7.387E-02	4.691E+00	7.879E+00	6.686E-01	-0.009
		573.80		-6.286E-02	1.141E+00	1.907E+00	1.614E-01	-0.033
		593.00		-1.667E-01	9.659E-01	1.593E+00	1.343E-01	-0.105
		656.30		2.105E+00	4.320E+00	6.629E+00	5.446E-01	0.318
		666.33		1.837E-02	1.030E-01	1.521E-01	1.250E-02	0.121
		675.00		-4.399E-01	2.272E+00	3.712E+00	3.066E-01	-0.118
		695.00		-2.729E-02	9.103E-02	1.471E-01	1.230E-02	-0.185
		697.00		3.653E-01	3.205E-01	5.785E-01	4.841E-02	0.631
		720.50	*	-2.030E-02	1.791E-01	2.659E-01	2.254E-02	-0.076
		856.80		-9.218E-01	6.231E-01	8.636E-01	7.739E-02	-1.067
		989.30		5.650E-01	1.410E+00	2.396E+00	2.136E-01	0.236
		1034.80		-2.471E-01	9.719E+00	1.568E+01	1.376E+00	-0.016
SB-127		1213.00		1.175E+00	5.439E+00	9.296E+00	7.639E-01	0.126
		61.10		6.253E+01	7.053E+01	1.182E+02	1.236E+01	0.529
		252.40		-2.180E+00	5.007E+00	7.948E+00	3.350E+00	-0.274

---- Non-Identified Nuclides ----

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	290.80			5.546E+00	2.907E+01	4.261E+01	4.944E+00	0.130
	411.60			6.157E+00	1.550E+01	2.572E+01	3.990E+00	0.239
	444.90			4.241E+00	1.235E+01	2.039E+01	2.522E+00	0.208
	473.00			-1.541E+00	2.264E+00	3.369E+00	4.301E-01	-0.458
	543.00			-8.672E+00	1.990E+01	3.231E+01	4.639E+00	-0.268
	603.60			-1.981E+00	1.495E+01	2.142E+01	2.658E+00	-0.092
	685.20	*		-2.385E-01	1.504E+00	2.460E+00	2.756E-01	-0.097
	698.50			7.603E-02	1.956E+01	3.246E+01	5.104E+00	0.002
	722.20			-1.215E+00	3.901E+01	5.582E+01	6.201E+00	-0.022
	783.80			1.345E+00	4.101E+00	6.970E+00	8.742E-01	0.193
XE-127	57.60			-3.414E+00	7.925E+00	1.117E+01	8.577E-01	-0.306
	145.22			2.166E-01	8.011E-01	1.360E+00	1.162E-01	0.159
	172.10			-1.070E-02	1.392E-01	2.335E-01	2.001E-02	-0.046
	202.84	*		-1.532E-02	5.613E-02	9.276E-02	8.201E-03	-0.165
	374.96			1.121E-01	2.320E-01	3.896E-01	3.244E-02	0.288
I-131	80.18			-2.927E+00	7.251E+00	7.868E+00	6.909E-01	-0.372
	284.30			5.825E-01	1.723E+00	2.895E+00	2.768E-01	0.201
	364.48	*		4.690E-02	1.471E-01	2.374E-01	2.128E-02	0.198
	636.97			-2.613E-01	1.654E+00	2.719E+00	2.393E-01	-0.096
	722.89			2.091E+00	8.942E+00	1.324E+01	1.131E+00	0.158
TE-132	49.72			3.822E+00	2.679E+01	4.399E+01	4.748E+00	0.087
	111.76			-1.289E+00	3.717E+01	5.767E+01	6.309E+00	-0.022
	116.30			2.992E+01	3.159E+01	5.230E+01	5.735E+00	0.572
	228.16	*		-2.965E-01	8.492E-01	1.388E+00	2.217E-01	-0.214
BA-133	53.15			7.682E-01	4.526E+00	7.430E+00	6.037E-01	0.103
	79.62			2.922E-02	1.971E+00	2.224E+00	3.394E-01	0.013
	81.00			1.196E-02	1.491E-01	1.690E-01	2.699E-02	0.071
	276.40			2.994E-01	5.065E-01	7.621E-01	1.126E-01	0.393
	302.84			1.381E-02	1.786E-01	2.946E-01	4.002E-02	0.047
	356.01	*		-1.333E-03	5.923E-02	8.431E-02	1.112E-02	-0.016
	383.85			-2.018E-01	3.499E-01	5.421E-01	6.673E-02	-0.372
I-133	510.53	+		1.731E+00	3.499E-01	Half-Life too short		
	529.87	*		5.646E-03	3.499E-01	Half-Life too short		
	706.58			-8.075E-02	3.499E-01	Half-Life too short		
	856.28			-7.608E-01	3.499E-01	Half-Life too short		
	875.33			5.427E-02	3.499E-01	Half-Life too short		
	1236.41			1.052E+00	3.499E-01	Half-Life too short		
	1298.22			8.362E-04	3.499E-01	Half-Life too short		
CS-134	475.35			-8.682E-01	2.420E+00	3.708E+00	3.119E-01	-0.234
	563.23			5.179E-01	4.110E-01	7.511E-01	6.431E-02	0.690
	569.32			-8.884E-02	2.153E-01	3.489E-01	2.998E-02	-0.255
	604.70			7.139E-03	4.038E-02	6.003E-02	5.058E-03	0.119
	795.84	+	*	1.019E-01	7.013E-02	9.797E-02	8.658E-03	1.040
	801.93			1.705E-01	4.926E-01	7.381E-01	6.528E-02	0.231
	1038.57			-1.561E+00	4.291E+00	6.616E+00	5.798E-01	-0.236
	1167.94			4.140E-01	2.985E+00	5.077E+00	4.126E-01	0.082
	1365.15			-1.768E+00	1.273E+00	1.559E+00	1.397E-01	-1.134
CS-135	268.24	*		1.126E-01	2.160E-01	3.163E-01	3.298E-02	0.356
I-135	288.45			-3.873E+09	2.160E-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
	417.63			3.470E+10	2.160E-01	Half-Life	too short	
	546.56			5.104E+09	2.160E-01	Half-Life	too short	
	836.80			6.762E+09	2.160E-01	Half-Life	too short	
	1038.76			-1.316E+10	2.160E-01	Half-Life	too short	
	1124.00			3.843E+10	2.160E-01	Half-Life	too short	
	1131.51			5.312E+09	2.160E-01	Half-Life	too short	
	1260.41	*		7.299E+09	2.160E-01	Half-Life	too short	
	1457.56			3.886E+11	2.160E-01	Half-Life	too short	
	1678.03			-1.324E+10	2.160E-01	Half-Life	too short	
	1706.46			-3.774E+09	2.160E-01	Half-Life	too short	
	1791.20			1.655E+10	2.160E-01	Half-Life	too short	
CS-136	66.91			1.501E+00	1.013E+00	1.543E+00	2.321E-01	0.973
	86.29	+		3.796E+00	1.563E+00	2.337E+00	3.110E-01	1.624
	153.22			5.234E-01	7.744E-01	1.322E+00	1.261E-01	0.396
	163.89			7.351E-01	1.267E+00	2.133E+00	2.039E-01	0.345
	176.55			6.114E-02	4.255E-01	7.198E-01	6.554E-02	0.085
	273.65			-6.702E-01	6.080E-01	8.006E-01	7.755E-02	-0.837
	340.57			6.440E-01	1.988E-01	3.350E-01	3.023E-02	1.922
	818.51			-6.267E-02	8.418E-02	1.266E-01	1.121E-02	-0.495
	1048.07	*		4.231E-02	1.214E-01	2.045E-01	1.859E-02	0.207
	1235.34			3.168E-02	7.633E-01	1.108E+00	1.285E-01	0.029
CE-139	165.85	*		-3.178E-02	3.469E-02	5.610E-02	4.778E-03	-0.566
BA-140	162.64			3.188E-01	8.945E-01	1.495E+00	1.349E-01	0.213
	304.84			-1.670E+00	1.675E+00	2.482E+00	6.990E-01	-0.673
	423.70			-2.684E-01	2.342E+00	3.747E+00	1.211E+00	-0.072
	537.32	*		-3.737E-02	2.946E-01	4.909E-01	1.625E-01	-0.076
LA-140	328.77	+		5.048E-01	4.443E-01	6.652E-01	6.228E-02	0.759
	432.53			-1.278E+00	2.714E+00	4.222E+00	3.672E-01	-0.303
	487.03			1.059E-01	1.667E-01	2.807E-01	2.521E-02	0.377
	751.79			-6.390E-01	2.050E+00	3.287E+00	3.133E-01	-0.194
	815.85			1.922E-01	3.425E-01	5.969E-01	5.857E-02	0.322
	867.82			1.833E+00	1.681E+00	3.044E+00	2.870E-01	0.602
	919.63			-2.461E+00	2.960E+00	4.284E+00	4.708E-01	-0.574
	925.24			-2.184E-01	1.313E+00	2.100E+00	2.006E-01	-0.104
	1596.49	*		-1.198E-01	9.852E-02	1.214E-01	1.047E-02	-0.987
CE-141	145.44	*		4.650E-03	7.208E-02	1.214E-01	1.056E-02	0.038
CE-143	57.37			-9.180E-04	7.208E-02	Half-Life	too short	
	231.56			-5.275E-04	7.208E-02	Half-Life	too short	
	293.26	*		3.976E-04	7.208E-02	Half-Life	too short	
	350.59			2.845E-02	7.208E-02	Half-Life	too short	
	490.36			-5.576E-04	7.208E-02	Half-Life	too short	
	664.57			4.537E-03	7.208E-02	Half-Life	too short	
	721.93			1.113E-04	7.208E-02	Half-Life	too short	
CE-144	80.11			-1.328E+00	3.289E+00	3.569E+00	3.112E-01	-0.372
	133.54	*		-1.505E-01	2.427E-01	3.700E-01	5.760E-02	-0.407
PM-144	476.78			-3.233E-02	8.676E-02	1.350E-01	1.247E-02	-0.240
	618.01			2.012E-02	3.744E-02	6.377E-02	5.491E-03	0.316
	696.49	*		3.512E-02	4.000E-02	7.105E-02	5.946E-03	0.494
	778.57			-2.397E-01	2.519E+00	4.113E+00	3.585E-01	-0.058

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	696.49		*	2.380E+00	2.711E+00	4.815E+00	4.028E-01	0.494
	1489.15			-2.924E+00	1.217E+01	1.915E+01	1.658E+00	-0.153
PM-146	453.90		*	6.180E-02	5.764E-02	9.914E-02	1.041E-02	0.623
	633.02			2.097E-01	1.536E+00	2.592E+00	9.668E-01	0.081
	735.90			2.358E-01	1.954E-01	3.304E-01	9.442E-02	0.714
	747.13			-1.156E-02	1.022E-01	1.670E-01	2.341E-02	-0.069
ND-147	91.11			1.062E+00	5.106E-01	6.403E-01	6.329E-02	1.658
	319.41			-1.706E+00	3.983E+00	6.346E+00	5.693E-01	-0.269
	439.89			-3.925E+00	7.655E+00	1.185E+01	9.832E-01	-0.331
	531.02		*	4.441E-01	6.201E-01	1.098E+00	1.633E-01	0.405
PM-149	285.90		*	-3.394E+01	1.115E+02	1.801E+02	2.852E+01	-0.188
EU-152	121.78			4.881E-02	8.778E-02	1.427E-01	1.438E-02	0.342
	244.69			4.158E-01	4.278E-01	6.635E-01	6.039E-02	0.627
	344.27		*	-9.902E-02	1.345E-01	1.787E-01	1.652E-02	-0.554
	443.98			8.951E-01	1.179E+00	2.003E+00	1.664E-01	0.447
	778.89			2.793E-02	2.934E-01	4.883E-01	4.256E-02	0.057
	867.32			7.210E-01	1.015E+00	1.776E+00	1.597E-01	0.406
	964.01			4.273E-01	4.087E-01	6.487E-01	5.819E-02	0.659
	1085.78			1.755E-01	4.516E-01	7.619E-01	6.532E-02	0.230
	1112.02			5.673E-02	3.341E-01	5.495E-01	4.642E-02	0.103
	1407.95			1.774E-02	1.968E-01	3.308E-01	2.849E-02	0.054
GD-153	69.67			-2.904E+00	2.225E+00	2.963E+00	2.377E-01	-0.980
+	83.37			3.094E+01	2.035E+01	2.949E+01	2.655E+00	1.049
	97.43		*	-2.315E-02	1.025E-01	1.418E-01	1.260E-02	-0.163
	103.18			-2.083E-01	1.261E-01	1.833E-01	1.599E-02	-1.136
EU-154	123.07			-4.203E-03	6.283E-02	9.930E-02	1.140E-02	-0.042
	247.94			1.973E-01	4.213E-01	6.674E-01	7.910E-02	0.296
	591.81			-2.573E-01	6.723E-01	1.056E+00	1.218E-01	-0.244
	723.30			4.559E-02	2.213E-01	3.265E-01	3.073E-02	0.140
	756.87			-2.230E-02	9.561E-01	1.576E+00	1.888E-01	-0.014
	873.19			-1.262E-01	3.528E-01	5.544E-01	6.939E-02	-0.228
	996.32			-2.946E-01	4.356E-01	6.451E-01	1.155E-01	-0.457
	1004.76			-1.080E-01	2.642E-01	4.085E-01	4.832E-02	-0.264
	1274.45		*	2.129E-02	1.464E-01	2.481E-01	2.763E-02	0.086
EU-155	48.70			7.362E-01	3.328E+00	5.486E+00	4.695E-01	0.134
	60.01			7.793E+00	6.030E+00	9.391E+00	7.099E-01	0.830
+	86.54			3.471E-01	1.390E-01	2.108E-01	1.980E-02	1.647
	105.31		*	1.028E-01	1.276E-01	2.104E-01	1.850E-02	0.488
TB-160	86.79			9.286E-01	3.719E-01	5.626E-01	5.254E-02	1.651
+	197.04			-2.082E-01	6.459E-01	1.066E+00	9.370E-02	-0.195
	215.65			-1.281E-01	9.035E-01	1.447E+00	1.294E-01	-0.089
	298.57			1.005E-01	1.533E-01	2.316E-01	2.106E-02	0.434
	879.36		*	8.694E-02	1.585E-01	2.744E-01	2.474E-02	0.317
	962.29			-1.562E-01	7.110E-01	1.018E+00	9.134E-02	-0.153
	966.15			5.813E-01	3.181E-01	5.315E-01	4.766E-02	1.094
	1177.93			3.533E-02	3.654E-01	6.199E-01	5.026E-02	0.057
	1271.85			3.352E-01	8.277E-01	1.442E+00	1.209E-01	0.232
HO-166M	80.57			-3.716E-02	4.108E-01	4.588E-01	4.019E-02	-0.081
	184.41			1.353E-01	4.680E-02	7.726E-02	6.705E-03	1.751

---- Non-Identified Nuclides ----

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TM-171		280.46		-7.358E-02	1.009E-01	1.593E-01	1.456E-02	-0.462
		410.95		3.288E-01	2.983E-01	5.169E-01	4.216E-02	0.636
		711.68	*	-3.761E-02	6.574E-02	1.027E-01	8.666E-03	-0.366
		752.31		-1.769E-01	3.291E-01	5.159E-01	4.443E-02	-0.343
		810.29		-3.555E-02	6.412E-02	9.880E-02	8.718E-03	-0.360
		51.35		-4.444E+01	3.979E+01	6.110E+01	5.085E+00	-0.727
		52.39		-9.446E+00	2.029E+01	3.232E+01	2.653E+00	-0.292
		59.40		1.267E+01	3.324E+01	4.929E+01	3.715E+00	0.257
		66.72	*	5.731E+01	3.566E+01	5.556E+01	4.376E+00	1.031
		88.36		6.835E-01	2.737E-01	4.032E-01	3.803E-02	1.695
LU-176	+	201.83		-2.820E-02	3.462E-02	5.575E-02	4.924E-03	-0.506
		306.84	*	-9.077E-03	2.918E-02	4.697E-02	4.252E-03	-0.193
LU-177		401.10		-4.375E+00	8.432E+00	1.315E+01	1.065E+00	-0.333
		112.95		-3.331E-01	1.962E+00	3.020E+00	2.619E-01	-0.110
LU-177M	+	208.36	*	3.668E+00	1.885E+00	2.344E+00	2.082E-01	1.565
		52.97		1.986E-01	2.048E+00	3.351E+00	2.729E-01	0.059
		54.07		1.093E+00	1.054E+00	1.793E+00	1.439E-01	0.610
		61.30		2.243E+00	1.790E+00	3.039E+00	2.318E-01	0.738
		121.62		3.525E-01	4.473E-01	7.346E-01	6.453E-02	0.480
		147.16		-8.053E-01	7.328E-01	1.181E+00	1.007E-01	-0.682
		171.86		-6.124E-02	5.585E-01	9.359E-01	8.016E-02	-0.065
		218.09		7.916E-01	1.009E+00	1.738E+00	1.557E-01	0.456
	+	268.79		3.528E+00	1.499E+00	1.682E+00	1.539E-01	2.097
		319.02		-8.493E-02	3.100E-01	4.991E-01	4.479E-02	-0.170
		367.43		-4.831E-01	1.110E+00	1.686E+00	1.424E-01	-0.286
		413.65	*	-1.434E-01	2.131E-01	3.267E-01	2.669E-02	-0.439
HF-181		56.28		-9.110E-01	1.147E+00	1.791E+00	1.397E-01	-0.509
		57.53		-2.837E-01	6.672E-01	9.407E-01	7.230E-02	-0.302
		65.20		-9.034E-01	1.296E+00	1.799E+00	1.405E-01	-0.502
		133.02		-8.742E-02	7.983E-02	1.189E-01	1.025E-02	-0.736
		136.25		1.579E-01	5.107E-01	8.772E-01	7.538E-02	0.180
W-181		345.85		-1.080E-01	2.573E-01	3.529E-01	3.078E-02	-0.306
		482.03	*	4.219E-02	5.359E-02	9.101E-02	7.668E-03	0.464
		56.28		-3.564E-01	4.481E-01	6.997E-01	5.457E-02	-0.509
		57.53		-1.109E-01	2.609E-01	3.678E-01	2.827E-02	-0.301
TA-182		65.20	*	-3.504E-01	5.028E-01	6.980E-01	5.449E-02	-0.502
		67.75		9.119E-02	1.344E-01	2.132E-01	1.690E-02	0.428
		100.10		1.812E-01	2.143E-01	3.391E-01	2.982E-02	0.534
		152.43		-2.368E-02	3.818E-01	6.439E-01	5.486E-02	-0.037
		222.10		-2.112E-01	3.991E-01	6.473E-01	5.816E-02	-0.326
		1001.68		2.778E+00	2.613E+00	4.641E+00	4.122E-01	0.599
	+	1121.28		2.291E-01	3.482E-01	3.819E-01	3.207E-02	0.600
		1189.05		-1.404E-01	3.507E-01	5.641E-01	4.594E-02	-0.249
		1221.42	*	3.352E-02	2.054E-01	3.497E-01	2.882E-02	0.096
		1230.97		-6.278E-02	5.682E-01	8.706E-01	7.200E-02	-0.072
RE-183		57.98		-1.603E-01	2.600E-01	3.617E-01	2.766E-02	-0.443
		59.32		4.698E-02	1.368E-01	2.025E-01	1.527E-02	0.232
		67.20		2.982E-01	2.559E-01	3.909E-01	3.087E-02	0.763
		162.32	*	1.911E-02	1.284E-01	2.129E-01	1.813E-02	0.090

---- 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		3.243E+00	1.667E+00	2.102E+00	1.869E-01	1.543
		291.72		4.084E-01	1.247E+00	1.846E+00	1.683E-01	0.221
		57.98		-5.902E-01	9.571E-01	1.331E+00	1.018E-01	-0.443
		59.32		1.728E-01	5.032E-01	7.446E-01	5.617E-02	0.232
		67.20		1.097E+00	9.416E-01	1.438E+00	1.136E-01	0.763
		161.27		-1.306E-01	4.043E-01	6.729E-01	5.729E-02	-0.194
		216.55		2.504E-01	3.094E-01	5.335E-01	4.774E-02	0.469
		252.85	*	-1.137E-01	2.581E-01	4.165E-01	3.802E-02	-0.273
		318.01		-2.580E-01	5.353E-01	8.500E-01	7.633E-02	-0.303
		792.07		-6.646E-02	1.181E+00	1.671E+00	1.464E-01	-0.040
OS-185		903.28		2.276E-01	1.251E+00	1.967E+00	1.781E-01	0.116
		920.93		-2.403E-01	4.801E-01	7.327E-01	6.622E-02	-0.328
		59.72		3.379E-01	3.608E-01	5.519E-01	4.163E-02	0.612
		61.14		1.874E-01	1.947E-01	3.277E-01	2.497E-02	0.572
		69.30		-4.326E-01	3.955E-01	5.340E-01	4.273E-02	-0.810
		592.07		-5.106E-01	2.643E+00	4.350E+00	3.669E-01	-0.117
		646.12	*	-9.909E-03	4.792E-02	7.841E-02	6.478E-03	-0.126
		717.42		-5.026E-01	1.035E+00	1.636E+00	1.385E-01	-0.307
		874.81		-6.761E-02	6.731E-01	1.089E+00	9.811E-02	-0.062
		880.27		1.758E-01	8.922E-01	1.491E+00	1.344E-01	0.118
RE-188		155.03	*	2.213E-01	2.055E-01	3.550E-01	3.023E-02	0.623
		477.96		-1.765E+00	3.910E+00	6.037E+00	5.081E-01	-0.292
		633.10		5.858E-01	3.097E+00	5.255E+00	4.369E-01	0.111
W-188	+	63.58		1.475E+02	1.092E+02	1.143E+02	8.840E+00	1.290
IR-192		227.08		-1.264E+01	1.509E+01	2.404E+01	2.168E+00	-0.526
		290.67	*	1.475E+00	9.746E+00	1.424E+01	1.299E+00	0.104
	+	295.96		1.034E+00	2.274E-01	3.425E-01	3.138E-02	3.020
		308.46		1.591E-02	1.108E-01	1.834E-01	1.666E-02	0.087
		316.51	*	-1.370E-03	4.145E-02	6.781E-02	6.110E-03	-0.020
		468.07		-3.854E-02	9.674E-02	1.295E-01	1.169E-02	-0.298
		604.41		-9.793E-02	5.709E-01	8.142E-01	1.048E-01	-0.120
AU-195		612.46		2.724E+00	1.091E+00	1.888E+00	1.830E-01	1.443
		65.12		-1.471E-01	2.334E-01	3.254E-01	2.539E-02	-0.452
		66.83		1.793E-01	1.186E-01	1.840E-01	1.450E-02	0.974
	+	75.70		1.306E+00	2.936E-01	5.338E-01	4.476E-02	2.446
		98.88	*	2.211E-01	2.873E-01	4.212E-01	3.719E-02	0.525
TL-200		129.76		4.747E+00	3.374E+00	5.645E+00	4.890E-01	0.841
		367.94	*	-2.026E-05	3.374E+00	Half-Life	too short	
		579.30		5.640E-03	3.374E+00	Half-Life	too short	
		828.27		-7.662E-03	3.374E+00	Half-Life	too short	
		1205.75		2.355E-03	3.374E+00	Half-Life	too short	
TL-201		68.90		-3.525E+00	6.056E+00	9.058E+00	7.230E-01	-0.389
		70.82		-2.349E+00	3.635E+00	5.044E+00	4.077E-01	-0.466
		80.30		-1.097E+00	7.907E+00	8.794E+00	7.682E-01	-0.125
		135.34		1.861E+01	3.085E+01	5.011E+01	4.310E+00	0.371
TL-202		167.43	*	2.651E+00	8.391E+00	1.432E+01	1.221E+00	0.185
		68.90		-3.075E-01	5.283E-01	7.902E-01	6.307E-02	-0.389
		70.82		-2.043E-01	3.162E-01	4.388E-01	3.547E-02	-0.466
		80.30		-9.547E-02	6.881E-01	7.653E-01	6.685E-02	-0.125

----- 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	*	-5.473E-02	9.128E-02	1.404E-01	1.164E-02	-0.390
		70.83		-8.635E-01	1.364E+00	1.889E+00	2.507E-01	-0.457
		72.87		1.450E+00	8.154E-01	1.244E+00	1.609E-01	1.165
+ BI-207		82.60		2.305E+00	1.536E+00	2.107E+00	2.937E-01	1.094
		279.20	*	3.997E-02	4.994E-02	8.555E-02	8.021E-03	0.467
		72.80		3.755E-01	2.329E-01	3.589E-01	2.942E-02	1.046
+ +		74.97		7.237E-01	1.628E-01	2.636E-01	2.197E-02	2.746
		84.90		3.999E-01	2.631E-01	3.850E-01	3.523E-02	1.039
		569.67		-1.116E-03	3.352E-02	5.612E-02	4.754E-03	-0.020
TL-207		1063.62	*	-5.837E-02	6.177E-02	8.915E-02	7.728E-03	-0.655
		1770.23		4.427E-01	4.746E-01	8.834E-01	7.398E-02	0.501
		81.07		3.494E-02	3.291E-01	3.739E-01	3.291E-02	0.093
+ +		83.78		2.637E-01	1.735E-01	2.493E-01	2.255E-02	1.058
		94.90		2.421E-01	3.087E-01	5.067E-01	4.556E-02	0.478
		122.32		-1.659E-02	2.116E+00	3.355E+00	3.157E-01	-0.005
+ +		144.24		1.329E-01	7.877E-01	1.333E+00	1.276E-01	0.100
		154.21		2.843E-01	4.731E-01	8.055E-01	7.560E-02	0.353
		269.46		8.253E-01	3.511E-01	4.211E-01	3.924E-02	1.960
+ +		323.87	*	1.742E-01	8.907E-01	1.299E+00	2.319E-01	0.134
		338.28		5.456E+00	2.060E+00	2.838E+00	3.531E-01	1.922
		445.03		9.487E-01	2.784E+00	4.597E+00	5.457E-01	0.206
PO-209		260.50		9.661E+00	1.116E+01	1.925E+01	1.760E+00	0.502
		262.80		-2.954E+01	3.297E+01	5.098E+01	4.663E+00	-0.579
		896.60	*	2.424E+00	9.232E+00	1.472E+01	1.333E+00	0.165
BI-210		46.50	*	-2.243E+00	5.137E+00	8.084E+00	7.631E-01	-0.277
PB-210		46.50	*	-2.243E+00	5.137E+00	8.084E+00	7.631E-01	-0.277
PO-210		46.50	*	-2.243E+00	5.136E+00	8.084E+00	6.930E-01	-0.277
PB-211		404.84	*	3.691E-01	1.183E+00	1.919E+00	1.201E+00	0.192
+ +		427.08		-1.489E+00	2.889E+00	4.095E+00	2.543E+00	-0.364
		831.96		9.159E-02	1.527E+00	2.519E+00	1.579E+00	0.036
		727.18	*	1.307E+00	5.957E-01	7.944E-01	7.873E-02	1.645
BI-212		785.46		1.904E-01	1.988E+00	3.306E+00	2.889E-01	0.058
		1620.62		1.448E+00	1.657E+00	3.070E+00	2.642E-01	0.472
		81.07		3.494E-02	3.291E-01	3.739E-01	3.291E-02	0.093
+ +		83.78		2.637E-01	1.735E-01	2.493E-01	2.255E-02	1.058
		94.90		2.421E-01	3.087E-01	5.067E-01	4.556E-02	0.478
		122.32		-1.659E-02	2.116E+00	3.355E+00	3.157E-01	-0.005
+ +		144.24		1.329E-01	7.877E-01	1.333E+00	1.276E-01	0.100
		154.21		2.843E-01	4.731E-01	8.055E-01	7.560E-02	0.353
		269.46		8.253E-01	3.511E-01	4.211E-01	3.924E-02	1.960
+ +		323.87	*	1.742E-01	8.907E-01	1.299E+00	2.319E-01	0.134
		338.28		5.456E+00	2.060E+00	2.838E+00	3.531E-01	1.922
		445.03		9.487E-01	2.784E+00	4.597E+00	5.457E-01	0.206
RN-219		271.23		1.059E+00	4.540E-01	5.361E-01	5.768E-02	1.975
		401.81	*	-2.303E-01	5.206E-01	8.152E-01	1.201E-01	-0.283
		549.76	*	-2.083E+00	3.107E+01	5.201E+01	4.415E+00	-0.040
RN-220		81.07		3.494E-02	3.291E-01	3.739E-01	3.291E-02	0.093
+ RA-223		83.78		2.637E-01	1.735E-01	2.493E-01	2.255E-02	1.058
		94.90		2.421E-01	3.087E-01	5.067E-01	4.556E-02	0.478

---- 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		-1.659E-02	2.116E+00	3.355E+00	3.157E-01	-0.005
		144.24		1.329E-01	7.877E-01	1.333E+00	1.276E-01	0.100
		154.21		2.843E-01	4.731E-01	8.055E-01	7.560E-02	0.353
	+	269.46		8.253E-01	3.511E-01	4.211E-01	3.924E-02	1.960
		323.87	*	1.742E-01	8.907E-01	1.299E+00	2.319E-01	0.134
	+	338.28		5.456E+00	2.060E+00	2.838E+00	3.531E-01	1.922
		445.03		9.487E-01	2.784E+00	4.597E+00	5.457E-01	0.206
		79.80		-8.138E-01	2.559E+00	2.795E+00	6.018E-01	-0.291
		236.00		2.625E-01	3.014E-01	4.617E-01	5.800E-02	0.569
		256.20	*	-4.322E-01	4.429E-01	6.849E-01	1.071E-01	-0.631
		286.10		-5.784E-01	1.764E+00	2.847E+00	3.855E-01	-0.203
		299.80		2.730E+00	2.070E+00	3.183E+00	5.641E-01	0.858
		304.40		-2.304E+00	2.362E+00	3.596E+00	6.706E-01	-0.641
		334.20		-2.333E+00	3.301E+00	4.399E+00	8.584E-01	-0.530
TH-227		79.80		-8.138E-01	2.559E+00	2.795E+00	6.094E-01	-0.291
	+	94.00		1.686E+01	5.860E+00	5.043E+00	1.107E+00	3.343
		236.00		2.625E-01	3.011E-01	4.617E-01	5.276E-02	0.569
		256.20	*	-4.322E-01	4.448E-01	6.849E-01	1.254E-01	-0.631
		286.10		-5.784E-01	1.856E+00	2.847E+00	2.858E+00	-0.203
		299.80		2.730E+00	2.070E+00	3.183E+00	5.641E-01	0.858
		304.40		-2.304E+00	2.362E+00	3.596E+00	6.706E-01	-0.641
		334.20		-2.333E+00	3.301E+00	4.399E+00	8.584E-01	-0.530
	+	85.43		3.948E-01	2.597E-01	3.926E-01	3.613E-02	1.005
	+	88.47		3.934E-01	1.575E-01	2.322E-01	2.188E-02	1.694
TH-229		100.00		2.757E-01	2.326E-01	3.529E-01	3.104E-02	0.781
		193.63	*	-2.420E-02	5.705E-01	9.541E-01	8.359E-02	-0.025
	+	210.97		2.535E+00	1.303E+00	1.578E+00	1.406E-01	1.606
		283.67	*	5.016E-01	1.717E+00	2.876E+00	4.452E-01	0.174
		301.29		1.190E+00	7.465E-01	1.268E+00	1.594E-01	0.939
		81.07		3.494E-02	3.291E-01	3.739E-01	3.291E-02	0.093
TH-231	+	83.78		2.637E-01	1.735E-01	2.493E-01	2.255E-02	1.058
		94.90		2.421E-01	3.087E-01	5.067E-01	4.556E-02	0.478
		122.32		-1.659E-02	2.116E+00	3.355E+00	3.157E-01	-0.005
		144.24		1.329E-01	7.877E-01	1.333E+00	1.276E-01	0.100
U-231		154.21		2.843E-01	4.731E-01	8.055E-01	7.560E-02	0.353
	+	269.46		8.253E-01	3.511E-01	4.211E-01	3.924E-02	1.960
		323.87	*	1.742E-01	8.907E-01	1.299E+00	2.319E-01	0.134
	+	338.28		5.456E+00	2.060E+00	2.838E+00	3.531E-01	1.922
		445.03		9.487E-01	2.784E+00	4.597E+00	5.457E-01	0.206
	+	84.21		1.169E+01	7.693E+00	1.100E+01	9.992E-01	1.063
	+	92.29		1.715E+01	4.875E+00	5.453E+00	4.983E-01	3.144
		95.87	*	7.942E-01	1.417E+00	2.081E+00	1.861E-01	0.382
		108.00		-1.653E+00	2.567E+00	3.963E+00	3.436E-01	-0.417
	+	75.28		2.112E+01	5.454E+00	8.043E+00	1.223E+00	2.626
PA-233	+	86.59		5.641E+00	2.675E+00	3.424E+00	9.264E-01	1.647
		300.12		9.268E-01	5.716E-01	8.943E-01	1.355E-01	1.036
		311.98	*	4.274E-03	7.702E-02	1.268E-01	1.173E-02	0.034
		340.50		3.251E+00	1.205E+00	1.632E+00	3.899E-01	1.993
		398.62		-1.022E+00	2.685E+00	4.215E+00	1.115E+00	-0.243

---- 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		-1.533E+00	1.999E+00	2.995E+00	6.404E-01	-0.512
	+	63.00		4.269E+00	3.208E+00	3.441E+00	5.166E-01	1.241
	+	94.67		1.503E+00	4.479E-01	3.877E-01	4.913E-02	3.877
		98.44		3.127E-02	1.187E-01	1.674E-01	9.344E-02	0.187
		99.86		7.295E-01	5.905E-01	8.979E-01	7.902E-02	0.812
		111.00		1.685E-01	2.129E-01	3.498E-01	4.240E-02	0.482
		131.20		-3.398E-02	1.267E-01	1.978E-01	1.710E-02	-0.172
		152.70		-4.234E-03	3.820E-01	6.365E-01	1.082E-01	-0.007
	+	186.00		7.720E+00	3.220E+00	3.314E+00	1.035E+00	2.330
		226.40		-4.345E-01	4.772E-01	7.538E-01	1.015E-01	-0.576
		227.20		-4.055E-01	5.099E-01	8.142E-01	7.342E-02	-0.498
		248.90		1.634E-01	9.342E-01	1.512E+00	3.418E-01	0.108
		293.70		3.608E+00	1.229E+00	1.826E+00	3.205E-01	1.976
		369.80		-3.732E-01	1.038E+00	1.581E+00	3.431E-01	-0.236
		568.70		-8.285E-01	1.096E+00	1.721E+00	1.458E-01	-0.482
		569.50		-4.570E-02	2.942E-01	4.877E-01	4.131E-02	-0.094
		574.00		-7.724E-01	1.655E+00	2.668E+00	2.259E-01	-0.289
		699.00		-1.604E-02	8.791E-01	1.457E+00	2.764E-01	-0.011
		706.10		-4.953E-01	1.165E+00	1.820E+00	8.109E-01	-0.272
		733.00		-2.288E-01	5.256E-01	7.080E-01	1.569E-01	-0.323
		742.81		-5.744E-01	1.613E+00	2.498E+00	1.679E+00	-0.230
	+	796.30		1.981E+00	1.454E+00	1.956E+00	5.300E-01	1.013
		805.60		6.268E-01	1.171E+00	2.001E+00	6.143E-01	0.313
		819.60		-1.330E+00	1.532E+00	2.142E+00	8.156E-01	-0.621
		826.30		3.894E-01	1.034E+00	1.734E+00	7.766E-01	0.225
		831.60		-2.147E-01	7.884E-01	1.257E+00	3.762E-01	-0.171
		876.40		2.232E-01	9.764E-01	1.593E+00	1.638E+00	0.140
		880.51		-4.881E-02	3.293E-01	5.299E-01	4.780E-02	-0.092
		883.24		9.669E-02	3.355E-01	5.555E-01	3.737E-01	0.174
		899.00		2.463E-01	1.006E+00	1.676E+00	7.343E-01	0.147
		925.00		-2.248E-01	1.351E+00	2.161E+00	1.952E-01	-0.104
		926.50		9.341E-02	2.036E-01	3.464E-01	8.807E-02	0.270
		946.00	*	-6.197E-02	3.373E-01	5.369E-01	1.017E-01	-0.115
		949.00		-4.203E-02	5.095E-01	8.215E-01	7.392E-02	-0.051
		980.50		2.721E-01	7.873E-01	1.332E+00	1.190E-01	0.204
		1394.10		2.030E-03	1.070E+00	1.776E+00	1.156E+00	0.001
PA-234M		766.42		-2.853E+00	1.402E+01	2.261E+01	1.147E+01	-0.126
		1001.03	*	3.005E+00	5.883E+00	9.981E+00	1.017E+00	0.301
U-235		89.95		1.435E-01	1.897E+00	2.137E+00	6.636E-01	0.067
	+	93.35		5.245E+00	2.044E+00	1.657E+00	4.666E-01	3.166
		105.00		9.185E-01	1.265E+00	2.036E+00	6.081E-01	0.451
		143.76	*	8.557E-02	2.454E-01	4.173E-01	7.291E-02	0.205
		163.35		3.060E-01	5.561E-01	9.319E-01	1.773E-01	0.328
	+	185.71		2.859E-01	8.284E-02	1.230E-01	1.069E-02	2.325
		205.31		6.397E-01	7.010E-01	1.049E+00	2.014E-01	0.610
NP-236	+	94.67		1.140E+00	3.242E-01	2.945E-01	2.651E-02	3.872
		98.44		2.361E-02	8.876E-02	1.265E-01	1.119E-02	0.187
		111.00		1.274E-01	1.606E-01	2.646E-01	2.293E-02	0.482
		160.31	*	-9.125E-02	9.188E-02	1.482E-01	1.262E-02	-0.616

---- 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		2.163E-01	2.031E-01	3.021E-01	2.661E-02	0.716
		117.00	*	7.519E-02	2.155E-01	3.482E-01	3.032E-02	0.216
	+	209.75		2.554E+00	1.313E+00	1.680E+00	1.494E-01	1.520
		228.18		-9.285E-02	2.672E-01	4.371E-01	3.944E-02	-0.212
		277.60		4.136E-01	2.172E-01	3.875E-01	3.545E-02	1.067
AM-241		334.30		-1.396E+00	1.853E+00	2.478E+00	2.191E-01	-0.563
		59.54	*	1.560E-01	1.894E-01	2.880E-01	2.373E-02	0.542
CM-243		99.55		2.226E-01	2.090E-01	3.109E-01	2.739E-02	0.716
		103.76	*	-5.358E-02	1.127E-01	1.756E-01	1.530E-02	-0.305
		117.00		7.735E-02	2.218E-01	3.582E-01	3.120E-02	0.216
	+	209.75		2.518E+00	1.294E+00	1.656E+00	1.473E-01	1.520
		228.18		-9.382E-02	2.700E-01	4.417E-01	3.985E-02	-0.212
AM-246		277.60		4.170E-01	2.190E-01	3.907E-01	3.574E-02	1.067
		798.80		-1.390E-01	1.866E-01	2.362E-01	2.076E-02	-0.588
		1036.00		-2.781E-01	3.345E-01	4.808E-01	4.218E-02	-0.578
		1062.04		4.218E-02	2.463E-01	4.065E-01	3.526E-02	0.104
		1078.86	*	2.102E-01	1.779E-01	3.213E-01	2.764E-02	0.654
CM-247		278.00		1.480E+00	9.033E-01	1.598E+00	1.461E-01	0.926
		287.40		-2.911E-01	1.431E+00	2.328E+00	2.126E-01	-0.125
		402.60	*	-1.300E-02	4.647E-02	7.375E-02	5.981E-03	-0.176
CF-249		252.85		-4.265E-01	9.676E-01	1.562E+00	1.426E-01	-0.273
		333.44		-1.461E-01	2.860E-01	3.231E-01	2.860E-02	-0.452
		387.95	*	8.189E-03	4.779E-02	7.847E-02	6.365E-03	0.104
CF-251		176.60	*	2.525E-02	1.456E-01	2.466E-01	2.122E-02	0.102
		227.00		-3.708E-01	4.514E-01	7.197E-01	6.489E-02	-0.515
		285.00		4.088E-01	1.980E+00	3.302E+00	3.016E-01	0.124

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]G244924005      *
* Acquisition date   : 27-JAN-2010 19:05:20 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 02:00:01.07                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924005                               Analyst initials: MXR1        *
* Batch Number       : 942723                                   Sample Quantity : 1.1856E+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	2.131E+01	2.507E+00	6.431E-01	0.000E+00
CD-109	2.933E+00	1.151E+00	1.776E+00	0.000E+00
SN-126	2.882E-01	1.131E-01	1.773E-01	0.000E+00
BA-137M	5.097E-01	8.886E-02	7.278E-02	0.000E+00
CS-137	5.388E-01	9.397E-02	7.693E-02	0.000E+00
TL-208	4.903E-01	1.128E-01	7.015E-02	0.000E+00
BI-211	4.241E+00	6.853E-01	3.984E-01	0.000E+00
PB-212	1.584E+00	1.998E-01	1.083E-01	0.000E+00
PO-212	1.584E+00	1.998E-01	1.083E-01	0.000E+00
BI-214	1.276E+00	2.139E-01	1.305E-01	0.000E+00
PB-214	1.475E+00	2.500E-01	1.389E-01	0.000E+00
PO-214	1.475E+00	2.500E-01	1.389E-01	0.000E+00
PO-216	1.584E+00	1.998E-01	1.083E-01	0.000E+00
PO-218	1.475E+00	2.500E-01	1.389E-01	0.000E+00
RA-224	5.050E+00	1.574E+00	1.232E+00	0.000E+00
RA-226	1.276E+00	2.139E-01	1.305E-01	0.000E+00
AC-228	1.495E+00	3.542E-01	2.397E-01	0.000E+00
RA-228	1.495E+00	3.542E-01	2.397E-01	0.000E+00
TH-228	1.608E+00	2.029E-01	1.099E-01	0.000E+00
TH-230	1.276E+00	2.139E-01	1.305E-01	0.000E+00
TH-232	1.495E+00	3.542E-01	2.397E-01	0.000E+00
TH-234	3.662E+00	2.717E+00	2.402E+00	0.000E+00
U-234	1.276E+00	2.139E-01	1.305E-01	0.000E+00
NP-237	8.462E-01	3.736E-01	4.774E-01	0.000E+00
U-238	3.662E+00	2.717E+00	2.402E+00	0.000E+00
AM-243	4.032E-01	8.886E-02	1.019E-01	0.000E+00
ANH-511	1.475E-01	7.793E-02	6.053E-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	-8.570E-02	3.947E-01	6.409E-01	0.000E+00	NOT IDENT.
NA-22	1.194E-02	5.123E-02	8.927E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	9.106E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.431E-03	3.310E-02	5.412E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.693E-02	9.046E-02	0.000E+00	FAIL ABUN
SC-46	-1.188E-02	4.322E-02	7.004E-02	0.000E+00	FAIL ABUN
V-48	-5.216E-02	7.881E-02	1.200E-01	0.000E+00	NOT IDENT.
CR-51	-1.528E-01	4.368E-01	7.244E-01	0.000E+00	NOT IDENT.
MN-52	-2.165E-01	2.240E-01	3.014E-01	0.000E+00	NOT IDENT.
MN-54	7.237E-02	4.298E-02	8.222E-02	0.000E+00	NOT IDENT.
CO-56	4.546E-03	3.931E-02	6.687E-02	0.000E+00	FAIL ABUN
CO-57	1.327E-02	2.949E-02	4.992E-02	0.000E+00	NOT IDENT.
CO-58	-3.061E-02	4.305E-02	6.686E-02	0.000E+00	NOT IDENT.
FE-59	6.030E-02	1.125E-01	1.953E-01	0.000E+00	NOT IDENT.
CO-60	7.799E-03	4.273E-02	7.417E-02	0.000E+00	NOT IDENT.
ZN-65	-8.725E-02	1.062E-01	1.362E-01	0.000E+00	NOT IDENT.
GE-68	2.485E+00	1.488E+00	2.853E+00	0.000E+00	NOT IDENT.
AS-73	6.979E-01	1.013E+00	1.794E+00	0.000E+00	NOT IDENT.
AS-74	-2.841E-02	9.539E-02	1.599E-01	0.000E+00	NOT IDENT.
SE-75	1.091E-02	5.711E-02	8.674E-02	0.000E+00	NOT IDENT.
BR-77	-4.666E+00	1.305E+01	2.076E+01	0.000E+00	FAIL ABUN
SR-82	-2.659E-01	4.641E-01	7.427E-01	0.000E+00	NOT IDENT.
RB-83	-3.250E-02	8.180E-02	1.296E-01	0.000E+00	NOT IDENT.
RB-84	-1.691E-02	8.021E-02	1.312E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	9.961E+00	1.676E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.117E-02	8.608E-02	0.000E+00	NOT IDENT.
RB-86	9.709E-01	9.747E-01	1.767E+00	0.000E+00	NOT IDENT.
Y-88	1.439E-02	3.656E-02	6.573E-02	0.000E+00	NOT IDENT.
ZR-88	1.405E-02	3.807E-02	6.526E-02	0.000E+00	NOT IDENT.
Y-91	1.728E+01	2.311E+01	4.192E+01	0.000E+00	NOT IDENT.
NB-94	4.575E-03	3.897E-02	6.696E-02	0.000E+00	NOT IDENT.
NB-95	-7.524E-02	5.175E-02	7.576E-02	0.000E+00	NOT IDENT.
NB-95M	1.513E-01	1.554E-01	2.491E-01	0.000E+00	NOT IDENT.
ZR-95	-4.673E-03	8.325E-02	1.402E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.485E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.975E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.020E+01	1.494E+01	2.367E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.971E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.923E-02	3.723E-02	6.682E-02	0.000E+00	NOT IDENT.
RH-102	-1.643E-02	6.607E-02	5.648E-02	0.000E+00	NOT IDENT.
RU-103	-1.862E-02	4.576E-02	7.250E-02	0.000E+00	FAIL ABUN
RH-106	-4.561E-02	3.335E-01	5.653E-01	0.000E+00	FAIL ABUN
RU-106	-4.561E-02	3.334E-01	5.653E-01	0.000E+00	FAIL ABUN
AG-108M	-1.050E-02	4.270E-02	6.979E-02	0.000E+00	NOT IDENT.
AG-110M	-9.997E-03	4.456E-02	6.433E-02	0.000E+00	NOT IDENT.
IN-111	6.478E-02	1.361E+00	2.068E+00	0.000E+00	NOT IDENT.
IN-113M	2.006E-03	5.477E-02	9.193E-02	0.000E+00	NOT IDENT.
SN-113	2.006E-03	5.477E-02	9.193E-02	0.000E+00	NOT IDENT.
IN-114M	1.615E-01	2.224E-01	3.564E-01	0.000E+00	NOT IDENT.
CD-115	-1.299E+01	1.201E+01	1.887E+01	0.000E+00	NOT IDENT.
SN-117M	-8.202E-03	6.178E-02	1.082E-01	0.000E+00	NOT IDENT.
SB-122	2.499E+00	2.455E+00	4.538E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.154E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.739E-02	3.217E-02	5.457E-02	0.000E+00	NOT IDENT.
I-124	-6.687E-01	7.824E-01	1.162E+00	0.000E+00	NOT IDENT.
SB-124	-5.380E-02	9.621E-02	1.422E-01	0.000E+00	FAIL ABUN
SB-125	-3.884E-02	1.205E-01	1.893E-01	0.000E+00	FAIL ABUN
TE-125M	-5.491E+00	1.094E+01	1.781E+01	0.000E+00	NOT IDENT.
I-126	4.395E-02	2.416E-01	3.661E-01	0.000E+00	NOT IDENT.
SB-126	-2.030E-02	1.755E-01	2.673E-01	0.000E+00	FAIL ABUN
SB-127	-2.385E-01	1.474E+00	2.474E+00	0.000E+00	NOT IDENT.
XE-127	-1.532E-02	5.501E-02	9.455E-02	0.000E+00	NOT IDENT.
I-131	4.690E-02	1.442E-01	2.405E-01	0.000E+00	NOT IDENT.
TE-132	-2.965E-01	8.323E-01	1.413E+00	0.000E+00	NOT IDENT.
BA-133	-1.333E-03	5.805E-02	8.541E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.345E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.872E-02	9.836E-02	0.000E+00	FAIL ABUN
CS-135	1.126E-01	2.117E-01	3.215E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.024E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.231E-02	1.190E-01	2.047E-01	0.000E+00	FAIL ABUN
CE-139	-3.178E-02	3.400E-02	5.731E-02	0.000E+00	NOT IDENT.
BA-140	-3.737E-02	2.887E-01	4.950E-01	0.000E+00	NOT IDENT.
LA-140	-1.198E-01	9.655E-02	1.209E-01	0.000E+00	FAIL ABUN
CE-141	4.650E-03	7.063E-02	1.242E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.222E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.505E-01	2.379E-01	3.789E-01	0.000E+00	NOT IDENT.
PM-144	3.512E-02	3.920E-02	7.144E-02	0.000E+00	NOT IDENT.
PR-144	2.380E+00	2.657E+00	4.842E+00	0.000E+00	NOT IDENT.

PM-146	6.180E-02	5.649E-02	1.002E-01	0.000E+00	NOT IDENT.
ND-147	4.441E-01	6.077E-01	1.107E+00	0.000E+00	NOT IDENT.
PM-149	-3.394E+01	1.092E+02	1.829E+02	0.000E+00	NOT IDENT.
EU-152	-9.902E-02	1.318E-01	1.811E-01	0.000E+00	NOT IDENT.
GD-153	-2.315E-02	1.005E-01	1.457E-01	0.000E+00	FAIL ABUN
EU-154	2.129E-02	1.434E-01	2.478E-01	0.000E+00	NOT IDENT.
EU-155	1.028E-01	1.251E-01	2.160E-01	0.000E+00	FAIL ABUN
TB-160	8.694E-02	1.554E-01	2.751E-01	0.000E+00	FAIL ABUN
HO-166M	-3.761E-02	6.442E-02	1.033E-01	0.000E+00	NOT IDENT.
TM-171	5.731E+01	3.494E+01	5.732E+01	0.000E+00	NOT IDENT.
LU-176	-9.077E-03	2.860E-02	4.767E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.848E+00	2.388E+00	0.000E+00	FAIL ABUN
LU-177M	-1.434E-01	2.088E-01	3.304E-01	0.000E+00	FAIL ABUN
HF-181	4.219E-02	5.252E-02	9.188E-02	0.000E+00	NOT IDENT.
W-181	-3.504E-01	4.927E-01	7.202E-01	0.000E+00	NOT IDENT.
TA-182	3.352E-02	2.013E-01	3.494E-01	0.000E+00	FAIL ABUN
RE-183	1.911E-02	1.259E-01	2.176E-01	0.000E+00	FAIL ABUN
RE-184	-1.137E-01	2.529E-01	4.235E-01	0.000E+00	NOT IDENT.
OS-185	-9.909E-03	4.697E-02	7.891E-02	0.000E+00	NOT IDENT.
RE-188	2.213E-01	2.014E-01	3.629E-01	0.000E+00	NOT IDENT.
W-188	1.475E+00	9.551E+00	1.446E+01	0.000E+00	FAIL ABUN
IR-192	-1.370E-03	4.062E-02	6.879E-02	0.000E+00	FAIL ABUN
AU-195	2.211E-01	2.815E-01	4.327E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.041E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.651E+00	8.223E+00	1.462E+01	0.000E+00	NOT IDENT.
TL-202	-5.473E-02	8.945E-02	1.419E-01	0.000E+00	NOT IDENT.
HG-203	3.997E-02	4.895E-02	8.689E-02	0.000E+00	FAIL ABUN
BI-207	-5.837E-02	6.053E-02	8.921E-02	0.000E+00	FAIL ABUN
TL-207	1.742E-01	8.729E-01	1.317E+00	0.000E+00	FAIL ABUN
PO-209	2.424E+00	9.047E+00	1.476E+01	0.000E+00	NOT IDENT.
BI-210	-2.243E+00	5.034E+00	8.372E+00	0.000E+00	NOT IDENT.
PB-210	-2.243E+00	5.034E+00	8.372E+00	0.000E+00	NOT IDENT.
PO-210	-2.243E+00	5.033E+00	8.372E+00	0.000E+00	NOT IDENT.
PB-211	3.691E-01	1.160E+00	1.942E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.838E-01	7.984E-01	0.000E+00	FAIL ABUN
PO-215	1.742E-01	8.729E-01	1.317E+00	0.000E+00	FAIL ABUN
RN-219	-2.303E-01	5.102E-01	8.247E-01	0.000E+00	FAIL ABUN
RN-220	-2.083E+00	3.045E+01	5.244E+01	0.000E+00	NOT IDENT.
RA-223	1.742E-01	8.729E-01	1.317E+00	0.000E+00	FAIL ABUN
AC-227	-4.322E-01	4.340E-01	6.964E-01	0.000E+00	NOT IDENT.
TH-227	-4.322E-01	4.359E-01	6.964E-01	0.000E+00	FAIL ABUN
TH-229	-2.420E-02	5.591E-01	9.730E-01	0.000E+00	FAIL ABUN
PA-231	5.016E-01	1.683E+00	2.920E+00	0.000E+00	NOT IDENT.
TH-231	1.742E-01	8.729E-01	1.317E+00	0.000E+00	FAIL ABUN
U-231	7.942E-01	1.389E+00	2.138E+00	0.000E+00	FAIL ABUN
PA-233	4.274E-03	7.548E-02	1.286E-01	0.000E+00	FAIL ABUN
PA-234	-6.197E-02	3.305E-01	5.380E-01	0.000E+00	FAIL ABUN
PA-234M	3.005E+00	5.766E+00	9.995E+00	0.000E+00	NOT IDENT.
U-235	8.557E-02	2.405E-01	4.270E-01	0.000E+00	FAIL ABUN
NP-236	-9.125E-02	9.004E-02	1.515E-01	0.000E+00	FAIL ABUN
NP-239	7.519E-02	2.112E-01	3.570E-01	0.000E+00	FAIL ABUN
AM-241	1.560E-01	1.856E-01	2.975E-01	0.000E+00	NOT IDENT.
CM-243	-5.358E-02	1.105E-01	1.803E-01	0.000E+00	FAIL ABUN
AM-246	2.102E-01	1.743E-01	3.215E-01	0.000E+00	NOT IDENT.
CM-247	-1.300E-02	4.554E-02	7.461E-02	0.000E+00	NOT IDENT.
CF-249	8.189E-03	4.684E-02	7.941E-02	0.000E+00	NOT IDENT.
CF-251	2.525E-02	1.427E-01	2.517E-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]G244924005.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:05:20
Sample ID          : G244924005 Sample quantity : 1.18558E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.07 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	679	10.67*	9.455E-01	2.131E+01	2.131E+01	12.01
CD-109	88.03	174	3.72*	5.177E+00	2.866E+00	2.933E+00	40.04
SN-126	64.28	120	9.60	2.727E+00	1.450E+00	1.450E+00	75.08
	86.94	174	8.90	5.177E+00	1.198E+00	1.198E+00	56.92
	87.57	174	37.00*	5.177E+00	2.882E-01	2.882E-01	40.04
BA-137M	661.65	278	89.98*	1.923E+00	5.092E-01	5.097E-01	17.79
CS-137	661.65	278	85.12*	1.923E+00	5.382E-01	5.388E-01	17.80
TL-208	277.35	-----	6.80	3.885E+00	-----	Line Not Found	-----
	510.84	111	21.60	2.391E+00	6.828E-01	6.828E-01	54.56
	583.14	279	84.20*	2.142E+00	4.903E-01	4.903E-01	23.48
	860.37	-----	12.46	1.522E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.944E+00	-----	Line Not Found	-----
	351.07	559	12.94*	3.226E+00	4.241E+00	4.241E+00	16.49
PB-212	74.81	350	10.70	4.164E+00	2.487E+00	2.487E+00	24.36
	77.11	516	18.00	4.380E+00	2.072E+00	2.072E+00	17.86
	87.30	174	8.00	5.177E+00	1.333E+00	1.333E+00	41.27
	238.63	970	44.60*	4.345E+00	1.584E+00	1.584E+00	12.87
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
PO-212	74.81	350	10.70	4.164E+00	2.487E+00	2.487E+00	24.36
	77.11	516	18.00	4.380E+00	2.072E+00	2.072E+00	17.86
	87.30	174	8.00	5.177E+00	1.333E+00	1.333E+00	41.27
	115.19	-----	0.60	6.043E+00	-----	Line Not Found	-----
	238.63	970	44.60*	4.345E+00	1.584E+00	1.584E+00	12.87
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
BI-214	609.31	385	46.30*	2.064E+00	1.276E+00	1.276E+00	17.11
	1120.29	28	15.10	1.192E+00	4.841E-01	4.841E-01	152.14
	1764.49	63	15.80	8.255E-01	1.539E+00	1.539E+00	33.16
PB-214	74.81	350	6.21	4.164E+00	4.285E+00	4.285E+00	23.68
	77.11	516	10.50	4.380E+00	3.552E+00	3.552E+00	19.42
	87.30	174	4.67	5.177E+00	2.283E+00	2.283E+00	40.78
	241.98	271	7.49	4.305E+00	2.663E+00	2.663E+00	32.29
	295.21	304	19.20	3.699E+00	1.354E+00	1.354E+00	22.83

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	559	37.20*	3.226E+00	1.475E+00	1.475E+00	17.30
	74.81	350	6.21	4.164E+00	4.285E+00	4.285E+00	23.68
	77.11	516	10.50	4.380E+00	3.552E+00	3.552E+00	19.42
	87.30	174	4.67	5.177E+00	2.283E+00	2.283E+00	40.78
	241.98	271	7.49	4.305E+00	2.663E+00	2.663E+00	32.29
PO-216	295.21	304	19.20	3.699E+00	1.354E+00	1.354E+00	22.83
	351.92	559	37.20*	3.226E+00	1.475E+00	1.475E+00	17.30
	74.81	350	10.70	4.164E+00	2.487E+00	2.487E+00	24.36
	77.11	516	18.00	4.380E+00	2.072E+00	2.072E+00	17.86
	87.30	174	8.00	5.177E+00	1.333E+00	1.333E+00	41.27
PO-218	238.63	970	44.60*	4.345E+00	1.584E+00	1.584E+00	12.87
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
	74.81	350	6.21	4.164E+00	4.285E+00	4.285E+00	23.68
	77.11	516	10.50	4.380E+00	3.552E+00	3.552E+00	19.42
	87.30	174	4.67	5.177E+00	2.283E+00	2.283E+00	40.78
RA-224	241.98	271	7.49	4.305E+00	2.663E+00	2.663E+00	32.29
	295.21	304	19.20	3.699E+00	1.354E+00	1.354E+00	22.83
	351.92	559	37.20*	3.226E+00	1.475E+00	1.475E+00	17.30
	240.98	271	3.95*	4.305E+00	5.050E+00	5.050E+00	31.80
	609.31	385	46.30*	2.064E+00	1.276E+00	1.276E+00	17.11
AC-228	1120.29	28	15.10	1.192E+00	4.841E-01	4.841E-01	152.14
	1764.49	63	15.80	8.255E-01	1.539E+00	1.539E+00	33.16
	338.32	156	11.40	3.325E+00	1.306E+00	1.306E+00	54.56
	911.07	189	27.70*	1.444E+00	1.495E+00	1.495E+00	24.18
	969.11	87	16.60	1.364E+00	1.215E+00	1.215E+00	50.97
RA-228	338.32	156	11.40	3.325E+00	1.306E+00	1.306E+00	54.56
	911.07	189	27.70*	1.444E+00	1.495E+00	1.495E+00	24.18
	969.11	87	16.60	1.364E+00	1.215E+00	1.215E+00	50.97
	74.81	350	10.70	4.164E+00	2.487E+00	2.525E+00	22.52
	77.11	516	18.00	4.380E+00	2.072E+00	2.104E+00	17.86
TH-228	87.30	174	8.00	5.177E+00	1.333E+00	1.353E+00	40.04
	238.63	970	44.60*	4.345E+00	1.584E+00	1.608E+00	12.87
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
	609.31	385	46.30*	2.064E+00	1.276E+00	1.276E+00	17.11
	1120.29	28	15.10	1.192E+00	4.841E-01	4.841E-01	152.14
TH-230	1764.49	63	15.80	8.255E-01	1.539E+00	1.539E+00	33.16
	338.32	156	11.40	3.325E+00	1.306E+00	1.306E+00	36.73
	911.07	189	27.70*	1.444E+00	1.495E+00	1.495E+00	24.18
	969.11	87	16.60	1.364E+00	1.215E+00	1.215E+00	50.97
	63.29	120	3.80*	2.727E+00	3.662E+00	3.662E+00	75.69
TH-232	92.38	412	5.41	5.527E+00	4.362E+00	4.362E+00	32.57
	609.31	385	46.30*	2.064E+00	1.276E+00	1.276E+00	17.11
	1120.29	28	15.10	1.192E+00	4.841E-01	4.841E-01	152.14
	1764.49	63	15.80	8.255E-01	1.539E+00	1.539E+00	33.16
	86.50	174	12.60*	5.177E+00	8.462E-01	8.462E-01	45.05
U-234	95.87	-----	2.60	5.636E+00	-----	Line Not Found	-----
	63.29	120	3.80*	2.727E+00	3.662E+00	3.662E+00	75.69
	92.38	412	5.41	5.527E+00	4.362E+00	4.362E+00	28.43
	74.67	350	66.00*	4.164E+00	4.032E-01	4.032E-01	22.49

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	174	0.34	5.177E+00	3.173E+01	3.173E+01	40.04
	117.66	-----	0.55	6.054E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
ANH-511	511.00	111	100.00*	2.391E+00	1.475E-01	1.475E-01	53.92

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	2.131E+01	2.131E+01	0.256E+01	12.01	
CD-109	464.00D	1.02	2.866E+00	2.933E+00	1.174E+00	40.04	
SN-126	1.00E+05Y	1.00	2.882E-01	2.882E-01	1.154E-01	40.04	
BA-137M	30.17Y	1.00	5.092E-01	5.097E-01	0.907E-01	17.79	
CS-137	30.17Y	1.00	5.382E-01	5.388E-01	0.959E-01	17.80	
TL-208	1.41E+10Y	1.00	4.903E-01	4.903E-01	1.151E-01	23.48	
BI-211	7.04E+08Y	1.00	4.241E+00	4.241E+00	0.699E+00	16.49	
PB-212	1.41E+10Y	1.00	1.584E+00	1.584E+00	0.204E+00	12.87	
PO-212	1.41E+10Y	1.00	1.584E+00	1.584E+00	0.204E+00	12.87	
BI-214	1600.00Y	1.00	1.276E+00	1.276E+00	0.218E+00	17.11	
PB-214	1600.00Y	1.00	1.475E+00	1.475E+00	0.255E+00	17.30	
PO-214	1600.00Y	1.00	1.475E+00	1.475E+00	0.255E+00	17.30	
PO-216	1.41E+10Y	1.00	1.584E+00	1.584E+00	0.204E+00	12.87	
PO-218	1600.00Y	1.00	1.475E+00	1.475E+00	0.255E+00	17.30	
RA-224	1.41E+10Y	1.00	5.050E+00	5.050E+00	1.606E+00	31.80	
RA-226	1600.00Y	1.00	1.276E+00	1.276E+00	0.218E+00	17.11	
AC-228	1.41E+10Y	1.00	1.495E+00	1.495E+00	0.361E+00	24.18	
RA-228	1.41E+10Y	1.00	1.495E+00	1.495E+00	0.361E+00	24.18	
TH-228	1.91Y	1.02	1.584E+00	1.608E+00	0.207E+00	12.87	
TH-230	4.47E+09Y	1.00	1.276E+00	1.276E+00	0.218E+00	17.11	
TH-232	1.41E+10Y	1.00	1.495E+00	1.495E+00	0.361E+00	24.18	
TH-234	4.47E+09Y	1.00	3.662E+00	3.662E+00	2.772E+00	75.69	
U-234	4.47E+09Y	1.00	1.276E+00	1.276E+00	0.218E+00	17.11	
NP-237	2.14E+06Y	1.00	8.462E-01	8.462E-01	3.812E-01	45.05	
U-238	4.47E+09Y	1.00	3.662E+00	3.662E+00	2.772E+00	75.69	
AM-243	7380.00Y	1.00	4.032E-01	4.032E-01	0.907E-01	22.49	
ANH-511	1.00E+09Y	1.00	1.475E-01	1.475E-01	0.795E-01	53.92	
Total Activity :			6.436E+01	6.445E+01			

Grand Total Activity : 6.436E+01 6.445E+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
1	84.06	102	352	1.20	168.83	165	14	1.42E-02	65.2	4.97E+00	T
0	186.31	251	250	1.26	373.21	368	9	3.49E-02	27.6	5.16E+00	T
0	209.59	125	247	0.89	419.74	415	10	1.73E-02	50.6	4.77E+00	T
0	270.25	140	179	2.38	541.01	536	12	1.95E-02	41.5	3.96E+00	T
0	328.29	49	134	1.18	657.01	653	8	6.74E-03	87.5	3.41E+00	T
0	464.30	55	133	1.48	928.86	921	13	7.67E-03	90.2	2.59E+00	T
0	728.00	86	61	1.71	1455.94	1449	14	1.20E-02	44.5	1.77E+00	T
0	795.69	40	37	2.25	1591.23	1587	12	5.54E-03	68.2	1.63E+00	T
0	1239.30	30	55	1.20	2477.83	2471	13	4.18E-03	****	1.09E+00	T
0	1729.79	13	5	2.55	3458.04	3453	10	1.81E-03	85.0	8.36E-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]G244924005.CNF;1
* Acquisition date   : 27-JAN-2010 19:05:20  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 02:00:01.07             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244924005             Analyst initials: MXR1
* Batch Number       : 942723                 Sample Quantity : 1.18558E+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	2.131E+01	2.558E+00	6.450E-01	5.734E-02	33.033
CD-109	2.933E+00	1.174E+00	1.727E+00	1.634E-01	1.698
SN-126	2.882E-01	1.154E-01	1.723E-01	1.623E-02	1.672
BA-137M	5.097E-01	9.067E-02	7.234E-02	5.925E-03	7.046
CS-137	5.388E-01	9.589E-02	7.647E-02	6.277E-03	7.046
TL-208	4.903E-01	1.151E-01	6.963E-02	6.323E-03	7.043
BI-211	4.241E+00	6.993E-01	3.932E-01	3.577E-02	10.784
PB-212	1.584E+00	2.039E-01	1.064E-01	1.077E-02	14.884
PO-212	1.584E+00	2.039E-01	1.064E-01	1.077E-02	14.884
BI-214	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
PB-214	1.475E+00	2.552E-01	1.371E-01	1.436E-02	10.761
PO-214	1.475E+00	2.552E-01	1.371E-01	1.436E-02	10.761
PO-216	1.584E+00	2.039E-01	1.064E-01	1.077E-02	14.884
PO-218	1.475E+00	2.552E-01	1.371E-01	1.436E-02	10.761
RA-224	5.050E+00	1.606E+00	1.211E+00	1.101E-01	4.169
RA-226	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
AC-228	1.495E+00	3.614E-01	2.391E-01	2.767E-02	6.252
RA-228	1.495E+00	3.614E-01	2.391E-01	2.767E-02	6.252

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.608E+00	2.071E-01	1.081E-01	1.094E-02	14.884
TH-230	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
TH-232	1.495E+00	3.614E-01	2.391E-01	2.767E-02	6.252
TH-234	3.662E+00	2.772E+00	2.327E+00	4.090E-01	1.574
U-234	1.276E+00	2.183E-01	1.296E-01	1.278E-02	9.845
NP-237	8.462E-01	3.812E-01	4.640E-01	1.050E-01	1.824
U-238	3.662E+00	2.772E+00	2.327E+00	4.090E-01	1.574
AM-243	4.032E-01	9.068E-02	9.890E-02	8.224E-03	4.077
ANH-511	1.475E-01	7.952E-02	5.999E-02	5.085E-03	2.458

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-8.570E-02		4.028E-01	6.347E-01	5.775E-02	-0.135
NA-22	1.194E-02		5.227E-02	8.939E-02	7.506E-03	0.134
NA-24	2.925E-01		4.646E-01	Half-Life	too short	
AL-26	-1.431E-03		3.378E-02	5.441E-02	4.508E-03	-0.026
TI-44	3.824E-01	+	6.829E-02	8.784E-02	7.538E-03	4.353
SC-46	-1.188E-02		4.411E-02	6.985E-02	6.314E-03	-0.170
V-48	-5.216E-02		8.042E-02	1.198E-01	1.069E-02	-0.435
CR-51	-1.528E-01		4.457E-01	7.143E-01	6.719E-02	-0.214
MN-52	-2.165E-01		2.286E-01	3.022E-01	2.609E-02	-0.716
MN-54	7.237E-02		4.385E-02	8.193E-02	7.293E-03	0.883
CO-56	4.546E-03		4.011E-02	6.665E-02	5.955E-03	0.068
CO-57	1.327E-02		3.009E-02	4.870E-02	4.287E-03	0.272
CO-58	-3.061E-02		4.393E-02	6.661E-02	5.893E-03	-0.460
FE-59	6.030E-02		1.148E-01	1.953E-01	1.800E-02	0.309
CO-60	7.799E-03		4.361E-02	7.431E-02	6.334E-03	0.105
ZN-65	-8.725E-02		1.084E-01	1.361E-01	1.149E-02	-0.641
GE-68	2.485E+00		1.518E+00	2.851E+00	2.455E-01	0.872
AS-73	6.979E-01		1.034E+00	1.735E+00	1.404E-01	0.402
AS-74	-2.841E-02		9.733E-02	1.588E-01	1.338E-02	-0.179
SE-75	1.091E-02		5.828E-02	8.534E-02	7.839E-03	0.128
BR-77	-4.666E+00		1.332E+01	2.058E+01	1.746E+00	-0.227
SR-82	-2.659E-01		4.736E-01	7.395E-01	6.438E-02	-0.360
RB-83	-3.250E-02		8.347E-02	1.284E-01	1.090E-02	-0.253
RB-84	-1.691E-02		8.185E-02	1.308E-01	1.180E-02	-0.129
KR-85	1.896E+01		1.016E+01	1.661E+01	1.408E+00	1.142
SR-85	9.740E-02		5.221E-02	8.532E-02	7.234E-03	1.142
RB-86	9.709E-01		9.946E-01	1.766E+00	1.521E-01	0.550
Y-88	1.439E-02		3.731E-02	6.610E-02	5.436E-03	0.218
ZR-88	1.405E-02		3.885E-02	6.449E-02	5.193E-03	0.218
Y-91	1.728E+01		2.358E+01	4.195E+01	3.437E+00	0.412
NB-94	4.575E-03		3.976E-02	6.660E-02	5.590E-03	0.069
NB-95	-7.524E-02		5.280E-02	7.543E-02	6.536E-03	-0.997
NB-95M	1.513E-01		1.586E-01	2.448E-01	2.511E-02	0.618
ZR-95	-4.673E-03		8.495E-02	1.396E-01	1.326E-02	-0.033

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	-2.694E-02		7.577E-02	Half-Life too short		
ZR-97	1.671E+00		1.518E+00	Half-Life too short		
MO-99	-1.020E+01		1.524E+01	2.356E+01	3.569E+00	-0.433
TC-99M	-1.679E+10		3.557E+10	Half-Life too short		
RH-101	2.923E-02		3.799E-02	6.554E-02	5.767E-03	0.446
RH-102	-1.643E-02		3.680E-02	5.593E-02	4.703E-03	-0.294
RU-103	-1.862E-02		4.669E-02	7.183E-02	1.010E-02	-0.259
RH-106	-4.561E-02		3.403E-01	5.615E-01	7.405E-02	-0.081
RU-106	-4.561E-02		3.402E-01	5.615E-01	4.691E-02	-0.081
AG-108M	-1.050E-02		4.357E-02	6.904E-02	5.954E-03	-0.152
AG-110M	-9.997E-03		4.547E-02	6.394E-02	5.421E-03	-0.156
IN-111	6.478E-02		1.389E+00	2.033E+00	1.851E-01	0.032
IN-113M	2.006E-03		5.589E-02	9.085E-02	7.567E-03	0.022
SN-113	2.006E-03		5.589E-02	9.085E-02	7.567E-03	0.022
IN-114M	1.615E-01		2.269E-01	3.494E-01	3.051E-02	0.462
CD-115	-1.299E+01		1.225E+01	1.871E+01	1.588E+00	-0.694
SN-117M	-8.202E-03		6.304E-02	1.059E-01	9.014E-03	-0.077
SB-122	2.499E+00		2.505E+00	4.503E+00	3.817E-01	0.555
I-123	-6.944E+00		4.160E+00	Half-Life too short		
TE-123M	-2.739E-02		3.282E-02	5.339E-02	4.574E-03	-0.513
I-124	-6.687E-01		7.984E-01	1.154E+00	9.703E-02	-0.579
SB-124	-5.380E-02		9.817E-02	1.428E-01	1.266E-02	-0.377
SB-125	-3.884E-02		1.230E-01	1.873E-01	1.576E-02	-0.207
TE-125M	-5.491E+00		1.117E+01	1.736E+01	1.799E+00	-0.316
I-126	4.395E-02		2.465E-01	3.639E-01	2.989E-02	0.121
SB-126	-2.030E-02		1.791E-01	2.659E-01	2.254E-02	-0.076
SB-127	-2.385E-01		1.504E+00	2.460E+00	2.756E-01	-0.097
XE-127	-1.532E-02		5.613E-02	9.276E-02	8.201E-03	-0.165
I-131	4.690E-02		1.471E-01	2.374E-01	2.128E-02	0.198
TE-132	-2.965E-01		8.492E-01	1.388E+00	2.217E-01	-0.214
BA-133	-1.333E-03		5.923E-02	8.431E-02	1.112E-02	-0.016
I-133	5.646E-03		3.747E-03	Half-Life too short		
CS-134	1.019E-01	+	7.013E-02	9.797E-02	8.658E-03	1.040
CS-135	1.126E-01		2.160E-01	3.163E-01	3.298E-02	0.356
I-135	7.299E+09		5.226E+09	Half-Life too short		
CS-136	4.231E-02		1.214E-01	2.045E-01	1.859E-02	0.207
CE-139	-3.178E-02		3.469E-02	5.610E-02	4.778E-03	-0.566
BA-140	-3.737E-02		2.946E-01	4.909E-01	1.625E-01	-0.076
LA-140	-1.198E-01		9.852E-02	1.214E-01	1.047E-02	-0.987
CE-141	4.650E-03		7.208E-02	1.214E-01	1.056E-02	0.038
CE-143	3.976E-04		1.134E-04	Half-Life too short		
CE-144	-1.505E-01		2.427E-01	3.700E-01	5.760E-02	-0.407
PM-144	3.512E-02		4.000E-02	7.105E-02	5.946E-03	0.494
PR-144	2.380E+00		2.711E+00	4.815E+00	4.028E-01	0.494
PM-146	6.180E-02		5.764E-02	9.914E-02	1.041E-02	0.623
ND-147	4.441E-01		6.201E-01	1.098E+00	1.633E-01	0.405
PM-149	-3.394E+01		1.115E+02	1.801E+02	2.852E+01	-0.188
EU-152	-9.902E-02		1.345E-01	1.787E-01	1.652E-02	-0.554

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.315E-02		1.025E-01	1.418E-01	1.260E-02	-0.163
EU-154	2.129E-02		1.464E-01	2.481E-01	2.763E-02	0.086
EU-155	1.028E-01		1.276E-01	2.104E-01	1.850E-02	0.488
TB-160	8.694E-02		1.585E-01	2.744E-01	2.474E-02	0.317
HO-166M	-3.761E-02		6.574E-02	1.027E-01	8.666E-03	-0.366
TM-171	5.731E+01		3.566E+01	5.556E+01	4.376E+00	1.031
LU-176	-9.077E-03		2.918E-02	4.697E-02	4.252E-03	-0.193
LU-177	3.668E+00	+	1.885E+00	2.344E+00	2.082E-01	1.565
LU-177M	-1.434E-01		2.131E-01	3.267E-01	2.669E-02	-0.439
HF-181	4.219E-02		5.359E-02	9.101E-02	7.668E-03	0.464
W-181	-3.504E-01		5.028E-01	6.980E-01	5.449E-02	-0.502
TA-182	3.352E-02		2.054E-01	3.497E-01	2.882E-02	0.096
RE-183	1.911E-02		1.284E-01	2.129E-01	1.813E-02	0.090
RE-184	-1.137E-01		2.581E-01	4.165E-01	3.802E-02	-0.273
OS-185	-9.909E-03		4.792E-02	7.841E-02	6.478E-03	-0.126
RE-188	2.213E-01		2.055E-01	3.550E-01	3.023E-02	0.623
W-188	1.475E+00		9.746E+00	1.424E+01	1.299E+00	0.104
IR-192	-1.370E-03		4.145E-02	6.781E-02	6.110E-03	-0.020
AU-195	2.211E-01		2.873E-01	4.212E-01	3.719E-02	0.525
TL-200	-2.026E-05		3.082E-04	Half-Life too short		
TL-201	2.651E+00		8.391E+00	1.432E+01	1.221E+00	0.185
TL-202	-5.473E-02		9.128E-02	1.404E-01	1.164E-02	-0.390
HG-203	3.997E-02		4.994E-02	8.555E-02	8.021E-03	0.467
BI-207	-5.837E-02		6.177E-02	8.915E-02	7.728E-03	-0.655
TL-207	1.742E-01		8.907E-01	1.299E+00	2.319E-01	0.134
PO-209	2.424E+00		9.232E+00	1.472E+01	1.333E+00	0.165
BI-210	-2.243E+00		5.137E+00	8.084E+00	7.631E-01	-0.277
PB-210	-2.243E+00		5.137E+00	8.084E+00	7.631E-01	-0.277
PO-210	-2.243E+00		5.136E+00	8.084E+00	6.930E-01	-0.277
PB-211	3.691E-01		1.183E+00	1.919E+00	1.201E+00	0.192
BI-212	1.307E+00	+	5.957E-01	7.944E-01	7.873E-02	1.645
PO-215	1.742E-01		8.907E-01	1.299E+00	2.319E-01	0.134
RN-219	-2.303E-01		5.206E-01	8.152E-01	1.201E-01	-0.283
RN-220	-2.083E+00		3.107E+01	5.201E+01	4.415E+00	-0.040
RA-223	1.742E-01		8.907E-01	1.299E+00	2.319E-01	0.134
AC-227	-4.322E-01		4.429E-01	6.849E-01	1.071E-01	-0.631
TH-227	-4.322E-01		4.448E-01	6.849E-01	1.254E-01	-0.631
TH-229	-2.420E-02		5.705E-01	9.541E-01	8.359E-02	-0.025
PA-231	5.016E-01		1.717E+00	2.876E+00	4.452E-01	0.174
TH-231	1.742E-01		8.907E-01	1.299E+00	2.319E-01	0.134
U-231	7.942E-01		1.417E+00	2.081E+00	1.861E-01	0.382
PA-233	4.274E-03		7.702E-02	1.268E-01	1.173E-02	0.034
PA-234	-6.197E-02		3.373E-01	5.369E-01	1.017E-01	-0.115
PA-234M	3.005E+00		5.883E+00	9.981E+00	1.017E+00	0.301
U-235	8.557E-02		2.454E-01	4.173E-01	7.291E-02	0.205
NP-236	-9.125E-02		9.188E-02	1.482E-01	1.262E-02	-0.616
NP-239	7.519E-02		2.155E-01	3.482E-01	3.032E-02	0.216
AM-241	1.560E-01		1.894E-01	2.880E-01	2.373E-02	0.542

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-5.358E-02		1.127E-01	1.756E-01	1.530E-02	-0.305
AM-246	2.102E-01		1.779E-01	3.213E-01	2.764E-02	0.654
CM-247	-1.300E-02		4.647E-02	7.375E-02	5.981E-03	-0.176
CF-249	8.189E-03		4.779E-02	7.847E-02	6.365E-03	0.104
CF-251	2.525E-02		1.456E-01	2.466E-01	2.122E-02	0.102

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]G244924005          *
* Acquisition date   : 27-JAN-2010 19:05:20 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 02:00:01.07 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G244924005 Analyst initials: MXR1                 *
* Batch Number       : 942723 Sample Quantity : 1.1856E+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	2.131E+01	2.507E+00	3.217E-01	1.279E+00
CD-109	2.933E+00	1.151E+00	8.886E-01	5.871E-01
SN-126	2.882E-01	1.131E-01	8.869E-02	5.769E-02
BA-137M	5.097E-01	8.886E-02	3.641E-02	4.534E-02
CS-137	5.388E-01	9.397E-02	3.849E-02	4.795E-02
TL-208	4.903E-01	1.128E-01	3.509E-02	5.756E-02
BI-211	4.241E+00	6.853E-01	1.993E-01	3.497E-01
PB-212	1.584E+00	1.998E-01	5.417E-02	1.020E-01
PO-212	1.584E+00	1.998E-01	5.417E-02	1.020E-01
BI-214	1.276E+00	2.139E-01	6.528E-02	1.092E-01
PB-214	1.475E+00	2.500E-01	6.948E-02	1.276E-01
PO-214	1.475E+00	2.500E-01	6.948E-02	1.276E-01
PO-216	1.584E+00	1.998E-01	5.417E-02	1.020E-01
PO-218	1.475E+00	2.500E-01	6.948E-02	1.276E-01
RA-224	5.050E+00	1.574E+00	6.166E-01	8.029E-01
RA-226	1.276E+00	2.139E-01	6.528E-02	1.092E-01
AC-228	1.495E+00	3.542E-01	1.199E-01	1.807E-01
RA-228	1.495E+00	3.542E-01	1.199E-01	1.807E-01
TH-228	1.608E+00	2.029E-01	5.500E-02	1.035E-01
TH-230	1.276E+00	2.139E-01	6.528E-02	1.092E-01
TH-232	1.495E+00	3.542E-01	1.199E-01	1.807E-01
TH-234	3.662E+00	2.717E+00	1.202E+00	1.386E+00
U-234	1.276E+00	2.139E-01	6.528E-02	1.092E-01
NP-237	8.462E-01	3.736E-01	2.388E-01	1.906E-01
U-238	3.662E+00	2.717E+00	1.202E+00	1.386E+00
AM-243	4.032E-01	8.886E-02	5.098E-02	4.534E-02
ANH-511	1.475E-01	7.793E-02	3.028E-02	3.976E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-8.570E-02	3.947E-01	3.207E-01	2.014E-01	NOT IDENT.
NA-22	1.194E-02	5.123E-02	4.466E-02	2.614E-02	NOT IDENT.
NA-24	2.925E+05	9.106E+05	0.000E+00	4.646E+05	SHORT HLIF
AL-26	-1.431E-03	3.310E-02	2.708E-02	1.689E-02	NOT IDENT.
TI-44	3.824E-01	6.693E-02	4.526E-02	3.415E-02	FAIL ABUN
SC-46	-1.188E-02	4.322E-02	3.504E-02	2.205E-02	FAIL ABUN
V-48	-5.216E-02	7.881E-02	6.002E-02	4.021E-02	NOT IDENT.
CR-51	-1.528E-01	4.368E-01	3.624E-01	2.229E-01	NOT IDENT.
MN-52	-2.165E-01	2.240E-01	1.508E-01	1.143E-01	NOT IDENT.
MN-54	7.237E-02	4.298E-02	4.113E-02	2.193E-02	NOT IDENT.
CO-56	4.546E-03	3.931E-02	3.345E-02	2.006E-02	FAIL ABUN
CO-57	1.327E-02	2.949E-02	2.497E-02	1.505E-02	NOT IDENT.
CO-58	-3.061E-02	4.305E-02	3.345E-02	2.196E-02	NOT IDENT.
FE-59	6.030E-02	1.125E-01	9.772E-02	5.742E-02	NOT IDENT.
CO-60	7.799E-03	4.273E-02	3.711E-02	2.180E-02	NOT IDENT.
ZN-65	-8.725E-02	1.062E-01	6.812E-02	5.420E-02	NOT IDENT.
GE-68	2.485E+00	1.488E+00	1.427E+00	7.590E-01	NOT IDENT.
AS-73	6.979E-01	1.013E+00	8.973E-01	5.170E-01	NOT IDENT.
AS-74	-2.841E-02	9.539E-02	8.002E-02	4.867E-02	NOT IDENT.
SE-75	1.091E-02	5.711E-02	4.339E-02	2.914E-02	NOT IDENT.
BR-77	-4.666E+00	1.305E+01	1.038E+01	6.661E+00	FAIL ABUN
SR-82	-2.659E-01	4.641E-01	3.716E-01	2.368E-01	NOT IDENT.
RB-83	-3.250E-02	8.180E-02	6.482E-02	4.174E-02	NOT IDENT.
RB-84	-1.691E-02	8.021E-02	6.564E-02	4.093E-02	NOT IDENT.
KR-85	1.896E+01	9.961E+00	8.384E+00	5.082E+00	NOT IDENT.
SR-85	9.740E-02	5.117E-02	4.307E-02	2.611E-02	NOT IDENT.
RB-86	9.709E-01	9.747E-01	8.839E-01	4.973E-01	NOT IDENT.
Y-88	1.439E-02	3.656E-02	3.289E-02	1.865E-02	NOT IDENT.
ZR-88	1.405E-02	3.807E-02	3.265E-02	1.942E-02	NOT IDENT.
Y-91	1.728E+01	2.311E+01	2.097E+01	1.179E+01	NOT IDENT.
NB-94	4.575E-03	3.897E-02	3.350E-02	1.988E-02	NOT IDENT.
NB-95	-7.524E-02	5.175E-02	3.790E-02	2.640E-02	NOT IDENT.
NB-95M	1.513E-01	1.554E-01	1.246E-01	7.930E-02	NOT IDENT.
ZR-95	-4.673E-03	8.325E-02	7.016E-02	4.248E-02	NOT IDENT.
NB-97	-2.694E+04	1.485E+05	0.000E+00	7.577E+04	SHORT HLIF
ZR-97	1.671E+06	2.975E+06	0.000E+00	1.518E+06	SHORT HLIF
MO-99	-1.020E+01	1.494E+01	1.184E+01	7.620E+00	NOT IDENT.
TC-99M	-1.679E+16	6.971E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.923E-02	3.723E-02	3.343E-02	1.900E-02	NOT IDENT.
RH-102	-1.643E-02	3.607E-02	2.826E-02	1.840E-02	NOT IDENT.
RU-103	-1.862E-02	4.576E-02	3.627E-02	2.335E-02	FAIL ABUN
RH-106	-4.561E-02	3.335E-01	2.828E-01	1.701E-01	FAIL ABUN
RU-106	-4.561E-02	3.334E-01	2.828E-01	1.701E-01	FAIL ABUN
AG-108M	-1.050E-02	4.270E-02	3.492E-02	2.179E-02	NOT IDENT.
AG-110M	-9.997E-03	4.456E-02	3.218E-02	2.273E-02	NOT IDENT.
IN-111	6.478E-02	1.361E+00	1.034E+00	6.946E-01	NOT IDENT.
IN-113M	2.006E-03	5.477E-02	4.599E-02	2.794E-02	NOT IDENT.
SN-113	2.006E-03	5.477E-02	4.599E-02	2.794E-02	NOT IDENT.
IN-114M	1.615E-01	2.224E-01	1.783E-01	1.135E-01	NOT IDENT.
CD-115	-1.299E+01	1.201E+01	9.440E+00	6.127E+00	NOT IDENT.
SN-117M	-8.202E-03	6.178E-02	5.414E-02	3.152E-02	NOT IDENT.
SB-122	2.499E+00	2.455E+00	2.270E+00	1.252E+00	NOT IDENT.
I-123	-6.944E+06	8.154E+06	0.000E+00	4.160E+06	SHORT HLIF
TE-123M	-2.739E-02	3.217E-02	2.730E-02	1.641E-02	NOT IDENT.
I-124	-6.687E-01	7.824E-01	5.814E-01	3.992E-01	NOT IDENT.
SB-124	-5.380E-02	9.621E-02	7.112E-02	4.909E-02	FAIL ABUN
SB-125	-3.884E-02	1.205E-01	9.471E-02	6.149E-02	FAIL ABUN
TE-125M	-5.491E+00	1.094E+01	8.910E+00	5.583E+00	NOT IDENT.
I-126	4.395E-02	2.416E-01	1.832E-01	1.232E-01	NOT IDENT.
SB-126	-2.030E-02	1.755E-01	1.337E-01	8.956E-02	FAIL ABUN
SB-127	-2.385E-01	1.474E+00	1.238E+00	7.520E-01	NOT IDENT.
XE-127	-1.532E-02	5.501E-02	4.730E-02	2.807E-02	NOT IDENT.
I-131	4.690E-02	1.442E-01	1.203E-01	7.355E-02	NOT IDENT.
TE-132	-2.965E-01	8.323E-01	7.068E-01	4.246E-01	NOT IDENT.
BA-133	-1.333E-03	5.805E-02	4.273E-02	2.962E-02	NOT IDENT.
I-133	5.646E+03	7.345E+03	0.000E+00	3.747E+03	SHORT HLIF
CS-134	1.019E-01	6.872E-02	4.921E-02	3.506E-02	FAIL ABUN
CS-135	1.126E-01	2.117E-01	1.608E-01	1.080E-01	NOT IDENT.
I-135	7.299E+15	1.024E+16	0.000E+00	5.226E+15	SHORT HLIF
CS-136	4.231E-02	1.190E-01	1.024E-01	6.072E-02	FAIL ABUN
CE-139	-3.178E-02	3.400E-02	2.867E-02	1.735E-02	NOT IDENT.
BA-140	-3.737E-02	2.887E-01	2.477E-01	1.473E-01	NOT IDENT.
LA-140	-1.198E-01	9.655E-02	6.049E-02	4.926E-02	FAIL ABUN
CE-141	4.650E-03	7.063E-02	6.216E-02	3.604E-02	NOT IDENT.
CE-143	3.976E+02	2.222E+02	0.000E+00	1.134E+02	SHORT HLIF
CE-144	-1.505E-01	2.379E-01	1.896E-01	1.214E-01	NOT IDENT.
PM-144	3.512E-02	3.920E-02	3.574E-02	2.000E-02	NOT IDENT.
PR-144	2.380E+00	2.657E+00	2.422E+00	1.356E+00	NOT IDENT.

PM-146	6.180E-02	5.649E-02	5.011E-02	2.882E-02	NOT IDENT.
ND-147	4.441E-01	6.077E-01	5.539E-01	3.100E-01	NOT IDENT.
PM-149	-3.394E+01	1.092E+02	9.151E+01	5.574E+01	NOT IDENT.
EU-152	-9.902E-02	1.318E-01	9.058E-02	6.723E-02	NOT IDENT.
GD-153	-2.315E-02	1.005E-01	7.291E-02	5.125E-02	FAIL ABUN
EU-154	2.129E-02	1.434E-01	1.240E-01	7.318E-02	NOT IDENT.
EU-155	1.028E-01	1.251E-01	1.081E-01	6.380E-02	FAIL ABUN
TB-160	8.694E-02	1.554E-01	1.377E-01	7.926E-02	FAIL ABUN
HO-166M	-3.761E-02	6.442E-02	5.166E-02	3.287E-02	NOT IDENT.
TM-171	5.731E+01	3.494E+01	2.868E+01	1.783E+01	NOT IDENT.
LU-176	-9.077E-03	2.860E-02	2.385E-02	1.459E-02	FAIL ABUN
LU-177	3.668E+00	1.848E+00	1.195E+00	9.427E-01	FAIL ABUN
LU-177M	-1.434E-01	2.088E-01	1.653E-01	1.066E-01	FAIL ABUN
HF-181	4.219E-02	5.252E-02	4.597E-02	2.679E-02	NOT IDENT.
W-181	-3.504E-01	4.927E-01	3.603E-01	2.514E-01	NOT IDENT.
TA-182	3.352E-02	2.013E-01	1.748E-01	1.027E-01	FAIL ABUN
RE-183	1.911E-02	1.259E-01	1.088E-01	6.422E-02	FAIL ABUN
RE-184	-1.137E-01	2.529E-01	2.119E-01	1.290E-01	NOT IDENT.
OS-185	-9.909E-03	4.697E-02	3.948E-02	2.396E-02	NOT IDENT.
RE-188	2.213E-01	2.014E-01	1.816E-01	1.027E-01	NOT IDENT.
W-188	1.475E+00	9.551E+00	7.235E+00	4.873E+00	FAIL ABUN
IR-192	-1.370E-03	4.062E-02	3.441E-02	2.073E-02	FAIL ABUN
AU-195	2.211E-01	2.815E-01	2.165E-01	1.436E-01	FAIL ABUN
TL-200	-2.026E+01	6.041E+02	0.000E+00	3.082E+02	SHORT HLIF
TL-201	2.651E+00	8.223E+00	7.316E+00	4.196E+00	NOT IDENT.
TL-202	-5.473E-02	8.945E-02	7.097E-02	4.564E-02	NOT IDENT.
HG-203	3.997E-02	4.895E-02	4.347E-02	2.497E-02	FAIL ABUN
BI-207	-5.837E-02	6.053E-02	4.463E-02	3.089E-02	FAIL ABUN
TL-207	1.742E-01	8.729E-01	6.589E-01	4.453E-01	FAIL ABUN
PO-209	2.424E+00	9.047E+00	7.385E+00	4.616E+00	NOT IDENT.
BI-210	-2.243E+00	5.034E+00	4.188E+00	2.568E+00	NOT IDENT.
PB-210	-2.243E+00	5.034E+00	4.188E+00	2.568E+00	NOT IDENT.
PO-210	-2.243E+00	5.033E+00	4.188E+00	2.568E+00	NOT IDENT.
PB-211	3.691E-01	1.160E+00	9.714E-01	5.917E-01	NOT IDENT.
BI-212	1.307E+00	5.838E-01	3.994E-01	2.978E-01	FAIL ABUN
PO-215	1.742E-01	8.729E-01	6.589E-01	4.453E-01	FAIL ABUN
RN-219	-2.303E-01	5.102E-01	4.126E-01	2.603E-01	FAIL ABUN
RN-220	-2.083E+00	3.045E+01	2.624E+01	1.554E+01	NOT IDENT.
RA-223	1.742E-01	8.729E-01	6.589E-01	4.453E-01	FAIL ABUN
AC-227	-4.322E-01	4.340E-01	3.484E-01	2.214E-01	NOT IDENT.
TH-227	-4.322E-01	4.359E-01	3.484E-01	2.224E-01	FAIL ABUN
TH-229	-2.420E-02	5.591E-01	4.868E-01	2.853E-01	FAIL ABUN
PA-231	5.016E-01	1.683E+00	1.461E+00	8.585E-01	NOT IDENT.
TH-231	1.742E-01	8.729E-01	6.589E-01	4.453E-01	FAIL ABUN
U-231	7.942E-01	1.389E+00	1.070E+00	7.085E-01	FAIL ABUN
PA-233	4.274E-03	7.548E-02	6.435E-02	3.851E-02	FAIL ABUN
PA-234	-6.197E-02	3.305E-01	2.691E-01	1.686E-01	FAIL ABUN
PA-234M	3.005E+00	5.766E+00	5.001E+00	2.942E+00	NOT IDENT.
U-235	8.557E-02	2.405E-01	2.136E-01	1.227E-01	FAIL ABUN
NP-236	-9.125E-02	9.004E-02	7.578E-02	4.594E-02	FAIL ABUN
NP-239	7.519E-02	2.112E-01	1.786E-01	1.078E-01	FAIL ABUN
AM-241	1.560E-01	1.856E-01	1.488E-01	9.470E-02	NOT IDENT.
CM-243	-5.358E-02	1.105E-01	9.022E-02	5.636E-02	FAIL ABUN
AM-246	2.102E-01	1.743E-01	1.608E-01	8.894E-02	NOT IDENT.
CM-247	-1.300E-02	4.554E-02	3.733E-02	2.323E-02	NOT IDENT.
CF-249	8.189E-03	4.684E-02	3.973E-02	2.390E-02	NOT IDENT.
CF-251	2.525E-02	1.427E-01	1.259E-01	7.279E-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	257.9543
46.50	257.9543
46.50	257.9543
48.70	246.8048
49.72	241.1381
51.35	263.6451
52.39	253.8301
52.97	236.4876
53.15	236.5705
53.44	220.0942
54.07	212.0481
56.28	262.0073
56.28	262.0086
57.37	0.0000
57.53	246.4070
57.53	246.4079
57.60	246.4390
57.98	254.4673
57.98	254.4673
59.32	233.0521
59.32	233.0521
59.40	233.0860
59.54	215.8174
59.72	215.8885
60.01	208.1191
61.10	276.9868
61.14	277.0066
61.30	277.0865
63.00	277.9262
63.29	278.0684
63.29	278.0684
63.58	325.2841
64.28	355.8682
65.12	370.7069
65.20	370.7585
65.20	370.7585
66.05	312.3391
66.72	266.4302
66.83	272.8639
66.91	272.9005
67.20	290.5985
67.20	290.5985
67.75	311.9652
67.85	329.9216
68.90	352.2816
68.90	352.2816
69.30	381.3589
69.67	394.4217
70.82	363.0428
70.82	363.0428
70.83	363.0480
72.80	335.2070
72.87	335.2451
72.87	335.2451
74.67	336.2131
74.81	336.2893
74.81	336.2893
74.81	336.2893
74.81	336.2893
74.81	336.2893
74.81	336.2893
74.81	336.2893
74.97	336.3734
75.28	336.5400
75.70	336.7622
77.11	337.5081
77.11	337.5081

77.11	337.5081
77.11	337.5081
77.11	337.5081
77.11	337.5081
77.11	337.5081
78.38	338.1746
79.62	312.7559
79.80	332.3949
79.80	332.3949
80.11	332.5521
80.18	332.5864
80.30	313.0796
80.30	313.0796
80.57	313.2085
81.00	313.4121
81.07	313.4458
81.07	313.4458
81.07	313.4458
81.07	313.4458
82.60	314.1672
83.37	310.1584
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83.78	415.2539
83.78	415.2539
83.78	415.2539
84.21	415.5187
84.90	415.9400
85.43	416.2647
86.29	416.7866
86.50	416.9142
86.54	416.9373
86.59	416.9683
86.72	417.0475
86.79	417.0881
86.94	417.1790
87.30	509.1149
87.30	509.1149
87.30	509.1149
87.30	509.1149
87.30	509.1149
87.30	509.1149
87.57	509.3130
87.88	499.0956
88.03	499.2042
88.36	432.3344
88.47	432.4023
89.95	433.3159
91.11	434.0255
92.29	512.7289
92.38	512.7950
92.38	512.7950
93.35	416.5494
94.00	416.9223
94.67	417.3048
94.67	417.3067
94.90	417.4387
94.90	417.4387
94.90	417.4387
94.90	417.4387
95.87	283.4782
95.87	283.4782
96.73	282.1407
97.43	277.3932
98.44	254.3430
98.44	254.3442
98.88	239.4251
99.55	239.6389
99.55	239.6389
99.86	233.0312
100.00	233.0746
100.10	250.8829
103.18	323.2896
103.76	283.0924
105.00	258.7909
105.31	263.3964
108.00	312.8676
109.28	300.9263

111.00	246.0201
111.00	246.0201
111.76	265.5423
112.95	256.8398
115.19	267.7983
116.30	212.2442
117.00	236.4052
117.00	236.4052
117.66	254.8800
121.11	245.5937
121.62	241.1473
121.78	250.3810
122.06	250.4625
122.32	270.0764
122.32	270.0764
122.32	270.0764
122.32	270.0764
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127.23	298.1898
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131.20	284.4327
133.02	300.1287
133.54	274.6947
135.34	240.2495
136.00	251.2170
136.25	257.4149
136.48	257.4788
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140.51	0.0000
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142.65	264.4753
143.76	270.9626
144.24	270.2153
144.24	270.2153
144.24	270.2153
144.24	270.2153
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145.44	262.5964
147.16	296.7236
152.43	271.6104
152.70	277.9202
153.22	254.0021
154.21	268.5305
154.21	268.5305
154.21	268.5305
154.21	268.5305
155.03	254.4652
156.02	255.6090
158.56	262.5246
159.00	0.0000
159.00	284.1517
160.31	287.2095
161.27	265.0188
162.32	244.6053
162.64	244.6821
163.35	236.7486
163.89	235.0697
165.85	285.1430
167.43	249.4238
171.28	249.4244
171.86	253.1886
172.10	253.2461
176.55	241.5311
176.60	241.5412
181.06	270.8945
184.41	224.7113
185.71	215.9647
186.00	216.0203
190.27	206.6829
192.34	204.2824
193.63	225.7938
197.04	245.9446
198.01	221.9984
198.60	202.5937
200.40	260.6094
201.83	274.8993
202.84	256.4802
205.31	209.3455

208.36	256.3434
208.81	256.4395
209.75	226.9950
209.75	226.9950
210.97	201.3075
215.65	222.9661
216.55	199.0102
218.09	203.9766
222.10	215.9940
223.80	192.5660
226.40	230.0267
227.00	226.3299
227.08	227.2954
227.20	227.3173
228.16	217.9669
228.18	217.9704
228.18	217.9704
231.56	0.0000
235.69	194.5261
236.00	208.3612
236.00	208.3612
238.63	196.6841
238.63	196.6841
238.63	196.6841
238.63	196.6841
239.00	196.7388
240.98	197.0297
241.98	197.1767
241.98	197.1767
241.98	197.1767
244.69	164.9971
245.39	165.0820
247.94	141.6906
248.90	151.3644
249.79	154.7791
252.40	157.9796
252.85	160.9391
252.85	160.9391
254.15	0.0000
256.20	181.7355
256.20	181.7355
260.50	146.2234
260.90	150.1650
262.80	184.5386
264.65	147.0402
268.24	155.2482
268.79	149.0336
269.46	158.5202
269.46	158.5202
269.46	158.5202
269.46	158.5202
271.23	146.3377
273.65	192.0309
276.40	167.1570
277.35	136.3824
277.60	136.1238
277.60	136.1238
278.00	143.0663
278.60	150.0355
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279.53	163.9559
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281.68	187.9329
283.67	132.7180
284.30	134.7549
285.00	135.8084
285.90	148.7846
286.10	148.8052
286.10	148.8052
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290.80	148.0712
291.72	149.7528
293.26	0.0000
293.70	170.6854
295.21	162.6692
295.21	162.6692

295.21	162.6692
295.96	182.1161
296.50	177.3859
297.23	227.0336
298.57	155.2213
299.80	153.7406
299.80	153.7406
300.09	144.1604
300.09	144.1604
300.09	144.1604
300.09	144.1604
300.12	144.1626
301.29	145.4153
302.84	163.4676
303.76	191.6587
303.91	191.6791
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304.40	177.6833
304.84	179.7402
306.84	141.7638
308.46	126.8113
311.98	137.1766
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318.01	140.7286
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319.41	138.8229
320.08	138.8793
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323.87	131.6824
323.87	131.6824
323.87	131.6824
325.23	149.6887
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333.44	155.3329
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334.20	161.9481
334.30	161.9578
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338.28	133.2333
338.28	133.2333
338.28	133.2333
338.32	133.2353
338.32	133.2353
338.32	133.2353
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340.57	119.8654
344.27	138.2267
345.85	125.1773
350.59	0.0000
351.07	124.9345
351.92	124.9954
351.92	124.9954
351.92	124.9954
355.39	0.0000
356.01	120.9383
364.48	105.0794
366.43	118.7349
367.43	110.4641
367.94	0.0000
369.80	107.4792
374.96	97.3196
383.85	109.3590
387.95	105.3833
388.63	112.8026
391.69	116.1533
391.69	116.1533
392.90	112.0023
398.62	125.0581
400.65	116.7038
401.10	124.1608
401.81	123.1438
402.60	120.0090
404.84	109.5161
410.95	92.7959
411.60	104.5646
413.65	113.2186
414.70	113.2801
415.30	111.1760

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427.08	109.6886
427.89	106.5063
432.53	115.3790
433.93	116.5364
439.47	115.7741
439.56	115.7790
439.89	113.6325
443.98	83.4973
444.90	87.8744
445.03	87.8794
445.03	87.8794
445.03	87.8794
445.03	87.8794
453.90	90.4355
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468.07	101.7931
473.00	98.9497
475.06	89.1400
475.35	89.1512
476.78	100.2241
477.59	92.5492
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484.57	109.4263
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497.08	75.5880
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510.53	0.0000
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511.00	95.0705
511.85	95.1056
511.85	95.1056
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513.99	73.4677
520.41	79.7385
520.65	79.7472
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529.64	55.9271
529.87	0.0000
531.02	57.7641
537.32	72.4004
543.00	79.8316
546.56	0.0000
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552.65	65.5805
555.20	73.8552
563.23	56.7188
563.90	62.2243
568.70	76.0982
569.32	71.5330
569.50	66.9529
569.67	66.9565
573.80	65.2312
574.00	72.5870
574.64	75.3635
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579.30	0.0000
583.14	72.8532
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591.81	61.6927
592.07	58.3058
593.00	56.4741
595.88	62.0993
600.56	64.0709
602.52	0.0000
602.71	77.8327
602.71	77.8327
603.60	69.7247
604.41	71.2966
604.70	62.0052
609.31	70.8121

609.31	70.8121
609.31	70.8121
609.31	70.8121
610.33	70.8399
612.46	66.8551
614.37	70.0159
618.01	59.2080
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621.84	57.1093
631.29	47.9183
633.02	56.4111
633.10	55.4724
634.78	47.9806
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636.97	53.6699
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656.30	53.7393
657.75	63.2552
657.90	0.0000
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661.65	72.2148
664.57	0.0000
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666.33	65.0401
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677.61	48.7389
685.20	52.7039
692.80	60.5314
695.00	67.3101
696.49	53.8754
696.49	53.8754
697.00	52.9227
697.49	59.6689
698.33	71.2395
698.50	75.0940
699.00	73.1815
702.63	65.5612
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706.58	0.0000
706.67	60.8251
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711.68	58.0298
713.82	48.3936
717.42	62.9894
720.50	56.8197
721.93	0.0000
722.20	56.6215
722.78	53.3967
722.78	53.3967
722.89	53.3981
722.95	53.3994
723.30	55.0245
724.18	56.6600
727.18	51.5314
733.00	66.5716
735.90	45.5080
739.58	71.2748
742.81	57.6676
744.21	50.8498
747.13	51.8782
751.79	60.7815
752.31	64.7142
753.82	55.9173
755.35	56.9267
756.15	58.9043
756.87	62.8469
763.93	75.7875
765.79	87.6528
766.42	73.8794
766.84	69.9478
776.49	67.2031
778.00	57.3486
778.57	48.4581
778.89	47.4738
783.80	46.5582
785.46	51.5392
792.07	44.6946

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796.30	41.7713
798.80	59.7202
801.93	41.5141
805.60	44.8868
810.29	47.9496
810.76	51.9530
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817.79	43.0546
818.51	51.0772
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826.30	50.1953
828.27	0.0000
831.60	62.3444
831.96	59.3342
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836.80	0.0000
846.75	35.3572
848.13	44.4673
856.28	0.0000
856.80	78.0208
860.37	42.6029
867.32	39.6418
867.82	34.5645
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873.19	48.8742
874.81	43.8042
875.33	0.0000
876.40	39.7484
879.36	36.7225
880.27	40.8135
880.51	45.9185
881.50	45.9316
883.24	39.8284
884.67	44.9528
889.25	42.9669
896.60	39.9836
898.02	43.0767
899.00	44.1149
903.28	44.9399
911.07	42.2092
911.07	42.2092
911.07	42.2092
919.63	41.2803
920.93	39.2302
925.00	42.3763
925.24	42.3793
926.50	37.2243
935.52	47.6857
937.48	40.4511
944.10	41.5654
946.00	40.5472
949.00	41.6221
962.29	59.6777
964.01	48.7596
966.15	54.0154
968.20	94.1440
969.11	66.9641
969.11	66.9641
969.11	66.9641
977.42	32.5091
980.50	31.4868
983.50	43.0670
989.30	32.6136
996.32	48.4853
1001.03	39.0478
1001.68	33.7773
1004.76	50.7070
1021.30	0.0000
1024.50	0.0000
1034.80	34.0719
1036.00	42.6035
1037.82	36.2296
1038.57	38.3695
1038.76	0.0000
1045.16	35.2317
1046.59	39.5167
1048.07	33.1207

1050.47	38.4873
1050.47	38.4873
1062.04	32.1665
1063.62	41.8336
1076.63	35.5153
1077.35	26.9104
1078.86	33.3810
1085.78	33.4385
1099.22	41.1265
1112.02	32.5708
1112.84	30.4063
1115.52	45.0172
1120.29	34.4499
1120.29	34.4499
1120.29	34.4499
1120.29	34.4499
1120.51	34.4530
1121.28	34.4591
1124.00	0.0000
1129.67	36.3460
1131.51	0.0000
1147.95	0.0000
1167.94	46.7687
1173.22	47.7450
1175.09	51.4404
1177.93	34.0100
1189.05	48.8443
1204.90	48.0983
1205.75	0.0000
1213.00	46.3359
1221.42	38.9956
1230.97	48.3861
1235.34	51.0960
1236.41	0.0000
1238.25	51.1295
1246.25	37.8155
1260.41	0.0000
1271.85	32.8666
1274.45	37.5846
1274.54	36.6450
1291.56	29.2378
1298.22	0.0000
1312.09	18.9469
1325.50	21.8517
1325.50	21.8517
1332.49	23.7874
1333.61	27.6005
1360.21	10.5282
1362.66	0.0000
1365.15	26.8265
1368.21	14.3805
1368.53	0.0000
1376.25	24.0082
1384.27	25.0098
1394.10	13.4941
1395.20	17.3533
1407.95	19.3319
1434.06	18.4635
1436.60	12.6392
1457.56	0.0000
1460.81	19.5386
1489.15	14.7363
1509.49	16.7669
1596.49	23.0608
1620.62	14.0997
1678.03	0.0000
1691.02	17.3389
1691.02	17.3389
1706.46	0.0000
1750.46	0.0000
1764.49	4.1320
1764.49	4.1320
1764.49	4.1320
1764.49	4.1320
1770.23	3.5452
1771.40	10.6377
1791.20	0.0000
1808.65	9.3669

1836.01

7.3184

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924005

Total Uranium Activity	1.0935E+01	ug/g
Total Uranium Counting Unc.	8.0828E+00	ug/g
Total Uranium Tpu	4.1239E-06	ug/g
Total Uranium Mda	3.5763E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942723                          SAMPLE ID   : G244924005
*  ANALYST       : MXR1                             DETECTOR    : GAM01
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 19:05:20.89          SAMPLE ALQT  : 118.558 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.694E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.356E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.258E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.571E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 21:06:42.56

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924006.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:05:54
Sample ID          : G244924006 Sample quantity   : 1.21495E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.55 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity        : 5.00000
Batch ID           : 942723 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	2	75.02*	416	430	1.18	149.15	142	17	5.78E-02	9.9	1.73E+00
2	2	77.26	624	365	0.92	153.64	142	17	8.67E-02	6.4	
3	3	87.44	265	438	1.33	173.99	163	28	3.68E-02	14.7	3.63E+00
4	3	90.02	222	358	1.11	179.15	163	28	3.08E-02	15.9	
5	3	92.97*	229	381	1.29	185.05	163	28	3.18E-02	17.9	
6	0	128.61	111	338	1.28	256.29	252	9	1.55E-02	31.2	
7	0	186.11*	276	330	1.46	371.27	367	9	3.84E-02	14.0	
8	0	209.59	155	370	1.04	418.19	413	11	2.16E-02	25.2	
9	3	238.77*	1657	189	1.21	476.54	470	21	2.30E-01	2.9	1.30E+00
10	3	241.65	493	228	1.76	482.30	470	21	6.85E-02	9.9	
11	0	270.49	129	300	1.27	539.97	534	12	1.79E-02	28.3	
12	0	277.70	57	205	1.12	554.38	550	8	7.90E-03	46.1	
13	2	295.30*	566	164	1.40	589.57	584	20	7.86E-02	5.8	1.90E+00
14	2	299.97	155	189	1.71	598.91	584	20	2.16E-02	18.6	
15	0	327.85	126	198	1.49	654.65	651	11	1.74E-02	23.3	
16	0	338.60*	276	265	1.31	676.14	669	11	3.83E-02	13.3	
17	0	351.92*	883	204	1.31	702.77	697	11	1.23E-01	4.7	
18	0	463.10	111	119	1.11	925.06	923	8	1.54E-02	20.0	
19	0	510.76*	158	150	2.29	1020.35	1013	15	2.19E-02	22.2	
20	0	583.10*	549	155	1.57	1164.99	1157	17	7.62E-02	6.9	
21	0	609.20*	669	154	1.55	1217.18	1209	15	9.29E-02	5.7	
22	0	727.57	132	124	1.40	1453.86	1446	16	1.84E-02	20.7	
23	0	769.60	104	160	0.97	1537.91	1529	20	1.44E-02	32.2	
24	0	787.78	33	103	1.29	1574.25	1563	15	4.53E-03	71.5	
25	0	795.61	61	82	2.22	1589.90	1584	12	8.46E-03	33.4	
26	0	860.79	51	103	1.16	1720.24	1713	14	7.03E-03	45.7	
27	0	910.82*	449	64	1.61	1820.28	1811	17	6.23E-02	6.4	
28	1	964.49	93	62	2.03	1927.61	1920	31	1.29E-02	19.0	3.35E+00
29	1	968.83*	253	45	2.17	1936.29	1920	31	3.51E-02	8.9	
30	0	1120.42*	129	102	1.51	2239.41	2231	17	1.79E-02	20.6	
31	0	1238.24	51	102	1.68	2475.01	2469	15	7.01E-03	47.5	
32	0	1460.24*	1377	44	2.22	2918.97	2908	23	1.91E-01	3.0	
33	0	1763.93*	162	17	2.65	3526.31	3515	23	2.25E-02	10.6	
34	0	1847.10	28	4	1.54	3692.65	3685	13	3.82E-03	23.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 21:06:45

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924006.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:05:54
 Sample ID : G244924006 Sample quantity : 121.50 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA18 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.55 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	*	2.105E+01	2.037E+00	4.513E-01	3.425E-02	46.648
CD-109	+	88.03	*	3.489E+00	1.078E+00	1.111E+00	1.027E-01	3.139
SN-126		64.28		5.687E-01	5.584E-01	9.391E-01	1.388E-01	0.606
	+	86.94		1.425E+00	7.254E-01	4.610E-01	1.912E-01	3.091
	+	87.57	*	3.428E-01	1.059E-01	1.099E-01	1.013E-02	3.119
HG-203		70.83		8.708E-02	1.108E+00	1.653E+00	2.202E-01	0.053
		72.87		5.756E-01	5.897E-01	1.001E+00	1.298E-01	0.575
		82.60		2.416E-01	1.223E+00	1.660E+00	2.303E-01	0.146
	+	279.20	*	4.566E-02	4.215E-02	5.672E-02	3.440E-03	0.805
TL-208	+	277.35		4.132E-01	3.830E-01	5.064E-01	5.318E-02	0.816
	+	510.84		5.243E-01	2.398E-01	1.755E-01	1.866E-02	2.988
	+	583.14	*	5.119E-01	8.125E-02	4.437E-02	3.478E-03	11.537
	+	860.37		4.305E-01	3.962E-01	3.445E-01	3.854E-02	1.250
BI-211		72.87		2.886E+00	2.943E+00	5.020E+00	4.145E-01	0.575
	+	351.07	*	3.866E+00	4.391E-01	2.623E-01	1.683E-02	14.743
PB-212	+	74.81		2.434E+00	5.702E-01	5.246E-01	6.576E-02	4.639
	+	77.11		2.039E+00	3.116E-01	2.935E-01	2.488E-02	6.948
	+	87.30		1.585E+00	5.148E-01	5.102E-01	6.929E-02	3.108
	+	238.63	*	1.690E+00	1.549E-01	7.050E-02	5.036E-03	23.968
	+	300.09		2.351E+00	8.969E-01	9.816E-01	8.060E-02	2.395
PO-212	+	74.81		2.434E+00	5.702E-01	5.246E-01	6.576E-02	4.639
	+	77.11		2.039E+00	3.116E-01	2.935E-01	2.488E-02	6.948
	+	87.30		1.585E+00	5.148E-01	5.102E-01	6.929E-02	3.108
		115.19		1.445E+00	3.227E+00	5.295E+00	3.335E-01	0.273
	+	238.63	*	1.690E+00	1.549E-01	7.050E-02	5.036E-03	23.968
	+	300.09		2.351E+00	8.969E-01	9.816E-01	8.060E-02	2.395
BI-214	+	609.31	*	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
	+	1120.29		1.128E+00	4.772E-01	3.967E-01	3.798E-02	2.843
	+	1764.49		1.868E+00	4.121E-01	2.734E-01	1.663E-02	6.830
PB-214	+	74.81		4.194E+00	9.530E-01	9.040E-01	1.009E-01	4.639
	+	77.11		3.496E+00	5.969E-01	5.032E-01	5.734E-02	6.948
	+	87.30		2.716E+00	8.648E-01	8.740E-01	1.048E-01	3.108
	+	241.98		3.014E+00	6.431E-01	4.238E-01	3.351E-02	7.113
	+	295.21		1.509E+00	2.171E-01	1.723E-01	1.462E-02	8.756

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.345E+00	1.681E-01	9.139E-02	7.560E-03	14.716
	+	74.81		4.194E+00	9.530E-01	9.040E-01	1.009E-01	4.639
	+	77.11		3.496E+00	5.969E-01	5.032E-01	5.734E-02	6.948
	+	87.30		2.716E+00	8.648E-01	8.740E-01	1.048E-01	3.108
	+	241.98		3.014E+00	6.431E-01	4.238E-01	3.351E-02	7.113
	+	295.21		1.509E+00	2.171E-01	1.723E-01	1.462E-02	8.756
PO-216	+	351.92	*	1.345E+00	1.681E-01	9.139E-02	7.560E-03	14.716
	+	74.81		2.434E+00	5.702E-01	5.246E-01	6.576E-02	4.639
	+	77.11		2.039E+00	3.116E-01	2.935E-01	2.488E-02	6.948
	+	87.30		1.585E+00	5.148E-01	5.102E-01	6.929E-02	3.108
	+	238.63	*	1.690E+00	1.549E-01	7.050E-02	5.036E-03	23.968
	+	300.09		2.351E+00	8.969E-01	9.816E-01	8.060E-02	2.395
PO-218	+	74.81		4.194E+00	9.530E-01	9.040E-01	1.009E-01	4.639
	+	77.11		3.496E+00	5.969E-01	5.032E-01	5.734E-02	6.948
	+	87.30		2.716E+00	8.648E-01	8.740E-01	1.048E-01	3.108
	+	241.98		3.014E+00	6.431E-01	4.238E-01	3.351E-02	7.113
	+	295.21		1.509E+00	2.171E-01	1.723E-01	1.462E-02	8.756
	+	351.92	*	1.345E+00	1.681E-01	9.139E-02	7.560E-03	14.716
RA-224	+	240.98	*	5.715E+00	1.177E+00	8.013E-01	4.464E-02	7.133
RA-226	+	609.31	*	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
	+	1120.29		1.128E+00	4.772E-01	3.967E-01	3.798E-02	2.843
AC-228	+	1764.49		1.868E+00	4.121E-01	2.734E-01	1.663E-02	6.830
	+	338.32		1.341E+00	6.525E-01	3.286E-01	1.340E-01	4.082
RA-228	+	911.07	*	1.801E+00	3.317E-01	1.552E-01	2.057E-02	11.601
	+	969.11		1.783E+00	5.313E-01	2.760E-01	6.609E-02	6.459
TH-228	+	338.32		1.341E+00	6.525E-01	3.286E-01	1.340E-01	4.082
	+	911.07	*	1.801E+00	3.317E-01	1.552E-01	2.057E-02	11.601
TH-228	+	969.11		1.783E+00	5.313E-01	2.760E-01	6.609E-02	6.459
	+	74.81		2.471E+00	5.316E-01	5.327E-01	4.489E-02	4.639
TH-230	+	77.11		2.070E+00	3.164E-01	2.980E-01	2.526E-02	6.948
	+	87.30		1.610E+00	4.973E-01	5.180E-01	4.761E-02	3.108
TH-232	+	238.63	*	1.716E+00	1.572E-01	7.158E-02	5.114E-03	23.968
	+	300.09		2.387E+00	1.664E+00	9.967E-01	5.874E-01	2.395
TH-230	+	609.31	*	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
	+	1120.29		1.128E+00	4.772E-01	3.967E-01	3.798E-02	2.843
TH-232	+	1764.49		1.868E+00	4.121E-01	2.734E-01	1.663E-02	6.830
	+	338.32		1.341E+00	3.644E-01	3.286E-01	1.901E-02	4.082
U-234	+	911.07	*	1.801E+00	3.317E-01	1.552E-01	2.057E-02	11.601
	+	969.11		1.783E+00	5.313E-01	2.760E-01	6.609E-02	6.459
NP-237	+	609.31	*	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
	+	1120.29		1.128E+00	4.772E-01	3.967E-01	3.798E-02	2.843
AM-243	+	1764.49		1.868E+00	4.121E-01	2.734E-01	1.663E-02	6.830
	+	86.50	*	1.007E+00	3.740E-01	3.277E-01	7.394E-02	3.072
ANH-511	+	95.87		4.646E-01	9.327E-01	1.384E+00	3.381E-01	0.336
	+	74.67	*	3.946E-01	8.477E-02	8.539E-02	7.126E-03	4.621
ANH-511	+	86.72		3.775E+01	1.166E+01	1.225E+01	1.120E+00	3.082
	+	117.66		-3.722E+00	3.461E+00	5.289E+00	3.254E-01	-0.704
ANH-511	+	142.18		5.161E-01	1.617E+01	2.571E+01	1.416E+00	0.020
	+	511.00	*	1.132E-01	5.094E-02	3.791E-02	2.504E-03	2.987

---- 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	*		-1.013E-01	2.541E-01	4.084E-01	2.959E-02	-0.248
NA-22	1274.54	*		-2.262E-02	3.578E-02	5.550E-02	3.777E-03	-0.407
NA-24	1368.53	*		-6.575E-01	3.578E-02	Half-Life too short		
AL-26	1129.67			-1.562E-01	1.503E+00	2.260E+00	1.509E-01	-0.069
	1808.65	*		1.968E-02	2.592E-02	4.689E-02	2.738E-03	0.420
TI-44	67.85			-3.360E-02	4.704E-02	7.525E-02	6.051E-03	-0.446
	78.38	*		3.763E-01	5.750E-02	8.055E-02	6.887E-03	4.672
SC-46	889.25	*		-1.952E-02	3.037E-02	4.677E-02	5.216E-03	-0.417
	1120.51	+		1.934E-01	8.080E-02	1.034E-01	7.143E-03	1.870
V-48	944.10			-1.524E-01	7.161E-01	1.143E+00	1.209E-01	-0.133
	983.50	*		4.782E-02	5.713E-02	9.861E-02	9.753E-03	0.485
	1312.09			1.438E-02	5.667E-02	9.528E-02	6.940E-03	0.151
CR-51	320.08	*		2.910E-01	3.197E-01	5.390E-01	3.470E-02	0.540
MN-52	744.21			-4.591E-02	1.967E-01	3.214E-01	2.834E-02	-0.143
	848.13			1.007E+00	5.281E+00	8.799E+00	9.205E-01	0.114
	935.52			1.775E-01	2.063E-01	3.570E-01	3.829E-02	0.497
	1246.25			-3.851E+00	6.863E+00	8.973E+00	5.770E-01	-0.429
	1333.61			3.478E+00	4.079E+00	7.208E+00	5.445E-01	0.483
	1434.06	*		-4.959E-02	1.925E-01	3.027E-01	2.231E-02	-0.164
MN-54	834.83	*		-5.168E-03	2.960E-02	4.804E-02	4.921E-03	-0.108
CO-56	846.75	*		-1.292E-02	3.001E-02	4.748E-02	4.956E-03	-0.272
	977.42			-2.444E+00	2.831E+00	3.467E+00	3.468E-01	-0.705
	1037.82			2.464E-01	2.444E-01	4.381E-01	4.058E-02	0.562
	1175.09			4.495E-01	1.824E+00	3.072E+00	1.705E-01	0.146
	1238.25	+		1.241E-01	1.181E-01	1.412E-01	9.413E-03	0.879
	1360.21			3.396E-01	7.837E-01	1.337E+00	1.005E-01	0.254
	1771.40			4.723E-02	1.867E-01	2.768E-01	1.673E-02	0.171
CO-57	122.06	*		3.245E-03	2.215E-02	3.578E-02	2.119E-03	0.091
	136.48			-5.172E-02	1.829E-01	2.875E-01	1.882E-02	-0.180
CO-58	810.76	*		-3.923E-02	3.134E-02	4.614E-02	4.555E-03	-0.850
FE-59	142.65			4.445E-01	2.546E+00	4.034E+00	2.220E-01	0.110
	192.34			-2.122E-01	7.797E-01	1.289E+00	1.495E-01	-0.165
	1099.22	*		-2.898E-02	7.543E-02	1.219E-01	1.004E-02	-0.238
	1291.56			-6.845E-03	9.745E-02	1.588E-01	1.335E-02	-0.043
CO-60	1173.22			2.078E-02	3.616E-02	6.233E-02	3.445E-03	0.333
	1332.49	*		4.116E-02	3.070E-02	5.642E-02	4.263E-03	0.730
ZN-65	1115.52	*		3.316E-02	8.795E-02	1.298E-01	9.146E-03	0.255
GE-68	1077.35	*		2.695E-01	9.573E-01	1.632E+00	1.296E-01	0.165
AS-73	53.44	*		-6.398E-01	1.107E+00	1.748E+00	1.386E-01	-0.366
AS-74	595.88	*		-3.455E-02	8.240E-02	1.297E-01	9.321E-03	-0.266
	634.78			5.638E-02	2.877E-01	4.695E-01	3.495E-02	0.120
SE-75	66.05			-7.115E+00	5.205E+00	8.081E+00	8.004E-01	-0.880
	96.73			-2.624E-01	7.653E-01	1.090E+00	1.438E-01	-0.241
	121.11			4.075E-02	1.204E-01	1.962E-01	1.831E-02	0.208
	136.00			3.432E-03	3.425E-02	5.480E-02	3.120E-03	0.063
	198.60			-2.522E-01	1.545E+00	2.515E+00	1.706E-01	-0.100
	264.65	*		2.876E-03	4.109E-02	5.914E-02	3.382E-03	0.049
	279.53			6.353E-04	1.063E-01	1.516E-01	9.365E-03	0.004
	303.91			1.572E-01	1.846E+00	2.614E+00	2.487E-01	0.060

---- 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		-5.479E-02	2.115E-01	3.490E-01	3.179E-02	-0.157
		87.88		7.939E+02	2.453E+02	3.417E+02	3.157E+01	2.323
	+	200.40		9.397E+01	1.433E+02	2.451E+02	1.320E+01	0.383
		239.00		2.859E+02	2.285E+01	3.597E+01	2.001E+00	7.948
		249.79		-1.178E+01	5.511E+01	8.952E+01	5.018E+00	-0.132
		281.68		3.147E+01	9.264E+01	1.335E+02	7.619E+00	0.236
		297.23		3.933E+02	6.386E+01	1.187E+02	6.817E+00	3.312
		303.76		6.968E+00	1.651E+02	2.331E+02	1.341E+01	0.030
		439.47		7.834E+01	1.217E+02	2.093E+02	1.276E+01	0.374
		484.57		-1.349E+02	1.906E+02	2.994E+02	1.922E+01	-0.451
		520.65	*	5.779E+00	8.803E+00	1.501E+01	1.001E+00	0.385
		574.64		-1.548E+02	1.950E+02	2.787E+02	1.962E+01	-0.556
		578.91		2.350E+01	8.646E+01	1.241E+02	8.775E+00	0.189
		585.48		1.592E+03	2.519E+02	4.422E+02	3.146E+01	3.600
		755.35		9.124E+01	1.405E+02	2.429E+02	2.183E+01	0.376
		817.79		7.280E+01	1.104E+02	1.905E+02	1.898E+01	0.382
SR-82		698.33		1.003E+01	3.004E+01	5.110E+01	4.160E+00	0.196
		776.49	*	1.717E-01	3.442E-01	4.691E-01	4.369E-02	0.366
RB-83		1395.20		-7.428E+00	9.641E+00	1.437E+01	1.071E+00	-0.517
		520.41	*	3.374E-02	5.514E-02	9.378E-02	6.255E-03	0.360
		529.64		-2.316E-02	7.925E-02	1.268E-01	8.540E-03	-0.183
RB-84		552.65		5.115E-02	1.574E-01	2.620E-01	1.806E-02	0.195
		881.50	*	4.223E-02	5.662E-02	9.766E-02	1.076E-02	0.432
KR-85		513.99	*	1.501E+01	7.005E+00	1.143E+01	7.572E-01	1.313
SR-85		513.99	*	7.710E-02	3.599E-02	5.871E-02	3.890E-03	1.313
RB-86		1076.63	*	-1.721E-01	6.095E-01	9.934E-01	7.908E-02	-0.173
Y-88		898.02		-5.214E-03	3.426E-02	5.473E-02	6.204E-03	-0.095
		1836.01	*	4.644E-03	2.830E-02	4.517E-02	2.573E-03	0.103
ZR-88		392.90	*	-1.076E-02	2.247E-02	3.656E-02	2.103E-03	-0.294
Y-91		1204.90	*	1.320E+01	1.587E+01	2.730E+01	1.614E+00	0.483
NB-94		702.63	*	5.770E-03	3.066E-02	5.170E-02	4.242E-03	0.112
		871.10		-4.504E-03	2.636E-02	4.255E-02	4.615E-03	-0.106
NB-95		765.79	*	6.095E-02	4.383E-02	6.911E-02	6.322E-03	0.882
NB-95M		235.69	*	5.236E-02	1.157E-01	1.717E-01	1.260E-02	0.305
ZR-95		724.18		2.785E-02	9.095E-02	1.339E-01	1.241E-02	0.208
		756.15	*	9.561E-03	5.739E-02	9.625E-02	9.471E-03	0.099
		657.90	*	-2.951E-02	5.739E-02	Half-Life too short		
NB-97		1024.50		6.418E+00	5.739E-02	Half-Life too short		
		254.15		6.743E-01	5.739E-02	Half-Life too short		
ZR-97		355.39		6.384E-01	5.739E-02	Half-Life too short		
		507.63	*	3.475E+00	5.739E-02	Half-Life too short		
		602.52		2.682E+00	5.739E-02	Half-Life too short		
		1021.30		2.874E+00	5.739E-02	Half-Life too short		
		1147.95		-5.660E+00	5.739E-02	Half-Life too short		
		1362.66		6.668E+00	5.739E-02	Half-Life too short		
		1750.46		-3.653E+00	5.739E-02	Half-Life too short		
		140.51		-5.014E+00	2.520E+01	3.931E+01	1.057E+01	-0.128
MO-99		181.06		3.635E+00	1.704E+01	2.550E+01	4.329E+00	0.143
		366.43		3.558E+01	7.089E+01	1.224E+02	7.072E+00	0.291

---- Non-Identified Nuclides ----

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	739.58	*		-1.299E+01	9.828E+00	1.442E+01	2.200E+00	-0.901
	778.00			-3.208E+01	5.287E+01	3.982E+01	3.718E+00	-0.806
TC-99M	140.51	*		-1.142E+10	5.287E+01	Half-Life	too short	
RH-101	127.23	+		6.188E-02	3.874E-02	4.458E-02	2.575E-03	1.388
	198.01	*		-1.036E-02	2.818E-02	4.547E-02	2.444E-03	-0.228
	325.23			-1.778E-01	2.208E-01	2.909E-01	1.681E-02	-0.611
RH-102	418.52			-1.515E-02	2.224E-01	3.693E-01	2.195E-02	-0.041
	475.06	*		-6.614E-04	2.286E-02	3.765E-02	2.391E-03	-0.018
	631.29			5.047E-02	4.322E-02	7.520E-02	5.581E-03	0.671
	697.49			-2.001E-03	6.783E-02	1.131E-01	9.194E-03	-0.018
	766.84			1.937E-01	1.129E-01	1.809E-01	1.657E-02	1.071
	1046.59			-9.944E-02	8.567E-02	1.283E-01	1.107E-02	-0.775
	1112.84			1.140E-01	2.125E-01	3.196E-01	2.269E-02	0.357
RU-103	497.08	*		-7.251E-03	3.233E-02	5.236E-02	6.798E-03	-0.138
	610.33	+		1.268E+01	2.491E+00	2.466E+00	3.955E-01	5.141
RH-106	511.85	+		5.658E-01	2.545E-01	3.698E-01	2.444E-02	1.530
	621.84	*		2.064E-01	2.467E-01	4.199E-01	5.283E-02	0.491
	1050.47			1.734E-01	1.681E+00	2.834E+00	2.421E-01	0.061
RU-106	511.85	+		5.658E-01	2.545E-01	3.698E-01	2.444E-02	1.530
	621.84	*		2.064E-01	2.458E-01	4.199E-01	3.090E-02	0.491
	1050.47			1.734E-01	1.681E+00	2.834E+00	2.421E-01	0.061
AG-108M	433.93	*		-1.356E-02	2.613E-02	4.209E-02	2.750E-03	-0.322
	614.37			2.128E-02	3.518E-02	5.180E-02	3.991E-03	0.411
	722.95			-1.548E-02	3.799E-02	5.227E-02	4.623E-03	-0.296
AG-110M	657.75	*		-1.286E-02	2.784E-02	4.534E-02	3.576E-03	-0.284
	677.61			2.180E-01	2.413E-01	4.264E-01	3.459E-02	0.511
	706.67			-7.663E-02	1.844E-01	2.999E-01	2.553E-02	-0.255
	763.93			8.368E-02	1.544E-01	2.311E-01	2.160E-02	0.362
	884.67			9.293E-03	3.957E-02	6.588E-02	7.440E-03	0.141
	937.48			-7.612E-02	8.929E-02	1.341E-01	1.468E-02	-0.568
	1384.27			-7.290E-02	1.456E-01	2.252E-01	1.746E-02	-0.324
IN-111	171.28			-1.289E-01	8.806E-01	1.476E+00	7.767E-02	-0.087
	245.39	*		7.174E-03	9.233E-01	1.332E+00	7.446E-02	0.005
IN-113M	391.69	*		-1.542E-03	3.308E-02	5.529E-02	3.391E-03	-0.028
SN-113	391.69	*		-1.542E-03	3.308E-02	5.529E-02	3.391E-03	-0.028
IN-114M	190.27	*		3.423E-03	1.659E-01	2.449E-01	1.308E-02	0.014
CD-115	260.90			-2.153E+01	1.122E+02	1.818E+02	1.026E+01	-0.118
	492.35			3.975E+00	3.192E+01	5.290E+01	3.425E+00	0.075
	527.90	*		-2.284E+00	8.739E+00	1.403E+01	9.428E-01	-0.163
SN-117M	156.02			3.204E-01	1.958E+00	3.340E+00	1.784E-01	0.096
	158.56	*		1.147E-02	4.681E-02	8.000E-02	4.252E-03	0.143
SB-122	563.90	*		-7.458E-01	1.805E+00	2.855E+00	1.989E-01	-0.261
	692.80			-3.839E+01	3.578E+01	5.526E+01	4.455E+00	-0.695
I-123	159.00	*		-2.886E-01	3.578E+01	Half-Life	too short	
	528.96			-2.604E+02	3.578E+01	Half-Life	too short	
TE-123M	159.00	*		-1.138E-03	2.413E-02	4.080E-02	2.201E-03	-0.028
I-124	602.71	*		2.635E-01	7.288E-01	1.046E+00	7.566E-02	0.252
	722.78			-1.707E+00	4.085E+00	5.615E+00	4.772E-01	-0.304
	1325.50			-2.083E+01	3.064E+01	4.682E+01	3.494E+00	-0.445

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SB-124		1376.25		4.360E+01	2.910E+01	5.300E+01	3.969E+00	0.823
		1509.49		9.117E+00	1.214E+01	2.189E+01	1.568E+00	0.417
		1691.02		-1.968E+00	3.173E+00	4.762E+00	3.071E-01	-0.413
		602.71		1.490E-02	4.121E-02	5.916E-02	4.279E-03	0.252
		645.85		-2.127E-01	4.386E-01	6.799E-01	5.512E-02	-0.313
		709.31		1.179E+00	2.334E+00	4.010E+00	3.328E-01	0.294
		713.82		-6.326E-01	1.381E+00	2.231E+00	2.646E-01	-0.283
		722.78		-1.399E-01	3.348E-01	4.602E-01	3.998E-02	-0.304
	+	968.20		1.839E+01	3.759E+00	5.982E+00	6.083E-01	3.074
		1045.16		-2.118E+00	1.898E+00	2.867E+00	2.482E-01	-0.739
		1325.50		-1.823E+00	2.682E+00	4.099E+00	3.059E-01	-0.445
		1368.21		-1.005E+00	1.483E+00	2.234E+00	2.857E-01	-0.450
		1436.60		-1.234E+00	2.963E+00	4.560E+00	3.357E-01	-0.271
		1691.02	*	-3.805E-02	6.135E-02	9.206E-02	6.351E-03	-0.413
SB-125		427.89	*	8.176E-02	7.068E-02	1.251E-01	7.819E-03	0.653
	+	463.38		7.272E-01	2.951E-01	4.855E-01	3.480E-02	1.498
		600.56		1.867E-01	1.768E-01	2.871E-01	2.287E-02	0.651
		635.90		-2.038E-01	2.236E-01	3.339E-01	2.754E-02	-0.610
TE-125M		109.28	*	1.500E+00	8.508E+00	1.376E+01	1.210E+00	0.109
I-126		388.63		-4.074E-02	1.556E-01	2.571E-01	1.478E-02	-0.158
		666.33	*	-1.267E-02	1.520E-01	2.536E-01	1.949E-02	-0.050
SB-126		753.82		5.225E-01	1.202E+00	2.051E+00	1.838E-01	0.255
		223.80		7.576E-01	3.405E+00	5.689E+00	3.127E-01	0.133
	+	278.60		2.759E+00	2.546E+00	3.656E+00	2.083E-01	0.755
	+	296.50		1.517E+01	1.967E+00	3.353E+00	1.925E-01	4.524
		414.70		1.021E-02	6.125E-02	1.031E-01	6.098E-03	0.099
		415.30		5.525E-01	5.060E+00	8.491E+00	5.026E-01	0.065
		555.20		1.166E-02	3.217E+00	5.239E+00	3.620E-01	0.002
		573.80		-5.028E-01	8.986E-01	1.360E+00	9.571E-02	-0.370
		593.00		-5.497E-01	7.732E-01	1.187E+00	8.507E-02	-0.463
		656.30		-7.826E-01	2.691E+00	4.434E+00	3.364E-01	-0.176
		666.33		-5.296E-03	6.354E-02	1.060E-01	8.150E-03	-0.050
		675.00		-3.852E-01	1.618E+00	2.668E+00	2.084E-01	-0.144
		695.00		5.097E-02	6.365E-02	1.113E-01	9.009E-03	0.458
		697.00		1.405E-01	2.330E-01	4.023E-01	3.268E-02	0.349
SB-127		720.50	*	-1.324E-02	1.385E-01	1.969E-01	1.666E-02	-0.067
		856.80		9.971E-02	4.500E-01	6.481E-01	6.873E-02	0.154
		989.30		-1.321E+00	1.029E+00	1.456E+00	1.424E-01	-0.907
		1034.80		-6.429E+00	7.470E+00	1.109E+01	9.843E-01	-0.580
		1213.00		-1.377E+00	3.744E+00	6.006E+00	3.611E-01	-0.229
		61.10		-5.092E+01	6.698E+01	1.085E+02	1.143E+01	-0.469
		252.40		1.763E+00	3.664E+00	6.032E+00	2.505E+00	0.292
		290.80		-3.893E+00	2.070E+01	2.898E+01	2.660E+00	-0.134
		411.60		5.866E+00	1.057E+01	1.809E+01	2.615E+00	0.324
		444.90		-3.918E+00	7.985E+00	1.284E+01	1.415E+00	-0.305
		473.00		-3.168E-01	1.381E+00	2.246E+00	2.586E-01	-0.141
		543.00		1.556E+00	1.394E+01	2.291E+01	3.079E+00	0.068
		603.60		-9.243E-02	1.280E+01	1.783E+01	2.077E+00	-0.005
		685.20	*	1.075E+00	1.090E+00	1.931E+00	2.112E-01	0.557

---- Non-Identified Nuclides ----

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XE-127		698.50		5.020E+00	1.379E+01	2.347E+01	3.661E+00	0.214
		722.20		4.258E+00	2.672E+01	3.893E+01	4.327E+00	0.109
		783.80		4.695E+00	3.374E+00	5.382E+00	7.015E-01	0.872
		57.60		-7.968E-01	7.040E+00	1.175E+01	9.052E-01	-0.068
		145.22		-1.336E-01	6.558E-01	1.021E+00	5.584E-02	-0.131
		172.10		-2.031E-02	1.005E-01	1.680E-01	8.846E-03	-0.121
I-131		202.84	*	4.995E-03	3.878E-02	6.498E-02	3.507E-03	0.077
		374.96		1.117E-01	1.548E-01	2.700E-01	1.557E-02	0.414
		80.18		6.465E-01	6.110E+00	7.176E+00	6.257E-01	0.090
		284.30		4.697E-01	1.334E+00	2.206E+00	1.406E-01	0.213
TE-132		364.48	*	8.924E-02	9.517E-02	1.676E-01	1.082E-02	0.533
		636.97		-1.538E+00	1.261E+00	1.824E+00	1.461E-01	-0.843
		722.89		-2.670E+00	6.496E+00	8.935E+00	7.646E-01	-0.299
		49.72		1.598E+01	2.869E+01	4.935E+01	5.060E+00	0.324
		111.76		-5.758E+00	2.775E+01	4.437E+01	4.142E+00	-0.130
BA-133		116.30		-3.189E+00	2.644E+01	4.235E+01	3.867E+00	-0.075
		228.16	*	2.252E-01	6.092E-01	1.021E+00	1.459E-01	0.221
		53.15		-2.665E+00	4.777E+00	7.547E+00	5.989E-01	-0.353
		79.62		8.198E-01	1.671E+00	2.016E+00	3.070E-01	0.407
		81.00		1.085E-02	1.240E-01	1.453E-01	2.315E-02	0.075
I-133	+	276.40		4.083E-01	3.798E-01	5.657E-01	7.307E-02	0.722
		302.84		1.489E-02	1.304E-01	1.851E-01	2.153E-02	0.080
		356.01	*	2.302E-02	3.895E-02	5.680E-02	6.562E-03	0.405
		383.85		1.587E-03	2.299E-01	3.860E-01	4.187E-02	0.004
	+	510.53		1.329E+00	2.299E-01	Half-Life	too short	
CS-134		529.87	*	-1.559E-03	2.299E-01	Half-Life	too short	
		706.58		-1.769E-01	2.299E-01	Half-Life	too short	
		856.28		-1.520E-01	2.299E-01	Half-Life	too short	
		875.33		-1.753E-03	2.299E-01	Half-Life	too short	
		1236.41		1.265E+00	2.299E-01	Half-Life	too short	
I-135		1298.22		7.853E-02	2.299E-01	Half-Life	too short	
		475.35		3.402E-01	1.471E+00	2.463E+00	1.565E-01	0.138
		563.23		-1.214E-02	2.974E-01	4.823E-01	3.408E-02	-0.025
		569.32		2.424E-01	1.647E-01	2.905E-01	2.077E-02	0.834
		604.70		-2.293E-02	3.651E-02	4.814E-02	3.500E-03	-0.476
CS-135	+	795.84	*	7.989E-02	5.389E-02	7.251E-02	7.013E-03	1.102
		801.93		-2.759E-01	3.883E-01	5.240E-01	5.112E-02	-0.527
		1038.57		2.963E+00	3.031E+00	5.425E+00	4.773E-01	0.546
		1167.94		-3.323E-01	1.861E+00	3.037E+00	1.722E-01	-0.109
		1365.15		-3.370E-01	1.039E+00	1.637E+00	1.302E-01	-0.206
I-135		268.24	*	2.066E-01	1.494E-01	2.315E-01	1.750E-02	0.892
		288.45		1.268E+10	1.494E-01	Half-Life	too short	
		417.63		-1.868E+09	1.494E-01	Half-Life	too short	
		546.56		4.603E+08	1.494E-01	Half-Life	too short	
		836.80		1.269E+10	1.494E-01	Half-Life	too short	
I-135		1038.76		2.123E+10	1.494E-01	Half-Life	too short	
		1124.00		1.024E+11	1.494E-01	Half-Life	too short	
		1131.51		-6.280E+08	1.494E-01	Half-Life	too short	
		1260.41	*	-2.395E+09	1.494E-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		1.258E+12	1.494E-01	Half-Life	too short	
		1678.03		-4.127E+09	1.494E-01	Half-Life	too short	
		1706.46		-3.009E+10	1.494E-01	Half-Life	too short	
		1791.20		7.846E+09	1.494E-01	Half-Life	too short	
		66.91		-7.620E-01	8.236E-01	1.298E+00	1.959E-01	-0.587
	+	86.29		4.516E+00	1.460E+00	1.864E+00	2.458E-01	2.422
		153.22		3.284E-01	5.644E-01	9.771E-01	6.726E-02	0.336
		163.89		2.620E-01	8.925E-01	1.525E+00	1.042E-01	0.172
		176.55		3.418E-02	3.054E-01	5.161E-01	3.128E-02	0.066
		273.65		-2.293E-01	6.232E-01	6.118E-01	3.986E-02	-0.375
		340.57		5.355E-01	1.407E-01	2.357E-01	1.450E-02	2.272
		818.51		4.771E-02	5.906E-02	1.028E-01	1.027E-02	0.464
		1048.07	*	-7.166E-03	8.139E-02	1.351E-01	1.211E-02	-0.053
		1235.34		7.918E-01	5.918E-01	9.403E-01	9.667E-02	0.842
BA-137M		661.65	*	8.187E-03	3.013E-02	5.134E-02	3.913E-03	0.159
CS-137		661.65	*	8.654E-03	3.185E-02	5.427E-02	4.147E-03	0.159
CE-139		165.85	*	-1.419E-02	2.513E-02	4.154E-02	2.181E-03	-0.342
BA-140		162.64		7.119E-02	6.345E-01	1.078E+00	6.533E-02	0.066
		304.84		5.447E-01	1.125E+00	1.630E+00	4.446E-01	0.334
		423.70		-7.324E-01	1.481E+00	2.362E+00	7.516E-01	-0.310
LA-140		537.32	*	-4.309E-02	2.001E-01	3.209E-01	1.050E-01	-0.134
	+	328.77		7.644E-01	3.591E-01	4.827E-01	3.128E-02	1.584
		432.53		-1.878E+00	1.635E+00	2.520E+00	1.671E-01	-0.745
		487.03		-3.866E-02	1.118E-01	1.801E-01	1.285E-02	-0.215
		751.79		-2.492E-01	1.407E+00	2.305E+00	2.265E-01	-0.108
		815.85		8.669E-02	2.532E-01	4.278E-01	4.624E-02	0.203
		867.82		5.465E-01	1.228E+00	1.815E+00	2.025E-01	0.301
		919.63		6.292E-01	2.284E+00	3.638E+00	4.595E-01	0.173
		925.24		-4.872E-02	1.001E+00	1.566E+00	1.773E-01	-0.031
		1596.49	*	-6.421E-02	7.389E-02	1.104E-01	7.571E-03	-0.582
CE-141		145.44	*	1.698E-03	5.814E-02	9.230E-02	5.269E-03	0.018
CE-143		57.37		-3.909E-04	5.814E-02	Half-Life	too short	
		231.56		-9.277E-05	5.814E-02	Half-Life	too short	
		293.26	*	7.844E-04	5.814E-02	Half-Life	too short	
	+	350.59		3.354E-02	5.814E-02	Half-Life	too short	
		490.36		1.383E-03	5.814E-02	Half-Life	too short	
		664.57		9.072E-04	5.814E-02	Half-Life	too short	
		721.93		2.859E-04	5.814E-02	Half-Life	too short	
CE-144		80.11		2.936E-01	2.772E+00	3.256E+00	2.819E-01	0.090
		133.54	*	8.911E-02	1.930E-01	2.987E-01	4.224E-02	0.298
PM-144		476.78		-8.678E-03	5.306E-02	8.662E-02	6.427E-03	-0.100
		618.01		-1.504E-02	2.714E-02	4.205E-02	3.201E-03	-0.358
		696.49	*	2.654E-02	2.907E-02	5.102E-02	4.142E-03	0.520
		778.57		-8.837E-01	3.121E+00	2.568E+00	2.400E-01	-0.344
PR-144		696.49	*	1.798E+00	1.970E+00	3.458E+00	2.806E-01	0.520
		1489.15		-7.899E+00	9.895E+00	1.431E+01	1.034E+00	-0.552
PM-146		453.90	*	3.803E-02	3.493E-02	6.121E-02	5.446E-03	0.621
		633.02		4.749E-01	1.129E+00	1.851E+00	6.870E-01	0.257
		735.90		1.628E-01	1.296E-01	2.078E-01	5.947E-02	0.783

---- 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		6.318E-02	7.312E-02	1.276E-01	1.810E-02	0.495
		91.11		9.620E-01	3.188E-01	4.761E-01	4.478E-02	2.021
		319.41		1.515E+00	2.854E+00	4.726E+00	2.730E-01	0.320
		439.89		1.929E+00	4.768E+00	8.097E+00	4.941E-01	0.238
PM-149	*	531.02		-4.376E-02	4.227E-01	6.857E-01	9.567E-02	-0.064
		285.90		-2.380E+01	8.402E+01	1.345E+02	1.902E+01	-0.177
		121.78		3.305E-03	6.541E-02	1.052E-01	8.107E-03	0.031
		244.69		7.316E-02	2.830E-01	4.155E-01	2.321E-02	0.176
EU-152	*	344.27		-8.645E-02	8.708E-02	1.257E-01	8.201E-03	-0.688
		443.98		-8.499E-01	7.874E-01	1.185E+00	7.261E-02	-0.717
		778.89		-1.825E-02	2.922E-01	3.029E-01	2.832E-02	-0.060
		867.32		6.506E-01	6.980E-01	1.087E+00	1.172E-01	0.599
	+	964.01		7.523E-01	2.964E-01	4.792E-01	4.909E-02	1.570
		1085.78		-1.594E-01	3.123E-01	4.989E-01	3.866E-02	-0.319
		1112.02		5.580E-02	3.025E-01	4.391E-01	3.126E-02	0.127
		1407.95		4.000E-02	1.581E-01	2.636E-01	1.958E-02	0.152
GD-153		69.67		-6.472E-02	1.789E+00	2.656E+00	2.155E-01	-0.024
		83.37		2.250E+01	1.356E+01	2.334E+01	2.073E+00	0.964
		97.43	*	-1.768E-02	7.980E-02	1.145E-01	8.953E-03	-0.154
		103.18		-6.208E-02	1.018E-01	1.610E-01	1.161E-02	-0.386
EU-154		123.07		-1.148E-02	4.709E-02	7.090E-02	6.706E-03	-0.162
		247.94		-5.405E-03	3.157E-01	4.543E-01	4.280E-02	-0.012
		591.81		-4.590E-01	5.581E-01	7.903E-01	8.406E-02	-0.581
		723.30		-6.584E-02	1.623E-01	2.236E-01	2.107E-02	-0.295
		756.87		4.697E-02	6.342E-01	1.057E+00	1.296E-01	0.044
		873.19		-3.115E-02	2.266E-01	3.666E-01	5.106E-02	-0.085
		996.32		6.971E-02	3.002E-01	4.942E-01	9.038E-02	0.141
		1004.76		1.178E-01	1.796E-01	3.042E-01	3.740E-02	0.387
EU-155	*	1274.45		-2.410E-02	9.679E-02	1.554E-01	1.552E-02	-0.155
		48.70		-8.536E-01	3.556E+00	5.953E+00	4.515E-01	-0.143
		60.01		6.254E-01	5.545E+00	9.312E+00	7.106E-01	0.067
		86.54		4.129E-01	1.277E-01	1.722E-01	1.586E-02	2.398
TB-160	+	105.31	*	9.379E-02	1.035E-01	1.732E-01	1.239E-02	0.541
		86.79		1.105E+00	3.413E-01	4.635E-01	4.240E-02	2.383
		197.04		7.294E-02	4.618E-01	7.760E-01	4.168E-02	0.094
		215.65		4.445E-01	6.635E-01	1.055E+00	5.761E-02	0.421
	+	298.57		3.427E-01	1.292E-01	1.834E-01	1.053E-02	1.869
		879.36	*	3.719E-03	1.129E-01	1.852E-01	2.034E-02	0.020
		962.29		1.072E+00	5.217E-01	8.511E-01	8.743E-02	1.259
		966.15		1.442E+00	2.685E-01	4.713E-01	4.810E-02	3.060
HO-166M		1177.93		2.344E-01	2.990E-01	5.216E-01	2.912E-02	0.449
		1271.85		4.024E-01	5.747E-01	9.975E-01	6.741E-02	0.403
		80.57		7.179E-02	3.448E-01	4.081E-01	3.545E-02	0.176
		184.41		5.434E-02	3.731E-02	5.878E-02	3.123E-03	0.925
		280.46		-2.088E-02	8.135E-02	1.138E-01	6.489E-03	-0.184
		410.95		2.982E-01	2.035E-01	3.633E-01	2.139E-02	0.821
		711.68	*	-1.027E-02	4.949E-02	8.139E-02	6.784E-03	-0.126
		752.31		-6.600E-02	2.232E-01	3.627E-01	3.243E-02	-0.182
		810.29		-3.982E-02	4.513E-02	6.879E-02	6.773E-03	-0.579

---- 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		5.777E+00	4.166E+01	7.056E+01	5.592E+00	0.082
		52.39		-1.979E+00	2.083E+01	3.494E+01	2.775E+00	-0.057
		59.40		-6.675E-01	2.993E+01	5.003E+01	3.799E+00	-0.013
		66.72	*	-1.433E+01	2.928E+01	4.733E+01	3.784E+00	-0.303
LU-176	+	88.36		8.130E-01	2.512E-01	3.541E-01	3.252E-02	2.296
		201.83		4.488E-04	2.396E-02	3.997E-02	2.156E-03	0.011
		306.84	*	-1.133E-02	1.965E-02	3.067E-02	1.766E-03	-0.369
		401.10		-8.403E-01	5.492E+00	9.113E+00	5.297E-01	-0.092
LU-177	+	112.95		-8.820E-01	1.516E+00	2.383E+00	1.535E-01	-0.370
		208.36	*	2.934E+00	1.490E+00	1.745E+00	9.464E-02	1.682
LU-177M		52.97		-1.223E+00	2.172E+00	3.431E+00	2.724E-01	-0.357
		54.07		-6.799E-01	1.113E+00	1.754E+00	1.386E-01	-0.388
		61.30		-1.090E+00	1.660E+00	2.703E+00	2.089E-01	-0.403
		121.62		2.585E-02	3.361E-01	5.413E-01	3.211E-02	0.048
		147.16		-3.846E-01	6.048E-01	9.182E-01	4.996E-02	-0.419
		171.86		-1.905E-01	4.062E-01	6.722E-01	3.538E-02	-0.283
		218.09		-4.271E-01	7.040E-01	1.136E+00	6.216E-02	-0.376
		268.79		1.667E+00	7.743E-01	1.245E+00	7.058E-02	1.340
		319.02		7.319E-02	2.185E-01	3.584E-01	2.069E-02	0.204
		367.43		-1.380E-01	7.288E-01	1.215E+00	7.018E-02	-0.114
		413.65	*	-1.156E-01	1.474E-01	2.354E-01	1.390E-02	-0.491
HF-181		56.28		1.329E-01	1.109E+00	1.869E+00	1.456E-01	0.071
		57.53		-1.434E-01	5.953E-01	9.882E-01	7.620E-02	-0.145
		65.20		-1.101E+00	1.030E+00	1.629E+00	1.292E-01	-0.676
		133.02		3.324E-02	6.648E-02	9.700E-02	5.487E-03	0.343
		136.25		-8.465E-02	4.030E-01	6.356E-01	3.559E-02	-0.133
		345.85		-7.162E-02	1.877E-01	2.537E-01	1.468E-02	-0.282
		482.03	*	7.844E-03	3.303E-02	5.525E-02	3.536E-03	0.142
W-181		56.28		5.209E-02	4.331E-01	7.300E-01	5.687E-02	0.071
		57.53		-5.621E-02	2.328E-01	3.864E-01	2.979E-02	-0.145
		65.20	*	-4.272E-01	3.996E-01	6.320E-01	5.013E-02	-0.676
TA-182		67.75		-9.513E-02	1.126E-01	1.792E-01	1.440E-02	-0.531
		100.10		2.101E-02	1.644E-01	2.685E-01	2.018E-02	0.078
		152.43		1.417E-01	3.029E-01	4.884E-01	2.627E-02	0.290
		222.10		-2.281E-02	2.844E-01	4.694E-01	2.576E-02	-0.049
		1001.68		-8.399E-02	1.739E+00	2.799E+00	2.672E-01	-0.030
		1121.28	+	5.338E-01	2.231E-01	2.801E-01	1.930E-02	1.906
		1189.05		4.448E-02	2.465E-01	4.128E-01	2.360E-02	0.108
RE-183		1221.42	*	1.421E-01	1.539E-01	2.701E-01	1.653E-02	0.526
		1230.97		-1.006E-01	4.309E-01	5.900E-01	3.680E-02	-0.170
		57.98		-3.021E-02	2.291E-01	3.818E-01	2.933E-02	-0.079
		59.32		-6.333E-03	1.233E-01	2.060E-01	1.565E-02	-0.031
		67.20		-2.336E-01	2.062E-01	3.239E-01	2.596E-02	-0.721
		162.32	*	1.741E-02	9.137E-02	1.557E-01	8.216E-03	0.112
		208.81	+	2.594E+00	1.317E+00	1.534E+00	8.322E-02	1.691
RE-184		291.72		-4.429E-01	8.972E-01	1.228E+00	7.035E-02	-0.361
		57.98		-1.112E-01	8.433E-01	1.406E+00	1.080E-01	-0.079
		59.32		-2.329E-02	4.536E-01	7.575E-01	5.755E-02	-0.031
		67.20		-8.598E-01	7.587E-01	1.192E+00	9.555E-02	-0.721

---- 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		-1.193E-01	2.986E-01	4.977E-01	2.632E-02	-0.240
		216.55		1.820E-01	2.193E-01	3.760E-01	2.054E-02	0.484
		252.85	*	1.228E-01	1.838E-01	3.113E-01	1.748E-02	0.394
		318.01		-3.733E-01	3.862E-01	5.880E-01	3.394E-02	-0.635
		792.07		4.881E-01	1.572E+00	1.480E+00	1.414E-01	0.330
		903.28		-2.752E-01	9.040E-01	1.216E+00	1.365E-01	-0.226
		920.93		2.504E-02	3.521E-01	5.770E-01	6.323E-02	0.043
		59.72		4.123E-02	3.292E-01	5.533E-01	4.208E-02	0.075
		61.14		-1.412E-01	1.843E-01	2.989E-01	2.306E-02	-0.472
		69.30		5.603E-02	3.181E-01	4.772E-01	3.866E-02	0.117
		592.07		-1.507E+00	2.179E+00	3.248E+00	2.326E-01	-0.464
		646.12	*	-1.655E-02	3.704E-02	5.758E-02	4.330E-03	-0.288
		717.42		4.929E-01	7.326E-01	1.271E+00	1.070E-01	0.388
		874.81		-1.314E-02	4.527E-01	7.393E-01	8.064E-02	-0.018
		880.27		1.632E-01	6.367E-01	1.062E+00	1.168E-01	0.154
RE-188		155.03	*	8.288E-02	1.470E-01	2.542E-01	1.360E-02	0.326
		477.96		-1.790E+00	2.460E+00	3.866E+00	2.463E-01	-0.463
		633.10		6.655E-01	2.274E+00	3.737E+00	2.778E-01	0.178
W-188		63.58		3.277E+01	5.848E+01	9.790E+01	7.692E+00	0.335
		227.08		1.951E+00	1.079E+01	1.798E+01	9.909E-01	0.108
IR-192	+	290.67	*	-1.036E+00	6.965E+00	9.780E+00	5.602E-01	-0.106
		295.96		1.152E+00	1.499E-01	2.589E-01	1.510E-02	4.450
		308.46		-3.675E-02	7.495E-02	1.175E-01	6.847E-03	-0.313
		316.51	*	3.098E-04	2.797E-02	4.512E-02	2.617E-03	0.007
		468.07		6.066E-02	5.879E-02	9.151E-02	6.521E-03	0.663
AU-195		604.41		-3.244E-01	5.000E-01	6.569E-01	7.982E-02	-0.494
		612.46		2.865E+00	7.936E-01	1.340E+00	1.176E-01	2.138
		65.12		-1.869E-01	1.856E-01	2.944E-01	2.334E-02	-0.635
		66.83		-8.512E-02	9.769E-02	1.555E-01	1.244E-02	-0.548
	+	75.70		1.278E+00	2.745E-01	4.467E-01	3.751E-02	2.861
		98.88	*	1.203E-02	2.068E-01	3.370E-01	2.579E-02	0.036
	+	129.76		5.457E+00	3.416E+00	4.349E+00	2.488E-01	1.255
TL-200	*	367.94		-1.594E-04	3.416E+00	Half-Life	too short	
		579.30		2.116E-03	3.416E+00	Half-Life	too short	
		828.27		2.219E-03	3.416E+00	Half-Life	too short	
		1205.75		1.889E-03	3.416E+00	Half-Life	too short	
TL-201		68.90		2.486E+00	5.369E+00	8.165E+00	6.601E-01	0.304
		70.82		2.296E-01	2.962E+00	4.417E+00	3.606E-01	0.052
		80.30		2.184E+00	6.674E+00	7.969E+00	6.910E-01	0.274
		135.34		2.447E-01	2.317E+01	3.693E+01	2.074E+00	0.007
TL-202		167.43	*	2.301E-01	6.163E+00	1.042E+01	5.470E-01	0.022
		68.90		2.168E-01	4.683E-01	7.122E-01	5.758E-02	0.304
		70.82		1.998E-02	2.577E-01	3.842E-01	3.137E-02	0.052
		80.30		1.901E-01	5.808E-01	6.935E-01	6.013E-02	0.274
BI-207		439.56	*	3.484E-02	5.639E-02	9.685E-02	5.905E-03	0.360
		72.80		1.397E-01	1.707E-01	2.900E-01	2.394E-02	0.482
	+	74.97		7.083E-01	1.522E-01	2.259E-01	1.889E-02	3.135
		84.90		2.765E-01	1.706E-01	2.931E-01	2.637E-02	0.943
		569.67		3.702E-02	2.530E-02	4.467E-02	3.131E-03	0.829

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		1063.62	*	3.177E-02	4.100E-02	7.234E-02	5.971E-03	0.439
		1770.23		1.014E-01	4.074E-01	6.003E-01	3.632E-02	0.169
		81.07		1.936E-02	2.733E-01	3.199E-01	2.790E-02	0.061
		83.78		2.054E-01	1.155E-01	1.991E-01	1.775E-02	1.031
		94.90		4.937E-01	2.375E-01	3.760E-01	3.060E-02	1.313
		122.32		1.097E-01	1.526E+00	2.456E+00	1.668E-01	0.045
		144.24		1.692E-01	6.380E-01	1.014E+00	7.075E-02	0.167
		154.21		3.377E-02	3.382E-01	5.759E-01	3.832E-02	0.059
	+	269.46		4.618E-01	2.624E-01	3.009E-01	1.788E-02	1.534
		323.87	*	-3.581E-02	6.150E-01	8.597E-01	1.419E-01	-0.042
PO-209	+	338.28		5.601E+00	1.599E+00	2.138E+00	2.250E-01	2.619
		445.03		-7.825E-01	1.807E+00	2.916E+00	3.051E-01	-0.268
		260.50		-1.338E+00	7.781E+00	1.263E+01	7.126E-01	-0.106
		262.80		1.920E+00	2.188E+01	3.594E+01	2.031E+00	0.053
		896.60	*	1.059E+00	6.169E+00	9.997E+00	1.128E+00	0.106
BI-210		46.50	*	-9.860E-01	5.256E+00	8.833E+00	6.833E-01	-0.112
PB-210		46.50	*	-9.860E-01	5.256E+00	8.833E+00	6.834E-01	-0.112
PO-210		46.50	*	-9.860E-01	5.255E+00	8.833E+00	5.875E-01	-0.112
PB-211		404.84	*	-6.822E-01	8.931E-01	1.254E+00	7.816E-01	-0.544
BI-212		427.08		9.805E-01	1.693E+00	2.727E+00	1.686E+00	0.360
		831.96		3.940E-02	9.460E-01	1.560E+00	9.812E-01	0.025
	+	727.18	*	1.038E+00	4.428E-01	5.446E-01	5.424E-02	1.906
		785.46		1.726E+00	1.433E+00	2.541E+00	2.402E-01	0.679
		1620.62		2.228E-01	1.062E+00	1.802E+00	1.219E-01	0.124
PO-215		81.07		1.936E-02	2.733E-01	3.199E-01	2.790E-02	0.061
		83.78		2.054E-01	1.155E-01	1.991E-01	1.775E-02	1.031
		94.90		4.937E-01	2.375E-01	3.760E-01	3.060E-02	1.313
		122.32		1.097E-01	1.526E+00	2.456E+00	1.668E-01	0.045
		144.24		1.692E-01	6.380E-01	1.014E+00	7.075E-02	0.167
		154.21		3.377E-02	3.382E-01	5.759E-01	3.832E-02	0.059
	+	269.46		4.618E-01	2.624E-01	3.009E-01	1.788E-02	1.534
		323.87	*	-3.581E-02	6.150E-01	8.597E-01	1.419E-01	-0.042
	+	338.28		5.601E+00	1.599E+00	2.138E+00	2.250E-01	2.619
		445.03		-7.825E-01	1.807E+00	2.916E+00	3.051E-01	-0.268
RN-219	+	271.23		5.924E-01	3.382E-01	3.927E-01	3.149E-02	1.508
		401.81	*	1.764E-01	3.349E-01	5.741E-01	7.816E-02	0.307
RN-220		549.76	*	-8.867E+00	2.105E+01	3.330E+01	2.288E+00	-0.266
RA-223		81.07		1.936E-02	2.733E-01	3.199E-01	2.790E-02	0.061
		83.78		2.054E-01	1.155E-01	1.991E-01	1.775E-02	1.031
		94.90		4.937E-01	2.375E-01	3.760E-01	3.060E-02	1.313
		122.32		1.097E-01	1.526E+00	2.456E+00	1.668E-01	0.045
		144.24		1.692E-01	6.380E-01	1.014E+00	7.075E-02	0.167
		154.21		3.377E-02	3.382E-01	5.759E-01	3.832E-02	0.059
	+	269.46		4.618E-01	2.624E-01	3.009E-01	1.788E-02	1.534
		323.87	*	-3.581E-02	6.150E-01	8.597E-01	1.419E-01	-0.042
	+	338.28		5.601E+00	1.599E+00	2.138E+00	2.250E-01	2.619
		445.03		-7.825E-01	1.807E+00	2.916E+00	3.051E-01	-0.268
AC-227		79.80		2.288E-01	2.150E+00	2.526E+00	5.434E-01	0.091
		236.00		4.868E-01	2.325E-01	3.651E-01	3.767E-02	1.333

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		256.20	*	-1.232E-01	3.062E-01	4.909E-01	6.819E-02	-0.251
		286.10		-2.888E-01	1.335E+00	2.145E+00	2.471E-01	-0.135
	+	299.80		4.358E+00	1.771E+00	2.293E+00	3.729E-01	1.901
		304.40		7.341E-01	1.636E+00	2.377E+00	4.107E-01	0.309
		334.20		-1.729E+00	3.386E+00	3.152E+00	5.777E-01	-0.549
		79.80		2.288E-01	2.150E+00	2.526E+00	5.503E-01	0.091
	+	94.00		7.251E+00	3.034E+00	3.603E+00	7.796E-01	2.013
		236.00		4.868E-01	2.312E-01	3.651E-01	3.250E-02	1.333
		256.20	*	-1.232E-01	3.064E-01	4.909E-01	8.268E-02	-0.251
		286.10		-2.888E-01	1.365E+00	2.145E+00	2.149E+00	-0.135
TH-229	+	299.80		4.358E+00	1.771E+00	2.293E+00	3.729E-01	1.901
		304.40		7.341E-01	1.636E+00	2.377E+00	4.107E-01	0.309
		334.20		-1.729E+00	3.386E+00	3.152E+00	5.777E-01	-0.549
		85.43		3.671E-01	1.719E-01	2.975E-01	2.689E-02	1.234
	+	88.47		4.680E-01	1.446E-01	2.043E-01	1.871E-02	2.291
		100.00		2.524E-02	1.706E-01	2.789E-01	2.100E-02	0.090
		193.63	*	1.702E-01	4.114E-01	6.993E-01	3.744E-02	0.243
	+	210.97		2.028E+00	1.030E+00	1.189E+00	6.465E-02	1.705
	PA-231	283.67	*	8.335E-01	1.357E+00	2.224E+00	3.057E-01	0.375
	+	301.29		1.743E+00	6.742E-01	8.893E-01	9.270E-02	1.960
TH-231		81.07		1.936E-02	2.733E-01	3.199E-01	2.790E-02	0.061
		83.78		2.054E-01	1.155E-01	1.991E-01	1.775E-02	1.031
		94.90		4.937E-01	2.375E-01	3.760E-01	3.060E-02	1.313
		122.32		1.097E-01	1.526E+00	2.456E+00	1.668E-01	0.045
		144.24		1.692E-01	6.380E-01	1.014E+00	7.075E-02	0.167
		154.21		3.377E-02	3.382E-01	5.759E-01	3.832E-02	0.059
	+	269.46		4.618E-01	2.624E-01	3.009E-01	1.788E-02	1.534
	+	323.87	*	-3.581E-02	6.150E-01	8.597E-01	1.419E-01	-0.042
	+	338.28		5.601E+00	1.599E+00	2.138E+00	2.250E-01	2.619
		445.03		-7.825E-01	1.807E+00	2.916E+00	3.051E-01	-0.268
U-231		84.21		8.924E+00	5.080E+00	8.753E+00	7.830E-01	1.020
	+	92.29		7.375E+00	2.711E+00	3.741E+00	3.185E-01	1.972
		95.87	*	5.422E-01	1.081E+00	1.615E+00	1.294E-01	0.336
		108.00		-2.021E+00	2.021E+00	3.106E+00	2.112E-01	-0.651
	PA-233	75.28		2.067E+01	5.158E+00	6.658E+00	1.013E+00	3.104
	+	86.59		6.711E+00	2.684E+00	2.804E+00	7.568E-01	2.393
	+	300.12		1.215E+00	4.810E-01	6.366E-01	8.540E-02	1.908
		311.98	*	2.847E-02	5.080E-02	8.455E-02	5.180E-03	0.337
		340.50		2.795E+00	9.245E-01	1.158E+00	2.659E-01	2.414
		398.62		3.503E-01	1.629E+00	2.754E+00	7.121E-01	0.127
PA-234		415.76		8.364E-02	1.323E+00	2.214E+00	4.566E-01	0.038
		63.00		6.608E-01	1.749E+00	2.909E+00	4.385E-01	0.227
		94.67		4.779E-01	1.809E-01	2.824E-01	3.415E-02	1.692
		98.44		3.526E-02	8.903E-02	1.371E-01	7.632E-02	0.257
		99.86		7.571E-02	4.326E-01	7.080E-01	5.341E-02	0.107
		111.00		-1.884E-01	1.689E-01	2.575E-01	2.763E-02	-0.732
		131.20		-8.864E-04	1.073E-01	1.523E-01	8.670E-03	-0.006
		152.70		1.906E-01	2.922E-01	4.725E-01	7.398E-02	0.403
	+	186.00		5.587E+00	2.314E+00	2.357E+00	7.183E-01	2.370

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		226.40		9.833E-02	3.393E-01	5.677E-01	6.481E-02	0.173
		227.20		4.495E-02	3.636E-01	6.044E-01	3.331E-02	0.074
		248.90		-2.324E-02	6.939E-01	1.053E+00	2.257E-01	-0.022
		293.70		5.510E+00	1.201E+00	1.511E+00	2.427E-01	3.645
		369.80		-2.137E-01	6.765E-01	1.117E+00	2.326E-01	-0.191
		568.70		1.283E+00	8.242E-01	1.462E+00	1.023E-01	0.877
		569.50		3.547E-01	2.263E-01	4.014E-01	2.812E-02	0.884
		574.00		-9.806E-01	1.286E+00	1.916E+00	1.348E-01	-0.512
		699.00		5.535E-02	6.346E-01	1.065E+00	2.009E-01	0.052
		706.10		-1.336E-01	9.050E-01	1.494E+00	6.650E-01	-0.089
		733.00		1.202E-01	3.378E-01	4.996E-01	1.109E-01	0.241
		742.81		-4.734E-01	1.109E+00	1.708E+00	1.148E+00	-0.277
	+	796.30		1.552E+00	1.120E+00	1.415E+00	3.874E-01	1.097
		805.60		4.982E-01	7.942E-01	1.345E+00	4.168E-01	0.370
		819.60		-2.803E-02	1.005E+00	1.652E+00	6.337E-01	-0.017
		826.30		-3.097E-01	7.101E-01	1.095E+00	4.931E-01	-0.283
		831.60		-2.871E-01	5.149E-01	7.996E-01	2.426E-01	-0.359
		876.40		-2.233E-01	7.069E-01	1.064E+00	1.096E+00	-0.210
		880.51		1.622E-01	2.244E-01	3.867E-01	4.255E-02	0.419
		883.24		2.635E-01	2.891E-01	4.059E-01	2.743E-01	0.649
		899.00		6.707E-02	6.915E-01	1.126E+00	4.990E-01	0.060
		925.00		3.798E-01	1.010E+00	1.631E+00	1.777E-01	0.233
		926.50		4.474E-03	1.493E-01	2.436E-01	6.366E-02	0.018
		946.00	*	1.912E-01	2.427E-01	4.148E-01	8.182E-02	0.461
		949.00		2.319E-01	3.603E-01	6.141E-01	6.450E-02	0.378
		980.50		3.360E-01	6.557E-01	1.000E+00	9.946E-02	0.336
		1394.10		-7.212E-01	1.123E+00	1.534E+00	9.963E-01	-0.470
PA-234M		766.42		2.109E+01	1.576E+01	1.888E+01	9.598E+00	1.117
		1001.03	*	-2.816E+00	4.075E+00	6.301E+00	6.797E-01	-0.447
TH-234		63.29	*	7.968E-01	1.478E+00	2.465E+00	4.346E-01	0.323
	+	92.38		1.877E+00	7.514E-01	9.568E-01	1.725E-01	1.961
U-235	+	89.95		3.789E+00	1.679E+00	1.859E+00	5.752E-01	2.037
	+	93.35		2.256E+00	1.024E+00	1.175E+00	3.284E-01	1.920
		105.00		1.294E+00	1.075E+00	1.711E+00	5.035E-01	0.756
		143.76	*	1.364E-01	1.968E-01	3.164E-01	5.124E-02	0.431
		163.35		1.576E-01	3.941E-01	6.747E-01	1.202E-01	0.234
	+	185.71		2.069E-01	5.911E-02	8.685E-02	4.619E-03	2.382
		205.31		-2.763E-01	4.883E-01	6.833E-01	1.220E-01	-0.404
NP-236		94.67		3.650E-01	1.335E-01	2.145E-01	1.752E-02	1.702
		98.44		2.664E-02	6.568E-02	1.037E-01	7.984E-03	0.257
		111.00		-1.425E-01	1.272E-01	1.948E-01	1.281E-02	-0.732
		160.31	*	-3.149E-02	6.763E-02	1.125E-01	5.960E-03	-0.280
U-238		63.29	*	7.968E-01	1.478E+00	2.465E+00	4.346E-01	0.323
	+	92.38		1.877E+00	6.897E-01	9.568E-01	8.133E-02	1.961
NP-239		99.55		1.368E-02	1.445E-01	2.358E-01	1.787E-02	0.058
		117.00	*	2.621E-03	1.687E-01	2.717E-01	1.682E-02	0.010
	+	209.75		2.043E+00	1.037E+00	1.246E+00	6.767E-02	1.639
		228.18		7.274E-02	1.917E-01	3.218E-01	1.775E-02	0.226
	+	277.60		1.993E-01	1.839E-01	2.647E-01	1.508E-02	0.753

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241		334.30		-9.853E-01	1.911E+00	1.785E+00	1.032E-01	-0.552
		59.54	*	4.922E-03	1.737E-01	2.909E-01	2.413E-02	0.017
CM-243		99.55		1.408E-02	1.487E-01	2.426E-01	1.838E-02	0.058
		103.76	*	3.094E-02	9.183E-02	1.509E-01	1.080E-02	0.205
		117.00		2.696E-03	1.736E-01	2.795E-01	1.730E-02	0.010
	+	209.75		2.014E+00	1.023E+00	1.228E+00	6.671E-02	1.639
		228.18		7.350E-02	1.937E-01	3.252E-01	1.794E-02	0.226
	+	277.60		2.009E-01	1.854E-01	2.668E-01	1.520E-02	0.753
AM-246		798.80		-9.824E-03	1.276E-01	1.795E-01	1.734E-02	-0.055
		1036.00		-1.071E-01	2.394E-01	3.866E-01	3.423E-02	-0.277
		1062.04		1.065E-01	1.752E-01	3.060E-01	2.537E-02	0.348
		1078.86	*	7.972E-02	1.101E-01	1.935E-01	1.531E-02	0.412
CM-247	+	278.00		8.263E-01	7.626E-01	1.100E+00	6.266E-02	0.751
		287.40		-5.063E-01	1.074E+00	1.703E+00	9.744E-02	-0.297
		402.60	*	2.586E-02	2.987E-02	5.213E-02	3.036E-03	0.496
		252.85		4.603E-01	6.891E-01	1.167E+00	6.556E-02	0.394
CF-249		333.44		-9.029E-02	2.508E-01	2.396E-01	1.386E-02	-0.377
		387.95	*	-3.672E-04	2.968E-02	4.974E-02	2.859E-03	-0.007
CF-251		176.60	*	1.235E-02	1.044E-01	1.764E-01	9.316E-03	0.070
		227.00		6.651E-02	3.236E-01	5.397E-01	2.974E-02	0.123
		285.00		-5.747E-01	1.538E+00	2.454E+00	1.402E-01	-0.234

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]G244924006      *
* Acquisition date   : 27-JAN-2010 19:05:54 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 02:00:01.55 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244924006 Analyst initials: MXR1                  *
* Batch Number      : 942723 Sample Quantity : 1.2150E+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	2.105E+01	1.996E+00	4.504E-01	0.000E+00
CD-109	3.489E+00	1.056E+00	1.148E+00	0.000E+00
SN-126	3.428E-01	1.038E-01	1.135E-01	0.000E+00
HG-203	4.566E-02	4.130E-02	5.779E-02	0.000E+00
TL-208	5.119E-01	7.962E-02	4.480E-02	0.000E+00
BI-211	3.866E+00	4.303E-01	2.665E-01	0.000E+00
PB-212	1.690E+00	1.518E-01	7.197E-02	0.000E+00
PO-212	1.690E+00	1.518E-01	7.197E-02	0.000E+00
BI-214	1.171E+00	1.658E-01	9.776E-02	0.000E+00
PB-214	1.345E+00	1.647E-01	9.286E-02	0.000E+00
PO-214	1.345E+00	1.647E-01	9.286E-02	0.000E+00
PO-216	1.690E+00	1.518E-01	7.197E-02	0.000E+00
PO-218	1.345E+00	1.647E-01	9.286E-02	0.000E+00
RA-224	5.715E+00	1.153E+00	8.179E-01	0.000E+00
RA-226	1.171E+00	1.658E-01	9.776E-02	0.000E+00
AC-228	1.801E+00	3.251E-01	1.559E-01	0.000E+00
RA-228	1.801E+00	3.251E-01	1.559E-01	0.000E+00
TH-228	1.716E+00	1.541E-01	7.308E-02	0.000E+00
TH-230	1.171E+00	1.658E-01	9.776E-02	0.000E+00
TH-232	1.801E+00	3.251E-01	1.559E-01	0.000E+00
U-234	1.171E+00	1.658E-01	9.776E-02	0.000E+00
NP-237	1.007E+00	3.665E-01	3.387E-01	0.000E+00
AM-243	3.946E-01	8.308E-02	8.840E-02	0.000E+00
ANH-511	1.132E-01	4.992E-02	3.834E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.013E-01	2.490E-01	4.133E-01	0.000E+00 NOT IDENT.
NA-22	-2.262E-02	3.506E-02	5.549E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	7.562E+05	0.000E+00	0.000E+00 SHORT HLIF

AL-26	1.968E-02	2.540E-02	4.667E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.635E-02	8.334E-02	0.000E+00	FAIL ABUN
SC-46	-1.952E-02	2.976E-02	4.697E-02	0.000E+00	FAIL ABUN
V-48	4.782E-02	5.599E-02	9.891E-02	0.000E+00	NOT IDENT.
CR-51	2.910E-01	3.133E-01	5.482E-01	0.000E+00	NOT IDENT.
MN-52	-4.959E-02	1.886E-01	3.022E-01	0.000E+00	NOT IDENT.
MN-54	-5.168E-03	2.901E-02	4.828E-02	0.000E+00	NOT IDENT.
CO-56	-1.292E-02	2.941E-02	4.771E-02	0.000E+00	FAIL ABUN
CO-57	3.245E-03	2.171E-02	3.682E-02	0.000E+00	NOT IDENT.
CO-58	-3.923E-02	3.071E-02	4.640E-02	0.000E+00	NOT IDENT.
FE-59	-2.898E-02	7.392E-02	1.221E-01	0.000E+00	NOT IDENT.
CO-60	4.116E-02	3.008E-02	5.637E-02	0.000E+00	NOT IDENT.
ZN-65	3.316E-02	8.619E-02	1.300E-01	0.000E+00	NOT IDENT.
GE-68	2.695E-01	9.381E-01	1.635E+00	0.000E+00	NOT IDENT.
AS-73	-6.398E-01	1.085E+00	1.817E+00	0.000E+00	NOT IDENT.
AS-74	-3.455E-02	8.075E-02	1.309E-01	0.000E+00	NOT IDENT.
SE-75	2.876E-03	4.027E-02	6.030E-02	0.000E+00	NOT IDENT.
BR-77	5.779E+00	8.627E+00	1.517E+01	0.000E+00	FAIL ABUN
SR-82	1.717E-01	3.373E-01	4.720E-01	0.000E+00	NOT IDENT.
RB-83	3.374E-02	5.404E-02	9.482E-02	0.000E+00	NOT IDENT.
RB-84	4.223E-02	5.549E-02	9.809E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.865E+00	1.156E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.527E-02	5.937E-02	0.000E+00	NOT IDENT.
RB-86	-1.721E-01	5.973E-01	9.953E-01	0.000E+00	NOT IDENT.
Y-88	4.644E-03	2.773E-02	4.494E-02	0.000E+00	NOT IDENT.
ZR-88	-1.076E-02	2.202E-02	3.710E-02	0.000E+00	NOT IDENT.
Y-91	1.320E+01	1.555E+01	2.732E+01	0.000E+00	NOT IDENT.
NB-94	5.770E-03	3.005E-02	5.208E-02	0.000E+00	NOT IDENT.
NB-95	6.095E-02	4.295E-02	6.954E-02	0.000E+00	NOT IDENT.
NB-95M	5.236E-02	1.134E-01	1.753E-01	0.000E+00	NOT IDENT.
ZR-95	9.561E-03	5.624E-02	9.687E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	9.153E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.127E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.299E+01	9.631E+00	1.451E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	5.627E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.036E-02	2.761E-02	4.653E-02	0.000E+00	FAIL ABUN
RH-102	-6.614E-04	2.240E-02	3.811E-02	0.000E+00	NOT IDENT.
RU-103	-7.251E-03	3.169E-02	5.297E-02	0.000E+00	FAIL ABUN
RH-106	2.064E-01	2.417E-01	4.237E-01	0.000E+00	FAIL ABUN
RU-106	2.064E-01	2.408E-01	4.237E-01	0.000E+00	FAIL ABUN
AG-108M	-1.356E-02	2.561E-02	4.266E-02	0.000E+00	NOT IDENT.
AG-110M	-1.286E-02	2.729E-02	4.571E-02	0.000E+00	NOT IDENT.
IN-111	7.174E-03	9.049E-01	1.360E+00	0.000E+00	NOT IDENT.
IN-113M	-1.542E-03	3.242E-02	5.610E-02	0.000E+00	NOT IDENT.
SN-113	-1.542E-03	3.242E-02	5.610E-02	0.000E+00	NOT IDENT.
IN-114M	3.423E-03	1.626E-01	2.507E-01	0.000E+00	NOT IDENT.
CD-115	-2.284E+00	8.564E+00	1.418E+01	0.000E+00	NOT IDENT.
SN-117M	1.147E-02	4.587E-02	8.208E-02	0.000E+00	NOT IDENT.
SB-122	-7.458E-01	1.769E+00	2.883E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.998E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.138E-03	2.365E-02	4.186E-02	0.000E+00	NOT IDENT.
I-124	2.635E-01	7.142E-01	1.056E+00	0.000E+00	NOT IDENT.
SB-124	-3.805E-02	6.012E-02	9.170E-02	0.000E+00	FAIL ABUN
SB-125	8.176E-02	6.926E-02	1.268E-01	0.000E+00	FAIL ABUN
TE-125M	1.500E+00	8.338E+00	1.418E+01	0.000E+00	NOT IDENT.
I-126	-1.267E-02	1.490E-01	2.556E-01	0.000E+00	NOT IDENT.
SB-126	-1.324E-02	1.357E-01	1.982E-01	0.000E+00	FAIL ABUN
SB-127	1.075E+00	1.068E+00	1.945E+00	0.000E+00	NOT IDENT.
XE-127	4.995E-03	3.801E-02	6.646E-02	0.000E+00	NOT IDENT.
I-131	8.924E-02	9.327E-02	1.702E-01	0.000E+00	NOT IDENT.
TE-132	2.252E-01	5.970E-01	1.043E+00	0.000E+00	NOT IDENT.
BA-133	2.302E-02	3.817E-02	5.771E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	5.124E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.281E-02	7.293E-02	0.000E+00	FAIL ABUN
CS-135	2.066E-01	1.464E-01	2.360E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	6.814E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.166E-03	7.976E-02	1.354E-01	0.000E+00	FAIL ABUN
BA-137M	8.187E-03	2.953E-02	5.175E-02	0.000E+00	NOT IDENT.
CS-137	8.654E-03	3.121E-02	5.471E-02	0.000E+00	NOT IDENT.
CE-139	-1.419E-02	2.463E-02	4.260E-02	0.000E+00	NOT IDENT.
BA-140	-4.309E-02	1.961E-01	3.243E-01	0.000E+00	NOT IDENT.
LA-140	-6.421E-02	7.241E-02	1.100E-01	0.000E+00	FAIL ABUN
CE-141	1.698E-03	5.698E-02	9.479E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.306E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	8.911E-02	1.891E-01	3.071E-01	0.000E+00	NOT IDENT.
PM-144	2.654E-02	2.849E-02	5.140E-02	0.000E+00	NOT IDENT.
PR-144	1.798E+00	1.931E+00	3.483E+00	0.000E+00	NOT IDENT.
PM-146	3.803E-02	3.423E-02	6.200E-02	0.000E+00	NOT IDENT.

ND-147	-4.376E-02	4.142E-01	6.931E-01	0.000E+00	FAIL ABUN
PM-149	-2.380E+01	8.234E+01	1.370E+02	0.000E+00	NOT IDENT.
EU-152	-8.645E-02	8.534E-02	1.277E-01	0.000E+00	FAIL ABUN
GD-153	-1.768E-02	7.820E-02	1.182E-01	0.000E+00	NOT IDENT.
EU-154	-2.410E-02	9.485E-02	1.554E-01	0.000E+00	NOT IDENT.
EU-155	9.379E-02	1.014E-01	1.786E-01	0.000E+00	FAIL ABUN
TB-160	3.719E-03	1.106E-01	1.860E-01	0.000E+00	FAIL ABUN
HO-166M	-1.027E-02	4.850E-02	8.197E-02	0.000E+00	NOT IDENT.
TM-171	-1.433E+01	2.869E+01	4.907E+01	0.000E+00	NOT IDENT.
LU-176	-1.133E-02	1.925E-02	3.122E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.460E+00	1.784E+00	0.000E+00	FAIL ABUN
LU-177M	-1.156E-01	1.444E-01	2.387E-01	0.000E+00	NOT IDENT.
HF-181	7.844E-03	3.237E-02	5.592E-02	0.000E+00	NOT IDENT.
W-181	-4.272E-01	3.916E-01	6.553E-01	0.000E+00	NOT IDENT.
TA-182	1.421E-01	1.508E-01	2.702E-01	0.000E+00	FAIL ABUN
RE-183	1.741E-02	8.954E-02	1.597E-01	0.000E+00	FAIL ABUN
RE-184	1.228E-01	1.801E-01	3.176E-01	0.000E+00	NOT IDENT.
OS-185	-1.655E-02	3.630E-02	5.806E-02	0.000E+00	NOT IDENT.
RE-188	8.288E-02	1.441E-01	2.609E-01	0.000E+00	NOT IDENT.
W-188	-1.036E+00	6.826E+00	9.960E+00	0.000E+00	NOT IDENT.
IR-192	3.098E-04	2.741E-02	4.590E-02	0.000E+00	FAIL ABUN
AU-195	1.203E-02	2.026E-01	3.478E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.047E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	2.301E-01	6.039E+00	1.068E+01	0.000E+00	NOT IDENT.
TL-202	3.484E-02	5.526E-02	9.813E-02	0.000E+00	NOT IDENT.
BI-207	3.177E-02	4.018E-02	7.249E-02	0.000E+00	FAIL ABUN
TL-207	-3.581E-02	6.027E-01	8.743E-01	0.000E+00	FAIL ABUN
PO-209	1.059E+00	6.046E+00	1.004E+01	0.000E+00	NOT IDENT.
BI-210	-9.860E-01	5.150E+00	9.196E+00	0.000E+00	NOT IDENT.
PB-210	-9.860E-01	5.150E+00	9.196E+00	0.000E+00	NOT IDENT.
PO-210	-9.860E-01	5.150E+00	9.196E+00	0.000E+00	NOT IDENT.
PB-211	-6.822E-01	8.753E-01	1.272E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.339E-01	5.484E-01	0.000E+00	FAIL ABUN
PO-215	-3.581E-02	6.027E-01	8.743E-01	0.000E+00	FAIL ABUN
RN-219	1.764E-01	3.282E-01	5.823E-01	0.000E+00	FAIL ABUN
RN-220	-8.867E+00	2.063E+01	3.365E+01	0.000E+00	NOT IDENT.
RA-223	-3.581E-02	6.027E-01	8.743E-01	0.000E+00	FAIL ABUN
AC-227	-1.232E-01	3.001E-01	5.008E-01	0.000E+00	FAIL ABUN
TH-227	-1.232E-01	3.003E-01	5.008E-01	0.000E+00	FAIL ABUN
TH-229	1.702E-01	4.032E-01	7.157E-01	0.000E+00	FAIL ABUN
PA-231	8.335E-01	1.330E+00	2.266E+00	0.000E+00	FAIL ABUN
TH-231	-3.581E-02	6.027E-01	8.743E-01	0.000E+00	FAIL ABUN
U-231	5.422E-01	1.060E+00	1.667E+00	0.000E+00	FAIL ABUN
PA-233	2.847E-02	4.978E-02	8.604E-02	0.000E+00	FAIL ABUN
PA-234	1.912E-01	2.379E-01	4.162E-01	0.000E+00	FAIL ABUN
PA-234M	-2.816E+00	3.994E+00	6.319E+00	0.000E+00	NOT IDENT.
TH-234	7.968E-01	1.449E+00	2.557E+00	0.000E+00	FAIL ABUN
U-235	1.364E-01	1.928E-01	3.250E-01	0.000E+00	FAIL ABUN
NP-236	-3.149E-02	6.628E-02	1.154E-01	0.000E+00	NOT IDENT.
U-238	7.968E-01	1.449E+00	2.557E+00	0.000E+00	FAIL ABUN
NP-239	2.621E-03	1.654E-01	2.798E-01	0.000E+00	FAIL ABUN
AM-241	4.922E-03	1.702E-01	3.020E-01	0.000E+00	NOT IDENT.
CM-243	3.094E-02	8.999E-02	1.556E-01	0.000E+00	FAIL ABUN
AM-246	7.972E-02	1.079E-01	1.939E-01	0.000E+00	NOT IDENT.
CM-247	2.586E-02	2.928E-02	5.288E-02	0.000E+00	FAIL ABUN
CF-249	-3.672E-04	2.908E-02	5.047E-02	0.000E+00	NOT IDENT.
CF-251	1.235E-02	1.023E-01	1.807E-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]G244924006.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:05:54
Sample ID          : G244924006 Sample quantity : 1.21495E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.55 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	1377	10.67*	1.893E+00	2.105E+01	2.105E+01	9.68
CD-109	88.03	265	3.72*	6.461E+00	3.410E+00	3.489E+00	30.90
SN-126	64.28	-----	9.60	3.245E+00	-----	Line Not Found	-----
	86.94	265	8.90	6.461E+00	1.425E+00	1.425E+00	50.90
	87.57	265	37.00*	6.461E+00	3.428E-01	3.428E-01	30.90
HG-203	70.83	-----	4.75	4.309E+00	-----	Line Not Found	-----
	72.87	-----	8.00	4.622E+00	-----	Line Not Found	-----
	82.60	-----	3.55	5.935E+00	-----	Line Not Found	-----
	279.20	57	77.30*	6.254E+00	3.635E-02	4.566E-02	92.31
TL-208	277.35	57	6.80	6.254E+00	4.132E-01	4.132E-01	92.71
	510.84	158	21.60	4.310E+00	5.243E-01	5.243E-01	45.74
	583.14	549	84.20*	3.934E+00	5.119E-01	5.119E-01	15.87
	860.37	51	12.46	2.914E+00	4.305E-01	4.305E-01	92.03
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	883	12.94*	5.451E+00	3.866E+00	3.866E+00	11.36
PB-212	74.81	416	10.70	4.939E+00	2.434E+00	2.434E+00	23.43
	77.11	624	18.00	5.255E+00	2.039E+00	2.039E+00	15.28
	87.30	265	8.00	6.461E+00	1.585E+00	1.585E+00	32.47
	238.63	1657	44.60*	6.791E+00	1.690E+00	1.690E+00	9.16
	300.09	155	3.41	5.986E+00	2.351E+00	2.351E+00	38.14
PO-212	74.81	416	10.70	4.939E+00	2.434E+00	2.434E+00	23.43
	77.11	624	18.00	5.255E+00	2.039E+00	2.039E+00	15.28
	87.30	265	8.00	6.461E+00	1.585E+00	1.585E+00	32.47
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1657	44.60*	6.791E+00	1.690E+00	1.690E+00	9.16
	300.09	155	3.41	5.986E+00	2.351E+00	2.351E+00	38.14
BI-214	609.31	669	46.30*	3.812E+00	1.171E+00	1.171E+00	14.45
	1120.29	129	15.10	2.334E+00	1.128E+00	1.128E+00	42.31
	1764.49	162	15.80	1.695E+00	1.868E+00	1.868E+00	22.07
PB-214	74.81	416	6.21	4.939E+00	4.194E+00	4.194E+00	22.72
	77.11	624	10.50	5.255E+00	3.496E+00	3.496E+00	17.07
	87.30	265	4.67	6.461E+00	2.716E+00	2.716E+00	31.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	493	7.49	6.749E+00	3.014E+00	3.014E+00	21.34
	295.21	566	19.20	6.040E+00	1.508E+00	1.509E+00	14.39
	351.92	883	37.20*	5.451E+00	1.345E+00	1.345E+00	12.50
	74.81	416	6.21	4.939E+00	4.194E+00	4.194E+00	22.72
	77.11	624	10.50	5.255E+00	3.496E+00	3.496E+00	17.07
	87.30	265	4.67	6.461E+00	2.716E+00	2.716E+00	31.84
PO-216	241.98	493	7.49	6.749E+00	3.014E+00	3.014E+00	21.34
	295.21	566	19.20	6.040E+00	1.508E+00	1.509E+00	14.39
	351.92	883	37.20*	5.451E+00	1.345E+00	1.345E+00	12.50
	74.81	416	10.70	4.939E+00	2.434E+00	2.434E+00	23.43
	77.11	624	18.00	5.255E+00	2.039E+00	2.039E+00	15.28
	87.30	265	8.00	6.461E+00	1.585E+00	1.585E+00	32.47
PO-218	238.63	1657	44.60*	6.791E+00	1.690E+00	1.690E+00	9.16
	300.09	155	3.41	5.986E+00	2.351E+00	2.351E+00	38.14
	74.81	416	6.21	4.939E+00	4.194E+00	4.194E+00	22.72
	77.11	624	10.50	5.255E+00	3.496E+00	3.496E+00	17.07
	87.30	265	4.67	6.461E+00	2.716E+00	2.716E+00	31.84
	241.98	493	7.49	6.749E+00	3.014E+00	3.014E+00	21.34
RA-224	295.21	566	19.20	6.040E+00	1.508E+00	1.509E+00	14.39
	351.92	883	37.20*	5.451E+00	1.345E+00	1.345E+00	12.50
	240.98	493	3.95*	6.749E+00	5.715E+00	5.715E+00	20.59
	609.31	669	46.30*	3.812E+00	1.171E+00	1.171E+00	14.45
	1120.29	129	15.10	2.334E+00	1.128E+00	1.128E+00	42.31
	1764.49	162	15.80	1.695E+00	1.868E+00	1.868E+00	22.07
AC-228	338.32	276	11.40	5.578E+00	1.341E+00	1.341E+00	48.64
	911.07	449	27.70*	2.780E+00	1.801E+00	1.801E+00	18.42
	969.11	253	16.60	2.639E+00	1.783E+00	1.783E+00	29.80
	338.32	276	11.40	5.578E+00	1.341E+00	1.341E+00	48.64
	911.07	449	27.70*	2.780E+00	1.801E+00	1.801E+00	18.42
	969.11	253	16.60	2.639E+00	1.783E+00	1.783E+00	29.80
TH-228	74.81	416	10.70	4.939E+00	2.434E+00	2.471E+00	21.51
	77.11	624	18.00	5.255E+00	2.039E+00	2.070E+00	15.28
	87.30	265	8.00	6.461E+00	1.585E+00	1.610E+00	30.90
	238.63	1657	44.60*	6.791E+00	1.690E+00	1.716E+00	9.16
	300.09	155	3.41	5.986E+00	2.351E+00	2.387E+00	69.72
	609.31	669	46.30*	3.812E+00	1.171E+00	1.171E+00	14.45
TH-230	1120.29	129	15.10	2.334E+00	1.128E+00	1.128E+00	42.31
	1764.49	162	15.80	1.695E+00	1.868E+00	1.868E+00	22.07
	338.32	276	11.40	5.578E+00	1.341E+00	1.341E+00	27.17
	911.07	449	27.70*	2.780E+00	1.801E+00	1.801E+00	18.42
	969.11	253	16.60	2.639E+00	1.783E+00	1.783E+00	29.80
	609.31	669	46.30*	3.812E+00	1.171E+00	1.171E+00	14.45
U-234	1120.29	129	15.10	2.334E+00	1.128E+00	1.128E+00	42.31
	1764.49	162	15.80	1.695E+00	1.868E+00	1.868E+00	22.07
	86.50	265	12.60*	6.461E+00	1.007E+00	1.007E+00	37.15
	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
	74.67	416	66.00*	4.939E+00	3.946E-01	3.946E-01	21.48
	86.72	265	0.34	6.461E+00	3.775E+01	3.775E+01	30.90
AM-243	117.66	-----	0.55	8.112E+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	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	158	100.00*	4.310E+00	1.132E-01	1.132E-01	44.98

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 3
Number of lines tentatively identified by NID 31 91.18%

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	2.105E+01	2.105E+01	0.204E+01	9.68	
CD-109	464.00D	1.02	3.410E+00	3.489E+00	1.078E+00	30.90	
SN-126	1.00E+05Y	1.00	3.428E-01	3.428E-01	1.059E-01	30.90	
HG-203	46.60D	1.26	3.635E-02	4.566E-02	4.215E-02	92.31	
TL-208	1.41E+10Y	1.00	5.119E-01	5.119E-01	0.812E-01	15.87	
BI-211	7.04E+08Y	1.00	3.866E+00	3.866E+00	0.439E+00	11.36	
PB-212	1.41E+10Y	1.00	1.690E+00	1.690E+00	0.155E+00	9.16	
PO-212	1.41E+10Y	1.00	1.690E+00	1.690E+00	0.155E+00	9.16	
BI-214	1600.00Y	1.00	1.171E+00	1.171E+00	0.169E+00	14.45	
PB-214	1600.00Y	1.00	1.345E+00	1.345E+00	0.168E+00	12.50	
PO-214	1600.00Y	1.00	1.345E+00	1.345E+00	0.168E+00	12.50	
PO-216	1.41E+10Y	1.00	1.690E+00	1.690E+00	0.155E+00	9.16	
PO-218	1600.00Y	1.00	1.345E+00	1.345E+00	0.168E+00	12.50	
RA-224	1.41E+10Y	1.00	5.715E+00	5.715E+00	1.177E+00	20.59	
RA-226	1600.00Y	1.00	1.171E+00	1.171E+00	0.169E+00	14.45	
AC-228	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.332E+00	18.42	
RA-228	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.332E+00	18.42	
TH-228	1.91Y	1.02	1.690E+00	1.716E+00	0.157E+00	9.16	
TH-230	4.47E+09Y	1.00	1.171E+00	1.171E+00	0.169E+00	14.45	
TH-232	1.41E+10Y	1.00	1.801E+00	1.801E+00	0.332E+00	18.42	
U-234	4.47E+09Y	1.00	1.171E+00	1.171E+00	0.169E+00	14.45	
NP-237	2.14E+06Y	1.00	1.007E+00	1.007E+00	0.374E+00	37.15	
AM-243	7380.00Y	1.00	3.946E-01	3.946E-01	0.848E-01	21.48	
ANH-511	1.00E+09Y	1.00	1.132E-01	1.132E-01	0.509E-01	44.98	

Total Activity : 5.733E+01 5.744E+01

Grand Total Activity : 5.733E+01 5.744E+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
3	90.02	222	358	1.11	179.15	163	28	3.08E-02	31.7	6.71E+00	T
3	92.97	229	381	1.29	185.05	163	28	3.18E-02	35.8	6.96E+00	T
0	128.61	111	338	1.28	256.29	252	9	1.55E-02	62.3	8.24E+00	T
0	186.11	276	330	1.46	371.27	367	9	3.84E-02	28.1	7.65E+00	T
0	209.59	155	370	1.04	418.19	413	11	2.16E-02	50.5	7.25E+00	T
0	270.49	129	300	1.27	539.97	534	12	1.79E-02	56.5	6.35E+00	T
0	327.85	126	198	1.49	654.65	651	11	1.74E-02	46.5	5.68E+00	T
0	463.10	111	119	1.11	925.06	923	8	1.54E-02	39.9	4.60E+00	T
0	727.57	132	124	1.40	1453.86	1446	16	1.84E-02	41.5	3.34E+00	T
0	769.60	104	160	0.97	1537.91	1529	20	1.44E-02	64.5	3.19E+00	
0	787.78	33	103	1.29	1574.25	1563	15	4.53E-03	****	3.13E+00	
0	795.61	61	82	2.22	1589.90	1584	12	8.46E-03	66.8	3.11E+00	T
1	964.49	93	62	2.03	1927.61	1920	31	1.29E-02	38.1	2.65E+00	T
0	1238.24	51	102	1.68	2475.01	2469	15	7.01E-03	94.9	2.15E+00	T
0	1847.10	28	4	1.54	3692.65	3685	13	3.82E-03	46.9	1.66E+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]G244924006.CNF;1
* Acquisition date   : 27-JAN-2010 19:05:54  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 02:00:01.55          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244924006            Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity : 1.21495E+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	2.105E+01	2.037E+00	4.513E-01	3.425E-02	46.648
CD-109	3.489E+00	1.078E+00	1.111E+00	1.027E-01	3.139
SN-126	3.428E-01	1.059E-01	1.099E-01	1.013E-02	3.119
HG-203	4.566E-02	4.215E-02	5.672E-02	3.440E-03	0.805
TL-208	5.119E-01	8.125E-02	4.437E-02	3.478E-03	11.537
BI-211	3.866E+00	4.391E-01	2.623E-01	1.683E-02	14.743
PB-212	1.690E+00	1.549E-01	7.050E-02	5.036E-03	23.968
PO-212	1.690E+00	1.549E-01	7.050E-02	5.036E-03	23.968
BI-214	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
PB-214	1.345E+00	1.681E-01	9.139E-02	7.560E-03	14.716
PO-214	1.345E+00	1.681E-01	9.139E-02	7.560E-03	14.716
PO-216	1.690E+00	1.549E-01	7.050E-02	5.036E-03	23.968
PO-218	1.345E+00	1.681E-01	9.139E-02	7.560E-03	14.716
RA-224	5.715E+00	1.177E+00	8.013E-01	4.464E-02	7.133
RA-226	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
AC-228	1.801E+00	3.317E-01	1.552E-01	2.057E-02	11.601
RA-228	1.801E+00	3.317E-01	1.552E-01	2.057E-02	11.601
TH-228	1.716E+00	1.572E-01	7.158E-02	5.114E-03	23.968

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
TH-232	1.801E+00	3.317E-01	1.552E-01	2.057E-02	11.601
U-234	1.171E+00	1.692E-01	9.688E-02	8.654E-03	12.083
NP-237	1.007E+00	3.740E-01	3.277E-01	7.394E-02	3.072
AM-243	3.946E-01	8.477E-02	8.539E-02	7.126E-03	4.621
ANH-511	1.132E-01	5.094E-02	3.791E-02	2.504E-03	2.987

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.013E-01		2.541E-01	4.084E-01	2.959E-02	-0.248
NA-22	-2.262E-02		3.578E-02	5.550E-02	3.777E-03	-0.407
NA-24	-6.575E-01		3.858E-01	Half-Life	too short	
AL-26	1.968E-02		2.592E-02	4.689E-02	2.738E-03	0.420
TI-44	3.763E-01	+	5.750E-02	8.055E-02	6.887E-03	4.672
SC-46	-1.952E-02		3.037E-02	4.677E-02	5.216E-03	-0.417
V-48	4.782E-02		5.713E-02	9.861E-02	9.753E-03	0.485
CR-51	2.910E-01		3.197E-01	5.390E-01	3.470E-02	0.540
MN-52	-4.959E-02		1.925E-01	3.027E-01	2.231E-02	-0.164
MN-54	-5.168E-03		2.960E-02	4.804E-02	4.921E-03	-0.108
CO-56	-1.292E-02		3.001E-02	4.748E-02	4.956E-03	-0.272
CO-57	3.245E-03		2.215E-02	3.578E-02	2.119E-03	0.091
CO-58	-3.923E-02		3.134E-02	4.614E-02	4.555E-03	-0.850
FE-59	-2.898E-02		7.543E-02	1.219E-01	1.004E-02	-0.238
CO-60	4.116E-02		3.070E-02	5.642E-02	4.263E-03	0.730
ZN-65	3.316E-02		8.795E-02	1.298E-01	9.146E-03	0.255
GE-68	2.695E-01		9.573E-01	1.632E+00	1.296E-01	0.165
AS-73	-6.398E-01		1.107E+00	1.748E+00	1.386E-01	-0.366
AS-74	-3.455E-02		8.240E-02	1.297E-01	9.321E-03	-0.266
SE-75	2.876E-03		4.109E-02	5.914E-02	3.382E-03	0.049
BR-77	5.779E+00		8.803E+00	1.501E+01	1.001E+00	0.385
SR-82	1.717E-01		3.442E-01	4.691E-01	4.369E-02	0.366
RB-83	3.374E-02		5.514E-02	9.378E-02	6.255E-03	0.360
RB-84	4.223E-02		5.662E-02	9.766E-02	1.076E-02	0.432
KR-85	1.501E+01		7.005E+00	1.143E+01	7.572E-01	1.313
SR-85	7.710E-02		3.599E-02	5.871E-02	3.890E-03	1.313
RB-86	-1.721E-01		6.095E-01	9.934E-01	7.908E-02	-0.173
Y-88	4.644E-03		2.830E-02	4.517E-02	2.573E-03	0.103
ZR-88	-1.076E-02		2.247E-02	3.656E-02	2.103E-03	-0.294
Y-91	1.320E+01		1.587E+01	2.730E+01	1.614E+00	0.483
NB-94	5.770E-03		3.066E-02	5.170E-02	4.242E-03	0.112
NB-95	6.095E-02		4.383E-02	6.911E-02	6.322E-03	0.882
NB-95M	5.236E-02		1.157E-01	1.717E-01	1.260E-02	0.305
ZR-95	9.561E-03		5.739E-02	9.625E-02	9.471E-03	0.099
NB-97	-2.951E-02		4.670E-02	Half-Life	too short	
ZR-97	3.475E+00		1.085E+00	Half-Life	too short	
MO-99	-1.299E+01		9.828E+00	1.442E+01	2.200E+00	-0.901

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	-1.142E+10		2.871E+10	Half-Life too short		
RH-101	-1.036E-02		2.818E-02	4.547E-02	2.444E-03	-0.228
RH-102	-6.614E-04		2.286E-02	3.765E-02	2.391E-03	-0.018
RU-103	-7.251E-03		3.233E-02	5.236E-02	6.798E-03	-0.138
RH-106	2.064E-01		2.467E-01	4.199E-01	5.283E-02	0.491
RU-106	2.064E-01		2.458E-01	4.199E-01	3.090E-02	0.491
AG-108M	-1.356E-02		2.613E-02	4.209E-02	2.750E-03	-0.322
AG-110M	-1.286E-02		2.784E-02	4.534E-02	3.576E-03	-0.284
IN-111	7.174E-03		9.233E-01	1.332E+00	7.446E-02	0.005
IN-113M	-1.542E-03		3.308E-02	5.529E-02	3.391E-03	-0.028
SN-113	-1.542E-03		3.308E-02	5.529E-02	3.391E-03	-0.028
IN-114M	3.423E-03		1.659E-01	2.449E-01	1.308E-02	0.014
CD-115	-2.284E+00		8.739E+00	1.403E+01	9.428E-01	-0.163
SN-117M	1.147E-02		4.681E-02	8.000E-02	4.252E-03	0.143
SB-122	-7.458E-01		1.805E+00	2.855E+00	1.989E-01	-0.261
I-123	-2.886E-01		3.060E+00	Half-Life too short		
TE-123M	-1.138E-03		2.413E-02	4.080E-02	2.201E-03	-0.028
I-124	2.635E-01		7.288E-01	1.046E+00	7.566E-02	0.252
SB-124	-3.805E-02		6.135E-02	9.206E-02	6.351E-03	-0.413
SB-125	8.176E-02		7.068E-02	1.251E-01	7.819E-03	0.653
TE-125M	1.500E+00		8.508E+00	1.376E+01	1.210E+00	0.109
I-126	-1.267E-02		1.520E-01	2.536E-01	1.949E-02	-0.050
SB-126	-1.324E-02		1.385E-01	1.969E-01	1.666E-02	-0.067
SB-127	1.075E+00		1.090E+00	1.931E+00	2.112E-01	0.557
XE-127	4.995E-03		3.878E-02	6.498E-02	3.507E-03	0.077
I-131	8.924E-02		9.517E-02	1.676E-01	1.082E-02	0.533
TE-132	2.252E-01		6.092E-01	1.021E+00	1.459E-01	0.221
BA-133	2.302E-02		3.895E-02	5.680E-02	6.562E-03	0.405
I-133	-1.559E-03		2.614E-03	Half-Life too short		
CS-134	7.989E-02	+	5.389E-02	7.251E-02	7.013E-03	1.102
CS-135	2.066E-01		1.494E-01	2.315E-01	1.750E-02	0.892
I-135	-2.395E+09		3.477E+09	Half-Life too short		
CS-136	-7.166E-03		8.139E-02	1.351E-01	1.211E-02	-0.053
BA-137M	8.187E-03		3.013E-02	5.134E-02	3.913E-03	0.159
CS-137	8.654E-03		3.185E-02	5.427E-02	4.147E-03	0.159
CE-139	-1.419E-02		2.513E-02	4.154E-02	2.181E-03	-0.342
BA-140	-4.309E-02		2.001E-01	3.209E-01	1.050E-01	-0.134
LA-140	-6.421E-02		7.389E-02	1.104E-01	7.571E-03	-0.582
CE-141	1.698E-03		5.814E-02	9.230E-02	5.269E-03	0.018
CE-143	7.844E-04		1.176E-04	Half-Life too short		
CE-144	8.911E-02		1.930E-01	2.987E-01	4.224E-02	0.298
PM-144	2.654E-02		2.907E-02	5.102E-02	4.142E-03	0.520
PR-144	1.798E+00		1.970E+00	3.458E+00	2.806E-01	0.520
PM-146	3.803E-02		3.493E-02	6.121E-02	5.446E-03	0.621
ND-147	-4.376E-02		4.227E-01	6.857E-01	9.567E-02	-0.064
PM-149	-2.380E+01		8.402E+01	1.345E+02	1.902E+01	-0.177
EU-152	-8.645E-02		8.708E-02	1.257E-01	8.201E-03	-0.688
GD-153	-1.768E-02		7.980E-02	1.145E-01	8.953E-03	-0.154

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-2.410E-02		9.679E-02	1.554E-01	1.552E-02	-0.155
EU-155	9.379E-02		1.035E-01	1.732E-01	1.239E-02	0.541
TB-160	3.719E-03		1.129E-01	1.852E-01	2.034E-02	0.020
HO-166M	-1.027E-02		4.949E-02	8.139E-02	6.784E-03	-0.126
TM-171	-1.433E+01		2.928E+01	4.733E+01	3.784E+00	-0.303
LU-176	-1.133E-02		1.965E-02	3.067E-02	1.766E-03	-0.369
LU-177	2.934E+00	+	1.490E+00	1.745E+00	9.464E-02	1.682
LU-177M	-1.156E-01		1.474E-01	2.354E-01	1.390E-02	-0.491
HF-181	7.844E-03		3.303E-02	5.525E-02	3.536E-03	0.142
W-181	-4.272E-01		3.996E-01	6.320E-01	5.013E-02	-0.676
TA-182	1.421E-01		1.539E-01	2.701E-01	1.653E-02	0.526
RE-183	1.741E-02		9.137E-02	1.557E-01	8.216E-03	0.112
RE-184	1.228E-01		1.838E-01	3.113E-01	1.748E-02	0.394
OS-185	-1.655E-02		3.704E-02	5.758E-02	4.330E-03	-0.288
RE-188	8.288E-02		1.470E-01	2.542E-01	1.360E-02	0.326
W-188	-1.036E+00		6.965E+00	9.780E+00	5.602E-01	-0.106
IR-192	3.098E-04		2.797E-02	4.512E-02	2.617E-03	0.007
AU-195	1.203E-02		2.068E-01	3.370E-01	2.579E-02	0.036
TL-200	-1.594E-04		2.065E-04	Half-Life too short		
TL-201	2.301E-01		6.163E+00	1.042E+01	5.470E-01	0.022
TL-202	3.484E-02		5.639E-02	9.685E-02	5.905E-03	0.360
BI-207	3.177E-02		4.100E-02	7.234E-02	5.971E-03	0.439
TL-207	-3.581E-02		6.150E-01	8.597E-01	1.419E-01	-0.042
PO-209	1.059E+00		6.169E+00	9.997E+00	1.128E+00	0.106
BI-210	-9.860E-01		5.256E+00	8.833E+00	6.834E-01	-0.112
PB-210	-9.860E-01		5.256E+00	8.833E+00	6.834E-01	-0.112
PO-210	-9.860E-01		5.255E+00	8.833E+00	5.875E-01	-0.112
PB-211	-6.822E-01		8.931E-01	1.254E+00	7.816E-01	-0.544
BI-212	1.038E+00	+	4.428E-01	5.446E-01	5.424E-02	1.906
PO-215	-3.581E-02		6.150E-01	8.597E-01	1.419E-01	-0.042
RN-219	1.764E-01		3.349E-01	5.741E-01	7.816E-02	0.307
RN-220	-8.867E+00		2.105E+01	3.330E+01	2.288E+00	-0.266
RA-223	-3.581E-02		6.150E-01	8.597E-01	1.419E-01	-0.042
AC-227	-1.232E-01		3.062E-01	4.909E-01	6.819E-02	-0.251
TH-227	-1.232E-01		3.064E-01	4.909E-01	8.268E-02	-0.251
TH-229	1.702E-01		4.114E-01	6.993E-01	3.744E-02	0.243
PA-231	8.335E-01		1.357E+00	2.224E+00	3.057E-01	0.375
TH-231	-3.581E-02		6.150E-01	8.597E-01	1.419E-01	-0.042
U-231	5.422E-01		1.081E+00	1.615E+00	1.294E-01	0.336
PA-233	2.847E-02		5.080E-02	8.455E-02	5.180E-03	0.337
PA-234	1.912E-01		2.427E-01	4.148E-01	8.182E-02	0.461
PA-234M	-2.816E+00		4.075E+00	6.301E+00	6.797E-01	-0.447
TH-234	7.968E-01		1.478E+00	2.465E+00	4.346E-01	0.323
U-235	1.364E-01		1.968E-01	3.164E-01	5.124E-02	0.431
NP-236	-3.149E-02		6.763E-02	1.125E-01	5.960E-03	-0.280
U-238	7.968E-01		1.478E+00	2.465E+00	4.346E-01	0.323
NP-239	2.621E-03		1.687E-01	2.717E-01	1.682E-02	0.010
AM-241	4.922E-03		1.737E-01	2.909E-01	2.413E-02	0.017

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.094E-02		9.183E-02	1.509E-01	1.080E-02	0.205
AM-246	7.972E-02		1.101E-01	1.935E-01	1.531E-02	0.412
CM-247	2.586E-02		2.987E-02	5.213E-02	3.036E-03	0.496
CF-249	-3.672E-04		2.968E-02	4.974E-02	2.859E-03	-0.007
CF-251	1.235E-02		1.044E-01	1.764E-01	9.316E-03	0.070

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]G244924006          *
* Acquisition date   : 27-JAN-2010 19:05:54 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 02:00:01.55             Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924006             Analyst initials: MXR1         *
* Batch Number       : 942723                 Sample Quantity : 1.2150E+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	2.105E+01	1.996E+00	2.254E-01	1.019E+00
CD-109	3.489E+00	1.056E+00	5.744E-01	5.389E-01
SN-126	3.428E-01	1.038E-01	5.681E-02	5.295E-02
HG-203	4.566E-02	4.130E-02	2.891E-02	2.107E-02
TL-208	5.119E-01	7.962E-02	2.241E-02	4.062E-02
BI-211	3.866E+00	4.303E-01	1.333E-01	2.195E-01
PB-212	1.690E+00	1.518E-01	3.601E-02	7.743E-02
PO-212	1.690E+00	1.518E-01	3.601E-02	7.743E-02
BI-214	1.171E+00	1.658E-01	4.891E-02	8.458E-02
PB-214	1.345E+00	1.647E-01	4.646E-02	8.404E-02
PO-214	1.345E+00	1.647E-01	4.646E-02	8.404E-02
PO-216	1.690E+00	1.518E-01	3.601E-02	7.743E-02
PO-218	1.345E+00	1.647E-01	4.646E-02	8.404E-02
RA-224	5.715E+00	1.153E+00	4.092E-01	5.883E-01
RA-226	1.171E+00	1.658E-01	4.891E-02	8.458E-02
AC-228	1.801E+00	3.251E-01	7.798E-02	1.659E-01
RA-228	1.801E+00	3.251E-01	7.798E-02	1.659E-01
TH-228	1.716E+00	1.541E-01	3.656E-02	7.862E-02
TH-230	1.171E+00	1.658E-01	4.891E-02	8.458E-02
TH-232	1.801E+00	3.251E-01	7.798E-02	1.659E-01
U-234	1.171E+00	1.658E-01	4.891E-02	8.458E-02
NP-237	1.007E+00	3.665E-01	1.694E-01	1.870E-01
AM-243	3.946E-01	8.308E-02	4.423E-02	4.239E-02
ANH-511	1.132E-01	4.992E-02	1.918E-02	2.547E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.013E-01	2.490E-01	2.068E-01	1.270E-01 NOT IDENT.
NA-22	-2.262E-02	3.506E-02	2.776E-02	1.789E-02 NOT IDENT.
NA-24	-6.575E+05	7.562E+05	0.000E+00	3.858E+05 SHORT HLIF

AL-26	1.968E-02	2.540E-02	2.335E-02	1.296E-02	NOT IDENT.
TI-44	3.763E-01	5.635E-02	4.169E-02	2.875E-02	FAIL ABUN
SC-46	-1.952E-02	2.976E-02	2.350E-02	1.519E-02	FAIL ABUN
V-48	4.782E-02	5.599E-02	4.948E-02	2.856E-02	NOT IDENT.
CR-51	2.910E-01	3.133E-01	2.743E-01	1.599E-01	NOT IDENT.
MN-52	-4.959E-02	1.886E-01	1.512E-01	9.623E-02	NOT IDENT.
MN-54	-5.168E-03	2.901E-02	2.416E-02	1.480E-02	NOT IDENT.
CO-56	-1.292E-02	2.941E-02	2.387E-02	1.500E-02	FAIL ABUN
CO-57	3.245E-03	2.171E-02	1.842E-02	1.108E-02	NOT IDENT.
CO-58	-3.923E-02	3.071E-02	2.321E-02	1.567E-02	NOT IDENT.
FE-59	-2.898E-02	7.392E-02	6.110E-02	3.772E-02	NOT IDENT.
CO-60	4.116E-02	3.008E-02	2.820E-02	1.535E-02	NOT IDENT.
ZN-65	3.316E-02	8.619E-02	6.506E-02	4.397E-02	NOT IDENT.
GE-68	2.695E-01	9.381E-01	8.180E-01	4.786E-01	NOT IDENT.
AS-73	-6.398E-01	1.085E+00	9.092E-01	5.535E-01	NOT IDENT.
AS-74	-3.455E-02	8.075E-02	6.551E-02	4.120E-02	NOT IDENT.
SE-75	2.876E-03	4.027E-02	3.017E-02	2.055E-02	NOT IDENT.
BR-77	5.779E+00	8.627E+00	7.592E+00	4.401E+00	FAIL ABUN
SR-82	1.717E-01	3.373E-01	2.361E-01	1.721E-01	NOT IDENT.
RB-83	3.374E-02	5.404E-02	4.744E-02	2.757E-02	NOT IDENT.
RB-84	4.223E-02	5.549E-02	4.908E-02	2.831E-02	NOT IDENT.
KR-85	1.501E+01	6.865E+00	5.783E+00	3.503E+00	NOT IDENT.
SR-85	7.710E-02	3.527E-02	2.971E-02	1.799E-02	NOT IDENT.
RB-86	-1.721E-01	5.973E-01	4.980E-01	3.048E-01	NOT IDENT.
Y-88	4.644E-03	2.773E-02	2.249E-02	1.415E-02	NOT IDENT.
ZR-88	-1.076E-02	2.202E-02	1.856E-02	1.123E-02	NOT IDENT.
Y-91	1.320E+01	1.555E+01	1.367E+01	7.935E+00	NOT IDENT.
NB-94	5.770E-03	3.005E-02	2.606E-02	1.533E-02	NOT IDENT.
NB-95	6.095E-02	4.295E-02	3.479E-02	2.192E-02	NOT IDENT.
NB-95M	5.236E-02	1.134E-01	8.772E-02	5.784E-02	NOT IDENT.
ZR-95	9.561E-03	5.624E-02	4.846E-02	2.869E-02	NOT IDENT.
NB-97	-2.951E+04	9.153E+04	0.000E+00	4.670E+04	SHORT HLIF
ZR-97	3.475E+06	2.127E+06	0.000E+00	1.085E+06	SHORT HLIF
MO-99	-1.299E+01	9.631E+00	7.261E+00	4.914E+00	NOT IDENT.
TC-99M	-1.142E+16	5.627E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.036E-02	2.761E-02	2.328E-02	1.409E-02	FAIL ABUN
RH-102	-6.614E-04	2.240E-02	1.907E-02	1.143E-02	NOT IDENT.
RU-103	-7.251E-03	3.169E-02	2.650E-02	1.617E-02	FAIL ABUN
RH-106	2.064E-01	2.417E-01	2.120E-01	1.233E-01	FAIL ABUN
RU-106	2.064E-01	2.408E-01	2.120E-01	1.229E-01	FAIL ABUN
AG-108M	-1.356E-02	2.561E-02	2.134E-02	1.307E-02	NOT IDENT.
AG-110M	-1.286E-02	2.729E-02	2.287E-02	1.392E-02	NOT IDENT.
IN-111	7.174E-03	9.049E-01	6.802E-01	4.617E-01	NOT IDENT.
IN-113M	-1.542E-03	3.242E-02	2.807E-02	1.654E-02	NOT IDENT.
SN-113	-1.542E-03	3.242E-02	2.807E-02	1.654E-02	NOT IDENT.
IN-114M	3.423E-03	1.626E-01	1.254E-01	8.295E-02	NOT IDENT.
CD-115	-2.284E+00	8.564E+00	7.095E+00	4.370E+00	NOT IDENT.
SN-117M	1.147E-02	4.587E-02	4.106E-02	2.340E-02	NOT IDENT.
SB-122	-7.458E-01	1.769E+00	1.443E+00	9.025E-01	NOT IDENT.
I-123	-2.886E+05	5.998E+06	0.000E+00	3.060E+06	SHORT HLIF
TE-123M	-1.138E-03	2.365E-02	2.094E-02	1.206E-02	NOT IDENT.
I-124	2.635E-01	7.142E-01	5.283E-01	3.644E-01	NOT IDENT.
SB-124	-3.805E-02	6.012E-02	4.588E-02	3.067E-02	FAIL ABUN
SB-125	8.176E-02	6.926E-02	6.346E-02	3.534E-02	FAIL ABUN
TE-125M	1.500E+00	8.338E+00	7.095E+00	4.254E+00	NOT IDENT.
I-126	-1.267E-02	1.490E-01	1.279E-01	7.600E-02	NOT IDENT.
SB-126	-1.324E-02	1.357E-01	9.918E-02	6.924E-02	FAIL ABUN
SB-127	1.075E+00	1.068E+00	9.732E-01	5.451E-01	NOT IDENT.
XE-127	4.995E-03	3.801E-02	3.325E-02	1.939E-02	NOT IDENT.
I-131	8.924E-02	9.327E-02	8.514E-02	4.759E-02	NOT IDENT.
TE-132	2.252E-01	5.970E-01	5.219E-01	3.046E-01	NOT IDENT.
BA-133	2.302E-02	3.817E-02	2.887E-02	1.947E-02	FAIL ABUN
I-133	-1.559E+03	5.124E+03	0.000E+00	2.614E+03	SHORT HLIF
CS-134	7.989E-02	5.281E-02	3.648E-02	2.694E-02	FAIL ABUN
CS-135	2.066E-01	1.464E-01	1.181E-01	7.472E-02	NOT IDENT.
I-135	-2.395E+15	6.814E+15	0.000E+00	3.477E+15	SHORT HLIF
CS-136	-7.166E-03	7.976E-02	6.776E-02	4.069E-02	FAIL ABUN
BA-137M	8.187E-03	2.953E-02	2.589E-02	1.507E-02	NOT IDENT.
CS-137	8.654E-03	3.121E-02	2.737E-02	1.593E-02	NOT IDENT.
CE-139	-1.419E-02	2.463E-02	2.131E-02	1.257E-02	NOT IDENT.
BA-140	-4.309E-02	1.961E-01	1.623E-01	1.000E-01	NOT IDENT.
LA-140	-6.421E-02	7.241E-02	5.504E-02	3.695E-02	FAIL ABUN
CE-141	1.698E-03	5.698E-02	4.742E-02	2.907E-02	NOT IDENT.
CE-143	7.844E+02	2.306E+02	0.000E+00	1.176E+02	SHORT HLIF
CE-144	8.911E-02	1.891E-01	1.537E-01	9.648E-02	NOT IDENT.
PM-144	2.654E-02	2.849E-02	2.572E-02	1.454E-02	NOT IDENT.
PR-144	1.798E+00	1.931E+00	1.743E+00	9.852E-01	NOT IDENT.
PM-146	3.803E-02	3.423E-02	3.102E-02	1.747E-02	NOT IDENT.

ND-147	-4.376E-02	4.142E-01	3.468E-01	2.113E-01	FAIL ABUN
PM-149	-2.380E+01	8.234E+01	6.855E+01	4.201E+01	NOT IDENT.
EU-152	-8.645E-02	8.534E-02	6.390E-02	4.354E-02	FAIL ABUN
GD-153	-1.768E-02	7.820E-02	5.912E-02	3.990E-02	NOT IDENT.
EU-154	-2.410E-02	9.485E-02	7.774E-02	4.840E-02	NOT IDENT.
EU-155	9.379E-02	1.014E-01	8.936E-02	5.174E-02	FAIL ABUN
TB-160	3.719E-03	1.106E-01	9.306E-02	5.645E-02	FAIL ABUN
HO-166M	-1.027E-02	4.850E-02	4.101E-02	2.474E-02	NOT IDENT.
TM-171	-1.433E+01	2.869E+01	2.455E+01	1.464E+01	NOT IDENT.
LU-176	-1.133E-02	1.925E-02	1.562E-02	9.823E-03	FAIL ABUN
LU-177	2.934E+00	1.460E+00	8.926E-01	7.450E-01	FAIL ABUN
LU-177M	-1.156E-01	1.444E-01	1.194E-01	7.368E-02	NOT IDENT.
HF-181	7.844E-03	3.237E-02	2.797E-02	1.651E-02	NOT IDENT.
W-181	-4.272E-01	3.916E-01	3.278E-01	1.998E-01	NOT IDENT.
TA-182	1.421E-01	1.508E-01	1.352E-01	7.695E-02	FAIL ABUN
RE-183	1.741E-02	8.954E-02	7.988E-02	4.568E-02	FAIL ABUN
RE-184	1.228E-01	1.801E-01	1.589E-01	9.190E-02	NOT IDENT.
OS-185	-1.655E-02	3.630E-02	2.905E-02	1.852E-02	NOT IDENT.
RE-188	8.288E-02	1.441E-01	1.305E-01	7.350E-02	NOT IDENT.
W-188	-1.036E+00	6.826E+00	4.983E+00	3.482E+00	NOT IDENT.
IR-192	3.098E-04	2.741E-02	2.297E-02	1.399E-02	FAIL ABUN
AU-195	1.203E-02	2.026E-01	1.740E-01	1.034E-01	FAIL ABUN
TL-200	-1.594E+02	4.047E+02	0.000E+00	2.065E+02	SHORT HLIF
TL-201	2.301E-01	6.039E+00	5.344E+00	3.081E+00	NOT IDENT.
TL-202	3.484E-02	5.526E-02	4.910E-02	2.819E-02	NOT IDENT.
BI-207	3.177E-02	4.018E-02	3.626E-02	2.050E-02	FAIL ABUN
TL-207	-3.581E-02	6.027E-01	4.374E-01	3.075E-01	FAIL ABUN
PO-209	1.059E+00	6.046E+00	5.023E+00	3.085E+00	NOT IDENT.
BI-210	-9.860E-01	5.150E+00	4.601E+00	2.628E+00	NOT IDENT.
PB-210	-9.860E-01	5.150E+00	4.601E+00	2.628E+00	NOT IDENT.
PO-210	-9.860E-01	5.150E+00	4.601E+00	2.628E+00	NOT IDENT.
PB-211	-6.822E-01	8.753E-01	6.362E-01	4.466E-01	NOT IDENT.
BI-212	1.038E+00	4.339E-01	2.744E-01	2.214E-01	FAIL ABUN
PO-215	-3.581E-02	6.027E-01	4.374E-01	3.075E-01	FAIL ABUN
RN-219	1.764E-01	3.282E-01	2.913E-01	1.675E-01	FAIL ABUN
RN-220	-8.867E+00	2.063E+01	1.683E+01	1.052E+01	NOT IDENT.
RA-223	-3.581E-02	6.027E-01	4.374E-01	3.075E-01	FAIL ABUN
AC-227	-1.232E-01	3.001E-01	2.505E-01	1.531E-01	FAIL ABUN
TH-227	-1.232E-01	3.003E-01	2.505E-01	1.532E-01	FAIL ABUN
TH-229	1.702E-01	4.032E-01	3.581E-01	2.057E-01	FAIL ABUN
PA-231	8.335E-01	1.330E+00	1.134E+00	6.786E-01	FAIL ABUN
TH-231	-3.581E-02	6.027E-01	4.374E-01	3.075E-01	FAIL ABUN
U-231	5.422E-01	1.060E+00	8.340E-01	5.407E-01	FAIL ABUN
PA-233	2.847E-02	4.978E-02	4.304E-02	2.540E-02	FAIL ABUN
PA-234	1.912E-01	2.379E-01	2.082E-01	1.214E-01	FAIL ABUN
PA-234M	-2.816E+00	3.994E+00	3.161E+00	2.038E+00	NOT IDENT.
TH-234	7.968E-01	1.449E+00	1.279E+00	7.392E-01	FAIL ABUN
U-235	1.364E-01	1.928E-01	1.626E-01	9.838E-02	FAIL ABUN
NP-236	-3.149E-02	6.628E-02	5.774E-02	3.381E-02	NOT IDENT.
U-238	7.968E-01	1.449E+00	1.279E+00	7.392E-01	FAIL ABUN
NP-239	2.621E-03	1.654E-01	1.400E-01	8.437E-02	FAIL ABUN
AM-241	4.922E-03	1.702E-01	1.511E-01	8.685E-02	NOT IDENT.
CM-243	3.094E-02	8.999E-02	7.783E-02	4.591E-02	FAIL ABUN
AM-246	7.972E-02	1.079E-01	9.701E-02	5.503E-02	NOT IDENT.
CM-247	2.586E-02	2.928E-02	2.646E-02	1.494E-02	FAIL ABUN
CF-249	-3.672E-04	2.908E-02	2.525E-02	1.484E-02	NOT IDENT.
CF-251	1.235E-02	1.023E-01	9.043E-02	5.218E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY MDA COUNTS

46.50	293.2800
46.50	293.2800
46.50	293.2800
48.70	308.4624
49.72	287.2852
51.35	292.7516
52.39	296.6548
52.97	290.0405
53.15	290.2393
53.44	295.1139
54.07	292.1647
56.28	279.8372
56.28	279.8403
57.37	0.0000
57.53	306.0792
57.53	306.0809
57.60	300.6062
57.98	303.7956
57.98	303.7956
59.32	318.2732
59.32	318.2732
59.40	318.3628
59.54	318.5193
59.72	316.8564
60.01	323.7082
61.10	379.2477
61.14	379.3002
61.30	372.9499
63.00	354.3818
63.29	348.1240
63.29	348.1240
63.58	348.4628
64.28	332.2412
65.12	395.8131
65.20	395.9175
65.20	395.9175
66.05	400.8309
66.72	355.9026
66.83	373.2128
66.91	373.3083
67.20	374.6140
67.20	374.6140
67.75	361.8732
67.85	358.1599
68.90	332.9349
68.90	332.9349
69.30	339.1285
69.67	353.9745
70.82	346.5438
70.82	346.5438
70.83	346.5547
72.80	365.6786
72.87	365.7570
72.87	365.7570
74.67	367.7459
74.81	367.8999
74.81	367.8999
74.81	367.8999
74.81	367.8999
74.81	367.8999
74.81	367.8999
74.97	368.0749
75.28	368.4153
75.70	368.8743
77.11	370.4042
77.11	370.4042

77.11	370.4042
77.11	370.4042
77.11	370.4042
77.11	370.4042
77.11	370.4042
78.38	370.7829
79.62	357.2205
79.80	378.2521
79.80	378.2521
80.11	378.5854
80.18	378.6610
80.30	357.9108
80.30	357.9108
80.57	358.1854
81.00	358.6194
81.07	358.6908
81.07	358.6908
81.07	358.6908
81.07	358.6908
82.60	362.2283
83.37	331.9125
83.78	332.2913
83.78	332.2913
83.78	332.2913
83.78	332.2913
84.21	332.6836
84.90	333.3098
85.43	333.7896
86.29	334.5658
86.50	334.7543
86.54	334.7897
86.59	334.8351
86.72	334.9513
86.79	335.0119
86.94	335.1483
87.30	335.4715
87.30	335.4715
87.30	335.4715
87.30	335.4715
87.30	335.4715
87.30	335.4715
87.57	335.7123
87.88	335.9884
88.03	336.1230
88.36	336.4160
88.47	336.5136
89.95	337.8235
91.11	338.8420
92.29	339.8723
92.38	339.9514
92.38	339.9514
93.35	340.7916
94.00	341.3539
94.67	306.8024
94.67	306.8069
94.90	306.9837
94.90	306.9837
94.90	306.9837
94.90	306.9837
95.87	295.2950
95.87	295.2950
96.73	313.0611
97.43	315.1596
98.44	296.5451
98.44	296.5451
98.88	314.1908
99.55	315.7477
99.55	315.7477
99.86	313.8916
100.00	313.9984
100.10	314.0762
103.18	361.7369
103.76	323.1562
105.00	303.9697
105.31	319.0287
108.00	356.2001
109.28	298.4100

111.00	339.2924
111.00	339.2924
111.76	314.0536
112.95	333.2129
115.19	296.9211
116.30	319.3606
117.00	288.2924
117.00	288.2924
117.66	327.9205
121.11	274.3518
121.62	285.6300
121.78	285.7252
122.06	273.7964
122.32	273.9433
122.32	273.9433
122.32	273.9433
122.32	273.9433
123.07	278.9980
127.23	273.3736
129.76	325.0209
131.20	319.2276
133.02	298.4471
133.54	294.3585
135.34	292.4500
136.00	286.0354
136.25	297.4829
136.48	297.6140
140.51	314.7114
140.51	0.0000
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142.65	326.2697
143.76	307.4350
144.24	322.6309
144.24	322.6309
144.24	322.6309
144.24	322.6309
145.22	337.0108
145.44	337.1479
147.16	335.8885
152.43	302.9340
152.70	297.2484
153.22	309.7716
154.21	325.2081
154.21	325.2081
154.21	325.2081
154.21	325.2081
155.03	313.3828
156.02	322.7126
158.56	303.8082
159.00	0.0000
159.00	312.8721
160.31	325.0814
161.27	316.7356
162.32	295.9633
162.64	302.3456
163.35	292.9102
163.89	290.5005
165.85	320.9450
167.43	305.6440
171.28	298.5344
171.86	307.8397
172.10	298.0227
176.55	281.9403
176.60	281.9616
181.06	306.2672
184.41	347.6045
185.71	308.9943
186.00	309.1297
190.27	273.4013
192.34	287.8345
193.63	263.1809
197.04	283.2402
198.01	292.0869
198.60	289.5137
200.40	273.2954
201.83	291.7904
202.84	280.8575
205.31	288.4720

208.36	275.9720
208.81	258.4065
209.75	258.7393
209.75	258.7393
210.97	266.2484
215.65	250.2286
216.55	245.7122
218.09	277.1160
222.10	258.2010
223.80	258.7733
226.40	260.6220
227.00	262.7774
227.08	262.8041
227.20	263.8223
228.16	260.2344
228.18	260.2405
228.18	260.2405
231.56	0.0000
235.69	274.9718
236.00	275.0780
236.00	275.0780
238.63	221.0605
238.63	221.0605
238.63	221.0605
238.63	221.0605
239.00	221.1608
240.98	221.7002
241.98	221.9724
241.98	221.9724
241.98	221.9724
244.69	198.1381
245.39	185.5122
247.94	192.4995
248.90	200.7507
249.79	205.9885
252.40	195.5408
252.85	186.5681
252.85	186.5681
254.15	0.0000
256.20	214.6405
256.20	214.6405
260.50	209.6085
260.90	211.7419
262.80	207.1042
264.65	206.1097
268.24	202.0221
268.79	198.8613
269.46	225.1186
269.46	225.1186
269.46	225.1186
269.46	225.1186
271.23	234.8362
273.65	256.1246
276.40	229.2801
277.35	225.0262
277.60	225.0858
277.60	225.0858
278.00	195.9215
278.60	217.6500
279.20	229.4284
279.53	229.5092
280.46	221.4210
281.68	203.3760
283.67	200.4727
284.30	218.3695
285.00	233.1741
285.90	225.0256
286.10	225.0716
286.10	225.0716
287.40	231.6764
288.45	0.0000
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290.80	208.7354
291.72	224.1031
293.26	0.0000
293.70	195.8633
295.21	193.4267
295.21	193.4267

295.21	193.4267
295.96	193.5775
296.50	193.6864
297.23	193.8316
298.57	194.1024
299.80	194.3481
299.80	194.3481
300.09	194.4068
300.09	194.4068
300.09	194.4068
300.09	194.4068
300.12	194.4124
301.29	159.9698
302.84	173.8607
303.76	160.3760
303.91	160.3990
304.40	150.2359
304.40	150.2359
304.84	146.8887
306.84	180.7719
308.46	171.4258
311.98	155.9033
316.51	170.6451
318.01	210.9187
319.02	179.7286
319.41	178.7139
320.08	173.4106
323.87	179.2743
323.87	179.2743
323.87	179.2743
323.87	179.2743
325.23	221.3353
328.77	175.9660
333.44	237.1300
334.20	237.2981
334.20	237.2981
334.30	237.3212
338.28	211.7402
338.28	211.7402
338.28	211.7402
338.28	211.7402
338.32	211.7490
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338.32	211.7490
340.50	180.3527
340.57	180.3652
344.27	204.0492
345.85	186.5750
350.59	0.0000
351.07	166.2631
351.92	166.3927
351.92	166.3927
351.92	166.3927
355.39	0.0000
356.01	139.8801
364.48	148.1626
366.43	152.0367
367.43	165.7566
367.94	0.0000
369.80	163.3755
374.96	139.4892
383.85	145.1394
387.95	138.2648
388.63	146.6441
391.69	136.8458
391.69	136.8458
392.90	138.8342
398.62	144.1375
400.65	172.3174
401.10	168.6557
401.81	151.9698
402.60	144.6030
404.84	192.5315
410.95	143.6971
411.60	162.5655
413.65	182.5949
414.70	150.7188
415.30	148.9061

415.76	148.9601
417.63	0.0000
418.52	139.8340
423.70	140.4013
427.08	122.6964
427.89	112.3045
432.53	153.7735
433.93	148.2017
439.47	130.5813
439.56	130.5896
439.89	135.4251
443.98	151.2543
444.90	141.7172
445.03	141.7315
445.03	141.7315
445.03	141.7315
445.03	141.7315
453.90	117.4300
463.38	117.2637
468.07	109.4884
473.00	132.8313
475.06	125.1412
475.35	117.2830
476.78	128.2528
477.59	132.2743
477.96	140.2077
482.03	115.8531
484.57	134.9043
487.03	133.1478
490.36	0.0000
492.35	132.6380
497.08	125.0626
507.63	0.0000
510.53	0.0000
510.84	129.2531
511.00	129.2664
511.85	106.0991
511.85	106.0991
513.99	128.1727
513.99	128.1727
520.41	108.7293
520.65	108.7476
527.90	110.2808
528.96	0.0000
529.64	107.3379
529.87	0.0000
531.02	102.3169
537.32	108.8959
543.00	117.5347
546.56	0.0000
549.76	122.1772
552.65	106.8374
555.20	113.2392
563.23	126.3292
563.90	134.7351
568.70	99.5157
569.32	103.7446
569.50	100.6102
569.67	100.6219
573.80	133.0959
574.00	137.7819
574.64	136.6682
578.91	122.9643
579.30	0.0000
583.14	104.6074
585.48	105.8105
591.81	134.0851
592.07	129.8283
593.00	126.4724
595.88	146.9147
600.56	142.7755
602.52	0.0000
602.71	153.1980
602.71	153.1980
603.60	163.9686
604.41	183.6615
604.70	180.1241
609.31	141.6196

609.31	141.6196
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609.31	141.6196
610.33	141.3456
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618.01	129.3838
621.84	85.3609
621.84	85.3609
631.29	82.5554
633.02	96.7679
633.10	100.0343
634.78	99.0403
635.90	119.7915
636.97	117.6847
645.85	125.9216
646.12	123.7510
656.30	115.6230
657.75	119.3862
657.90	0.0000
661.65	124.2389
661.65	124.2389
664.57	0.0000
666.33	126.3916
666.33	126.3916
675.00	113.0694
677.61	89.0938
685.20	84.7886
692.80	123.4707
695.00	103.9451
696.49	111.5213
696.49	111.5213
697.00	121.8618
697.49	140.6464
698.33	133.2001
698.50	133.2117
699.00	140.7532
702.63	145.7130
706.10	133.7259
706.58	0.0000
706.67	143.1865
709.31	112.2477
711.68	114.2696
713.82	123.8466
717.42	98.4987
720.50	113.8257
721.93	0.0000
722.20	96.0190
722.78	113.9551
722.78	113.9551
722.89	113.9600
722.95	113.9624
723.30	118.8694
724.18	122.1784
727.18	97.0714
733.00	91.6230
735.90	71.3626
739.58	115.8525
742.81	99.7323
744.21	103.6362
747.13	84.5643
751.79	104.9772
752.31	106.9305
753.82	95.4390
755.35	90.6858
756.15	98.4410
756.87	103.3014
763.93	102.9556
765.79	116.3428
766.42	111.3894
766.84	116.3989
776.49	67.8172
778.00	99.4558
778.57	81.9270
778.89	74.1353
783.80	75.4211
785.46	85.1238
792.07	111.8801

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796.30	91.0252
798.80	94.5039
801.93	99.7086
805.60	78.9958
810.29	92.0256
810.76	103.9233
815.85	77.3748
817.79	74.4644
818.51	72.5010
819.60	89.4287
826.30	95.6738
828.27	0.0000
831.60	102.8889
831.96	87.9194
834.83	98.0319
836.80	0.0000
846.75	83.4576
848.13	75.4593
856.28	0.0000
856.80	90.0225
860.37	75.8560
867.32	57.3852
867.82	67.8338
871.10	77.2169
873.19	74.2342
874.81	75.3023
875.33	0.0000
876.40	84.5164
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880.27	80.5735
880.51	70.3813
881.50	71.4313
883.24	64.3343
884.67	76.6342
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896.60	69.8248
898.02	82.1956
899.00	79.1446
903.28	81.1947
911.07	69.2055
911.07	69.2055
911.07	69.2055
919.63	69.6514
920.93	72.5920
925.00	73.7489
925.24	83.1055
926.50	87.3052
935.52	68.8427
937.48	90.8179
944.10	78.4958
946.00	67.0326
949.00	71.3065
962.29	77.6975
964.01	70.6682
966.15	70.7268
968.20	70.7813
969.11	70.8072
969.11	70.8072
969.11	70.8072
977.42	87.2377
980.50	68.4617
983.50	63.7573
989.30	89.4568
996.32	76.8794
1001.03	90.9212
1001.68	92.0119
1004.76	76.0514
1021.30	0.0000
1024.50	0.0000
1034.80	88.8066
1036.00	83.5840
1037.82	62.2634
1038.57	62.2797
1038.76	0.0000
1045.16	85.7238
1046.59	82.0396
1048.07	69.9568

1050.47	64.4156
1050.47	64.4156
1062.04	64.6803
1063.62	65.6543
1076.63	75.3795
1077.35	68.7990
1078.86	64.1224
1085.78	81.2909
1099.22	90.2155
1112.02	85.1255
1112.84	80.1416
1115.52	93.5840
1120.29	94.6908
1120.29	94.6908
1120.29	94.6908
1120.29	94.6908
1120.51	94.6978
1121.28	95.4395
1124.00	0.0000
1129.67	85.9719
1131.51	0.0000
1147.95	0.0000
1167.94	75.7937
1173.22	78.8445
1175.09	84.7364
1177.93	80.9157
1189.05	85.1187
1204.90	81.6163
1205.75	0.0000
1213.00	95.6298
1221.42	77.0995
1230.97	93.6892
1235.34	92.0804
1236.41	0.0000
1238.25	83.4668
1246.25	87.1613
1260.41	0.0000
1271.85	61.2404
1274.45	70.3296
1274.54	79.3747
1291.56	62.6120
1298.22	0.0000
1312.09	41.6578
1325.50	68.3413
1325.50	68.3413
1332.49	35.7739
1333.61	41.9195
1360.21	40.1807
1362.66	0.0000
1365.15	52.6187
1368.21	55.7610
1368.53	0.0000
1376.25	50.7141
1384.27	62.2391
1394.10	56.1696
1395.20	58.2676
1407.95	49.0753
1434.06	41.0145
1436.60	41.0430
1457.56	0.0000
1460.81	40.2517
1489.15	42.6897
1509.49	29.1032
1596.49	47.9858
1620.62	33.7898
1678.03	0.0000
1691.02	29.4543
1691.02	29.4543
1706.46	0.0000
1750.46	0.0000
1764.49	25.9619
1764.49	25.9619
1764.49	25.9619
1764.49	25.9619
1770.23	19.5520
1771.40	16.0015
1791.20	0.0000
1808.65	19.1600

1836.01

19.9778

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924006

Total Uranium Activity	2.4337E+00	ug/g
Total Uranium Counting Unc.	4.3111E+00	ug/g
Total Uranium Tpu	2.1995E-06	ug/g
Total Uranium Mda	3.8066E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942723                          SAMPLE ID   : G244924006
*  ANALYST       : MXR1                             DETECTOR    : GAM18
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 19:05:54.22          SAMPLE ALQT  : 121.495 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.608E+00
GROSS GAMMA ERROR  (pCi/GRAM )   : 1.149E+00
GROSS GAMMA MDA     (pCi/GRAM )   : 2.382E+00
GROSS GAMMA DLC     (pCi/GRAM )   : 1.154E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 21:07:38.73

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924007.CNF;1
Sample date     : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:06:27
Sample ID      : G244924007 Sample quantity : 1.32139E+02 GRAM
Detector name   : GAM20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:32.26 0.4%
Energy tolerance: 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 942723 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	63.15*	57	612	1.18	126.27	122	10	7.91E-03	84.0	
2	3	74.93*	462	465	1.14	149.80	143	16	6.42E-02	9.0	1.11E+00
3	3	77.19*	814	350	0.96	154.31	143	16	1.13E-01	5.3	
4	2	84.32*	100	364	1.26	168.56	166	12	1.39E-02	33.0	2.00E+00
5	2	87.34*	237	390	1.03	174.58	166	12	3.29E-02	14.9	
6	3	89.97*	145	258	1.03	179.83	178	14	2.02E-02	17.8	3.09E+00
7	3	92.90*	267	450	1.40	185.70	178	14	3.71E-02	16.1	
8	0	143.90*	41	352	1.13	287.54	282	9	5.75E-03	84.4	
9	0	185.88*	187	299	1.36	371.38	367	10	2.59E-02	19.7	
10	0	208.87	147	273	1.30	417.30	412	11	2.04E-02	23.2	
11	5	238.47*	1323	169	1.09	476.43	472	17	1.84E-01	3.2	1.28E+00
12	5	241.50	342	228	1.97	482.49	472	17	4.76E-02	13.2	
13	0	270.13	167	153	1.82	539.67	536	9	2.32E-02	15.4	
14	0	277.25	83	279	1.17	553.89	547	13	1.15E-02	43.0	
15	0	294.98	382	152	1.13	589.32	584	9	5.31E-02	7.7	
16	0	300.01	68	178	0.89	599.36	596	10	9.42E-03	38.5	
17	0	327.72	63	180	1.53	654.72	650	11	8.76E-03	43.0	
18	0	338.10	287	160	1.35	675.46	670	12	3.98E-02	10.6	
19	0	351.80*	670	200	1.30	702.84	697	14	9.31E-02	6.0	
20	0	463.00	88	113	1.35	925.03	919	14	1.23E-02	26.7	
21	0	510.57*	113	172	1.87	1020.09	1013	16	1.57E-02	30.6	
22	0	583.04*	358	118	1.13	1164.93	1159	13	4.97E-02	8.3	
23	0	609.03*	432	60	1.44	1216.90	1211	11	6.00E-02	6.1	
24	0	727.13	87	72	1.00	1452.98	1447	12	1.20E-02	22.4	
25	0	860.33	63	36	1.51	1719.34	1714	10	8.71E-03	22.1	
26	0	910.77*	293	49	1.62	1820.20	1813	12	4.07E-02	7.7	
27	0	969.33	136	121	1.63	1937.35	1928	18	1.88E-02	21.9	
28	0	1120.05	93	48	1.36	2238.87	2234	12	1.29E-02	18.2	
29	0	1238.22	50	56	1.19	2475.34	2469	12	6.90E-03	33.5	
30	0	1460.15*	1355	20	1.81	2919.58	2912	18	1.88E-01	2.8	
31	0	1589.00	24	32	3.09	3177.57	3167	21	3.29E-03	62.8	
32	0	1763.47*	92	3	1.50	3527.02	3520	12	1.27E-02	11.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 21:07:41

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924007.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:06:27
 Sample ID : G244924007 Sample quantity : 132.14 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA20 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:32.26 0.4%
 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	*	2.878E+01	2.998E+00	4.383E-01	3.822E-02	65.658
CD-109	+	88.03	*	2.662E+00	8.340E-01	1.080E+00	1.021E-01	2.465
SN-126	+	64.28		3.652E-01	6.158E-01	6.180E-01	8.948E-02	0.591
	+	86.94		1.088E+00	5.564E-01	4.386E-01	1.821E-01	2.480
	+	87.57	*	2.616E-01	8.196E-02	1.064E-01	1.001E-02	2.458
TL-208	+	277.35		7.327E-01	6.380E-01	5.112E-01	6.797E-02	1.433
	+	510.84		4.976E-01	3.111E-01	1.982E-01	2.478E-02	2.510
	+	583.14	*	4.480E-01	8.777E-02	5.256E-02	5.403E-03	8.523
	+	860.37		7.313E-01	3.331E-01	4.025E-01	4.266E-02	1.817
BI-211		72.87		4.272E+00	2.404E+00	4.115E+00	3.249E-01	1.038
	+	351.07	*	3.705E+00	5.696E-01	2.995E-01	2.869E-02	12.370
PB-212	+	74.81		2.028E+00	4.436E-01	4.210E-01	5.196E-02	4.816
	+	77.11		2.052E+00	2.759E-01	2.423E-01	2.004E-02	8.471
	+	87.30		1.210E+00	3.979E-01	5.761E-01	7.896E-02	2.100
	+	238.63	*	1.605E+00	1.999E-01	8.080E-02	8.593E-03	19.865
	+	300.09		1.266E+00	9.870E-01	1.058E+00	1.210E-01	1.197
PO-212	+	74.81		2.028E+00	4.436E-01	4.210E-01	5.196E-02	4.816
	+	77.11		2.052E+00	2.759E-01	2.423E-01	2.004E-02	8.471
	+	87.30		1.210E+00	3.979E-01	5.761E-01	7.896E-02	2.100
		115.19		-2.110E-01	3.024E+00	4.853E+00	4.076E-01	-0.043
	+	238.63	*	1.605E+00	1.999E-01	8.080E-02	8.593E-03	19.865
	+	300.09		1.266E+00	9.870E-01	1.058E+00	1.210E-01	1.197
BI-214	+	609.31	*	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
	+	1120.29		1.123E+00	4.255E-01	3.805E-01	4.117E-02	2.952
	+	1764.49		1.496E+00	3.668E-01	2.622E-01	2.154E-02	5.705
PB-214	+	74.81		3.494E+00	7.380E-01	7.255E-01	7.942E-02	4.816
	+	77.11		3.518E+00	5.437E-01	4.153E-01	4.670E-02	8.471
	+	87.30		2.073E+00	6.687E-01	9.870E-01	1.198E-01	2.100
	+	241.98		2.495E+00	7.160E-01	4.864E-01	5.440E-02	5.130
	+	295.21		1.253E+00	2.431E-01	1.810E-01	2.112E-02	6.923
	+	351.92	*	1.289E+00	2.092E-01	1.044E-01	1.138E-02	12.345
PO-214	+	74.81		3.494E+00	7.380E-01	7.255E-01	7.942E-02	4.816
	+	77.11		3.518E+00	5.437E-01	4.153E-01	4.670E-02	8.471
	+	87.30		2.073E+00	6.687E-01	9.870E-01	1.198E-01	2.100

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.495E+00	7.160E-01	4.864E-01	5.440E-02	5.130
	+	295.21		1.253E+00	2.431E-01	1.810E-01	2.112E-02	6.923
	+	351.92	*	1.289E+00	2.092E-01	1.044E-01	1.138E-02	12.345
	+	74.81		2.028E+00	4.436E-01	4.210E-01	5.196E-02	4.816
	+	77.11		2.052E+00	2.759E-01	2.423E-01	2.004E-02	8.471
	+	87.30		1.210E+00	3.979E-01	5.761E-01	7.896E-02	2.100
PO-218	+	238.63	*	1.605E+00	1.999E-01	8.080E-02	8.593E-03	19.865
	+	300.09		1.266E+00	9.870E-01	1.058E+00	1.210E-01	1.197
	+	74.81		3.494E+00	7.380E-01	7.255E-01	7.942E-02	4.816
	+	77.11		3.518E+00	5.437E-01	4.153E-01	4.670E-02	8.471
	+	87.30		2.073E+00	6.687E-01	9.870E-01	1.198E-01	2.100
	+	241.98		2.495E+00	7.160E-01	4.864E-01	5.440E-02	5.130
RA-224	+	295.21		1.253E+00	2.431E-01	1.810E-01	2.112E-02	6.923
	+	351.92	*	1.289E+00	2.092E-01	1.044E-01	1.138E-02	12.345
	+	240.98	*	4.732E+00	1.332E+00	9.193E-01	8.886E-02	5.147
RA-226	+	609.31	*	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
	+	1120.29		1.123E+00	4.255E-01	3.805E-01	4.117E-02	2.952
	+	1764.49		1.496E+00	3.668E-01	2.622E-01	2.154E-02	5.705
AC-228	+	338.32		1.749E+00	8.136E-01	3.296E-01	1.365E-01	5.306
	+	911.07	*	1.615E+00	3.183E-01	2.026E-01	2.481E-02	7.972
	+	969.11		1.316E+00	6.562E-01	3.697E-01	8.773E-02	3.559
RA-228	+	338.32		1.749E+00	8.136E-01	3.296E-01	1.365E-01	5.306
	+	911.07	*	1.615E+00	3.183E-01	2.026E-01	2.481E-02	7.972
	+	969.11		1.316E+00	6.562E-01	3.697E-01	8.773E-02	3.559
TH-228	+	74.81		2.059E+00	4.079E-01	4.275E-01	3.479E-02	4.816
	+	77.11		2.084E+00	2.802E-01	2.460E-01	2.034E-02	8.471
	+	87.30		1.229E+00	3.849E-01	5.850E-01	5.483E-02	2.100
TH-230	+	238.63	*	1.630E+00	2.030E-01	8.204E-02	8.725E-03	19.865
	+	300.09		1.286E+00	1.252E+00	1.075E+00	6.391E-01	1.197
	+	609.31	*	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
TH-232	+	1120.29		1.123E+00	4.255E-01	3.805E-01	4.117E-02	2.952
	+	1764.49		1.496E+00	3.668E-01	2.622E-01	2.154E-02	5.705
	+	338.32		1.749E+00	4.052E-01	3.296E-01	3.088E-02	5.306
TH-234	+	911.07	*	1.615E+00	3.183E-01	2.026E-01	2.481E-02	7.972
	+	969.11		1.316E+00	6.562E-01	3.697E-01	8.773E-02	3.559
	+	63.29	*	9.226E-01	1.558E+00	1.477E+00	2.567E-01	0.625
U-234	+	92.38		1.954E+00	7.227E-01	6.260E-01	1.148E-01	3.122
	+	609.31	*	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
	+	1120.29		1.123E+00	4.255E-01	3.805E-01	4.117E-02	2.952
U-235	+	1764.49		1.496E+00	3.668E-01	2.622E-01	2.154E-02	5.705
	+	89.95		2.167E+00	1.025E+00	1.439E+00	4.469E-01	1.506
	+	93.35		2.350E+00	1.004E+00	7.497E-01	2.112E-01	3.134
NP-237	+	105.00		4.456E-01	9.207E-01	1.502E+00	4.483E-01	0.297
	+	143.76	*	1.593E-01	2.704E-01	3.093E-01	5.390E-02	0.515
	+	163.35		2.561E-01	4.257E-01	6.786E-01	1.297E-01	0.377
NP-237	+	185.71		1.590E-01	6.427E-02	6.010E-02	5.409E-03	2.646
	+	205.31		-2.098E-01	5.013E-01	7.182E-01	1.392E-01	-0.292
	+	86.50	*	7.682E-01	2.882E-01	3.107E-01	7.030E-02	2.472
		95.87		2.147E-01	8.694E-01	1.271E+00	3.147E-01	0.169

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-238	+	63.29	*	9.226E-01	1.558E+00	1.477E+00	2.567E-01	0.625
	+	92.38		1.954E+00	6.525E-01	6.260E-01	5.722E-02	3.122
AM-243	+	74.67	*	3.287E-01	6.502E-02	6.840E-02	5.506E-03	4.806
	+	86.72		2.881E+01	9.025E+00	1.163E+01	1.082E+00	2.476
		117.66		-9.830E-01	3.229E+00	5.119E+00	4.285E-01	-0.192
		142.18		5.337E+00	1.750E+01	2.543E+01	2.147E+00	0.210
ANH-511	+	511.00	*	1.075E-01	6.661E-02	4.283E-02	3.991E-03	2.510

---- 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	*	-1.937E-01	2.991E-01	4.603E-01	4.474E-02	-0.421
NA-22		1274.54	*	7.895E-03	4.525E-02	7.415E-02	6.143E-03	0.106
NA-24		1368.53	*	2.421E-01	4.525E-02	Half-Life too short		
AL-26		1129.67		-6.348E-02	1.617E+00	2.618E+00	2.218E-01	-0.024
		1808.65	*	-1.582E-02	2.779E-02	4.044E-02	3.285E-03	-0.391
TI-44		67.85		-4.006E-02	3.951E-02	5.497E-02	4.136E-03	-0.729
	+	78.38	*	3.787E-01	5.092E-02	6.755E-02	5.669E-03	5.607
SC-46		889.25	*	1.217E-02	3.777E-02	6.412E-02	6.393E-03	0.190
	+	1120.51		1.926E-01	7.183E-02	1.121E-01	9.585E-03	1.718
V-48		944.10		-7.346E-01	8.552E-01	1.286E+00	1.255E-01	-0.571
		983.50	*	9.018E-03	6.079E-02	1.013E-01	9.683E-03	0.089
		1312.09		-3.813E-02	6.763E-02	1.001E-01	8.348E-03	-0.381
CR-51		320.08	*	4.565E-01	3.276E-01	5.809E-01	5.824E-02	0.786
MN-52		744.21		2.006E-01	2.127E-01	3.811E-01	3.871E-02	0.526
		848.13		1.515E+00	5.584E+00	9.500E+00	9.572E-01	0.160
		935.52		3.179E-01	2.597E-01	4.671E-01	4.575E-02	0.681
		1246.25		-1.565E+00	6.690E+00	1.054E+01	8.656E-01	-0.149
		1333.61		4.583E-01	4.604E+00	7.491E+00	6.276E-01	0.061
		1434.06	*	-2.123E-01	2.138E-01	3.063E-01	2.593E-02	-0.693
MN-54		834.83	*	4.336E-02	3.672E-02	6.582E-02	6.649E-03	0.659
CO-56		846.75	*	1.080E-02	3.252E-02	5.560E-02	5.603E-03	0.194
		977.42		-2.345E-01	2.744E+00	4.039E+00	3.874E-01	-0.058
		1037.82		1.080E-01	2.681E-01	4.565E-01	4.404E-02	0.237
		1175.09		-1.025E+00	2.031E+00	3.120E+00	2.510E-01	-0.329
	+	1238.25		1.685E-01	1.138E-01	1.578E-01	1.335E-02	1.068
		1360.21		4.783E-02	7.197E-01	1.220E+00	1.026E-01	0.039
		1771.40		1.201E-02	1.808E-01	3.019E-01	2.476E-02	0.040
CO-57		122.06	*	3.107E-03	2.228E-02	3.602E-02	3.006E-03	0.086
		136.48		-3.335E-02	1.863E-01	2.955E-01	2.675E-02	-0.113
CO-58		810.76	*	-9.179E-04	3.117E-02	5.165E-02	5.245E-03	-0.018
FE-59	+	142.65		2.061E+00	3.484E+00	4.130E+00	3.488E-01	0.499
		192.34		-3.480E-01	7.989E-01	1.326E+00	1.821E-01	-0.262
		1099.22	*	-4.612E-02	8.425E-02	1.305E-01	1.231E-02	-0.353
		1291.56		8.309E-02	1.109E-01	1.933E-01	1.839E-02	0.430
CO-60		1173.22		-4.869E-02	4.198E-02	5.968E-02	4.798E-03	-0.816
		1332.49	*	5.119E-02	3.397E-02	6.448E-02	5.401E-03	0.794
ZN-65		1115.52	*	-4.464E-02	9.302E-02	1.215E-01	1.046E-02	-0.367

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	1077.35	*		5.994E-01	1.084E+00	1.866E+00	1.665E-01	0.321
AS-73	53.44	*		2.742E-01	5.046E-01	8.499E-01	6.309E-02	0.323
AS-74	595.88	*		-5.138E-02	8.739E-02	1.347E-01	1.318E-02	-0.382
	634.78			2.324E-02	3.175E-01	5.385E-01	5.356E-02	0.043
SE-75	66.05			5.902E-01	3.925E+00	5.819E+00	5.505E-01	0.101
	96.73			3.916E-02	7.239E-01	1.049E+00	1.449E-01	0.037
	121.11			-6.472E-02	1.176E-01	1.837E-01	2.022E-02	-0.352
	136.00			-1.248E-02	3.489E-02	5.485E-02	4.635E-03	-0.227
	198.60			-8.657E-01	1.626E+00	2.633E+00	2.650E-01	-0.329
	264.65	*		9.940E-03	3.766E-02	6.186E-02	6.124E-03	0.161
	279.53			2.147E-02	1.076E-01	1.603E-01	1.641E-02	0.134
	303.91			1.002E+00	1.947E+00	2.959E+00	3.661E-01	0.339
	400.65			1.380E-01	2.259E-01	3.844E-01	4.218E-02	0.359
BR-77	87.88	+		6.060E+02	1.898E+02	3.096E+02	2.924E+01	1.957
	200.40			7.598E+00	1.494E+02	2.533E+02	2.330E+01	0.030
	239.00	+		2.716E+02	3.156E+01	3.824E+01	3.689E+00	7.102
	249.79			-1.073E+01	5.880E+01	9.763E+01	9.516E+00	-0.110
	281.68			-1.098E+01	9.326E+01	1.356E+02	1.349E+01	-0.081
	297.23			1.550E+02	7.672E+01	9.942E+01	9.782E+00	1.559
	303.76			9.559E+01	1.748E+02	2.664E+02	2.607E+01	0.359
	439.47			8.075E+01	1.338E+02	2.273E+02	1.997E+01	0.355
	484.57			-1.467E+02	2.169E+02	3.319E+02	3.032E+01	-0.442
	520.65	*		-7.036E+00	9.344E+00	1.403E+01	1.316E+00	-0.502
	574.64			-1.169E+01	1.897E+02	3.028E+02	2.933E+01	-0.039
	578.91			-6.202E+00	9.134E+01	1.268E+02	1.230E+01	-0.049
	585.48			7.279E+02	2.161E+02	3.751E+02	3.653E+01	1.940
	755.35			7.197E+00	1.448E+02	2.427E+02	2.467E+01	0.030
	817.79			2.769E+01	1.177E+02	1.997E+02	2.023E+01	0.139
SR-82	698.33			9.044E+00	2.964E+01	5.086E+01	5.142E+00	0.178
	776.49	*		-1.747E-01	3.353E-01	5.325E-01	5.411E-02	-0.328
	1395.20			-1.450E+00	9.228E+00	1.514E+01	1.278E+00	-0.096
RB-83	520.41	*		-8.182E-02	6.068E-02	8.528E-02	7.998E-03	-0.959
	529.64			-2.812E-02	9.738E-02	1.533E-01	1.446E-02	-0.183
	552.65			-1.071E-01	1.873E-01	2.865E-01	2.742E-02	-0.374
RB-84	881.50	*		-8.594E-03	6.662E-02	1.089E-01	1.088E-02	-0.079
KR-85	513.99	*		4.995E+00	7.368E+00	1.108E+01	1.034E+00	0.451
SR-85	513.99	*		2.566E-02	3.785E-02	5.691E-02	5.314E-03	0.451
RB-86	1076.63	*		-1.639E-01	7.032E-01	1.119E+00	9.987E-02	-0.147
Y-88	898.02			-3.140E-03	3.860E-02	6.327E-02	6.313E-03	-0.050
	1836.01	*		1.215E-02	2.895E-02	5.143E-02	4.150E-03	0.236
ZR-88	392.90	*		1.452E-02	2.546E-02	4.338E-02	3.629E-03	0.335
Y-91	1204.90	*		-1.036E+01	1.691E+01	2.563E+01	2.081E+00	-0.404
NB-94	702.63	*		1.698E-03	2.880E-02	4.851E-02	4.908E-03	0.035
	871.10			6.647E-03	2.978E-02	5.031E-02	5.042E-03	0.132
NB-95	765.79	*		8.744E-03	4.039E-02	6.810E-02	6.921E-03	0.128
NB-95M	235.69	*		1.329E-01	1.157E-01	1.824E-01	1.959E-02	0.729
ZR-95	724.18			5.212E-02	8.859E-02	1.375E-01	1.482E-02	0.379
	756.15	*		-3.567E-03	5.931E-02	9.847E-02	1.075E-02	-0.036
NB-97	657.90	*		-1.471E-01	5.931E-02	Half-Life too short		

---- Non-Identified Nuclides ----

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ZR-97	1024.50			-4.532E+00	5.931E-02	Half-Life	too short	
	254.15			8.557E-01	5.931E-02	Half-Life	too short	
	355.39			1.117E+00	5.931E-02	Half-Life	too short	
	507.63	*		2.479E+00	5.931E-02	Half-Life	too short	
	602.52			-3.376E+00	5.931E-02	Half-Life	too short	
	1021.30			1.246E+00	5.931E-02	Half-Life	too short	
	1147.95			-4.123E+00	5.931E-02	Half-Life	too short	
	1362.66			-3.042E+00	5.931E-02	Half-Life	too short	
	1750.46			-6.423E-01	5.931E-02	Half-Life	too short	
MO-99	140.51			-2.335E+01	2.818E+01	3.645E+01	1.007E+01	-0.641
	181.06			9.486E+00	1.772E+01	2.565E+01	4.729E+00	0.370
	366.43			-4.374E+01	7.472E+01	1.178E+02	1.047E+01	-0.371
	739.58	*		-8.318E+00	1.061E+01	1.636E+01	2.636E+00	-0.508
	778.00			-1.624E+01	2.974E+01	4.698E+01	4.773E+00	-0.346
TC-99M	140.51	*		-5.324E+10	2.974E+01	Half-Life	too short	
RH-101	127.23			-1.512E-02	2.869E-02	4.489E-02	3.745E-03	-0.337
	198.01	*		-2.666E-02	2.961E-02	4.709E-02	4.316E-03	-0.566
	325.23			-7.368E-02	2.144E-01	3.026E-01	2.890E-02	-0.243
RH-102	418.52			-1.079E-01	2.458E-01	3.884E-01	3.341E-02	-0.278
	475.06	*		-1.360E-02	2.533E-02	3.926E-02	3.560E-03	-0.346
	631.29			-1.136E-02	4.915E-02	7.669E-02	7.619E-03	-0.148
	697.49			3.513E-02	6.752E-02	1.175E-01	1.188E-02	0.299
	766.84			8.981E-02	1.028E-01	1.805E-01	1.834E-02	0.498
RU-103	1046.59			-4.061E-03	1.047E-01	1.704E-01	1.560E-02	-0.024
	1112.84			1.556E-01	2.227E-01	3.667E-01	3.162E-02	0.424
	497.08	*		-6.308E-03	3.645E-02	5.816E-02	8.455E-03	-0.108
	610.33	+		1.102E+01	2.336E+00	2.583E+00	4.482E-01	4.265
RH-106	511.85	+		5.371E-01	3.328E-01	4.070E-01	3.795E-02	1.319
	621.84	*		6.633E-02	2.905E-01	4.730E-01	6.724E-02	0.140
RU-106	1050.47			-2.021E-01	2.072E+00	3.352E+00	3.059E-01	-0.060
	511.85	+		5.371E-01	3.328E-01	4.070E-01	3.795E-02	1.319
	621.84	*		6.633E-02	2.904E-01	4.730E-01	4.682E-02	0.140
AG-108M	1050.47			-2.021E-01	2.072E+00	3.352E+00	3.059E-01	-0.060
	433.93	*		-8.373E-03	2.885E-02	4.604E-02	4.178E-03	-0.182
	614.37			1.536E-03	4.066E-02	5.688E-02	5.782E-03	0.027
AG-110M	722.95			-1.307E-02	3.887E-02	5.419E-02	5.653E-03	-0.241
	657.75	*		-4.270E-02	2.896E-02	4.193E-02	4.295E-03	-1.019
	677.61			1.419E-02	2.436E-01	4.114E-01	4.229E-02	0.034
	706.67			5.198E-02	1.790E-01	3.067E-01	3.167E-02	0.169
	763.93			3.986E-02	1.541E-01	2.619E-01	2.717E-02	0.152
	884.67			8.887E-04	4.846E-02	8.023E-02	8.202E-03	0.011
IN-111	937.48			-1.679E-01	1.131E-01	1.590E-01	1.600E-02	-1.056
	1384.27			1.122E-01	1.385E-01	2.541E-01	2.205E-02	0.442
	171.28			-2.362E-01	9.430E-01	1.475E+00	1.298E-01	-0.160
	245.39	*		2.734E-01	1.001E+00	1.510E+00	1.465E-01	0.181
	391.69	*		4.493E-03	3.668E-02	6.069E-02	5.235E-03	0.074
SN-113	391.69	*		4.493E-03	3.668E-02	6.069E-02	5.235E-03	0.074
IN-114M	190.27	*		-6.160E-02	1.663E-01	2.433E-01	2.204E-02	-0.253
CD-115	260.90			-4.808E+01	1.219E+02	1.997E+02	1.965E+01	-0.241

---- Non-Identified Nuclides ----

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	492.35			5.718E+00	3.352E+01	5.503E+01	5.058E+00	0.104
	527.90	*		5.577E+00	1.022E+01	1.720E+01	1.621E+00	0.324
SN-117M	156.02			2.135E-01	1.960E+00	3.136E+00	2.696E-01	0.068
	158.56	*		-7.429E-02	4.926E-02	7.153E-02	6.174E-03	-1.039
SB-122	563.90	*		1.724E-01	1.888E+00	3.057E+00	2.944E-01	0.056
	692.80			-2.269E+01	4.249E+01	6.836E+01	6.906E+00	-0.332
I-123	159.00	*		-8.989E+00	4.249E+01	Half-Life	too short	
	528.96			9.468E+01	4.249E+01	Half-Life	too short	
TE-123M	159.00	*		-3.542E-02	2.521E-02	3.686E-02	3.203E-03	-0.961
I-124	602.71	*		-1.200E-01	7.831E-01	1.076E+00	1.056E-01	-0.112
	722.78			-1.686E+00	4.161E+00	5.746E+00	5.828E-01	-0.293
	1325.50			-1.407E+01	3.154E+01	4.755E+01	3.978E+00	-0.296
	1376.25			4.637E+01	2.901E+01	5.606E+01	4.722E+00	0.827
	1509.49			9.947E+00	1.417E+01	2.573E+01	2.181E+00	0.387
	1691.02			-1.102E+00	2.819E+00	4.236E+00	3.532E-01	-0.260
SB-124	602.71			-6.786E-03	4.427E-02	6.080E-02	5.971E-03	-0.112
	645.85			2.107E-01	4.348E-01	7.590E-01	7.920E-02	0.278
	709.31			6.909E-01	2.380E+00	4.079E+00	4.131E-01	0.169
	713.82			-6.308E-01	1.388E+00	2.231E+00	2.936E-01	-0.283
	722.78			-1.382E-01	3.410E-01	4.709E-01	4.851E-02	-0.293
+	968.20			1.357E+01	6.096E+00	6.623E+00	6.385E-01	2.049
	1045.16			7.884E-01	2.187E+00	3.703E+00	3.394E-01	0.213
	1325.50			-1.232E+00	2.760E+00	4.162E+00	3.482E-01	-0.296
	1368.21			1.013E+00	1.272E+00	2.362E+00	3.152E-01	0.429
	1436.60			-9.565E-01	3.314E+00	5.325E+00	4.507E-01	-0.180
	1691.02	*		-2.131E-02	5.449E-02	8.188E-02	7.116E-03	-0.260
SB-125	427.89	*		1.258E-02	8.331E-02	1.374E-01	1.217E-02	0.092
+	463.38			7.599E-01	4.117E-01	4.975E-01	4.789E-02	1.528
	600.56			5.118E-02	1.755E-01	2.871E-01	2.977E-02	0.178
	635.90			1.333E-01	2.389E-01	4.190E-01	4.425E-02	0.318
TE-125M	109.28	*		-4.034E-01	7.922E+00	1.275E+01	1.304E+00	-0.032
I-126	388.63			-8.399E-02	1.707E-01	2.700E-01	2.274E-02	-0.311
	666.33	*		3.019E-02	1.574E-01	2.685E-01	2.698E-02	0.112
	753.82			3.302E-01	1.234E+00	2.108E+00	2.142E-01	0.157
SB-126	223.80			2.783E-01	3.549E+00	5.918E+00	5.614E-01	0.047
+	278.60			4.893E+00	4.239E+00	4.126E+00	4.107E-01	1.186
	296.50			1.042E+01	2.324E+00	3.284E+00	3.233E-01	3.173
	414.70			2.246E-02	6.671E-02	1.116E-01	9.561E-03	0.201
	415.30			6.227E+00	5.425E+00	9.535E+00	8.175E-01	0.653
	555.20			3.398E+00	3.648E+00	6.290E+00	6.028E-01	0.540
	573.80			8.184E-02	8.747E-01	1.416E+00	1.371E-01	0.058
	593.00			6.316E-03	8.141E-01	1.305E+00	1.275E-01	0.005
	656.30			-7.347E-01	2.659E+00	4.368E+00	4.377E-01	-0.168
	666.33			1.262E-02	6.580E-02	1.123E-01	1.128E-02	0.112
	675.00			-2.125E-01	1.665E+00	2.767E+00	2.786E-01	-0.077
	695.00			2.417E-03	7.025E-02	1.182E-01	1.194E-02	0.020
	697.00			1.102E-01	2.405E-01	4.168E-01	4.214E-02	0.264
	720.50	*		7.704E-02	1.288E-01	2.089E-01	2.118E-02	0.369
	856.80			7.270E-02	4.291E-01	6.317E-01	6.353E-02	0.115

---- Non-Identified Nuclides ----

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SB-127		989.30		7.842E-01	1.023E+00	1.813E+00	1.726E-01	0.433
		1034.80		-5.453E+00	7.866E+00	1.171E+01	1.082E+00	-0.466
		1213.00		-2.149E+00	4.536E+00	7.008E+00	5.705E-01	-0.307
		61.10		7.702E-01	4.431E+01	6.456E+01	6.535E+00	0.012
		252.40		8.785E-01	3.824E+00	6.454E+00	2.730E+00	0.136
		290.80		-1.732E+01	2.238E+01	3.070E+01	3.750E+00	-0.564
		411.60		-8.806E+00	1.128E+01	1.731E+01	2.722E+00	-0.509
		444.90		-3.228E+00	8.464E+00	1.335E+01	1.699E+00	-0.242
		473.00		3.789E-01	1.498E+00	2.478E+00	3.272E-01	0.153
		543.00		2.899E+00	1.514E+01	2.477E+01	3.712E+00	0.117
		603.60		4.765E+00	1.262E+01	1.834E+01	2.460E+00	0.260
		685.20	*	6.769E-01	1.235E+00	2.157E+00	2.713E-01	0.314
		698.50		3.366E+00	1.351E+01	2.307E+01	3.856E+00	0.146
		722.20		-9.832E+00	2.880E+01	4.012E+01	4.984E+00	-0.245
XE-127		783.80		2.345E-01	3.286E+00	5.505E+00	7.473E-01	0.043
		57.60		1.111E+00	3.902E+00	6.495E+00	4.641E-01	0.171
	+	145.22		5.284E-01	8.932E-01	1.087E+00	9.210E-02	0.486
		172.10		-7.962E-02	1.078E-01	1.638E-01	1.444E-02	-0.486
I-131		202.84	*	-1.964E-02	4.471E-02	6.867E-02	6.338E-03	-0.286
		374.96		-4.660E-02	1.720E-01	2.776E-01	2.420E-02	-0.168
		80.18		1.172E+00	4.230E+00	5.701E+00	4.920E-01	0.206
		284.30		-7.626E-01	1.362E+00	2.198E+00	2.269E-01	-0.347
TE-132		364.48	*	6.277E-02	9.590E-02	1.647E-01	1.545E-02	0.381
		636.97		1.088E+00	1.389E+00	2.470E+00	2.563E-01	0.441
		722.89		-2.392E+00	6.636E+00	9.222E+00	9.397E-01	-0.259
		49.72		-3.479E+00	1.153E+01	1.881E+01	1.938E+00	-0.185
BA-133		111.76		-2.364E+00	2.657E+01	4.205E+01	4.528E+00	-0.056
		116.30		9.371E+00	2.431E+01	3.978E+01	4.264E+00	0.236
		228.16	*	-2.209E-01	6.133E-01	1.013E+00	1.648E-01	-0.218
		53.15		5.797E-01	2.179E+00	3.632E+00	2.706E-01	0.160
I-133		79.62		-1.815E-01	1.086E+00	1.568E+00	2.378E-01	-0.116
		81.00		8.067E-02	1.011E-01	1.225E-01	1.948E-02	0.658
	+	276.40		7.241E-01	6.329E-01	6.389E-01	9.758E-02	1.133
		302.84		8.671E-02	1.356E-01	2.075E-01	2.921E-02	0.418
CS-134		356.01	*	6.421E-04	4.171E-02	6.043E-02	8.164E-03	0.011
		383.85		6.752E-02	2.381E-01	3.990E-01	5.004E-02	0.169
	+	510.53		1.262E+00	2.381E-01	Half-Life too short		
		529.87	*	-2.409E-03	2.381E-01	Half-Life too short		
		706.58		1.248E-01	2.381E-01	Half-Life too short		
		856.28		1.655E-01	2.381E-01	Half-Life too short		
		875.33		-4.883E-02	2.381E-01	Half-Life too short		
		1236.41		1.020E+00	2.381E-01	Half-Life too short		
		1298.22		-7.784E-02	2.381E-01	Half-Life too short		
		475.35		-1.542E+00	1.701E+00	2.550E+00	2.313E-01	-0.605
		563.23		5.233E-02	3.070E-01	5.005E-01	4.856E-02	0.105
		569.32		-1.472E-03	1.763E-01	2.737E-01	2.672E-02	-0.005
		604.70		-7.664E-03	3.533E-02	4.802E-02	4.728E-03	-0.160
		795.84	*	8.872E-02	4.268E-02	8.060E-02	8.224E-03	1.101
		801.93		-5.326E-01	3.614E-01	5.245E-01	5.343E-02	-1.015

---- 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	1038.57			9.050E-01	3.436E+00	5.767E+00	5.313E-01	0.157
	1167.94			1.220E+00	2.396E+00	4.065E+00	3.290E-01	0.300
	1365.15			-5.565E-01	9.072E-01	1.378E+00	1.214E-01	-0.404
	268.24	*		2.275E-01	1.547E-01	2.475E-01	2.743E-02	0.919
	288.45			4.558E+10	1.547E-01	Half-Life	too short	
	417.63			-1.940E+10	1.547E-01	Half-Life	too short	
	546.56			-1.088E+10	1.547E-01	Half-Life	too short	
	836.80			2.252E+10	1.547E-01	Half-Life	too short	
	1038.76			6.076E+09	1.547E-01	Half-Life	too short	
	1124.00			3.857E+09	1.547E-01	Half-Life	too short	
CS-136	1131.51			4.927E+09	1.547E-01	Half-Life	too short	
	1260.41	*		-5.531E+08	1.547E-01	Half-Life	too short	
	1457.56			1.268E+12	1.547E-01	Half-Life	too short	
	1678.03			-1.024E+10	1.547E-01	Half-Life	too short	
	1706.46			9.876E+09	1.547E-01	Half-Life	too short	
	1791.20			2.048E+09	1.547E-01	Half-Life	too short	
	66.91			-1.501E-01	6.558E-01	9.545E-01	1.415E-01	-0.157
	86.29			3.446E+00	1.129E+00	1.736E+00	2.305E-01	1.986
	153.22			2.233E-01	5.875E-01	9.518E-01	9.122E-02	0.235
	163.89			-1.771E-01	9.826E-01	1.516E+00	1.475E-01	-0.117
BA-137M CS-137 CE-139 BA-140	176.55			2.918E-01	3.254E-01	5.370E-01	5.025E-02	0.543
	273.65			2.818E-02	5.794E-01	6.218E-01	6.480E-02	0.045
	340.57			1.380E-01	1.301E-01	2.028E-01	1.941E-02	0.681
	818.51			3.064E-02	6.392E-02	1.107E-01	1.122E-02	0.277
	1048.07	*		-2.488E-03	1.015E-01	1.635E-01	1.551E-02	-0.015
	1235.34			4.294E-01	6.606E-01	9.880E-01	1.140E-01	0.435
	661.65	*		4.953E-03	3.063E-02	5.217E-02	5.236E-03	0.095
	661.65	*		5.236E-03	3.238E-02	5.515E-02	5.543E-03	0.095
	165.85	*		-3.070E-02	2.679E-02	3.979E-02	3.474E-03	-0.772
	162.64			8.492E-01	6.857E-01	1.127E+00	1.035E-01	0.754
LA-140	304.84			1.325E-01	1.210E+00	1.782E+00	5.061E-01	0.074
	423.70			1.530E-01	1.661E+00	2.730E+00	8.853E-01	0.056
	537.32	*		-1.659E-02	2.265E-01	3.625E-01	1.210E-01	-0.046
	328.77			4.800E-01	4.151E-01	4.893E-01	4.866E-02	0.981
	432.53			-1.036E+00	1.856E+00	2.898E+00	2.649E-01	-0.358
	487.03			-2.730E-02	1.166E-01	1.853E-01	1.789E-02	-0.147
	751.79			2.742E-01	1.463E+00	2.483E+00	2.719E-01	0.110
	815.85			-1.008E-01	2.711E-01	4.337E-01	4.765E-02	-0.233
	867.82			9.388E-03	1.240E+00	2.054E+00	2.141E-01	0.005
	919.63			-1.026E+00	2.572E+00	4.074E+00	4.756E-01	-0.252
CE-141 CE-143	925.24			-4.938E-01	1.006E+00	1.573E+00	1.623E-01	-0.314
	1596.49	*		-3.166E-02	7.602E-02	9.642E-02	8.140E-03	-0.328
	145.44	*		6.607E-02	6.462E-02	9.688E-02	8.365E-03	0.682
	57.37			2.190E-04	6.462E-02	Half-Life	too short	
	231.56			-1.492E-03	6.462E-02	Half-Life	too short	
	293.26	*		6.778E-04	6.462E-02	Half-Life	too short	
	350.59			3.215E-02	6.462E-02	Half-Life	too short	
	490.36			8.282E-04	6.462E-02	Half-Life	too short	
	664.57			3.145E-04	6.462E-02	Half-Life	too short	
						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
	721.93			-4.542E-04	6.462E-02	Half-Life too short		
CE-144	80.11			4.240E-01	1.914E+00	2.572E+00	2.203E-01	0.165
	133.54	*		-3.727E-02	1.788E-01	2.833E-01	4.371E-02	-0.132
PM-144	476.78			-9.123E-02	6.382E-02	9.099E-02	8.961E-03	-1.003
	618.01			-8.334E-03	3.031E-02	4.726E-02	4.769E-03	-0.176
	696.49	*		1.170E-02	3.078E-02	5.305E-02	5.363E-03	0.221
	778.57			1.023E-01	1.877E+00	3.143E+00	3.195E-01	0.033
PR-144	696.49	*		7.932E-01	2.086E+00	3.595E+00	3.634E-01	0.221
	1489.15			-2.504E+00	1.040E+01	1.673E+01	1.418E+00	-0.150
PM-146	453.90	*		-5.479E-04	3.797E-02	6.171E-02	6.759E-03	-0.009
	633.02			2.312E-01	1.254E+00	2.029E+00	7.647E-01	0.114
	735.90			6.496E-02	1.228E-01	2.124E-01	6.181E-02	0.306
	747.13			-5.730E-02	8.214E-02	1.283E-01	1.929E-02	-0.446
ND-147	91.11	+		5.503E-01	2.039E-01	4.455E-01	4.407E-02	1.235
	319.41			3.533E+00	2.951E+00	5.193E+00	4.996E-01	0.680
	439.89			2.565E+00	5.159E+00	8.708E+00	7.654E-01	0.295
	531.02	*		-2.655E-01	5.185E-01	7.975E-01	1.231E-01	-0.333
PM-149	285.90	*		1.317E+01	8.843E+01	1.485E+02	2.420E+01	0.089
EU-152	121.78			-1.084E-02	6.401E-02	1.020E-01	9.883E-03	-0.106
	244.69			1.839E-01	2.977E-01	4.590E-01	4.452E-02	0.401
	344.27	*		-5.270E-02	9.660E-02	1.416E-01	1.382E-02	-0.372
	443.98			-1.609E-02	7.983E-01	1.299E+00	1.146E-01	-0.012
	778.89			5.445E-02	2.171E-01	3.698E-01	3.757E-02	0.147
	867.32			2.731E-01	7.218E-01	1.208E+00	1.212E-01	0.226
	964.01			2.016E-01	3.270E-01	4.962E-01	4.794E-02	0.406
	1085.78			-2.756E-01	3.753E-01	5.646E-01	4.999E-02	-0.488
	1112.02			4.015E-01	2.915E-01	5.313E-01	4.585E-02	0.756
	1407.95			2.029E-01	1.735E-01	3.258E-01	2.752E-02	0.623
GD-153	69.67			-7.718E-01	1.390E+00	1.979E+00	1.514E-01	-0.390
	83.37	+		1.989E+01	1.325E+01	2.054E+01	1.831E+00	0.968
	97.43	*		-5.898E-03	7.746E-02	1.106E-01	9.813E-03	-0.053
	103.18			-1.207E-01	9.304E-02	1.411E-01	1.220E-02	-0.856
EU-154	123.07			1.406E-02	4.583E-02	7.459E-02	8.318E-03	0.189
	247.94			-3.089E-02	3.097E-01	4.996E-01	6.161E-02	-0.062
	591.81			5.833E-03	5.385E-01	8.458E-01	1.061E-01	0.007
	723.30			2.440E-02	1.566E-01	2.325E-01	2.540E-02	0.105
	756.87			-1.129E-01	6.269E-01	1.029E+00	1.351E-01	-0.110
	873.19			6.228E-02	2.510E-01	4.252E-01	5.640E-02	0.146
	996.32			-1.099E-01	3.390E-01	5.373E-01	9.779E-02	-0.205
	1004.76			-5.852E-02	1.879E-01	2.980E-01	3.652E-02	-0.196
	1274.45	*		2.205E-02	1.264E-01	2.071E-01	2.288E-02	0.106
EU-155	48.70			-3.732E-01	1.363E+00	2.228E+00	1.783E-01	-0.167
	60.01			-3.291E+00	3.697E+00	5.119E+00	3.632E-01	-0.643
	86.54	+		3.151E-01	9.879E-02	1.591E-01	1.490E-02	1.980
	105.31	*		6.028E-02	9.287E-02	1.539E-01	1.338E-02	0.392
TB-160	86.79	+		8.431E-01	2.641E-01	4.280E-01	3.985E-02	1.970
	197.04			-3.266E-01	4.852E-01	7.970E-01	7.295E-02	-0.410
	215.65			2.869E-01	6.481E-01	1.114E+00	1.046E-01	0.258
	298.57	+		1.846E-01	1.435E-01	1.754E-01	1.724E-02	1.052

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		879.36	*	9.661E-02	1.226E-01	2.169E-01	2.168E-02	0.445
		962.29		6.560E-01	5.678E-01	9.099E-01	8.799E-02	0.721
		966.15		6.783E-01	2.827E-01	4.730E-01	4.564E-02	1.434
		1177.93		2.933E-01	3.260E-01	5.725E-01	4.610E-02	0.512
		1271.85		2.818E-01	7.250E-01	1.213E+00	1.003E-01	0.232
		80.57		1.363E-01	2.820E-01	3.361E-01	2.895E-02	0.406
	+	184.41		1.193E-01	4.820E-02	5.896E-02	5.296E-03	2.023
		280.46		-7.590E-03	8.318E-02	1.212E-01	1.206E-02	-0.063
		410.95		-8.126E-02	2.155E-01	3.433E-01	2.930E-02	-0.237
		711.68	*	-2.860E-02	5.197E-02	8.293E-02	8.401E-03	-0.345
TM-171		752.31		5.514E-02	2.330E-01	3.969E-01	4.033E-02	0.139
		810.29		-1.509E-02	4.778E-02	7.690E-02	7.795E-03	-0.196
		51.35		-2.434E+00	1.790E+01	2.939E+01	2.245E+00	-0.083
		52.39		1.496E+00	9.397E+00	1.561E+01	1.175E+00	0.096
		59.40		-4.396E+00	1.946E+01	2.799E+01	1.980E+00	-0.157
LU-176	+	66.72	*	5.148E+00	2.307E+01	3.431E+01	2.556E+00	0.150
		88.36		6.205E-01	1.944E-01	3.198E-01	3.015E-02	1.941
		201.83		7.587E-03	2.460E-02	4.214E-02	3.884E-03	0.180
		306.84	*	-7.414E-03	2.116E-02	3.314E-02	3.233E-03	-0.224
LU-177		401.10		2.745E+00	5.858E+00	9.893E+00	8.352E-01	0.277
		112.95		-6.447E-01	1.426E+00	2.216E+00	1.868E-01	-0.291
	+	208.36	*	3.230E+00	1.530E+00	1.826E+00	1.698E-01	1.769
LU-177M		52.97		1.750E-01	9.806E-01	1.629E+00	1.217E-01	0.107
		54.07		1.045E-01	5.267E-01	8.753E-01	6.451E-02	0.119
		61.30		1.103E+00	1.067E+00	1.647E+00	1.178E-01	0.670
		121.62		-1.195E-01	3.272E-01	5.165E-01	4.307E-02	-0.231
		147.16		3.162E-01	6.437E-01	9.402E-01	7.984E-02	0.336
		171.86		-2.694E-01	4.352E-01	6.664E-01	5.870E-02	-0.404
		218.09		-3.250E-01	7.260E-01	1.198E+00	1.129E-01	-0.271
	+	268.79		3.103E+00	1.001E+00	1.370E+00	1.355E-01	2.266
		319.02		1.690E-01	2.323E-01	4.000E-01	3.850E-02	0.423
		367.43		-2.143E-01	7.566E-01	1.220E+00	1.082E-01	-0.176
HF-181		413.65	*	-3.852E-02	1.567E-01	2.519E-01	2.156E-02	-0.153
		56.28		1.499E-01	5.889E-01	9.800E-01	7.070E-02	0.153
		57.53		9.428E-02	3.280E-01	5.460E-01	3.903E-02	0.173
		65.20		-3.748E-01	8.025E-01	1.156E+00	8.509E-02	-0.324
		133.02		-1.585E-02	5.811E-02	9.185E-02	7.686E-03	-0.173
		136.25		-9.672E-02	4.081E-01	6.455E-01	5.416E-02	-0.150
		345.85		-4.225E-02	2.004E-01	2.854E-01	2.640E-02	-0.148
		482.03	*	1.938E-02	3.991E-02	6.695E-02	6.105E-03	0.289
W-181		56.28		5.901E-02	2.301E-01	3.829E-01	2.763E-02	0.154
		57.53		3.687E-02	1.283E-01	2.135E-01	1.526E-02	0.173
TA-182		65.20	*	-1.454E-01	3.113E-01	4.486E-01	3.301E-02	-0.324
		67.75		-6.873E-02	9.288E-02	1.317E-01	9.902E-03	-0.522
		100.10		3.469E-02	1.589E-01	2.563E-01	2.244E-02	0.135
		152.43		1.397E-01	3.005E-01	4.887E-01	4.180E-02	0.286
		222.10		-1.782E-01	2.933E-01	4.794E-01	4.538E-02	-0.372
		1001.68		1.485E+00	1.839E+00	3.250E+00	3.072E-01	0.457
	+	1121.28		5.316E-01	1.983E-01	3.117E-01	2.664E-02	1.706

---- 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			-4.161E-02	2.970E-01	4.749E-01	3.837E-02	-0.088
	1221.42	*		-1.221E-01	1.908E-01	2.899E-01	2.365E-02	-0.421
	1230.97			7.107E-02	5.028E-01	7.467E-01	6.110E-02	0.095
	57.98			1.475E-02	1.346E-01	2.122E-01	1.513E-02	0.070
	59.32			-1.391E-02	8.025E-02	1.158E-01	8.195E-03	-0.120
	67.20			-3.099E-02	1.671E-01	2.438E-01	1.824E-02	-0.127
	162.32	*		1.054E-01	9.975E-02	1.629E-01	1.414E-02	0.647
	208.81	+		2.855E+00	1.353E+00	1.604E+00	1.492E-01	1.781
	291.72			-6.726E-01	9.188E-01	1.265E+00	1.250E-01	-0.532
	57.98			5.431E-02	4.953E-01	7.812E-01	5.569E-02	0.070
RE-184	59.32			-5.117E-02	2.952E-01	4.258E-01	3.014E-02	-0.120
	67.20			-1.140E-01	6.150E-01	8.971E-01	6.712E-02	-0.127
	161.27			2.243E-01	3.088E-01	5.074E-01	4.397E-02	0.442
	216.55			-5.308E-02	2.303E-01	3.845E-01	3.615E-02	-0.138
	252.85	*		6.104E-03	1.996E-01	3.351E-01	3.275E-02	0.018
	318.01			-2.233E-01	3.963E-01	6.339E-01	6.109E-02	-0.352
	792.07			-2.129E-01	9.034E-01	1.474E+00	1.497E-01	-0.144
	903.28			3.074E-01	1.056E+00	1.634E+00	1.621E-01	0.188
	920.93			8.060E-02	3.965E-01	6.664E-01	6.569E-02	0.121
	59.72			-9.354E-02	2.137E-01	3.035E-01	2.150E-02	-0.308
OS-185	61.14			6.825E-03	1.224E-01	1.786E-01	1.277E-02	0.038
	69.30			-1.748E-01	2.480E-01	3.503E-01	2.671E-02	-0.499
	592.07			5.355E-01	2.174E+00	3.488E+00	3.408E-01	0.154
	646.12	*		1.014E-02	3.698E-02	6.361E-02	6.352E-03	0.159
	717.42			-3.877E-02	7.737E-01	1.290E+00	1.308E-01	-0.030
	874.81			-1.949E-01	5.294E-01	8.077E-01	8.086E-02	-0.241
	880.27			1.361E-01	7.112E-01	1.196E+00	1.196E-01	0.114
	155.03	*		1.928E-01	1.517E-01	2.545E-01	2.185E-02	0.757
	477.96			-3.835E-01	2.839E+00	4.559E+00	4.143E-01	-0.084
	633.10			-3.516E-01	2.607E+00	4.107E+00	4.083E-01	-0.086
RE-188	63.58	+		3.715E+01	6.247E+01	6.780E+01	4.928E+00	0.548
	227.08			4.910E-01	1.086E+01	1.833E+01	1.745E+00	0.027
W-188	290.67	*		-6.009E+00	7.498E+00	1.028E+01	1.016E+00	-0.585
	295.96	+		9.570E-01	1.760E-01	2.645E-01	2.619E-02	3.618
	308.46			-1.307E-02	7.827E-02	1.286E-01	1.257E-02	-0.102
	316.51	*		-2.166E-02	2.968E-02	4.688E-02	4.534E-03	-0.462
	468.07			-5.203E-02	6.686E-02	8.645E-02	8.306E-03	-0.602
IR-192	604.41			-9.014E-02	4.795E-01	6.550E-01	9.069E-02	-0.138
	612.46			-1.114E-01	7.400E-01	1.013E+00	1.114E-01	-0.110
	65.12			-5.378E-02	1.445E-01	2.091E-01	1.538E-02	-0.257
	66.83			-1.880E-02	7.803E-02	1.135E-01	8.468E-03	-0.166
	75.70	+		1.064E+00	2.106E-01	3.811E-01	3.102E-02	2.793
AU-195	98.88	*		1.038E-01	2.085E-01	3.254E-01	2.865E-02	0.319
	129.76			3.627E+00	2.563E+00	4.330E+00	3.616E-01	0.838
	367.94	*		-1.197E-04	2.563E+00	Half-Life	too short	
	579.30			1.920E-04	2.563E+00	Half-Life	too short	
	828.27			2.334E-03	2.563E+00	Half-Life	too short	
TL-200	1205.75			2.246E-04	2.563E+00	Half-Life	too short	
	68.90			-4.017E+00	4.217E+00	5.882E+00	4.468E-01	-0.683

---- 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		2.034E+00	2.311E+00	3.510E+00	2.715E-01	0.579
		80.30		2.095E+00	5.410E+00	6.406E+00	5.500E-01	0.327
		135.34		-6.930E+00	2.340E+01	3.691E+01	3.094E+00	-0.188
		167.43	*	3.430E+00	6.333E+00	1.031E+01	9.022E-01	0.333
		68.90		-3.504E-01	3.678E-01	5.130E-01	3.897E-02	-0.683
		70.82		1.769E-01	2.010E-01	3.053E-01	2.362E-02	0.579
HG-203		80.30		1.823E-01	4.708E-01	5.574E-01	4.786E-02	0.327
		439.56	*	3.431E-02	6.187E-02	1.048E-01	9.205E-03	0.327
		70.83		7.688E-01	8.688E-01	1.314E+00	1.717E-01	0.585
		72.87		8.520E-01	4.869E-01	8.206E-01	1.046E-01	1.038
BI-207		82.60		9.744E-01	9.801E-01	1.474E+00	2.045E-01	0.661
		279.20	*	1.839E-02	4.083E-02	6.182E-02	6.287E-03	0.297
		72.80		1.551E-01	1.555E-01	2.362E-01	1.864E-02	0.657
	+	74.97		5.901E-01	1.167E-01	1.816E-01	1.467E-02	3.249
	+	84.90		2.572E-01	1.713E-01	2.710E-01	2.463E-02	0.949
		569.67		3.764E-03	2.704E-02	4.249E-02	4.105E-03	0.089
TL-207		1063.62	*	3.527E-02	4.541E-02	7.981E-02	7.206E-03	0.442
		1770.23		-4.507E-01	4.655E-01	6.326E-01	5.190E-02	-0.712
		81.07		1.760E-01	2.217E-01	2.701E-01	2.341E-02	0.652
	+	83.78		1.696E-01	1.130E-01	1.755E-01	1.573E-02	0.966
		94.90		2.622E-01	2.194E-01	3.343E-01	3.006E-02	0.784
		122.32		2.835E-01	1.549E+00	2.509E+00	2.255E-01	0.113
PO-209	+	144.24		5.164E-01	8.732E-01	1.075E+00	1.021E-01	0.481
		154.21		2.518E-01	3.509E-01	5.764E-01	5.440E-02	0.437
	+	269.46		7.259E-01	2.346E-01	3.381E-01	3.399E-02	2.147
		323.87	*	-5.528E-01	6.664E-01	8.905E-01	1.619E-01	-0.621
	+	338.28		7.302E+00	1.810E+00	2.312E+00	2.970E-01	3.158
		445.03		-5.007E-01	1.925E+00	3.070E+00	3.757E-01	-0.163
BI-210		260.50		-2.906E+00	8.487E+00	1.395E+01	1.372E+00	-0.208
		262.80		4.075E+00	2.275E+01	3.841E+01	3.784E+00	0.106
		896.60	*	-5.836E+00	6.816E+00	1.028E+01	1.023E+00	-0.568
		46.50	*	8.012E-01	1.918E+00	3.212E+00	2.979E-01	0.249
PB-210		46.50	*	8.012E-01	1.918E+00	3.212E+00	2.979E-01	0.249
PO-210		46.50	*	8.012E-01	1.917E+00	3.212E+00	2.695E-01	0.249
PB-211		404.84	*	-2.627E-01	8.473E-01	1.332E+00	8.343E-01	-0.197
BI-212		427.08		-3.115E-01	1.853E+00	2.973E+00	1.848E+00	-0.105
		831.96		-7.025E-01	1.280E+00	1.900E+00	1.195E+00	-0.370
	+	727.18	*	9.259E-01	4.271E-01	6.009E-01	6.819E-02	1.541
		785.46		1.512E+00	1.594E+00	2.841E+00	2.886E-01	0.532
		1620.62		4.461E-01	1.023E+00	1.801E+00	1.517E-01	0.248
		81.07		1.760E-01	2.217E-01	2.701E-01	2.341E-02	0.652
PO-215	+	83.78		1.696E-01	1.130E-01	1.755E-01	1.573E-02	0.966
		94.90		2.622E-01	2.194E-01	3.343E-01	3.006E-02	0.784
		122.32		2.835E-01	1.549E+00	2.509E+00	2.255E-01	0.113
	+	144.24		5.164E-01	8.732E-01	1.075E+00	1.021E-01	0.481
		154.21		2.518E-01	3.509E-01	5.764E-01	5.440E-02	0.437
	+	269.46		7.259E-01	2.346E-01	3.381E-01	3.399E-02	2.147
		323.87	*	-5.528E-01	6.664E-01	8.905E-01	1.619E-01	-0.621
	+	338.28		7.302E+00	1.810E+00	2.312E+00	2.970E-01	3.158

----- 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		-5.007E-01	1.925E+00	3.070E+00	3.757E-01	-0.163
		271.23		9.313E-01	3.051E-01	4.315E-01	4.924E-02	2.159
		401.81	*	-2.309E-01	3.738E-01	5.841E-01	8.719E-02	-0.395
RN-220		549.76	*	1.892E+00	2.320E+01	3.758E+01	3.591E+00	0.050
RA-223	+	81.07		1.760E-01	2.217E-01	2.701E-01	2.341E-02	0.652
		83.78		1.696E-01	1.130E-01	1.755E-01	1.573E-02	0.966
		94.90		2.622E-01	2.194E-01	3.343E-01	3.006E-02	0.784
	+	122.32		2.835E-01	1.549E+00	2.509E+00	2.255E-01	0.113
		144.24		5.164E-01	8.732E-01	1.075E+00	1.021E-01	0.481
		154.21		2.518E-01	3.509E-01	5.764E-01	5.440E-02	0.437
	+	269.46		7.259E-01	2.346E-01	3.381E-01	3.399E-02	2.147
		323.87	*	-5.528E-01	6.664E-01	8.905E-01	1.619E-01	-0.621
		338.28		7.302E+00	1.810E+00	2.312E+00	2.970E-01	3.158
AC-227		445.03		-5.007E-01	1.925E+00	3.070E+00	3.757E-01	-0.163
		79.80		4.661E-02	1.472E+00	1.955E+00	4.197E-01	0.024
		236.00		7.047E-01	2.515E-01	4.035E-01	5.232E-02	1.746
	+	256.20	*	-2.454E-02	3.314E-01	5.529E-01	8.868E-02	-0.044
		286.10		5.747E-01	1.392E+00	2.365E+00	3.331E-01	0.243
		299.80		2.347E+00	1.859E+00	2.242E+00	4.061E-01	1.047
TH-227	+	304.40		9.213E-01	1.720E+00	2.612E+00	4.965E-01	0.353
		334.20		4.520E-01	2.327E+00	3.207E+00	6.344E-01	0.141
		79.80		4.661E-02	1.472E+00	1.955E+00	4.251E-01	0.024
	+	94.00		7.552E+00	2.939E+00	3.354E+00	7.363E-01	2.251
		236.00		7.047E-01	2.488E-01	4.035E-01	4.790E-02	1.746
		256.20	*	-2.454E-02	3.314E-01	5.529E-01	1.031E-01	-0.044
	+	286.10		5.747E-01	1.505E+00	2.365E+00	2.377E+00	0.243
		299.80		2.347E+00	1.859E+00	2.242E+00	4.061E-01	1.047
		304.40		9.213E-01	1.720E+00	2.612E+00	4.965E-01	0.353
TH-229	+	334.20		4.520E-01	2.327E+00	3.207E+00	6.344E-01	0.141
		85.43		2.538E-01	1.691E-01	2.744E-01	2.511E-02	0.925
		88.47		3.572E-01	1.119E-01	1.837E-01	1.731E-02	1.944
	+	100.00		3.594E-02	1.647E-01	2.657E-01	2.328E-02	0.135
		193.63	*	2.361E-01	4.331E-01	7.497E-01	6.828E-02	0.315
		210.97		7.258E-01	7.453E-01	1.168E+00	1.090E-01	0.621
PA-231		283.67	*	-5.192E-01	1.429E+00	2.250E+00	3.593E-01	-0.231
TH-231	+	301.29		9.388E-01	7.341E-01	9.067E-01	1.188E-01	1.035
		81.07		1.760E-01	2.217E-01	2.701E-01	2.341E-02	0.652
		83.78		1.696E-01	1.130E-01	1.755E-01	1.573E-02	0.966
	+	94.90		2.622E-01	2.194E-01	3.343E-01	3.006E-02	0.784
		122.32		2.835E-01	1.549E+00	2.509E+00	2.255E-01	0.113
		144.24		5.164E-01	8.732E-01	1.075E+00	1.021E-01	0.481
	+	154.21		2.518E-01	3.509E-01	5.764E-01	5.440E-02	0.437
		269.46		7.259E-01	2.346E-01	3.381E-01	3.399E-02	2.147
		323.87	*	-5.528E-01	6.664E-01	8.905E-01	1.619E-01	-0.621
	+	338.28		7.302E+00	1.810E+00	2.312E+00	2.970E-01	3.158
		445.03		-5.007E-01	1.925E+00	3.070E+00	3.757E-01	-0.163
U-231	+	84.21		7.521E+00	5.011E+00	7.838E+00	7.062E-01	0.960
		92.29		7.682E+00	2.565E+00	3.608E+00	3.300E-01	2.129
		95.87	*	2.506E-01	1.013E+00	1.484E+00	1.327E-01	0.169

---- 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		-7.872E-01	1.865E+00	2.954E+00	2.517E-01	-0.267
	+	75.28		1.722E+01	4.047E+00	5.508E+00	8.297E-01	3.126
	+	86.59		5.122E+00	2.065E+00	2.591E+00	7.005E-01	1.977
	+	300.12		6.543E-01	5.146E-01	6.312E-01	9.845E-02	1.037
		311.98	*	-1.735E-02	5.377E-02	8.741E-02	8.672E-03	-0.198
		340.50		8.345E-01	6.616E-01	1.004E+00	2.419E-01	0.832
PA-234		398.62		7.995E-01	1.825E+00	3.059E+00	8.127E-01	0.261
		415.76		1.584E+00	1.459E+00	2.500E+00	5.384E-01	0.634
	+	63.00		1.075E+00	1.814E+00	1.987E+00	2.936E-01	0.541
		94.67		3.719E-01	1.655E-01	2.550E-01	3.232E-02	1.458
		98.44		2.402E-02	8.641E-02	1.320E-01	7.371E-02	0.182
		99.86		1.616E-01	4.138E-01	6.719E-01	5.890E-02	0.241
		111.00		-1.886E-02	1.592E-01	2.516E-01	3.013E-02	-0.075
		131.20		-6.561E-02	9.677E-02	1.501E-01	1.255E-02	-0.437
		152.70		1.052E-01	2.956E-01	4.776E-01	8.126E-02	0.220
	+	186.00		4.294E+00	2.161E+00	2.301E+00	7.209E-01	1.866
		226.40		1.211E-01	3.437E-01	5.873E-01	8.107E-02	0.206
		227.20		1.725E-02	3.647E-01	6.154E-01	5.861E-02	0.028
		248.90		-1.979E-01	6.885E-01	1.135E+00	2.595E-01	-0.174
	+	293.70		6.014E+00	1.426E+00	1.568E+00	2.814E-01	3.836
		369.80		-3.958E-01	7.440E-01	1.172E+00	2.561E-01	-0.338
		568.70		-7.466E-02	8.941E-01	1.378E+00	1.331E-01	-0.054
		569.50		1.337E-03	2.442E-01	3.795E-01	3.666E-02	0.004
		574.00		1.580E-01	1.247E+00	2.024E+00	1.960E-01	0.078
		699.00		1.144E-01	6.167E-01	1.048E+00	2.076E-01	0.109
		706.10		1.071E-01	9.219E-01	1.557E+00	6.991E-01	0.069
		733.00		1.262E-01	3.612E-01	5.461E-01	1.247E-01	0.231
		742.81		1.740E+00	1.663E+00	2.202E+00	1.485E+00	0.790
		796.30		1.565E+00	9.213E-01	1.553E+00	4.281E-01	1.008
		805.60		-6.761E-02	8.569E-01	1.414E+00	4.400E-01	-0.048
		819.60		4.102E-01	1.083E+00	1.842E+00	7.072E-01	0.223
		826.30		3.122E-02	7.615E-01	1.268E+00	5.714E-01	0.025
		831.60		-5.518E-01	6.551E-01	9.783E-01	2.965E-01	-0.564
		876.40		-5.765E-01	9.843E-01	1.158E+00	1.192E+00	-0.498
		880.51		2.224E-02	2.630E-01	4.381E-01	4.379E-02	0.051
		883.24		2.297E-01	3.136E-01	4.833E-01	3.258E-01	0.475
		899.00		5.203E-02	7.888E-01	1.309E+00	5.761E-01	0.040
		925.00		-4.338E-01	1.042E+00	1.644E+00	1.618E-01	-0.264
		926.50		-8.692E-02	1.528E-01	2.342E-01	6.024E-02	-0.371
		946.00	*	-1.807E-02	2.830E-01	4.630E-01	8.940E-02	-0.039
		949.00		4.738E-01	4.271E-01	7.663E-01	7.460E-02	0.618
		980.50		-1.354E-01	6.292E-01	1.016E+00	9.725E-02	-0.133
PA-234M		1394.10		3.002E-01	9.681E-01	1.657E+00	1.078E+00	0.181
		766.42		9.046E+00	1.157E+01	1.870E+01	9.539E+00	0.484
NP-236		1001.03	*	2.333E+00	4.216E+00	7.298E+00	7.806E-01	0.320
		94.67		2.845E-01	1.231E-01	1.936E-01	1.744E-02	1.469
		98.44		1.815E-02	6.455E-02	9.982E-02	8.808E-03	0.182
		111.00		-1.427E-02	1.204E-01	1.903E-01	1.610E-02	-0.075
		160.31	*	3.353E-03	6.970E-02	1.110E-01	9.608E-03	0.030

----- 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		5.548E-03	1.396E-01	2.236E-01	1.963E-02	0.025
		117.00	*	9.579E-02	1.603E-01	2.647E-01	2.218E-02	0.362
	+	209.75		2.249E+00	1.065E+00	1.239E+00	1.155E-01	1.814
		228.18		-5.607E-02	1.922E-01	3.190E-01	3.041E-02	-0.176
	+	277.60		3.534E-01	3.061E-01	3.085E-01	3.069E-02	1.146
AM-241		334.30		2.494E-01	1.317E+00	1.816E+00	1.712E-01	0.137
		59.54	*	-3.589E-02	1.128E-01	1.613E-01	1.262E-02	-0.222
CM-243		99.55		5.709E-03	1.436E-01	2.301E-01	2.020E-02	0.025
		103.76	*	-5.196E-02	8.473E-02	1.332E-01	1.149E-02	-0.390
		117.00		9.855E-02	1.649E-01	2.723E-01	2.282E-02	0.362
	+	209.75		2.217E+00	1.050E+00	1.222E+00	1.138E-01	1.814
		228.18		-5.666E-02	1.942E-01	3.223E-01	3.073E-02	-0.176
AM-246	+	277.60		3.563E-01	3.086E-01	3.110E-01	3.094E-02	1.146
		798.80		-1.652E-01	1.284E-01	1.878E-01	1.906E-02	-0.880
		1036.00		-8.929E-02	2.495E-01	3.914E-01	3.613E-02	-0.228
		1062.04		-3.323E-02	1.983E-01	3.180E-01	2.875E-02	-0.105
		1078.86	*	1.118E-01	1.271E-01	2.247E-01	2.002E-02	0.498
CM-247	+	278.00		1.465E+00	1.269E+00	1.264E+00	1.258E-01	1.159
		287.40		6.391E-01	1.106E+00	1.894E+00	1.877E-01	0.337
		402.60	*	-1.145E-02	3.313E-02	5.297E-02	4.479E-03	-0.216
CF-249		252.85		2.289E-02	7.486E-01	1.256E+00	1.228E-01	0.018
		333.44		1.939E-02	2.238E-01	2.381E-01	2.248E-02	0.081
		387.95	*	-8.842E-03	3.303E-02	5.316E-02	4.486E-03	-0.166
CF-251		176.60	*	9.717E-02	1.110E-01	1.831E-01	1.624E-02	0.531
		227.00		2.558E-02	3.260E-01	5.508E-01	5.244E-02	0.046
		285.00		-1.096E+00	1.584E+00	2.535E+00	2.516E-01	-0.432

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]G244924007      *
* Acquisition date   : 27-JAN-2010 19:06:27 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 02:00:32.26             Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924007             Analyst initials: MXR1         *
* Batch Number       : 942723                  Sample Quantity : 1.3214E+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	2.878E+01	2.938E+00	4.389E-01	0.000E+00
CD-109	2.662E+00	8.174E-01	1.134E+00	0.000E+00
SN-126	2.616E-01	8.032E-02	1.118E-01	0.000E+00
TL-208	4.480E-01	8.601E-02	5.348E-02	0.000E+00
BI-211	3.705E+00	5.582E-01	3.074E-01	0.000E+00
PB-212	1.605E+00	1.959E-01	8.346E-02	0.000E+00
PO-212	1.605E+00	1.959E-01	8.346E-02	0.000E+00
BI-214	1.017E+00	1.645E-01	1.041E-01	0.000E+00
PB-214	1.289E+00	2.050E-01	1.071E-01	0.000E+00
PO-214	1.289E+00	2.050E-01	1.071E-01	0.000E+00
PO-216	1.605E+00	1.959E-01	8.346E-02	0.000E+00
PO-218	1.289E+00	2.050E-01	1.071E-01	0.000E+00
RA-224	4.732E+00	1.305E+00	9.495E-01	0.000E+00
RA-226	1.017E+00	1.645E-01	1.041E-01	0.000E+00
AC-228	1.615E+00	3.120E-01	2.045E-01	0.000E+00
RA-228	1.615E+00	3.120E-01	2.045E-01	0.000E+00
TH-228	1.630E+00	1.989E-01	8.474E-02	0.000E+00
TH-230	1.017E+00	1.645E-01	1.041E-01	0.000E+00
TH-232	1.615E+00	3.120E-01	2.045E-01	0.000E+00
TH-234	9.226E-01	1.527E+00	1.559E+00	0.000E+00
U-234	1.017E+00	1.645E-01	1.041E-01	0.000E+00
U-235	1.593E-01	2.650E-01	3.222E-01	0.000E+00
NP-237	7.682E-01	2.824E-01	3.263E-01	0.000E+00
U-238	9.226E-01	1.527E+00	1.559E+00	0.000E+00
AM-243	3.287E-01	6.372E-02	7.201E-02	0.000E+00
ANH-511	1.075E-01	6.527E-02	4.368E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.937E-01	2.931E-01	4.699E-01	0.000E+00 NOT IDENT.

NA-22	7.895E-03	4.434E-02	7.443E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.516E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.582E-02	2.724E-02	4.034E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.990E-02	7.105E-02	0.000E+00	FAIL ABUN
SC-46	1.217E-02	3.702E-02	6.477E-02	0.000E+00	FAIL ABUN
V-48	9.018E-03	5.957E-02	1.021E-01	0.000E+00	NOT IDENT.
CR-51	4.565E-01	3.211E-01	5.971E-01	0.000E+00	NOT IDENT.
MN-52	-2.123E-01	2.096E-01	3.069E-01	0.000E+00	NOT IDENT.
MN-54	4.336E-02	3.598E-02	6.656E-02	0.000E+00	NOT IDENT.
CO-56	1.080E-02	3.187E-02	5.621E-02	0.000E+00	FAIL ABUN
CO-57	3.107E-03	2.183E-02	3.762E-02	0.000E+00	NOT IDENT.
CO-58	-9.179E-04	3.055E-02	5.226E-02	0.000E+00	NOT IDENT.
FE-59	-4.612E-02	8.256E-02	1.314E-01	0.000E+00	FAIL ABUN
CO-60	5.119E-02	3.329E-02	6.467E-02	0.000E+00	NOT IDENT.
ZN-65	-4.464E-02	9.116E-02	1.223E-01	0.000E+00	NOT IDENT.
GE-68	5.994E-01	1.062E+00	1.879E+00	0.000E+00	NOT IDENT.
AS-73	2.742E-01	4.945E-01	8.995E-01	0.000E+00	NOT IDENT.
AS-74	-5.138E-02	8.564E-02	1.370E-01	0.000E+00	NOT IDENT.
SE-75	9.940E-03	3.691E-02	6.379E-02	0.000E+00	NOT IDENT.
BR-77	-7.036E+00	9.157E+00	1.430E+01	0.000E+00	FAIL ABUN
SR-82	-1.747E-01	3.286E-01	5.392E-01	0.000E+00	NOT IDENT.
RB-83	-8.182E-02	5.946E-02	8.694E-02	0.000E+00	NOT IDENT.
RB-84	-8.594E-03	6.528E-02	1.100E-01	0.000E+00	NOT IDENT.
KR-85	4.995E+00	7.221E+00	1.130E+01	0.000E+00	NOT IDENT.
SR-85	2.566E-02	3.709E-02	5.803E-02	0.000E+00	NOT IDENT.
RB-86	-1.639E-01	6.892E-01	1.126E+00	0.000E+00	NOT IDENT.
Y-88	1.215E-02	2.837E-02	5.129E-02	0.000E+00	NOT IDENT.
ZR-88	1.452E-02	2.495E-02	4.444E-02	0.000E+00	NOT IDENT.
Y-91	-1.036E+01	1.657E+01	2.575E+01	0.000E+00	NOT IDENT.
NB-94	1.698E-03	2.823E-02	4.921E-02	0.000E+00	NOT IDENT.
NB-95	8.744E-03	3.958E-02	6.897E-02	0.000E+00	NOT IDENT.
NB-95M	1.329E-01	1.133E-01	1.884E-01	0.000E+00	NOT IDENT.
ZR-95	-3.567E-03	5.812E-02	9.974E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	9.395E+04	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.167E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-8.318E+00	1.039E+01	1.658E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.319E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.666E-02	2.902E-02	4.879E-02	0.000E+00	NOT IDENT.
RH-102	-1.360E-02	2.482E-02	4.009E-02	0.000E+00	NOT IDENT.
RU-103	-6.308E-03	3.572E-02	5.934E-02	0.000E+00	FAIL ABUN
RH-106	6.633E-02	2.847E-01	4.808E-01	0.000E+00	FAIL ABUN
RU-106	6.633E-02	2.846E-01	4.808E-01	0.000E+00	FAIL ABUN
AG-108M	-8.373E-03	2.828E-02	4.708E-02	0.000E+00	NOT IDENT.
AG-110M	-4.270E-02	2.838E-02	4.257E-02	0.000E+00	NOT IDENT.
IN-111	2.734E-01	9.812E-01	1.559E+00	0.000E+00	NOT IDENT.
IN-113M	4.493E-03	3.594E-02	6.217E-02	0.000E+00	NOT IDENT.
SN-113	4.493E-03	3.594E-02	6.217E-02	0.000E+00	NOT IDENT.
IN-114M	-6.160E-02	1.630E-01	2.522E-01	0.000E+00	NOT IDENT.
CD-115	5.577E+00	1.002E+01	1.753E+01	0.000E+00	NOT IDENT.
SN-117M	-7.429E-02	4.827E-02	7.439E-02	0.000E+00	NOT IDENT.
SB-122	1.724E-01	1.850E+00	3.112E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.271E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.542E-02	2.471E-02	3.834E-02	0.000E+00	NOT IDENT.
I-124	-1.200E-01	7.674E-01	1.094E+00	0.000E+00	NOT IDENT.
SB-124	-2.131E-02	5.340E-02	8.178E-02	0.000E+00	FAIL ABUN
SB-125	1.258E-02	8.165E-02	1.406E-01	0.000E+00	FAIL ABUN
TE-125M	-4.034E-01	7.764E+00	1.334E+01	0.000E+00	NOT IDENT.
I-126	3.019E-02	1.542E-01	2.726E-01	0.000E+00	NOT IDENT.
SB-126	7.704E-02	1.263E-01	2.118E-01	0.000E+00	FAIL ABUN
SB-127	6.769E-01	1.210E+00	2.189E+00	0.000E+00	NOT IDENT.
XE-127	-1.964E-02	4.381E-02	7.112E-02	0.000E+00	FAIL ABUN
I-131	6.277E-02	9.398E-02	1.690E-01	0.000E+00	NOT IDENT.
TE-132	-2.209E-01	6.010E-01	1.047E+00	0.000E+00	NOT IDENT.
BA-133	6.421E-04	4.088E-02	6.201E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	6.265E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.183E-02	8.157E-02	0.000E+00	NOT IDENT.
CS-135	2.275E-01	1.516E-01	2.552E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.342E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.488E-03	9.946E-02	1.646E-01	0.000E+00	FAIL ABUN
BA-137M	4.953E-03	3.002E-02	5.297E-02	0.000E+00	NOT IDENT.
CS-137	5.236E-03	3.173E-02	5.600E-02	0.000E+00	NOT IDENT.
CE-139	-3.070E-02	2.625E-02	4.135E-02	0.000E+00	NOT IDENT.
BA-140	-1.659E-02	2.220E-01	3.694E-01	0.000E+00	NOT IDENT.
LA-140	-3.166E-02	7.450E-02	9.640E-02	0.000E+00	FAIL ABUN
CE-141	6.607E-02	6.333E-02	1.009E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.261E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.727E-02	1.752E-01	2.954E-01	0.000E+00	NOT IDENT.
PM-144	1.170E-02	3.016E-02	5.381E-02	0.000E+00	NOT IDENT.

PR-144	7.932E-01	2.044E+00	3.647E+00	0.000E+00	NOT IDENT.
PM-146	-5.479E-04	3.721E-02	6.306E-02	0.000E+00	NOT IDENT.
ND-147	-2.655E-01	5.081E-01	8.128E-01	0.000E+00	FAIL ABUN
PM-149	1.317E+01	8.666E+01	1.529E+02	0.000E+00	NOT IDENT.
EU-152	-5.270E-02	9.467E-02	1.454E-01	0.000E+00	NOT IDENT.
GD-153	-5.898E-03	7.591E-02	1.160E-01	0.000E+00	FAIL ABUN
EU-154	2.205E-02	1.239E-01	2.079E-01	0.000E+00	NOT IDENT.
EU-155	6.028E-02	9.102E-02	1.611E-01	0.000E+00	FAIL ABUN
TB-160	9.661E-02	1.201E-01	2.191E-01	0.000E+00	FAIL ABUN
HO-166M	-2.860E-02	5.093E-02	8.409E-02	0.000E+00	FAIL ABUN
TM-171	5.148E+00	2.261E+01	3.619E+01	0.000E+00	NOT IDENT.
LU-176	-7.414E-03	2.074E-02	3.409E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.499E+00	1.890E+00	0.000E+00	FAIL ABUN
LU-177M	-3.852E-02	1.536E-01	2.578E-01	0.000E+00	FAIL ABUN
HF-181	1.938E-02	3.911E-02	6.835E-02	0.000E+00	NOT IDENT.
W-181	-1.454E-01	3.051E-01	4.733E-01	0.000E+00	NOT IDENT.
TA-182	-1.221E-01	1.870E-01	2.912E-01	0.000E+00	FAIL ABUN
RE-183	1.054E-01	9.776E-02	1.693E-01	0.000E+00	FAIL ABUN
RE-184	6.104E-03	1.956E-01	3.458E-01	0.000E+00	NOT IDENT.
OS-185	1.014E-02	3.624E-02	6.461E-02	0.000E+00	NOT IDENT.
RE-188	1.928E-01	1.487E-01	2.648E-01	0.000E+00	NOT IDENT.
W-188	-6.009E+00	7.348E+00	1.058E+01	0.000E+00	FAIL ABUN
IR-192	-2.166E-02	2.909E-02	4.820E-02	0.000E+00	FAIL ABUN
AU-195	1.038E-01	2.044E-01	3.410E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.184E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	3.430E+00	6.207E+00	1.072E+01	0.000E+00	NOT IDENT.
TL-202	3.431E-02	6.063E-02	1.071E-01	0.000E+00	NOT IDENT.
HG-203	1.839E-02	4.002E-02	6.369E-02	0.000E+00	NOT IDENT.
BI-207	3.527E-02	4.450E-02	8.036E-02	0.000E+00	FAIL ABUN
TL-207	-5.528E-01	6.531E-01	9.152E-01	0.000E+00	FAIL ABUN
PO-209	-5.836E+00	6.679E+00	1.038E+01	0.000E+00	NOT IDENT.
BI-210	8.012E-01	1.879E+00	3.407E+00	0.000E+00	NOT IDENT.
PB-210	8.012E-01	1.879E+00	3.407E+00	0.000E+00	NOT IDENT.
PO-210	8.012E-01	1.879E+00	3.407E+00	0.000E+00	NOT IDENT.
PB-211	-2.627E-01	8.303E-01	1.364E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.185E-01	6.091E-01	0.000E+00	FAIL ABUN
PO-215	-5.528E-01	6.531E-01	9.152E-01	0.000E+00	FAIL ABUN
RN-219	-2.309E-01	3.663E-01	5.981E-01	0.000E+00	FAIL ABUN
RN-220	1.892E+00	2.273E+01	3.828E+01	0.000E+00	NOT IDENT.
RA-223	-5.528E-01	6.531E-01	9.152E-01	0.000E+00	FAIL ABUN
AC-227	-2.454E-02	3.248E-01	5.704E-01	0.000E+00	FAIL ABUN
TH-227	-2.454E-02	3.248E-01	5.704E-01	0.000E+00	FAIL ABUN
TH-229	2.361E-01	4.245E-01	7.771E-01	0.000E+00	FAIL ABUN
PA-231	-5.192E-01	1.400E+00	2.318E+00	0.000E+00	FAIL ABUN
TH-231	-5.528E-01	6.531E-01	9.152E-01	0.000E+00	FAIL ABUN
U-231	2.506E-01	9.928E-01	1.556E+00	0.000E+00	FAIL ABUN
PA-233	-1.735E-02	5.269E-02	8.988E-02	0.000E+00	FAIL ABUN
PA-234	-1.807E-02	2.774E-01	4.672E-01	0.000E+00	FAIL ABUN
PA-234M	2.333E+00	4.132E+00	7.356E+00	0.000E+00	NOT IDENT.
NP-236	3.353E-03	6.830E-02	1.154E-01	0.000E+00	NOT IDENT.
NP-239	9.579E-02	1.571E-01	2.767E-01	0.000E+00	FAIL ABUN
AM-241	-3.589E-02	1.105E-01	1.705E-01	0.000E+00	NOT IDENT.
CM-243	-5.196E-02	8.303E-02	1.394E-01	0.000E+00	FAIL ABUN
AM-246	1.118E-01	1.245E-01	2.262E-01	0.000E+00	NOT IDENT.
CM-247	-1.145E-02	3.246E-02	5.424E-02	0.000E+00	FAIL ABUN
CF-249	-8.842E-03	3.237E-02	5.447E-02	0.000E+00	NOT IDENT.
CF-251	9.717E-02	1.088E-01	1.900E-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]G244924007.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 19:06:27
Sample ID          : G244924007 Sample quantity : 1.32139E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:32.26 0.4%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	1355	10.67*	1.253E+00	2.878E+01	2.878E+01	10.42
CD-109	88.03	237	3.72*	6.941E+00	2.602E+00	2.662E+00	31.33
SN-126	64.28	57	9.60	4.614E+00	3.652E-01	3.652E-01	168.63
	86.94	237	8.90	6.941E+00	1.088E+00	1.088E+00	51.16
	87.57	237	37.00*	6.941E+00	2.616E-01	2.616E-01	31.33
TL-208	277.35	83	6.80	4.723E+00	7.327E-01	7.327E-01	87.07
	510.84	113	21.60	2.994E+00	4.976E-01	4.976E-01	62.53
	583.14	358	84.20*	2.697E+00	4.480E-01	4.480E-01	19.59
	860.37	63	12.46	1.954E+00	7.313E-01	7.313E-01	45.54
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	670	12.94*	3.970E+00	3.705E+00	3.705E+00	15.37
PB-212	74.81	462	10.70	6.052E+00	2.028E+00	2.028E+00	21.88
	77.11	814	18.00	6.258E+00	2.052E+00	2.052E+00	13.45
	87.30	237	8.00	6.941E+00	1.210E+00	1.210E+00	32.88
	238.63	1323	44.60*	5.251E+00	1.605E+00	1.605E+00	12.46
	300.09	68	3.41	4.462E+00	1.266E+00	1.266E+00	77.93
PO-212	74.81	462	10.70	6.052E+00	2.028E+00	2.028E+00	21.88
	77.11	814	18.00	6.258E+00	2.052E+00	2.052E+00	13.45
	87.30	237	8.00	6.941E+00	1.210E+00	1.210E+00	32.88
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1323	44.60*	5.251E+00	1.605E+00	1.605E+00	12.46
	300.09	68	3.41	4.462E+00	1.266E+00	1.266E+00	77.93
BI-214	609.31	432	46.30*	2.604E+00	1.017E+00	1.017E+00	16.50
	1120.29	93	15.10	1.558E+00	1.123E+00	1.123E+00	37.88
	1764.49	92	15.80	1.100E+00	1.496E+00	1.496E+00	24.53
PB-214	74.81	462	6.21	6.052E+00	3.494E+00	3.494E+00	21.12
	77.11	814	10.50	6.258E+00	3.518E+00	3.518E+00	15.45
	87.30	237	4.67	6.941E+00	2.073E+00	2.073E+00	32.26
	241.98	342	7.49	5.206E+00	2.495E+00	2.495E+00	28.69
	295.21	382	19.20	4.517E+00	1.253E+00	1.253E+00	19.40
	351.92	670	37.20*	3.970E+00	1.289E+00	1.289E+00	16.24
PO-214	74.81	462	6.21	6.052E+00	3.494E+00	3.494E+00	21.12

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	814	10.50	6.258E+00	3.518E+00	3.518E+00	15.45
	87.30	237	4.67	6.941E+00	2.073E+00	2.073E+00	32.26
	241.98	342	7.49	5.206E+00	2.495E+00	2.495E+00	28.69
	295.21	382	19.20	4.517E+00	1.253E+00	1.253E+00	19.40
	351.92	670	37.20*	3.970E+00	1.289E+00	1.289E+00	16.24
	74.81	462	10.70	6.052E+00	2.028E+00	2.028E+00	21.88
	77.11	814	18.00	6.258E+00	2.052E+00	2.052E+00	13.45
	87.30	237	8.00	6.941E+00	1.210E+00	1.210E+00	32.88
	238.63	1323	44.60*	5.251E+00	1.605E+00	1.605E+00	12.46
	300.09	68	3.41	4.462E+00	1.266E+00	1.266E+00	77.93
PO-218	74.81	462	6.21	6.052E+00	3.494E+00	3.494E+00	21.12
	77.11	814	10.50	6.258E+00	3.518E+00	3.518E+00	15.45
	87.30	237	4.67	6.941E+00	2.073E+00	2.073E+00	32.26
	241.98	342	7.49	5.206E+00	2.495E+00	2.495E+00	28.69
	295.21	382	19.20	4.517E+00	1.253E+00	1.253E+00	19.40
	351.92	670	37.20*	3.970E+00	1.289E+00	1.289E+00	16.24
RA-224	240.98	342	3.95*	5.206E+00	4.732E+00	4.732E+00	28.14
RA-226	609.31	432	46.30*	2.604E+00	1.017E+00	1.017E+00	16.50
	1120.29	93	15.10	1.558E+00	1.123E+00	1.123E+00	37.88
AC-228	1764.49	92	15.80	1.100E+00	1.496E+00	1.496E+00	24.53
	338.32	287	11.40	4.088E+00	1.749E+00	1.749E+00	46.53
	911.07	293	27.70*	1.861E+00	1.615E+00	1.615E+00	19.71
	969.11	136	16.60	1.764E+00	1.316E+00	1.316E+00	49.87
RA-228	338.32	287	11.40	4.088E+00	1.749E+00	1.749E+00	46.53
	911.07	293	27.70*	1.861E+00	1.615E+00	1.615E+00	19.71
	969.11	136	16.60	1.764E+00	1.316E+00	1.316E+00	49.87
TH-228	74.81	462	10.70	6.052E+00	2.028E+00	2.059E+00	19.81
	77.11	814	18.00	6.258E+00	2.052E+00	2.084E+00	13.45
	87.30	237	8.00	6.941E+00	1.210E+00	1.229E+00	31.33
	238.63	1323	44.60*	5.251E+00	1.605E+00	1.630E+00	12.46
TH-230	300.09	68	3.41	4.462E+00	1.266E+00	1.286E+00	97.36
	609.31	432	46.30*	2.604E+00	1.017E+00	1.017E+00	16.50
	1120.29	93	15.10	1.558E+00	1.123E+00	1.123E+00	37.88
	1764.49	92	15.80	1.100E+00	1.496E+00	1.496E+00	24.53
TH-232	338.32	287	11.40	4.088E+00	1.749E+00	1.749E+00	23.17
	911.07	293	27.70*	1.861E+00	1.615E+00	1.615E+00	19.71
	969.11	136	16.60	1.764E+00	1.316E+00	1.316E+00	49.87
TH-234	63.29	57	3.80*	4.614E+00	9.226E-01	9.226E-01	168.90
	92.38	267	5.41	7.171E+00	1.954E+00	1.954E+00	36.98
U-234	609.31	432	46.30*	2.604E+00	1.017E+00	1.017E+00	16.50
	1120.29	93	15.10	1.558E+00	1.123E+00	1.123E+00	37.88
	1764.49	92	15.80	1.100E+00	1.496E+00	1.496E+00	24.53
U-235	89.95	145	2.70	7.061E+00	2.167E+00	2.167E+00	47.31
	93.35	267	4.50	7.171E+00	2.350E+00	2.350E+00	42.73
	105.00	-----	2.10	7.414E+00	-----	Line Not Found	-----
	143.76	41	10.50*	7.034E+00	1.593E-01	1.593E-01	169.73
	163.35	-----	4.70	6.638E+00	-----	Line Not Found	-----
	185.71	187	54.00	6.175E+00	1.590E-01	1.590E-01	40.41
	205.31	-----	4.70	5.804E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
NP-237	86.50	237	12.60*	6.941E+00	7.682E-01	7.682E-01	37.51
	95.87	-----	2.60	7.260E+00	-----	Line Not Found	-----
U-238	63.29	57	3.80*	4.614E+00	9.226E-01	9.226E-01	168.90
	92.38	267	5.41	7.171E+00	1.954E+00	1.954E+00	33.39
AM-243	74.67	462	66.00*	6.052E+00	3.287E-01	3.287E-01	19.78
	86.72	237	0.34	6.941E+00	2.881E+01	2.881E+01	31.33
	117.66	-----	0.55	7.416E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.067E+00	-----	Line Not Found	-----
ANH-511	511.00	113	100.00*	2.994E+00	1.075E-01	1.075E-01	61.97

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 1
Number of lines tentatively identified by NID 31 96.88%

Nuclide Type :

Nuclide	Hliffe	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.878E+01	2.878E+01	0.300E+01	10.42	
CD-109	464.00D	1.02	2.602E+00	2.662E+00	0.834E+00	31.33	
SN-126	1.00E+05Y	1.00	2.616E-01	2.616E-01	0.820E-01	31.33	
TL-208	1.41E+10Y	1.00	4.480E-01	4.480E-01	0.878E-01	19.59	
BI-211	7.04E+08Y	1.00	3.705E+00	3.705E+00	0.570E+00	15.37	
PB-212	1.41E+10Y	1.00	1.605E+00	1.605E+00	0.200E+00	12.46	
PO-212	1.41E+10Y	1.00	1.605E+00	1.605E+00	0.200E+00	12.46	
BI-214	1600.00Y	1.00	1.017E+00	1.017E+00	0.168E+00	16.50	
PB-214	1600.00Y	1.00	1.289E+00	1.289E+00	0.209E+00	16.24	
PO-214	1600.00Y	1.00	1.289E+00	1.289E+00	0.209E+00	16.24	
PO-216	1.41E+10Y	1.00	1.605E+00	1.605E+00	0.200E+00	12.46	
PO-218	1600.00Y	1.00	1.289E+00	1.289E+00	0.209E+00	16.24	
RA-224	1.41E+10Y	1.00	4.732E+00	4.732E+00	1.332E+00	28.14	
RA-226	1600.00Y	1.00	1.017E+00	1.017E+00	0.168E+00	16.50	
AC-228	1.41E+10Y	1.00	1.615E+00	1.615E+00	0.318E+00	19.71	
RA-228	1.41E+10Y	1.00	1.615E+00	1.615E+00	0.318E+00	19.71	
TH-228	1.91Y	1.02	1.605E+00	1.630E+00	0.203E+00	12.46	
TH-230	4.47E+09Y	1.00	1.017E+00	1.017E+00	0.168E+00	16.50	
TH-232	1.41E+10Y	1.00	1.615E+00	1.615E+00	0.318E+00	19.71	
TH-234	4.47E+09Y	1.00	9.226E-01	9.226E-01	15.58E-01	168.90	
U-234	4.47E+09Y	1.00	1.017E+00	1.017E+00	0.168E+00	16.50	
U-235	7.04E+08Y	1.00	1.593E-01	1.593E-01	2.704E-01	169.73	
NP-237	2.14E+06Y	1.00	7.682E-01	7.682E-01	2.882E-01	37.51	
U-238	4.47E+09Y	1.00	9.226E-01	9.226E-01	15.58E-01	168.90	
AM-243	7380.00Y	1.00	3.287E-01	3.287E-01	0.650E-01	19.78	
ANH-511	1.00E+09Y	1.00	1.075E-01	1.075E-01	0.666E-01	61.97	

Total Activity : 6.294E+01 6.302E+01

Grand Total Activity : 6.294E+01 6.302E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G244924007

Page : 5
Acquisition date : 27-JAN-2010 19:06:27

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	84.32	100	364	1.26	168.56	166	12	1.39E-02	66.0	6.78E+00	T
0	208.87	147	273	1.30	417.30	412	11	2.04E-02	46.4	5.74E+00	T
0	270.13	167	153	1.82	539.67	536	9	2.32E-02	30.7	4.81E+00	T
0	327.72	63	180	1.53	654.72	650	11	8.76E-03	85.9	4.18E+00	T
0	463.00	88	113	1.35	925.03	919	14	1.23E-02	53.3	3.23E+00	T
0	727.13	87	72	1.00	1452.98	1447	12	1.20E-02	44.7	2.25E+00	T
0	1238.22	50	56	1.19	2475.34	2469	12	6.90E-03	67.0	1.43E+00	T
0	1589.00	24	32	3.09	3177.57	3167	21	3.29E-03	****	1.18E+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]G244924007.CNF;1
* Acquisition date   : 27-JAN-2010 19:06:27  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 02:00:32.26             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                             *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244924007             Analyst initials: MXR1
* Batch Number       : 942723                 Sample Quantity : 1.32139E+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	2.878E+01	2.998E+00	4.383E-01	3.822E-02	65.658
CD-109	2.662E+00	8.340E-01	1.080E+00	1.021E-01	2.465
SN-126	2.616E-01	8.196E-02	1.064E-01	1.001E-02	2.458
TL-208	4.480E-01	8.777E-02	5.256E-02	5.403E-03	8.523
BI-211	3.705E+00	5.696E-01	2.995E-01	2.869E-02	12.370
PB-212	1.605E+00	1.999E-01	8.080E-02	8.593E-03	19.865
PO-212	1.605E+00	1.999E-01	8.080E-02	8.593E-03	19.865
BI-214	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
PB-214	1.289E+00	2.092E-01	1.044E-01	1.138E-02	12.345
PO-214	1.289E+00	2.092E-01	1.044E-01	1.138E-02	12.345
PO-216	1.605E+00	1.999E-01	8.080E-02	8.593E-03	19.865
PO-218	1.289E+00	2.092E-01	1.044E-01	1.138E-02	12.345
RA-224	4.732E+00	1.332E+00	9.193E-01	8.886E-02	5.147
RA-226	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
AC-228	1.615E+00	3.183E-01	2.026E-01	2.481E-02	7.972
RA-228	1.615E+00	3.183E-01	2.026E-01	2.481E-02	7.972
TH-228	1.630E+00	2.030E-01	8.204E-02	8.725E-03	19.865
TH-230	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.615E+00	3.183E-01	2.026E-01	2.481E-02	7.972
TH-234	9.226E-01	1.558E+00	1.477E+00	2.567E-01	0.625
U-234	1.017E+00	1.679E-01	1.024E-01	1.140E-02	9.929
U-235	1.593E-01	2.704E-01	3.093E-01	5.390E-02	0.515
NP-237	7.682E-01	2.882E-01	3.107E-01	7.030E-02	2.472
U-238	9.226E-01	1.558E+00	1.477E+00	2.567E-01	0.625
AM-243	3.287E-01	6.502E-02	6.840E-02	5.506E-03	4.806
ANH-511	1.075E-01	6.661E-02	4.283E-02	3.991E-03	2.510

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.937E-01		2.991E-01	4.603E-01	4.474E-02	-0.421
NA-22	7.895E-03		4.525E-02	7.415E-02	6.143E-03	0.106
NA-24	2.421E-01		3.325E-01	Half-Life too short		
AL-26	-1.582E-02		2.779E-02	4.044E-02	3.285E-03	-0.391
TI-44	3.787E-01	+	5.092E-02	6.755E-02	5.669E-03	5.607
SC-46	1.217E-02		3.777E-02	6.412E-02	6.393E-03	0.190
V-48	9.018E-03		6.079E-02	1.013E-01	9.683E-03	0.089
CR-51	4.565E-01		3.276E-01	5.809E-01	5.824E-02	0.786
MN-52	-2.123E-01		2.138E-01	3.063E-01	2.593E-02	-0.693
MN-54	4.336E-02		3.672E-02	6.582E-02	6.649E-03	0.659
CO-56	1.080E-02		3.252E-02	5.560E-02	5.603E-03	0.194
CO-57	3.107E-03		2.228E-02	3.602E-02	3.006E-03	0.086
CO-58	-9.179E-04		3.117E-02	5.165E-02	5.245E-03	-0.018
FE-59	-4.612E-02		8.425E-02	1.305E-01	1.231E-02	-0.353
CO-60	5.119E-02		3.397E-02	6.448E-02	5.401E-03	0.794
ZN-65	-4.464E-02		9.302E-02	1.215E-01	1.046E-02	-0.367
GE-68	5.994E-01		1.084E+00	1.866E+00	1.665E-01	0.321
AS-73	2.742E-01		5.046E-01	8.499E-01	6.309E-02	0.323
AS-74	-5.138E-02		8.739E-02	1.347E-01	1.318E-02	-0.382
SE-75	9.940E-03		3.766E-02	6.186E-02	6.124E-03	0.161
BR-77	-7.036E+00		9.344E+00	1.403E+01	1.316E+00	-0.502
SR-82	-1.747E-01		3.353E-01	5.325E-01	5.411E-02	-0.328
RB-83	-8.182E-02		6.068E-02	8.528E-02	7.998E-03	-0.959
RB-84	-8.594E-03		6.662E-02	1.089E-01	1.088E-02	-0.079
KR-85	4.995E+00		7.368E+00	1.108E+01	1.034E+00	0.451
SR-85	2.566E-02		3.785E-02	5.691E-02	5.314E-03	0.451
RB-86	-1.639E-01		7.032E-01	1.119E+00	9.987E-02	-0.147
Y-88	1.215E-02		2.895E-02	5.143E-02	4.150E-03	0.236
ZR-88	1.452E-02		2.546E-02	4.338E-02	3.629E-03	0.335
Y-91	-1.036E+01		1.691E+01	2.563E+01	2.081E+00	-0.404
NB-94	1.698E-03		2.880E-02	4.851E-02	4.908E-03	0.035
NB-95	8.744E-03		4.039E-02	6.810E-02	6.921E-03	0.128
NB-95M	1.329E-01		1.157E-01	1.824E-01	1.959E-02	0.729
ZR-95	-3.567E-03		5.931E-02	9.847E-02	1.075E-02	-0.036
NB-97	-1.471E-01		4.794E-02	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	2.479E+00		1.106E+00	Half-Life too short		
MO-99	-8.318E+00		1.061E+01	1.636E+01	2.636E+00	-0.508
TC-99M	-5.324E+10		3.224E+10	Half-Life too short		
RH-101	-2.666E-02		2.961E-02	4.709E-02	4.316E-03	-0.566
RH-102	-1.360E-02		2.533E-02	3.926E-02	3.560E-03	-0.346
RU-103	-6.308E-03		3.645E-02	5.816E-02	8.455E-03	-0.108
RH-106	6.633E-02		2.905E-01	4.730E-01	6.724E-02	0.140
RU-106	6.633E-02		2.904E-01	4.730E-01	4.682E-02	0.140
AG-108M	-8.373E-03		2.885E-02	4.604E-02	4.178E-03	-0.182
AG-110M	-4.270E-02		2.896E-02	4.193E-02	4.295E-03	-1.019
IN-111	2.734E-01		1.001E+00	1.510E+00	1.465E-01	0.181
IN-113M	4.493E-03		3.668E-02	6.069E-02	5.235E-03	0.074
SN-113	4.493E-03		3.668E-02	6.069E-02	5.235E-03	0.074
IN-114M	-6.160E-02		1.663E-01	2.433E-01	2.204E-02	-0.253
CD-115	5.577E+00		1.022E+01	1.720E+01	1.621E+00	0.324
SN-117M	-7.429E-02		4.926E-02	7.153E-02	6.174E-03	-1.039
SB-122	1.724E-01		1.888E+00	3.057E+00	2.944E-01	0.056
I-123	-8.989E+00		3.199E+00	Half-Life too short		
TE-123M	-3.542E-02		2.521E-02	3.686E-02	3.203E-03	-0.961
I-124	-1.200E-01		7.831E-01	1.076E+00	1.056E-01	-0.112
SB-124	-2.131E-02		5.449E-02	8.188E-02	7.116E-03	-0.260
SB-125	1.258E-02		8.331E-02	1.374E-01	1.217E-02	0.092
TE-125M	-4.034E-01		7.922E+00	1.275E+01	1.304E+00	-0.032
I-126	3.019E-02		1.574E-01	2.685E-01	2.698E-02	0.112
SB-126	7.704E-02		1.288E-01	2.089E-01	2.118E-02	0.369
SB-127	6.769E-01		1.235E+00	2.157E+00	2.713E-01	0.314
XE-127	-1.964E-02		4.471E-02	6.867E-02	6.338E-03	-0.286
I-131	6.277E-02		9.590E-02	1.647E-01	1.545E-02	0.381
TE-132	-2.209E-01		6.133E-01	1.013E+00	1.648E-01	-0.218
BA-133	6.421E-04		4.171E-02	6.043E-02	8.164E-03	0.011
I-133	-2.409E-03		3.197E-03	Half-Life too short		
CS-134	8.872E-02		4.268E-02	8.060E-02	8.224E-03	1.101
CS-135	2.275E-01		1.547E-01	2.475E-01	2.743E-02	0.919
I-135	-5.531E+08		4.256E+09	Half-Life too short		
CS-136	-2.488E-03		1.015E-01	1.635E-01	1.551E-02	-0.015
BA-137M	4.953E-03		3.063E-02	5.217E-02	5.236E-03	0.095
CS-137	5.236E-03		3.238E-02	5.515E-02	5.543E-03	0.095
CE-139	-3.070E-02		2.679E-02	3.979E-02	3.474E-03	-0.772
BA-140	-1.659E-02		2.265E-01	3.625E-01	1.210E-01	-0.046
LA-140	-3.166E-02		7.602E-02	9.642E-02	8.140E-03	-0.328
CE-141	6.607E-02		6.462E-02	9.688E-02	8.365E-03	0.682
CE-143	6.778E-04		1.153E-04	Half-Life too short		
CE-144	-3.727E-02		1.788E-01	2.833E-01	4.371E-02	-0.132
PM-144	1.170E-02		3.078E-02	5.305E-02	5.363E-03	0.221
PR-144	7.932E-01		2.086E+00	3.595E+00	3.634E-01	0.221
PM-146	-5.479E-04		3.797E-02	6.171E-02	6.759E-03	-0.009
ND-147	-2.655E-01		5.185E-01	7.975E-01	1.231E-01	-0.333
PM-149	1.317E+01		8.843E+01	1.485E+02	2.420E+01	0.089

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-5.270E-02		9.660E-02	1.416E-01	1.382E-02	-0.372
GD-153	-5.898E-03		7.746E-02	1.106E-01	9.813E-03	-0.053
EU-154	2.205E-02		1.264E-01	2.071E-01	2.288E-02	0.106
EU-155	6.028E-02		9.287E-02	1.539E-01	1.338E-02	0.392
TB-160	9.661E-02		1.226E-01	2.169E-01	2.168E-02	0.445
HO-166M	-2.860E-02		5.197E-02	8.293E-02	8.401E-03	-0.345
TM-171	5.148E+00		2.307E+01	3.431E+01	2.556E+00	0.150
LU-176	-7.414E-03		2.116E-02	3.314E-02	3.233E-03	-0.224
LU-177	3.230E+00	+	1.530E+00	1.826E+00	1.698E-01	1.769
LU-177M	-3.852E-02		1.567E-01	2.519E-01	2.156E-02	-0.153
HF-181	1.938E-02		3.991E-02	6.695E-02	6.105E-03	0.289
W-181	-1.454E-01		3.113E-01	4.486E-01	3.301E-02	-0.324
TA-182	-1.221E-01		1.908E-01	2.899E-01	2.365E-02	-0.421
RE-183	1.054E-01		9.975E-02	1.629E-01	1.414E-02	0.647
RE-184	6.104E-03		1.996E-01	3.351E-01	3.275E-02	0.018
OS-185	1.014E-02		3.698E-02	6.361E-02	6.352E-03	0.159
RE-188	1.928E-01		1.517E-01	2.545E-01	2.185E-02	0.757
W-188	-6.009E+00		7.498E+00	1.028E+01	1.016E+00	-0.585
IR-192	-2.166E-02		2.968E-02	4.688E-02	4.534E-03	-0.462
AU-195	1.038E-01		2.085E-01	3.254E-01	2.865E-02	0.319
TL-200	-1.197E-04		2.135E-04	Half-Life too short		
TL-201	3.430E+00		6.333E+00	1.031E+01	9.022E-01	0.333
TL-202	3.431E-02		6.187E-02	1.048E-01	9.205E-03	0.327
HG-203	1.839E-02		4.083E-02	6.182E-02	6.287E-03	0.297
BI-207	3.527E-02		4.541E-02	7.981E-02	7.206E-03	0.442
TL-207	-5.528E-01		6.664E-01	8.905E-01	1.619E-01	-0.621
PO-209	-5.836E+00		6.816E+00	1.028E+01	1.023E+00	-0.568
BI-210	8.012E-01		1.918E+00	3.212E+00	2.979E-01	0.249
PB-210	8.012E-01		1.918E+00	3.212E+00	2.979E-01	0.249
PO-210	8.012E-01		1.917E+00	3.212E+00	2.695E-01	0.249
PB-211	-2.627E-01		8.473E-01	1.332E+00	8.343E-01	-0.197
BI-212	9.259E-01	+	4.271E-01	6.009E-01	6.819E-02	1.541
PO-215	-5.528E-01		6.664E-01	8.905E-01	1.619E-01	-0.621
RN-219	-2.309E-01		3.738E-01	5.841E-01	8.719E-02	-0.395
RN-220	1.892E+00		2.320E+01	3.758E+01	3.591E+00	0.050
RA-223	-5.528E-01		6.664E-01	8.905E-01	1.619E-01	-0.621
AC-227	-2.454E-02		3.314E-01	5.529E-01	8.868E-02	-0.044
TH-227	-2.454E-02		3.314E-01	5.529E-01	1.031E-01	-0.044
TH-229	2.361E-01		4.331E-01	7.497E-01	6.828E-02	0.315
PA-231	-5.192E-01		1.429E+00	2.250E+00	3.593E-01	-0.231
TH-231	-5.528E-01		6.664E-01	8.905E-01	1.619E-01	-0.621
U-231	2.506E-01		1.013E+00	1.484E+00	1.327E-01	0.169
PA-233	-1.735E-02		5.377E-02	8.741E-02	8.672E-03	-0.198
PA-234	-1.807E-02		2.830E-01	4.630E-01	8.940E-02	-0.039
PA-234M	2.333E+00		4.216E+00	7.298E+00	7.806E-01	0.320
NP-236	3.353E-03		6.970E-02	1.110E-01	9.608E-03	0.030
NP-239	9.579E-02		1.603E-01	2.647E-01	2.218E-02	0.362
AM-241	-3.589E-02		1.128E-01	1.613E-01	1.262E-02	-0.222

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-5.196E-02		8.473E-02	1.332E-01	1.149E-02	-0.390
AM-246	1.118E-01		1.271E-01	2.247E-01	2.002E-02	0.498
CM-247	-1.145E-02		3.313E-02	5.297E-02	4.479E-03	-0.216
CF-249	-8.842E-03		3.303E-02	5.316E-02	4.486E-03	-0.166
CF-251	9.717E-02		1.110E-01	1.831E-01	1.624E-02	0.531

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]G244924007          *
* Acquisition date   : 27-JAN-2010 19:06:27 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 02:00:32.26                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924007                               Analyst initials: MXR1        *
* Batch Number       : 942723                                   Sample Quantity : 1.3214E+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	2.878E+01	2.938E+00	2.196E-01	1.499E+00
CD-109	2.662E+00	8.174E-01	5.674E-01	4.170E-01
SN-126	2.616E-01	8.032E-02	5.592E-02	4.098E-02
TL-208	4.480E-01	8.601E-02	2.675E-02	4.388E-02
BI-211	3.705E+00	5.582E-01	1.538E-01	2.848E-01
PB-212	1.605E+00	1.959E-01	4.176E-02	9.996E-02
PO-212	1.605E+00	1.959E-01	4.176E-02	9.996E-02
BI-214	1.017E+00	1.645E-01	5.210E-02	8.393E-02
PB-214	1.289E+00	2.050E-01	5.360E-02	1.046E-01
PO-214	1.289E+00	2.050E-01	5.360E-02	1.046E-01
PO-216	1.605E+00	1.959E-01	4.176E-02	9.996E-02
PO-218	1.289E+00	2.050E-01	5.360E-02	1.046E-01
RA-224	4.732E+00	1.305E+00	4.750E-01	6.658E-01
RA-226	1.017E+00	1.645E-01	5.210E-02	8.393E-02
AC-228	1.615E+00	3.120E-01	1.023E-01	1.592E-01
RA-228	1.615E+00	3.120E-01	1.023E-01	1.592E-01
TH-228	1.630E+00	1.989E-01	4.240E-02	1.015E-01
TH-230	1.017E+00	1.645E-01	5.210E-02	8.393E-02
TH-232	1.615E+00	3.120E-01	1.023E-01	1.592E-01
TH-234	9.226E-01	1.527E+00	7.801E-01	7.791E-01
U-234	1.017E+00	1.645E-01	5.210E-02	8.393E-02
U-235	1.593E-01	2.650E-01	1.612E-01	1.352E-01
NP-237	7.682E-01	2.824E-01	1.633E-01	1.441E-01
U-238	9.226E-01	1.527E+00	7.801E-01	7.791E-01
AM-243	3.287E-01	6.372E-02	3.603E-02	3.251E-02
ANH-511	1.075E-01	6.527E-02	2.185E-02	3.330E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.937E-01	2.931E-01	2.351E-01	1.495E-01 NOT IDENT.

NA-22	7.895E-03	4.434E-02	3.724E-02	2.262E-02	NOT IDENT.
NA-24	2.421E+05	6.516E+05	0.000E+00	3.325E+05	SHORT HLIF
AL-26	-1.582E-02	2.724E-02	2.018E-02	1.390E-02	NOT IDENT.
TI-44	3.787E-01	4.990E-02	3.555E-02	2.546E-02	FAIL ABUN
SC-46	1.217E-02	3.702E-02	3.241E-02	1.889E-02	FAIL ABUN
V-48	9.018E-03	5.957E-02	5.110E-02	3.039E-02	NOT IDENT.
CR-51	4.565E-01	3.211E-01	2.987E-01	1.638E-01	NOT IDENT.
MN-52	-2.123E-01	2.096E-01	1.535E-01	1.069E-01	NOT IDENT.
MN-54	4.336E-02	3.598E-02	3.330E-02	1.836E-02	NOT IDENT.
CO-56	1.080E-02	3.187E-02	2.812E-02	1.626E-02	FAIL ABUN
CO-57	3.107E-03	2.183E-02	1.882E-02	1.114E-02	NOT IDENT.
CO-58	-9.179E-04	3.055E-02	2.614E-02	1.558E-02	NOT IDENT.
FE-59	-4.612E-02	8.256E-02	6.572E-02	4.212E-02	FAIL ABUN
CO-60	5.119E-02	3.329E-02	3.235E-02	1.699E-02	NOT IDENT.
ZN-65	-4.464E-02	9.116E-02	6.118E-02	4.651E-02	NOT IDENT.
GE-68	5.994E-01	1.062E+00	9.400E-01	5.418E-01	NOT IDENT.
AS-73	2.742E-01	4.945E-01	4.500E-01	2.523E-01	NOT IDENT.
AS-74	-5.138E-02	8.564E-02	6.852E-02	4.369E-02	NOT IDENT.
SE-75	9.940E-03	3.691E-02	3.191E-02	1.883E-02	NOT IDENT.
BR-77	-7.036E+00	9.157E+00	7.153E+00	4.672E+00	FAIL ABUN
SR-82	-1.747E-01	3.286E-01	2.698E-01	1.676E-01	NOT IDENT.
RB-83	-8.182E-02	5.946E-02	4.349E-02	3.034E-02	NOT IDENT.
RB-84	-8.594E-03	6.528E-02	5.502E-02	3.331E-02	NOT IDENT.
KR-85	4.995E+00	7.221E+00	5.652E+00	3.684E+00	NOT IDENT.
SR-85	2.566E-02	3.709E-02	2.903E-02	1.892E-02	NOT IDENT.
RB-86	-1.639E-01	6.892E-01	5.634E-01	3.516E-01	NOT IDENT.
Y-88	1.215E-02	2.837E-02	2.566E-02	1.447E-02	NOT IDENT.
ZR-88	1.452E-02	2.495E-02	2.223E-02	1.273E-02	NOT IDENT.
Y-91	-1.036E+01	1.657E+01	1.288E+01	8.453E+00	NOT IDENT.
NB-94	1.698E-03	2.823E-02	2.462E-02	1.440E-02	NOT IDENT.
NB-95	8.744E-03	3.958E-02	3.450E-02	2.020E-02	NOT IDENT.
NB-95M	1.329E-01	1.133E-01	9.426E-02	5.783E-02	NOT IDENT.
ZR-95	-3.567E-03	5.812E-02	4.990E-02	2.965E-02	NOT IDENT.
NB-97	-1.471E+05	9.395E+04	0.000E+00	4.794E+04	SHORT HLIF
ZR-97	2.479E+06	2.167E+06	0.000E+00	1.106E+06	SHORT HLIF
MO-99	-8.318E+00	1.039E+01	8.297E+00	5.303E+00	NOT IDENT.
TC-99M	-5.324E+16	6.319E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.666E-02	2.902E-02	2.441E-02	1.481E-02	NOT IDENT.
RH-102	-1.360E-02	2.482E-02	2.006E-02	1.266E-02	NOT IDENT.
RU-103	-6.308E-03	3.572E-02	2.969E-02	1.822E-02	FAIL ABUN
RH-106	6.633E-02	2.847E-01	2.405E-01	1.452E-01	FAIL ABUN
RU-106	6.633E-02	2.846E-01	2.405E-01	1.452E-01	FAIL ABUN
AG-108M	-8.373E-03	2.828E-02	2.355E-02	1.443E-02	NOT IDENT.
AG-110M	-4.270E-02	2.838E-02	2.130E-02	1.448E-02	NOT IDENT.
IN-111	2.734E-01	9.812E-01	7.798E-01	5.006E-01	NOT IDENT.
IN-113M	4.493E-03	3.594E-02	3.110E-02	1.834E-02	NOT IDENT.
SN-113	4.493E-03	3.594E-02	3.110E-02	1.834E-02	NOT IDENT.
IN-114M	-6.160E-02	1.630E-01	1.262E-01	8.314E-02	NOT IDENT.
CD-115	5.577E+00	1.002E+01	8.770E+00	5.110E+00	NOT IDENT.
SN-117M	-7.429E-02	4.827E-02	3.722E-02	2.463E-02	NOT IDENT.
SB-122	1.724E-01	1.850E+00	1.557E+00	9.439E-01	NOT IDENT.
I-123	-8.989E+06	6.271E+06	0.000E+00	3.199E+06	SHORT HLIF
TE-123M	-3.542E-02	2.471E-02	1.918E-02	1.261E-02	NOT IDENT.
I-124	-1.200E-01	7.674E-01	5.472E-01	3.915E-01	NOT IDENT.
SB-124	-2.131E-02	5.340E-02	4.091E-02	2.724E-02	FAIL ABUN
SB-125	1.258E-02	8.165E-02	7.033E-02	4.166E-02	FAIL ABUN
TE-125M	-4.034E-01	7.764E+00	6.675E+00	3.961E+00	NOT IDENT.
I-126	3.019E-02	1.542E-01	1.364E-01	7.870E-02	NOT IDENT.
SB-126	7.704E-02	1.263E-01	1.059E-01	6.442E-02	FAIL ABUN
SB-127	6.769E-01	1.210E+00	1.095E+00	6.176E-01	NOT IDENT.
XE-127	-1.964E-02	4.381E-02	3.558E-02	2.235E-02	FAIL ABUN
I-131	6.277E-02	9.398E-02	8.453E-02	4.795E-02	NOT IDENT.
TE-132	-2.209E-01	6.010E-01	5.240E-01	3.066E-01	NOT IDENT.
BA-133	6.421E-04	4.088E-02	3.102E-02	2.086E-02	FAIL ABUN
I-133	-2.409E+03	6.265E+03	0.000E+00	3.197E+03	SHORT HLIF
CS-134	8.872E-02	4.183E-02	4.081E-02	2.134E-02	NOT IDENT.
CS-135	2.275E-01	1.516E-01	1.277E-01	7.734E-02	NOT IDENT.
I-135	-5.531E+14	8.342E+15	0.000E+00	4.256E+15	SHORT HLIF
CS-136	-2.488E-03	9.946E-02	8.237E-02	5.074E-02	FAIL ABUN
BA-137M	4.953E-03	3.002E-02	2.650E-02	1.532E-02	NOT IDENT.
CS-137	5.236E-03	3.173E-02	2.801E-02	1.619E-02	NOT IDENT.
CE-139	-3.070E-02	2.625E-02	2.069E-02	1.339E-02	NOT IDENT.
BA-140	-1.659E-02	2.220E-01	1.848E-01	1.132E-01	NOT IDENT.
LA-140	-3.166E-02	7.450E-02	4.823E-02	3.801E-02	FAIL ABUN
CE-141	6.607E-02	6.333E-02	5.048E-02	3.231E-02	NOT IDENT.
CE-143	6.778E+02	2.261E+02	0.000E+00	1.153E+02	SHORT HLIF
CE-144	-3.727E-02	1.752E-01	1.478E-01	8.939E-02	NOT IDENT.
PM-144	1.170E-02	3.016E-02	2.692E-02	1.539E-02	NOT IDENT.

PR-144	7.932E-01	2.044E+00	1.824E+00	1.043E+00	NOT IDENT.
PM-146	-5.479E-04	3.721E-02	3.155E-02	1.898E-02	NOT IDENT.
ND-147	-2.655E-01	5.081E-01	4.066E-01	2.592E-01	FAIL ABUN
PM-149	1.317E+01	8.666E+01	7.649E+01	4.422E+01	NOT IDENT.
EU-152	-5.270E-02	9.467E-02	7.274E-02	4.830E-02	NOT IDENT.
GD-153	-5.898E-03	7.591E-02	5.803E-02	3.873E-02	FAIL ABUN
EU-154	2.205E-02	1.239E-01	1.040E-01	6.319E-02	NOT IDENT.
EU-155	6.028E-02	9.102E-02	8.062E-02	4.644E-02	FAIL ABUN
TB-160	9.661E-02	1.201E-01	1.096E-01	6.129E-02	FAIL ABUN
HO-166M	-2.860E-02	5.093E-02	4.207E-02	2.599E-02	FAIL ABUN
TM-171	5.148E+00	2.261E+01	1.810E+01	1.154E+01	NOT IDENT.
LU-176	-7.414E-03	2.074E-02	1.706E-02	1.058E-02	FAIL ABUN
LU-177	3.230E+00	1.499E+00	9.458E-01	7.649E-01	FAIL ABUN
LU-177M	-3.852E-02	1.536E-01	1.290E-01	7.835E-02	FAIL ABUN
HF-181	1.938E-02	3.911E-02	3.419E-02	1.995E-02	NOT IDENT.
W-181	-1.454E-01	3.051E-01	2.368E-01	1.556E-01	NOT IDENT.
TA-182	-1.221E-01	1.870E-01	1.457E-01	9.539E-02	FAIL ABUN
RE-183	1.054E-01	9.776E-02	8.471E-02	4.988E-02	FAIL ABUN
RE-184	6.104E-03	1.956E-01	1.730E-01	9.982E-02	NOT IDENT.
OS-185	1.014E-02	3.624E-02	3.232E-02	1.849E-02	NOT IDENT.
RE-188	1.928E-01	1.487E-01	1.325E-01	7.586E-02	NOT IDENT.
W-188	-6.009E+00	7.348E+00	5.293E+00	3.749E+00	FAIL ABUN
IR-192	-2.166E-02	2.909E-02	2.411E-02	1.484E-02	FAIL ABUN
AU-195	1.038E-01	2.044E-01	1.706E-01	1.043E-01	FAIL ABUN
TL-200	-1.197E+02	4.184E+02	0.000E+00	2.135E+02	SHORT HLIF
TL-201	3.430E+00	6.207E+00	5.361E+00	3.167E+00	NOT IDENT.
TL-202	3.431E-02	6.063E-02	5.359E-02	3.093E-02	NOT IDENT.
HG-203	1.839E-02	4.002E-02	3.186E-02	2.042E-02	NOT IDENT.
BI-207	3.527E-02	4.450E-02	4.021E-02	2.270E-02	FAIL ABUN
TL-207	-5.528E-01	6.531E-01	4.579E-01	3.332E-01	FAIL ABUN
PO-209	-5.836E+00	6.679E+00	5.195E+00	3.408E+00	NOT IDENT.
BI-210	8.012E-01	1.879E+00	1.705E+00	9.588E-01	NOT IDENT.
PB-210	8.012E-01	1.879E+00	1.705E+00	9.588E-01	NOT IDENT.
PO-210	8.012E-01	1.879E+00	1.705E+00	9.587E-01	NOT IDENT.
PB-211	-2.627E-01	8.303E-01	6.822E-01	4.236E-01	NOT IDENT.
BI-212	9.259E-01	4.185E-01	3.047E-01	2.135E-01	FAIL ABUN
PO-215	-5.528E-01	6.531E-01	4.579E-01	3.332E-01	FAIL ABUN
RN-219	-2.309E-01	3.663E-01	2.992E-01	1.869E-01	FAIL ABUN
RN-220	1.892E+00	2.273E+01	1.915E+01	1.160E+01	NOT IDENT.
RA-223	-5.528E-01	6.531E-01	4.579E-01	3.332E-01	FAIL ABUN
AC-227	-2.454E-02	3.248E-01	2.854E-01	1.657E-01	FAIL ABUN
TH-227	-2.454E-02	3.248E-01	2.854E-01	1.657E-01	FAIL ABUN
TH-229	2.361E-01	4.245E-01	3.888E-01	2.166E-01	FAIL ABUN
PA-231	-5.192E-01	1.400E+00	1.160E+00	7.144E-01	FAIL ABUN
TH-231	-5.528E-01	6.531E-01	4.579E-01	3.332E-01	FAIL ABUN
U-231	2.506E-01	9.928E-01	7.784E-01	5.065E-01	FAIL ABUN
PA-233	-1.735E-02	5.269E-02	4.497E-02	2.688E-02	FAIL ABUN
PA-234	-1.807E-02	2.774E-01	2.337E-01	1.415E-01	FAIL ABUN
PA-234M	2.333E+00	4.132E+00	3.680E+00	2.108E+00	NOT IDENT.
NP-236	3.353E-03	6.830E-02	5.776E-02	3.485E-02	NOT IDENT.
NP-239	9.579E-02	1.571E-01	1.384E-01	8.013E-02	FAIL ABUN
AM-241	-3.589E-02	1.105E-01	8.528E-02	5.639E-02	NOT IDENT.
CM-243	-5.196E-02	8.303E-02	6.976E-02	4.236E-02	FAIL ABUN
AM-246	1.118E-01	1.245E-01	1.132E-01	6.353E-02	NOT IDENT.
CM-247	-1.145E-02	3.246E-02	2.713E-02	1.656E-02	FAIL ABUN
CF-249	-8.842E-03	3.237E-02	2.725E-02	1.652E-02	NOT IDENT.
CF-251	9.717E-02	1.088E-01	9.508E-02	5.550E-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	279.1136
46.50	279.1136
46.50	279.1136
48.70	303.8786
49.72	304.5280
51.35	293.7632
52.39	289.4601
52.97	292.7552
53.15	292.8601
53.44	283.1638
54.07	297.3479
56.28	292.6803
56.28	292.6818
57.37	0.0000
57.53	309.2964
57.53	309.2971
57.60	309.3375
57.98	316.5281
57.98	316.5281
59.32	323.3153
59.32	323.3153
59.40	323.3631
59.54	323.4479
59.72	323.5567
60.01	353.7056
61.10	343.9062
61.14	343.9307
61.30	309.4786
63.00	387.7940
63.29	387.9957
63.29	387.9957
63.58	388.1974
64.28	460.6810
65.12	449.2654
65.20	449.3289
65.20	449.3289
66.05	390.9092
66.72	386.8151
66.83	417.2333
66.91	417.2920
67.20	417.5018
67.20	417.5018
67.75	430.0554
67.85	472.6857
68.90	464.4018
68.90	464.4018
69.30	444.9106
69.67	445.1913
70.82	389.5330
70.82	389.5330
70.83	389.5388
72.80	447.5238
72.87	423.0504
72.87	423.0504
74.67	424.2969
74.81	424.3938
74.81	424.3938
74.81	424.3938
74.81	424.3938
74.81	424.3938
74.81	424.3938
74.81	424.3938
74.97	424.5033
75.28	424.7160
75.70	425.0023
77.11	425.9626
77.11	425.9626

77.11	425.9626
77.11	425.9626
77.11	425.9626
77.11	425.9626
77.11	425.9626
78.38	411.3551
79.62	390.4623
79.80	357.5077
79.80	357.5077
80.11	357.6801
80.18	357.7188
80.30	350.5473
80.30	350.5473
80.57	350.6938
81.00	332.2933
81.07	332.3293
81.07	332.3293
81.07	332.3293
81.07	332.3293
82.60	370.4678
83.37	406.7412
83.78	406.9961
83.78	406.9961
83.78	406.9961
83.78	406.9961
84.21	407.2589
84.90	417.0531
85.43	417.3851
86.29	417.9188
86.50	418.0492
86.54	418.0736
86.59	418.1042
86.72	418.1836
86.79	418.2264
86.94	418.3201
87.30	586.2725
87.30	586.2725
87.30	586.2725
87.30	586.2725
87.30	586.2725
87.30	586.2725
87.57	429.6845
87.88	429.8810
88.03	429.9751
88.36	430.1820
88.47	430.2510
89.95	431.1771
91.11	335.7441
92.29	336.3096
92.38	336.3535
92.38	336.3535
93.35	336.8150
94.00	337.1238
94.67	331.1006
94.67	331.1038
94.90	345.4716
94.90	345.4716
94.90	345.4716
94.90	345.4716
95.87	315.7883
95.87	315.7883
96.73	322.5199
97.43	332.3714
98.44	322.3202
98.44	322.3202
98.88	309.7657
99.55	324.2952
99.55	324.2952
99.86	307.4124
100.00	317.0464
100.10	317.0903
103.18	348.3133
103.76	325.0565
105.00	289.1725
105.31	283.9320
108.00	321.4803
109.28	288.6226

111.00	274.1428
111.00	274.1428
111.76	274.4057
112.95	279.1431
115.19	273.4102
116.30	257.4877
117.00	244.6598
117.00	244.6598
117.66	267.7099
121.11	272.1044
121.62	271.1756
121.78	269.0400
122.06	266.9420
122.32	269.2126
122.32	269.2126
122.32	269.2126
122.32	269.2126
123.07	267.2622
127.23	307.0890
129.76	261.6200
131.20	317.3337
133.02	279.2087
133.54	269.3927
135.34	276.6017
136.00	277.9160
136.25	275.7683
136.48	275.8389
140.51	273.1474
140.51	0.0000
142.18	255.1757
142.65	273.2192
143.76	299.3293
144.24	264.1517
144.24	264.1517
144.24	264.1517
144.24	264.1517
145.22	264.4272
145.44	264.4895
147.16	253.1570
152.43	253.4173
152.70	267.0665
153.22	251.3579
154.21	242.5460
154.21	242.5460
154.21	242.5460
154.21	242.5460
155.03	225.7334
156.02	237.3148
158.56	277.7664
159.00	0.0000
159.00	273.3325
160.31	239.4800
161.27	220.3036
162.32	217.1034
162.64	210.3148
163.35	223.0428
163.89	247.1946
165.85	270.5991
167.43	218.1896
171.28	243.2025
171.86	251.4083
172.10	251.4660
176.55	205.0290
176.60	205.0398
181.06	223.3359
184.41	266.0232
185.71	230.4160
186.00	230.4762
190.27	223.7917
192.34	239.7141
193.63	223.2222
197.04	260.1682
198.01	246.2172
198.60	241.0236
200.40	241.3992
201.83	230.1423
202.84	259.6905
205.31	233.8541

208.36	238.5628
208.81	238.6524
209.75	237.5875
209.75	237.5875
210.97	223.5016
215.65	212.1375
216.55	225.7874
218.09	219.7642
222.10	215.9574
223.80	201.7739
226.40	196.7506
227.00	200.4718
227.08	200.4836
227.20	198.6893
228.16	209.7332
228.18	207.0129
228.18	207.0129
231.56	0.0000
235.69	187.0375
236.00	194.3891
236.00	194.3891
238.63	205.0320
238.63	205.0320
238.63	205.0320
238.63	205.0320
239.00	205.0901
240.98	205.3994
241.98	205.5532
241.98	205.5532
241.98	205.5532
244.69	154.4802
245.39	156.0330
247.94	165.3888
248.90	171.5681
249.79	169.8356
252.40	162.7629
252.85	170.2174
252.85	170.2174
254.15	0.0000
256.20	176.1978
256.20	176.1978
260.50	182.3264
260.90	183.3108
262.80	158.4023
264.65	147.1472
268.24	148.1640
268.79	137.7395
269.46	134.8088
269.46	134.8088
269.46	134.8088
269.46	134.8088
271.23	127.4772
273.65	157.7384
276.40	154.2755
277.35	154.3756
277.60	154.4031
277.60	154.4031
278.00	154.4457
278.60	153.7545
279.20	164.3728
279.53	164.4101
280.46	163.0059
281.68	161.6311
283.67	173.9487
284.30	174.9703
285.00	179.7833
285.90	167.5850
286.10	160.0312
286.10	160.0312
287.40	153.5361
288.45	0.0000
290.67	180.8475
290.80	180.8649
291.72	170.3297
293.26	0.0000
293.70	143.1412
295.21	140.9970
295.21	140.9970

295.21	140.9970
295.96	118.1913
296.50	141.1167
297.23	141.1844
298.57	137.4895
299.80	157.9845
299.80	157.9845
300.09	148.5484
300.09	148.5484
300.09	148.5484
300.09	148.5484
300.12	148.5508
301.29	134.6727
302.84	128.6804
303.76	124.1578
303.91	124.1697
304.40	119.6089
304.40	119.6089
304.84	131.9143
306.84	132.7426
308.46	124.9179
311.98	132.9021
316.51	142.9414
318.01	147.9082
319.02	130.5897
319.41	116.1072
320.08	111.3168
323.87	153.6869
323.87	153.6869
323.87	153.6869
323.87	153.6869
325.23	139.8318
328.77	140.1372
333.44	128.8237
334.20	124.9766
334.20	124.9766
334.30	124.9844
338.28	135.0710
338.28	135.0710
338.28	135.0710
338.28	135.0710
338.32	135.0752
338.32	135.0752
338.32	135.0752
340.50	139.5623
340.57	139.5688
344.27	150.6146
345.85	143.1517
350.59	0.0000
351.07	136.0964
351.92	136.1638
351.92	136.1638
351.92	136.1638
355.39	0.0000
356.01	115.5186
364.48	90.4390
366.43	114.4174
367.43	107.5139
367.94	0.0000
369.80	119.6191
374.96	114.9667
383.85	87.4022
387.95	103.7088
388.63	106.7683
391.69	95.8480
391.69	95.8480
392.90	89.8528
398.62	100.2553
400.65	101.3763
401.10	102.4148
401.81	125.7842
402.60	119.7483
404.84	118.8745
410.95	117.2163
411.60	124.3940
413.65	113.2984
414.70	100.0845
415.30	82.7489

415.76	83.7905
417.63	0.0000
418.52	103.3518
423.70	96.4441
427.08	105.8604
427.89	102.8198
432.53	107.1833
433.93	101.0700
439.47	88.9395
439.56	88.9434
439.89	87.9234
443.98	84.9929
444.90	90.2166
445.03	90.2219
445.03	90.2219
445.03	90.2219
445.03	90.2219
453.90	91.6550
463.38	78.4733
468.07	100.6699
473.00	81.9859
475.06	92.5869
475.35	102.0694
476.78	120.0378
477.59	106.3894
477.96	97.9795
482.03	90.7779
484.57	98.2818
487.03	80.4079
490.36	0.0000
492.35	80.6050
497.08	88.2192
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	94.2466
513.99	94.2466
520.41	94.5151
520.65	82.7078
527.90	73.2731
528.96	0.0000
529.64	89.5046
529.87	0.0000
531.02	89.5578
537.32	75.7358
543.00	74.8370
546.56	0.0000
549.76	76.1395
552.65	93.6557
555.20	67.5911
563.23	71.0997
563.90	75.4961
568.70	73.4530
569.32	72.3768
569.50	72.3809
569.67	67.9998
573.80	67.0166
574.00	67.0222
574.64	73.6329
578.91	79.2664
579.30	0.0000
583.14	81.6082
585.48	63.5818
591.81	66.3995
592.07	61.9797
593.00	69.7522
595.88	86.4598
600.56	93.2849
602.52	0.0000
602.71	94.2536
602.71	94.2536
603.60	74.7161
604.41	81.8589
604.70	90.7665
609.31	87.3650

609.31	87.3650
609.31	87.3650
609.31	87.3650
610.33	83.8335
612.46	89.2578
614.37	82.1801
618.01	84.9781
621.84	70.5482
621.84	70.5482
631.29	71.9277
633.02	67.4762
633.10	75.3505
634.78	73.8240
635.90	66.6506
636.97	63.9745
645.85	64.1877
646.12	66.9071
656.30	62.6239
657.75	82.6354
657.90	0.0000
661.65	70.9313
661.65	70.9313
664.57	0.0000
666.33	71.0550
666.33	71.0550
675.00	64.8828
677.61	56.7112
685.20	63.2876
692.80	90.1308
695.00	77.3165
696.49	72.7529
696.49	72.7529
697.00	70.9223
697.49	69.0930
698.33	70.0347
698.50	70.0384
699.00	70.9731
702.63	71.0633
706.10	72.9998
706.58	0.0000
706.67	66.5437
709.31	64.7551
711.68	73.1425
713.82	69.4904
717.42	66.7934
720.50	53.0678
721.93	0.0000
722.20	66.5944
722.78	66.6084
722.78	66.6084
722.89	66.6101
722.95	66.6119
723.30	57.3247
724.18	60.4408
727.18	59.5734
733.00	57.5159
735.90	50.4141
739.58	71.9770
742.81	45.8538
744.21	52.4289
747.13	74.9727
751.79	58.1946
752.31	58.2052
753.82	55.4162
755.35	57.3245
756.15	59.2194
756.87	57.3528
763.93	77.2794
765.79	75.4414
766.42	66.0249
766.84	67.9201
776.49	69.0827
778.00	62.4889
778.57	53.9774
778.89	52.0889
783.80	65.4523
785.46	57.8949
792.07	74.1876

795.84	43.8044
796.30	46.6684
798.80	83.8793
801.93	72.5136
805.60	58.2702
810.29	52.6166
810.76	47.8406
815.85	54.6259
817.79	48.9057
818.51	47.9578
819.60	50.8521
826.30	62.4974
828.27	0.0000
831.60	91.4932
831.96	84.7602
834.83	63.6265
836.80	0.0000
846.75	46.4449
848.13	44.5277
856.28	0.0000
856.80	45.2926
860.37	55.0577
867.32	46.5192
867.82	54.5330
871.10	49.7125
873.19	45.8422
874.81	49.7673
875.33	0.0000
876.40	58.5776
879.36	43.9728
880.27	54.7354
880.51	58.6494
881.50	62.5781
883.24	51.8497
884.67	64.5949
889.25	58.8018
896.60	65.8043
898.02	59.9352
899.00	59.9531
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911.07	62.4659
911.07	62.4659
911.07	62.4659
919.63	59.3247
920.93	48.4665
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925.24	55.4586
926.50	54.4871
935.52	53.6348
937.48	86.4584
944.10	67.7045
946.00	58.7739
949.00	47.8570
962.29	58.3761
964.01	73.4211
966.15	86.8211
968.20	67.1587
969.11	67.1750
969.11	67.1750
969.11	67.1750
977.42	45.9386
980.50	41.2362
983.50	44.2900
989.30	33.2699
996.32	58.5862
1001.03	42.4778
1001.68	38.4388
1004.76	53.6573
1021.30	0.0000
1024.50	0.0000
1034.80	48.9844
1036.00	45.9371
1037.82	41.8729
1038.57	45.9690
1038.76	0.0000
1045.16	45.0248
1046.59	52.2053
1048.07	51.2036

1050.47	51.2354
1050.47	51.2354
1062.04	48.3035
1063.62	39.0706
1076.63	50.5480
1077.35	41.2715
1078.86	40.2549
1085.78	62.0391
1099.22	54.9875
1112.02	40.5920
1112.84	50.7495
1115.52	60.7686
1120.29	45.8906
1120.29	45.8906
1120.29	45.8906
1120.29	45.8906
1120.51	45.8928
1121.28	57.3767
1124.00	0.0000
1129.67	59.5856
1131.51	0.0000
1147.95	0.0000
1167.94	55.9191
1173.22	70.7818
1175.09	60.2424
1177.93	45.4775
1189.05	65.7448
1204.90	63.8613
1205.75	0.0000
1213.00	72.5123
1221.42	76.9289
1230.97	68.8372
1235.34	69.6719
1236.41	0.0000
1238.25	64.3535
1246.25	55.8746
1260.41	0.0000
1271.85	51.8766
1274.45	56.2326
1274.54	56.2326
1291.56	33.6504
1298.22	0.0000
1312.09	35.9826
1325.50	36.0889
1325.50	36.0889
1332.49	18.6187
1333.61	31.7697
1360.21	20.1989
1362.66	0.0000
1365.15	24.8148
1368.21	14.7148
1368.53	0.0000
1376.25	23.0306
1384.27	22.1465
1394.10	21.2677
1395.20	26.8217
1407.95	24.1105
1434.06	33.5640
1436.60	27.9834
1457.56	0.0000
1460.81	19.6849
1489.15	23.5667
1509.49	19.8755
1596.49	18.1459
1620.62	12.5662
1678.03	0.0000
1691.02	11.7485
1691.02	11.7485
1706.46	0.0000
1750.46	0.0000
1764.49	11.9009
1764.49	11.9009
1764.49	11.9009
1764.49	11.9009
1770.23	24.8179
1771.40	10.9221
1791.20	0.0000
1808.65	16.9875

1836.01

10.0387

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924007

Total Uranium Activity	2.8183E+00	ug/g
Total Uranium Counting Unc.	4.5447E+00	ug/g
Total Uranium Tpu	2.3187E-06	ug/g
Total Uranium Mda	2.3220E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942723                          SAMPLE ID   : G244924007
*  ANALYST       : MXR1                             DETECTOR    : GAM20
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 19:06:27.73          SAMPLE ALQT  : 132.139 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.689E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.393E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.682E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.300E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 22:41:32.80

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924008.CNF;1
Sample date     : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:40:59
Sample ID       : G244924008 Sample quantity : 1.03526E+02 GRAM
Detector name   : GAM02 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.70 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 942723 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	62.98*	76	467	0.89	125.17	121	9	1.06E-02	55.2	
2	4	74.60*	293	350	0.96	148.41	144	14	4.07E-02	12.0	1.80E+00
3	4	76.92	521	399	1.09	153.05	144	14	7.24E-02	7.8	
4	4	83.82*	123	262	1.34	166.85	164	13	1.71E-02	23.9	2.16E+00
5	4	86.93	152	252	0.91	173.07	164	13	2.11E-02	17.5	
6	0	92.72*	272	614	1.27	184.66	180	10	3.77E-02	19.4	
7	0	128.86	85	229	1.28	256.99	254	6	1.18E-02	30.3	
8	0	143.13*	76	399	1.07	285.54	280	11	1.05E-02	54.1	
9	0	185.47*	369	382	1.19	370.26	363	14	5.13E-02	13.0	
10	0	208.60	100	282	1.26	416.55	413	9	1.39E-02	32.0	
11	4	238.37*	1033	177	1.04	476.11	469	19	1.44E-01	3.8	2.64E+00
12	4	241.35	279	265	1.67	482.09	469	19	3.88E-02	14.2	
13	0	269.99	78	208	1.18	539.38	534	10	1.09E-02	36.2	
14	0	294.77*	373	170	1.25	588.98	584	11	5.18E-02	8.7	
15	0	299.61	43	167	1.10	598.67	595	9	5.97E-03	56.3	
16	0	327.58	86	157	0.95	654.63	650	10	1.19E-02	29.4	
17	0	338.00*	184	144	1.18	675.48	671	9	2.55E-02	14.1	
18	0	351.62*	592	200	1.18	702.74	697	13	8.22E-02	6.5	
19	0	462.70	84	155	1.58	925.03	919	14	1.16E-02	33.3	
20	0	510.40*	68	104	2.12	1020.48	1014	13	9.51E-03	40.6	
21	0	582.85*	327	85	1.30	1165.47	1160	12	4.54E-02	8.0	
22	0	609.02*	396	94	1.23	1217.83	1211	13	5.50E-02	7.3	
23	0	661.16	499	86	1.43	1322.18	1315	14	6.92E-02	6.0	
24	0	727.85	107	78	6.21	1455.65	1445	21	1.49E-02	22.8	
25	0	860.07	42	50	1.39	1720.27	1715	11	5.84E-03	35.9	
26	0	910.72*	213	24	1.75	1821.63	1816	12	2.96E-02	8.5	
27	0	968.97	121	40	1.98	1938.21	1932	14	1.69E-02	14.7	
28	0	1000.27*	61	28	0.84	2000.85	1993	18	8.41E-03	25.0	
29	0	1119.76*	96	41	1.92	2239.99	2233	15	1.34E-02	18.2	
30	0	1237.86	51	22	1.39	2476.39	2471	10	7.07E-03	22.9	
31	0	1460.18*	740	26	2.18	2921.36	2913	17	1.03E-01	4.1	
32	0	1764.22*	61	18	2.17	3529.95	3519	16	8.44E-03	20.7	
33	0	1845.99	13	5	1.32	3693.65	3684	14	1.74E-03	51.9	

Flag: "*" = Peak area was modified by background subtraction

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924008.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:40:59
 Sample ID : G244924008 Sample quantity : 103.53 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA2 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.70 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	*	2.447E+01	3.056E+00	7.875E-01	7.486E-02	31.069
CD-109	+	88.03	*	2.905E+00	1.057E+00	1.827E+00	1.834E-01	1.590
SN-126	+	64.28		1.133E+00	1.262E+00	1.099E+00	1.630E-01	1.031
	+	86.94		1.187E+00	6.456E-01	7.126E-01	2.968E-01	1.665
	+	87.57	*	2.855E-01	1.039E-01	1.849E-01	1.848E-02	1.544
BA-137M	+	661.65	*	9.710E-01	1.433E-01	7.969E-02	6.866E-03	12.185
CS-137	+	661.65	*	1.026E+00	1.516E-01	8.424E-02	7.271E-03	12.185
TL-208		277.35		6.449E-01	5.122E-01	8.955E-01	1.361E-01	0.720
	+	510.84		4.526E-01	3.722E-01	3.005E-01	3.891E-02	1.506
	+	583.14	*	6.138E-01	1.158E-01	8.196E-02	8.210E-03	7.489
	+	860.37		7.409E-01	5.377E-01	6.109E-01	6.439E-02	1.213
BI-211		72.87		4.620E+00	4.327E+00	6.789E+00	5.843E-01	0.681
	+	351.07	*	4.949E+00	8.622E-01	4.298E-01	4.959E-02	11.514
PB-212	+	74.81		2.451E+00	6.650E-01	6.934E-01	8.880E-02	3.534
	+	77.11		2.435E+00	4.360E-01	3.889E-01	3.478E-02	6.260
	+	87.30		1.320E+00	4.982E-01	8.579E-01	1.211E-01	1.539
	+	238.63	*	1.885E+00	2.762E-01	1.170E-01	1.473E-02	16.106
	+	300.09		1.212E+00	1.374E+00	1.639E+00	2.216E-01	0.739
PO-212	+	74.81		2.451E+00	6.650E-01	6.934E-01	8.880E-02	3.534
	+	77.11		2.435E+00	4.360E-01	3.889E-01	3.478E-02	6.260
	+	87.30		1.320E+00	4.982E-01	8.579E-01	1.211E-01	1.539
	+	115.19		4.462E+00	4.293E+00	7.384E+00	6.209E-01	0.604
	+	238.63	*	1.885E+00	2.762E-01	1.170E-01	1.473E-02	16.106
	+	300.09		1.212E+00	1.374E+00	1.639E+00	2.216E-01	0.739
BI-214	+	609.31	*	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
	+	1120.29		1.784E+00	6.765E-01	5.508E-01	5.996E-02	3.238
	+	1764.49		1.550E+00	6.550E-01	3.774E-01	3.198E-02	4.107
PB-214	+	74.81		4.223E+00	1.120E+00	1.195E+00	1.370E-01	3.534
	+	77.11		4.174E+00	8.122E-01	6.668E-01	7.833E-02	6.260
	+	87.30		2.262E+00	8.411E-01	1.470E+00	1.851E-01	1.539
	+	241.98		3.059E+00	9.585E-01	7.051E-01	9.225E-02	4.338
	+	295.21		1.846E+00	4.082E-01	2.786E-01	3.829E-02	6.625
	+	351.92	*	1.722E+00	3.131E-01	1.498E-01	1.894E-02	11.490
PO-214	+	74.81		4.223E+00	1.120E+00	1.195E+00	1.370E-01	3.534

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		4.174E+00	8.122E-01	6.668E-01	7.833E-02	6.260
	+	87.30		2.262E+00	8.411E-01	1.470E+00	1.851E-01	1.539
	+	241.98		3.059E+00	9.585E-01	7.051E-01	9.225E-02	4.338
	+	295.21		1.846E+00	4.082E-01	2.786E-01	3.829E-02	6.625
	+	351.92	*	1.722E+00	3.131E-01	1.498E-01	1.894E-02	11.490
PO-216	+	74.81		2.451E+00	6.650E-01	6.934E-01	8.880E-02	3.534
	+	77.11		2.435E+00	4.360E-01	3.889E-01	3.478E-02	6.260
	+	87.30		1.320E+00	4.982E-01	8.579E-01	1.211E-01	1.539
	+	238.63	*	1.885E+00	2.762E-01	1.170E-01	1.473E-02	16.106
	+	300.09		1.212E+00	1.374E+00	1.639E+00	2.216E-01	0.739
PO-218	+	74.81		4.223E+00	1.120E+00	1.195E+00	1.370E-01	3.534
	+	77.11		4.174E+00	8.122E-01	6.668E-01	7.833E-02	6.260
	+	87.30		2.262E+00	8.411E-01	1.470E+00	1.851E-01	1.539
	+	241.98		3.059E+00	9.585E-01	7.051E-01	9.225E-02	4.338
	+	295.21		1.846E+00	4.082E-01	2.786E-01	3.829E-02	6.625
	+	351.92	*	1.722E+00	3.131E-01	1.498E-01	1.894E-02	11.490
RA-224	+	240.98	*	5.800E+00	1.788E+00	1.332E+00	1.572E-01	4.353
RA-226	+	609.31	*	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
	+	1120.29		1.784E+00	6.765E-01	5.508E-01	5.996E-02	3.238
	+	1764.49		1.550E+00	6.550E-01	3.774E-01	3.198E-02	4.107
AC-228	+	338.32		1.692E+00	8.557E-01	5.316E-01	2.230E-01	3.182
	+	911.07	*	1.780E+00	3.747E-01	2.684E-01	3.347E-02	6.630
	+	969.11		1.789E+00	6.779E-01	5.576E-01	1.328E-01	3.209
RA-228	+	338.32		1.692E+00	8.557E-01	5.316E-01	2.230E-01	3.182
	+	911.07	*	1.780E+00	3.747E-01	2.684E-01	3.347E-02	6.630
	+	969.11		1.789E+00	6.779E-01	5.576E-01	1.328E-01	3.209
TH-228	+	74.81		2.488E+00	6.346E-01	7.041E-01	6.215E-02	3.534
	+	77.11		2.472E+00	4.427E-01	3.949E-01	3.532E-02	6.260
	+	87.30		1.341E+00	4.877E-01	8.711E-01	8.679E-02	1.539
	+	238.63	*	1.914E+00	2.805E-01	1.188E-01	1.495E-02	16.106
	+	300.09		1.230E+00	1.569E+00	1.665E+00	9.972E-01	0.739
TH-230	+	609.31	*	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
	+	1120.29		1.784E+00	6.765E-01	5.507E-01	5.996E-02	3.238
	+	1764.49		1.550E+00	6.550E-01	3.774E-01	3.198E-02	4.107
TH-232	+	338.32		1.692E+00	5.160E-01	5.316E-01	6.112E-02	3.182
	+	911.07	*	1.780E+00	3.747E-01	2.684E-01	3.347E-02	6.630
	+	969.11		1.789E+00	6.779E-01	5.576E-01	1.328E-01	3.209
TH-234	+	63.29	*	2.863E+00	3.199E+00	2.901E+00	5.121E-01	0.987
	+	92.38		3.252E+00	1.397E+00	1.048E+00	1.942E-01	3.102
U-234	+	609.31	*	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
	+	1120.29		1.784E+00	6.765E-01	5.507E-01	5.996E-02	3.238
	+	1764.49		1.550E+00	6.550E-01	3.774E-01	3.198E-02	4.107
U-235		89.95		-5.713E-01	2.010E+00	2.343E+00	7.311E-01	-0.244
	+	93.35		3.909E+00	1.877E+00	1.250E+00	3.535E-01	3.128
		105.00		1.718E+00	1.411E+00	2.298E+00	6.862E-01	0.748
	+	143.76	*	4.320E-01	4.735E-01	4.148E-01	7.366E-02	1.041
		163.35		-6.071E-02	6.254E-01	9.709E-01	1.922E-01	-0.063
	+	185.71		4.682E-01	1.312E-01	8.687E-02	9.271E-03	5.389
		205.31		3.725E-01	7.770E-01	1.131E+00	2.298E-01	0.329

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-237	+	86.50	*	8.382E-01	3.506E-01	5.063E-01	1.158E-01	1.656
		95.87		-9.548E-01	1.281E+00	1.804E+00	4.482E-01	-0.529
U-238	+	63.29	*	2.863E+00	3.199E+00	2.901E+00	5.121E-01	0.987
	+	92.38		3.252E+00	1.298E+00	1.048E+00	9.980E-02	3.102
AM-243	+	74.67	*	3.973E-01	1.012E-01	1.128E-01	9.867E-03	3.521
	+	86.72		3.143E+01	1.144E+01	1.893E+01	1.873E+00	1.661
		117.66		-4.186E+00	4.602E+00	7.251E+00	6.075E-01	-0.577
	+	142.18		3.629E+01	3.939E+01	3.467E+01	3.136E+00	1.047
ANH-511	+	511.00	*	9.775E-02	7.997E-02	6.492E-02	6.436E-03	1.506

---- 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	*	3.559E-01	4.187E-01	7.186E-01	7.621E-02	0.495
NA-22		1274.54	*	-1.391E-02	4.984E-02	7.898E-02	7.003E-03	-0.176
NA-24		1368.53	*	4.649E-01	4.984E-02	Half-Life too short		
AL-26		1129.67		1.673E-01	2.218E+00	3.578E+00	3.057E-01	0.047
		1808.65	*	-2.088E-02	3.082E-02	4.100E-02	3.394E-03	-0.509
TI-44		67.85		-2.925E-02	6.080E-02	9.645E-02	7.957E-03	-0.303
	+	78.38	*	4.493E-01	8.045E-02	8.652E-02	7.833E-03	5.193
SC-46		889.25	*	-4.180E-02	5.228E-02	7.715E-02	7.844E-03	-0.542
	+	1120.51		3.059E-01	1.143E-01	1.697E-01	1.466E-02	1.803
V-48		944.10		-3.384E-01	1.224E+00	1.916E+00	1.918E-01	-0.177
		983.50	*	-7.560E-04	9.122E-02	1.465E-01	1.433E-02	-0.005
		1312.09		4.706E-02	1.017E-01	1.762E-01	1.614E-02	0.267
CR-51		320.08	*	1.424E-01	4.743E-01	8.025E-01	9.791E-02	0.177
MN-52		744.21		-2.859E-03	2.995E-01	4.928E-01	4.540E-02	-0.006
		848.13		-4.282E+00	9.286E+00	1.441E+01	1.427E+00	-0.297
		935.52		-9.905E-02	3.474E-01	5.437E-01	5.466E-02	-0.182
		1246.25		-6.735E-01	1.012E+01	1.657E+01	1.430E+00	-0.041
		1333.61		6.509E-02	6.711E+00	1.101E+01	1.025E+00	0.006
		1434.06	*	2.458E-02	3.022E-01	4.981E-01	4.634E-02	0.049
MN-54		834.83	*	-5.221E-03	5.079E-02	8.208E-02	8.063E-03	-0.064
CO-56		846.75	*	-5.313E-03	4.992E-02	8.043E-02	7.963E-03	-0.066
		977.42		-4.711E-01	3.742E+00	5.756E+00	5.651E-01	-0.082
		1037.82		2.389E-01	4.155E-01	7.318E-01	7.184E-02	0.326
		1175.09		-2.078E+00	2.649E+00	3.992E+00	3.221E-01	-0.520
	+	1238.25		2.661E-01	1.240E-01	2.143E-01	1.890E-02	1.242
		1360.21		-1.404E-01	1.356E+00	2.186E+00	2.038E-01	-0.064
		1771.40		-1.415E-02	2.784E-01	4.157E-01	3.511E-02	-0.034
CO-57		122.06	*	-6.018E-04	3.134E-02	5.156E-02	4.310E-03	-0.012
		136.48		2.206E-01	2.656E-01	4.491E-01	4.240E-02	0.491
CO-58		810.76	*	4.460E-03	5.044E-02	8.319E-02	8.057E-03	0.054
FE-59	+	142.65		5.594E+00	6.072E+00	6.236E+00	5.655E-01	0.897
		192.34		3.603E-01	1.260E+00	2.044E+00	3.051E-01	0.176
		1099.22	*	-7.043E-02	1.219E-01	1.913E-01	1.824E-02	-0.368
		1291.56		-4.667E-02	1.488E-01	2.344E-01	2.371E-02	-0.199
CO-60		1173.22		3.508E-02	5.209E-02	9.231E-02	7.434E-03	0.380

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1332.49	*		-8.538E-03	4.945E-02	7.909E-02	7.369E-03	-0.108
ZN-65	1115.52	*		2.435E-02	1.278E-01	1.882E-01	1.637E-02	0.129
GE-68	1077.35	*		-1.203E+00	1.565E+00	2.391E+00	2.166E-01	-0.503
AS-73	53.44	*		1.580E+00	1.327E+00	2.369E+00	1.961E-01	0.667
AS-74	595.88	*		1.485E-02	1.202E-01	2.033E-01	1.899E-02	0.073
	634.78			-1.758E-01	4.382E-01	7.050E-01	6.303E-02	-0.249
SE-75	66.05			3.830E+00	6.589E+00	1.036E+01	1.039E+00	0.370
	96.73			-1.077E+00	1.078E+00	1.482E+00	2.070E-01	-0.727
	121.11			1.475E-01	1.651E-01	2.816E-01	3.102E-02	0.524
	136.00			3.556E-02	4.930E-02	8.309E-02	7.353E-03	0.428
	198.60			3.431E-01	2.404E+00	3.834E+00	4.488E-01	0.089
	264.65	*		-3.124E-02	6.477E-02	9.268E-02	1.133E-02	-0.337
	279.53			-8.547E-02	1.388E-01	2.245E-01	2.835E-02	-0.381
	303.91			2.131E+00	2.948E+00	4.558E+00	6.516E-01	0.467
	400.65			2.126E-01	3.463E-01	5.880E-01	7.196E-02	0.362
BR-77	87.88	+		6.739E+02	2.452E+02	4.264E+02	4.278E+01	1.580
	200.40			4.942E+01	2.331E+02	3.760E+02	4.133E+01	0.131
	239.00	+		3.250E+02	4.535E+01	5.307E+01	6.244E+00	6.125
	249.79			-2.344E+01	9.229E+01	1.540E+02	1.842E+01	-0.152
	281.68			-1.263E+02	1.190E+02	1.857E+02	2.298E+01	-0.680
	297.23			1.553E+02	1.113E+02	1.384E+02	1.690E+01	1.122
	303.76			7.985E+01	2.768E+02	4.157E+02	5.040E+01	0.192
	439.47			-6.926E+01	2.179E+02	3.458E+02	3.484E+01	-0.200
	484.57			1.649E+02	3.186E+02	5.346E+02	5.350E+01	0.309
	520.65	*		6.301E+00	1.564E+01	2.586E+01	2.552E+00	0.244
	574.64			-8.025E+01	3.009E+02	4.960E+02	4.722E+01	-0.162
	578.91			-3.454E+00	1.301E+02	1.898E+02	1.801E+01	-0.018
	585.48			8.458E+02	3.162E+02	5.478E+02	5.165E+01	1.544
	755.35			-1.583E+01	2.510E+02	4.093E+02	3.802E+01	-0.039
	817.79			1.664E+02	1.648E+02	2.970E+02	2.885E+01	0.560
SR-82	698.33			3.213E+00	4.661E+01	7.760E+01	6.894E+00	0.041
	776.49	*		-1.122E-01	4.997E-01	8.028E-01	7.575E-02	-0.140
	1395.20			-3.711E+00	1.264E+01	1.957E+01	1.825E+00	-0.190
RB-83	520.41	*		3.031E-02	9.704E-02	1.593E-01	1.573E-02	0.190
	529.64			2.436E-02	1.321E-01	2.150E-01	2.112E-02	0.113
	552.65			-5.984E-03	2.506E-01	4.219E-01	4.084E-02	-0.014
RB-84	881.50	*		1.683E-02	9.202E-02	1.522E-01	1.540E-02	0.111
KR-85	513.99	*		1.351E+01	9.828E+00	1.573E+01	1.557E+00	0.859
SR-85	513.99	*		6.946E-02	5.052E-02	8.086E-02	8.005E-03	0.859
RB-86	1076.63	*		-2.246E-01	9.818E-01	1.599E+00	1.450E-01	-0.140
Y-88	898.02			-1.464E-02	5.494E-02	8.650E-02	8.872E-03	-0.169
	1836.01	*		1.305E-02	4.662E-02	7.370E-02	6.011E-03	0.177
ZR-88	392.90	*		-3.868E-02	4.275E-02	6.549E-02	6.553E-03	-0.591
Y-91	1204.90	*		6.072E+00	2.412E+01	4.082E+01	3.390E+00	0.149
NB-94	702.63	*		2.395E-02	4.449E-02	7.668E-02	6.837E-03	0.312
	871.10			4.988E-03	4.264E-02	7.017E-02	7.055E-03	0.071
NB-95	765.79	*		1.495E-02	6.289E-02	1.049E-01	9.821E-03	0.143
NB-95M	235.69	*		1.122E-01	1.725E-01	2.681E-01	3.392E-02	0.418
ZR-95	724.18			1.009E-01	1.357E-01	2.108E-01	2.062E-02	0.479

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	756.15	*		1.185E-02	9.782E-02	1.626E-01	1.644E-02	0.073
	657.90	*		2.740E-01	9.782E-02	Half-Life	too short	
ZR-97	1024.50			-6.270E+00	9.782E-02	Half-Life	too short	
	254.15			5.977E+00	9.782E-02	Half-Life	too short	
	355.39			1.561E+00	9.782E-02	Half-Life	too short	
	507.63	*		2.308E+00	9.782E-02	Half-Life	too short	
	602.52			7.329E+00	9.782E-02	Half-Life	too short	
	1021.30			2.034E+00	9.782E-02	Half-Life	too short	
	1147.95			-8.454E-01	9.782E-02	Half-Life	too short	
	1362.66			7.270E+00	9.782E-02	Half-Life	too short	
MO-99	1750.46			-4.165E+00	9.782E-02	Half-Life	too short	
	140.51			-2.051E+01	3.948E+01	5.515E+01	1.533E+01	-0.372
	181.06			1.091E+00	2.545E+01	3.653E+01	7.046E+00	0.030
	366.43			3.258E+01	1.144E+02	1.920E+02	2.072E+01	0.170
	739.58	*		3.881E+00	1.472E+01	2.486E+01	3.856E+00	0.156
TC-99M	778.00			3.602E+01	4.505E+01	7.924E+01	7.485E+00	0.455
	140.51	*		-5.513E+10	4.505E+01	Half-Life	too short	
RH-101	127.23			3.014E-02	4.316E-02	6.591E-02	5.594E-03	0.457
	198.01	*		-1.572E-02	4.414E-02	6.860E-02	7.504E-03	-0.229
RH-102	325.23			2.051E-01	3.295E-01	5.038E-01	5.928E-02	0.407
	418.52			-2.876E-01	3.965E-01	6.117E-01	6.154E-02	-0.470
	475.06	*		-4.141E-03	3.732E-02	5.969E-02	5.988E-03	-0.069
	631.29			4.665E-02	6.757E-02	1.190E-01	1.068E-02	0.392
	697.49			-1.397E-02	1.048E-01	1.718E-01	1.525E-02	-0.081
	766.84			1.006E-01	1.604E-01	2.744E-01	2.571E-02	0.367
	1046.59			-3.649E-03	1.300E-01	2.169E-01	2.023E-02	-0.017
	1112.84			9.826E-02	3.210E-01	4.807E-01	4.191E-02	0.204
RU-103	497.08	*		3.215E-02	5.472E-02	9.185E-02	1.380E-02	0.350
RH-106	610.33	+		1.521E+01	3.404E+00	3.836E+00	6.517E-01	3.965
	511.85	+		4.885E-01	3.996E-01	5.340E-01	5.291E-02	0.915
RU-106	621.84	*		2.123E-01	3.885E-01	6.768E-01	9.245E-02	0.314
	1050.47			-5.494E-01	2.758E+00	4.515E+00	4.195E-01	-0.122
	511.85	+		4.885E-01	3.996E-01	5.340E-01	5.291E-02	0.915
	621.84	*		2.123E-01	3.879E-01	6.768E-01	6.146E-02	0.314
AG-108M	1050.47			-5.494E-01	2.758E+00	4.515E+00	4.195E-01	-0.122
	433.93	*		-3.645E-02	4.565E-02	6.965E-02	7.220E-03	-0.523
AG-110M	614.37			3.660E-02	5.480E-02	8.546E-02	8.100E-03	0.428
	722.95			-3.119E-02	5.651E-02	7.458E-02	6.999E-03	-0.418
	657.75	*		6.223E-02	5.086E-02	8.325E-02	7.426E-03	0.747
	677.61			-3.325E-03	4.011E-01	6.653E-01	5.970E-02	-0.005
	706.67			-3.843E-01	2.708E-01	3.871E-01	3.551E-02	-0.993
	763.93			-1.830E-01	2.496E-01	3.862E-01	3.697E-02	-0.474
	884.67			-3.939E-03	6.551E-02	1.056E-01	1.096E-02	-0.037
IN-111	937.48			-1.758E-01	1.462E-01	2.015E-01	2.078E-02	-0.872
	1384.27			-4.063E-02	2.206E-01	3.510E-01	3.352E-02	-0.116
	171.28			-5.403E-02	1.382E+00	2.226E+00	2.307E-01	-0.024
	245.39	*		-4.329E-01	1.539E+00	2.254E+00	2.677E-01	-0.192
IN-113M	391.69	*		-6.224E-03	5.968E-02	9.711E-02	9.938E-03	-0.064
SN-113	391.69	*		-6.224E-03	5.968E-02	9.711E-02	9.938E-03	-0.064

---- Non-Identified Nuclides ----

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IN-114M	190.27	*		3.375E-03	2.613E-01	3.729E-01	4.017E-02	0.009
CD-115	260.90			-3.518E+01	1.885E+02	3.148E+02	3.821E+01	-0.112
	492.35			1.024E+01	5.284E+01	8.638E+01	8.624E+00	0.119
	527.90	*		-1.441E+01	1.582E+01	2.316E+01	2.277E+00	-0.622
SN-117M	156.02			-1.012E+00	2.957E+00	4.720E+00	4.586E-01	-0.215
	158.56	*		1.012E-01	7.205E-02	1.232E-01	1.213E-02	0.822
SB-122	563.90	*		5.113E-01	2.721E+00	4.647E+00	4.462E-01	0.110
	692.80			-1.535E+00	5.832E+01	9.642E+01	8.528E+00	-0.016
I-123	159.00	*		1.446E+01	5.832E+01	Half-Life	too short	
	528.96			-1.968E+02	5.832E+01	Half-Life	too short	
TE-123M	159.00	*		5.246E-02	3.717E-02	6.351E-02	6.301E-03	0.826
I-124	602.71	*		6.664E-01	1.031E+00	1.600E+00	1.484E-01	0.416
	722.78			-3.898E+00	6.108E+00	7.943E+00	7.197E-01	-0.491
	1325.50			5.670E+00	4.426E+01	7.379E+01	6.834E+00	0.077
	1376.25			5.235E+01	4.407E+01	8.153E+01	7.602E+00	0.642
	1509.49			2.180E+01	2.086E+01	3.897E+01	3.593E+00	0.559
	1691.02			1.353E+00	4.805E+00	8.431E+00	7.385E-01	0.160
SB-124	602.71			3.729E-02	5.770E-02	8.956E-02	8.307E-03	0.416
	645.85			-5.245E-01	6.295E-01	9.684E-01	9.023E-02	-0.542
	709.31			2.130E+00	3.504E+00	6.086E+00	5.455E-01	0.350
	713.82			1.086E+00	2.169E+00	3.727E+00	4.588E-01	0.291
	722.78			-3.163E-01	4.955E-01	6.444E-01	5.953E-02	-0.491
	+ 968.20			1.847E+01	5.739E+00	8.679E+00	8.569E-01	2.128
	1045.16			-1.544E+00	3.023E+00	4.779E+00	4.461E-01	-0.323
	1325.50			4.913E-01	3.835E+00	6.393E+00	5.921E-01	0.077
	1368.21			9.299E-01	2.503E+00	4.278E+00	5.963E-01	0.217
	1436.60			3.991E+00	4.790E+00	8.741E+00	8.130E-01	0.457
	1691.02	*		2.589E-02	9.194E-02	1.613E-01	1.467E-02	0.160
SB-125	427.89	*		-3.890E-03	1.301E-01	2.114E-01	2.159E-02	-0.018
	+ 463.38			1.083E+00	7.310E-01	7.808E-01	8.306E-02	1.387
	600.56			1.109E-01	2.462E-01	4.152E-01	4.105E-02	0.267
	635.90			-2.834E-01	3.308E-01	5.075E-01	4.872E-02	-0.558
TE-125M	109.28	*		4.608E+00	1.205E+01	2.025E+01	2.076E+00	0.228
I-126	388.63			2.246E-01	2.875E-01	4.931E-01	4.983E-02	0.455
	666.33	*		-4.020E-02	2.909E-01	4.135E-01	3.576E-02	-0.097
	753.82			2.737E-01	2.012E+00	3.337E+00	3.096E-01	0.082
SB-126	223.80			-8.543E-01	5.509E+00	8.652E+00	9.928E-01	-0.099
	278.60			-2.115E-01	3.257E+00	5.450E+00	6.755E-01	-0.039
	296.50			1.284E+01	3.384E+00	4.609E+00	5.633E-01	2.785
	414.70			1.239E-01	1.055E-01	1.843E-01	1.853E-02	0.673
	415.30			5.899E+00	8.786E+00	1.494E+01	1.503E+00	0.395
	555.20			7.811E-01	5.060E+00	8.630E+00	8.340E-01	0.091
	573.80			1.431E-01	1.393E+00	2.360E+00	2.248E-01	0.061
	593.00			-4.645E-01	1.210E+00	1.968E+00	1.843E-01	-0.236
	656.30			1.665E-01	4.520E+00	6.566E+00	5.701E-01	0.025
	666.33			-1.681E-02	1.216E-01	1.729E-01	1.495E-02	-0.097
	675.00			-2.368E+00	2.746E+00	4.178E+00	3.641E-01	-0.567
	695.00			-7.154E-02	1.049E-01	1.637E-01	1.450E-02	-0.437
	697.00			-6.813E-02	3.614E-01	5.894E-01	5.231E-02	-0.116

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	720.50	*		2.105E-02	1.961E-01	2.850E-01	2.578E-02	0.074
	856.80			-1.915E-02	6.999E-01	9.800E-01	9.765E-02	-0.020
	989.30			-1.079E+00	1.633E+00	2.408E+00	2.346E-01	-0.448
	1034.80			-3.017E+00	1.175E+01	1.919E+01	1.807E+00	-0.157
	1213.00			1.831E+00	6.377E+00	1.081E+01	9.043E-01	0.169
	61.10			6.282E+01	9.133E+01	1.447E+02	1.523E+01	0.434
	252.40			1.415E+00	5.985E+00	1.018E+01	4.363E+00	0.139
	290.80			-2.819E+01	3.219E+01	4.377E+01	6.235E+00	-0.644
	411.60			-1.210E+01	1.839E+01	2.857E+01	4.743E+00	-0.424
	444.90			1.457E+00	1.504E+01	2.457E+01	3.350E+00	0.059
	473.00			-1.845E+00	2.390E+00	3.599E+00	5.007E-01	-0.513
	543.00			2.166E+01	2.227E+01	3.824E+01	5.792E+00	0.566
	603.60			2.072E-01	1.819E+01	2.654E+01	3.457E+00	0.008
	685.20	*		-7.293E-01	1.816E+00	2.902E+00	3.361E-01	-0.251
	698.50			-2.719E+00	2.188E+01	3.587E+01	5.745E+00	-0.076
XE-127	722.20			4.223E+00	4.090E+01	5.938E+01	6.872E+00	0.071
	783.80			2.256E+00	5.147E+00	8.741E+00	1.145E+00	0.258
	57.60			-3.340E+00	8.957E+00	1.506E+01	1.159E+00	-0.222
	145.22			8.571E-02	1.006E+00	1.471E+00	1.351E-01	0.058
	172.10			-2.496E-02	1.575E-01	2.520E-01	2.617E-02	-0.099
I-131	202.84	*		-4.052E-02	6.422E-02	9.890E-02	1.092E-02	-0.410
	374.96			-2.466E-03	2.566E-01	4.216E-01	4.443E-02	-0.006
	80.18			2.661E+00	7.426E+00	9.198E+00	8.526E-01	0.289
	284.30			-1.452E+00	1.922E+00	3.069E+00	3.890E-01	-0.473
	364.48	*		-1.935E-02	1.542E-01	2.520E-01	2.827E-02	-0.077
TE-132	636.97			-7.692E-01	1.886E+00	3.029E+00	2.842E-01	-0.254
	722.89			-5.744E+00	9.690E+00	1.270E+01	1.158E+00	-0.452
	49.72			1.019E+01	3.961E+01	6.227E+01	6.879E+00	0.164
	111.76			-2.672E-01	4.111E+01	6.685E+01	7.222E+00	-0.004
	116.30			3.155E+01	3.496E+01	5.974E+01	6.417E+00	0.528
BA-133	228.16	*		1.932E-01	9.629E-01	1.540E+00	2.702E-01	0.125
	53.15			3.995E+00	5.855E+00	1.029E+01	8.558E-01	0.388
	79.62			5.307E-01	1.785E+00	2.516E+00	3.910E-01	0.211
	81.00			1.154E-02	1.529E-01	1.852E-01	3.010E-02	0.062
	276.40			8.703E-01	5.158E-01	8.987E-01	1.523E-01	0.968
I-133	302.84			1.933E-02	2.075E-01	3.072E-01	4.853E-02	0.063
	356.01	*		-6.328E-03	6.066E-02	8.702E-02	1.298E-02	-0.073
	383.85			-1.115E-02	4.081E-01	6.687E-01	9.213E-02	-0.017
	510.53	+		1.210E+00	4.081E-01	Half-Life	too short	
	529.87	*		1.183E-03	4.081E-01	Half-Life	too short	
CS-134	706.58			-9.380E-01	4.081E-01	Half-Life	too short	
	856.28			-8.253E-01	4.081E-01	Half-Life	too short	
	875.33			-3.903E-02	4.081E-01	Half-Life	too short	
	1236.41	+		2.340E+00	4.081E-01	Half-Life	too short	
	1298.22			-3.936E-01	4.081E-01	Half-Life	too short	
CS-134	475.35			-1.447E+00	2.575E+00	3.963E+00	3.976E-01	-0.365
	563.23			2.774E-02	4.432E-01	7.499E-01	7.260E-02	0.037
	569.32			5.263E-03	2.734E-01	4.552E-01	4.400E-02	0.012
	604.70			-2.696E-02	5.246E-02	7.235E-02	6.710E-03	-0.373

----- 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	795.84	*		7.906E-02	6.484E-02	1.160E-01	1.116E-02	0.682
	801.93			-4.874E-01	5.552E-01	8.251E-01	7.964E-02	-0.591
	1038.57			2.334E+00	5.049E+00	8.819E+00	8.280E-01	0.265
	1167.94			1.776E+00	3.020E+00	5.301E+00	4.302E-01	0.335
	1365.15			1.159E-01	1.798E+00	2.962E+00	2.870E-01	0.039
	268.24	*		2.836E-01	2.307E-01	3.665E-01	4.848E-02	0.774
	288.45			4.906E+10	2.307E-01	Half-Life	too short	
	417.63			2.425E+10	2.307E-01	Half-Life	too short	
	546.56			-1.767E+10	2.307E-01	Half-Life	too short	
	836.80			4.921E+10	2.307E-01	Half-Life	too short	
	1038.76			1.478E+10	2.307E-01	Half-Life	too short	
	1124.00			5.350E+09	2.307E-01	Half-Life	too short	
	1131.51			-1.373E+10	2.307E-01	Half-Life	too short	
	1260.41	*		1.028E+10	2.307E-01	Half-Life	too short	
	1457.56			1.474E+12	2.307E-01	Half-Life	too short	
	1678.03			1.619E+10	2.307E-01	Half-Life	too short	
	1706.46			-2.993E+10	2.307E-01	Half-Life	too short	
CS-136	1791.20			-1.946E+10	2.307E-01	Half-Life	too short	
	66.91			-1.789E-01	1.112E+00	1.685E+00	2.561E-01	-0.106
	86.29	+		3.774E+00	1.419E+00	2.466E+00	3.379E-01	1.530
	153.22			1.015E+00	8.543E-01	1.451E+00	1.523E-01	0.699
	163.89			1.356E+00	1.343E+00	2.266E+00	2.501E-01	0.599
	176.55			-8.355E-02	4.762E-01	7.597E-01	8.274E-02	-0.110
	273.65			-6.070E-01	7.128E-01	9.891E-01	1.259E-01	-0.614
	340.57			1.799E-01	1.899E-01	2.949E-01	3.432E-02	0.610
	818.51			6.428E-02	8.931E-02	1.566E-01	1.523E-02	0.410
	1048.07	*		2.191E-02	1.301E-01	2.215E-01	2.138E-02	0.099
CE-139 BA-140	1235.34			7.458E-01	9.307E-01	1.441E+00	1.700E-01	0.517
	165.85	*		-2.912E-02	3.798E-02	5.887E-02	6.039E-03	-0.495
	162.64			-8.311E-01	1.027E+00	1.535E+00	1.613E-01	-0.542
	304.84			-3.271E-01	1.884E+00	2.725E+00	7.979E-01	-0.120
LA-140	423.70			-2.056E-01	2.724E+00	4.413E+00	1.449E+00	-0.047
	537.32	*		2.192E-01	3.780E-01	6.209E-01	2.078E-01	0.353
	328.77	+		9.897E-01	5.947E-01	7.494E-01	9.037E-02	1.321
	432.53			8.533E-01	2.783E+00	4.627E+00	4.827E-01	0.184
	487.03			-1.196E-01	1.881E-01	2.865E-01	2.998E-02	-0.417
	751.79			-5.757E-01	2.343E+00	3.772E+00	3.821E-01	-0.153
	815.85			-8.720E-02	3.920E-01	6.250E-01	6.620E-02	-0.140
	867.82			7.432E-01	1.833E+00	3.100E+00	3.233E-01	0.240
	919.63			-2.938E-01	3.602E+00	5.772E+00	6.869E-01	-0.051
	925.24			-4.618E-01	1.384E+00	2.146E+00	2.268E-01	-0.215
CE-141 CE-143	1596.49	*		7.046E-03	1.231E-01	2.076E-01	1.878E-02	0.034
	145.44	*		-1.203E-02	9.059E-02	1.308E-01	1.221E-02	-0.092
+ + + + + +	57.37			-6.639E-04	9.059E-02	Half-Life	too short	
	231.56			1.947E-05	9.059E-02	Half-Life	too short	
	293.26	*		1.135E-03	9.059E-02	Half-Life	too short	
	350.59			4.438E-02	9.059E-02	Half-Life	too short	
	490.36			9.855E-05	9.059E-02	Half-Life	too short	
	664.57			3.743E-03	9.059E-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
	721.93			4.484E-04	9.059E-02	Half-Life too short		
CE-144	80.11			1.222E+00	3.351E+00	4.153E+00	3.825E-01	0.294
	133.54	*		-2.849E-01	2.588E-01	3.961E-01	6.183E-02	-0.719
PM-144	476.78			-1.311E-02	8.891E-02	1.418E-01	1.521E-02	-0.092
	618.01			-1.613E-02	4.159E-02	6.736E-02	6.296E-03	-0.239
	696.49	*		-2.032E-02	4.668E-02	7.455E-02	6.616E-03	-0.273
	778.57			1.414E+00	2.898E+00	4.967E+00	4.695E-01	0.285
PR-144	696.49	*		-1.377E+00	3.163E+00	5.053E+00	4.482E-01	-0.273
	1489.15			-7.351E+00	1.334E+01	1.911E+01	1.767E+00	-0.385
PM-146	453.90	*		1.453E-02	5.875E-02	9.692E-02	1.155E-02	0.150
	633.02			1.298E+00	1.791E+00	3.054E+00	1.144E+00	0.425
	735.90			1.300E-01	2.018E-01	3.091E-01	8.892E-02	0.421
	747.13			3.017E-02	1.177E-01	1.982E-01	2.858E-02	0.152
ND-147	91.11			-1.694E-01	4.939E-01	7.401E-01	7.621E-02	-0.229
	319.41			-1.680E+00	4.388E+00	7.124E+00	8.460E-01	-0.236
	439.89			-3.289E+00	8.434E+00	1.331E+01	1.341E+00	-0.247
	531.02	*		-3.781E-02	7.473E-01	1.190E+00	1.865E-01	-0.032
PM-149	285.90	*		8.938E+01	1.251E+02	2.162E+02	3.864E+01	0.413
EU-152	121.78			7.478E-03	9.130E-02	1.509E-01	1.463E-02	0.050
	244.69			-3.603E-01	4.565E-01	6.413E-01	7.611E-02	-0.562
	344.27	*		-8.149E-02	1.319E-01	2.094E-01	2.462E-02	-0.389
	443.98			1.052E+00	1.361E+00	2.321E+00	2.338E-01	0.453
	778.89			1.327E-01	3.374E-01	5.735E-01	5.421E-02	0.231
	867.32			2.212E-01	1.116E+00	1.802E+00	1.808E-01	0.123
	964.01			2.525E-01	4.451E-01	6.632E-01	6.565E-02	0.381
	1085.78			3.219E-01	5.133E-01	9.070E-01	8.146E-02	0.355
	1112.02			-4.360E-02	4.561E-01	6.723E-01	5.867E-02	-0.065
	1407.95			2.562E-01	2.433E-01	4.500E-01	4.192E-02	0.569
GD-153	69.67			1.830E-01	2.145E+00	3.486E+00	2.920E-01	0.052
	83.37			4.269E+01	2.081E+01	3.060E+01	2.916E+00	1.395
	97.43	*		-2.266E-02	1.092E-01	1.589E-01	1.444E-02	-0.143
	103.18			-8.168E-02	1.303E-01	2.104E-01	1.842E-02	-0.388
EU-154	123.07			3.007E-02	6.376E-02	1.070E-01	1.196E-02	0.281
	247.94			7.953E-02	4.483E-01	7.649E-01	1.081E-01	0.104
	591.81			-4.513E-01	7.896E-01	1.261E+00	1.544E-01	-0.358
	723.30			-1.832E-02	2.315E-01	3.278E-01	3.256E-02	-0.056
	756.87			-2.789E-01	1.066E+00	1.714E+00	2.138E-01	-0.163
	873.19			-1.523E-01	3.834E-01	5.952E-01	7.918E-02	-0.256
	996.32			-3.752E-02	4.932E-01	6.724E-01	1.231E-01	-0.056
	1004.76			1.704E-01	2.490E-01	4.017E-01	4.986E-02	0.424
	1274.45	*		-4.205E-02	1.388E-01	2.192E-01	2.519E-02	-0.192
EU-155	48.70			-9.758E-02	4.964E+00	7.697E+00	6.814E-01	-0.013
	60.01			1.668E+00	7.824E+00	1.215E+01	9.166E-01	0.137
	86.54			3.438E-01	1.252E-01	2.219E-01	2.208E-02	1.549
	105.31	*		1.352E-01	1.354E-01	2.330E-01	2.043E-02	0.580
TB-160	86.79			9.205E-01	3.349E-01	5.913E-01	5.857E-02	1.557
	197.04			-6.040E-01	7.540E-01	1.140E+00	1.245E-01	-0.530
	215.65			3.483E-01	1.027E+00	1.659E+00	1.876E-01	0.210
	298.57			1.767E-01	2.001E-01	2.520E-01	3.073E-02	0.701

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		879.36	*	3.406E-02	1.827E-01	3.024E-01	3.056E-02	0.113
		962.29		8.087E-01	7.897E-01	1.241E+00	1.230E-01	0.651
		966.15		8.549E-01	3.832E-01	6.387E-01	6.314E-02	1.339
		1177.93		-5.652E-02	3.726E-01	6.056E-01	4.899E-02	-0.093
		1271.85		-6.805E-01	7.971E-01	1.153E+00	1.018E-01	-0.590
		80.57		4.406E-01	4.014E-01	5.255E-01	4.863E-02	0.838
	+	184.41		3.511E-01	9.841E-02	1.053E-01	1.121E-02	3.334
		280.46		-1.426E-01	1.086E-01	1.665E-01	2.063E-02	-0.856
		410.95		8.102E-02	3.463E-01	5.737E-01	5.766E-02	0.141
		711.68	*	5.353E-02	7.909E-02	1.378E-01	1.238E-02	0.388
TM-171		752.31		5.554E-02	3.744E-01	6.238E-01	5.782E-02	0.089
		810.29		3.421E-02	7.841E-02	1.333E-01	1.289E-02	0.257
		51.35		-3.392E+01	5.173E+01	8.622E+01	7.401E+00	-0.393
		52.39		8.485E-01	2.639E+01	4.530E+01	3.821E+00	0.019
		59.40		2.496E+01	4.052E+01	6.426E+01	4.809E+00	0.388
LU-176	+	66.72	*	9.078E+00	3.918E+01	6.055E+01	4.947E+00	0.150
		88.36		6.770E-01	2.463E-01	4.161E-01	4.159E-02	1.627
		201.83		-2.633E-02	3.911E-02	6.010E-02	6.623E-03	-0.438
LU-177		306.84	*	-1.275E-02	3.226E-02	5.251E-02	6.343E-03	-0.243
		401.10		4.582E+00	9.040E+00	1.527E+01	1.531E+00	0.300
		112.95		-8.242E-01	2.144E+00	3.423E+00	2.891E-01	-0.241
	+	208.36	*	3.298E+00	2.142E+00	2.753E+00	3.072E-01	1.198
LU-177M		52.97		1.842E+00	2.666E+00	4.685E+00	3.911E-01	0.393
		54.07		1.394E+00	1.351E+00	2.399E+00	1.963E-01	0.581
		61.30		1.833E+00	2.262E+00	3.605E+00	2.777E-01	0.509
		121.62		2.200E-02	4.717E-01	7.783E-01	6.498E-02	0.028
		147.16		-1.598E-02	9.313E-01	1.353E+00	1.254E-01	-0.012
		171.86		6.394E-02	6.252E-01	1.013E+00	1.052E-01	0.063
		218.09		-1.793E-01	1.158E+00	1.823E+00	2.071E-01	-0.098
	+	268.79		2.195E+00	1.612E+00	1.945E+00	2.384E-01	1.129
		319.02		-6.315E-02	3.313E-01	5.446E-01	6.470E-02	-0.116
		367.43		1.110E-01	1.183E+00	1.960E+00	2.108E-01	0.057
HF-181		413.65	*	-1.232E-01	2.504E-01	3.949E-01	3.970E-02	-0.312
		56.28		-1.199E+00	1.411E+00	2.322E+00	1.827E-01	-0.516
		57.53		-3.191E-01	7.526E-01	1.263E+00	9.725E-02	-0.253
		65.20		2.374E-01	1.307E+00	2.018E+00	1.626E-01	0.118
		133.02		-4.522E-02	8.638E-02	1.311E-01	1.138E-02	-0.345
		136.25		4.144E-01	5.801E-01	9.772E-01	8.600E-02	0.424
W-181		345.85		-2.103E-01	2.965E-01	4.026E-01	4.559E-02	-0.522
		482.03	*	-4.352E-03	5.582E-02	8.944E-02	8.957E-03	-0.049
		56.28		-4.681E-01	5.510E-01	9.066E-01	7.131E-02	-0.516
		57.53		-1.251E-01	2.940E-01	4.933E-01	3.800E-02	-0.254
		65.20	*	9.202E-02	5.066E-01	7.821E-01	6.301E-02	0.118
TA-182		67.75		-1.182E-02	1.431E-01	2.311E-01	1.905E-02	-0.051
		100.10		1.256E-01	2.176E-01	3.703E-01	3.301E-02	0.339
		152.43		2.217E-02	4.381E-01	7.135E-01	6.801E-02	0.031
		222.10		2.244E-01	4.551E-01	7.401E-01	8.468E-02	0.303
	+	1001.68		8.008E+00	4.077E+00	5.341E+00	5.159E-01	1.500
		1121.28		5.921E-01	2.623E-01	4.582E-01	3.955E-02	1.292

---- 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			2.258E-01	3.654E-01	6.424E-01	5.254E-02	0.352
	1221.42	*		1.384E-01	2.646E-01	4.568E-01	3.853E-02	0.303
	1230.97			9.216E-02	6.378E-01	9.600E-01	8.171E-02	0.096
	57.98			1.800E-01	2.984E-01	5.004E-01	3.826E-02	0.360
	59.32			7.786E-02	1.687E-01	2.656E-01	1.990E-02	0.293
	67.20			-2.236E-02	2.780E-01	4.229E-01	3.469E-02	-0.053
	162.32	*		-1.596E-01	1.507E-01	2.220E-01	2.232E-02	-0.719
	208.81	+		2.898E+00	1.882E+00	2.393E+00	2.672E-01	1.211
	291.72			2.627E-01	1.300E+00	1.946E+00	2.390E-01	0.135
	57.98			6.624E-01	1.098E+00	1.841E+00	1.408E-01	0.360
RE-184	59.32			2.863E-01	6.204E-01	9.764E-01	7.316E-02	0.293
	67.20			-8.226E-02	1.023E+00	1.556E+00	1.276E-01	-0.053
	161.27			-2.249E-01	4.869E-01	7.442E-01	7.442E-02	-0.302
	216.55			2.851E-01	3.632E-01	5.981E-01	6.776E-02	0.477
	252.85	*		9.531E-02	3.084E-01	5.284E-01	6.344E-02	0.180
	318.01			-6.257E-01	5.911E-01	9.123E-01	1.086E-01	-0.686
	792.07			-4.601E-01	1.340E+00	2.127E+00	2.030E-01	-0.216
	903.28			4.461E-01	1.390E+00	2.199E+00	2.243E-01	0.203
	920.93			3.457E-01	5.584E-01	9.633E-01	9.750E-02	0.359
	59.72			3.305E-02	4.644E-01	7.163E-01	5.376E-02	0.046
OS-185	61.14			1.774E-01	2.488E-01	3.950E-01	3.035E-02	0.449
	69.30			-3.035E-01	3.726E-01	6.106E-01	5.099E-02	-0.497
	592.07			-2.634E+00	3.345E+00	5.254E+00	4.924E-01	-0.501
	646.12	*		-3.549E-02	5.307E-02	8.304E-02	7.314E-03	-0.427
	717.42			-6.425E-01	1.180E+00	1.794E+00	1.619E-01	-0.358
	874.81			-2.784E-01	7.311E-01	1.136E+00	1.145E-01	-0.245
	880.27			8.531E-01	9.783E-01	1.727E+00	1.746E-01	0.494
	155.03	*		-9.345E-02	2.228E-01	3.544E-01	3.426E-02	-0.264
	477.96			2.783E+00	4.109E+00	6.966E+00	6.984E-01	0.399
	633.10			2.505E+00	3.488E+00	6.152E+00	5.511E-01	0.407
W-188	63.58	+		1.153E+02	1.276E+02	1.389E+02	1.101E+01	0.831
	227.08			2.072E+00	1.732E+01	2.759E+01	3.184E+00	0.075
IR-192	290.67	*		-1.016E+01	1.064E+01	1.438E+01	1.767E+00	-0.707
	295.96	+		1.411E+00	2.996E-01	3.783E-01	4.643E-02	3.729
	308.46			4.099E-02	1.240E-01	2.105E-01	2.544E-02	0.195
	316.51	*		-1.672E-02	4.514E-02	7.341E-02	8.765E-03	-0.228
	468.07			5.902E-02	1.017E-01	1.521E-01	1.610E-02	0.388
	604.41			-1.720E-01	6.995E-01	9.932E-01	1.336E-01	-0.173
AU-195	612.46			6.670E-01	1.031E+00	1.598E+00	1.660E-01	0.417
	65.12			3.441E-02	2.345E-01	3.614E-01	2.910E-02	0.095
	66.83			2.995E-02	1.294E-01	2.000E-01	1.636E-02	0.150
	75.70	+		1.287E+00	3.279E-01	5.752E-01	5.077E-02	2.237
	98.88	*		2.649E-01	2.865E-01	4.833E-01	4.345E-02	0.548
TL-200	129.76	+		6.477E+00	3.963E+00	6.368E+00	5.455E-01	1.017
	367.94	*		-4.066E-05	3.963E+00	Half-Life	too short	
	579.30			4.102E-03	3.963E+00	Half-Life	too short	
	828.27			6.301E-05	3.963E+00	Half-Life	too short	
TL-201	1205.75			-5.183E-04	3.963E+00	Half-Life	too short	
	68.90			-5.467E+00	6.366E+00	1.041E+01	8.668E-01	-0.525

---- 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		4.300E+00	3.819E+00	6.112E+00	5.169E-01	0.704
		80.30		9.105E+00	7.878E+00	1.035E+01	9.554E-01	0.879
		135.34		7.626E+00	3.376E+01	5.579E+01	4.891E+00	0.137
		167.43	*	-6.241E+00	9.709E+00	1.481E+01	1.524E+00	-0.421
		68.90		-4.716E-01	5.490E-01	8.982E-01	7.476E-02	-0.525
		70.82		3.698E-01	3.285E-01	5.257E-01	4.446E-02	0.704
HG-203		80.30		7.834E-01	6.778E-01	8.908E-01	8.220E-02	0.879
		439.56	*	-7.319E-02	1.023E-01	1.573E-01	1.585E-02	-0.465
		70.83		1.594E+00	1.419E+00	2.256E+00	3.046E-01	0.707
		72.87		9.223E-01	8.688E-01	1.355E+00	1.788E-01	0.681
BI-207	+	82.60		3.183E+00	1.589E+00	2.202E+00	3.145E-01	1.445
		279.20	*	-2.507E-02	5.261E-02	8.594E-02	1.081E-02	-0.292
		72.80		2.074E-01	2.503E-01	3.892E-01	3.348E-02	0.533
	+	74.97		7.132E-01	1.817E-01	2.930E-01	2.569E-02	2.434
	+	84.90		5.518E-01	2.690E-01	3.977E-01	3.855E-02	1.387
		569.67		-6.169E-03	4.273E-02	7.032E-02	6.721E-03	-0.088
TL-207		1063.62	*	-1.481E-02	6.547E-02	1.068E-01	9.809E-03	-0.139
		1770.23		2.632E-01	5.031E-01	8.476E-01	7.162E-02	0.310
		81.07		9.256E-03	3.369E-01	4.062E-01	3.779E-02	0.023
	+	83.78		3.638E-01	1.774E-01	2.693E-01	2.578E-02	1.351
		94.90		1.439E-01	3.053E-01	4.562E-01	4.236E-02	0.315
		122.32		3.379E-01	2.162E+00	3.583E+00	3.226E-01	0.094
PO-209	+	144.24		1.400E+00	1.521E+00	1.546E+00	1.563E-01	0.906
		154.21		-1.388E-01	5.190E-01	8.322E-01	8.654E-02	-0.167
	+	269.46		5.134E-01	3.770E-01	4.653E-01	5.765E-02	1.103
	+	323.87	*	5.219E-01	9.481E-01	1.441E+00	2.802E-01	0.362
	+	338.28		7.064E+00	2.242E+00	3.153E+00	4.563E-01	2.241
		445.03		6.665E-02	3.336E+00	5.422E+00	7.137E-01	0.012
BI-210		260.50		1.503E+00	1.287E+01	2.182E+01	2.647E+00	0.069
		262.80		-8.830E+00	3.470E+01	5.769E+01	7.019E+00	-0.153
		896.60	*	-7.899E+00	9.891E+00	1.459E+01	1.490E+00	-0.542
		46.50	*	1.193E-03	7.759E+00	1.180E+01	1.131E+00	0.000
PB-210		46.50	*	1.193E-03	7.759E+00	1.180E+01	1.131E+00	0.000
PO-210		46.50	*	1.193E-03	7.759E+00	1.180E+01	1.030E+00	0.000
PB-211		404.84	*	-1.172E+00	1.490E+00	1.987E+00	1.249E+00	-0.590
BI-212		427.08		2.707E+00	3.387E+00	5.072E+00	3.162E+00	0.534
		831.96		-2.344E-01	1.561E+00	2.499E+00	1.570E+00	-0.094
	+	727.18	*	1.727E+00	8.070E-01	8.295E-01	8.641E-02	2.083
		785.46		3.783E+00	2.338E+00	4.310E+00	4.093E-01	0.878
PO-215		1620.62		1.172E+00	1.616E+00	2.994E+00	2.688E-01	0.391
		81.07		9.256E-03	3.369E-01	4.062E-01	3.779E-02	0.023
	+	83.78		3.638E-01	1.774E-01	2.693E-01	2.578E-02	1.351
		94.90		1.439E-01	3.053E-01	4.562E-01	4.236E-02	0.315
		122.32		3.379E-01	2.162E+00	3.583E+00	3.226E-01	0.094
	+	144.24		1.400E+00	1.521E+00	1.546E+00	1.563E-01	0.906
		154.21		-1.388E-01	5.190E-01	8.322E-01	8.654E-02	-0.167
	+	269.46		5.134E-01	3.770E-01	4.653E-01	5.765E-02	1.103
	+	323.87	*	5.219E-01	9.481E-01	1.441E+00	2.802E-01	0.362
	+	338.28		7.064E+00	2.242E+00	3.153E+00	4.563E-01	2.241

---- 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		6.665E-02	3.336E+00	5.422E+00	7.137E-01	0.012
		271.23		6.587E-01	4.850E-01	5.836E-01	7.898E-02	1.129
		401.81	*	4.338E-01	5.558E-01	9.492E-01	1.507E-01	0.457
RN-220		549.76	*	1.303E+01	3.234E+01	5.351E+01	5.191E+00	0.244
RA-223	+	81.07		9.256E-03	3.369E-01	4.062E-01	3.779E-02	0.023
		83.78		3.638E-01	1.774E-01	2.693E-01	2.578E-02	1.351
		94.90		1.439E-01	3.053E-01	4.562E-01	4.236E-02	0.315
	+	122.32		3.379E-01	2.162E+00	3.583E+00	3.226E-01	0.094
		144.24		1.400E+00	1.521E+00	1.546E+00	1.563E-01	0.906
		154.21		-1.388E-01	5.190E-01	8.322E-01	8.654E-02	-0.167
	+	269.46		5.134E-01	3.770E-01	4.653E-01	5.765E-02	1.103
		323.87	*	5.219E-01	9.481E-01	1.441E+00	2.802E-01	0.362
		338.28		7.064E+00	2.242E+00	3.153E+00	4.563E-01	2.241
AC-227	+	445.03		6.665E-02	3.336E+00	5.422E+00	7.137E-01	0.012
		79.80		9.395E-01	2.604E+00	3.219E+00	6.996E-01	0.292
		236.00		6.981E-01	3.621E-01	5.775E-01	8.423E-02	1.209
	+	256.20	*	-1.887E-01	5.225E-01	8.653E-01	1.515E-01	-0.218
		286.10		1.318E+00	1.933E+00	3.342E+00	5.308E-01	0.394
		299.80		2.246E+00	2.565E+00	3.278E+00	6.390E-01	0.685
TH-227	+	304.40		9.829E-01	2.643E+00	3.988E+00	8.098E-01	0.246
		334.20		1.724E-01	3.363E+00	4.922E+00	1.028E+00	0.035
		79.80		9.395E-01	2.604E+00	3.219E+00	7.083E-01	0.292
	+	94.00		1.257E+01	5.610E+00	4.809E+00	1.062E+00	2.613
		236.00		6.981E-01	3.603E-01	5.775E-01	7.866E-02	1.209
		256.20	*	-1.887E-01	5.229E-01	8.653E-01	1.725E-01	-0.218
	+	286.10		1.318E+00	2.336E+00	3.342E+00	3.367E+00	0.394
		299.80		2.246E+00	2.565E+00	3.278E+00	6.390E-01	0.685
		304.40		9.829E-01	2.643E+00	3.988E+00	8.098E-01	0.246
TH-229	+	334.20		1.724E-01	3.363E+00	4.922E+00	1.028E+00	0.035
		85.43		6.401E-01	2.329E-01	3.915E-01	3.817E-02	1.635
		88.47		6.452E-02	1.937E-01	2.369E-01	2.365E-02	0.272
	+	100.00		1.775E-01	2.247E-01	3.852E-01	3.436E-02	0.461
		193.63	*	4.248E-01	6.524E-01	1.076E+00	1.167E-01	0.395
		210.97		2.752E-01	1.104E+00	1.588E+00	1.781E-01	0.173
PA-231		283.67	*	-8.684E-01	1.899E+00	3.091E+00	5.433E-01	-0.281
TH-231	+	301.29		1.012E+00	8.543E-01	1.343E+00	2.008E-01	0.754
		81.07		9.256E-03	3.369E-01	4.062E-01	3.779E-02	0.023
		83.78		3.638E-01	1.774E-01	2.693E-01	2.578E-02	1.351
	+	94.90		1.439E-01	3.053E-01	4.562E-01	4.236E-02	0.315
		122.32		3.379E-01	2.162E+00	3.583E+00	3.226E-01	0.094
		144.24		1.400E+00	1.521E+00	1.546E+00	1.563E-01	0.906
	+	154.21		-1.388E-01	5.190E-01	8.322E-01	8.654E-02	-0.167
		269.46		5.134E-01	3.770E-01	4.653E-01	5.765E-02	1.103
		323.87	*	5.219E-01	9.481E-01	1.441E+00	2.802E-01	0.362
	+	338.28		7.064E+00	2.242E+00	3.153E+00	4.563E-01	2.241
		445.03		6.665E-02	3.336E+00	5.422E+00	7.137E-01	0.012
U-231	+	84.21		1.631E+01	7.952E+00	1.220E+01	1.173E+00	1.338
		92.29		1.292E+01	5.158E+00	6.441E+00	6.139E-01	2.006
		95.87	*	-1.127E+00	1.489E+00	2.128E+00	1.959E-01	-0.529

---- 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		-4.861E-01	2.735E+00	4.500E+00	3.856E-01	-0.108
	+	75.28		2.081E+01	5.924E+00	8.773E+00	1.355E+00	2.372
	+	86.59		5.588E+00	2.480E+00	3.604E+00	9.821E-01	1.551
	+	300.12		6.260E-01	7.128E-01	9.056E-01	1.556E-01	0.691
		311.98	*	-8.814E-02	8.674E-02	1.349E-01	1.642E-02	-0.654
		340.50		7.875E-01	9.444E-01	1.431E+00	3.578E-01	0.550
PA-234		398.62		-1.246E-01	2.863E+00	4.673E+00	1.267E+00	-0.027
		415.76		1.696E+00	2.331E+00	3.936E+00	8.724E-01	0.431
	+	63.00		3.337E+00	3.717E+00	4.159E+00	6.279E-01	0.802
		94.67		2.652E-01	2.215E-01	3.399E-01	4.380E-02	0.780
		98.44		1.175E-01	1.324E-01	1.953E-01	1.091E-01	0.602
		99.86		4.808E-01	5.705E-01	9.798E-01	8.749E-02	0.491
		111.00		6.234E-02	2.402E-01	3.948E-01	4.735E-02	0.158
		131.20		1.322E-01	1.420E-01	2.191E-01	1.888E-02	0.603
		152.70		4.376E-01	4.144E-01	6.940E-01	1.217E-01	0.631
	+	186.00		1.264E+01	5.190E+00	3.970E+00	1.264E+00	3.184
		226.40		-9.878E-02	5.493E-01	8.607E-01	1.313E-01	-0.115
		227.20		5.322E-02	5.828E-01	9.271E-01	1.070E-01	0.057
		248.90		-7.589E-02	1.036E+00	1.746E+00	4.170E-01	-0.043
	+	293.70		8.859E+00	2.302E+00	2.345E+00	4.541E-01	3.779
		369.80		-9.000E-01	1.104E+00	1.682E+00	3.813E-01	-0.535
		568.70		3.626E-01	1.370E+00	2.319E+00	2.218E-01	0.156
		569.50		-2.910E-03	3.775E-01	6.272E-01	5.996E-02	-0.005
		574.00		2.651E-01	1.978E+00	3.359E+00	3.199E-01	0.079
		699.00		-2.479E-02	9.822E-01	1.623E+00	3.117E-01	-0.015
		706.10		-1.699E+00	1.514E+00	1.911E+00	8.533E-01	-0.889
		733.00		-8.430E-03	5.424E-01	7.738E-01	1.733E-01	-0.011
		742.81		-5.362E-01	1.664E+00	2.588E+00	1.742E+00	-0.207
		796.30		1.323E+00	1.286E+00	2.200E+00	6.021E-01	0.601
		805.60		6.006E-01	1.419E+00	2.387E+00	7.387E-01	0.252
		819.60		9.167E-01	1.541E+00	2.605E+00	9.976E-01	0.352
		826.30		2.517E-01	9.773E-01	1.629E+00	7.327E-01	0.154
		831.60		-4.455E-01	8.152E-01	1.239E+00	3.743E-01	-0.360
		876.40		-2.401E-01	1.110E+00	1.716E+00	1.766E+00	-0.140
		880.51		2.723E-01	3.532E-01	6.181E-01	6.251E-02	0.441
		883.24		-2.520E-02	3.792E-01	6.106E-01	4.117E-01	-0.041
		899.00		-7.959E-02	1.081E+00	1.737E+00	7.654E-01	-0.046
		925.00		-3.984E-01	1.427E+00	2.229E+00	2.252E-01	-0.179
		926.50		-1.657E-01	2.243E-01	3.242E-01	8.369E-02	-0.511
		946.00	*	-1.115E-02	4.121E-01	6.628E-01	1.288E-01	-0.017
		949.00		5.916E-02	6.402E-01	1.042E+00	1.040E-01	0.057
		980.50		1.923E-01	9.169E-01	1.510E+00	1.480E-01	0.127
		1394.10		-3.810E-01	1.416E+00	2.171E+00	1.415E+00	-0.175
PA-234M		766.42		9.363E+00	1.731E+01	2.841E+01	1.445E+01	0.330
NP-236	+	1001.03	*	1.816E+01	9.287E+00	1.215E+01	1.322E+00	1.494
		94.67		2.028E-01	1.671E-01	2.580E-01	2.401E-02	0.786
		98.44		8.883E-02	8.726E-02	1.476E-01	1.331E-02	0.602
		111.00		4.715E-02	1.817E-01	2.986E-01	2.535E-02	0.158
		160.31	*	1.188E-02	1.055E-01	1.718E-01	1.709E-02	0.069

---- 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		1.874E-01	1.963E-01	3.313E-01	2.965E-02	0.566
		117.00	*	-1.389E-01	2.319E-01	3.718E-01	3.118E-02	-0.374
	+	209.75		2.281E+00	1.481E+00	1.853E+00	2.074E-01	1.231
		228.18		5.852E-02	2.988E-01	4.779E-01	5.525E-02	0.122
		277.60		2.924E-01	2.413E-01	4.243E-01	5.253E-02	0.689
		334.30		1.593E-01	1.909E+00	2.801E+00	3.245E-01	0.057
AM-241		59.54	*	-1.085E-02	2.441E-01	3.743E-01	3.066E-02	-0.029
CM-243		99.55		1.928E-01	2.020E-01	3.409E-01	3.051E-02	0.566
		103.76	*	5.107E-02	1.199E-01	2.025E-01	1.767E-02	0.252
		117.00		-1.429E-01	2.386E-01	3.825E-01	3.208E-02	-0.374
	+	209.75		2.248E+00	1.460E+00	1.827E+00	2.044E-01	1.231
		228.18		5.913E-02	3.019E-01	4.829E-01	5.583E-02	0.122
		277.60		2.947E-01	2.433E-01	4.278E-01	5.296E-02	0.689
AM-246		798.80		-2.216E-01	1.968E-01	2.874E-01	2.755E-02	-0.771
		1036.00		2.990E-02	4.051E-01	6.831E-01	6.427E-02	0.044
		1062.04		3.282E-02	2.843E-01	4.808E-01	4.420E-02	0.068
		1078.86	*	-1.357E-01	1.770E-01	2.703E-01	2.444E-02	-0.502
CM-247		278.00		9.197E-01	9.866E-01	1.721E+00	2.132E-01	0.534
		287.40		5.623E-01	1.595E+00	2.720E+00	3.353E-01	0.207
		402.60	*	-1.116E-02	5.021E-02	8.088E-02	8.114E-03	-0.138
CF-249		252.85		3.573E-01	1.156E+00	1.981E+00	2.378E-01	0.180
		333.44		-1.918E-02	2.957E-01	3.608E-01	4.186E-02	-0.053
		387.95	*	3.793E-02	5.617E-02	9.577E-02	9.699E-03	0.396
CF-251		176.60	*	-2.656E-02	1.622E-01	2.589E-01	2.713E-02	-0.103
		227.00		7.227E-02	5.189E-01	8.276E-01	9.549E-02	0.087
		285.00		7.000E-01	2.206E+00	3.760E+00	4.643E-01	0.186

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]G244924008      *
* Acquisition date   : 27-JAN-2010 20:40:59 Detector SN#                   *
* Detector ID        : GAM02                                           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 02:00:02.70                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G244924008                               Analyst initials: MXR1        *
* Batch Number       : 942723                                   Sample Quantity  : 1.0353E+02 GRAM *
* Recovery           : 1.00000                                Carrier Weight   : 0.00000      *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                       *
* CALIB. DATE/TIME   : 29-OCT-2009 10:28:07 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	2.447E+01	2.995E+00	7.815E-01	0.000E+00
CD-109	2.905E+00	1.036E+00	1.835E+00	0.000E+00
SN-126	2.855E-01	1.018E-01	1.857E-01	0.000E+00
BA-137M	9.710E-01	1.404E-01	7.935E-02	0.000E+00
CS-137	1.026E+00	1.485E-01	8.388E-02	0.000E+00
TL-208	6.138E-01	1.135E-01	8.166E-02	0.000E+00
BI-211	4.949E+00	8.450E-01	4.292E-01	0.000E+00
PB-212	1.885E+00	2.707E-01	1.170E-01	0.000E+00
PO-212	1.885E+00	2.707E-01	1.170E-01	0.000E+00
BI-214	1.402E+00	2.473E-01	1.474E-01	0.000E+00
PB-214	1.722E+00	3.068E-01	1.496E-01	0.000E+00
PO-214	1.722E+00	3.068E-01	1.496E-01	0.000E+00
PO-216	1.885E+00	2.707E-01	1.170E-01	0.000E+00
PO-218	1.722E+00	3.068E-01	1.496E-01	0.000E+00
RA-224	5.800E+00	1.752E+00	1.332E+00	0.000E+00
RA-226	1.402E+00	2.473E-01	1.474E-01	0.000E+00
AC-228	1.780E+00	3.672E-01	2.669E-01	0.000E+00
RA-228	1.780E+00	3.672E-01	2.669E-01	0.000E+00
TH-228	1.914E+00	2.749E-01	1.188E-01	0.000E+00
TH-230	1.402E+00	2.473E-01	1.474E-01	0.000E+00
TH-232	1.780E+00	3.672E-01	2.669E-01	0.000E+00
TH-234	2.863E+00	3.135E+00	2.917E+00	0.000E+00
U-234	1.402E+00	2.473E-01	1.474E-01	0.000E+00
U-235	4.320E-01	4.640E-01	4.158E-01	0.000E+00
NP-237	8.382E-01	3.436E-01	5.085E-01	0.000E+00
U-238	2.863E+00	3.135E+00	2.917E+00	0.000E+00
AM-243	3.973E-01	9.920E-02	1.134E-01	0.000E+00
ANH-511	9.775E-02	7.837E-02	6.472E-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	3.559E-01	4.103E-01	7.166E-01	0.000E+00	NOT IDENT.
NA-22	-1.391E-02	4.884E-02	7.843E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.324E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.088E-02	3.021E-02	4.065E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.884E-02	8.694E-02	0.000E+00	FAIL ABUN
SC-46	-4.180E-02	5.123E-02	7.673E-02	0.000E+00	FAIL ABUN
V-48	-7.560E-04	8.939E-02	1.456E-01	0.000E+00	NOT IDENT.
CR-51	1.424E-01	4.648E-01	8.016E-01	0.000E+00	NOT IDENT.
MN-52	2.458E-02	2.962E-01	4.944E-01	0.000E+00	NOT IDENT.
MN-54	-5.221E-03	4.978E-02	8.165E-02	0.000E+00	NOT IDENT.
CO-56	-5.313E-03	4.892E-02	8.000E-02	0.000E+00	FAIL ABUN
CO-57	-6.018E-04	3.072E-02	5.171E-02	0.000E+00	NOT IDENT.
CO-58	4.460E-03	4.943E-02	8.277E-02	0.000E+00	NOT IDENT.
FE-59	-7.043E-02	1.195E-01	1.901E-01	0.000E+00	FAIL ABUN
CO-60	-8.538E-03	4.846E-02	7.852E-02	0.000E+00	NOT IDENT.
ZN-65	2.435E-02	1.253E-01	1.870E-01	0.000E+00	NOT IDENT.
GE-68	-1.203E+00	1.533E+00	2.376E+00	0.000E+00	NOT IDENT.
AS-73	1.580E+00	1.300E+00	2.385E+00	0.000E+00	NOT IDENT.
AS-74	1.485E-02	1.177E-01	2.026E-01	0.000E+00	NOT IDENT.
SE-75	-3.124E-02	6.347E-02	9.266E-02	0.000E+00	NOT IDENT.
BR-77	6.301E+00	1.533E+01	2.578E+01	0.000E+00	FAIL ABUN
SR-82	-1.122E-01	4.897E-01	7.989E-01	0.000E+00	NOT IDENT.
RB-83	3.031E-02	9.510E-02	1.588E-01	0.000E+00	NOT IDENT.
RB-84	1.683E-02	9.018E-02	1.514E-01	0.000E+00	NOT IDENT.
KR-85	1.351E+01	9.632E+00	1.568E+01	0.000E+00	NOT IDENT.
SR-85	6.946E-02	4.951E-02	8.061E-02	0.000E+00	NOT IDENT.
RB-86	-2.246E-01	9.622E-01	1.589E+00	0.000E+00	NOT IDENT.
Y-88	1.305E-02	4.569E-02	7.307E-02	0.000E+00	NOT IDENT.
ZR-88	-3.868E-02	4.189E-02	6.536E-02	0.000E+00	NOT IDENT.
Y-91	6.072E+00	2.363E+01	4.054E+01	0.000E+00	NOT IDENT.
NB-94	2.395E-02	4.360E-02	7.634E-02	0.000E+00	NOT IDENT.
NB-95	1.495E-02	6.163E-02	1.044E-01	0.000E+00	NOT IDENT.
NB-95M	1.122E-01	1.691E-01	2.682E-01	0.000E+00	NOT IDENT.
ZR-95	1.185E-02	9.586E-02	1.618E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.811E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.685E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	3.881E+00	1.443E+01	2.475E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.042E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.572E-02	4.326E-02	6.867E-02	0.000E+00	NOT IDENT.
RH-102	-4.141E-03	3.657E-02	5.953E-02	0.000E+00	NOT IDENT.
RU-103	3.215E-02	5.363E-02	9.157E-02	0.000E+00	FAIL ABUN
RH-106	2.123E-01	3.807E-01	6.741E-01	0.000E+00	FAIL ABUN
RU-106	2.123E-01	3.801E-01	6.741E-01	0.000E+00	FAIL ABUN
AG-108M	-3.645E-02	4.474E-02	6.948E-02	0.000E+00	NOT IDENT.
AG-110M	6.223E-02	4.984E-02	8.290E-02	0.000E+00	NOT IDENT.
IN-111	-4.329E-01	1.508E+00	2.254E+00	0.000E+00	NOT IDENT.
IN-113M	-6.224E-03	5.848E-02	9.692E-02	0.000E+00	NOT IDENT.
SN-113	-6.224E-03	5.848E-02	9.692E-02	0.000E+00	NOT IDENT.
IN-114M	3.375E-03	2.561E-01	3.734E-01	0.000E+00	NOT IDENT.
CD-115	-1.441E+01	1.550E+01	2.309E+01	0.000E+00	NOT IDENT.
SN-117M	1.012E-01	7.061E-02	1.234E-01	0.000E+00	NOT IDENT.
SB-122	5.113E-01	2.667E+00	4.630E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.004E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	5.246E-02	3.642E-02	6.363E-02	0.000E+00	NOT IDENT.
I-124	6.664E-01	1.010E+00	1.594E+00	0.000E+00	NOT IDENT.
SB-124	2.589E-02	9.010E-02	1.600E-01	0.000E+00	FAIL ABUN
SB-125	-3.890E-03	1.275E-01	2.109E-01	0.000E+00	FAIL ABUN
TE-125M	4.608E+00	1.181E+01	2.031E+01	0.000E+00	NOT IDENT.
I-126	-4.020E-02	2.851E-01	4.117E-01	0.000E+00	NOT IDENT.
SB-126	2.105E-02	1.922E-01	2.837E-01	0.000E+00	NOT IDENT.
SB-127	-7.293E-01	1.779E+00	2.889E+00	0.000E+00	NOT IDENT.
XE-127	-4.052E-02	6.294E-02	9.898E-02	0.000E+00	NOT IDENT.
I-131	-1.935E-02	1.511E-01	2.516E-01	0.000E+00	NOT IDENT.
TE-132	1.932E-01	9.437E-01	1.540E+00	0.000E+00	NOT IDENT.
BA-133	-6.328E-03	5.945E-02	8.688E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	9.176E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.906E-02	6.354E-02	1.154E-01	0.000E+00	NOT IDENT.
CS-135	2.836E-01	2.261E-01	3.663E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.354E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.191E-02	1.275E-01	2.201E-01	0.000E+00	FAIL ABUN
CE-139	-2.912E-02	3.722E-02	5.897E-02	0.000E+00	NOT IDENT.
BA-140	2.192E-01	3.704E-01	6.189E-01	0.000E+00	NOT IDENT.
LA-140	7.046E-03	1.206E-01	2.059E-01	0.000E+00	FAIL ABUN
CE-141	-1.203E-02	8.878E-02	1.310E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.669E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.849E-01	2.537E-01	3.971E-01	0.000E+00	NOT IDENT.
PM-144	-2.032E-02	4.574E-02	7.422E-02	0.000E+00	NOT IDENT.

PR-144	-1.377E+00	3.100E+00	5.030E+00	0.000E+00	NOT IDENT.
PM-146	1.453E-02	5.757E-02	9.667E-02	0.000E+00	NOT IDENT.
ND-147	-3.781E-02	7.324E-01	1.186E+00	0.000E+00	NOT IDENT.
PM-149	8.938E+01	1.226E+02	2.160E+02	0.000E+00	NOT IDENT.
EU-152	-8.149E-02	1.292E-01	2.091E-01	0.000E+00	NOT IDENT.
GD-153	-2.266E-02	1.070E-01	1.595E-01	0.000E+00	FAIL ABUN
EU-154	-4.205E-02	1.361E-01	2.177E-01	0.000E+00	NOT IDENT.
EU-155	1.352E-01	1.327E-01	2.339E-01	0.000E+00	FAIL ABUN
TB-160	3.406E-02	1.791E-01	3.007E-01	0.000E+00	FAIL ABUN
HO-166M	5.353E-02	7.751E-02	1.372E-01	0.000E+00	FAIL ABUN
TM-171	9.078E+00	3.840E+01	6.089E+01	0.000E+00	NOT IDENT.
LU-176	-1.275E-02	3.161E-02	5.246E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.099E+00	2.755E+00	0.000E+00	FAIL ABUN
LU-177M	-1.232E-01	2.454E-01	3.940E-01	0.000E+00	FAIL ABUN
HF-181	-4.352E-03	5.470E-02	8.918E-02	0.000E+00	NOT IDENT.
W-181	9.202E-02	4.964E-01	7.865E-01	0.000E+00	NOT IDENT.
TA-182	1.384E-01	2.593E-01	4.537E-01	0.000E+00	FAIL ABUN
RE-183	-1.596E-01	1.476E-01	2.224E-01	0.000E+00	FAIL ABUN
RE-184	9.531E-02	3.022E-01	5.283E-01	0.000E+00	NOT IDENT.
OS-185	-3.549E-02	5.201E-02	8.270E-02	0.000E+00	NOT IDENT.
RE-188	-9.345E-02	2.184E-01	3.551E-01	0.000E+00	NOT IDENT.
W-188	-1.016E+01	1.043E+01	1.437E+01	0.000E+00	FAIL ABUN
IR-192	-1.672E-02	4.424E-02	7.333E-02	0.000E+00	FAIL ABUN
AU-195	2.649E-01	2.808E-01	4.852E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.621E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.241E+00	9.515E+00	1.483E+01	0.000E+00	NOT IDENT.
TL-202	-7.319E-02	1.002E-01	1.570E-01	0.000E+00	NOT IDENT.
HG-203	-2.507E-02	5.156E-02	8.589E-02	0.000E+00	FAIL ABUN
BI-207	-1.481E-02	6.416E-02	1.062E-01	0.000E+00	FAIL ABUN
TL-207	5.219E-01	9.292E-01	1.439E+00	0.000E+00	FAIL ABUN
PO-209	-7.899E+00	9.693E+00	1.451E+01	0.000E+00	NOT IDENT.
BI-210	1.193E-03	7.604E+00	1.188E+01	0.000E+00	NOT IDENT.
PB-210	1.193E-03	7.604E+00	1.188E+01	0.000E+00	NOT IDENT.
PO-210	1.193E-03	7.604E+00	1.188E+01	0.000E+00	NOT IDENT.
PB-211	-1.172E+00	1.460E+00	1.983E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.909E-01	8.256E-01	0.000E+00	FAIL ABUN
PO-215	5.219E-01	9.292E-01	1.439E+00	0.000E+00	FAIL ABUN
RN-219	4.338E-01	5.447E-01	9.472E-01	0.000E+00	FAIL ABUN
RN-220	1.303E+01	3.170E+01	5.333E+01	0.000E+00	NOT IDENT.
RA-223	5.219E-01	9.292E-01	1.439E+00	0.000E+00	FAIL ABUN
AC-227	-1.887E-01	5.121E-01	8.652E-01	0.000E+00	FAIL ABUN
TH-227	-1.887E-01	5.124E-01	8.652E-01	0.000E+00	FAIL ABUN
TH-229	4.248E-01	6.393E-01	1.077E+00	0.000E+00	FAIL ABUN
PA-231	-8.684E-01	1.861E+00	3.089E+00	0.000E+00	NOT IDENT.
TH-231	5.219E-01	9.292E-01	1.439E+00	0.000E+00	FAIL ABUN
U-231	-1.127E+00	1.459E+00	2.137E+00	0.000E+00	FAIL ABUN
PA-233	-8.814E-02	8.500E-02	1.347E-01	0.000E+00	FAIL ABUN
PA-234	-1.115E-02	4.038E-01	6.590E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	9.101E+00	1.208E+01	0.000E+00	FAIL ABUN
NP-236	1.188E-02	1.034E-01	1.721E-01	0.000E+00	NOT IDENT.
NP-239	-1.389E-01	2.272E-01	3.730E-01	0.000E+00	FAIL ABUN
AM-241	-1.085E-02	2.392E-01	3.765E-01	0.000E+00	NOT IDENT.
CM-243	5.107E-02	1.175E-01	2.032E-01	0.000E+00	FAIL ABUN
AM-246	-1.357E-01	1.734E-01	2.686E-01	0.000E+00	NOT IDENT.
CM-247	-1.116E-02	4.921E-02	8.071E-02	0.000E+00	NOT IDENT.
CF-249	3.793E-02	5.504E-02	9.559E-02	0.000E+00	NOT IDENT.
CF-251	-2.656E-02	1.590E-01	2.593E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924008.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:40:59
Sample ID          : G244924008 Sample quantity : 1.03526E+02 GRAM
Detector name      : GAM02 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.70 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	740	10.67*	1.028E+00	2.447E+01	2.447E+01	12.49
CD-109	88.03	152	3.72*	5.224E+00	2.839E+00	2.905E+00	36.38
SN-126	64.28	76	9.60	2.535E+00	1.133E+00	1.133E+00	111.35
	86.94	152	8.90	5.224E+00	1.187E+00	1.187E+00	54.40
	87.57	152	37.00*	5.224E+00	2.855E-01	2.855E-01	36.38
BA-137M	661.65	499	89.98*	2.071E+00	9.700E-01	9.710E-01	14.76
CS-137	661.65	499	85.12*	2.071E+00	1.025E+00	1.026E+00	14.77
TL-208	277.35	-----	6.80	3.991E+00	-----	Line Not Found	-----
	510.84	68	21.60	2.541E+00	4.526E-01	4.526E-01	82.23
	583.14	327	84.20*	2.292E+00	6.138E-01	6.138E-01	18.86
	860.37	42	12.46	1.652E+00	7.409E-01	7.409E-01	72.58
BI-211	72.87	-----	1.27	3.848E+00	-----	Line Not Found	-----
	351.07	592	12.94*	3.352E+00	4.949E+00	4.949E+00	17.42
PB-212	74.81	293	10.70	4.054E+00	2.451E+00	2.451E+00	27.14
	77.11	521	18.00	4.314E+00	2.435E+00	2.435E+00	17.91
	87.30	152	8.00	5.224E+00	1.320E+00	1.320E+00	37.73
	238.63	1033	44.60*	4.457E+00	1.885E+00	1.885E+00	14.66
	300.09	43	3.41	3.770E+00	1.212E+00	1.212E+00	113.36
PO-212	74.81	293	10.70	4.054E+00	2.451E+00	2.451E+00	27.14
	77.11	521	18.00	4.314E+00	2.435E+00	2.435E+00	17.91
	87.30	152	8.00	5.224E+00	1.320E+00	1.320E+00	37.73
	115.19	-----	0.60	6.220E+00	-----	Line Not Found	-----
	238.63	1033	44.60*	4.457E+00	1.885E+00	1.885E+00	14.66
	300.09	43	3.41	3.770E+00	1.212E+00	1.212E+00	113.36
BI-214	609.31	396	46.30*	2.214E+00	1.402E+00	1.402E+00	17.99
	1120.29	96	15.10	1.298E+00	1.784E+00	1.784E+00	37.93
	1764.49	61	15.80	9.004E-01	1.550E+00	1.550E+00	42.27
PB-214	74.81	293	6.21	4.054E+00	4.222E+00	4.223E+00	26.53
	77.11	521	10.50	4.314E+00	4.174E+00	4.174E+00	19.46
	87.30	152	4.67	5.224E+00	2.262E+00	2.262E+00	37.19
	241.98	279	7.49	4.418E+00	3.059E+00	3.059E+00	31.34
	295.21	373	19.20	3.816E+00	1.846E+00	1.846E+00	22.12

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	592	37.20*	3.352E+00	1.721E+00	1.722E+00	18.19
	74.81	293	6.21	4.054E+00	4.222E+00	4.223E+00	26.53
	77.11	521	10.50	4.314E+00	4.174E+00	4.174E+00	19.46
	87.30	152	4.67	5.224E+00	2.262E+00	2.262E+00	37.19
	241.98	279	7.49	4.418E+00	3.059E+00	3.059E+00	31.34
PO-216	295.21	373	19.20	3.816E+00	1.846E+00	1.846E+00	22.12
	351.92	592	37.20*	3.352E+00	1.721E+00	1.722E+00	18.19
	74.81	293	10.70	4.054E+00	2.451E+00	2.451E+00	27.14
	77.11	521	18.00	4.314E+00	2.435E+00	2.435E+00	17.91
	87.30	152	8.00	5.224E+00	1.320E+00	1.320E+00	37.73
PO-218	238.63	1033	44.60*	4.457E+00	1.885E+00	1.885E+00	14.66
	300.09	43	3.41	3.770E+00	1.212E+00	1.212E+00	113.36
	74.81	293	6.21	4.054E+00	4.222E+00	4.223E+00	26.53
	77.11	521	10.50	4.314E+00	4.174E+00	4.174E+00	19.46
	87.30	152	4.67	5.224E+00	2.262E+00	2.262E+00	37.19
RA-224	241.98	279	7.49	4.418E+00	3.059E+00	3.059E+00	31.34
	295.21	373	19.20	3.816E+00	1.846E+00	1.846E+00	22.12
	351.92	592	37.20*	3.352E+00	1.721E+00	1.722E+00	18.19
	240.98	279	3.95*	4.418E+00	5.800E+00	5.800E+00	30.83
	609.31	396	46.30*	2.214E+00	1.402E+00	1.402E+00	17.99
RA-226	1120.29	96	15.10	1.298E+00	1.784E+00	1.784E+00	37.93
	1764.49	61	15.80	9.004E-01	1.550E+00	1.550E+00	42.27
	338.32	184	11.40	3.450E+00	1.692E+00	1.692E+00	50.58
	911.07	213	27.70*	1.569E+00	1.780E+00	1.780E+00	21.06
	969.11	121	16.60	1.483E+00	1.789E+00	1.789E+00	37.89
RA-228	338.32	184	11.40	3.450E+00	1.692E+00	1.692E+00	50.58
	911.07	213	27.70*	1.569E+00	1.780E+00	1.780E+00	21.06
	969.11	121	16.60	1.483E+00	1.789E+00	1.789E+00	37.89
	74.81	293	10.70	4.054E+00	2.451E+00	2.488E+00	25.50
	77.11	521	18.00	4.314E+00	2.435E+00	2.472E+00	17.91
TH-228	87.30	152	8.00	5.224E+00	1.320E+00	1.341E+00	36.38
	238.63	1033	44.60*	4.457E+00	1.885E+00	1.914E+00	14.66
	300.09	43	3.41	3.770E+00	1.212E+00	1.230E+00	127.50
	609.31	396	46.30*	2.214E+00	1.402E+00	1.402E+00	17.99
	1120.29	96	15.10	1.298E+00	1.784E+00	1.784E+00	37.93
TH-230	1764.49	61	15.80	9.004E-01	1.550E+00	1.550E+00	42.27
	338.32	184	11.40	3.450E+00	1.692E+00	1.692E+00	30.50
	911.07	213	27.70*	1.569E+00	1.780E+00	1.780E+00	21.06
	969.11	121	16.60	1.483E+00	1.789E+00	1.789E+00	37.89
	63.29	76	3.80*	2.535E+00	2.863E+00	2.863E+00	111.76
TH-232	92.38	272	5.41	5.596E+00	3.252E+00	3.252E+00	42.97
	609.31	396	46.30*	2.214E+00	1.402E+00	1.402E+00	17.99
	1120.29	96	15.10	1.298E+00	1.784E+00	1.784E+00	37.93
	1764.49	61	15.80	9.004E-01	1.550E+00	1.550E+00	42.27
	89.95	-----	2.70	5.432E+00	-----	Line Not Found	-----
TH-234	93.35	272	4.50	5.596E+00	3.909E+00	3.909E+00	48.01
	105.00	-----	2.10	6.070E+00	-----	Line Not Found	-----
	143.76	76	10.50*	6.039E+00	4.320E-01	4.320E-01	109.61
	163.35	-----	4.70	5.697E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	185.71	369	54.00	5.293E+00	4.682E-01	4.682E-01	28.03
	205.31	-----	4.70	4.952E+00	-----	Line Not Found	-----
NP-237	86.50	152	12.60*	5.224E+00	8.382E-01	8.382E-01	41.83
	95.87	-----	2.60	5.755E+00	-----	Line Not Found	-----
U-238	63.29	76	3.80*	2.535E+00	2.863E+00	2.863E+00	111.76
	92.38	272	5.41	5.596E+00	3.252E+00	3.252E+00	39.92
AM-243	74.67	293	66.00*	4.054E+00	3.973E-01	3.973E-01	25.48
	86.72	152	0.34	5.224E+00	3.143E+01	3.143E+01	36.38
	117.66	-----	0.55	6.232E+00	-----	Line Not Found	-----
	142.18	76	0.13	6.039E+00	3.629E+01	3.629E+01	108.54
ANH-511	511.00	68	100.00*	2.541E+00	9.775E-02	9.775E-02	81.81

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 1
Number of lines tentatively identified by NID 32 96.97%

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	2.447E+01	2.447E+01	0.306E+01	12.49	
CD-109	464.00D	1.02	2.839E+00	2.905E+00	1.057E+00	36.38	
SN-126	1.00E+05Y	1.00	2.855E-01	2.855E-01	1.039E-01	36.38	
BA-137M	30.17Y	1.00	9.700E-01	9.710E-01	1.433E-01	14.76	
CS-137	30.17Y	1.00	1.025E+00	1.026E+00	0.152E+00	14.77	
TL-208	1.41E+10Y	1.00	6.138E-01	6.138E-01	1.158E-01	18.86	
BI-211	7.04E+08Y	1.00	4.949E+00	4.949E+00	0.862E+00	17.42	
PB-212	1.41E+10Y	1.00	1.885E+00	1.885E+00	0.276E+00	14.66	
PO-212	1.41E+10Y	1.00	1.885E+00	1.885E+00	0.276E+00	14.66	
BI-214	1600.00Y	1.00	1.402E+00	1.402E+00	0.252E+00	17.99	
PB-214	1600.00Y	1.00	1.721E+00	1.722E+00	0.313E+00	18.19	
PO-214	1600.00Y	1.00	1.721E+00	1.722E+00	0.313E+00	18.19	
PO-216	1.41E+10Y	1.00	1.885E+00	1.885E+00	0.276E+00	14.66	
PO-218	1600.00Y	1.00	1.721E+00	1.722E+00	0.313E+00	18.19	
RA-224	1.41E+10Y	1.00	5.800E+00	5.800E+00	1.788E+00	30.83	
RA-226	1600.00Y	1.00	1.402E+00	1.402E+00	0.252E+00	17.99	
AC-228	1.41E+10Y	1.00	1.780E+00	1.780E+00	0.375E+00	21.06	
RA-228	1.41E+10Y	1.00	1.780E+00	1.780E+00	0.375E+00	21.06	
TH-228	1.91Y	1.02	1.885E+00	1.914E+00	0.280E+00	14.66	
TH-230	4.47E+09Y	1.00	1.402E+00	1.402E+00	0.252E+00	17.99	
TH-232	1.41E+10Y	1.00	1.780E+00	1.780E+00	0.375E+00	21.06	
TH-234	4.47E+09Y	1.00	2.863E+00	2.863E+00	3.199E+00	111.76	
U-234	4.47E+09Y	1.00	1.402E+00	1.402E+00	0.252E+00	17.99	
U-235	7.04E+08Y	1.00	4.320E-01	4.320E-01	4.735E-01	109.61	
NP-237	2.14E+06Y	1.00	8.382E-01	8.382E-01	3.506E-01	41.83	
U-238	4.47E+09Y	1.00	2.863E+00	2.863E+00	3.199E+00	111.76	
AM-243	7380.00Y	1.00	3.973E-01	3.973E-01	1.012E-01	25.48	
ANH-511	1.00E+09Y	1.00	9.775E-02	9.775E-02	7.997E-02	81.81	

Total Activity : 7.209E+01 7.219E+01

Grand Total Activity : 7.209E+01 7.219E+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
4	83.82	123	262	1.34	166.85	164	13	1.71E-02	47.8	4.98E+00	T
0	128.86	85	229	1.28	256.99	254	6	1.18E-02	60.6	6.20E+00	T
0	208.60	100	282	1.26	416.55	413	9	1.39E-02	64.0	4.90E+00	T
0	269.99	78	208	1.18	539.38	534	10	1.09E-02	72.4	4.07E+00	T
0	327.58	86	157	0.95	654.63	650	10	1.19E-02	58.9	3.53E+00	T
0	462.70	84	155	1.58	925.03	919	14	1.16E-02	66.7	2.74E+00	T
0	727.85	107	78	6.21	1455.65	1445	21	1.49E-02	45.5	1.91E+00	T
0	1000.27	61	28	0.84	2000.85	1993	18	8.41E-03	50.0	1.44E+00	T
0	1237.86	51	22	1.39	2476.39	2471	10	7.07E-03	45.8	1.18E+00	T
0	1845.99	13	5	1.32	3693.65	3684	14	1.74E-03	****	8.79E-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]G244924008.CNF;1
* Acquisition date   : 27-JAN-2010 20:40:59  Detector SN#      :
* Detector ID        : GAM02                  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 02:00:02.70          Half life ratio     : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G244924008            Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity   : 1.03526E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 29-OCT-2009 10:28:07.3MS 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	2.447E+01	3.056E+00	7.875E-01	7.486E-02	31.069
CD-109	2.905E+00	1.057E+00	1.827E+00	1.834E-01	1.590
SN-126	2.855E-01	1.039E-01	1.849E-01	1.848E-02	1.544
BA-137M	9.710E-01	1.433E-01	7.969E-02	6.866E-03	12.185
CS-137	1.026E+00	1.516E-01	8.424E-02	7.271E-03	12.185
TL-208	6.138E-01	1.158E-01	8.196E-02	8.210E-03	7.489
BI-211	4.949E+00	8.622E-01	4.298E-01	4.959E-02	11.514
PB-212	1.885E+00	2.762E-01	1.170E-01	1.473E-02	16.106
PO-212	1.885E+00	2.762E-01	1.170E-01	1.473E-02	16.106
BI-214	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
PB-214	1.722E+00	3.131E-01	1.498E-01	1.894E-02	11.490
PO-214	1.722E+00	3.131E-01	1.498E-01	1.894E-02	11.490
PO-216	1.885E+00	2.762E-01	1.170E-01	1.473E-02	16.106
PO-218	1.722E+00	3.131E-01	1.498E-01	1.894E-02	11.490
RA-224	5.800E+00	1.788E+00	1.332E+00	1.572E-01	4.353
RA-226	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
AC-228	1.780E+00	3.747E-01	2.684E-01	3.347E-02	6.630
RA-228	1.780E+00	3.747E-01	2.684E-01	3.347E-02	6.630

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.914E+00	2.805E-01	1.188E-01	1.495E-02	16.106
TH-230	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
TH-232	1.780E+00	3.747E-01	2.684E-01	3.347E-02	6.630
TH-234	2.863E+00	3.199E+00	2.901E+00	5.121E-01	0.987
U-234	1.402E+00	2.523E-01	1.480E-01	1.564E-02	9.476
U-235	4.320E-01	4.735E-01	4.148E-01	7.366E-02	1.041
NP-237	8.382E-01	3.506E-01	5.063E-01	1.158E-01	1.656
U-238	2.863E+00	3.199E+00	2.901E+00	5.121E-01	0.987
AM-243	3.973E-01	1.012E-01	1.128E-01	9.867E-03	3.521
ANH-511	9.775E-02	7.997E-02	6.492E-02	6.436E-03	1.506

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	3.559E-01		4.187E-01	7.186E-01	7.621E-02	0.495
NA-22	-1.391E-02		4.984E-02	7.898E-02	7.003E-03	-0.176
NA-24	4.649E-01		6.754E-01	Half-Life too short		
AL-26	-2.088E-02		3.082E-02	4.100E-02	3.394E-03	-0.509
TI-44	4.493E-01	+	8.045E-02	8.652E-02	7.833E-03	5.193
SC-46	-4.180E-02		5.228E-02	7.715E-02	7.844E-03	-0.542
V-48	-7.560E-04		9.122E-02	1.465E-01	1.433E-02	-0.005
CR-51	1.424E-01		4.743E-01	8.025E-01	9.791E-02	0.177
MN-52	2.458E-02		3.022E-01	4.981E-01	4.634E-02	0.049
MN-54	-5.221E-03		5.079E-02	8.208E-02	8.063E-03	-0.064
CO-56	-5.313E-03		4.992E-02	8.043E-02	7.963E-03	-0.066
CO-57	-6.018E-04		3.134E-02	5.156E-02	4.310E-03	-0.012
CO-58	4.460E-03		5.044E-02	8.319E-02	8.057E-03	0.054
FE-59	-7.043E-02		1.219E-01	1.913E-01	1.824E-02	-0.368
CO-60	-8.538E-03		4.945E-02	7.909E-02	7.369E-03	-0.108
ZN-65	2.435E-02		1.278E-01	1.882E-01	1.637E-02	0.129
GE-68	-1.203E+00		1.565E+00	2.391E+00	2.166E-01	-0.503
AS-73	1.580E+00		1.327E+00	2.369E+00	1.961E-01	0.667
AS-74	1.485E-02		1.202E-01	2.033E-01	1.899E-02	0.073
SE-75	-3.124E-02		6.477E-02	9.268E-02	1.133E-02	-0.337
BR-77	6.301E+00		1.564E+01	2.586E+01	2.552E+00	0.244
SR-82	-1.122E-01		4.997E-01	8.028E-01	7.575E-02	-0.140
RB-83	3.031E-02		9.704E-02	1.593E-01	1.573E-02	0.190
RB-84	1.683E-02		9.202E-02	1.522E-01	1.540E-02	0.111
KR-85	1.351E+01		9.828E+00	1.573E+01	1.557E+00	0.859
SR-85	6.946E-02		5.052E-02	8.086E-02	8.005E-03	0.859
RB-86	-2.246E-01		9.818E-01	1.599E+00	1.450E-01	-0.140
Y-88	1.305E-02		4.662E-02	7.370E-02	6.011E-03	0.177
ZR-88	-3.868E-02		4.275E-02	6.549E-02	6.553E-03	-0.591
Y-91	6.072E+00		2.412E+01	4.082E+01	3.390E+00	0.149
NB-94	2.395E-02		4.449E-02	7.668E-02	6.837E-03	0.312
NB-95	1.495E-02		6.289E-02	1.049E-01	9.821E-03	0.143
NB-95M	1.122E-01		1.725E-01	2.681E-01	3.392E-02	0.418

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	1.185E-02		9.782E-02	1.626E-01	1.644E-02	0.073
NB-97	2.740E-01		9.241E-02	Half-Life too short		
ZR-97	2.308E+00		1.880E+00	Half-Life too short		
MO-99	3.881E+00		1.472E+01	2.486E+01	3.856E+00	0.156
TC-99M	-5.513E+10		5.314E+10	Half-Life too short		
RH-101	-1.572E-02		4.414E-02	6.860E-02	7.504E-03	-0.229
RH-102	-4.141E-03		3.732E-02	5.969E-02	5.988E-03	-0.069
RU-103	3.215E-02		5.472E-02	9.185E-02	1.380E-02	0.350
RH-106	2.123E-01		3.885E-01	6.768E-01	9.245E-02	0.314
RU-106	2.123E-01		3.879E-01	6.768E-01	6.146E-02	0.314
AG-108M	-3.645E-02		4.565E-02	6.965E-02	7.220E-03	-0.523
AG-110M	6.223E-02		5.086E-02	8.325E-02	7.426E-03	0.747
IN-111	-4.329E-01		1.539E+00	2.254E+00	2.677E-01	-0.192
IN-113M	-6.224E-03		5.968E-02	9.711E-02	9.938E-03	-0.064
SN-113	-6.224E-03		5.968E-02	9.711E-02	9.938E-03	-0.064
IN-114M	3.375E-03		2.613E-01	3.729E-01	4.017E-02	0.009
CD-115	-1.441E+01		1.582E+01	2.316E+01	2.277E+00	-0.622
SN-117M	1.012E-01		7.205E-02	1.232E-01	1.213E-02	0.822
SB-122	5.113E-01		2.721E+00	4.647E+00	4.462E-01	0.110
I-123	1.446E+01		5.122E+00	Half-Life too short		
TE-123M	5.246E-02		3.717E-02	6.351E-02	6.301E-03	0.826
I-124	6.664E-01		1.031E+00	1.600E+00	1.484E-01	0.416
SB-124	2.589E-02		9.194E-02	1.613E-01	1.467E-02	0.160
SB-125	-3.890E-03		1.301E-01	2.114E-01	2.159E-02	-0.018
TE-125M	4.608E+00		1.205E+01	2.025E+01	2.076E+00	0.228
I-126	-4.020E-02		2.909E-01	4.135E-01	3.576E-02	-0.097
SB-126	2.105E-02		1.961E-01	2.850E-01	2.578E-02	0.074
SB-127	-7.293E-01		1.816E+00	2.902E+00	3.361E-01	-0.251
XE-127	-4.052E-02		6.422E-02	9.890E-02	1.092E-02	-0.410
I-131	-1.935E-02		1.542E-01	2.520E-01	2.827E-02	-0.077
TE-132	1.932E-01		9.629E-01	1.540E+00	2.702E-01	0.125
BA-133	-6.328E-03		6.066E-02	8.702E-02	1.298E-02	-0.073
I-133	1.183E-03		4.682E-03	Half-Life too short		
CS-134	7.906E-02		6.484E-02	1.160E-01	1.116E-02	0.682
CS-135	2.836E-01		2.307E-01	3.665E-01	4.848E-02	0.774
I-135	1.028E+10		6.909E+09	Half-Life too short		
CS-136	2.191E-02		1.301E-01	2.215E-01	2.138E-02	0.099
CE-139	-2.912E-02		3.798E-02	5.887E-02	6.039E-03	-0.495
BA-140	2.192E-01		3.780E-01	6.209E-01	2.078E-01	0.353
LA-140	7.046E-03		1.231E-01	2.076E-01	1.878E-02	0.034
CE-141	-1.203E-02		9.059E-02	1.308E-01	1.221E-02	-0.092
CE-143	1.135E-03		1.872E-04	Half-Life too short		
CE-144	-2.849E-01		2.588E-01	3.961E-01	6.183E-02	-0.719
PM-144	-2.032E-02		4.668E-02	7.455E-02	6.616E-03	-0.273
PR-144	-1.377E+00		3.163E+00	5.053E+00	4.482E-01	-0.273
PM-146	1.453E-02		5.875E-02	9.692E-02	1.155E-02	0.150
ND-147	-3.781E-02		7.473E-01	1.190E+00	1.865E-01	-0.032
PM-149	8.938E+01		1.251E+02	2.162E+02	3.864E+01	0.413

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-8.149E-02		1.319E-01	2.094E-01	2.462E-02	-0.389
GD-153	-2.266E-02		1.092E-01	1.589E-01	1.444E-02	-0.143
EU-154	-4.205E-02		1.388E-01	2.192E-01	2.519E-02	-0.192
EU-155	1.352E-01		1.354E-01	2.330E-01	2.043E-02	0.580
TB-160	3.406E-02		1.827E-01	3.024E-01	3.056E-02	0.113
HO-166M	5.353E-02		7.909E-02	1.378E-01	1.238E-02	0.388
TM-171	9.078E+00		3.918E+01	6.055E+01	4.947E+00	0.150
LU-176	-1.275E-02		3.226E-02	5.251E-02	6.343E-03	-0.243
LU-177	3.298E+00	+	2.142E+00	2.753E+00	3.072E-01	1.198
LU-177M	-1.232E-01		2.504E-01	3.949E-01	3.970E-02	-0.312
HF-181	-4.352E-03		5.582E-02	8.944E-02	8.957E-03	-0.049
W-181	9.202E-02		5.066E-01	7.821E-01	6.301E-02	0.118
TA-182	1.384E-01		2.646E-01	4.568E-01	3.853E-02	0.303
RE-183	-1.596E-01		1.507E-01	2.220E-01	2.232E-02	-0.719
RE-184	9.531E-02		3.084E-01	5.284E-01	6.344E-02	0.180
OS-185	-3.549E-02		5.307E-02	8.304E-02	7.314E-03	-0.427
RE-188	-9.345E-02		2.228E-01	3.544E-01	3.426E-02	-0.264
W-188	-1.016E+01		1.064E+01	1.438E+01	1.767E+00	-0.707
IR-192	-1.672E-02		4.514E-02	7.341E-02	8.765E-03	-0.228
AU-195	2.649E-01		2.865E-01	4.833E-01	4.345E-02	0.548
TL-200	-4.066E-05		3.378E-04	Half-Life too short		
TL-201	-6.241E+00		9.709E+00	1.481E+01	1.524E+00	-0.421
TL-202	-7.319E-02		1.023E-01	1.573E-01	1.585E-02	-0.465
HG-203	-2.507E-02		5.261E-02	8.594E-02	1.081E-02	-0.292
BI-207	-1.481E-02		6.547E-02	1.068E-01	9.809E-03	-0.139
TL-207	5.219E-01		9.481E-01	1.441E+00	2.802E-01	0.362
PO-209	-7.899E+00		9.891E+00	1.459E+01	1.490E+00	-0.542
BI-210	1.193E-03		7.759E+00	1.180E+01	1.131E+00	0.000
PB-210	1.193E-03		7.759E+00	1.180E+01	1.131E+00	0.000
PO-210	1.193E-03		7.759E+00	1.180E+01	1.030E+00	0.000
PB-211	-1.172E+00		1.490E+00	1.987E+00	1.249E+00	-0.590
BI-212	1.727E+00	+	8.070E-01	8.295E-01	8.641E-02	2.083
PO-215	5.219E-01		9.481E-01	1.441E+00	2.802E-01	0.362
RN-219	4.338E-01		5.558E-01	9.492E-01	1.507E-01	0.457
RN-220	1.303E+01		3.234E+01	5.351E+01	5.191E+00	0.244
RA-223	5.219E-01		9.481E-01	1.441E+00	2.802E-01	0.362
AC-227	-1.887E-01		5.225E-01	8.653E-01	1.515E-01	-0.218
TH-227	-1.887E-01		5.229E-01	8.653E-01	1.725E-01	-0.218
TH-229	4.248E-01		6.524E-01	1.076E+00	1.167E-01	0.395
PA-231	-8.684E-01		1.899E+00	3.091E+00	5.433E-01	-0.281
TH-231	5.219E-01		9.481E-01	1.441E+00	2.802E-01	0.362
U-231	-1.127E+00		1.489E+00	2.128E+00	1.959E-01	-0.529
PA-233	-8.814E-02		8.674E-02	1.349E-01	1.642E-02	-0.654
PA-234	-1.115E-02		4.121E-01	6.628E-01	1.288E-01	-0.017
PA-234M	1.816E+01	+	9.287E+00	1.215E+01	1.322E+00	1.494
NP-236	1.188E-02		1.055E-01	1.718E-01	1.709E-02	0.069
NP-239	-1.389E-01		2.319E-01	3.718E-01	3.118E-02	-0.374
AM-241	-1.085E-02		2.441E-01	3.743E-01	3.066E-02	-0.029

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	5.107E-02		1.199E-01	2.025E-01	1.767E-02	0.252
AM-246	-1.357E-01		1.770E-01	2.703E-01	2.444E-02	-0.502
CM-247	-1.116E-02		5.021E-02	8.088E-02	8.114E-03	-0.138
CF-249	3.793E-02		5.617E-02	9.577E-02	9.699E-03	0.396
CF-251	-2.656E-02		1.622E-01	2.589E-01	2.713E-02	-0.103

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]G244924008          *
* Acquisition date   : 27-JAN-2010 20:40:59 Detector SN#                   *
* Detector ID        : GAM02 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 02:00:02.70 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244924008 Analyst initials: MXR1                 *
* Batch Number       : 942723 Sample Quantity : 1.0353E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*                                     *                                       *
* CALIB. DATE/TIME   : 29-OCT-2009 10:28:07 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	2.447E+01	2.995E+00	3.910E-01	1.528E+00
CD-109	2.905E+00	1.036E+00	9.180E-01	5.285E-01
SN-126	2.855E-01	1.018E-01	9.289E-02	5.193E-02
BA-137M	9.710E-01	1.404E-01	3.970E-02	7.165E-02
CS-137	1.026E+00	1.485E-01	4.197E-02	7.579E-02
TL-208	6.138E-01	1.135E-01	4.085E-02	5.789E-02
BI-211	4.949E+00	8.450E-01	2.147E-01	4.311E-01
PB-212	1.885E+00	2.707E-01	5.855E-02	1.381E-01
PO-212	1.885E+00	2.707E-01	5.855E-02	1.381E-01
BI-214	1.402E+00	2.473E-01	7.375E-02	1.262E-01
PB-214	1.722E+00	3.068E-01	7.485E-02	1.565E-01
PO-214	1.722E+00	3.068E-01	7.485E-02	1.565E-01
PO-216	1.885E+00	2.707E-01	5.855E-02	1.381E-01
PO-218	1.722E+00	3.068E-01	7.485E-02	1.565E-01
RA-224	5.800E+00	1.752E+00	6.666E-01	8.941E-01
RA-226	1.402E+00	2.473E-01	7.375E-02	1.262E-01
AC-228	1.780E+00	3.672E-01	1.335E-01	1.874E-01
RA-228	1.780E+00	3.672E-01	1.335E-01	1.874E-01
TH-228	1.914E+00	2.749E-01	5.945E-02	1.402E-01
TH-230	1.402E+00	2.473E-01	7.374E-02	1.262E-01
TH-232	1.780E+00	3.672E-01	1.335E-01	1.874E-01
TH-234	2.863E+00	3.135E+00	1.459E+00	1.600E+00
U-234	1.402E+00	2.473E-01	7.374E-02	1.262E-01
U-235	4.320E-01	4.640E-01	2.080E-01	2.367E-01
NP-237	8.382E-01	3.436E-01	2.544E-01	1.753E-01
U-238	2.863E+00	3.135E+00	1.459E+00	1.600E+00
AM-243	3.973E-01	9.920E-02	5.674E-02	5.061E-02
ANH-511	9.775E-02	7.837E-02	3.238E-02	3.999E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	3.559E-01	4.103E-01	3.585E-01	2.094E-01	NOT IDENT.
NA-22	-1.391E-02	4.884E-02	3.924E-02	2.492E-02	NOT IDENT.
NA-24	4.649E+05	1.324E+06	0.000E+00	6.754E+05	SHORT HLIF
AL-26	-2.088E-02	3.021E-02	2.034E-02	1.541E-02	NOT IDENT.
TI-44	4.493E-01	7.884E-02	4.350E-02	4.023E-02	FAIL ABUN
SC-46	-4.180E-02	5.123E-02	3.839E-02	2.614E-02	FAIL ABUN
V-48	-7.560E-04	8.939E-02	7.286E-02	4.561E-02	NOT IDENT.
CR-51	1.424E-01	4.648E-01	4.011E-01	2.371E-01	NOT IDENT.
MN-52	2.458E-02	2.962E-01	2.474E-01	1.511E-01	NOT IDENT.
MN-54	-5.221E-03	4.978E-02	4.085E-02	2.540E-02	NOT IDENT.
CO-56	-5.313E-03	4.892E-02	4.003E-02	2.496E-02	FAIL ABUN
CO-57	-6.018E-04	3.072E-02	2.587E-02	1.567E-02	NOT IDENT.
CO-58	4.460E-03	4.943E-02	4.141E-02	2.522E-02	NOT IDENT.
FE-59	-7.043E-02	1.195E-01	9.511E-02	6.097E-02	FAIL ABUN
CO-60	-8.538E-03	4.846E-02	3.928E-02	2.473E-02	NOT IDENT.
ZN-65	2.435E-02	1.253E-01	9.356E-02	6.391E-02	NOT IDENT.
GE-68	-1.203E+00	1.533E+00	1.189E+00	7.824E-01	NOT IDENT.
AS-73	1.580E+00	1.300E+00	1.193E+00	6.633E-01	NOT IDENT.
AS-74	1.485E-02	1.177E-01	1.013E-01	6.008E-02	NOT IDENT.
SE-75	-3.124E-02	6.347E-02	4.636E-02	3.238E-02	NOT IDENT.
BR-77	6.301E+00	1.533E+01	1.290E+01	7.822E+00	FAIL ABUN
SR-82	-1.122E-01	4.897E-01	3.997E-01	2.498E-01	NOT IDENT.
RB-83	3.031E-02	9.510E-02	7.947E-02	4.852E-02	NOT IDENT.
RB-84	1.683E-02	9.018E-02	7.573E-02	4.601E-02	NOT IDENT.
KR-85	1.351E+01	9.632E+00	7.845E+00	4.914E+00	NOT IDENT.
SR-85	6.946E-02	4.951E-02	4.033E-02	2.526E-02	NOT IDENT.
RB-86	-2.246E-01	9.622E-01	7.951E-01	4.909E-01	NOT IDENT.
Y-88	1.305E-02	4.569E-02	3.656E-02	2.331E-02	NOT IDENT.
ZR-88	-3.868E-02	4.189E-02	3.270E-02	2.137E-02	NOT IDENT.
Y-91	6.072E+00	2.363E+01	2.028E+01	1.206E+01	NOT IDENT.
NB-94	2.395E-02	4.360E-02	3.819E-02	2.225E-02	NOT IDENT.
NB-95	1.495E-02	6.163E-02	5.222E-02	3.145E-02	NOT IDENT.
NB-95M	1.122E-01	1.691E-01	1.342E-01	8.626E-02	NOT IDENT.
ZR-95	1.185E-02	9.586E-02	8.094E-02	4.891E-02	NOT IDENT.
NB-97	2.740E+05	1.811E+05	0.000E+00	9.241E+04	SHORT HLIF
ZR-97	2.308E+06	3.685E+06	0.000E+00	1.880E+06	SHORT HLIF
MO-99	3.881E+00	1.443E+01	1.238E+01	7.361E+00	NOT IDENT.
TC-99M	-5.513E+16	1.042E+17	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.572E-02	4.326E-02	3.435E-02	2.207E-02	NOT IDENT.
RH-102	-4.141E-03	3.657E-02	2.978E-02	1.866E-02	NOT IDENT.
RU-103	3.215E-02	5.363E-02	4.581E-02	2.736E-02	FAIL ABUN
RH-106	2.123E-01	3.807E-01	3.372E-01	1.942E-01	FAIL ABUN
RU-106	2.123E-01	3.801E-01	3.372E-01	1.939E-01	FAIL ABUN
AG-108M	-3.645E-02	4.474E-02	3.476E-02	2.283E-02	NOT IDENT.
AG-110M	6.223E-02	4.984E-02	4.147E-02	2.543E-02	NOT IDENT.
IN-111	-4.329E-01	1.508E+00	1.127E+00	7.696E-01	NOT IDENT.
IN-113M	-6.224E-03	5.848E-02	4.849E-02	2.984E-02	NOT IDENT.
IN-113	-6.224E-03	5.848E-02	4.849E-02	2.984E-02	NOT IDENT.
IN-114M	3.375E-03	2.561E-01	1.868E-01	1.307E-01	NOT IDENT.
CD-115	-1.441E+01	1.550E+01	1.155E+01	7.908E+00	NOT IDENT.
SN-117M	1.012E-01	7.061E-02	6.173E-02	3.602E-02	NOT IDENT.
SB-122	5.113E-01	2.667E+00	2.317E+00	1.361E+00	NOT IDENT.
I-123	1.446E+07	1.004E+07	0.000E+00	5.122E+06	SHORT HLIF
TE-123M	5.246E-02	3.642E-02	3.183E-02	1.858E-02	NOT IDENT.
I-124	6.664E-01	1.010E+00	7.975E-01	5.155E-01	NOT IDENT.
SB-124	2.589E-02	9.010E-02	8.005E-02	4.597E-02	FAIL ABUN
SB-125	-3.890E-03	1.275E-01	1.055E-01	6.506E-02	FAIL ABUN
TE-125M	4.608E+00	1.181E+01	1.016E+01	6.024E+00	NOT IDENT.
I-126	-4.020E-02	2.851E-01	2.060E-01	1.455E-01	NOT IDENT.
SB-126	2.105E-02	1.922E-01	1.419E-01	9.807E-02	NOT IDENT.
SB-127	-7.293E-01	1.779E+00	1.445E+00	9.078E-01	NOT IDENT.
XE-127	-4.052E-02	6.294E-02	4.952E-02	3.211E-02	NOT IDENT.
I-131	-1.935E-02	1.511E-01	1.259E-01	7.712E-02	NOT IDENT.
TE-132	1.932E-01	9.437E-01	7.707E-01	4.815E-01	NOT IDENT.
BA-133	-6.328E-03	5.945E-02	4.347E-02	3.033E-02	NOT IDENT.
I-133	1.183E+03	9.176E+03	0.000E+00	4.682E+03	SHORT HLIF
CS-134	7.906E-02	6.354E-02	5.773E-02	3.242E-02	NOT IDENT.
CS-135	2.836E-01	2.261E-01	1.833E-01	1.153E-01	NOT IDENT.
I-135	1.028E+16	1.354E+16	0.000E+00	6.909E+15	SHORT HLIF
CS-136	2.191E-02	1.275E-01	1.101E-01	6.504E-02	FAIL ABUN
CE-139	-2.912E-02	3.722E-02	2.950E-02	1.899E-02	NOT IDENT.
BA-140	2.192E-01	3.704E-01	3.096E-01	1.890E-01	NOT IDENT.
LA-140	7.046E-03	1.206E-01	1.030E-01	6.154E-02	FAIL ABUN
CE-141	-1.203E-02	8.878E-02	6.556E-02	4.529E-02	NOT IDENT.
CE-143	1.135E+03	3.669E+02	0.000E+00	1.872E+02	SHORT HLIF
CE-144	-2.849E-01	2.537E-01	1.987E-01	1.294E-01	NOT IDENT.
PM-144	-2.032E-02	4.574E-02	3.713E-02	2.334E-02	NOT IDENT.

PR-144	-1.377E+00	3.100E+00	2.517E+00	1.582E+00	NOT IDENT.
PM-146	1.453E-02	5.757E-02	4.836E-02	2.937E-02	NOT IDENT.
ND-147	-3.781E-02	7.324E-01	5.936E-01	3.736E-01	NOT IDENT.
PM-149	8.938E+01	1.226E+02	1.081E+02	6.255E+01	NOT IDENT.
EU-152	-8.149E-02	1.292E-01	1.046E-01	6.593E-02	NOT IDENT.
GD-153	-2.266E-02	1.070E-01	7.981E-02	5.461E-02	FAIL ABUN
EU-154	-4.205E-02	1.361E-01	1.089E-01	6.941E-02	NOT IDENT.
EU-155	1.352E-01	1.327E-01	1.170E-01	6.772E-02	FAIL ABUN
TB-160	3.406E-02	1.791E-01	1.505E-01	9.136E-02	FAIL ABUN
HO-166M	5.353E-02	7.751E-02	6.865E-02	3.954E-02	FAIL ABUN
TM-171	9.078E+00	3.840E+01	3.046E+01	1.959E+01	NOT IDENT.
LU-176	-1.275E-02	3.161E-02	2.625E-02	1.613E-02	FAIL ABUN
LU-177	3.298E+00	2.099E+00	1.378E+00	1.071E+00	FAIL ABUN
LU-177M	-1.232E-01	2.454E-01	1.971E-01	1.252E-01	FAIL ABUN
HF-181	-4.352E-03	5.470E-02	4.462E-02	2.791E-02	NOT IDENT.
W-181	9.202E-02	4.964E-01	3.935E-01	2.533E-01	NOT IDENT.
TA-182	1.384E-01	2.593E-01	2.270E-01	1.323E-01	FAIL ABUN
RE-183	-1.596E-01	1.476E-01	1.112E-01	7.533E-02	FAIL ABUN
RE-184	9.531E-02	3.022E-01	2.643E-01	1.542E-01	NOT IDENT.
OS-185	-3.549E-02	5.201E-02	4.137E-02	2.653E-02	NOT IDENT.
RE-188	-9.345E-02	2.184E-01	1.777E-01	1.114E-01	NOT IDENT.
W-188	-1.016E+01	1.043E+01	7.187E+00	5.320E+00	FAIL ABUN
IR-192	-1.672E-02	4.424E-02	3.669E-02	2.257E-02	FAIL ABUN
AU-195	2.649E-01	2.808E-01	2.427E-01	1.433E-01	FAIL ABUN
TL-200	-4.066E+01	6.621E+02	0.000E+00	3.378E+02	SHORT HLIF
TL-201	-6.241E+00	9.515E+00	7.422E+00	4.854E+00	NOT IDENT.
TL-202	-7.319E-02	1.002E-01	7.852E-02	5.113E-02	NOT IDENT.
HG-203	-2.507E-02	5.156E-02	4.297E-02	2.630E-02	FAIL ABUN
BI-207	-1.481E-02	6.416E-02	5.312E-02	3.274E-02	FAIL ABUN
TL-207	5.219E-01	9.292E-01	7.200E-01	4.741E-01	FAIL ABUN
PO-209	-7.899E+00	9.693E+00	7.258E+00	4.946E+00	NOT IDENT.
BI-210	1.193E-03	7.604E+00	5.946E+00	3.880E+00	NOT IDENT.
PB-210	1.193E-03	7.604E+00	5.946E+00	3.880E+00	NOT IDENT.
PO-210	1.193E-03	7.604E+00	5.946E+00	3.880E+00	NOT IDENT.
PB-211	-1.172E+00	1.460E+00	9.920E-01	7.448E-01	NOT IDENT.
BI-212	1.727E+00	7.909E-01	4.131E-01	4.035E-01	FAIL ABUN
PO-215	5.219E-01	9.292E-01	7.200E-01	4.741E-01	FAIL ABUN
RN-219	4.338E-01	5.447E-01	4.739E-01	2.779E-01	FAIL ABUN
RN-220	1.303E+01	3.170E+01	2.668E+01	1.617E+01	NOT IDENT.
RA-223	5.219E-01	9.292E-01	7.200E-01	4.741E-01	FAIL ABUN
AC-227	-1.887E-01	5.121E-01	4.328E-01	2.613E-01	FAIL ABUN
TH-227	-1.887E-01	5.124E-01	4.328E-01	2.614E-01	FAIL ABUN
TH-229	4.248E-01	6.393E-01	5.391E-01	3.262E-01	FAIL ABUN
PA-231	-8.684E-01	1.861E+00	1.545E+00	9.494E-01	NOT IDENT.
TH-231	5.219E-01	9.292E-01	7.200E-01	4.741E-01	FAIL ABUN
U-231	-1.127E+00	1.459E+00	1.069E+00	7.444E-01	FAIL ABUN
PA-233	-8.814E-02	8.500E-02	6.740E-02	4.337E-02	FAIL ABUN
PA-234	-1.115E-02	4.038E-01	3.297E-01	2.060E-01	FAIL ABUN
PA-234M	1.816E+01	9.101E+00	6.043E+00	4.643E+00	FAIL ABUN
NP-236	1.188E-02	1.034E-01	8.611E-02	5.276E-02	NOT IDENT.
NP-239	-1.389E-01	2.272E-01	1.866E-01	1.159E-01	FAIL ABUN
AM-241	-1.085E-02	2.392E-01	1.884E-01	1.220E-01	NOT IDENT.
CM-243	5.107E-02	1.175E-01	1.017E-01	5.993E-02	FAIL ABUN
AM-246	-1.357E-01	1.734E-01	1.344E-01	8.849E-02	NOT IDENT.
CM-247	-1.116E-02	4.921E-02	4.038E-02	2.511E-02	NOT IDENT.
CF-249	3.793E-02	5.504E-02	4.782E-02	2.808E-02	NOT IDENT.
CF-251	-2.656E-02	1.590E-01	1.297E-01	8.110E-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	225.7685
46.50	225.7685
46.50	225.7685
48.70	238.7380
49.72	223.3669
51.35	245.9503
52.39	240.9366
52.97	223.7394
53.15	223.8726
53.44	203.8693
54.07	211.8891
56.28	256.7664
56.28	256.7686
57.37	0.0000
57.53	260.3463
57.53	260.3479
57.60	260.4037
57.98	230.7953
57.98	230.7953
59.32	243.3437
59.32	243.3437
59.40	235.6765
59.54	270.5645
59.72	270.7135
60.01	273.5336
61.10	264.0831
61.14	264.1151
61.30	264.2419
63.00	283.8090
63.29	284.0514
63.29	284.0514
63.58	284.2934
64.28	288.7958
65.12	268.5401
65.20	268.6023
65.20	268.6023
66.05	258.7504
66.72	278.9811
66.83	279.0700
66.91	300.1998
67.20	292.5403
67.20	292.5403
67.75	288.2413
67.85	307.3332
68.90	329.2416
68.90	329.2416
69.30	328.7222
69.67	302.5237
70.82	270.1995
70.82	270.1995
70.83	270.2072
72.80	318.4815
72.87	318.5396
72.87	318.5396
74.67	321.8543
74.81	321.9712
74.81	321.9712
74.81	321.9712
74.81	321.9712
74.81	321.9712
74.81	321.9712
74.81	321.9712
74.97	322.1063
75.28	322.3674
75.70	322.7198
77.11	323.8976
77.11	323.8976

77.11	323.8976
77.11	323.8976
77.11	323.8976
77.11	323.8976
77.11	323.8976
78.38	313.6332
79.62	286.9231
79.80	286.1433
79.80	286.1433
80.11	286.3660
80.18	286.4156
80.30	237.3875
80.30	237.3875
80.57	237.5468
81.00	287.0004
81.07	287.0501
81.07	287.0501
81.07	287.0501
81.07	287.0501
82.60	307.3420
83.37	307.9163
83.78	383.4473
83.78	383.4473
83.78	383.4473
83.78	383.4473
84.21	383.8449
84.90	384.4827
85.43	384.9717
86.29	385.7583
86.50	385.9518
86.54	385.9879
86.59	386.0326
86.72	386.1516
86.79	386.2133
86.94	386.3515
87.30	456.9867
87.30	456.9867
87.30	456.9867
87.30	456.9867
87.30	456.9867
87.30	456.9867
87.57	457.2756
87.88	436.3017
88.03	436.4550
88.36	386.7125
88.47	386.8122
89.95	438.4027
91.11	461.0345
92.29	351.8517
92.38	351.9225
92.38	351.9225
93.35	352.6913
94.00	249.4046
94.67	244.1286
94.67	244.1313
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94.90	258.3755
94.90	258.3755
94.90	258.3755
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95.87	295.7177
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98.44	243.7832
98.44	243.7832
98.88	250.6609
99.55	240.5629
99.55	240.5629
99.86	245.4798
100.00	245.5533
100.10	253.2241
103.18	283.6170
103.76	258.0598
105.00	241.4098
105.31	252.1508
108.00	293.2138
109.28	284.2685

111.00	266.7461
111.00	266.7461
111.76	281.7724
112.95	275.5914
115.19	222.8089
116.30	221.3173
117.00	259.0418
117.00	259.0418
117.66	260.3530
121.11	214.4026
121.62	250.3735
121.78	246.4724
122.06	246.5999
122.32	241.7443
122.32	241.7443
122.32	241.7443
122.32	241.7443
123.07	234.1095
127.23	233.3763
129.76	252.5793
131.20	222.8956
133.02	266.4999
133.54	277.0934
135.34	250.4644
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136.48	238.7131
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140.51	0.0000
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142.65	242.2266
143.76	242.6713
144.24	254.2280
144.24	254.2280
144.24	254.2280
144.24	254.2280
145.22	270.1625
145.44	270.2607
147.16	261.6694
152.43	262.8269
152.70	223.1317
153.22	226.4590
154.21	273.0100
154.21	273.0100
154.21	273.0100
154.21	273.0100
155.03	269.1537
156.02	262.1967
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159.00	0.0000
159.00	215.7954
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161.27	260.0583
162.32	271.1009
162.64	258.4668
163.35	234.2513
163.89	201.4066
165.85	249.0178
167.43	239.9551
171.28	232.6838
171.86	228.5668
172.10	239.4296
176.55	226.8419
176.60	226.8568
181.06	219.5350
184.41	216.1601
185.71	216.5409
186.00	216.6270
190.27	217.3206
192.34	222.9087
193.63	199.9585
197.04	234.3274
198.01	225.6842
198.60	213.5557
200.40	221.8960
201.83	251.4919
202.84	249.5671
205.31	219.9007

208.36	220.7397
208.81	220.8647
209.75	199.0085
209.75	199.0085
210.97	211.2329
215.65	212.4457
216.55	198.9555
218.09	214.2176
222.10	183.0156
223.80	204.1431
226.40	208.2367
227.00	197.9640
227.08	197.9832
227.20	198.0092
228.16	186.6378
228.18	186.6427
228.18	186.6427
231.56	0.0000
235.69	199.2472
236.00	213.3548
236.00	213.3548
238.63	190.0547
238.63	190.0547
238.63	190.0547
238.63	190.0547
239.00	190.1321
240.98	190.5540
241.98	190.7650
241.98	190.7650
241.98	190.7650
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245.39	170.2090
247.94	160.9048
248.90	170.8623
249.79	181.7155
252.40	174.1881
252.85	176.0603
252.85	176.0603
254.15	0.0000
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256.20	200.9082
260.50	178.3952
260.90	183.8789
262.80	172.5021
264.65	173.7393
268.24	151.1326
268.79	145.4004
269.46	166.4162
269.46	166.4162
269.46	166.4162
269.46	166.4162
271.23	176.3717
273.65	214.7973
276.40	149.2708
277.35	159.4956
277.60	154.9510
277.60	154.9510
278.00	156.8474
278.60	172.5437
279.20	171.7286
279.53	169.9484
280.46	177.4595
281.68	159.2626
283.67	147.5830
284.30	155.9825
285.00	138.5399
285.90	130.3415
286.10	130.3673
286.10	130.3673
287.40	145.3453
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290.80	163.4719
291.72	138.3284
293.26	0.0000
293.70	132.6309
295.21	146.2535
295.21	146.2535

295.21	146.2535
295.96	134.4111
296.50	134.4792
297.23	134.5715
298.57	134.7429
299.80	155.8832
299.80	155.8832
300.09	155.9264
300.09	155.9264
300.09	155.9264
300.09	155.9264
300.12	155.9289
301.29	141.0918
302.84	142.7992
303.76	136.9044
303.91	121.8757
304.40	127.9524
304.40	127.9524
304.84	144.5695
306.84	146.1592
308.46	129.3782
311.98	162.0059
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318.01	151.4620
319.02	131.5755
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320.08	121.2019
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323.87	119.5061
323.87	119.5061
323.87	119.5061
325.23	130.3866
328.77	138.4871
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334.20	134.5017
334.20	134.5017
334.30	134.5144
338.28	153.5926
338.28	153.5926
338.28	153.5926
338.28	153.5926
338.32	153.5974
338.32	153.5974
338.32	153.5974
340.50	138.3389
340.57	130.5753
344.27	145.2145
345.85	143.6512
350.59	0.0000
351.07	122.5185
351.92	122.6044
351.92	122.6044
351.92	122.6044
355.39	0.0000
356.01	108.6497
364.48	113.9594
366.43	101.2358
367.43	109.2632
367.94	0.0000
369.80	117.4310
374.96	107.9193
383.85	117.7266
387.95	115.0715
388.63	110.0819
391.69	114.3880
391.69	114.3880
392.90	133.7443
398.62	117.0232
400.65	103.9533
401.10	106.0265
401.81	99.9634
402.60	118.3931
404.84	134.9467
410.95	122.2058
411.60	138.7038
413.65	129.6491
414.70	94.7374
415.30	103.0197

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417.63	0.0000
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423.70	115.0463
427.08	100.7787
427.89	112.2715
432.53	92.8229
433.93	116.9253
439.47	113.1861
439.56	124.7225
439.89	115.3157
443.98	95.6683
444.90	113.6113
445.03	113.6212
445.03	113.6212
445.03	113.6212
445.03	113.6212
453.90	92.0831
463.38	106.5170
468.07	85.4785
473.00	101.8355
475.06	82.6514
475.35	97.6970
476.78	88.1172
477.59	72.0360
477.96	78.5060
482.03	84.1033
484.57	74.5212
487.03	95.1906
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492.35	83.5737
497.08	76.2036
507.63	0.0000
510.53	0.0000
510.84	95.5233
511.00	95.5319
511.85	94.9232
511.85	94.9232
513.99	63.3643
513.99	63.3643
520.41	83.9321
520.65	81.7369
527.90	90.9688
528.96	0.0000
529.64	66.6321
529.87	0.0000
531.02	75.5786
537.32	79.2076
543.00	58.2048
546.56	0.0000
549.76	60.6808
552.65	75.6410
555.20	72.1445
563.23	73.3805
563.90	72.5039
568.70	78.1517
569.32	83.6333
569.50	83.6423
569.67	86.3790
573.80	82.0217
574.00	82.0305
574.64	89.3532
578.91	74.6385
579.30	0.0000
583.14	87.9445
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591.81	80.0778
592.07	88.3758
593.00	79.2099
595.88	76.5663
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602.52	0.0000
602.71	75.6134
602.71	75.6134
603.60	86.4564
604.41	94.2179
604.70	100.4120
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609.31	80.8361
609.31	80.8361
609.31	80.8361
610.33	83.6697
612.46	74.4570
614.37	65.2148
618.01	79.3420
621.84	57.0535
621.84	57.0535
631.29	55.4551
633.02	55.5041
633.10	55.5070
634.78	65.9121
635.90	70.6604
636.97	63.1593
645.85	72.9150
646.12	70.0832
656.30	55.5292
657.75	53.9814
657.90	0.0000
661.65	77.3119
661.65	77.3119
664.57	0.0000
666.33	82.9131
666.33	82.9131
675.00	77.8221
677.61	67.3391
685.20	68.5542
692.80	65.8966
695.00	82.4579
696.49	82.5160
696.49	82.5160
697.00	76.7106
697.49	80.6129
698.33	77.7305
698.50	82.5948
699.00	80.6717
702.63	67.1790
706.10	79.9660
706.58	0.0000
706.67	84.8654
709.31	56.6477
711.68	58.6655
713.82	61.6603
717.42	68.6260
720.50	52.3620
721.93	0.0000
722.20	52.4023
722.78	62.2448
722.78	62.2448
722.89	62.2479
722.95	62.2494
723.30	55.7065
724.18	59.0068
727.18	56.1344
733.00	59.2456
735.90	42.8456
739.58	48.5287
742.81	54.5515
744.21	53.5926
747.13	56.6451
751.79	68.7136
752.31	65.7406
753.82	61.7987
755.35	69.8188
756.15	66.8511
756.87	71.8629
763.93	100.1221
765.79	72.1459
766.42	68.1577
766.84	69.1718
776.49	62.4178
778.00	45.3329
778.57	50.3821
778.89	52.4050
783.80	62.6161
785.46	44.4684
792.07	70.9468

795.84	55.8339
796.30	55.8446
798.80	82.3309
801.93	64.1197
805.60	61.1616
810.29	52.0895
810.76	52.0994
815.85	47.0927
817.79	31.7621
818.51	36.8956
819.60	39.9883
826.30	41.1279
828.27	0.0000
831.60	60.7962
831.96	56.6825
834.83	66.0359
836.80	0.0000
846.75	50.8040
848.13	59.1319
856.28	0.0000
856.80	52.0508
860.37	55.6003
867.32	48.7847
867.82	46.0056
871.10	43.9718
873.19	51.3423
874.81	48.2304
875.33	0.0000
876.40	50.3578
879.36	47.2654
880.27	36.7756
880.51	37.8299
881.50	47.3049
883.24	50.4938
884.67	50.5219
889.25	57.9917
896.60	58.1569
898.02	52.8992
899.00	48.6852
903.28	47.7048
911.07	47.8477
911.07	47.8477
911.07	47.8477
919.63	45.8691
920.93	36.2860
925.00	42.7549
925.24	42.7588
926.50	50.2657
935.52	53.6548
937.48	60.1371
944.10	52.7480
946.00	51.7078
949.00	56.0790
962.29	46.9600
964.01	56.0248
966.15	65.1123
968.20	99.5510
969.11	66.2675
969.11	66.2675
969.11	66.2675
977.42	41.1627
980.50	39.2687
983.50	42.5867
989.30	48.1454
996.32	36.5649
1001.03	34.0614
1001.68	34.0690
1004.76	25.1473
1021.30	0.0000
1024.50	0.0000
1034.80	50.0251
1036.00	50.0449
1037.82	43.5844
1038.57	42.6683
1038.76	0.0000
1045.16	46.4823
1046.59	36.2737
1048.07	38.1539

1050.47	41.9092
1050.47	41.9092
1062.04	42.0721
1063.62	45.8358
1076.63	44.1543
1077.35	50.7437
1078.86	49.8277
1085.78	39.5767
1099.22	55.8383
1112.02	49.8938
1112.84	42.3697
1115.52	45.6680
1120.29	40.9721
1120.29	40.9721
1120.29	40.9721
1120.29	40.9721
1120.51	40.9756
1121.28	50.6539
1124.00	0.0000
1129.67	43.9617
1131.51	0.0000
1147.95	0.0000
1167.94	37.7194
1173.22	33.9063
1175.09	48.4639
1177.93	32.9845
1189.05	36.9903
1204.90	48.9034
1205.75	0.0000
1213.00	54.9040
1221.42	53.0771
1230.97	47.3125
1235.34	57.5244
1236.41	0.0000
1238.25	51.3631
1246.25	53.4639
1260.41	0.0000
1271.85	35.9063
1274.45	32.9382
1274.54	32.9396
1291.56	34.1024
1298.22	0.0000
1312.09	27.2373
1325.50	26.3258
1325.50	26.3258
1332.49	29.4201
1333.61	29.4295
1360.21	29.6431
1362.66	0.0000
1365.15	31.7291
1368.21	27.6581
1368.53	0.0000
1376.25	23.6111
1384.27	29.8343
1394.10	21.6605
1395.20	20.6348
1407.95	18.6335
1434.06	19.8025
1436.60	15.6439
1457.56	0.0000
1460.81	26.2349
1489.15	16.9102
1509.49	13.8088
1596.49	23.2422
1620.62	13.0894
1678.03	0.0000
1691.02	10.4502
1691.02	10.4502
1706.46	0.0000
1750.46	0.0000
1764.49	10.1367
1764.49	10.1367
1764.49	10.1367
1764.49	10.1367
1770.23	5.0746
1771.40	9.4750
1791.20	0.0000
1808.65	9.7450

1836.01

9.1475

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924008

Total Uranium Activity	8.7165E+00	ug/g
Total Uranium Counting Unc.	9.3305E+00	ug/g
Total Uranium Tpu	4.7604E-06	ug/g
Total Uranium Mda	4.3429E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 942723          SAMPLE ID   : G244924008
*  ANALYST       : MXR1            DETECTOR    : GAM02
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 27-JAN-2010 20:40:59.15  SAMPLE ALQT: 103.526 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.088E+01
GROSS GAMMA ERROR (pCi/GRAM )   : 1.783E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.981E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.921E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 22:42:29.91

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924009.CNF;1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:41:31
Sample ID        : G244924009 Sample quantity   : 1.22524E+02 GRAM
Detector name    : GAM07 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.28 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID        : 942723 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	62.88*	120	519	1.33	125.42	121	9	1.66E-02	36.2	
2	2	74.81	624	449	1.22	149.27	142	18	8.66E-02	6.9	4.27E+00
3	2	77.18*	895	401	1.13	154.01	142	18	1.24E-01	5.2	
4	0	83.78*	91	417	1.59	167.22	165	7	1.26E-02	39.2	
5	4	87.36*	354	342	1.37	174.36	171	20	4.91E-02	9.8	2.88E+00
6	4	89.99*	174	389	1.23	179.63	171	20	2.42E-02	20.7	
7	4	92.85*	204	379	1.22	185.35	171	20	2.84E-02	18.4	
8	0	186.02*	230	280	1.18	371.64	367	10	3.19E-02	15.7	
9	0	209.15*	83	241	1.02	417.89	414	8	1.15E-02	34.8	
10	4	238.73*	1324	149	1.12	477.04	469	22	1.84E-01	3.2	1.90E+00
11	4	241.69	348	202	1.83	482.98	469	22	4.83E-02	13.5	
12	0	270.83	162	259	1.37	541.24	534	15	2.25E-02	23.3	
13	2	295.38*	437	87	1.32	590.32	587	20	6.06E-02	5.9	1.14E+00
14	2	300.06	100	156	1.59	599.69	587	20	1.39E-02	25.3	
15	0	328.96	94	181	2.31	657.49	651	12	1.31E-02	30.8	
16	0	338.45	249	168	1.06	676.45	672	10	3.46E-02	11.7	
17	0	352.00*	711	189	1.23	703.56	698	13	9.88E-02	5.5	
18	0	463.40	88	90	1.78	926.33	922	11	1.22E-02	23.8	
19	0	511.01*	118	153	2.22	1021.53	1014	17	1.65E-02	28.7	
20	0	583.45*	389	110	1.27	1166.37	1161	12	5.41E-02	7.6	
21	0	609.58*	495	111	1.41	1218.63	1213	14	6.87E-02	6.5	
22	0	727.74	86	65	1.29	1454.93	1448	14	1.19E-02	23.2	
23	0	862.44	59	84	2.06	1724.28	1714	17	8.21E-03	38.0	
24	6	911.45*	283	20	1.75	1822.30	1817	32	3.93E-02	6.7	1.70E+00
25	6	917.53	34	24	3.13	1834.45	1817	32	4.79E-03	47.3	
26	0	934.41	44	31	1.01	1868.22	1863	11	6.18E-03	28.3	
27	0	969.64*	149	94	1.67	1938.66	1931	17	2.07E-02	17.8	
28	0	1120.78	139	32	1.27	2240.91	2235	13	1.93E-02	12.0	
29	0	1461.23*	861	19	1.94	2921.77	2914	15	1.20E-01	3.6	
30	0	1590.48	55	0	5.81	3180.24	3171	19	7.64E-03	13.5	
31	0	1621.48	13	6	1.56	3242.23	3238	8	1.79E-03	43.2	
32	0	1765.08*	102	8	1.99	3529.43	3521	15	1.41E-02	12.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 22:42:32

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:41:31
Sample ID        : G244924009 Sample quantity : 122.52 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.28 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	*	2.191E+01	2.460E+00	5.981E-01	5.136E-02	36.624
CD-109	+	88.03	*	4.359E+00	9.444E-01	1.055E+00	9.941E-02	4.131
SN-126	+	64.28		8.059E-01	5.945E-01	6.129E-01	8.889E-02	1.315
	+	86.94		1.781E+00	8.170E-01	3.997E-01	1.659E-01	4.455
	+	87.57	*	4.283E-01	9.279E-02	1.039E-01	9.737E-03	4.122
TL-208		277.35		4.022E-01	4.306E-01	6.654E-01	8.147E-02	0.605
	+	510.84		6.098E-01	3.584E-01	2.297E-01	2.798E-02	2.655
	+	583.14	*	5.723E-01	1.023E-01	5.785E-02	5.533E-03	9.894
		860.37		7.214E-01	3.677E-01	6.743E-01	6.594E-02	1.070
BI-211		72.87		6.687E+00	2.627E+00	4.565E+00	3.603E-01	1.465
	+	351.07	*	4.575E+00	6.492E-01	3.518E-01	3.156E-02	13.006
BI-212	+	727.18	*	1.082E+00	5.141E-01	4.737E-01	4.913E-02	2.285
		785.46		3.012E+00	1.950E+00	3.557E+00	3.252E-01	0.847
	+	1620.62		1.378E+00	1.195E+00	2.169E+00	1.813E-01	0.635
PB-212	+	74.81		2.941E+00	5.457E-01	4.464E-01	5.506E-02	6.589
	+	77.11		2.432E+00	3.221E-01	2.581E-01	2.130E-02	9.424
	+	87.30		1.981E+00	4.727E-01	4.931E-01	6.746E-02	4.017
	+	238.63	*	1.853E+00	2.141E-01	8.757E-02	8.376E-03	21.162
	+	300.09		2.167E+00	1.119E+00	1.214E+00	1.259E-01	1.785
PO-212	+	74.81		2.941E+00	5.457E-01	4.464E-01	5.506E-02	6.589
	+	77.11		2.432E+00	3.221E-01	2.581E-01	2.130E-02	9.424
	+	87.30		1.981E+00	4.727E-01	4.931E-01	6.746E-02	4.017
		115.19		6.437E-01	3.433E+00	5.581E+00	4.807E-01	0.115
	+	238.63	*	1.853E+00	2.141E-01	8.757E-02	8.376E-03	21.162
	+	300.09		2.167E+00	1.119E+00	1.214E+00	1.259E-01	1.785
BI-214	+	609.31	*	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
	+	1120.29		1.998E+00	5.235E-01	4.866E-01	5.225E-02	4.105
	+	1764.49		2.003E+00	5.112E-01	3.197E-01	2.629E-02	6.265
PB-214	+	74.81		5.067E+00	8.948E-01	7.691E-01	8.414E-02	6.589
	+	77.11		4.170E+00	6.370E-01	4.424E-01	4.970E-02	9.424
	+	87.30		3.394E+00	7.803E-01	8.447E-01	1.023E-01	4.017
	+	241.98		2.925E+00	8.434E-01	5.275E-01	5.354E-02	5.544
	+	295.21		1.659E+00	2.628E-01	2.109E-01	2.232E-02	7.864
	+	351.92	*	1.592E+00	2.406E-01	1.226E-01	1.272E-02	12.979

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		5.067E+00	8.948E-01	7.691E-01	8.414E-02	6.589
	+	77.11		4.170E+00	6.370E-01	4.424E-01	4.970E-02	9.424
	+	87.30		3.394E+00	7.803E-01	8.447E-01	1.023E-01	4.017
	+	241.98		2.925E+00	8.434E-01	5.275E-01	5.354E-02	5.544
	+	295.21		1.659E+00	2.628E-01	2.109E-01	2.232E-02	7.864
PO-216	+	351.92	*	1.592E+00	2.406E-01	1.226E-01	1.272E-02	12.979
	+	74.81		2.941E+00	5.457E-01	4.464E-01	5.506E-02	6.589
	+	77.11		2.432E+00	3.221E-01	2.581E-01	2.130E-02	9.424
	+	87.30		1.981E+00	4.727E-01	4.931E-01	6.746E-02	4.017
	+	238.63	*	1.853E+00	2.141E-01	8.757E-02	8.376E-03	21.162
PO-218	+	300.09		2.167E+00	1.119E+00	1.214E+00	1.259E-01	1.785
	+	74.81		5.067E+00	8.948E-01	7.691E-01	8.414E-02	6.589
	+	77.11		4.170E+00	6.370E-01	4.424E-01	4.970E-02	9.424
	+	87.30		3.394E+00	7.803E-01	8.447E-01	1.023E-01	4.017
	+	241.98		2.925E+00	8.434E-01	5.275E-01	5.354E-02	5.544
RA-224	+	295.21		1.659E+00	2.628E-01	2.109E-01	2.232E-02	7.864
	+	351.92	*	1.592E+00	2.406E-01	1.226E-01	1.272E-02	12.979
	+	240.98	*	5.546E+00	1.569E+00	9.968E-01	8.430E-02	5.563
	+	609.31	*	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
	+	1120.29		1.998E+00	5.235E-01	4.866E-01	5.225E-02	4.105
AC-228	+	1764.49		2.003E+00	5.112E-01	3.197E-01	2.629E-02	6.265
	+	338.32		1.763E+00	8.356E-01	3.879E-01	1.600E-01	4.546
	+	911.07	*	1.845E+00	3.279E-01	2.243E-01	2.613E-02	8.227
	+	969.11		1.715E+00	7.325E-01	4.369E-01	1.027E-01	3.925
	+	338.32		1.763E+00	8.356E-01	3.879E-01	1.600E-01	4.546
RA-228	+	911.07	*	1.845E+00	3.279E-01	2.243E-01	2.613E-02	8.227
	+	969.11		1.715E+00	7.325E-01	4.369E-01	1.027E-01	3.925
	+	74.81		2.986E+00	4.798E-01	4.532E-01	3.684E-02	6.589
	+	77.11		2.470E+00	3.270E-01	2.621E-01	2.163E-02	9.424
	+	87.30		2.011E+00	4.358E-01	5.007E-01	4.675E-02	4.017
TH-228	+	238.63	*	1.882E+00	2.174E-01	8.892E-02	8.505E-03	21.162
	+	300.09		2.201E+00	1.715E+00	1.233E+00	7.308E-01	1.785
	+	609.31	*	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
	+	1120.29		1.998E+00	5.234E-01	4.866E-01	5.225E-02	4.105
	+	1764.49		2.003E+00	5.112E-01	3.197E-01	2.629E-02	6.265
TH-232	+	338.32		1.763E+00	4.381E-01	3.879E-01	3.321E-02	4.546
	+	911.07	*	1.845E+00	3.279E-01	2.243E-01	2.613E-02	8.227
	+	969.11		1.715E+00	7.325E-01	4.369E-01	1.027E-01	3.925
	+	63.29	*	2.036E+00	1.515E+00	1.507E+00	2.623E-01	1.351
	+	92.38		1.647E+00	6.757E-01	6.977E-01	1.280E-01	2.361
U-234	+	609.31	*	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
	+	1120.29		1.998E+00	5.234E-01	4.866E-01	5.225E-02	4.105
	+	1764.49		2.003E+00	5.112E-01	3.197E-01	2.629E-02	6.265
	+	86.50	*	1.258E+00	3.763E-01	2.830E-01	6.398E-02	4.444
	+	95.87		7.021E-02	9.469E-01	1.379E+00	3.416E-01	0.051
U-238	+	63.29	*	2.036E+00	1.515E+00	1.507E+00	2.623E-01	1.351
	+	92.38		1.647E+00	6.230E-01	6.977E-01	6.391E-02	2.361
	+	74.67	*	4.768E-01	7.642E-02	7.250E-02	5.828E-03	6.577
	+	86.72		4.717E+01	1.022E+01	1.060E+01	9.824E-01	4.450

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-6.179E+00	3.694E+00	5.410E+00	4.654E-01	-1.142
		142.18		-3.550E+00	1.831E+01	2.896E+01	2.390E+00	-0.123
ANH-511	+	511.00	*	1.317E-01	7.662E-02	4.963E-02	4.410E-03	2.654

---- 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	*	-3.383E-01	3.448E-01	5.055E-01	4.770E-02	-0.669
NA-22		1274.54	*	1.366E-02	4.034E-02	6.927E-02	5.686E-03	0.197
NA-24		1368.53	*	-4.914E-01	4.034E-02	Half-Life too short		
AL-26		1129.67		8.107E-01	1.720E+00	2.941E+00	2.470E-01	0.276
		1808.65	*	6.360E-03	3.108E-02	5.384E-02	4.391E-03	0.118
TI-44		67.85		-1.075E-02	3.761E-02	5.842E-02	4.407E-03	-0.184
	+	78.38	*	4.488E-01	5.943E-02	7.374E-02	6.174E-03	6.087
SC-46		889.25	*	-1.938E-03	3.982E-02	6.431E-02	5.893E-03	-0.030
	+	1120.51		3.427E-01	8.687E-02	1.472E-01	1.244E-02	2.328
V-48		944.10		-4.439E-01	9.749E-01	1.498E+00	1.362E-01	-0.296
		983.50	*	1.939E-03	7.621E-02	1.231E-01	1.108E-02	0.016
		1312.09		4.301E-03	7.939E-02	1.318E-01	1.080E-02	0.033
CR-51		320.08	*	3.763E-01	3.780E-01	6.561E-01	5.929E-02	0.573
MN-52		744.21		3.825E-02	2.460E-01	4.103E-01	3.725E-02	0.093
		848.13		1.248E+00	7.551E+00	1.249E+01	1.147E+00	0.100
	+	935.52		5.868E-01	3.362E-01	5.375E-01	4.894E-02	1.092
		1246.25		1.910E+00	7.054E+00	1.200E+01	9.831E-01	0.159
		1333.61		4.004E+00	5.434E+00	9.707E+00	7.954E-01	0.413
		1434.06	*	1.204E-01	2.495E-01	4.362E-01	3.627E-02	0.276
MN-54		834.83	*	7.198E-03	3.863E-02	6.312E-02	5.794E-03	0.114
CO-56		846.75	*	1.139E-02	4.287E-02	7.156E-02	6.569E-03	0.159
		977.42		-2.138E+00	3.774E+00	4.774E+00	4.305E-01	-0.448
		1037.82		1.680E-01	2.908E-01	5.161E-01	4.788E-02	0.326
		1175.09		-9.294E-02	2.452E+00	4.063E+00	3.307E-01	-0.023
		1238.25		2.085E-01	9.771E-02	1.852E-01	1.565E-02	1.125
		1360.21		1.576E-01	1.061E+00	1.778E+00	1.464E-01	0.089
		1771.40		-1.514E+00	4.382E-01	3.575E-01	2.937E-02	-4.234
CO-57		122.06	*	3.622E-04	2.475E-02	3.949E-02	3.398E-03	0.009
		136.48		-5.674E-02	2.119E-01	3.346E-01	3.012E-02	-0.170
CO-58		810.76	*	-2.078E-02	3.877E-02	5.978E-02	5.492E-03	-0.348
FE-59		142.65		3.131E-01	2.871E+00	4.559E+00	3.760E-01	0.069
		192.34		4.737E-01	9.390E-01	1.617E+00	2.123E-01	0.293
		1099.22	*	-8.189E-02	9.192E-02	1.391E-01	1.289E-02	-0.589
		1291.56		1.116E-01	1.211E-01	2.198E-01	2.070E-02	0.508
CO-60		1173.22		3.741E-02	4.802E-02	8.514E-02	6.928E-03	0.439
		1332.49	*	1.961E-03	4.176E-02	6.916E-02	5.665E-03	0.028
ZN-65		1115.52	*	3.457E-02	9.085E-02	1.383E-01	1.174E-02	0.250
GE-68		1077.35	*	1.704E+00	1.226E+00	2.307E+00	1.999E-01	0.739
AS-73		53.44	*	-1.077E-01	5.377E-01	8.747E-01	6.568E-02	-0.123
AS-74		595.88	*	-2.687E-02	9.189E-02	1.499E-01	1.344E-02	-0.179
		634.78		2.316E-01	3.814E-01	6.631E-01	5.911E-02	0.349

---- 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		1.642E+00	3.985E+00	5.991E+00	5.683E-01	0.274
		96.73		-6.424E-01	8.078E-01	1.113E+00	1.541E-01	-0.577
		121.11		-8.975E-03	1.348E-01	2.144E-01	2.402E-02	-0.042
		136.00		-1.320E-02	3.994E-02	6.288E-02	5.287E-03	-0.210
		198.60		5.888E-01	1.809E+00	3.063E+00	2.816E-01	0.192
		264.65	*	3.542E-02	4.659E-02	7.204E-02	6.152E-03	0.492
		279.53		1.790E-02	1.100E-01	1.838E-01	1.621E-02	0.097
		303.91		-1.356E+00	2.554E+00	3.495E+00	3.996E-01	-0.388
		400.65		-4.929E-02	2.678E-01	4.287E-01	4.686E-02	-0.115
BR-77	+	87.88		1.011E+03	2.191E+02	3.506E+02	3.298E+01	2.885
		200.40		-7.701E+01	1.759E+02	2.910E+02	2.393E+01	-0.265
	+	239.00		3.197E+02	3.403E+01	4.490E+01	3.794E+00	7.120
		249.79		-1.808E+01	6.846E+01	1.125E+02	9.543E+00	-0.161
		281.68		-5.579E+01	9.743E+01	1.561E+02	1.326E+01	-0.357
		297.23		3.835E+02	7.962E+01	1.443E+02	1.234E+01	2.657
		303.76		-1.171E+02	2.335E+02	3.207E+02	2.746E+01	-0.365
		439.47		8.442E+01	1.659E+02	2.771E+02	2.387E+01	0.305
		484.57		-3.242E+02	2.658E+02	3.795E+02	3.342E+01	-0.854
		520.65	*	-4.840E+00	1.021E+01	1.654E+01	1.473E+00	-0.293
		574.64		2.006E+01	2.239E+02	3.774E+02	3.385E+01	0.053
		578.91		3.704E+01	9.848E+01	1.495E+02	1.341E+01	0.248
		585.48		2.083E+03	3.530E+02	6.192E+02	5.553E+01	3.364
		755.35		8.092E+01	1.861E+02	3.172E+02	2.886E+01	0.255
		817.79		-7.148E+01	1.369E+02	2.106E+02	1.932E+01	-0.339
SR-82		698.33		3.456E+00	3.545E+01	5.904E+01	5.294E+00	0.059
		776.49	*	-6.484E-01	3.955E-01	5.343E-01	4.879E-02	-1.214
		1395.20		2.892E+00	1.021E+01	1.746E+01	1.445E+00	0.166
RB-83		520.41	*	-2.851E-02	6.310E-02	1.024E-01	9.118E-03	-0.278
		529.64		9.343E-03	1.026E-01	1.740E-01	1.553E-02	0.054
		552.65		-1.394E-01	2.007E-01	3.183E-01	2.851E-02	-0.438
RB-84		881.50	*	3.413E-03	6.766E-02	1.105E-01	1.013E-02	0.031
KR-85		513.99	*	2.224E+01	8.477E+00	1.488E+01	1.323E+00	1.495
SR-85		513.99	*	1.143E-01	4.358E-02	7.649E-02	6.802E-03	1.495
RB-86		1076.63	*	9.880E-01	7.883E-01	1.468E+00	1.273E-01	0.673
Y-88		898.02		8.881E-03	4.119E-02	6.835E-02	6.285E-03	0.130
		1836.01	*	5.338E-03	3.589E-02	6.143E-02	4.986E-03	0.087
ZR-88		392.90	*	-4.105E-05	3.163E-02	5.137E-02	4.279E-03	-0.001
Y-91		1204.90	*	9.732E-01	2.055E+01	3.425E+01	2.797E+00	0.028
NB-94		702.63	*	1.231E-03	3.543E-02	5.868E-02	5.269E-03	0.021
		871.10		8.452E-03	3.775E-02	6.268E-02	5.751E-03	0.135
NB-95		765.79	*	3.227E-02	4.702E-02	8.111E-02	7.394E-03	0.398
NB-95M		235.69	*	1.221E-02	1.380E-01	2.044E-01	1.985E-02	0.060
ZR-95		724.18		-5.733E-02	1.194E-01	1.610E-01	1.569E-02	-0.356
		756.15	*	4.666E-02	7.460E-02	1.289E-01	1.281E-02	0.362
NB-97		657.90	*	-8.190E-02	7.460E-02	Half-Life	too short	
		1024.50		-2.345E+00	7.460E-02	Half-Life	too short	
ZR-97		254.15		2.867E+00	7.460E-02	Half-Life	too short	
		355.39		-4.124E+00	7.460E-02	Half-Life	too short	
		507.63	*	4.152E+00	7.460E-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
	602.52			-9.044E-01	7.460E-02	Half-Life	too short	
	1021.30			7.297E+00	7.460E-02	Half-Life	too short	
	1147.95			-1.530E+00	7.460E-02	Half-Life	too short	
	1362.66			7.261E-01	7.460E-02	Half-Life	too short	
	1750.46			-1.812E+00	7.460E-02	Half-Life	too short	
MO-99	140.51			-1.007E+01	2.961E+01	4.572E+01	1.261E+01	-0.220
	181.06			-1.126E+01	2.053E+01	2.963E+01	5.342E+00	-0.380
	366.43			9.453E+00	9.372E+01	1.539E+02	1.303E+01	0.061
	739.58	*		-6.833E+00	1.282E+01	2.001E+01	3.090E+00	-0.341
	778.00			-2.783E+01	3.658E+01	5.539E+01	5.060E+00	-0.502
TC-99M	140.51	*		-2.710E+10	3.658E+01	Half-Life	too short	
RH-101	127.23			-1.537E-02	3.319E-02	5.216E-02	4.430E-03	-0.295
	198.01	*		2.059E-02	3.309E-02	5.666E-02	4.648E-03	0.363
	325.23			3.269E-03	2.601E-01	3.751E-01	3.217E-02	0.009
RH-102	418.52			4.178E-02	2.970E-01	4.853E-01	4.123E-02	0.086
	475.06	*		1.031E-02	2.864E-02	4.730E-02	4.149E-03	0.218
	631.29			7.607E-04	5.777E-02	9.623E-02	8.586E-03	0.008
	697.49			-9.010E-03	7.921E-02	1.297E-01	1.163E-02	-0.069
	766.84			1.396E-01	1.217E-01	2.156E-01	1.965E-02	0.648
	1046.59			-1.192E-02	1.184E-01	1.967E-01	1.730E-02	-0.061
	1112.84			-2.010E-02	2.187E-01	3.348E-01	2.843E-02	-0.060
RU-103	497.08	*		1.730E-02	4.289E-02	7.072E-02	1.011E-02	0.245
+	610.33			1.486E+01	3.159E+00	3.385E+00	5.706E-01	4.391
RH-106	511.85	+		6.582E-01	3.829E-01	4.684E-01	4.163E-02	1.405
	621.84	*		-1.898E-01	3.431E-01	5.455E-01	7.399E-02	-0.348
	1050.47			1.204E+00	2.567E+00	4.476E+00	3.930E-01	0.269
RU-106	511.85	+		6.582E-01	3.829E-01	4.684E-01	4.163E-02	1.405
	621.84	*		-1.898E-01	3.426E-01	5.455E-01	4.875E-02	-0.348
	1050.47			1.204E+00	2.567E+00	4.476E+00	3.930E-01	0.269
AG-108M	433.93	*		2.351E-02	3.366E-02	5.705E-02	5.093E-03	0.412
	614.37			-1.887E-02	4.307E-02	5.912E-02	5.483E-03	-0.319
	722.95			-5.242E-03	5.237E-02	7.396E-02	6.918E-03	-0.071
AG-110M	657.75	*		-2.490E-02	3.464E-02	5.377E-02	4.899E-03	-0.463
	677.61			1.360E-01	3.264E-01	5.582E-01	5.101E-02	0.244
	706.67			2.009E-01	2.179E-01	3.847E-01	3.546E-02	0.522
	763.93			-3.577E-01	1.936E-01	2.644E-01	2.470E-02	-1.353
	884.67			-1.336E-03	4.739E-02	7.672E-02	7.233E-03	-0.017
	937.48			-1.019E-02	1.392E-01	1.920E-01	1.805E-02	-0.053
	1384.27			-1.057E-01	1.806E-01	2.737E-01	2.331E-02	-0.386
IN-111	171.28			5.691E-01	1.078E+00	1.749E+00	1.392E-01	0.325
	245.39	*		-2.238E-02	1.187E+00	1.742E+00	1.475E-01	-0.013
IN-113M	391.69	*		-6.341E-03	4.698E-02	7.559E-02	6.498E-03	-0.084
SN-113	391.69	*		-6.341E-03	4.698E-02	7.559E-02	6.498E-03	-0.084
IN-114M	190.27	*		1.388E-01	1.993E-01	3.092E-01	2.516E-02	0.449
CD-115	260.90			6.199E+00	1.438E+02	2.398E+02	2.038E+01	0.026
	492.35			-5.071E+01	4.380E+01	6.302E+01	5.567E+00	-0.805
	527.90	*		-6.720E+00	1.113E+01	1.783E+01	1.590E+00	-0.377
SN-117M	156.02			-8.077E-01	2.468E+00	3.861E+00	3.110E-01	-0.209
	158.56	*		1.417E-02	5.802E-02	9.317E-02	7.470E-03	0.152

---- Non-Identified Nuclides ----

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SB-122	563.90	*		1.544E+00	2.262E+00	3.969E+00	3.558E-01	0.389
	692.80			-9.218E+00	4.792E+01	7.780E+01	6.964E+00	-0.118
I-123	159.00	*		3.175E-01	4.792E+01	Half-Life too short		
	528.96			2.221E+02	4.792E+01	Half-Life too short		
TE-123M	159.00	*		1.151E-03	3.050E-02	4.769E-02	3.847E-03	0.024
I-124	602.71	*		-1.946E-01	8.150E-01	1.211E+00	1.085E-01	-0.161
	722.78			-3.699E-01	5.711E+00	8.099E+00	7.314E-01	-0.046
	1325.50			1.239E+01	3.469E+01	5.975E+01	4.896E+00	0.207
	1376.25			5.893E+01	3.634E+01	6.934E+01	5.723E+00	0.850
	1509.49			8.059E+00	1.974E+01	3.355E+01	2.805E+00	0.240
	1691.02			-4.062E-01	4.077E+00	6.445E+00	5.355E-01	-0.063
SB-124	602.71			-1.089E-02	4.561E-02	6.774E-02	6.071E-03	-0.161
	645.85			7.039E-02	5.274E-01	8.856E-01	8.319E-02	0.079
	709.31			4.389E-01	2.919E+00	4.877E+00	4.387E-01	0.090
	713.82			1.712E-01	1.620E+00	2.698E+00	3.323E-01	0.063
	722.78			-3.001E-02	4.633E-01	6.570E-01	6.050E-02	-0.046
	+ 968.20			1.770E+01	6.515E+00	8.149E+00	7.367E-01	2.172
	1045.16			-2.334E+00	2.555E+00	3.879E+00	3.413E-01	-0.602
	1325.50			1.073E+00	3.006E+00	5.177E+00	4.242E-01	0.207
	1368.21			-1.047E+00	1.831E+00	2.759E+00	3.652E-01	-0.380
	1436.60			2.371E+00	3.699E+00	6.618E+00	5.504E-01	0.358
	1691.02	*		-7.773E-03	7.801E-02	1.233E-01	1.068E-02	-0.063
SB-125	427.89	*		3.253E-02	8.969E-02	1.489E-01	1.298E-02	0.218
	+ 463.38			8.803E-01	4.274E-01	5.869E-01	5.513E-02	1.500
	600.56			4.739E-02	1.818E-01	3.092E-01	2.961E-02	0.153
	635.90			2.297E-01	2.875E-01	5.061E-01	4.852E-02	0.454
TE-125M	109.28	*		-4.685E+00	8.729E+00	1.374E+01	1.425E+00	-0.341
I-126	388.63			2.044E-01	2.175E-01	3.744E-01	3.123E-02	0.546
	666.33	*		6.803E-03	1.988E-01	3.304E-01	2.929E-02	0.021
	753.82			-3.624E-01	1.547E+00	2.488E+00	2.263E-01	-0.146
SB-126	223.80			-1.417E+00	4.053E+00	6.685E+00	5.603E-01	-0.212
	278.60			2.336E+00	2.540E+00	4.396E+00	3.732E-01	0.531
	+ 296.50			1.674E+01	2.438E+00	4.124E+00	3.524E-01	4.059
	414.70			8.024E-04	7.627E-02	1.235E-01	1.047E-02	0.006
	415.30			6.513E-01	6.403E+00	1.044E+01	8.849E-01	0.062
	555.20			1.593E+00	4.087E+00	7.052E+00	6.318E-01	0.226
	573.80			3.791E-01	1.081E+00	1.856E+00	1.665E-01	0.204
	593.00			3.036E-01	9.114E-01	1.563E+00	1.401E-01	0.194
	656.30			-1.743E+00	3.261E+00	5.148E+00	4.563E-01	-0.339
	666.33			2.844E-03	8.311E-02	1.381E-01	1.225E-02	0.021
	675.00			1.127E+00	2.162E+00	3.724E+00	3.313E-01	0.303
	695.00			2.386E-02	8.211E-02	1.386E-01	1.241E-02	0.172
	697.00			5.379E-02	2.790E-01	4.682E-01	4.197E-02	0.115
	720.50	*		1.411E-01	1.670E-01	2.715E-01	2.450E-02	0.520
	856.80			-4.758E-01	5.909E-01	7.327E-01	6.726E-02	-0.649
	989.30			-7.567E-02	1.310E+00	2.095E+00	1.883E-01	-0.036
	1034.80			1.739E+00	8.513E+00	1.459E+01	1.290E+00	0.119
	1213.00			2.543E+00	5.098E+00	8.810E+00	7.200E-01	0.289
SB-127	61.10			2.737E+01	4.530E+01	6.895E+01	7.038E+00	0.397

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	252.40			2.654E-01	4.478E+00	7.485E+00	3.146E+00	0.035
	290.80			4.996E+00	2.448E+01	3.613E+01	4.033E+00	0.138
	411.60			1.317E+01	1.272E+01	2.185E+01	3.427E+00	0.603
	444.90			-1.877E+00	1.068E+01	1.696E+01	2.139E+00	-0.111
	473.00			-7.772E-01	1.836E+00	2.839E+00	3.698E-01	-0.274
	543.00			6.074E+00	1.676E+01	2.891E+01	4.234E+00	0.210
	603.60			6.869E-01	1.430E+01	2.086E+01	2.672E+00	0.033
	685.20	*		1.129E+00	1.469E+00	2.574E+00	3.009E-01	0.439
	698.50			2.768E-01	1.639E+01	2.712E+01	4.355E+00	0.010
	722.20			1.123E+01	3.788E+01	5.594E+01	6.462E+00	0.201
	783.80			2.466E+00	4.223E+00	7.229E+00	9.288E-01	0.341
XE-127	57.60			-3.504E-01	4.174E+00	6.575E+00	4.766E-01	-0.053
	145.22			8.140E-02	7.243E-01	1.149E+00	9.434E-02	0.071
	172.10			4.657E-02	1.215E-01	1.958E-01	1.560E-02	0.238
	202.84	*		7.254E-03	4.672E-02	7.927E-02	6.533E-03	0.092
	374.96			-2.073E-01	2.110E-01	3.193E-01	2.691E-02	-0.649
I-131	80.18			8.229E+00	4.751E+00	6.209E+00	5.343E-01	1.326
	284.30			-8.663E-01	1.525E+00	2.439E+00	2.186E-01	-0.355
	364.48	*		-6.563E-02	1.234E-01	1.939E-01	1.737E-02	-0.338
	636.97			1.607E-01	1.660E+00	2.781E+00	2.609E-01	0.058
	722.89			-7.899E-01	9.016E+00	1.275E+01	1.159E+00	-0.062
TE-132	49.72			-8.099E+00	1.149E+01	1.854E+01	1.926E+00	-0.437
	111.76			5.759E+00	2.979E+01	4.849E+01	5.303E+00	0.119
	116.30			-1.653E+00	2.728E+01	4.384E+01	4.783E+00	-0.038
	228.16	*		-6.026E-01	7.463E-01	1.194E+00	1.867E-01	-0.505
BA-133	53.15			1.008E-02	2.285E+00	3.746E+00	2.823E-01	0.003
	79.62			2.044E+00	1.213E+00	1.728E+00	2.619E-01	1.183
	81.00			1.323E-01	9.955E-02	1.252E-01	1.989E-02	1.057
	276.40			5.294E-01	4.137E-01	6.492E-01	9.330E-02	0.815
	302.84			-1.066E-01	1.784E-01	2.430E-01	3.219E-02	-0.439
	356.01	*		-3.577E-02	5.370E-02	7.208E-02	9.466E-03	-0.496
	383.85			-2.797E-01	3.134E-01	4.743E-01	5.898E-02	-0.590
I-133	510.53	+		1.630E+00	3.134E-01	Half-Life	too short	
	529.87	*		5.765E-05	3.134E-01	Half-Life	too short	
	706.58			5.063E-01	3.134E-01	Half-Life	too short	
	856.28			-7.254E-01	3.134E-01	Half-Life	too short	
	875.33			-5.764E-02	3.134E-01	Half-Life	too short	
	1236.41			1.141E+00	3.134E-01	Half-Life	too short	
	1298.22			-1.989E-01	3.134E-01	Half-Life	too short	
CS-134	475.35			6.253E-02	1.915E+00	3.080E+00	2.702E-01	0.020
	563.23			2.486E-01	3.697E-01	6.485E-01	5.864E-02	0.383
	569.32			-1.516E-01	2.066E-01	3.217E-01	2.921E-02	-0.471
	604.70			-3.753E-03	4.022E-02	5.779E-02	5.189E-03	-0.065
	795.84	*		8.868E-02	5.123E-02	9.435E-02	8.693E-03	0.940
	801.93			-8.461E-01	4.344E-01	5.607E-01	5.162E-02	-1.509
	1038.57			1.498E+00	3.587E+00	6.277E+00	5.540E-01	0.239
	1167.94			1.805E-01	2.625E+00	4.395E+00	3.592E-01	0.041
	1365.15			-1.719E-01	1.283E+00	2.071E+00	1.791E-01	-0.083
CS-135	268.24	*		1.295E-01	1.838E-01	2.787E-01	2.748E-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-135	288.45			1.194E+10	1.838E-01	Half-Life	too short	
	417.63			1.170E+10	1.838E-01	Half-Life	too short	
	546.56			-5.054E+09	1.838E-01	Half-Life	too short	
	836.80			1.300E+10	1.838E-01	Half-Life	too short	
	1038.76			1.281E+10	1.838E-01	Half-Life	too short	
	1124.00			9.028E+10	1.838E-01	Half-Life	too short	
	1131.51			-3.753E+08	1.838E-01	Half-Life	too short	
	1260.41	*		3.094E+09	1.838E-01	Half-Life	too short	
	1457.56			4.460E+11	1.838E-01	Half-Life	too short	
	1678.03			4.238E+09	1.838E-01	Half-Life	too short	
	1706.46			5.891E+10	1.838E-01	Half-Life	too short	
	1791.20			2.550E+10	1.838E-01	Half-Life	too short	
CS-136	66.91			8.366E-02	6.679E-01	9.908E-01	1.470E-01	0.084
	86.29	+		5.662E+00	1.340E+00	1.920E+00	2.545E-01	2.950
	153.22			1.087E+00	7.081E-01	1.192E+00	1.093E-01	0.912
	163.89			2.675E-01	1.117E+00	1.790E+00	1.621E-01	0.149
	176.55			-3.810E-02	3.626E-01	6.127E-01	5.235E-02	-0.062
	273.65			-6.858E-01	5.320E-01	6.955E-01	6.308E-02	-0.986
	340.57			4.400E-01	1.664E-01	2.760E-01	2.431E-02	1.594
	818.51			2.197E-03	7.284E-02	1.194E-01	1.096E-02	0.018
	1048.07	*		4.986E-02	1.119E-01	1.953E-01	1.787E-02	0.255
	1235.34			-2.168E-01	6.702E-01	1.081E+00	1.247E-01	-0.201
BA-137M	661.65	*		-4.609E-03	3.794E-02	6.233E-02	5.516E-03	-0.074
CS-137	661.65	*		-4.872E-03	4.010E-02	6.589E-02	5.841E-03	-0.074
CE-139	165.85	*		-2.471E-03	3.037E-02	4.790E-02	3.789E-03	-0.052
BA-140	162.64			-3.250E-01	8.116E-01	1.261E+00	1.072E-01	-0.258
	304.84			9.779E-01	1.492E+00	2.237E+00	6.265E-01	0.437
LA-140	423.70			-1.214E-01	2.018E+00	3.246E+00	1.052E+00	-0.037
	537.32	*		-5.910E-03	2.591E-01	4.350E-01	1.445E-01	-0.014
	328.77	+		8.384E-01	5.214E-01	6.057E-01	5.486E-02	1.384
	432.53			6.573E-01	2.130E+00	3.517E+00	3.164E-01	0.187
	487.03			5.363E-02	1.495E-01	2.461E-01	2.298E-02	0.218
	751.79			-1.521E+00	1.754E+00	2.634E+00	2.626E-01	-0.578
	815.85			-2.250E-01	3.056E-01	4.565E-01	4.616E-02	-0.493
	867.82			-4.857E-01	1.845E+00	2.498E+00	2.400E-01	-0.194
	919.63			1.223E+00	3.167E+00	5.313E+00	5.879E-01	0.230
	925.24			1.434E+00	1.214E+00	2.004E+00	1.931E-01	0.715
CE-141	1596.49	*		6.572E-02	9.927E-02	1.592E-01	1.331E-02	0.413
	145.44	*		3.025E-02	6.332E-02	1.031E-01	8.633E-03	0.293
CE-143	57.37			2.976E-05	6.332E-02	Half-Life	too short	
	231.56			1.591E-03	6.332E-02	Half-Life	too short	
	293.26	*		6.453E-04	6.332E-02	Half-Life	too short	
	350.59	+		4.104E-02	6.332E-02	Half-Life	too short	
	490.36			-6.959E-04	6.332E-02	Half-Life	too short	
	664.57			7.131E-04	6.332E-02	Half-Life	too short	
	721.93			1.022E-03	6.332E-02	Half-Life	too short	
CE-144	80.11			3.774E+00	2.144E+00	2.807E+00	2.397E-01	1.345
	133.54	*		-5.943E-02	2.069E-01	3.265E-01	5.041E-02	-0.182
PM-144	476.78			-5.098E-02	7.070E-02	1.063E-01	1.017E-02	-0.480

---- Non-Identified Nuclides ----

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		618.01		-9.972E-03	3.249E-02	5.128E-02	4.704E-03	-0.194
		696.49	*	9.584E-04	3.512E-02	5.817E-02	5.215E-03	0.016
		778.57		-1.018E-01	2.263E+00	3.694E+00	3.375E-01	-0.028
PR-144		696.49	*	6.495E-02	2.380E+00	3.942E+00	3.533E-01	0.016
		1489.15		1.510E+00	1.162E+01	1.937E+01	1.618E+00	0.078
PM-146		453.90	*	1.075E-02	4.594E-02	7.519E-02	8.102E-03	0.143
		633.02		2.598E-01	1.500E+00	2.523E+00	9.446E-01	0.103
		735.90		1.635E-02	1.524E-01	2.468E-01	7.092E-02	0.066
		747.13		1.437E-02	8.934E-02	1.491E-01	2.137E-02	0.096
ND-147	+	91.11		7.262E-01	3.099E-01	4.630E-01	4.582E-02	1.568
		319.41		1.452E+00	3.477E+00	5.856E+00	5.023E-01	0.248
		439.89		4.660E+00	6.292E+00	1.067E+01	9.195E-01	0.437
		531.02	*	2.636E-01	5.618E-01	9.759E-01	1.477E-01	0.270
PM-149		285.90	*	2.441E+01	1.001E+02	1.678E+02	2.599E+01	0.145
EU-152		121.78		7.625E-03	7.231E-02	1.159E-01	1.148E-02	0.066
		244.69		2.156E-01	3.459E-01	5.305E-01	4.492E-02	0.406
		344.27	*	-1.044E-02	1.117E-01	1.680E-01	1.523E-02	-0.062
		443.98		-1.578E-01	1.028E+00	1.638E+00	1.414E-01	-0.096
		778.89		-1.174E-02	2.611E-01	4.262E-01	3.893E-02	-0.028
		867.32		-2.028E-01	1.091E+00	1.495E+00	1.372E-01	-0.136
		964.01		6.792E-01	3.259E-01	5.681E-01	5.141E-02	1.196
		1085.78		4.895E-01	3.984E-01	7.396E-01	6.380E-02	0.662
		1112.02		-6.525E-02	2.992E-01	4.769E-01	4.052E-02	-0.137
		1407.95		4.980E-02	2.119E-01	3.570E-01	2.960E-02	0.139
GD-153		69.67		-6.058E-01	1.473E+00	2.127E+00	1.629E-01	-0.285
	+	83.37		1.981E+01	1.562E+01	2.165E+01	1.923E+00	0.915
		97.43	*	-5.149E-02	8.160E-02	1.139E-01	1.018E-02	-0.452
		103.18		-1.083E-01	1.015E-01	1.561E-01	1.370E-02	-0.694
EU-154		123.07		1.142E-04	5.087E-02	8.178E-02	9.266E-03	0.001
		247.94		4.790E-02	3.890E-01	5.764E-01	6.553E-02	0.083
		591.81		3.798E-01	5.874E-01	1.030E+00	1.229E-01	0.369
		723.30		-3.281E-02	2.183E-01	3.064E-01	3.034E-02	-0.107
		756.87		6.547E-01	8.190E-01	1.430E+00	1.763E-01	0.458
		873.19		5.853E-02	3.135E-01	5.190E-01	6.561E-02	0.113
		996.32		-1.863E-01	3.808E-01	5.766E-01	1.034E-01	-0.323
		1004.76		1.147E-01	2.303E-01	3.884E-01	4.614E-02	0.295
		1274.45	*	3.306E-02	1.137E-01	1.941E-01	2.134E-02	0.170
EU-155		48.70		-2.667E+00	1.341E+00	2.023E+00	1.637E-01	-1.319
		60.01		7.122E-01	3.661E+00	5.479E+00	3.945E-01	0.130
	+	86.54		5.159E-01	1.119E-01	1.773E-01	1.654E-02	2.909
		105.31	*	4.778E-02	1.033E-01	1.703E-01	1.504E-02	0.281
TB-160	+	86.79		1.381E+00	2.992E-01	4.800E-01	4.453E-02	2.877
		197.04		2.505E-01	5.682E-01	9.669E-01	7.923E-02	0.259
		215.65		5.317E-01	7.356E-01	1.274E+00	1.061E-01	0.417
	+	298.57		3.161E-01	1.622E-01	2.123E-01	1.816E-02	1.489
		879.36	*	-2.796E-02	1.339E-01	2.124E-01	1.948E-02	-0.132
		962.29		1.559E-01	6.115E-01	8.808E-01	7.974E-02	0.177
		966.15		7.570E-01	2.840E-01	4.925E-01	4.455E-02	1.537
		1177.93		-2.542E-01	4.006E-01	6.274E-01	5.109E-02	-0.405

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HO-166M	1271.85			1.690E-01	6.519E-01	1.110E+00	9.103E-02	0.152
	80.57			1.800E-01	2.911E-01	3.523E-01	3.025E-02	0.511
	184.41			5.884E-02	4.087E-02	6.642E-02	5.369E-03	0.886
	280.46			-3.127E-02	8.715E-02	1.416E-01	1.202E-02	-0.221
	410.95			2.404E-01	2.436E-01	4.207E-01	3.554E-02	0.571
	711.68	*		-5.970E-02	6.364E-02	9.605E-02	8.647E-03	-0.622
TM-171	752.31			-1.530E-01	2.774E-01	4.319E-01	3.927E-02	-0.354
	810.29			-4.015E-02	6.026E-02	9.171E-02	8.407E-03	-0.438
	51.35			1.307E+01	1.798E+01	3.070E+01	2.371E+00	0.426
	52.39			2.496E+00	9.822E+00	1.626E+01	1.237E+00	0.154
	59.40			3.903E+00	1.935E+01	2.899E+01	2.084E+00	0.135
	66.72	*		4.847E+00	2.390E+01	3.559E+01	2.662E+00	0.136
LU-176	88.36	+		1.016E+00	2.201E-01	3.510E-01	3.298E-02	2.895
	201.83			-6.136E-03	2.884E-02	4.819E-02	3.968E-03	-0.127
	306.84	*		-9.470E-05	2.826E-02	4.313E-02	3.695E-03	-0.002
	401.10			-4.392E+00	7.088E+00	1.098E+01	9.208E-01	-0.400
LU-177	112.95			4.604E-01	1.600E+00	2.614E+00	2.255E-01	0.176
	208.36	+	*	2.103E+00	1.474E+00	2.095E+00	1.735E-01	1.004
LU-177M	52.97			6.529E-03	1.030E+00	1.689E+00	1.276E-01	0.004
	54.07			-2.625E-01	5.502E-01	8.841E-01	6.593E-02	-0.297
	61.30			9.160E-01	1.131E+00	1.738E+00	1.258E-01	0.527
	121.62			5.410E-02	3.718E-01	5.969E-01	5.130E-02	0.091
	147.16			-4.554E-01	6.585E-01	1.013E+00	8.286E-02	-0.450
	171.86			2.080E-01	4.888E-01	7.892E-01	6.286E-02	0.264
	218.09			-5.809E-01	8.476E-01	1.376E+00	1.149E-01	-0.422
	268.79			1.689E+00	9.633E-01	1.541E+00	1.310E-01	1.096
	319.02			1.054E-01	2.667E-01	4.488E-01	3.849E-02	0.235
	367.43			-6.842E-02	9.601E-01	1.558E+00	1.319E-01	-0.044
	413.65	*		-1.166E-01	1.834E-01	2.827E-01	2.393E-02	-0.412
	56.28			-2.557E-01	6.092E-01	9.932E-01	7.261E-02	-0.257
	57.53			-2.764E-02	3.507E-01	5.526E-01	4.007E-02	-0.050
	65.20			-1.361E-01	7.880E-01	1.154E+00	8.540E-02	-0.118
HF-181	133.02			-4.592E-02	6.847E-02	1.062E-01	8.910E-03	-0.433
	136.25			-1.218E-01	4.638E-01	7.327E-01	6.112E-02	-0.166
	345.85			-2.776E-02	2.192E-01	3.288E-01	2.809E-02	-0.084
	482.03	*		2.415E-02	4.345E-02	7.271E-02	6.397E-03	0.332
	56.28			-1.000E-01	2.379E-01	3.878E-01	2.835E-02	-0.258
	57.53			-1.078E-02	1.370E-01	2.159E-01	1.566E-02	-0.050
	65.20	*		-5.274E-02	3.054E-01	4.474E-01	3.310E-02	-0.118
	67.75			-2.869E-02	8.974E-02	1.392E-01	1.049E-02	-0.206
TA-182	100.10			1.192E-01	1.665E-01	2.776E-01	2.458E-02	0.429
	152.43			1.116E-01	3.546E-01	5.720E-01	4.637E-02	0.195
	222.10			-1.353E-01	3.371E-01	5.546E-01	4.643E-02	-0.244
	1001.68			9.268E-01	2.111E+00	3.548E+00	3.176E-01	0.261
	1121.28	+		9.460E-01	2.398E-01	4.071E-01	3.438E-02	2.324
	1189.05			-9.478E-02	3.057E-01	4.924E-01	4.015E-02	-0.192
RE-183	1221.42	*		-2.359E-01	2.093E-01	3.094E-01	2.530E-02	-0.763
	1230.97			-1.867E-01	5.499E-01	8.861E-01	7.252E-02	-0.211
	57.98			1.326E-02	1.446E-01	2.156E-01	1.559E-02	0.062

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RE-184		59.32		4.055E-03	8.052E-02	1.197E-01	8.609E-03	0.034
		67.20		-6.789E-02	1.725E-01	2.497E-01	1.874E-02	-0.272
		162.32	*	-4.541E-02	1.174E-01	1.825E-01	1.453E-02	-0.249
	+	208.81		1.848E+00	1.295E+00	1.832E+00	1.518E-01	1.009
		291.72		-3.504E-01	1.035E+00	1.461E+00	1.247E-01	-0.240
		57.98		4.880E-02	5.319E-01	7.932E-01	5.738E-02	0.062
		59.32		1.491E-02	2.960E-01	4.401E-01	3.165E-02	0.034
		67.20		-2.497E-01	6.345E-01	9.184E-01	6.894E-02	-0.272
		161.27		4.901E-02	3.805E-01	5.972E-01	4.764E-02	0.082
		216.55		7.943E-02	2.647E-01	4.506E-01	3.757E-02	0.176
		252.85	*	-2.458E-02	2.308E-01	3.824E-01	3.246E-02	-0.064
		318.01		-8.334E-02	4.513E-01	7.340E-01	6.294E-02	-0.114
		792.07		-1.605E+00	1.074E+00	1.498E+00	1.371E-01	-1.071
		903.28		-4.567E-02	1.006E+00	1.623E+00	1.485E-01	-0.028
OS-185		920.93		4.991E-02	4.946E-01	8.089E-01	7.384E-02	0.062
		59.72		5.489E-02	2.148E-01	3.225E-01	2.320E-02	0.170
		61.14		7.986E-02	1.236E-01	1.887E-01	1.365E-02	0.423
		69.30		6.266E-03	2.574E-01	3.796E-01	2.898E-02	0.017
		592.07		1.876E+00	2.378E+00	4.219E+00	3.783E-01	0.445
		646.12	*	-4.983E-03	4.510E-02	7.426E-02	6.602E-03	-0.067
		717.42		-2.443E-01	9.456E-01	1.525E+00	1.375E-01	-0.160
		874.81		-1.792E-01	6.196E-01	9.769E-01	8.961E-02	-0.183
		880.27		-4.790E-02	7.486E-01	1.207E+00	1.107E-01	-0.040
		155.03	*	1.647E-01	1.829E-01	3.017E-01	2.434E-02	0.546
RE-188		477.96		-2.324E+00	3.261E+00	4.909E+00	4.312E-01	-0.473
		633.10		5.461E-01	3.034E+00	5.116E+00	4.563E-01	0.107
	+	63.58		8.203E+01	5.964E+01	6.906E+01	5.058E+00	1.188
W-188		227.08		5.193E-01	1.266E+01	2.126E+01	1.785E+00	0.024
	+	290.67	*	2.045E+00	8.150E+00	1.207E+01	1.030E+00	0.169
IR-192		295.96		1.268E+00	1.851E-01	3.194E-01	2.749E-02	3.968
		308.46		-7.749E-02	1.026E-01	1.613E-01	1.389E-02	-0.480
		316.51	*	-3.708E-03	3.447E-02	5.634E-02	4.843E-03	-0.066
		468.07		6.350E-02	7.152E-02	1.102E-01	1.031E-02	0.576
		604.41		-2.098E-02	5.469E-01	7.904E-01	1.047E-01	-0.027
		612.46		2.286E+00	9.351E-01	1.601E+00	1.632E-01	1.428
AU-195		65.12		-1.448E-02	1.416E-01	2.082E-01	1.540E-02	-0.070
		66.83		1.464E-02	7.910E-02	1.177E-01	8.809E-03	0.124
	+	75.70		1.544E+00	2.475E-01	4.256E-01	3.459E-02	3.628
		98.88	*	2.309E-02	2.088E-01	3.404E-01	3.028E-02	0.068
TL-200		129.76		3.343E+00	2.987E+00	4.992E+00	4.217E-01	0.670
		367.94	*	-1.259E-04	2.987E+00	Half-Life	too short	
		579.30		1.493E-03	2.987E+00	Half-Life	too short	
		828.27		4.169E-03	2.987E+00	Half-Life	too short	
TL-201		1205.75		-4.270E-05	2.987E+00	Half-Life	too short	
		68.90		-4.377E-01	4.373E+00	6.412E+00	4.880E-01	-0.068
		70.82		2.071E+00	2.506E+00	3.819E+00	2.955E-01	0.542
		80.30		9.013E+00	5.351E+00	6.975E+00	5.971E-01	1.292
		135.34		-9.890E-01	2.682E+01	4.284E+01	3.580E+00	-0.023
		167.43	*	-2.590E+00	7.428E+00	1.154E+01	9.142E-01	-0.224

---- 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		-3.775E-02	3.771E-01	5.530E-01	4.208E-02	-0.068
		70.82		1.782E-01	2.156E-01	3.284E-01	2.542E-02	0.542
		80.30		7.754E-01	4.604E-01	6.001E-01	5.137E-02	1.292
		439.56	*	3.904E-02	7.586E-02	1.267E-01	1.092E-02	0.308
HG-203		70.83		7.651E-01	9.282E-01	1.409E+00	1.841E-01	0.543
		72.87		1.335E+00	5.411E-01	9.113E-01	1.161E-01	1.465
	+	82.60		1.477E+00	1.176E+00	1.547E+00	2.144E-01	0.955
		279.20	*	1.923E-02	4.156E-02	7.049E-02	6.158E-03	0.273
BI-207		72.80		3.662E-01	1.522E-01	2.641E-01	2.083E-02	1.387
	+	74.97		8.558E-01	1.372E-01	2.065E-01	1.665E-02	4.145
	+	84.90		2.561E-01	2.019E-01	2.848E-01	2.580E-02	0.899
		569.67		-1.580E-02	3.276E-02	5.221E-02	4.682E-03	-0.303
		1063.62	*	2.488E-02	4.736E-02	8.366E-02	7.299E-03	0.297
		1770.23		5.846E-02	5.130E-01	7.584E-01	6.230E-02	0.077
TL-207		81.07		2.912E-01	2.162E-01	2.763E-01	2.387E-02	1.054
	+	83.78		1.688E-01	1.331E-01	1.880E-01	1.679E-02	0.898
		94.90		4.634E-01	2.318E-01	3.649E-01	3.299E-02	1.270
		122.32		-4.125E-01	1.739E+00	2.741E+00	2.528E-01	-0.150
		144.24		1.334E-01	7.172E-01	1.142E+00	1.061E-01	0.117
		154.21		5.044E-01	4.247E-01	7.071E-01	6.358E-02	0.713
	+	269.46		8.144E-01	3.855E-01	3.839E-01	3.332E-02	2.121
		323.87	*	-2.100E-01	8.089E-01	1.140E+00	2.016E-01	-0.184
	+	338.28		7.364E+00	1.941E+00	2.719E+00	3.336E-01	2.709
		445.03		-5.292E-01	2.372E+00	3.754E+00	4.543E-01	-0.141
PO-209		260.50		2.299E+00	9.778E+00	1.646E+01	1.399E+00	0.140
		262.80		-2.331E+01	2.726E+01	4.314E+01	3.666E+00	-0.540
		896.60	*	1.829E+00	7.667E+00	1.274E+01	1.167E+00	0.144
BI-210		46.50	*	2.128E-01	1.828E+00	3.017E+00	2.830E-01	0.071
PB-210		46.50	*	2.128E-01	1.828E+00	3.017E+00	2.830E-01	0.071
PO-210		46.50	*	2.128E-01	1.828E+00	3.017E+00	2.567E-01	0.071
PB-211		404.84	*	3.659E-01	9.939E-01	1.608E+00	1.007E+00	0.227
		427.08		1.948E-01	2.071E+00	3.364E+00	2.090E+00	0.058
		831.96		-7.961E-01	1.387E+00	1.988E+00	1.247E+00	-0.400
PO-215		81.07		2.912E-01	2.162E-01	2.763E-01	2.387E-02	1.054
	+	83.78		1.688E-01	1.331E-01	1.880E-01	1.679E-02	0.898
		94.90		4.634E-01	2.318E-01	3.649E-01	3.299E-02	1.270
		122.32		-4.125E-01	1.739E+00	2.741E+00	2.528E-01	-0.150
		144.24		1.334E-01	7.172E-01	1.142E+00	1.061E-01	0.117
		154.21		5.044E-01	4.247E-01	7.071E-01	6.358E-02	0.713
	+	269.46		8.144E-01	3.855E-01	3.839E-01	3.332E-02	2.121
		323.87	*	-2.100E-01	8.089E-01	1.140E+00	2.016E-01	-0.184
	+	338.28		7.364E+00	1.941E+00	2.719E+00	3.336E-01	2.709
		445.03		-5.292E-01	2.372E+00	3.754E+00	4.543E-01	-0.141
RN-219	+	271.23		1.045E+00	4.978E-01	5.079E-01	5.186E-02	2.057
		401.81	*	1.952E-02	4.372E-01	7.111E-01	1.059E-01	0.027
RN-220		549.76	*	1.145E+01	2.592E+01	4.493E+01	4.023E+00	0.255
RA-223		81.07		2.912E-01	2.162E-01	2.763E-01	2.387E-02	1.054
	+	83.78		1.688E-01	1.331E-01	1.880E-01	1.679E-02	0.898
		94.90		4.634E-01	2.318E-01	3.649E-01	3.299E-02	1.270

---- 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		-4.125E-01	1.739E+00	2.741E+00	2.528E-01	-0.150
		144.24		1.334E-01	7.172E-01	1.142E+00	1.061E-01	0.117
		154.21		5.044E-01	4.247E-01	7.071E-01	6.358E-02	0.713
	+	269.46		8.144E-01	3.855E-01	3.839E-01	3.332E-02	2.121
		323.87	*	-2.100E-01	8.089E-01	1.140E+00	2.016E-01	-0.184
	+	338.28		7.364E+00	1.941E+00	2.719E+00	3.336E-01	2.709
		445.03		-5.292E-01	2.372E+00	3.754E+00	4.543E-01	-0.141
		79.80		2.579E+00	1.588E+00	2.192E+00	4.703E-01	1.177
		236.00		2.997E-01	2.600E-01	4.059E-01	4.918E-02	0.739
		256.20	*	-3.346E-01	3.978E-01	6.285E-01	9.601E-02	-0.532
TH-227		286.10		5.803E-01	1.541E+00	2.602E+00	3.417E-01	0.223
	+	299.80		4.017E+00	2.150E+00	2.840E+00	4.957E-01	1.414
		304.40		9.835E-01	2.163E+00	3.233E+00	5.952E-01	0.304
		334.20		6.395E-01	3.521E+00	3.750E+00	7.270E-01	0.171
		79.80		2.579E+00	1.591E+00	2.192E+00	4.764E-01	1.177
	+	94.00		6.364E+00	2.723E+00	3.518E+00	7.728E-01	1.809
		236.00		2.997E-01	2.595E-01	4.059E-01	4.439E-02	0.739
		256.20	*	-3.346E-01	3.991E-01	6.285E-01	1.131E-01	-0.532
		286.10		5.803E-01	1.646E+00	2.602E+00	2.611E+00	0.223
	+	299.80		4.017E+00	2.150E+00	2.840E+00	4.957E-01	1.414
TH-229		304.40		9.835E-01	2.163E+00	3.233E+00	5.952E-01	0.304
		334.20		6.395E-01	3.521E+00	3.750E+00	7.270E-01	0.171
		85.43		6.161E-01	2.164E-01	2.931E-01	2.672E-02	2.102
	+	88.47		5.848E-01	1.267E-01	2.020E-01	1.897E-02	2.894
		100.00		8.434E-02	1.734E-01	2.868E-01	2.540E-02	0.294
		193.63	*	-3.099E-01	5.028E-01	8.262E-01	6.746E-02	-0.375
		210.97		5.806E-01	8.590E-01	1.323E+00	1.098E-01	0.439
	PA-231	283.67	*	-1.002E+00	1.527E+00	2.421E+00	3.660E-01	-0.414
	+	301.29		1.607E+00	8.363E-01	1.118E+00	1.364E-01	1.437
	TH-231	81.07		2.912E-01	2.162E-01	2.763E-01	2.387E-02	1.054
U-231	+	83.78		1.688E-01	1.331E-01	1.880E-01	1.679E-02	0.898
		94.90		4.634E-01	2.318E-01	3.649E-01	3.299E-02	1.270
		122.32		-4.125E-01	1.739E+00	2.741E+00	2.528E-01	-0.150
		144.24		1.334E-01	7.172E-01	1.142E+00	1.061E-01	0.117
		154.21		5.044E-01	4.247E-01	7.071E-01	6.358E-02	0.713
	+	269.46		8.144E-01	3.855E-01	3.839E-01	3.332E-02	2.121
		323.87	*	-2.100E-01	8.089E-01	1.140E+00	2.016E-01	-0.184
	+	338.28		7.364E+00	1.941E+00	2.719E+00	3.336E-01	2.709
		445.03		-5.292E-01	2.372E+00	3.754E+00	4.543E-01	-0.141
	+	84.21		7.571E+00	5.969E+00	8.382E+00	7.525E-01	0.903
PA-233	+	92.29		6.545E+00	2.475E+00	3.762E+00	3.448E-01	1.740
		95.87	*	8.284E-02	1.117E+00	1.627E+00	1.465E-01	0.051
		108.00		-1.415E+00	2.062E+00	3.228E+00	2.804E-01	-0.438
	+	75.28		2.497E+01	5.107E+00	6.324E+00	9.521E-01	3.949
	+	86.59		8.385E+00	2.799E+00	2.889E+00	7.809E-01	2.902
	+	300.12		1.120E+00	5.905E-01	7.926E-01	1.176E-01	1.413
		311.98	*	-2.083E-02	6.380E-02	1.029E-01	9.076E-03	-0.202
		340.50		2.376E+00	9.694E-01	1.360E+00	3.239E-01	1.747
		398.62		-5.297E-01	2.132E+00	3.389E+00	8.998E-01	-0.156

----- 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		-4.564E-01	1.694E+00	2.682E+00	5.765E-01	-0.170
		63.00		2.373E+00	1.752E+00	2.044E+00	3.027E-01	1.161
		94.67		4.202E-01	1.773E-01	2.748E-01	3.492E-02	1.529
		98.44		-1.170E-02	9.014E-02	1.382E-01	7.713E-02	-0.085
		99.86		1.718E-01	4.370E-01	7.204E-01	6.384E-02	0.239
		111.00		-2.750E-02	1.738E-01	2.787E-01	3.374E-02	-0.099
		131.20		-1.328E-02	1.112E-01	1.773E-01	1.494E-02	-0.075
		152.70		1.871E-01	3.462E-01	5.619E-01	9.434E-02	0.333
		186.00		6.051E+00	2.673E+00	2.694E+00	8.372E-01	2.246
		226.40		2.804E-01	3.985E-01	6.868E-01	8.967E-02	0.408
		227.20		7.314E-02	4.236E-01	7.157E-01	6.011E-02	0.102
		248.90		-2.614E-01	8.168E-01	1.289E+00	2.883E-01	-0.203
		293.70		4.947E+00	1.260E+00	1.730E+00	2.985E-01	2.860
		369.80		1.165E-01	9.155E-01	1.504E+00	3.266E-01	0.077
		568.70		-1.290E+00	1.076E+00	1.610E+00	1.443E-01	-0.801
		569.50		-1.739E-01	2.883E-01	4.545E-01	4.076E-02	-0.383
		574.00		7.581E-01	1.497E+00	2.599E+00	2.331E-01	0.292
		699.00		5.828E-02	7.328E-01	1.219E+00	2.345E-01	0.048
	706.10		9.189E-01	1.179E+00	1.944E+00	8.682E-01	0.473	
	733.00		-1.911E-01	4.266E-01	5.684E-01	1.271E-01	-0.336	
	742.81		8.043E-01	1.464E+00	2.357E+00	1.586E+00	0.341	
	796.30		2.045E+00	1.122E+00	1.861E+00	5.067E-01	1.099	
	805.60		1.555E+00	1.088E+00	1.834E+00	5.651E-01	0.848	
	819.60		1.006E-01	1.191E+00	1.962E+00	7.485E-01	0.051	
	826.30		1.033E-01	8.776E-01	1.447E+00	6.488E-01	0.071	
	831.60		-3.382E-01	6.672E-01	1.023E+00	3.071E-01	-0.330	
	876.40		-1.578E-01	8.359E-01	1.304E+00	1.342E+00	-0.121	
	880.51		4.621E-02	2.671E-01	4.423E-01	4.056E-02	0.104	
	883.24		5.932E-02	2.775E-01	4.568E-01	3.074E-01	0.130	
	899.00		-3.536E-01	8.643E-01	1.317E+00	5.773E-01	-0.268	
	925.00		1.496E+00	1.247E+00	2.063E+00	1.882E-01	0.725	
	926.50		1.812E-01	1.929E-01	2.913E-01	7.413E-02	0.622	
	946.00	*	-5.769E-02	3.190E-01	5.052E-01	9.591E-02	-0.114	
	949.00		3.325E-01	4.522E-01	7.851E-01	7.130E-02	0.423	
	980.50		7.222E-01	7.732E-01	1.361E+00	1.227E-01	0.530	
	1394.10		2.542E-01	1.072E+00	1.803E+00	1.172E+00	0.141	
PA-234M		766.42		1.181E+01	1.401E+01	2.222E+01	1.129E+01	0.532
		1001.03	*	8.089E-01	4.861E+00	7.952E+00	8.154E-01	0.102
U-235	+	89.95		2.848E+00	1.476E+00	1.709E+00	5.306E-01	1.667
		93.35		1.980E+00	9.163E-01	1.154E+00	3.251E-01	1.716
	+	105.00		2.034E-01	1.018E+00	1.659E+00	4.957E-01	0.123
		143.76	*	9.214E-02	2.206E-01	3.541E-01	6.132E-02	0.260
		163.35		-3.083E-02	4.901E-01	7.743E-01	1.455E-01	-0.040
		185.71		2.241E-01	7.268E-02	9.997E-02	8.093E-03	2.242
NP-236	+	205.31		-9.374E-02	5.850E-01	8.608E-01	1.629E-01	-0.109
		94.67		3.209E-01	1.315E-01	2.086E-01	1.889E-02	1.538
	+	98.44		-8.844E-03	6.797E-02	1.044E-01	9.303E-03	-0.085
		111.00		-2.080E-02	1.315E-01	2.108E-01	1.823E-02	-0.099
		160.31	*	2.942E-02	8.622E-02	1.367E-01	1.093E-02	0.215

---- 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		2.870E-02	1.468E-01	2.401E-01	2.130E-02	0.120
		117.00	*	-1.762E-01	1.813E-01	2.776E-01	2.388E-02	-0.635
	+	209.75		1.454E+00	1.019E+00	1.432E+00	1.188E-01	1.015
		228.18		-1.862E-01	2.304E-01	3.708E-01	3.116E-02	-0.502
		277.60		1.577E-01	1.989E-01	3.201E-01	2.718E-02	0.493
AM-241		334.30		3.466E-01	1.994E+00	2.122E+00	1.818E-01	0.163
		59.54	*	2.156E-02	1.125E-01	1.684E-01	1.335E-02	0.128
CM-243		99.55		2.953E-02	1.510E-01	2.470E-01	2.192E-02	0.120
		103.76	*	-7.692E-02	9.360E-02	1.459E-01	1.278E-02	-0.527
		117.00		-1.813E-01	1.865E-01	2.856E-01	2.457E-02	-0.635
	+	209.75		1.434E+00	1.005E+00	1.412E+00	1.171E-01	1.015
		228.18		-1.881E-01	2.328E-01	3.747E-01	3.149E-02	-0.502
AM-246		277.60		1.590E-01	2.005E-01	3.228E-01	2.740E-02	0.493
		798.80		-8.736E-02	1.509E-01	2.337E-01	2.140E-02	-0.374
		1036.00		-1.930E-01	2.966E-01	4.641E-01	4.100E-02	-0.416
		1062.04		2.071E-02	2.163E-01	3.661E-01	3.197E-02	0.057
		1078.86	*	1.078E-01	1.473E-01	2.626E-01	2.274E-02	0.410
CM-247		278.00		4.796E-01	7.947E-01	1.315E+00	1.116E-01	0.365
		287.40		6.227E-01	1.251E+00	2.125E+00	1.810E-01	0.293
		402.60	*	1.473E-02	3.864E-02	6.426E-02	5.395E-03	0.229
CF-249		252.85		-9.212E-02	8.650E-01	1.434E+00	1.217E-01	-0.064
		333.44		-8.453E-03	2.583E-01	2.663E-01	2.281E-02	-0.032
		387.95	*	4.888E-02	4.205E-02	7.323E-02	6.112E-03	0.668
CF-251		176.60	*	-1.038E-02	1.236E-01	2.090E-01	1.674E-02	-0.050
		227.00		3.592E-02	3.800E-01	6.396E-01	5.372E-02	0.056
		285.00		-2.542E-01	1.757E+00	2.885E+00	2.455E-01	-0.088

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]G244924009      *
* Acquisition date   : 27-JAN-2010 20:41:31 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 02:00:01.28 Half life ratio : 8.000                *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G244924009 Analyst initials: MXR1                  *
* Batch Number       : 942723 Sample Quantity : 1.2252E+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	2.191E+01	2.411E+00	5.971E-01	0.000E+00
CD-109	4.359E+00	9.255E-01	1.092E+00	0.000E+00
SN-126	4.283E-01	9.093E-02	1.075E-01	0.000E+00
TL-208	5.723E-01	1.003E-01	5.845E-02	0.000E+00
BI-211	4.575E+00	6.362E-01	3.578E-01	0.000E+00
BI-212	1.082E+00	5.038E-01	4.773E-01	0.000E+00
PB-212	1.853E+00	2.098E-01	8.950E-02	0.000E+00
PO-212	1.853E+00	2.098E-01	8.950E-02	0.000E+00
BI-214	1.371E+00	2.225E-01	1.122E-01	0.000E+00
PB-214	1.592E+00	2.358E-01	1.247E-01	0.000E+00
PO-214	1.592E+00	2.358E-01	1.247E-01	0.000E+00
PO-216	1.853E+00	2.098E-01	8.950E-02	0.000E+00
PO-218	1.592E+00	2.358E-01	1.247E-01	0.000E+00
RA-224	5.546E+00	1.537E+00	1.019E+00	0.000E+00
RA-226	1.371E+00	2.225E-01	1.122E-01	0.000E+00
AC-228	1.845E+00	3.214E-01	2.253E-01	0.000E+00
RA-228	1.845E+00	3.214E-01	2.253E-01	0.000E+00
TH-228	1.882E+00	2.130E-01	9.088E-02	0.000E+00
TH-230	1.371E+00	2.225E-01	1.122E-01	0.000E+00
TH-232	1.845E+00	3.214E-01	2.253E-01	0.000E+00
TH-234	2.036E+00	1.484E+00	1.566E+00	0.000E+00
U-234	1.371E+00	2.225E-01	1.122E-01	0.000E+00
NP-237	1.258E+00	3.688E-01	2.929E-01	0.000E+00
U-238	2.036E+00	1.484E+00	1.566E+00	0.000E+00
AM-243	4.768E-01	7.489E-02	7.518E-02	0.000E+00
ANH-511	1.317E-01	7.509E-02	5.023E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-3.383E-01	3.379E-01	5.121E-01	0.000E+00 NOT IDENT.

NA-22	1.366E-02	3.953E-02	6.928E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.000E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	6.360E-03	3.046E-02	5.360E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.824E-02	7.642E-02	0.000E+00	FAIL ABUN
SC-46	-1.938E-03	3.902E-02	6.462E-02	0.000E+00	FAIL ABUN
V-48	1.939E-03	7.468E-02	1.235E-01	0.000E+00	NOT IDENT.
CR-51	3.763E-01	3.705E-01	6.681E-01	0.000E+00	NOT IDENT.
MN-52	1.204E-01	2.446E-01	4.356E-01	0.000E+00	FAIL ABUN
MN-54	7.198E-03	3.786E-02	6.349E-02	0.000E+00	NOT IDENT.
CO-56	1.139E-02	4.201E-02	7.196E-02	0.000E+00	NOT IDENT.
CO-57	3.622E-04	2.426E-02	4.070E-02	0.000E+00	NOT IDENT.
CO-58	-2.078E-02	3.799E-02	6.015E-02	0.000E+00	NOT IDENT.
FE-59	-8.189E-02	9.008E-02	1.394E-01	0.000E+00	NOT IDENT.
CO-60	1.961E-03	4.093E-02	6.913E-02	0.000E+00	NOT IDENT.
ZN-65	3.457E-02	8.903E-02	1.386E-01	0.000E+00	NOT IDENT.
GE-68	1.704E+00	1.202E+00	2.313E+00	0.000E+00	NOT IDENT.
AS-73	-1.077E-01	5.269E-01	9.108E-01	0.000E+00	NOT IDENT.
AS-74	-2.687E-02	9.005E-02	1.514E-01	0.000E+00	NOT IDENT.
SE-75	3.542E-02	4.566E-02	7.353E-02	0.000E+00	NOT IDENT.
BR-77	-4.840E+00	1.001E+01	1.673E+01	0.000E+00	FAIL ABUN
SR-82	-6.484E-01	3.875E-01	5.379E-01	0.000E+00	NOT IDENT.
RB-83	-2.851E-02	6.184E-02	1.036E-01	0.000E+00	NOT IDENT.
RB-84	3.413E-03	6.631E-02	1.111E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.307E+00	1.506E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.270E-02	7.741E-02	0.000E+00	NOT IDENT.
RB-86	9.880E-01	7.726E-01	1.472E+00	0.000E+00	NOT IDENT.
Y-88	5.338E-03	3.517E-02	6.114E-02	0.000E+00	NOT IDENT.
ZR-88	-4.105E-05	3.100E-02	5.217E-02	0.000E+00	NOT IDENT.
Y-91	9.732E-01	2.014E+01	3.428E+01	0.000E+00	NOT IDENT.
NB-94	1.231E-03	3.472E-02	5.915E-02	0.000E+00	NOT IDENT.
NB-95	3.227E-02	4.608E-02	8.166E-02	0.000E+00	NOT IDENT.
NB-95M	1.221E-02	1.352E-01	2.090E-01	0.000E+00	NOT IDENT.
ZR-95	4.666E-02	7.311E-02	1.299E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.209E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.621E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-6.833E+00	1.257E+01	2.016E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.813E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.059E-02	3.242E-02	5.805E-02	0.000E+00	NOT IDENT.
RH-102	1.031E-02	2.806E-02	4.792E-02	0.000E+00	NOT IDENT.
RU-103	1.730E-02	4.203E-02	7.160E-02	0.000E+00	FAIL ABUN
RH-106	-1.898E-01	3.363E-01	5.507E-01	0.000E+00	FAIL ABUN
RU-106	-1.898E-01	3.357E-01	5.507E-01	0.000E+00	FAIL ABUN
AG-108M	2.351E-02	3.299E-02	5.787E-02	0.000E+00	NOT IDENT.
AG-110M	-2.490E-02	3.395E-02	5.424E-02	0.000E+00	NOT IDENT.
IN-111	-2.238E-02	1.163E+00	1.779E+00	0.000E+00	NOT IDENT.
IN-113M	-6.341E-03	4.604E-02	7.677E-02	0.000E+00	NOT IDENT.
SN-113	-6.341E-03	4.604E-02	7.677E-02	0.000E+00	NOT IDENT.
IN-114M	1.388E-01	1.953E-01	3.169E-01	0.000E+00	NOT IDENT.
CD-115	-6.720E+00	1.091E+01	1.804E+01	0.000E+00	NOT IDENT.
SN-117M	1.417E-02	5.686E-02	9.572E-02	0.000E+00	NOT IDENT.
SB-122	1.544E+00	2.217E+00	4.012E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.243E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.151E-03	2.989E-02	4.899E-02	0.000E+00	NOT IDENT.
I-124	-1.946E-01	7.987E-01	1.223E+00	0.000E+00	NOT IDENT.
SB-124	-7.773E-03	7.645E-02	1.229E-01	0.000E+00	FAIL ABUN
SB-125	3.253E-02	8.790E-02	1.511E-01	0.000E+00	FAIL ABUN
TE-125M	-4.685E+00	8.554E+00	1.419E+01	0.000E+00	NOT IDENT.
I-126	6.803E-03	1.948E-01	3.333E-01	0.000E+00	NOT IDENT.
SB-126	1.411E-01	1.636E-01	2.736E-01	0.000E+00	FAIL ABUN
SB-127	1.129E+00	1.440E+00	2.596E+00	0.000E+00	NOT IDENT.
XE-127	7.254E-03	4.579E-02	8.118E-02	0.000E+00	NOT IDENT.
I-131	-6.563E-02	1.210E-01	1.971E-01	0.000E+00	NOT IDENT.
TE-132	-6.026E-01	7.314E-01	1.221E+00	0.000E+00	NOT IDENT.
BA-133	-3.577E-02	5.263E-02	7.330E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.070E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.868E-02	5.020E-02	9.495E-02	0.000E+00	NOT IDENT.
CS-135	1.295E-01	1.802E-01	2.844E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.059E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.986E-02	1.096E-01	1.958E-01	0.000E+00	FAIL ABUN
BA-137M	-4.609E-03	3.718E-02	6.288E-02	0.000E+00	NOT IDENT.
CS-137	-4.872E-03	3.930E-02	6.647E-02	0.000E+00	NOT IDENT.
CE-139	-2.471E-03	2.976E-02	4.918E-02	0.000E+00	NOT IDENT.
BA-140	-5.910E-03	2.539E-01	4.400E-01	0.000E+00	NOT IDENT.
LA-140	6.572E-02	9.729E-02	1.587E-01	0.000E+00	FAIL ABUN
CE-141	3.025E-02	6.205E-02	1.061E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.320E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-5.943E-02	2.027E-01	3.362E-01	0.000E+00	NOT IDENT.
PM-144	9.584E-04	3.441E-02	5.864E-02	0.000E+00	NOT IDENT.

PR-144	6.495E-02	2.332E+00	3.974E+00	0.000E+00	NOT IDENT.
PM-146	1.075E-02	4.502E-02	7.622E-02	0.000E+00	NOT IDENT.
ND-147	2.636E-01	5.505E-01	9.873E-01	0.000E+00	FAIL ABUN
PM-149	2.441E+01	9.810E+01	1.711E+02	0.000E+00	NOT IDENT.
EU-152	-1.044E-02	1.094E-01	1.709E-01	0.000E+00	NOT IDENT.
GD-153	-5.149E-02	7.997E-02	1.177E-01	0.000E+00	FAIL ABUN
EU-154	3.306E-02	1.114E-01	1.941E-01	0.000E+00	NOT IDENT.
EU-155	4.778E-02	1.012E-01	1.758E-01	0.000E+00	FAIL ABUN
TB-160	-2.796E-02	1.312E-01	2.135E-01	0.000E+00	FAIL ABUN
HO-166M	-5.970E-02	6.237E-02	9.680E-02	0.000E+00	NOT IDENT.
TM-171	4.847E+00	2.342E+01	3.696E+01	0.000E+00	NOT IDENT.
LU-176	-9.470E-05	2.769E-02	4.395E-02	0.000E+00	FAIL ABUN
LU-177	2.103E+00	1.444E+00	2.145E+00	0.000E+00	FAIL ABUN
LU-177M	-1.166E-01	1.797E-01	2.869E-01	0.000E+00	NOT IDENT.
HF-181	2.415E-02	4.258E-02	7.365E-02	0.000E+00	NOT IDENT.
W-181	-5.274E-02	2.993E-01	4.647E-01	0.000E+00	NOT IDENT.
TA-182	-2.359E-01	2.052E-01	3.096E-01	0.000E+00	FAIL ABUN
RE-183	-4.541E-02	1.150E-01	1.875E-01	0.000E+00	FAIL ABUN
RE-184	-2.458E-02	2.261E-01	3.906E-01	0.000E+00	NOT IDENT.
OS-185	-4.983E-03	4.419E-02	7.493E-02	0.000E+00	NOT IDENT.
RE-188	1.647E-01	1.792E-01	3.100E-01	0.000E+00	NOT IDENT.
W-188	2.045E+00	7.987E+00	1.231E+01	0.000E+00	FAIL ABUN
IR-192	-3.708E-03	3.378E-02	5.738E-02	0.000E+00	FAIL ABUN
AU-195	2.309E-02	2.046E-01	3.518E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.674E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.590E+00	7.279E+00	1.185E+01	0.000E+00	NOT IDENT.
TL-202	3.904E-02	7.434E-02	1.285E-01	0.000E+00	NOT IDENT.
HG-203	1.923E-02	4.072E-02	7.191E-02	0.000E+00	FAIL ABUN
BI-207	2.488E-02	4.641E-02	8.387E-02	0.000E+00	FAIL ABUN
TL-207	-2.100E-01	7.928E-01	1.161E+00	0.000E+00	FAIL ABUN
PO-209	1.829E+00	7.514E+00	1.280E+01	0.000E+00	NOT IDENT.
BI-210	2.128E-01	1.791E+00	3.147E+00	0.000E+00	NOT IDENT.
PB-210	2.128E-01	1.791E+00	3.147E+00	0.000E+00	NOT IDENT.
PO-210	2.128E-01	1.791E+00	3.147E+00	0.000E+00	NOT IDENT.
PB-211	3.659E-01	9.740E-01	1.633E+00	0.000E+00	NOT IDENT.
PO-215	-2.100E-01	7.928E-01	1.161E+00	0.000E+00	FAIL ABUN
RN-219	1.952E-02	4.285E-01	7.220E-01	0.000E+00	FAIL ABUN
RN-220	1.145E+01	2.540E+01	4.543E+01	0.000E+00	NOT IDENT.
RA-223	-2.100E-01	7.928E-01	1.161E+00	0.000E+00	FAIL ABUN
AC-227	-3.346E-01	3.899E-01	6.418E-01	0.000E+00	FAIL ABUN
TH-227	-3.346E-01	3.911E-01	6.418E-01	0.000E+00	FAIL ABUN
TH-229	-3.099E-01	4.927E-01	8.466E-01	0.000E+00	FAIL ABUN
PA-231	-1.002E+00	1.497E+00	2.469E+00	0.000E+00	FAIL ABUN
TH-231	-2.100E-01	7.928E-01	1.161E+00	0.000E+00	FAIL ABUN
U-231	8.284E-02	1.095E+00	1.682E+00	0.000E+00	FAIL ABUN
PA-233	-2.083E-02	6.252E-02	1.048E-01	0.000E+00	FAIL ABUN
PA-234	-5.769E-02	3.126E-01	5.073E-01	0.000E+00	FAIL ABUN
PA-234M	8.089E-01	4.763E+00	7.978E+00	0.000E+00	NOT IDENT.
U-235	9.214E-02	2.162E-01	3.642E-01	0.000E+00	FAIL ABUN
NP-236	2.942E-02	8.449E-02	1.404E-01	0.000E+00	NOT IDENT.
NP-239	-1.762E-01	1.777E-01	2.863E-01	0.000E+00	FAIL ABUN
AM-241	2.156E-02	1.103E-01	1.751E-01	0.000E+00	NOT IDENT.
CM-243	-7.692E-02	9.173E-02	1.507E-01	0.000E+00	FAIL ABUN
AM-246	1.078E-01	1.443E-01	2.633E-01	0.000E+00	NOT IDENT.
CM-247	1.473E-02	3.787E-02	6.524E-02	0.000E+00	NOT IDENT.
CF-249	4.888E-02	4.121E-02	7.438E-02	0.000E+00	NOT IDENT.
CF-251	-1.038E-02	1.211E-01	2.144E-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]G244924009.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:41:31
Sample ID          : G244924009 Sample quantity : 1.22524E+02 GRAM
Detector name      : GAM07 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.28 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	861	10.67*	1.129E+00	2.191E+01	2.191E+01	11.23
CD-109	88.03	354	3.72*	6.841E+00	4.260E+00	4.359E+00	21.66
SN-126	64.28	120	9.60	4.741E+00	8.059E-01	8.059E-01	73.76
	86.94	354	8.90	6.841E+00	1.781E+00	1.781E+00	45.89
	87.57	354	37.00*	6.841E+00	4.283E-01	4.283E-01	21.66
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	118	21.60	2.755E+00	6.098E-01	6.098E-01	58.76
	583.14	389	84.20*	2.476E+00	5.723E-01	5.723E-01	17.88
	860.37	-----	12.46	1.783E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	711	12.94*	3.681E+00	4.575E+00	4.575E+00	14.19
BI-212	727.18	86	11.80*	2.060E+00	1.082E+00	1.082E+00	47.50
	785.46	-----	1.97	1.930E+00	-----	Line Not Found	-----
PB-212	1620.62	13	2.75	1.043E+00	1.378E+00	1.378E+00	86.76
	74.81	624	10.70	6.073E+00	2.941E+00	2.941E+00	18.55
	77.11	895	18.00	6.263E+00	2.432E+00	2.432E+00	13.24
	87.30	354	8.00	6.841E+00	1.981E+00	1.981E+00	23.86
	238.63	1324	44.60*	4.909E+00	1.853E+00	1.853E+00	11.55
	300.09	100	3.41	4.151E+00	2.167E+00	2.167E+00	51.65
PO-212	74.81	624	10.70	6.073E+00	2.941E+00	2.941E+00	18.55
	77.11	895	18.00	6.263E+00	2.432E+00	2.432E+00	13.24
	87.30	354	8.00	6.841E+00	1.981E+00	1.981E+00	23.86
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1324	44.60*	4.909E+00	1.853E+00	1.853E+00	11.55
	300.09	100	3.41	4.151E+00	2.167E+00	2.167E+00	51.65
BI-214	609.31	495	46.30*	2.388E+00	1.371E+00	1.371E+00	16.56
	1120.29	139	15.10	1.413E+00	1.998E+00	1.998E+00	26.20
	1764.49	102	15.80	9.831E-01	2.003E+00	2.003E+00	25.52
PB-214	74.81	624	6.21	6.073E+00	5.067E+00	5.067E+00	17.66
	77.11	895	10.50	6.263E+00	4.170E+00	4.170E+00	15.28
	87.30	354	4.67	6.841E+00	3.393E+00	3.394E+00	22.99
	241.98	348	7.49	4.866E+00	2.925E+00	2.925E+00	28.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	437	19.20	4.201E+00	1.659E+00	1.659E+00	15.85
	351.92	711	37.20*	3.681E+00	1.592E+00	1.592E+00	15.12
	74.81	624	6.21	6.073E+00	5.067E+00	5.067E+00	17.66
	77.11	895	10.50	6.263E+00	4.170E+00	4.170E+00	15.28
	87.30	354	4.67	6.841E+00	3.393E+00	3.394E+00	22.99
PO-216	241.98	348	7.49	4.866E+00	2.925E+00	2.925E+00	28.84
	295.21	437	19.20	4.201E+00	1.659E+00	1.659E+00	15.85
	351.92	711	37.20*	3.681E+00	1.592E+00	1.592E+00	15.12
	74.81	624	10.70	6.073E+00	2.941E+00	2.941E+00	18.55
	77.11	895	18.00	6.263E+00	2.432E+00	2.432E+00	13.24
PO-218	87.30	354	8.00	6.841E+00	1.981E+00	1.981E+00	23.86
	238.63	1324	44.60*	4.909E+00	1.853E+00	1.853E+00	11.55
	300.09	100	3.41	4.151E+00	2.167E+00	2.167E+00	51.65
	74.81	624	6.21	6.073E+00	5.067E+00	5.067E+00	17.66
	77.11	895	10.50	6.263E+00	4.170E+00	4.170E+00	15.28
RA-224	87.30	354	4.67	6.841E+00	3.393E+00	3.394E+00	22.99
	241.98	348	7.49	4.866E+00	2.925E+00	2.925E+00	28.84
	295.21	437	19.20	4.201E+00	1.659E+00	1.659E+00	15.85
	351.92	711	37.20*	3.681E+00	1.592E+00	1.592E+00	15.12
	240.98	348	3.95*	4.866E+00	5.546E+00	5.546E+00	28.29
RA-226	609.31	495	46.30*	2.388E+00	1.371E+00	1.371E+00	16.56
	1120.29	139	15.10	1.413E+00	1.998E+00	1.998E+00	26.20
	1764.49	102	15.80	9.831E-01	2.003E+00	2.003E+00	25.52
	338.32	249	11.40	3.792E+00	1.763E+00	1.763E+00	47.39
	911.07	283	27.70*	1.695E+00	1.845E+00	1.845E+00	17.77
RA-228	969.11	149	16.60	1.606E+00	1.715E+00	1.715E+00	42.72
	338.32	249	11.40	3.792E+00	1.763E+00	1.763E+00	47.39
	911.07	283	27.70*	1.695E+00	1.845E+00	1.845E+00	17.77
	969.11	149	16.60	1.606E+00	1.715E+00	1.715E+00	42.72
	74.81	624	10.70	6.073E+00	2.941E+00	2.986E+00	16.07
TH-228	77.11	895	18.00	6.263E+00	2.432E+00	2.470E+00	13.24
	87.30	354	8.00	6.841E+00	1.981E+00	2.011E+00	21.66
	238.63	1324	44.60*	4.909E+00	1.853E+00	1.882E+00	11.55
	300.09	100	3.41	4.151E+00	2.167E+00	2.201E+00	77.93
	609.31	495	46.30*	2.388E+00	1.371E+00	1.371E+00	16.56
TH-230	1120.29	139	15.10	1.413E+00	1.998E+00	1.998E+00	26.20
	1764.49	102	15.80	9.831E-01	2.003E+00	2.003E+00	25.52
	338.32	249	11.40	3.792E+00	1.763E+00	1.763E+00	24.84
	911.07	283	27.70*	1.695E+00	1.845E+00	1.845E+00	17.77
	969.11	149	16.60	1.606E+00	1.715E+00	1.715E+00	42.72
TH-234	63.29	120	3.80*	4.741E+00	2.036E+00	2.036E+00	74.39
	92.38	204	5.41	7.020E+00	1.647E+00	1.647E+00	41.03
	609.31	495	46.30*	2.388E+00	1.371E+00	1.371E+00	16.56
	1120.29	139	15.10	1.413E+00	1.998E+00	1.998E+00	26.20
	1764.49	102	15.80	9.831E-01	2.003E+00	2.003E+00	25.52
NP-237	86.50	354	12.60*	6.841E+00	1.258E+00	1.258E+00	29.92
	95.87	---	2.60	7.087E+00	---	Line Not Found	---
	63.29	120	3.80*	4.741E+00	2.036E+00	2.036E+00	74.39
	92.38	204	5.41	7.020E+00	1.647E+00	1.647E+00	37.82

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	624	66.00*	6.073E+00	4.768E-01	4.768E-01	16.03
	86.72	354	0.34	6.841E+00	4.717E+01	4.717E+01	21.66
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	118	100.00*	2.755E+00	1.317E-01	1.317E-01	58.17

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	2.191E+01	2.191E+01	0.246E+01	11.23	
CD-109	464.00D	1.02	4.260E+00	4.359E+00	0.944E+00	21.66	
SN-126	1.00E+05Y	1.00	4.283E-01	4.283E-01	0.928E-01	21.66	
TL-208	1.41E+10Y	1.00	5.723E-01	5.723E-01	1.023E-01	17.88	
BI-211	7.04E+08Y	1.00	4.575E+00	4.575E+00	0.649E+00	14.19	
BI-212	1.41E+10Y	1.00	1.082E+00	1.082E+00	0.514E+00	47.50	
PB-212	1.41E+10Y	1.00	1.853E+00	1.853E+00	0.214E+00	11.55	
PO-212	1.41E+10Y	1.00	1.853E+00	1.853E+00	0.214E+00	11.55	
BI-214	1600.00Y	1.00	1.371E+00	1.371E+00	0.227E+00	16.56	
PB-214	1600.00Y	1.00	1.592E+00	1.592E+00	0.241E+00	15.12	
PO-214	1600.00Y	1.00	1.592E+00	1.592E+00	0.241E+00	15.12	
PO-216	1.41E+10Y	1.00	1.853E+00	1.853E+00	0.214E+00	11.55	
PO-218	1600.00Y	1.00	1.592E+00	1.592E+00	0.241E+00	15.12	
RA-224	1.41E+10Y	1.00	5.546E+00	5.546E+00	1.569E+00	28.29	
RA-226	1600.00Y	1.00	1.371E+00	1.371E+00	0.227E+00	16.56	
AC-228	1.41E+10Y	1.00	1.845E+00	1.845E+00	0.328E+00	17.77	
RA-228	1.41E+10Y	1.00	1.845E+00	1.845E+00	0.328E+00	17.77	
TH-228	1.91Y	1.02	1.853E+00	1.882E+00	0.217E+00	11.55	
TH-230	4.47E+09Y	1.00	1.371E+00	1.371E+00	0.227E+00	16.56	
TH-232	1.41E+10Y	1.00	1.845E+00	1.845E+00	0.328E+00	17.77	
TH-234	4.47E+09Y	1.00	2.036E+00	2.036E+00	1.515E+00	74.39	
U-234	4.47E+09Y	1.00	1.371E+00	1.371E+00	0.227E+00	16.56	
NP-237	2.14E+06Y	1.00	1.258E+00	1.258E+00	0.376E+00	29.92	
U-238	4.47E+09Y	1.00	2.036E+00	2.036E+00	1.515E+00	74.39	
AM-243	7380.00Y	1.00	4.768E-01	4.768E-01	0.764E-01	16.03	
ANH-511	1.00E+09Y	1.00	1.317E-01	1.317E-01	0.766E-01	58.17	

Total Activity : 6.751E+01 6.764E+01

Grand Total Activity : 6.751E+01 6.764E+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	83.78	91	417	1.59	167.22	165	7	1.26E-02	78.3	6.68E+00	T
4	89.99	174	389	1.23	179.63	171	20	2.42E-02	41.5	6.94E+00	T
0	186.02	230	280	1.18	371.64	367	10	3.19E-02	31.4	5.81E+00	T
0	209.15	83	241	1.02	417.89	414	8	1.15E-02	69.6	5.38E+00	T
0	270.83	162	259	1.37	541.24	534	15	2.25E-02	46.5	4.48E+00	T
0	328.96	94	181	2.31	657.49	651	12	1.31E-02	61.5	3.87E+00	T
0	463.40	88	90	1.78	926.33	922	11	1.22E-02	47.6	2.98E+00	T
0	862.44	59	84	2.06	1724.28	1714	17	8.21E-03	76.0	1.78E+00	
6	917.53	34	24	3.13	1834.45	1817	32	4.79E-03	94.6	1.69E+00	
0	934.41	44	31	1.01	1868.22	1863	11	6.18E-03	56.6	1.66E+00	T
0	1590.48	55	0	5.81	3180.24	3171	19	7.64E-03	27.0	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]G244924009.CNF;1
* Acquisition date   : 27-JAN-2010 20:41:31  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 02:00:01.28          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G244924009            Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity  : 1.22524E+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	2.191E+01	2.460E+00	5.981E-01	5.136E-02	36.624
CD-109	4.359E+00	9.444E-01	1.055E+00	9.941E-02	4.131
SN-126	4.283E-01	9.279E-02	1.039E-01	9.737E-03	4.122
TL-208	5.723E-01	1.023E-01	5.785E-02	5.533E-03	9.894
BI-211	4.575E+00	6.492E-01	3.518E-01	3.156E-02	13.006
BI-212	1.082E+00	5.141E-01	4.737E-01	4.913E-02	2.285
PB-212	1.853E+00	2.141E-01	8.757E-02	8.376E-03	21.162
PO-212	1.853E+00	2.141E-01	8.757E-02	8.376E-03	21.162
BI-214	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
PB-214	1.592E+00	2.406E-01	1.226E-01	1.272E-02	12.979
PO-214	1.592E+00	2.406E-01	1.226E-01	1.272E-02	12.979
PO-216	1.853E+00	2.141E-01	8.757E-02	8.376E-03	21.162
PO-218	1.592E+00	2.406E-01	1.226E-01	1.272E-02	12.979
RA-224	5.546E+00	1.569E+00	9.968E-01	8.430E-02	5.563
RA-226	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
AC-228	1.845E+00	3.279E-01	2.243E-01	2.613E-02	8.227
RA-228	1.845E+00	3.279E-01	2.243E-01	2.613E-02	8.227
TH-228	1.882E+00	2.174E-01	8.892E-02	8.505E-03	21.162

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
TH-232	1.845E+00	3.279E-01	2.243E-01	2.613E-02	8.227
TH-234	2.036E+00	1.515E+00	1.507E+00	2.623E-01	1.351
U-234	1.371E+00	2.270E-01	1.111E-01	1.150E-02	12.333
NP-237	1.258E+00	3.763E-01	2.830E-01	6.398E-02	4.444
U-238	2.036E+00	1.515E+00	1.507E+00	2.623E-01	1.351
AM-243	4.768E-01	7.642E-02	7.250E-02	5.828E-03	6.577
ANH-511	1.317E-01	7.662E-02	4.963E-02	4.410E-03	2.654

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.383E-01		3.448E-01	5.055E-01	4.770E-02	-0.669
NA-22	1.366E-02		4.034E-02	6.927E-02	5.686E-03	0.197
NA-24	-4.914E-01		5.104E-01	Half-Life too short		
AL-26	6.360E-03		3.108E-02	5.384E-02	4.391E-03	0.118
TI-44	4.488E-01	+	5.943E-02	7.374E-02	6.174E-03	6.087
SC-46	-1.938E-03		3.982E-02	6.431E-02	5.893E-03	-0.030
V-48	1.939E-03		7.621E-02	1.231E-01	1.108E-02	0.016
CR-51	3.763E-01		3.780E-01	6.561E-01	5.929E-02	0.573
MN-52	1.204E-01		2.495E-01	4.362E-01	3.627E-02	0.276
MN-54	7.198E-03		3.863E-02	6.312E-02	5.794E-03	0.114
CO-56	1.139E-02		4.287E-02	7.156E-02	6.569E-03	0.159
CO-57	3.622E-04		2.475E-02	3.949E-02	3.398E-03	0.009
CO-58	-2.078E-02		3.877E-02	5.978E-02	5.492E-03	-0.348
FE-59	-8.189E-02		9.192E-02	1.391E-01	1.289E-02	-0.589
CO-60	1.961E-03		4.176E-02	6.916E-02	5.665E-03	0.028
ZN-65	3.457E-02		9.085E-02	1.383E-01	1.174E-02	0.250
GE-68	1.704E+00		1.226E+00	2.307E+00	1.999E-01	0.739
AS-73	-1.077E-01		5.377E-01	8.747E-01	6.568E-02	-0.123
AS-74	-2.687E-02		9.189E-02	1.499E-01	1.344E-02	-0.179
SE-75	3.542E-02		4.659E-02	7.204E-02	6.152E-03	0.492
BR-77	-4.840E+00		1.021E+01	1.654E+01	1.473E+00	-0.293
SR-82	-6.484E-01		3.955E-01	5.343E-01	4.879E-02	-1.214
RB-83	-2.851E-02		6.310E-02	1.024E-01	9.118E-03	-0.278
RB-84	3.413E-03		6.766E-02	1.105E-01	1.013E-02	0.031
KR-85	2.224E+01		8.477E+00	1.488E+01	1.323E+00	1.495
SR-85	1.143E-01		4.358E-02	7.649E-02	6.802E-03	1.495
RB-86	9.880E-01		7.883E-01	1.468E+00	1.273E-01	0.673
Y-88	5.338E-03		3.589E-02	6.143E-02	4.986E-03	0.087
ZR-88	-4.105E-05		3.163E-02	5.137E-02	4.279E-03	-0.001
Y-91	9.732E-01		2.055E+01	3.425E+01	2.797E+00	0.028
NB-94	1.231E-03		3.543E-02	5.868E-02	5.269E-03	0.021
NB-95	3.227E-02		4.702E-02	8.111E-02	7.394E-03	0.398
NB-95M	1.221E-02		1.380E-01	2.044E-01	1.985E-02	0.060
ZR-95	4.666E-02		7.460E-02	1.289E-01	1.281E-02	0.362
NB-97	-8.190E-02		6.169E-02	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	4.152E+00		1.337E+00	Half-Life too short		
MO-99	-6.833E+00		1.282E+01	2.001E+01	3.090E+00	-0.341
TC-99M	-2.710E+10		3.986E+10	Half-Life too short		
RH-101	2.059E-02		3.309E-02	5.666E-02	4.648E-03	0.363
RH-102	1.031E-02		2.864E-02	4.730E-02	4.149E-03	0.218
RU-103	1.730E-02		4.289E-02	7.072E-02	1.011E-02	0.245
RH-106	-1.898E-01		3.431E-01	5.455E-01	7.399E-02	-0.348
RU-106	-1.898E-01		3.426E-01	5.455E-01	4.875E-02	-0.348
AG-108M	2.351E-02		3.366E-02	5.705E-02	5.093E-03	0.412
AG-110M	-2.490E-02		3.464E-02	5.377E-02	4.899E-03	-0.463
IN-111	-2.238E-02		1.187E+00	1.742E+00	1.475E-01	-0.013
IN-113M	-6.341E-03		4.698E-02	7.559E-02	6.498E-03	-0.084
SN-113	-6.341E-03		4.698E-02	7.559E-02	6.498E-03	-0.084
IN-114M	1.388E-01		1.993E-01	3.092E-01	2.516E-02	0.449
CD-115	-6.720E+00		1.113E+01	1.783E+01	1.590E+00	-0.377
SN-117M	1.417E-02		5.802E-02	9.317E-02	7.470E-03	0.152
SB-122	1.544E+00		2.262E+00	3.969E+00	3.558E-01	0.389
I-123	3.175E-01		4.206E+00	Half-Life too short		
TE-123M	1.151E-03		3.050E-02	4.769E-02	3.847E-03	0.024
I-124	-1.946E-01		8.150E-01	1.211E+00	1.085E-01	-0.161
SB-124	-7.773E-03		7.801E-02	1.233E-01	1.068E-02	-0.063
SB-125	3.253E-02		8.969E-02	1.489E-01	1.298E-02	0.218
TE-125M	-4.685E+00		8.729E+00	1.374E+01	1.425E+00	-0.341
I-126	6.803E-03		1.988E-01	3.304E-01	2.929E-02	0.021
SB-126	1.411E-01		1.670E-01	2.715E-01	2.450E-02	0.520
SB-127	1.129E+00		1.469E+00	2.574E+00	3.009E-01	0.439
XE-127	7.254E-03		4.672E-02	7.927E-02	6.533E-03	0.092
I-131	-6.563E-02		1.234E-01	1.939E-01	1.737E-02	-0.338
TE-132	-6.026E-01		7.463E-01	1.194E+00	1.867E-01	-0.505
BA-133	-3.577E-02		5.370E-02	7.208E-02	9.466E-03	-0.496
I-133	5.765E-05		3.607E-03	Half-Life too short		
CS-134	8.868E-02		5.123E-02	9.435E-02	8.693E-03	0.940
CS-135	1.295E-01		1.838E-01	2.787E-01	2.748E-02	0.465
I-135	3.094E+09		5.405E+09	Half-Life too short		
CS-136	4.986E-02		1.119E-01	1.953E-01	1.787E-02	0.255
BA-137M	-4.609E-03		3.794E-02	6.233E-02	5.516E-03	-0.074
CS-137	-4.872E-03		4.010E-02	6.589E-02	5.841E-03	-0.074
CE-139	-2.471E-03		3.037E-02	4.790E-02	3.789E-03	-0.052
BA-140	-5.910E-03		2.591E-01	4.350E-01	1.445E-01	-0.014
LA-140	6.572E-02		9.927E-02	1.592E-01	1.331E-02	0.413
CE-141	3.025E-02		6.332E-02	1.031E-01	8.633E-03	0.293
CE-143	6.453E-04		1.184E-04	Half-Life too short		
CE-144	-5.943E-02		2.069E-01	3.265E-01	5.041E-02	-0.182
PM-144	9.584E-04		3.512E-02	5.817E-02	5.215E-03	0.016
PR-144	6.495E-02		2.380E+00	3.942E+00	3.533E-01	0.016
PM-146	1.075E-02		4.594E-02	7.519E-02	8.102E-03	0.143
ND-147	2.636E-01		5.618E-01	9.759E-01	1.477E-01	0.270
PM-149	2.441E+01		1.001E+02	1.678E+02	2.599E+01	0.145

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-1.044E-02		1.117E-01	1.680E-01	1.523E-02	-0.062
GD-153	-5.149E-02		8.160E-02	1.139E-01	1.018E-02	-0.452
EU-154	3.306E-02		1.137E-01	1.941E-01	2.134E-02	0.170
EU-155	4.778E-02		1.033E-01	1.703E-01	1.504E-02	0.281
TB-160	-2.796E-02		1.339E-01	2.124E-01	1.948E-02	-0.132
HO-166M	-5.970E-02		6.364E-02	9.605E-02	8.647E-03	-0.622
TM-171	4.847E+00		2.390E+01	3.559E+01	2.662E+00	0.136
LU-176	-9.470E-05		2.826E-02	4.313E-02	3.695E-03	-0.002
LU-177	2.103E+00	+	1.474E+00	2.095E+00	1.735E-01	1.004
LU-177M	-1.166E-01		1.834E-01	2.827E-01	2.393E-02	-0.412
HF-181	2.415E-02		4.345E-02	7.271E-02	6.397E-03	0.332
W-181	-5.274E-02		3.054E-01	4.474E-01	3.310E-02	-0.118
TA-182	-2.359E-01		2.093E-01	3.094E-01	2.530E-02	-0.763
RE-183	-4.541E-02		1.174E-01	1.825E-01	1.453E-02	-0.249
RE-184	-2.458E-02		2.308E-01	3.824E-01	3.246E-02	-0.064
OS-185	-4.983E-03		4.510E-02	7.426E-02	6.602E-03	-0.067
RE-188	1.647E-01		1.829E-01	3.017E-01	2.434E-02	0.546
W-188	2.045E+00		8.150E+00	1.207E+01	1.030E+00	0.169
IR-192	-3.708E-03		3.447E-02	5.634E-02	4.843E-03	-0.066
AU-195	2.309E-02		2.088E-01	3.404E-01	3.028E-02	0.068
TL-200	-1.259E-04		2.895E-04	Half-Life too short		
TL-201	-2.590E+00		7.428E+00	1.154E+01	9.142E-01	-0.224
TL-202	3.904E-02		7.586E-02	1.267E-01	1.092E-02	0.308
HG-203	1.923E-02		4.156E-02	7.049E-02	6.158E-03	0.273
BI-207	2.488E-02		4.736E-02	8.366E-02	7.299E-03	0.297
TL-207	-2.100E-01		8.089E-01	1.140E+00	2.016E-01	-0.184
PO-209	1.829E+00		7.667E+00	1.274E+01	1.167E+00	0.144
BI-210	2.128E-01		1.828E+00	3.017E+00	2.830E-01	0.071
PB-210	2.128E-01		1.828E+00	3.017E+00	2.830E-01	0.071
PO-210	2.128E-01		1.828E+00	3.017E+00	2.567E-01	0.071
PB-211	3.659E-01		9.939E-01	1.608E+00	1.007E+00	0.227
PO-215	-2.100E-01		8.089E-01	1.140E+00	2.016E-01	-0.184
RN-219	1.952E-02		4.372E-01	7.111E-01	1.059E-01	0.027
RN-220	1.145E+01		2.592E+01	4.493E+01	4.023E+00	0.255
RA-223	-2.100E-01		8.089E-01	1.140E+00	2.016E-01	-0.184
AC-227	-3.346E-01		3.978E-01	6.285E-01	9.601E-02	-0.532
TH-227	-3.346E-01		3.991E-01	6.285E-01	1.131E-01	-0.532
TH-229	-3.099E-01		5.028E-01	8.262E-01	6.746E-02	-0.375
PA-231	-1.002E+00		1.527E+00	2.421E+00	3.660E-01	-0.414
TH-231	-2.100E-01		8.089E-01	1.140E+00	2.016E-01	-0.184
U-231	8.284E-02		1.117E+00	1.627E+00	1.465E-01	0.051
PA-233	-2.083E-02		6.380E-02	1.029E-01	9.076E-03	-0.202
PA-234	-5.769E-02		3.190E-01	5.052E-01	9.591E-02	-0.114
PA-234M	8.089E-01		4.861E+00	7.952E+00	8.154E-01	0.102
U-235	9.214E-02		2.206E-01	3.541E-01	6.132E-02	0.260
NP-236	2.942E-02		8.622E-02	1.367E-01	1.093E-02	0.215
NP-239	-1.762E-01		1.813E-01	2.776E-01	2.388E-02	-0.635
AM-241	2.156E-02		1.125E-01	1.684E-01	1.335E-02	0.128

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-7.692E-02		9.360E-02	1.459E-01	1.278E-02	-0.527
AM-246	1.078E-01		1.473E-01	2.626E-01	2.274E-02	0.410
CM-247	1.473E-02		3.864E-02	6.426E-02	5.395E-03	0.229
CF-249	4.888E-02		4.205E-02	7.323E-02	6.112E-03	0.668
CF-251	-1.038E-02		1.236E-01	2.090E-01	1.674E-02	-0.050

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]G244924009          *
* Acquisition date   : 27-JAN-2010 20:41:31 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 02:00:01.28 Half life ratio : 8.000             *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date       : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G244924009 Analyst initials: MXR1                  *
* Batch Number      : 942723 Sample Quantity : 1.2252E+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	2.191E+01	2.411E+00	2.987E-01	1.230E+00
CD-109	4.359E+00	9.255E-01	5.464E-01	4.722E-01
SN-126	4.283E-01	9.093E-02	5.381E-02	4.639E-02
TL-208	5.723E-01	1.003E-01	2.924E-02	5.116E-02
BI-211	4.575E+00	6.362E-01	1.790E-01	3.246E-01
BI-212	1.082E+00	5.038E-01	2.388E-01	2.571E-01
PB-212	1.853E+00	2.098E-01	4.478E-02	1.070E-01
PO-212	1.853E+00	2.098E-01	4.478E-02	1.070E-01
BI-214	1.371E+00	2.225E-01	5.614E-02	1.135E-01
PB-214	1.592E+00	2.358E-01	6.239E-02	1.203E-01
PO-214	1.592E+00	2.358E-01	6.239E-02	1.203E-01
PO-216	1.853E+00	2.098E-01	4.478E-02	1.070E-01
PO-218	1.592E+00	2.358E-01	6.239E-02	1.203E-01
RA-224	5.546E+00	1.537E+00	5.096E-01	7.843E-01
RA-226	1.371E+00	2.225E-01	5.614E-02	1.135E-01
AC-228	1.845E+00	3.214E-01	1.127E-01	1.640E-01
RA-228	1.845E+00	3.214E-01	1.127E-01	1.640E-01
TH-228	1.882E+00	2.130E-01	4.547E-02	1.087E-01
TH-230	1.371E+00	2.225E-01	5.614E-02	1.135E-01
TH-232	1.845E+00	3.214E-01	1.127E-01	1.640E-01
TH-234	2.036E+00	1.484E+00	7.836E-01	7.573E-01
U-234	1.371E+00	2.225E-01	5.614E-02	1.135E-01
NP-237	1.258E+00	3.688E-01	1.465E-01	1.882E-01
U-238	2.036E+00	1.484E+00	7.836E-01	7.573E-01
AM-243	4.768E-01	7.489E-02	3.761E-02	3.821E-02
ANH-511	1.317E-01	7.509E-02	2.513E-02	3.831E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-3.383E-01	3.379E-01	2.562E-01	1.724E-01 NOT IDENT.

NA-22	1.366E-02	3.953E-02	3.466E-02	2.017E-02	NOT IDENT.
NA-24	-4.914E+05	1.000E+06	0.000E+00	5.104E+05	SHORT HLIF
AL-26	6.360E-03	3.046E-02	2.682E-02	1.554E-02	NOT IDENT.
TI-44	4.488E-01	5.824E-02	3.823E-02	2.972E-02	FAIL ABUN
SC-46	-1.938E-03	3.902E-02	3.233E-02	1.991E-02	FAIL ABUN
V-48	1.939E-03	7.468E-02	6.179E-02	3.810E-02	NOT IDENT.
CR-51	3.763E-01	3.705E-01	3.342E-01	1.890E-01	NOT IDENT.
MN-52	1.204E-01	2.446E-01	2.179E-01	1.248E-01	FAIL ABUN
MN-54	7.198E-03	3.786E-02	3.176E-02	1.932E-02	NOT IDENT.
CO-56	1.139E-02	4.201E-02	3.600E-02	2.144E-02	NOT IDENT.
CO-57	3.622E-04	2.426E-02	2.036E-02	1.238E-02	NOT IDENT.
CO-58	-2.078E-02	3.799E-02	3.009E-02	1.938E-02	NOT IDENT.
FE-59	-8.189E-02	9.008E-02	6.974E-02	4.596E-02	NOT IDENT.
CO-60	1.961E-03	4.093E-02	3.458E-02	2.088E-02	NOT IDENT.
ZN-65	3.457E-02	8.903E-02	6.932E-02	4.542E-02	NOT IDENT.
GE-68	1.704E+00	1.202E+00	1.157E+00	6.131E-01	NOT IDENT.
AS-73	-1.077E-01	5.269E-01	4.557E-01	2.688E-01	NOT IDENT.
AS-74	-2.687E-02	9.005E-02	7.576E-02	4.594E-02	NOT IDENT.
SE-75	3.542E-02	4.566E-02	3.679E-02	2.330E-02	NOT IDENT.
BR-77	-4.840E+00	1.001E+01	8.372E+00	5.107E+00	FAIL ABUN
SR-82	-6.484E-01	3.875E-01	2.691E-01	1.977E-01	NOT IDENT.
RB-83	-2.851E-02	6.184E-02	5.183E-02	3.155E-02	NOT IDENT.
RB-84	3.413E-03	6.631E-02	5.557E-02	3.383E-02	NOT IDENT.
KR-85	2.224E+01	8.307E+00	7.534E+00	4.238E+00	NOT IDENT.
SR-85	1.143E-01	4.270E-02	3.873E-02	2.179E-02	NOT IDENT.
RB-86	9.880E-01	7.726E-01	7.363E-01	3.942E-01	NOT IDENT.
Y-88	5.338E-03	3.517E-02	3.059E-02	1.794E-02	NOT IDENT.
ZR-88	-4.105E-05	3.100E-02	2.610E-02	1.582E-02	NOT IDENT.
Y-91	9.732E-01	2.014E+01	1.715E+01	1.028E+01	NOT IDENT.
NB-94	1.231E-03	3.472E-02	2.959E-02	1.771E-02	NOT IDENT.
NB-95	3.227E-02	4.608E-02	4.086E-02	2.351E-02	NOT IDENT.
NB-95M	1.221E-02	1.352E-01	1.046E-01	6.900E-02	NOT IDENT.
ZR-95	4.666E-02	7.311E-02	6.496E-02	3.730E-02	NOT IDENT.
NB-97	-8.190E+04	1.209E+05	0.000E+00	6.169E+04	SHORT HLIF
ZR-97	4.152E+06	2.621E+06	0.000E+00	1.337E+06	SHORT HLIF
MO-99	-6.833E+00	1.257E+01	1.008E+01	6.412E+00	NOT IDENT.
TC-99M	-2.710E+16	7.813E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.059E-02	3.242E-02	2.904E-02	1.654E-02	NOT IDENT.
RH-102	1.031E-02	2.806E-02	2.397E-02	1.432E-02	NOT IDENT.
RU-103	1.730E-02	4.203E-02	3.582E-02	2.144E-02	FAIL ABUN
RH-106	-1.898E-01	3.363E-01	2.755E-01	1.716E-01	FAIL ABUN
RU-106	-1.898E-01	3.357E-01	2.755E-01	1.713E-01	FAIL ABUN
AG-108M	2.351E-02	3.299E-02	2.895E-02	1.683E-02	NOT IDENT.
AG-110M	-2.490E-02	3.395E-02	2.714E-02	1.732E-02	NOT IDENT.
IN-111	-2.238E-02	1.163E+00	8.903E-01	5.935E-01	NOT IDENT.
IN-113M	-6.341E-03	4.604E-02	3.841E-02	2.349E-02	NOT IDENT.
SN-113	-6.341E-03	4.604E-02	3.841E-02	2.349E-02	NOT IDENT.
IN-114M	1.388E-01	1.953E-01	1.586E-01	9.964E-02	NOT IDENT.
CD-115	-6.720E+00	1.091E+01	9.023E+00	5.567E+00	NOT IDENT.
SN-117M	1.417E-02	5.686E-02	4.789E-02	2.901E-02	NOT IDENT.
SB-122	1.544E+00	2.217E+00	2.007E+00	1.131E+00	NOT IDENT.
I-123	3.175E+05	8.243E+06	0.000E+00	4.206E+06	SHORT HLIF
TE-123M	1.151E-03	2.989E-02	2.451E-02	1.525E-02	NOT IDENT.
I-124	-1.946E-01	7.987E-01	6.117E-01	4.075E-01	NOT IDENT.
SB-124	-7.773E-03	7.645E-02	6.148E-02	3.900E-02	FAIL ABUN
SB-125	3.253E-02	8.790E-02	7.558E-02	4.485E-02	FAIL ABUN
TE-125M	-4.685E+00	8.554E+00	7.097E+00	4.364E+00	NOT IDENT.
I-126	6.803E-03	1.948E-01	1.667E-01	9.938E-02	NOT IDENT.
SB-126	1.411E-01	1.636E-01	1.369E-01	8.348E-02	FAIL ABUN
SB-127	1.129E+00	1.440E+00	1.299E+00	7.346E-01	NOT IDENT.
XE-127	7.254E-03	4.579E-02	4.062E-02	2.336E-02	NOT IDENT.
I-131	-6.563E-02	1.210E-01	9.863E-02	6.171E-02	NOT IDENT.
TE-132	-6.026E-01	7.314E-01	6.108E-01	3.732E-01	NOT IDENT.
BA-133	-3.577E-02	5.263E-02	3.667E-02	2.685E-02	NOT IDENT.
I-133	5.765E+01	7.070E+03	0.000E+00	3.607E+03	SHORT HLIF
CS-134	8.868E-02	5.020E-02	4.751E-02	2.561E-02	NOT IDENT.
CS-135	1.295E-01	1.802E-01	1.423E-01	9.192E-02	NOT IDENT.
I-135	3.094E+15	1.059E+16	0.000E+00	5.405E+15	SHORT HLIF
CS-136	4.986E-02	1.096E-01	9.798E-02	5.593E-02	FAIL ABUN
BA-137M	-4.609E-03	3.718E-02	3.146E-02	1.897E-02	NOT IDENT.
CS-137	-4.872E-03	3.930E-02	3.325E-02	2.005E-02	NOT IDENT.
CE-139	-2.471E-03	2.976E-02	2.461E-02	1.518E-02	NOT IDENT.
BA-140	-5.910E-03	2.539E-01	2.201E-01	1.295E-01	NOT IDENT.
LA-140	6.572E-02	9.729E-02	7.940E-02	4.964E-02	FAIL ABUN
CE-141	3.025E-02	6.205E-02	5.306E-02	3.166E-02	NOT IDENT.
CE-143	6.453E+02	2.320E+02	0.000E+00	1.184E+02	SHORT HLIF
CE-144	-5.943E-02	2.027E-01	1.682E-01	1.034E-01	NOT IDENT.
PM-144	9.584E-04	3.441E-02	2.934E-02	1.756E-02	NOT IDENT.

PR-144	6.495E-02	2.332E+00	1.988E+00	1.190E+00	NOT IDENT.
PM-146	1.075E-02	4.502E-02	3.813E-02	2.297E-02	NOT IDENT.
ND-147	2.636E-01	5.505E-01	4.940E-01	2.809E-01	FAIL ABUN
PM-149	2.441E+01	9.810E+01	8.562E+01	5.005E+01	NOT IDENT.
EU-152	-1.044E-02	1.094E-01	8.549E-02	5.583E-02	NOT IDENT.
GD-153	-5.149E-02	7.997E-02	5.888E-02	4.080E-02	FAIL ABUN
EU-154	3.306E-02	1.114E-01	9.711E-02	5.683E-02	NOT IDENT.
EU-155	4.778E-02	1.012E-01	8.797E-02	5.163E-02	FAIL ABUN
TB-160	-2.796E-02	1.312E+01	1.068E-01	6.695E-02	FAIL ABUN
HO-166M	-5.970E-02	6.237E-02	4.843E-02	3.182E-02	NOT IDENT.
TM-171	4.847E+00	2.342E+01	1.849E+01	1.195E+01	NOT IDENT.
LU-176	-9.470E-05	2.769E-02	2.199E-02	1.413E-02	FAIL ABUN
LU-177	2.103E+00	1.444E+00	1.073E+00	7.369E-01	FAIL ABUN
LU-177M	-1.166E-01	1.797E-01	1.435E-01	9.170E-02	NOT IDENT.
HF-181	2.415E-02	4.258E-02	3.685E-02	2.173E-02	NOT IDENT.
W-181	-5.274E-02	2.993E-01	2.325E-01	1.527E-01	NOT IDENT.
TA-182	-2.359E-01	2.052E-01	1.549E-01	1.047E-01	FAIL ABUN
RE-183	-4.541E-02	1.150E-01	9.379E-02	5.868E-02	FAIL ABUN
RE-184	-2.458E-02	2.261E-01	1.954E-01	1.154E-01	NOT IDENT.
OS-185	-4.983E-03	4.419E-02	3.749E-02	2.255E-02	NOT IDENT.
RE-188	1.647E-01	1.792E-01	1.551E-01	9.143E-02	NOT IDENT.
W-188	2.045E+00	7.987E+00	6.157E+00	4.075E+00	FAIL ABUN
IR-192	-3.708E-03	3.378E-02	2.871E-02	1.724E-02	FAIL ABUN
AU-195	2.309E-02	2.046E-01	1.760E-01	1.044E-01	FAIL ABUN
TL-200	-1.259E+02	5.674E+02	0.000E+00	2.895E+02	SHORT HLIF
TL-201	-2.590E+00	7.279E+00	5.928E+00	3.714E+00	NOT IDENT.
TL-202	3.904E-02	7.434E-02	6.430E-02	3.793E-02	NOT IDENT.
HG-203	1.923E-02	4.072E-02	3.597E-02	2.078E-02	FAIL ABUN
BI-207	2.488E-02	4.641E-02	4.196E-02	2.368E-02	FAIL ABUN
TL-207	-2.100E-01	7.928E-01	5.808E-01	4.045E-01	FAIL ABUN
PO-209	1.829E+00	7.514E+00	6.405E+00	3.833E+00	NOT IDENT.
BI-210	2.128E-01	1.791E+00	1.574E+00	9.140E-01	NOT IDENT.
PB-210	2.128E-01	1.791E+00	1.574E+00	9.140E-01	NOT IDENT.
PO-210	2.128E-01	1.791E+00	1.574E+00	9.140E-01	NOT IDENT.
PB-211	3.659E-01	9.740E-01	8.169E-01	4.970E-01	NOT IDENT.
PO-215	-2.100E-01	7.928E-01	5.808E-01	4.045E-01	FAIL ABUN
RN-219	1.952E-02	4.285E-01	3.612E-01	2.186E-01	FAIL ABUN
RN-220	1.145E+01	2.540E+01	2.273E+01	1.296E+01	NOT IDENT.
RA-223	-2.100E-01	7.928E-01	5.808E-01	4.045E-01	FAIL ABUN
AC-227	-3.346E-01	3.899E-01	3.211E-01	1.989E-01	FAIL ABUN
TH-227	-3.346E-01	3.911E-01	3.211E-01	1.995E-01	FAIL ABUN
TH-229	-3.099E-01	4.927E-01	4.236E-01	2.514E-01	FAIL ABUN
PA-231	-1.002E+00	1.497E+00	1.235E+00	7.636E-01	FAIL ABUN
TH-231	-2.100E-01	7.928E-01	5.808E-01	4.045E-01	FAIL ABUN
U-231	8.284E-02	1.095E+00	8.415E-01	5.586E-01	FAIL ABUN
PA-233	-2.083E-02	6.252E-02	5.244E-02	3.190E-02	FAIL ABUN
PA-234	-5.769E-02	3.126E-01	2.538E-01	1.595E-01	FAIL ABUN
PA-234M	8.089E-01	4.763E+00	3.992E+00	2.430E+00	NOT IDENT.
U-235	9.214E-02	2.162E-01	1.822E-01	1.103E-01	FAIL ABUN
NP-236	2.942E-02	8.449E-02	7.025E-02	4.311E-02	NOT IDENT.
NP-239	-1.762E-01	1.777E-01	1.432E-01	9.065E-02	FAIL ABUN
AM-241	2.156E-02	1.103E-01	8.762E-02	5.625E-02	NOT IDENT.
CM-243	-7.692E-02	9.173E-02	7.537E-02	4.680E-02	FAIL ABUN
AM-246	1.078E-01	1.443E-01	1.317E-01	7.363E-02	NOT IDENT.
CM-247	1.473E-02	3.787E-02	3.264E-02	1.932E-02	NOT IDENT.
CF-249	4.888E-02	4.121E-02	3.721E-02	2.103E-02	NOT IDENT.
CF-251	-1.038E-02	1.211E-01	1.073E-01	6.179E-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	258.9042
46.50	258.9042
48.70	349.4753
49.72	319.0819
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52.39	293.5634
52.97	305.4877
53.15	306.5845
53.44	318.3136
54.07	315.9351
56.28	324.4165
56.28	324.4182
57.37	0.0000
57.53	321.9128
57.53	321.9145
57.60	321.9669
57.98	312.6614
57.98	312.6614
59.32	325.3271
59.32	325.3271
59.40	315.1736
59.54	315.2774
59.72	315.4109
60.01	325.8529
61.10	335.4684
61.14	335.4990
61.30	335.6230
63.00	371.7485
63.29	371.9924
63.29	371.9924
63.58	394.8252
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65.12	412.4457
65.20	412.5186
65.20	412.5186
66.05	383.6647
66.72	402.0279
66.83	402.1271
66.91	405.1656
67.20	432.1507
67.20	432.1507
67.75	427.0159
67.85	427.1079
68.90	418.8309
68.90	418.8309
69.30	414.7136
69.67	446.3945
70.82	399.5854
70.82	399.5854
70.83	399.5935
72.80	412.7544
72.87	412.8152
72.87	412.8152
74.67	414.3365
74.81	414.4539
74.81	414.4539
74.81	414.4539
74.81	414.4539
74.81	414.4539
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77.11	416.3692

77.11	416.3692
77.11	416.3692
77.11	416.3692
77.11	416.3692
77.11	416.3692
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79.80	278.3719
79.80	278.3719
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80.30	256.2682
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81.07	256.6489
81.07	256.6489
81.07	256.6489
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83.78	373.1412
83.78	373.1412
83.78	373.1412
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84.90	289.2907
85.43	289.5761
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86.50	290.1498
86.54	290.1714
86.59	290.1986
86.72	290.2675
86.79	290.3033
86.94	290.3851
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87.30	358.5829
87.30	358.5829
87.30	358.5829
87.30	358.5829
87.30	358.5829
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87.88	341.9437
88.03	342.0364
88.36	342.2421
88.47	342.3112
89.95	343.2251
91.11	343.9383
92.29	344.6566
92.38	344.7122
92.38	344.7122
93.35	345.2990
94.00	314.4075
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94.67	305.3778
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94.90	291.3998
94.90	291.3998
94.90	291.3998
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98.44	315.2359
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99.55	303.1919
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103.76	326.5137
105.00	298.4910
105.31	289.0761
108.00	315.9408
109.28	291.9815

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111.00	282.0460
111.76	281.3054
112.95	279.6724
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116.30	261.6448
117.00	283.5681
117.00	283.5681
117.66	304.4338
121.11	263.5268
121.62	256.0966
121.78	256.1563
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122.32	268.3581
122.32	268.3581
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144.24	275.4705
144.24	275.4705
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153.22	247.9400
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154.21	261.9109
154.21	261.9109
154.21	261.9109
155.03	264.4575
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163.35	260.2435
163.89	248.8909
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167.43	241.8370
171.28	218.5167
171.86	220.9902
172.10	221.0520
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176.60	246.4581
181.06	275.0209
184.41	253.3947
185.71	234.7945
186.00	234.8693
190.27	220.8220
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193.63	253.7869
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198.01	216.3580
198.60	223.6767
200.40	253.7961
201.83	250.5674
202.84	234.5876
205.31	247.4824

208.36	246.7988
208.81	224.2169
209.75	210.7987
209.75	210.7987
210.97	229.9795
215.65	198.3300
216.55	212.2271
218.09	229.0382
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223.80	214.6458
226.40	189.3206
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227.08	203.3060
227.20	197.7825
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228.18	232.1949
228.18	232.1949
231.56	0.0000
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236.00	207.2461
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238.63	181.2178
238.63	181.2178
238.63	181.2178
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241.98	181.7721
241.98	181.7721
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248.90	168.0882
249.79	166.0648
252.40	166.4475
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252.85	171.2438
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256.20	200.2127
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260.90	173.3993
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268.79	158.0658
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269.46	149.7111
269.46	149.7111
269.46	149.7111
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277.60	162.3193
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284.30	160.2919
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285.90	149.7985
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299.80	145.5520
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300.09	145.5836
300.09	145.5836
300.09	145.5836
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303.91	157.8516
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323.87	158.6320
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334.30	125.1239
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338.28	138.6347
338.28	138.6347
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338.32	138.6389
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351.92	138.9426
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391.69	117.4756
392.90	109.1686
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445.03	97.5037
445.03	97.5037
445.03	97.5037
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475.35	81.5518
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513.99	67.5000
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569.50	89.7463
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593.00	64.5510
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602.71	95.3146
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604.41	90.9106
604.70	90.9224
609.31	74.4617

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609.31	74.4617
609.31	74.4617
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696.49	70.4619
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756.15	57.1169
756.87	56.1299
763.93	110.5532
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766.84	70.4290
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778.57	55.5828
778.89	55.5895
783.80	66.8298
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828.27	0.0000
831.60	65.9422
831.96	69.0430
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867.82	64.3480
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884.67	43.0300
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898.02	44.2774
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903.28	49.6357
911.07	54.7054
911.07	54.7054
911.07	54.7054
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920.93	53.1128
925.00	28.3646
925.24	28.3672
926.50	27.6694
935.52	49.8089
937.48	55.1796
944.10	56.7253
946.00	52.4764
949.00	39.6630
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964.01	34.1082
966.15	52.0952
968.20	98.8639
969.11	66.8876
969.11	66.8876
969.11	66.8876
977.42	57.6875
980.50	38.9769
983.50	48.7661
989.30	45.5971
996.32	52.2246
1001.03	50.1205
1001.68	45.7714
1004.76	46.9053
1021.30	0.0000
1024.50	0.0000
1034.80	39.4447
1036.00	51.3880
1037.82	34.8890
1038.57	35.8151
1038.76	0.0000
1045.16	55.2075
1046.59	50.6293
1048.07	44.2051

1050.47	52.5306
1050.47	52.5306
1062.04	40.6878
1063.62	33.3047
1076.63	32.5020
1077.35	30.6515
1078.86	41.8158
1085.78	33.5200
1099.22	56.0815
1112.02	44.0040
1112.84	41.2840
1115.52	37.0236
1120.29	53.1922
1120.29	53.1922
1120.29	53.1922
1120.29	53.1922
1120.51	38.5526
1121.28	29.0215
1124.00	0.0000
1129.67	43.1932
1131.51	0.0000
1147.95	0.0000
1167.94	54.3026
1173.22	48.6550
1175.09	60.1340
1177.93	68.7773
1189.05	53.6530
1204.90	62.5376
1205.75	0.0000
1213.00	56.8850
1221.42	74.4058
1230.97	80.4029
1235.34	82.4337
1236.41	0.0000
1238.25	45.6135
1246.25	40.8464
1260.41	0.0000
1271.85	31.3242
1274.45	32.3246
1274.54	31.3451
1291.56	27.5443
1298.22	0.0000
1312.09	31.6393
1325.50	25.7916
1325.50	25.7916
1332.49	33.7856
1333.61	26.8363
1360.21	29.0094
1362.66	0.0000
1365.15	29.0437
1368.21	32.0716
1368.53	0.0000
1376.25	24.0996
1384.27	37.2243
1394.10	18.1509
1395.20	19.1639
1407.95	32.3724
1434.06	20.3548
1436.60	17.3113
1457.56	0.0000
1460.81	25.5981
1489.15	17.5174
1509.49	23.8067
1596.49	14.4615
1620.62	19.0767
1678.03	0.0000
1691.02	13.9754
1691.02	13.9754
1706.46	0.0000
1750.46	0.0000
1764.49	12.1526
1764.49	12.1526
1764.49	12.1526
1764.49	12.1526
1770.23	11.4639
1771.40	76.7577
1791.20	0.0000
1808.65	11.3124

1836.01

12.3181

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924009

Total Uranium Activity	6.0999E+00	ug/g
Total Uranium Counting Unc.	4.4170E+00	ug/g
Total Uranium Tpu	2.2536E-06	ug/g
Total Uranium Mda	2.3326E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942723                          SAMPLE ID   : G244924009
*  ANALYST       : MXR1                             DETECTOR    : GAM07
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 20:41:31.40          SAMPLE ALQT  : 122.524 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.441E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.269E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.403E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.649E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 22:43:25.80

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924010.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:42:00
Sample ID          : G244924010           Sample quantity : 1.31005E+02 GRAM
Detector name      : GAM14                Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00        Elapsed real time: 0 02:00:01.35  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials  : MXR1
Abundance limit    : 75.00000             Sensitivity         : 5.00000
Batch ID           : 942723               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	62.58*	159	633	1.68	124.72	118	13	2.21E-02	34.1	
2	1	74.86	568	451	1.54	149.24	142	21	7.89E-02	8.5	4.91E+00
3	1	77.18*	826	426	1.45	153.88	142	21	1.15E-01	6.1	
4	2	87.27*	250	295	1.20	174.05	171	20	3.47E-02	11.7	1.18E+00
5	2	89.89	220	503	1.71	179.28	171	20	3.06E-02	21.0	
6	2	92.97*	329	408	1.65	185.44	171	20	4.57E-02	14.4	
7	0	186.36*	165	397	1.72	372.03	366	12	2.29E-02	26.3	
8	0	209.69	113	315	1.57	418.66	414	11	1.57E-02	32.0	
9	2	238.56*	1226	226	1.32	476.34	470	23	1.70E-01	3.6	9.55E-01
10	2	241.56	285	245	1.87	482.35	470	23	3.96E-02	15.3	
11	0	270.12	121	246	1.84	539.42	533	12	1.68E-02	27.6	
12	0	278.25	46	210	0.50	555.65	549	11	6.33E-03	64.1	
13	0	295.10	362	219	1.30	589.34	583	12	5.03E-02	9.7	
14	0	300.68	139	190	2.93	600.49	595	13	1.93E-02	22.5	
15	0	327.90	63	143	1.49	654.88	650	10	8.79E-03	37.7	
16	0	338.35	279	220	1.59	675.77	667	17	3.87E-02	13.6	
17	0	351.92	600	203	1.61	702.89	697	14	8.34E-02	6.5	
18	0	463.22	68	102	1.47	925.35	918	11	9.47E-03	31.1	
19	0	511.17*	63	141	2.17	1021.21	1015	13	8.78E-03	47.7	
20	0	568.93*	131	120	1.87	1136.66	1129	16	1.82E-02	21.2	
21	0	583.39*	397	113	1.61	1165.57	1158	17	5.52E-02	8.1	
22	0	609.48	492	84	1.49	1217.74	1211	14	6.84E-02	6.0	
23	0	727.55	116	77	2.18	1453.80	1444	17	1.61E-02	19.6	
24	0	861.05	59	84	0.97	1720.76	1714	16	8.13E-03	37.4	
25	0	911.84*	239	68	1.73	1822.32	1816	14	3.31E-02	10.0	
26	0	969.55*	143	67	1.39	1937.74	1933	12	1.99E-02	14.2	
27	0	1121.54	110	76	2.33	2241.76	2230	22	1.52E-02	22.5	
28	0	1238.62	61	45	1.82	2475.99	2468	14	8.45E-03	26.8	
29	0	1461.50*	997	29	2.02	2921.98	2914	19	1.38E-01	3.5	
30	0	1765.19	73	7	1.62	3529.86	3522	14	1.01E-02	14.0	
31	0	1847.61	22	4	1.11	3694.86	3687	14	3.11E-03	27.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 22:43:29

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G244924010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:42:00
Sample ID        : G244924010 Sample quantity : 131.01 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA14 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.35 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	*	2.211E+01	2.221E+00	3.614E-01	2.624E-02	61.177
CD-109	+	88.03	*	2.789E+00	6.978E-01	1.185E+00	1.036E-01	2.353
SN-126		64.28		8.062E-02	4.911E-01	7.112E-01	1.013E-01	0.113
	+	86.94		1.139E+00	5.418E-01	5.297E-01	2.191E-01	2.151
	+	87.57	*	2.740E-01	6.856E-02	1.319E-01	1.148E-02	2.077
HG-203		70.83		3.583E-01	1.031E+00	1.489E+00	1.901E-01	0.241
		72.87		1.859E+00	6.880E-01	1.021E+00	1.269E-01	1.821
		82.60		4.594E-01	1.566E+00	1.631E+00	2.198E-01	0.282
	+	279.20	*	4.256E-02	5.464E-02	5.882E-02	3.640E-03	0.724
TL-208	+	277.35		3.847E-01	4.951E-01	5.350E-01	5.658E-02	0.719
	+	510.84		2.716E-01	2.604E-01	2.311E-01	2.356E-02	1.176
	+	583.14	*	4.905E-01	8.595E-02	5.238E-02	3.582E-03	9.364
	+	860.37		6.926E-01	5.221E-01	4.363E-01	4.105E-02	1.587
BI-211		72.87		9.314E+00	3.318E+00	5.116E+00	3.770E-01	1.821
	+	351.07	*	3.182E+00	4.606E-01	3.098E-01	1.963E-02	10.270
PB-212	+	74.81		2.501E+00	5.191E-01	4.730E-01	5.673E-02	5.287
	+	77.11		2.083E+00	2.992E-01	2.715E-01	2.090E-02	7.673
	+	87.30		1.267E+00	3.415E-01	6.113E-01	8.091E-02	2.073
	+	238.63	*	1.415E+00	1.453E-01	8.202E-02	5.974E-03	17.253
	+	300.09		2.474E+00	1.132E+00	1.069E+00	8.840E-02	2.315
PO-212	+	74.81		2.501E+00	5.191E-01	4.730E-01	5.673E-02	5.287
	+	77.11		2.083E+00	2.992E-01	2.715E-01	2.090E-02	7.673
	+	87.30		1.267E+00	3.415E-01	6.113E-01	8.091E-02	2.073
		115.19		7.907E-01	3.351E+00	5.451E+00	3.967E-01	0.145
	+	238.63	*	1.415E+00	1.453E-01	8.202E-02	5.974E-03	17.253
	+	300.09		2.474E+00	1.132E+00	1.069E+00	8.840E-02	2.315
BI-214	+	609.31	*	1.148E+00	1.649E-01	9.806E-02	7.762E-03	11.706
	+	1120.29		1.365E+00	6.284E-01	4.421E-01	4.096E-02	3.089
	+	1764.49		1.251E+00	3.582E-01	2.325E-01	1.395E-02	5.378
PB-214	+	74.81		4.309E+00	8.600E-01	8.150E-01	8.600E-02	5.287
	+	77.11		3.571E+00	5.806E-01	4.654E-01	5.042E-02	7.673
	+	87.30		2.171E+00	5.684E-01	1.047E+00	1.215E-01	2.073
	+	241.98		1.974E+00	6.264E-01	4.935E-01	3.964E-02	4.000
	+	295.21		1.131E+00	2.402E-01	1.978E-01	1.691E-02	5.720

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.107E+00	1.703E-01	1.079E-01	8.852E-03	10.260
	+	74.81		4.309E+00	8.600E-01	8.150E-01	8.600E-02	5.287
	+	77.11		3.571E+00	5.806E-01	4.654E-01	5.042E-02	7.673
	+	87.30		2.171E+00	5.684E-01	1.047E+00	1.215E-01	2.073
	+	241.98		1.974E+00	6.264E-01	4.935E-01	3.964E-02	4.000
PO-216	+	295.21		1.131E+00	2.402E-01	1.978E-01	1.691E-02	5.720
	+	351.92	*	1.107E+00	1.703E-01	1.079E-01	8.852E-03	10.260
	+	74.81		2.501E+00	5.191E-01	4.730E-01	5.673E-02	5.287
	+	77.11		2.083E+00	2.992E-01	2.715E-01	2.090E-02	7.673
	+	87.30		1.267E+00	3.415E-01	6.113E-01	8.091E-02	2.073
PO-218	+	238.63	*	1.415E+00	1.453E-01	8.202E-02	5.974E-03	17.253
	+	300.09		2.474E+00	1.132E+00	1.069E+00	8.840E-02	2.315
	+	74.81		4.309E+00	8.600E-01	8.150E-01	8.600E-02	5.287
	+	77.11		3.571E+00	5.806E-01	4.654E-01	5.042E-02	7.673
	+	87.30		2.171E+00	5.684E-01	1.047E+00	1.215E-01	2.073
RA-224	+	241.98		1.974E+00	6.264E-01	4.935E-01	3.964E-02	4.000
	+	295.21		1.131E+00	2.402E-01	1.978E-01	1.691E-02	5.720
	+	351.92	*	1.107E+00	1.703E-01	1.079E-01	8.852E-03	10.260
	+	240.98	*	3.743E+00	1.169E+00	9.329E-01	5.362E-02	4.013
	+	609.31	*	1.148E+00	1.649E-01	9.806E-02	7.762E-03	11.706
AC-228	+	1120.29		1.365E+00	6.284E-01	4.421E-01	4.096E-02	3.089
	+	1764.49		1.251E+00	3.582E-01	2.325E-01	1.395E-02	5.378
	+	338.32		1.627E+00	7.973E-01	3.509E-01	1.430E-01	4.637
	+	911.07	*	1.339E+00	3.104E-01	1.809E-01	2.124E-02	7.402
	+	969.11		1.418E+00	5.224E-01	5.082E-01	1.187E-01	2.791
RA-228	+	338.32		1.627E+00	7.973E-01	3.509E-01	1.430E-01	4.637
	+	911.07	*	1.339E+00	3.104E-01	1.809E-01	2.124E-02	7.402
	+	969.11		1.418E+00	5.224E-01	5.082E-01	1.187E-01	2.791
	+	74.81		2.539E+00	4.715E-01	4.803E-01	3.650E-02	5.287
	+	77.11		2.115E+00	3.038E-01	2.757E-01	2.123E-02	7.673
TH-228	+	87.30		1.287E+00	3.220E-01	6.207E-01	5.383E-02	2.073
	+	238.63	*	1.437E+00	1.475E-01	8.328E-02	6.066E-03	17.253
	+	300.09		2.512E+00	1.863E+00	1.085E+00	6.397E-01	2.315
	+	609.31	*	1.148E+00	1.648E-01	9.806E-02	7.762E-03	11.706
	+	1120.29		1.365E+00	6.284E-01	4.421E-01	4.096E-02	3.089
TH-230	+	1764.49		1.251E+00	3.582E-01	2.325E-01	1.395E-02	5.378
	+	338.32		1.627E+00	4.525E-01	3.509E-01	2.016E-02	4.637
	+	911.07	*	1.339E+00	3.104E-01	1.809E-01	2.124E-02	7.402
	+	969.11		1.418E+00	5.224E-01	5.082E-01	1.187E-01	2.791
	+	63.29	*	2.651E+00	1.863E+00	1.578E+00	2.712E-01	1.680
TH-234	+	92.38		2.381E+00	8.078E-01	7.754E-01	1.393E-01	3.070
	+	609.31	*	1.148E+00	1.648E-01	9.806E-02	7.762E-03	11.706
	+	1120.29		1.365E+00	6.284E-01	4.421E-01	4.096E-02	3.089
	+	1764.49		1.251E+00	3.582E-01	2.325E-01	1.395E-02	5.378
	+	86.50	*	8.047E-01	2.610E-01	3.516E-01	7.858E-02	2.289
NP-237	+	95.87		4.683E-02	9.929E-01	1.407E+00	3.442E-01	0.033
	+	63.29	*	2.651E+00	1.863E+00	1.578E+00	2.712E-01	1.680
	+	92.38		2.381E+00	7.137E-01	7.754E-01	6.487E-02	3.070
	+	74.67	*	4.054E-01	7.514E-02	7.686E-02	5.768E-03	5.275
	+							

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		3.018E+01	7.549E+00	1.405E+01	1.210E+00	2.147
		117.66		-6.827E-03	3.547E+00	5.714E+00	4.120E-01	-0.001
		142.18		1.291E+01	1.655E+01	2.736E+01	1.721E+00	0.472
ANH-511	+	511.00	*	5.867E-02	5.604E-02	4.992E-02	2.933E-03	1.175

---- 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	*	9.594E-02	2.971E-01	4.978E-01	3.355E-02	0.193
NA-22		1274.54	*	2.771E-02	3.885E-02	6.868E-02	4.486E-03	0.404
NA-24		1368.53	*	-3.507E-02	3.885E-02	Half-Life too short		
AL-26		1129.67		-5.513E-01	2.081E+00	2.866E+00	1.810E-01	-0.192
		1808.65	*	-6.216E-03	3.089E-02	4.787E-02	2.775E-03	-0.130
TI-44		67.85		1.339E-03	5.420E-02	6.511E-02	4.583E-03	0.021
	+	78.38	*	3.844E-01	5.521E-02	7.386E-02	5.767E-03	5.205
SC-46		889.25	*	-1.261E-02	3.035E-02	4.846E-02	4.478E-03	-0.260
	+	1120.51		2.342E-01	1.067E-01	1.149E-01	7.442E-03	2.038
V-48		944.10		-3.327E-01	8.354E-01	1.342E+00	1.199E-01	-0.248
		983.50	*	4.081E-02	6.558E-02	1.153E-01	9.792E-03	0.354
		1312.09		5.852E-02	7.344E-02	1.314E-01	9.081E-03	0.445
CR-51		320.08	*	2.397E-01	3.427E-01	5.896E-01	3.810E-02	0.407
MN-52		744.21		2.484E-02	2.436E-01	3.957E-01	2.793E-02	0.063
		848.13		3.731E+00	6.368E+00	1.119E+01	9.612E-01	0.334
		935.52		3.723E-01	2.517E-01	4.667E-01	4.212E-02	0.798
		1246.25		4.716E+00	7.418E+00	1.213E+01	7.559E-01	0.389
		1333.61		-2.907E+00	4.628E+00	6.959E+00	4.959E-01	-0.418
		1434.06	*	1.875E-01	2.064E-01	3.817E-01	2.675E-02	0.491
MN-54		834.83	*	3.731E-02	3.414E-02	6.185E-02	5.188E-03	0.603
CO-56		846.75	*	2.305E-03	3.540E-02	5.969E-02	5.116E-03	0.039
		977.42		-1.963E+00	2.860E+00	4.037E+00	3.458E-01	-0.486
		1037.82		1.585E-01	2.839E-01	4.951E-01	4.102E-02	0.320
		1175.09		-6.593E-01	2.139E+00	3.434E+00	1.898E-01	-0.192
	+	1238.25		2.139E-01	1.154E-01	1.612E-01	1.047E-02	1.327
		1360.21		4.437E-01	9.088E-01	1.583E+00	1.125E-01	0.280
		1771.40		-1.239E-01	2.195E-01	2.395E-01	1.429E-02	-0.517
CO-57		122.06	*	5.781E-04	2.362E-02	3.807E-02	2.708E-03	0.015
		136.48		-9.126E-02	1.937E-01	3.046E-01	2.236E-02	-0.300
CO-58		810.76	*	-1.548E-02	3.742E-02	5.759E-02	4.633E-03	-0.269
FE-59		142.65		8.510E-01	2.653E+00	4.247E+00	2.663E-01	0.200
		192.34		1.315E-01	9.657E-01	1.428E+00	1.667E-01	0.092
		1099.22	*	-3.161E-02	8.586E-02	1.373E-01	1.057E-02	-0.230
		1291.56		6.066E-02	1.033E-01	1.814E-01	1.477E-02	0.334
CO-60		1173.22		-2.270E-02	4.223E-02	6.623E-02	3.648E-03	-0.343
		1332.49	*	-3.349E-02	3.519E-02	5.023E-02	3.580E-03	-0.667
ZN-65		1115.52	*	-5.311E-02	9.867E-02	1.303E-01	8.562E-03	-0.408
GE-68		1077.35	*	-3.194E-01	1.137E+00	1.833E+00	1.318E-01	-0.174
AS-73		53.44	*	4.750E-02	5.878E-01	9.633E-01	6.280E-02	0.049
AS-74		595.88	*	4.917E-02	8.496E-02	1.442E-01	8.626E-03	0.341

---- 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	-2.885E-02		3.492E-01	5.625E-01	3.360E-02	-0.051	
	66.05	-4.222E+00		4.805E+00	6.544E+00	5.951E-01	-0.645	
	96.73	-6.123E-01		7.990E-01	1.077E+00	1.430E-01	-0.569	
	121.11	-8.111E-02		1.261E-01	1.970E-01	1.994E-02	-0.412	
	136.00	-3.470E-02		3.672E-02	5.645E-02	3.729E-03	-0.615	
	198.60	1.231E+00		1.674E+00	2.798E+00	1.937E-01	0.440	
	264.65	7.183E-03	*	4.454E-02	6.541E-02	3.840E-03	0.110	
	279.53	1.135E-01		1.457E-01	1.621E-01	1.021E-02	0.700	
	303.91	4.735E-01		2.163E+00	3.176E+00	3.036E-01	0.149	
	400.65	-9.390E-03		2.545E-01	4.188E-01	3.730E-02	-0.022	
BR-77	87.88	6.471E+02		1.619E+02	3.466E+02	3.027E+01	1.867	
	200.40	9.998E-01		1.614E+02	2.715E+02	1.510E+01	0.004	
	239.00	2.441E+02		2.254E+01	3.749E+01	2.152E+00	6.511	
	249.79	-1.191E+01		7.069E+01	1.016E+02	5.870E+00	-0.117	
	281.68	-5.036E+01		1.032E+02	1.444E+02	8.423E+00	-0.349	
	297.23	3.547E+02		9.612E+01	1.284E+02	7.489E+00	2.763	
	303.76	8.763E+01		1.944E+02	2.903E+02	1.692E+01	0.302	
	439.47	1.085E+02		1.390E+02	2.401E+02	1.357E+01	0.452	
	484.57	-9.701E+00		2.214E+02	3.615E+02	2.100E+01	-0.027	
	520.65	-1.219E+01	*	9.616E+00	1.398E+01	8.240E-01	-0.872	
SR-82	574.64	-1.166E+02		2.576E+02	3.214E+02	1.919E+01	-0.363	
	578.91	2.922E+01		9.599E+01	1.395E+02	8.331E+00	0.209	
	585.48	1.744E+03		2.859E+02	5.310E+02	3.174E+01	3.285	
	755.35	5.274E+01		1.663E+02	2.753E+02	1.987E+01	0.192	
	817.79	6.638E+01		1.305E+02	2.283E+02	1.856E+01	0.291	
	698.33	3.603E+01		3.265E+01	5.717E+01	3.675E+00	0.630	
	776.49	-3.705E-01	*	3.868E-01	5.667E-01	4.261E-02	-0.654	
	1395.20	1.850E+00		1.005E+01	1.687E+01	1.192E+00	0.110	
	520.41	-7.183E-02	*	5.954E-02	8.715E-02	5.137E-03	-0.824	
	529.64	-4.731E-02		9.435E-02	1.479E-01	8.743E-03	-0.320	
RB-83	552.65	3.999E-02		1.943E-01	3.214E-01	1.912E-02	0.124	
	881.50	-2.406E-03	*	6.093E-02	1.016E-01	9.263E-03	-0.024	
	513.99	2.301E+01	*	7.813E+00	1.363E+01	8.019E-01	1.688	
	513.99	1.183E-01	*	4.016E-02	7.009E-02	4.122E-03	1.688	
	1076.63	-3.348E-01	*	7.485E-01	1.188E+00	8.551E-02	-0.282	
	898.02	1.566E-02		3.674E-02	6.377E-02	6.007E-03	0.246	
	1836.01	2.113E-02	*	2.923E-02	5.433E-02	3.085E-03	0.389	
	392.90	-8.118E-03	*	2.768E-02	4.482E-02	2.441E-03	-0.181	
	1204.90	-2.297E+00	*	1.690E+01	2.752E+01	1.601E+00	-0.083	
	702.63	-1.390E-02	*	3.206E-02	4.987E-02	3.234E-03	-0.279	
NB-94	871.10	-5.265E-03		3.303E-02	5.334E-02	4.774E-03	-0.099	
	765.79	-1.427E-02	*	4.177E-02	6.526E-02	4.806E-03	-0.219	
	235.69	5.993E-01	*	1.559E-01	2.576E-01	1.926E-02	2.326	
	724.18	6.238E-02		9.979E-02	1.488E-01	1.146E-02	0.419	
	756.15	6.338E-03	*	6.631E-02	1.077E-01	8.881E-03	0.059	
	657.90	-2.597E-02	*	6.631E-02	Half-Life	too short		
	1024.50	-6.454E-03		6.631E-02	Half-Life	too short		
	254.15	3.446E+00		6.631E-02	Half-Life	too short		
	355.39	6.398E+00		6.631E-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
	507.63	*		4.688E+00	6.631E-02	Half-Life	too short	
	602.52			2.424E+00	6.631E-02	Half-Life	too short	
	1021.30			1.233E+00	6.631E-02	Half-Life	too short	
	1147.95			-1.373E-01	6.631E-02	Half-Life	too short	
	1362.66			6.323E+00	6.631E-02	Half-Life	too short	
	1750.46			-1.626E+00	6.631E-02	Half-Life	too short	
MO-99	140.51			4.779E+00	2.685E+01	4.282E+01	1.159E+01	0.112
	181.06			-7.367E+00	1.913E+01	2.748E+01	4.679E+00	-0.268
	366.43			1.432E+01	8.027E+01	1.342E+02	7.532E+00	0.107
	739.58	*		8.538E+00	1.190E+01	2.026E+01	2.902E+00	0.421
	778.00			-1.715E+01	3.710E+01	5.721E+01	4.314E+00	-0.300
TC-99M	140.51	*		1.287E+10	3.710E+01	Half-Life	too short	
RH-101	127.23			-5.669E-03	3.073E-02	4.905E-02	3.375E-03	-0.116
	198.01	*		1.812E-02	3.060E-02	5.091E-02	2.824E-03	0.356
	325.23			-6.386E-02	2.448E-01	3.454E-01	1.999E-02	-0.185
RH-102	418.52			-6.759E-02	2.508E-01	4.054E-01	2.257E-02	-0.167
	475.06	*		4.662E-03	2.654E-02	4.405E-02	2.545E-03	0.106
	631.29			8.683E-05	4.985E-02	8.085E-02	4.831E-03	0.001
	697.49			5.925E-02	7.295E-02	1.253E-01	8.039E-03	0.473
	766.84			6.616E-02	1.073E-01	1.807E-01	1.334E-02	0.366
	1046.59			4.179E-02	1.040E-01	1.793E-01	1.373E-02	0.233
	1112.84			-1.809E-02	2.530E-01	3.571E-01	2.359E-02	-0.051
RU-103	497.08	*		2.913E-02	3.583E-02	6.187E-02	7.835E-03	0.471
	610.33	+		1.245E+01	2.438E+00	2.743E+00	4.249E-01	4.538
RH-106	511.85	+		2.932E-01	2.800E-01	3.881E-01	2.281E-02	0.755
	621.84	*		-5.092E-02	2.958E-01	4.730E-01	5.595E-02	-0.108
	1050.47			-6.074E-01	2.164E+00	3.498E+00	2.657E-01	-0.174
RU-106	511.85	+		2.932E-01	2.800E-01	3.881E-01	2.281E-02	0.755
	621.84	*		-5.092E-02	2.957E-01	4.730E-01	2.829E-02	-0.108
	1050.47			-6.074E-01	2.164E+00	3.498E+00	2.657E-01	-0.174
AG-108M	433.93	*		6.222E-04	2.976E-02	4.902E-02	3.011E-03	0.013
	614.37			2.311E-03	3.834E-02	5.413E-02	3.497E-03	0.043
	722.95			-1.543E-02	4.399E-02	5.838E-02	4.196E-03	-0.264
AG-110M	657.75	*		-6.936E-03	3.195E-02	5.077E-02	3.207E-03	-0.137
	677.61			1.252E-01	2.620E-01	4.422E-01	2.869E-02	0.283
	706.67			6.387E-02	1.989E-01	3.294E-01	2.256E-02	0.194
	763.93			-4.847E-04	1.605E-01	2.581E-01	1.968E-02	-0.002
	884.67			-2.740E-02	3.915E-02	6.045E-02	5.699E-03	-0.453
	937.48			-6.730E-03	1.078E-01	1.790E-01	1.666E-02	-0.038
	1384.27			-2.474E-01	1.844E-01	2.534E-01	1.868E-02	-0.976
IN-111	171.28			-3.263E-01	1.083E+00	1.706E+00	9.204E-02	-0.191
	245.39	*		3.848E-01	1.063E+00	1.586E+00	9.139E-02	0.243
IN-113M	391.69	*		-1.522E-02	4.172E-02	6.733E-02	3.940E-03	-0.226
SN-113	391.69	*		-1.522E-02	4.172E-02	6.733E-02	3.940E-03	-0.226
IN-114M	190.27	*		1.830E-01	1.819E-01	2.817E-01	1.550E-02	0.650
CD-115	260.90			1.027E+01	1.195E+02	2.004E+02	1.163E+01	0.051
	492.35			-9.000E+00	3.594E+01	5.777E+01	3.367E+00	-0.156
	527.90	*		-1.118E+01	1.045E+01	1.554E+01	9.182E-01	-0.720
SN-117M	156.02			1.989E+00	2.263E+00	3.745E+00	2.156E-01	0.531

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	158.56	*		-8.854E-04	5.486E-02	8.772E-02	4.962E-03	-0.010
	563.90	*		6.912E-01	2.401E+00	3.483E+00	2.076E-01	0.198
	692.80			-4.299E+01	4.512E+01	6.690E+01	4.251E+00	-0.643
I-123	159.00	*		-4.516E-01	4.512E+01	Half-Life	too short	
	528.96			-5.116E+02	4.512E+01	Half-Life	too short	
TE-123M	159.00	*		-1.637E-03	2.801E-02	4.470E-02	2.556E-03	-0.037
I-124	602.71	*		1.733E-01	7.676E-01	1.102E+00	6.595E-02	0.157
	722.78			-1.622E+00	4.789E+00	6.368E+00	4.304E-01	-0.255
	1325.50			2.964E+01	3.389E+01	6.108E+01	4.307E+00	0.485
SB-124	1376.25			5.103E+01	3.367E+01	6.328E+01	4.485E+00	0.806
	1509.49			2.744E+00	1.590E+01	2.655E+01	1.822E+00	0.103
	1691.02			-6.250E-01	3.148E+00	4.871E+00	3.069E-01	-0.128
	602.71			9.696E-03	4.296E-02	6.169E-02	3.692E-03	0.157
	645.85			-1.813E-01	4.295E-01	6.681E-01	4.469E-02	-0.271
	709.31			2.492E-01	2.759E+00	4.486E+00	2.950E-01	0.056
	713.82			3.035E-01	1.637E+00	2.681E+00	2.871E-01	0.113
	722.78			-1.315E-01	3.885E-01	5.165E-01	3.613E-02	-0.255
	968.20	+		1.464E+01	4.359E+00	7.190E+00	6.234E-01	2.036
	1045.16			-1.172E+00	2.376E+00	3.762E+00	2.887E-01	-0.312
	1325.50			2.568E+00	2.936E+00	5.291E+00	3.732E-01	0.485
	1368.21			1.269E+00	1.494E+00	2.721E+00	3.416E-01	0.467
	1436.60			3.851E-01	3.121E+00	5.205E+00	3.646E-01	0.074
	1691.02	*		-1.196E-02	6.023E-02	9.319E-02	6.300E-03	-0.128
	427.89	*		2.923E-02	8.145E-02	1.372E-01	8.041E-03	0.213
SB-125	463.38	+		5.693E-01	3.562E-01	5.108E-01	3.429E-02	1.115
	600.56			-5.702E-03	1.723E-01	2.793E-01	1.918E-02	-0.020
	635.90			1.145E-01	2.627E-01	4.404E-01	3.056E-02	0.260
TE-125M	109.28	*		-5.096E+00	9.058E+00	1.428E+01	1.341E+00	-0.357
I-126	388.63			6.489E-02	1.888E-01	3.180E-01	1.737E-02	0.204
	666.33	*		-7.479E-03	1.775E-01	2.863E-01	1.720E-02	-0.026
	753.82			3.398E-01	1.381E+00	2.272E+00	1.634E-01	0.150
SB-126	223.80			1.210E+00	3.727E+00	6.335E+00	3.598E-01	0.191
	278.60	+		2.579E+00	3.311E+00	3.959E+00	2.308E-01	0.651
	296.50	+		1.142E+01	2.317E+00	3.340E+00	1.948E-01	3.418
	414.70			-5.610E-02	6.932E-02	1.080E-01	5.995E-03	-0.519
	415.30			-4.160E+00	5.648E+00	8.839E+00	4.908E-01	-0.471
	555.20			6.958E-01	3.781E+00	6.248E+00	3.718E-01	0.111
	573.80			2.153E-01	1.116E+00	1.603E+00	9.570E-02	0.134
	593.00			-5.342E-01	8.562E-01	1.319E+00	7.885E-02	-0.405
	656.30			-1.690E+00	3.057E+00	4.704E+00	2.800E-01	-0.359
	666.33			-3.127E-03	7.423E-02	1.197E-01	7.191E-03	-0.026
	675.00			-1.270E-01	1.755E+00	2.820E+00	1.725E-01	-0.045
	695.00			2.345E-02	7.663E-02	1.268E-01	8.092E-03	0.185
	697.00			1.765E-01	2.631E-01	4.470E-01	2.865E-02	0.395
	720.50	*		-5.940E-02	1.598E-01	2.116E-01	1.424E-02	-0.281
	856.80			3.758E-01	4.782E-01	7.577E-01	6.613E-02	0.496
	989.30			-1.268E+00	1.237E+00	1.852E+00	1.560E-01	-0.684
	1034.80			-5.796E+00	8.138E+00	1.253E+01	9.801E-01	-0.463
	1213.00			-5.267E-02	4.146E+00	6.832E+00	4.029E-01	-0.008

---- Non-Identified Nuclides ----

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SB-127	+	61.10		1.136E+02	7.820E+01	7.734E+01	7.606E+00	1.469
		252.40		2.883E+00	4.076E+00	6.747E+00	2.804E+00	0.427
		290.80		2.808E+00	2.264E+01	3.306E+01	3.065E+00	0.085
		411.60		6.152E+00	1.194E+01	2.022E+01	2.896E+00	0.304
		444.90		-4.503E+00	9.266E+00	1.469E+01	1.587E+00	-0.306
		473.00		-1.247E-01	1.611E+00	2.628E+00	2.951E-01	-0.047
		543.00		-1.229E+01	1.571E+01	2.389E+01	3.112E+00	-0.515
		603.60		6.190E+00	1.278E+01	1.884E+01	2.060E+00	0.329
		685.20	*	3.776E-01	1.348E+00	2.230E+00	2.185E-01	0.169
		698.50		1.685E+01	1.528E+01	2.648E+01	3.917E+00	0.636
		722.20		-1.763E+01	3.301E+01	4.264E+01	4.210E+00	-0.413
		783.80		4.228E+00	3.803E+00	6.613E+00	7.815E-01	0.639
XE-127		57.60		1.142E-01	5.002E+00	7.158E+00	4.714E-01	0.016
		145.22		-7.949E-02	6.836E-01	1.075E+00	6.633E-02	-0.074
		172.10		-2.219E-02	1.209E-01	1.915E-01	1.034E-02	-0.116
		202.84	*	-2.145E-02	4.613E-02	7.176E-02	4.000E-03	-0.299
		374.96		5.411E-02	1.784E-01	3.002E-01	1.669E-02	0.180
I-131		80.18		-3.705E+00	4.907E+00	6.722E+00	5.397E-01	-0.551
		284.30		8.895E-01	1.523E+00	2.473E+00	1.603E-01	0.360
		364.48	*	-7.655E-02	1.042E-01	1.642E-01	1.037E-02	-0.466
		636.97		3.783E-01	1.479E+00	2.449E+00	1.628E-01	0.154
TE-132		722.89		-2.622E+00	7.569E+00	1.005E+01	6.869E-01	-0.261
		49.72		-1.121E+01	1.371E+01	2.168E+01	2.016E+00	-0.517
		111.76		-2.753E+01	3.063E+01	4.684E+01	4.671E+00	-0.588
		116.30		1.352E+01	2.731E+01	4.482E+01	4.425E+00	0.302
BA-133		228.16	*	-3.528E-01	6.908E-01	1.085E+00	1.559E-01	-0.325
		53.15		3.377E-01	2.510E+00	4.122E+00	2.685E-01	0.082
		79.62		3.234E+00	1.447E+00	2.125E+00	3.153E-01	1.522
		81.00		-2.040E-01	1.080E-01	1.336E-01	2.080E-02	-1.528
		276.40		2.986E-01	4.875E-01	5.906E-01	7.664E-02	0.506
		302.84		4.465E-02	1.519E-01	2.240E-01	2.615E-02	0.199
I-133	+	356.01	*	4.383E-02	4.397E-02	6.792E-02	7.808E-03	0.645
		383.85		-1.059E-01	2.752E-01	4.435E-01	4.751E-02	-0.239
		510.53		7.264E-01	2.752E-01	Half-Life	too short	
		529.87	*	-1.833E-03	2.752E-01	Half-Life	too short	
		706.58		9.980E-02	2.752E-01	Half-Life	too short	
		856.28		1.544E-01	2.752E-01	Half-Life	too short	
		875.33		-3.198E-02	2.752E-01	Half-Life	too short	
		1236.41		1.234E+00	2.752E-01	Half-Life	too short	
		1298.22		8.785E-02	2.752E-01	Half-Life	too short	
		475.35		5.867E-01	1.720E+00	2.888E+00	1.669E-01	0.203
CS-134	+	563.23		1.536E-01	3.773E-01	5.545E-01	3.371E-02	0.277
		569.32		8.768E-01	3.759E-01	4.582E-01	2.811E-02	1.914
		604.70		1.452E-02	3.511E-02	5.145E-02	3.094E-03	0.282
		795.84	*	5.217E-02	4.941E-02	8.556E-02	6.734E-03	0.610
		801.93		1.644E-01	4.001E-01	6.648E-01	5.282E-02	0.247
		1038.57		2.156E+00	3.549E+00	6.214E+00	4.827E-01	0.347
		1167.94		2.992E-02	2.396E+00	3.963E+00	2.223E-01	0.008
		1365.15		4.073E-01	1.179E+00	2.017E+00	1.527E-01	0.202

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-135	268.24	*		3.494E-01	1.747E-01	2.809E-01	2.155E-02	1.244
I-135	288.45			-7.081E+10	1.747E-01	Half-Life	too short	
	417.63			-1.510E+10	1.747E-01	Half-Life	too short	
	546.56			2.800E+09	1.747E-01	Half-Life	too short	
	836.80			1.193E+10	1.747E-01	Half-Life	too short	
	1038.76			1.787E+10	1.747E-01	Half-Life	too short	
	1124.00			8.837E+10	1.747E-01	Half-Life	too short	
	1131.51			-2.304E+09	1.747E-01	Half-Life	too short	
	1260.41	*		-8.325E+09	1.747E-01	Half-Life	too short	
	1457.56			3.269E+11	1.747E-01	Half-Life	too short	
	1678.03			-8.786E+09	1.747E-01	Half-Life	too short	
	1706.46			1.209E+10	1.747E-01	Half-Life	too short	
	1791.20			-1.715E+10	1.747E-01	Half-Life	too short	
CS-136	66.91			-5.146E-01	8.407E-01	1.074E+00	1.567E-01	-0.479
+	86.29			3.623E+00	9.699E-01	1.921E+00	2.462E-01	1.885
	153.22			-2.597E-01	6.823E-01	1.076E+00	7.827E-02	-0.241
	163.89			-1.611E-01	1.071E+00	1.701E+00	1.186E-01	-0.095
	176.55			-5.696E-04	3.729E-01	5.949E-01	3.680E-02	-0.001
	273.65			-1.350E-01	6.818E-01	6.449E-01	4.280E-02	-0.209
	340.57			3.468E-01	1.454E-01	2.391E-01	1.460E-02	1.450
	818.51			5.261E-02	6.727E-02	1.201E-01	9.789E-03	0.438
	1048.07	*		8.008E-02	1.015E-01	1.804E-01	1.451E-02	0.444
	1235.34			2.496E-01	6.228E-01	9.345E-01	9.510E-02	0.267
BA-137M	661.65	*		-1.229E-02	3.602E-02	5.675E-02	3.374E-03	-0.217
CS-137	661.65	*		-1.299E-02	3.807E-02	5.999E-02	3.581E-03	-0.217
CE-139	165.85	*		1.708E-02	2.913E-02	4.769E-02	2.560E-03	0.358
BA-140	162.64			1.207E-01	7.475E-01	1.203E+00	7.525E-02	0.100
	304.84			8.164E-01	1.253E+00	1.875E+00	5.119E-01	0.435
	423.70			-1.161E+00	1.760E+00	2.703E+00	8.581E-01	-0.430
LA-140	537.32	*		-6.476E-02	2.325E-01	3.694E-01	1.202E-01	-0.175
+	328.77			4.618E-01	3.495E-01	4.765E-01	3.086E-02	0.969
	432.53			-3.781E-01	1.894E+00	3.073E+00	1.921E-01	-0.123
	487.03			-1.769E-02	1.259E-01	2.041E-01	1.342E-02	-0.087
	751.79			-1.065E+00	1.696E+00	2.572E+00	2.122E-01	-0.414
	815.85			2.128E-01	2.989E-01	5.302E-01	4.851E-02	0.401
	867.82			6.796E-01	1.476E+00	2.255E+00	2.107E-01	0.301
	919.63			-1.646E+00	2.926E+00	4.069E+00	4.520E-01	-0.404
	925.24			6.630E-01	9.401E-01	1.676E+00	1.616E-01	0.396
	1596.49	*		-4.781E-02	8.240E-02	1.213E-01	8.042E-03	-0.394
CE-141	145.44	*		-1.134E-02	6.108E-02	9.719E-02	6.202E-03	-0.117
CE-143	57.37			-1.619E-04	6.108E-02	Half-Life	too short	
	231.56			-1.490E-03	6.108E-02	Half-Life	too short	
	293.26	*		9.303E-04	6.108E-02	Half-Life	too short	
+	350.59			2.854E-02	6.108E-02	Half-Life	too short	
	490.36			-1.865E-03	6.108E-02	Half-Life	too short	
	664.57			1.283E-03	6.108E-02	Half-Life	too short	
	721.93			-5.878E-04	6.108E-02	Half-Life	too short	
CE-144	80.11			-1.421E+00	2.218E+00	3.056E+00	2.433E-01	-0.465
	133.54	*		1.007E-02	1.908E-01	3.072E-01	4.472E-02	0.033

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-144		476.78		2.364E-02	6.232E-02	1.048E-01	7.262E-03	0.226
		618.01		1.175E-02	2.842E-02	4.769E-02	3.014E-03	0.246
		696.49	*	2.265E-02	3.379E-02	5.738E-02	3.676E-03	0.395
		778.57		-5.818E-01	2.306E+00	3.624E+00	2.737E-01	-0.161
PR-144		696.49	*	1.535E+00	2.290E+00	3.889E+00	2.490E-01	0.395
		1489.15		-5.210E+00	1.074E+01	1.611E+01	1.113E+00	-0.323
PM-146		453.90	*	1.296E-02	3.862E-02	6.487E-02	5.553E-03	0.200
		633.02		5.983E-01	1.323E+00	2.194E+00	8.087E-01	0.273
		735.90		-5.493E-02	1.460E-01	2.189E-01	6.161E-02	-0.251
		747.13		2.685E-02	8.966E-02	1.480E-01	1.948E-02	0.181
ND-147	+	91.11		8.293E-01	3.568E-01	5.080E-01	4.669E-02	1.633
		319.41		2.059E+00	3.016E+00	5.189E+00	3.012E-01	0.397
		439.89		5.554E+00	5.352E+00	9.381E+00	5.308E-01	0.592
		531.02	*	6.963E-02	4.958E-01	8.184E-01	1.111E-01	0.085
PM-149		285.90	*	3.253E+01	9.331E+01	1.579E+02	2.240E+01	0.206
EU-152		121.78		-2.216E-02	6.899E-02	1.095E-01	9.474E-03	-0.202
		244.69		3.815E-01	3.169E-01	4.970E-01	2.863E-02	0.768
		344.27	*	-2.177E-02	1.098E-01	1.463E-01	9.465E-03	-0.149
		443.98		-1.070E-01	8.793E-01	1.433E+00	8.129E-02	-0.075
		778.89		-6.686E-02	2.642E-01	4.151E-01	3.135E-02	-0.161
		867.32		9.854E-02	8.905E-01	1.305E+00	1.160E-01	0.076
		964.01		4.243E-01	3.056E-01	5.046E-01	4.399E-02	0.841
		1085.78		-2.093E-01	3.571E-01	5.561E-01	3.924E-02	-0.376
		1112.02		2.312E-01	3.339E-01	5.194E-01	3.439E-02	0.445
		1407.95		3.748E-02	1.733E-01	2.916E-01	2.055E-02	0.129
GD-153		69.67		1.630E+00	1.577E+00	2.341E+00	1.674E-01	0.696
		83.37		1.766E+01	2.038E+01	2.206E+01	1.824E+00	0.801
		97.43	*	6.886E-03	8.148E-02	1.157E-01	9.277E-03	0.060
EU-154		103.18		-2.543E-02	1.052E-01	1.684E-01	1.299E-02	-0.151
		123.07		4.612E-03	4.742E-02	7.663E-02	7.841E-03	0.060
		247.94		-1.371E-01	3.545E-01	5.013E-01	4.774E-02	-0.273
		591.81		-8.914E-01	6.537E-01	8.110E-01	8.014E-02	-1.099
		723.30		-5.797E-02	1.844E-01	2.460E-01	1.941E-02	-0.236
		756.87		3.823E-01	7.243E-01	1.219E+00	1.343E-01	0.314
		873.19		-1.311E-01	2.846E-01	4.566E-01	5.709E-02	-0.287
		996.32		-9.575E-02	3.526E-01	5.720E-01	1.008E-01	-0.167
		1004.76		3.460E-02	1.910E-01	3.232E-01	3.669E-02	0.107
		1274.45	*	8.063E-02	1.090E-01	1.929E-01	1.891E-02	0.418
EU-155		48.70		1.029E-01	1.555E+00	2.550E+00	1.634E-01	0.040
		60.01		2.053E+00	4.050E+00	5.929E+00	3.942E-01	0.346
	+	86.54		3.301E-01	8.268E-02	1.732E-01	1.503E-02	1.906
TB-160	+	105.31	*	8.168E-02	1.075E-01	1.781E-01	1.378E-02	0.459
		86.79		8.837E-01	2.211E-01	4.595E-01	3.960E-02	1.923
		197.04		2.137E-01	5.019E-01	8.583E-01	4.757E-02	0.249
		215.65		4.827E-01	7.598E-01	1.152E+00	6.500E-02	0.419
		298.57		2.107E-01	1.738E-01	1.949E-01	1.136E-02	1.082
		879.36	*	9.610E-02	1.248E-01	2.226E-01	2.021E-02	0.432
		962.29		6.359E-03	5.242E-01	8.098E-01	7.076E-02	0.008
		966.15		7.098E-01	2.288E-01	4.180E-01	3.634E-02	1.698

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1177.93			9.158E-02	3.477E-01	5.876E-01	3.264E-02	0.156
	1271.85			-5.216E-01	6.783E-01	1.023E+00	6.644E-02	-0.510
	80.57			-5.708E-01	2.899E-01	3.702E-01	2.963E-02	-1.542
	184.41			9.614E-02	3.768E-02	6.134E-02	3.355E-03	1.567
	280.46			-7.811E-02	9.082E-02	1.235E-01	7.201E-03	-0.633
	410.95			2.786E-01	2.359E-01	4.137E-01	2.289E-02	0.673
TM-171	711.68	*		4.950E-03	6.004E-02	9.755E-02	6.446E-03	0.051
	752.31			-1.936E-01	2.677E-01	4.022E-01	2.884E-02	-0.481
	810.29			-2.044E-02	5.643E-02	8.732E-02	7.000E-03	-0.234
	51.35			-9.788E+00	2.085E+01	3.347E+01	2.170E+00	-0.292
	52.39			4.602E+00	1.102E+01	1.829E+01	1.189E+00	0.252
	59.40			4.957E+00	2.180E+01	3.150E+01	2.087E+00	0.157
LU-176	66.72	*		-2.187E+01	2.813E+01	3.855E+01	2.688E+00	-0.567
	88.36			6.500E-01	1.626E-01	3.548E-01	3.091E-02	1.832
	201.83			-8.497E-03	2.588E-02	4.296E-02	2.393E-03	-0.198
	306.84	*		2.245E-02	2.445E-02	3.779E-02	2.201E-03	0.594
LU-177	401.10			1.686E+00	6.624E+00	1.108E+01	6.078E-01	0.152
	112.95			-2.999E-01	1.594E+00	2.517E+00	1.849E-01	-0.119
	208.36	*		2.384E+00	1.533E+00	1.903E+00	1.066E-01	1.253
	52.97			2.596E-01	1.129E+00	1.861E+00	1.212E-01	0.139
LU-177M	54.07			1.471E-01	6.106E-01	1.006E+00	6.569E-02	0.146
	61.30			2.834E+00	1.940E+00	1.952E+00	1.309E-01	1.452
	121.62			-1.916E-01	3.548E-01	5.578E-01	3.967E-02	-0.343
	147.16			-1.006E+00	6.520E-01	9.745E-01	5.942E-02	-1.032
	171.86			-1.023E-01	4.849E-01	7.673E-01	4.141E-02	-0.133
	218.09			-3.449E-01	7.690E-01	1.266E+00	7.159E-02	-0.272
	268.79			2.135E+00	1.186E+00	1.450E+00	8.437E-02	1.472
	319.02			6.301E-02	2.325E-01	3.919E-01	2.274E-02	0.161
	367.43			-2.332E-02	8.116E-01	1.340E+00	7.511E-02	-0.017
	413.65	*		-1.496E-01	1.693E-01	2.634E-01	1.461E-02	-0.568
HF-181	56.28			1.288E-01	7.804E-01	1.125E+00	7.384E-02	0.114
	57.53			1.499E-02	4.206E-01	6.023E-01	3.966E-02	0.025
	65.20			-3.797E-01	9.430E-01	1.317E+00	9.072E-02	-0.288
	133.02			-2.696E-02	6.318E-02	9.969E-02	6.624E-03	-0.270
	136.25			-2.149E-01	4.252E-01	6.676E-01	4.351E-02	-0.322
	345.85			1.119E-01	2.555E-01	3.046E-01	1.741E-02	0.367
W-181	482.03	*		-2.900E-03	3.921E-02	6.391E-02	3.707E-03	-0.045
	56.28			5.004E-02	3.047E-01	4.393E-01	2.883E-02	0.114
	57.53			5.918E-03	1.643E-01	2.353E-01	1.549E-02	0.025
	65.20	*		-1.472E-01	3.655E-01	5.104E-01	3.517E-02	-0.288
TA-182	67.75			-1.086E-03	1.294E-01	1.552E-01	1.091E-02	-0.007
	100.10			7.262E-02	1.691E-01	2.775E-01	2.184E-02	0.262
	152.43			-4.449E-02	3.472E-01	5.533E-01	3.262E-02	-0.080
	222.10			2.508E-01	3.101E-01	5.372E-01	3.047E-02	0.467
	1001.68			1.309E+00	1.963E+00	3.423E+00	2.829E-01	0.382
	1121.28			6.465E-01	2.944E-01	3.176E-01	2.052E-02	2.036
	1189.05			-1.824E-01	2.915E-01	4.530E-01	2.565E-02	-0.403
	1221.42	*		-1.094E-01	1.792E-01	2.784E-01	1.665E-02	-0.393
	1230.97			-2.196E-01	5.272E-01	7.136E-01	4.336E-02	-0.308

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA	
RE-183		57.98		-3.952E-03	1.635E-01	2.333E-01	1.539E-02	-0.017	
		59.32		1.841E-02	8.974E-02	1.295E-01	8.578E-03	0.142	
		67.20		-1.099E-01	2.131E-01	2.747E-01	1.923E-02	-0.400	
		162.32	*	2.809E-02	1.070E-01	1.730E-01	9.530E-03	0.162	
	+	208.81		2.095E+00	1.347E+00	1.699E+00	9.526E-02	1.233	
		291.72		7.381E-02	9.744E-01	1.418E+00	8.271E-02	0.052	
RE-184		57.98		-1.454E-02	6.015E-01	8.586E-01	5.661E-02	-0.017	
		59.32		6.768E-02	3.299E-01	4.762E-01	3.154E-02	0.142	
		67.20		-4.043E-01	7.840E-01	1.010E+00	7.073E-02	-0.400	
		161.27		-2.492E-01	3.507E-01	5.436E-01	3.017E-02	-0.458	
		216.55		1.237E-01	2.487E-01	4.041E-01	2.282E-02	0.306	
		252.85	*	1.710E-01	2.002E-01	3.481E-01	2.014E-02	0.491	
		318.01		-2.372E-02	4.019E-01	6.656E-01	3.863E-02	-0.036	
		792.07		-1.415E-01	1.035E+00	1.644E+00	1.273E-01	-0.086	
		903.28		-2.581E-01	9.133E-01	1.414E+00	1.319E-01	-0.183	
		920.93		-6.129E-02	4.076E-01	6.561E-01	6.017E-02	-0.093	
	OS-185		59.72		1.091E-01	2.407E-01	3.516E-01	2.334E-02	0.310
		+	61.14		3.102E-01	2.124E-01	2.117E-01	1.418E-02	1.465
		69.30		2.434E-01	3.060E-01	4.209E-01	3.000E-02	0.578	
		592.07		-3.197E+00	2.491E+00	3.311E+00	1.980E-01	-0.965	
		646.12	*	-1.589E-02	3.677E-02	5.715E-02	3.408E-03	-0.278	
		717.42		1.057E-01	8.837E-01	1.401E+00	9.370E-02	0.075	
		874.81		-5.192E-02	5.612E-01	9.322E-01	8.400E-02	-0.056	
		880.27		2.061E-01	6.916E-01	1.188E+00	1.081E-01	0.173	
RE-188		155.03	*	1.314E-01	1.731E-01	2.852E-01	1.652E-02	0.461	
		477.96		2.419E-01	2.839E+00	4.682E+00	2.710E-01	0.052	
		633.10		1.278E+00	2.650E+00	4.462E+00	2.666E-01	0.286	
W-188	+	63.58		1.068E+02	7.313E+01	7.413E+01	5.046E+00	1.441	
		227.08		-6.554E+00	1.218E+01	1.916E+01	1.091E+00	-0.342	
IR-192		290.67	*	6.602E-01	7.506E+00	1.093E+01	6.380E-01	0.060	
	+	295.96		8.645E-01	1.756E-01	2.573E-01	1.524E-02	3.360	
		308.46		1.570E-02	8.991E-02	1.427E-01	8.401E-03	0.110	
		316.51	*	-4.277E-03	3.068E-02	5.058E-02	2.953E-03	-0.085	
		468.07		-3.559E-02	7.106E-02	9.575E-02	6.367E-03	-0.372	
		604.41		2.252E-01	4.781E-01	7.038E-01	8.054E-02	0.320	
AU-195		612.46		3.131E+00	9.161E-01	1.595E+00	1.231E-01	1.963	
		65.12		-5.548E-02	1.695E-01	2.375E-01	1.635E-02	-0.234	
		66.83		-7.292E-02	9.309E-02	1.275E-01	8.899E-03	-0.572	
	+	75.70		1.313E+00	2.434E-01	4.261E-01	3.232E-02	3.082	
		98.88	*	7.196E-02	2.251E-01	3.411E-01	2.707E-02	0.211	
		129.76		4.624E+00	2.695E+00	4.593E+00	3.112E-01	1.007	
TL-200		367.94	*	2.820E-05	2.695E+00	Half-Life	too short		
		579.30		1.549E-03	2.695E+00	Half-Life	too short		
		828.27		-1.873E-03	2.695E+00	Half-Life	too short		
		1205.75		3.744E-04	2.695E+00	Half-Life	too short		
TL-201		68.90		4.886E+00	5.713E+00	7.182E+00	5.100E-01	0.680	
		70.82		9.641E-01	2.794E+00	4.035E+00	2.916E-01	0.239	
		80.30		-5.250E+00	5.515E+00	7.477E+00	5.965E-01	-0.702	
		135.34		-3.046E+01	2.502E+01	3.793E+01	2.485E+00	-0.803	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202	167.43	*		1.001E+00	7.326E+00	1.177E+01	6.324E-01	0.085
	68.90			4.214E-01	4.927E-01	6.193E-01	4.399E-02	0.680
	70.82			8.292E-02	2.403E-01	3.470E-01	2.508E-02	0.239
	80.30			-4.516E-01	4.745E-01	6.432E-01	5.132E-02	-0.702
BI-207	439.56	*		5.075E-02	6.360E-02	1.099E-01	6.216E-03	0.462
	72.80			4.860E-01	1.915E-01	2.939E-01	2.165E-02	1.653
	74.97			7.278E-01	1.349E-01	2.164E-01	1.629E-02	3.364
	84.90			4.835E-01	2.353E-01	3.076E-01	2.590E-02	1.572
	569.67			1.366E-01	5.854E-02	7.041E-02	4.201E-03	1.940
	1063.62	*		1.876E-02	5.225E-02	8.894E-02	6.582E-03	0.211
TL-207	1770.23			-1.989E-01	4.048E-01	4.502E-01	2.689E-02	-0.442
	81.07			-4.442E-01	2.308E-01	2.954E-01	2.378E-02	-1.504
	83.78			2.061E-01	1.709E-01	1.892E-01	1.572E-02	1.089
	94.90			7.570E-01	2.515E-01	3.931E-01	3.217E-02	1.926
	122.32			6.938E-02	1.636E+00	2.639E+00	2.071E-01	0.026
	144.24			-2.555E-01	6.722E-01	1.045E+00	7.908E-02	-0.244
	154.21			-1.970E-01	4.069E-01	6.387E-01	4.493E-02	-0.308
	269.46			4.993E-01	2.775E-01	3.374E-01	2.052E-02	1.480
	323.87	*		-1.239E-01	6.903E-01	9.787E-01	1.616E-01	-0.127
	338.28			6.794E+00	1.982E+00	2.208E+00	2.318E-01	3.078
PO-209	445.03			-1.187E+00	2.054E+00	3.232E+00	3.297E-01	-0.367
	260.50			-8.741E-02	8.211E+00	1.371E+01	7.957E-01	-0.006
	262.80			-1.595E+01	2.470E+01	3.746E+01	2.176E+00	-0.426
	896.60	*		1.889E+00	6.561E+00	1.126E+01	1.054E+00	0.168
BI-210	46.50	*		-1.451E+00	2.224E+00	3.563E+00	2.642E-01	-0.407
PB-210	46.50	*		-1.451E+00	2.224E+00	3.563E+00	2.642E-01	-0.407
PO-210	46.50	*		-1.451E+00	2.224E+00	3.563E+00	2.235E-01	-0.407
PB-211	404.84	*		-6.284E-01	1.037E+00	1.526E+00	9.508E-01	-0.412
BI-212	427.08			3.853E-01	1.845E+00	3.053E+00	1.887E+00	0.126
	831.96			-1.097E+00	1.335E+00	1.769E+00	1.108E+00	-0.620
	727.18	*		1.244E+00	4.990E-01	6.078E-01	5.171E-02	2.047
	785.46			-7.098E-01	1.785E+00	2.770E+00	2.118E-01	-0.256
	1620.62			7.439E-01	1.241E+00	2.196E+00	1.439E-01	0.339
PO-215	81.07			-4.442E-01	2.308E-01	2.954E-01	2.378E-02	-1.504
	83.78			2.061E-01	1.709E-01	1.892E-01	1.572E-02	1.089
	94.90			7.570E-01	2.515E-01	3.931E-01	3.217E-02	1.926
	122.32			6.938E-02	1.636E+00	2.639E+00	2.071E-01	0.026
	144.24			-2.555E-01	6.722E-01	1.045E+00	7.908E-02	-0.244
	154.21			-1.970E-01	4.069E-01	6.387E-01	4.493E-02	-0.308
	269.46			4.993E-01	2.775E-01	3.374E-01	2.052E-02	1.480
	323.87	*		-1.239E-01	6.903E-01	9.787E-01	1.616E-01	-0.127
	338.28			6.794E+00	1.982E+00	2.208E+00	2.318E-01	3.078
	445.03			-1.187E+00	2.054E+00	3.232E+00	3.297E-01	-0.367
RN-219	271.23			6.406E-01	3.577E-01	4.225E-01	3.431E-02	1.516
RN-220	401.81	*		2.726E-01	4.010E-01	6.841E-01	9.219E-02	0.398
RA-223	549.76	*		7.637E+00	2.576E+01	4.289E+01	2.550E+00	0.178
RA-223	81.07			-4.442E-01	2.308E-01	2.954E-01	2.378E-02	-1.504
	83.78			2.061E-01	1.709E-01	1.892E-01	1.572E-02	1.089
	94.90			7.570E-01	2.515E-01	3.931E-01	3.217E-02	1.926

---- Non-Identified Nuclides ----

	Line Nuclide	Energy Ided (keV)	Activity Key (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		122.32	6.938E-02	1.636E+00	2.639E+00	2.071E-01	0.026
		144.24	-2.555E-01	6.722E-01	1.045E+00	7.908E-02	-0.244
		154.21	-1.970E-01	4.069E-01	6.387E-01	4.493E-02	-0.308
	+	269.46	4.993E-01	2.775E-01	3.374E-01	2.052E-02	1.480
		323.87	-1.239E-01	6.903E-01	9.787E-01	1.616E-01	-0.127
	+	338.28	6.794E+00	1.982E+00	2.208E+00	2.318E-01	3.078
		445.03	-1.187E+00	2.054E+00	3.232E+00	3.297E-01	-0.367
AC-227		79.80	2.789E+00	1.799E+00	2.577E+00	5.474E-01	1.082
		236.00	1.988E+00	3.689E-01	5.604E-01	5.836E-02	3.548
		256.20	-1.465E-01	3.317E-01	5.414E-01	7.557E-02	-0.271
		286.10	7.529E-01	1.434E+00	2.445E+00	2.831E-01	0.308
	+	299.80	4.585E+00	2.194E+00	2.511E+00	4.092E-01	1.826
		304.40	6.650E-01	1.872E+00	2.773E+00	4.799E-01	0.240
		334.20	6.071E-01	2.618E+00	3.372E+00	6.178E-01	0.180
TH-227		79.80	2.789E+00	1.801E+00	2.577E+00	5.546E-01	1.082
	+	94.00	9.199E+00	3.315E+00	3.495E+00	7.562E-01	2.632
		236.00	1.988E+00	3.540E-01	5.604E-01	5.050E-02	3.548
		256.20	-1.465E-01	3.320E-01	5.414E-01	9.148E-02	-0.271
		286.10	7.529E-01	1.618E+00	2.445E+00	2.449E+00	0.308
	+	299.80	4.585E+00	2.194E+00	2.511E+00	4.092E-01	1.826
		304.40	6.650E-01	1.872E+00	2.773E+00	4.799E-01	0.240
		334.20	6.071E-01	2.618E+00	3.372E+00	6.178E-01	0.180
TH-229		85.43	7.280E-01	2.210E-01	3.215E-01	2.725E-02	2.264
	+	88.47	3.741E-01	9.360E-02	2.044E-01	1.779E-02	1.830
		100.00	7.718E-02	1.753E-01	2.879E-01	2.267E-02	0.268
		193.63	-2.342E-01	4.713E-01	7.569E-01	4.180E-02	-0.309
	+	210.97	1.637E+00	1.052E+00	1.288E+00	7.236E-02	1.271
PA-231		283.67	7.234E-01	1.578E+00	2.455E+00	3.386E-01	0.295
	+	301.29	1.834E+00	8.471E-01	1.021E+00	1.069E-01	1.796
TH-231		81.07	-4.442E-01	2.308E-01	2.954E-01	2.378E-02	-1.504
		83.78	2.061E-01	1.709E-01	1.892E-01	1.572E-02	1.089
		94.90	7.570E-01	2.515E-01	3.931E-01	3.217E-02	1.926
		122.32	6.938E-02	1.636E+00	2.639E+00	2.071E-01	0.026
		144.24	-2.555E-01	6.722E-01	1.045E+00	7.908E-02	-0.244
		154.21	-1.970E-01	4.069E-01	6.387E-01	4.493E-02	-0.308
	+	269.46	4.993E-01	2.775E-01	3.374E-01	2.052E-02	1.480
		323.87	-1.239E-01	6.903E-01	9.787E-01	1.616E-01	-0.127
	+	338.28	6.794E+00	1.982E+00	2.208E+00	2.318E-01	3.078
		445.03	-1.187E+00	2.054E+00	3.232E+00	3.297E-01	-0.367
U-231		84.21	5.186E+00	8.046E+00	8.556E+00	7.146E-01	0.606
	+	92.29	9.460E+00	2.836E+00	3.926E+00	3.287E-01	2.410
		95.87	5.526E-02	1.172E+00	1.660E+00	1.348E-01	0.033
		108.00	-3.144E-01	2.111E+00	3.387E+00	2.545E-01	-0.093
PA-233	+	75.28	2.124E+01	4.771E+00	6.636E+00	9.805E-01	3.200
	+	86.59	5.365E+00	1.912E+00	2.809E+00	7.531E-01	1.910
	+	300.12	1.278E+00	6.002E-01	7.066E-01	9.505E-02	1.809
		311.98	-2.017E-02	5.614E-02	9.142E-02	5.645E-03	-0.221
		340.50	1.810E+00	8.096E-01	1.166E+00	2.675E-01	1.553
		398.62	-6.405E-01	1.999E+00	3.223E+00	8.312E-01	-0.199

---- 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		-1.206E+00	1.487E+00	2.281E+00	4.681E-01	-0.529
		63.00		3.091E+00	2.153E+00	2.171E+00	3.160E-01	1.424
		94.67		7.441E-01	1.963E-01	2.930E-01	3.550E-02	2.539
		98.44		2.747E-02	9.802E-02	1.388E-01	7.732E-02	0.198
		99.86		2.667E-01	4.417E-01	7.293E-01	5.748E-02	0.366
		111.00		-1.409E-01	1.787E-01	2.783E-01	3.133E-02	-0.506
		131.20		9.411E-02	9.969E-02	1.660E-01	1.115E-02	0.567
		152.70		-6.489E-02	3.332E-01	5.293E-01	8.384E-02	-0.123
		186.00		3.619E+00	2.198E+00	2.292E+00	6.991E-01	1.579
		226.40		-6.951E-02	3.840E-01	6.144E-01	7.069E-02	-0.113
		227.20		-2.397E-01	4.096E-01	6.429E-01	3.661E-02	-0.373
		248.90		-3.633E-01	8.172E-01	1.146E+00	2.462E-01	-0.317
		293.70		5.429E+00	1.370E+00	1.583E+00	2.548E-01	3.430
		369.80		2.894E-01	7.596E-01	1.281E+00	2.660E-01	0.226
		568.70		4.446E+00	1.905E+00	2.331E+00	1.391E-01	1.907
		569.50		1.213E+00	5.196E-01	6.303E-01	3.760E-02	1.924
		574.00		1.773E-01	1.573E+00	2.240E+00	1.337E-01	0.079
		699.00		6.068E-01	6.899E-01	1.177E+00	2.142E-01	0.516
		706.10		4.998E-01	9.976E-01	1.637E+00	7.243E-01	0.305
		733.00		1.894E-01	3.788E-01	5.583E-01	1.205E-01	0.339
		742.81		-8.422E-02	1.400E+00	2.242E+00	1.503E+00	-0.038
		796.30		8.000E-01	9.888E-01	1.650E+00	4.422E-01	0.485
		805.60		-5.851E-02	9.939E-01	1.586E+00	4.833E-01	-0.037
		819.60		1.779E-01	1.118E+00	1.899E+00	7.202E-01	0.094
		826.30		-6.984E-02	7.123E-01	1.184E+00	5.288E-01	-0.059
		831.60		-2.506E-01	5.739E-01	9.193E-01	2.736E-01	-0.273
		876.40		2.040E-01	8.112E-01	1.341E+00	1.379E+00	0.152
		880.51		6.256E-02	2.484E-01	4.252E-01	3.870E-02	0.147
		883.24		-3.869E-02	2.333E-01	3.814E-01	2.566E-01	-0.101
		899.00		-2.192E-01	7.578E-01	1.223E+00	5.367E-01	-0.179
		925.00		4.323E-01	9.872E-01	1.718E+00	1.569E-01	0.252
		926.50		1.199E-01	1.483E-01	2.618E-01	6.662E-02	0.458
		946.00	*	-5.488E-02	2.919E-01	4.788E-01	9.051E-02	-0.115
		949.00		3.420E-01	4.371E-01	7.747E-01	6.883E-02	0.441
		980.50		-4.244E-01	6.533E-01	1.016E+00	8.664E-02	-0.418
		1394.10		-5.706E-01	1.175E+00	1.697E+00	1.102E+00	-0.336
PA-234M		766.42		3.121E-01	1.134E+01	1.827E+01	9.235E+00	0.017
U-235	+	1001.03	*	2.606E+00	4.415E+00	7.653E+00	7.398E-01	0.341
		89.95		3.252E+00	1.695E+00	1.830E+00	5.644E-01	1.778
		93.35		2.862E+00	1.148E+00	1.117E+00	3.120E-01	2.562
		105.00		8.871E-01	1.086E+00	1.753E+00	5.185E-01	0.506
		143.76	*	5.375E-03	2.061E-01	3.260E-01	5.367E-02	0.016
		163.35		3.860E-02	4.599E-01	7.378E-01	1.319E-01	0.052
NP-236	+	185.71		1.340E-01	7.080E-02	8.461E-02	4.634E-03	1.584
		205.31		2.738E-02	5.388E-01	7.913E-01	1.418E-01	0.035
		94.67		5.666E-01	1.402E-01	2.225E-01	1.824E-02	2.547
		98.44		2.078E-02	7.321E-02	1.050E-01	8.355E-03	0.198
		111.00		-1.066E-01	1.349E-01	2.105E-01	1.559E-02	-0.506
		160.31	*	-8.565E-02	7.952E-02	1.212E-01	6.771E-03	-0.707

---- 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		6.860E-02	1.526E-01	2.423E-01	1.914E-02	0.283
		117.00	*	7.976E-02	1.795E-01	2.942E-01	2.126E-02	0.271
	+	209.75		1.649E+00	1.060E+00	1.324E+00	7.428E-02	1.245
		228.18		-1.097E-01	2.140E-01	3.367E-01	1.919E-02	-0.326
	+	277.60		1.855E-01	2.382E-01	2.841E-01	1.656E-02	0.653
AM-241		334.30		2.597E-01	1.478E+00	1.895E+00	1.092E-01	0.137
		59.54	*	5.305E-02	1.264E-01	1.843E-01	1.369E-02	0.288
CM-243		99.55		7.059E-02	1.570E-01	2.494E-01	1.970E-02	0.283
		103.76	*	1.950E-02	9.614E-02	1.564E-01	1.203E-02	0.125
		117.00		8.206E-02	1.847E-01	3.027E-01	2.187E-02	0.271
	+	209.75		1.625E+00	1.045E+00	1.305E+00	7.323E-02	1.245
		228.18		-1.109E-01	2.162E-01	3.402E-01	1.939E-02	-0.326
AM-246	+	277.60		1.871E-01	2.401E-01	2.864E-01	1.669E-02	0.653
		798.80		-1.386E-01	1.547E-01	2.296E-01	1.802E-02	-0.604
		1036.00		-1.073E-01	2.833E-01	4.526E-01	3.533E-02	-0.237
		1062.04		-5.631E-03	2.185E-01	3.619E-01	2.687E-02	-0.016
		1078.86	*	3.570E-02	1.296E-01	2.206E-01	1.581E-02	0.162
CM-247	+	278.00		7.695E-01	9.878E-01	1.174E+00	6.845E-02	0.655
		287.40		3.549E-01	1.210E+00	1.935E+00	1.129E-01	0.183
		402.60	*	4.152E-02	3.616E-02	6.333E-02	3.479E-03	0.656
CF-249		252.85		6.411E-01	7.506E-01	1.305E+00	7.549E-02	0.491
		333.44		1.360E-01	2.429E-01	2.551E-01	1.470E-02	0.533
CF-251		387.95	*	3.400E-03	3.663E-02	6.081E-02	3.325E-03	0.056
		176.60	*	-2.844E-03	1.268E-01	2.022E-01	1.097E-02	-0.014
		227.00		-1.845E-01	3.651E-01	5.753E-01	3.276E-02	-0.321
		285.00		1.052E+00	1.707E+00	2.857E+00	1.666E-01	0.368

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]G244924010
* Acquisition date   : 27-JAN-2010 20:42:00 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 02:00:01.35                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244924010                      Analyst initials: MXR1
* Batch Number       : 942723                          Sample Quantity : 1.3101E+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)	
K-40	2.211E+01	2.176E+00	3.617E-01	0.000E+00
CD-109	2.789E+00	6.838E-01	1.242E+00	0.000E+00
SN-126	2.740E-01	6.719E-02	1.383E-01	0.000E+00
HG-203	4.256E-02	5.355E-02	6.053E-02	0.000E+00
TL-208	4.905E-01	8.423E-02	5.326E-02	0.000E+00
BI-211	3.182E+00	4.513E-01	3.176E-01	0.000E+00
PB-212	1.415E+00	1.424E-01	8.462E-02	0.000E+00
PO-212	1.415E+00	1.424E-01	8.462E-02	0.000E+00
BI-214	1.148E+00	1.616E-01	9.963E-02	0.000E+00
PB-214	1.107E+00	1.669E-01	1.106E-01	0.000E+00
PO-214	1.107E+00	1.669E-01	1.106E-01	0.000E+00
PO-216	1.415E+00	1.424E-01	8.462E-02	0.000E+00
PO-218	1.107E+00	1.669E-01	1.106E-01	0.000E+00
RA-224	3.743E+00	1.146E+00	9.623E-01	0.000E+00
RA-226	1.148E+00	1.616E-01	9.963E-02	0.000E+00
AC-228	1.339E+00	3.042E-01	1.825E-01	0.000E+00
RA-228	1.339E+00	3.042E-01	1.825E-01	0.000E+00
TH-228	1.437E+00	1.446E-01	8.592E-02	0.000E+00
TH-230	1.148E+00	1.616E-01	9.962E-02	0.000E+00
TH-232	1.339E+00	3.042E-01	1.825E-01	0.000E+00
TH-234	2.651E+00	1.826E+00	1.662E+00	0.000E+00
U-234	1.148E+00	1.616E-01	9.962E-02	0.000E+00
NP-237	8.047E-01	2.557E-01	3.687E-01	0.000E+00
U-238	2.651E+00	1.826E+00	1.662E+00	0.000E+00
AM-243	4.054E-01	7.364E-02	8.078E-02	0.000E+00
ANH-511	5.867E-02	5.492E-02	5.087E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.594E-02	2.912E-01	5.077E-01	0.000E+00 NOT IDENT.

NA-22	2.771E-02	3.807E-02	6.891E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.339E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-6.216E-03	3.028E-02	4.774E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.411E-02	7.756E-02	0.000E+00	FAIL ABUN
SC-46	-1.261E-02	2.974E-02	4.892E-02	0.000E+00	FAIL ABUN
V-48	4.081E-02	6.427E-02	1.162E-01	0.000E+00	NOT IDENT.
CR-51	2.397E-01	3.359E-01	6.054E-01	0.000E+00	NOT IDENT.
MN-52	1.875E-01	2.022E-01	3.822E-01	0.000E+00	NOT IDENT.
MN-54	3.731E-02	3.345E-02	6.250E-02	0.000E+00	NOT IDENT.
CO-56	2.305E-03	3.469E-02	6.030E-02	0.000E+00	FAIL ABUN
CO-57	5.781E-04	2.315E-02	3.970E-02	0.000E+00	NOT IDENT.
CO-58	-1.548E-02	3.668E-02	5.822E-02	0.000E+00	NOT IDENT.
FE-59	-3.161E-02	8.415E-02	1.381E-01	0.000E+00	NOT IDENT.
CO-60	-3.349E-02	3.448E-02	5.036E-02	0.000E+00	NOT IDENT.
ZN-65	-5.311E-02	9.670E-02	1.310E-01	0.000E+00	NOT IDENT.
GE-68	-3.194E-01	1.114E+00	1.845E+00	0.000E+00	NOT IDENT.
AS-73	4.750E-02	5.760E-01	1.018E+00	0.000E+00	NOT IDENT.
AS-74	4.917E-02	8.326E-02	1.466E-01	0.000E+00	NOT IDENT.
SE-75	7.183E-03	4.365E-02	6.737E-02	0.000E+00	FAIL ABUN
BR-77	-1.219E+01	9.424E+00	1.424E+01	0.000E+00	FAIL ABUN
SR-82	-3.705E-01	3.791E-01	5.734E-01	0.000E+00	NOT IDENT.
RB-83	-7.183E-02	5.835E-02	8.877E-02	0.000E+00	NOT IDENT.
RB-84	-2.406E-03	5.971E-02	1.026E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.656E+00	1.389E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.936E-02	7.141E-02	0.000E+00	NOT IDENT.
RB-86	-3.348E-01	7.336E-01	1.195E+00	0.000E+00	NOT IDENT.
Y-88	2.113E-02	2.865E-02	5.417E-02	0.000E+00	NOT IDENT.
ZR-88	-8.118E-03	2.712E-02	4.587E-02	0.000E+00	NOT IDENT.
Y-91	-2.297E+00	1.656E+01	2.764E+01	0.000E+00	NOT IDENT.
NB-94	-1.390E-02	3.142E-02	5.054E-02	0.000E+00	NOT IDENT.
NB-95	-1.427E-02	4.093E-02	6.605E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.528E-01	2.659E-01	0.000E+00	NOT IDENT.
ZR-95	6.338E-03	6.498E-02	1.090E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.110E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.472E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	8.538E+00	1.166E+01	2.051E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	7.087E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.812E-02	2.998E-02	5.268E-02	0.000E+00	NOT IDENT.
RH-102	4.662E-03	2.601E-02	4.493E-02	0.000E+00	NOT IDENT.
RU-103	2.913E-02	3.512E-02	6.307E-02	0.000E+00	FAIL ABUN
RH-106	-5.092E-02	2.899E-01	4.804E-01	0.000E+00	FAIL ABUN
RU-106	-5.092E-02	2.898E-01	4.804E-01	0.000E+00	FAIL ABUN
AG-108M	6.222E-04	2.917E-02	5.008E-02	0.000E+00	NOT IDENT.
AG-110M	-6.936E-03	3.131E-02	5.151E-02	0.000E+00	NOT IDENT.
IN-111	3.848E-01	1.041E+00	1.635E+00	0.000E+00	NOT IDENT.
IN-113M	-1.522E-02	4.089E-02	6.890E-02	0.000E+00	NOT IDENT.
SN-113	-1.522E-02	4.089E-02	6.890E-02	0.000E+00	NOT IDENT.
IN-114M	1.830E-01	1.783E-01	2.917E-01	0.000E+00	NOT IDENT.
CD-115	-1.118E+01	1.024E+01	1.582E+01	0.000E+00	NOT IDENT.
SN-117M	-8.854E-04	5.377E-02	9.110E-02	0.000E+00	NOT IDENT.
SB-122	6.912E-01	2.353E+00	3.543E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.573E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.637E-03	2.745E-02	4.642E-02	0.000E+00	NOT IDENT.
I-124	1.733E-01	7.523E-01	1.120E+00	0.000E+00	NOT IDENT.
SB-124	-1.196E-02	5.902E-02	9.305E-02	0.000E+00	FAIL ABUN
SB-125	2.923E-02	7.982E-02	1.402E-01	0.000E+00	FAIL ABUN
TE-125M	-5.096E+00	8.877E+00	1.492E+01	0.000E+00	NOT IDENT.
I-126	-7.479E-03	1.740E-01	2.905E-01	0.000E+00	NOT IDENT.
SB-126	-5.940E-02	1.566E-01	2.144E-01	0.000E+00	FAIL ABUN
SB-127	3.776E-01	1.321E+00	2.261E+00	0.000E+00	FAIL ABUN
XE-127	-2.145E-02	4.521E-02	7.423E-02	0.000E+00	NOT IDENT.
I-131	-7.655E-02	1.021E-01	1.682E-01	0.000E+00	NOT IDENT.
TE-132	-3.528E-01	6.770E-01	1.120E+00	0.000E+00	NOT IDENT.
BA-133	4.383E-02	4.309E-02	6.962E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	6.425E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	5.217E-02	4.842E-02	8.653E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.712E-01	2.892E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.796E+15	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.008E-02	9.945E-02	1.816E-01	0.000E+00	FAIL ABUN
BA-137M	-1.229E-02	3.530E-02	5.757E-02	0.000E+00	NOT IDENT.
CS-137	-1.299E-02	3.731E-02	6.086E-02	0.000E+00	NOT IDENT.
CE-139	1.708E-02	2.855E-02	4.949E-02	0.000E+00	NOT IDENT.
BA-140	-6.476E-02	2.278E-01	3.760E-01	0.000E+00	NOT IDENT.
LA-140	-4.781E-02	8.075E-02	1.212E-01	0.000E+00	FAIL ABUN
CE-141	-1.134E-02	5.986E-02	1.011E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.717E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.007E-02	1.870E-01	3.199E-01	0.000E+00	NOT IDENT.
PM-144	2.265E-02	3.312E-02	5.816E-02	0.000E+00	NOT IDENT.

PR-144	1.535E+00	2.244E+00	3.942E+00	0.000E+00	NOT IDENT.
PM-146	1.296E-02	3.785E-02	6.622E-02	0.000E+00	NOT IDENT.
ND-147	6.963E-02	4.858E-01	8.333E-01	0.000E+00	FAIL ABUN
PM-149	3.253E+01	9.144E+01	1.624E+02	0.000E+00	NOT IDENT.
EU-152	-2.177E-02	1.076E-01	1.500E-01	0.000E+00	NOT IDENT.
GD-153	6.886E-03	7.985E-02	1.211E-01	0.000E+00	NOT IDENT.
EU-154	8.063E-02	1.068E-01	1.935E-01	0.000E+00	NOT IDENT.
EU-155	8.168E-02	1.054E-01	1.862E-01	0.000E+00	FAIL ABUN
TB-160	9.610E-02	1.223E-01	2.247E-01	0.000E+00	FAIL ABUN
HO-166M	4.950E-03	5.884E-02	9.885E-02	0.000E+00	NOT IDENT.
TM-171	-2.187E+01	2.757E+01	4.058E+01	0.000E+00	NOT IDENT.
LU-176	2.245E-02	2.396E-02	3.883E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.503E+00	1.967E+00	0.000E+00	FAIL ABUN
LU-177M	-1.496E-01	1.659E-01	2.694E-01	0.000E+00	FAIL ABUN
HF-181	-2.900E-03	3.843E-02	6.519E-02	0.000E+00	NOT IDENT.
W-181	-1.472E-01	3.582E-01	5.375E-01	0.000E+00	NOT IDENT.
TA-182	-1.094E-01	1.756E-01	2.795E-01	0.000E+00	FAIL ABUN
RE-183	2.809E-02	1.049E-01	1.796E-01	0.000E+00	FAIL ABUN
RE-184	1.710E-01	1.962E-01	3.588E-01	0.000E+00	NOT IDENT.
OS-185	-1.589E-02	3.604E-02	5.801E-02	0.000E+00	FAIL ABUN
RE-188	1.314E-01	1.697E-01	2.963E-01	0.000E+00	NOT IDENT.
W-188	6.602E-01	7.356E+00	1.124E+01	0.000E+00	FAIL ABUN
IR-192	-4.277E-03	3.007E-02	5.195E-02	0.000E+00	FAIL ABUN
AU-195	7.196E-02	2.206E-01	3.569E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.709E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.001E+00	7.179E+00	1.221E+01	0.000E+00	NOT IDENT.
TL-202	5.075E-02	6.233E-02	1.123E-01	0.000E+00	NOT IDENT.
BI-207	1.876E-02	5.120E-02	8.951E-02	0.000E+00	FAIL ABUN
TL-207	-1.239E-01	6.765E-01	1.005E+00	0.000E+00	FAIL ABUN
PO-209	1.889E+00	6.430E+00	1.136E+01	0.000E+00	NOT IDENT.
BI-210	-1.451E+00	2.180E+00	3.772E+00	0.000E+00	NOT IDENT.
PB-210	-1.451E+00	2.180E+00	3.772E+00	0.000E+00	NOT IDENT.
PO-210	-1.451E+00	2.179E+00	3.772E+00	0.000E+00	NOT IDENT.
PB-211	-6.284E-01	1.016E+00	1.561E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.890E-01	6.156E-01	0.000E+00	FAIL ABUN
PO-215	-1.239E-01	6.765E-01	1.005E+00	0.000E+00	FAIL ABUN
RN-219	2.726E-01	3.930E-01	6.998E-01	0.000E+00	FAIL ABUN
RN-220	7.637E+00	2.525E+01	4.365E+01	0.000E+00	NOT IDENT.
RA-223	-1.239E-01	6.765E-01	1.005E+00	0.000E+00	FAIL ABUN
AC-227	-1.465E-01	3.251E-01	5.579E-01	0.000E+00	FAIL ABUN
TH-227	-1.465E-01	3.253E-01	5.579E-01	0.000E+00	FAIL ABUN
TH-229	-2.342E-01	4.619E-01	7.835E-01	0.000E+00	FAIL ABUN
PA-231	7.234E-01	1.546E+00	2.526E+00	0.000E+00	FAIL ABUN
TH-231	-1.239E-01	6.765E-01	1.005E+00	0.000E+00	FAIL ABUN
U-231	5.526E-02	1.148E+00	1.738E+00	0.000E+00	FAIL ABUN
PA-233	-2.017E-02	5.502E-02	9.391E-02	0.000E+00	FAIL ABUN
PA-234	-5.488E-02	2.861E-01	4.829E-01	0.000E+00	FAIL ABUN
PA-234M	2.606E+00	4.327E+00	7.710E+00	0.000E+00	NOT IDENT.
U-235	5.375E-03	2.019E-01	3.391E-01	0.000E+00	FAIL ABUN
NP-236	-8.565E-02	7.793E-02	1.258E-01	0.000E+00	NOT IDENT.
NP-239	7.976E-02	1.759E-01	3.070E-01	0.000E+00	FAIL ABUN
AM-241	5.305E-02	1.239E-01	1.944E-01	0.000E+00	NOT IDENT.
CM-243	1.950E-02	9.421E-02	1.635E-01	0.000E+00	FAIL ABUN
AM-246	3.570E-02	1.270E-01	2.220E-01	0.000E+00	NOT IDENT.
CM-247	4.152E-02	3.544E-02	6.478E-02	0.000E+00	FAIL ABUN
CF-249	3.400E-03	3.590E-02	6.224E-02	0.000E+00	NOT IDENT.
CF-251	-2.844E-03	1.243E-01	2.096E-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]G244924010.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:42:00
Sample ID          : G244924010 Sample quantity : 1.31005E+02 GRAM
Detector name      : GAM14 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.35 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	997	10.67*	1.211E+00	2.211E+01	2.211E+01	10.05
CD-109	88.03	250	3.72*	7.052E+00	2.726E+00	2.789E+00	25.02
SN-126	64.28	-----	9.60	4.774E+00	-----	Line Not Found	-----
	86.94	250	8.90	7.052E+00	1.139E+00	1.139E+00	47.56
	87.57	250	37.00*	7.052E+00	2.740E-01	2.740E-01	25.02
HG-203	70.83	-----	4.75	5.642E+00	-----	Line Not Found	-----
	72.87	-----	8.00	5.875E+00	-----	Line Not Found	-----
	82.60	-----	3.55	6.755E+00	-----	Line Not Found	-----
	279.20	46	77.30*	4.990E+00	3.384E-02	4.256E-02	128.40
TL-208	277.35	46	6.80	4.990E+00	3.847E-01	3.847E-01	128.68
	510.84	63	21.60	3.087E+00	2.716E-01	2.716E-01	95.88
	583.14	397	84.20*	2.757E+00	4.905E-01	4.905E-01	17.52
	860.37	59	12.46	1.943E+00	6.926E-01	6.926E-01	75.39
BI-211	72.87	-----	1.27	5.875E+00	-----	Line Not Found	-----
	351.07	600	12.94*	4.177E+00	3.182E+00	3.182E+00	14.48
PB-212	74.81	568	10.70	6.086E+00	2.501E+00	2.501E+00	20.76
	77.11	826	18.00	6.311E+00	2.083E+00	2.083E+00	14.36
	87.30	250	8.00	7.052E+00	1.267E+00	1.267E+00	26.94
	238.63	1226	44.60*	5.568E+00	1.415E+00	1.415E+00	10.27
	300.09	139	3.41	4.711E+00	2.474E+00	2.474E+00	45.73
PO-212	74.81	568	10.70	6.086E+00	2.501E+00	2.501E+00	20.76
	77.11	826	18.00	6.311E+00	2.083E+00	2.083E+00	14.36
	87.30	250	8.00	7.052E+00	1.267E+00	1.267E+00	26.94
	115.19	-----	0.60	7.689E+00	-----	Line Not Found	-----
	238.63	1226	44.60*	5.568E+00	1.415E+00	1.415E+00	10.27
	300.09	139	3.41	4.711E+00	2.474E+00	2.474E+00	45.73
BI-214	609.31	492	46.30*	2.654E+00	1.148E+00	1.148E+00	14.36
	1120.29	110	15.10	1.522E+00	1.365E+00	1.365E+00	46.02
	1764.49	73	15.80	1.059E+00	1.251E+00	1.251E+00	28.64
PB-214	74.81	568	6.21	6.086E+00	4.309E+00	4.309E+00	19.96
	77.11	826	10.50	6.311E+00	3.571E+00	3.571E+00	16.26
	87.30	250	4.67	7.052E+00	2.171E+00	2.171E+00	26.18

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	285	7.49	5.520E+00	1.974E+00	1.974E+00	31.73
	295.21	362	19.20	4.777E+00	1.131E+00	1.131E+00	21.23
	351.92	600	37.20*	4.177E+00	1.107E+00	1.107E+00	15.39
	74.81	568	6.21	6.086E+00	4.309E+00	4.309E+00	19.96
	77.11	826	10.50	6.311E+00	3.571E+00	3.571E+00	16.26
	87.30	250	4.67	7.052E+00	2.171E+00	2.171E+00	26.18
PO-216	241.98	285	7.49	5.520E+00	1.974E+00	1.974E+00	31.73
	295.21	362	19.20	4.777E+00	1.131E+00	1.131E+00	21.23
	351.92	600	37.20*	4.177E+00	1.107E+00	1.107E+00	15.39
	74.81	568	10.70	6.086E+00	2.501E+00	2.501E+00	20.76
	77.11	826	18.00	6.311E+00	2.083E+00	2.083E+00	14.36
	87.30	250	8.00	7.052E+00	1.267E+00	1.267E+00	26.94
PO-218	238.63	1226	44.60*	5.568E+00	1.415E+00	1.415E+00	10.27
	300.09	139	3.41	4.711E+00	2.474E+00	2.474E+00	45.73
	74.81	568	6.21	6.086E+00	4.309E+00	4.309E+00	19.96
	77.11	826	10.50	6.311E+00	3.571E+00	3.571E+00	16.26
	87.30	250	4.67	7.052E+00	2.171E+00	2.171E+00	26.18
	241.98	285	7.49	5.520E+00	1.974E+00	1.974E+00	31.73
RA-224	295.21	362	19.20	4.777E+00	1.131E+00	1.131E+00	21.23
	351.92	600	37.20*	4.177E+00	1.107E+00	1.107E+00	15.39
	240.98	285	3.95*	5.520E+00	3.743E+00	3.743E+00	31.23
	609.31	492	46.30*	2.654E+00	1.148E+00	1.148E+00	14.36
	1120.29	110	15.10	1.522E+00	1.365E+00	1.365E+00	46.02
	1764.49	73	15.80	1.059E+00	1.251E+00	1.251E+00	28.64
AC-228	338.32	279	11.40	4.306E+00	1.627E+00	1.627E+00	49.01
	911.07	239	27.70*	1.843E+00	1.339E+00	1.339E+00	23.18
	969.11	143	16.60	1.741E+00	1.418E+00	1.418E+00	36.84
	338.32	279	11.40	4.306E+00	1.627E+00	1.627E+00	49.01
	911.07	239	27.70*	1.843E+00	1.339E+00	1.339E+00	23.18
	969.11	143	16.60	1.741E+00	1.418E+00	1.418E+00	36.84
TH-228	74.81	568	10.70	6.086E+00	2.501E+00	2.539E+00	18.57
	77.11	826	18.00	6.311E+00	2.083E+00	2.115E+00	14.36
	87.30	250	8.00	7.052E+00	1.267E+00	1.287E+00	25.02
	238.63	1226	44.60*	5.568E+00	1.415E+00	1.437E+00	10.27
	300.09	139	3.41	4.711E+00	2.474E+00	2.512E+00	74.14
	609.31	492	46.30*	2.654E+00	1.148E+00	1.148E+00	14.36
TH-230	1120.29	110	15.10	1.522E+00	1.365E+00	1.365E+00	46.02
	1764.49	73	15.80	1.059E+00	1.251E+00	1.251E+00	28.64
	338.32	279	11.40	4.306E+00	1.627E+00	1.627E+00	27.81
	911.07	239	27.70*	1.843E+00	1.339E+00	1.339E+00	23.18
	969.11	143	16.60	1.741E+00	1.418E+00	1.418E+00	36.84
	63.29	159	3.80*	4.520E+00	2.651E+00	2.651E+00	70.26
TH-232	92.38	329	5.41	7.322E+00	2.381E+00	2.381E+00	33.93
	609.31	492	46.30*	2.654E+00	1.148E+00	1.148E+00	14.36
	1120.29	110	15.10	1.522E+00	1.365E+00	1.365E+00	46.02
	1764.49	73	15.80	1.059E+00	1.251E+00	1.251E+00	28.64
	86.50	250	12.60*	7.052E+00	8.047E-01	8.047E-01	32.43
	95.87	----	2.60	7.425E+00	-----	Line Not Found	-----
U-238	63.29	159	3.80*	4.520E+00	2.651E+00	2.651E+00	70.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	329	5.41	7.322E+00	2.381E+00	2.381E+00	29.98
AM-243	74.67	568	66.00*	6.086E+00	4.054E-01	4.054E-01	18.53
	86.72	250	0.34	7.052E+00	3.018E+01	3.018E+01	25.02
	117.66	-----	0.55	7.685E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.399E+00	-----	Line Not Found	-----
ANH-511	511.00	63	100.00*	3.087E+00	5.867E-02	5.867E-02	95.52

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	2.211E+01	2.211E+01	0.222E+01	10.05	
CD-109	464.00D	1.02	2.726E+00	2.789E+00	0.698E+00	25.02	
SN-126	1.00E+05Y	1.00	2.740E-01	2.740E-01	0.686E-01	25.02	
HG-203	46.60D	1.26	3.384E-02	4.256E-02	5.464E-02	128.40	
TL-208	1.41E+10Y	1.00	4.905E-01	4.905E-01	0.860E-01	17.52	
BI-211	7.04E+08Y	1.00	3.182E+00	3.182E+00	0.461E+00	14.48	
PB-212	1.41E+10Y	1.00	1.415E+00	1.415E+00	0.145E+00	10.27	
PO-212	1.41E+10Y	1.00	1.415E+00	1.415E+00	0.145E+00	10.27	
BI-214	1600.00Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.36	
PB-214	1600.00Y	1.00	1.107E+00	1.107E+00	0.170E+00	15.39	
PO-214	1600.00Y	1.00	1.107E+00	1.107E+00	0.170E+00	15.39	
PO-216	1.41E+10Y	1.00	1.415E+00	1.415E+00	0.145E+00	10.27	
PO-218	1600.00Y	1.00	1.107E+00	1.107E+00	0.170E+00	15.39	
RA-224	1.41E+10Y	1.00	3.743E+00	3.743E+00	1.169E+00	31.23	
RA-226	1600.00Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.36	
AC-228	1.41E+10Y	1.00	1.339E+00	1.339E+00	0.310E+00	23.18	
RA-228	1.41E+10Y	1.00	1.339E+00	1.339E+00	0.310E+00	23.18	
TH-228	1.91Y	1.02	1.415E+00	1.437E+00	0.148E+00	10.27	
TH-230	4.47E+09Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.36	
TH-232	1.41E+10Y	1.00	1.339E+00	1.339E+00	0.310E+00	23.18	
TH-234	4.47E+09Y	1.00	2.651E+00	2.651E+00	1.863E+00	70.26	
U-234	4.47E+09Y	1.00	1.148E+00	1.148E+00	0.165E+00	14.36	
NP-237	2.14E+06Y	1.00	8.047E-01	8.047E-01	2.610E-01	32.43	
U-238	4.47E+09Y	1.00	2.651E+00	2.651E+00	1.863E+00	70.26	
AM-243	7380.00Y	1.00	4.054E-01	4.054E-01	0.751E-01	18.53	
ANH-511	1.00E+09Y	1.00	5.867E-02	5.867E-02	5.604E-02	95.52	

Total Activity : 5.672E+01 5.681E+01

Grand Total Activity : 5.672E+01 5.681E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G244924010

Page : 5
Acquisition date : 27-JAN-2010 20:42:00

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	89.89	220	503	1.71	179.28	171	20	3.06E-02	42.0	7.19E+00	T
0	186.36	165	397	1.72	372.03	366	12	2.29E-02	52.5	6.52E+00	T
0	209.69	113	315	1.57	418.66	414	11	1.57E-02	64.1	6.07E+00	T
0	270.12	121	246	1.84	539.42	533	12	1.68E-02	55.2	5.10E+00	T
0	327.90	63	143	1.49	654.88	650	10	8.79E-03	75.4	4.41E+00	T
0	463.22	68	102	1.47	925.35	918	11	9.47E-03	62.2	3.35E+00	T
0	568.93	131	120	1.87	1136.66	1129	16	1.82E-02	42.4	2.82E+00	T
0	727.55	116	77	2.18	1453.80	1444	17	1.61E-02	39.2	2.27E+00	T
0	1238.62	61	45	1.82	2475.99	2468	14	8.45E-03	53.6	1.39E+00	T
0	1847.61	22	4	1.11	3694.86	3687	14	3.11E-03	55.2	1.03E+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]G244924010.CNF;1
* Acquisition date   : 27-JAN-2010 20:42:00  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 02:00:01.35             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G244924010             Analyst initials: MXR1
* Batch Number       : 942723                 Sample Quantity : 1.31005E+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
K-40	2.211E+01	2.221E+00	3.614E-01	2.624E-02	61.177
CD-109	2.789E+00	6.978E-01	1.185E+00	1.036E-01	2.353
SN-126	2.740E-01	6.856E-02	1.319E-01	1.148E-02	2.077
HG-203	4.256E-02	5.464E-02	5.882E-02	3.640E-03	0.724
TL-208	4.905E-01	8.595E-02	5.238E-02	3.582E-03	9.364
BI-211	3.182E+00	4.606E-01	3.098E-01	1.963E-02	10.270
PB-212	1.415E+00	1.453E-01	8.202E-02	5.974E-03	17.253
PO-212	1.415E+00	1.453E-01	8.202E-02	5.974E-03	17.253
BI-214	1.148E+00	1.649E-01	9.806E-02	7.762E-03	11.706
PB-214	1.107E+00	1.703E-01	1.079E-01	8.852E-03	10.260
PO-214	1.107E+00	1.703E-01	1.079E-01	8.852E-03	10.260
PO-216	1.415E+00	1.453E-01	8.202E-02	5.974E-03	17.253
PO-218	1.107E+00	1.703E-01	1.079E-01	8.852E-03	10.260
RA-224	3.743E+00	1.169E+00	9.329E-01	5.362E-02	4.013
RA-226	1.148E+00	1.649E-01	9.806E-02	7.762E-03	11.706
AC-228	1.339E+00	3.104E-01	1.809E-01	2.124E-02	7.402
RA-228	1.339E+00	3.104E-01	1.809E-01	2.124E-02	7.402
TH-228	1.437E+00	1.475E-01	8.328E-02	6.066E-03	17.253

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.148E+00	1.648E-01	9.806E-02	7.762E-03	11.706
TH-232	1.339E+00	3.104E-01	1.809E-01	2.124E-02	7.402
TH-234	2.651E+00	1.863E+00	1.578E+00	2.712E-01	1.680
U-234	1.148E+00	1.648E-01	9.806E-02	7.762E-03	11.706
NP-237	8.047E-01	2.610E-01	3.516E-01	7.858E-02	2.289
U-238	2.651E+00	1.863E+00	1.578E+00	2.712E-01	1.680
AM-243	4.054E-01	7.514E-02	7.686E-02	5.768E-03	5.275
ANH-511	5.867E-02	5.604E-02	4.992E-02	2.933E-03	1.175

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.594E-02		2.971E-01	4.978E-01	3.355E-02	0.193
NA-22	2.771E-02		3.885E-02	6.868E-02	4.486E-03	0.404
NA-24	-3.507E-02		4.255E-01	Half-Life too short		
AL-26	-6.216E-03		3.089E-02	4.787E-02	2.775E-03	-0.130
TI-44	3.844E-01	+	5.521E-02	7.386E-02	5.767E-03	5.205
SC-46	-1.261E-02		3.035E-02	4.846E-02	4.478E-03	-0.260
V-48	4.081E-02		6.558E-02	1.153E-01	9.792E-03	0.354
CR-51	2.397E-01		3.427E-01	5.896E-01	3.810E-02	0.407
MN-52	1.875E-01		2.064E-01	3.817E-01	2.675E-02	0.491
MN-54	3.731E-02		3.414E-02	6.185E-02	5.188E-03	0.603
CO-56	2.305E-03		3.540E-02	5.969E-02	5.116E-03	0.039
CO-57	5.781E-04		2.362E-02	3.807E-02	2.708E-03	0.015
CO-58	-1.548E-02		3.742E-02	5.759E-02	4.633E-03	-0.269
FE-59	-3.161E-02		8.586E-02	1.373E-01	1.057E-02	-0.230
CO-60	-3.349E-02		3.519E-02	5.023E-02	3.580E-03	-0.667
ZN-65	-5.311E-02		9.867E-02	1.303E-01	8.562E-03	-0.408
GE-68	-3.194E-01		1.137E+00	1.833E+00	1.318E-01	-0.174
AS-73	4.750E-02		5.878E-01	9.633E-01	6.280E-02	0.049
AS-74	4.917E-02		8.496E-02	1.442E-01	8.626E-03	0.341
SE-75	7.183E-03		4.454E-02	6.541E-02	3.840E-03	0.110
BR-77	-1.219E+01		9.616E+00	1.398E+01	8.240E-01	-0.872
SR-82	-3.705E-01		3.868E-01	5.667E-01	4.261E-02	-0.654
RB-83	-7.183E-02		5.954E-02	8.715E-02	5.137E-03	-0.824
RB-84	-2.406E-03		6.093E-02	1.016E-01	9.263E-03	-0.024
KR-85	2.301E+01		7.813E+00	1.363E+01	8.019E-01	1.688
SR-85	1.183E-01		4.016E-02	7.009E-02	4.122E-03	1.688
RB-86	-3.348E-01		7.485E-01	1.188E+00	8.551E-02	-0.282
Y-88	2.113E-02		2.923E-02	5.433E-02	3.085E-03	0.389
ZR-88	-8.118E-03		2.768E-02	4.482E-02	2.441E-03	-0.181
Y-91	-2.297E+00		1.690E+01	2.752E+01	1.601E+00	-0.083
NB-94	-1.390E-02		3.206E-02	4.987E-02	3.234E-03	-0.279
NB-95	-1.427E-02		4.177E-02	6.526E-02	4.806E-03	-0.219
NB-95M	5.993E-01		1.559E-01	2.576E-01	1.926E-02	2.326
ZR-95	6.338E-03		6.631E-02	1.077E-01	8.881E-03	0.059
NB-97	-2.597E-02		5.664E-02	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	4.688E+00		1.261E+00	Half-Life too short		
MO-99	8.538E+00		1.190E+01	2.026E+01	2.902E+00	0.421
TC-99M	1.287E+10		3.616E+10	Half-Life too short		
RH-101	1.812E-02		3.060E-02	5.091E-02	2.824E-03	0.356
RH-102	4.662E-03		2.654E-02	4.405E-02	2.545E-03	0.106
RU-103	2.913E-02		3.583E-02	6.187E-02	7.835E-03	0.471
RH-106	-5.092E-02		2.958E-01	4.730E-01	5.595E-02	-0.108
RU-106	-5.092E-02		2.957E-01	4.730E-01	2.829E-02	-0.108
AG-108M	6.222E-04		2.976E-02	4.902E-02	3.011E-03	0.013
AG-110M	-6.936E-03		3.195E-02	5.077E-02	3.207E-03	-0.137
IN-111	3.848E-01		1.063E+00	1.586E+00	9.139E-02	0.243
IN-113M	-1.522E-02		4.172E-02	6.733E-02	3.940E-03	-0.226
SN-113	-1.522E-02		4.172E-02	6.733E-02	3.940E-03	-0.226
IN-114M	1.830E-01		1.819E-01	2.817E-01	1.550E-02	0.650
CD-115	-1.118E+01		1.045E+01	1.554E+01	9.182E-01	-0.720
SN-117M	-8.854E-04		5.486E-02	8.772E-02	4.962E-03	-0.010
SB-122	6.912E-01		2.401E+00	3.483E+00	2.076E-01	0.198
I-123	-4.516E-01		3.864E+00	Half-Life too short		
TE-123M	-1.637E-03		2.801E-02	4.470E-02	2.556E-03	-0.037
I-124	1.733E-01		7.676E-01	1.102E+00	6.595E-02	0.157
SB-124	-1.196E-02		6.023E-02	9.319E-02	6.300E-03	-0.128
SB-125	2.923E-02		8.145E-02	1.372E-01	8.041E-03	0.213
TE-125M	-5.096E+00		9.058E+00	1.428E+01	1.341E+00	-0.357
I-126	-7.479E-03		1.775E-01	2.863E-01	1.720E-02	-0.026
SB-126	-5.940E-02		1.598E-01	2.116E-01	1.424E-02	-0.281
SB-127	3.776E-01		1.348E+00	2.230E+00	2.185E-01	0.169
XE-127	-2.145E-02		4.613E-02	7.176E-02	4.000E-03	-0.299
I-131	-7.655E-02		1.042E-01	1.642E-01	1.037E-02	-0.466
TE-132	-3.528E-01		6.908E-01	1.085E+00	1.559E-01	-0.325
BA-133	4.383E-02		4.397E-02	6.792E-02	7.808E-03	0.645
I-133	-1.833E-03		3.278E-03	Half-Life too short		
CS-134	5.217E-02		4.941E-02	8.556E-02	6.734E-03	0.610
CS-135	3.494E-01		1.747E-01	2.809E-01	2.155E-02	1.244
I-135	-8.325E+09		4.998E+09	Half-Life too short		
CS-136	8.008E-02		1.015E-01	1.804E-01	1.451E-02	0.444
BA-137M	-1.229E-02		3.602E-02	5.675E-02	3.374E-03	-0.217
CS-137	-1.299E-02		3.807E-02	5.999E-02	3.581E-03	-0.217
CE-139	1.708E-02		2.913E-02	4.769E-02	2.560E-03	0.358
BA-140	-6.476E-02		2.325E-01	3.694E-01	1.202E-01	-0.175
LA-140	-4.781E-02		8.240E-02	1.213E-01	8.042E-03	-0.394
CE-141	-1.134E-02		6.108E-02	9.719E-02	6.202E-03	-0.117
CE-143	9.303E-04		1.386E-04	Half-Life too short		
CE-144	1.007E-02		1.908E-01	3.072E-01	4.472E-02	0.033
PM-144	2.265E-02		3.379E-02	5.738E-02	3.676E-03	0.395
PR-144	1.535E+00		2.290E+00	3.889E+00	2.490E-01	0.395
PM-146	1.296E-02		3.862E-02	6.487E-02	5.553E-03	0.200
ND-147	6.963E-02		4.958E-01	8.184E-01	1.111E-01	0.085
PM-149	3.253E+01		9.331E+01	1.579E+02	2.240E+01	0.206

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-2.177E-02		1.098E-01	1.463E-01	9.465E-03	-0.149
GD-153	6.886E-03		8.148E-02	1.157E-01	9.277E-03	0.060
EU-154	8.063E-02		1.090E-01	1.929E-01	1.891E-02	0.418
EU-155	8.168E-02		1.075E-01	1.781E-01	1.378E-02	0.459
TB-160	9.610E-02		1.248E-01	2.226E-01	2.021E-02	0.432
HO-166M	4.950E-03		6.004E-02	9.755E-02	6.446E-03	0.051
TM-171	-2.187E+01		2.813E+01	3.855E+01	2.688E+00	-0.567
LU-176	2.245E-02		2.445E-02	3.779E-02	2.201E-03	0.594
LU-177	2.384E+00	+	1.533E+00	1.903E+00	1.066E-01	1.253
LU-177M	-1.496E-01		1.693E-01	2.634E-01	1.461E-02	-0.568
HF-181	-2.900E-03		3.921E-02	6.391E-02	3.707E-03	-0.045
W-181	-1.472E-01		3.655E-01	5.104E-01	3.517E-02	-0.288
TA-182	-1.094E-01		1.792E-01	2.784E-01	1.665E-02	-0.393
RE-183	2.809E-02		1.070E-01	1.730E-01	9.530E-03	0.162
RE-184	1.710E-01		2.002E-01	3.481E-01	2.014E-02	0.491
OS-185	-1.589E-02		3.677E-02	5.715E-02	3.408E-03	-0.278
RE-188	1.314E-01		1.731E-01	2.852E-01	1.652E-02	0.461
W-188	6.602E-01		7.506E+00	1.093E+01	6.380E-01	0.060
IR-192	-4.277E-03		3.068E-02	5.058E-02	2.953E-03	-0.085
AU-195	7.196E-02		2.251E-01	3.411E-01	2.707E-02	0.211
TL-200	2.820E-05		2.403E-04	Half-Life	too short	
TL-201	1.001E+00		7.326E+00	1.177E+01	6.324E-01	0.085
TL-202	5.075E-02		6.360E-02	1.099E-01	6.216E-03	0.462
BI-207	1.876E-02		5.225E-02	8.894E-02	6.582E-03	0.211
TL-207	-1.239E-01		6.903E-01	9.787E-01	1.616E-01	-0.127
PO-209	1.889E+00		6.561E+00	1.126E+01	1.054E+00	0.168
BI-210	-1.451E+00		2.224E+00	3.563E+00	2.642E-01	-0.407
PB-210	-1.451E+00		2.224E+00	3.563E+00	2.642E-01	-0.407
PO-210	-1.451E+00		2.224E+00	3.563E+00	2.235E-01	-0.407
PB-211	-6.284E-01		1.037E+00	1.526E+00	9.508E-01	-0.412
BI-212	1.244E+00	+	4.990E-01	6.078E-01	5.171E-02	2.047
PO-215	-1.239E-01		6.903E-01	9.787E-01	1.616E-01	-0.127
RN-219	2.726E-01		4.010E-01	6.841E-01	9.219E-02	0.398
RN-220	7.637E+00		2.576E+01	4.289E+01	2.550E+00	0.178
RA-223	-1.239E-01		6.903E-01	9.787E-01	1.616E-01	-0.127
AC-227	-1.465E-01		3.317E-01	5.414E-01	7.557E-02	-0.271
TH-227	-1.465E-01		3.320E-01	5.414E-01	9.148E-02	-0.271
TH-229	-2.342E-01		4.713E-01	7.569E-01	4.180E-02	-0.309
PA-231	7.234E-01		1.578E+00	2.455E+00	3.386E-01	0.295
TH-231	-1.239E-01		6.903E-01	9.787E-01	1.616E-01	-0.127
U-231	5.526E-02		1.172E+00	1.660E+00	1.348E-01	0.033
PA-233	-2.017E-02		5.614E-02	9.142E-02	5.645E-03	-0.221
PA-234	-5.488E-02		2.919E-01	4.788E-01	9.051E-02	-0.115
PA-234M	2.606E+00		4.415E+00	7.653E+00	7.398E-01	0.341
U-235	5.375E-03		2.061E-01	3.260E-01	5.367E-02	0.016
NP-236	-8.565E-02		7.952E-02	1.212E-01	6.771E-03	-0.707
NP-239	7.976E-02		1.795E-01	2.942E-01	2.126E-02	0.271
AM-241	5.305E-02		1.264E-01	1.843E-01	1.369E-02	0.288

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.950E-02		9.614E-02	1.564E-01	1.203E-02	0.125
AM-246	3.570E-02		1.296E-01	2.206E-01	1.581E-02	0.162
CM-247	4.152E-02		3.616E-02	6.333E-02	3.479E-03	0.656
CF-249	3.400E-03		3.663E-02	6.081E-02	3.325E-03	0.056
CF-251	-2.844E-03		1.268E-01	2.022E-01	1.097E-02	-0.014

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]G244924010
* Acquisition date   : 27-JAN-2010 20:42:00 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 02:00:01.35 Half life ratio : 8.000
*****
*
*                                     SAMPLE DATA
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G244924010 Analyst initials: MXR1
* Batch Number       : 942723 Sample Quantity : 1.3101E+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
K-40	2.211E+01	2.176E+00	1.810E-01	1.110E+00
CD-109	2.789E+00	6.838E-01	6.215E-01	3.489E-01
SN-126	2.740E-01	6.719E-02	6.918E-02	3.428E-02
HG-203	4.256E-02	5.355E-02	3.028E-02	2.732E-02
TL-208	4.905E-01	8.423E-02	2.664E-02	4.298E-02
BI-211	3.182E+00	4.513E-01	1.589E-01	2.303E-01
PB-212	1.415E+00	1.424E-01	4.233E-02	7.263E-02
PO-212	1.415E+00	1.424E-01	4.233E-02	7.263E-02
BI-214	1.148E+00	1.616E-01	4.984E-02	8.243E-02
PB-214	1.107E+00	1.669E-01	5.533E-02	8.515E-02
PO-214	1.107E+00	1.669E-01	5.533E-02	8.515E-02
PO-216	1.415E+00	1.424E-01	4.233E-02	7.263E-02
PO-218	1.107E+00	1.669E-01	5.533E-02	8.515E-02
RA-224	3.743E+00	1.146E+00	4.814E-01	5.845E-01
RA-226	1.148E+00	1.616E-01	4.984E-02	8.243E-02
AC-228	1.339E+00	3.042E-01	9.132E-02	1.552E-01
RA-228	1.339E+00	3.042E-01	9.132E-02	1.552E-01
TH-228	1.437E+00	1.446E-01	4.299E-02	7.375E-02
TH-230	1.148E+00	1.616E-01	4.984E-02	8.242E-02
TH-232	1.339E+00	3.042E-01	9.132E-02	1.552E-01
TH-234	2.651E+00	1.826E+00	8.317E-01	9.314E-01
U-234	1.148E+00	1.616E-01	4.984E-02	8.242E-02
NP-237	8.047E-01	2.557E-01	1.844E-01	1.305E-01
U-238	2.651E+00	1.826E+00	8.317E-01	9.314E-01
AM-243	4.054E-01	7.364E-02	4.041E-02	3.757E-02
ANH-511	5.867E-02	5.492E-02	2.545E-02	2.802E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	9.594E-02	2.912E-01	2.540E-01	1.485E-01 NOT IDENT.

NA-22	2.771E-02	3.807E-02	3.447E-02	1.942E-02	NOT IDENT.
NA-24	-3.507E+04	8.339E+05	0.000E+00	4.255E+05	SHORT HLIF
AL-26	-6.216E-03	3.028E-02	2.389E-02	1.545E-02	NOT IDENT.
TI-44	3.844E-01	5.411E-02	3.880E-02	2.761E-02	FAIL ABUN
SC-46	-1.261E-02	2.974E-02	2.447E-02	1.518E-02	FAIL ABUN
V-48	4.081E-02	6.427E-02	5.814E-02	3.279E-02	NOT IDENT.
CR-51	2.397E-01	3.359E-01	3.029E-01	1.714E-01	NOT IDENT.
MN-52	1.875E-01	2.022E-01	1.912E-01	1.032E-01	NOT IDENT.
MN-54	3.731E-02	3.345E-02	3.127E-02	1.707E-02	NOT IDENT.
CO-56	2.305E-03	3.469E-02	3.017E-02	1.770E-02	FAIL ABUN
CO-57	5.781E-04	2.315E-02	1.986E-02	1.181E-02	NOT IDENT.
CO-58	-1.548E-02	3.668E-02	2.913E-02	1.871E-02	NOT IDENT.
FE-59	-3.161E-02	8.415E-02	6.907E-02	4.293E-02	NOT IDENT.
CO-60	-3.349E-02	3.448E-02	2.520E-02	1.759E-02	NOT IDENT.
ZN-65	-5.311E-02	9.670E-02	6.553E-02	4.933E-02	NOT IDENT.
GE-68	-3.194E-01	1.114E+00	9.228E-01	5.684E-01	NOT IDENT.
AS-73	4.750E-02	5.760E-01	5.091E-01	2.939E-01	NOT IDENT.
AS-74	4.917E-02	8.326E-02	7.333E-02	4.248E-02	NOT IDENT.
SE-75	7.183E-03	4.365E-02	3.371E-02	2.227E-02	FAIL ABUN
BR-77	-1.219E+01	9.424E+00	7.123E+00	4.808E+00	FAIL ABUN
SR-82	-3.705E-01	3.791E-01	2.869E-01	1.934E-01	NOT IDENT.
RB-83	-7.183E-02	5.835E-02	4.441E-02	2.977E-02	NOT IDENT.
RB-84	-2.406E-03	5.971E-02	5.132E-02	3.047E-02	NOT IDENT.
KR-85	2.301E+01	7.656E+00	6.950E+00	3.906E+00	NOT IDENT.
SR-85	1.183E-01	3.936E-02	3.573E-02	2.008E-02	NOT IDENT.
RB-86	-3.348E-01	7.336E-01	5.979E-01	3.743E-01	NOT IDENT.
Y-88	2.113E-02	2.865E-02	2.710E-02	1.462E-02	NOT IDENT.
ZR-88	-8.118E-03	2.712E-02	2.295E-02	1.384E-02	NOT IDENT.
Y-91	-2.297E+00	1.656E+01	1.383E+01	8.448E+00	NOT IDENT.
NB-94	-1.390E-02	3.142E-02	2.528E-02	1.603E-02	NOT IDENT.
NB-95	-1.427E-02	4.093E-02	3.304E-02	2.088E-02	NOT IDENT.
NB-95M	5.993E-01	1.528E-01	1.330E-01	7.796E-02	NOT IDENT.
ZR-95	6.338E-03	6.498E-02	5.452E-02	3.316E-02	NOT IDENT.
NB-97	-2.597E+04	1.110E+05	0.000E+00	5.664E+04	SHORT HLIF
ZR-97	4.688E+06	2.472E+06	0.000E+00	1.261E+06	SHORT HLIF
MO-99	8.538E+00	1.166E+01	1.026E+01	5.951E+00	NOT IDENT.
TC-99M	1.287E+16	7.087E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.812E-02	2.998E-02	2.636E-02	1.530E-02	NOT IDENT.
RH-102	4.662E-03	2.601E-02	2.248E-02	1.327E-02	NOT IDENT.
RU-103	2.913E-02	3.512E-02	3.155E-02	1.792E-02	FAIL ABUN
RH-106	-5.092E-02	2.899E-01	2.403E-01	1.479E-01	FAIL ABUN
RU-106	-5.092E-02	2.898E-01	2.403E-01	1.479E-01	FAIL ABUN
AG-108M	6.222E-04	2.917E-02	2.506E-02	1.488E-02	NOT IDENT.
AG-110M	-6.936E-03	3.131E-02	2.577E-02	1.598E-02	NOT IDENT.
IN-111	3.848E-01	1.041E+00	8.182E-01	5.313E-01	NOT IDENT.
IN-113M	-1.522E-02	4.089E-02	3.447E-02	2.086E-02	NOT IDENT.
SN-113	-1.522E-02	4.089E-02	3.447E-02	2.086E-02	NOT IDENT.
IN-114M	1.830E-01	1.783E-01	1.459E-01	9.096E-02	NOT IDENT.
CD-115	-1.118E+01	1.024E+01	7.916E+00	5.223E+00	NOT IDENT.
SN-117M	-8.854E-04	5.377E-02	4.558E-02	2.743E-02	NOT IDENT.
SB-122	6.912E-01	2.353E+00	1.772E+00	1.201E+00	NOT IDENT.
I-123	-4.516E+05	7.573E+06	0.000E+00	3.864E+06	SHORT HLIF
TE-123M	-1.637E-03	2.745E-02	2.322E-02	1.400E-02	NOT IDENT.
I-124	1.733E-01	7.523E-01	5.604E-01	3.838E-01	NOT IDENT.
SB-124	-1.196E-02	5.902E-02	4.655E-02	3.011E-02	FAIL ABUN
SB-125	2.923E-02	7.982E-02	7.015E-02	4.072E-02	FAIL ABUN
TE-125M	-5.096E+00	8.877E+00	7.464E+00	4.529E+00	NOT IDENT.
I-126	-7.479E-03	1.740E-01	1.453E-01	8.877E-02	NOT IDENT.
SB-126	-5.940E-02	1.566E-01	1.073E-01	7.990E-02	FAIL ABUN
SB-127	3.776E-01	1.321E+00	1.131E+00	6.742E-01	FAIL ABUN
XE-127	-2.145E-02	4.521E-02	3.714E-02	2.307E-02	NOT IDENT.
I-131	-7.655E-02	1.021E-01	8.415E-02	5.208E-02	NOT IDENT.
TE-132	-3.528E-01	6.770E-01	5.603E-01	3.454E-01	NOT IDENT.
BA-133	4.383E-02	4.309E-02	3.483E-02	2.198E-02	NOT IDENT.
I-133	-1.833E+03	6.425E+03	0.000E+00	3.278E+03	SHORT HLIF
CS-134	5.217E-02	4.842E-02	4.329E-02	2.470E-02	FAIL ABUN
CS-135	3.494E-01	1.712E-01	1.447E-01	8.735E-02	NOT IDENT.
I-135	-8.325E+15	9.796E+15	0.000E+00	4.998E+15	SHORT HLIF
CS-136	8.008E-02	9.945E-02	9.085E-02	5.074E-02	FAIL ABUN
BA-137M	-1.229E-02	3.530E-02	2.880E-02	1.801E-02	NOT IDENT.
CS-137	-1.299E-02	3.731E-02	3.045E-02	1.904E-02	NOT IDENT.
CE-139	1.708E-02	2.855E-02	2.476E-02	1.457E-02	NOT IDENT.
BA-140	-6.476E-02	2.278E-01	1.881E-01	1.162E-01	NOT IDENT.
LA-140	-4.781E-02	8.075E-02	6.066E-02	4.120E-02	FAIL ABUN
CE-141	-1.134E-02	5.986E-02	5.057E-02	3.054E-02	NOT IDENT.
CE-143	9.303E+02	2.717E+02	0.000E+00	1.386E+02	SHORT HLIF
CE-144	1.007E-02	1.870E-01	1.600E-01	9.540E-02	NOT IDENT.
PM-144	2.265E-02	3.312E-02	2.910E-02	1.690E-02	NOT IDENT.

PR-144	1.535E+00	2.244E+00	1.972E+00	1.145E+00	NOT IDENT.
PM-146	1.296E-02	3.785E-02	3.313E-02	1.931E-02	NOT IDENT.
ND-147	6.963E-02	4.858E-01	4.169E-01	2.479E-01	FAIL ABUN
PM-149	3.253E+01	9.144E+01	8.125E+01	4.665E+01	NOT IDENT.
EU-152	-2.177E-02	1.076E-01	7.506E-02	5.490E-02	NOT IDENT.
GD-153	6.886E-03	7.985E-02	6.057E-02	4.074E-02	NOT IDENT.
EU-154	8.063E-02	1.068E-01	9.682E-02	5.451E-02	NOT IDENT.
EU-155	8.168E-02	1.054E-01	9.314E-02	5.377E-02	FAIL ABUN
TB-160	9.610E-02	1.223E-01	1.124E-01	6.239E-02	FAIL ABUN
HO-166M	4.950E-03	5.884E-02	4.945E-02	3.002E-02	NOT IDENT.
TM-171	-2.187E+01	2.757E+01	2.030E+01	1.407E+01	NOT IDENT.
LU-176	2.245E-02	2.396E-02	1.943E-02	1.223E-02	FAIL ABUN
LU-177	2.384E+00	1.503E+00	9.842E-01	7.666E-01	FAIL ABUN
LU-177M	-1.496E-01	1.659E-01	1.348E-01	8.464E-02	FAIL ABUN
HF-181	-2.900E-03	3.843E-02	3.261E-02	1.961E-02	NOT IDENT.
W-181	-1.472E-01	3.582E-01	2.689E-01	1.828E-01	NOT IDENT.
TA-182	-1.094E-01	1.756E-01	1.398E-01	8.958E-02	FAIL ABUN
RE-183	2.809E-02	1.049E-01	8.986E-02	5.352E-02	FAIL ABUN
RE-184	1.710E-01	1.962E-01	1.795E-01	1.001E-01	NOT IDENT.
OS-185	-1.589E-02	3.604E-02	2.902E-02	1.839E-02	FAIL ABUN
RE-188	1.314E-01	1.697E-01	1.482E-01	8.657E-02	NOT IDENT.
W-188	6.602E-01	7.356E+00	5.625E+00	3.753E+00	FAIL ABUN
IR-192	-4.277E-03	3.007E-02	2.599E-02	1.534E-02	FAIL ABUN
AU-195	7.196E-02	2.206E-01	1.786E-01	1.126E-01	FAIL ABUN
TL-200	2.820E+01	4.709E+02	0.000E+00	2.403E+02	SHORT HLIF
TL-201	1.001E+00	7.179E+00	6.111E+00	3.663E+00	NOT IDENT.
TL-202	5.075E-02	6.233E-02	5.618E-02	3.180E-02	NOT IDENT.
BI-207	1.876E-02	5.120E-02	4.478E-02	2.612E-02	FAIL ABUN
TL-207	-1.239E-01	6.765E-01	5.026E-01	3.451E-01	FAIL ABUN
PO-209	1.889E+00	6.430E+00	5.685E+00	3.280E+00	NOT IDENT.
BI-210	-1.451E+00	2.180E+00	1.887E+00	1.112E+00	NOT IDENT.
PB-210	-1.451E+00	2.180E+00	1.887E+00	1.112E+00	NOT IDENT.
PO-210	-1.451E+00	2.179E+00	1.887E+00	1.112E+00	NOT IDENT.
PB-211	-6.284E-01	1.016E+00	7.808E-01	5.186E-01	NOT IDENT.
BI-212	1.244E+00	4.890E-01	3.080E-01	2.495E-01	FAIL ABUN
PO-215	-1.239E-01	6.765E-01	5.026E-01	3.451E-01	FAIL ABUN
RN-219	2.726E-01	3.930E-01	3.501E-01	2.005E-01	FAIL ABUN
RN-220	7.637E+00	2.525E+01	2.184E+01	1.288E+01	NOT IDENT.
RA-223	-1.239E-01	6.765E-01	5.026E-01	3.451E-01	FAIL ABUN
AC-227	-1.465E-01	3.251E-01	2.791E-01	1.658E-01	FAIL ABUN
TH-227	-1.465E-01	3.253E-01	2.791E-01	1.660E-01	FAIL ABUN
TH-229	-2.342E-01	4.619E-01	3.920E-01	2.357E-01	FAIL ABUN
PA-231	7.234E-01	1.546E+00	1.264E+00	7.888E-01	FAIL ABUN
TH-231	-1.239E-01	6.765E-01	5.026E-01	3.451E-01	FAIL ABUN
U-231	5.526E-02	1.148E+00	8.696E-01	5.858E-01	FAIL ABUN
PA-233	-2.017E-02	5.502E-02	4.698E-02	2.807E-02	FAIL ABUN
PA-234	-5.488E-02	2.861E-01	2.416E-01	1.460E-01	FAIL ABUN
PA-234M	2.606E+00	4.327E+00	3.857E+00	2.208E+00	NOT IDENT.
U-235	5.375E-03	2.019E-01	1.696E-01	1.030E-01	FAIL ABUN
NP-236	-8.565E-02	7.793E-02	6.295E-02	3.976E-02	NOT IDENT.
NP-239	7.976E-02	1.759E-01	1.536E-01	8.974E-02	FAIL ABUN
AM-241	5.305E-02	1.239E-01	9.726E-02	6.321E-02	NOT IDENT.
CM-243	1.950E-02	9.421E-02	8.181E-02	4.807E-02	FAIL ABUN
AM-246	3.570E-02	1.270E-01	1.111E-01	6.480E-02	NOT IDENT.
CM-247	4.152E-02	3.544E-02	3.241E-02	1.808E-02	FAIL ABUN
CF-249	3.400E-03	3.590E-02	3.114E-02	1.831E-02	NOT IDENT.
CF-251	-2.844E-03	1.243E-01	1.049E-01	6.341E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON , SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY MDA COUNTS

46.50	351.5613
46.50	351.5613
46.50	351.5613
48.70	365.7173
49.72	408.9858
51.35	387.2662
52.39	372.3737
52.97	368.5199
53.15	374.7366
53.44	381.0019
54.07	380.2416
56.28	379.7154
56.28	379.7165
57.37	0.0000
57.53	380.2230
57.53	380.2237
57.60	380.2512
57.98	380.4042
57.98	380.4042
59.32	382.5883
59.32	382.5883
59.40	382.6202
59.54	376.0782
59.72	376.1485
60.01	376.2612
61.10	432.6500
61.14	432.6676
61.30	432.7387
63.00	433.4855
63.29	433.6122
63.29	433.6122
63.58	528.3530
64.28	545.2979
65.12	578.9286
65.20	578.9749
65.20	578.9749
66.05	582.7796
66.72	574.8533
66.83	574.9166
66.91	564.9906
67.20	565.1504
67.20	565.1504
67.75	540.5049
67.85	540.5565
68.90	496.7057
68.90	496.7057
69.30	503.8350
69.67	488.1855
70.82	540.4239
70.82	540.4239
70.83	540.4279
72.80	578.1889
72.87	578.2259
72.87	578.2259
74.67	533.5717
74.81	533.6397
74.81	533.6397
74.81	533.6397
74.81	533.6397
74.81	533.6397
74.81	533.6397
74.97	533.7175
75.28	533.8683
75.70	534.0716
77.11	534.7526
77.11	534.7526

77.11	534.7526
77.11	534.7526
77.11	534.7526
77.11	534.7526
77.11	534.7526
78.38	535.3596
79.62	512.8297
79.80	512.9116
79.80	512.9116
80.11	588.7473
80.18	588.7836
80.30	588.8455
80.30	588.8455
80.57	639.4688
81.00	634.6596
81.07	634.6987
81.07	634.6987
81.07	634.6987
81.07	634.6987
82.60	514.1663
83.37	468.1153
83.78	447.1875
83.78	447.1875
83.78	447.1875
83.78	447.1875
84.21	514.8774
84.90	478.5833
85.43	466.8278
86.29	542.8434
86.50	542.9394
86.54	542.9590
86.59	542.9806
86.72	619.1686
86.79	619.2021
86.94	619.2825
87.30	670.2440
87.30	670.2440
87.30	670.2440
87.30	670.2440
87.30	670.2440
87.30	670.2440
87.57	670.3962
87.88	525.9998
88.03	526.0642
88.36	526.2102
88.47	526.2576
89.95	526.9022
91.11	527.4027
92.29	527.9089
92.38	527.9487
92.38	527.9487
93.35	528.3621
94.00	345.4767
94.67	349.0656
94.67	349.0668
94.90	378.0829
94.90	378.0829
94.90	378.0829
94.90	378.0829
95.87	412.4635
95.87	412.4635
96.73	402.5122
97.43	372.0157
98.44	375.7255
98.44	375.7255
98.88	371.5833
99.55	378.4923
99.55	378.4923
99.86	374.0032
100.00	382.5942
100.10	382.6242
103.18	430.6659
103.76	409.4204
105.00	394.7847
105.31	395.9489
108.00	411.7969
109.28	406.8059

111.00	403.0076
111.00	403.0076
111.76	395.6831
112.95	357.1769
115.19	345.8618
116.30	332.0735
117.00	331.1564
117.00	331.1564
117.66	333.4760
121.11	333.1943
121.62	341.9982
121.78	335.5205
122.06	322.5529
122.32	323.6969
122.32	323.6969
122.32	323.6969
122.32	323.6969
123.07	310.8225
127.23	367.2851
129.76	305.6796
131.20	319.0854
133.02	357.7610
133.54	323.9532
135.34	351.7281
136.00	345.3003
136.25	328.9101
136.48	328.9604
140.51	333.1077
140.51	0.0000
142.18	319.1522
142.65	328.0542
143.76	338.1984
144.24	352.6245
144.24	352.6245
144.24	352.6245
144.24	352.6245
145.22	338.5052
145.44	358.4021
147.16	410.6696
152.43	389.8447
152.70	389.9092
153.22	392.2461
154.21	395.8072
154.21	395.8072
154.21	395.8072
154.21	395.8072
155.03	346.0869
156.02	325.2034
158.56	339.0319
159.00	0.0000
159.00	336.8965
160.31	371.6499
161.27	354.0477
162.32	320.8425
162.64	329.8158
163.35	326.6094
163.89	341.2057
165.85	310.3363
167.43	327.3784
171.28	344.8904
171.86	334.9219
172.10	334.9675
176.55	326.8177
176.60	326.8266
181.06	327.2528
184.41	314.3143
185.71	290.7571
186.00	290.8023
190.27	251.9389
192.34	274.8681
193.63	300.2433
197.04	275.2429
198.01	268.1099
198.60	264.5553
200.40	296.6492
201.83	294.1342
202.84	310.9137
205.31	291.9199

208.36	306.0739
208.81	309.1897
209.75	281.6008
209.75	281.6008
210.97	279.0273
215.65	239.9399
216.55	240.8098
218.09	268.9917
222.10	230.8835
223.80	249.4841
226.40	259.9343
227.00	265.5404
227.08	265.5510
227.20	265.5650
228.16	261.0737
228.18	261.0772
228.18	261.0772
231.56	0.0000
235.69	279.2810
236.00	288.5808
236.00	288.5808
238.63	233.6183
238.63	233.6183
238.63	233.6183
238.63	233.6183
239.00	233.6583
240.98	233.8721
241.98	233.9798
241.98	233.9798
241.98	233.9798
244.69	178.1807
245.39	181.3379
247.94	197.0642
248.90	201.8065
249.79	195.6753
252.40	173.5145
252.85	171.6835
252.85	171.6835
254.15	0.0000
256.20	200.9070
256.20	200.9070
260.50	181.6263
260.90	176.9776
262.80	199.1461
264.65	186.0198
268.24	198.8328
268.79	191.0519
269.46	198.4166
269.46	198.4166
269.46	198.4166
269.46	198.4166
271.23	191.2505
273.65	202.4338
276.40	197.9568
277.35	186.5079
277.60	186.5297
277.60	186.5297
278.00	190.2294
278.60	177.6959
279.20	182.4607
279.53	185.6306
280.46	221.8989
281.68	210.9917
283.67	190.4547
284.30	189.1528
285.00	191.3113
285.90	193.0654
286.10	185.5085
286.10	185.5085
287.40	188.2132
288.45	0.0000
290.67	180.1683
290.80	180.1776
291.72	191.3125
293.26	0.0000
293.70	188.3029
295.21	185.2524
295.21	185.2524

295.21	185.2524
295.96	180.5557
296.50	180.5951
297.23	180.6484
298.57	180.7482
299.80	180.8363
299.80	180.8363
300.09	166.5790
300.09	166.5790
300.09	166.5790
300.09	166.5790
300.12	166.5811
301.29	166.6602
302.84	182.6449
303.76	162.0582
303.91	171.5999
304.40	157.3321
304.40	157.3321
304.84	138.2845
306.84	136.8035
308.46	155.1962
311.98	159.7162
316.51	157.1233
318.01	158.1740
319.02	153.4395
319.41	144.8306
320.08	151.5832
323.87	161.7332
323.87	161.7332
323.87	161.7332
323.87	161.7332
325.23	185.8497
328.77	166.8481
333.44	134.9995
334.20	149.5073
334.20	149.5073
334.30	149.5129
338.28	167.1228
338.28	167.1228
338.28	167.1228
338.28	167.1228
338.32	167.1270
338.32	167.1270
338.32	167.1270
340.50	162.7503
340.57	162.7544
344.27	160.7173
345.85	145.3107
350.59	0.0000
351.07	158.5302
351.92	158.2564
351.92	158.2564
351.92	158.2564
355.39	0.0000
356.01	121.5408
364.48	139.4651
366.43	126.8754
367.43	130.8250
367.94	0.0000
369.80	122.1405
374.96	125.2984
383.85	139.4311
387.95	132.7440
388.63	126.8741
391.69	143.7437
391.69	143.7437
392.90	130.9982
398.62	146.0542
400.65	154.0538
401.10	148.1506
401.81	134.3548
402.60	128.4623
404.84	178.0027
410.95	124.8541
411.60	126.8641
413.65	153.7266
414.70	134.9292
415.30	128.0095

415.76	128.0300
417.63	0.0000
418.52	114.2377
423.70	123.3854
427.08	107.5808
427.89	103.6242
432.53	114.7543
433.93	111.8100
439.47	98.0060
439.56	98.0096
439.89	94.0184
443.98	113.1683
444.90	115.2036
445.03	115.2092
445.03	115.2092
445.03	115.2092
445.03	115.2092
453.90	97.4440
463.38	97.3924
468.07	116.0290
473.00	105.0867
475.06	99.0862
475.35	95.0499
476.78	99.1365
477.59	99.1604
477.96	102.2083
482.03	102.3316
484.57	97.3395
487.03	98.4244
490.36	0.0000
492.35	101.6284
497.08	77.3443
507.63	0.0000
510.53	0.0000
510.84	133.8488
511.00	133.8552
511.85	120.9414
511.85	120.9414
513.99	78.4041
513.99	78.4041
520.41	96.3064
520.65	96.3133
527.90	99.5908
528.96	0.0000
529.64	92.4478
529.87	0.0000
531.02	79.1243
537.32	86.4691
543.00	95.8835
546.56	0.0000
549.76	97.0958
552.65	96.1378
555.20	87.9302
563.23	82.9375
563.90	91.5919
568.70	94.4792
569.32	94.4947
569.50	94.4992
569.67	94.5036
573.80	84.9046
574.00	84.9086
574.64	95.6679
578.91	83.2852
579.30	0.0000
583.14	83.3770
585.48	76.4754
591.81	104.4580
592.07	99.2421
593.00	88.8163
595.88	77.3802
600.56	99.4601
602.52	0.0000
602.71	96.0240
602.71	96.0240
603.60	85.5686
604.41	85.5865
604.70	85.5925
609.31	81.8467

609.31	81.8467
609.31	81.8467
609.31	81.8467
610.33	71.7216
612.46	80.5112
614.37	75.2972
618.01	70.4596
621.84	82.1076
621.84	82.1076
631.29	74.9157
633.02	73.8914
633.10	73.8931
634.78	85.5404
635.90	78.1697
636.97	75.0215
645.85	68.8324
646.12	69.8962
656.30	79.6252
657.75	78.5907
657.90	0.0000
661.65	98.8647
661.65	98.8647
664.57	0.0000
666.33	87.2691
666.33	87.2691
675.00	66.1202
677.61	56.5584
685.20	72.6966
692.80	96.3875
695.00	81.4365
696.49	78.2487
696.49	78.2487
697.00	76.1135
697.49	71.8336
698.33	68.6312
698.50	68.6344
699.00	71.8598
702.63	88.0219
706.10	70.9033
706.58	0.0000
706.67	76.2851
709.31	83.8576
711.68	81.7520
713.82	80.7166
717.42	74.2002
720.50	79.0428
721.93	0.0000
722.20	79.0750
722.78	77.2866
722.78	77.2866
722.89	77.2901
722.95	77.2901
723.30	77.2971
724.18	70.1210
727.18	66.9300
733.00	55.8482
735.90	74.5130
739.58	62.7876
742.81	82.3327
744.21	74.7730
747.13	70.4844
751.79	81.4124
752.31	82.5071
753.82	64.0732
755.35	64.0948
756.15	66.2794
756.87	61.9430
763.93	80.5437
765.79	89.2871
766.42	89.2991
766.84	80.5942
776.49	88.4039
778.00	84.0665
778.57	78.6164
778.89	77.5314
783.80	64.4952
785.46	85.2954
792.07	87.6074

795.84	74.5261
796.30	78.9187
798.80	104.1846
801.93	69.1370
805.60	71.3873
810.29	67.0613
810.76	67.0672
815.85	53.1973
817.79	55.0549
818.51	49.5571
819.60	57.8295
826.30	56.0718
828.27	0.0000
831.60	69.9373
831.96	81.9074
834.83	55.2502
836.80	0.0000
846.75	58.1563
848.13	53.5561
856.28	0.0000
856.80	49.1576
860.37	62.9462
867.32	58.7971
867.82	52.4464
871.10	62.7458
873.19	66.8218
874.81	63.1302
875.33	0.0000
876.40	56.6501
879.36	45.5328
880.27	50.1877
880.51	50.1899
881.50	51.1295
883.24	45.5676
884.67	48.3713
889.25	43.7603
896.60	49.4190
898.02	48.4993
899.00	57.8374
903.28	56.0193
911.07	48.0898
911.07	48.0898
911.07	48.0898
919.63	61.8186
920.93	52.1240
925.00	41.2554
925.24	36.5688
926.50	36.5776
935.52	45.0967
937.48	63.9119
944.10	59.2868
946.00	63.0742
949.00	53.6903
962.29	60.4362
964.01	53.4385
966.15	40.4994
968.20	74.5479
969.11	121.5663
969.11	121.5663
969.11	121.5663
977.42	56.8188
980.50	55.9043
983.50	45.5068
989.30	68.3335
996.32	61.7706
1001.03	46.6054
1001.68	46.6109
1004.76	49.4927
1021.30	0.0000
1024.50	0.0000
1034.80	56.4600
1036.00	54.5577
1037.82	41.1716
1038.57	41.1768
1038.76	0.0000
1045.16	61.3594
1046.59	46.0313
1048.07	44.1245

1050.47	56.6185
1050.47	56.6185
1062.04	55.7721
1063.62	52.9030
1076.63	57.8442
1077.35	53.0306
1078.86	47.2574
1085.78	54.0745
1099.22	58.0713
1112.02	46.5586
1112.84	61.5316
1115.52	66.5513
1120.29	58.2788
1120.29	58.2788
1120.29	58.2788
1120.29	58.2788
1120.51	58.2813
1121.28	58.2886
1124.00	0.0000
1129.67	73.3814
1131.51	0.0000
1147.95	0.0000
1167.94	59.7242
1173.22	63.6961
1175.09	62.7370
1177.93	57.8621
1189.05	66.8102
1204.90	57.1315
1205.75	0.0000
1213.00	54.2458
1221.42	66.1712
1230.97	69.5221
1235.34	57.6928
1236.41	0.0000
1238.25	62.3873
1246.25	47.5938
1260.41	0.0000
1271.85	54.7538
1274.45	34.8576
1274.54	34.8576
1291.56	28.9575
1298.22	0.0000
1312.09	29.0484
1325.50	28.1037
1325.50	28.1037
1332.49	39.1857
1333.61	36.1787
1360.21	25.2238
1362.66	0.0000
1365.15	28.2712
1368.21	18.1824
1368.53	0.0000
1376.25	29.3292
1384.27	56.7018
1394.10	32.4479
1395.20	25.3540
1407.95	28.4489
1434.06	15.2979
1436.60	19.3842
1457.56	0.0000
1460.81	12.2847
1489.15	23.6392
1509.49	25.7670
1596.49	26.0712
1620.62	17.7851
1678.03	0.0000
1691.02	11.6128
1691.02	11.6128
1706.46	0.0000
1750.46	0.0000
1764.49	8.5238
1764.49	8.5238
1764.49	8.5238
1764.49	8.5238
1770.23	10.9667
1771.40	12.7964
1791.20	0.0000
1808.65	12.8550

1836.01

7.5232

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G244924010

Total Uranium Activity	7.8904E+00	ug/g
Total Uranium Counting Unc.	5.4317E+00	ug/g
Total Uranium Tpu	2.7713E-06	ug/g
Total Uranium Mda	2.4756E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 942723                SAMPLE ID   : G244924010                *
*  ANALYST       : MXR1                  DETECTOR    : GAM14                  *
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 27-JAN-2010 20:42:00.25  SAMPLE ALQT: 131.005 GRAM        *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 7.984E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.195E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 2.980E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.448E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 22:44:27.82

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                          *
*                                     Charleston, SC 29414                      *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018276.CNF;1
Sample date        : 19-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 20:43:08
Sample ID          : G1202018276      Sample quantity   : 1.39513E+02 GRAM
Detector name      : GAM15            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           : 942723           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	62.36*	43	65	1.89	125.22	120	10	6.01E-03	42.7	
2	0	92.20*	6	117	1.53	184.86	180	10	8.22E-04	405.2	
3	0	238.13*	0	60	1.31	476.61	472	9	4.61E-05	*****	
4	0	609.51*	21	32	1.77	1219.09	1212	16	2.85E-03	72.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 22:44:31

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018276.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 20:43:08
Sample ID        : G1202018276 Sample quantity : 139.51 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.49 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

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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
TH-234	+	63.29	*	1.807E+00	1.585E+00	1.783E+00	3.518E-01	1.014
	+	92.38		6.105E-02	4.949E-01	4.672E-01	8.906E-02	0.131
U-238	+	63.29	*	1.807E+00	1.585E+00	1.783E+00	3.518E-01	1.014
	+	92.38		6.105E-02	4.948E-01	4.672E-01	4.915E-02	0.131

---- 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	*	9.409E-02	2.121E-01	3.627E-01	2.417E-02	0.259
NA-22		1274.54	*	-1.202E-02	2.232E-02	3.131E-02	2.149E-03	-0.384
NA-24		1368.53	*	-5.006E-04	2.232E-02	Half-Life too short		
AL-26		1129.67		1.138E-02	8.980E-01	1.469E+00	9.254E-02	0.008
		1808.65	*	4.653E-03	2.273E-02	3.940E-02	2.358E-03	0.118
K-40		1460.81	*	-1.379E-02	2.549E-01	4.493E-01	3.435E-02	-0.031
TI-44		67.85		1.542E-02	3.741E-02	5.932E-02	6.768E-03	0.260
		78.38	*	-1.547E-02	2.249E-02	3.524E-02	3.918E-03	-0.439
SC-46		889.25	*	-2.316E-02	1.962E-02	2.422E-02	2.032E-03	-0.956
		1120.51		1.179E-02	2.040E-02	3.747E-02	2.405E-03	0.315
V-48		944.10		-4.273E-02	4.134E-01	6.701E-01	5.508E-02	-0.064
		983.50	*	-1.128E-02	3.030E-02	4.632E-02	3.659E-03	-0.244
		1312.09		-4.225E-03	3.748E-02	5.910E-02	4.315E-03	-0.071
CR-51		320.08	*	5.023E-02	2.242E-01	3.801E-01	2.741E-02	0.132
MN-52		744.21		2.117E-02	6.805E-02	1.184E-01	7.263E-03	0.179
		848.13		-4.572E-01	1.947E+00	3.115E+00	2.401E-01	-0.147
		935.52		-7.223E-03	7.426E-02	1.207E-01	1.000E-02	-0.060
		1246.25		4.720E-02	1.500E+00	2.449E+00	1.597E-01	0.019
		1333.61		-7.489E-01	1.520E+00	2.184E+00	1.648E-01	-0.343
		1434.06	*	4.122E-03	7.254E-02	1.226E-01	9.087E-03	0.034
MN-54		834.83	*	4.871E-03	2.158E-02	3.701E-02	2.774E-03	0.132
CO-56		846.75	*	-1.533E-02	2.469E-02	3.724E-02	2.862E-03	-0.412
		977.42		9.082E-01	1.464E+00	2.682E+00	2.133E-01	0.339
		1037.82		4.644E-02	2.019E-01	3.426E-01	2.711E-02	0.136
		1175.09		7.234E-01	1.120E+00	2.040E+00	1.166E-01	0.355

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1238.25			2.179E-02	3.272E-02	6.102E-02	4.125E-03	0.357
	1360.21			4.261E-02	4.816E-01	7.958E-01	5.987E-02	0.054
	1771.40			-8.307E-02	1.800E-01	2.795E-01	1.729E-02	-0.297
CO-57	122.06	*		4.247E-03	1.621E-02	2.691E-02	1.934E-03	0.158
	136.48			-4.410E-02	1.288E-01	2.037E-01	1.564E-02	-0.216
CO-58	810.76	*		-2.043E-02	2.262E-02	3.218E-02	2.299E-03	-0.635
FE-59	142.65			-2.020E+00	1.748E+00	2.481E+00	1.689E-01	-0.814
	192.34			-1.974E-01	5.609E-01	8.735E-01	1.077E-01	-0.226
	1099.22	*		2.562E-02	4.570E-02	8.222E-02	6.222E-03	0.312
	1291.56			-8.776E-02	7.408E-02	8.888E-02	7.499E-03	-0.987
CO-60	1173.22			5.391E-03	2.529E-02	4.275E-02	2.435E-03	0.126
	1332.49	*		7.436E-03	2.403E-02	4.138E-02	3.123E-03	0.180
ZN-65	1115.52	*		-4.727E-02	4.756E-02	6.152E-02	3.997E-03	-0.768
GE-68	1077.35	*		-1.249E-01	6.607E-01	1.040E+00	7.228E-02	-0.120
AS-73	53.44	*		-8.809E-01	1.168E+00	1.723E+00	2.355E-01	-0.511
AS-74	595.88	*		2.036E-02	5.335E-02	8.994E-02	4.835E-03	0.226
	634.78			-1.366E-01	1.707E-01	2.392E-01	1.241E-02	-0.571
SE-75	66.05			-4.213E+00	4.479E+00	5.903E+00	7.656E-01	-0.714
	96.73			3.769E-01	4.932E-01	7.611E-01	1.092E-01	0.495
	121.11			-6.202E-02	8.924E-02	1.380E-01	1.407E-02	-0.450
	136.00			-1.766E-02	2.383E-02	3.646E-02	2.539E-03	-0.484
	198.60			-1.952E-01	1.164E+00	1.841E+00	1.469E-01	-0.106
	264.65	*		6.161E-03	2.898E-02	4.938E-02	3.454E-03	0.125
	279.53			4.051E-02	7.053E-02	1.231E-01	8.984E-03	0.329
	303.91			-7.381E-01	1.442E+00	2.302E+00	2.337E-01	-0.321
	400.65			1.861E-01	1.463E-01	2.728E-01	2.463E-02	0.682
BR-77	87.88			4.166E+00	1.933E+01	2.845E+01	3.289E+00	0.146
	200.40			-4.698E+00	1.830E+01	2.873E+01	1.963E+00	-0.164
+	239.00			1.229E-02	1.436E+00	2.150E+00	1.496E-01	0.006
	249.79			2.512E+00	7.026E+00	1.212E+01	8.442E-01	0.207
	281.68			4.297E+00	9.702E+00	1.679E+01	1.157E+00	0.256
	297.23			7.893E-01	5.846E+00	9.858E+00	6.707E-01	0.080
	303.76			-1.156E+01	2.046E+01	3.252E+01	2.198E+00	-0.355
	439.47			6.008E+00	1.306E+01	2.268E+01	1.296E+00	0.265
	484.57			-2.448E+00	2.530E+01	3.932E+01	2.237E+00	-0.062
	520.65	*		7.674E-01	9.973E-01	1.787E+00	1.005E-01	0.430
	574.64			-3.531E+00	2.140E+01	3.387E+01	1.850E+00	-0.104
	578.91			-1.576E+01	1.009E+01	1.300E+01	7.081E-01	-1.212
	585.48			1.940E-01	1.872E+01	3.031E+01	1.643E+00	0.006
	755.35			6.125E+00	1.541E+01	2.718E+01	1.711E+00	0.225
	817.79			8.380E+00	1.301E+01	2.362E+01	1.707E+00	0.355
SR-82	698.33			-1.153E+01	1.779E+01	2.732E+01	1.504E+00	-0.422
	776.49	*		3.700E-02	1.893E-01	3.245E-01	2.142E-02	0.114
	1395.20			1.583E+00	5.345E+00	9.522E+00	7.121E-01	0.166
RB-83	520.41	*		2.992E-02	3.811E-02	6.851E-02	3.855E-03	0.437
	529.64			3.828E-02	5.996E-02	1.057E-01	5.925E-03	0.362
	552.65			-9.626E-02	1.228E-01	1.775E-01	9.829E-03	-0.542
RB-84	881.50	*		-2.430E-03	3.625E-02	5.937E-02	4.902E-03	-0.041
KR-85	513.99	*		-1.627E+01	7.276E+00	9.629E+00	5.431E-01	-1.690

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-85	513.99	*		-7.811E-02	3.493E-02	4.623E-02	2.608E-03	-1.690
RB-86	1076.63	*		-1.591E-01	3.446E-01	5.111E-01	3.556E-02	-0.311
Y-88	898.02			7.721E-03	2.384E-02	4.143E-02	3.554E-03	0.186
	1836.01	*		6.390E-05	2.486E-02	4.087E-02	2.388E-03	0.002
ZR-88	392.90	*		1.477E-02	1.940E-02	3.437E-02	1.949E-03	0.430
Y-91	1204.90	*		2.206E+00	8.643E+00	1.476E+01	8.925E-01	0.149
NB-94	702.63	*		-1.400E-03	1.882E-02	3.123E-02	1.737E-03	-0.045
	871.10			1.487E-02	2.315E-02	4.165E-02	3.367E-03	0.357
NB-95	765.79	*		3.332E-02	2.427E-02	4.698E-02	3.028E-03	0.709
NB-95M	235.69	*		8.465E-02	8.581E-02	1.372E-01	1.159E-02	0.617
ZR-95	724.18			1.947E-02	4.750E-02	8.396E-02	5.798E-03	0.232
	756.15	*		1.990E-02	3.813E-02	6.832E-02	5.093E-03	0.291
NB-97	657.90	*		-3.298E-05	3.813E-02	Half-Life	too short	
	1024.50			-7.827E-03	3.813E-02	Half-Life	too short	
ZR-97	254.15			-2.512E-03	3.813E-02	Half-Life	too short	
	355.39			-1.016E-02	3.813E-02	Half-Life	too short	
	507.63	*		4.298E-04	3.813E-02	Half-Life	too short	
	602.52			1.196E-02	3.813E-02	Half-Life	too short	
	1021.30			-1.773E-05	3.813E-02	Half-Life	too short	
	1147.95			5.759E-03	3.813E-02	Half-Life	too short	
	1362.66			3.137E-03	3.813E-02	Half-Life	too short	
	1750.46			-7.019E-03	3.813E-02	Half-Life	too short	
MO-99	140.51			1.447E+00	3.733E+00	5.844E+00	1.589E+00	0.248
	181.06			-5.068E+00	2.815E+00	3.720E+00	6.501E-01	-1.363
	366.43			-1.242E-01	1.130E+01	1.868E+01	1.134E+00	-0.007
	739.58	*		-2.679E-01	1.377E+00	2.235E+00	3.105E-01	-0.120
	778.00			1.626E+00	4.137E+00	7.281E+00	4.823E-01	0.223
TC-99M	140.51	*		3.178E+02	4.137E+00	Half-Life	too short	
RH-101	127.23			-2.467E-02	2.032E-02	2.994E-02	2.110E-03	-0.824
	198.01	*		-4.094E-03	2.224E-02	3.514E-02	2.397E-03	-0.117
	325.23			-7.264E-02	1.562E-01	2.495E-01	1.641E-02	-0.291
RH-102	418.52			-8.142E-02	1.881E-01	2.944E-01	1.680E-02	-0.277
	475.06	*		1.106E-02	2.046E-02	3.537E-02	2.016E-03	0.313
	631.29			-6.793E-03	3.443E-02	5.385E-02	2.803E-03	-0.126
	697.49			-1.643E-02	4.646E-02	7.435E-02	4.085E-03	-0.221
	766.84			7.215E-02	6.948E-02	1.214E-01	7.839E-03	0.595
	1046.59			-4.470E-02	7.021E-02	1.017E-01	7.414E-03	-0.439
	1112.84			2.783E-02	1.175E-01	2.005E-01	1.307E-02	0.139
RU-103	497.08	*		-4.097E-03	2.402E-02	3.835E-02	4.826E-03	-0.107
	610.33			5.355E-01	7.841E-01	9.732E-01	1.483E-01	0.550
RH-106	511.85			-3.141E-01	1.888E-01	3.238E-01	1.828E-02	-0.970
	621.84	*		2.618E-03	1.854E-01	2.996E-01	3.439E-02	0.009
	1050.47			-6.390E-01	1.275E+00	1.882E+00	1.364E-01	-0.339
RU-106	511.85			-3.141E-01	1.888E-01	3.238E-01	1.828E-02	-0.970
	621.84	*		2.618E-03	1.854E-01	2.996E-01	1.574E-02	0.009
	1050.47			-6.390E-01	1.275E+00	1.882E+00	1.364E-01	-0.339
AG-108M	433.93	*		-1.800E-03	1.984E-02	3.221E-02	2.003E-03	-0.056
	614.37			-6.973E-03	2.715E-02	3.520E-02	2.051E-03	-0.198
	722.95			-1.484E-02	2.306E-02	3.489E-02	2.207E-03	-0.425

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CD-109	88.03	*		1.094E-01	5.472E-01	8.042E-01	9.299E-02	0.136
AG-110M	657.75	*		-5.048E-03	2.324E-02	3.624E-02	1.986E-03	-0.139
	677.61			1.129E-01	1.763E-01	3.107E-01	1.748E-02	0.363
	706.67			-3.668E-02	1.212E-01	1.948E-01	1.164E-02	-0.188
	763.93			-7.075E-03	9.960E-02	1.647E-01	1.110E-02	-0.043
	884.67			4.534E-04	2.684E-02	4.456E-02	3.831E-03	0.010
	937.48			-7.559E-02	7.380E-02	9.455E-02	8.125E-03	-0.799
	1384.27			-8.234E-02	9.151E-02	1.183E-01	9.195E-03	-0.696
IN-111	171.28			3.759E-02	1.437E-01	2.361E-01	1.576E-02	0.159
	245.39	*		-1.081E-01	1.441E-01	2.274E-01	1.583E-02	-0.475
IN-113M	391.69	*		1.090E-02	2.790E-02	4.784E-02	2.902E-03	0.228
SN-113	391.69	*		1.090E-02	2.790E-02	4.784E-02	2.902E-03	0.228
IN-114M	190.27	*		-3.302E-02	1.050E-01	1.641E-01	1.113E-02	-0.201
CD-115	260.90			8.057E+00	1.229E+01	2.164E+01	1.504E+00	0.372
	492.35			-2.157E-01	3.447E+00	5.583E+00	3.171E-01	-0.039
	527.90	*		1.067E-01	9.306E-01	1.537E+00	8.621E-02	0.069
SN-117M	156.02			-9.946E-02	1.048E+00	1.682E+00	1.127E-01	-0.059
	158.56	*		5.079E-03	2.761E-02	4.281E-02	2.862E-03	0.119
SB-122	563.90	*		-1.190E-01	2.767E-01	4.234E-01	2.329E-02	-0.281
	692.80			4.883E+00	5.585E+00	1.031E+01	5.598E-01	0.474
I-123	159.00	*		-6.717E-05	5.585E+00	Half-Life	too short	
	528.96			4.565E-02	5.585E+00	Half-Life	too short	
TE-123M	159.00	*		-8.835E-04	1.925E-02	2.937E-02	1.983E-03	-0.030
I-124	602.71	*		2.118E-01	1.867E-01	3.071E-01	1.642E-02	0.690
	722.78			-5.497E-01	8.539E-01	1.292E+00	7.541E-02	-0.425
	1325.50			-2.952E+00	9.060E+00	1.372E+01	1.024E+00	-0.215
	1376.25			4.748E+00	6.928E+00	1.270E+01	9.528E-01	0.374
	1509.49			9.337E-01	3.438E+00	6.069E+00	4.396E-01	0.154
	1691.02			-3.416E-01	9.289E-01	1.372E+00	9.028E-02	-0.249
SB-124	602.71			3.231E-02	2.848E-02	4.685E-02	2.506E-03	0.690
	645.85			4.962E-02	2.629E-01	4.359E-01	2.596E-02	0.114
	709.31			1.494E-01	1.521E+00	2.581E+00	1.459E-01	0.058
	713.82			6.783E-01	9.323E-01	1.700E+00	1.728E-01	0.399
	722.78			-1.216E-01	1.889E-01	2.858E-01	1.745E-02	-0.425
	968.20			-1.823E-01	1.212E+00	1.943E+00	1.560E-01	-0.094
	1045.16			7.268E-01	1.400E+00	2.489E+00	1.818E-01	0.292
	1325.50			-6.972E-01	2.140E+00	3.241E+00	2.418E-01	-0.215
	1368.21			-1.136E+00	9.976E-01	1.045E+00	1.337E-01	-1.087
	1436.60			-2.637E-01	2.025E+00	3.274E+00	2.426E-01	-0.081
	1691.02	*		-1.782E-02	4.846E-02	7.154E-02	5.024E-03	-0.249
SB-125	427.89	*		-3.788E-02	5.648E-02	8.509E-02	5.071E-03	-0.445
	463.38			9.700E-02	1.792E-01	3.105E-01	2.076E-02	0.312
	600.56			2.863E-02	1.436E-01	2.308E-01	1.460E-02	0.124
	635.90			-4.283E-02	1.738E-01	2.698E-01	1.692E-02	-0.159
TE-125M	109.28	*		1.722E+00	5.402E+00	9.028E+00	8.961E-01	0.191
I-126	388.63			-4.269E-02	9.529E-02	1.498E-01	8.568E-03	-0.285
	666.33	*		-2.289E-02	8.795E-02	1.362E-01	6.933E-03	-0.168
	753.82			1.702E-01	6.201E-01	1.075E+00	6.742E-02	0.158
SB-126	223.80			-9.479E-01	2.042E+00	3.133E+00	2.171E-01	-0.303

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	278.60			7.456E-01	1.154E+00	2.024E+00	1.397E-01	0.368
	296.50			1.069E-01	6.745E-01	1.139E+00	7.757E-02	0.094
	414.70			1.478E-02	3.485E-02	5.985E-02	3.412E-03	0.247
	415.30			1.873E+00	2.740E+00	4.840E+00	2.759E-01	0.387
	555.20			1.775E-01	1.691E+00	2.783E+00	1.539E-01	0.064
	573.80			1.536E-01	4.618E-01	7.804E-01	4.265E-02	0.197
	593.00			-2.741E-01	4.748E-01	7.115E-01	3.834E-02	-0.385
	656.30			2.897E-01	1.599E+00	2.633E+00	1.333E-01	0.110
	666.33			-9.430E-03	3.623E-02	5.612E-02	2.856E-03	-0.168
	675.00			1.711E-01	8.625E-01	1.426E+00	7.414E-02	0.120
	695.00			2.330E-02	3.438E-02	6.225E-02	3.399E-03	0.374
	697.00			-4.768E-02	1.181E-01	1.879E-01	1.031E-02	-0.254
	720.50	*		-3.779E-02	6.103E-02	9.330E-02	5.416E-03	-0.405
	856.80			-8.731E-02	2.142E-01	3.342E-01	2.623E-02	-0.261
	989.30			-1.381E-01	4.933E-01	7.678E-01	6.026E-02	-0.180
	1034.80			3.578E+00	3.875E+00	7.271E+00	5.390E-01	0.492
	1213.00			5.929E-02	1.861E+00	3.040E+00	1.866E-01	0.020
SN-126	64.28			4.240E-01	4.759E-01	7.429E-01	1.274E-01	0.571
	86.94			-2.048E-01	2.608E-01	3.282E-01	1.380E-01	-0.624
	87.57	*		1.380E-02	5.489E-02	8.104E-02	9.351E-03	0.170
SB-127	61.10	+		2.403E+01	2.075E+01	2.907E+01	3.718E+00	0.827
	252.40			-6.328E-01	9.674E-01	1.480E+00	6.116E-01	-0.428
	290.80			-1.895E+00	4.859E+00	7.865E+00	6.299E-01	-0.241
	411.60			-3.624E-01	2.587E+00	4.195E+00	5.510E-01	-0.086
	444.90			-1.481E-01	2.009E+00	3.266E+00	2.967E-01	-0.045
	473.00			6.365E-02	3.620E-01	6.039E-01	5.754E-02	0.105
	543.00			1.309E+00	3.215E+00	5.505E+00	6.301E-01	0.238
	603.60			1.365E-01	3.249E+00	4.554E+00	4.016E-01	0.030
	685.20	*		1.815E-01	2.455E-01	4.530E-01	3.228E-02	0.401
	698.50			-2.050E+00	3.056E+00	4.660E+00	6.136E-01	-0.440
	722.20			-5.783E+00	5.680E+00	8.090E+00	5.794E-01	-0.715
	783.80			3.517E-01	6.718E-01	1.201E+00	1.152E-01	0.293
XE-127	57.60			3.310E+00	6.215E+00	9.555E+00	1.217E+00	0.346
	145.22			9.388E-02	3.825E-01	6.310E-01	4.280E-02	0.149
	172.10			3.139E-02	7.095E-02	1.180E-01	7.883E-03	0.266
	202.84	*		9.819E-03	2.855E-02	4.690E-02	3.211E-03	0.209
	374.96			1.298E-01	1.217E-01	2.204E-01	1.310E-02	0.589
I-131	80.18			-3.621E+00	1.772E+00	2.416E+00	2.699E-01	-1.499
	284.30			-5.718E-01	5.832E-01	8.900E-01	6.576E-02	-0.642
	364.48	*		3.787E-02	4.425E-02	7.917E-02	5.304E-03	0.478
	636.97			1.533E-01	5.510E-01	9.236E-01	5.440E-02	0.166
	722.89			-1.458E+00	2.265E+00	3.428E+00	2.011E-01	-0.425
TE-132	49.72			-1.126E+01	8.761E+00	1.305E+01	1.829E+00	-0.863
	111.76			-5.055E+00	5.399E+00	7.686E+00	6.783E-01	-0.658
	116.30			-2.070E+00	4.551E+00	7.169E+00	6.096E-01	-0.289
	228.16	*		7.452E-02	1.237E-01	2.162E-01	2.998E-02	0.345
BA-133	53.15			-3.641E+00	5.399E+00	8.030E+00	1.101E+00	-0.453
	79.62			-1.780E+00	8.900E-01	1.172E+00	1.966E-01	-1.519
	81.00			-6.068E-02	6.047E-02	9.092E-02	1.582E-02	-0.667

---- Non-Identified Nuclides ----

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I-133	276.40			-9.155E-02	2.482E-01	4.030E-01	5.439E-02	-0.227
	302.84			-1.091E-02	9.747E-02	1.610E-01	1.959E-02	-0.068
	356.01	*		-5.655E-02	2.976E-02	3.817E-02	4.495E-03	-1.481
	383.85			-4.556E-02	1.941E-01	3.125E-01	3.398E-02	-0.146
	510.53			-3.540E-03	1.941E-01	Half-Life	too short	
	529.87	*		1.632E-05	1.941E-01	Half-Life	too short	
	706.58			-5.172E-04	1.941E-01	Half-Life	too short	
	856.28			-1.893E-03	1.941E-01	Half-Life	too short	
	875.33			-8.220E-04	1.941E-01	Half-Life	too short	
	1236.41			-8.197E-04	1.941E-01	Half-Life	too short	
CS-134	1298.22			1.314E-03	1.941E-01	Half-Life	too short	
	475.35			4.297E-01	1.367E+00	2.308E+00	1.316E-01	0.186
	563.23			-6.259E-02	2.361E-01	3.695E-01	2.081E-02	-0.169
	569.32			7.326E-02	1.322E-01	2.284E-01	1.294E-02	0.321
	604.70			6.184E-03	2.863E-02	4.121E-02	2.214E-03	0.150
	795.84	*		1.222E-02	2.438E-02	4.369E-02	3.044E-03	0.280
	801.93			1.157E-01	2.337E-01	4.162E-01	2.931E-02	0.278
	1038.57			5.471E-01	2.571E+00	4.355E+00	3.212E-01	0.126
	1167.94			7.607E-01	1.297E+00	2.345E+00	1.353E-01	0.324
	1365.15			3.851E-01	6.229E-01	1.171E+00	9.326E-02	0.329
CS-135 I-135	268.24	*		6.275E-02	1.004E-01	1.762E-01	1.507E-02	0.356
	288.45			9.311E+02	1.004E-01	Half-Life	too short	
	417.63			-2.051E+03	1.004E-01	Half-Life	too short	
	546.56			7.153E+02	1.004E-01	Half-Life	too short	
	836.80			6.308E+01	1.004E-01	Half-Life	too short	
	1038.76			3.195E+02	1.004E-01	Half-Life	too short	
	1124.00			-9.160E+02	1.004E-01	Half-Life	too short	
	1131.51			4.241E+01	1.004E-01	Half-Life	too short	
	1260.41	*		-2.468E+02	1.004E-01	Half-Life	too short	
	1457.56			-5.218E+01	1.004E-01	Half-Life	too short	
CS-136	1678.03			-1.421E+03	1.004E-01	Half-Life	too short	
	1706.46			-3.630E+02	1.004E-01	Half-Life	too short	
	1791.20			-1.041E+03	1.004E-01	Half-Life	too short	
	66.91			-1.655E-01	5.169E-01	7.298E-01	1.255E-01	-0.227
	86.29			-2.155E-01	5.109E-01	7.500E-01	1.117E-01	-0.287
	153.22			-7.018E-02	2.936E-01	4.661E-01	3.717E-02	-0.151
	163.89			3.643E-01	4.919E-01	8.364E-01	6.649E-02	0.435
	176.55			2.596E-02	1.785E-01	2.904E-01	2.128E-02	0.089
	273.65			-2.547E-02	2.077E-01	3.443E-01	2.620E-02	-0.074
	340.57			-3.977E-02	5.777E-02	8.963E-02	6.039E-03	-0.444
BA-137M CS-137 CE-139 BA-140	818.51			1.320E-02	3.337E-02	5.859E-02	4.243E-03	0.225
	1048.07	*		-2.445E-02	4.593E-02	6.775E-02	5.216E-03	-0.361
	1235.34			-1.288E-01	1.921E-01	2.639E-01	2.729E-02	-0.488
	661.65	*		-1.052E-02	2.371E-02	3.569E-02	1.796E-03	-0.295
	661.65	*		-1.112E-02	2.506E-02	3.773E-02	1.909E-03	-0.295
	165.85	*		2.338E-03	1.870E-02	3.045E-02	2.025E-03	0.077
	162.64			-2.730E-01	3.866E-01	5.598E-01	4.088E-02	-0.488
	304.84			-1.586E-01	6.383E-01	1.040E+00	2.861E-01	-0.153
	423.70			4.763E-02	8.618E-01	1.425E+00	4.527E-01	0.033

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LA-140	537.32	*		1.594E-02	1.142E-01	1.888E-01	6.133E-02	0.084
	328.77			5.780E-02	1.499E-01	2.568E-01	1.840E-02	0.225
	432.53			5.715E-01	9.031E-01	1.590E+00	1.006E-01	0.359
	487.03			-2.265E-02	6.994E-02	1.060E-01	6.851E-03	-0.214
	751.79			-3.793E-01	7.384E-01	1.141E+00	8.518E-02	-0.332
	815.85			2.195E-01	1.344E-01	2.728E-01	2.281E-02	0.805
	867.82			5.288E-01	7.662E-01	1.247E+00	1.062E-01	0.424
	919.63			1.563E-01	1.206E+00	2.033E+00	2.128E-01	0.077
	925.24			-2.716E-02	4.639E-01	7.583E-01	6.760E-02	-0.036
	1596.49	*		7.166E-03	4.614E-02	7.891E-02	5.501E-03	0.091
CE-141	145.44	*		-6.551E-04	3.503E-02	5.670E-02	3.957E-03	-0.012
CE-143	57.37			3.584E+01	5.313E+01	8.261E+01	1.148E+01	0.434
	231.56			3.407E+01	7.753E+01	1.267E+02	3.962E+01	0.269
CE-144	293.26	*		5.673E-02	3.976E+00	6.365E+00	1.334E+00	0.009
	350.59			-2.893E+00	5.681E+01	9.179E+01	2.805E+01	-0.032
	490.36			-3.093E+01	8.460E+01	1.312E+02	4.069E+01	-0.236
	664.57			-2.115E+01	3.794E+01	5.524E+01	1.749E+01	-0.383
	721.93			-4.572E+01	3.822E+01	4.923E+01	1.407E+01	-0.929
	80.11			-2.818E+00	1.379E+00	1.879E+00	2.097E-01	-1.499
	133.54	*		-1.396E-02	1.242E-01	2.001E-01	2.941E-02	-0.070
	476.78			2.611E-02	4.814E-02	8.308E-02	5.696E-03	0.314
	618.01			-4.939E-05	1.654E-02	2.666E-02	1.507E-03	-0.002
	696.49	*		-7.258E-03	2.076E-02	3.324E-02	1.823E-03	-0.218
PR-144	778.57			-4.916E-01	1.378E+00	2.178E+00	1.444E-01	-0.226
	696.49	*		-4.902E-01	1.402E+00	2.245E+00	1.231E-01	-0.218
PM-144	1489.15			-2.262E+00	6.547E+00	9.835E+00	7.175E-01	-0.230
	453.90	*		1.104E-02	2.655E-02	4.563E-02	3.908E-03	0.242
PM-146	633.02			-6.994E-01	9.304E-01	1.270E+00	4.665E-01	-0.551
	735.90			2.660E-03	8.209E-02	1.380E-01	3.853E-02	0.019
ND-147	747.13			1.202E-02	5.691E-02	9.774E-02	1.240E-02	0.123
	91.11	+		2.069E-02	1.677E-01	2.325E-01	2.644E-02	0.089
	319.41			5.279E-01	1.580E+00	2.702E+00	1.792E-01	0.195
	439.89			1.570E+00	2.218E+00	3.958E+00	2.262E-01	0.397
PM-149	531.02	*		-1.466E-01	2.480E-01	3.702E-01	4.974E-02	-0.396
	285.90	*		-3.820E+00	8.505E+00	1.364E+01	1.995E+00	-0.280
EU-152	121.78			-8.990E-03	4.893E-02	7.869E-02	6.863E-03	-0.114
	244.69			-1.127E-01	2.116E-01	3.308E-01	2.303E-02	-0.341
GD-153	344.27	*		3.334E-02	6.647E-02	1.151E-01	8.112E-03	0.290
	443.98			-3.819E-01	6.164E-01	9.352E-01	5.345E-02	-0.408
	778.89			-8.505E-02	1.665E-01	2.574E-01	1.708E-02	-0.330
	867.32			7.057E-01	6.459E-01	1.102E+00	8.837E-02	0.640
	964.01			8.091E-02	1.586E-01	2.817E-01	2.272E-02	0.287
	1085.78			-4.867E-02	2.369E-01	3.730E-01	2.555E-02	-0.130
	1112.02			1.486E-01	1.751E-01	3.278E-01	2.140E-02	0.453
	1407.95			4.216E-02	1.170E-01	2.093E-01	1.562E-02	0.201
	69.67			-5.223E-01	1.226E+00	1.969E+00	2.222E-01	-0.265
	83.37			-1.078E+00	9.510E+00	1.481E+01	1.671E+00	-0.073
GD-153	97.43	*		2.550E-02	5.273E-02	7.952E-02	7.631E-03	0.321
	103.18			5.126E-02	6.254E-02	1.083E-01	9.528E-03	0.473

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EU-154	123.07			1.000E-02	3.462E-02	5.750E-02	5.919E-03	0.174
	247.94			1.736E-01	2.287E-01	4.058E-01	4.176E-02	0.428
	591.81			-5.068E-01	4.479E-01	6.121E-01	5.839E-02	-0.828
	723.30			-5.553E-03	9.485E-02	1.574E-01	1.120E-02	-0.035
	756.87			-2.660E-02	4.421E-01	7.317E-01	7.639E-02	-0.036
	873.19			-1.406E-01	1.828E-01	2.625E-01	3.122E-02	-0.536
	996.32			-2.038E-01	2.623E-01	3.765E-01	6.542E-02	-0.541
	1004.76			-2.247E-01	1.562E-01	1.951E-01	2.143E-02	-1.152
	1274.45	*		-3.246E-02	6.284E-02	8.875E-02	8.900E-03	-0.366
	48.70			-5.255E+00	4.356E+00	6.559E+00	8.440E-01	-0.801
EU-155	60.01			-2.653E+00	5.224E+00	7.208E+00	8.811E-01	-0.368
	86.54			-6.595E-02	7.171E-02	9.412E-02	1.085E-02	-0.701
	105.31	*		-5.452E-02	6.943E-02	1.069E-01	9.258E-03	-0.510
TB-160	86.79			-1.557E-01	1.805E-01	2.385E-01	2.739E-02	-0.653
	197.04			-1.849E-02	3.590E-01	5.732E-01	3.908E-02	-0.032
	215.65			-3.267E-01	4.908E-01	7.405E-01	5.110E-02	-0.441
	298.57			2.211E-02	7.364E-02	1.257E-01	8.540E-03	0.176
	879.36	*		4.147E-02	7.277E-02	1.318E-01	1.083E-02	0.315
	962.29			6.823E-02	2.779E-01	4.754E-01	3.840E-02	0.144
	966.15			2.296E-02	9.507E-02	1.630E-01	1.312E-02	0.141
	1177.93			9.851E-02	1.615E-01	2.955E-01	1.698E-02	0.333
	1271.85			-2.062E-01	3.395E-01	4.649E-01	3.170E-02	-0.443
	80.57			-2.792E-01	1.712E-01	2.440E-01	2.725E-02	-1.144
HO-166M	184.41			-4.761E-03	2.743E-02	4.584E-02	3.093E-03	-0.104
	280.46			2.820E-02	5.608E-02	9.752E-02	6.722E-03	0.289
	410.95			7.878E-02	1.559E-01	2.700E-01	1.538E-02	0.292
	711.68	*		4.597E-03	3.889E-02	6.610E-02	3.757E-03	0.070
	752.31			-8.857E-02	1.653E-01	2.546E-01	1.591E-02	-0.348
	810.29			-2.014E-02	3.403E-02	5.108E-02	3.632E-03	-0.394
	51.35			4.095E+00	4.813E+01	7.565E+01	1.045E+01	0.054
TM-171	52.39			3.404E+00	2.403E+01	3.803E+01	5.246E+00	0.090
	59.40			-1.974E+01	2.823E+01	3.797E+01	4.673E+00	-0.520
	66.72	*		-1.012E+01	2.596E+01	3.643E+01	4.189E+00	-0.278
LU-176	88.36			2.311E-02	1.279E-01	1.877E-01	2.153E-02	0.123
	201.83			2.714E-04	1.939E-02	3.109E-02	2.127E-03	0.009
	306.84	*		8.173E-03	1.680E-02	2.913E-02	1.963E-03	0.281
LU-177	401.10			4.178E+00	3.951E+00	7.251E+00	4.122E-01	0.576
	112.95			-3.397E-01	5.767E-01	8.448E-01	6.613E-02	-0.402
	208.36	*		-1.408E-01	3.870E-01	6.015E-01	4.133E-02	-0.234
LU-177M	52.97			-9.822E-01	2.390E+00	3.636E+00	4.994E-01	-0.270
	54.07			-4.491E-02	1.064E+00	1.766E+00	2.394E-01	-0.025
	61.30	+		1.878E+00	1.620E+00	2.305E+00	2.783E-01	0.815
	121.62			-4.758E-02	2.443E-01	3.926E-01	2.829E-02	-0.121
	147.16			7.587E-02	3.958E-01	6.502E-01	4.399E-02	0.117
	171.86			1.814E-01	3.096E-01	5.204E-01	3.475E-02	0.349
	218.09			-6.508E-02	5.644E-01	8.927E-01	6.169E-02	-0.073
	268.79			1.020E-01	4.865E-01	8.289E-01	5.747E-02	0.123
	319.02			8.432E-02	1.763E-01	3.050E-01	2.023E-02	0.276
	367.43			-2.768E-01	5.724E-01	8.985E-01	5.442E-02	-0.308

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181	413.65	*		6.449E-03	1.110E-01	1.838E-01	1.047E-02	0.035
	56.28			-5.744E-01	1.072E+00	1.571E+00	2.052E-01	-0.366
	57.53			2.989E-01	5.345E-01	8.235E-01	1.050E-01	0.363
	65.20			-2.733E-01	8.170E-01	1.154E+00	1.343E-01	-0.237
	133.02			-1.308E-02	3.553E-02	5.607E-02	3.888E-03	-0.233
W-181	136.25			-1.265E-01	2.591E-01	4.050E-01	2.788E-02	-0.312
	345.85			-1.027E-02	1.249E-01	2.057E-01	1.306E-02	-0.050
	482.03	*		-2.843E-02	2.731E-02	3.908E-02	2.225E-03	-0.728
	56.28			-2.407E-01	4.482E-01	6.569E-01	8.579E-02	-0.366
	57.53			1.253E-01	2.238E-01	3.448E-01	4.398E-02	0.363
TA-182	65.20	*		-1.135E-01	3.393E-01	4.791E-01	5.577E-02	-0.237
	67.75			3.438E-02	8.611E-02	1.364E-01	1.558E-02	0.252
	100.10			-3.553E-02	1.070E-01	1.710E-01	1.572E-02	-0.208
	152.43			-9.449E-02	1.990E-01	3.099E-01	2.084E-02	-0.305
	222.10			7.518E-02	2.311E-01	3.785E-01	2.620E-02	0.199
RE-183	1001.68			1.498E+00	1.444E+00	2.627E+00	2.032E-01	0.570
	1121.28			1.953E-02	6.006E-02	1.048E-01	6.718E-03	0.186
	1189.05			1.083E-01	1.380E-01	2.602E-01	1.527E-02	0.416
	1221.42	*		-1.524E-02	1.095E-01	1.734E-01	1.081E-02	-0.088
	1230.97			6.695E-03	2.274E-01	3.711E-01	2.354E-02	0.018
RE-184	57.98			1.517E-01	2.013E-01	3.163E-01	4.000E-02	0.479
	59.32			-7.288E-02	1.104E-01	1.493E-01	1.840E-02	-0.488
	67.20			7.050E-02	1.597E-01	2.419E-01	2.772E-02	0.291
	162.32	*		-5.310E-02	7.416E-02	1.072E-01	7.147E-03	-0.495
	208.81			-2.042E-01	6.196E-01	9.654E-01	6.636E-02	-0.212
OS-185	291.72			-3.485E-01	6.059E-01	9.645E-01	6.594E-02	-0.361
	57.98			5.796E-01	7.691E-01	1.209E+00	1.528E-01	0.479
	59.32			-2.783E-01	4.215E-01	5.699E-01	7.024E-02	-0.488
	67.20			2.693E-01	6.099E-01	9.241E-01	1.059E-01	0.291
	161.27			-1.828E-01	2.463E-01	3.546E-01	2.366E-02	-0.516
RE-188	216.55			-1.513E-01	1.791E-01	2.655E-01	1.833E-02	-0.570
	252.85	*		-7.067E-02	1.479E-01	2.387E-01	1.662E-02	-0.296
	318.01			1.505E-01	3.089E-01	5.348E-01	3.553E-02	0.282
	792.07			2.435E-01	5.068E-01	9.062E-01	6.192E-02	0.269
	903.28			-1.765E-01	5.747E-01	9.018E-01	7.669E-02	-0.196
W-188	920.93			7.823E-04	2.625E-01	4.338E-01	3.638E-02	0.002
	59.72			-2.596E-01	3.051E-01	4.033E-01	4.943E-02	-0.644
	61.14	+		2.015E-01	1.738E-01	2.445E-01	2.956E-02	0.824
	69.30			-1.070E-01	2.163E-01	3.457E-01	3.910E-02	-0.310
	592.07			-1.793E+00	1.761E+00	2.470E+00	1.332E-01	-0.726
RE-188	646.12	*		2.020E-04	2.352E-02	3.789E-02	1.941E-03	0.005
	717.42			-1.709E-01	5.320E-01	8.527E-01	4.913E-02	-0.200
	874.81			-5.076E-01	4.389E-01	4.725E-01	3.848E-02	-1.074
	880.27			7.394E-02	4.321E-01	7.354E-01	6.057E-02	0.101
	155.03	*		-7.676E-03	1.021E-01	1.642E-01	1.102E-02	-0.047
W-188	477.96			1.092E+00	2.065E+00	3.561E+00	2.029E-01	0.307
	633.10			-1.331E+00	1.703E+00	2.417E+00	1.256E-01	-0.551
	63.58	+		6.823E+01	5.885E+01	7.531E+01	8.893E+00	0.906
	227.08			-2.494E+00	7.994E+00	1.318E+01	9.145E-01	-0.189

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IR-192	290.67	*		-4.815E-01	4.746E+00	7.864E+00	5.381E-01	-0.061
	295.96			-3.274E-02	6.961E-02	1.120E-01	7.713E-03	-0.292
	308.46			2.349E-02	5.826E-02	1.006E-01	6.820E-03	0.234
	316.51	*		6.555E-03	2.237E-02	3.817E-02	2.551E-03	0.172
	468.07			-2.362E-02	3.890E-02	5.870E-02	3.877E-03	-0.402
AU-195	604.41			5.466E-02	3.650E-01	5.202E-01	5.786E-02	0.105
	612.46			3.627E-01	4.258E-01	6.914E-01	4.976E-02	0.525
	65.12			-4.203E-02	1.601E-01	2.277E-01	2.652E-02	-0.185
	66.83			-2.944E-02	8.429E-02	1.188E-01	1.364E-02	-0.248
	75.70			1.161E-01	1.323E-01	2.228E-01	2.474E-02	0.521
TL-200	98.88	*		8.401E-03	1.371E-01	2.259E-01	2.117E-02	0.037
	129.76			4.625E-01	1.658E+00	2.753E+00	1.925E-01	0.168
	367.94	*		-2.736E-06	1.658E+00	Half-Life	too short	
	579.30			-5.077E-05	1.658E+00	Half-Life	too short	
	828.27			4.420E-06	1.658E+00	Half-Life	too short	
TL-201	1205.75			-4.936E-06	1.658E+00	Half-Life	too short	
	68.90			-2.080E-01	8.669E-01	1.411E+00	1.599E-01	-0.147
	70.82			-8.871E-02	4.753E-01	7.763E-01	8.717E-02	-0.114
	80.30			-1.627E+00	7.960E-01	1.085E+00	1.211E-01	-1.499
	135.34			-1.276E+00	3.756E+00	5.941E+00	4.099E-01	-0.215
TL-202	167.43	*		-1.097E-01	1.080E+00	1.728E+00	1.150E-01	-0.064
	68.90			-5.452E-02	2.272E-01	3.698E-01	4.192E-02	-0.147
	70.82			-2.319E-02	1.242E-01	2.029E-01	2.278E-02	-0.114
	80.30			-4.252E-01	2.081E-01	2.836E-01	3.166E-02	-1.499
	439.56	*		1.168E-02	2.736E-02	4.732E-02	2.704E-03	0.247
HG-203	70.83			-1.300E-01	6.992E-01	1.142E+00	1.757E-01	-0.114
	72.87			-5.615E-01	4.559E-01	6.611E-01	9.902E-02	-0.849
	82.60			4.870E-01	6.559E-01	1.074E+00	1.668E-01	0.453
	279.20	*		1.779E-02	2.489E-02	4.388E-02	3.160E-03	0.406
	72.80			-1.851E-01	1.457E-01	2.124E-01	2.368E-02	-0.872
BI-207	74.97			6.091E-02	7.763E-02	1.293E-01	1.437E-02	0.471
	84.90			3.613E-02	1.225E-01	1.963E-01	2.231E-02	0.184
	569.67			9.169E-03	2.046E-02	3.494E-02	1.915E-03	0.262
	1063.62	*		2.296E-02	3.215E-02	5.867E-02	4.169E-03	0.391
	1770.23			-1.306E-01	3.883E-01	5.881E-01	3.642E-02	-0.222
TL-207	81.07			-6.811E-02	1.279E-01	2.022E-01	2.262E-02	-0.337
	83.78			7.750E-03	8.160E-02	1.289E-01	1.457E-02	0.060
	94.90			-5.386E-02	1.585E-01	2.202E-01	2.208E-02	-0.245
	122.32			3.865E-01	1.145E+00	1.910E+00	1.512E-01	0.202
	144.24			-5.874E-01	4.872E-01	6.872E-01	5.532E-02	-0.855
TL-208	154.21			-7.092E-02	2.441E-01	3.858E-01	3.004E-02	-0.184
	269.46			1.101E-02	1.192E-01	2.013E-01	1.440E-02	0.055
	323.87	*		-2.174E-01	4.691E-01	7.471E-01	1.256E-01	-0.291
	338.28			1.613E-01	6.308E-01	1.071E+00	1.167E-01	0.151
	445.03			-1.723E-01	1.435E+00	2.320E+00	2.371E-01	-0.074
TL-208	277.35			2.630E-02	2.430E-01	4.102E-01	4.596E-02	0.064
	510.84			-2.100E-01	1.784E-01	3.126E-01	3.147E-02	-0.672
	583.14	*		-1.068E-02	3.037E-02	4.763E-02	3.032E-03	-0.224
	860.37			-1.048E-01	1.767E-01	2.660E-01	2.286E-02	-0.394

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PO-209	260.50			1.656E+00	6.195E+00	1.061E+01	7.378E-01	0.156
	262.80			5.682E+00	1.800E+01	3.092E+01	2.148E+00	0.184
	896.60	*		1.851E+00	4.415E+00	7.782E+00	6.625E-01	0.238
BI-210	46.50	*		2.330E+00	7.760E+00	1.250E+01	1.299E+00	0.186
PB-210	46.50	*		2.330E+00	7.760E+00	1.250E+01	1.299E+00	0.186
PO-210	46.50	*		2.330E+00	7.759E+00	1.250E+01	1.201E+00	0.186
BI-211	72.87			-3.098E+00	2.497E+00	3.648E+00	4.068E-01	-0.849
	351.07	*		-2.859E-02	1.663E-01	2.659E-01	1.827E-02	-0.108
PB-211	404.84	*		-8.090E-01	7.767E-01	8.175E-01	5.095E-01	-0.990
	427.08			-8.908E-01	1.421E+00	1.979E+00	1.223E+00	-0.450
	831.96			-2.297E-01	7.287E-01	1.128E+00	7.053E-01	-0.204
BI-212	727.18	*		-6.785E-02	1.901E-01	3.013E-01	2.346E-02	-0.225
	785.46			5.114E-01	9.851E-01	1.764E+00	1.188E-01	0.290
	1620.62			3.250E-02	9.307E-01	1.554E+00	1.069E-01	0.021
PB-212	74.81			2.415E-01	2.661E-01	4.443E-01	6.450E-02	0.544
	77.11			-9.125E-02	1.457E-01	2.244E-01	2.491E-02	-0.407
	87.30			-1.269E-01	2.698E-01	3.716E-01	5.669E-02	-0.342
+	238.63	*		4.744E-04	5.542E-02	8.336E-02	6.900E-03	0.006
	300.09			1.171E-01	5.392E-01	9.144E-01	8.201E-02	0.128
PO-212	74.81			2.415E-01	2.661E-01	4.443E-01	6.450E-02	0.544
	77.11			-9.125E-02	1.457E-01	2.244E-01	2.491E-02	-0.407
	87.30			-1.269E-01	2.698E-01	3.716E-01	5.669E-02	-0.342
	115.19			-6.451E-01	2.163E+00	3.450E+00	2.640E-01	-0.187
+	238.63	*		4.744E-04	5.542E-02	8.336E-02	6.900E-03	0.006
	300.09			1.171E-01	5.392E-01	9.144E-01	8.201E-02	0.128
BI-214	609.31	*		5.537E-02	8.073E-02	1.005E-01	7.461E-03	0.551
	1120.29			2.516E-02	1.343E-01	2.279E-01	2.102E-02	0.110
	1764.49			-1.786E-02	1.815E-01	3.082E-01	1.918E-02	-0.058
PB-214	74.81			4.161E-01	4.579E-01	7.655E-01	1.022E-01	0.544
	77.11			-1.564E-01	2.500E-01	3.846E-01	5.180E-02	-0.407
	87.30			-2.174E-01	4.619E-01	6.366E-01	8.824E-02	-0.342
	241.98			-1.007E-01	2.331E-01	3.244E-01	2.899E-02	-0.310
	295.21			-4.763E-02	1.016E-01	1.567E-01	1.449E-02	-0.304
	351.92	*		-5.200E-03	5.663E-02	9.104E-02	7.848E-03	-0.057
PO-214	74.81			4.161E-01	4.579E-01	7.655E-01	1.022E-01	0.544
	77.11			-1.564E-01	2.500E-01	3.846E-01	5.180E-02	-0.407
	87.30			-2.174E-01	4.619E-01	6.366E-01	8.824E-02	-0.342
	241.98			-1.007E-01	2.331E-01	3.244E-01	2.899E-02	-0.310
	295.21			-4.763E-02	1.016E-01	1.567E-01	1.449E-02	-0.304
	351.92	*		-5.200E-03	5.663E-02	9.104E-02	7.848E-03	-0.057
PO-215	81.07			-6.811E-02	1.279E-01	2.022E-01	2.262E-02	-0.337
	83.78			7.750E-03	8.160E-02	1.289E-01	1.457E-02	0.060
	94.90			-5.386E-02	1.585E-01	2.202E-01	2.208E-02	-0.245
	122.32			3.865E-01	1.145E+00	1.910E+00	1.512E-01	0.202
	144.24			-5.874E-01	4.872E-01	6.872E-01	5.532E-02	-0.855
	154.21			-7.092E-02	2.441E-01	3.858E-01	3.004E-02	-0.184
	269.46			1.101E-02	1.192E-01	2.013E-01	1.440E-02	0.055
	323.87	*		-2.174E-01	4.691E-01	7.471E-01	1.256E-01	-0.291
	338.28			1.613E-01	6.308E-01	1.071E+00	1.167E-01	0.151

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PO-216	445.03			-1.723E-01	1.435E+00	2.320E+00	2.371E-01	-0.074
	74.81			2.415E-01	2.661E-01	4.443E-01	6.450E-02	0.544
	77.11			-9.125E-02	1.457E-01	2.244E-01	2.491E-02	-0.407
	87.30			-1.269E-01	2.698E-01	3.716E-01	5.669E-02	-0.342
+ PO-218	238.63	*		4.744E-04	5.542E-02	8.336E-02	6.900E-03	0.006
	300.09			1.171E-01	5.392E-01	9.144E-01	8.201E-02	0.128
	74.81			4.161E-01	4.579E-01	7.655E-01	1.022E-01	0.544
	77.11			-1.564E-01	2.500E-01	3.846E-01	5.180E-02	-0.407
RN-219	87.30			-2.174E-01	4.619E-01	6.366E-01	8.824E-02	-0.342
	241.98			-1.007E-01	2.331E-01	3.244E-01	2.899E-02	-0.310
	295.21			-4.763E-02	1.016E-01	1.567E-01	1.449E-02	-0.304
	351.92	*		-5.200E-03	5.663E-02	9.104E-02	7.848E-03	-0.057
RN-220	271.23			1.060E-02	1.535E-01	2.586E-01	2.313E-02	0.041
	401.81	*		2.404E-01	2.497E-01	4.506E-01	6.109E-02	0.534
RA-223	549.76	*		1.601E+00	1.682E+01	2.763E+01	1.533E+00	0.058
	81.07			-6.811E-02	1.279E-01	2.022E-01	2.262E-02	-0.337
	83.78			7.750E-03	8.160E-02	1.289E-01	1.457E-02	0.060
	94.90			-5.386E-02	1.585E-01	2.202E-01	2.208E-02	-0.245
	122.32			3.865E-01	1.145E+00	1.910E+00	1.512E-01	0.202
	144.24			-5.874E-01	4.872E-01	6.872E-01	5.532E-02	-0.855
	154.21			-7.092E-02	2.441E-01	3.858E-01	3.004E-02	-0.184
	269.46			1.101E-02	1.192E-01	2.013E-01	1.440E-02	0.055
	323.87	*		-2.174E-01	4.691E-01	7.471E-01	1.256E-01	-0.291
	338.28			1.613E-01	6.308E-01	1.071E+00	1.167E-01	0.151
	445.03			-1.723E-01	1.435E+00	2.320E+00	2.371E-01	-0.074
	240.98	*		3.812E-01	4.326E-01	6.939E-01	4.829E-02	0.549
RA-224 +	609.31	*		5.537E-02	8.073E-02	1.005E-01	7.461E-03	0.551
	1120.29			2.516E-02	1.343E-01	2.279E-01	2.102E-02	0.110
	1764.49			-1.786E-02	1.815E-01	3.082E-01	1.918E-02	-0.058
	79.80			-2.255E+00	1.178E+00	1.484E+00	3.360E-01	-1.519
AC-227	236.00			2.386E-01	1.795E-01	2.915E-01	3.245E-02	0.819
	256.20	*		1.183E-01	2.460E-01	4.276E-01	6.191E-02	0.277
	286.10			-1.880E-01	9.894E-01	1.626E+00	1.973E-01	-0.116
	299.80			-1.229E-01	1.013E+00	1.675E+00	2.791E-01	-0.073
	304.40			-4.887E-01	1.332E+00	2.151E+00	3.795E-01	-0.227
	334.20			-7.736E-01	1.613E+00	2.558E+00	4.748E-01	-0.302
TH-227	79.80			-2.255E+00	1.181E+00	1.484E+00	3.399E-01	-1.519
	94.00			1.772E+00	1.419E+00	2.183E+00	4.900E-01	0.812
	236.00			2.386E-01	1.791E-01	2.915E-01	2.867E-02	0.819
	256.20	*		1.183E-01	2.463E-01	4.276E-01	7.410E-02	0.277
	286.10			-1.880E-01	1.007E+00	1.626E+00	1.630E+00	-0.116
	299.80			-1.229E-01	1.013E+00	1.675E+00	2.791E-01	-0.073
	304.40			-4.887E-01	1.332E+00	2.151E+00	3.795E-01	-0.227
	334.20			-7.736E-01	1.613E+00	2.558E+00	4.748E-01	-0.302
AC-228	338.32			3.462E-02	1.513E-01	2.553E-01	1.043E-01	0.136
	911.07	*		-2.635E-02	8.153E-02	1.357E-01	1.509E-02	-0.194
	969.11			4.701E-02	1.190E-01	2.092E-01	4.836E-02	0.225
	338.32			3.462E-02	1.513E-01	2.553E-01	1.043E-01	0.136
RA-228	911.07	*		-2.635E-02	8.153E-02	1.357E-01	1.509E-02	-0.194

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228		969.11		4.701E-02	1.190E-01	2.092E-01	4.836E-02	0.225
		74.81		2.436E-01	2.675E-01	4.482E-01	5.005E-02	0.544
		77.11		-9.206E-02	1.470E-01	2.263E-01	2.513E-02	-0.407
		87.30		-1.281E-01	2.718E-01	3.749E-01	4.319E-02	-0.342
+ TH-229		238.63	*	4.786E-04	5.591E-02	8.410E-02	6.961E-03	0.006
		300.09		1.181E-01	5.484E-01	9.225E-01	5.447E-01	0.128
		85.43		7.225E-02	1.110E-01	1.902E-01	2.167E-02	0.380
		88.47		1.280E-02	7.348E-02	1.077E-01	1.233E-02	0.119
TH-230		100.00		-4.210E-02	1.151E-01	1.835E-01	1.690E-02	-0.229
		193.63	*	2.369E-02	3.344E-01	5.395E-01	3.668E-02	0.044
		210.97		4.572E-02	5.088E-01	8.194E-01	5.639E-02	0.056
		609.31	*	5.537E-02	8.073E-02	1.005E-01	7.460E-03	0.551
PA-231		1120.29		2.516E-02	1.343E-01	2.279E-01	2.102E-02	0.110
		1764.49		-1.786E-02	1.815E-01	3.081E-01	1.918E-02	-0.058
		283.67	*	-1.064E+00	1.032E+00	1.553E+00	2.215E-01	-0.685
		301.29		1.530E-01	3.919E-01	6.730E-01	7.420E-02	0.227
TH-231		81.07		-6.811E-02	1.279E-01	2.022E-01	2.262E-02	-0.337
		83.78		7.750E-03	8.160E-02	1.289E-01	1.457E-02	0.060
		94.90		-5.386E-02	1.585E-01	2.202E-01	2.208E-02	-0.245
		122.32		3.865E-01	1.145E+00	1.910E+00	1.512E-01	0.202
U-231		144.24		-5.874E-01	4.872E-01	6.872E-01	5.532E-02	-0.855
		154.21		-7.092E-02	2.441E-01	3.858E-01	3.004E-02	-0.184
		269.46		1.101E-02	1.192E-01	2.013E-01	1.440E-02	0.055
		323.87	*	-2.174E-01	4.691E-01	7.471E-01	1.256E-01	-0.291
+ TH-232		338.28		1.613E-01	6.308E-01	1.071E+00	1.167E-01	0.151
		445.03		-1.723E-01	1.435E+00	2.320E+00	2.371E-01	-0.074
		84.21		3.505E-01	1.251E+00	2.002E+00	2.267E-01	0.175
		92.29		8.300E-02	6.727E-01	9.064E-01	9.552E-02	0.092
PA-233		95.87	*	1.539E-01	2.489E-01	3.805E-01	3.750E-02	0.404
		108.00		4.231E-03	4.575E-01	7.487E-01	6.194E-02	0.006
		338.32		3.462E-02	1.507E-01	2.553E-01	1.643E-02	0.136
		911.07	*	-2.635E-02	8.153E-02	1.357E-01	1.509E-02	-0.194
+ PA-234		969.11		4.701E-02	1.190E-01	2.092E-01	4.836E-02	0.225
		75.28		2.467E+00	2.245E+00	3.782E+00	6.381E-01	0.652
		86.59		-1.061E+00	1.199E+00	1.535E+00	4.278E-01	-0.691
		300.12		6.253E-02	2.789E-01	4.730E-01	6.571E-02	0.132
TH-232		311.98	*	-2.737E-02	4.200E-02	6.564E-02	4.601E-03	-0.417
		340.50		-2.312E-01	3.897E-01	6.048E-01	1.399E-01	-0.382
		398.62		-7.983E-01	1.365E+00	2.081E+00	5.374E-01	-0.384
		415.76		-1.299E-01	1.065E+00	1.728E+00	3.553E-01	-0.075
+ PA-234		63.00		2.106E+00	1.837E+00	2.337E+00	4.095E-01	0.901
		94.67		-6.896E-03	1.152E-01	1.648E-01	2.217E-02	-0.042
		98.44		1.253E-03	5.961E-02	9.458E-02	5.289E-02	0.013
		99.86		-1.051E-01	2.901E-01	4.626E-01	4.270E-02	-0.227
TH-232		111.00		-3.031E-02	1.259E-01	1.900E-01	2.213E-02	-0.160
		131.20		5.022E-02	6.442E-02	1.105E-01	7.701E-03	0.454
		152.70		-4.097E-02	1.983E-01	3.155E-01	5.102E-02	-0.130
		186.00		-6.054E-01	9.869E-01	1.581E+00	4.862E-01	-0.383
PA-234		226.40		-1.168E-01	2.746E-01	4.490E-01	5.465E-02	-0.260

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	227.20			-9.229E-02	2.873E-01	4.734E-01	3.284E-02	-0.195
	248.90			3.726E-01	5.307E-01	9.295E-01	2.029E-01	0.401
	293.70			1.020E-01	4.772E-01	7.764E-01	1.280E-01	0.131
	369.80			-6.034E-01	5.846E-01	8.392E-01	1.753E-01	-0.719
	568.70			3.283E-01	6.583E-01	1.132E+00	6.206E-02	0.290
	569.50			1.038E-01	1.815E-01	3.143E-01	1.723E-02	0.330
	574.00			2.621E-01	9.342E-01	1.569E+00	8.574E-02	0.167
	699.00			-2.407E-01	4.379E-01	6.781E-01	1.213E-01	-0.355
	706.10			-1.672E-01	6.230E-01	9.993E-01	4.408E-01	-0.167
	733.00			6.032E-02	2.217E-01	3.840E-01	8.182E-02	0.157
	742.81			-1.499E-01	8.545E-01	1.384E+00	9.267E-01	-0.108
	796.30			6.479E-02	4.847E-01	8.233E-01	2.186E-01	0.079
	805.60			7.449E-01	6.414E-01	1.167E+00	3.530E-01	0.638
	819.60			-3.832E-01	7.293E-01	1.083E+00	4.088E-01	-0.354
	826.30			7.694E-02	4.449E-01	7.585E-01	3.376E-01	0.101
	831.60			-1.043E-01	3.733E-01	5.917E-01	1.747E-01	-0.176
	876.40			-4.906E-01	7.882E-01	6.730E-01	6.916E-01	-0.729
	880.51			4.109E-03	1.641E-01	2.728E-01	2.248E-02	0.015
	883.24			6.568E-02	1.702E-01	2.900E-01	1.948E-01	0.227
	899.00			-1.225E-01	5.220E-01	8.267E-01	3.613E-01	-0.148
	925.00			1.741E-02	6.865E-01	1.138E+00	9.516E-02	0.015
	926.50			-4.463E-02	1.064E-01	1.622E-01	4.084E-02	-0.275
	946.00	*		-1.230E-01	1.810E-01	2.600E-01	4.831E-02	-0.473
	949.00			1.319E-02	2.530E-01	4.210E-01	3.445E-02	0.031
	980.50			2.238E-01	4.110E-01	7.399E-01	5.864E-02	0.302
	1394.10			1.329E-01	6.744E-01	1.170E+00	7.596E-01	0.114
PA-234M	766.42			8.873E+00	8.715E+00	1.330E+01	6.706E+00	0.667
	1001.03	*		3.168E+00	3.417E+00	6.136E+00	5.655E-01	0.516
U-234	609.31	*		5.537E-02	8.073E-02	1.005E-01	7.460E-03	0.551
	1120.29			2.516E-02	1.343E-01	2.279E-01	2.102E-02	0.110
	1764.49			-1.786E-02	1.815E-01	3.081E-01	1.918E-02	-0.058
U-235	89.95			4.893E-01	8.113E-01	1.207E+00	3.819E-01	0.405
	93.35	+		7.339E-02	5.952E-01	7.699E-01	2.202E-01	0.095
	105.00			-5.271E-01	6.935E-01	1.043E+00	3.111E-01	-0.506
	143.76	*		-1.428E-01	1.500E-01	2.140E-01	3.570E-02	-0.667
	163.35			-2.670E-02	3.314E-01	5.033E-01	9.200E-02	-0.053
	185.71			-2.975E-02	3.652E-02	5.876E-02	3.969E-03	-0.506
	205.31			4.911E-02	3.534E-01	5.715E-01	1.049E-01	0.086
NP-236	94.67			-4.710E-03	8.739E-02	1.251E-01	1.260E-02	-0.038
	98.44			9.225E-04	4.506E-02	7.150E-02	6.749E-03	0.013
	111.00			-2.292E-02	9.520E-02	1.437E-01	1.149E-02	-0.160
	160.31	*		-3.901E-02	5.651E-02	8.181E-02	5.462E-03	-0.477
NP-237	86.50	*		-8.344E-02	1.591E-01	2.300E-01	5.429E-02	-0.363
	95.87			3.812E-01	6.228E-01	9.426E-01	2.365E-01	0.404
NP-239	99.55			-4.162E-02	9.649E-02	1.530E-01	1.419E-02	-0.272
	117.00	*		-2.848E-02	1.200E-01	1.924E-01	1.446E-02	-0.148
	209.75			-2.107E-01	5.073E-01	7.840E-01	5.392E-02	-0.269
	228.18			9.312E-02	1.527E-01	2.677E-01	1.858E-02	0.348
	277.60			1.603E-02	1.199E-01	2.027E-01	1.399E-02	0.079

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	334.30			-4.254E-01	9.118E-01	1.453E+00	9.420E-02	-0.293
AM-241	59.54	*		-1.572E-01	1.690E-01	2.207E-01	2.809E-02	-0.712
AM-243	74.67	*		3.720E-02	4.305E-02	7.197E-02	7.998E-03	0.517
	86.72			-5.765E+00	6.562E+00	8.657E+00	9.937E-01	-0.666
	117.66			-8.052E-01	2.412E+00	3.838E+00	2.867E-01	-0.210
	142.18			-7.232E+00	1.249E+01	1.861E+01	1.268E+00	-0.389
CM-243	99.55			-4.281E-02	9.924E-02	1.573E-01	1.459E-02	-0.272
	103.76	*		3.978E-02	5.964E-02	1.022E-01	8.922E-03	0.389
	117.00			-2.929E-02	1.234E-01	1.979E-01	1.487E-02	-0.148
	209.75			-2.076E-01	4.999E-01	7.725E-01	5.313E-02	-0.269
	228.18			9.405E-02	1.542E-01	2.704E-01	1.876E-02	0.348
	277.60			1.616E-02	1.208E-01	2.043E-01	1.410E-02	0.079
AM-246	798.80			-9.294E-02	8.428E-02	1.158E-01	8.031E-03	-0.803
	1036.00			1.057E-01	1.903E-01	3.393E-01	2.511E-02	0.311
	1062.04			-9.220E-03	1.463E-01	2.371E-01	1.688E-02	-0.039
	1078.86	*		1.448E-02	7.336E-02	1.248E-01	8.651E-03	0.116
CM-247	278.00			1.583E-01	4.992E-01	8.556E-01	5.906E-02	0.185
	287.40			-1.489E-01	8.184E-01	1.347E+00	9.240E-02	-0.111
	402.60	*		3.274E-03	2.212E-02	3.705E-02	2.107E-03	0.088
CF-249	252.85			-2.721E-01	5.692E-01	9.190E-01	6.397E-02	-0.296
	333.44			-7.175E-02	1.212E-01	1.911E-01	1.240E-02	-0.375
	387.95	*		-5.441E-03	2.555E-02	4.121E-02	2.363E-03	-0.132
CF-251	176.60	*		1.037E-02	8.540E-02	1.387E-01	9.299E-03	0.075
	227.00			-7.805E-02	2.555E-01	4.215E-01	2.924E-02	-0.185
	285.00			-4.296E-01	1.133E+00	1.832E+00	1.259E-01	-0.235
ANH-511	511.00	*		-4.467E-02	3.840E-02	6.766E-02	3.820E-03	-0.660

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]G1202018276
* Acquisition date   : 27-JAN-2010 20:43:08 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 02:00:00.49 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202018276 Analyst initials: MXR1
* Batch Number       : 942723 Sample Quantity : 1.3951E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 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)	
TH-234	1.807E+00	1.553E+00	1.904E+00	0.000E+00
U-238	1.807E+00	1.553E+00	1.904E+00	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.409E-02	2.078E-01	3.725E-01	0.000E+00 NOT IDENT.
NA-22	-1.202E-02	2.187E-02	3.151E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	4.287E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	4.653E-03	2.227E-02	3.937E-02	0.000E+00 NOT IDENT.
K-40	-1.379E-02	2.498E-01	4.509E-01	0.000E+00 NOT IDENT.
TI-44	-1.547E-02	2.204E-02	3.749E-02	0.000E+00 NOT IDENT.
SC-46	-2.316E-02	1.922E-02	2.456E-02	0.000E+00 NOT IDENT.
V-48	-1.128E-02	2.969E-02	4.687E-02	0.000E+00 NOT IDENT.
CR-51	5.023E-02	2.197E-01	3.935E-01	0.000E+00 NOT IDENT.
MN-52	4.122E-03	7.109E-02	1.230E-01	0.000E+00 NOT IDENT.
MN-54	4.871E-03	2.115E-02	3.758E-02	0.000E+00 NOT IDENT.
CO-56	-1.533E-02	2.420E-02	3.780E-02	0.000E+00 NOT IDENT.
CO-57	4.247E-03	1.589E-02	2.838E-02	0.000E+00 NOT IDENT.
CO-58	-2.043E-02	2.216E-02	3.269E-02	0.000E+00 NOT IDENT.
FE-59	2.562E-02	4.479E-02	8.301E-02	0.000E+00 NOT IDENT.
CO-60	7.436E-03	2.355E-02	4.161E-02	0.000E+00 NOT IDENT.
ZN-65	-4.727E-02	4.661E-02	6.210E-02	0.000E+00 NOT IDENT.
GE-68	-1.249E-01	6.475E-01	1.051E+00	0.000E+00 NOT IDENT.
AS-73	-8.809E-01	1.144E+00	1.846E+00	0.000E+00 NOT IDENT.
AS-74	2.036E-02	5.228E-02	9.195E-02	0.000E+00 NOT IDENT.
SE-75	6.161E-03	2.840E-02	5.131E-02	0.000E+00 NOT IDENT.
BR-77	7.674E-01	9.774E-01	1.832E+00	0.000E+00 FAIL ABUN
SR-82	3.700E-02	1.856E-01	3.300E-01	0.000E+00 NOT IDENT.
RB-83	2.992E-02	3.735E-02	7.024E-02	0.000E+00 NOT IDENT.
RB-84	-2.430E-03	3.553E-02	6.021E-02	0.000E+00 NOT IDENT.

KR-85	-1.627E+01	7.131E+00	9.874E+00	0.000E+00	NOT IDENT.
SR-85	-7.811E-02	3.423E-02	4.741E-02	0.000E+00	NOT IDENT.
RB-86	-1.591E-01	3.377E-01	5.162E-01	0.000E+00	NOT IDENT.
Y-88	6.390E-05	2.436E-02	4.082E-02	0.000E+00	NOT IDENT.
ZR-88	1.477E-02	1.901E-02	3.544E-02	0.000E+00	NOT IDENT.
Y-91	2.206E+00	8.470E+00	1.487E+01	0.000E+00	NOT IDENT.
NB-94	-1.400E-03	1.845E-02	3.182E-02	0.000E+00	NOT IDENT.
NB-95	3.332E-02	2.378E-02	4.779E-02	0.000E+00	NOT IDENT.
NB-95M	8.465E-02	8.410E-02	1.429E-01	0.000E+00	NOT IDENT.
ZR-95	1.990E-02	3.737E-02	6.951E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.368E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.624E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.679E-01	1.349E+00	2.275E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	8.008E+08	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.094E-03	2.180E-02	3.672E-02	0.000E+00	NOT IDENT.
RH-102	1.106E-02	2.005E-02	3.632E-02	0.000E+00	NOT IDENT.
RU-103	-4.097E-03	2.354E-02	3.935E-02	0.000E+00	FAIL ABUN
RH-106	2.618E-03	1.817E-01	3.061E-01	0.000E+00	NOT IDENT.
RU-106	2.618E-03	1.817E-01	3.061E-01	0.000E+00	NOT IDENT.
AG-108M	-1.800E-03	1.944E-02	3.314E-02	0.000E+00	NOT IDENT.
CD-109	1.094E-01	5.363E-01	8.536E-01	0.000E+00	NOT IDENT.
AG-110M	-5.048E-03	2.278E-02	3.698E-02	0.000E+00	NOT IDENT.
IN-111	-1.081E-01	1.412E-01	2.367E-01	0.000E+00	NOT IDENT.
IN-113M	1.090E-02	2.734E-02	4.933E-02	0.000E+00	NOT IDENT.
SN-113	1.090E-02	2.734E-02	4.933E-02	0.000E+00	NOT IDENT.
IN-114M	-3.302E-02	1.029E-01	1.716E-01	0.000E+00	NOT IDENT.
CD-115	1.067E-01	9.120E-01	1.575E+00	0.000E+00	NOT IDENT.
SN-117M	5.079E-03	2.705E-02	4.493E-02	0.000E+00	NOT IDENT.
SB-122	-1.190E-01	2.711E-01	4.333E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.434E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-8.835E-04	1.886E-02	3.082E-02	0.000E+00	NOT IDENT.
I-124	2.118E-01	1.829E-01	3.139E-01	0.000E+00	NOT IDENT.
SB-124	-1.782E-02	4.749E-02	7.158E-02	0.000E+00	NOT IDENT.
SB-125	-3.788E-02	5.535E-02	8.758E-02	0.000E+00	NOT IDENT.
TE-125M	1.722E+00	5.294E+00	9.544E+00	0.000E+00	NOT IDENT.
I-126	-2.289E-02	8.619E-02	1.390E-01	0.000E+00	NOT IDENT.
SB-126	-3.779E-02	5.980E-02	9.503E-02	0.000E+00	NOT IDENT.
SN-126	1.380E-02	5.379E-02	8.602E-02	0.000E+00	NOT IDENT.
SB-127	1.815E-01	2.406E-01	4.618E-01	0.000E+00	FAIL ABUN
XE-127	9.819E-03	2.798E-02	4.899E-02	0.000E+00	NOT IDENT.
I-131	3.787E-02	4.337E-02	8.175E-02	0.000E+00	NOT IDENT.
TE-132	7.452E-02	1.212E-01	2.253E-01	0.000E+00	NOT IDENT.
BA-133	-5.655E-02	2.916E-02	3.944E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.393E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.222E-02	2.389E-02	4.440E-02	0.000E+00	NOT IDENT.
CS-135	6.275E-02	9.840E-02	1.831E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	4.206E+08	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.445E-02	4.501E-02	6.846E-02	0.000E+00	NOT IDENT.
BA-137M	-1.052E-02	2.323E-02	3.642E-02	0.000E+00	NOT IDENT.
CS-137	-1.112E-02	2.456E-02	3.850E-02	0.000E+00	NOT IDENT.
CE-139	2.338E-03	1.832E-02	3.193E-02	0.000E+00	NOT IDENT.
BA-140	1.594E-02	1.119E-01	1.934E-01	0.000E+00	NOT IDENT.
LA-140	7.166E-03	4.522E-02	7.905E-02	0.000E+00	NOT IDENT.
CE-141	-6.551E-04	3.433E-02	5.961E-02	0.000E+00	NOT IDENT.
CE-143	5.673E-02	3.896E+00	6.601E+00	0.000E+00	NOT IDENT.
CE-144	-1.396E-02	1.217E-01	2.107E-01	0.000E+00	NOT IDENT.
PM-144	-7.258E-03	2.035E-02	3.388E-02	0.000E+00	NOT IDENT.
PR-144	-4.902E-01	1.374E+00	2.288E+00	0.000E+00	NOT IDENT.
PM-146	1.104E-02	2.602E-02	4.691E-02	0.000E+00	NOT IDENT.
ND-147	-1.466E-01	2.430E-01	3.794E-01	0.000E+00	FAIL ABUN
PM-149	-3.820E+00	8.334E+00	1.415E+01	0.000E+00	NOT IDENT.
EU-152	3.334E-02	6.514E-02	1.190E-01	0.000E+00	NOT IDENT.
GD-153	2.550E-02	5.168E-02	8.424E-02	0.000E+00	NOT IDENT.
EU-154	-3.246E-02	6.158E-02	8.933E-02	0.000E+00	NOT IDENT.
EU-155	-5.452E-02	6.804E-02	1.131E-01	0.000E+00	NOT IDENT.
TB-160	4.147E-02	7.132E-02	1.337E-01	0.000E+00	NOT IDENT.
HO-166M	4.597E-03	3.811E-02	6.734E-02	0.000E+00	NOT IDENT.
TM-171	-1.012E+01	2.544E+01	3.887E+01	0.000E+00	NOT IDENT.
LU-176	8.173E-03	1.646E-02	3.018E-02	0.000E+00	NOT IDENT.
LU-177	-1.408E-01	3.792E-01	6.280E-01	0.000E+00	NOT IDENT.
LU-177M	6.449E-03	1.088E-01	1.893E-01	0.000E+00	FAIL ABUN
HF-181	-2.843E-02	2.676E-02	4.013E-02	0.000E+00	NOT IDENT.
W-181	-1.135E-01	3.325E-01	5.114E-01	0.000E+00	NOT IDENT.
TA-182	-1.524E-02	1.073E-01	1.747E-01	0.000E+00	NOT IDENT.
RE-183	-5.310E-02	7.267E-02	1.125E-01	0.000E+00	NOT IDENT.
RE-184	-7.067E-02	1.449E-01	2.483E-01	0.000E+00	NOT IDENT.
OS-185	2.020E-04	2.305E-02	3.868E-02	0.000E+00	FAIL ABUN
RE-188	-7.676E-03	1.001E-01	1.725E-01	0.000E+00	NOT IDENT.

W-188	-4.815E-01	4.651E+00	8.156E+00	0.000E+00	FAIL ABUN
IR-192	6.555E-03	2.192E-02	3.953E-02	0.000E+00	NOT IDENT.
AU-195	8.401E-03	1.344E-01	2.392E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	5.410E+00	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.097E-01	1.058E+00	1.812E+00	0.000E+00	NOT IDENT.
TL-202	1.168E-02	2.681E-02	4.868E-02	0.000E+00	NOT IDENT.
HG-203	1.779E-02	2.439E-02	4.555E-02	0.000E+00	NOT IDENT.
BI-207	2.296E-02	3.150E-02	5.928E-02	0.000E+00	NOT IDENT.
TL-207	-2.174E-01	4.597E-01	7.732E-01	0.000E+00	NOT IDENT.
TL-208	-1.068E-02	2.977E-02	4.872E-02	0.000E+00	NOT IDENT.
PO-209	1.851E+00	4.327E+00	7.890E+00	0.000E+00	NOT IDENT.
BI-210	2.330E+00	7.605E+00	1.343E+01	0.000E+00	NOT IDENT.
PB-210	2.330E+00	7.605E+00	1.343E+01	0.000E+00	NOT IDENT.
PO-210	2.330E+00	7.604E+00	1.343E+01	0.000E+00	NOT IDENT.
BI-211	-2.859E-02	1.630E-01	2.748E-01	0.000E+00	NOT IDENT.
PB-211	-8.090E-01	7.611E-01	8.423E-01	0.000E+00	NOT IDENT.
BI-212	-6.785E-02	1.863E-01	3.068E-01	0.000E+00	NOT IDENT.
PB-212	4.744E-04	5.431E-02	8.680E-02	0.000E+00	FAIL ABUN
PO-212	4.744E-04	5.431E-02	8.680E-02	0.000E+00	FAIL ABUN
BI-214	5.537E-02	7.912E-02	1.027E-01	0.000E+00	FAIL ABUN
PB-214	-5.200E-03	5.549E-02	9.407E-02	0.000E+00	NOT IDENT.
PO-214	-5.200E-03	5.549E-02	9.407E-02	0.000E+00	NOT IDENT.
PO-215	-2.174E-01	4.597E-01	7.732E-01	0.000E+00	NOT IDENT.
PO-216	4.744E-04	5.431E-02	8.680E-02	0.000E+00	FAIL ABUN
PO-218	-5.200E-03	5.549E-02	9.407E-02	0.000E+00	NOT IDENT.
RN-219	2.404E-01	2.447E-01	4.644E-01	0.000E+00	NOT IDENT.
RN-220	1.601E+00	1.648E+01	2.830E+01	0.000E+00	NOT IDENT.
RA-223	-2.174E-01	4.597E-01	7.732E-01	0.000E+00	NOT IDENT.
RA-224	3.812E-01	4.240E-01	7.224E-01	0.000E+00	NOT IDENT.
RA-226	5.537E-02	7.912E-02	1.027E-01	0.000E+00	FAIL ABUN
AC-227	1.183E-01	2.411E-01	4.446E-01	0.000E+00	NOT IDENT.
TH-227	1.183E-01	2.414E-01	4.446E-01	0.000E+00	NOT IDENT.
AC-228	-2.635E-02	7.990E-02	1.375E-01	0.000E+00	NOT IDENT.
RA-228	-2.635E-02	7.990E-02	1.375E-01	0.000E+00	NOT IDENT.
TH-228	4.786E-04	5.479E-02	8.757E-02	0.000E+00	FAIL ABUN
TH-229	2.369E-02	3.277E-01	5.640E-01	0.000E+00	NOT IDENT.
TH-230	5.537E-02	7.912E-02	1.027E-01	0.000E+00	FAIL ABUN
PA-231	-1.064E+00	1.011E+00	1.611E+00	0.000E+00	NOT IDENT.
TH-231	-2.174E-01	4.597E-01	7.732E-01	0.000E+00	NOT IDENT.
U-231	1.539E-01	2.439E-01	4.032E-01	0.000E+00	FAIL ABUN
TH-232	-2.635E-02	7.990E-02	1.375E-01	0.000E+00	NOT IDENT.
PA-233	-2.737E-02	4.116E-02	6.799E-02	0.000E+00	NOT IDENT.
PA-234	-1.230E-01	1.773E-01	2.634E-01	0.000E+00	FAIL ABUN
PA-234M	3.168E+00	3.349E+00	6.207E+00	0.000E+00	NOT IDENT.
U-234	5.537E-02	7.912E-02	1.027E-01	0.000E+00	FAIL ABUN
U-235	-1.428E-01	1.470E-01	2.250E-01	0.000E+00	FAIL ABUN
NP-236	-3.901E-02	5.538E-02	8.585E-02	0.000E+00	NOT IDENT.
NP-237	-8.344E-02	1.559E-01	2.442E-01	0.000E+00	NOT IDENT.
NP-239	-2.848E-02	1.176E-01	2.031E-01	0.000E+00	NOT IDENT.
AM-241	-1.572E-01	1.656E-01	2.360E-01	0.000E+00	NOT IDENT.
AM-243	3.720E-02	4.219E-02	7.663E-02	0.000E+00	NOT IDENT.
CM-243	3.978E-02	5.845E-02	1.082E-01	0.000E+00	NOT IDENT.
AM-246	1.448E-02	7.190E-02	1.261E-01	0.000E+00	NOT IDENT.
CM-247	3.274E-03	2.167E-02	3.818E-02	0.000E+00	NOT IDENT.
CF-249	-5.441E-03	2.504E-02	4.250E-02	0.000E+00	NOT IDENT.
CF-251	1.037E-02	8.370E-02	1.453E-01	0.000E+00	NOT IDENT.
ANH-511	-4.467E-02	3.763E-02	6.939E-02	0.000E+00	NOT IDENT.


```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018276.CNF;1
Sample date        : 19-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 20:43:08
Sample ID          : G1202018276 Sample quantity : 1.39513E+02 GRAM
Detector name      : GAM15 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           : 942723 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
TH-234	63.29	43	3.80*	1.695E+00	1.807E+00	1.807E+00	87.69
	92.38	6	5.41	4.819E+00	6.105E-02	6.105E-02	810.62
U-238	63.29	43	3.80*	1.695E+00	1.807E+00	1.807E+00	87.69
	92.38	6	5.41	4.819E+00	6.105E-02	6.105E-02	810.46

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202018276

Page : 2
Acquisition date : 27-JAN-2010 20:43:08

Total number of lines in spectrum 4
Number of unidentified lines 0
Number of lines tentatively identified by NID 4 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
TH-234	4.47E+09Y	1.00	1.807E+00	1.807E+00	1.585E+00	87.69	
U-238	4.47E+09Y	1.00	1.807E+00	1.807E+00	1.585E+00	87.69	
Total Activity :			3.614E+00	3.614E+00			

Grand Total Activity : 3.614E+00 3.614E+00

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202018276

Page : 3
Acquisition date : 27-JAN-2010 20:43:08

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	609.51	21	32	1.77	1219.09	1212	16	2.85E-03	****	2.15E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018276.CNF;1
* Acquisition date   : 27-JAN-2010 20:43:08   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 02:00:00.49           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 00:00:00   Nuclide Library  : SOLID
* Sample ID          : G1202018276           Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity  : 1.39513E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME  : 16-FEB-2009 10:54:12.9MS 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
TH-234	1.807E+00	1.585E+00	1.783E+00	3.518E-01	1.014
U-238	1.807E+00	1.585E+00	1.783E+00	3.518E-01	1.014

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.409E-02		2.121E-01	3.627E-01	2.417E-02	0.259
NA-22	-1.202E-02		2.232E-02	3.131E-02	2.149E-03	-0.384
NA-24	-5.006E-04		2.187E-04	Half-Life too short		
AL-26	4.653E-03		2.273E-02	3.940E-02	2.358E-03	0.118
K-40	-1.379E-02		2.549E-01	4.493E-01	3.435E-02	-0.031
TI-44	-1.547E-02		2.249E-02	3.524E-02	3.918E-03	-0.439
SC-46	-2.316E-02		1.962E-02	2.422E-02	2.032E-03	-0.956
V-48	-1.128E-02		3.030E-02	4.632E-02	3.659E-03	-0.244
CR-51	5.023E-02		2.242E-01	3.801E-01	2.741E-02	0.132
MN-52	4.122E-03		7.254E-02	1.226E-01	9.087E-03	0.034

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MN-54	4.871E-03		2.158E-02	3.701E-02	2.774E-03	0.132
CO-56	-1.533E-02		2.469E-02	3.724E-02	2.862E-03	-0.412
CO-57	4.247E-03		1.621E-02	2.691E-02	1.934E-03	0.158
CO-58	-2.043E-02		2.262E-02	3.218E-02	2.299E-03	-0.635
FE-59	2.562E-02		4.570E-02	8.222E-02	6.222E-03	0.312
CO-60	7.436E-03		2.403E-02	4.138E-02	3.123E-03	0.180
ZN-65	-4.727E-02		4.756E-02	6.152E-02	3.997E-03	-0.768
GE-68	-1.249E-01		6.607E-01	1.040E+00	7.228E-02	-0.120
AS-73	-8.809E-01		1.168E+00	1.723E+00	2.355E-01	-0.511
AS-74	2.036E-02		5.335E-02	8.994E-02	4.835E-03	0.226
SE-75	6.161E-03		2.898E-02	4.938E-02	3.454E-03	0.125
BR-77	7.674E-01		9.973E-01	1.787E+00	1.005E-01	0.430
SR-82	3.700E-02		1.893E-01	3.245E-01	2.142E-02	0.114
RB-83	2.992E-02		3.811E-02	6.851E-02	3.855E-03	0.437
RB-84	-2.430E-03		3.625E-02	5.937E-02	4.902E-03	-0.041
KR-85	-1.627E+01		7.276E+00	9.629E+00	5.431E-01	-1.690
SR-85	-7.811E-02		3.493E-02	4.623E-02	2.608E-03	-1.690
RB-86	-1.591E-01		3.446E-01	5.111E-01	3.556E-02	-0.311
Y-88	6.390E-05		2.486E-02	4.087E-02	2.388E-03	0.002
ZR-88	1.477E-02		1.940E-02	3.437E-02	1.949E-03	0.430
Y-91	2.206E+00		8.643E+00	1.476E+01	8.925E-01	0.149
NB-94	-1.400E-03		1.882E-02	3.123E-02	1.737E-03	-0.045
NB-95	3.332E-02		2.427E-02	4.698E-02	3.028E-03	0.709
NB-95M	8.465E-02		8.581E-02	1.372E-01	1.159E-02	0.617
ZR-95	1.990E-02		3.813E-02	6.832E-02	5.093E-03	0.291
NB-97	-3.298E-05		6.978E-05	Half-Life too short		
ZR-97	4.298E-04		1.849E-03	Half-Life too short		
MO-99	-2.679E-01		1.377E+00	2.235E+00	3.105E-01	-0.120
TC-99M	3.178E+02		4.086E+02	Half-Life too short		
RH-101	-4.094E-03		2.224E-02	3.514E-02	2.397E-03	-0.117
RH-102	1.106E-02		2.046E-02	3.537E-02	2.016E-03	0.313
RU-103	-4.097E-03		2.402E-02	3.835E-02	4.826E-03	-0.107
RH-106	2.618E-03		1.854E-01	2.996E-01	3.439E-02	0.009
RU-106	2.618E-03		1.854E-01	2.996E-01	1.574E-02	0.009
AG-108M	-1.800E-03		1.984E-02	3.221E-02	2.003E-03	-0.056
CD-109	1.094E-01		5.472E-01	8.042E-01	9.299E-02	0.136
AG-110M	-5.048E-03		2.324E-02	3.624E-02	1.986E-03	-0.139
IN-111	-1.081E-01		1.441E-01	2.274E-01	1.583E-02	-0.475
IN-113M	1.090E-02		2.790E-02	4.784E-02	2.902E-03	0.228
SN-113	1.090E-02		2.790E-02	4.784E-02	2.902E-03	0.228
IN-114M	-3.302E-02		1.050E-01	1.641E-01	1.113E-02	-0.201
CD-115	1.067E-01		9.306E-01	1.537E+00	8.621E-02	0.069
SN-117M	5.079E-03		2.761E-02	4.281E-02	2.862E-03	0.119
SB-122	-1.190E-01		2.767E-01	4.234E-01	2.329E-02	-0.281
I-123	-6.717E-05		7.316E-04	Half-Life too short		
TE-123M	-8.835E-04		1.925E-02	2.937E-02	1.983E-03	-0.030
I-124	2.118E-01		1.867E-01	3.071E-01	1.642E-02	0.690
SB-124	-1.782E-02		4.846E-02	7.154E-02	5.024E-03	-0.249

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125	-3.788E-02		5.648E-02	8.509E-02	5.071E-03	-0.445
TE-125M	1.722E+00		5.402E+00	9.028E+00	8.961E-01	0.191
I-126	-2.289E-02		8.795E-02	1.362E-01	6.933E-03	-0.168
SB-126	-3.779E-02		6.103E-02	9.330E-02	5.416E-03	-0.405
SN-126	1.380E-02		5.489E-02	8.104E-02	9.351E-03	0.170
SB-127	1.815E-01		2.455E-01	4.530E-01	3.228E-02	0.401
XE-127	9.819E-03		2.855E-02	4.690E-02	3.211E-03	0.209
I-131	3.787E-02		4.425E-02	7.917E-02	5.304E-03	0.478
TE-132	7.452E-02		1.237E-01	2.162E-01	2.998E-02	0.345
BA-133	-5.655E-02		2.976E-02	3.817E-02	4.495E-03	-1.481
I-133	1.632E-05		1.221E-05	Half-Life too short		
CS-134	1.222E-02		2.438E-02	4.369E-02	3.044E-03	0.280
CS-135	6.275E-02		1.004E-01	1.762E-01	1.507E-02	0.356
I-135	-2.468E+02		2.146E+02	Half-Life too short		
CS-136	-2.445E-02		4.593E-02	6.775E-02	5.216E-03	-0.361
BA-137M	-1.052E-02		2.371E-02	3.569E-02	1.796E-03	-0.295
CS-137	-1.112E-02		2.506E-02	3.773E-02	1.909E-03	-0.295
CE-139	2.338E-03		1.870E-02	3.045E-02	2.025E-03	0.077
BA-140	1.594E-02		1.142E-01	1.888E-01	6.133E-02	0.084
LA-140	7.166E-03		4.614E-02	7.891E-02	5.501E-03	0.091
CE-141	-6.551E-04		3.503E-02	5.670E-02	3.957E-03	-0.012
CE-143	5.673E-02		3.976E+00	6.365E+00	1.334E+00	0.009
CE-144	-1.396E-02		1.242E-01	2.001E-01	2.941E-02	-0.070
PM-144	-7.258E-03		2.076E-02	3.324E-02	1.823E-03	-0.218
PR-144	-4.902E-01		1.402E+00	2.245E+00	1.231E-01	-0.218
PM-146	1.104E-02		2.655E-02	4.563E-02	3.908E-03	0.242
ND-147	-1.466E-01		2.480E-01	3.702E-01	4.974E-02	-0.396
PM-149	-3.820E+00		8.505E+00	1.364E+01	1.995E+00	-0.280
EU-152	3.334E-02		6.647E-02	1.151E-01	8.112E-03	0.290
GD-153	2.550E-02		5.273E-02	7.952E-02	7.631E-03	0.321
EU-154	-3.246E-02		6.284E-02	8.875E-02	8.900E-03	-0.366
EU-155	-5.452E-02		6.943E-02	1.069E-01	9.258E-03	-0.510
TB-160	4.147E-02		7.277E-02	1.318E-01	1.083E-02	0.315
HO-166M	4.597E-03		3.889E-02	6.610E-02	3.757E-03	0.070
TM-171	-1.012E+01		2.596E+01	3.643E+01	4.189E+00	-0.278
LU-176	8.173E-03		1.680E-02	2.913E-02	1.963E-03	0.281
LU-177	-1.408E-01		3.870E-01	6.015E-01	4.133E-02	-0.234
LU-177M	6.449E-03		1.110E-01	1.838E-01	1.047E-02	0.035
HF-181	-2.843E-02		2.731E-02	3.908E-02	2.225E-03	-0.728
W-181	-1.135E-01		3.393E-01	4.791E-01	5.577E-02	-0.237
TA-182	-1.524E-02		1.095E-01	1.734E-01	1.081E-02	-0.088
RE-183	-5.310E-02		7.416E-02	1.072E-01	7.147E-03	-0.495
RE-184	-7.067E-02		1.479E-01	2.387E-01	1.662E-02	-0.296
OS-185	2.020E-04		2.352E-02	3.789E-02	1.941E-03	0.005
RE-188	-7.676E-03		1.021E-01	1.642E-01	1.102E-02	-0.047
W-188	-4.815E-01		4.746E+00	7.864E+00	5.381E-01	-0.061
IR-192	6.555E-03		2.237E-02	3.817E-02	2.551E-03	0.172
AU-195	8.401E-03		1.371E-01	2.259E-01	2.117E-02	0.037

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	-2.736E-06		2.760E-06	Half-Life too short		
TL-201	-1.097E-01		1.080E+00	1.728E+00	1.150E-01	-0.064
TL-202	1.168E-02		2.736E-02	4.732E-02	2.704E-03	0.247
HG-203	1.779E-02		2.489E-02	4.388E-02	3.160E-03	0.406
BI-207	2.296E-02		3.215E-02	5.867E-02	4.169E-03	0.391
TL-207	-2.174E-01		4.691E-01	7.471E-01	1.256E-01	-0.291
TL-208	-1.068E-02		3.037E-02	4.763E-02	3.032E-03	-0.224
PO-209	1.851E+00		4.415E+00	7.782E+00	6.625E-01	0.238
BI-210	2.330E+00		7.760E+00	1.250E+01	1.299E+00	0.186
PB-210	2.330E+00		7.760E+00	1.250E+01	1.299E+00	0.186
PO-210	2.330E+00		7.759E+00	1.250E+01	1.201E+00	0.186
BI-211	-2.859E-02		1.663E-01	2.659E-01	1.827E-02	-0.108
PB-211	-8.090E-01		7.767E-01	8.175E-01	5.095E-01	-0.990
BI-212	-6.785E-02		1.901E-01	3.013E-01	2.346E-02	-0.225
PB-212	4.744E-04	+	5.542E-02	8.336E-02	6.900E-03	0.006
PO-212	4.744E-04	+	5.542E-02	8.336E-02	6.900E-03	0.006
BI-214	5.537E-02	+	8.073E-02	1.005E-01	7.461E-03	0.551
PB-214	-5.200E-03		5.663E-02	9.104E-02	7.848E-03	-0.057
PO-214	-5.200E-03		5.663E-02	9.104E-02	7.848E-03	-0.057
PO-215	-2.174E-01		4.691E-01	7.471E-01	1.256E-01	-0.291
PO-216	4.744E-04	+	5.542E-02	8.336E-02	6.900E-03	0.006
PO-218	-5.200E-03		5.663E-02	9.104E-02	7.848E-03	-0.057
RN-219	2.404E-01		2.497E-01	4.506E-01	6.109E-02	0.534
RN-220	1.601E+00		1.682E+01	2.763E+01	1.533E+00	0.058
RA-223	-2.174E-01		4.691E-01	7.471E-01	1.256E-01	-0.291
RA-224	3.812E-01		4.326E-01	6.939E-01	4.829E-02	0.549
RA-226	5.537E-02	+	8.073E-02	1.005E-01	7.461E-03	0.551
AC-227	1.183E-01		2.460E-01	4.276E-01	6.191E-02	0.277
TH-227	1.183E-01		2.463E-01	4.276E-01	7.410E-02	0.277
AC-228	-2.635E-02		8.153E-02	1.357E-01	1.509E-02	-0.194
RA-228	-2.635E-02		8.153E-02	1.357E-01	1.509E-02	-0.194
TH-228	4.786E-04	+	5.591E-02	8.410E-02	6.961E-03	0.006
TH-229	2.369E-02		3.344E-01	5.395E-01	3.668E-02	0.044
TH-230	5.537E-02	+	8.073E-02	1.005E-01	7.460E-03	0.551
PA-231	-1.064E+00		1.032E+00	1.553E+00	2.215E-01	-0.685
TH-231	-2.174E-01		4.691E-01	7.471E-01	1.256E-01	-0.291
U-231	1.539E-01		2.489E-01	3.805E-01	3.750E-02	0.404
TH-232	-2.635E-02		8.153E-02	1.357E-01	1.509E-02	-0.194
PA-233	-2.737E-02		4.200E-02	6.564E-02	4.601E-03	-0.417
PA-234	-1.230E-01		1.810E-01	2.600E-01	4.831E-02	-0.473
PA-234M	3.168E+00		3.417E+00	6.136E+00	5.655E-01	0.516
U-234	5.537E-02	+	8.073E-02	1.005E-01	7.460E-03	0.551
U-235	-1.428E-01		1.500E-01	2.140E-01	3.570E-02	-0.667
NP-236	-3.901E-02		5.651E-02	8.181E-02	5.462E-03	-0.477
NP-237	-8.344E-02		1.591E-01	2.300E-01	5.429E-02	-0.363
NP-239	-2.848E-02		1.200E-01	1.924E-01	1.446E-02	-0.148
AM-241	-1.572E-01		1.690E-01	2.207E-01	2.809E-02	-0.712
AM-243	3.720E-02		4.305E-02	7.197E-02	7.998E-03	0.517

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.978E-02		5.964E-02	1.022E-01	8.922E-03	0.389
AM-246	1.448E-02		7.336E-02	1.248E-01	8.651E-03	0.116
CM-247	3.274E-03		2.212E-02	3.705E-02	2.107E-03	0.088
CF-249	-5.441E-03		2.555E-02	4.121E-02	2.363E-03	-0.132
CF-251	1.037E-02		8.540E-02	1.387E-01	9.299E-03	0.075
ANH-511	-4.467E-02		3.840E-02	6.766E-02	3.820E-03	-0.660

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]G1202018276
* Acquisition date   : 27-JAN-2010 20:43:08 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 02:00:00.49                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID          : G1202018276                     Analyst initials: MXR1
* Batch Number       : 942723                           Sample Quantity : 1.3951E+02 GRAM
* Recovery           : 1.00000                           Carrier Weight  : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 16-FEB-2009 10:54:12 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
TH-234	1.807E+00	1.553E+00	9.524E-01	7.923E-01
U-238	1.807E+00	1.553E+00	9.524E-01	7.923E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	9.409E-02	2.078E-01	1.864E-01	1.060E-01	NOT IDENT.
NA-22	-1.202E-02	2.187E-02	1.577E-02	1.116E-02	NOT IDENT.
NA-24	-5.006E+02	4.287E+02	0.000E+00	2.187E+02	SHORT HLIF
AL-26	4.653E-03	2.227E-02	1.969E-02	1.136E-02	NOT IDENT.
K-40	-1.379E-02	2.498E-01	2.256E-01	1.275E-01	NOT IDENT.
TI-44	-1.547E-02	2.204E-02	1.875E-02	1.124E-02	NOT IDENT.
SC-46	-2.316E-02	1.922E-02	1.229E-02	9.808E-03	NOT IDENT.
V-48	-1.128E-02	2.969E-02	2.345E-02	1.515E-02	NOT IDENT.
CR-51	5.023E-02	2.197E-01	1.968E-01	1.121E-01	NOT IDENT.
MN-52	4.122E-03	7.109E-02	6.156E-02	3.627E-02	NOT IDENT.
MN-54	4.871E-03	2.115E-02	1.880E-02	1.079E-02	NOT IDENT.
CO-56	-1.533E-02	2.420E-02	1.891E-02	1.235E-02	NOT IDENT.
CO-57	4.247E-03	1.589E-02	1.420E-02	8.105E-03	NOT IDENT.
CO-58	-2.043E-02	2.216E-02	1.636E-02	1.131E-02	NOT IDENT.
FE-59	2.562E-02	4.479E-02	4.153E-02	2.285E-02	NOT IDENT.
CO-60	7.436E-03	2.355E-02	2.082E-02	1.201E-02	NOT IDENT.
ZN-65	-4.727E-02	4.661E-02	3.107E-02	2.378E-02	NOT IDENT.
GE-68	-1.249E-01	6.475E-01	5.256E-01	3.304E-01	NOT IDENT.
AS-73	-8.809E-01	1.144E+00	9.238E-01	5.838E-01	NOT IDENT.
AS-74	2.036E-02	5.228E-02	4.600E-02	2.667E-02	NOT IDENT.
SE-75	6.161E-03	2.840E-02	2.567E-02	1.449E-02	NOT IDENT.
BR-77	7.674E-01	9.774E-01	9.163E-01	4.987E-01	FAIL ABUN
SR-82	3.700E-02	1.856E-01	1.651E-01	9.467E-02	NOT IDENT.
RB-83	2.992E-02	3.735E-02	3.514E-02	1.906E-02	NOT IDENT.
RB-84	-2.430E-03	3.553E-02	3.012E-02	1.813E-02	NOT IDENT.

KR-85	-1.627E+01	7.131E+00	4.940E+00	3.638E+00	NOT IDENT.
SR-85	-7.811E-02	3.423E-02	2.372E-02	1.747E-02	NOT IDENT.
RB-86	-1.591E-01	3.377E-01	2.583E-01	1.723E-01	NOT IDENT.
Y-88	6.390E-05	2.436E-02	2.042E-02	1.243E-02	NOT IDENT.
ZR-88	1.477E-02	1.901E-02	1.773E-02	9.701E-03	NOT IDENT.
Y-91	2.206E+00	8.470E+00	7.440E+00	4.321E+00	NOT IDENT.
NB-94	-1.400E-03	1.845E-02	1.592E-02	9.411E-03	NOT IDENT.
NB-95	3.332E-02	2.378E-02	2.391E-02	1.213E-02	NOT IDENT.
NB-95M	8.465E-02	8.410E-02	7.148E-02	4.291E-02	NOT IDENT.
ZR-95	1.990E-02	3.737E-02	3.478E-02	1.907E-02	NOT IDENT.
NB-97	-3.298E+01	1.368E+02	0.000E+00	6.978E+01	SHORT HLIF
ZR-97	4.298E+02	3.624E+03	0.000E+00	1.849E+03	SHORT HLIF
MO-99	-2.679E-01	1.349E+00	1.138E+00	6.884E-01	NOT IDENT.
TC-99M	3.178E+08	8.008E+08	0.000E+00	4.086E+08	SHORT HLIF
RH-101	-4.094E-03	2.180E-02	1.837E-02	1.112E-02	NOT IDENT.
RH-102	1.106E-02	2.005E-02	1.817E-02	1.023E-02	NOT IDENT.
RU-103	-4.097E-03	2.354E-02	1.969E-02	1.201E-02	FAIL ABUN
RH-106	2.618E-03	1.817E-01	1.531E-01	9.272E-02	NOT IDENT.
RU-106	2.618E-03	1.817E-01	1.531E-01	9.272E-02	NOT IDENT.
AG-108M	-1.800E-03	1.944E-02	1.658E-02	9.918E-03	NOT IDENT.
CD-109	1.094E-01	5.363E-01	4.271E-01	2.736E-01	NOT IDENT.
AG-110M	-5.048E-03	2.278E-02	1.850E-02	1.162E-02	NOT IDENT.
IN-111	-1.081E-01	1.412E-01	1.184E-01	7.205E-02	NOT IDENT.
IN-113M	1.090E-02	2.734E-02	2.468E-02	1.395E-02	NOT IDENT.
SN-113	1.090E-02	2.734E-02	2.468E-02	1.395E-02	NOT IDENT.
IN-114M	-3.302E-02	1.029E-01	8.587E-02	5.249E-02	NOT IDENT.
CD-115	1.067E-01	9.120E-01	7.881E-01	4.653E-01	NOT IDENT.
SN-117M	5.079E-03	2.705E-02	2.248E-02	1.380E-02	NOT IDENT.
SB-122	-1.190E-01	2.711E-01	2.168E-01	1.383E-01	NOT IDENT.
I-123	-6.717E+01	1.434E+03	0.000E+00	7.316E+02	SHORT HLIF
TE-123M	-8.835E-04	1.886E-02	1.542E-02	9.624E-03	NOT IDENT.
I-124	2.118E-01	1.829E-01	1.570E-01	9.334E-02	NOT IDENT.
SB-124	-1.782E-02	4.749E-02	3.581E-02	2.423E-02	NOT IDENT.
SB-125	-3.788E-02	5.535E-02	4.382E-02	2.824E-02	NOT IDENT.
TE-125M	1.722E+00	5.294E+00	4.775E+00	2.701E+00	NOT IDENT.
I-126	-2.289E-02	8.619E-02	6.952E-02	4.397E-02	NOT IDENT.
SB-126	-3.779E-02	5.980E-02	4.754E-02	3.051E-02	NOT IDENT.
SN-126	1.380E-02	5.379E-02	4.304E-02	2.744E-02	NOT IDENT.
SB-127	1.815E-01	2.406E-01	2.310E-01	1.227E-01	FAIL ABUN
XE-127	9.819E-03	2.798E-02	2.451E-02	1.427E-02	NOT IDENT.
I-131	3.787E-02	4.337E-02	4.090E-02	2.213E-02	NOT IDENT.
TE-132	7.452E-02	1.212E-01	1.127E-01	6.184E-02	NOT IDENT.
BA-133	-5.655E-02	2.916E-02	1.973E-02	1.488E-02	NOT IDENT.
I-133	1.632E+01	2.393E+01	0.000E+00	1.221E+01	SHORT HLIF
CS-134	1.222E-02	2.389E-02	2.221E-02	1.219E-02	NOT IDENT.
CS-135	6.275E-02	9.840E-02	9.160E-02	5.020E-02	NOT IDENT.
I-135	-2.468E+08	4.206E+08	0.000E+00	2.146E+08	SHORT HLIF
CS-136	-2.445E-02	4.501E-02	3.425E-02	2.296E-02	NOT IDENT.
BA-137M	-1.052E-02	2.323E-02	1.822E-02	1.185E-02	NOT IDENT.
CS-137	-1.112E-02	2.456E-02	1.926E-02	1.253E-02	NOT IDENT.
CE-139	2.338E-03	1.832E-02	1.598E-02	9.349E-03	NOT IDENT.
BA-140	1.594E-02	1.119E-01	9.678E-02	5.710E-02	NOT IDENT.
LA-140	7.166E-03	4.522E-02	3.955E-02	2.307E-02	NOT IDENT.
CE-141	-6.551E-04	3.433E-02	2.982E-02	1.752E-02	NOT IDENT.
CE-143	5.673E-02	3.896E+00	3.302E+00	1.988E+00	NOT IDENT.
CE-144	-1.396E-02	1.217E-01	1.054E-01	6.211E-02	NOT IDENT.
PM-144	-7.258E-03	2.035E-02	1.695E-02	1.038E-02	NOT IDENT.
PR-144	-4.902E-01	1.374E+00	1.145E+00	7.011E-01	NOT IDENT.
PM-146	1.104E-02	2.602E-02	2.347E-02	1.327E-02	NOT IDENT.
ND-147	-1.466E-01	2.430E-01	1.898E-01	1.240E-01	FAIL ABUN
PM-149	-3.820E+00	8.334E+00	7.080E+00	4.252E+00	NOT IDENT.
EU-152	3.334E-02	6.514E-02	5.954E-02	3.324E-02	NOT IDENT.
GD-153	2.550E-02	5.168E-02	4.215E-02	2.637E-02	NOT IDENT.
EU-154	-3.246E-02	6.158E-02	4.469E-02	3.142E-02	NOT IDENT.
EU-155	-5.452E-02	6.804E-02	5.658E-02	3.471E-02	NOT IDENT.
TB-160	4.147E-02	7.132E-02	6.687E-02	3.639E-02	NOT IDENT.
HO-166M	4.597E-03	3.811E-02	3.369E-02	1.944E-02	NOT IDENT.
TM-171	-1.012E+01	2.544E+01	1.944E+01	1.298E+01	NOT IDENT.
LU-176	8.173E-03	1.646E-02	1.510E-02	8.399E-03	NOT IDENT.
LU-177	-1.408E-01	3.792E-01	3.142E-01	1.935E-01	NOT IDENT.
LU-177M	6.449E-03	1.088E-01	9.469E-02	5.549E-02	FAIL ABUN
HF-181	-2.843E-02	2.676E-02	2.007E-02	1.365E-02	NOT IDENT.
W-181	-1.135E-01	3.325E-01	2.559E-01	1.697E-01	NOT IDENT.
TA-182	-1.524E-02	1.073E-01	8.739E-02	5.473E-02	NOT IDENT.
RE-183	-5.310E-02	7.267E-02	5.628E-02	3.708E-02	NOT IDENT.
RE-184	-7.067E-02	1.449E-01	1.242E-01	7.393E-02	NOT IDENT.
OS-185	2.020E-04	2.305E-02	1.935E-02	1.176E-02	FAIL ABUN
RE-188	-7.676E-03	1.001E-01	8.628E-02	5.107E-02	NOT IDENT.

W-188	-4.815E-01	4.651E+00	4.081E+00	2.373E+00	FAIL ABUN
IR-192	6.555E-03	2.192E-02	1.977E-02	1.118E-02	NOT IDENT.
AU-195	8.401E-03	1.344E-01	1.197E-01	6.857E-02	NOT IDENT.
TL-200	-2.736E+00	5.410E+00	0.000E+00	2.760E+00	SHORT HLIF
TL-201	-1.097E-01	1.058E+00	9.064E-01	5.399E-01	NOT IDENT.
TL-202	1.168E-02	2.681E-02	2.436E-02	1.368E-02	NOT IDENT.
HG-203	1.779E-02	2.439E-02	2.279E-02	1.245E-02	NOT IDENT.
BI-207	2.296E-02	3.150E-02	2.966E-02	1.607E-02	NOT IDENT.
TL-207	-2.174E-01	4.597E-01	3.868E-01	2.345E-01	NOT IDENT.
TL-208	-1.068E-02	2.977E-02	2.437E-02	1.519E-02	NOT IDENT.
PO-209	1.851E+00	4.327E+00	3.947E+00	2.208E+00	NOT IDENT.
BI-210	2.330E+00	7.605E+00	6.719E+00	3.880E+00	NOT IDENT.
PB-210	2.330E+00	7.605E+00	6.719E+00	3.880E+00	NOT IDENT.
PO-210	2.330E+00	7.604E+00	6.719E+00	3.880E+00	NOT IDENT.
BI-211	-2.859E-02	1.630E-01	1.375E-01	8.314E-02	NOT IDENT.
PB-211	-8.090E-01	7.611E-01	4.214E-01	3.883E-01	NOT IDENT.
BI-212	-6.785E-02	1.863E-01	1.535E-01	9.503E-02	NOT IDENT.
PB-212	4.744E-04	5.431E-02	4.342E-02	2.771E-02	FAIL ABUN
PO-212	4.744E-04	5.431E-02	4.342E-02	2.771E-02	FAIL ABUN
BI-214	5.537E-02	7.912E-02	5.138E-02	4.037E-02	FAIL ABUN
PB-214	-5.200E-03	5.549E-02	4.706E-02	2.831E-02	NOT IDENT.
PO-214	-5.200E-03	5.549E-02	4.706E-02	2.831E-02	NOT IDENT.
PO-215	-2.174E-01	4.597E-01	3.868E-01	2.345E-01	NOT IDENT.
PO-216	4.744E-04	5.431E-02	4.342E-02	2.771E-02	FAIL ABUN
PO-218	-5.200E-03	5.549E-02	4.706E-02	2.831E-02	NOT IDENT.
RN-219	2.404E-01	2.447E-01	2.323E-01	1.248E-01	NOT IDENT.
RN-220	1.601E+00	1.648E+01	1.416E+01	8.410E+00	NOT IDENT.
RA-223	-2.174E-01	4.597E-01	3.868E-01	2.345E-01	NOT IDENT.
RA-224	3.812E-01	4.240E-01	3.614E-01	2.163E-01	NOT IDENT.
RA-226	5.537E-02	7.912E-02	5.138E-02	4.037E-02	FAIL ABUN
AC-227	1.183E-01	2.411E-01	2.224E-01	1.230E-01	NOT IDENT.
TH-227	1.183E-01	2.414E-01	2.224E-01	1.231E-01	NOT IDENT.
AC-228	-2.635E-02	7.990E-02	6.881E-02	4.077E-02	NOT IDENT.
RA-228	-2.635E-02	7.990E-02	6.881E-02	4.077E-02	NOT IDENT.
TH-228	4.786E-04	5.479E-02	4.381E-02	2.795E-02	FAIL ABUN
TH-229	2.369E-02	3.277E-01	2.822E-01	1.672E-01	NOT IDENT.
TH-230	5.537E-02	7.912E-02	5.138E-02	4.037E-02	FAIL ABUN
PA-231	-1.064E+00	1.011E+00	8.061E-01	5.158E-01	NOT IDENT.
TH-231	-2.174E-01	4.597E-01	3.868E-01	2.345E-01	NOT IDENT.
U-231	1.539E-01	2.439E-01	2.017E-01	1.245E-01	FAIL ABUN
TH-232	-2.635E-02	7.990E-02	6.881E-02	4.077E-02	NOT IDENT.
PA-233	-2.737E-02	4.116E-02	3.402E-02	2.100E-02	NOT IDENT.
PA-234	-1.230E-01	1.773E-01	1.318E-01	9.048E-02	FAIL ABUN
PA-234M	3.168E+00	3.349E+00	3.105E+00	1.709E+00	NOT IDENT.
U-234	5.537E-02	7.912E-02	5.138E-02	4.037E-02	FAIL ABUN
U-235	-1.428E-01	1.470E-01	1.126E-01	7.502E-02	FAIL ABUN
NP-236	-3.901E-02	5.538E-02	4.295E-02	2.825E-02	NOT IDENT.
NP-237	-8.344E-02	1.559E-01	1.222E-01	7.956E-02	NOT IDENT.
NP-239	-2.848E-02	1.176E-01	1.016E-01	6.002E-02	NOT IDENT.
AM-241	-1.572E-01	1.656E-01	1.181E-01	8.451E-02	NOT IDENT.
AM-243	3.720E-02	4.219E-02	3.834E-02	2.153E-02	NOT IDENT.
CM-243	3.978E-02	5.845E-02	5.411E-02	2.982E-02	NOT IDENT.
AM-246	1.448E-02	7.190E-02	6.306E-02	3.668E-02	NOT IDENT.
CM-247	3.274E-03	2.167E-02	1.910E-02	1.106E-02	NOT IDENT.
CF-249	-5.441E-03	2.504E-02	2.126E-02	1.278E-02	NOT IDENT.
CF-251	1.037E-02	8.370E-02	7.269E-02	4.270E-02	NOT IDENT.
ANH-511	-4.467E-02	3.763E-02	3.472E-02	1.920E-02	NOT IDENT.

 * GEL Laboratories LLC *
 * 2040 SAVAGE ROAD *
 * CHARLESTON ,SC 29417 *
 * GAMMA SPECTROSCOPY BACKGROUND REPORT *

ENERGY	MDA COUNTS
46.50	78.9357
46.50	78.9357
46.50	78.9357
48.70	117.9149
49.72	120.9553
51.35	79.5948
52.39	84.4779
52.97	96.9096
53.15	101.6901
53.44	102.6889
54.07	95.1796
56.28	104.4304
56.28	104.4308
57.37	76.5437
57.53	78.0941
57.53	78.0944
57.60	78.1026
57.98	67.4224
57.98	67.4224
59.32	95.2007
59.32	95.2007
59.40	95.2124
59.54	102.9127
59.72	102.9411
60.01	96.8381
61.10	81.6014
61.14	81.6062
61.30	81.6258
63.00	114.2570
63.29	95.7696
63.29	95.7696
63.58	86.5386
64.28	77.3459
65.12	102.2213
65.20	102.2331
65.20	102.2331
66.05	114.7655
66.72	102.4563
66.83	102.4728
66.91	102.4845
67.20	91.6527
67.20	91.6527
67.75	94.5742
67.85	94.5876
68.90	110.9480
68.90	110.9480
69.30	119.7742
69.67	117.8876
70.82	114.1717
70.82	114.1717
70.83	114.1735
72.80	141.8781
72.87	141.8914
72.87	141.8914
74.67	94.1697
74.81	94.1873
74.81	94.1873
74.81	94.1873
74.81	94.1873
74.81	94.1873
74.81	94.1873
74.81	94.1873
74.97	100.0954
75.28	87.3741
75.70	92.3340
77.11	117.1079
77.11	117.1079

77.11	117.1079
77.11	117.1079
77.11	117.1079
77.11	117.1079
77.11	117.1079
78.38	119.2732
79.62	143.1597
79.80	143.1929
79.80	143.1929
80.11	142.2620
80.18	142.2746
80.30	142.2966
80.30	142.2966
80.57	128.5063
81.00	115.7191
81.07	102.8705
81.07	102.8705
81.07	102.8705
81.07	102.8705
82.60	86.2214
83.37	105.1525
83.78	101.2366
83.78	101.2366
83.78	101.2366
83.78	101.2366
84.21	100.2976
84.90	101.3774
85.43	97.4654
86.29	120.7987
86.50	120.8298
86.54	137.0357
86.59	137.0441
86.72	137.0657
86.79	137.0772
86.94	137.1024
87.30	129.1882
87.30	129.1882
87.30	129.1882
87.30	129.1882
87.30	129.1882
87.30	129.1882
87.30	129.1882
87.57	106.8941
87.88	106.9342
88.03	106.9538
88.36	106.9963
88.47	107.0107
89.95	124.8005
91.11	110.5529
92.29	95.2638
92.38	95.2740
92.38	95.2740
93.35	99.5988
94.00	99.6745
94.67	107.7958
94.67	107.7962
94.90	107.8249
94.90	107.8249
94.90	107.8249
94.90	107.8249
95.87	78.9452
95.87	78.9452
96.73	77.4104
97.43	83.9278
98.44	98.1049
98.44	98.1049
98.88	95.9883
99.55	100.1054
99.55	100.1054
99.86	100.1401
100.00	101.1673
100.10	101.1791
103.18	79.1890
103.76	84.3187
105.00	112.9160
105.31	114.9889
108.00	98.9933
109.28	95.0403

111.00	95.2127
111.00	95.2127
111.76	108.6085
112.95	99.5099
115.19	96.6553
116.30	102.9415
117.00	100.9547
117.00	100.9547
117.66	103.0838
121.11	121.0258
121.62	109.7031
121.78	109.7205
122.06	98.3616
122.32	98.3866
122.32	98.3866
122.32	98.3866
122.32	98.3866
123.07	104.6779
127.23	121.7529
129.76	89.7109
131.20	84.6102
133.02	95.2191
133.54	96.3125
135.34	98.5712
136.00	108.0749
136.25	103.9020
136.48	101.8244
140.51	82.1817
140.51	0.0000
142.18	103.4095
142.65	112.9540
143.76	107.7828
144.24	114.1716
144.24	114.1716
144.24	114.1716
144.24	114.1716
145.22	95.2261
145.44	103.7108
147.16	95.3895
152.43	99.0218
152.70	94.7852
153.22	98.0237
154.21	97.0402
154.21	97.0402
154.21	97.0402
154.21	97.0402
155.03	99.2425
156.02	99.3262
158.56	89.9069
159.00	0.0000
159.00	96.3638
160.31	108.2603
161.27	109.4193
162.32	111.6616
162.64	112.7657
163.35	96.7126
163.89	84.9302
165.85	94.7575
167.43	94.8794
171.28	93.0107
171.86	87.6439
172.10	91.9895
176.55	97.7440
176.60	97.7474
181.06	160.2093
184.41	92.8760
185.71	101.7180
186.00	92.9882
190.27	89.9953
192.34	94.5310
193.63	90.2202
197.04	99.2704
198.01	100.4449
198.60	98.2788
200.40	103.9363
201.83	95.1884
202.84	93.0420
205.31	96.5355

208.36	105.6400
208.81	103.4486
209.75	99.0651
209.75	99.0651
210.97	93.5791
215.65	101.7078
216.55	101.7703
218.09	88.4435
222.10	84.1948
223.80	100.0259
226.40	99.9752
227.00	93.7079
227.08	93.7130
227.20	93.7200
228.16	82.9595
228.18	82.9606
228.18	82.9606
231.56	83.5978
235.69	81.5587
236.00	86.1071
236.00	86.1071
238.63	71.1215
238.63	71.1215
238.63	71.1215
238.63	71.1215
239.00	63.5704
240.98	60.6205
241.98	77.3405
241.98	77.3405
241.98	77.3405
244.69	80.0061
245.39	81.1560
247.94	59.3669
248.90	61.2303
249.79	68.5799
252.40	81.5140
252.85	76.9561
252.85	76.9561
254.15	0.0000
256.20	63.3449
256.20	63.3449
260.50	64.4326
260.90	62.6070
262.80	69.1315
264.65	71.9767
268.24	61.9595
268.79	65.6802
269.46	69.4089
269.46	69.4089
269.46	69.4089
269.46	69.4089
271.23	69.4812
273.65	72.3642
276.40	79.9153
277.35	68.8023
277.60	71.6019
277.60	71.6019
278.00	69.7586
278.60	64.2007
279.20	63.2926
279.53	65.1661
280.46	62.4068
281.68	63.3831
283.67	78.3870
284.30	77.4822
285.00	66.3068
285.90	69.1438
286.10	63.5450
286.10	63.5450
287.40	67.3330
288.45	0.0000
290.67	73.0793
290.80	80.5809
291.72	80.6229
293.26	62.8657
293.70	62.8812
295.21	75.1455
295.21	75.1455

295.21	75.1455
295.96	86.4533
296.50	77.0802
297.23	74.2901
298.57	73.4049
299.80	80.9882
299.80	80.9882
300.09	74.4087
300.09	74.4087
300.09	74.4087
300.09	74.4087
300.12	74.4097
301.29	68.8029
302.84	68.8617
303.76	79.2781
303.91	79.2852
304.40	76.4734
304.40	76.4734
304.84	72.7148
306.84	56.7231
308.46	51.0957
311.98	63.5175
316.51	57.9708
318.01	58.9681
319.02	58.0483
319.41	60.9156
320.08	61.8896
323.87	72.5089
323.87	72.5089
323.87	72.5089
323.87	72.5089
325.23	73.5156
328.77	66.9563
333.44	75.7482
334.20	71.9412
334.20	71.9412
334.30	71.9449
338.28	53.8289
338.28	53.8289
338.28	53.8289
338.28	53.8289
338.32	53.8303
338.32	53.8303
338.32	53.8303
340.50	63.5129
340.57	65.4400
344.27	52.0646
345.85	64.6503
350.59	50.2963
351.07	50.3083
351.92	45.4899
351.92	45.4899
351.92	45.4899
355.39	0.0000
356.01	73.7076
364.48	38.9551
366.43	45.8158
367.43	50.7146
367.94	0.0000
369.80	59.5599
374.96	41.1100
383.85	47.1814
387.95	46.2868
388.63	50.2423
391.69	41.4350
391.69	41.4350
392.90	39.4839
398.62	49.4849
400.65	25.7559
401.10	27.7430
401.81	29.7341
402.60	36.6856
404.84	55.5803
410.95	38.8148
411.60	46.7900
413.65	42.8473
414.70	39.8765
415.30	32.9069

415.76	42.8877
417.63	0.0000
418.52	46.9346
423.70	39.0348
427.08	45.1071
427.89	42.1148
432.53	30.1428
433.93	35.1876
439.47	26.2019
439.56	26.2028
439.89	24.1907
443.98	43.4173
444.90	37.3735
445.03	37.3758
445.03	37.3758
445.03	37.3758
453.90	30.4182
463.38	35.6281
468.07	39.7765
473.00	36.7910
475.06	37.8446
475.35	41.9409
476.78	39.9183
477.59	39.9312
477.96	38.9134
482.03	52.3111
484.57	32.8563
487.03	38.0275
490.36	42.1942
492.35	37.0780
497.08	37.1474
507.63	0.0000
510.53	0.0000
510.84	42.5340
511.00	42.5367
511.85	48.7777
511.85	48.7777
513.99	130.8727
513.99	130.8727
520.41	20.8247
520.65	21.8680
527.90	27.1489
528.96	0.0000
529.64	22.9872
529.87	0.0000
531.02	37.6348
537.32	28.2927
543.00	24.1522
546.56	0.0000
549.76	30.5286
552.65	37.9380
555.20	26.3702
563.23	35.9681
563.90	38.0927
568.70	29.6789
569.32	30.7459
569.50	29.6871
569.67	30.7495
573.80	27.6091
574.00	27.6110
574.64	31.8662
578.91	55.3186
579.30	0.0000
583.14	30.8968
585.48	39.4525
591.81	47.0207
592.07	47.0239
593.00	42.7637
595.88	37.4550
600.56	46.4479
602.52	0.0000
602.71	28.6048
602.71	28.6048
603.60	44.7083
604.41	42.9321
604.70	42.9365
609.31	32.2529

609.31	32.2529
609.31	32.2529
609.31	32.2529
610.33	32.2646
612.46	19.7312
614.37	25.1289
618.01	19.4089
621.84	23.7526
621.84	23.7526
631.29	28.1601
633.02	33.5952
633.10	33.5959
634.78	30.3618
635.90	29.2880
636.97	22.7878
645.85	19.5895
646.12	21.7681
656.30	29.4844
657.75	32.7759
657.90	0.0000
661.65	33.9108
661.65	33.9108
664.57	36.1324
666.33	33.9615
666.33	33.9615
675.00	23.0697
677.61	17.5918
685.20	16.5315
692.80	23.0153
695.00	23.9524
696.49	30.4152
696.49	30.4152
697.00	32.2635
697.49	30.4246
698.33	34.1207
698.50	34.1229
699.00	32.2834
702.63	24.0090
706.10	27.7319
706.58	0.0000
706.67	27.7368
709.31	24.0581
711.68	27.7795
713.82	20.3846
717.42	28.7554
720.50	29.7109
721.93	36.2261
722.20	32.5127
722.78	26.9438
722.78	26.9438
722.89	26.9450
722.95	26.9456
723.30	22.3022
724.18	19.5196
727.18	20.4674
733.00	21.4352
735.90	19.5880
739.58	22.4111
742.81	26.1714
744.21	22.4419
747.13	23.3968
751.79	27.1775
752.31	27.1816
753.82	20.6299
755.35	18.7626
756.15	17.8287
756.87	21.5868
763.93	27.2742
765.79	16.9380
766.42	14.1174
766.84	14.1193
776.49	20.7660
778.00	18.8863
778.57	25.5004
778.89	28.3368
783.80	17.9718
785.46	17.0339
792.07	15.1696

795.84	15.1855
796.30	18.0352
798.80	30.3965
801.93	18.0638
805.60	13.3238
810.29	22.8706
810.76	27.6394
815.85	8.5898
817.79	16.2339
818.51	19.1024
819.60	21.9743
826.30	15.3148
828.27	0.0000
831.60	23.0054
831.96	23.0078
834.83	20.1476
836.80	0.0000
846.75	28.8751
848.13	23.1089
856.28	0.0000
856.80	27.0230
860.37	26.0826
867.32	14.5169
867.82	17.4229
871.10	19.3754
873.19	24.2325
874.81	28.1215
875.33	0.0000
876.40	20.3724
879.36	12.6213
880.27	16.5089
880.51	17.4811
881.50	18.4569
883.24	14.5779
884.67	15.5557
889.25	20.4412
896.60	15.6038
898.02	16.5850
899.00	21.4687
903.28	20.5151
911.07	14.6829
911.07	14.6829
911.07	14.6829
919.63	17.6580
920.93	17.6638
925.00	16.6998
925.24	16.7008
926.50	20.6368
935.52	21.6688
937.48	26.6061
944.10	18.7538
946.00	21.7252
949.00	15.8118
962.29	17.8469
964.01	15.8704
966.15	14.8865
968.20	16.8796
969.11	11.9177
969.11	11.9177
969.11	11.9177
977.42	9.9516
980.50	11.9507
983.50	16.9426
989.30	15.9681
996.32	29.9908
1001.03	16.0130
1001.68	15.0146
1004.76	36.0615
1021.30	0.0000
1024.50	0.0000
1034.80	12.1055
1036.00	15.1361
1037.82	20.1904
1038.57	19.1840
1038.76	0.0000
1045.16	14.1572
1046.59	21.2427
1048.07	19.2257

1050.47	17.2117
1050.47	17.2117
1062.04	19.2876
1063.62	13.2015
1076.63	16.2962
1077.35	14.2615
1078.86	11.2090
1085.78	17.3500
1099.22	11.2605
1112.02	10.2657
1112.84	12.3213
1115.52	20.5469
1120.29	10.2844
1120.29	10.2844
1120.29	10.2844
1120.29	10.2844
1120.51	7.1994
1121.28	9.2578
1124.00	0.0000
1129.67	13.3973
1131.51	0.0000
1147.95	0.0000
1167.94	10.3906
1173.22	14.5634
1175.09	10.4065
1177.93	8.3301
1189.05	7.3059
1204.90	11.5188
1205.75	0.0000
1213.00	16.7826
1221.42	18.9133
1230.97	13.6861
1235.34	15.8057
1236.41	0.0000
1238.25	6.3262
1246.25	9.5046
1260.41	0.0000
1271.85	12.7383
1274.45	12.7446
1274.54	12.7446
1291.56	22.3792
1298.22	0.0000
1312.09	12.8394
1325.50	18.2361
1325.50	18.2361
1332.49	9.6676
1333.61	15.0419
1360.21	6.4792
1362.66	0.0000
1365.15	4.3236
1368.21	14.0595
1368.53	0.0000
1376.25	8.6650
1384.27	13.0171
1394.10	7.4520
1395.20	7.4537
1407.95	9.3391
1434.06	10.3221
1436.60	8.4494
1457.56	0.0000
1460.81	5.6574
1489.15	7.5815
1509.49	7.6088
1596.49	10.6190
1620.62	9.6924
1678.03	0.0000
1691.02	7.8435
1691.02	7.8435
1706.46	0.0000
1750.46	0.0000
1764.49	5.9512
1764.49	5.9512
1764.49	5.9512
1764.49	5.9512
1770.23	10.9202
1771.40	6.9504
1791.20	0.0000
1808.65	5.9916

1836.01

7.0193

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202018276

Total Uranium Activity	5.3097E+00	ug/g
Total Uranium Counting Unc.	4.6201E+00	ug/g
Total Uranium Tpu	2.3572E-06	ug/g
Total Uranium Mda	2.8340E+00	ug/g

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*****
*
*           GEL Laboratories LLC
*           2040 SAVAGE ROAD
*           CHARLESTON ,SC 29417
*           GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 942723          SAMPLE ID   : G1202018276
*  ANALYST       : MXR1            DETECTOR    : GAM15
*  SAMPLE DATE   : 19-JAN-2010 00:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 27-JAN-2010 20:43:08.29  SAMPLE ALQT: 139.513 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.781E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 4.130E-01
GROSS GAMMA MDA     (pCi/GRAM ) : 1.890E-01
GROSS GAMMA DLC     (pCi/GRAM ) : 8.909E-02

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 22:45:22.07

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018277.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:43:46
Sample ID          : G1202018277 Sample quantity : 1.16894E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.77 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	63.53*	62	474	0.91	127.25	123	9	8.55E-03	66.1	
2	4	74.84*	304	305	0.86	149.86	146	14	4.22E-02	10.4	1.17E+00
3	4	77.18*	531	316	0.92	154.54	146	14	7.37E-02	7.0	
4	0	83.78	101	371	1.61	167.74	165	8	1.41E-02	34.4	
5	0	87.16	188	294	1.01	174.51	172	6	2.62E-02	16.0	
6	0	89.88	129	370	0.80	179.95	177	7	1.79E-02	26.3	
7	0	93.13*	266	342	1.48	186.44	183	9	3.70E-02	14.8	
8	0	185.78*	153	286	1.34	371.74	368	10	2.12E-02	23.3	
9	0	209.36	113	223	1.05	418.92	415	9	1.58E-02	25.6	
10	4	238.59*	1069	180	0.94	477.38	473	16	1.48E-01	3.7	3.85E+00
11	4	241.61	206	236	1.51	483.41	473	16	2.86E-02	16.1	
12	0	295.31*	269	167	1.07	590.81	585	11	3.74E-02	11.3	
13	0	299.89	65	121	1.47	599.98	597	8	9.08E-03	31.6	
14	0	328.72	62	140	1.01	657.63	653	10	8.55E-03	38.2	
15	0	338.20*	209	141	0.87	676.59	672	10	2.90E-02	12.8	
16	0	351.88*	478	125	1.07	703.94	699	10	6.63E-02	6.4	
17	0	463.03	73	87	1.40	926.22	920	10	1.01E-02	26.8	
18	0	510.94*	94	143	1.65	1022.03	1015	15	1.31E-02	33.4	
19	0	583.28*	301	107	1.31	1166.70	1161	11	4.18E-02	9.0	
20	0	609.34*	343	113	1.39	1218.81	1213	12	4.77E-02	8.4	
21	0	727.56	88	84	1.64	1455.21	1448	14	1.22E-02	24.5	
22	0	795.06	61	52	1.97	1590.18	1583	14	8.42E-03	28.4	
23	0	837.20	16	85	1.08	1674.45	1670	12	2.26E-03	113.8	
24	0	861.73	50	75	0.84	1723.50	1715	16	6.97E-03	41.3	
25	0	911.26*	249	40	1.62	1822.53	1816	13	3.46E-02	8.2	
26	1	964.85	52	39	1.76	1929.68	1922	26	7.24E-03	27.3	1.42E+00
27	1	968.92*	133	39	1.77	1937.81	1922	26	1.85E-02	13.1	
28	0	1120.88*	64	89	1.41	2241.64	2235	13	8.88E-03	31.5	
29	0	1410.10	5	21	1.43	2819.84	2812	9	7.45E-04	157.7	
30	0	1460.97*	1365	37	1.70	2921.53	2914	17	1.90E-01	2.9	
31	0	1764.63*	64	6	2.36	3528.54	3520	14	8.93E-03	16.5	

Flag: "*" = Peak area was modified by background subtraction


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018277.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:43:46
Sample ID         : G1202018277 Sample quantity : 116.89 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA16 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.77 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	*	3.401E+01	3.588E+00	4.721E-01	4.150E-02	72.039
CD-109	+	88.03	*	2.663E+00	8.912E-01	1.041E+00	1.003E-01	2.558
SN-126	+	64.28		5.775E-01	7.682E-01	6.889E-01	1.004E-01	0.838
	+	86.94		1.088E+00	5.710E-01	4.676E-01	1.943E-01	2.326
	+	87.57	*	2.616E-01	8.756E-02	1.027E-01	9.850E-03	2.547
TL-208		277.35		3.368E-01	3.656E-01	6.112E-01	9.086E-02	0.551
	+	510.84		4.735E-01	3.221E-01	2.137E-01	2.702E-02	2.215
	+	583.14	*	4.305E-01	8.830E-02	5.834E-02	5.783E-03	7.378
	+	860.37		6.748E-01	5.610E-01	4.250E-01	4.255E-02	1.588
BI-211		72.87		3.142E+00	2.742E+00	4.447E+00	3.615E-01	0.707
	+	351.07	*	3.009E+00	5.079E-01	2.866E-01	3.134E-02	10.496
PB-212	+	74.81		1.786E+00	4.331E-01	4.689E-01	5.858E-02	3.808
	+	77.11		1.763E+00	2.894E-01	2.661E-01	2.260E-02	6.626
	+	87.30		1.210E+00	4.227E-01	4.978E-01	6.886E-02	2.431
	+	238.63	*	1.473E+00	2.063E-01	8.588E-02	1.017E-02	17.156
	+	300.09		1.388E+00	8.952E-01	1.065E+00	1.395E-01	1.303
PO-212	+	74.81		1.786E+00	4.331E-01	4.689E-01	5.858E-02	3.808
	+	77.11		1.763E+00	2.894E-01	2.661E-01	2.260E-02	6.626
	+	87.30		1.210E+00	4.227E-01	4.978E-01	6.886E-02	2.431
		115.19		-5.137E-01	2.913E+00	4.851E+00	4.048E-01	-0.106
	+	238.63	*	1.473E+00	2.063E-01	8.588E-02	1.017E-02	17.156
	+	300.09		1.388E+00	8.952E-01	1.065E+00	1.395E-01	1.303
BI-214	+	609.31	*	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
	+	1120.29		8.972E-01	5.736E-01	5.407E-01	5.805E-02	1.659
	+	1764.49		1.238E+00	4.218E-01	2.851E-01	2.360E-02	4.341
PB-214	+	74.81		3.077E+00	7.254E-01	8.080E-01	8.983E-02	3.808
	+	77.11		3.022E+00	5.469E-01	4.561E-01	5.204E-02	6.626
	+	87.30		2.073E+00	7.119E-01	8.528E-01	1.047E-01	2.431
	+	241.98		1.703E+00	5.885E-01	5.173E-01	6.408E-02	3.292
	+	295.21		1.003E+00	2.629E-01	1.851E-01	2.470E-02	5.419
	+	351.92	*	1.047E+00	1.849E-01	9.992E-02	1.208E-02	10.474
PO-214	+	74.81		3.077E+00	7.254E-01	8.080E-01	8.983E-02	3.808
	+	77.11		3.022E+00	5.469E-01	4.561E-01	5.204E-02	6.626
	+	87.30		2.073E+00	7.119E-01	8.528E-01	1.047E-01	2.431

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		1.703E+00	5.885E-01	5.173E-01	6.408E-02	3.292
	+	295.21		1.003E+00	2.629E-01	1.851E-01	2.470E-02	5.419
	+	351.92	*	1.047E+00	1.849E-01	9.992E-02	1.208E-02	10.474
	+	74.81		1.786E+00	4.331E-01	4.689E-01	5.858E-02	3.808
	+	77.11		1.763E+00	2.894E-01	2.661E-01	2.260E-02	6.626
PO-218	+	87.30		1.210E+00	4.227E-01	4.978E-01	6.886E-02	2.431
	+	238.63	*	1.473E+00	2.063E-01	8.588E-02	1.017E-02	17.156
	+	300.09		1.388E+00	8.952E-01	1.065E+00	1.395E-01	1.303
	+	74.81		3.077E+00	7.254E-01	8.080E-01	8.983E-02	3.808
	+	77.11		3.022E+00	5.469E-01	4.561E-01	5.204E-02	6.626
RA-224	+	87.30		2.073E+00	7.119E-01	8.528E-01	1.047E-01	2.431
	+	241.98		1.703E+00	5.885E-01	5.173E-01	6.408E-02	3.292
	+	295.21		1.003E+00	2.629E-01	1.851E-01	2.470E-02	5.419
	+	351.92	*	1.047E+00	1.849E-01	9.992E-02	1.208E-02	10.474
	+	240.98	*	3.229E+00	1.101E+00	9.775E-01	1.077E-01	3.303
RA-226	+	609.31	*	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
	+	1120.29		8.972E-01	5.736E-01	5.407E-01	5.805E-02	1.659
	+	1764.49		1.238E+00	4.218E-01	2.851E-01	2.360E-02	4.341
	+	338.32		1.449E+00	7.109E-01	3.521E-01	1.472E-01	4.114
	+	911.07	*	1.582E+00	3.208E-01	2.030E-01	2.411E-02	7.791
AC-228	+	969.11		1.489E+00	5.240E-01	3.274E-01	7.721E-02	4.547
	+	338.32		1.449E+00	7.109E-01	3.521E-01	1.472E-01	4.114
	+	911.07	*	1.582E+00	3.208E-01	2.030E-01	2.411E-02	7.791
	+	969.11		1.489E+00	5.240E-01	3.274E-01	7.721E-02	4.547
	+	74.81		1.813E+00	4.063E-01	4.762E-01	3.984E-02	3.808
TH-228	+	77.11		1.790E+00	2.938E-01	2.702E-01	2.295E-02	6.626
	+	87.30		1.229E+00	4.112E-01	5.055E-01	4.831E-02	2.431
	+	238.63	*	1.496E+00	2.095E-01	8.720E-02	1.032E-02	17.156
	+	300.09		1.409E+00	1.226E+00	1.081E+00	6.466E-01	1.303
	+	609.31	*	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
TH-230	+	1120.29		8.972E-01	5.736E-01	5.407E-01	5.805E-02	1.659
	+	1764.49		1.238E+00	4.218E-01	2.851E-01	2.360E-02	4.341
	+	338.32		1.449E+00	4.044E-01	3.521E-01	3.844E-02	4.114
	+	911.07	*	1.582E+00	3.208E-01	2.030E-01	2.411E-02	7.791
	+	969.11		1.489E+00	5.240E-01	3.274E-01	7.721E-02	4.547
TH-232	+	63.29	*	1.459E+00	1.946E+00	1.812E+00	3.161E-01	0.805
	+	92.38		2.391E+00	8.316E-01	6.171E-01	1.134E-01	3.875
	+	609.31	*	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
	+	1120.29		8.972E-01	5.736E-01	5.407E-01	5.805E-02	1.659
	+	1764.49		1.238E+00	4.218E-01	2.851E-01	2.360E-02	4.341
NP-237	+	86.50	*	7.683E-01	3.021E-01	2.614E-01	5.935E-02	2.939
	+	95.87		6.741E-01	8.406E-01	1.315E+00	3.257E-01	0.513
	+	63.29	*	1.459E+00	1.946E+00	1.812E+00	3.161E-01	0.805
	+	92.38		2.391E+00	7.397E-01	6.171E-01	5.694E-02	3.875
	+	74.67	*	2.895E-01	6.479E-02	7.626E-02	6.313E-03	3.797
AM-243	+	86.72		2.881E+01	9.642E+00	9.781E+00	9.281E-01	2.946
	+	117.66		-1.189E+00	3.126E+00	5.146E+00	4.282E-01	-0.231
	+	142.18		-8.623E+00	1.553E+01	2.463E+01	2.101E+00	-0.350
	+	511.00	*	1.023E-01	6.905E-02	4.617E-02	4.391E-03	2.215
	+							

---- 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	*		-1.294E-02	2.966E-01	4.897E-01	4.954E-02	-0.026
NA-22	1274.54	*		2.583E-02	4.307E-02	7.452E-02	6.201E-03	0.347
NA-24	1368.53	*		-3.032E-01	4.307E-02	Half-Life too short		
AL-26	1129.67			-1.595E+00	1.843E+00	2.756E+00	2.310E-01	-0.579
	1808.65	*		-2.326E-04	2.460E-02	4.040E-02	3.303E-03	-0.006
TI-44	67.85			-1.578E-02	4.368E-02	6.082E-02	4.710E-03	-0.260
	78.38	*		3.253E-01	5.340E-02	6.640E-02	5.718E-03	4.900
SC-46	889.25	*		-1.051E-02	4.017E-02	6.547E-02	6.189E-03	-0.161
	1120.51	*		1.539E-01	9.787E-02	1.320E-01	1.116E-02	1.165
V-48	944.10			5.128E-01	9.523E-01	1.658E+00	1.549E-01	0.309
	983.50	*		-1.497E-02	6.802E-02	1.101E-01	1.013E-02	-0.136
	1312.09			-7.518E-04	8.422E-02	1.361E-01	1.142E-02	-0.006
CR-51	320.08	*		-2.021E-01	3.507E-01	5.292E-01	6.188E-02	-0.382
MN-52	744.21			2.185E-01	2.211E-01	3.896E-01	3.577E-02	0.561
	848.13			-6.819E+00	6.994E+00	1.061E+01	9.987E-01	-0.643
	935.52			5.400E-02	2.587E-01	4.388E-01	4.111E-02	0.123
	1246.25			7.750E+00	7.418E+00	1.327E+01	1.094E+00	0.584
	1333.61			-2.567E+00	5.324E+00	8.023E+00	6.768E-01	-0.320
	1434.06	*		-2.040E-02	2.313E-01	3.655E-01	3.118E-02	-0.056
MN-54	834.83	*		4.598E-02	3.951E-02	6.565E-02	6.166E-03	0.700
CO-56	846.75	*		-2.175E-03	3.606E-02	6.012E-02	5.657E-03	-0.036
	977.42			7.647E-01	3.077E+00	4.791E+00	4.421E-01	0.160
	1037.82			-1.960E-01	3.317E-01	5.145E-01	4.836E-02	-0.381
	1175.09			1.197E+00	2.271E+00	3.897E+00	3.136E-01	0.307
	1238.25			2.279E-01	1.000E-01	1.882E-01	1.596E-02	1.211
	1360.21			-1.296E-01	9.227E-01	1.454E+00	1.232E-01	-0.089
	1771.40			-6.162E-01	2.871E-01	2.608E-01	2.155E-02	-2.363
CO-57	122.06	*		-1.249E-02	2.196E-02	3.577E-02	2.972E-03	-0.349
	136.48			-8.298E-03	1.757E-01	2.919E-01	2.654E-02	-0.028
CO-58	810.76	*		-1.771E-02	3.343E-02	5.307E-02	4.972E-03	-0.334
FE-59	142.65			-3.436E-01	2.427E+00	3.934E+00	3.358E-01	-0.087
	192.34			-7.475E-01	8.362E-01	1.289E+00	1.825E-01	-0.580
	1099.22	*		5.426E-03	1.008E-01	1.664E-01	1.547E-02	0.033
	1291.56			3.740E-02	1.260E-01	2.111E-01	2.015E-02	0.177
CO-60	1173.22			-1.778E-02	4.669E-02	7.333E-02	5.896E-03	-0.242
	1332.49	*		-2.499E-02	4.084E-02	6.038E-02	5.093E-03	-0.414
ZN-65	1115.52	*		2.995E-02	1.100E-01	1.617E-01	1.373E-02	0.185
GE-68	1077.35	*		8.072E-01	1.306E+00	2.273E+00	1.985E-01	0.355
AS-73	53.44	*		5.436E-01	7.396E-01	1.206E+00	9.200E-02	0.451
AS-74	595.88	*		1.770E-02	8.739E-02	1.450E-01	1.346E-02	0.122
	634.78			1.069E-01	3.460E-01	5.771E-01	5.232E-02	0.185
SE-75	66.05			-6.779E-01	4.661E+00	6.594E+00	6.344E-01	-0.103
	96.73			3.634E-01	6.707E-01	1.052E+00	1.454E-01	0.345
	121.11			1.832E-02	1.121E-01	1.893E-01	2.079E-02	0.097
	136.00			-1.084E-03	3.287E-02	5.468E-02	4.641E-03	-0.020
	198.60			-2.364E-01	1.614E+00	2.576E+00	2.761E-01	-0.092
	264.65	*		-2.235E-02	4.110E-02	6.338E-02	7.397E-03	-0.353
	279.53			-1.332E-02	1.080E-01	1.711E-01	2.095E-02	-0.078
	303.91			1.937E+00	2.121E+00	3.228E+00	4.486E-01	0.600

---- 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		1.140E-01	2.281E-01	3.950E-01	4.598E-02	0.289
		87.88		6.180E+02	2.068E+02	3.265E+02	3.142E+01	1.893
	+	200.40		4.012E+01	1.525E+02	2.522E+02	2.506E+01	0.159
		239.00		2.543E+02	3.373E+01	4.012E+01	4.401E+00	6.337
		249.79		-6.168E+01	6.718E+01	1.012E+02	1.139E+01	-0.609
		281.68		-6.215E+01	9.273E+01	1.409E+02	1.688E+01	-0.441
		297.23		1.193E+02	7.038E+01	9.442E+01	1.111E+01	1.263
		303.76		7.120E+01	2.024E+02	2.948E+02	3.435E+01	0.242
		439.47		5.585E+01	1.371E+02	2.353E+02	2.220E+01	0.237
		484.57		-1.394E+02	2.309E+02	3.631E+02	3.454E+01	-0.384
		520.65	*	-7.864E+00	9.903E+00	1.508E+01	1.432E+00	-0.522
		574.64		-6.008E+01	2.036E+02	3.239E+02	3.035E+01	-0.186
		578.91		-2.297E+01	9.923E+01	1.380E+02	1.291E+01	-0.166
		585.48		8.222E+02	2.445E+02	4.314E+02	4.024E+01	1.906
		755.35		-3.116E+01	1.789E+02	2.812E+02	2.591E+01	-0.111
		817.79		9.310E+01	1.271E+02	2.282E+02	2.136E+01	0.408
		698.33		9.367E-01	3.306E+01	5.337E+01	4.816E+00	0.018
		776.49	*	-1.503E-01	3.879E-01	5.942E-01	5.509E-02	-0.253
SR-82		1395.20		3.374E+00	1.011E+01	1.713E+01	1.457E+00	0.197
		520.41	*	-4.718E-02	6.114E-02	9.333E-02	8.868E-03	-0.506
RB-83		529.64		1.603E-01	1.052E-01	1.911E-01	1.813E-02	0.839
		552.65		-5.715E-02	1.765E-01	2.806E-01	2.649E-02	-0.204
RB-84		881.50	*	-8.390E-03	6.618E-02	1.092E-01	1.032E-02	-0.077
KR-85		513.99	*	1.432E+01	7.661E+00	1.291E+01	1.228E+00	1.109
SR-85		513.99	*	7.361E-02	3.938E-02	6.636E-02	6.310E-03	1.109
RB-86		1076.63	*	2.320E-01	8.305E-01	1.403E+00	1.226E-01	0.165
Y-88		898.02		-1.957E-02	3.762E-02	5.926E-02	5.628E-03	-0.330
		1836.01	*	2.175E-02	3.124E-02	5.867E-02	4.763E-03	0.371
ZR-88		392.90	*	-1.005E-02	2.818E-02	4.615E-02	4.268E-03	-0.218
Y-91		1204.90	*	4.386E+00	1.917E+01	3.192E+01	2.596E+00	0.137
NB-94		702.63	*	-1.289E-02	3.384E-02	5.253E-02	4.749E-03	-0.245
		871.10		-1.012E-02	3.354E-02	5.448E-02	5.142E-03	-0.186
NB-95		765.79	*	-1.070E-02	4.451E-02	6.956E-02	6.430E-03	-0.154
NB-95M		235.69	*	-1.897E-02	1.300E-01	1.852E-01	2.202E-02	-0.102
ZR-95		724.18		-4.638E-03	9.345E-02	1.299E-01	1.277E-02	-0.036
		756.15	*	-6.333E-03	7.002E-02	1.110E-01	1.114E-02	-0.057
NB-97		657.90	*	-1.415E-02	7.002E-02	Half-Life	too short	
		1024.50		5.836E+00	7.002E-02	Half-Life	too short	
ZR-97		254.15		-1.897E+00	7.002E-02	Half-Life	too short	
		355.39		7.910E-01	7.002E-02	Half-Life	too short	
		507.63	*	2.235E+00	7.002E-02	Half-Life	too short	
		602.52		-4.787E+00	7.002E-02	Half-Life	too short	
		1021.30		1.770E+00	7.002E-02	Half-Life	too short	
		1147.95		-6.768E-01	7.002E-02	Half-Life	too short	
		1362.66		4.257E+00	7.002E-02	Half-Life	too short	
		1750.46		-5.579E-01	7.002E-02	Half-Life	too short	
MO-99		140.51		-2.379E+01	2.581E+01	3.876E+01	1.072E+01	-0.614
		181.06		4.607E-01	1.647E+01	2.580E+01	4.821E+00	0.018
		366.43		6.544E+00	8.098E+01	1.373E+02	1.389E+01	0.048

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		-1.812E+00	1.106E+01	1.740E+01	2.698E+00	-0.104
	778.00			-1.171E+01	3.713E+01	5.734E+01	5.319E+00	-0.204
TC-99M	140.51	*		-6.428E+10	3.713E+01	Half-Life too short		
RH-101	127.23			-4.743E-02	2.960E-02	4.554E-02	3.792E-03	-1.042
	198.01	*		1.861E-03	2.903E-02	4.685E-02	4.626E-03	0.040
	325.23			-2.679E-01	2.364E-01	2.900E-01	3.256E-02	-0.924
RH-102	418.52			-4.489E-02	2.594E-01	4.282E-01	4.011E-02	-0.105
	475.06	*		1.625E-03	2.733E-02	4.550E-02	4.325E-03	0.036
	631.29			-5.056E-02	5.453E-02	8.010E-02	7.279E-03	-0.631
	697.49			2.303E-02	7.414E-02	1.228E-01	1.107E-02	0.188
	766.84			8.638E-02	1.118E-01	1.903E-01	1.759E-02	0.454
	1046.59			1.896E-02	1.157E-01	1.940E-01	1.728E-02	0.098
	1112.84			-7.250E-03	2.557E-01	3.941E-01	3.351E-02	-0.018
RU-103	497.08	*		-9.573E-03	3.795E-02	6.137E-02	9.036E-03	-0.156
	610.33	+		1.003E+01	2.403E+00	2.816E+00	4.786E-01	3.563
RH-106	511.85	+		5.110E-01	3.450E-01	4.379E-01	4.165E-02	1.167
	621.84	*		-1.334E-01	2.881E-01	4.457E-01	6.107E-02	-0.299
	1050.47			2.433E-01	2.361E+00	3.932E+00	3.495E-01	0.062
RU-106	511.85	+		5.110E-01	3.450E-01	4.379E-01	4.165E-02	1.167
	621.84	*		-1.334E-01	2.878E-01	4.457E-01	4.076E-02	-0.299
	1050.47			2.433E-01	2.361E+00	3.932E+00	3.495E-01	0.062
AG-108M	433.93	*		1.943E-02	2.930E-02	5.116E-02	4.980E-03	0.380
	614.37			2.298E-02	3.798E-02	5.820E-02	5.532E-03	0.395
	722.95			-1.307E-02	4.393E-02	5.889E-02	5.555E-03	-0.222
AG-110M	657.75	*		-6.429E-03	3.261E-02	5.174E-02	4.736E-03	-0.124
	677.61			-6.124E-02	2.781E-01	4.385E-01	4.024E-02	-0.140
	706.67			-7.807E-02	2.083E-01	3.231E-01	2.998E-02	-0.242
	763.93			-1.476E-01	1.717E-01	2.509E-01	2.375E-02	-0.588
	884.67			-2.238E-03	4.851E-02	8.071E-02	7.832E-03	-0.028
	937.48			-1.518E-01	1.166E-01	1.679E-01	1.620E-02	-0.904
	1384.27			4.645E-02	1.507E-01	2.540E-01	2.220E-02	0.183
IN-111	171.28			2.028E-01	9.194E-01	1.530E+00	1.407E-01	0.133
	245.39	*		-3.629E-01	1.131E+00	1.579E+00	1.758E-01	-0.230
IN-113M	391.69	*		2.751E-02	4.093E-02	7.163E-02	6.800E-03	0.384
SN-113	391.69	*		2.751E-02	4.093E-02	7.163E-02	6.800E-03	0.384
IN-114M	190.27	*		-5.578E-03	1.711E-01	2.495E-01	2.413E-02	-0.022
CD-115	260.90			7.765E+01	1.279E+02	2.128E+02	2.456E+01	0.365
	492.35			-6.009E+00	3.551E+01	5.788E+01	5.507E+00	-0.104
	527.90	*		-1.692E+00	1.173E+01	1.908E+01	1.811E+00	-0.089
SN-117M	156.02			2.884E-01	2.061E+00	3.432E+00	3.027E-01	0.084
	158.56	*		2.968E-02	5.085E-02	8.620E-02	7.656E-03	0.344
SB-122	563.90	*		1.398E+00	2.078E+00	3.584E+00	3.372E-01	0.390
	692.80			-2.804E+01	4.311E+01	6.474E+01	5.828E+00	-0.433
I-123	159.00	*		6.362E+00	4.311E+01	Half-Life too short		
	528.96			5.349E+02	4.311E+01	Half-Life too short		
TE-123M	159.00	*		2.302E-02	2.563E-02	4.401E-02	3.936E-03	0.523
I-124	602.71	*		-2.217E-01	7.654E-01	1.106E+00	1.023E-01	-0.201
	722.78			-7.284E-01	4.686E+00	6.416E+00	5.846E-01	-0.114
	1325.50			2.863E+01	3.907E+01	6.850E+01	5.768E+00	0.418

----- 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		5.734E+01	3.692E+01	6.907E+01	5.862E+00	0.830
		1509.49		6.716E+00	1.340E+01	2.421E+01	2.070E+00	0.277
		1691.02		-3.035E+00	3.743E+00	5.102E+00	4.290E-01	-0.595
		602.71		-1.241E-02	4.282E-02	6.187E-02	5.723E-03	-0.201
		645.85		1.050E-01	4.935E-01	8.149E-01	7.732E-02	0.129
		709.31		2.171E+00	2.672E+00	4.613E+00	4.181E-01	0.471
		713.82		-2.061E+00	1.683E+00	2.342E+00	2.898E-01	-0.880
		722.78		-5.908E-02	3.800E-01	5.204E-01	4.833E-02	-0.114
	+	968.20		1.537E+01	4.260E+00	7.188E+00	6.658E-01	2.138
		1045.16		2.334E-01	2.453E+00	4.084E+00	3.643E-01	0.057
		1325.50		2.480E+00	3.384E+00	5.933E+00	4.997E-01	0.418
		1368.21		-5.485E-01	1.800E+00	2.768E+00	3.705E-01	-0.198
		1436.60		1.283E+00	3.470E+00	6.129E+00	5.231E-01	0.209
		1691.02	*	-5.805E-02	7.161E-02	9.761E-02	8.548E-03	-0.595
SB-125		427.89	*	-4.686E-02	8.117E-02	1.293E-01	1.235E-02	-0.363
	+	463.38		7.105E-01	3.881E-01	5.344E-01	5.401E-02	1.330
		600.56		3.870E-02	1.721E-01	2.856E-01	2.815E-02	0.136
		635.90		1.059E-01	2.593E-01	4.361E-01	4.240E-02	0.243
TE-125M		109.28	*	-2.468E+00	7.892E+00	1.310E+01	1.333E+00	-0.188
		388.63		-2.902E-02	1.910E-01	3.176E-01	2.972E-02	-0.091
I-126		666.33	*	1.642E-01	1.716E-01	3.006E-01	2.673E-02	0.546
		753.82		1.946E-01	1.520E+00	2.462E+00	2.268E-01	0.079
SB-126		223.80		-1.278E+00	3.720E+00	5.905E+00	6.236E-01	-0.216
		278.60		1.711E+00	2.451E+00	4.068E+00	4.879E-01	0.421
	+	296.50		1.012E+01	2.577E+00	3.163E+00	3.724E-01	3.201
		414.70		1.472E-02	6.708E-02	1.140E-01	1.066E-02	0.129
		415.30		5.173E+00	5.524E+00	9.824E+00	9.190E-01	0.527
		555.20		2.059E+00	3.442E+00	5.946E+00	5.609E-01	0.346
		573.80		4.348E-01	9.585E-01	1.628E+00	1.526E-01	0.267
		593.00		-1.416E-01	8.655E-01	1.390E+00	1.292E-01	-0.102
		656.30		9.541E-02	3.130E+00	5.079E+00	4.528E-01	0.019
		666.33		6.864E-02	7.174E-02	1.257E-01	1.118E-02	0.546
SB-127		675.00		8.591E-01	1.913E+00	3.218E+00	2.874E-01	0.267
		695.00		1.884E-03	7.245E-02	1.170E-01	1.054E-02	0.016
		697.00		9.199E-03	2.635E-01	4.258E-01	3.840E-02	0.022
		720.50	*	-4.446E-02	1.551E-01	2.219E-01	2.020E-02	-0.200
		856.80		-5.234E-01	5.496E-01	6.952E-01	6.550E-02	-0.753
		989.30		1.272E+00	1.071E+00	2.000E+00	1.836E-01	0.636
		1034.80		3.393E+00	9.566E+00	1.631E+01	1.463E+00	0.208
		1213.00		9.786E-01	4.901E+00	8.131E+00	6.631E-01	0.120
		61.10		2.253E+01	5.632E+01	8.270E+01	8.445E+00	0.272
		252.40		2.404E+00	4.272E+00	6.912E+00	2.951E+00	0.348
		290.80		-2.326E+01	2.386E+01	3.040E+01	4.218E+00	-0.765
		411.60		-9.590E+00	1.137E+01	1.769E+01	2.862E+00	-0.542
		444.90		8.055E-02	9.669E+00	1.611E+01	2.123E+00	0.005
		473.00		8.906E-02	1.609E+00	2.679E+00	3.625E-01	0.033
		543.00		-1.331E+01	1.609E+01	2.424E+01	3.629E+00	-0.549
		603.60		8.276E+00	1.355E+01	2.041E+01	2.656E+00	0.405
		685.20	*	-8.706E-02	1.374E+00	2.202E+00	2.582E-01	-0.040

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		698.50		-2.238E+00	1.557E+01	2.474E+01	3.981E+00	-0.090
		722.20		5.038E+00	3.103E+01	4.450E+01	5.168E+00	0.113
		783.80		1.566E+00	3.747E+00	6.215E+00	8.051E-01	0.252
		57.60		2.953E+00	5.348E+00	8.607E+00	6.222E-01	0.343
		145.22		-6.126E-03	5.944E-01	9.866E-01	8.470E-02	-0.006
		172.10		-3.392E-02	1.042E-01	1.685E-01	1.553E-02	-0.201
I-131		202.84	*	7.443E-03	4.230E-02	6.957E-02	6.958E-03	0.107
		374.96		-3.267E-02	1.741E-01	2.893E-01	2.846E-02	-0.113
		80.18		3.362E+00	4.729E+00	6.166E+00	5.451E-01	0.545
		284.30		7.544E-01	1.462E+00	2.408E+00	2.956E-01	0.313
		364.48	*	8.987E-02	1.038E-01	1.844E-01	1.951E-02	0.487
		636.97		4.773E-01	1.486E+00	2.482E+00	2.361E-01	0.192
TE-132		722.89		-1.218E+00	7.403E+00	1.012E+01	9.278E-01	-0.120
		49.72		6.479E+00	1.860E+01	2.979E+01	3.130E+00	0.217
		111.76		1.160E+01	2.627E+01	4.500E+01	4.833E+00	0.258
		116.30		6.568E+00	2.398E+01	4.076E+01	4.359E+00	0.161
		228.16	*	-7.675E-02	6.792E-01	1.092E+00	1.854E-01	-0.070
		53.15		1.738E+00	3.182E+00	5.141E+00	3.939E-01	0.338
BA-133		79.62		-2.626E-01	1.187E+00	1.651E+00	2.525E-01	-0.159
		81.00		5.463E-03	1.035E-01	1.279E-01	2.049E-02	0.043
		276.40		1.744E-01	3.609E-01	5.919E-01	9.851E-02	0.295
		302.84		-1.613E-01	1.589E-01	2.001E-01	3.090E-02	-0.806
		356.01	*	1.047E-02	4.073E-02	6.221E-02	8.990E-03	0.168
		383.85		1.725E-03	2.740E-01	4.609E-01	6.103E-02	0.004
I-133	+	510.53		1.267E+00	2.740E-01	Half-Life	too short	
		529.87	*	7.317E-03	2.740E-01	Half-Life	too short	
		706.58		-1.725E-01	2.740E-01	Half-Life	too short	
		856.28		-8.347E-01	2.740E-01	Half-Life	too short	
		875.33		-2.722E-03	2.740E-01	Half-Life	too short	
		1236.41		1.064E+00	2.740E-01	Half-Life	too short	
CS-134		1298.22		-2.466E-01	2.740E-01	Half-Life	too short	
		475.35		5.882E-02	1.772E+00	2.944E+00	2.799E-01	0.020
		563.23		2.906E-01	3.308E-01	5.797E-01	5.499E-02	0.501
		569.32		-5.259E-02	1.939E-01	3.100E-01	2.944E-02	-0.170
		604.70		1.046E-02	3.864E-02	5.668E-02	5.248E-03	0.184
	+	795.84	*	1.250E-01	7.194E-02	9.130E-02	8.560E-03	1.369
CS-135		801.93		1.207E-01	4.425E-01	7.030E-01	6.591E-02	0.172
		1038.57		-9.373E-01	3.996E+00	6.437E+00	5.763E-01	-0.146
		1167.94		2.486E+00	2.598E+00	4.613E+00	3.729E-01	0.539
		1365.15		1.454E-01	1.253E+00	2.053E+00	1.822E-01	0.071
		268.24	*	6.139E-03	1.517E-01	2.436E-01	3.106E-02	0.025
		288.45		-3.276E+09	1.517E-01	Half-Life	too short	
I-135		417.63		1.070E+08	1.517E-01	Half-Life	too short	
		546.56		1.711E+10	1.517E-01	Half-Life	too short	
	+	836.80		2.743E+10	1.517E-01	Half-Life	too short	
		1038.76		2.898E+09	1.517E-01	Half-Life	too short	
		1124.00		1.013E+11	1.517E-01	Half-Life	too short	
		1131.51		3.826E+09	1.517E-01	Half-Life	too short	
		1260.41	*	-1.189E+10	1.517E-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		6.219E+11	1.517E-01	Half-Life	too short	
		1678.03		4.265E+09	1.517E-01	Half-Life	too short	
		1706.46		-5.539E+09	1.517E-01	Half-Life	too short	
		1791.20		1.982E+10	1.517E-01	Half-Life	too short	
		66.91		-4.406E-01	7.625E-01	1.044E+00	1.559E-01	-0.422
	+	86.29		3.459E+00	1.204E+00	1.750E+00	2.348E-01	1.976
		153.22		1.158E-01	5.805E-01	9.702E-01	9.466E-02	0.119
		163.89		1.258E-01	1.008E+00	1.644E+00	1.646E-01	0.077
		176.55		5.023E-02	3.167E-01	5.247E-01	5.134E-02	0.096
		273.65		-6.492E-01	4.412E-01	6.267E-01	7.701E-02	-1.036
		340.57		2.253E-01	1.213E-01	2.053E-01	2.270E-02	1.098
		818.51		4.183E-02	7.069E-02	1.251E-01	1.172E-02	0.334
		1048.07	*	-8.283E-02	1.127E-01	1.714E-01	1.586E-02	-0.483
		1235.34		-1.132E-01	6.986E-01	1.121E+00	1.296E-01	-0.101
BA-137M		661.65	*	1.045E-02	3.452E-02	5.733E-02	5.088E-03	0.182
CS-137		661.65	*	1.105E-02	3.649E-02	6.061E-02	5.388E-03	0.182
CE-139		165.85	*	2.680E-03	2.704E-02	4.479E-02	4.062E-03	0.060
BA-140		162.64		-8.163E-01	6.953E-01	1.080E+00	1.022E-01	-0.756
		304.84		5.725E-01	1.368E+00	1.991E+00	5.793E-01	0.288
		423.70		7.521E-01	1.800E+00	3.067E+00	1.001E+00	0.245
LA-140		537.32	*	-1.738E-01	2.491E-01	3.726E-01	1.244E-01	-0.467
	+	328.77		5.364E-01	4.139E-01	5.140E-01	5.924E-02	1.044
		432.53		1.294E+00	1.893E+00	3.308E+00	3.243E-01	0.391
		487.03		-2.780E-02	1.306E-01	2.123E-01	2.123E-02	-0.131
		751.79		1.440E+00	1.724E+00	2.972E+00	2.994E-01	0.484
		815.85		-9.024E-02	2.795E-01	4.540E-01	4.668E-02	-0.199
		867.82		5.513E-01	1.504E+00	2.299E+00	2.266E-01	0.240
		919.63		-2.264E+00	2.749E+00	4.173E+00	4.714E-01	-0.542
		925.24		2.225E-02	1.037E+00	1.731E+00	1.713E-01	0.013
		1596.49	*	-4.016E-02	7.690E-02	1.159E-01	9.873E-03	-0.346
CE-141		145.44	*	-1.167E-02	5.344E-02	8.779E-02	7.679E-03	-0.133
CE-143		57.37		6.605E-04	5.344E-02	Half-Life	too short	
		231.56		-5.858E-04	5.344E-02	Half-Life	too short	
		293.26	*	2.575E-04	5.344E-02	Half-Life	too short	
	+	350.59		2.701E-02	5.344E-02	Half-Life	too short	
		490.36		2.047E-04	5.344E-02	Half-Life	too short	
		664.57		6.454E-04	5.344E-02	Half-Life	too short	
		721.93		3.586E-04	5.344E-02	Half-Life	too short	
CE-144		80.11		1.433E+00	2.129E+00	2.769E+00	2.431E-01	0.518
		133.54	*	-2.294E-02	1.695E-01	2.807E-01	4.335E-02	-0.082
PM-144		476.78		1.477E-02	6.299E-02	1.062E-01	1.088E-02	0.139
		618.01		7.753E-03	2.853E-02	4.757E-02	4.467E-03	0.163
		696.49	*	1.440E-03	3.315E-02	5.361E-02	4.836E-03	0.027
		778.57		-2.485E-01	2.259E+00	3.564E+00	3.307E-01	-0.070
PR-144		696.49	*	9.758E-02	2.247E+00	3.634E+00	3.276E-01	0.027
		1489.15		3.887E+00	1.041E+01	1.848E+01	1.580E+00	0.210
PM-146		453.90	*	3.276E-02	3.745E-02	6.625E-02	7.565E-03	0.495
		633.02		1.124E+00	1.326E+00	2.212E+00	8.291E-01	0.508
		735.90		1.706E-02	1.381E-01	2.241E-01	6.448E-02	0.076

---- 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		-6.815E-02	9.126E-02	1.339E-01	1.927E-02	-0.509
		91.11		6.090E-01	3.267E-01	4.321E-01	4.320E-02	1.409
		319.41		-2.837E+00	3.200E+00	4.694E+00	5.329E-01	-0.604
		439.89		4.770E-01	5.513E+00	9.245E+00	8.727E-01	0.052
PM-149	*	531.02		7.246E-02	5.863E-01	9.731E-01	1.505E-01	0.074
		285.90		3.663E+01	9.547E+01	1.558E+02	2.741E+01	0.235
		121.78		-3.865E-02	6.429E-02	1.045E-01	1.009E-02	-0.370
		244.69		-3.529E-01	3.494E-01	4.571E-01	5.083E-02	-0.772
EU-152	*	344.27		-4.580E-02	8.475E-02	1.331E-01	1.488E-02	-0.344
		443.98		-9.064E-02	8.971E-01	1.483E+00	1.401E-01	-0.061
		778.89		-3.645E-02	2.600E-01	4.087E-01	3.792E-02	-0.089
		867.32		2.795E-01	8.946E-01	1.358E+00	1.282E-01	0.206
	+	964.01		6.724E-01	3.725E-01	5.644E-01	5.236E-02	1.191
		1085.78		5.873E-02	4.021E-01	6.708E-01	5.824E-02	0.088
		1112.02		1.597E-01	3.378E-01	5.781E-01	4.918E-02	0.276
		1407.95		1.960E-01	1.734E-01	3.234E-01	2.754E-02	0.606
GD-153	+	69.67		-8.766E-01	1.311E+00	2.190E+00	1.725E-01	-0.400
		83.37		2.580E+01	1.791E+01	2.191E+01	1.997E+00	1.177
		97.43	*	-9.349E-03	7.362E-02	1.113E-01	9.888E-03	-0.084
		103.18		-9.956E-02	8.832E-02	1.408E-01	1.213E-02	-0.707
EU-154		123.07		-8.426E-03	4.482E-02	7.437E-02	8.275E-03	-0.113
		247.94		2.388E-01	3.245E-01	5.441E-01	7.359E-02	0.439
		591.81		-2.468E-01	5.793E-01	9.066E-01	1.104E-01	-0.272
		723.30		-4.955E-02	1.841E-01	2.479E-01	2.473E-02	-0.200
		756.87		-5.434E-01	7.934E-01	1.177E+00	1.461E-01	-0.462
		873.19		4.068E-02	2.848E-01	4.829E-01	6.198E-02	0.084
		996.32		4.182E-02	3.094E-01	5.201E-01	9.378E-02	0.080
		1004.76		-7.135E-02	2.188E-01	3.503E-01	4.207E-02	-0.204
EU-155	*	1274.45		4.572E-02	1.221E-01	2.063E-01	2.286E-02	0.222
		48.70		-1.650E+00	2.319E+00	3.497E+00	2.873E-01	-0.472
		60.01		-6.153E-01	4.849E+00	6.894E+00	4.924E-01	-0.089
		86.54		3.151E-01	1.055E-01	1.620E-01	1.547E-02	1.945
TB-160	+	105.31	*	6.361E-02	9.178E-02	1.591E-01	1.377E-02	0.400
		86.79		8.437E-01	2.824E-01	4.383E-01	4.162E-02	1.925
		197.04		-2.386E-01	5.089E-01	7.978E-01	7.857E-02	-0.299
		215.65		4.500E-02	6.613E-01	1.078E+00	1.115E-01	0.042
	+	298.57		2.024E-01	1.300E-01	1.731E-01	2.033E-02	1.169
		879.36	*	3.527E-02	1.289E-01	2.213E-01	2.091E-02	0.159
		962.29		5.587E-01	5.316E-01	8.709E-01	8.085E-02	0.642
		966.15		4.628E-01	2.564E-01	4.464E-01	4.138E-02	1.037
HO-166M	+	1177.93		-2.477E-01	3.835E-01	5.852E-01	4.714E-02	-0.423
		1271.85		-5.048E-01	7.414E-01	1.105E+00	9.179E-02	-0.457
		80.57		1.729E-01	2.763E-01	3.576E-01	3.155E-02	0.483
		184.41		1.107E-01	5.269E-02	5.802E-02	5.523E-03	1.907
	+	280.46		-2.544E-02	8.237E-02	1.288E-01	1.545E-02	-0.197
		410.95		-1.842E-03	2.166E-01	3.624E-01	3.383E-02	-0.005
		711.68	*	1.082E-02	5.869E-02	9.604E-02	8.713E-03	0.113
		752.31		8.311E-02	2.791E-01	4.593E-01	4.228E-02	0.181
		810.29		-2.484E-02	5.091E-02	8.130E-02	7.600E-03	-0.306

---- 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		-1.478E+01	2.816E+01	4.284E+01	3.376E+00	-0.345
		52.39		-6.046E+00	1.436E+01	2.196E+01	1.702E+00	-0.275
		59.40		-1.127E+00	2.604E+01	3.725E+01	2.645E+00	-0.030
		66.72	*	-1.972E+01	2.777E+01	3.781E+01	2.897E+00	-0.522
LU-176	+	88.36		6.205E-01	2.077E-01	3.120E-01	2.995E-02	1.989
		201.83		-1.138E-02	2.524E-02	4.010E-02	3.999E-03	-0.284
		306.84	*	6.432E-04	2.207E-02	3.510E-02	4.072E-03	0.018
		401.10		2.463E+00	5.908E+00	1.019E+01	9.463E-01	0.242
LU-177		112.95		2.241E-01	1.392E+00	2.357E+00	1.973E-01	0.095
	+	208.36	*	2.850E+00	1.487E+00	1.861E+00	1.889E-01	1.531
LU-177M		52.97		6.364E-01	1.435E+00	2.307E+00	1.772E-01	0.276
		54.07		3.054E-01	7.598E-01	1.217E+00	9.201E-02	0.251
		61.30		6.241E-01	1.394E+00	2.053E+00	1.489E-01	0.304
		121.62		-3.238E-02	3.189E-01	5.317E-01	4.414E-02	-0.061
		147.16		8.282E-02	5.521E-01	9.227E-01	7.957E-02	0.090
		171.86		-1.101E-01	4.198E-01	6.811E-01	6.272E-02	-0.162
		218.09		2.319E-02	7.574E-01	1.231E+00	1.282E-01	0.019
		268.79		6.225E-01	7.814E-01	1.304E+00	1.532E-01	0.477
		319.02		-2.786E-01	2.478E-01	3.549E-01	4.032E-02	-0.785
		367.43		-3.789E-01	8.191E-01	1.337E+00	1.348E-01	-0.283
		413.65	*	-8.054E-02	1.574E-01	2.533E-01	2.368E-02	-0.318
HF-181		56.28		-9.795E-01	8.654E-01	1.261E+00	9.254E-02	-0.777
		57.53		2.498E-01	4.500E-01	7.243E-01	5.240E-02	0.345
		65.20		2.088E-01	9.369E-01	1.356E+00	1.024E-01	0.154
		133.02		-2.134E-02	5.518E-02	9.028E-02	7.570E-03	-0.236
		136.25		1.351E-02	3.877E-01	6.470E-01	5.454E-02	0.021
		345.85		-6.770E-02	1.654E-01	2.625E-01	2.814E-02	-0.258
		482.03	*	-7.187E-03	3.848E-02	6.273E-02	5.966E-03	-0.115
W-181		56.28		-3.819E-01	3.379E-01	4.923E-01	3.613E-02	-0.776
		57.53		9.764E-02	1.758E-01	2.830E-01	2.047E-02	0.345
		65.20	*	8.095E-02	3.632E-01	5.257E-01	3.970E-02	0.154
TA-182		67.75		-3.776E-02	1.044E-01	1.454E-01	1.125E-02	-0.260
		100.10		1.035E-01	1.472E-01	2.559E-01	2.238E-02	0.404
		152.43		-1.891E-01	2.934E-01	4.700E-01	4.106E-02	-0.402
		222.10		-1.776E-01	3.081E-01	4.816E-01	5.065E-02	-0.369
		1001.68		3.595E-01	2.094E+00	3.489E+00	3.186E-01	0.103
	+	1121.28		4.248E-01	2.702E-01	3.640E-01	3.073E-02	1.167
		1189.05		-4.174E-01	3.325E-01	4.714E-01	3.812E-02	-0.885
		1221.42	*	4.862E-02	2.184E-01	3.624E-01	2.963E-02	0.134
		1230.97		-1.623E-02	5.239E-01	8.497E-01	6.970E-02	-0.019
RE-183		57.98		1.510E-02	1.788E-01	2.806E-01	2.020E-02	0.054
		59.32		3.239E-02	1.048E-01	1.534E-01	1.090E-02	0.211
		67.20		-6.413E-02	1.888E-01	2.634E-01	2.027E-02	-0.243
		162.32	*	-9.401E-02	9.933E-02	1.565E-01	1.405E-02	-0.601
	+	208.81		2.504E+00	1.306E+00	1.656E+00	1.682E-01	1.512
		291.72		4.576E-03	9.129E-01	1.293E+00	1.532E-01	0.004
RE-184		57.98		5.556E-02	6.579E-01	1.032E+00	7.433E-02	0.054
		59.32		1.191E-01	3.853E-01	5.639E-01	4.007E-02	0.211
		67.20		-2.359E-01	6.945E-01	9.689E-01	7.458E-02	-0.243

---- 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		-2.793E-01	3.261E-01	5.171E-01	4.628E-02	-0.540
		216.55		-1.401E-01	2.366E-01	3.703E-01	3.839E-02	-0.378
		252.85	*	1.761E-01	2.125E-01	3.579E-01	4.056E-02	0.492
		318.01		9.573E-02	4.131E-01	6.654E-01	7.574E-02	0.144
		792.07		-5.775E-01	1.047E+00	1.424E+00	1.326E-01	-0.405
		903.28		4.535E-01	9.443E-01	1.562E+00	1.475E-01	0.290
		920.93		9.279E-02	4.302E-01	7.320E-01	6.886E-02	0.127
		59.72		-2.009E-02	2.875E-01	4.104E-01	2.920E-02	-0.049
		61.14		6.288E-02	1.535E-01	2.256E-01	1.633E-02	0.279
		69.30		-2.227E-01	2.363E-01	3.899E-01	3.062E-02	-0.571
		592.07		-1.171E+00	2.354E+00	3.658E+00	3.402E-01	-0.320
		646.12	*	2.485E-04	4.153E-02	6.733E-02	6.052E-03	0.004
		717.42		6.761E-01	8.469E-01	1.463E+00	1.331E-01	0.462
		874.81		-6.628E-02	5.506E-01	9.100E-01	8.593E-02	-0.073
		880.27		1.286E-01	7.480E-01	1.271E+00	1.201E-01	0.101
RE-188		155.03	*	1.283E-01	1.544E-01	2.646E-01	2.327E-02	0.485
		477.96		-1.006E+00	2.859E+00	4.603E+00	4.376E-01	-0.219
		633.10		2.066E+00	2.582E+00	4.493E+00	4.078E-01	0.460
W-188	+	63.58		5.878E+01	7.785E+01	8.486E+01	6.308E+00	0.693
		227.08		3.602E+00	1.188E+01	1.955E+01	2.082E+00	0.184
IR-192	+	290.67	*	-7.614E+00	7.906E+00	1.012E+01	1.200E+00	-0.753
		295.96		7.666E-01	1.953E-01	2.560E-01	3.028E-02	2.994
		308.46		-6.594E-02	8.727E-02	1.298E-01	1.506E-02	-0.508
		316.51	*	1.355E-02	3.168E-02	5.174E-02	5.913E-03	0.262
		468.07		-1.764E-02	6.427E-02	9.615E-02	9.675E-03	-0.183
AU-195		604.41		1.008E-01	5.208E-01	7.579E-01	1.018E-01	0.133
		612.46		-2.647E-02	7.818E-01	1.109E+00	1.154E-01	-0.024
		65.12		4.734E-02	1.686E-01	2.448E-01	1.848E-02	0.193
		66.83		-6.900E-02	9.169E-02	1.244E-01	9.545E-03	-0.554
	+	75.70		9.378E-01	2.099E-01	3.817E-01	3.194E-02	2.457
		98.88	*	1.406E-01	1.849E-01	3.223E-01	2.838E-02	0.436
TL-200		129.76		3.286E+00	2.553E+00	4.472E+00	3.734E-01	0.735
		367.94	*	-1.011E-04	2.553E+00	Half-Life	too short	
		579.30		-5.710E-04	2.553E+00	Half-Life	too short	
		828.27		-2.161E-03	2.553E+00	Half-Life	too short	
TL-201		1205.75		1.994E-03	2.553E+00	Half-Life	too short	
		68.90		-4.026E+00	3.950E+00	6.492E+00	5.078E-01	-0.620
		70.82		1.852E+00	2.519E+00	4.033E+00	3.213E-01	0.459
		80.30		4.147E+00	5.349E+00	7.005E+00	6.163E-01	0.592
TL-202		135.34		-6.732E+00	2.229E+01	3.659E+01	3.079E+00	-0.184
		167.43	*	-1.415E+00	6.569E+00	1.071E+01	9.746E-01	-0.132
		68.90		-3.471E-01	3.406E-01	5.597E-01	4.378E-02	-0.620
		70.82		1.592E-01	2.166E-01	3.467E-01	2.762E-02	0.459
HG-203		80.30		3.566E-01	4.601E-01	6.025E-01	5.301E-02	0.592
		439.56	*	2.153E-02	6.341E-02	1.083E-01	1.022E-02	0.199
		70.83		6.929E-01	9.322E-01	1.488E+00	1.965E-01	0.466
		72.87		6.273E-01	5.510E-01	8.879E-01	1.144E-01	0.707
	+	82.60		1.924E+00	1.351E+00	1.565E+00	2.192E-01	1.229
		279.20	*	1.695E-02	3.935E-02	6.448E-02	7.858E-03	0.263

---- 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		1.835E-01	1.602E-01	2.598E-01	2.110E-02	0.706
	+	74.97		5.197E-01	1.163E-01	1.992E-01	1.655E-02	2.608
	+	84.90		3.334E-01	2.314E-01	2.649E-01	2.458E-02	1.259
		569.67		-9.522E-04	2.980E-02	4.862E-02	4.565E-03	-0.020
		1063.62	*	3.766E-02	5.280E-02	9.289E-02	8.188E-03	0.405
TL-207		1770.23		-2.482E+00	7.736E-01	5.694E-01	4.706E-02	-4.359
		81.07		1.623E-02	2.286E-01	2.829E-01	2.510E-02	0.057
	+	83.78		2.198E-01	1.526E-01	1.881E-01	1.723E-02	1.169
		94.90		1.931E-01	2.003E-01	3.206E-01	2.899E-02	0.602
		122.32		-1.377E+00	1.525E+00	2.439E+00	2.184E-01	-0.565
		144.24		8.293E-02	6.033E-01	9.899E-01	9.497E-02	0.084
		154.21		2.367E-01	3.525E-01	6.005E-01	5.778E-02	0.394
		269.46		2.453E-01	1.838E-01	3.134E-01	3.728E-02	0.783
		323.87	*	2.066E-01	6.598E-01	9.545E-01	1.826E-01	0.216
	+	338.28		6.050E+00	1.771E+00	2.382E+00	3.338E-01	2.540
		445.03		1.762E-02	2.155E+00	3.590E+00	4.557E-01	0.005
	PO-209	260.50		2.497E+00	8.822E+00	1.441E+01	1.662E+00	0.173
		262.80		4.049E+00	2.462E+01	3.990E+01	4.625E+00	0.101
		896.60	*	-2.232E+00	7.029E+00	1.136E+01	1.074E+00	-0.197
		46.50	*	2.049E+00	3.360E+00	5.426E+00	5.060E-01	0.378
BI-210		46.50	*	2.049E+00	3.360E+00	5.426E+00	5.060E-01	0.378
PB-210		46.50	*	2.049E+00	3.359E+00	5.426E+00	4.583E-01	0.378
PO-210		46.50	*	2.049E+00	3.359E+00	5.426E+00	4.583E-01	0.378
PB-211		404.84	*	-2.931E-01	8.605E-01	1.374E+00	8.627E-01	-0.213
		427.08		-5.107E-01	1.875E+00	3.023E+00	1.882E+00	-0.169
		831.96		-3.507E-01	1.272E+00	1.760E+00	1.105E+00	-0.199
BI-212	+	727.18	*	1.079E+00	5.411E-01	6.624E-01	6.920E-02	1.629
		785.46		1.552E+00	1.729E+00	3.113E+00	2.893E-01	0.498
		1620.62		9.870E-01	1.149E+00	2.172E+00	1.845E-01	0.454
PO-215		81.07		1.623E-02	2.286E-01	2.829E-01	2.510E-02	0.057
	+	83.78		2.198E-01	1.526E-01	1.881E-01	1.723E-02	1.169
		94.90		1.931E-01	2.003E-01	3.206E-01	2.899E-02	0.602
		122.32		-1.377E+00	1.525E+00	2.439E+00	2.184E-01	-0.565
		144.24		8.293E-02	6.033E-01	9.899E-01	9.497E-02	0.084
		154.21		2.367E-01	3.525E-01	6.005E-01	5.778E-02	0.394
		269.46		2.453E-01	1.838E-01	3.134E-01	3.728E-02	0.783
		323.87	*	2.066E-01	6.598E-01	9.545E-01	1.826E-01	0.216
	+	338.28		6.050E+00	1.771E+00	2.382E+00	3.338E-01	2.540
		445.03		1.762E-02	2.155E+00	3.590E+00	4.557E-01	0.005
	RN-219	271.23		1.814E-01	2.354E-01	3.919E-01	5.132E-02	0.463
		401.81	*	-9.285E-02	3.624E-01	5.960E-01	9.192E-02	-0.156
		549.76	*	-4.179E+00	2.323E+01	3.746E+01	3.539E+00	-0.112
RN-220		81.07		1.623E-02	2.286E-01	2.829E-01	2.510E-02	0.057
RA-223	+	83.78		2.198E-01	1.526E-01	1.881E-01	1.723E-02	1.169
		94.90		1.931E-01	2.003E-01	3.206E-01	2.899E-02	0.602
		122.32		-1.377E+00	1.525E+00	2.439E+00	2.184E-01	-0.565
		144.24		8.293E-02	6.033E-01	9.899E-01	9.497E-02	0.084
		154.21		2.367E-01	3.525E-01	6.005E-01	5.778E-02	0.394
		269.46		2.453E-01	1.838E-01	3.134E-01	3.728E-02	0.783
		323.87	*	2.066E-01	6.598E-01	9.545E-01	1.826E-01	0.216

---- 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		6.050E+00	1.771E+00	2.382E+00	3.338E-01	2.540
		445.03		1.762E-02	2.155E+00	3.590E+00	4.557E-01	0.005
		79.80		-2.404E-01	1.509E+00	2.107E+00	4.542E-01	-0.114
		236.00		6.460E-02	2.411E-01	3.533E-01	4.923E-02	0.183
		256.20	*	-1.514E-01	3.461E-01	5.385E-01	9.197E-02	-0.281
		286.10		1.231E+00	1.449E+00	2.421E+00	3.768E-01	0.509
TH-227	+	299.80		2.572E+00	1.698E+00	2.413E+00	4.635E-01	1.066
		304.40		9.852E-01	1.966E+00	2.890E+00	5.787E-01	0.341
		334.20		-4.931E-01	2.621E+00	3.253E+00	6.697E-01	-0.152
		79.80		-2.404E-01	1.509E+00	2.107E+00	4.600E-01	-0.114
	+	94.00		9.240E+00	3.404E+00	3.380E+00	7.427E-01	2.734
		236.00		6.460E-02	2.411E-01	3.533E-01	4.565E-02	0.183
TH-229		256.20	*	-1.514E-01	3.464E-01	5.385E-01	1.053E-01	-0.281
		286.10		1.231E+00	1.897E+00	2.421E+00	2.438E+00	0.509
	+	299.80		2.572E+00	1.698E+00	2.413E+00	4.635E-01	1.066
		304.40		9.852E-01	1.966E+00	2.890E+00	5.787E-01	0.341
		334.20		-4.931E-01	2.621E+00	3.253E+00	6.697E-01	-0.152
		85.43		3.468E-01	1.806E-01	2.542E-01	2.375E-02	1.364
PA-231	+	88.47		3.572E-01	1.196E-01	1.793E-01	1.719E-02	1.992
		100.00		1.182E-01	1.531E-01	2.669E-01	2.336E-02	0.443
		193.63	*	2.574E-01	4.356E-01	7.335E-01	7.157E-02	0.351
		210.97		5.449E-01	7.432E-01	1.132E+00	1.157E-01	0.481
		283.67	*	2.194E-01	1.440E+00	2.321E+00	4.014E-01	0.095
	+	301.29		1.029E+00	6.669E-01	9.359E-01	1.364E-01	1.099
TH-231		81.07		1.623E-02	2.286E-01	2.829E-01	2.510E-02	0.057
	+	83.78		2.198E-01	1.526E-01	1.881E-01	1.723E-02	1.169
		94.90		1.931E-01	2.003E-01	3.206E-01	2.899E-02	0.602
		122.32		-1.377E+00	1.525E+00	2.439E+00	2.184E-01	-0.565
		144.24		8.293E-02	6.033E-01	9.899E-01	9.497E-02	0.084
		154.21		2.367E-01	3.525E-01	6.005E-01	5.778E-02	0.394
U-231		269.46		2.453E-01	1.838E-01	3.134E-01	3.728E-02	0.783
		323.87	*	2.066E-01	6.598E-01	9.545E-01	1.826E-01	0.216
	+	338.28		6.050E+00	1.771E+00	2.382E+00	3.338E-01	2.540
		445.03		1.762E-02	2.155E+00	3.590E+00	4.557E-01	0.005
	+	84.21		9.860E+00	6.843E+00	8.347E+00	7.684E-01	1.181
	+	92.29		9.504E+00	2.940E+00	3.778E+00	3.489E-01	2.516
PA-233		95.87	*	7.956E-01	9.750E-01	1.552E+00	1.393E-01	0.513
		108.00		-8.543E-01	1.864E+00	3.075E+00	2.605E-01	-0.278
	+	75.28		1.517E+01	3.902E+00	5.885E+00	8.937E-01	2.577
	+	86.59		5.122E+00	2.152E+00	2.638E+00	7.152E-01	1.941
	+	300.12		7.170E-01	4.688E-01	6.690E-01	1.128E-01	1.072
		311.98	*	1.990E-02	6.023E-02	9.773E-02	1.142E-02	0.204
PA-234		340.50		1.148E+00	6.392E-01	9.959E-01	2.463E-01	1.152
		398.62		-3.612E-01	1.831E+00	3.024E+00	8.120E-01	-0.119
		415.76		1.719E+00	1.513E+00	2.653E+00	5.798E-01	0.648
	+	63.00		1.701E+00	2.263E+00	2.463E+00	3.658E-01	0.690
		94.67		2.373E-01	1.525E-01	2.468E-01	3.137E-02	0.961
		98.44		2.794E-02	7.926E-02	1.280E-01	7.143E-02	0.218
		99.86		2.943E-01	3.913E-01	6.814E-01	5.968E-02	0.432

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		4.583E-02	1.575E-01	2.682E-01	3.201E-02	0.171
		131.20		-8.970E-02	9.349E-02	1.487E-01	1.244E-02	-0.603
		152.70		-6.055E-02	2.813E-01	4.608E-01	7.883E-02	-0.131
	+	186.00		3.984E+00	2.242E+00	2.381E+00	7.496E-01	1.673
		226.40		1.524E-01	3.774E-01	6.236E-01	9.102E-02	0.244
		227.20		1.214E-01	4.004E-01	6.588E-01	7.018E-02	0.184
		248.90		7.170E-02	7.423E-01	1.202E+00	2.829E-01	0.060
		293.70		2.713E+00	9.540E-01	1.390E+00	2.654E-01	1.952
		369.80		3.462E-01	7.793E-01	1.345E+00	3.008E-01	0.257
		568.70		-6.351E-01	9.993E-01	1.546E+00	1.452E-01	-0.411
		569.50		-6.888E-02	2.685E-01	4.299E-01	4.036E-02	-0.160
		574.00		4.972E-01	1.347E+00	2.273E+00	2.130E-01	0.219
		699.00		5.843E-02	6.982E-01	1.133E+00	2.182E-01	0.052
		706.10		1.843E-01	1.031E+00	1.681E+00	7.510E-01	0.110
		733.00		1.362E-02	4.008E-01	5.635E-01	1.263E-01	0.024
		742.81		-7.587E-02	1.304E+00	2.076E+00	1.397E+00	-0.037
	+	796.30		2.428E+00	1.530E+00	1.725E+00	4.707E-01	1.407
		805.60		4.346E-01	9.748E-01	1.688E+00	5.209E-01	0.257
		819.60		4.121E-01	1.163E+00	2.002E+00	7.647E-01	0.206
		826.30		5.529E-01	8.448E-01	1.437E+00	6.453E-01	0.385
		831.60		1.080E-01	6.142E-01	9.194E-01	2.765E-01	0.118
		876.40		-2.597E-02	7.527E-01	1.254E+00	1.290E+00	-0.021
		880.51		3.630E-02	2.715E-01	4.597E-01	4.343E-02	0.079
		883.24		1.780E-01	3.062E-01	4.983E-01	3.355E-01	0.357
		899.00		-1.638E-01	7.523E-01	1.221E+00	5.360E-01	-0.134
		925.00		7.844E-02	1.057E+00	1.774E+00	1.667E-01	0.044
		926.50		-1.643E-02	1.650E-01	2.719E-01	6.947E-02	-0.060
		946.00	*	-3.122E-01	3.396E-01	5.088E-01	9.721E-02	-0.614
		949.00		2.593E-01	4.676E-01	8.147E-01	7.598E-02	0.318
		980.50		-2.931E-01	6.953E-01	1.100E+00	1.014E-01	-0.267
PA-234M		1394.10		1.962E-01	1.066E+00	1.755E+00	1.142E+00	0.112
		766.42		1.923E+00	1.200E+01	1.938E+01	9.854E+00	0.099
		1001.03	*	-3.289E-01	4.801E+00	7.825E+00	8.147E-01	-0.042
U-235	+	89.95		2.388E+00	1.461E+00	1.760E+00	5.472E-01	1.357
	+	93.35		2.875E+00	1.174E+00	1.152E+00	3.247E-01	2.496
		105.00		1.147E+00	9.546E-01	1.586E+00	4.730E-01	0.723
		143.76	*	-1.329E-02	1.868E-01	3.036E-01	5.305E-02	-0.044
		163.35		-1.232E-01	4.430E-01	7.077E-01	1.363E-01	-0.174
	+	185.71		1.475E-01	7.025E-02	8.875E-02	8.478E-03	1.663
		205.31		5.787E-01	5.061E-01	7.772E-01	1.537E-01	0.745
NP-236		94.67		1.822E-01	1.146E-01	1.875E-01	1.698E-02	0.972
		98.44		2.108E-02	5.877E-02	9.673E-02	8.540E-03	0.218
		111.00		3.467E-02	1.191E-01	2.028E-01	1.705E-02	0.171
		160.31	*	1.220E-02	7.251E-02	1.207E-01	1.077E-02	0.101
NP-239		99.55		1.171E-01	1.293E-01	2.264E-01	1.986E-02	0.517
		117.00	*	-2.954E-02	1.559E-01	2.593E-01	2.159E-02	-0.114
	+	209.75		1.971E+00	1.028E+00	1.312E+00	1.337E-01	1.502
		228.18		-2.516E-02	2.107E-01	3.387E-01	3.617E-02	-0.074
		277.60		1.547E-01	1.772E-01	2.965E-01	3.549E-02	0.522

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	334.30			-2.949E-01	1.483E+00	1.840E+00	2.027E-01	-0.160
AM-241	59.54		*	-1.060E-02	1.514E-01	2.162E-01	1.697E-02	-0.049
CM-243	99.55			1.205E-01	1.330E-01	2.330E-01	2.044E-02	0.517
	103.76		*	-9.192E-03	8.004E-02	1.344E-01	1.155E-02	-0.068
	117.00			-3.040E-02	1.604E-01	2.668E-01	2.221E-02	-0.114
	209.75		+	1.943E+00	1.013E+00	1.294E+00	1.318E-01	1.502
	228.18			-2.542E-02	2.129E-01	3.422E-01	3.655E-02	-0.074
	277.60			1.560E-01	1.787E-01	2.989E-01	3.578E-02	0.522
AM-246	798.80			-6.202E-02	1.525E-01	2.120E-01	1.977E-02	-0.293
	1036.00			-1.197E-02	3.153E-01	5.184E-01	4.649E-02	-0.023
	1062.04			1.203E-01	2.378E-01	4.104E-01	3.621E-02	0.293
	1078.86		*	7.529E-02	1.532E-01	2.634E-01	2.298E-02	0.286
CM-247	278.00			8.048E-01	7.288E-01	1.232E+00	1.476E-01	0.653
	287.40			-1.946E-02	1.174E+00	1.869E+00	2.226E-01	-0.010
	402.60		*	8.253E-03	3.291E-02	5.612E-02	5.218E-03	0.147
CF-249	252.85			6.600E-01	7.964E-01	1.342E+00	1.521E-01	0.492
	333.44			1.187E-01	2.112E-01	2.517E-01	2.778E-02	0.472
	387.95		*	-2.250E-02	3.665E-02	5.893E-02	5.528E-03	-0.382
CF-251	176.60		*	1.596E-02	1.077E-01	1.784E-01	1.663E-02	0.089
	227.00			2.884E-02	3.611E-01	5.872E-01	6.252E-02	0.049
	285.00			3.081E-01	1.684E+00	2.719E+00	3.246E-01	0.113

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]G1202018277      *
* Acquisition date   : 27-JAN-2010 20:43:46 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 02:00:01.77              Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018277              Analyst initials: MXR1        *
* Batch Number       : 942723                    Sample Quantity : 1.1689E+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	3.401E+01	3.517E+00	4.705E-01	0.000E+00
CD-109	2.663E+00	8.734E-01	1.068E+00	0.000E+00
SN-126	2.616E-01	8.581E-02	1.054E-01	0.000E+00
TL-208	4.305E-01	8.654E-02	5.871E-02	0.000E+00
BI-211	3.009E+00	4.978E-01	2.900E-01	0.000E+00
PB-212	1.473E+00	2.022E-01	8.722E-02	0.000E+00
PO-212	1.473E+00	2.022E-01	8.722E-02	0.000E+00
BI-214	9.251E-01	1.805E-01	1.128E-01	0.000E+00
PB-214	1.047E+00	1.812E-01	1.011E-01	0.000E+00
PO-214	1.047E+00	1.812E-01	1.011E-01	0.000E+00
PO-216	1.473E+00	2.022E-01	8.722E-02	0.000E+00
PO-218	1.047E+00	1.812E-01	1.011E-01	0.000E+00
RA-224	3.229E+00	1.079E+00	9.926E-01	0.000E+00
RA-226	9.251E-01	1.805E-01	1.128E-01	0.000E+00
AC-228	1.582E+00	3.144E-01	2.033E-01	0.000E+00
RA-228	1.582E+00	3.144E-01	2.033E-01	0.000E+00
TH-228	1.496E+00	2.053E-01	8.856E-02	0.000E+00
TH-230	9.251E-01	1.805E-01	1.128E-01	0.000E+00
TH-232	1.582E+00	3.144E-01	2.033E-01	0.000E+00
TH-234	1.459E+00	1.907E+00	1.865E+00	0.000E+00
U-234	9.251E-01	1.805E-01	1.128E-01	0.000E+00
NP-237	7.683E-01	2.960E-01	2.683E-01	0.000E+00
U-238	1.459E+00	1.907E+00	1.865E+00	0.000E+00
AM-243	2.895E-01	6.349E-02	7.836E-02	0.000E+00
ANH-511	1.023E-01	6.767E-02	4.653E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.294E-02	2.907E-01	4.938E-01	0.000E+00 NOT IDENT.
NA-22	2.583E-02	4.221E-02	7.438E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	9.751E+05	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.326E-04	2.411E-02	4.017E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.233E-02	6.820E-02	0.000E+00	FAIL ABUN
SC-46	-1.051E-02	3.937E-02	6.559E-02	0.000E+00	FAIL ABUN
V-48	-1.497E-02	6.666E-02	1.102E-01	0.000E+00	NOT IDENT.
CR-51	-2.021E-01	3.437E-01	5.359E-01	0.000E+00	NOT IDENT.
MN-52	-2.040E-02	2.266E-01	3.643E-01	0.000E+00	NOT IDENT.
MN-54	4.598E-02	3.872E-02	6.581E-02	0.000E+00	NOT IDENT.
CO-56	-2.175E-03	3.534E-02	6.026E-02	0.000E+00	NOT IDENT.
CO-57	-1.249E-02	2.152E-02	3.657E-02	0.000E+00	NOT IDENT.
CO-58	-1.771E-02	3.276E-02	5.322E-02	0.000E+00	NOT IDENT.
FE-59	5.426E-03	9.879E-02	1.663E-01	0.000E+00	NOT IDENT.
CO-60	-2.499E-02	4.002E-02	6.023E-02	0.000E+00	NOT IDENT.
ZN-65	2.995E-02	1.078E-01	1.616E-01	0.000E+00	NOT IDENT.
GE-68	8.072E-01	1.280E+00	2.272E+00	0.000E+00	NOT IDENT.
AS-73	5.436E-01	7.248E-01	1.243E+00	0.000E+00	NOT IDENT.
AS-74	1.770E-02	8.564E-02	1.458E-01	0.000E+00	NOT IDENT.
SE-75	-2.235E-02	4.028E-02	6.430E-02	0.000E+00	NOT IDENT.
BR-77	-7.864E+00	9.705E+00	1.519E+01	0.000E+00	FAIL ABUN
SR-82	-1.503E-01	3.801E-01	5.961E-01	0.000E+00	NOT IDENT.
RB-83	-4.718E-02	5.992E-02	9.402E-02	0.000E+00	NOT IDENT.
RB-84	-8.390E-03	6.485E-02	1.094E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.508E+00	1.301E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.859E-02	6.687E-02	0.000E+00	NOT IDENT.
RB-86	2.320E-01	8.139E-01	1.403E+00	0.000E+00	NOT IDENT.
Y-88	2.175E-02	3.062E-02	5.833E-02	0.000E+00	NOT IDENT.
ZR-88	-1.005E-02	2.762E-02	4.663E-02	0.000E+00	NOT IDENT.
Y-91	4.386E+00	1.879E+01	3.188E+01	0.000E+00	NOT IDENT.
NB-94	-1.289E-02	3.317E-02	5.276E-02	0.000E+00	NOT IDENT.
NB-95	-1.070E-02	4.362E-02	6.980E-02	0.000E+00	NOT IDENT.
NB-95M	-1.897E-02	1.274E-01	1.881E-01	0.000E+00	NOT IDENT.
ZR-95	-6.333E-03	6.862E-02	1.114E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.133E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.200E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.812E+00	1.084E+01	1.747E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	6.865E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.861E-03	2.845E-02	4.767E-02	0.000E+00	NOT IDENT.
RH-102	1.625E-03	2.678E-02	4.588E-02	0.000E+00	NOT IDENT.
RU-103	-9.573E-03	3.719E-02	6.185E-02	0.000E+00	FAIL ABUN
RH-106	-1.334E-01	2.824E-01	4.482E-01	0.000E+00	FAIL ABUN
RU-106	-1.334E-01	2.820E-01	4.482E-01	0.000E+00	FAIL ABUN
AG-108M	1.943E-02	2.871E-02	5.164E-02	0.000E+00	NOT IDENT.
AG-110M	-6.429E-03	3.196E-02	5.200E-02	0.000E+00	NOT IDENT.
IN-111	-3.629E-01	1.109E+00	1.603E+00	0.000E+00	NOT IDENT.
IN-113M	2.751E-02	4.012E-02	7.238E-02	0.000E+00	NOT IDENT.
SN-113	2.751E-02	4.012E-02	7.238E-02	0.000E+00	NOT IDENT.
IN-114M	-5.578E-03	1.676E-01	2.540E-01	0.000E+00	NOT IDENT.
CD-115	-1.692E+00	1.150E+01	1.922E+01	0.000E+00	NOT IDENT.
SN-117M	2.968E-02	4.983E-02	8.791E-02	0.000E+00	NOT IDENT.
SB-122	1.398E+00	2.036E+00	3.608E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.941E+06	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.302E-02	2.512E-02	4.488E-02	0.000E+00	NOT IDENT.
I-124	-2.217E-01	7.501E-01	1.112E+00	0.000E+00	NOT IDENT.
SB-124	-5.805E-02	7.018E-02	9.712E-02	0.000E+00	FAIL ABUN
SB-125	-4.686E-02	7.954E-02	1.305E-01	0.000E+00	FAIL ABUN
TE-125M	-2.468E+00	7.734E+00	1.341E+01	0.000E+00	NOT IDENT.
I-126	1.642E-01	1.681E-01	3.020E-01	0.000E+00	NOT IDENT.
SB-126	-4.446E-02	1.520E-01	2.228E-01	0.000E+00	FAIL ABUN
SB-127	-8.706E-02	1.347E+00	2.213E+00	0.000E+00	NOT IDENT.
XE-127	7.443E-03	4.145E-02	7.078E-02	0.000E+00	NOT IDENT.
I-131	8.987E-02	1.018E-01	1.865E-01	0.000E+00	NOT IDENT.
TE-132	-7.675E-02	6.656E-01	1.110E+00	0.000E+00	NOT IDENT.
BA-133	1.047E-02	3.992E-02	6.292E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.376E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.050E-02	9.158E-02	0.000E+00	FAIL ABUN
CS-135	6.139E-03	1.487E-01	2.471E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.143E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.283E-02	1.105E-01	1.714E-01	0.000E+00	FAIL ABUN
BA-137M	1.045E-02	3.383E-02	5.762E-02	0.000E+00	NOT IDENT.
CS-137	1.105E-02	3.576E-02	6.091E-02	0.000E+00	NOT IDENT.
CE-139	2.680E-03	2.649E-02	4.565E-02	0.000E+00	NOT IDENT.
BA-140	-1.738E-01	2.441E-01	3.753E-01	0.000E+00	NOT IDENT.
LA-140	-4.016E-02	7.536E-02	1.154E-01	0.000E+00	FAIL ABUN
CE-141	-1.167E-02	5.237E-02	8.961E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.706E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.294E-02	1.661E-01	2.868E-01	0.000E+00	NOT IDENT.
PM-144	1.440E-03	3.249E-02	5.385E-02	0.000E+00	NOT IDENT.
PR-144	9.758E-02	2.202E+00	3.650E+00	0.000E+00	NOT IDENT.

PM-146	3.276E-02	3.671E-02	6.684E-02	0.000E+00	NOT IDENT.
ND-147	7.246E-02	5.746E-01	9.801E-01	0.000E+00	FAIL ABUN
PM-149	3.663E+01	9.356E+01	1.579E+02	0.000E+00	NOT IDENT.
EU-152	-4.580E-02	8.305E-02	1.347E-01	0.000E+00	FAIL ABUN
GD-153	-9.349E-03	7.214E-02	1.141E-01	0.000E+00	FAIL ABUN
EU-154	4.572E-02	1.197E-01	2.059E-01	0.000E+00	NOT IDENT.
EU-155	6.361E-02	8.994E-02	1.630E-01	0.000E+00	FAIL ABUN
TB-160	3.527E-02	1.263E-01	2.218E-01	0.000E+00	FAIL ABUN
HO-166M	1.082E-02	5.752E-02	9.644E-02	0.000E+00	FAIL ABUN
TM-171	-1.972E+01	2.721E+01	3.889E+01	0.000E+00	NOT IDENT.
LU-176	6.432E-04	2.162E-02	3.556E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.457E+00	1.893E+00	0.000E+00	FAIL ABUN
LU-177M	-8.054E-02	1.542E-01	2.558E-01	0.000E+00	NOT IDENT.
HF-181	-7.187E-03	3.771E-02	6.325E-02	0.000E+00	NOT IDENT.
W-181	8.095E-02	3.559E-01	5.409E-01	0.000E+00	NOT IDENT.
TA-182	4.862E-02	2.141E-01	3.618E-01	0.000E+00	FAIL ABUN
RE-183	-9.401E-02	9.735E-02	1.596E-01	0.000E+00	FAIL ABUN
RE-184	1.761E-01	2.082E-01	3.633E-01	0.000E+00	NOT IDENT.
OS-185	2.485E-04	4.070E-02	6.768E-02	0.000E+00	NOT IDENT.
RE-188	1.283E-01	1.513E-01	2.699E-01	0.000E+00	NOT IDENT.
W-188	-7.614E+00	7.748E+00	1.025E+01	0.000E+00	FAIL ABUN
IR-192	1.355E-02	3.105E-02	5.240E-02	0.000E+00	FAIL ABUN
AU-195	1.406E-01	1.812E-01	3.303E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.875E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.415E+00	6.437E+00	1.091E+01	0.000E+00	NOT IDENT.
TL-202	2.153E-02	6.214E-02	1.093E-01	0.000E+00	NOT IDENT.
HG-203	1.695E-02	3.856E-02	6.538E-02	0.000E+00	FAIL ABUN
BI-207	3.766E-02	5.175E-02	9.288E-02	0.000E+00	FAIL ABUN
TL-207	2.066E-01	6.466E-01	9.664E-01	0.000E+00	FAIL ABUN
PO-209	-2.232E+00	6.888E+00	1.138E+01	0.000E+00	NOT IDENT.
BI-210	2.049E+00	3.293E+00	5.602E+00	0.000E+00	NOT IDENT.
PB-210	2.049E+00	3.293E+00	5.602E+00	0.000E+00	NOT IDENT.
PO-210	2.049E+00	3.292E+00	5.602E+00	0.000E+00	NOT IDENT.
PB-211	-2.931E-01	8.433E-01	1.388E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.302E-01	6.650E-01	0.000E+00	FAIL ABUN
PO-215	2.066E-01	6.466E-01	9.664E-01	0.000E+00	FAIL ABUN
RN-219	-9.285E-02	3.552E-01	6.021E-01	0.000E+00	NOT IDENT.
RN-220	-4.179E+00	2.276E+01	3.772E+01	0.000E+00	NOT IDENT.
RA-223	2.066E-01	6.466E-01	9.664E-01	0.000E+00	FAIL ABUN
AC-227	-1.514E-01	3.392E-01	5.465E-01	0.000E+00	FAIL ABUN
TH-227	-1.514E-01	3.395E-01	5.465E-01	0.000E+00	FAIL ABUN
TH-229	2.574E-01	4.269E-01	7.465E-01	0.000E+00	FAIL ABUN
PA-231	2.194E-01	1.411E+00	2.353E+00	0.000E+00	FAIL ABUN
TH-231	2.066E-01	6.466E-01	9.664E-01	0.000E+00	FAIL ABUN
U-231	7.956E-01	9.555E-01	1.591E+00	0.000E+00	FAIL ABUN
PA-233	1.990E-02	5.902E-02	9.898E-02	0.000E+00	FAIL ABUN
PA-234	-3.122E-01	3.328E-01	5.094E-01	0.000E+00	FAIL ABUN
PA-234M	-3.289E-01	4.705E+00	7.829E+00	0.000E+00	NOT IDENT.
U-235	-1.329E-02	1.830E-01	3.099E-01	0.000E+00	FAIL ABUN
NP-236	1.220E-02	7.106E-02	1.231E-01	0.000E+00	NOT IDENT.
NP-239	-2.954E-02	1.528E-01	2.652E-01	0.000E+00	FAIL ABUN
AM-241	-1.060E-02	1.484E-01	2.227E-01	0.000E+00	NOT IDENT.
CM-243	-9.192E-03	7.844E-02	1.376E-01	0.000E+00	FAIL ABUN
AM-246	7.529E-02	1.501E-01	2.633E-01	0.000E+00	NOT IDENT.
CM-247	8.253E-03	3.226E-02	5.669E-02	0.000E+00	NOT IDENT.
CF-249	-2.250E-02	3.592E-02	5.955E-02	0.000E+00	NOT IDENT.
CF-251	1.596E-02	1.056E-01	1.817E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018277.CNF;1
Sample date        : 12-JAN-2010 12:00:00 Acquisition date : 27-JAN-2010 20:43:46
Sample ID          : G1202018277 Sample quantity : 1.16894E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.77 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 942723 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	1365	10.67*	1.208E+00	3.401E+01	3.401E+01	10.55
CD-109	88.03	188	3.72*	6.252E+00	2.602E+00	2.663E+00	33.47
SN-126	64.28	62	9.60	3.567E+00	5.775E-01	5.775E-01	133.02
	86.94	188	8.90	6.252E+00	1.088E+00	1.088E+00	52.50
	87.57	188	37.00*	6.252E+00	2.616E-01	2.616E-01	33.47
TL-208	277.35	-----	6.80	4.695E+00	-----	Line Not Found	-----
	510.84	94	21.60	2.964E+00	4.735E-01	4.735E-01	68.03
	583.14	301	84.20*	2.667E+00	4.305E-01	4.305E-01	20.51
	860.37	50	12.46	1.917E+00	6.748E-01	6.748E-01	83.14
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	478	12.94*	3.940E+00	3.009E+00	3.009E+00	16.88
PB-212	74.81	304	10.70	5.108E+00	1.786E+00	1.786E+00	24.25
	77.11	531	18.00	5.370E+00	1.763E+00	1.763E+00	16.41
	87.30	188	8.00	6.252E+00	1.210E+00	1.210E+00	34.93
	238.63	1069	44.60*	5.225E+00	1.473E+00	1.473E+00	14.00
	300.09	65	3.41	4.435E+00	1.388E+00	1.388E+00	64.51
PO-212	74.81	304	10.70	5.108E+00	1.786E+00	1.786E+00	24.25
	77.11	531	18.00	5.370E+00	1.763E+00	1.763E+00	16.41
	87.30	188	8.00	6.252E+00	1.210E+00	1.210E+00	34.93
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	1069	44.60*	5.225E+00	1.473E+00	1.473E+00	14.00
	300.09	65	3.41	4.435E+00	1.388E+00	1.388E+00	64.51
BI-214	609.31	343	46.30*	2.574E+00	9.251E-01	9.251E-01	19.91
	1120.29	64	15.10	1.515E+00	8.972E-01	8.972E-01	63.94
	1764.49	64	15.80	1.056E+00	1.238E+00	1.238E+00	34.08
PB-214	74.81	304	6.21	5.108E+00	3.077E+00	3.077E+00	23.57
	77.11	531	10.50	5.370E+00	3.022E+00	3.022E+00	18.10
	87.30	188	4.67	6.252E+00	2.073E+00	2.073E+00	34.34
	241.98	206	7.49	5.179E+00	1.703E+00	1.703E+00	34.56
	295.21	269	19.20	4.485E+00	1.003E+00	1.003E+00	26.21
	351.92	478	37.20*	3.940E+00	1.047E+00	1.047E+00	17.67
PO-214	74.81	304	6.21	5.108E+00	3.077E+00	3.077E+00	23.57

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	531	10.50	5.370E+00	3.022E+00	3.022E+00	18.10
	87.30	188	4.67	6.252E+00	2.073E+00	2.073E+00	34.34
	241.98	206	7.49	5.179E+00	1.703E+00	1.703E+00	34.56
	295.21	269	19.20	4.485E+00	1.003E+00	1.003E+00	26.21
	351.92	478	37.20*	3.940E+00	1.047E+00	1.047E+00	17.67
	74.81	304	10.70	5.108E+00	1.786E+00	1.786E+00	24.25
	77.11	531	18.00	5.370E+00	1.763E+00	1.763E+00	16.41
	87.30	188	8.00	6.252E+00	1.210E+00	1.210E+00	34.93
	238.63	1069	44.60*	5.225E+00	1.473E+00	1.473E+00	14.00
	300.09	65	3.41	4.435E+00	1.388E+00	1.388E+00	64.51
PO-218	74.81	304	6.21	5.108E+00	3.077E+00	3.077E+00	23.57
	77.11	531	10.50	5.370E+00	3.022E+00	3.022E+00	18.10
	87.30	188	4.67	6.252E+00	2.073E+00	2.073E+00	34.34
	241.98	206	7.49	5.179E+00	1.703E+00	1.703E+00	34.56
	295.21	269	19.20	4.485E+00	1.003E+00	1.003E+00	26.21
	351.92	478	37.20*	3.940E+00	1.047E+00	1.047E+00	17.67
RA-224	240.98	206	3.95*	5.179E+00	3.229E+00	3.229E+00	34.10
RA-226	609.31	343	46.30*	2.574E+00	9.251E-01	9.251E-01	19.91
	1120.29	64	15.10	1.515E+00	8.972E-01	8.972E-01	63.94
	1764.49	64	15.80	1.056E+00	1.238E+00	1.238E+00	34.08
AC-228	338.32	209	11.40	4.058E+00	1.449E+00	1.449E+00	49.07
	911.07	249	27.70*	1.824E+00	1.582E+00	1.582E+00	20.28
	969.11	133	16.60	1.727E+00	1.489E+00	1.489E+00	35.19
RA-228	338.32	209	11.40	4.058E+00	1.449E+00	1.449E+00	49.07
	911.07	249	27.70*	1.824E+00	1.582E+00	1.582E+00	20.28
	969.11	133	16.60	1.727E+00	1.489E+00	1.489E+00	35.19
TH-228	74.81	304	10.70	5.108E+00	1.786E+00	1.813E+00	22.41
	77.11	531	18.00	5.370E+00	1.763E+00	1.790E+00	16.41
	87.30	188	8.00	6.252E+00	1.210E+00	1.229E+00	33.47
	238.63	1069	44.60*	5.225E+00	1.473E+00	1.496E+00	14.00
TH-230	300.09	65	3.41	4.435E+00	1.388E+00	1.409E+00	86.99
	609.31	343	46.30*	2.574E+00	9.251E-01	9.251E-01	19.91
	1120.29	64	15.10	1.515E+00	8.972E-01	8.972E-01	63.94
	1764.49	64	15.80	1.056E+00	1.238E+00	1.238E+00	34.08
TH-232	338.32	209	11.40	4.058E+00	1.449E+00	1.449E+00	27.91
	911.07	249	27.70*	1.824E+00	1.582E+00	1.582E+00	20.28
	969.11	133	16.60	1.727E+00	1.489E+00	1.489E+00	35.19
TH-234	63.29	62	3.80*	3.567E+00	1.459E+00	1.459E+00	133.37
	92.38	266	5.41	6.613E+00	2.391E+00	2.391E+00	34.78
U-234	609.31	343	46.30*	2.574E+00	9.251E-01	9.251E-01	19.91
	1120.29	64	15.10	1.515E+00	8.972E-01	8.972E-01	63.94
	1764.49	64	15.80	1.056E+00	1.238E+00	1.238E+00	34.08
NP-237	86.50	188	12.60*	6.252E+00	7.683E-01	7.683E-01	39.32
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
U-238	63.29	62	3.80*	3.567E+00	1.459E+00	1.459E+00	133.37
	92.38	266	5.41	6.613E+00	2.391E+00	2.391E+00	30.93
AM-243	74.67	304	66.00*	5.108E+00	2.895E-01	2.895E-01	22.38
	86.72	188	0.34	6.252E+00	2.881E+01	2.881E+01	33.47
	117.66	-----	0.55	7.175E+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	6.968E+00	-----	Line Not Found	-----
ANH-511	511.00	94	100.00*	2.964E+00	1.023E-01	1.023E-01	67.52

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	3.401E+01	3.401E+01	0.359E+01	10.55	
CD-109	464.00D	1.02	2.602E+00	2.663E+00	0.891E+00	33.47	
SN-126	1.00E+05Y	1.00	2.616E-01	2.616E-01	0.876E-01	33.47	
TL-208	1.41E+10Y	1.00	4.305E-01	4.305E-01	0.883E-01	20.51	
BI-211	7.04E+08Y	1.00	3.009E+00	3.009E+00	0.508E+00	16.88	
PB-212	1.41E+10Y	1.00	1.473E+00	1.473E+00	0.206E+00	14.00	
PO-212	1.41E+10Y	1.00	1.473E+00	1.473E+00	0.206E+00	14.00	
BI-214	1600.00Y	1.00	9.251E-01	9.251E-01	1.842E-01	19.91	
PB-214	1600.00Y	1.00	1.047E+00	1.047E+00	0.185E+00	17.67	
PO-214	1600.00Y	1.00	1.047E+00	1.047E+00	0.185E+00	17.67	
PO-216	1.41E+10Y	1.00	1.473E+00	1.473E+00	0.206E+00	14.00	
PO-218	1600.00Y	1.00	1.047E+00	1.047E+00	0.185E+00	17.67	
RA-224	1.41E+10Y	1.00	3.229E+00	3.229E+00	1.101E+00	34.10	
RA-226	1600.00Y	1.00	9.251E-01	9.251E-01	1.842E-01	19.91	
AC-228	1.41E+10Y	1.00	1.582E+00	1.582E+00	0.321E+00	20.28	
RA-228	1.41E+10Y	1.00	1.582E+00	1.582E+00	0.321E+00	20.28	
TH-228	1.91Y	1.02	1.473E+00	1.496E+00	0.210E+00	14.00	
TH-230	4.47E+09Y	1.00	9.251E-01	9.251E-01	1.842E-01	19.91	
TH-232	1.41E+10Y	1.00	1.582E+00	1.582E+00	0.321E+00	20.28	
TH-234	4.47E+09Y	1.00	1.459E+00	1.459E+00	1.946E+00	133.37	
U-234	4.47E+09Y	1.00	9.251E-01	9.251E-01	1.842E-01	19.91	
NP-237	2.14E+06Y	1.00	7.683E-01	7.683E-01	3.021E-01	39.32	
U-238	4.47E+09Y	1.00	1.459E+00	1.459E+00	1.946E+00	133.37	
AM-243	7380.00Y	1.00	2.895E-01	2.895E-01	0.648E-01	22.38	
ANH-511	1.00E+09Y	1.00	1.023E-01	1.023E-01	0.690E-01	67.52	

Total Activity : 6.510E+01 6.518E+01

Grand Total Activity : 6.510E+01 6.518E+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	83.78	101	371	1.61	167.74	165	8	1.41E-02	68.8	5.99E+00	T
0	89.88	129	370	0.80	179.95	177	7	1.79E-02	52.7	6.43E+00	T
0	185.78	153	286	1.34	371.74	368	10	2.12E-02	46.6	6.15E+00	T
0	209.36	113	223	1.05	418.92	415	9	1.58E-02	51.2	5.71E+00	T
0	328.72	62	140	1.01	657.63	653	10	8.55E-03	76.3	4.14E+00	T
0	463.03	73	87	1.40	926.22	920	10	1.01E-02	53.7	3.20E+00	T
0	727.56	88	84	1.64	1455.21	1448	14	1.22E-02	49.0	2.22E+00	T
0	795.06	61	52	1.97	1590.18	1583	14	8.42E-03	56.8	2.06E+00	T
0	837.20	16	85	1.08	1674.45	1670	12	2.26E-03	****	1.97E+00	T
1	964.85	52	39	1.76	1929.68	1922	26	7.24E-03	54.6	1.73E+00	T
0	1410.10	5	21	1.43	2819.84	2812	9	7.45E-04	****	1.24E+00	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018277.CNF;1
* Acquisition date   : 27-JAN-2010 20:43:46  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 02:00:01.77                Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 12-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G1202018277           Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity : 1.16894E+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	3.401E+01	3.588E+00	4.721E-01	4.150E-02	72.039
CD-109	2.663E+00	8.912E-01	1.041E+00	1.003E-01	2.558
SN-126	2.616E-01	8.756E-02	1.027E-01	9.850E-03	2.547
TL-208	4.305E-01	8.830E-02	5.834E-02	5.783E-03	7.378
BI-211	3.009E+00	5.079E-01	2.866E-01	3.134E-02	10.496
PB-212	1.473E+00	2.063E-01	8.588E-02	1.017E-02	17.156
PO-212	1.473E+00	2.063E-01	8.588E-02	1.017E-02	17.156
BI-214	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
PB-214	1.047E+00	1.849E-01	9.992E-02	1.208E-02	10.474
PO-214	1.047E+00	1.849E-01	9.992E-02	1.208E-02	10.474
PO-216	1.473E+00	2.063E-01	8.588E-02	1.017E-02	17.156
PO-218	1.047E+00	1.849E-01	9.992E-02	1.208E-02	10.474
RA-224	3.229E+00	1.101E+00	9.775E-01	1.077E-01	3.303
RA-226	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
AC-228	1.582E+00	3.208E-01	2.030E-01	2.411E-02	7.791
RA-228	1.582E+00	3.208E-01	2.030E-01	2.411E-02	7.791
TH-228	1.496E+00	2.095E-01	8.720E-02	1.032E-02	17.156
TH-230	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.582E+00	3.208E-01	2.030E-01	2.411E-02	7.791
TH-234	1.459E+00	1.946E+00	1.812E+00	3.161E-01	0.805
U-234	9.251E-01	1.842E-01	1.121E-01	1.186E-02	8.249
NP-237	7.683E-01	3.021E-01	2.614E-01	5.935E-02	2.939
U-238	1.459E+00	1.946E+00	1.812E+00	3.161E-01	0.805
AM-243	2.895E-01	6.479E-02	7.626E-02	6.313E-03	3.797
ANH-511	1.023E-01	6.905E-02	4.617E-02	4.391E-03	2.215

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.294E-02		2.966E-01	4.897E-01	4.954E-02	-0.026
NA-22	2.583E-02		4.307E-02	7.452E-02	6.201E-03	0.347
NA-24	-3.032E-01		4.975E-01	Half-Life too short		
AL-26	-2.326E-04		2.460E-02	4.040E-02	3.303E-03	-0.006
TI-44	3.253E-01	+	5.340E-02	6.640E-02	5.718E-03	4.900
SC-46	-1.051E-02		4.017E-02	6.547E-02	6.189E-03	-0.161
V-48	-1.497E-02		6.802E-02	1.101E-01	1.013E-02	-0.136
CR-51	-2.021E-01		3.507E-01	5.292E-01	6.188E-02	-0.382
MN-52	-2.040E-02		2.313E-01	3.655E-01	3.118E-02	-0.056
MN-54	4.598E-02		3.951E-02	6.565E-02	6.166E-03	0.700
CO-56	-2.175E-03		3.606E-02	6.012E-02	5.657E-03	-0.036
CO-57	-1.249E-02		2.196E-02	3.577E-02	2.972E-03	-0.349
CO-58	-1.771E-02		3.343E-02	5.307E-02	4.972E-03	-0.334
FE-59	5.426E-03		1.008E-01	1.664E-01	1.547E-02	0.033
CO-60	-2.499E-02		4.084E-02	6.038E-02	5.093E-03	-0.414
ZN-65	2.995E-02		1.100E-01	1.617E-01	1.373E-02	0.185
GE-68	8.072E-01		1.306E+00	2.273E+00	1.985E-01	0.355
AS-73	5.436E-01		7.396E-01	1.206E+00	9.200E-02	0.451
AS-74	1.770E-02		8.739E-02	1.450E-01	1.346E-02	0.122
SE-75	-2.235E-02		4.110E-02	6.338E-02	7.397E-03	-0.353
BR-77	-7.864E+00		9.903E+00	1.508E+01	1.432E+00	-0.522
SR-82	-1.503E-01		3.879E-01	5.942E-01	5.509E-02	-0.253
RB-83	-4.718E-02		6.114E-02	9.333E-02	8.868E-03	-0.506
RB-84	-8.390E-03		6.618E-02	1.092E-01	1.032E-02	-0.077
KR-85	1.432E+01		7.661E+00	1.291E+01	1.228E+00	1.109
SR-85	7.361E-02		3.938E-02	6.636E-02	6.310E-03	1.109
RB-86	2.320E-01		8.305E-01	1.403E+00	1.226E-01	0.165
Y-88	2.175E-02		3.124E-02	5.867E-02	4.763E-03	0.371
ZR-88	-1.005E-02		2.818E-02	4.615E-02	4.268E-03	-0.218
Y-91	4.386E+00		1.917E+01	3.192E+01	2.596E+00	0.137
NB-94	-1.289E-02		3.384E-02	5.253E-02	4.749E-03	-0.245
NB-95	-1.070E-02		4.451E-02	6.956E-02	6.430E-03	-0.154
NB-95M	-1.897E-02		1.300E-01	1.852E-01	2.202E-02	-0.102
ZR-95	-6.333E-03		7.002E-02	1.110E-01	1.114E-02	-0.057
NB-97	-1.415E-02		5.779E-02	Half-Life too short		
ZR-97	2.235E+00		1.122E+00	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	-1.812E+00		1.106E+01	1.740E+01	2.698E+00	-0.104
TC-99M	-6.428E+10		3.502E+10	Half-Life too short		
RH-101	1.861E-03		2.903E-02	4.685E-02	4.626E-03	0.040
RH-102	1.625E-03		2.733E-02	4.550E-02	4.325E-03	0.036
RU-103	-9.573E-03		3.795E-02	6.137E-02	9.036E-03	-0.156
RH-106	-1.334E-01		2.881E-01	4.457E-01	6.107E-02	-0.299
RU-106	-1.334E-01		2.878E-01	4.457E-01	4.076E-02	-0.299
AG-108M	1.943E-02		2.930E-02	5.116E-02	4.980E-03	0.380
AG-110M	-6.429E-03		3.261E-02	5.174E-02	4.736E-03	-0.124
IN-111	-3.629E-01		1.131E+00	1.579E+00	1.758E-01	-0.230
IN-113M	2.751E-02		4.093E-02	7.163E-02	6.800E-03	0.384
SN-113	2.751E-02		4.093E-02	7.163E-02	6.800E-03	0.384
IN-114M	-5.578E-03		1.711E-01	2.495E-01	2.413E-02	-0.022
CD-115	-1.692E+00		1.173E+01	1.908E+01	1.811E+00	-0.089
SN-117M	2.968E-02		5.085E-02	8.620E-02	7.656E-03	0.344
SB-122	1.398E+00		2.078E+00	3.584E+00	3.372E-01	0.390
I-123	6.362E+00		3.541E+00	Half-Life too short		
TE-123M	2.302E-02		2.563E-02	4.401E-02	3.936E-03	0.523
I-124	-2.217E-01		7.654E-01	1.106E+00	1.023E-01	-0.201
SB-124	-5.805E-02		7.161E-02	9.761E-02	8.548E-03	-0.595
SB-125	-4.686E-02		8.117E-02	1.293E-01	1.235E-02	-0.363
TE-125M	-2.468E+00		7.892E+00	1.310E+01	1.333E+00	-0.188
I-126	1.642E-01		1.716E-01	3.006E-01	2.673E-02	0.546
SB-126	-4.446E-02		1.551E-01	2.219E-01	2.020E-02	-0.200
SB-127	-8.706E-02		1.374E+00	2.202E+00	2.582E-01	-0.040
XE-127	7.443E-03		4.230E-02	6.957E-02	6.958E-03	0.107
I-131	8.987E-02		1.038E-01	1.844E-01	1.951E-02	0.487
TE-132	-7.675E-02		6.792E-01	1.092E+00	1.854E-01	-0.070
BA-133	1.047E-02		4.073E-02	6.221E-02	8.990E-03	0.168
I-133	7.317E-03		3.763E-03	Half-Life too short		
CS-134	1.250E-01	+	7.194E-02	9.130E-02	8.560E-03	1.369
CS-135	6.139E-03		1.517E-01	2.436E-01	3.106E-02	0.025
I-135	-1.189E+10		5.831E+09	Half-Life too short		
CS-136	-8.283E-02		1.127E-01	1.714E-01	1.586E-02	-0.483
BA-137M	1.045E-02		3.452E-02	5.733E-02	5.088E-03	0.182
CS-137	1.105E-02		3.649E-02	6.061E-02	5.388E-03	0.182
CE-139	2.680E-03		2.704E-02	4.479E-02	4.062E-03	0.060
BA-140	-1.738E-01		2.491E-01	3.726E-01	1.244E-01	-0.467
LA-140	-4.016E-02		7.690E-02	1.159E-01	9.873E-03	-0.346
CE-141	-1.167E-02		5.344E-02	8.779E-02	7.679E-03	-0.133
CE-143	2.575E-04		8.704E-05	Half-Life too short		
CE-144	-2.294E-02		1.695E-01	2.807E-01	4.335E-02	-0.082
PM-144	1.440E-03		3.315E-02	5.361E-02	4.836E-03	0.027
PR-144	9.758E-02		2.247E+00	3.634E+00	3.276E-01	0.027
PM-146	3.276E-02		3.745E-02	6.625E-02	7.565E-03	0.495
ND-147	7.246E-02		5.863E-01	9.731E-01	1.505E-01	0.074
PM-149	3.663E+01		9.547E+01	1.558E+02	2.741E+01	0.235
EU-152	-4.580E-02		8.475E-02	1.331E-01	1.488E-02	-0.344

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-9.349E-03		7.362E-02	1.113E-01	9.888E-03	-0.084
EU-154	4.572E-02		1.221E-01	2.063E-01	2.286E-02	0.222
EU-155	6.361E-02		9.178E-02	1.591E-01	1.377E-02	0.400
TB-160	3.527E-02		1.289E-01	2.213E-01	2.091E-02	0.159
HO-166M	1.082E-02		5.869E-02	9.604E-02	8.713E-03	0.113
TM-171	-1.972E+01		2.777E+01	3.781E+01	2.897E+00	-0.522
LU-176	6.432E-04		2.207E-02	3.510E-02	4.072E-03	0.018
LU-177	2.850E+00	+	1.487E+00	1.861E+00	1.889E-01	1.531
LU-177M	-8.054E-02		1.574E-01	2.533E-01	2.368E-02	-0.318
HF-181	-7.187E-03		3.848E-02	6.273E-02	5.966E-03	-0.115
W-181	8.095E-02		3.632E-01	5.257E-01	3.970E-02	0.154
TA-182	4.862E-02		2.184E-01	3.624E-01	2.963E-02	0.134
RE-183	-9.401E-02		9.933E-02	1.565E-01	1.405E-02	-0.601
RE-184	1.761E-01		2.125E-01	3.579E-01	4.056E-02	0.492
OS-185	2.485E-04		4.153E-02	6.733E-02	6.052E-03	0.004
RE-188	1.283E-01		1.544E-01	2.646E-01	2.327E-02	0.485
W-188	-7.614E+00		7.906E+00	1.012E+01	1.200E+00	-0.753
IR-192	1.355E-02		3.168E-02	5.174E-02	5.913E-03	0.262
AU-195	1.406E-01		1.849E-01	3.223E-01	2.838E-02	0.436
TL-200	-1.011E-04		2.487E-04	Half-Life too short		
TL-201	-1.415E+00		6.569E+00	1.071E+01	9.746E-01	-0.132
TL-202	2.153E-02		6.341E-02	1.083E-01	1.022E-02	0.199
HG-203	1.695E-02		3.935E-02	6.448E-02	7.858E-03	0.263
BI-207	3.766E-02		5.280E-02	9.289E-02	8.188E-03	0.405
TL-207	2.066E-01		6.598E-01	9.545E-01	1.826E-01	0.216
PO-209	-2.232E+00		7.029E+00	1.136E+01	1.074E+00	-0.197
BI-210	2.049E+00		3.360E+00	5.426E+00	5.060E-01	0.378
PB-210	2.049E+00		3.360E+00	5.426E+00	5.060E-01	0.378
PO-210	2.049E+00		3.359E+00	5.426E+00	4.583E-01	0.378
PB-211	-2.931E-01		8.605E-01	1.374E+00	8.627E-01	-0.213
BI-212	1.079E+00	+	5.411E-01	6.624E-01	6.920E-02	1.629
PO-215	2.066E-01		6.598E-01	9.545E-01	1.826E-01	0.216
RN-219	-9.285E-02		3.624E-01	5.960E-01	9.192E-02	-0.156
RN-220	-4.179E+00		2.323E+01	3.746E+01	3.539E+00	-0.112
RA-223	2.066E-01		6.598E-01	9.545E-01	1.826E-01	0.216
AC-227	-1.514E-01		3.461E-01	5.385E-01	9.197E-02	-0.281
TH-227	-1.514E-01		3.464E-01	5.385E-01	1.053E-01	-0.281
TH-229	2.574E-01		4.356E-01	7.335E-01	7.157E-02	0.351
PA-231	2.194E-01		1.440E+00	2.321E+00	4.014E-01	0.095
TH-231	2.066E-01		6.598E-01	9.545E-01	1.826E-01	0.216
U-231	7.956E-01		9.750E-01	1.552E+00	1.393E-01	0.513
PA-233	1.990E-02		6.023E-02	9.773E-02	1.142E-02	0.204
PA-234	-3.122E-01		3.396E-01	5.088E-01	9.721E-02	-0.614
PA-234M	-3.289E-01		4.801E+00	7.825E+00	8.147E-01	-0.042
U-235	-1.329E-02		1.868E-01	3.036E-01	5.305E-02	-0.044
NP-236	1.220E-02		7.251E-02	1.207E-01	1.077E-02	0.101
NP-239	-2.954E-02		1.559E-01	2.593E-01	2.159E-02	-0.114
AM-241	-1.060E-02		1.514E-01	2.162E-01	1.697E-02	-0.049

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-9.192E-03		8.004E-02	1.344E-01	1.155E-02	-0.068
AM-246	7.529E-02		1.532E-01	2.634E-01	2.298E-02	0.286
CM-247	8.253E-03		3.291E-02	5.612E-02	5.218E-03	0.147
CF-249	-2.250E-02		3.665E-02	5.893E-02	5.528E-03	-0.382
CF-251	1.596E-02		1.077E-01	1.784E-01	1.663E-02	0.089

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]G1202018277
* Acquisition date   : 27-JAN-2010 20:43:46 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 02:00:01.77                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 12-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202018277                      Analyst initials: MXR1
* Batch Number       : 942723                            Sample Quantity : 1.1689E+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	3.401E+01	3.517E+00	2.354E-01	1.794E+00
CD-109	2.663E+00	8.734E-01	5.342E-01	4.456E-01
SN-126	2.616E-01	8.581E-02	5.273E-02	4.378E-02
TL-208	4.305E-01	8.654E-02	2.937E-02	4.415E-02
BI-211	3.009E+00	4.978E-01	1.451E-01	2.540E-01
PB-212	1.473E+00	2.022E-01	4.364E-02	1.032E-01
PO-212	1.473E+00	2.022E-01	4.364E-02	1.032E-01
BI-214	9.251E-01	1.805E-01	5.643E-02	9.210E-02
PB-214	1.047E+00	1.812E-01	5.057E-02	9.247E-02
PO-214	1.047E+00	1.812E-01	5.057E-02	9.247E-02
PO-216	1.473E+00	2.022E-01	4.364E-02	1.032E-01
PO-218	1.047E+00	1.812E-01	5.057E-02	9.247E-02
RA-224	3.229E+00	1.079E+00	4.966E-01	5.506E-01
RA-226	9.251E-01	1.805E-01	5.643E-02	9.210E-02
AC-228	1.582E+00	3.144E-01	1.017E-01	1.604E-01
RA-228	1.582E+00	3.144E-01	1.017E-01	1.604E-01
TH-228	1.496E+00	2.053E-01	4.431E-02	1.048E-01
TH-230	9.251E-01	1.805E-01	5.643E-02	9.209E-02
TH-232	1.582E+00	3.144E-01	1.017E-01	1.604E-01
TH-234	1.459E+00	1.907E+00	9.333E-01	9.729E-01
U-234	9.251E-01	1.805E-01	5.643E-02	9.209E-02
NP-237	7.683E-01	2.960E-01	1.342E-01	1.510E-01
U-238	1.459E+00	1.907E+00	9.333E-01	9.729E-01
AM-243	2.895E-01	6.349E-02	3.920E-02	3.240E-02
ANH-511	1.023E-01	6.767E-02	2.328E-02	3.452E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.294E-02	2.907E-01	2.471E-01	1.483E-01 NOT IDENT.
NA-22	2.583E-02	4.221E-02	3.721E-02	2.153E-02 NOT IDENT.

NA-24	-3.032E+05	9.751E+05	0.000E+00	4.975E+05	SHORT HLIF
AL-26	-2.326E-04	2.411E-02	2.010E-02	1.230E-02	NOT IDENT.
TI-44	3.253E-01	5.233E-02	3.412E-02	2.670E-02	FAIL ABUN
SC-46	-1.051E-02	3.937E-02	3.281E-02	2.009E-02	FAIL ABUN
V-48	-1.497E-02	6.666E-02	5.511E-02	3.401E-02	NOT IDENT.
CR-51	-2.021E-01	3.437E-01	2.681E-01	1.754E-01	NOT IDENT.
MN-52	-2.040E-02	2.266E-01	1.823E-01	1.156E-01	NOT IDENT.
MN-54	4.598E-02	3.872E-02	3.293E-02	1.976E-02	NOT IDENT.
CO-56	-2.175E-03	3.534E-02	3.015E-02	1.803E-02	NOT IDENT.
CO-57	-1.249E-02	2.152E-02	1.830E-02	1.098E-02	NOT IDENT.
CO-58	-1.771E-02	3.276E-02	2.663E-02	1.671E-02	NOT IDENT.
FE-59	5.426E-03	9.879E-02	8.320E-02	5.040E-02	NOT IDENT.
CO-60	-2.499E-02	4.002E-02	3.013E-02	2.042E-02	NOT IDENT.
ZN-65	2.995E-02	1.078E-01	8.084E-02	5.500E-02	NOT IDENT.
GE-68	8.072E-01	1.280E+00	1.137E+00	6.531E-01	NOT IDENT.
AS-73	5.436E-01	7.248E-01	6.221E-01	3.698E-01	NOT IDENT.
AS-74	1.770E-02	8.564E-02	7.297E-02	4.369E-02	NOT IDENT.
SE-75	-2.235E-02	4.028E-02	3.217E-02	2.055E-02	NOT IDENT.
BR-77	-7.864E+00	9.705E+00	7.598E+00	4.952E+00	FAIL ABUN
SR-82	-1.503E-01	3.801E-01	2.982E-01	1.939E-01	NOT IDENT.
RB-83	-4.718E-02	5.992E-02	4.704E-02	3.057E-02	NOT IDENT.
RB-84	-8.390E-03	6.485E-02	5.475E-02	3.309E-02	NOT IDENT.
KR-85	1.432E+01	7.508E+00	6.508E+00	3.831E+00	NOT IDENT.
SR-85	7.361E-02	3.859E-02	3.345E-02	1.969E-02	NOT IDENT.
RB-86	2.320E-01	8.139E-01	7.019E-01	4.153E-01	NOT IDENT.
Y-88	2.175E-02	3.062E-02	2.918E-02	1.562E-02	NOT IDENT.
ZR-88	-1.005E-02	2.762E-02	2.333E-02	1.409E-02	NOT IDENT.
Y-91	4.386E+00	1.879E+01	1.595E+01	9.585E+00	NOT IDENT.
NB-94	-1.289E-02	3.317E-02	2.639E-02	1.692E-02	NOT IDENT.
NB-95	-1.070E-02	4.362E-02	3.492E-02	2.226E-02	NOT IDENT.
NB-95M	-1.897E-02	1.274E-01	9.411E-02	6.501E-02	NOT IDENT.
ZR-95	-6.333E-03	6.862E-02	5.572E-02	3.501E-02	NOT IDENT.
NB-97	-1.415E+04	1.133E+05	0.000E+00	5.779E+04	SHORT HLIF
ZR-97	2.235E+06	2.200E+06	0.000E+00	1.122E+06	SHORT HLIF
MO-99	-1.812E+00	1.084E+01	8.739E+00	5.532E+00	NOT IDENT.
TC-99M	-6.428E+16	6.865E+16	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.861E-03	2.845E-02	2.385E-02	1.451E-02	NOT IDENT.
RH-102	1.625E-03	2.678E-02	2.296E-02	1.366E-02	NOT IDENT.
RU-103	-9.573E-03	3.719E-02	3.095E-02	1.897E-02	FAIL ABUN
RH-106	-1.334E-01	2.824E-01	2.242E-01	1.441E-01	FAIL ABUN
RU-106	-1.334E-01	2.820E-01	2.242E-01	1.439E-01	FAIL ABUN
AG-108M	1.943E-02	2.871E-02	2.584E-02	1.465E-02	NOT IDENT.
AG-110M	-6.429E-03	3.196E-02	2.602E-02	1.631E-02	NOT IDENT.
IN-111	-3.629E-01	1.109E+00	8.020E-01	5.657E-01	NOT IDENT.
IN-113M	2.751E-02	4.012E-02	3.621E-02	2.047E-02	NOT IDENT.
SN-113	2.751E-02	4.012E-02	3.621E-02	2.047E-02	NOT IDENT.
IN-114M	-5.578E-03	1.676E-01	1.271E-01	8.554E-02	NOT IDENT.
CD-115	-1.692E+00	1.150E+01	9.616E+00	5.866E+00	NOT IDENT.
SN-117M	2.968E-02	4.983E-02	4.398E-02	2.542E-02	NOT IDENT.
SB-122	1.398E+00	2.036E+00	1.805E+00	1.039E+00	NOT IDENT.
I-123	6.362E+06	6.941E+06	0.000E+00	3.541E+06	SHORT HLIF
TE-123M	2.302E-02	2.512E-02	2.245E-02	1.282E-02	NOT IDENT.
I-124	-2.217E-01	7.501E-01	5.565E-01	3.827E-01	NOT IDENT.
SB-124	-5.805E-02	7.018E-02	4.859E-02	3.581E-02	FAIL ABUN
SB-125	-4.686E-02	7.954E-02	6.529E-02	4.058E-02	FAIL ABUN
TE-125M	-2.468E+00	7.734E+00	6.708E+00	3.946E+00	NOT IDENT.
I-126	1.642E-01	1.681E-01	1.511E-01	8.579E-02	NOT IDENT.
SB-126	-4.446E-02	1.520E-01	1.114E-01	7.755E-02	FAIL ABUN
SB-127	-8.706E-02	1.347E+00	1.107E+00	6.871E-01	NOT IDENT.
XE-127	7.443E-03	4.145E-02	3.541E-02	2.115E-02	NOT IDENT.
I-131	8.987E-02	1.018E-01	9.330E-02	5.192E-02	NOT IDENT.
TE-132	-7.675E-02	6.656E-01	5.551E-01	3.396E-01	NOT IDENT.
BA-133	1.047E-02	3.992E-02	3.148E-02	2.037E-02	NOT IDENT.
I-133	7.317E+03	7.376E+03	0.000E+00	3.763E+03	SHORT HLIF
CS-134	1.250E-01	7.050E-02	4.581E-02	3.597E-02	FAIL ABUN
CS-135	6.139E-03	1.487E-01	1.236E-01	7.584E-02	NOT IDENT.
I-135	-1.189E+16	1.143E+16	0.000E+00	5.831E+15	SHORT HLIF
CS-136	-8.283E-02	1.105E-01	8.574E-02	5.637E-02	FAIL ABUN
BA-137M	1.045E-02	3.383E-02	2.883E-02	1.726E-02	NOT IDENT.
CS-137	1.105E-02	3.576E-02	3.047E-02	1.825E-02	NOT IDENT.
CE-139	2.680E-03	2.649E-02	2.284E-02	1.352E-02	NOT IDENT.
BA-140	-1.738E-01	2.441E-01	1.878E-01	1.246E-01	NOT IDENT.
LA-140	-4.016E-02	7.536E-02	5.774E-02	3.845E-02	FAIL ABUN
CE-141	-1.167E-02	5.237E-02	4.483E-02	2.672E-02	NOT IDENT.
CE-143	2.575E+02	1.706E+02	0.000E+00	8.704E+01	SHORT HLIF
CE-144	-2.294E-02	1.661E-01	1.435E-01	8.474E-02	NOT IDENT.
PM-144	1.440E-03	3.249E-02	2.694E-02	1.658E-02	NOT IDENT.
PR-144	9.758E-02	2.202E+00	1.826E+00	1.123E+00	NOT IDENT.

PM-146	3.276E-02	3.671E-02	3.344E-02	1.873E-02	NOT IDENT.
ND-147	7.246E-02	5.746E-01	4.904E-01	2.932E-01	FAIL ABUN
PM-149	3.663E+01	9.356E+01	7.900E+01	4.774E+01	NOT IDENT.
EU-152	-4.580E-02	8.305E-02	6.738E-02	4.237E-02	FAIL ABUN
GD-153	-9.349E-03	7.214E-02	5.707E-02	3.681E-02	FAIL ABUN
EU-154	4.572E-02	1.197E-01	1.030E-01	6.107E-02	NOT IDENT.
EU-155	6.361E-02	8.994E-02	8.153E-02	4.589E-02	FAIL ABUN
TB-160	3.527E-02	1.263E-01	1.110E-01	6.446E-02	FAIL ABUN
HO-166M	1.082E-02	5.752E-02	4.825E-02	2.935E-02	FAIL ABUN
TM-171	-1.972E+01	2.721E+01	1.946E+01	1.388E+01	NOT IDENT.
LU-176	6.432E-04	2.162E-02	1.779E-02	1.103E-02	FAIL ABUN
LU-177	2.850E+00	1.457E+00	9.469E-01	7.433E-01	FAIL ABUN
LU-177M	-8.054E-02	1.542E-01	1.280E-01	7.869E-02	NOT IDENT.
HF-181	-7.187E-03	3.771E-02	3.164E-02	1.924E-02	NOT IDENT.
W-181	8.095E-02	3.559E-01	2.706E-01	1.816E-01	NOT IDENT.
TA-182	4.862E-02	2.141E-01	1.810E-01	1.092E-01	FAIL ABUN
RE-183	-9.401E-02	9.735E-02	7.983E-02	4.967E-02	FAIL ABUN
RE-184	1.761E-01	2.082E-01	1.818E-01	1.062E-01	NOT IDENT.
OS-185	2.485E-04	4.070E-02	3.386E-02	2.077E-02	NOT IDENT.
RE-188	1.283E-01	1.513E-01	1.350E-01	7.720E-02	NOT IDENT.
W-188	-7.614E+00	7.748E+00	5.130E+00	3.953E+00	FAIL ABUN
IR-192	1.355E-02	3.105E-02	2.621E-02	1.584E-02	FAIL ABUN
AU-195	1.406E-01	1.812E-01	1.652E-01	9.245E-02	FAIL ABUN
TL-200	-1.011E+02	4.875E+02	0.000E+00	2.487E+02	SHORT HLIF
TL-201	-1.415E+00	6.437E+00	5.459E+00	3.284E+00	NOT IDENT.
TL-202	2.153E-02	6.214E-02	5.468E-02	3.170E-02	NOT IDENT.
HG-203	1.695E-02	3.856E-02	3.271E-02	1.968E-02	FAIL ABUN
BI-207	3.766E-02	5.175E-02	4.647E-02	2.640E-02	FAIL ABUN
TL-207	2.066E-01	6.466E-01	4.835E-01	3.299E-01	FAIL ABUN
PO-209	-2.232E+00	6.888E+00	5.691E+00	3.514E+00	NOT IDENT.
BI-210	2.049E+00	3.293E+00	2.803E+00	1.680E+00	NOT IDENT.
PB-210	2.049E+00	3.293E+00	2.803E+00	1.680E+00	NOT IDENT.
PO-210	2.049E+00	3.292E+00	2.803E+00	1.679E+00	NOT IDENT.
PB-211	-2.931E-01	8.433E-01	6.946E-01	4.302E-01	NOT IDENT.
BI-212	1.079E+00	5.302E-01	3.327E-01	2.705E-01	FAIL ABUN
PO-215	2.066E-01	6.466E-01	4.835E-01	3.299E-01	FAIL ABUN
RN-219	-9.285E-02	3.552E-01	3.012E-01	1.812E-01	NOT IDENT.
RN-220	-4.179E+00	2.276E+01	1.887E+01	1.161E+01	NOT IDENT.
RA-223	2.066E-01	6.466E-01	4.835E-01	3.299E-01	FAIL ABUN
AC-227	-1.514E-01	3.392E-01	2.734E-01	1.731E-01	FAIL ABUN
TH-227	-1.514E-01	3.395E-01	2.734E-01	1.732E-01	FAIL ABUN
TH-229	2.574E-01	4.269E-01	3.735E-01	2.178E-01	FAIL ABUN
PA-231	2.194E-01	1.411E+00	1.177E+00	7.199E-01	FAIL ABUN
TH-231	2.066E-01	6.466E-01	4.835E-01	3.299E-01	FAIL ABUN
U-231	7.956E-01	9.555E-01	7.960E-01	4.875E-01	FAIL ABUN
PA-233	1.990E-02	5.902E-02	4.952E-02	3.011E-02	FAIL ABUN
PA-234	-3.122E-01	3.328E-01	2.549E-01	1.698E-01	FAIL ABUN
PA-234M	-3.289E-01	4.705E+00	3.917E+00	2.400E+00	NOT IDENT.
U-235	-1.329E-02	1.830E-01	1.550E-01	9.338E-02	FAIL ABUN
NP-236	1.220E-02	7.106E-02	6.158E-02	3.625E-02	NOT IDENT.
NP-239	-2.954E-02	1.528E-01	1.327E-01	7.795E-02	FAIL ABUN
AM-241	-1.060E-02	1.484E-01	1.114E-01	7.572E-02	NOT IDENT.
CM-243	-9.192E-03	7.844E-02	6.887E-02	4.002E-02	FAIL ABUN
AM-246	7.529E-02	1.501E-01	1.317E-01	7.660E-02	NOT IDENT.
CM-247	8.253E-03	3.226E-02	2.836E-02	1.646E-02	NOT IDENT.
CF-249	-2.250E-02	3.592E-02	2.979E-02	1.833E-02	NOT IDENT.
CF-251	1.596E-02	1.056E-01	9.092E-02	5.387E-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	179.8478
46.50	179.8478
46.50	179.8478
48.70	224.8763
49.72	187.5852
51.35	209.9789
52.39	207.0326
52.97	181.0109
53.15	181.1057
53.44	178.8569
54.07	187.5994
56.28	237.1785
56.28	237.1800
57.37	0.0000
57.53	196.7172
57.53	196.7182
57.60	196.7552
57.98	217.6291
57.98	217.6291
59.32	218.0165
59.32	218.0165
59.40	235.9642
59.54	237.6815
59.72	237.7962
60.01	242.8715
61.10	225.5948
61.14	225.6184
61.30	225.7135
63.00	264.9170
63.29	265.1163
63.29	265.1163
63.58	265.3148
64.28	265.7913
65.12	259.3409
65.20	259.3924
65.20	259.3924
66.05	254.9826
66.72	275.3124
66.83	275.3884
66.91	263.8290
67.20	249.0738
67.20	249.0738
67.75	249.4125
67.85	249.4751
68.90	285.9694
68.90	285.9694
69.30	295.4285
69.67	288.1773
70.82	263.8474
70.82	263.8474
70.83	263.8539
72.80	278.9781
72.87	279.0236
72.87	279.0236
74.67	294.1454
74.81	294.2392
74.81	294.2392
74.81	294.2392
74.81	294.2392
74.81	294.2392
74.81	294.2392
74.81	294.2392
74.97	294.3489
75.28	294.5596
75.70	294.8428
77.11	295.7915
77.11	295.7915

77.11	295.7915
77.11	295.7915
77.11	295.7915
77.11	295.7915
77.11	295.7915
78.38	267.2311
79.62	261.5602
79.80	261.6645
79.80	261.6645
80.11	223.3371
80.18	223.3716
80.30	223.4300
80.30	223.4300
80.57	231.2718
81.00	259.7834
81.07	259.8235
81.07	259.8235
81.07	259.8235
81.07	259.8235
82.60	243.9126
83.37	276.6333
83.78	292.4041
83.78	292.4041
83.78	292.4041
83.78	292.4041
84.21	292.6730
84.90	186.7555
85.43	186.9653
86.29	187.3048
86.50	187.3872
86.54	187.4026
86.59	187.4224
86.72	187.4729
86.79	187.4993
86.94	302.1795
87.30	278.9435
87.30	278.9435
87.30	278.9435
87.30	278.9435
87.30	278.9435
87.30	278.9435
87.57	255.6245
87.88	255.7890
88.03	255.8683
88.36	256.0432
88.47	256.1016
89.95	327.6520
91.11	215.4464
92.29	215.9594
92.38	215.9982
92.38	215.9982
93.35	221.6946
94.00	221.9817
94.67	223.5957
94.67	223.5983
94.90	214.4332
94.90	214.4332
94.90	214.4332
94.90	214.4332
95.87	201.5793
95.87	201.5793
96.73	197.9338
97.43	236.7770
98.44	206.8485
98.44	206.8497
98.88	200.9766
99.55	198.5623
99.55	198.5623
99.86	206.6982
100.00	202.2966
100.10	202.3370
103.18	242.0563
103.76	214.4956
105.00	193.3970
105.31	209.7081
108.00	246.0061
109.28	228.4417

111.00	216.4090
111.00	216.4090
111.76	207.5933
112.95	209.8507
115.19	203.3385
116.30	194.5490
117.00	198.4570
117.00	198.4570
117.66	202.3582
121.11	186.8794
121.62	202.7784
121.78	226.9124
122.06	222.3853
122.32	230.8235
122.32	230.8235
122.32	230.8235
122.32	230.8235
123.07	215.3300
127.23	286.8709
129.76	210.1572
131.20	249.1896
133.02	208.4060
133.54	197.2471
135.34	200.6348
136.00	197.0503
136.25	199.0198
136.48	199.0903
140.51	207.9365
140.51	0.0000
142.18	210.3656
142.65	207.6427
143.76	203.1904
144.24	196.6189
144.24	196.6189
144.24	196.6189
144.24	196.6189
145.22	209.3890
145.44	209.4555
147.16	199.3836
152.43	221.2716
152.70	211.6465
153.22	205.0008
154.21	202.3654
154.21	202.3654
154.21	202.3654
154.21	202.3654
155.03	201.6241
156.02	215.5573
158.56	206.5269
159.00	0.0000
159.00	191.9585
160.31	212.9074
161.27	229.8867
162.32	224.3099
162.64	233.2631
163.35	216.7393
163.89	204.0794
165.85	208.5681
167.43	204.0511
171.28	178.2006
171.86	190.2908
172.10	190.3491
176.55	173.3960
176.60	173.4083
181.06	188.6968
184.41	174.6022
185.71	192.6208
186.00	192.6904
190.27	169.7333
192.34	196.2148
193.63	160.6925
197.04	189.0855
198.01	168.7246
198.60	179.1348
200.40	170.2251
201.83	188.0744
202.84	183.1200
205.31	150.9557

208.36	199.8867
208.81	165.6153
209.75	165.7900
209.75	165.7900
210.97	166.0164
215.65	164.7778
216.55	177.5476
218.09	164.1663
222.10	171.2203
223.80	173.6494
226.40	168.8210
227.00	176.3649
227.08	166.8173
227.20	166.8380
228.16	175.5173
228.18	175.5206
228.18	175.5206
231.56	0.0000
235.69	197.8011
236.00	193.0389
236.00	193.0389
238.63	179.5797
238.63	179.5797
238.63	179.5797
238.63	179.5797
239.00	179.6460
240.98	180.0078
241.98	180.1896
241.98	180.1896
241.98	180.1896
244.69	180.1379
245.39	149.4088
247.94	123.7366
248.90	136.8909
249.79	163.1088
252.40	128.6412
252.85	123.2443
252.85	123.2443
254.15	0.0000
256.20	142.2463
256.20	142.2463
260.50	130.7494
260.90	122.0047
262.80	132.1362
264.65	145.6023
268.24	156.0547
268.79	148.3836
269.46	137.3960
269.46	137.3960
269.46	137.3960
269.46	137.3960
271.23	147.6091
273.65	179.0843
276.40	147.1975
277.35	137.2789
277.60	140.6605
277.60	140.6605
278.00	132.8945
278.60	141.9061
279.20	138.6271
279.53	156.5629
280.46	149.9785
281.68	149.0216
283.67	126.8399
284.30	124.6650
285.00	131.4846
285.90	128.2175
286.10	113.6147
286.10	113.6147
287.40	131.7654
288.45	0.0000
290.67	147.3940
290.80	147.4099
291.72	113.6146
293.26	0.0000
293.70	122.3042
295.21	113.9601
295.21	113.9601

295.21	113.9601
295.96	98.7175
296.50	95.3579
297.23	95.4177
298.57	95.5271
299.80	92.2126
299.80	92.2126
300.09	116.1487
300.09	116.1487
300.09	116.1487
300.09	116.1487
300.12	116.1528
301.29	124.8182
302.84	148.9525
303.76	118.2274
303.91	99.3919
304.40	113.1475
304.40	113.1475
304.84	114.9048
306.84	104.2190
308.46	116.9767
311.98	108.1195
316.51	99.2888
318.01	102.8791
319.02	129.5729
319.41	124.9849
320.08	118.1056
323.87	97.5642
323.87	97.5642
323.87	97.5642
323.87	97.5642
325.23	130.8105
328.77	110.7753
333.44	91.2920
334.20	112.4258
334.20	112.4258
334.30	112.4355
338.28	118.9552
338.28	118.9552
338.28	118.9552
338.28	118.9552
338.32	118.9593
338.32	118.9593
338.32	118.9593
340.50	81.9123
340.57	81.9165
344.27	104.2070
345.85	99.2698
350.59	0.0000
351.07	96.1068
351.92	96.1694
351.92	96.1694
351.92	96.1694
355.39	0.0000
356.01	87.1774
364.48	80.8978
366.43	96.3173
367.43	104.4949
367.94	0.0000
369.80	92.9461
374.96	94.2008
383.85	97.5369
387.95	107.8774
388.63	102.4399
391.69	87.9946
391.69	87.9946
392.90	101.8302
398.62	90.2615
400.65	83.9309
401.10	83.9573
401.81	92.3050
402.60	87.7376
404.84	98.9704
410.95	91.0226
411.60	101.2827
413.65	95.8395
414.70	81.9401
415.30	69.8627

415.76	69.8845
417.63	0.0000
418.52	89.6162
423.70	84.3036
427.08	87.3067
427.89	87.3535
432.53	73.4856
433.93	71.6652
439.47	73.8141
439.56	76.6568
439.89	85.1921
443.98	87.3127
444.90	87.3632
445.03	87.3716
445.03	87.3716
445.03	87.3716
445.03	87.3716
453.90	60.1642
463.38	76.8481
468.07	79.6368
473.00	76.3324
475.06	79.3299
475.35	78.3761
476.78	76.5059
477.59	77.5122
477.96	82.3749
482.03	74.8029
484.57	85.6179
487.03	79.8967
490.36	0.0000
492.35	73.3051
497.08	77.4281
507.63	0.0000
510.53	0.0000
510.84	83.9689
511.00	83.9767
511.85	84.0162
511.85	84.0162
513.99	64.9193
513.99	64.9193
520.41	72.5032
520.65	72.5143
527.90	82.7796
528.96	0.0000
529.64	58.9010
529.87	0.0000
531.02	82.9240
537.32	76.1925
543.00	76.4268
546.56	0.0000
549.76	63.5864
552.65	64.6953
555.20	49.5996
563.23	56.9263
563.90	63.0463
568.70	87.6718
569.32	80.5623
569.50	80.5695
569.67	75.4769
573.80	59.2850
574.00	59.2903
574.64	67.4905
578.91	73.7886
579.30	0.0000
583.14	77.0302
585.48	62.5200
591.81	69.1183
592.07	69.1265
593.00	63.9980
595.88	65.1245
600.56	71.4953
602.52	0.0000
602.71	81.5979
602.71	81.5979
603.60	66.4141
604.41	81.3907
604.70	81.4027
609.31	80.1300

609.31	80.1300
609.31	80.1300
609.31	80.1300
610.33	59.9713
612.46	78.3785
614.37	51.7449
618.01	54.3455
621.84	61.7764
621.84	61.7764
631.29	69.4221
633.02	46.3203
633.10	48.4272
634.78	59.0027
635.90	56.9251
636.97	55.9001
645.85	61.4303
646.12	62.4984
656.30	57.4739
657.75	61.7737
657.90	0.0000
661.65	61.8852
661.65	61.8852
664.57	0.0000
666.33	50.2559
666.33	50.2559
675.00	53.6758
677.61	54.8147
685.20	60.3955
692.80	64.9292
695.00	57.4107
696.49	62.8676
696.49	62.8676
697.00	63.9659
697.49	60.7271
698.33	64.0037
698.50	68.3487
699.00	65.1086
702.63	73.9081
706.10	63.1348
706.58	0.0000
706.67	70.7724
709.31	51.2327
711.68	57.8329
713.82	78.6379
717.42	47.0378
720.50	64.2616
721.93	0.0000
722.20	49.1080
722.78	56.1375
722.78	56.1375
722.89	56.1406
722.95	59.6511
723.30	59.6594
724.18	52.6611
727.18	58.2211
733.00	52.8604
735.90	49.6170
739.58	48.5896
742.81	54.1859
744.21	37.6202
747.13	65.3613
751.79	48.8394
752.31	57.7319
753.82	59.9903
755.35	61.1398
756.15	57.8240
756.87	68.9648
763.93	79.2055
765.79	75.9169
766.42	73.7042
766.84	63.6640
776.49	62.7932
778.00	62.8325
778.57	56.1127
778.89	56.1203
783.80	53.9824
785.46	53.1187
792.07	61.6835

795.84	50.6270
796.30	57.2675
798.80	61.8487
801.93	51.7843
805.60	51.7300
810.29	48.1891
810.76	47.2888
815.85	44.6491
817.79	37.3875
818.51	43.7824
819.60	45.6262
826.30	47.5744
828.27	0.0000
831.60	42.7827
831.96	51.9574
834.83	42.8351
836.80	0.0000
846.75	47.9477
848.13	66.4242
856.28	0.0000
856.80	67.8745
860.37	46.3403
867.32	44.9113
867.82	43.3706
871.10	53.9686
873.19	46.5601
874.81	47.5199
875.33	0.0000
876.40	42.8858
879.36	41.9996
880.27	46.6821
880.51	47.6195
881.50	47.6369
883.24	43.9282
884.67	50.4971
889.25	57.1384
896.60	49.7768
898.02	47.9233
899.00	44.1807
903.28	35.5661
911.07	47.2034
911.07	47.2034
911.07	47.2034
919.63	55.8699
920.93	43.5798
925.00	39.8467
925.24	40.7986
926.50	45.5637
935.52	49.5155
937.48	70.5132
944.10	49.6641
946.00	72.6323
949.00	49.7478
962.29	38.4414
964.01	39.4255
966.15	39.4545
968.20	39.4815
969.11	39.4945
969.11	39.4945
969.11	39.4945
977.42	41.3986
980.50	47.3814
983.50	45.4934
989.30	23.2758
996.32	34.0225
1001.03	48.6792
1001.68	44.7950
1004.76	55.5625
1021.30	0.0000
1024.50	0.0000
1034.80	49.2163
1036.00	52.1900
1037.82	59.1152
1038.57	52.2314
1038.76	0.0000
1045.16	45.4295
1046.59	46.4377
1048.07	57.3316

1050.47	48.4736
1050.47	48.4736
1062.04	45.6721
1063.62	40.7277
1076.63	47.8734
1077.35	44.8923
1078.86	48.9043
1085.78	46.0090
1099.22	57.2449
1112.02	51.4184
1112.84	57.9885
1115.52	57.1924
1120.29	68.7305
1120.29	68.7305
1120.29	68.7305
1120.29	68.7305
1120.51	68.7338
1121.28	68.7504
1124.00	0.0000
1129.67	66.8959
1131.51	0.0000
1147.95	0.0000
1167.94	44.0750
1173.22	58.5141
1175.09	46.2217
1177.93	63.7347
1189.05	73.2188
1204.90	52.8303
1205.75	0.0000
1213.00	56.0672
1221.42	65.5655
1230.97	69.9116
1235.34	87.7570
1236.41	0.0000
1238.25	47.0500
1246.25	37.7244
1260.41	0.0000
1271.85	49.5933
1274.45	36.9585
1274.54	33.7906
1291.56	36.0669
1298.22	0.0000
1312.09	36.2628
1325.50	29.9688
1325.50	29.9688
1332.49	37.5276
1333.61	35.3944
1360.21	23.7574
1362.66	0.0000
1365.15	25.9500
1368.21	29.2162
1368.53	0.0000
1376.25	26.0227
1384.27	20.6430
1394.10	18.5157
1395.20	18.5207
1407.95	15.3009
1434.06	20.8991
1436.60	18.3439
1457.56	0.0000
1460.81	16.6062
1489.15	13.9319
1509.49	13.0652
1596.49	19.0381
1620.62	10.5269
1678.03	0.0000
1691.02	16.5172
1691.02	16.5172
1706.46	0.0000
1750.46	0.0000
1764.49	10.1472
1764.49	10.1472
1764.49	10.1472
1764.49	10.1472
1770.23	63.2109
1771.40	33.5891
1791.20	0.0000
1808.65	7.9629

1836.01

7.0054

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202018277

Total Uranium Activity	4.3340E+00	ug/g
Total Uranium Counting Unc.	5.6735E+00	ug/g
Total Uranium Tpu	2.8946E-06	ug/g
Total Uranium Mda	2.7775E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 942723                          SAMPLE ID   : G1202018277
*  ANALYST       : MXR1                             DETECTOR    : GAM16
*  SAMPLE DATE   : 12-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 27-JAN-2010 20:43:46.93          SAMPLE ALQT  : 116.894 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.733E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.467E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.641E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.271E+00

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VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 21:45:01.76

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018278.CNF;1
Sample date       : 19-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 20:44:29
Sample ID        : G1202018278 Sample quantity   : 1.55440E+02 GRAM
Detector name    : GAM19 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:01.52 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity        : 5.00000
Batch ID        : 942723 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	59.60	3058	925	1.21	119.08	114	11	8.49E-01	2.7	
2	0	77.34	79	598	0.82	154.51	151	8	2.20E-02	55.4	
3	0	88.11	1422	629	1.19	176.03	170	12	3.95E-01	4.4	
4	0	121.87	263	395	1.28	243.50	238	13	7.31E-02	16.7	
5	0	185.40*	65	464	1.34	370.47	364	15	1.79E-02	74.2	
6	2	238.54*	438	231	1.44	476.68	469	20	1.22E-01	7.9	1.57E+00
7	2	241.67	111	285	1.80	482.93	469	20	3.08E-02	32.3	
8	0	295.23	136	225	1.44	589.98	584	11	3.78E-02	23.0	
9	0	338.71	88	245	1.64	676.89	669	12	2.44E-02	37.3	
10	0	351.88	228	212	1.29	703.23	697	13	6.34E-02	14.7	
11	0	511.02*	62	232	1.65	1021.34	1014	16	1.73E-02	58.8	
12	0	583.38*	178	100	1.77	1166.01	1159	15	4.94E-02	14.7	
13	0	609.75*	137	112	1.73	1218.74	1212	11	3.81E-02	17.5	
14	0	661.79	2322	144	1.62	1322.78	1316	16	6.45E-01	2.4	
15	0	727.85	52	64	1.13	1454.88	1451	10	1.44E-02	32.1	
16	0	912.18	120	139	1.74	1823.49	1815	17	3.32E-02	24.4	
17	0	969.41	55	118	1.48	1937.93	1932	11	1.52E-02	41.2	
18	0	1173.67	1752	65	1.86	2346.51	2339	17	4.87E-01	2.6	
19	0	1332.99	1641	32	2.04	2665.24	2655	21	4.56E-01	2.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 27-JAN-2010 21:45:04

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018278.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 19-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 20:44:29
Sample ID         : G1202018278 Sample quantity   : 155.44 GRAM
Sample type       : SOLID Sample geometry      :
Detector name     : GAMMA19 Detector geometry: CAN
Elapsed live time : 0 01:00:00.00 Elapsed real time: 0 01:00:01.52 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
CO-57	+	122.06	*	2.215E-01	7.525E-02	6.488E-02	3.872E-03	3.414
		136.48		4.619E-01	3.388E-01	5.792E-01	3.824E-02	0.797
CO-60	+	1173.22		6.073E+00	4.606E-01	9.528E-02	5.221E-03	63.740
	+	1332.49	*	6.332E+00	5.720E-01	7.063E-02	5.205E-03	89.645
CD-109	+	88.03	*	3.044E+01	3.831E+00	2.186E+00	1.958E-01	13.928
SN-126		64.28		-6.430E-01	8.585E-01	1.201E+00	1.753E-01	-0.536
	+	86.94		1.256E+01	5.319E+00	9.109E-01	3.772E-01	13.785
	+	87.57	*	3.020E+00	3.801E-01	2.178E-01	1.943E-02	13.869
BA-137M	+	661.65	*	5.418E+00	4.081E-01	9.378E-02	5.461E-03	57.776
CS-137	+	661.65	*	5.728E+00	4.325E-01	9.914E-02	5.797E-03	57.776
TL-208		277.35		9.703E-02	6.415E-01	1.088E+00	1.148E-01	0.089
	+	510.84		4.913E-01	5.795E-01	4.322E-01	4.413E-02	1.137
	+	583.14	*	3.994E-01	1.207E-01	1.076E-01	7.320E-03	3.711
		860.37		-9.338E-02	6.011E-01	9.605E-01	8.601E-02	-0.097
BI-211		72.87		5.417E+00	5.544E+00	8.317E+00	6.517E-01	0.651
	+	351.07	*	2.250E+00	6.771E-01	5.927E-01	3.785E-02	3.796
PB-212		74.81		9.393E-01	7.088E-01	1.061E+00	1.301E-01	0.885
	+	77.11		3.986E-01	4.432E-01	5.456E-01	4.407E-02	0.731
	+	87.30		1.397E+01	2.245E+00	1.010E+00	1.352E-01	13.833
	+	238.63	*	9.445E-01	1.648E-01	1.606E-01	1.159E-02	5.883
		300.09		9.108E-01	1.460E+00	2.225E+00	1.838E-01	0.409
PO-212		74.81		9.393E-01	7.088E-01	1.061E+00	1.301E-01	0.885
	+	77.11		3.986E-01	4.432E-01	5.456E-01	4.407E-02	0.731
	+	87.30		1.397E+01	2.245E+00	1.010E+00	1.352E-01	13.833
		115.19		3.913E+00	5.775E+00	9.369E+00	5.965E-01	0.418
	+	238.63	*	9.445E-01	1.648E-01	1.606E-01	1.159E-02	5.883
		300.09		9.108E-01	1.460E+00	2.225E+00	1.838E-01	0.409
PB-214		74.81		1.618E+00	1.218E+00	1.828E+00	1.985E-01	0.885
	+	77.11		6.834E-01	7.616E-01	9.353E-01	1.039E-01	0.731
	+	87.30		2.393E+01	3.531E+00	1.730E+00	2.036E-01	13.833
	+	241.98		1.439E+00	9.372E-01	9.661E-01	7.705E-02	1.490
	+	295.21		7.945E-01	3.717E-01	3.972E-01	3.390E-02	2.000
	+	351.92	*	7.826E-01	2.390E-01	2.066E-01	1.703E-02	3.788
PO-214		74.81		1.618E+00	1.218E+00	1.828E+00	1.985E-01	0.885

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		6.834E-01	7.616E-01	9.353E-01	1.039E-01	0.731
	+	87.30		2.393E+01	3.531E+00	1.730E+00	2.036E-01	13.833
	+	241.98		1.439E+00	9.372E-01	9.661E-01	7.705E-02	1.490
	+	295.21		7.945E-01	3.717E-01	3.972E-01	3.390E-02	2.000
	+	351.92	*	7.826E-01	2.390E-01	2.066E-01	1.703E-02	3.788
PO-216		74.81		9.393E-01	7.088E-01	1.061E+00	1.301E-01	0.885
	+	77.11		3.986E-01	4.432E-01	5.456E-01	4.407E-02	0.731
	+	87.30		1.397E+01	2.245E+00	1.010E+00	1.352E-01	13.833
	+	238.63	*	9.445E-01	1.648E-01	1.606E-01	1.159E-02	5.883
		300.09		9.108E-01	1.460E+00	2.225E+00	1.838E-01	0.409
PO-218		74.81		1.618E+00	1.218E+00	1.828E+00	1.985E-01	0.885
	+	77.11		6.834E-01	7.616E-01	9.353E-01	1.039E-01	0.731
	+	87.30		2.393E+01	3.531E+00	1.730E+00	2.036E-01	13.833
	+	241.98		1.439E+00	9.372E-01	9.661E-01	7.705E-02	1.490
	+	295.21		7.945E-01	3.717E-01	3.972E-01	3.390E-02	2.000
	+	351.92	*	7.826E-01	2.390E-01	2.066E-01	1.703E-02	3.788
RA-224	+	240.98	*	2.729E+00	1.770E+00	1.826E+00	1.035E-01	1.494
AC-228	+	338.32		9.538E-01	8.110E-01	6.678E-01	2.722E-01	1.428
	+	911.07	*	1.196E+00	6.000E-01	4.706E-01	5.323E-02	2.542
	+	969.11		9.617E-01	8.224E-01	9.411E-01	2.182E-01	1.022
RA-228	+	338.32		9.538E-01	8.110E-01	6.678E-01	2.722E-01	1.428
	+	911.07	*	1.196E+00	6.000E-01	4.706E-01	5.323E-02	2.542
	+	969.11		9.617E-01	8.224E-01	9.411E-01	2.182E-01	1.022
TH-228		74.81		9.476E-01	7.096E-01	1.071E+00	8.583E-02	0.885
	+	77.11		4.022E-01	4.471E-01	5.504E-01	4.447E-02	0.731
	+	87.30		1.409E+01	1.773E+00	1.019E+00	9.062E-02	13.833
	+	238.63	*	9.529E-01	1.663E-01	1.620E-01	1.169E-02	5.883
		300.09		9.189E-01	1.568E+00	2.245E+00	1.323E+00	0.409
TH-232	+	338.32		9.538E-01	7.138E-01	6.678E-01	3.861E-02	1.428
	+	911.07	*	1.196E+00	6.000E-01	4.706E-01	5.323E-02	2.542
	+	969.11		9.617E-01	8.224E-01	9.411E-01	2.182E-01	1.022
AM-241	+	59.54	*	1.335E+01	1.311E+00	5.052E-01	4.159E-02	26.424
ANH-511	+	511.00	*	1.061E-01	1.249E-01	9.337E-02	5.510E-03	1.136

---- 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	*	-1.374E-01	6.231E-01	1.019E+00	6.917E-02	-0.135
NA-22		1274.54	*	1.920E-02	4.316E-02	7.675E-02	5.119E-03	0.250
NA-24		1368.53	*	-3.417E-04	4.316E-02	Half-Life too short		
AL-26		1129.67		-5.119E+00	2.860E+00	3.917E+00	2.417E-01	-1.307
		1808.65	*	-3.776E-04	4.141E-02	6.735E-02	3.932E-03	-0.006
K-40		1460.81	*	3.712E-01	5.216E-01	9.676E-01	7.206E-02	0.384
TI-44		67.85		-2.148E-02	7.071E-02	1.151E-01	8.789E-03	-0.187
	+	78.38	*	7.355E-02	8.177E-02	1.088E-01	8.880E-03	0.676
SC-46		889.25	*	-8.653E-03	8.479E-02	1.358E-01	1.180E-02	-0.064
		1120.51		5.592E-02	9.660E-02	1.676E-01	1.057E-02	0.334
V-48		944.10		-3.626E-01	1.733E+00	2.755E+00	2.321E-01	-0.132

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CR-51	983.50	*		1.392E-01	1.277E-01	2.204E-01	1.772E-02	0.632
	1312.09			7.528E-03	7.684E-02	1.292E-01	9.193E-03	0.058
	320.08	*		8.110E-03	5.897E-01	9.897E-01	6.405E-02	0.008
	744.21			7.721E-02	2.132E-01	3.561E-01	2.421E-02	0.217
	848.13			-5.781E-01	6.954E+00	1.118E+01	9.088E-01	-0.052
MN-52	935.52			2.542E-02	2.977E-01	4.818E-01	4.096E-02	0.053
	1246.25			9.890E-01	3.338E+00	5.788E+00	3.658E-01	0.171
	1333.61	+		3.745E+02	3.383E+01	4.307E+01	3.173E+00	8.697
	1434.06	*		1.223E-02	1.057E-01	1.790E-01	1.291E-02	0.068
	834.83	*		-4.262E-02	7.542E-02	1.167E-01	9.285E-03	-0.365
MN-54	846.75	*		4.783E-02	8.247E-02	1.387E-01	1.126E-02	0.345
	977.42			-4.652E+00	6.486E+00	9.818E+00	7.955E-01	-0.474
	1037.82			1.067E-01	6.063E-01	1.029E+00	8.189E-02	0.104
	1175.09	+		2.871E+02	2.178E+01	3.164E+01	1.741E+00	9.073
	1238.25			9.430E-02	9.138E-02	1.697E-01	1.114E-02	0.556
CO-56	1360.21			4.636E-01	1.108E+00	1.962E+00	1.439E-01	0.236
	1771.40			-1.598E-01	3.375E-01	4.956E-01	2.987E-02	-0.322
	810.76	*		-8.335E-03	7.746E-02	1.245E-01	9.539E-03	-0.067
	142.65			8.074E-01	3.846E+00	6.293E+00	3.499E-01	0.128
	192.34			-1.158E+00	1.659E+00	2.224E+00	2.583E-01	-0.520
FE-59	1099.22	*		4.501E-02	1.679E-01	2.861E-01	2.147E-02	0.157
	1291.56			2.065E-02	1.288E-01	2.187E-01	1.811E-02	0.094
	1115.52	*		-7.074E-02	1.800E-01	2.924E-01	1.870E-02	-0.242
	1077.35	*		-1.449E+00	2.502E+00	4.001E+00	2.769E-01	-0.362
	53.44	*		3.974E-01	1.954E+00	3.011E+00	2.227E-01	0.132
ZN-65	595.88	*		1.626E-02	1.321E-01	2.187E-01	1.296E-02	0.074
	634.78			5.688E-01	5.572E-01	9.720E-01	5.713E-02	0.585
	66.05			-7.509E-01	7.203E+00	1.140E+01	1.094E+00	-0.066
	96.73			-2.085E+00	1.203E+00	1.776E+00	2.336E-01	-1.174
	121.11	+		1.167E+00	4.053E-01	4.650E-01	4.355E-02	2.510
GE-68	136.00			7.227E-02	6.262E-02	1.064E-01	6.125E-03	0.680
	198.60			-2.669E+00	2.995E+00	4.609E+00	3.146E-01	-0.579
	264.65	*		9.150E-03	7.385E-02	1.252E-01	7.283E-03	0.073
	279.53			-9.914E-02	1.810E-01	2.971E-01	1.860E-02	-0.334
	303.91			-2.977E+00	3.441E+00	5.512E+00	5.265E-01	-0.540
AS-73	400.65			1.565E-01	4.737E-01	8.020E-01	7.201E-02	0.195
	87.88	+		1.065E+03	1.341E+02	1.498E+02	1.341E+01	7.112
	200.40			1.491E+01	4.405E+01	7.193E+01	3.913E+00	0.207
	239.00	+		2.434E+01	4.104E+00	6.879E+00	3.891E-01	3.539
	249.79			-1.735E+01	2.004E+01	3.057E+01	1.744E+00	-0.568
AS-74	281.68			-2.423E+00	2.516E+01	4.217E+01	2.444E+00	-0.057
	297.23			4.076E+01	1.717E+01	2.849E+01	1.656E+00	1.430
	303.76			-5.222E+01	4.950E+01	7.868E+01	4.577E+00	-0.664
	439.47			1.887E+01	4.733E+01	8.018E+01	4.604E+00	0.235
	484.57			4.401E+01	7.363E+01	1.259E+02	7.372E+00	0.350
SE-75	520.65	*		-1.479E+00	3.054E+00	4.872E+00	2.880E-01	-0.304
	574.64			-1.100E+02	6.213E+01	8.455E+01	5.018E+00	-1.301
	578.91			5.438E-01	2.751E+01	3.923E+01	2.328E+00	0.014
	585.48			9.484E+01	6.129E+01	9.857E+01	5.846E+00	0.962

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-82	755.35			-2.615E+01	5.750E+01	9.046E+01	6.274E+00	-0.289
	817.79			2.415E+01	4.701E+01	7.888E+01	6.098E+00	0.306
	698.33			-2.789E+00	5.011E+01	8.138E+01	5.084E+00	-0.034
	776.49	*		-1.361E-01	6.216E-01	9.918E-01	7.142E-02	-0.137
RB-83	1395.20			-6.117E-01	1.067E+01	1.745E+01	1.271E+00	-0.035
	520.41	*		-5.361E-02	1.215E-01	1.945E-01	1.150E-02	-0.276
	529.64			3.163E-03	1.858E-01	3.067E-01	1.816E-02	0.010
	552.65			-2.582E-02	3.286E-01	5.380E-01	3.192E-02	-0.048
RB-84	881.50	*		-1.146E-01	1.323E-01	1.981E-01	1.700E-02	-0.579
KR-85	513.99	*		1.025E+01	1.548E+01	2.333E+01	1.378E+00	0.439
SR-85	513.99	*		4.921E-02	7.430E-02	1.120E-01	6.612E-03	0.439
RB-86	1076.63	*		-5.749E-01	1.245E+00	2.008E+00	1.391E-01	-0.286
Y-88	898.02			-9.545E-03	9.118E-02	1.459E-01	1.292E-02	-0.065
	1836.01	*		2.989E-03	5.207E-02	8.579E-02	4.897E-03	0.035
	392.90	*		3.330E-02	5.813E-02	9.955E-02	5.543E-03	0.335
	1204.90	*		-2.002E+00	2.113E+01	3.478E+01	2.031E+00	-0.058
NB-94	702.63	*		3.442E-02	5.954E-02	1.012E-01	6.375E-03	0.340
NB-95	871.10			-9.247E-03	7.906E-02	1.266E-01	1.069E-02	-0.073
	765.79	*		-1.319E-02	7.112E-02	1.139E-01	8.045E-03	-0.116
NB-95M	235.69	*		3.214E-01	2.341E-01	3.526E-01	2.612E-02	0.912
ZR-95	724.18			1.194E-01	1.850E-01	2.773E-01	2.082E-02	0.431
NB-97	756.15	*		-9.924E-04	1.423E-01	2.311E-01	1.850E-02	-0.004
	657.90	*		9.295E-04	1.423E-01	Half-Life	too short	
	1024.50			-7.476E-03	1.423E-01	Half-Life	too short	
	254.15			1.217E-02	1.423E-01	Half-Life	too short	
ZR-97	355.39			4.376E-03	1.423E-01	Half-Life	too short	
	507.63	*		5.450E-03	1.423E-01	Half-Life	too short	
	602.52			-2.070E-02	1.423E-01	Half-Life	too short	
	1021.30			3.112E-02	1.423E-01	Half-Life	too short	
MO-99	1147.95			-1.431E-02	1.423E-01	Half-Life	too short	
	1362.66			3.953E-03	1.423E-01	Half-Life	too short	
	1750.46			-4.289E-03	1.423E-01	Half-Life	too short	
	140.51			-1.099E+01	9.126E+00	1.321E+01	3.553E+00	-0.832
TC-99M	181.06			-4.620E+00	6.703E+00	8.949E+00	1.520E+00	-0.516
	366.43			3.158E+01	3.228E+01	5.653E+01	3.217E+00	0.559
	739.58	*		-4.997E-01	4.824E+00	7.788E+00	1.106E+00	-0.064
	778.00			7.574E+00	1.337E+01	2.264E+01	1.634E+00	0.335
RH-101	140.51	*		-2.300E+03	1.337E+01	Half-Life	too short	
RH-102	127.23			1.735E-02	5.437E-02	7.891E-02	4.605E-03	0.220
	198.01	*		-1.785E-02	5.550E-02	8.790E-02	4.768E-03	-0.203
	325.23			-2.068E-01	3.964E-01	6.476E-01	3.759E-02	-0.319
	418.52			1.694E-01	5.461E-01	9.232E-01	5.236E-02	0.183
RU-103	475.06	*		-4.376E-03	6.165E-02	1.017E-01	5.935E-03	-0.043
	631.29			-2.642E-02	1.055E-01	1.697E-01	9.982E-03	-0.156
	697.49			-7.626E-02	1.338E-01	2.083E-01	1.299E-02	-0.366
	766.84			1.970E-01	1.874E-01	3.279E-01	2.321E-02	0.601
RU-103	1046.59			1.166E-01	2.457E-01	4.250E-01	3.110E-02	0.274
	1112.84			3.466E-03	4.655E-01	7.784E-01	4.998E-02	0.004
	497.08	*		-1.375E-02	7.062E-02	1.153E-01	1.462E-02	-0.119

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-106	+	610.33		5.620E+00	2.146E+00	2.954E+00	4.568E-01	1.902
	+	511.85		5.238E-01	6.163E-01	6.557E-01	3.870E-02	0.799
		621.84	*	8.712E-03	5.702E-01	9.354E-01	1.102E-01	0.009
RU-106		1050.47		1.041E+00	4.974E+00	8.453E+00	6.145E-01	0.123
	+	511.85		5.238E-01	6.163E-01	6.557E-01	3.870E-02	0.799
		621.84	*	8.712E-03	5.702E-01	9.354E-01	5.516E-02	0.009
AG-108M		1050.47		1.041E+00	4.974E+00	8.453E+00	6.145E-01	0.123
		433.93	*	-1.987E-02	6.737E-02	1.101E-01	6.860E-03	-0.180
		614.37		1.147E-02	7.598E-02	1.095E-01	6.999E-03	0.105
AG-110M		722.95		4.734E-02	8.944E-02	1.327E-01	9.260E-03	0.357
		657.75	*	9.827E-02	8.014E-02	1.257E-01	7.800E-03	0.782
		677.61		-1.465E-01	5.291E-01	8.445E-01	5.362E-02	-0.173
		706.67		-3.460E-01	3.716E-01	5.600E-01	3.733E-02	-0.618
		763.93		-4.865E-01	3.074E-01	4.328E-01	3.177E-02	-1.124
		884.67		4.001E-02	1.047E-01	1.739E-01	1.548E-02	0.230
		937.48		7.179E-02	2.814E-01	4.603E-01	4.051E-02	0.156
		1384.27		3.784E-02	1.872E-01	3.203E-01	2.430E-02	0.118
		171.28		1.124E-01	3.498E-01	5.732E-01	3.009E-02	0.196
IN-111		245.39	*	3.460E-02	4.711E-01	6.597E-01	3.751E-02	0.052
IN-113M		391.69	*	3.051E-02	8.594E-02	1.457E-01	8.693E-03	0.209
SN-113		391.69	*	3.051E-02	8.594E-02	1.457E-01	8.693E-03	0.209
IN-114M		190.27	*	4.235E-02	3.127E-01	4.434E-01	2.383E-02	0.096
CD-115		260.90		-2.123E+00	3.397E+01	5.403E+01	3.103E+00	-0.039
		492.35		-2.461E-01	9.490E+00	1.567E+01	9.198E-01	-0.016
		527.90	*	-1.077E+00	2.826E+00	4.540E+00	2.687E-01	-0.237
		156.02		-8.491E-01	2.634E+00	4.200E+00	2.251E-01	-0.202
SN-117M		158.56	*	1.816E-02	6.368E-02	1.044E-01	5.554E-03	0.174
SB-122		563.90	*	-1.166E+00	8.080E-01	1.197E+00	7.105E-02	-0.974
I-123		692.80		4.201E+00	1.517E+01	2.527E+01	1.562E+00	0.166
		159.00	*	1.499E-03	1.517E+01	Half-Life too short		
		528.96		-1.333E-01	1.517E+01	Half-Life too short		
TE-123M		159.00	*	2.022E-02	4.411E-02	7.281E-02	3.932E-03	0.278
I-124		602.71	*	-4.449E-01	5.002E-01	6.454E-01	3.820E-02	-0.689
		722.78		1.886E+00	3.310E+00	4.928E+00	3.222E-01	0.383
		1325.50		-1.599E+00	1.787E+01	2.496E+01	1.818E+00	-0.064
		1376.25		1.648E+01	1.224E+01	2.436E+01	1.781E+00	0.676
		1509.49		-3.206E+00	7.481E+00	1.138E+01	8.007E-01	-0.282
		1691.02		-3.833E-01	1.799E+00	2.799E+00	1.790E-01	-0.137
		602.71		-6.808E-02	7.654E-02	9.876E-02	5.847E-03	-0.689
SB-124		645.85		-2.494E-01	8.737E-01	1.399E+00	9.226E-02	-0.178
		709.31		8.429E-01	4.600E+00	7.603E+00	4.848E-01	0.111
		713.82		-1.342E-01	2.876E+00	4.670E+00	4.942E-01	-0.029
		722.78		4.183E-01	7.343E-01	1.093E+00	7.414E-02	0.383
	+	968.20		9.211E+00	7.619E+00	1.032E+01	8.461E-01	0.892
		1045.16		-2.479E+00	4.926E+00	7.955E+00	5.836E-01	-0.312
		1325.50		-3.787E-01	4.234E+00	5.914E+00	4.307E-01	-0.064
		1368.21		-7.923E-01	1.842E+00	2.792E+00	3.542E-01	-0.284
		1436.60		-1.543E+00	3.329E+00	4.857E+00	3.501E-01	-0.318
		1691.02	*	-2.005E-02	9.413E-02	1.465E-01	1.003E-02	-0.137

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SB-125	427.89	*	-6.450E-02	1.825E-01	2.973E-01	1.770E-02	-0.217	
	463.38		2.346E-01	6.053E-01	1.022E+00	6.917E-02	0.230	
	600.56		-1.984E-02	3.207E-01	5.240E-01	3.570E-02	-0.038	
	635.90		7.654E-01	5.388E-01	9.599E-01	6.581E-02	0.797	
TE-125M	109.28	*	-2.189E+00	1.342E+01	2.175E+01	1.919E+00	-0.101	
I-126	388.63		1.181E-01	2.855E-01	4.856E-01	2.710E-02	0.243	
	666.33	*	8.886E-03	2.525E-01	3.582E-01	2.105E-02	0.025	
SB-126	753.82		-1.430E-01	2.155E+00	3.487E+00	2.412E-01	-0.041	
	223.80		4.819E+00	4.925E+00	8.251E+00	4.605E-01	0.584	
	278.60		1.218E+00	2.916E+00	5.003E+00	2.896E-01	0.243	
	296.50	+	5.570E+00	2.583E+00	3.397E+00	1.975E-01	1.640	
	414.70		-8.797E-02	1.011E-01	1.598E-01	9.042E-03	-0.550	
	415.30		-7.511E+00	8.445E+00	1.334E+01	7.550E-01	-0.563	
	555.20		-5.016E+00	5.339E+00	8.213E+00	4.874E-01	-0.611	
	573.80		-2.128E+00	1.362E+00	1.979E+00	1.175E-01	-1.075	
	593.00		-3.924E-01	1.218E+00	1.955E+00	1.159E-01	-0.201	
	656.30		-4.144E-01	5.041E+00	7.067E+00	4.124E-01	-0.059	
	666.33		3.660E-03	1.040E-01	1.475E-01	8.670E-03	0.025	
	675.00		6.506E-01	2.404E+00	4.011E+00	2.397E-01	0.162	
	695.00		-8.938E-02	9.714E-02	1.455E-01	9.034E-03	-0.614	
	697.00		-1.121E-01	3.253E-01	5.159E-01	3.215E-02	-0.217	
	720.50	*	-1.432E-01	1.987E-01	3.061E-01	1.993E-02	-0.468	
	856.80		-6.831E-01	7.056E-01	1.051E+00	8.672E-02	-0.650	
	989.30		-1.243E-01	2.140E+00	3.421E+00	2.729E-01	-0.036	
	1034.80		4.215E+00	1.283E+01	2.202E+01	1.643E+00	0.191	
	1213.00		-1.988E+00	3.746E+00	5.806E+00	3.444E-01	-0.342	
SB-127	61.10	+	1.671E+03	1.692E+02	1.284E+02	1.103E+01	13.018	
	252.40		5.675E-01	2.660E+00	4.277E+00	1.760E+00	0.133	
	290.80		3.626E+00	1.380E+01	2.057E+01	1.469E+00	0.176	
	411.60		7.313E+00	7.477E+00	1.297E+01	1.700E+00	0.564	
	444.90		-4.930E+00	6.892E+00	1.099E+01	1.001E+00	-0.448	
	473.00		1.074E+00	1.130E+00	1.958E+00	1.881E-01	0.548	
	543.00		2.429E+00	1.025E+01	1.714E+01	1.992E+00	0.142	
	603.60		-8.058E+00	8.199E+00	1.047E+01	9.610E-01	-0.769	
	685.20	*	3.268E-01	7.859E-01	1.323E+00	1.020E-01	0.247	
	698.50		-4.785E-01	8.584E+00	1.394E+01	1.880E+00	-0.034	
	722.20		1.554E+01	2.068E+01	3.130E+01	2.423E+00	0.496	
	783.80		4.094E-01	2.166E+00	3.566E+00	3.567E-01	0.115	
XE-127	57.60		2.436E+02	2.628E+01	3.546E+01	2.657E+00	6.869	
	145.22		3.955E-01	9.641E-01	1.590E+00	8.778E-02	0.249	
	172.10		1.181E-02	1.735E-01	2.810E-01	1.477E-02	0.042	
	202.84	*	1.249E-02	7.087E-02	1.148E-01	6.265E-03	0.109	
	374.96		-2.349E-01	3.200E-01	5.122E-01	2.895E-02	-0.459	
I-131	80.18		-3.706E+00	5.105E+00	7.090E+00	5.892E-01	-0.523	
	284.30		-4.546E-01	1.541E+00	2.559E+00	1.637E-01	-0.178	
	364.48	*	-8.543E-02	1.264E-01	2.034E-01	1.289E-02	-0.420	
	636.97		-1.317E-01	1.842E+00	3.001E+00	1.954E-01	-0.044	
TE-132	722.89		4.772E+00	8.779E+00	1.304E+01	8.561E-01	0.366	
	49.72		-1.148E+00	1.087E+01	1.793E+01	1.458E+00	-0.064	

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133		111.76		-5.007E+00	1.224E+01	1.954E+01	1.494E+00	-0.256
		116.30		3.292E+00	1.326E+01	1.918E+01	1.417E+00	0.172
		228.16	*	-1.663E-01	3.174E-01	4.940E-01	6.544E-02	-0.337
		53.15		2.943E+00	8.506E+00	1.371E+01	1.013E+00	0.215
		79.62		6.663E-01	2.452E+00	3.570E+00	5.361E-01	0.187
		81.00		-3.135E-01	2.137E-01	2.565E-01	4.035E-02	-1.222
		276.40		2.315E-01	6.400E-01	1.094E+00	1.417E-01	0.212
I-133		302.84		-7.568E-02	2.413E-01	3.990E-01	4.654E-02	-0.190
		356.01	*	3.120E-02	8.941E-02	1.332E-01	1.536E-02	0.234
		383.85		-5.055E-01	5.634E-01	8.896E-01	9.581E-02	-0.568
	+	510.53		7.149E-03	5.634E-01	Half-Life	too short	
		529.87	*	1.263E-05	5.634E-01	Half-Life	too short	
		706.58		-4.542E-03	5.634E-01	Half-Life	too short	
		856.28		-6.645E-03	5.634E-01	Half-Life	too short	
CS-134		875.33		2.147E-04	5.634E-01	Half-Life	too short	
		1236.41		1.670E-03	5.634E-01	Half-Life	too short	
		1298.22		-3.703E-04	5.634E-01	Half-Life	too short	
		475.35		-5.811E-01	3.972E+00	6.523E+00	3.808E-01	-0.089
		563.23		-9.271E-01	7.027E-01	1.052E+00	6.369E-02	-0.881
		569.32		7.962E-01	3.787E-01	7.064E-01	4.312E-02	1.127
		604.70		-6.813E-04	6.721E-02	9.534E-02	5.672E-03	-0.007
CS-135		795.84	*	-3.402E-02	9.264E-02	1.461E-01	1.098E-02	-0.233
		801.93		4.037E-02	8.227E-01	1.347E+00	1.021E-01	0.030
		1038.57		3.318E-01	7.984E+00	1.343E+01	9.958E-01	0.025
		1167.94		7.312E-01	4.266E+00	6.280E+00	3.496E-01	0.116
		1365.15		4.867E-01	1.441E+00	2.521E+00	1.963E-01	0.193
		268.24	*	-1.211E-01	2.751E-01	4.547E-01	3.470E-02	-0.266
	I-135	288.45		-2.172E+03	2.751E-01	Half-Life	too short	
CS-136		417.63		-1.573E+02	2.751E-01	Half-Life	too short	
		546.56		-1.246E+03	2.751E-01	Half-Life	too short	
		836.80		-1.324E+03	2.751E-01	Half-Life	too short	
		1038.76		5.985E+02	2.751E-01	Half-Life	too short	
		1124.00		1.050E+04	2.751E-01	Half-Life	too short	
		1131.51		-2.493E+03	2.751E-01	Half-Life	too short	
		1260.41	*	2.854E+02	2.751E-01	Half-Life	too short	
		1457.56		-2.926E+03	2.751E-01	Half-Life	too short	
		1678.03		-2.993E+03	2.751E-01	Half-Life	too short	
		1706.46		-7.484E+01	2.751E-01	Half-Life	too short	
		1791.20		9.445E+02	2.751E-01	Half-Life	too short	
		66.91		1.704E-01	8.474E-01	1.402E+00	2.088E-01	0.122
		86.29		1.968E+01	3.198E+00	3.605E+00	4.676E-01	5.458
		153.22		1.498E-01	7.456E-01	1.218E+00	8.404E-02	0.123
		163.89		1.638E-01	1.243E+00	2.021E+00	1.376E-01	0.081
		176.55		1.483E-01	4.390E-01	7.190E-01	4.353E-02	0.206
		273.65		-2.958E-01	5.759E-01	9.487E-01	6.251E-02	-0.312
		340.57		1.683E-01	1.826E-01	2.820E-01	1.731E-02	0.597
		818.51		8.085E-02	1.159E-01	1.968E-01	1.524E-02	0.411
		1048.07	*	1.232E-01	1.670E-01	2.934E-01	2.266E-02	0.420
		1235.34		3.028E-02	4.699E-01	7.874E-01	8.044E-02	0.038

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-139		165.85	*	2.187E-02	4.731E-02	7.802E-02	4.073E-03	0.280
BA-140		162.64		-4.635E-01	8.721E-01	1.375E+00	8.319E-02	-0.337
		304.84		-1.145E+00	1.566E+00	2.481E+00	6.771E-01	-0.461
		423.70		-1.125E+00	2.665E+00	4.288E+00	1.362E+00	-0.262
LA-140		537.32	*	1.880E-01	3.694E-01	6.194E-01	2.016E-01	0.303
		328.77		2.988E-01	3.728E-01	6.473E-01	4.205E-02	0.462
		432.53		1.023E+00	3.019E+00	5.101E+00	3.231E-01	0.201
		487.03		2.675E-02	1.902E-01	3.172E-01	2.100E-02	0.084
		751.79		1.043E+00	2.410E+00	4.041E+00	3.239E-01	0.258
		815.85		-4.072E-01	5.179E-01	7.888E-01	6.943E-02	-0.516
		867.82		-6.309E-02	2.197E+00	3.541E+00	3.139E-01	-0.018
		919.63		6.107E+00	5.443E+00	8.342E+00	8.894E-01	0.732
		925.24		-9.496E-01	2.051E+00	3.195E+00	2.919E-01	-0.297
		1596.49	*	-1.503E-02	6.718E-02	1.046E-01	7.075E-03	-0.144
CE-141		145.44	*	1.786E-02	8.650E-02	1.414E-01	8.145E-03	0.126
CE-143		57.37		1.314E+03	1.898E+02	2.597E+02	2.402E+01	5.059
		231.56		7.915E+01	2.156E+02	3.065E+02	9.502E+01	0.258
		293.26	*	1.470E+01	1.212E+01	1.845E+01	3.808E+00	0.797
	+	350.59		7.548E+02	3.195E+02	2.878E+02	8.765E+01	2.623
		490.36		-2.234E+02	2.426E+02	3.612E+02	1.121E+02	-0.619
		664.57		3.031E+03	9.905E+02	5.033E+02	1.600E+02	6.022
		721.93		8.199E+01	1.237E+02	1.904E+02	5.471E+01	0.431
CE-144		80.11		-2.669E+00	3.981E+00	5.544E+00	4.594E-01	-0.481
		133.54	*	-3.450E-02	3.260E-01	5.271E-01	7.467E-02	-0.065
PM-144		476.78		-1.092E-01	1.412E-01	2.234E-01	1.558E-02	-0.489
		618.01		1.345E-02	5.756E-02	9.592E-02	5.987E-03	0.140
		696.49	*	-3.856E-02	5.944E-02	9.184E-02	5.719E-03	-0.420
		778.57		-2.158E-01	4.329E+00	7.000E+00	5.060E-01	-0.031
PR-144		696.49	*	-2.604E+00	4.014E+00	6.203E+00	3.862E-01	-0.420
		1489.15		-4.443E+00	1.472E+01	2.279E+01	1.615E+00	-0.195
PM-146		453.90	*	-9.007E-02	9.587E-02	1.508E-01	1.299E-02	-0.597
		633.02		7.545E-01	2.819E+00	4.676E+00	1.722E+00	0.161
		735.90		2.658E-02	2.901E-01	4.751E-01	1.334E-01	0.056
		747.13		-1.208E-01	1.781E-01	2.732E-01	3.556E-02	-0.442
ND-147		91.11		5.713E-01	3.156E-01	4.857E-01	4.486E-02	1.176
		319.41		1.150E+00	4.112E+00	6.987E+00	4.061E-01	0.165
		439.89		1.024E+00	8.099E+00	1.353E+01	7.774E-01	0.076
		531.02	*	5.212E-01	7.002E-01	1.204E+00	1.635E-01	0.433
PM-149		285.90	*	4.301E+00	2.266E+01	3.830E+01	5.423E+00	0.112
EU-152	+	121.78		6.528E-01	2.241E-01	2.604E-01	2.016E-02	2.507
		244.69		3.560E-01	6.723E-01	9.702E-01	5.513E-02	0.367
		344.27	*	-1.232E-02	2.092E-01	2.862E-01	1.863E-02	-0.043
		443.98		-1.255E+00	2.061E+00	3.311E+00	1.906E-01	-0.379
		778.89		-1.391E-01	5.061E-01	8.034E-01	5.809E-02	-0.173
		867.32		-9.973E-02	1.864E+00	2.999E+00	2.516E-01	-0.033
		964.01		3.981E-01	7.985E-01	1.154E+00	9.507E-02	0.345
		1085.78		1.835E-01	8.975E-01	1.522E+00	1.036E-01	0.121
		1112.02		2.427E-01	6.559E-01	1.124E+00	7.232E-02	0.216
		1407.95		5.402E-02	2.622E-01	4.459E-01	3.238E-02	0.121

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153		69.67		-4.485E-01	2.529E+00	4.136E+00	3.183E-01	-0.108
		83.37		-7.378E+00	2.797E+01	3.972E+01	3.393E+00	-0.186
		97.43	*	-4.295E-02	1.180E-01	1.900E-01	1.478E-02	-0.226
EU-154	+	103.18		-1.356E-01	1.596E-01	2.506E-01	1.815E-02	-0.541
		123.07		4.581E-01	1.592E-01	1.798E-01	1.706E-02	2.547
		247.94		1.354E-01	7.043E-01	1.050E+00	9.955E-02	0.129
		591.81		-5.588E-01	1.197E+00	1.844E+00	1.816E-01	-0.303
		723.30		1.691E-01	3.717E-01	5.475E-01	4.217E-02	0.309
		756.87		5.511E-01	1.608E+00	2.674E+00	2.899E-01	0.206
		873.19		3.173E-01	6.835E-01	1.139E+00	1.382E-01	0.279
		996.32		1.941E-01	8.012E-01	1.309E+00	2.282E-01	0.148
		1004.76		-5.915E-02	4.410E-01	7.334E-01	8.107E-02	-0.081
		1274.45	*	5.511E-02	1.212E-01	2.157E-01	2.135E-02	0.255
EU-155	+	48.70		-3.346E-01	5.023E+00	8.295E+00	5.818E-01	-0.040
		60.01		4.332E+02	4.000E+01	3.901E+01	2.935E+00	11.106
		86.54		2.804E+00	3.581E-01	4.827E-01	4.300E-02	5.810
		105.31	*	2.071E-01	1.623E-01	2.783E-01	2.002E-02	0.744
TB-160	+	86.79		9.150E+00	1.151E+00	1.262E+00	1.116E-01	7.252
		197.04		-1.343E-01	8.863E-01	1.415E+00	7.668E-02	-0.095
		215.65		2.579E-01	1.259E+00	2.040E+00	1.129E-01	0.126
		298.57		2.784E-01	1.930E-01	3.095E-01	1.800E-02	0.900
		879.36	*	-6.400E-02	2.856E-01	4.530E-01	3.874E-02	-0.141
		962.29		-4.535E-01	1.367E+00	1.932E+00	1.595E-01	-0.235
		966.15		5.730E-01	5.117E-01	7.760E-01	6.375E-02	0.738
		1177.93		1.386E+00	6.388E-01	1.147E+00	6.345E-02	1.209
		1271.85		-3.555E-01	7.192E-01	1.099E+00	7.283E-02	-0.323
HO-166M	+	80.57		-8.046E-01	5.330E-01	7.083E-01	5.894E-02	-1.136
		184.41		7.348E-02	1.091E-01	9.771E-02	5.213E-03	0.752
		280.46		-1.322E-01	1.490E-01	2.405E-01	1.393E-02	-0.550
		410.95		5.904E-01	4.617E-01	8.166E-01	4.608E-02	0.723
		711.68	*	7.337E-02	1.115E-01	1.904E-01	1.220E-02	0.385
		752.31		3.657E-01	5.456E-01	9.291E-01	6.410E-02	0.394
		810.29		4.529E-04	1.229E-01	1.992E-01	1.521E-02	0.002
		51.35		9.225E+00	6.769E+01	1.123E+02	8.192E+00	0.082
TM-171	+	52.39		-1.200E+01	3.585E+01	5.873E+01	4.318E+00	-0.204
		59.40		2.270E+03	2.096E+02	2.132E+02	1.604E+01	10.644
		66.72	*	6.578E+00	4.253E+01	7.028E+01	5.343E+00	0.094
LU-176	+	88.36		7.164E+00	9.014E-01	9.993E-01	8.900E-02	7.169
		201.83		-1.847E-02	4.931E-02	7.788E-02	4.244E-03	-0.237
		306.84	*	-4.226E-03	4.318E-02	7.217E-02	4.198E-03	-0.059
LU-177		401.10		-2.990E-02	1.306E+01	2.174E+01	1.218E+00	-0.001
		112.95		-3.916E-01	1.351E+00	2.168E+00	1.412E-01	-0.181
		208.36	*	3.224E-02	9.838E-01	1.582E+00	8.688E-02	0.020
LU-177M		52.97		1.178E+00	3.748E+00	6.037E+00	4.454E-01	0.195
		54.07		5.039E-01	2.189E+00	3.201E+00	2.374E-01	0.157
		61.30		9.083E+01	8.173E+00	9.474E+00	7.128E-01	9.587
		121.62	+	3.261E+00	1.108E+00	1.302E+00	7.786E-02	2.504
		147.16		-7.440E-01	1.005E+00	1.572E+00	8.631E-02	-0.473
		171.86		-3.087E-02	7.714E-01	1.243E+00	6.530E-02	-0.025

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HF-181		218.09		3.092E-02	1.490E+00	2.392E+00	1.327E-01	0.013
		268.79		4.246E-01	1.343E+00	2.295E+00	1.323E-01	0.185
		319.02		1.017E-01	4.632E-01	7.850E-01	4.562E-02	0.130
		367.43		5.250E-01	1.694E+00	2.872E+00	1.633E-01	0.183
		413.65	*	-2.559E-02	3.274E-01	5.424E-01	3.066E-02	-0.047
		56.28		2.459E+00	2.361E+00	3.530E+00	2.636E-01	0.697
		57.53		1.866E+01	2.111E+00	2.928E+00	2.193E-01	6.372
		65.20		-1.347E+00	1.476E+00	2.030E+00	1.536E-01	-0.664
		133.02		-8.319E-02	9.604E-02	1.499E-01	8.576E-03	-0.555
		136.25		7.889E-01	6.836E-01	1.161E+00	6.577E-02	0.679
W-181		345.85		4.380E-02	3.456E-01	5.078E-01	2.926E-02	0.086
		482.03	*	-1.596E-02	7.963E-02	1.303E-01	7.624E-03	-0.123
		56.28		1.214E+00	9.830E-01	1.477E+00	1.103E-01	0.822
		57.53		7.786E+00	8.823E-01	1.225E+00	9.174E-02	6.357
TA-182		65.20	*	-5.595E-01	6.131E-01	8.433E-01	6.382E-02	-0.664
		67.75		2.017E-02	1.606E-01	2.650E-01	2.022E-02	0.076
		100.10		1.348E-03	2.575E-01	4.210E-01	3.164E-02	0.003
		152.43		1.892E-01	5.079E-01	8.362E-01	4.525E-02	0.226
		222.10		-3.066E-01	6.009E-01	9.396E-01	5.235E-02	-0.326
		1001.68		-1.848E+00	3.890E+00	6.297E+00	4.940E-01	-0.293
RE-183		1121.28		1.386E-01	2.653E-01	4.590E-01	2.890E-02	0.302
		1189.05		1.982E-01	4.112E-01	7.184E-01	4.065E-02	0.276
		1221.42	*	2.138E-01	2.092E-01	3.901E-01	2.352E-02	0.548
		1230.97		7.210E-02	4.701E-01	7.977E-01	4.899E-02	0.090
		57.98		1.275E+01	1.198E+00	1.418E+00	1.063E-01	8.989
	+	59.32		8.795E+00	8.121E-01	8.308E-01	6.248E-02	10.587
		67.20		7.159E-02	2.842E-01	4.711E-01	3.587E-02	0.152
		162.32	*	-1.176E-01	1.688E-01	2.640E-01	1.391E-02	-0.446
		208.81		-3.584E-01	1.593E+00	2.533E+00	1.391E-01	-0.142
		291.72		-2.376E-01	1.772E+00	2.574E+00	1.495E-01	-0.092
RE-184		57.98		4.872E+01	4.578E+00	5.420E+00	4.064E-01	8.989
	+	59.32		3.358E+01	3.101E+00	3.172E+00	2.386E-01	10.587
		67.20		2.735E-01	1.086E+00	1.800E+00	1.370E-01	0.152
		161.27		-4.099E-01	5.691E-01	8.893E-01	4.698E-02	-0.461
		216.55		7.357E-02	4.688E-01	7.574E-01	4.196E-02	0.097
		252.85	*	2.091E-01	4.252E-01	6.954E-01	3.974E-02	0.301
		318.01		-2.092E-01	8.002E-01	1.325E+00	7.703E-02	-0.158
		792.07		1.354E+00	1.833E+00	3.134E+00	2.319E-01	0.432
		903.28		-3.012E-02	2.266E+00	3.432E+00	3.010E-01	-0.009
		920.93		8.449E-01	1.134E+00	1.868E+00	1.611E-01	0.452
OS-185	+	59.72		2.437E+01	2.251E+00	2.240E+00	1.686E-01	10.879
		61.14		1.081E+01	9.557E-01	1.068E+00	8.033E-02	10.125
		69.30		3.503E-02	4.387E-01	7.239E-01	5.561E-02	0.048
		592.07		-2.341E+00	4.659E+00	7.158E+00	4.242E-01	-0.327
		646.12	*	4.160E-03	7.488E-02	1.230E-01	7.205E-03	0.034
		717.42		4.100E-01	1.589E+00	2.638E+00	1.708E-01	0.155
		874.81		3.548E-01	1.265E+00	2.085E+00	1.770E-01	0.170
		880.27		-7.097E-01	1.571E+00	2.442E+00	2.092E-01	-0.291
		155.03	*	5.468E-03	2.543E-01	4.119E-01	2.214E-02	0.013
RE-188								

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-188		477.96		-3.987E+00	6.176E+00	9.856E+00	5.759E-01	-0.405
		633.10		1.379E+00	5.335E+00	8.884E+00	5.224E-01	0.155
		63.58		-4.404E+01	8.200E+01	1.166E+02	8.792E+00	-0.378
		227.08		-8.801E+00	2.098E+01	3.291E+01	1.842E+00	-0.267
IR-192		290.67	*	4.028E+00	1.385E+01	2.069E+01	1.201E+00	0.195
	+	295.96		5.712E-01	2.649E-01	3.451E-01	2.038E-02	1.655
		308.46		4.414E-02	1.612E-01	2.742E-01	1.613E-02	0.161
		316.51	*	-1.131E-02	5.869E-02	9.755E-02	5.699E-03	-0.116
AU-195		468.07		-1.154E-01	1.351E-01	2.133E-01	1.430E-02	-0.541
		604.41		1.242E-02	8.701E-01	1.237E+00	1.412E-01	0.010
		612.46		1.164E+00	1.316E+00	2.026E+00	1.551E-01	0.574
		65.12		-2.603E-01	2.876E-01	3.958E-01	2.994E-02	-0.658
TL-200		66.83		3.316E-02	1.380E-01	2.288E-01	1.740E-02	0.145
		75.70		9.186E-01	3.733E-01	5.768E-01	4.609E-02	1.593
		98.88	*	3.835E-01	3.309E-01	5.652E-01	4.314E-02	0.679
		129.76		-1.176E+00	4.180E+00	6.705E+00	3.878E-01	-0.175
TL-201		367.94	*	-5.660E-06	4.180E+00	Half-Life	too short	
		579.30		5.369E-05	4.180E+00	Half-Life	too short	
		828.27		-7.214E-05	4.180E+00	Half-Life	too short	
		1205.75		-7.557E-06	4.180E+00	Half-Life	too short	
TL-202		68.90		-2.826E-02	1.771E+00	2.913E+00	2.234E-01	-0.010
		70.82		-1.239E+00	1.041E+00	1.638E+00	1.268E-01	-0.756
		80.30		-1.876E+00	2.285E+00	3.156E+00	2.620E-01	-0.594
		135.34		1.542E+01	9.972E+00	1.718E+01	9.757E-01	0.897
HG-203		167.43	*	6.572E-01	2.753E+00	4.496E+00	2.349E-01	0.146
		68.90		-7.432E-03	4.657E-01	7.660E-01	5.873E-02	-0.010
		70.82		-3.248E-01	2.731E-01	4.295E-01	3.325E-02	-0.756
		80.30		-4.921E-01	5.994E-01	8.280E-01	6.872E-02	-0.594
BI-207		439.56	*	3.743E-02	9.991E-02	1.691E-01	9.709E-03	0.221
		70.83		-3.157E+00	1.628E+00	2.419E+00	3.161E-01	-1.305
		72.87		9.814E-01	1.009E+00	1.507E+00	1.914E-01	0.651
		82.60		-1.790E-01	2.276E+00	2.740E+00	3.742E-01	-0.065
TL-207		279.20	*	-4.664E-02	6.351E-02	1.032E-01	6.347E-03	-0.452
		72.80		3.006E-02	3.333E-01	4.825E-01	3.779E-02	0.062
		74.97		3.648E-01	2.050E-01	3.130E-01	2.488E-02	1.165
		84.90		5.532E-01	3.670E-01	5.570E-01	4.832E-02	0.993
+ 122.32		569.67		8.304E-02	6.100E-02	1.097E-01	6.510E-03	0.757
		1063.62	*	-2.062E-02	1.076E-01	1.778E-01	1.263E-02	-0.116
		1770.23		-9.517E-01	8.306E-01	1.054E+00	6.357E-02	-0.903
		81.07		-6.829E-01	4.631E-01	5.676E-01	4.744E-02	-1.203
+ 144.24		83.78		-3.617E-02	2.424E-01	3.460E-01	2.968E-02	-0.105
		94.90		-1.865E-01	3.522E-01	5.639E-01	4.540E-02	-0.331
		122.32		1.556E+01	5.311E+00	6.185E+00	4.224E-01	2.516
		144.24		3.858E-01	1.058E+00	1.743E+00	1.224E-01	0.221
+ 154.21		154.21		9.473E-02	6.273E-01	1.022E+00	6.824E-02	0.093
		269.46		3.182E-01	3.295E-01	5.767E-01	3.479E-02	0.552
		323.87	*	-7.214E-01	1.207E+00	1.956E+00	3.230E-01	-0.369
		338.28		3.983E+00	3.001E+00	3.570E+00	3.757E-01	1.116
+ 445.03		445.03		-3.289E+00	4.957E+00	7.926E+00	8.122E-01	-0.415

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209		260.50		-1.788E+00	1.767E+01	2.805E+01	1.611E+00	-0.064
		262.80		-6.668E+00	4.872E+01	7.715E+01	4.436E+00	-0.086
		896.60	*	8.456E+00	1.699E+01	2.837E+01	2.494E+00	0.298
BI-210		46.50	*	7.791E-01	6.772E+00	1.125E+01	8.576E-01	0.069
PB-210		46.50	*	7.791E-01	6.772E+00	1.125E+01	8.576E-01	0.069
PO-210		46.50	*	7.791E-01	6.772E+00	1.125E+01	7.333E-01	0.069
PB-211		404.84	*	-2.033E+00	2.244E+00	2.910E+00	1.813E+00	-0.699
		427.08		-6.970E-01	4.053E+00	6.634E+00	4.100E+00	-0.105
		831.96		1.189E+00	2.574E+00	4.131E+00	2.585E+00	0.288
BI-212	+	727.18	*	1.003E+00	6.489E-01	1.006E+00	8.374E-02	0.997
		785.46		1.506E+00	3.279E+00	5.507E+00	4.028E-01	0.273
		1620.62		1.969E-01	1.571E+00	2.643E+00	1.765E-01	0.074
BI-214	+	609.31	*	5.812E-01	2.081E-01	3.010E-01	2.367E-02	1.931
		1120.29		2.893E-01	6.050E-01	1.042E+00	9.534E-02	0.278
		1764.49		3.338E-01	3.892E-01	7.424E-01	4.499E-02	0.450
PO-215		81.07		-6.829E-01	4.631E-01	5.676E-01	4.744E-02	-1.203
		83.78		-3.617E-02	2.424E-01	3.460E-01	2.968E-02	-0.105
		94.90		-1.865E-01	3.522E-01	5.639E-01	4.540E-02	-0.331
	+	122.32		1.556E+01	5.311E+00	6.185E+00	4.224E-01	2.516
		144.24		3.858E-01	1.058E+00	1.743E+00	1.224E-01	0.221
		154.21		9.473E-02	6.273E-01	1.022E+00	6.824E-02	0.093
		269.46		3.182E-01	3.295E-01	5.767E-01	3.479E-02	0.552
		323.87	*	-7.214E-01	1.207E+00	1.956E+00	3.230E-01	-0.369
	+	338.28		3.983E+00	3.001E+00	3.570E+00	3.757E-01	1.116
		445.03		-3.289E+00	4.957E+00	7.926E+00	8.122E-01	-0.415
RN-219		271.23		4.734E-01	4.351E-01	7.629E-01	6.168E-02	0.620
		401.81	*	3.745E-01	8.029E-01	1.366E+00	1.848E-01	0.274
RN-220		549.76	*	1.384E+01	4.526E+01	7.613E+01	4.517E+00	0.182
RA-223		81.07		-6.829E-01	4.631E-01	5.676E-01	4.744E-02	-1.203
		83.78		-3.617E-02	2.424E-01	3.460E-01	2.968E-02	-0.105
		94.90		-1.865E-01	3.522E-01	5.639E-01	4.540E-02	-0.331
	+	122.32		1.556E+01	5.311E+00	6.185E+00	4.224E-01	2.516
		144.24		3.858E-01	1.058E+00	1.743E+00	1.224E-01	0.221
		154.21		9.473E-02	6.273E-01	1.022E+00	6.824E-02	0.093
		269.46		3.182E-01	3.295E-01	5.767E-01	3.479E-02	0.552
		323.87	*	-7.214E-01	1.207E+00	1.956E+00	3.230E-01	-0.369
	+	338.28		3.983E+00	3.001E+00	3.570E+00	3.757E-01	1.116
		445.03		-3.289E+00	4.957E+00	7.926E+00	8.122E-01	-0.415
RA-226	+	609.31	*	5.812E-01	2.081E-01	3.010E-01	2.367E-02	1.931
		1120.29		2.893E-01	6.050E-01	1.042E+00	9.534E-02	0.278
		1764.49		3.338E-01	3.892E-01	7.424E-01	4.499E-02	0.450
AC-227		79.80		7.948E-02	3.089E+00	4.451E+00	9.509E-01	0.018
		236.00		1.179E+00	4.949E-01	7.637E-01	7.917E-02	1.543
		256.20	*	-3.298E-02	7.265E-01	1.157E+00	1.612E-01	-0.028
		286.10		3.234E-01	2.702E+00	4.554E+00	5.265E-01	0.071
		299.80		1.830E+00	2.723E+00	4.143E+00	6.749E-01	0.442
		304.40		-3.405E+00	3.233E+00	5.054E+00	8.744E-01	-0.674
		334.20		-4.311E+00	4.901E+00	6.608E+00	1.211E+00	-0.652
TH-227		79.80		7.948E-02	3.089E+00	4.451E+00	9.632E-01	0.018

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229		94.00		-3.458E-01	3.098E+00	4.779E+00	1.032E+00	-0.072
		236.00		1.179E+00	4.911E-01	7.637E-01	6.841E-02	1.543
		256.20	*	-3.298E-02	7.265E-01	1.157E+00	1.953E-01	-0.028
		286.10		3.234E-01	2.722E+00	4.554E+00	4.562E+00	0.071
		299.80		1.830E+00	2.723E+00	4.143E+00	6.749E-01	0.442
		304.40		-3.405E+00	3.233E+00	5.054E+00	8.744E-01	-0.674
		334.20		-4.311E+00	4.901E+00	6.608E+00	1.211E+00	-0.652
		85.43		1.150E+00	3.914E-01	6.089E-01	5.310E-02	1.888
	+	88.47		4.124E+00	5.189E-01	5.728E-01	5.092E-02	7.200
		100.00		1.849E-02	2.784E-01	4.563E-01	3.433E-02	0.041
		193.63	*	-3.111E-01	8.442E-01	1.337E+00	7.215E-02	-0.233
		210.97		7.944E-01	1.314E+00	2.165E+00	1.192E-01	0.367
TH-230	+	609.31	*	5.812E-01	2.081E-01	3.010E-01	2.367E-02	1.931
		1120.29		2.893E-01	6.050E-01	1.042E+00	9.534E-02	0.278
PA-231		1764.49		3.338E-01	3.892E-01	7.423E-01	4.499E-02	0.450
		283.67	*	6.789E-01	2.691E+00	4.579E+00	6.310E-01	0.148
TH-231		301.29		-3.239E-02	9.891E-01	1.568E+00	1.640E-01	-0.021
		81.07		-6.829E-01	4.631E-01	5.676E-01	4.744E-02	-1.203
		83.78		-3.617E-02	2.424E-01	3.460E-01	2.968E-02	-0.105
		94.90		-1.865E-01	3.522E-01	5.639E-01	4.540E-02	-0.331
	+	122.32		1.556E+01	5.311E+00	6.185E+00	4.224E-01	2.516
		144.24		3.858E-01	1.058E+00	1.743E+00	1.224E-01	0.221
		154.21		9.473E-02	6.273E-01	1.022E+00	6.824E-02	0.093
		269.46		3.182E-01	3.295E-01	5.767E-01	3.479E-02	0.552
		323.87	*	-7.214E-01	1.207E+00	1.956E+00	3.230E-01	-0.369
	+	338.28		3.983E+00	3.001E+00	3.570E+00	3.757E-01	1.116
		445.03		-3.289E+00	4.957E+00	7.926E+00	8.122E-01	-0.415
	U-231	84.21		1.415E+00	3.655E+00	5.341E+00	4.601E-01	0.265
		92.29		1.283E+00	1.145E+00	1.778E+00	1.487E-01	0.722
PA-233		95.87	*	-9.431E-01	6.023E-01	9.152E-01	7.269E-02	-1.031
		108.00		-4.317E-01	1.140E+00	1.830E+00	1.255E-01	-0.236
		75.28		1.402E+01	6.334E+00	9.384E+00	1.407E+00	1.494
		86.59		4.677E+01	1.326E+01	7.924E+00	2.131E+00	5.902
		300.12		4.665E-01	7.558E-01	1.149E+00	1.545E-01	0.406
PA-234		311.98	*	1.337E-02	1.167E-01	1.969E-01	1.216E-02	0.068
		340.50		1.264E+00	1.269E+00	1.923E+00	4.416E-01	0.657
		398.62		-1.298E+00	4.013E+00	6.546E+00	1.690E+00	-0.198
		415.76		-3.368E+00	3.244E+00	4.961E+00	1.019E+00	-0.679
		63.00		-1.875E+00	2.603E+00	3.647E+00	5.443E-01	-0.514
		94.67		-2.872E-02	2.593E-01	4.077E-01	4.905E-02	-0.070
		98.44		2.076E-01	1.785E-01	2.367E-01	1.317E-01	0.877
		99.86		3.002E-01	6.990E-01	1.163E+00	8.766E-02	0.258
		111.00		-4.306E-03	2.867E-01	4.672E-01	5.032E-02	-0.009
		131.20		-1.191E-01	1.620E-01	2.542E-01	1.463E-02	-0.469
		152.70		1.875E-02	5.119E-01	8.302E-01	1.301E-01	0.023
	+	186.00		2.645E+00	4.008E+00	3.589E+00	1.094E+00	0.737
		226.40		-4.819E-01	7.119E-01	1.099E+00	1.260E-01	-0.438
		227.20		-4.228E-01	7.620E-01	1.187E+00	6.646E-02	-0.356
		248.90		-1.034E+00	1.541E+00	2.352E+00	5.048E-01	-0.440

----- Non-Identified Nuclides -----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	293.70			2.930E+00	1.505E+00	2.334E+00	3.755E-01	1.255
	369.80			1.195E+00	1.621E+00	2.775E+00	5.770E-01	0.431
	568.70			3.439E+00	1.964E+00	3.600E+00	2.137E-01	0.955
	569.50			1.084E+00	5.250E-01	9.785E-01	5.808E-02	1.108
	574.00			-4.602E+00	2.762E+00	3.970E+00	2.356E-01	-1.159
	699.00			-3.482E-04	1.249E+00	2.037E+00	3.694E-01	0.000
	706.10			-9.496E-01	1.884E+00	2.870E+00	1.269E+00	-0.331
	733.00			2.841E-01	8.058E-01	1.174E+00	2.525E-01	0.242
	742.81			6.064E-01	2.716E+00	4.442E+00	2.977E+00	0.137
	796.30			-4.664E-01	1.810E+00	2.872E+00	7.670E-01	-0.162
	805.60			8.528E-01	2.087E+00	3.458E+00	1.050E+00	0.247
	819.60			2.015E+00	2.836E+00	4.654E+00	1.761E+00	0.433
	826.30			-6.506E-01	1.812E+00	2.817E+00	1.256E+00	-0.231
	831.60			1.086E+00	1.299E+00	2.169E+00	6.429E-01	0.501
	876.40			1.099E+00	2.178E+00	3.136E+00	3.224E+00	0.350
	880.51			-3.859E-01	5.978E-01	9.130E-01	7.824E-02	-0.423
	883.24			-1.822E-01	6.238E-01	9.638E-01	6.479E-01	-0.189
	899.00			4.671E-02	1.893E+00	3.058E+00	1.338E+00	0.015
	925.00			-1.341E+00	2.997E+00	4.674E+00	4.017E-01	-0.287
	926.50			1.441E-01	4.410E-01	7.234E-01	1.828E-01	0.199
	946.00	*		-3.873E-01	7.566E-01	1.168E+00	2.180E-01	-0.332
	949.00			3.438E-01	1.078E+00	1.772E+00	1.485E-01	0.194
	980.50			-3.463E-01	1.748E+00	2.765E+00	2.232E-01	-0.125
	1394.10			-1.156E-02	1.337E+00	2.206E+00	1.432E+00	-0.005
PA-234M	766.42			9.742E+00	2.046E+01	3.348E+01	1.691E+01	0.291
	1001.03	*		-3.554E+00	9.172E+00	1.496E+01	1.393E+00	-0.238
TH-234	63.29	*		-1.712E+00	2.212E+00	3.078E+00	5.386E-01	-0.556
	92.38			1.120E+00	8.525E-01	1.307E+00	2.347E-01	0.856
U-234	609.31	*		5.812E-01	2.081E-01	3.010E-01	2.367E-02	1.931
	1120.29			2.893E-01	6.050E-01	1.042E+00	9.534E-02	0.278
	1764.49			3.338E-01	3.892E-01	7.423E-01	4.499E-02	0.450
U-235	89.95			2.381E+01	7.768E+00	4.705E+00	1.452E+00	5.061
	93.35			9.555E-01	1.029E+00	1.539E+00	4.295E-01	0.621
	105.00			2.079E+00	1.704E+00	2.742E+00	8.071E-01	0.758
	143.76	*		8.521E-02	3.249E-01	5.323E-01	8.631E-02	0.160
	163.35			-1.209E-01	7.621E-01	1.223E+00	2.178E-01	-0.099
	185.71			9.797E-02	1.455E-01	1.335E-01	7.135E-03	0.734
	205.31			-8.055E-01	9.253E-01	1.410E+00	2.521E-01	-0.571
NP-236	94.67			-2.124E-02	1.967E-01	3.093E-01	2.498E-02	-0.069
	98.44			1.569E-01	1.035E-01	1.789E-01	1.373E-02	0.877
	111.00			-3.257E-03	2.168E-01	3.534E-01	2.348E-02	-0.009
	160.31	*		3.236E-02	1.273E-01	2.083E-01	1.103E-02	0.155
NP-237	86.50	*		6.725E+00	1.633E+00	1.172E+00	2.631E-01	5.736
	95.87			-2.344E+00	1.592E+00	2.274E+00	5.551E-01	-1.031
U-238	63.29	*		-1.712E+00	2.212E+00	3.078E+00	5.386E-01	-0.556
	92.38			1.120E+00	8.337E-01	1.307E+00	1.092E-01	0.856
NP-239	99.55			1.873E-01	2.347E-01	3.959E-01	2.996E-02	0.473
	117.00	*		-1.766E-02	3.472E-01	4.936E-01	3.086E-02	-0.036
	209.75			8.426E-01	1.315E+00	2.171E+00	1.194E-01	0.388

---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243		228.18		-2.041E-01	3.937E-01	6.141E-01	3.442E-02	-0.332
		277.60		3.922E-02	3.092E-01	5.237E-01	3.031E-02	0.075
		334.30		-2.467E+00	2.743E+00	3.740E+00	2.165E-01	-0.660
		74.67	*	1.357E-01	1.138E-01	1.710E-01	1.356E-02	0.794
	+	86.72		3.326E+02	4.185E+01	4.543E+01	4.016E+00	7.322
CM-243		117.66		5.264E-01	6.930E+00	9.925E+00	6.166E-01	0.053
		142.18		1.274E+01	2.714E+01	4.492E+01	2.501E+00	0.284
		99.55		1.927E-01	2.414E-01	4.072E-01	3.081E-02	0.473
		103.76	*	-4.725E-02	1.505E-01	2.424E-01	1.743E-02	-0.195
		117.00		-1.816E-02	3.571E-01	5.076E-01	3.174E-02	-0.036
AM-246		209.75		8.303E-01	1.296E+00	2.139E+00	1.176E-01	0.388
		228.18		-2.062E-01	3.976E-01	6.203E-01	3.476E-02	-0.332
		277.60		3.953E-02	3.116E-01	5.278E-01	3.054E-02	0.075
		798.80		-1.560E-01	2.869E-01	4.459E-01	3.338E-02	-0.350
		1036.00		-1.623E-02	6.322E-01	1.058E+00	7.880E-02	-0.015
CM-247		1062.04		2.325E-02	4.715E-01	7.930E-01	5.648E-02	0.029
		1078.86	*	1.689E-02	2.916E-01	4.901E-01	3.381E-02	0.034
		278.00		6.067E-01	1.260E+00	2.168E+00	1.255E-01	0.280
		287.40		-7.029E-01	2.254E+00	3.625E+00	2.104E-01	-0.194
		402.60	*	1.660E-02	7.095E-02	1.196E-01	6.706E-03	0.139
CF-249		252.85		8.049E-01	1.637E+00	2.677E+00	1.530E-01	0.301
		333.44		-3.432E-01	3.645E-01	4.958E-01	2.872E-02	-0.692
		387.95	*	3.727E-02	7.771E-02	1.326E-01	7.406E-03	0.281
CF-251		176.60	*	7.426E-02	2.108E-01	3.455E-01	1.825E-02	0.215
		227.00		-2.885E-01	6.700E-01	1.050E+00	5.880E-02	-0.275
		285.00		7.185E-02	3.125E+00	5.264E+00	3.053E-01	0.014

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]G1202018278      *
* Acquisition date   : 27-JAN-2010 20:44:29 Detector SN#                   *
* Detector ID        : GAM19                                           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 01:00:01.52                               Half life ratio  : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018278                               Analyst initials: MXR1        *
* Batch Number       : 942723                                   Sample Quantity : 1.5544E+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)	
CO-57	2.215E-01	7.374E-02	6.988E-02	0.000E+00
CO-60	6.332E+00	5.605E-01	7.142E-02	0.000E+00
CD-109	3.044E+01	3.754E+00	2.373E+00	0.000E+00
SN-126	3.020E+00	3.725E-01	2.365E-01	0.000E+00
BA-137M	5.418E+00	4.000E-01	9.668E-02	0.000E+00
CS-137	5.728E+00	4.239E-01	1.022E-01	0.000E+00
TL-208	3.994E-01	1.183E-01	1.113E-01	0.000E+00
BI-211	2.250E+00	6.635E-01	6.214E-01	0.000E+00
PB-212	9.445E-01	1.615E-01	1.700E-01	0.000E+00
PO-212	9.445E-01	1.615E-01	1.700E-01	0.000E+00
PB-214	7.826E-01	2.342E-01	2.166E-01	0.000E+00
PO-214	7.826E-01	2.342E-01	2.166E-01	0.000E+00
PO-216	9.445E-01	1.615E-01	1.700E-01	0.000E+00
PO-218	7.826E-01	2.342E-01	2.166E-01	0.000E+00
RA-224	2.729E+00	1.735E+00	1.933E+00	0.000E+00
AC-228	1.196E+00	5.880E-01	4.809E-01	0.000E+00
RA-228	1.196E+00	5.880E-01	4.809E-01	0.000E+00
TH-228	9.529E-01	1.629E-01	1.715E-01	0.000E+00
TH-232	1.196E+00	5.880E-01	4.809E-01	0.000E+00
AM-241	1.335E+01	1.285E+00	5.537E-01	0.000E+00
ANH-511	1.061E-01	1.224E-01	9.693E-02	0.000E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.374E-01	6.107E-01	1.060E+00	0.000E+00 NOT IDENT.
NA-22	1.920E-02	4.230E-02	7.770E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	7.780E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-3.776E-04	4.058E-02	6.751E-02	0.000E+00 NOT IDENT.
K-40	3.712E-01	5.112E-01	9.759E-01	0.000E+00 NOT IDENT.
TI-44	7.355E-02	8.013E-02	1.184E-01	0.000E+00 FAIL ABUN

SC-46	-8.653E-03	8.310E-02	1.388E-01	0.000E+00	NOT IDENT.
V-48	1.392E-01	1.251E-01	2.247E-01	0.000E+00	NOT IDENT.
CR-51	8.110E-03	5.779E-01	1.040E+00	0.000E+00	NOT IDENT.
MN-52	1.223E-02	1.036E-01	1.806E-01	0.000E+00	FAIL ABUN
MN-54	-4.262E-02	7.391E-02	1.196E-01	0.000E+00	NOT IDENT.
CO-56	4.783E-02	8.082E-02	1.421E-01	0.000E+00	FAIL ABUN
CO-58	-8.335E-03	7.591E-02	1.276E-01	0.000E+00	NOT IDENT.
FE-59	4.501E-02	1.645E-01	2.909E-01	0.000E+00	NOT IDENT.
ZN-65	-7.074E-02	1.764E-01	2.972E-01	0.000E+00	NOT IDENT.
GE-68	-1.449E+00	2.452E+00	4.070E+00	0.000E+00	NOT IDENT.
AS-73	3.974E-01	1.915E+00	3.309E+00	0.000E+00	NOT IDENT.
AS-74	1.626E-02	1.295E-01	2.261E-01	0.000E+00	NOT IDENT.
SE-75	9.150E-03	7.238E-02	1.323E-01	0.000E+00	FAIL ABUN
BR-77	-1.479E+00	2.993E+00	5.055E+00	0.000E+00	FAIL ABUN
SR-82	-1.361E-01	6.092E-01	1.018E+00	0.000E+00	NOT IDENT.
RB-83	-5.361E-02	1.190E-01	2.018E-01	0.000E+00	NOT IDENT.
RB-84	-1.146E-01	1.297E-01	2.026E-01	0.000E+00	NOT IDENT.
KR-85	1.025E+01	1.517E+01	2.422E+01	0.000E+00	NOT IDENT.
SR-85	4.921E-02	7.282E-02	1.162E-01	0.000E+00	NOT IDENT.
RB-86	-5.749E-01	1.220E+00	2.043E+00	0.000E+00	NOT IDENT.
Y-88	2.989E-03	5.103E-02	8.596E-02	0.000E+00	NOT IDENT.
ZR-88	3.330E-02	5.697E-02	1.041E-01	0.000E+00	NOT IDENT.
Y-91	-2.002E+00	2.071E+01	3.527E+01	0.000E+00	NOT IDENT.
NB-94	3.442E-02	5.835E-02	1.042E-01	0.000E+00	NOT IDENT.
NB-95	-1.319E-02	6.970E-02	1.169E-01	0.000E+00	NOT IDENT.
NB-95M	3.214E-01	2.295E-01	3.735E-01	0.000E+00	NOT IDENT.
ZR-95	-9.924E-04	1.394E-01	2.374E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.842E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.099E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-4.997E-01	4.728E+00	8.004E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.813E+09	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.785E-02	5.439E-02	9.352E-02	0.000E+00	NOT IDENT.
RH-102	-4.376E-03	6.042E-02	1.058E-01	0.000E+00	NOT IDENT.
RU-103	-1.375E-02	6.921E-02	1.198E-01	0.000E+00	FAIL ABUN
RH-106	8.712E-03	5.588E-01	9.659E-01	0.000E+00	FAIL ABUN
RU-106	8.712E-03	5.588E-01	9.659E-01	0.000E+00	FAIL ABUN
AG-108M	-1.987E-02	6.603E-02	1.148E-01	0.000E+00	NOT IDENT.
AG-110M	9.827E-02	7.853E-02	1.296E-01	0.000E+00	NOT IDENT.
IN-111	3.460E-02	4.617E-01	6.981E-01	0.000E+00	NOT IDENT.
IN-113M	3.051E-02	8.422E-02	1.523E-01	0.000E+00	NOT IDENT.
SN-113	3.051E-02	8.422E-02	1.523E-01	0.000E+00	NOT IDENT.
IN-114M	4.235E-02	3.065E-01	4.723E-01	0.000E+00	NOT IDENT.
CD-115	-1.077E+00	2.769E+00	4.708E+00	0.000E+00	NOT IDENT.
SN-117M	1.816E-02	6.241E-02	1.117E-01	0.000E+00	NOT IDENT.
SB-122	-1.166E+00	7.918E-01	1.239E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.206E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.022E-02	4.323E-02	7.790E-02	0.000E+00	NOT IDENT.
I-124	-4.449E-01	4.901E-01	6.670E-01	0.000E+00	NOT IDENT.
SB-124	-2.005E-02	9.225E-02	1.471E-01	0.000E+00	FAIL ABUN
SB-125	-6.450E-02	1.788E-01	3.101E-01	0.000E+00	NOT IDENT.
TE-125M	-2.189E+00	1.316E+01	2.349E+01	0.000E+00	NOT IDENT.
I-126	8.886E-03	2.474E-01	3.692E-01	0.000E+00	NOT IDENT.
SB-126	-1.432E-01	1.948E-01	3.148E-01	0.000E+00	FAIL ABUN
SB-127	3.268E-01	7.702E-01	1.363E+00	0.000E+00	FAIL ABUN
XE-127	1.249E-02	6.945E-02	1.221E-01	0.000E+00	NOT IDENT.
I-131	-8.543E-02	1.238E-01	2.131E-01	0.000E+00	NOT IDENT.
TE-132	-1.663E-01	3.111E-01	5.238E-01	0.000E+00	NOT IDENT.
BA-133	3.120E-02	8.762E-02	1.396E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.335E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-3.402E-02	9.079E-02	1.498E-01	0.000E+00	NOT IDENT.
CS-135	-1.211E-01	2.696E-01	4.800E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.563E+08	0.000E+00	0.000E+00	SHORT HLIF
CS-136	1.232E-01	1.636E-01	2.987E-01	0.000E+00	NOT IDENT.
CE-139	2.187E-02	4.637E-02	8.339E-02	0.000E+00	NOT IDENT.
BA-140	1.880E-01	3.620E-01	6.422E-01	0.000E+00	NOT IDENT.
LA-140	-1.503E-02	6.583E-02	1.052E-01	0.000E+00	NOT IDENT.
CE-141	1.786E-02	8.477E-02	1.517E-01	0.000E+00	NOT IDENT.
CE-143	1.470E+01	1.188E+01	1.943E+01	0.000E+00	FAIL ABUN
CE-144	-3.450E-02	3.195E-01	5.664E-01	0.000E+00	NOT IDENT.
PM-144	-3.856E-02	5.825E-02	9.454E-02	0.000E+00	NOT IDENT.
PR-144	-2.604E+00	3.934E+00	6.385E+00	0.000E+00	NOT IDENT.
PM-146	-9.007E-02	9.395E-02	1.570E-01	0.000E+00	NOT IDENT.
ND-147	5.212E-01	6.862E-01	1.249E+00	0.000E+00	NOT IDENT.
PM-149	4.301E+00	2.221E+01	4.037E+01	0.000E+00	NOT IDENT.
EU-152	-1.232E-02	2.050E-01	3.002E-01	0.000E+00	FAIL ABUN
GD-153	-4.295E-02	1.157E-01	2.058E-01	0.000E+00	NOT IDENT.
EU-154	5.511E-02	1.188E-01	2.184E-01	0.000E+00	FAIL ABUN
EU-155	2.071E-01	1.590E-01	3.008E-01	0.000E+00	FAIL ABUN

TB-160	-6.400E-02	2.799E-01	4.633E-01	0.000E+00	FAIL ABUN
HO-166M	7.337E-02	1.092E-01	1.959E-01	0.000E+00	FAIL ABUN
TM-171	6.578E+00	4.168E+01	7.682E+01	0.000E+00	FAIL ABUN
LU-176	-4.226E-03	4.232E-02	7.593E-02	0.000E+00	FAIL ABUN
LU-177	3.224E-02	9.642E-01	1.682E+00	0.000E+00	NOT IDENT.
LU-177M	-2.559E-02	3.209E-01	5.663E-01	0.000E+00	FAIL ABUN
HF-181	-1.596E-02	7.804E-02	1.355E-01	0.000E+00	NOT IDENT.
W-181	-5.595E-01	6.008E-01	9.223E-01	0.000E+00	NOT IDENT.
TA-182	2.138E-01	2.051E-01	3.954E-01	0.000E+00	NOT IDENT.
RE-183	-1.176E-01	1.654E-01	2.823E-01	0.000E+00	FAIL ABUN
RE-184	2.091E-01	4.167E-01	7.353E-01	0.000E+00	FAIL ABUN
OS-185	4.160E-03	7.338E-02	1.269E-01	0.000E+00	FAIL ABUN
RE-188	5.468E-03	2.492E-01	4.410E-01	0.000E+00	NOT IDENT.
W-188	4.028E+00	1.358E+01	2.179E+01	0.000E+00	NOT IDENT.
IR-192	-1.131E-02	5.752E-02	1.025E-01	0.000E+00	FAIL ABUN
AU-195	3.835E-01	3.243E-01	6.119E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	1.602E+01	0.000E+00	0.000E+00	SHORT HLIF
TL-201	6.572E-01	2.698E+00	4.804E+00	0.000E+00	NOT IDENT.
TL-202	3.743E-02	9.792E-02	1.762E-01	0.000E+00	NOT IDENT.
HG-203	-4.664E-02	6.224E-02	1.089E-01	0.000E+00	NOT IDENT.
BI-207	-2.062E-02	1.055E-01	1.809E-01	0.000E+00	NOT IDENT.
TL-207	-7.214E-01	1.183E+00	2.055E+00	0.000E+00	FAIL ABUN
PO-209	8.456E+00	1.665E+01	2.900E+01	0.000E+00	NOT IDENT.
BI-210	7.791E-01	6.636E+00	1.241E+01	0.000E+00	NOT IDENT.
PB-210	7.791E-01	6.636E+00	1.241E+01	0.000E+00	NOT IDENT.
PO-210	7.791E-01	6.636E+00	1.241E+01	0.000E+00	NOT IDENT.
PB-211	-2.033E+00	2.199E+00	3.039E+00	0.000E+00	NOT IDENT.
BI-212	1.003E+00	6.359E-01	1.034E+00	0.000E+00	FAIL ABUN
BI-214	0.000E+00	2.039E-01	3.110E-01	0.000E+00	FAIL ABUN
PO-215	-7.214E-01	1.183E+00	2.055E+00	0.000E+00	FAIL ABUN
RN-219	3.745E-01	7.869E-01	1.427E+00	0.000E+00	NOT IDENT.
RN-220	1.384E+01	4.435E+01	7.888E+01	0.000E+00	NOT IDENT.
RA-223	-7.214E-01	1.183E+00	2.055E+00	0.000E+00	FAIL ABUN
RA-226	0.000E+00	2.039E-01	3.110E-01	0.000E+00	FAIL ABUN
AC-227	-3.298E-02	7.120E-01	1.223E+00	0.000E+00	NOT IDENT.
TH-227	-3.298E-02	7.120E-01	1.223E+00	0.000E+00	NOT IDENT.
TH-229	-3.111E-01	8.273E-01	1.424E+00	0.000E+00	FAIL ABUN
TH-230	0.000E+00	2.039E-01	3.110E-01	0.000E+00	FAIL ABUN
PA-231	6.789E-01	2.637E+00	4.828E+00	0.000E+00	NOT IDENT.
TH-231	-7.214E-01	1.183E+00	2.055E+00	0.000E+00	FAIL ABUN
U-231	-9.431E-01	5.902E-01	9.915E-01	0.000E+00	NOT IDENT.
PA-233	1.337E-02	1.143E-01	2.071E-01	0.000E+00	NOT IDENT.
PA-234	-3.873E-01	7.415E-01	1.192E+00	0.000E+00	FAIL ABUN
PA-234M	-3.554E+00	8.988E+00	1.525E+01	0.000E+00	NOT IDENT.
TH-234	-1.712E+00	2.167E+00	3.369E+00	0.000E+00	NOT IDENT.
U-234	0.000E+00	2.039E-01	3.110E-01	0.000E+00	FAIL ABUN
U-235	8.521E-02	3.184E-01	5.710E-01	0.000E+00	FAIL ABUN
NP-236	3.236E-02	1.248E-01	2.228E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	1.601E+00	1.274E+00	0.000E+00	NOT IDENT.
U-238	-1.712E+00	2.167E+00	3.369E+00	0.000E+00	NOT IDENT.
NP-239	-1.766E-02	3.403E-01	5.321E-01	0.000E+00	NOT IDENT.
AM-243	1.357E-01	1.115E-01	1.864E-01	0.000E+00	FAIL ABUN
CM-243	-4.725E-02	1.475E-01	2.621E-01	0.000E+00	NOT IDENT.
AM-246	1.689E-02	2.858E-01	4.985E-01	0.000E+00	NOT IDENT.
CM-247	1.660E-02	6.953E-02	1.249E-01	0.000E+00	NOT IDENT.
CF-249	3.727E-02	7.616E-02	1.387E-01	0.000E+00	NOT IDENT.
CF-251	7.426E-02	2.066E-01	3.686E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 27-JAN-2010 21:45:02.77

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018278.CNF;1
Sample date        : 19-JAN-2010 00:00:00 Acquisition date : 27-JAN-2010 20:44:29
Sample ID          : G1202018278          Sample quantity  : 1.55440E+02 GRAM
Detector name      : GAM19                Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00        Elapsed real time: 0 01:00:01.52  0.0%
Energy tolerance   : 1.50000 keV          Analyst Initials : MXR1
Abundance limit    : 75.00000             Sensitivity       : 5.00000
Batch ID           : 942723               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
CO-57	122.06	263	85.51*	6.865E+00	2.165E-01	2.215E-01	33.97
	136.48	-----	10.60	6.738E+00	-----	Line Not Found	-----
CO-60	1173.22	1752	100.00	1.398E+00	6.054E+00	6.073E+00	7.58
	1332.49	1641	100.00*	1.256E+00	6.311E+00	6.332E+00	9.03
CD-109	88.03	1422	3.72*	6.146E+00	3.004E+01	3.044E+01	12.58
SN-126	64.28	-----	9.60	3.765E+00	-----	Line Not Found	-----
	86.94	1422	8.90	6.146E+00	1.256E+01	1.256E+01	42.36
	87.57	1422	37.00*	6.146E+00	3.020E+00	3.020E+00	12.58
BA-137M	661.65	2322	89.98*	2.301E+00	5.415E+00	5.418E+00	7.53
CS-137	661.65	2322	85.12*	2.301E+00	5.725E+00	5.728E+00	7.55
TL-208	277.35	-----	6.80	4.511E+00	-----	Line Not Found	-----
	510.84	62	21.60	2.841E+00	4.913E-01	4.913E-01	117.95
	583.14	178	84.20*	2.554E+00	3.994E-01	3.994E-01	30.21
	860.37	-----	12.46	1.837E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	4.857E+00	-----	Line Not Found	-----
	351.07	228	12.94*	3.787E+00	2.250E+00	2.250E+00	30.09
PB-212	74.81	-----	10.70	5.068E+00	-----	Line Not Found	-----
	77.11	79	18.00	5.321E+00	3.986E-01	3.986E-01	111.18
	87.30	1422	8.00	6.146E+00	1.397E+01	1.397E+01	16.07
	238.63	438	44.60*	5.017E+00	9.445E-01	9.445E-01	17.45
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
PO-212	74.81	-----	10.70	5.068E+00	-----	Line Not Found	-----
	77.11	79	18.00	5.321E+00	3.986E-01	3.986E-01	111.18
	87.30	1422	8.00	6.146E+00	1.397E+01	1.397E+01	16.07
	115.19	-----	0.60	6.866E+00	-----	Line Not Found	-----
	238.63	438	44.60*	5.017E+00	9.445E-01	9.445E-01	17.45
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
PB-214	74.81	-----	6.21	5.068E+00	-----	Line Not Found	-----
	77.11	79	10.50	5.321E+00	6.834E-01	6.834E-01	111.44
	87.30	1422	4.67	6.146E+00	2.393E+01	2.393E+01	14.76
	241.98	111	7.49	4.972E+00	1.439E+00	1.439E+00	65.13
	295.21	136	19.20	4.312E+00	7.944E-01	7.945E-01	46.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	351.92	228	37.20*	3.787E+00	7.826E-01	7.826E-01	30.54
PO-214	74.81	-----	6.21	5.068E+00	-----	Line Not Found	-----
	77.11	79	10.50	5.321E+00	6.834E-01	6.834E-01	111.44
	87.30	1422	4.67	6.146E+00	2.393E+01	2.393E+01	14.76
	241.98	111	7.49	4.972E+00	1.439E+00	1.439E+00	65.13
	295.21	136	19.20	4.312E+00	7.944E-01	7.945E-01	46.79
	351.92	228	37.20*	3.787E+00	7.826E-01	7.826E-01	30.54
PO-216	74.81	-----	10.70	5.068E+00	-----	Line Not Found	-----
	77.11	79	18.00	5.321E+00	3.986E-01	3.986E-01	111.18
	87.30	1422	8.00	6.146E+00	1.397E+01	1.397E+01	16.07
	238.63	438	44.60*	5.017E+00	9.445E-01	9.445E-01	17.45
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
PO-218	74.81	-----	6.21	5.068E+00	-----	Line Not Found	-----
	77.11	79	10.50	5.321E+00	6.834E-01	6.834E-01	111.44
	87.30	1422	4.67	6.146E+00	2.393E+01	2.393E+01	14.76
	241.98	111	7.49	4.972E+00	1.439E+00	1.439E+00	65.13
	295.21	136	19.20	4.312E+00	7.944E-01	7.945E-01	46.79
	351.92	228	37.20*	3.787E+00	7.826E-01	7.826E-01	30.54
RA-224	240.98	111	3.95*	4.972E+00	2.729E+00	2.729E+00	64.88
AC-228	338.32	88	11.40	3.896E+00	9.538E-01	9.538E-01	85.02
	911.07	120	27.70*	1.744E+00	1.196E+00	1.196E+00	50.15
	969.11	55	16.60	1.653E+00	9.617E-01	9.617E-01	85.51
RA-228	338.32	88	11.40	3.896E+00	9.538E-01	9.538E-01	85.02
	911.07	120	27.70*	1.744E+00	1.196E+00	1.196E+00	50.15
	969.11	55	16.60	1.653E+00	9.617E-01	9.617E-01	85.51
TH-228	74.81	-----	10.70	5.068E+00	-----	Line Not Found	-----
	77.11	79	18.00	5.321E+00	3.986E-01	4.022E-01	111.18
	87.30	1422	8.00	6.146E+00	1.397E+01	1.409E+01	12.58
	238.63	438	44.60*	5.017E+00	9.445E-01	9.529E-01	17.45
	300.09	-----	3.41	4.261E+00	-----	Line Not Found	-----
TH-232	338.32	88	11.40	3.896E+00	9.538E-01	9.538E-01	74.84
	911.07	120	27.70*	1.744E+00	1.196E+00	1.196E+00	50.15
	969.11	55	16.60	1.653E+00	9.617E-01	9.617E-01	85.51
AM-241	59.54	3058	35.90*	3.082E+00	1.335E+01	1.335E+01	9.82
ANH-511	511.00	62	100.00*	2.841E+00	1.061E-01	1.061E-01	117.66

Flag: "*" = Keyline

Total number of lines in spectrum 19
Number of unidentified lines 0
Number of lines tentatively identified by NID 19 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.02	2.165E-01	2.215E-01	0.752E-01	33.97	
CO-60	5.27Y	1.00	6.311E+00	6.332E+00	0.572E+00	9.03	
CD-109	464.00D	1.01	3.004E+01	3.044E+01	0.383E+01	12.58	
SN-126	1.00E+05Y	1.00	3.020E+00	3.020E+00	0.380E+00	12.58	
BA-137M	30.17Y	1.00	5.415E+00	5.418E+00	0.408E+00	7.53	
CS-137	30.17Y	1.00	5.725E+00	5.728E+00	0.433E+00	7.55	
TL-208	1.41E+10Y	1.00	3.994E-01	3.994E-01	1.207E-01	30.21	
BI-211	7.04E+08Y	1.00	2.250E+00	2.250E+00	0.677E+00	30.09	
PB-212	1.41E+10Y	1.00	9.445E-01	9.445E-01	1.648E-01	17.45	
PO-212	1.41E+10Y	1.00	9.445E-01	9.445E-01	1.648E-01	17.45	
PB-214	1600.00Y	1.00	7.826E-01	7.826E-01	2.390E-01	30.54	
PO-214	1600.00Y	1.00	7.826E-01	7.826E-01	2.390E-01	30.54	
PO-216	1.41E+10Y	1.00	9.445E-01	9.445E-01	1.648E-01	17.45	
PO-218	1600.00Y	1.00	7.826E-01	7.826E-01	2.390E-01	30.54	
RA-224	1.41E+10Y	1.00	2.729E+00	2.729E+00	1.770E+00	64.88	
AC-228	1.41E+10Y	1.00	1.196E+00	1.196E+00	0.600E+00	50.15	
RA-228	1.41E+10Y	1.00	1.196E+00	1.196E+00	0.600E+00	50.15	
TH-228	1.91Y	1.01	9.445E-01	9.529E-01	1.663E-01	17.45	
TH-232	1.41E+10Y	1.00	1.196E+00	1.196E+00	0.600E+00	50.15	
AM-241	432.20Y	1.00	1.335E+01	1.335E+01	0.131E+01	9.82	
ANH-511	1.00E+09Y	1.00	1.061E-01	1.061E-01	1.249E-01	117.66	
Total Activity :			7.928E+01	7.972E+01			

Grand Total Activity : 7.928E+01 7.972E+01

Flags: "K" = Keyline not found
"E" = Manually edited

"M" = Manually accepted
"A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202018278

Page : 4
Acquisition date : 27-JAN-2010 20:44:29

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	185.40	65	464	1.34	370.47	364	15	1.79E-02	****	5.89E+00	T
0	609.75	137	112	1.73	1218.74	1212	11	3.81E-02	34.9	2.46E+00	T
0	727.85	52	64	1.13	1454.88	1451	10	1.44E-02	64.2	2.12E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202018278.CNF;1
* Acquisition date   : 27-JAN-2010 20:44:29   Detector SN#      :
* Detector ID        : GAM19                  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 01:00:01.52          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00   Nuclide Library : SOLID
* Sample ID          : G1202018278           Analyst initials: MXR1
* Batch Number       : 942723                Sample Quantity : 1.55440E+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
CO-57	2.215E-01	7.525E-02	6.488E-02	3.872E-03	3.414
CO-60	6.332E+00	5.720E-01	7.063E-02	5.205E-03	89.645
CD-109	3.044E+01	3.831E+00	2.186E+00	1.958E-01	13.928
SN-126	3.020E+00	3.801E-01	2.178E-01	1.943E-02	13.869
BA-137M	5.418E+00	4.081E-01	9.378E-02	5.461E-03	57.776
CS-137	5.728E+00	4.325E-01	9.914E-02	5.797E-03	57.776
TL-208	3.994E-01	1.207E-01	1.076E-01	7.320E-03	3.711
BI-211	2.250E+00	6.771E-01	5.927E-01	3.785E-02	3.796
PB-212	9.445E-01	1.648E-01	1.606E-01	1.159E-02	5.883
PO-212	9.445E-01	1.648E-01	1.606E-01	1.159E-02	5.883
PB-214	7.826E-01	2.390E-01	2.066E-01	1.703E-02	3.788
PO-214	7.826E-01	2.390E-01	2.066E-01	1.703E-02	3.788
PO-216	9.445E-01	1.648E-01	1.606E-01	1.159E-02	5.883
PO-218	7.826E-01	2.390E-01	2.066E-01	1.703E-02	3.788
RA-224	2.729E+00	1.770E+00	1.826E+00	1.035E-01	1.494
AC-228	1.196E+00	6.000E-01	4.706E-01	5.323E-02	2.542
RA-228	1.196E+00	6.000E-01	4.706E-01	5.323E-02	2.542
TH-228	9.529E-01	1.663E-01	1.620E-01	1.169E-02	5.883

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.196E+00	6.000E-01	4.706E-01	5.323E-02	2.542
AM-241	1.335E+01	1.311E+00	5.052E-01	4.159E-02	26.424
ANH-511	1.061E-01	1.249E-01	9.337E-02	5.510E-03	1.136

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.374E-01		6.231E-01	1.019E+00	6.917E-02	-0.135
NA-22	1.920E-02		4.316E-02	7.675E-02	5.119E-03	0.250
NA-24	-3.417E-04		3.969E-04	Half-Life too short		
AL-26	-3.776E-04		4.141E-02	6.735E-02	3.932E-03	-0.006
K-40	3.712E-01		5.216E-01	9.676E-01	7.206E-02	0.384
TI-44	7.355E-02	+	8.177E-02	1.088E-01	8.880E-03	0.676
SC-46	-8.653E-03		8.479E-02	1.358E-01	1.180E-02	-0.064
V-48	1.392E-01		1.277E-01	2.204E-01	1.772E-02	0.632
CR-51	8.110E-03		5.897E-01	9.897E-01	6.405E-02	0.008
MN-52	1.223E-02		1.057E-01	1.790E-01	1.291E-02	0.068
MN-54	-4.262E-02		7.542E-02	1.167E-01	9.285E-03	-0.365
CO-56	4.783E-02		8.247E-02	1.387E-01	1.126E-02	0.345
CO-58	-8.335E-03		7.746E-02	1.245E-01	9.539E-03	-0.067
FE-59	4.501E-02		1.679E-01	2.861E-01	2.147E-02	0.157
ZN-65	-7.074E-02		1.800E-01	2.924E-01	1.870E-02	-0.242
GE-68	-1.449E+00		2.502E+00	4.001E+00	2.769E-01	-0.362
AS-73	3.974E-01		1.954E+00	3.011E+00	2.227E-01	0.132
AS-74	1.626E-02		1.321E-01	2.187E-01	1.296E-02	0.074
SE-75	9.150E-03		7.385E-02	1.252E-01	7.283E-03	0.073
BR-77	-1.479E+00		3.054E+00	4.872E+00	2.880E-01	-0.304
SR-82	-1.361E-01		6.216E-01	9.918E-01	7.142E-02	-0.137
RB-83	-5.361E-02		1.215E-01	1.945E-01	1.150E-02	-0.276
RB-84	-1.146E-01		1.323E-01	1.981E-01	1.700E-02	-0.579
KR-85	1.025E+01		1.548E+01	2.333E+01	1.378E+00	0.439
SR-85	4.921E-02		7.430E-02	1.120E-01	6.612E-03	0.439
RB-86	-5.749E-01		1.245E+00	2.008E+00	1.391E-01	-0.286
Y-88	2.989E-03		5.207E-02	8.579E-02	4.897E-03	0.035
ZR-88	3.330E-02		5.813E-02	9.955E-02	5.543E-03	0.335
Y-91	-2.002E+00		2.113E+01	3.478E+01	2.031E+00	-0.058
NB-94	3.442E-02		5.954E-02	1.012E-01	6.375E-03	0.340
NB-95	-1.319E-02		7.112E-02	1.139E-01	8.045E-03	-0.116
NB-95M	3.214E-01		2.341E-01	3.526E-01	2.612E-02	0.912
ZR-95	-9.924E-04		1.423E-01	2.311E-01	1.850E-02	-0.004
NB-97	9.295E-04		2.470E-04	Half-Life too short		
ZR-97	5.450E-03		4.132E-03	Half-Life too short		
MO-99	-4.997E-01		4.824E+00	7.788E+00	1.106E+00	-0.064
TC-99M	-2.300E+03		9.248E+02	Half-Life too short		
RH-101	-1.785E-02		5.550E-02	8.790E-02	4.768E-03	-0.203
RH-102	-4.376E-03		6.165E-02	1.017E-01	5.935E-03	-0.043
RU-103	-1.375E-02		7.062E-02	1.153E-01	1.462E-02	-0.119

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-106	8.712E-03		5.702E-01	9.354E-01	1.102E-01	0.009
RU-106	8.712E-03		5.702E-01	9.354E-01	5.516E-02	0.009
AG-108M	-1.987E-02		6.737E-02	1.101E-01	6.860E-03	-0.180
AG-110M	9.827E-02		8.014E-02	1.257E-01	7.800E-03	0.782
IN-111	3.460E-02		4.711E-01	6.597E-01	3.751E-02	0.052
IN-113M	3.051E-02		8.594E-02	1.457E-01	8.693E-03	0.209
SN-113	3.051E-02		8.594E-02	1.457E-01	8.693E-03	0.209
IN-114M	4.235E-02		3.127E-01	4.434E-01	2.383E-02	0.096
CD-115	-1.077E+00		2.826E+00	4.540E+00	2.687E-01	-0.237
SN-117M	1.816E-02		6.368E-02	1.044E-01	5.554E-03	0.174
SB-122	-1.166E+00		8.080E-01	1.197E+00	7.105E-02	-0.974
I-123	1.499E-03		1.636E-03	Half-Life	too short	
TE-123M	2.022E-02		4.411E-02	7.281E-02	3.932E-03	0.278
I-124	-4.449E-01		5.002E-01	6.454E-01	3.820E-02	-0.689
SB-124	-2.005E-02		9.413E-02	1.465E-01	1.003E-02	-0.137
SB-125	-6.450E-02		1.825E-01	2.973E-01	1.770E-02	-0.217
TE-125M	-2.189E+00		1.342E+01	2.175E+01	1.919E+00	-0.101
I-126	8.886E-03		2.525E-01	3.582E-01	2.105E-02	0.025
SB-126	-1.432E-01		1.987E-01	3.061E-01	1.993E-02	-0.468
SB-127	3.268E-01		7.859E-01	1.323E+00	1.020E-01	0.247
XE-127	1.249E-02		7.087E-02	1.148E-01	6.265E-03	0.109
I-131	-8.543E-02		1.264E-01	2.034E-01	1.289E-02	-0.420
TE-132	-1.663E-01		3.174E-01	4.940E-01	6.544E-02	-0.337
BA-133	3.120E-02		8.941E-02	1.332E-01	1.536E-02	0.234
I-133	1.263E-05		3.742E-05	Half-Life	too short	
CS-134	-3.402E-02		9.264E-02	1.461E-01	1.098E-02	-0.233
CS-135	-1.211E-01		2.751E-01	4.547E-01	3.470E-02	-0.266
I-135	2.854E+02		4.369E+02	Half-Life	too short	
CS-136	1.232E-01		1.670E-01	2.934E-01	2.266E-02	0.420
CE-139	2.187E-02		4.731E-02	7.802E-02	4.073E-03	0.280
BA-140	1.880E-01		3.694E-01	6.194E-01	2.016E-01	0.303
LA-140	-1.503E-02		6.718E-02	1.046E-01	7.075E-03	-0.144
CE-141	1.786E-02		8.650E-02	1.414E-01	8.145E-03	0.126
CE-143	1.470E+01		1.212E+01	1.845E+01	3.808E+00	0.797
CE-144	-3.450E-02		3.260E-01	5.271E-01	7.467E-02	-0.065
PM-144	-3.856E-02		5.944E-02	9.184E-02	5.719E-03	-0.420
PR-144	-2.604E+00		4.014E+00	6.203E+00	3.862E-01	-0.420
PM-146	-9.007E-02		9.587E-02	1.508E-01	1.299E-02	-0.597
ND-147	5.212E-01		7.002E-01	1.204E+00	1.635E-01	0.433
PM-149	4.301E+00		2.266E+01	3.830E+01	5.423E+00	0.112
EU-152	-1.232E-02		2.092E-01	2.862E-01	1.863E-02	-0.043
GD-153	-4.295E-02		1.180E-01	1.900E-01	1.478E-02	-0.226
EU-154	5.511E-02		1.212E-01	2.157E-01	2.135E-02	0.255
EU-155	2.071E-01		1.623E-01	2.783E-01	2.002E-02	0.744
TB-160	-6.400E-02		2.856E-01	4.530E-01	3.874E-02	-0.141
HO-166M	7.337E-02		1.115E-01	1.904E-01	1.220E-02	0.385
TM-171	6.578E+00		4.253E+01	7.028E+01	5.343E+00	0.094
LU-176	-4.226E-03		4.318E-02	7.217E-02	4.198E-03	-0.059

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177	3.224E-02		9.838E-01	1.582E+00	8.688E-02	0.020
LU-177M	-2.559E-02		3.274E-01	5.424E-01	3.066E-02	-0.047
HF-181	-1.596E-02		7.963E-02	1.303E-01	7.624E-03	-0.123
W-181	-5.595E-01		6.131E-01	8.433E-01	6.382E-02	-0.664
TA-182	2.138E-01		2.092E-01	3.901E-01	2.352E-02	0.548
RE-183	-1.176E-01		1.688E-01	2.640E-01	1.391E-02	-0.446
RE-184	2.091E-01		4.252E-01	6.954E-01	3.974E-02	0.301
OS-185	4.160E-03		7.488E-02	1.230E-01	7.205E-03	0.034
RE-188	5.468E-03		2.543E-01	4.119E-01	2.214E-02	0.013
W-188	4.028E+00		1.385E+01	2.069E+01	1.201E+00	0.195
IR-192	-1.131E-02		5.869E-02	9.755E-02	5.699E-03	-0.116
AU-195	3.835E-01		3.309E-01	5.652E-01	4.314E-02	0.679
TL-200	-5.660E-06		8.172E-06	Half-Life too short		
TL-201	6.572E-01		2.753E+00	4.496E+00	2.349E-01	0.146
TL-202	3.743E-02		9.991E-02	1.691E-01	9.709E-03	0.221
HG-203	-4.664E-02		6.351E-02	1.032E-01	6.347E-03	-0.452
BI-207	-2.062E-02		1.076E-01	1.778E-01	1.263E-02	-0.116
TL-207	-7.214E-01		1.207E+00	1.956E+00	3.230E-01	-0.369
PO-209	8.456E+00		1.699E+01	2.837E+01	2.494E+00	0.298
BI-210	7.791E-01		6.772E+00	1.125E+01	8.576E-01	0.069
PB-210	7.791E-01		6.772E+00	1.125E+01	8.576E-01	0.069
PO-210	7.791E-01		6.772E+00	1.125E+01	7.333E-01	0.069
PB-211	-2.033E+00		2.244E+00	2.910E+00	1.813E+00	-0.699
BI-212	1.003E+00	+	6.489E-01	1.006E+00	8.374E-02	0.997
BI-214	5.812E-01	+	2.081E-01	3.010E-01	2.367E-02	1.931
PO-215	-7.214E-01		1.207E+00	1.956E+00	3.230E-01	-0.369
RN-219	3.745E-01		8.029E-01	1.366E+00	1.848E-01	0.274
RN-220	1.384E+01		4.526E+01	7.613E+01	4.517E+00	0.182
RA-223	-7.214E-01		1.207E+00	1.956E+00	3.230E-01	-0.369
RA-226	5.812E-01	+	2.081E-01	3.010E-01	2.367E-02	1.931
AC-227	-3.298E-02		7.265E-01	1.157E+00	1.612E-01	-0.028
TH-227	-3.298E-02		7.265E-01	1.157E+00	1.953E-01	-0.028
TH-229	-3.111E-01		8.442E-01	1.337E+00	7.215E-02	-0.233
TH-230	5.812E-01	+	2.081E-01	3.010E-01	2.367E-02	1.931
PA-231	6.789E-01		2.691E+00	4.579E+00	6.310E-01	0.148
TH-231	-7.214E-01		1.207E+00	1.956E+00	3.230E-01	-0.369
U-231	-9.431E-01		6.023E-01	9.152E-01	7.269E-02	-1.031
PA-233	1.337E-02		1.167E-01	1.969E-01	1.216E-02	0.068
PA-234	-3.873E-01		7.566E-01	1.168E+00	2.180E-01	-0.332
PA-234M	-3.554E+00		9.172E+00	1.496E+01	1.393E+00	-0.238
TH-234	-1.712E+00		2.212E+00	3.078E+00	5.386E-01	-0.556
U-234	5.812E-01	+	2.081E-01	3.010E-01	2.367E-02	1.931
U-235	8.521E-02		3.249E-01	5.323E-01	8.631E-02	0.160
NP-236	3.236E-02		1.273E-01	2.083E-01	1.103E-02	0.155
NP-237	6.725E+00		1.633E+00	1.172E+00	2.631E-01	5.736
U-238	-1.712E+00		2.212E+00	3.078E+00	5.386E-01	-0.556
NP-239	-1.766E-02		3.472E-01	4.936E-01	3.086E-02	-0.036
AM-243	1.357E-01		1.138E-01	1.710E-01	1.356E-02	0.794

----- Non-Identified Nuclides -----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-4.725E-02		1.505E-01	2.424E-01	1.743E-02	-0.195
AM-246	1.689E-02		2.916E-01	4.901E-01	3.381E-02	0.034
CM-247	1.660E-02		7.095E-02	1.196E-01	6.706E-03	0.139
CF-249	3.727E-02		7.771E-02	1.326E-01	7.406E-03	0.281
CF-251	7.426E-02		2.108E-01	3.455E-01	1.825E-02	0.215

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]G1202018278          *
* Acquisition date   : 27-JAN-2010 20:44:29 Detector SN#      :              *
* Detector ID        : GAM19                      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 01:00:01.52             Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 19-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202018278             Analyst initials: MXR1         *
* Batch Number       : 942723                  Sample Quantity : 1.5544E+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
CO-57	2.215E-01	7.374E-02	3.496E-02	3.762E-02
CO-60	6.332E+00	5.605E-01	3.573E-02	2.860E-01
CD-109	3.044E+01	3.754E+00	1.187E+00	1.915E+00
SN-126	3.020E+00	3.725E-01	1.183E-01	1.900E-01
BA-137M	5.418E+00	4.000E-01	4.837E-02	2.041E-01
CS-137	5.728E+00	4.239E-01	5.113E-02	2.163E-01
TL-208	3.994E-01	1.183E-01	5.570E-02	6.033E-02
BI-211	2.250E+00	6.635E-01	3.109E-01	3.385E-01
PB-212	9.445E-01	1.615E-01	8.507E-02	8.240E-02
PO-212	9.445E-01	1.615E-01	8.507E-02	8.240E-02
PB-214	7.826E-01	2.342E-01	1.084E-01	1.195E-01
PO-214	7.826E-01	2.342E-01	1.084E-01	1.195E-01
PO-216	9.445E-01	1.615E-01	8.507E-02	8.240E-02
PO-218	7.826E-01	2.342E-01	1.084E-01	1.195E-01
RA-224	2.729E+00	1.735E+00	9.673E-01	8.852E-01
AC-228	1.196E+00	5.880E-01	2.406E-01	3.000E-01
RA-228	1.196E+00	5.880E-01	2.406E-01	3.000E-01
TH-228	9.529E-01	1.629E-01	8.582E-02	8.313E-02
TH-232	1.196E+00	5.880E-01	2.406E-01	3.000E-01
AM-241	1.335E+01	1.285E+00	2.770E-01	6.555E-01
ANH-511	1.061E-01	1.224E-01	4.849E-02	6.243E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.374E-01	6.107E-01	5.301E-01	3.116E-01 NOT IDENT.
NA-22	1.920E-02	4.230E-02	3.887E-02	2.158E-02 NOT IDENT.
NA-24	-3.417E+02	7.780E+02	0.000E+00	3.969E+02 SHORT HLIF
AL-26	-3.776E-04	4.058E-02	3.377E-02	2.070E-02 NOT IDENT.
K-40	3.712E-01	5.112E-01	4.882E-01	2.608E-01 NOT IDENT.
TI-44	7.355E-02	8.013E-02	5.926E-02	4.088E-02 FAIL ABUN

SC-46	-8.653E-03	8.310E-02	6.946E-02	4.240E-02	NOT IDENT.
V-48	1.392E-01	1.251E-01	1.124E-01	6.384E-02	NOT IDENT.
CR-51	8.110E-03	5.779E-01	5.204E-01	2.948E-01	NOT IDENT.
MN-52	1.223E-02	1.036E-01	9.036E-02	5.285E-02	FAIL ABUN
MN-54	-4.262E-02	7.391E-02	5.982E-02	3.771E-02	NOT IDENT.
CO-56	4.783E-02	8.082E-02	7.107E-02	4.124E-02	FAIL ABUN
CO-58	-8.335E-03	7.591E-02	6.385E-02	3.873E-02	NOT IDENT.
FE-59	4.501E-02	1.645E-01	1.455E-01	8.393E-02	NOT IDENT.
ZN-65	-7.074E-02	1.764E-01	1.487E-01	9.002E-02	NOT IDENT.
GE-68	-1.449E+00	2.452E+00	2.036E+00	1.251E+00	NOT IDENT.
AS-73	3.974E-01	1.915E+00	1.655E+00	9.772E-01	NOT IDENT.
AS-74	1.626E-02	1.295E-01	1.131E-01	6.607E-02	NOT IDENT.
SE-75	9.150E-03	7.238E-02	6.618E-02	3.693E-02	FAIL ABUN
BR-77	-1.479E+00	2.993E+00	2.529E+00	1.527E+00	FAIL ABUN
SR-82	-1.361E-01	6.092E-01	5.093E-01	3.108E-01	NOT IDENT.
RB-83	-5.361E-02	1.190E-01	1.010E-01	6.074E-02	NOT IDENT.
RB-84	-1.146E-01	1.297E-01	1.014E-01	6.617E-02	NOT IDENT.
KR-85	1.025E+01	1.517E+01	1.211E+01	7.740E+00	NOT IDENT.
SR-85	4.921E-02	7.282E-02	5.815E-02	3.715E-02	NOT IDENT.
RB-86	-5.749E-01	1.220E+00	1.022E+00	6.224E-01	NOT IDENT.
Y-88	2.989E-03	5.103E-02	4.301E-02	2.604E-02	NOT IDENT.
ZR-88	3.330E-02	5.697E-02	5.206E-02	2.906E-02	NOT IDENT.
Y-91	-2.002E+00	2.071E+01	1.765E+01	1.056E+01	NOT IDENT.
NB-94	3.442E-02	5.835E-02	5.212E-02	2.977E-02	NOT IDENT.
NB-95	-1.319E-02	6.970E-02	5.849E-02	3.556E-02	NOT IDENT.
NB-95M	3.214E-01	2.295E-01	1.869E-01	1.171E-01	NOT IDENT.
ZR-95	-9.924E-04	1.394E-01	1.188E-01	7.113E-02	NOT IDENT.
NB-97	9.295E+02	4.842E+02	0.000E+00	2.470E+02	SHORT HLIF
ZR-97	5.450E+03	8.099E+03	0.000E+00	4.132E+03	SHORT HLIF
MO-99	-4.997E-01	4.728E+00	4.004E+00	2.412E+00	NOT IDENT.
TC-99M	-2.300E+09	1.813E+09	0.000E+00	9.248E+08	SHORT HLIF
RH-101	-1.785E-02	5.439E-02	4.679E-02	2.775E-02	NOT IDENT.
RH-102	-4.376E-03	6.042E-02	5.291E-02	3.083E-02	NOT IDENT.
RU-103	-1.375E-02	6.921E-02	5.993E-02	3.531E-02	FAIL ABUN
RH-106	8.712E-03	5.588E-01	4.832E-01	2.851E-01	FAIL ABUN
RU-106	8.712E-03	5.588E-01	4.832E-01	2.851E-01	FAIL ABUN
AG-108M	-1.987E-02	6.603E-02	5.745E-02	3.369E-02	NOT IDENT.
AG-110M	9.827E-02	7.853E-02	6.484E-02	4.007E-02	NOT IDENT.
IN-111	3.460E-02	4.617E-01	3.492E-01	2.355E-01	NOT IDENT.
IN-113M	3.051E-02	8.422E-02	7.620E-02	4.297E-02	NOT IDENT.
SN-113	3.051E-02	8.422E-02	7.620E-02	4.297E-02	NOT IDENT.
IN-114M	4.235E-02	3.065E-01	2.363E-01	1.564E-01	NOT IDENT.
CD-115	-1.077E+00	2.769E+00	2.356E+00	1.413E+00	NOT IDENT.
SN-117M	1.816E-02	6.241E-02	5.586E-02	3.184E-02	NOT IDENT.
SB-122	-1.166E+00	7.918E-01	6.200E-01	4.040E-01	NOT IDENT.
I-123	1.499E+03	3.206E+03	0.000E+00	1.636E+03	SHORT HLIF
TE-123M	2.022E-02	4.323E-02	3.897E-02	2.205E-02	NOT IDENT.
I-124	-4.449E-01	4.901E-01	3.337E-01	2.501E-01	NOT IDENT.
SB-124	-2.005E-02	9.225E-02	7.359E-02	4.707E-02	FAIL ABUN
SB-125	-6.450E-02	1.788E-01	1.552E-01	9.123E-02	NOT IDENT.
TE-125M	-2.189E+00	1.316E+01	1.175E+01	6.712E+00	NOT IDENT.
I-126	8.886E-03	2.474E-01	1.847E-01	1.262E-01	NOT IDENT.
SB-126	-1.432E-01	1.948E-01	1.575E-01	9.936E-02	FAIL ABUN
SB-127	3.268E-01	7.702E-01	6.819E-01	3.930E-01	FAIL ABUN
XE-127	1.249E-02	6.945E-02	6.109E-02	3.544E-02	NOT IDENT.
I-131	-8.543E-02	1.238E-01	1.066E-01	6.319E-02	NOT IDENT.
TE-132	-1.663E-01	3.111E-01	2.620E-01	1.587E-01	NOT IDENT.
BA-133	3.120E-02	8.762E-02	6.987E-02	4.470E-02	NOT IDENT.
I-133	1.263E+01	7.335E+01	0.000E+00	3.742E+01	SHORT HLIF
CS-134	-3.402E-02	9.079E-02	7.496E-02	4.632E-02	NOT IDENT.
CS-135	-1.211E-01	2.696E-01	2.402E-01	1.375E-01	NOT IDENT.
I-135	2.854E+08	8.563E+08	0.000E+00	4.369E+08	SHORT HLIF
CS-136	1.232E-01	1.636E-01	1.494E-01	8.349E-02	NOT IDENT.
CE-139	2.187E-02	4.637E-02	4.172E-02	2.366E-02	NOT IDENT.
BA-140	1.880E-01	3.620E-01	3.213E-01	1.847E-01	NOT IDENT.
LA-140	-1.503E-02	6.583E-02	5.263E-02	3.359E-02	NOT IDENT.
CE-141	1.786E-02	8.477E-02	7.589E-02	4.325E-02	NOT IDENT.
CE-143	1.470E+01	1.188E+01	9.723E+00	6.061E+00	FAIL ABUN
CE-144	-3.450E-02	3.195E-01	2.834E-01	1.630E-01	NOT IDENT.
PM-144	-3.856E-02	5.825E-02	4.730E-02	2.972E-02	NOT IDENT.
PR-144	-2.604E+00	9.934E+00	3.195E+00	2.007E+00	NOT IDENT.
PM-146	-9.007E-02	9.395E-02	7.856E-02	4.793E-02	NOT IDENT.
ND-147	5.212E-01	6.862E-01	6.249E-01	3.501E-01	NOT IDENT.
PM-149	4.301E+00	2.221E+01	2.020E+01	1.133E+01	NOT IDENT.
EU-152	-1.232E-02	2.050E-01	1.502E-01	1.046E-01	FAIL ABUN
GD-153	-4.295E-02	1.157E-01	1.029E-01	5.902E-02	NOT IDENT.
EU-154	5.511E-02	1.188E-01	1.093E-01	6.062E-02	FAIL ABUN
EU-155	2.071E-01	1.590E-01	1.505E-01	8.113E-02	FAIL ABUN

TB-160	-6.400E-02	2.799E-01	2.318E-01	1.428E-01	FAIL ABUN
HO-166M	7.337E-02	1.092E-01	9.803E-02	5.574E-02	FAIL ABUN
TM-171	6.578E+00	4.168E+01	3.843E+01	2.126E+01	FAIL ABUN
LU-176	-4.226E-03	4.232E-02	3.799E-02	2.159E-02	FAIL ABUN
LU-177	3.224E-02	9.642E-01	8.413E-01	4.919E-01	NOT IDENT.
LU-177M	-2.559E-02	3.209E-01	2.833E-01	1.637E-01	FAIL ABUN
HF-181	-1.596E-02	7.804E-02	6.777E-02	3.982E-02	NOT IDENT.
W-181	-5.595E-01	6.008E-01	4.614E-01	3.065E-01	NOT IDENT.
TA-182	2.138E-01	2.051E-01	1.978E-01	1.046E-01	NOT IDENT.
RE-183	-1.176E-01	1.654E-01	1.412E-01	8.439E-02	FAIL ABUN
RE-184	2.091E-01	4.167E-01	3.678E-01	2.126E-01	FAIL ABUN
OS-185	4.160E-03	7.338E-02	6.349E-02	3.744E-02	FAIL ABUN
RE-188	5.468E-03	2.492E-01	2.207E-01	1.271E-01	NOT IDENT.
W-188	4.028E+00	1.358E+01	1.090E+01	6.927E+00	NOT IDENT.
IR-192	-1.131E-02	5.752E-02	5.130E-02	2.935E-02	FAIL ABUN
AU-195	3.835E-01	3.243E-01	3.061E-01	1.655E-01	NOT IDENT.
TL-200	-5.660E+00	1.602E+01	0.000E+00	8.172E+00	SHORT HLIF
TL-201	6.572E-01	2.698E+00	2.403E+00	1.377E+00	NOT IDENT.
TL-202	3.743E-02	9.792E-02	8.816E-02	4.996E-02	NOT IDENT.
HG-203	-4.664E-02	6.224E-02	5.446E-02	3.175E-02	NOT IDENT.
BI-207	-2.062E-02	1.055E-01	9.051E-02	5.381E-02	NOT IDENT.
TL-207	-7.214E-01	1.183E+00	1.028E+00	6.035E-01	FAIL ABUN
PO-209	8.456E+00	1.665E+01	1.451E+01	8.497E+00	NOT IDENT.
BI-210	7.791E-01	6.636E+00	6.206E+00	3.386E+00	NOT IDENT.
PB-210	7.791E-01	6.636E+00	6.206E+00	3.386E+00	NOT IDENT.
PO-210	7.791E-01	6.636E+00	6.206E+00	3.386E+00	NOT IDENT.
PB-211	-2.033E+00	2.199E+00	1.520E+00	1.122E+00	NOT IDENT.
BI-212	1.003E+00	6.359E-01	5.174E-01	3.244E-01	FAIL ABUN
BI-214	5.812E-01	2.039E-01	1.556E-01	1.040E-01	FAIL ABUN
PO-215	-7.214E-01	1.183E+00	1.028E+00	6.035E-01	FAIL ABUN
RN-219	3.745E-01	7.869E-01	7.140E-01	4.015E-01	NOT IDENT.
RN-220	1.384E+01	4.435E+01	3.946E+01	2.263E+01	NOT IDENT.
RA-223	-7.214E-01	1.183E+00	1.028E+00	6.035E-01	FAIL ABUN
RA-226	5.812E-01	2.039E-01	1.556E-01	1.040E-01	FAIL ABUN
AC-227	-3.298E-02	7.120E-01	6.119E-01	3.633E-01	NOT IDENT.
TH-227	-3.298E-02	7.120E-01	6.119E-01	3.633E-01	NOT IDENT.
TH-229	-3.111E-01	8.273E-01	7.122E-01	4.221E-01	FAIL ABUN
TH-230	5.812E-01	2.039E-01	1.556E-01	1.040E-01	FAIL ABUN
PA-231	6.789E-01	2.637E+00	2.415E+00	1.346E+00	NOT IDENT.
TH-231	-7.214E-01	1.183E+00	1.028E+00	6.035E-01	FAIL ABUN
U-231	-9.431E-01	5.902E-01	4.961E-01	3.011E-01	NOT IDENT.
PA-233	1.337E-02	1.143E-01	1.036E-01	5.833E-02	NOT IDENT.
PA-234	-3.873E-01	7.415E-01	5.965E-01	3.783E-01	FAIL ABUN
PA-234M	-3.554E+00	8.988E+00	7.628E+00	4.586E+00	NOT IDENT.
TH-234	-1.712E+00	2.167E+00	1.685E+00	1.106E+00	NOT IDENT.
U-234	5.812E-01	2.039E-01	1.556E-01	1.040E-01	FAIL ABUN
U-235	8.521E-02	3.184E-01	2.857E-01	1.624E-01	FAIL ABUN
NP-236	3.236E-02	1.248E-01	1.115E-01	6.365E-02	NOT IDENT.
NP-237	6.725E+00	1.601E+00	6.372E-01	8.167E-01	NOT IDENT.
U-238	-1.712E+00	2.167E+00	1.685E+00	1.106E+00	NOT IDENT.
NP-239	-1.766E-02	3.403E-01	2.662E-01	1.736E-01	NOT IDENT.
AM-243	1.357E-01	1.115E-01	9.324E-02	5.689E-02	FAIL ABUN
CM-243	-4.725E-02	1.475E-01	1.311E-01	7.523E-02	NOT IDENT.
AM-246	1.689E-02	2.858E-01	2.494E-01	1.458E-01	NOT IDENT.
CM-247	1.660E-02	6.953E-02	6.248E-02	3.547E-02	NOT IDENT.
CF-249	3.727E-02	7.616E-02	6.938E-02	3.886E-02	NOT IDENT.
CF-251	7.426E-02	2.066E-01	1.844E-01	1.054E-01	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	549.0777
46.50	549.0777
46.50	549.0777
48.70	616.8010
49.72	648.7684
51.35	687.1509
52.39	744.7360
52.97	725.2243
53.15	725.3740
53.44	736.8105
54.07	745.1794
56.28	809.9211
56.28	792.6249
57.37	804.5934
57.53	804.7338
57.53	804.7361
57.60	804.7953
57.98	801.9764
57.98	801.9764
59.32	615.3676
59.32	615.3676
59.40	615.4200
59.54	615.5128
59.72	615.6306
60.01	615.8210
61.10	352.5296
61.14	352.5439
61.30	352.6031
63.00	384.9086
63.29	385.0239
63.29	385.0239
63.58	380.3840
64.28	401.2762
65.12	422.2559
65.20	422.2900
65.20	422.2900
66.05	390.4209
66.72	390.5414
66.83	387.6033
66.91	390.6163
67.20	390.7288
67.20	390.7288
67.75	389.9469
67.85	417.8435
68.90	425.2473
68.90	425.2473
69.30	425.4151
69.67	437.5297
70.82	501.8737
70.82	501.8737
70.83	554.7614
72.80	508.6273
72.87	452.6773
72.87	452.6773
74.67	547.9828
74.81	548.0558
74.81	548.0558
74.81	548.0558
74.81	548.0558
74.81	548.0558
74.81	548.0558
74.97	535.3154
75.28	535.4703
75.70	558.1339
77.11	536.9837
77.11	536.9837

77.11	536.9837
77.11	536.9837
77.11	536.9837
77.11	536.9837
77.11	536.9837
78.38	453.4014
79.62	481.2761
79.80	481.3546
79.80	481.3546
80.11	512.0859
80.18	512.1170
80.30	512.1733
80.30	512.1733
80.57	560.6275
81.00	572.1255
81.07	572.1602
81.07	572.1602
81.07	572.1602
81.07	572.1602
82.60	486.8665
83.37	505.4996
83.78	505.6830
83.78	505.6830
83.78	505.6830
83.78	505.6830
84.21	481.6309
84.90	462.5156
85.43	477.2900
86.29	490.5996
86.50	521.4576
86.54	521.4753
86.59	521.4989
86.72	521.5579
86.79	521.5873
86.94	480.9524
87.30	481.1010
87.30	481.1010
87.30	481.1010
87.30	481.1010
87.30	481.1010
87.30	481.1010
87.30	481.1010
87.57	481.2133
87.88	481.3401
88.03	481.4017
88.36	481.5376
88.47	481.5829
89.95	417.4227
91.11	356.0488
92.29	289.6769
92.38	275.0510
92.38	275.0510
93.35	286.6736
94.00	327.2980
94.67	345.9182
94.67	345.9195
94.90	359.8191
94.90	359.8191
94.90	359.8191
94.90	359.8191
95.87	376.4252
95.87	376.4252
96.73	372.6051
97.43	305.4022
98.44	240.2263
98.44	240.2272
98.88	252.5827
99.55	257.8332
99.55	257.8332
99.86	264.0370
100.00	277.3723
100.10	277.3950
103.18	304.7450
103.76	294.6177
105.00	239.4138
105.31	239.4715
108.00	299.6986
109.28	290.7103

111.00	282.8280
111.00	282.8280
111.76	291.2514
112.95	294.6096
115.19	263.8850
116.30	281.8624
117.00	283.6644
117.00	283.6644
117.66	278.8211
121.11	274.5200
121.62	274.6187
121.78	274.6499
122.06	274.7043
122.32	274.7546
122.32	274.7546
122.32	274.7546
122.32	274.7546
123.07	274.9006
127.23	247.2930
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131.20	280.6361
133.02	308.2411
133.54	287.3727
135.34	252.0154
136.00	265.7820
136.25	265.8264
136.48	257.4601
140.51	315.0390
140.51	0.0000
142.18	255.2565
142.65	262.7198
143.76	253.4052
144.24	253.4839
144.24	253.4839
144.24	253.4839
144.24	253.4839
145.22	254.7000
145.44	261.0769
147.16	289.9314
152.43	252.6716
152.70	264.3934
153.22	260.2303
154.21	262.5148
154.21	262.5148
154.21	262.5148
154.21	262.5148
155.03	262.6467
156.02	275.5748
158.56	252.5575
159.00	0.0000
159.00	251.5584
160.31	252.8233
161.27	289.2607
162.32	286.2385
162.64	280.9524
163.35	267.1776
163.89	260.8491
165.85	256.8695
167.43	260.3232
171.28	243.7282
171.86	258.8463
172.10	253.5102
176.55	255.2336
176.60	255.2408
181.06	285.0359
184.41	260.6886
185.71	260.8743
186.00	260.9166
190.27	251.7605
192.34	271.1624
193.63	257.6529
197.04	257.0339
198.01	264.7931
198.60	288.8571
200.40	250.9448
201.83	279.5215
202.84	261.0981
205.31	310.6575

208.36	287.0443
208.81	293.6852
209.75	262.0317
209.75	262.0317
210.97	264.3899
215.65	266.1165
216.55	271.7373
218.09	267.5443
222.10	275.8007
223.80	220.8252
226.40	264.2216
227.00	253.2415
227.08	253.2519
227.20	261.0077
228.16	252.2782
228.18	252.2800
228.18	252.2800
231.56	232.2995
235.69	248.7512
236.00	248.7888
236.00	248.7888
238.63	255.7722
238.63	255.7722
238.63	255.7722
238.63	255.7722
239.00	255.8160
240.98	256.0547
241.98	256.1758
241.98	256.1758
241.98	256.1758
244.69	226.6125
245.39	233.8251
247.94	217.4227
248.90	249.1788
249.79	257.1058
252.40	232.7924
252.85	223.8846
252.85	223.8846
254.15	0.0000
256.20	242.1645
256.20	242.1645
260.50	221.2913
260.90	219.0834
262.80	215.8945
264.65	213.3723
268.24	242.5663
268.79	224.5863
269.46	217.4354
269.46	217.4354
269.46	217.4354
269.46	217.4354
271.23	224.8264
273.65	254.8912
276.40	215.3795
277.35	214.5614
277.60	214.5845
277.60	214.5845
278.00	199.2273
278.60	197.4667
279.20	224.6985
279.53	223.8242
280.46	233.8849
281.68	210.4256
283.67	199.7107
284.30	213.3847
285.00	209.8147
285.90	198.9901
286.10	199.0088
286.10	199.0088
287.40	213.1593
288.45	0.0000
290.67	201.8189
290.80	203.3473
291.72	215.5712
293.26	224.8244
293.70	218.7861
295.21	214.3629
295.21	214.3629

295.21	214.3629
295.96	217.4704
296.50	200.7876
297.23	174.9824
298.57	153.7645
299.80	179.7368
299.80	179.7368
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300.09	179.7584
300.09	179.7584
300.09	179.7584
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301.29	187.4679
302.84	190.3307
303.76	211.4558
303.91	201.3999
304.40	204.1871
304.40	204.1871
304.84	195.0645
306.84	185.1412
308.46	183.4277
311.98	191.9550
316.51	191.3818
318.01	197.9407
319.02	190.6512
319.41	189.7591
320.08	198.1008
323.87	208.5479
323.87	208.5479
323.87	208.5479
323.87	208.5479
325.23	204.9652
328.77	180.2845
333.44	225.3774
334.20	217.7221
334.20	217.7221
334.30	217.7307
338.28	174.7601
338.28	174.7601
338.28	174.7601
338.28	174.7601
338.32	174.7624
338.32	174.7624
338.32	174.7624
340.50	178.0029
340.57	178.0076
344.27	171.1254
345.85	161.3024
350.59	164.6955
351.07	167.8337
351.92	167.8865
351.92	167.8865
351.92	167.8865
355.39	0.0000
356.01	163.4708
364.48	183.6543
366.43	147.2162
367.43	171.6563
367.94	0.0000
369.80	155.8439
374.96	172.1210
383.85	181.1578
387.95	170.0793
388.63	172.9542
391.69	180.7086
391.69	180.7086
392.90	173.2111
398.62	174.5013
400.65	164.1832
401.10	176.5479
401.81	166.1475
402.60	166.1923
404.84	205.2870
410.95	141.9028
411.60	145.7441
413.65	165.8607
414.70	176.4094
415.30	177.3993

415.76	180.2883
417.63	0.0000
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423.70	169.2865
427.08	163.7296
427.89	171.4353
432.53	165.9402
433.93	177.5318
439.47	163.4299
439.56	163.4362
439.89	169.2217
443.98	195.4395
444.90	201.2747
445.03	199.3563
445.03	199.3563
445.03	199.3563
445.03	199.3563
453.90	207.6461
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468.07	195.9563
473.00	142.8190
475.06	168.1872
475.35	165.2852
476.78	179.9482
477.59	167.3431
477.96	180.0114
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484.57	134.5500
487.03	132.6980
490.36	145.5296
492.35	120.2058
497.08	135.0571
507.63	0.0000
510.53	0.0000
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511.00	139.5438
511.85	139.5776
511.85	139.5776
513.99	136.0596
513.99	136.0596
520.41	121.2042
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527.90	116.5279
528.96	0.0000
529.64	112.6334
529.87	0.0000
531.02	99.8287
537.32	118.8223
543.00	114.0538
546.56	0.0000
549.76	91.4160
552.65	97.4545
555.20	128.3733
563.23	146.6124
563.90	147.6351
568.70	86.9002
569.32	76.9248
569.50	76.9286
569.67	95.9156
573.80	133.0325
574.00	133.0390
574.64	127.8371
578.91	98.4918
579.30	0.0000
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585.48	107.0286
591.81	113.9089
592.07	113.9172
593.00	109.5881
595.88	103.6362
600.56	107.7941
602.52	0.0000
602.71	124.3179
602.71	124.3179
603.60	134.4303
604.41	105.8870
604.70	104.2138
609.31	95.9254

609.31	95.9254
609.31	95.9254
609.31	95.9254
610.33	94.2676
612.46	89.2650
614.37	90.9954
618.01	95.1291
621.84	94.2102
621.84	94.2102
631.29	108.6562
633.02	110.7351
633.10	110.7377
634.78	95.5376
635.90	88.4486
636.97	116.9485
645.85	99.8830
646.12	91.7358
656.30	97.0781
657.75	98.8167
657.90	0.0000
661.65	74.6967
661.65	74.6967
664.57	69.9716
666.33	81.9531
666.33	81.9531
675.00	75.9674
677.61	85.2614
685.20	79.2427
692.80	81.4495
695.00	99.0293
696.49	94.9379
696.49	94.9379
697.00	88.7568
697.49	94.9604
698.33	88.7841
698.50	88.7883
699.00	87.7662
702.63	81.6404
706.10	93.0850
706.58	0.0000
706.67	103.4424
709.31	83.8398
711.68	80.7803
713.82	94.2903
717.42	86.0740
720.50	112.0816
721.93	88.9830
722.20	86.5173
722.78	89.9886
722.78	89.9886
722.89	89.9907
722.95	89.9928
723.30	89.9992
724.18	88.2871
727.18	110.8698
733.00	83.2637
735.90	92.6938
739.58	101.1111
742.81	91.7963
744.21	87.6524
747.13	101.2864
751.79	89.8948
752.31	87.8144
753.82	104.5776
755.35	121.3497
756.15	113.0019
756.87	101.5090
763.93	117.3922
765.79	92.2754
766.42	80.7522
766.84	72.3691
776.49	93.5478
778.00	78.8580
778.57	87.2817
778.89	90.4428
783.80	83.1699
785.46	80.0412
792.07	80.1581

795.84	105.5591
796.30	103.4575
798.80	108.7938
801.93	97.2424
805.60	92.0297
810.29	95.2998
810.76	98.4878
815.85	119.7977
817.79	95.4536
818.51	90.1652
819.60	93.3689
826.30	106.2524
828.27	0.0000
831.60	80.8428
831.96	88.2969
834.83	108.5742
836.80	0.0000
846.75	96.0425
848.13	106.7432
856.28	0.0000
856.80	113.3522
860.37	98.4553
867.32	103.9553
867.82	100.7494
871.10	108.3260
873.19	97.6428
874.81	97.6739
875.33	0.0000
876.40	90.1913
879.36	96.6907
880.27	94.5592
880.51	97.7895
881.50	103.1813
883.24	93.5420
884.67	86.0410
889.25	103.3453
896.60	95.9510
898.02	105.6850
899.00	101.3919
903.28	98.5103
911.07	102.7164
911.07	102.7164
911.07	102.7164
919.63	92.0619
920.93	108.3350
925.00	130.1074
925.24	130.1133
926.50	114.9619
935.52	129.2905
937.48	127.1661
944.10	125.1523
946.00	127.3775
949.00	107.8438
962.29	152.8960
964.01	131.0977
966.15	118.3997
968.20	151.2480
969.11	132.3201
969.11	132.3201
969.11	132.3201
977.42	109.5264
980.50	107.4004
983.50	86.6261
989.30	106.4798
996.32	86.8364
1001.03	90.7621
1001.68	89.8573
1004.76	90.8265
1021.30	0.0000
1024.50	0.0000
1034.80	78.4147
1036.00	87.6593
1037.82	81.2288
1038.57	84.0091
1038.76	0.0000
1045.16	97.9732
1046.59	85.0558
1048.07	81.3792

1050.47	91.5919
1050.47	91.5919
1062.04	80.6563
1063.62	83.4631
1076.63	83.6536
1077.35	89.2422
1078.86	81.8304
1085.78	96.8271
1099.22	79.3243
1112.02	85.1125
1112.84	91.6716
1115.52	99.2025
1120.29	90.8546
1120.29	90.8546
1120.29	90.8546
1120.29	90.8546
1120.51	86.1751
1121.28	83.3759
1124.00	0.0000
1129.67	76.9284
1131.51	0.0000
1147.95	0.0000
1167.94	45.3242
1173.22	34.9690
1175.09	34.9796
1177.93	35.6717
1189.05	37.9036
1204.90	34.2026
1205.75	0.0000
1213.00	34.2480
1221.42	20.9580
1230.97	24.8077
1235.34	32.4630
1236.41	0.0000
1238.25	22.9258
1246.25	19.1300
1260.41	0.0000
1271.85	23.0498
1274.45	14.4116
1274.54	14.4122
1291.56	20.2310
1298.22	0.0000
1312.09	22.2288
1325.50	21.5829
1325.50	21.5829
1332.49	15.5117
1333.61	15.5143
1360.21	13.6303
1362.66	0.0000
1365.15	13.6405
1368.21	16.5711
1368.53	0.0000
1376.25	8.7836
1384.27	14.6564
1394.10	13.6998
1395.20	14.6802
1407.95	21.5721
1434.06	8.8586
1436.60	10.8313
1457.56	0.0000
1460.81	14.8218
1489.15	14.8816
1509.49	19.8991
1596.49	11.0761
1620.62	11.1119
1678.03	0.0000
1691.02	11.2148
1691.02	11.2148
1706.46	0.0000
1750.46	0.0000
1764.49	12.3496
1764.49	12.3496
1764.49	12.3496
1764.49	12.3496
1770.23	24.7168
1771.40	15.4498
1791.20	0.0000
1808.65	9.3131

1836.01

12.4590

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202018278

Total Uranium Activity	-5.0535E+00	ug/g
Total Uranium Counting Unc.	6.4497E+00	ug/g
Total Uranium Tpu	3.2907E-06	ug/g
Total Uranium Mda	5.0160E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON , SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 942723          SAMPLE ID   : G1202018278
*  ANALYST       : MXR1            DETECTOR    : GAM19
*  SAMPLE DATE   : 19-JAN-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00
*  ANALYSIS DATE: 27-JAN-2010 20:44:29.58  SAMPLE ALQT: 155.440 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.586E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 3.015E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.333E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.122E+00

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Radiochemistry Batch Checklist, Rev10

Batch# 943520 Product: H3 Date: 1/26/10

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

[Signature] 1/26/10

Secondary Review Performed By:

[Signature] 1/27/10

LANL

212-2413

Tritium Que Sheet

Vacuum

120

20-JAN-10

Batch #: 943520 Analyst: KKK2 First Client Due Date 13-FEB-10 Internal Due Date: 02-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

Prep Date: 1/20/10 Initials: YK Pipet ID: 2970968 Witness: EK 1/22/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/ml)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Total Initial Sample Aliquot (g/mL)
244924001-1	RE15-10-7163	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	02-279	2	1	352.40	329.49	22.91
244924002-1	RE15-10-7162	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	60560	2		342.43	309.21	33.22
244924003-1	RE15-10-7161	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6042	3		366.36	326.79	39.57
244924004-1	RE15-10-7160	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6055	4		320.35	256.60	63.75
244924005-1	RE15-10-7174	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6044	5		315.04	253.29	61.75
244924006-1	RE15-10-7173	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6075	6		360.80	325.80	35.00
244924007-1	RE15-10-7175	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6086	7		424.25	384.79	39.46
244924008-1	RE15-10-7172	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6097	8		319.73	251.95	67.78
244924009-1	RE15-10-7218	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6088	9		356.25	320.98	35.27
244924010-1	RE15-10-7223	SAMPLE		.25 pCi/mL SOIL		LANL010	12-JAN-10	10	6099	10		325.45	290.63	34.82
1202020231-1	MB for batch 943520	MB		.25 pCi/mL SOIL		QC ACCOUNT		10	6010	11		20.00	0	20.00
1202020232-1	DUP	DUP		.25 pCi/mL SOIL		QC ACCOUNT	12-JAN-10	10	6011	12		315.04	253.29	61.75
1202020233-1	LCS for batch 943520	LCS		.25 pCi/mL SOIL		QC ACCOUNT		10	42-1	13		20.00	0	20.00

Bkg Rack #: 60479

Dailies

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, Wallace (Yellow) 4140127, LS6000 (Brown) 7060655, Wallace (Pink) 2200082, Wallace (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168

Calibration Used: Ecoscint Ultra (10mL sample/13 mL Ecoscint Ultra)
Data Reviewed By: YK 1/20/10

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

DATE	1/20/2010	INITIALS	KXK2	BATCH NUMBER	941130	
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
244924001	352.40	0.065	22.91	329.49	10	
244924002	342.43	0.097	33.22	309.21	10	
244924003	366.36	0.108	39.57	326.79	10	
244924004	320.35	0.199	63.75	256.60	10	
244924005	315.04	0.196	61.75	253.29	10	
244924006	360.80	0.097	35.00	325.80	10	
244924007	424.25	0.093	39.46	384.79	10	
244924008	319.73	0.212	67.78	251.95	10	
244924009	356.25	0.099	35.27	320.98	10	
244924010	325.45	0.107	34.82	290.63	10	
MB	20.00	1.000	20.00	0.00	10	
DUP	0.00		0.00	0.00	10	
LCS	20.00	1.000	20.00	0.00	10	

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.5

Batch : 943520
Analyst : KKK2
Prep Date : 1/20/2010

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
Eosclint Ultra

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

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

Procedure Code : LSC_VHSS
Paramname : Tritium
Required MDC : 25000 pCi/L
Half-life of Tritium : 12.28 years

Pipet, 0.1 ml Stdev : +/-
Pipet, 0.5 ml Stdev : +/-
Pipet, 1.0 ml Stdev : +/-
Pipet, 5.0 ml Stdev : +/-

Sample Characteristics		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
Pos.	Sample ID								
1	244924001.1	352.40	0.0229	0.0100	2.5729E-05	329.49	6.50%	1	1/12/2010 12:00
2	244924002.1	342.43	0.0332	0.0100	2.5729E-05	309.21	9.70%	2	1/12/2010 12:00
3	244924003.1	366.36	0.0396	0.0100	2.5729E-05	326.79	10.80%	3	1/12/2010 12:00
4	244924004.1	320.35	0.0638	0.0100	2.5729E-05	256.60	19.90%	4	1/12/2010 12:00
5	244924005.1	315.04	0.0618	0.0100	2.5729E-05	253.29	19.60%	5	1/12/2010 12:00
6	244924006.1	360.80	0.0350	0.0100	2.5729E-05	325.80	9.70%	6	1/12/2010 12:00
7	244924007.1	424.25	0.0395	0.0100	2.5729E-05	384.79	9.30%	7	1/12/2010 12:00
8	244924008.1	319.73	0.0678	0.0100	2.5729E-05	251.95	21.20%	8	1/12/2010 12:00
9	244924009.1	356.25	0.0363	0.0100	2.5729E-05	320.98	9.90%	9	1/12/2010 12:00
10	244924010.1	325.45	0.0348	0.0100	2.5729E-05	290.63	10.70%	10	1/12/2010 12:00
11	1202020231.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	11	1/20/2010 0:00
12	1202020232.1	315.04	0.0618	0.0100	2.5729E-05	253.29	19.60%	5	1/12/2010 12:00
13	1202020233.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	13	1/20/2010 0:00

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.5

Batch : 943520
Analyst : KXK2
Prep Date : 1/20/2010

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
Eoschn Ultra

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

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

Procedure Code : LSC_VH3S
Permanence : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.28 years

Pipet, 0.1 ml Stdev : +/-
Pipet, 0.5 ml Stdev : +/-
Pipet, 1.0 ml Stdev : +/-
Pipet, 5.0 ml Stdev : +/-

Sample Characteristics												
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	244824001.1	352.40	0.0229	0.0100	2.5729E-05	329.49	6.50%	1	1/12/2010 12:00			
2	244824002.1	342.43	0.0332	0.0100	2.5729E-05	309.21	9.70%	2	1/12/2010 12:00			
3	244824003.1	366.36	0.0396	0.0100	2.5729E-05	326.79	10.80%	3	1/12/2010 12:00			
4	244824004.1	320.35	0.0638	0.0100	2.5729E-05	256.60	19.90%	4	1/12/2010 12:00			
5	244824005.1	315.04	0.0618	0.0100	2.5729E-05	253.29	19.60%	5	1/12/2010 12:00			
6	244824006.1	360.80	0.0350	0.0100	2.5729E-05	325.80	9.70%	6	1/12/2010 12:00			
7	244824007.1	424.25	0.0395	0.0100	2.5729E-05	384.79	9.30%	7	1/12/2010 12:00			
8	244824008.1	319.73	0.0678	0.0100	2.5729E-05	251.95	21.20%	8	1/12/2010 12:00			
9	244824009.1	356.25	0.0353	0.0100	2.5729E-05	320.98	9.90%	9	1/12/2010 12:00			
10	244824010.1	325.45	0.0348	0.0100	2.5729E-05	290.63	10.70%	10	1/12/2010 12:00			
11	1202020231.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	11	1/20/2010 0:00			
12	1202020232.1	315.04	0.0618	0.0100	2.5729E-05	253.29	19.60%	5	1/12/2010 12:00			
13	1202020233.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	13	1/20/2010 0:00			

Count raw Data				Background				Calibration Data				Detector Efficiency				Backgrounds	
Pos.	Rack	Position #	Counting Time (min.)	Quench#	Gross cpm	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)	Count	Rack	Position #	Start Date/Time
1	79-2		120	734.96	4.01	120	1/23/2010 2:05	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2082	0.00792	79-1			1/23/2010 0:04
2	60-1		120	737.47	4.23	120	1/23/2010 5:20	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2119	0.00792	79-1			1/23/2010 0:04
3	80-2		120	735.16	3.19	120	1/23/2010 7:21	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2085	0.00792	79-1			1/23/2010 0:04
4	60-3		120	735.76	3.4	120	1/23/2010 9:23	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2094	0.00792	79-1			1/23/2010 0:04
5	60-4		120	738.42	3.21	120	1/23/2010 11:24	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2132	0.00792	79-1			1/23/2010 0:04
6	60-5		120	735.41	2.99	120	1/23/2010 13:25	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2089	0.00792	79-1			1/23/2010 0:04
7	60-6		120	736.06	3.13	120	1/23/2010 15:26	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2088	0.00792	79-1			1/23/2010 0:04
8	60-7		120	735.61	3.15	120	1/23/2010 17:28	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2082	0.00792	79-1			1/23/2010 0:04
9	60-8		120	734.86	3.52	120	1/23/2010 19:29	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2086	0.00792	79-1			1/23/2010 0:04
10	60-9		120	735.36	3.19	120	1/23/2010 21:30	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2088	0.00792	79-1			1/23/2010 0:04
11	60-10		120	735.16	2.77	120	1/23/2010 23:32	0.999	LSCYELLOW	8/21/2009	8/31/2010	0.2085	0.00792	79-1			1/23/2010 0:04
12	60-11		120	736.52	3.13	120	1/24/2010 1:33	0.998	LSCYELLOW	8/21/2009	8/31/2010	0.2105	0.00792	79-1			1/23/2010 0:04
13	42-1		15	737.32	29.46	120	1/24/2010 3:35	0.999	LSCYELLOW	8/21/2009	8/31/2010	0.2117	0.00792	79-1			1/23/2010 0:04

Notes:

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

Results Pos.	Decision Level pCi/L	Critical Level pCi/L	Required MDC pCi/L	MDC pCi/L	Sample Act. Conc. pCi/L	Sample Act. Error pCi/L	Net Count Rate CPM	Net Count Rate Error CPM	1 SIGMA		Sample QC	Sample Type	RPD	RER	Nominal pCi/L	Recovery
									Counting Uncertainty pCi/L	Total Prop. Uncertainty pCi/L						
1	105.8280	74.7847	250	154.9876	298.9210	0.172	1.370	0.235	51.0200	55.0518		SAMPLE				
2	104.0838	73.4841	250	152.2921	338.6086	0.151	1.590	0.238	50.9552	56.1480		SAMPLE				
3	105.7775	74.8788	250	154.7703	118.0947	0.401	0.550	0.220	47.7040	48.4190		SAMPLE				
4	105.3279	74.3624	250	154.1124	163.7852	0.295	0.760	0.224	48.3462	49.6786		SAMPLE				
5	103.4262	73.0188	250	151.3300	120.8211	0.387	0.570	0.221	46.7235	47.4728		SAMPLE				
6	105.5827	74.5484	250	154.4989	75.6170	0.619	0.350	0.217	48.7967	47.0821		SAMPLE				
7	105.1095	74.2082	250	153.7929	105.3794	0.448	0.490	0.219	47.1582	47.7259		SAMPLE				
8	105.4454	74.4453	250	154.2843	110.0311	0.431	0.510	0.220	47.3908	48.0064		SAMPLE				
9	106.0143	74.8470	250	155.1167	190.8819	0.258	0.880	0.227	49.1453	50.9117		SAMPLE				
10	105.6359	74.5798	250	154.5831	118.8754	0.401	0.550	0.220	47.6401	48.3542		SAMPLE				
11	105.6660	74.6011	250	154.6071	28.1068	1.833	0.130	0.212	45.9051	45.9468		MB				
12	104.7790	73.9749	250	153.3094	105.0451	0.448	0.490	0.218	47.0099	47.5758	244824005.1	DUP	13.8%	0.0819		
13	220.7949	155.8831	250	354.3585	5711.8203	0.053	28.820	1.409	300.1167	498.3121		LCS			5577.8826	102.4%

PROTOCOL : 10 H-3 120 min
DATE : 2010/01/23
TIME : 00:03
ID : P10AS228

H-3

Wallac 1414 WinSpectral v1.40 S/N 4140127

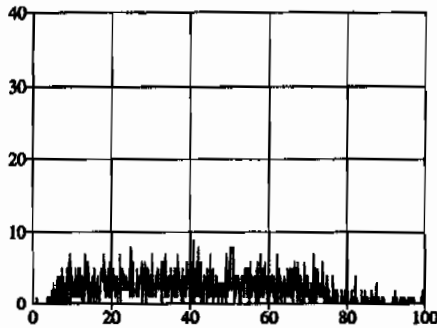
Counting mode : DPM
Quench index : SQP(E)
Isotope(s) : H3
H3 = ,12.43 y
Protocol name : H-3 120 min
Counting time : 7200
Repeats : 1
Cycles : 1
Replicates : 1
2 sigma % : 0.00
Minimum cpm : 0.00 Checking time: 10
Sp. library of isotope H3 : Wallac
Vial type : Diffuse
Liquid system : HiSafe
Advanced modes : Chemillum
Output to Display :
POS,DPM1,CPMw2,CLMM,FNCT2,
RACK,RACKPOS,FNCT1,SQPE,DATE,
TIME,CPMw1,CPM,CPM1,CTIME
Additions to Display : Listing,Header,Spectrum
Header : H-3
Spectrum : Rnd.Cos,Beta
Window 1 : 25- 190 /Beta
Window 2 : 25- 190 /Rnd.Cos
Window 3 : 1-1024 /Beta
Window 4 : 1-1024 /Beta
Window 5 : 1-1024 /Beta
Window 6 : 1-1024 /Beta
FNCT1 = FNCT1 : CTIME/60
FNCT2 = FNCT2 : CPMW1-CPMW2
FNCT3 = FNCT3 :
FNCT4 = FNCT4 :

Total activity:

H3 25.7 DPM 0.000 kBq

H-3

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79 1	120.00	736.82	2.64	1/23/2010 0:04 AM

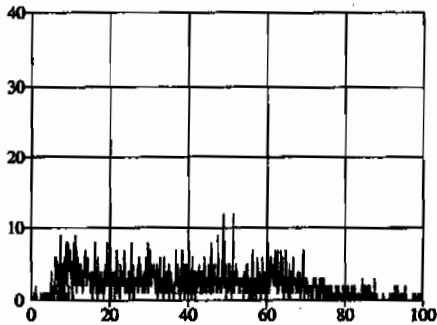


Counts
Chem

Counts
Beta

Gross_B_CPM	LUMEX
3.00	0.00
Lumex_CPM	DPM
0.40	10.30

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
79 2	120.00	734.96	4.01	1/23/2010 2:05 AM



Counts
Chem

Counts
Beta

Gross_B_CPM	LUMEX
4.40	0.00
Lumex_CPM	DPM
0.30	15.40

H-3

PROTOCOL : 10 H-3 120 min
DATE : 2010/01/23
TIME : 05:19
ID : P10AS229

H-3

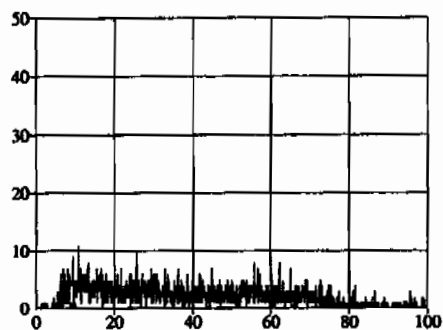
Wallac 1414 WinSpectral v1.40 S/N 4140127

Counting mode : DPM
Quench index : SQP(E)
Isotope(s) : H3
H3 = ,12.43 y
Protocol name : H-3 120 min
Counting time : 7200
Repeats : 1
Cycles : 1
Replicates : 1
2 sigma % : 0.00
Minimum cpm : 0.00 Checking time: 10
Sp. library of Isotope H3 : Wallac
Vial type : Diffuse
Liquid system : HiSafe
Advanced modes : Chemilum
Output to Display :
POS,DPM1,CPMw2,CLMM,FNCT2,
RACK,RACKPOS,FNCT1,SQPE,DATE,
TIME,CPMw1,CPM,CPM1,CTIME
Additions to Display : Listing,Header,Spectrum
Header : H-3
Spectrum : Rnd.Cos,Beta
Window 1 : 25- 190 /Beta
Window 2 : 25- 190 /Rnd.Cos
Window 3 : 1-1024 /Beta
Window 4 : 1-1024 /Beta
Window 5 : 1-1024 /Beta
Window 6 : 1-1024 /Beta
FNCT1 = FNCT1 : CTIME/60
FNCT2 = FNCT2 : CPMW1-CPMW2
FNCT3 = FNCT3 :
FNCT4 = FNCT4 :

Total activity:

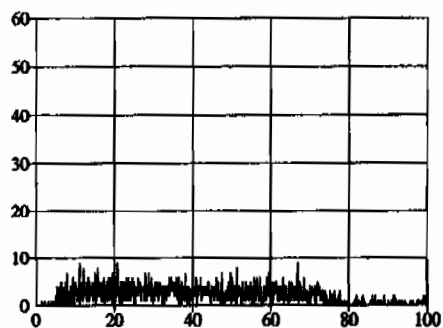
H3 135.9 DPM 0.002 kBq

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60 1	120.00	737.47	4.23	1/23/2010 5:20 AM

Counts
ChemCounts
Beta

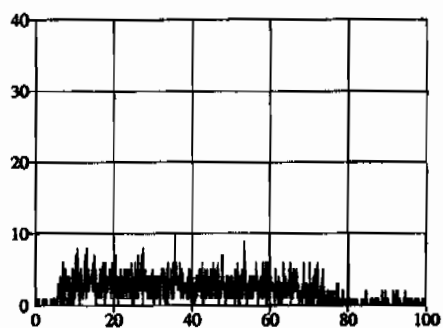
Gross_B_CPM	LUMEX
4.60	0.00
Lumex_CPM	DPM
0.40	13.50

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60 2	120.00	735.16	3.19	1/23/2010 7:21 AM

Counts
ChemCounts
Beta

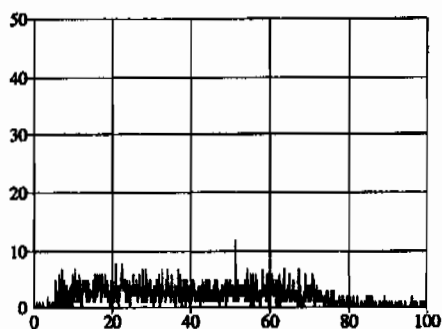
Gross_B_CPM	LUMEX
3.60	0.00
Lumex_CPM	DPM
0.40	12.40

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60 3	120.00	735.76	3.40	1/23/2010 9:23 AM

Counts
ChemCounts
Beta

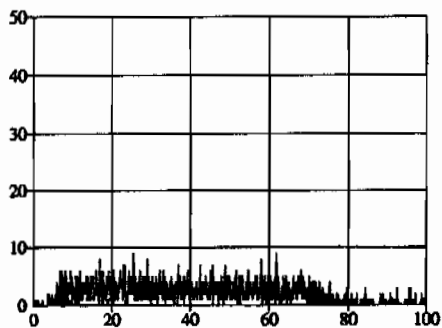
Gross_B_CPM	LUMEX
3.70	0.00
Lumex_CPM	DPM
0.30	13.20

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60	4	120.00	738.42	3.21 1/23/2010 11:24 AM

Counts
ChemCounts
Beta

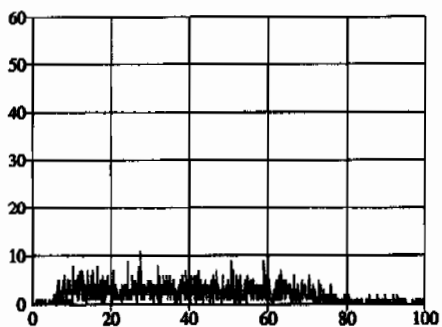
Gross_B_CPM	LUMEX
3.50	0.00
Lumex_CPM	DPM
0.30	12.10

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60	5	120.00	735.41	2.99 1/23/2010 1:25 PM

Counts
ChemCounts
Beta

Gross_B_CPM	LUMEX
3.40	0.00
Lumex_CPM	DPM
0.50	11.80

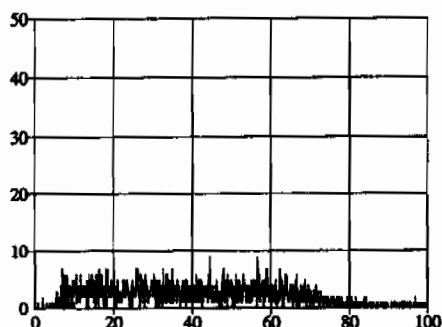
Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60	6	120.00	736.06	3.13 1/23/2010 3:26 PM

Counts
ChemCounts
Beta

Gross_B_CPM	LUMEX
3.50	0.00
Lumex_CPM	DPM
0.30	12.20

H-3

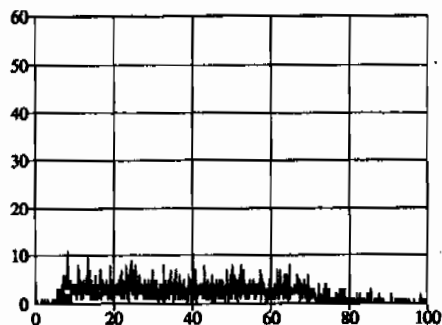
Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60	7	120.00	735.61	1/23/2010 5:28 PM

Counts
ChemCounts
Beta

Gross_B_CPM	LUMEX
3.50	0.00

Lumex_CPM	DPM
0.40	12.20

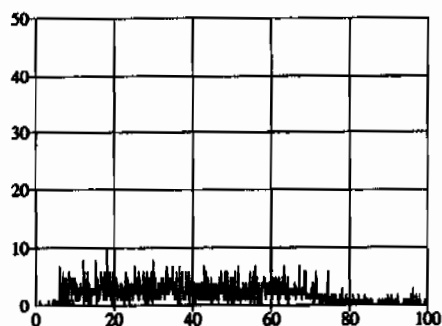
Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60	8	120.00	734.86	1/23/2010 7:29 PM

Counts
ChemCounts
Beta

Gross_B_CPM	LUMEX
3.80	0.00

Lumex_CPM	DPM
0.30	13.60

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60	9	120.00	735.36	1/23/2010 9:30 PM

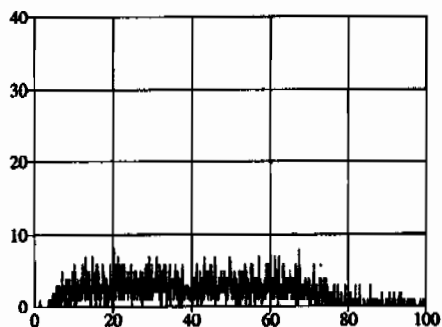
Counts
ChemCounts
Beta

Gross_B_CPM	LUMEX
3.50	0.00

Lumex_CPM	DPM
0.30	12.50

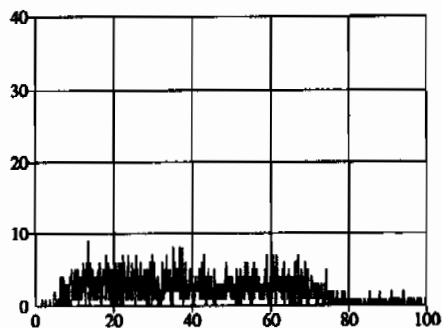
H-3

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60 10	120.00	735.16	2.77	1/23/2010 11:32 PM

/ Counts
Chem/ Counts
Beta

Gross_B_CPM	LUMEX
3.00	0.00
Lumex_CPM	DPM
0.20	10.50

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
60 11	120.00	736.52	3.13	1/24/2010 1:33 AM

/ Counts
Chem/ Counts
Beta

Gross_B_CPM	LUMEX
3.30	0.00
Lumex_CPM	DPM
0.20	11.90

PROTOCOL : 13 H-3 15 min
DATE : 2010/01/24
TIME : 03:34
ID : P13AS291

H-3

Wallac 1414 WinSpectral v1.40 S/N 4140127

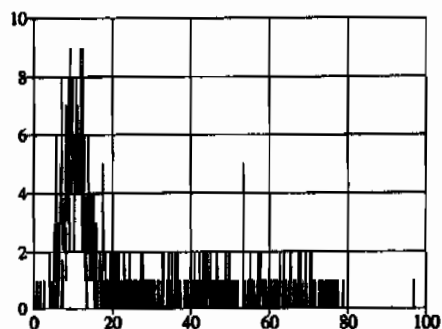
Counting mode : DPM
Quench Index : SQP(E)
Isotope(s) : H3
H3 = ,12.43 y
Protocol name : H-3 15 min
Counting time : 900
Repeats : 1
Cycles : 1
Replicates : 1
2 sigma % : 2.00
Minimum cpm : 0.00 Checking time: 10
Sp. library of Isotope H3 : Wallac
Vial type : Diffuse
Liquid system : HiSafe
Advanced modes : Chemilum
Output to Display :
POS,DPM1,CPMw2,CLMM,FNCT2,
RACK,RACKPOS,FNCT1,SQPE,DATE,
TIME,CPMw1,CPM,CPM1,CTIME
Additions to Display : Listing,Header,Spectrum
Header : H-3
Spectrum : Rnd.Cos,Beta
Window 1 : 25- 190 /Beta
Window 2 : 25- 190 /Rnd.Cos
Window 3 : 1-1024 /Beta
Window 4 : 1-1024 /Beta
Window 5 : 1-1024 /Beta
Window 6 : 1-1024 /Beta
FNCT1 = FNCT1 : CTIME/60
FNCT2 = FNCT2 : CPMW1-CPMW2
FNCT3 = FNCT3 :
FNCT4 = FNCT4 :

Total activity:

H3 106.8 DPM 0.002 kBq

H-3

Rack_position	Count_Time(min)	Quench_number	H-3_CPM	Run_Date
42	1	15.00	737.32	29.46
				1/24/2010 3:35 AM



Counts
Chem

Gross_B_CPM
29.70

LUMEX
0.00

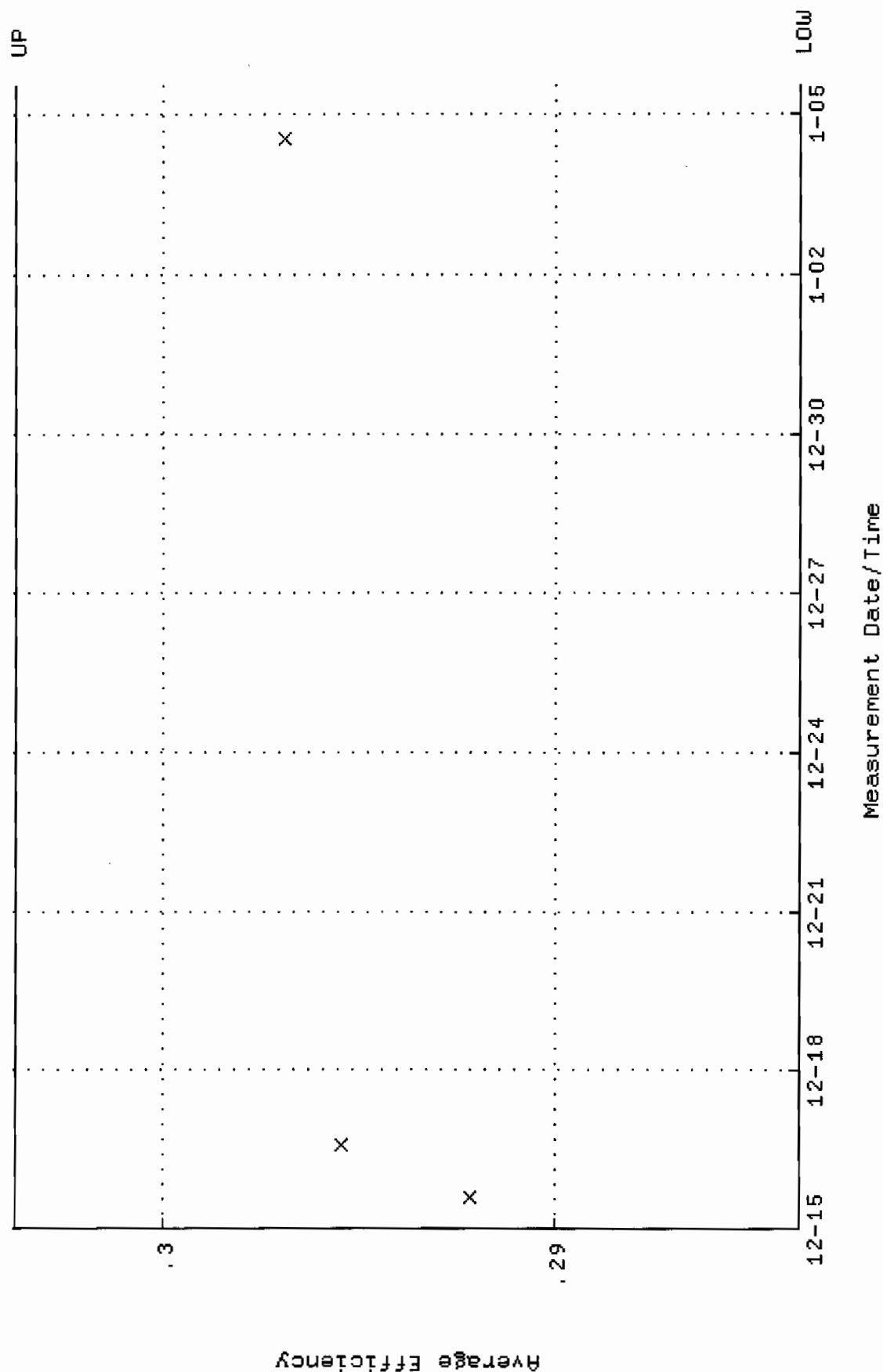
Counts
Beta

Lumex_CPM
0.20

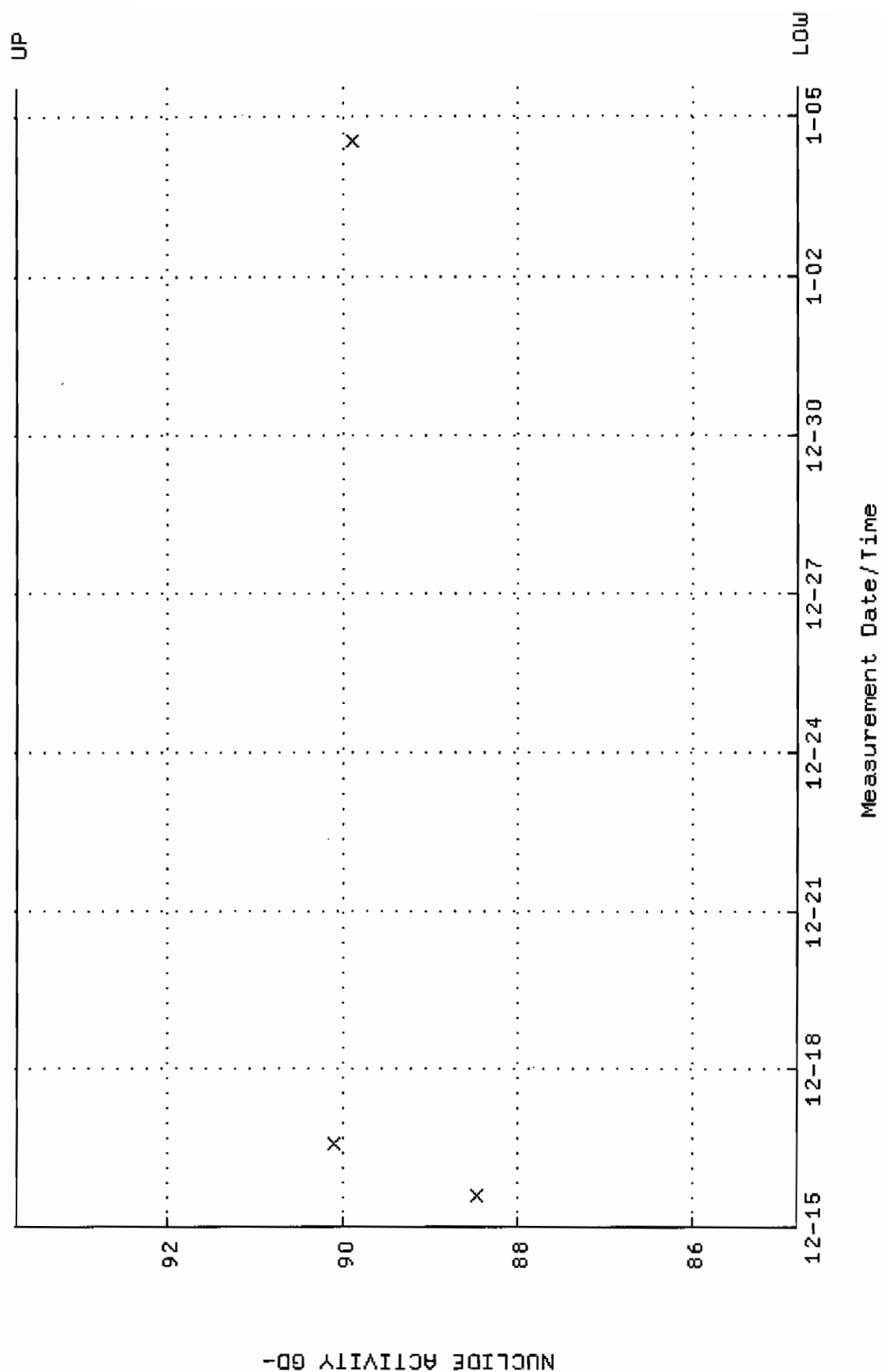
DPM
106.80

BACKGROUND AND EFFICIENCY DATA

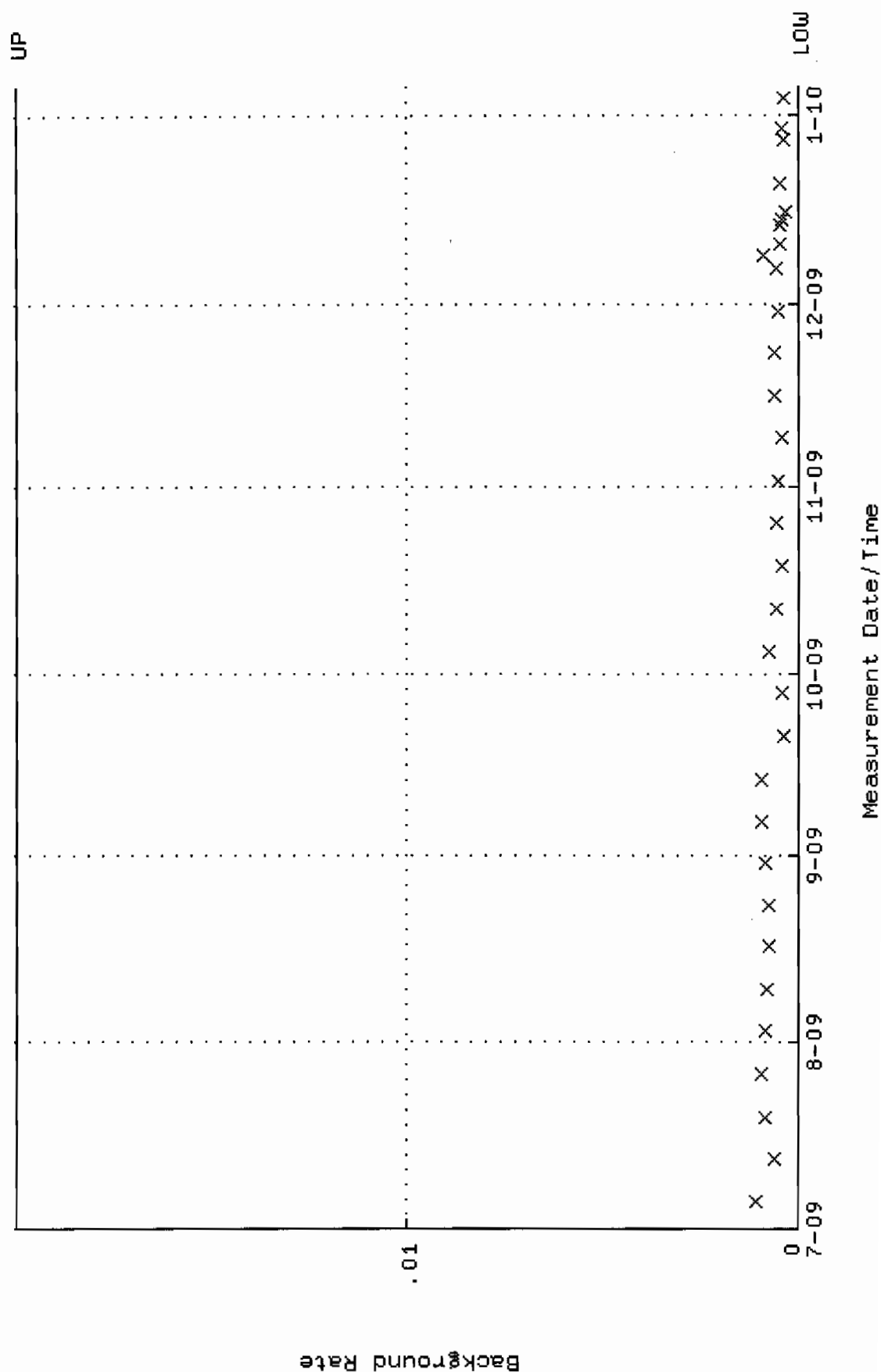
QA filename : DKA100:[ENV_ALPHA.QA.W]W002.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.283765 through 0.303765



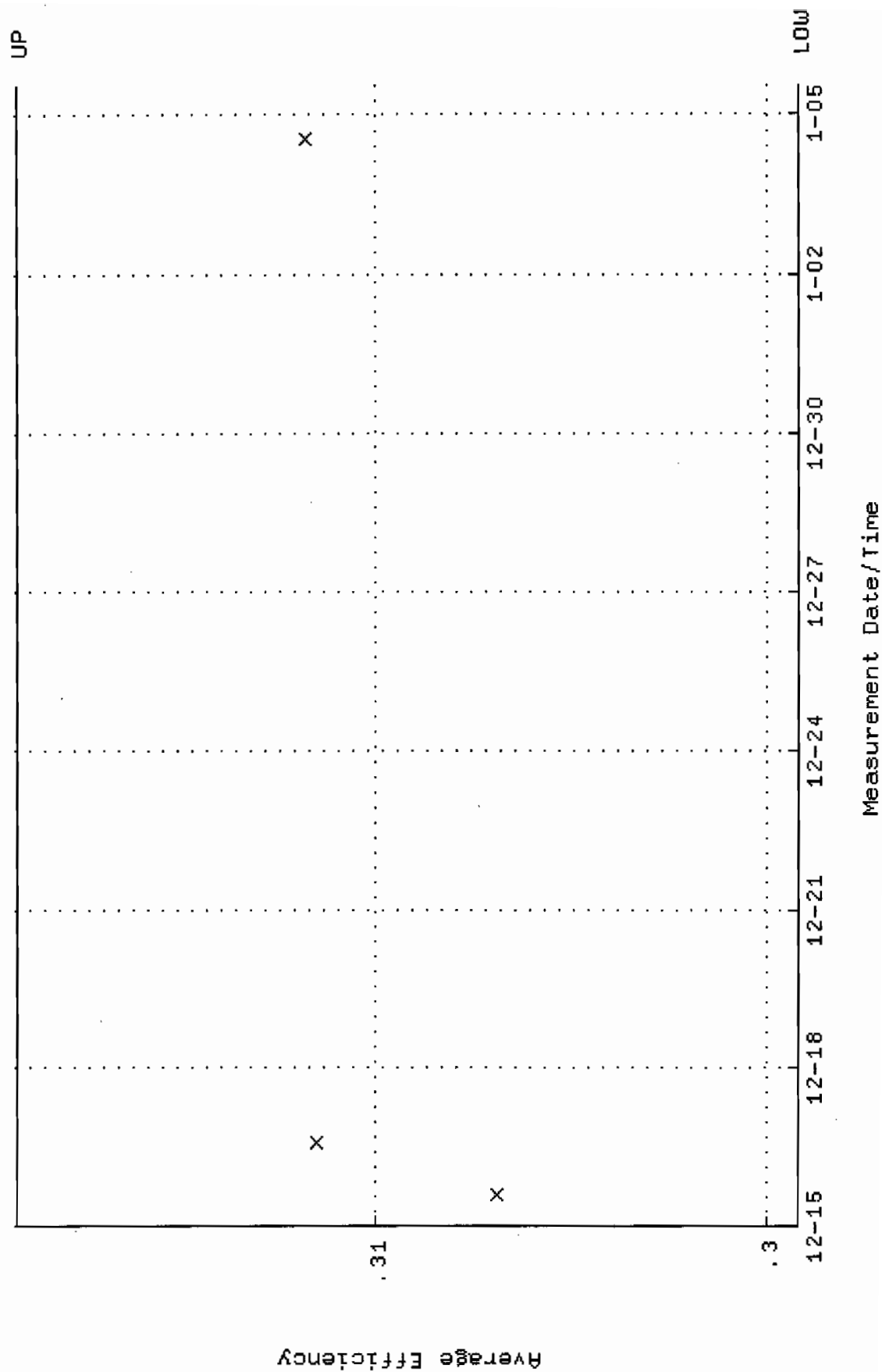
QA filename : DKA100:[ENV_ALPHA.QA.W]W002.QAF;4
 Parameter Name : NACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.8037 through 93.7305



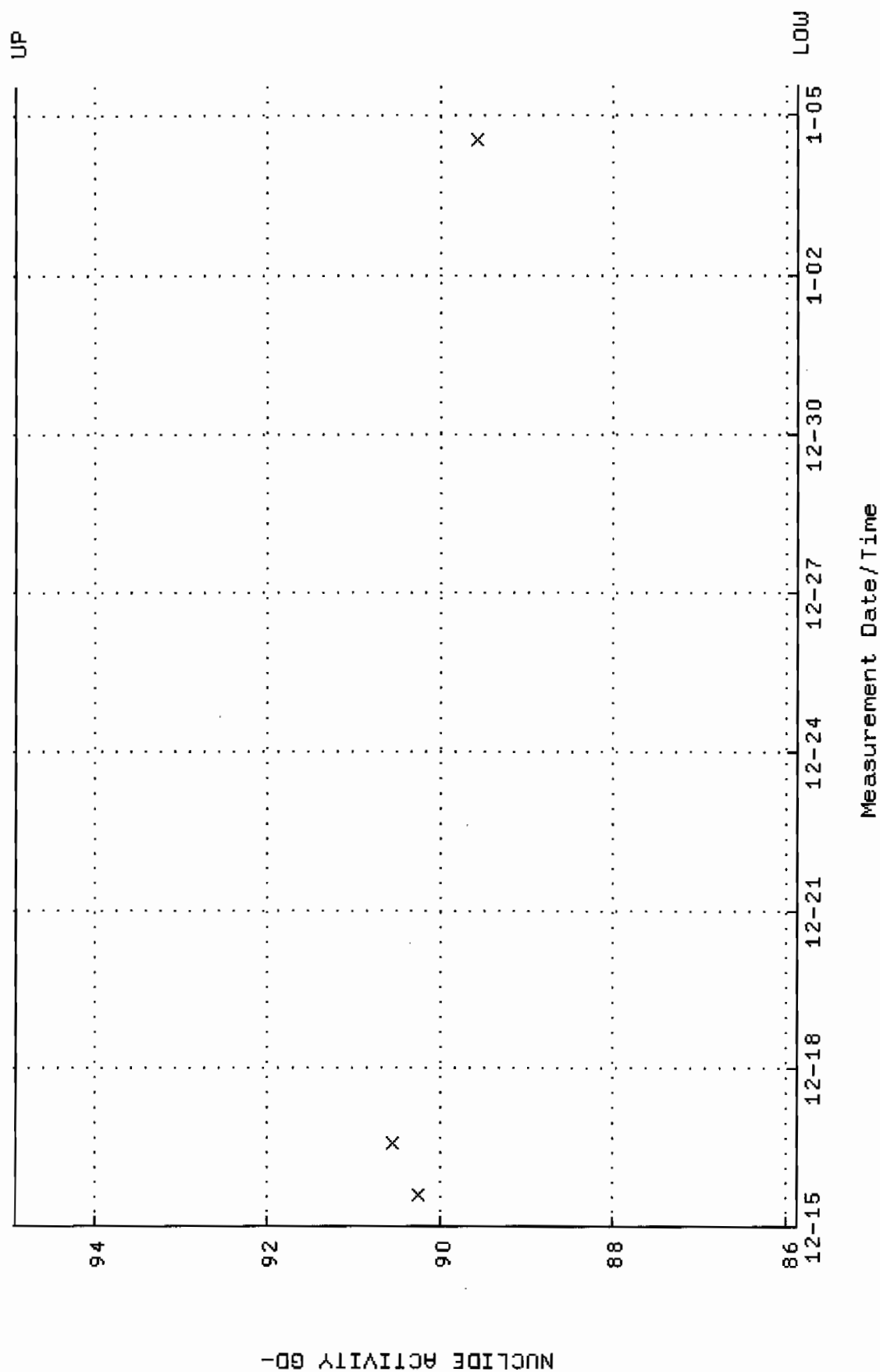
QA filename : DKA100:[ENV_ALPHA.QA.B]B002.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:54 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



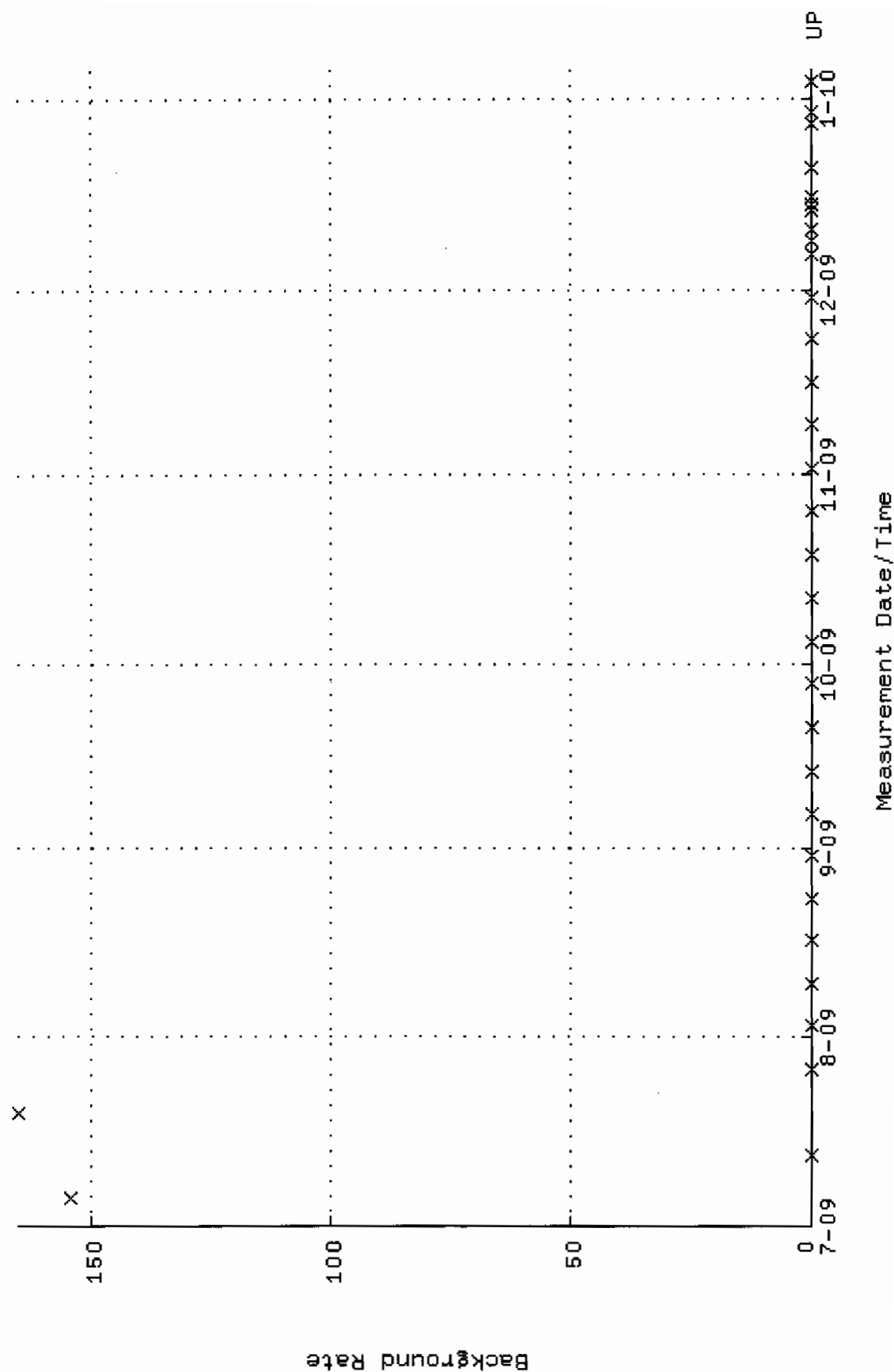
QA filename : DKA100:[ENV_ALPHA.QA.W]W003.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.299193 through 0.319193



QA filename : DKA100:[ENV_ALPHA.QA.W]W003.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.8745 through 94.9139



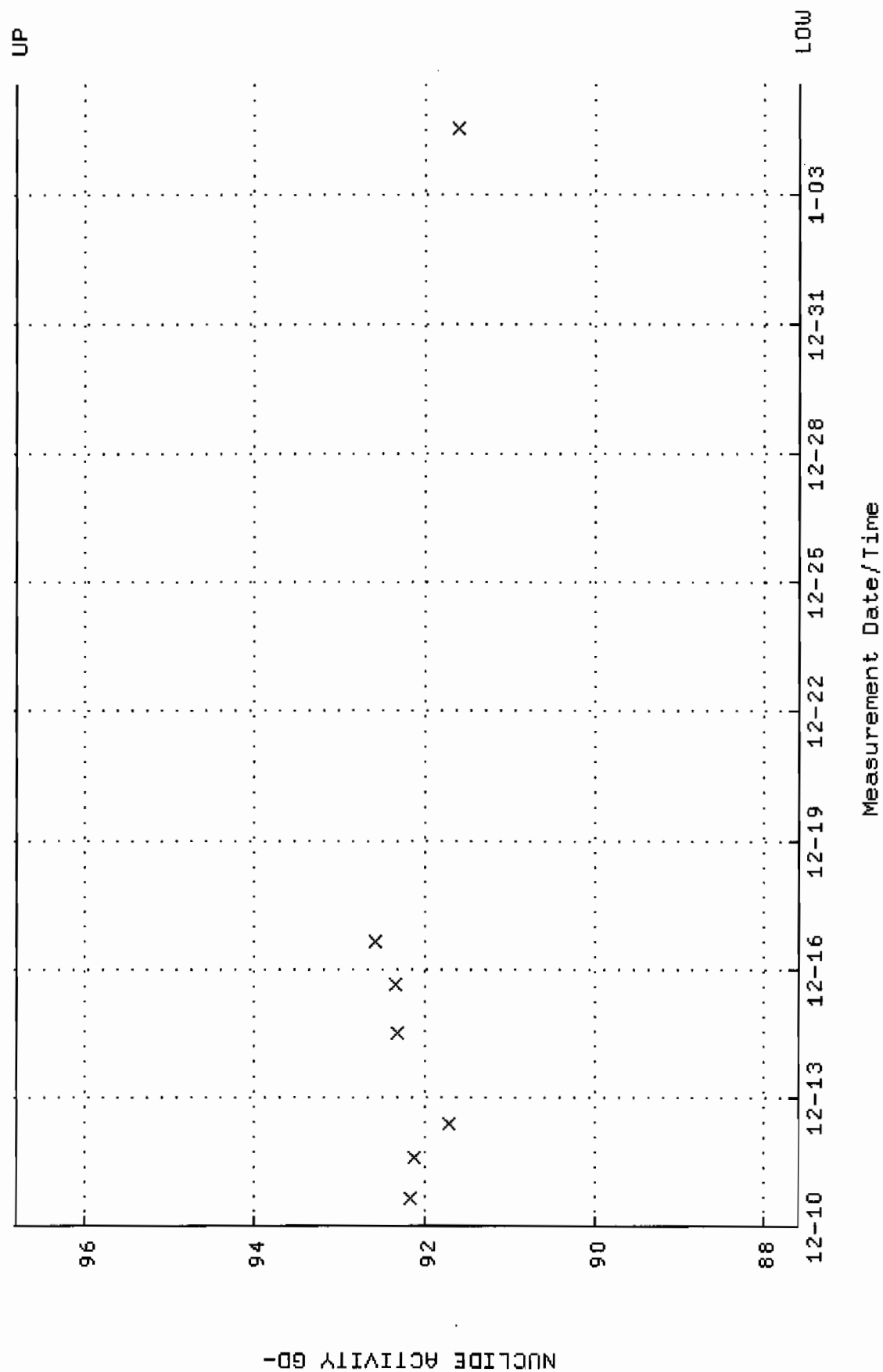
QA filename : DKA100:[ENV-ALPHA.QA.B]B003.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:54 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



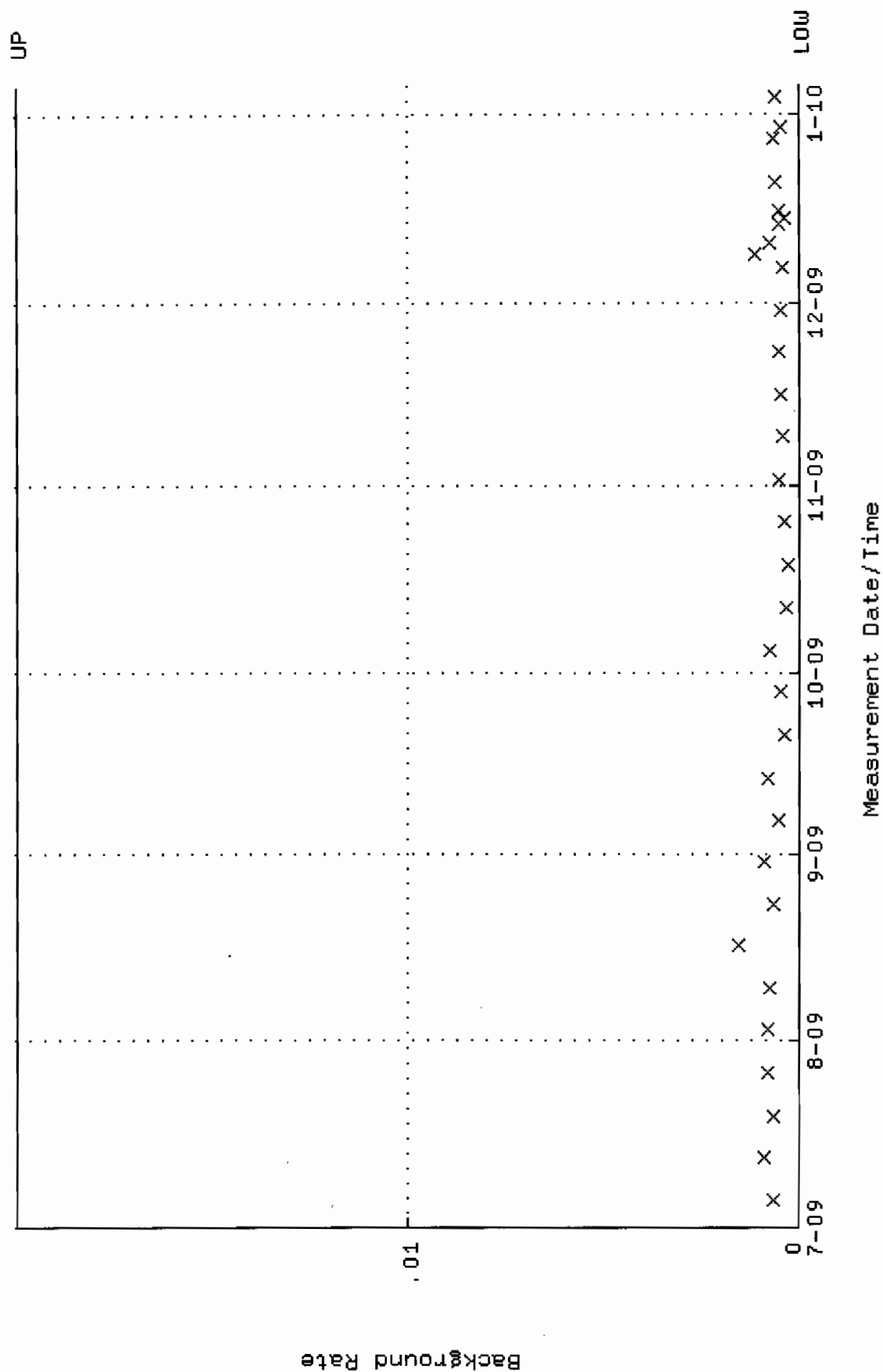
29



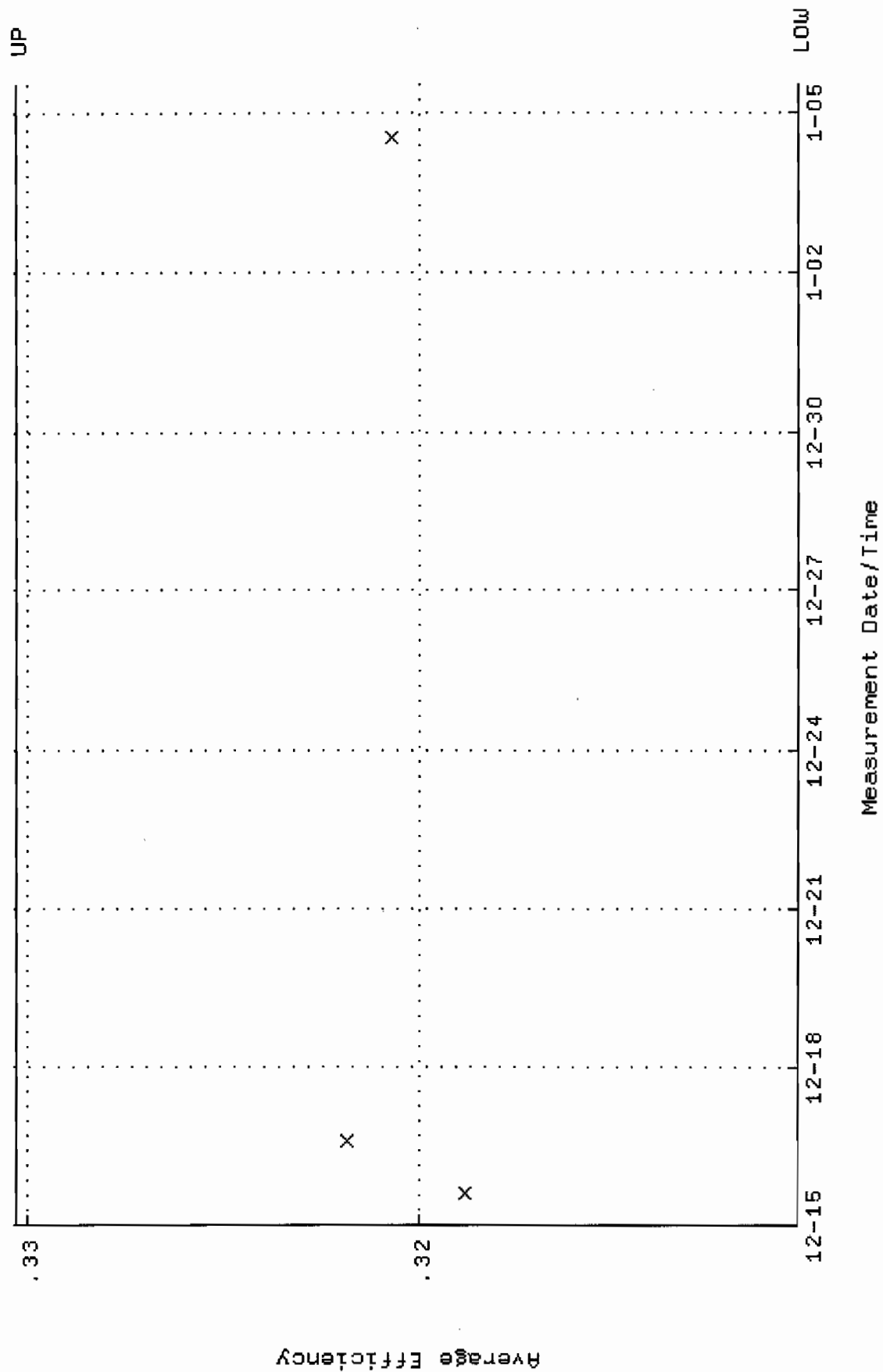
QA filename : DKA100:[ENV_ALPHA.QA.w]W004.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-DEC-2009 15:29:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.5863 through 96.8059



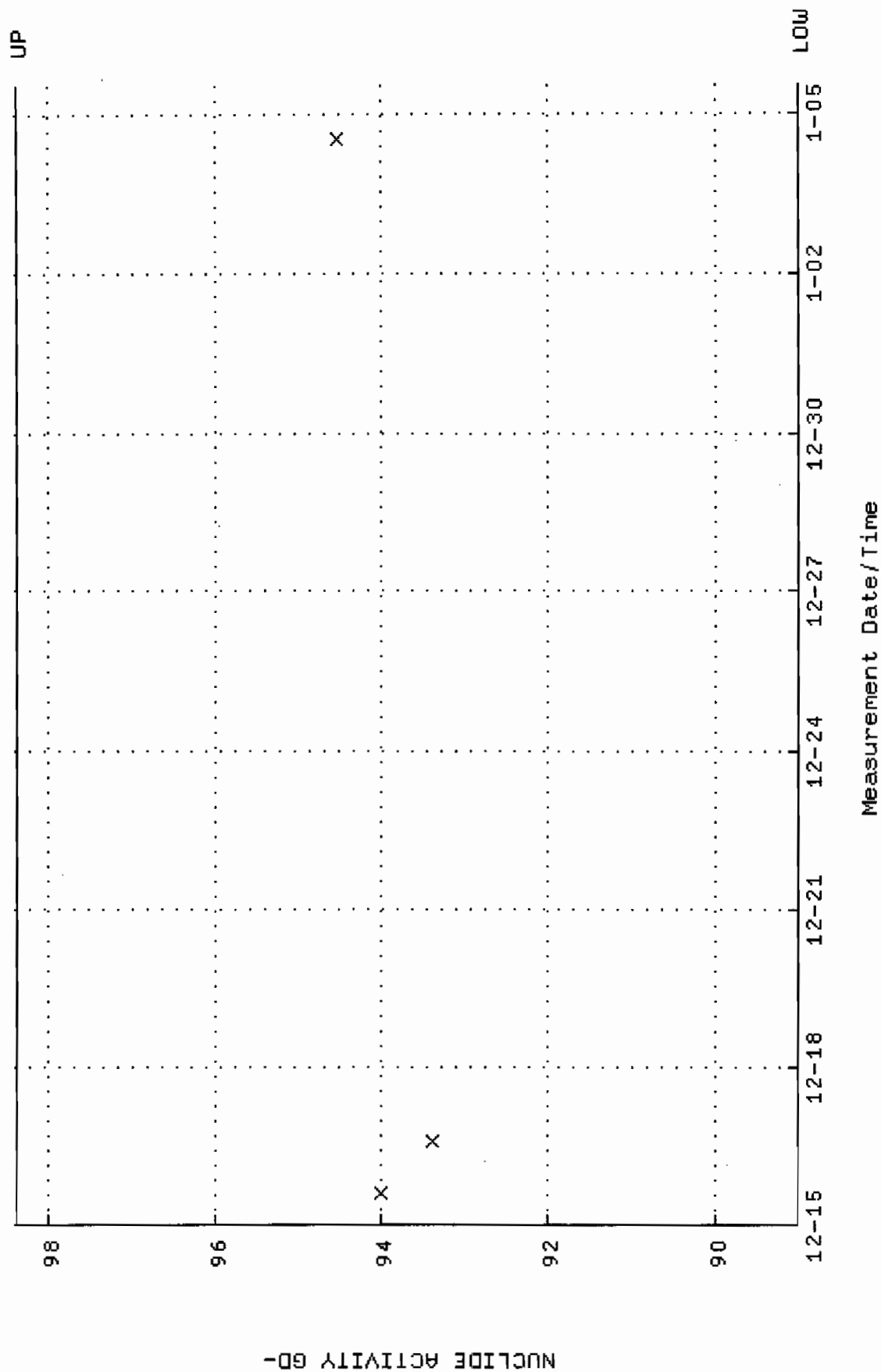
QA filename : DKA100:[ENV_ALPHA.QA.B]B004.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:54 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



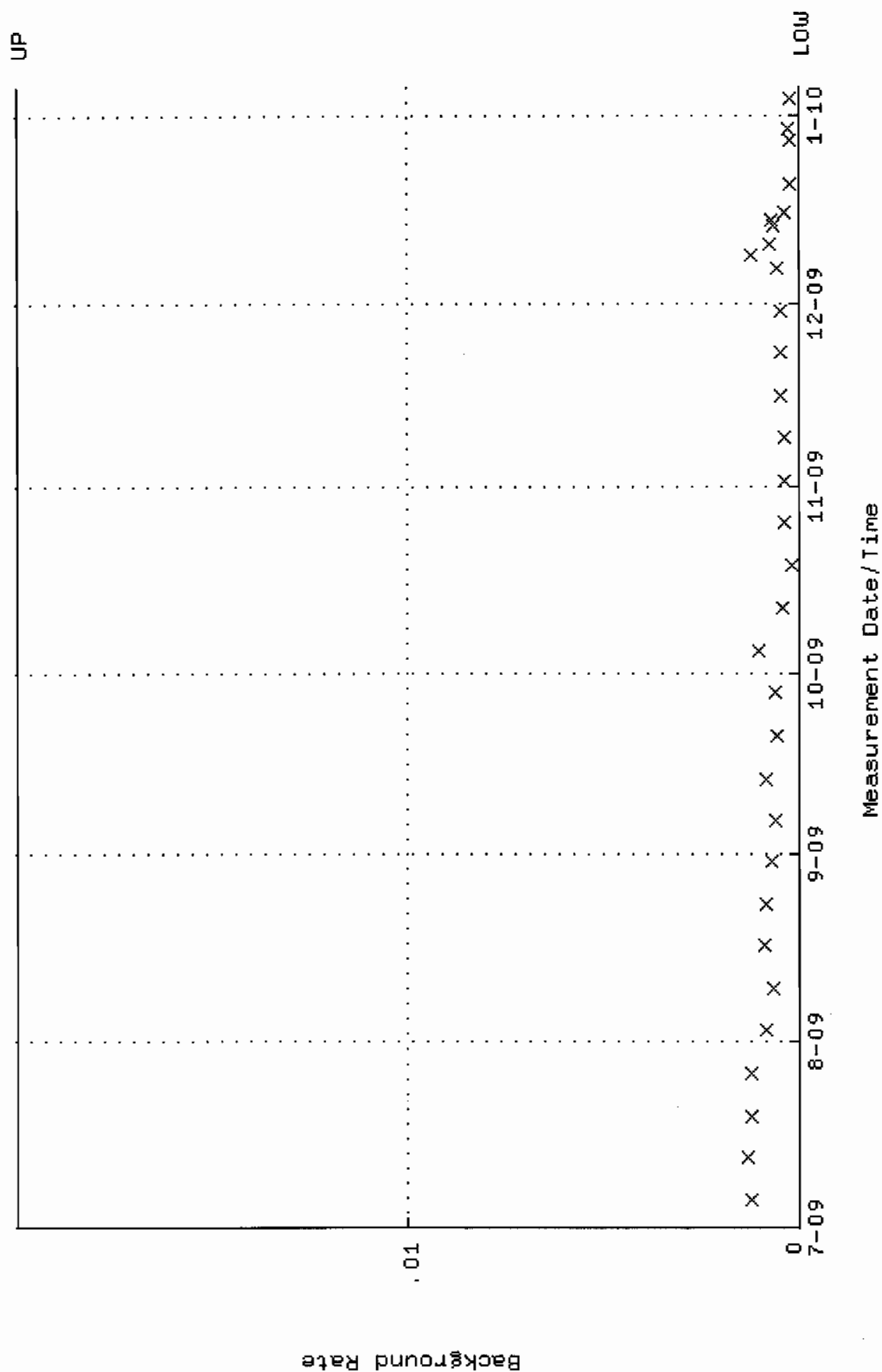
QA filename : DKA100:[ENV_ALPHA.QA.W]W005.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.310305 through 0.330305



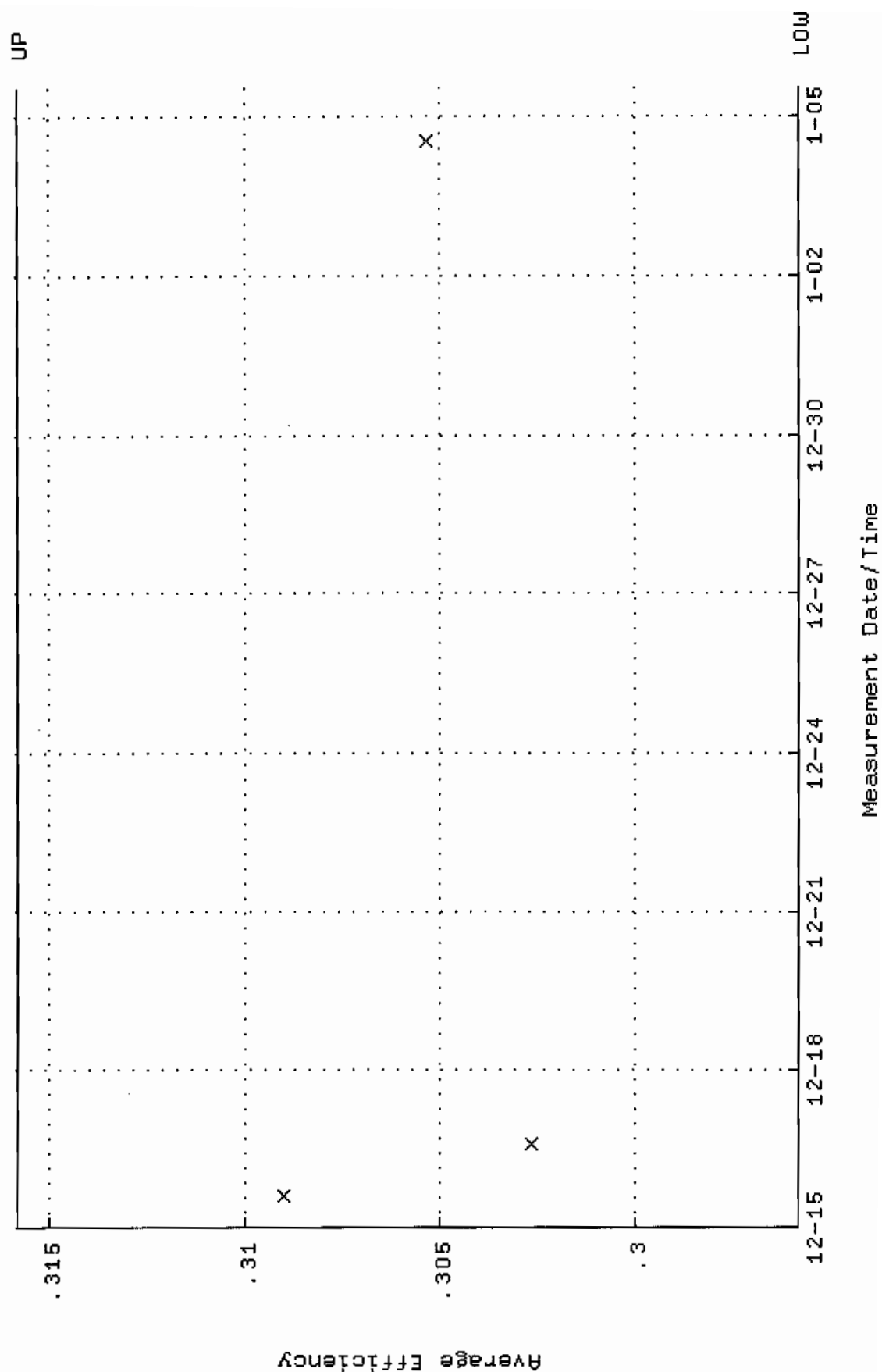
QA filename : DKA100:[ENV_ALPHA.QA.W]W005.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 89.0042 through 98.3730



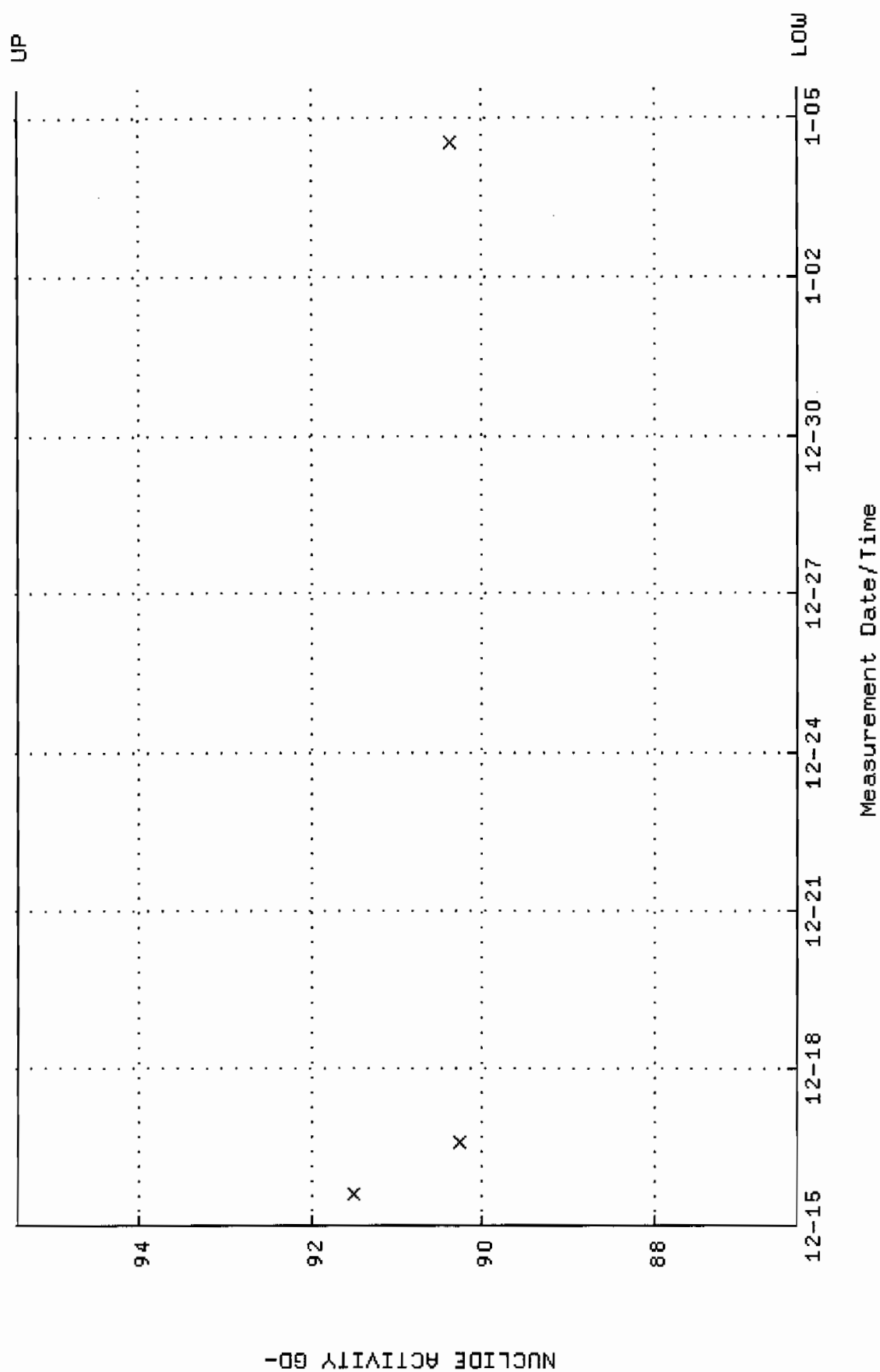
QA filename : DKA100:[ENV_ALPHA.QA.B]B005.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:54 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



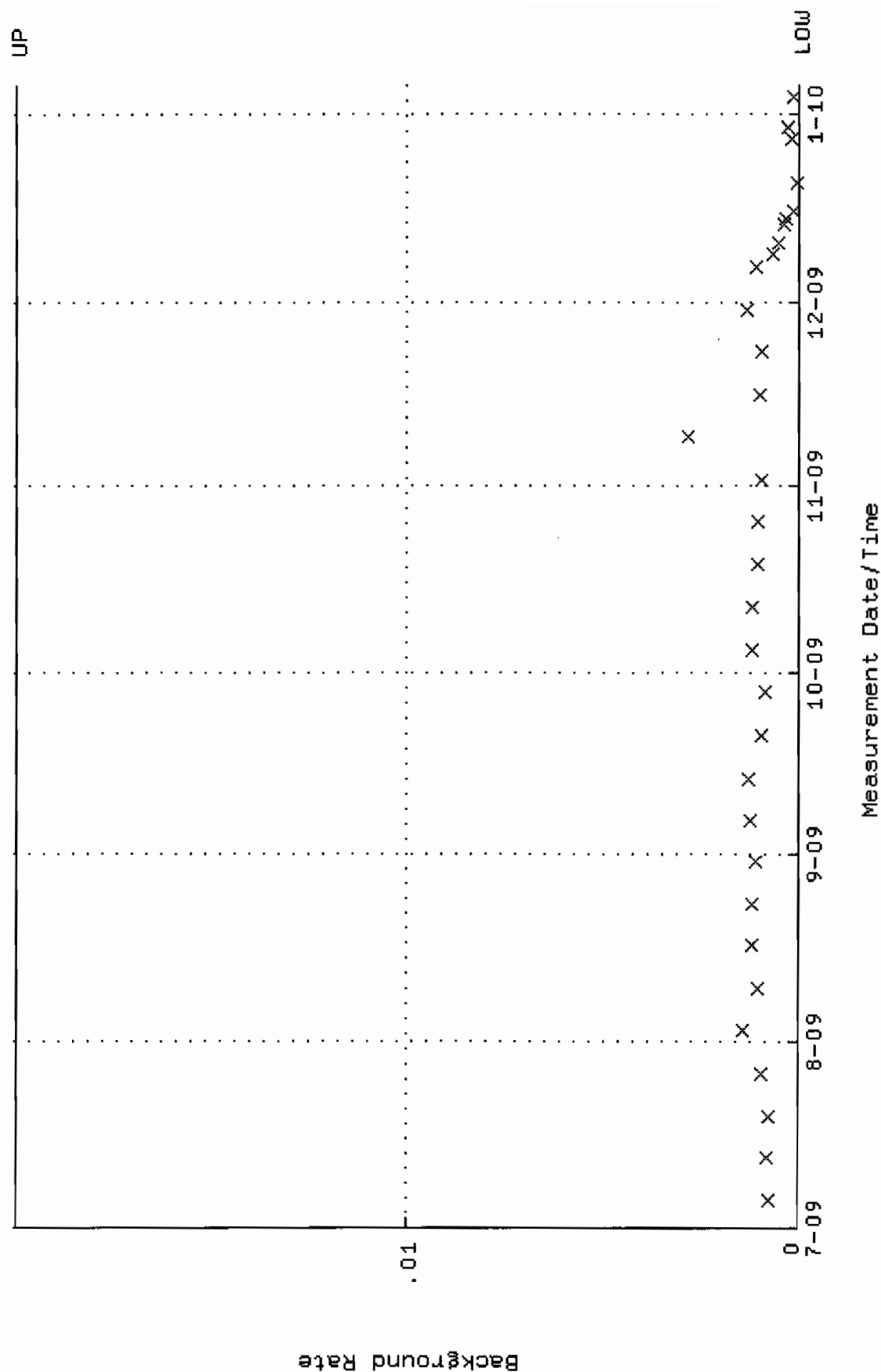
QA filename : DKA100:[ENV_ALPHA.QA.W]W006.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.295821 through 0.315821



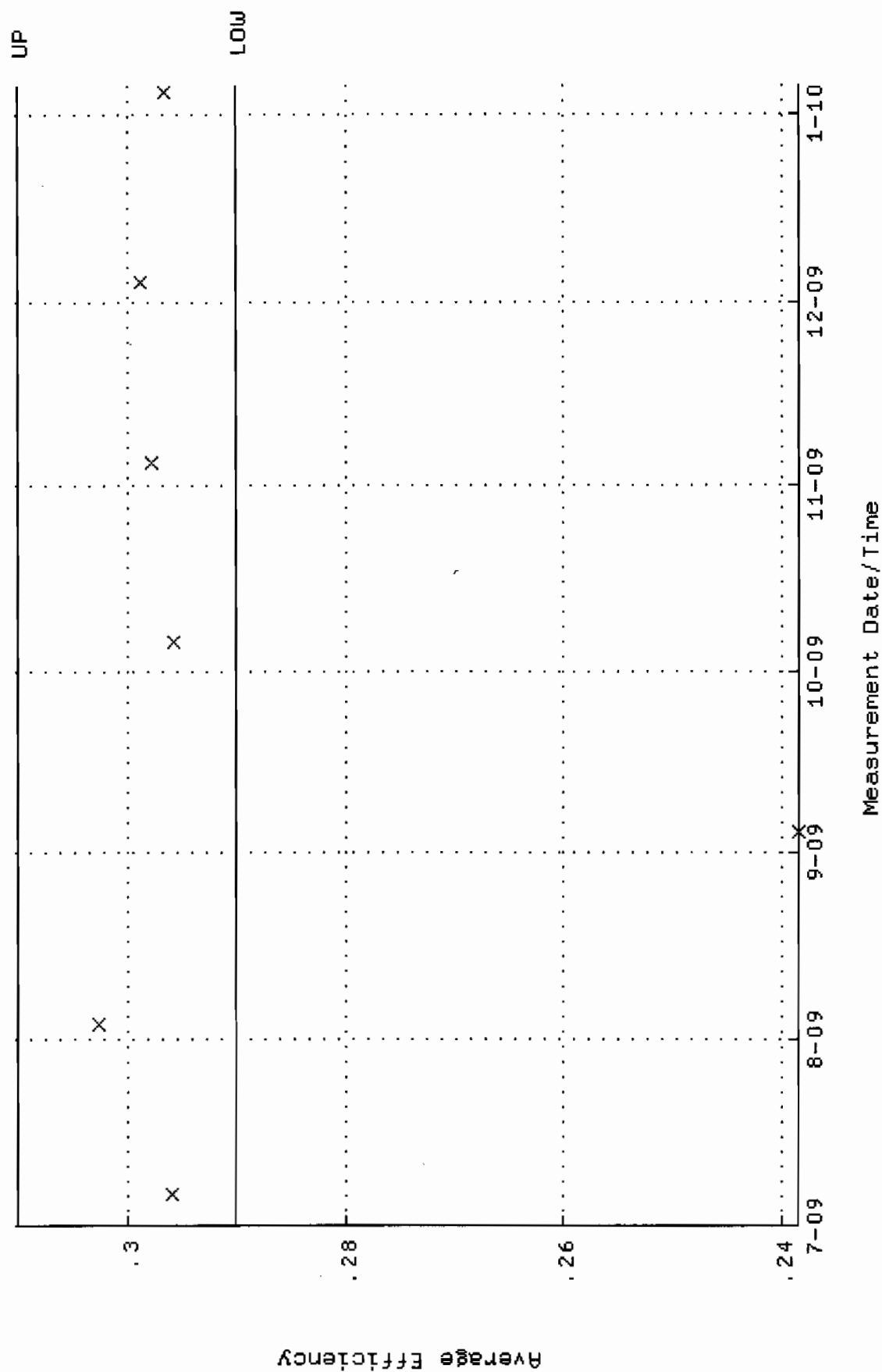
QA filename : DKA100:[ENV_ALPHA.QA.W]W006.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.3237 through 95.4105



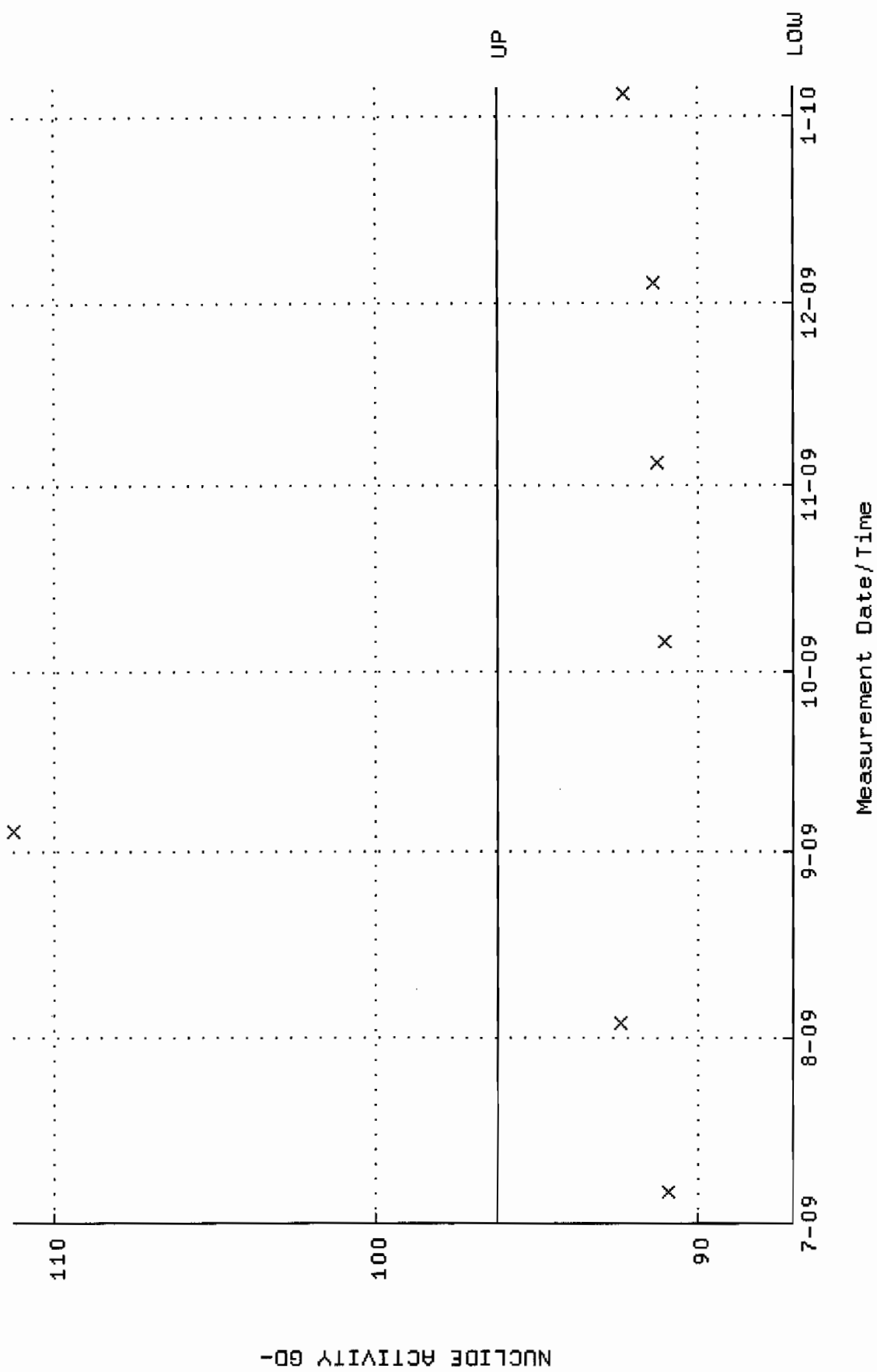
QA filename : DKA100:[ENV_ALPHA.QA.B]B006.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:54 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



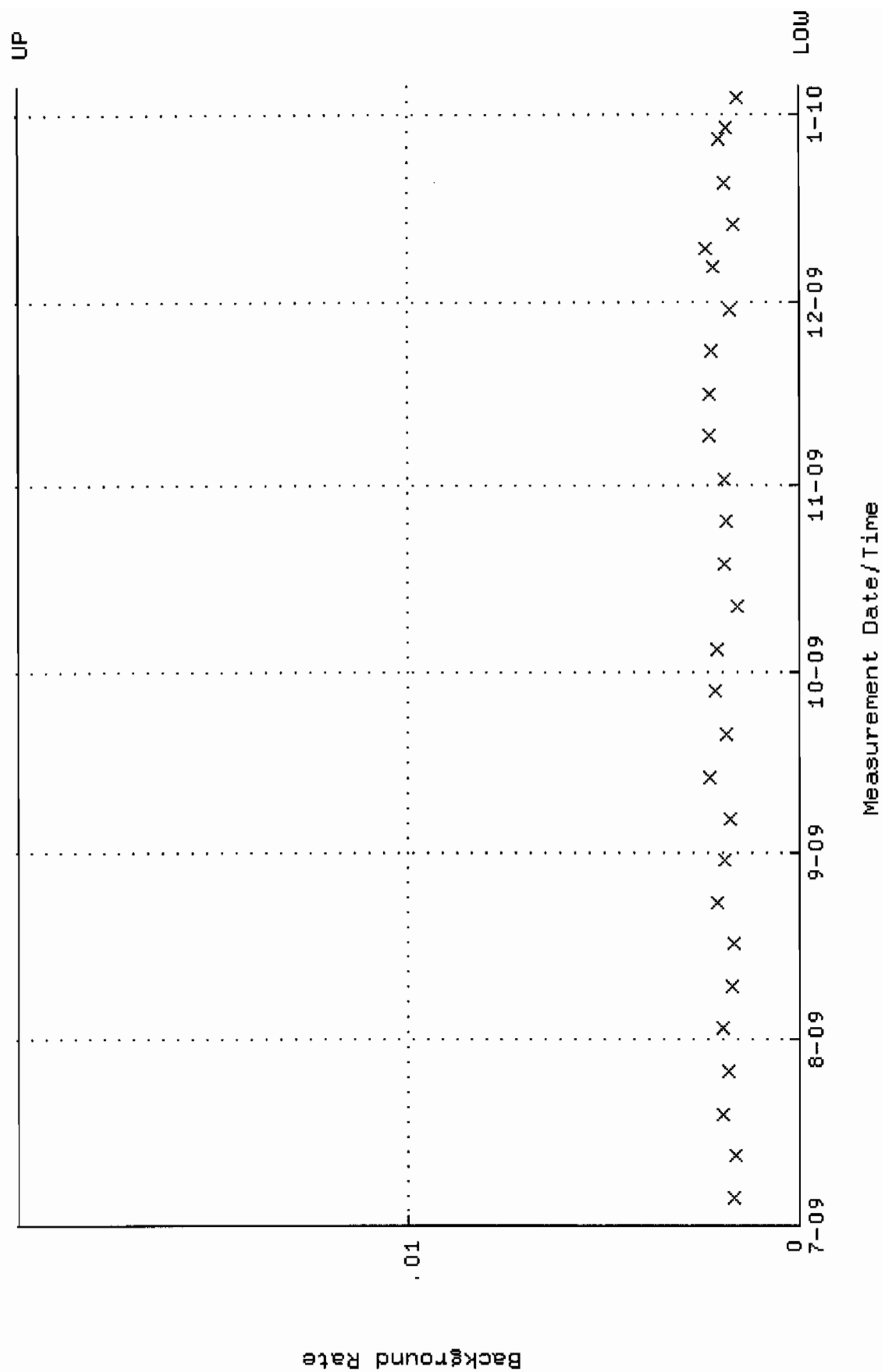
QA filename : DKA100: [ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.290108 through 0.310108



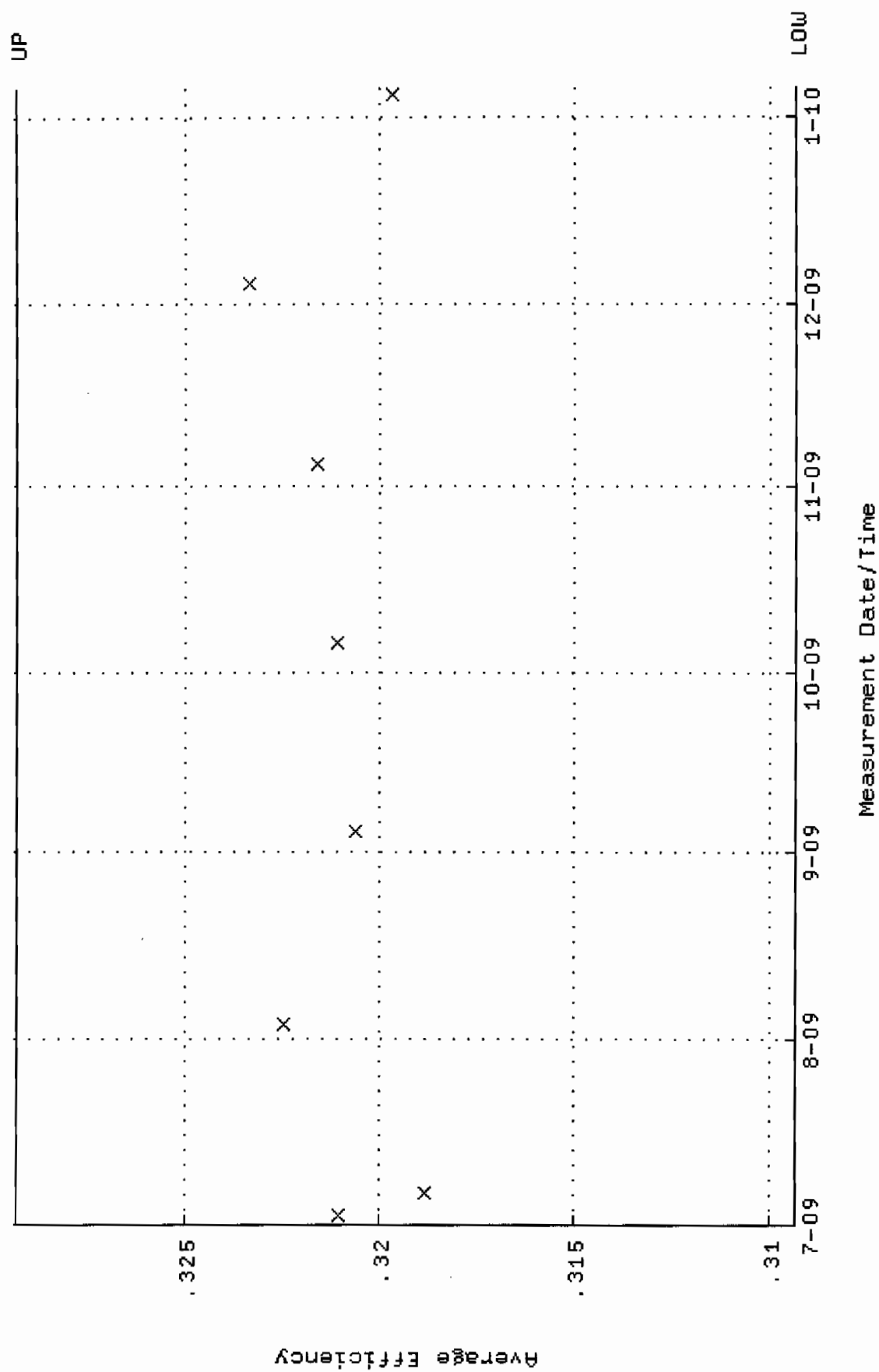
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.0687 through 96.2339



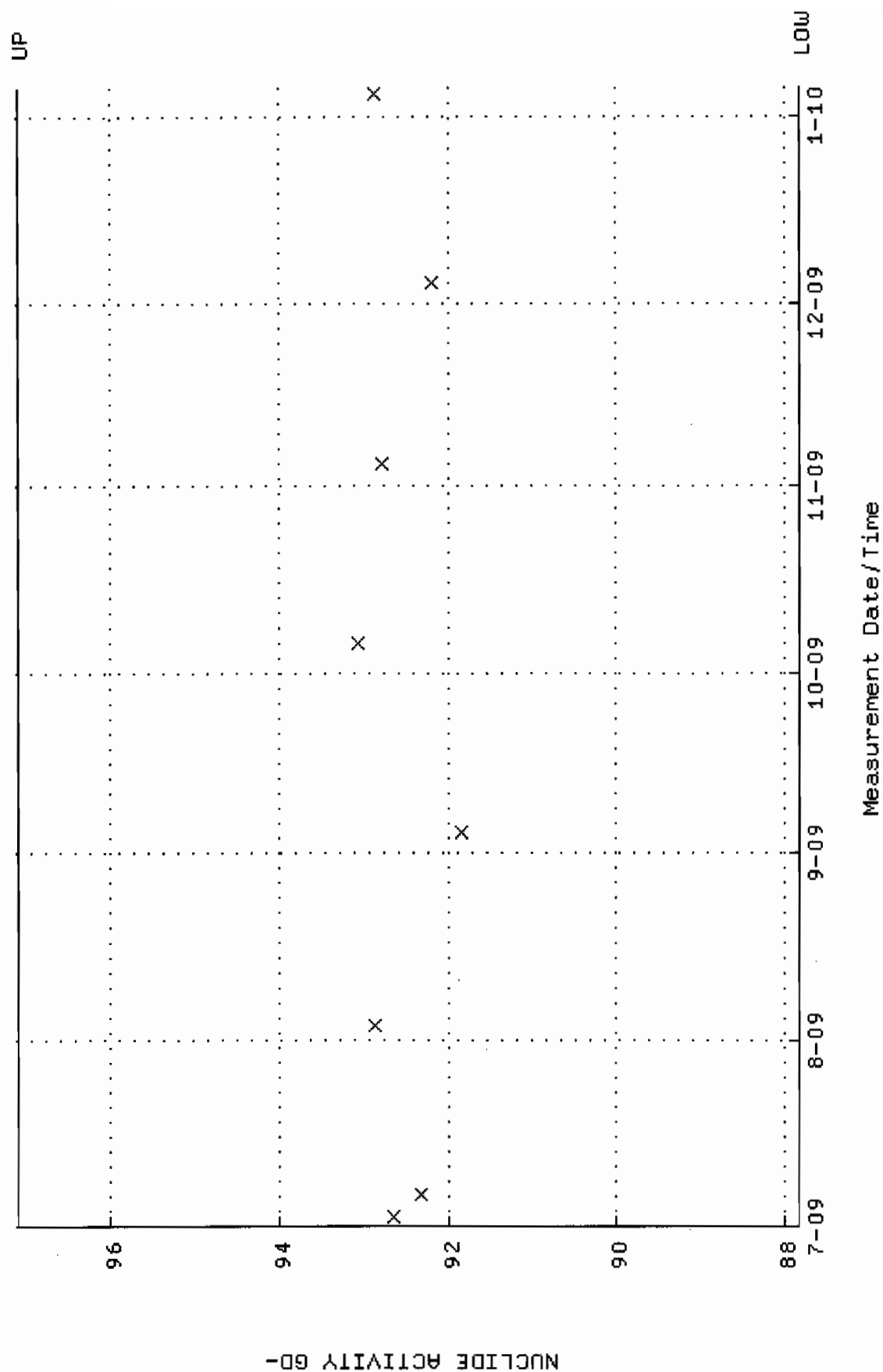
QA filename : DKA100:[ENV_ALPHA.QA.B]B007.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:55 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



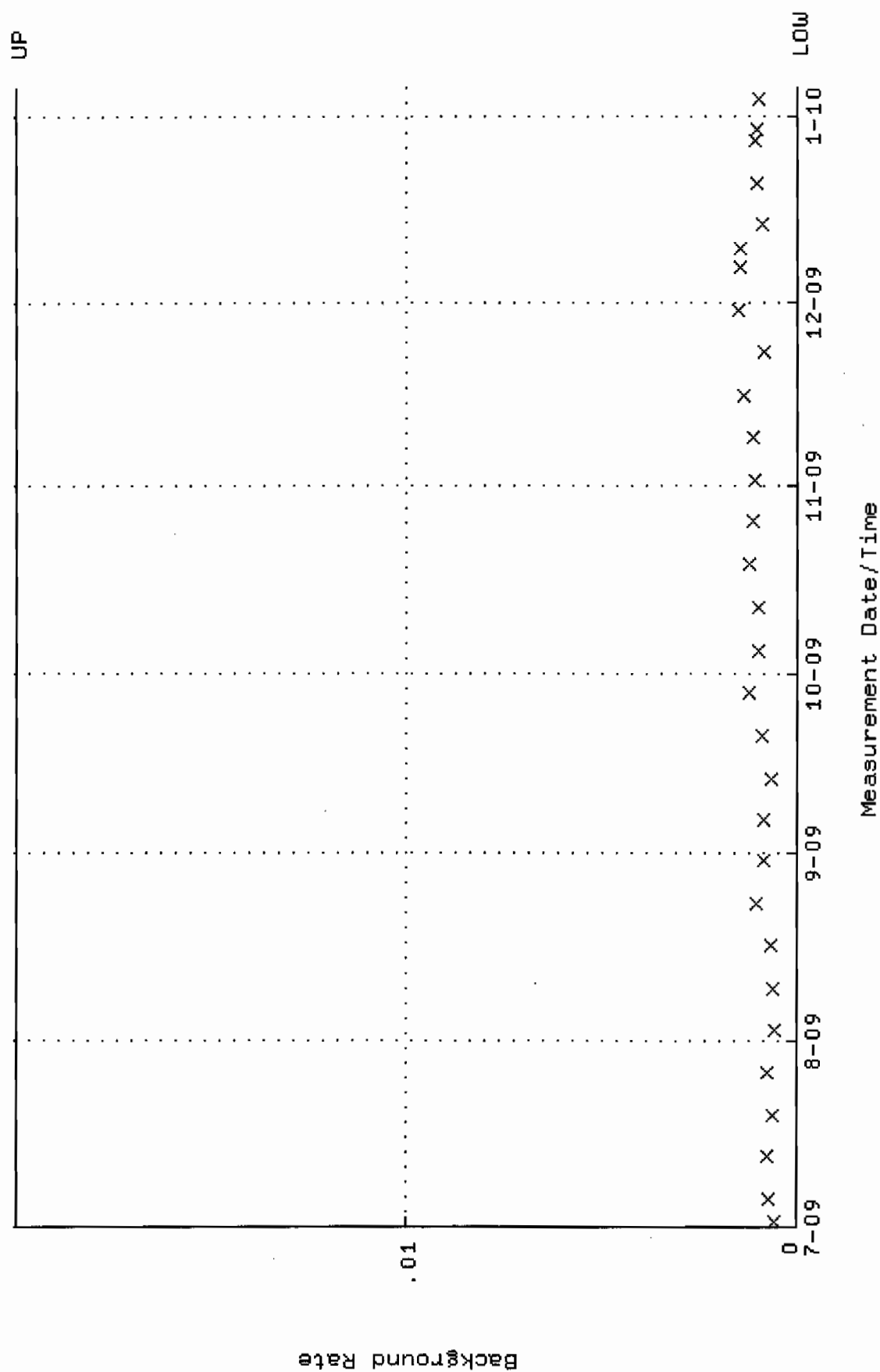
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 2-JUL-2009 15:04:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.309318 through 0.329318



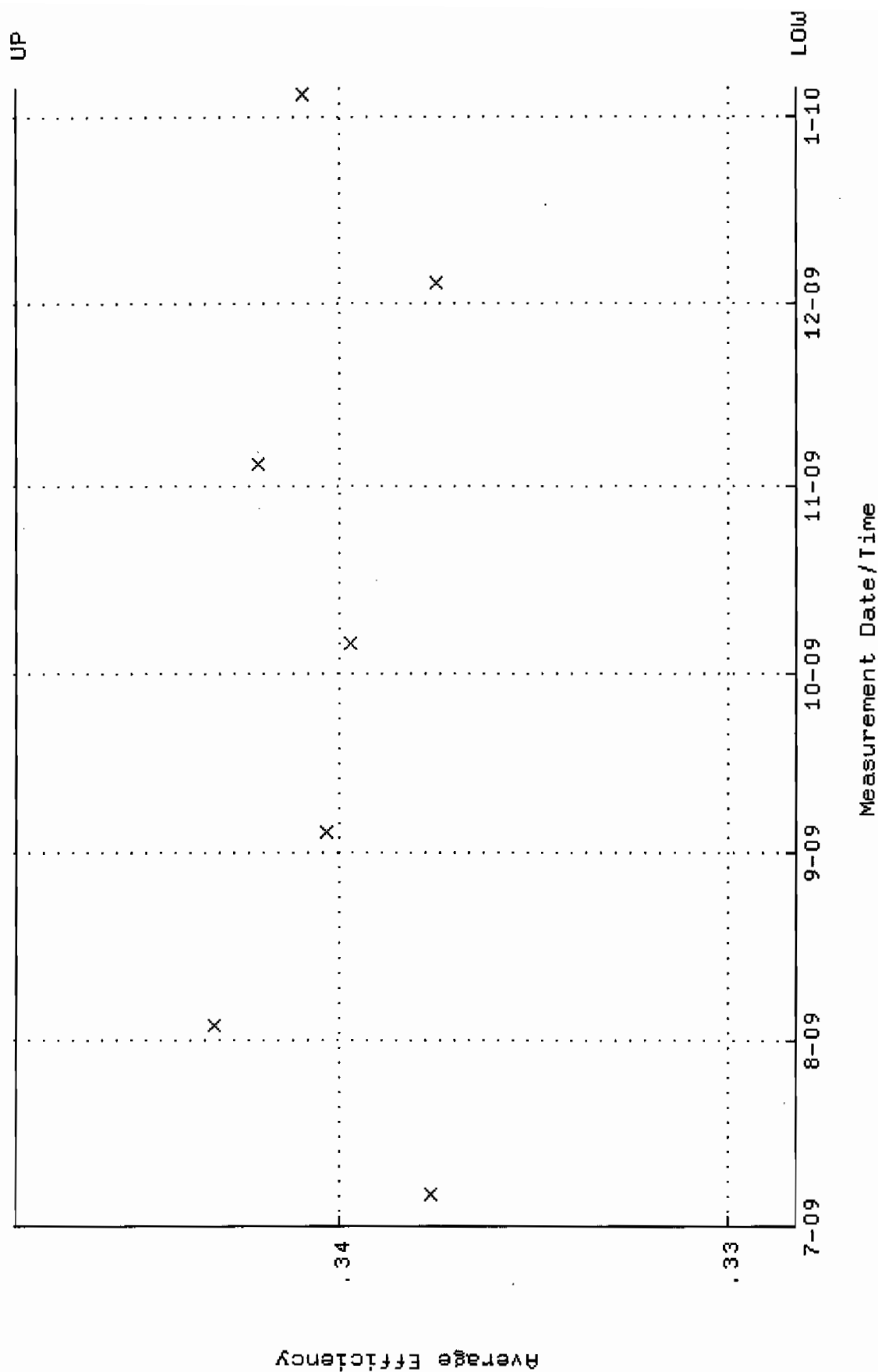
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 2-JUL-2009 15:04:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.8346 through 97.0804



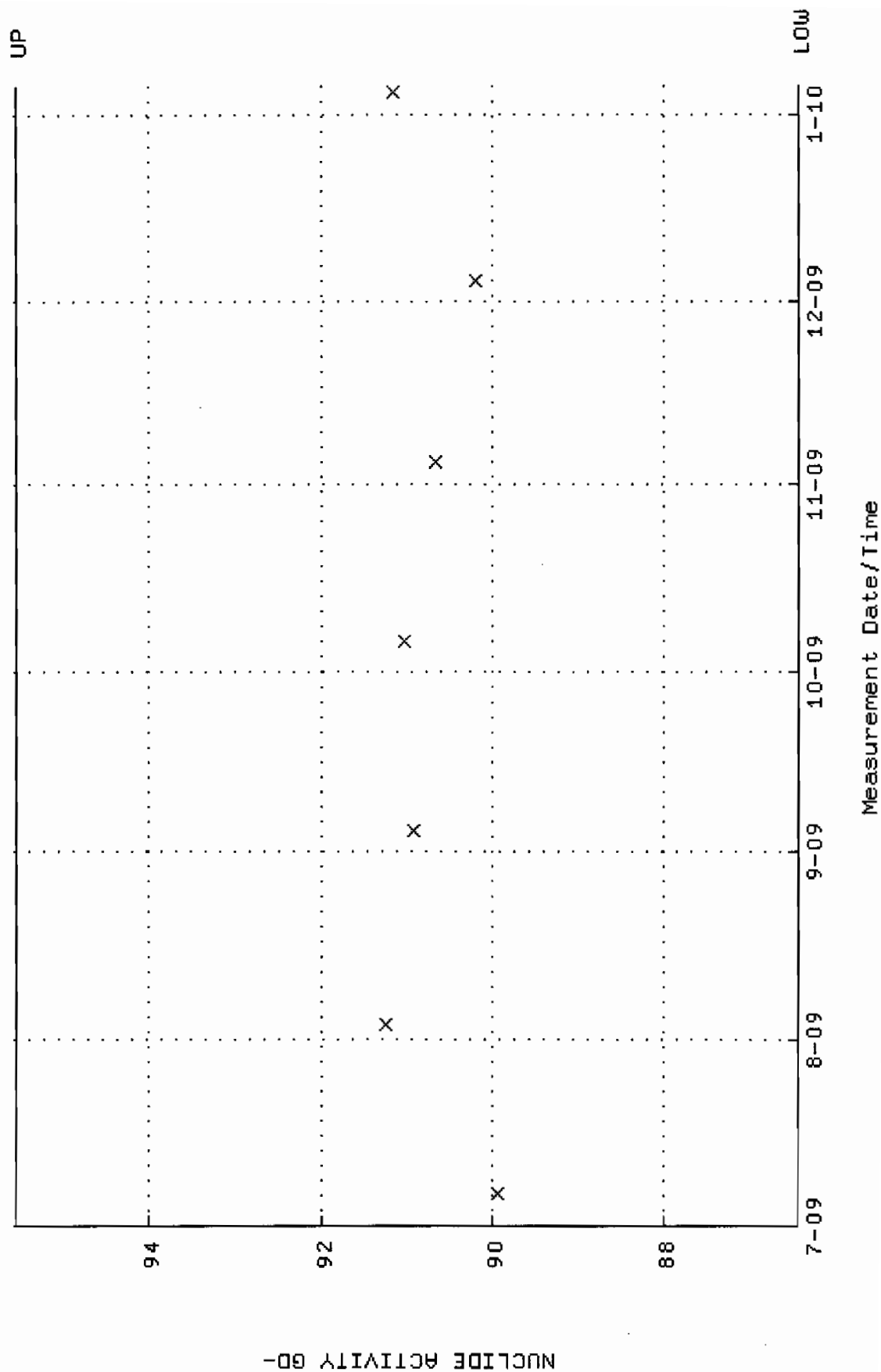
QA filename : DKA100:[ENV_ALPHA.QA.B]B008.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 1-JUL-2009 21:39:55 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



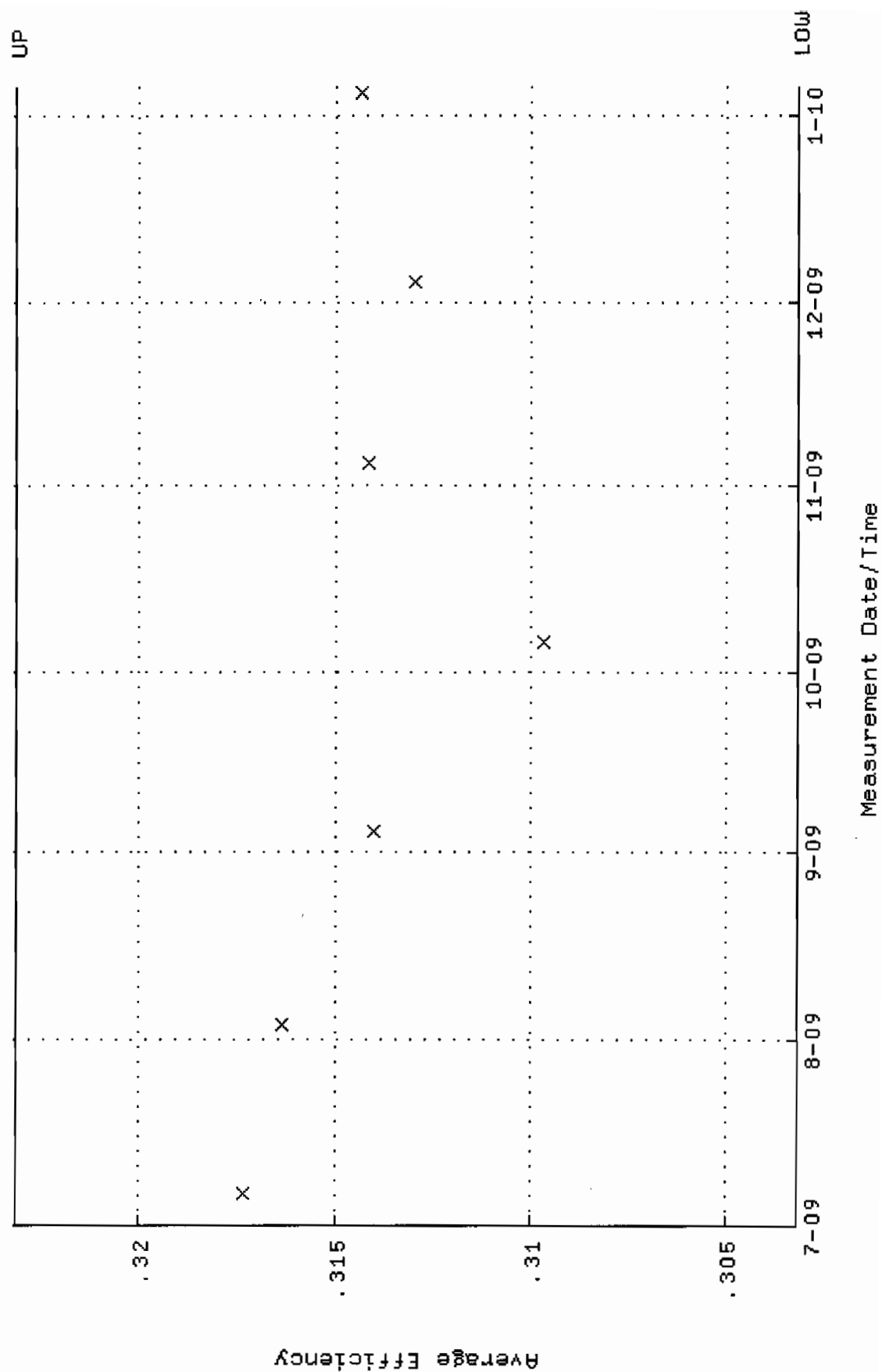
QA filename : DKA100:[ENV_ALPHA.QA.W]W009.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.328261 through 0.348261



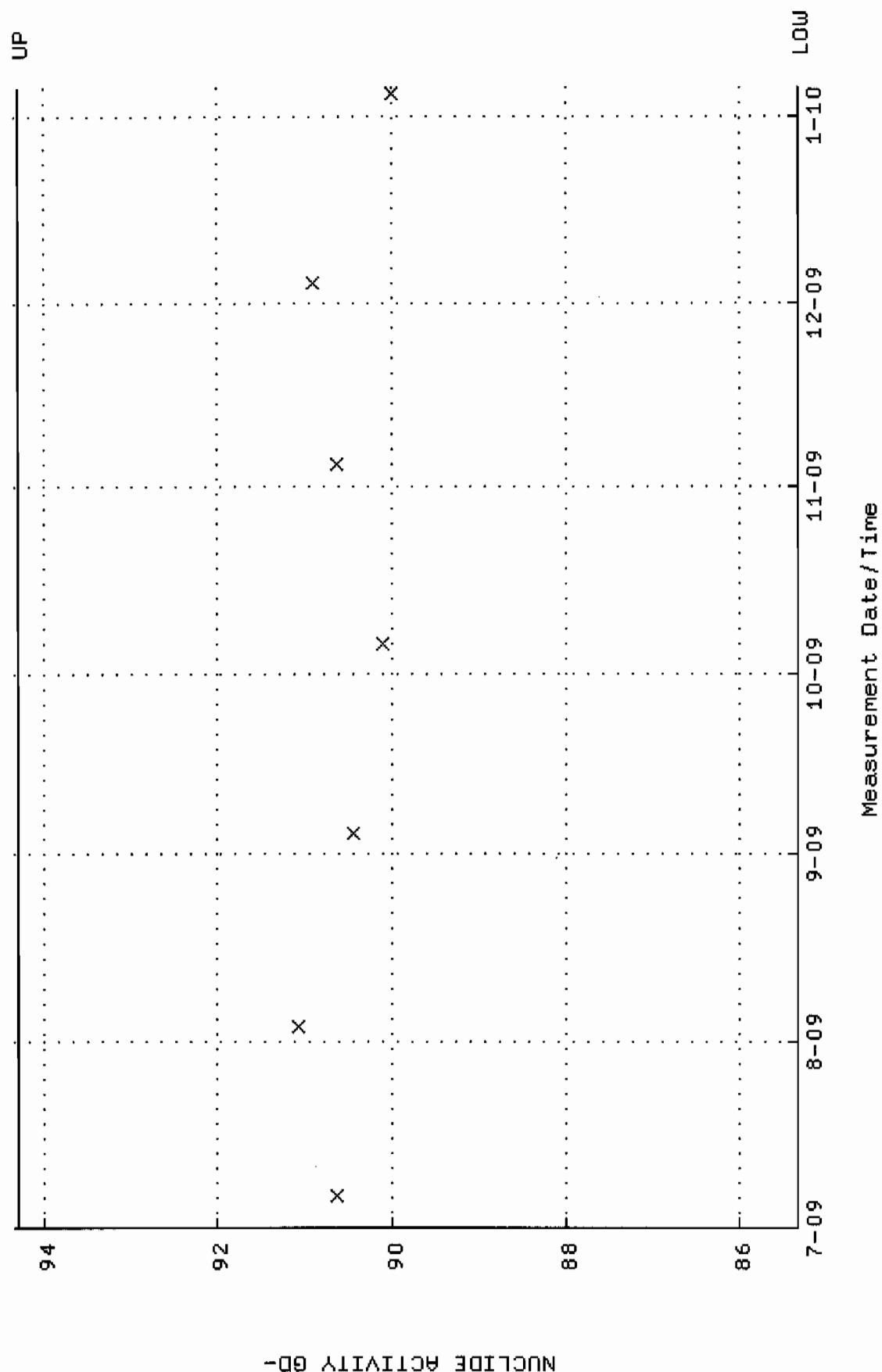
QA filename : DKA100:[ENV_ALPHA.QA.W]W009.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.4475 through 95.5473



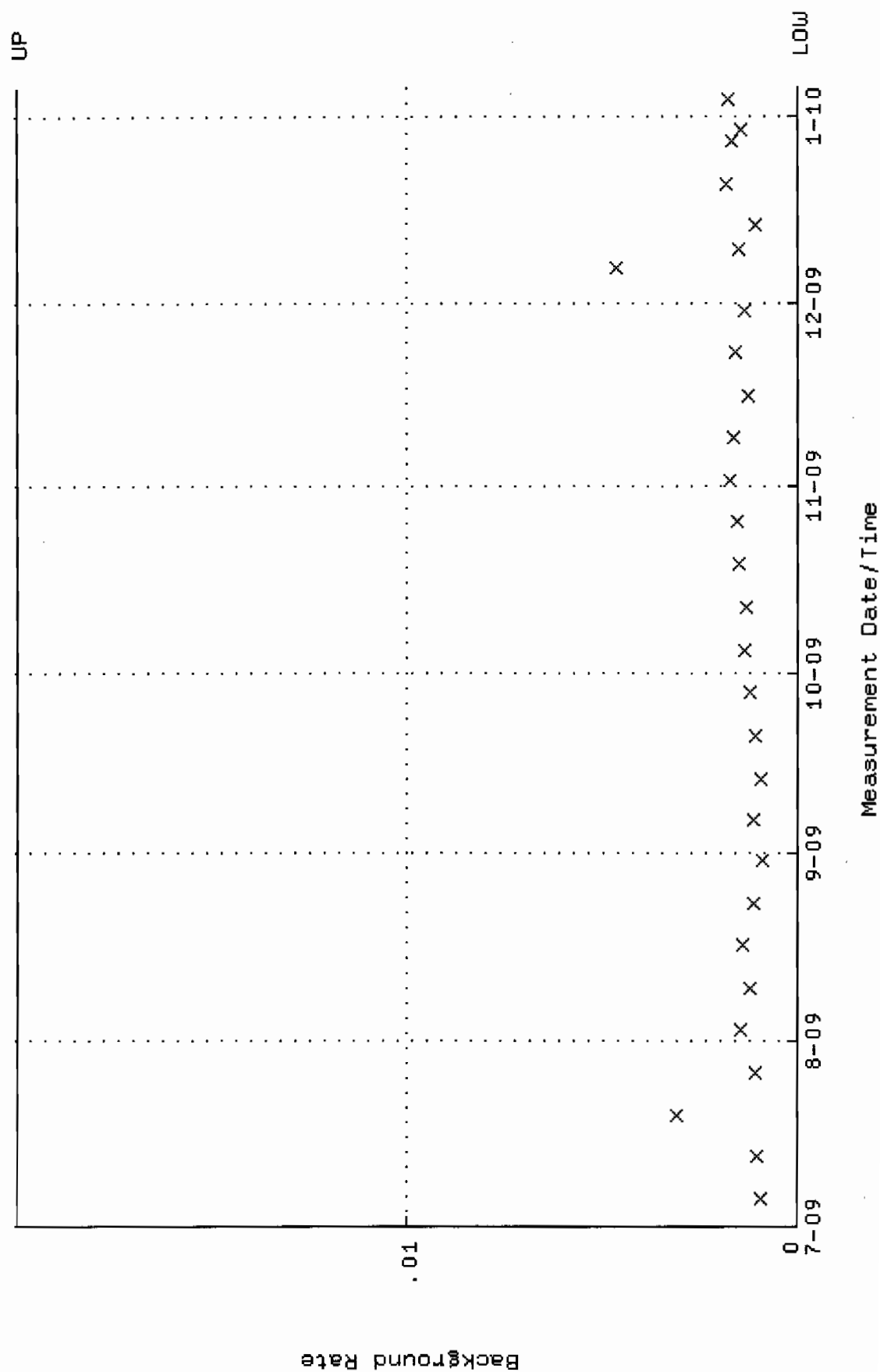
QA filename : DKA100:[ENV_ALPHA.QA.W]W010.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
Lower/Upper Lmts: 0.303169 through 0.323169



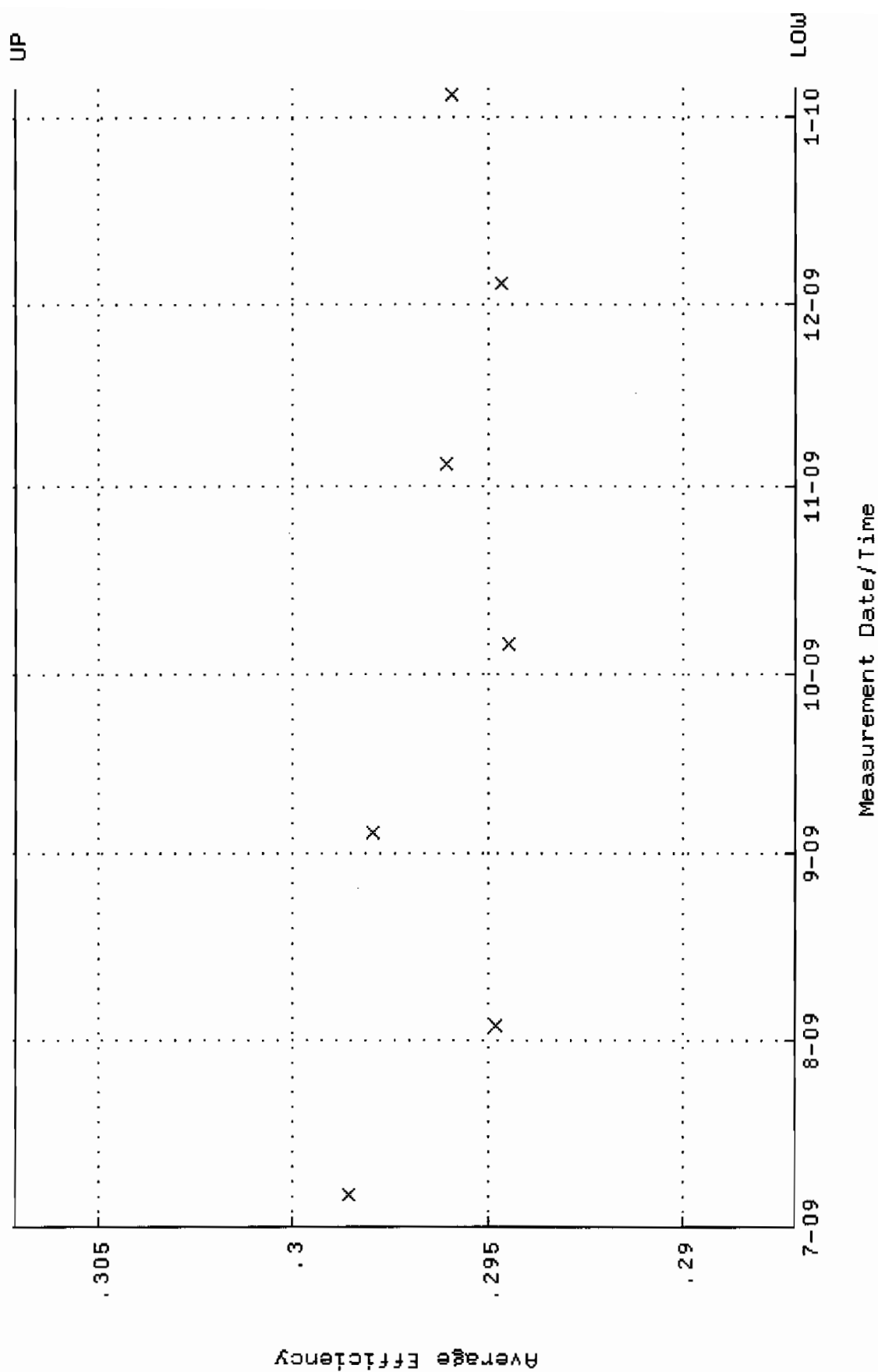
QA filename : DKA100:[ENV_ALPHA.QA.W]W010.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.3273 through 94.3091



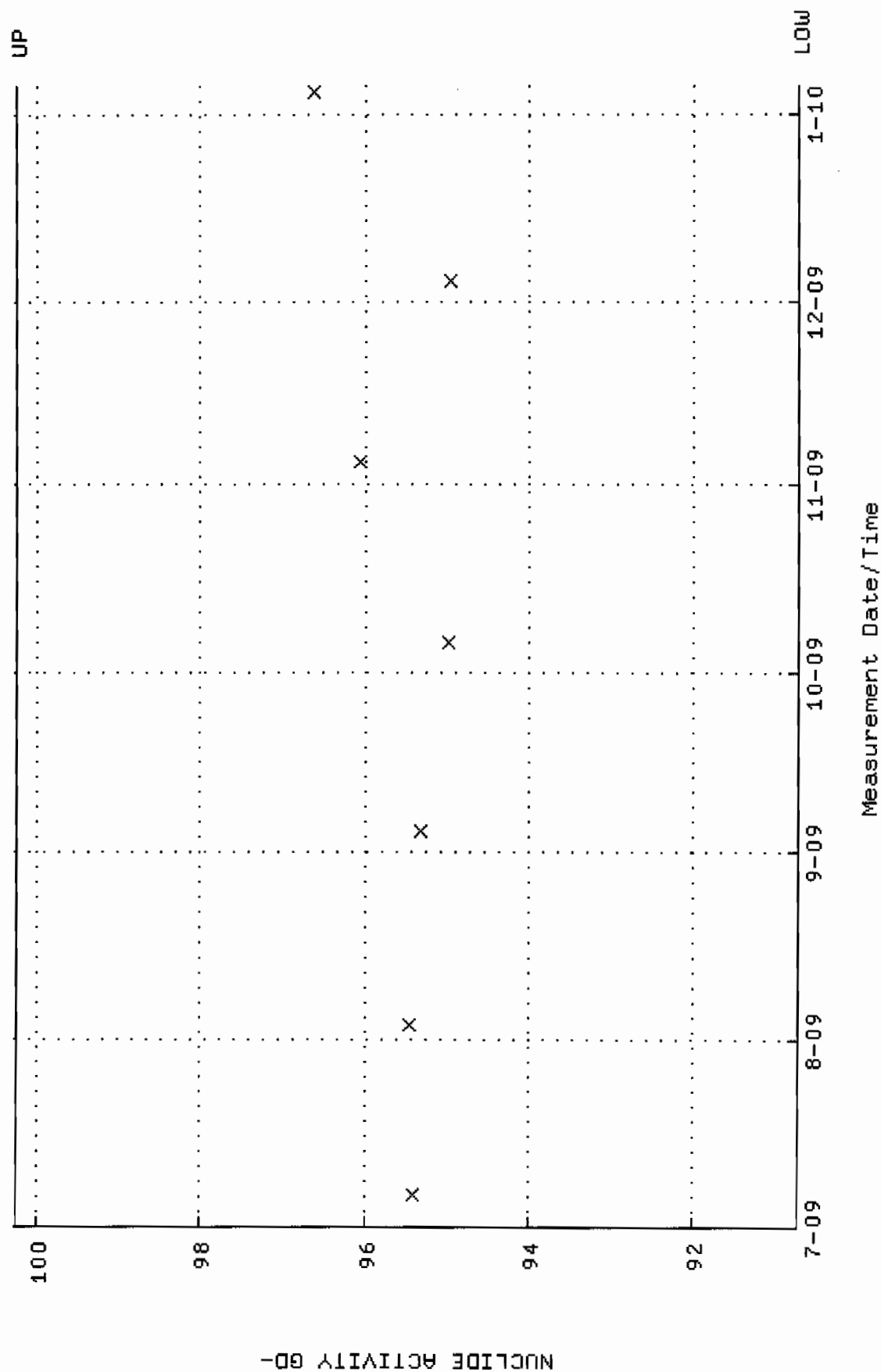
QA filename : DKA100:[ENV_ALPHA.QA.B]B010.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:55 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



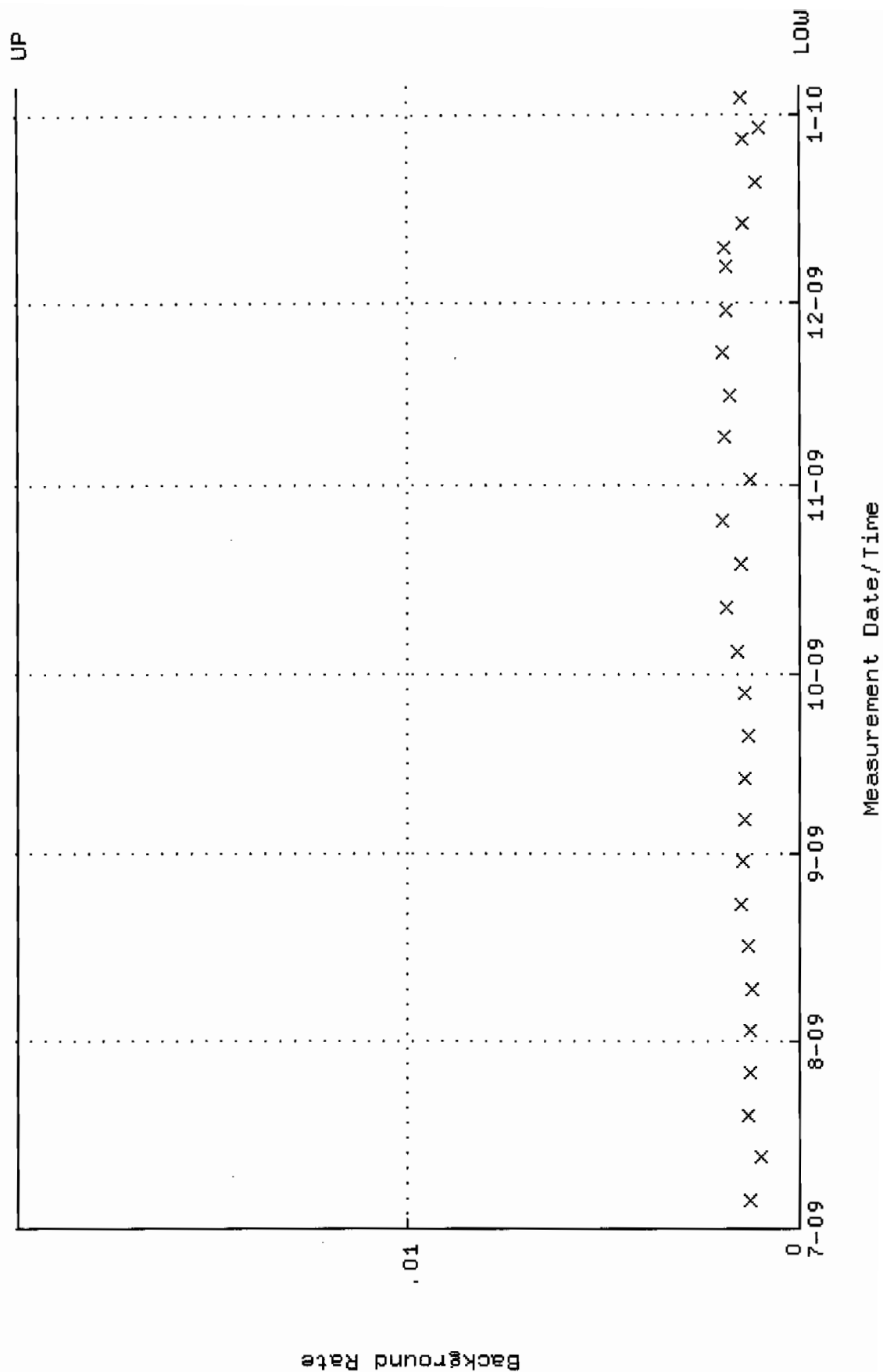
QA filename : DKA100:[ENV_ALPHA.QA.W]w011.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.287129 through 0.307129



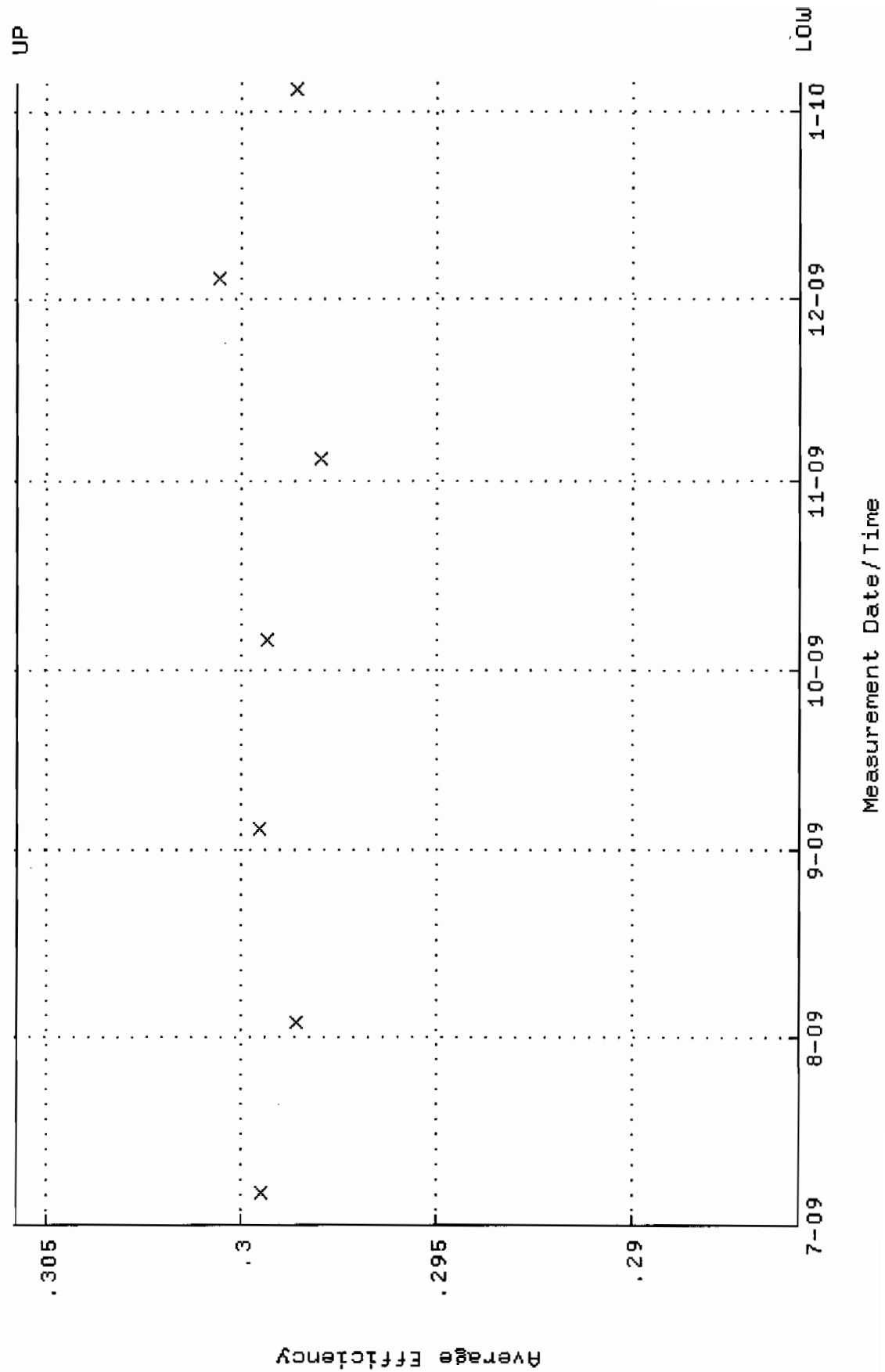
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 90.7092 through 100.258



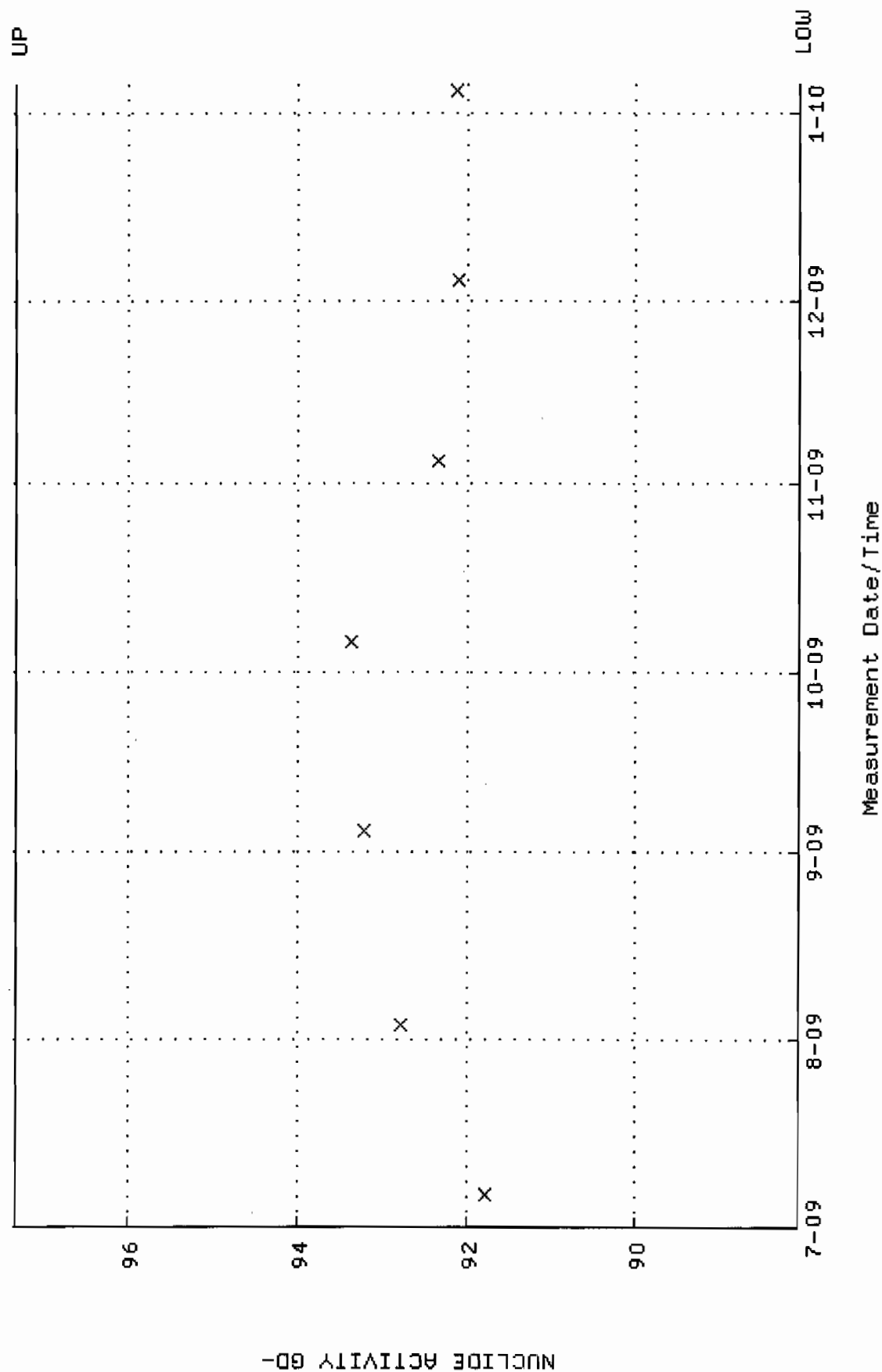
QA filename : DKA100:[ENV_ALPHA.QA.B]B011.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:55 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



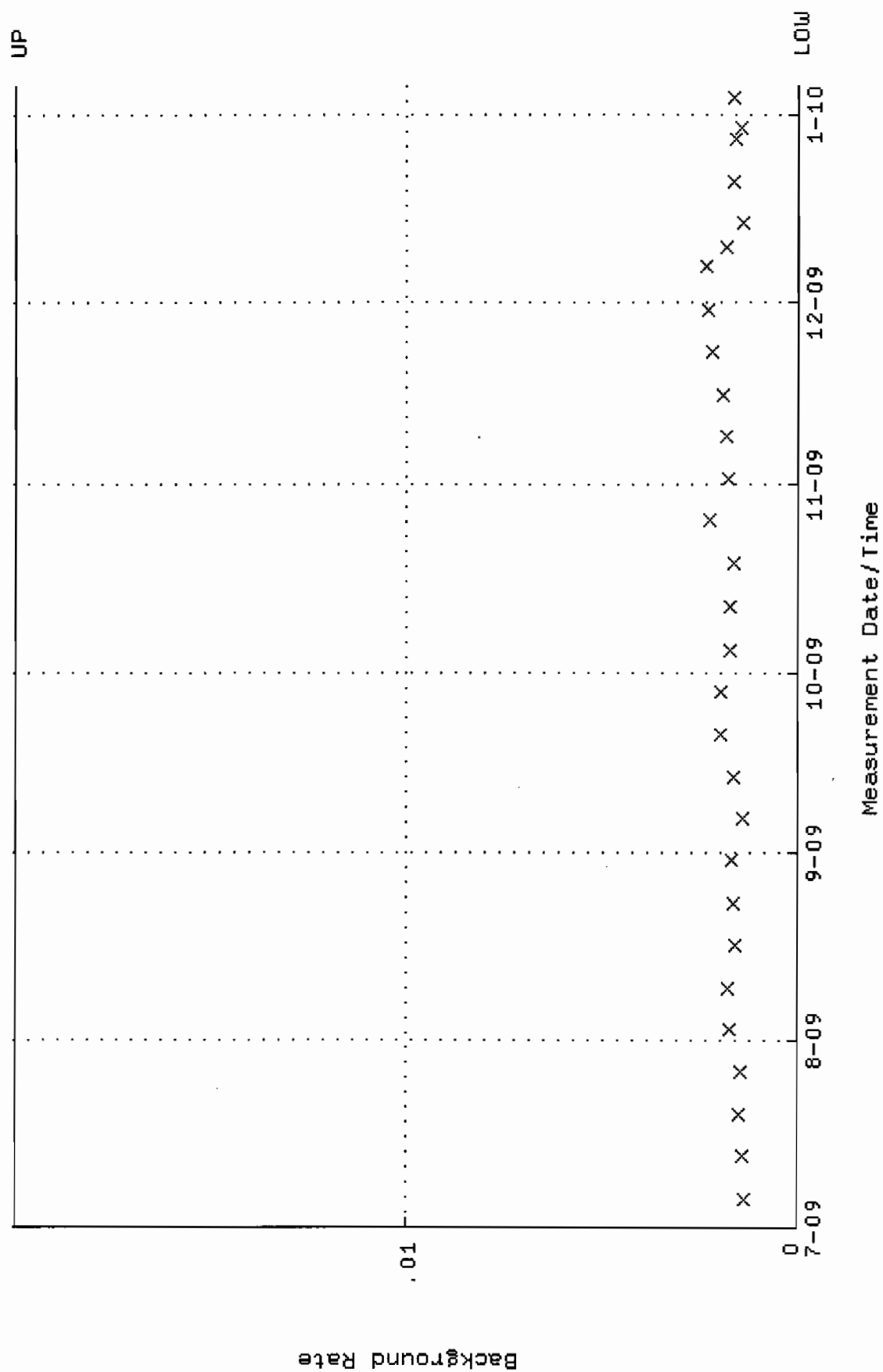
QA filename : DKA100:[ENV_ALPHA.QA.W]W012.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.285730 through 0.305730



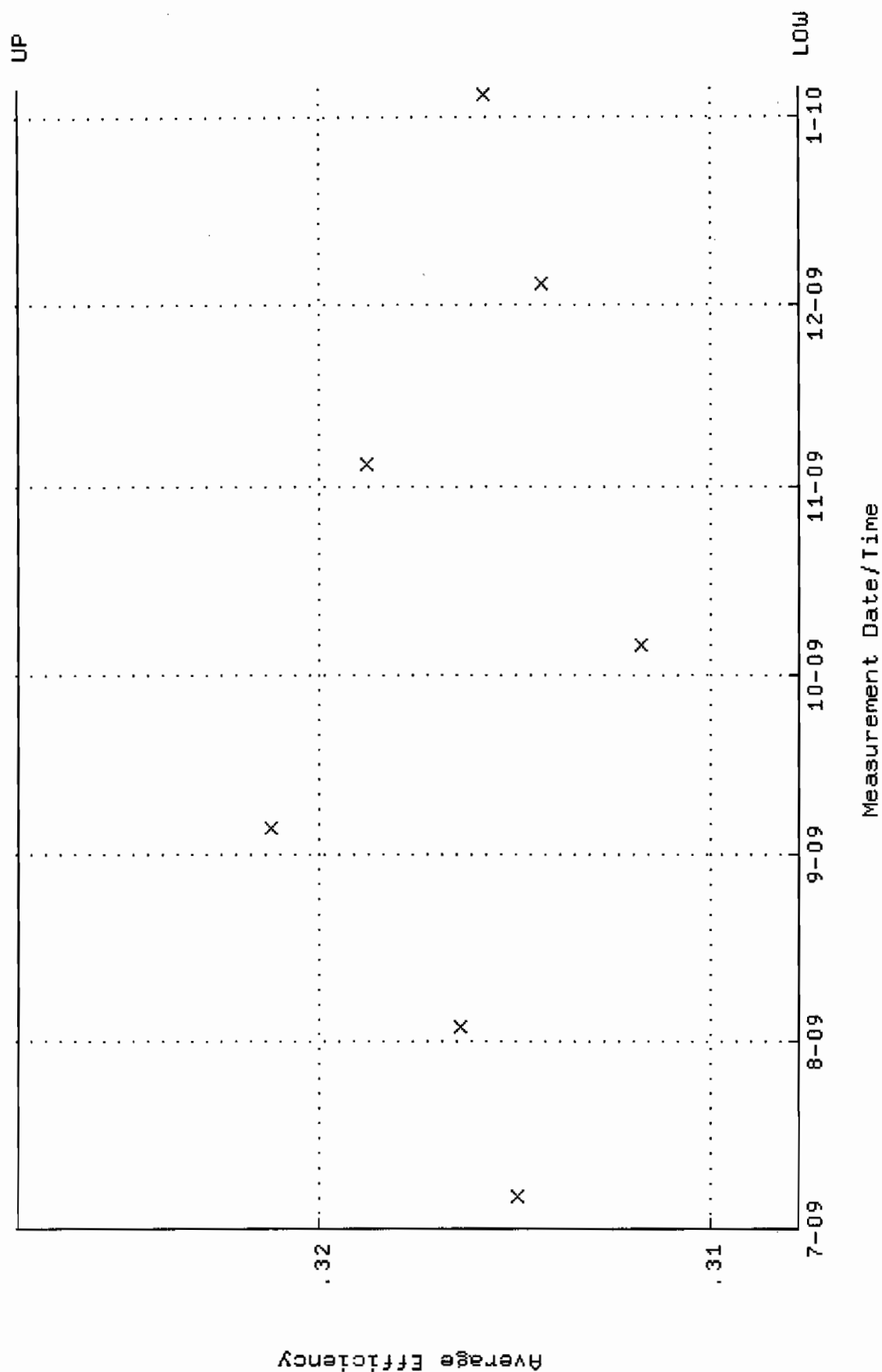
QA filename : DKA100:[ENV_ALPHA.QA.W]w012.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:11 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.0678 through 97.3382



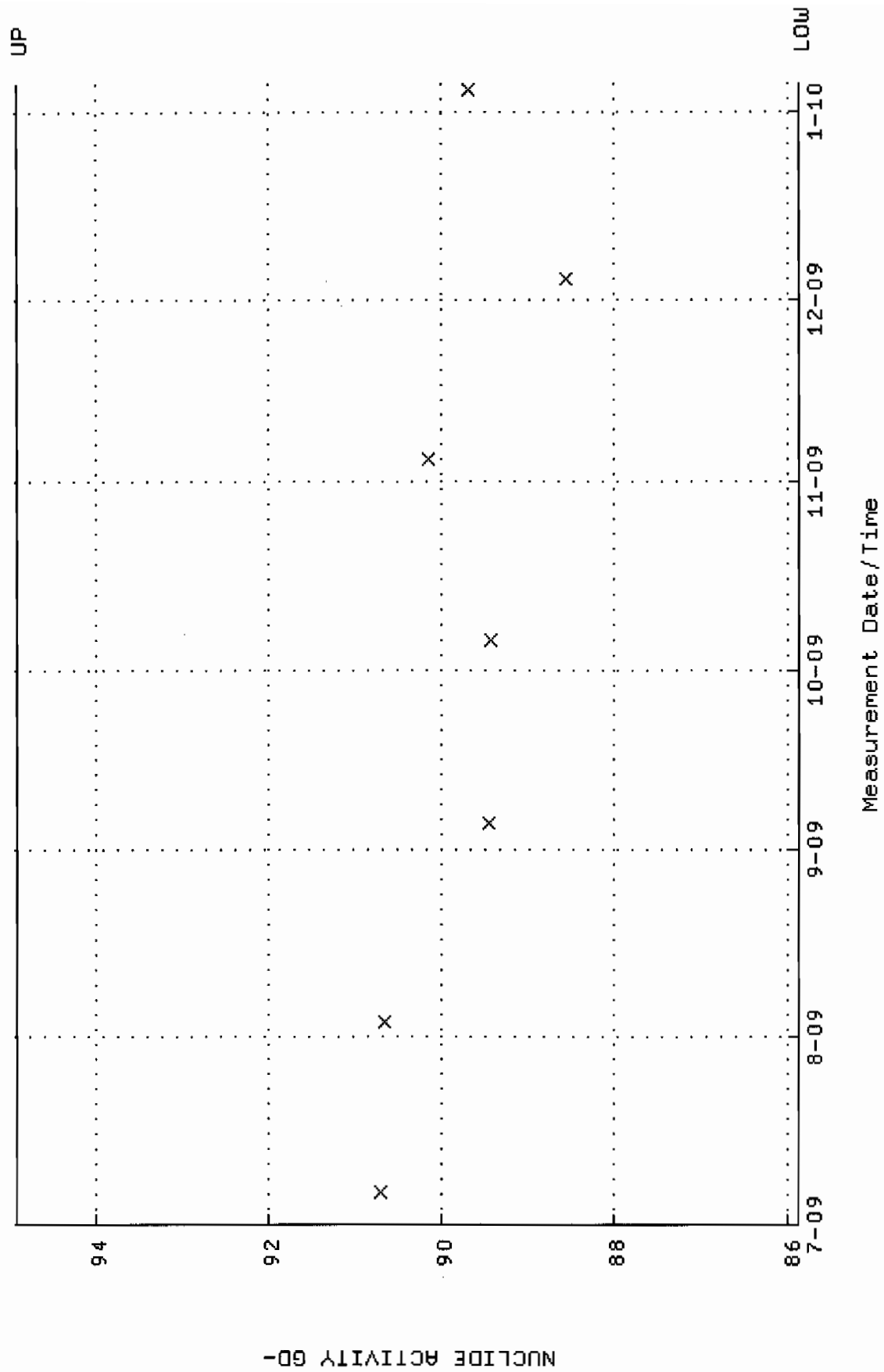
QA filename : DKA100:[ENV_ALPHA.QA.B]B012.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:55 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



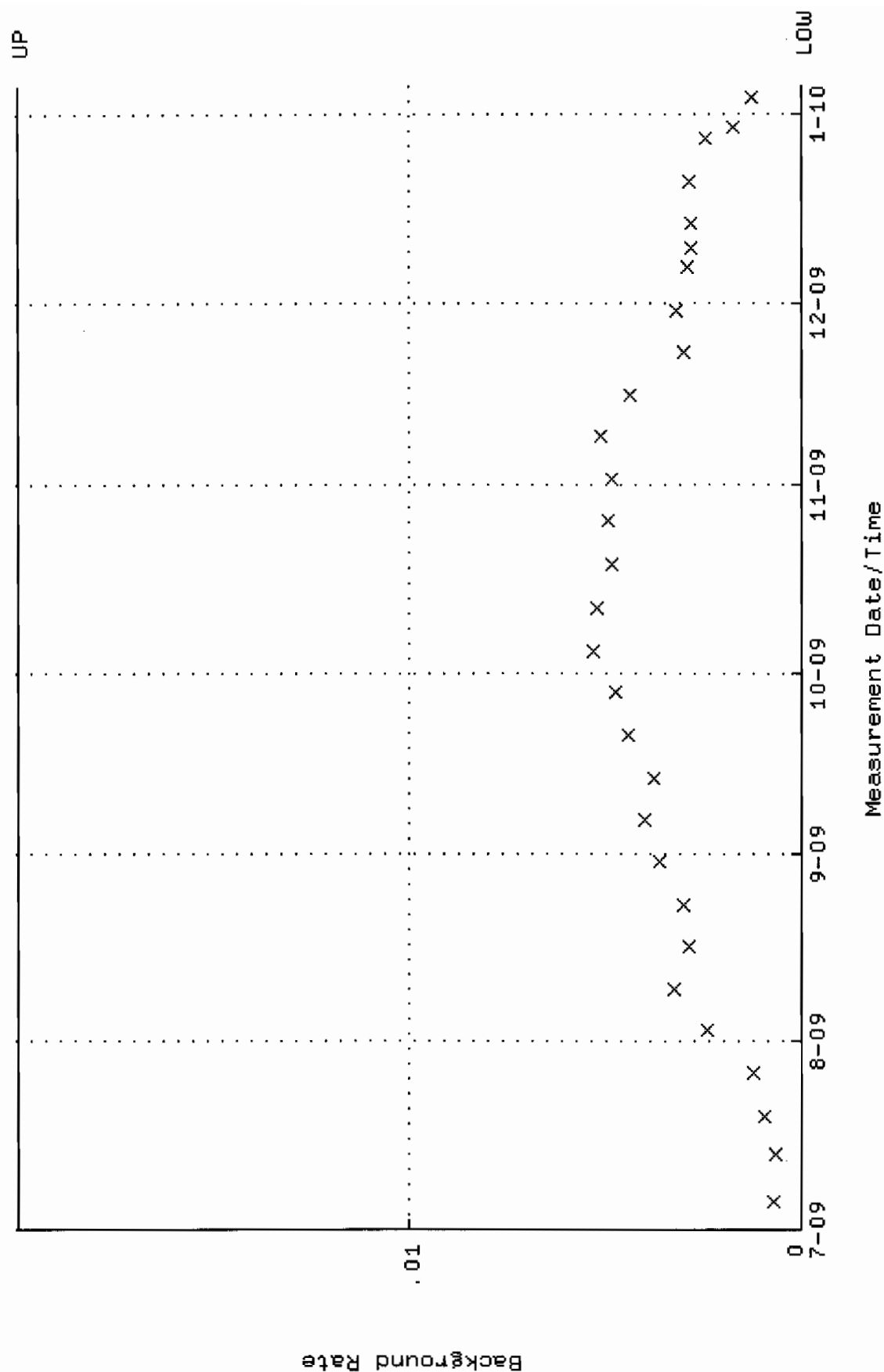
QA filename : DKA100:[ENV_ALPHA.QA.W]W026.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.307728 through 0.327728



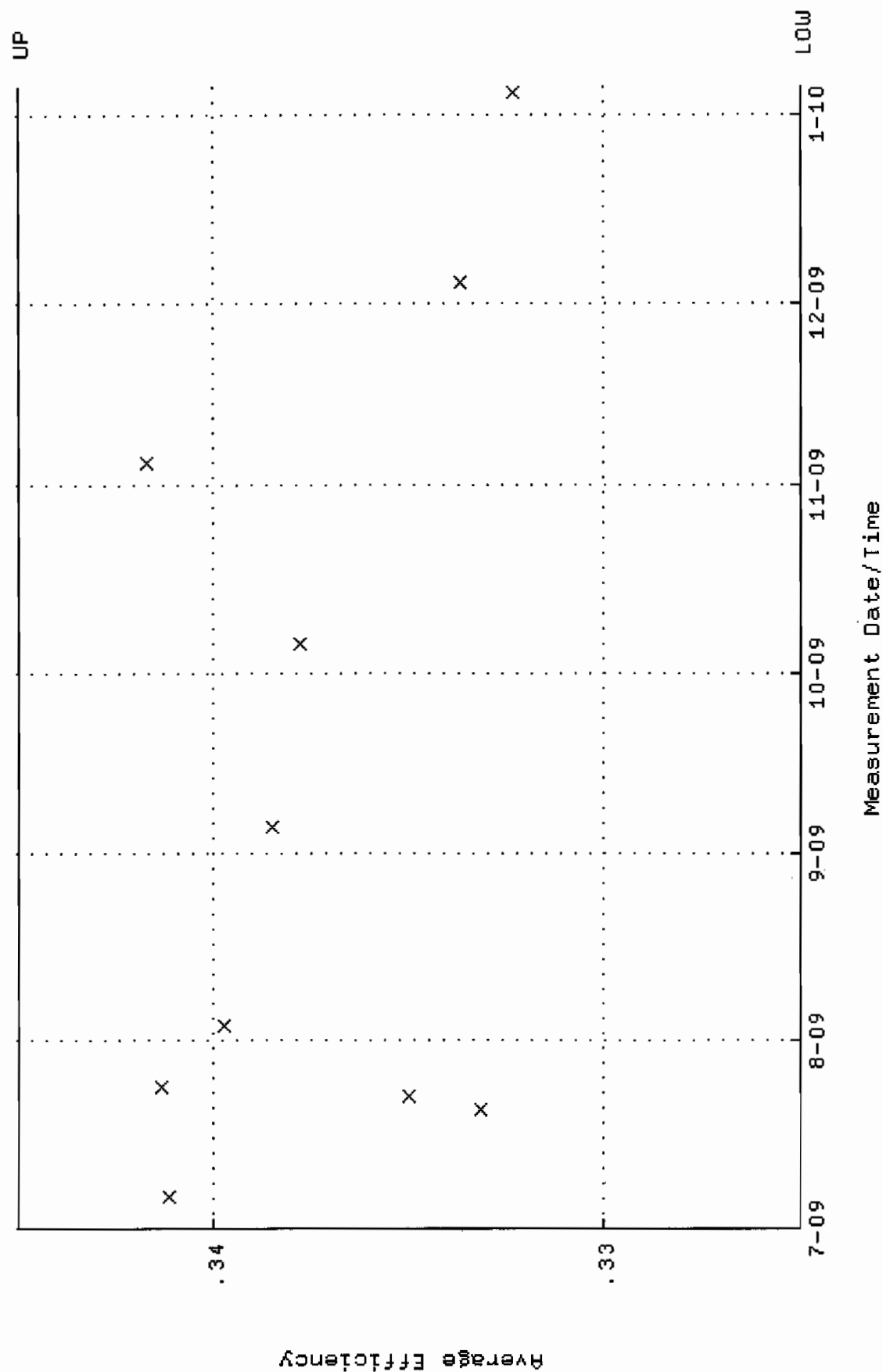
QA filename : DKA100:[ENV_ALPHA.QA.W]W026.QAF;3
 Parameter Name : NACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.8763 through 94.9159



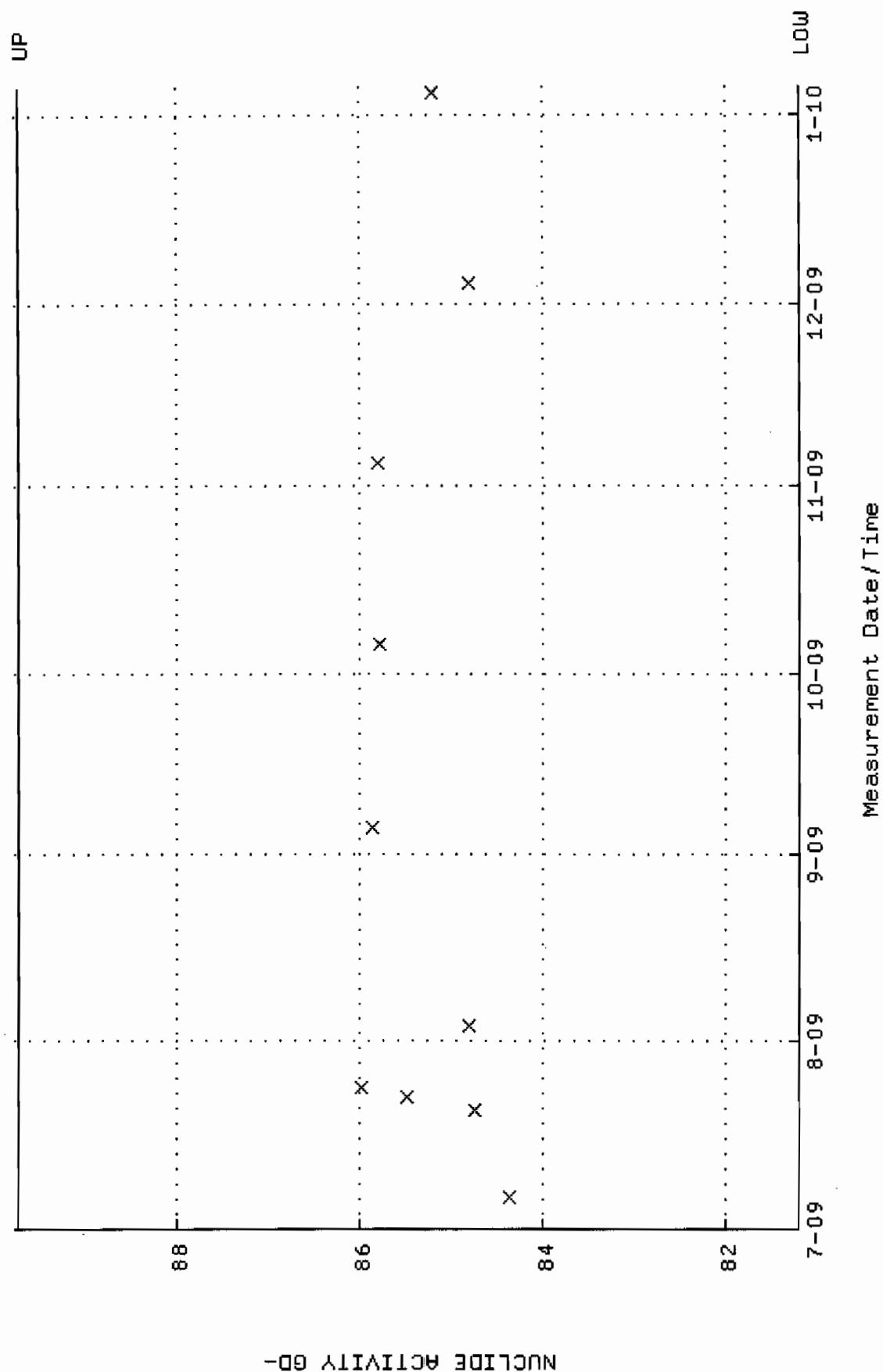
QA filename : DKA100:[ENV_ALPHA.QA.B]B026.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



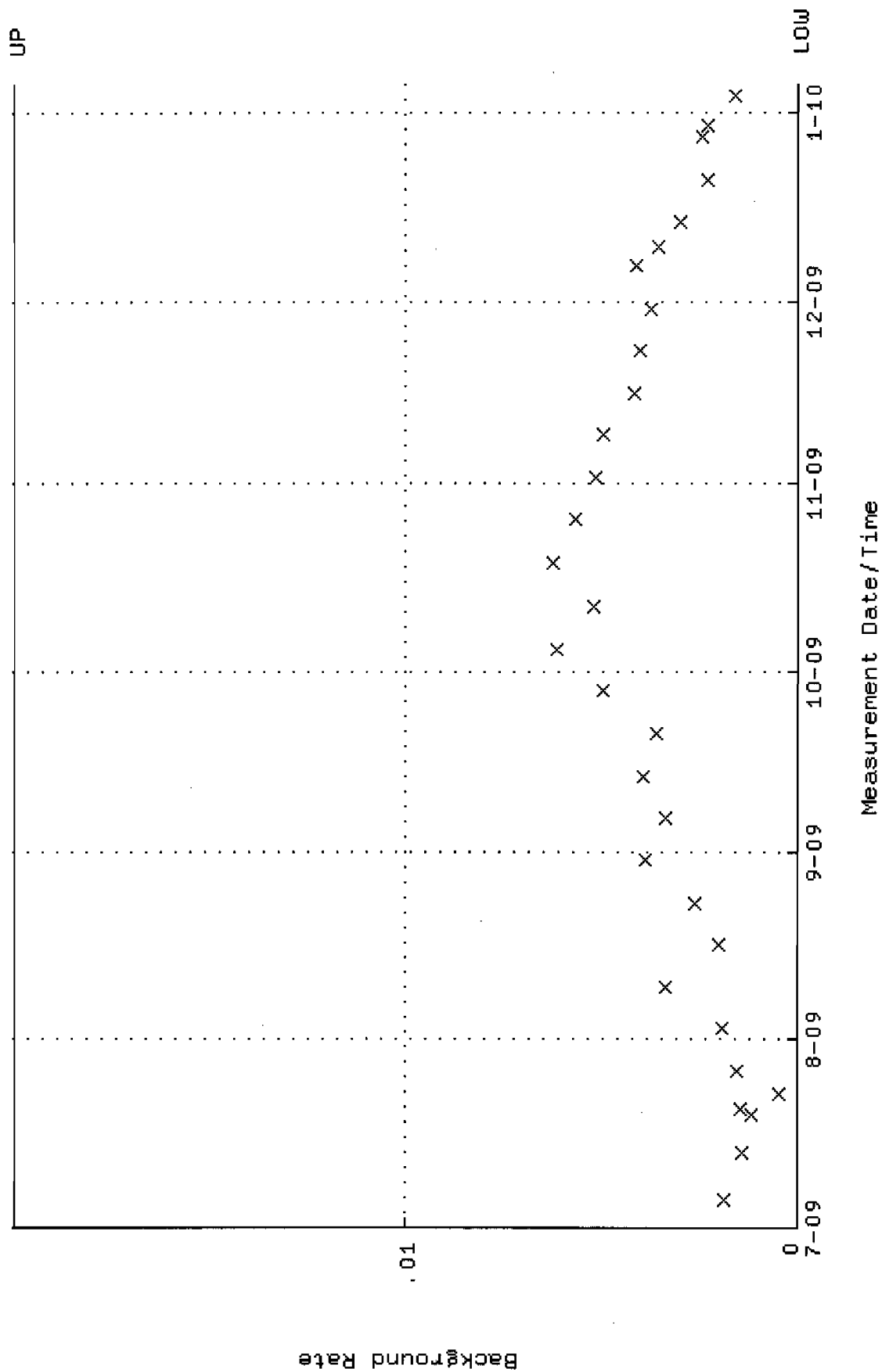
QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.324980 through 0.344980



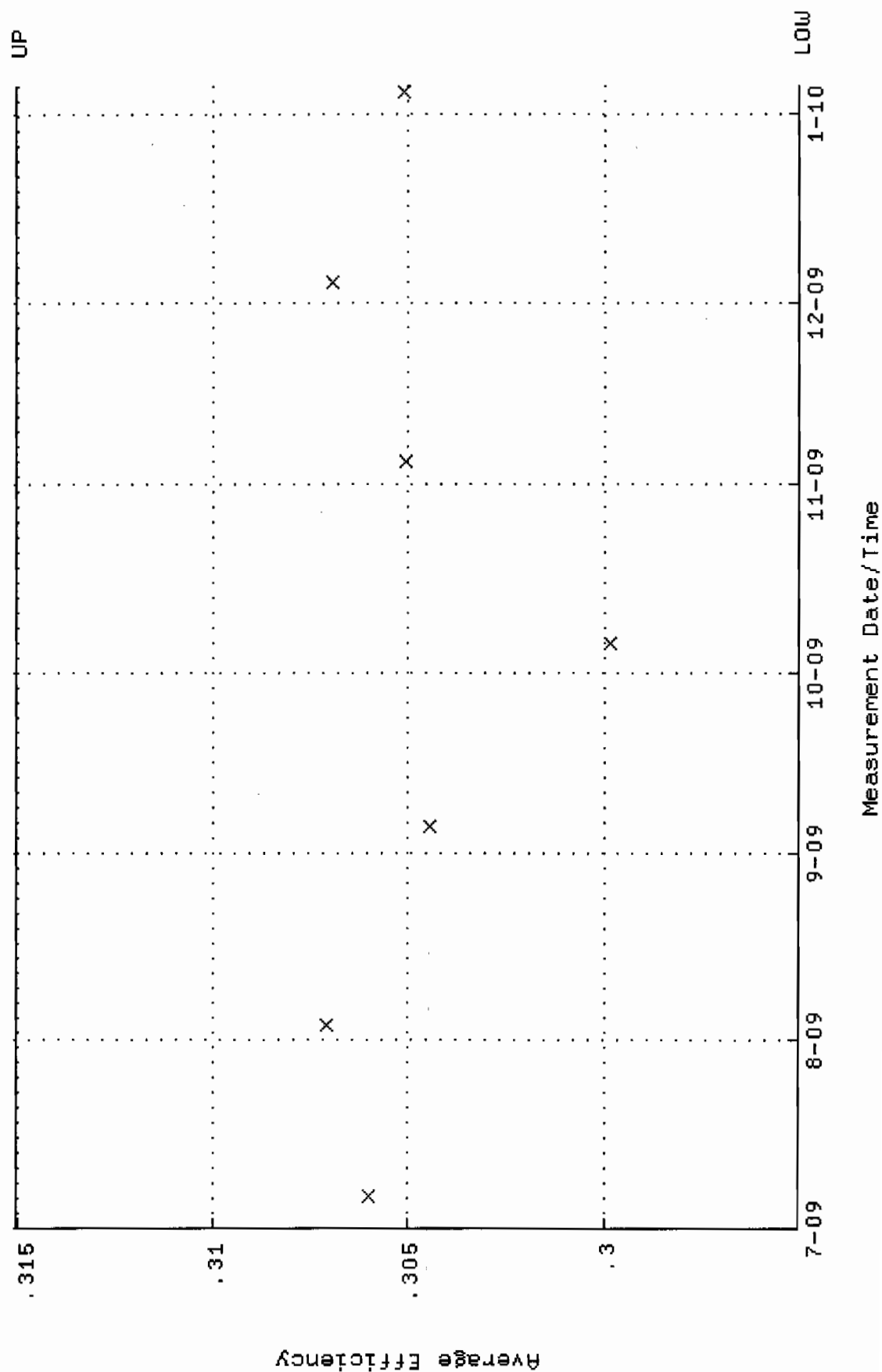
QA filename : DKA100:[ENV_ALPHA.QA.W]W027.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.2030 through 89.7506



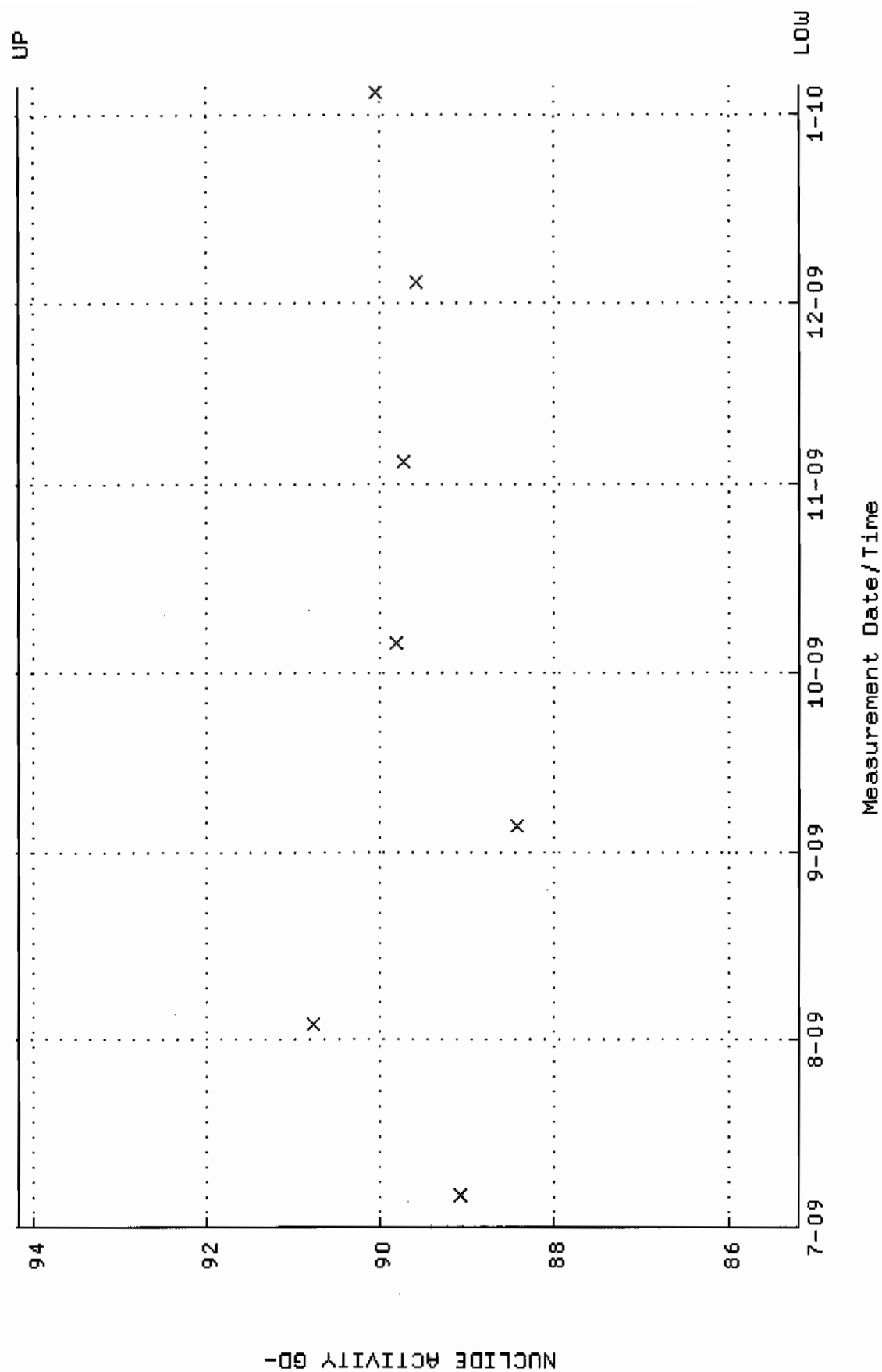
QA filename : DKA100:[ENV_ALPHA.QA.B]B027.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



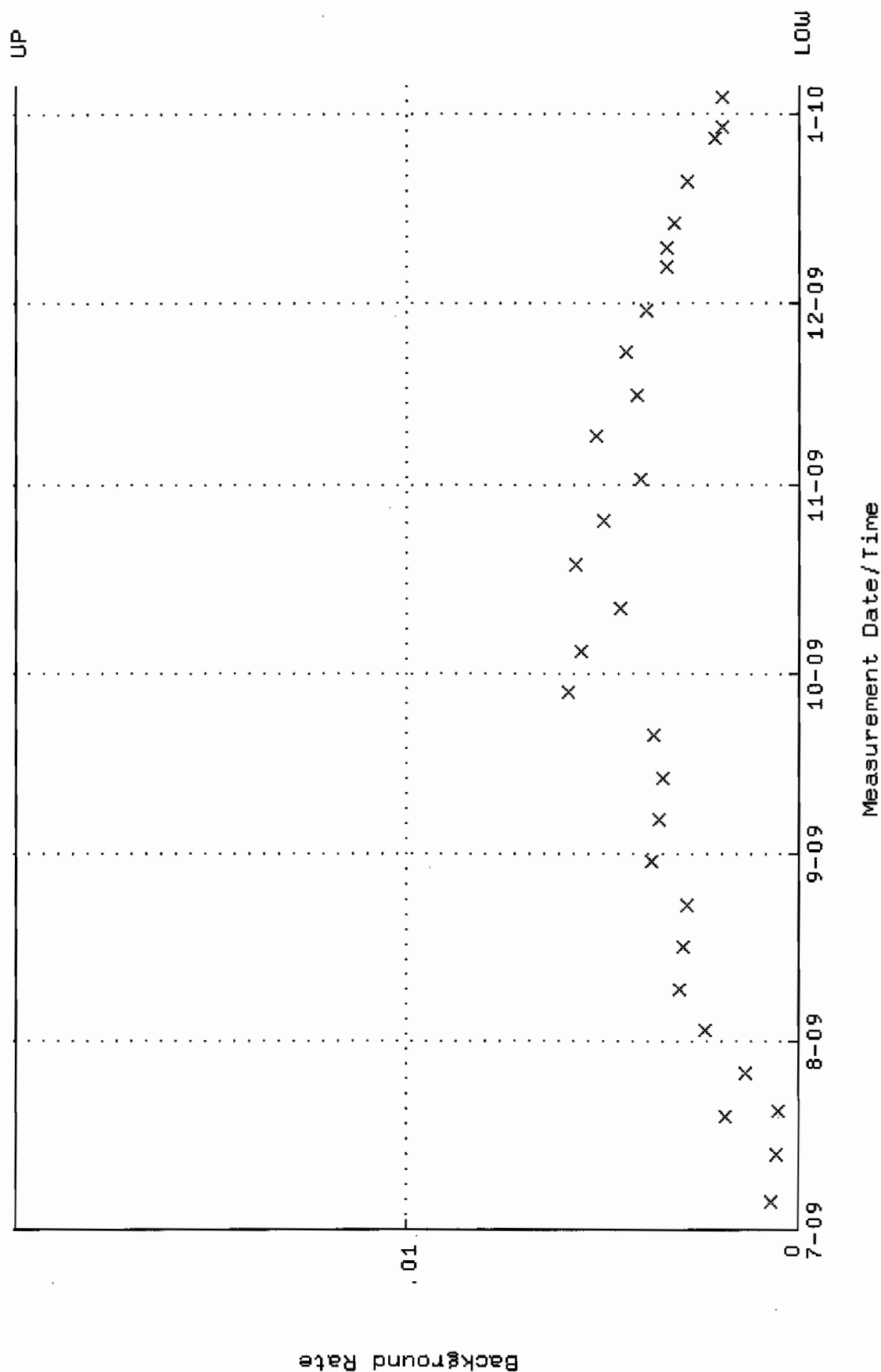
QA filename : DKA100:[ENV_ALPHA.QA.W]w028.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.295040 through 0.315040



QA filename : DKA100:[ENV_ALPHA.QA.W]w028.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 6-JUL-2009 09:46:14 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.1965 through 94.1645



QA filename : DKA100:[ENV_ALPHA.QA.B]B028.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:11:58 through 5-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02

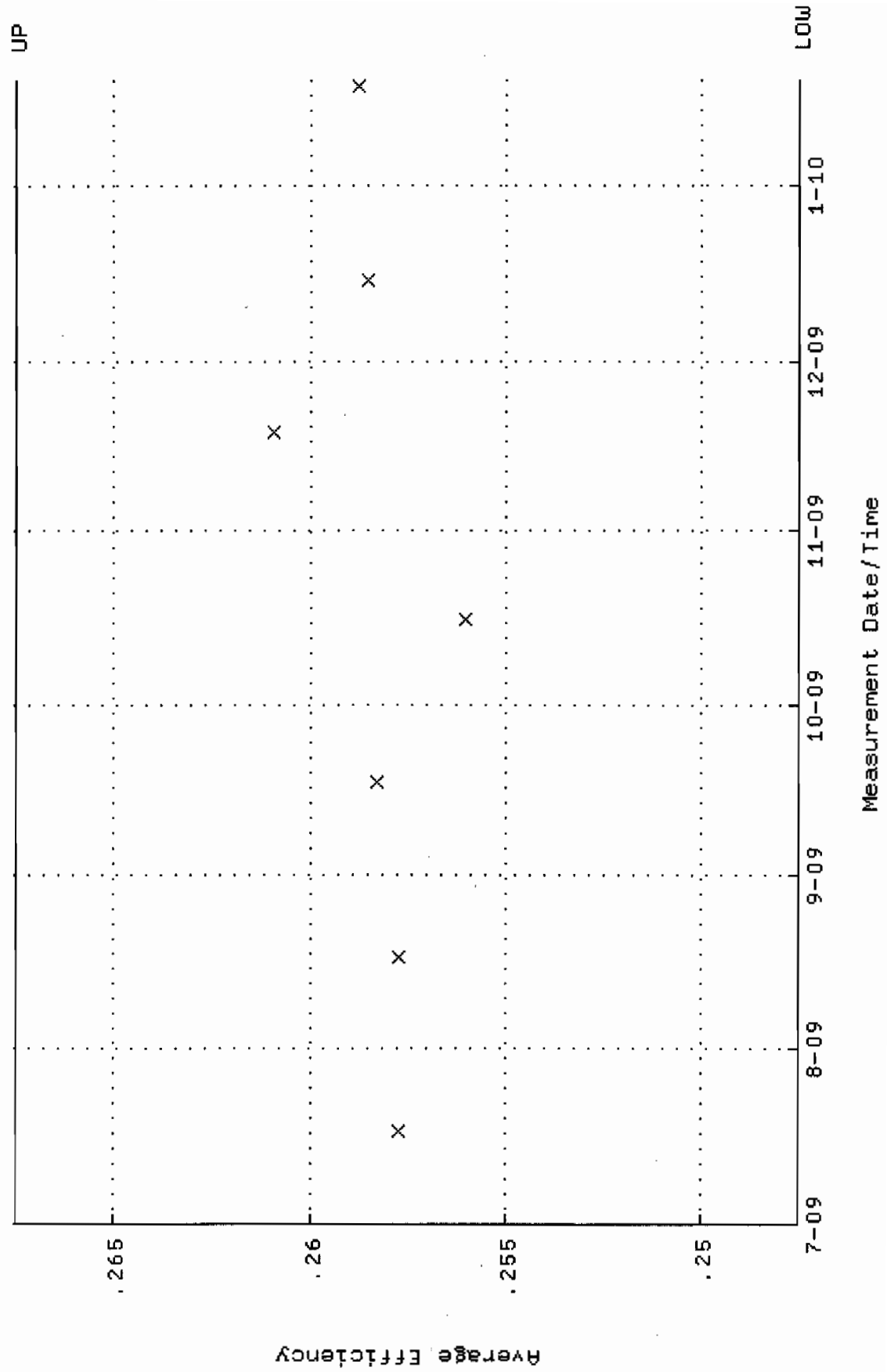


QA filename : DKA100:[ENV_ALPHA.QA.W]w125.QAF;1

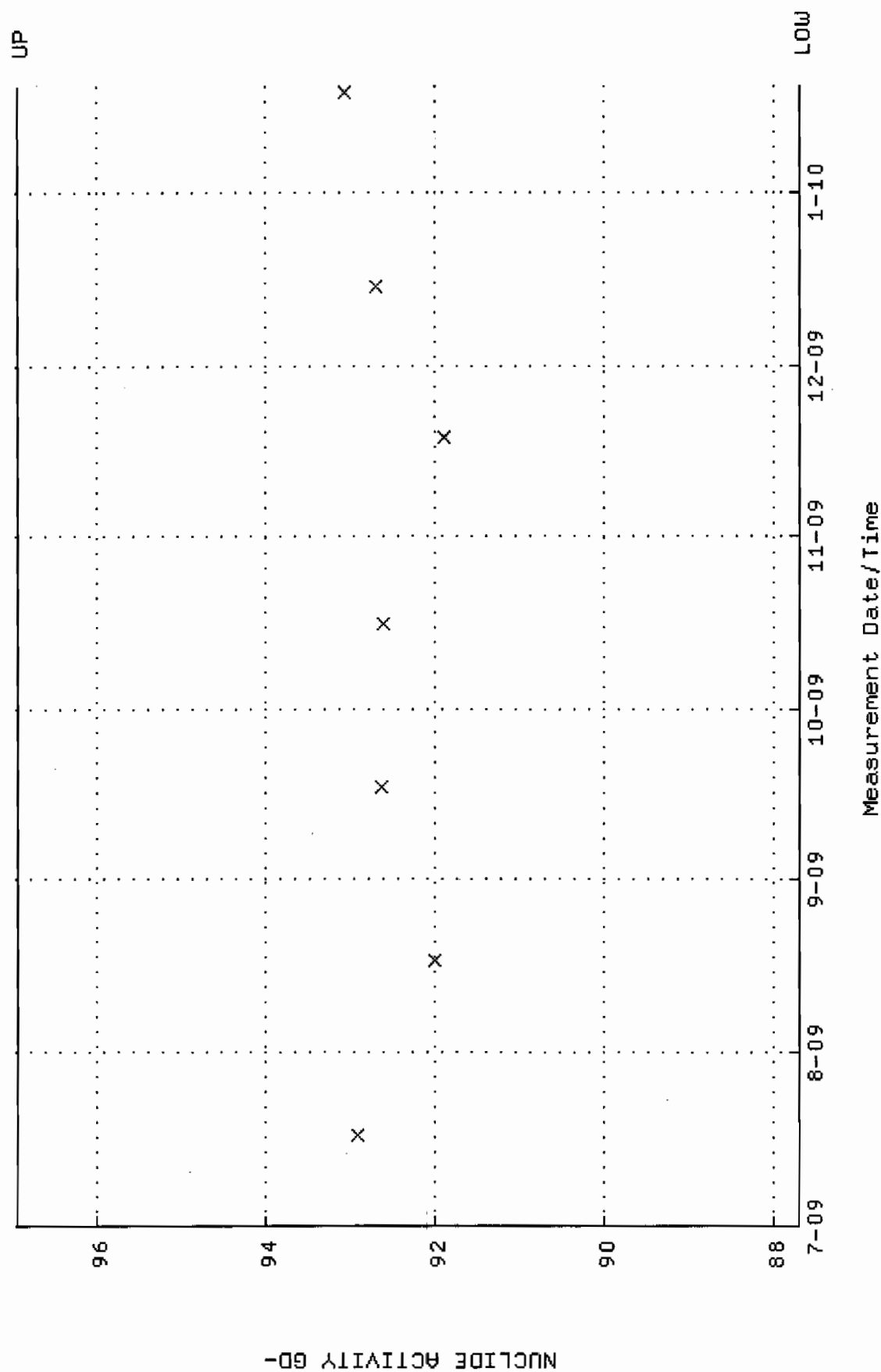
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-JUL-2009 09:11:36 through 19-JAN-2010 12:00:00

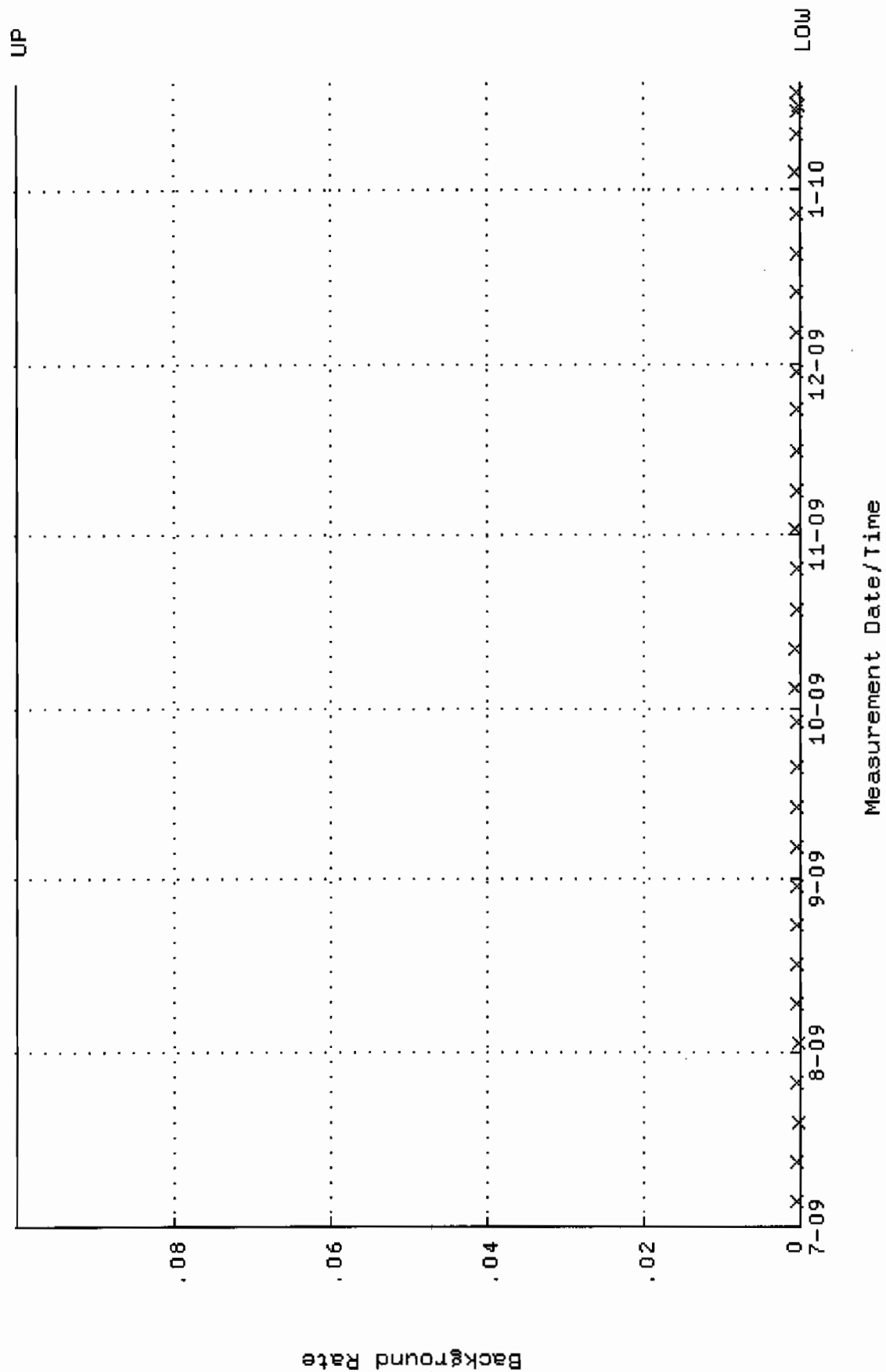
Lower/Upper Lmts: 0.247512 through 0.267512



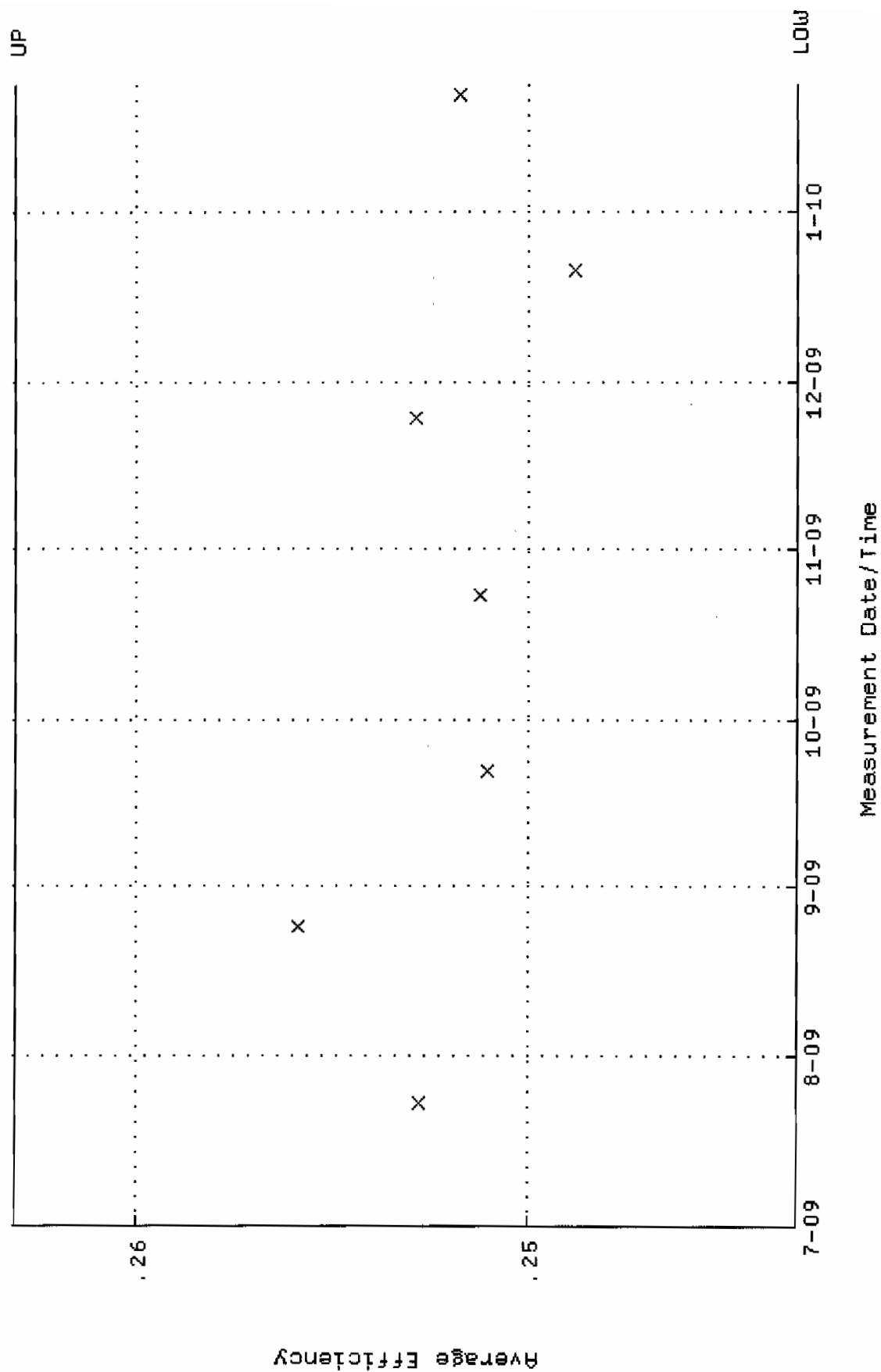
QA filename : DKA100:[ENV-ALPHA.QA.W]W125.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-JUL-2009 09:11:36 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.6956 through 96.9268



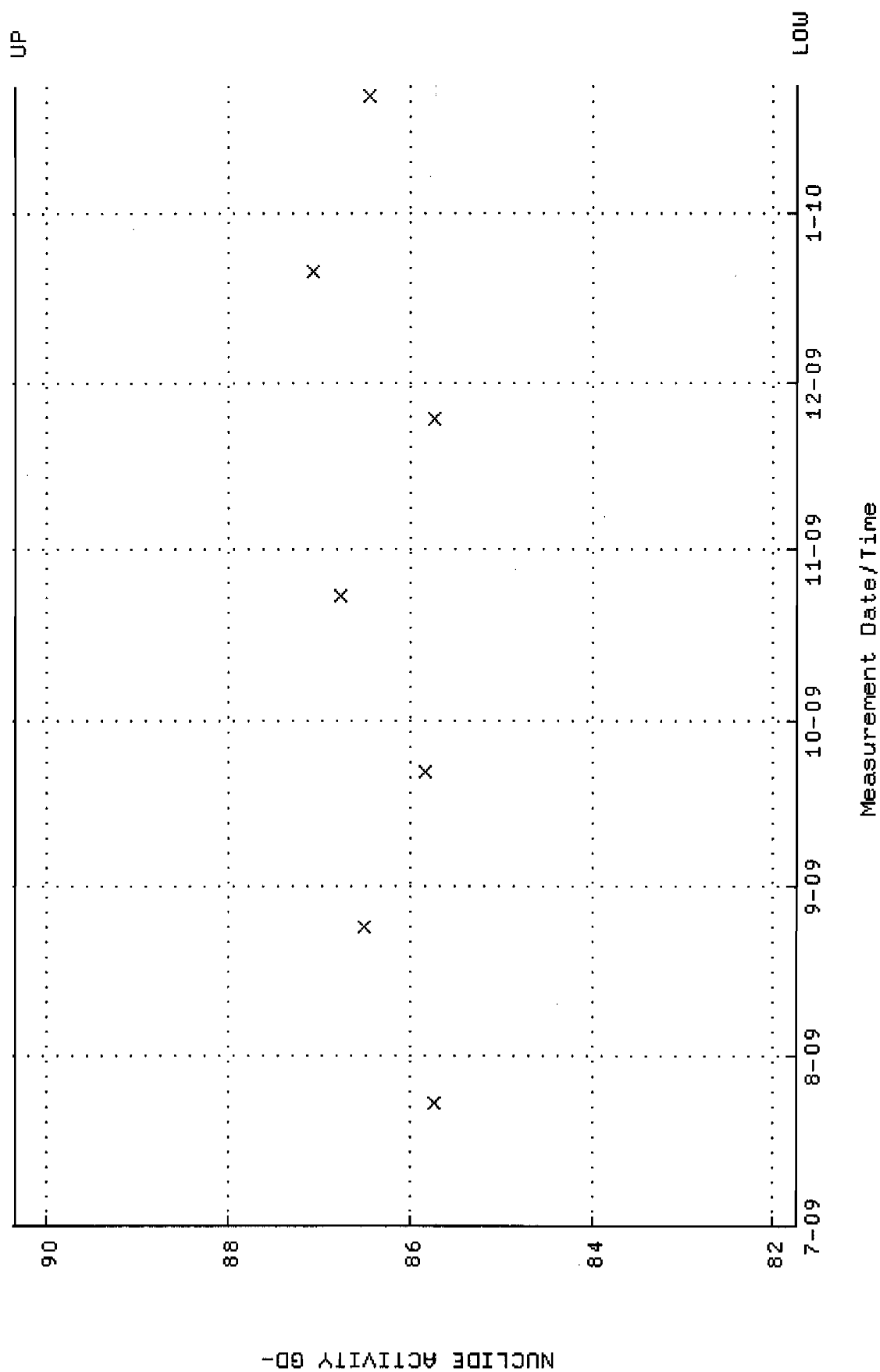
QA filename : DKA100:[ENV_ALPHA.QA.B]B125.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:45 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



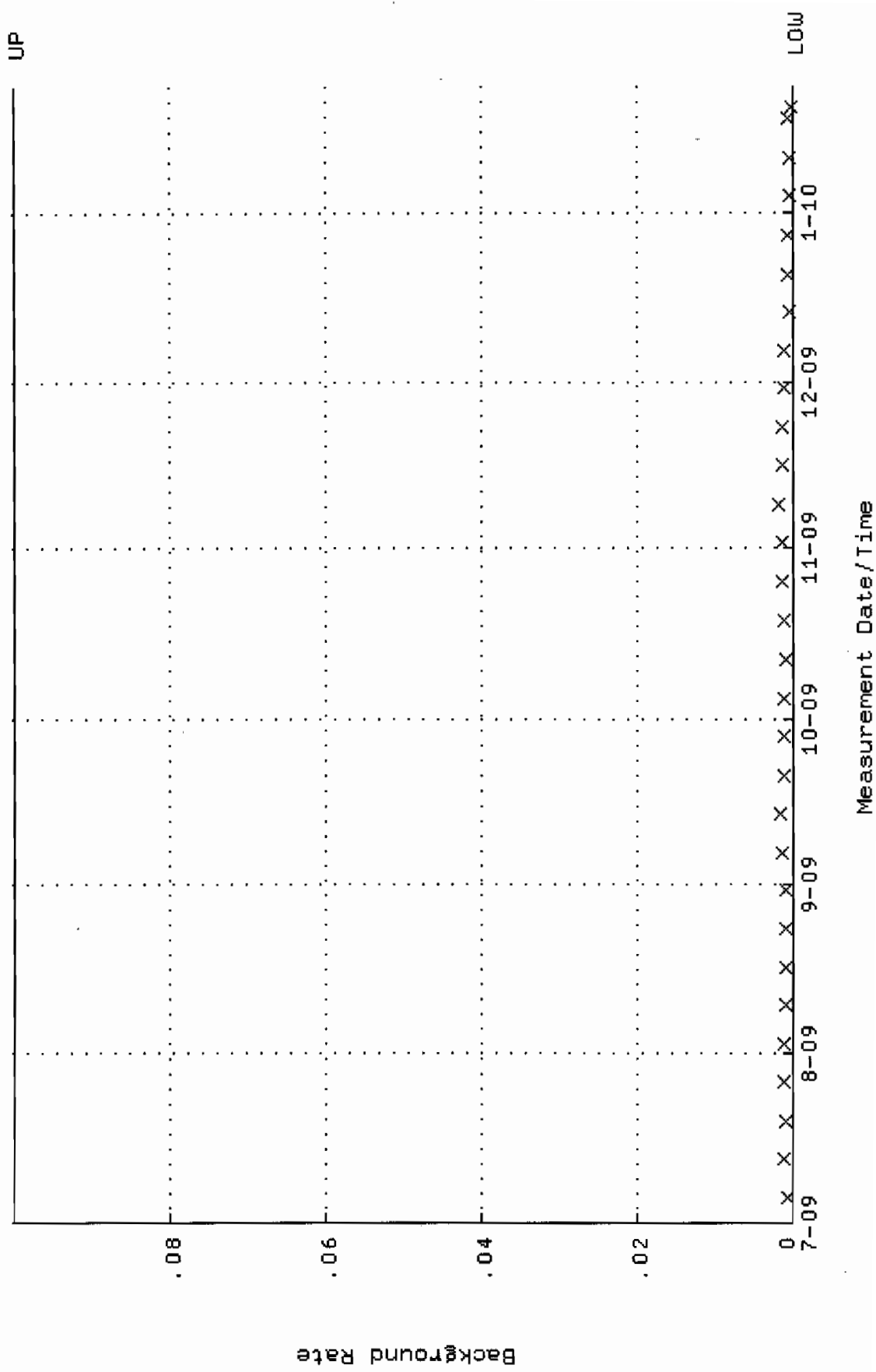
QA filename : DKA100:[ENV_ALPHA.QA.W]W208.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 23-JUL-2009 07:58:46 through 23-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.243128 through 0.263128



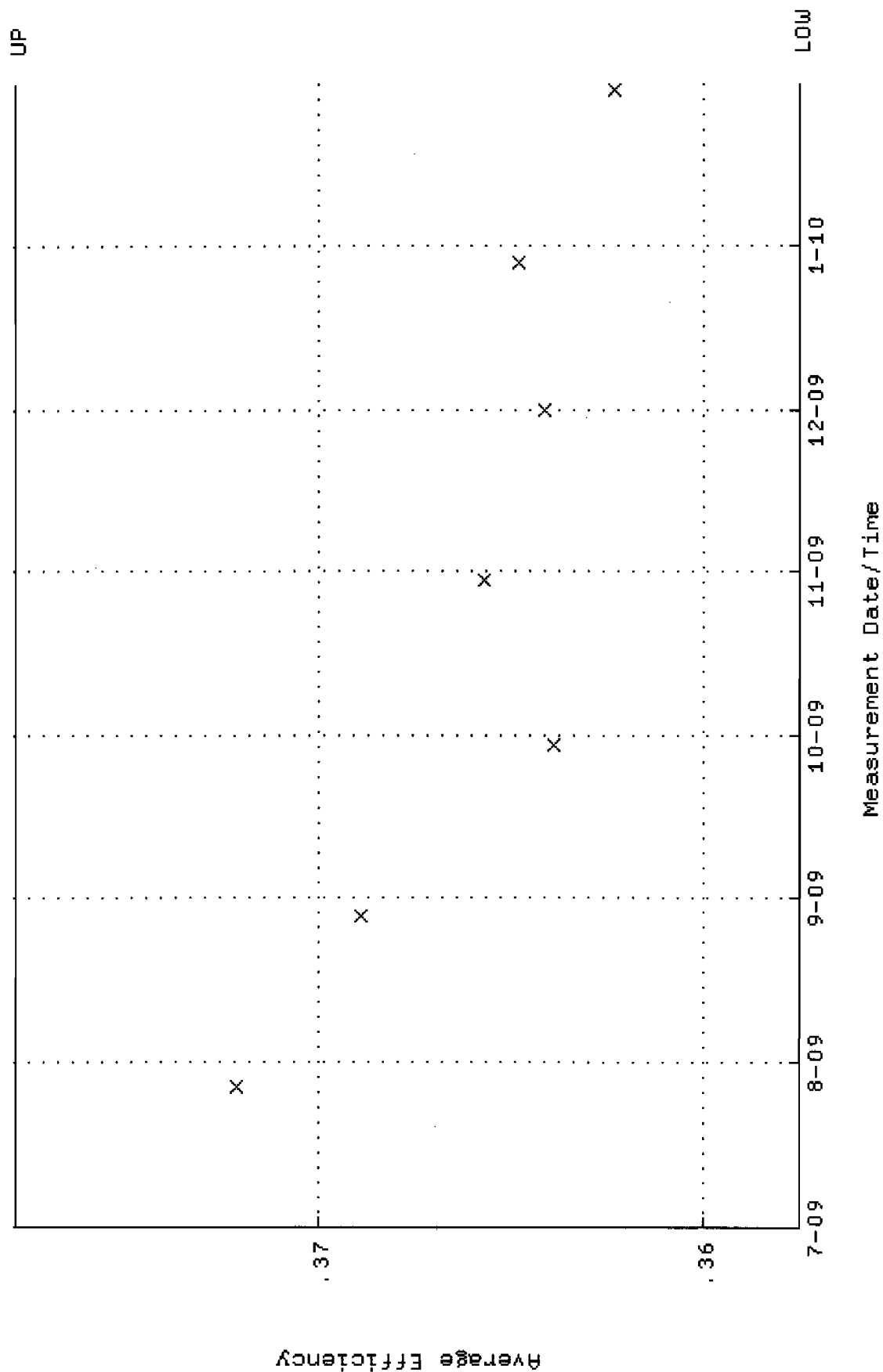
QA filename : DKA100:[ENV_ALPHA.QA.W]W208.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 23-JUL-2009 07:58:46 through 23-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.7467 through 90.3517



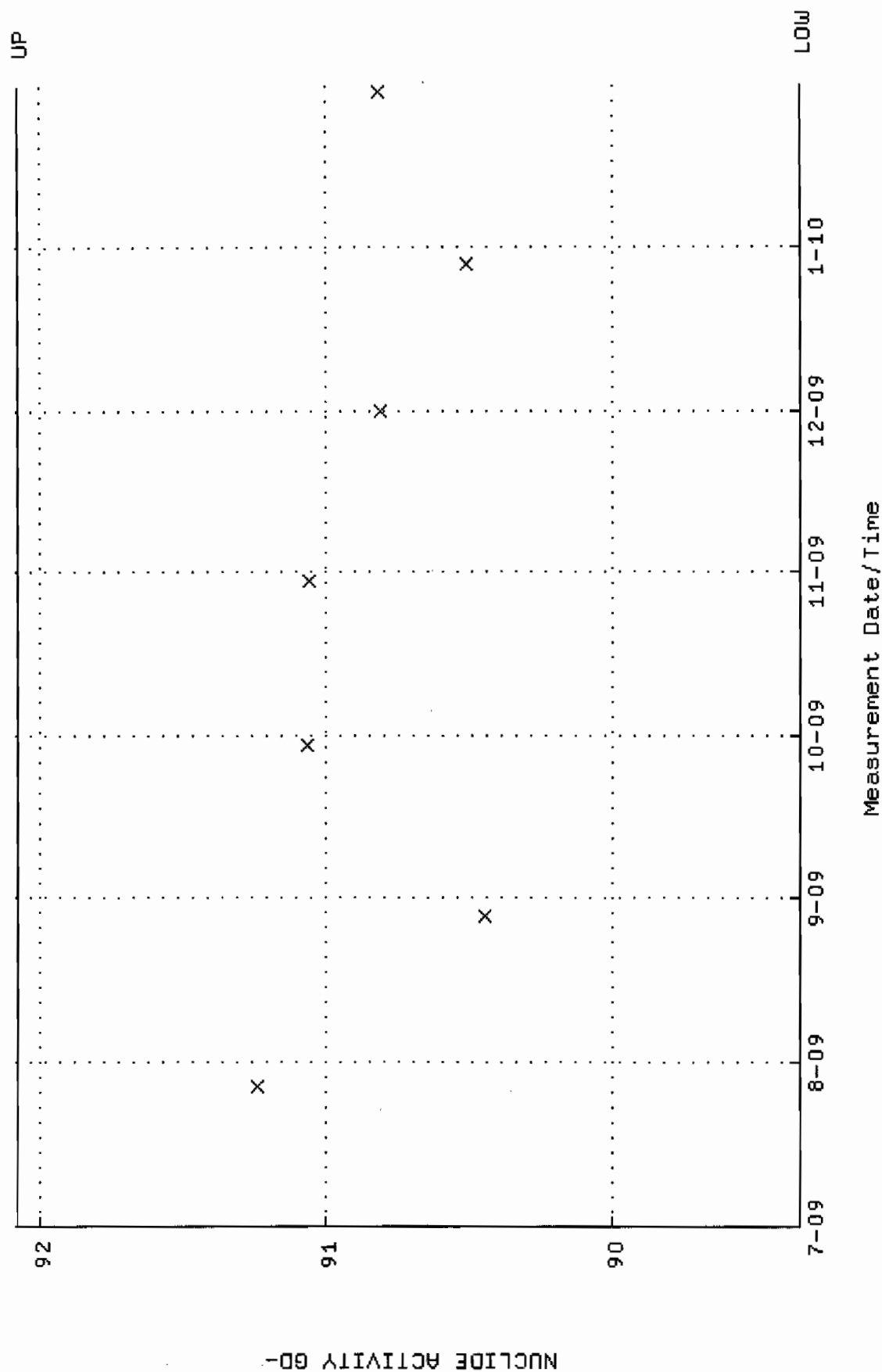
QA filename : DKA100:[ENV_ALPHA.QA.B]B208.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:14 through 23-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



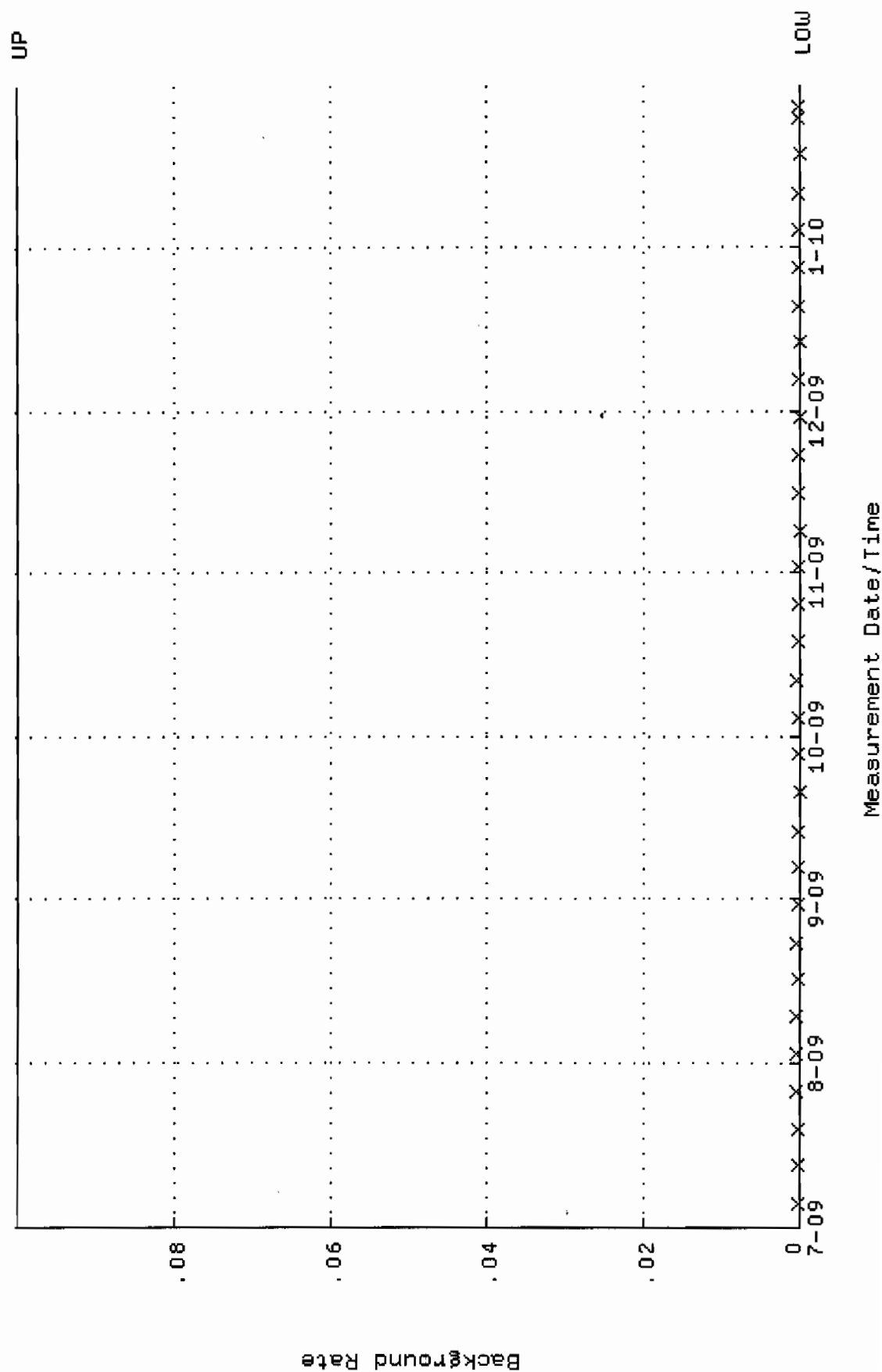
QA filename : DKA100:[ENV_ALPHA.QA.W]w209.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:13 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.357528 through 0.377840



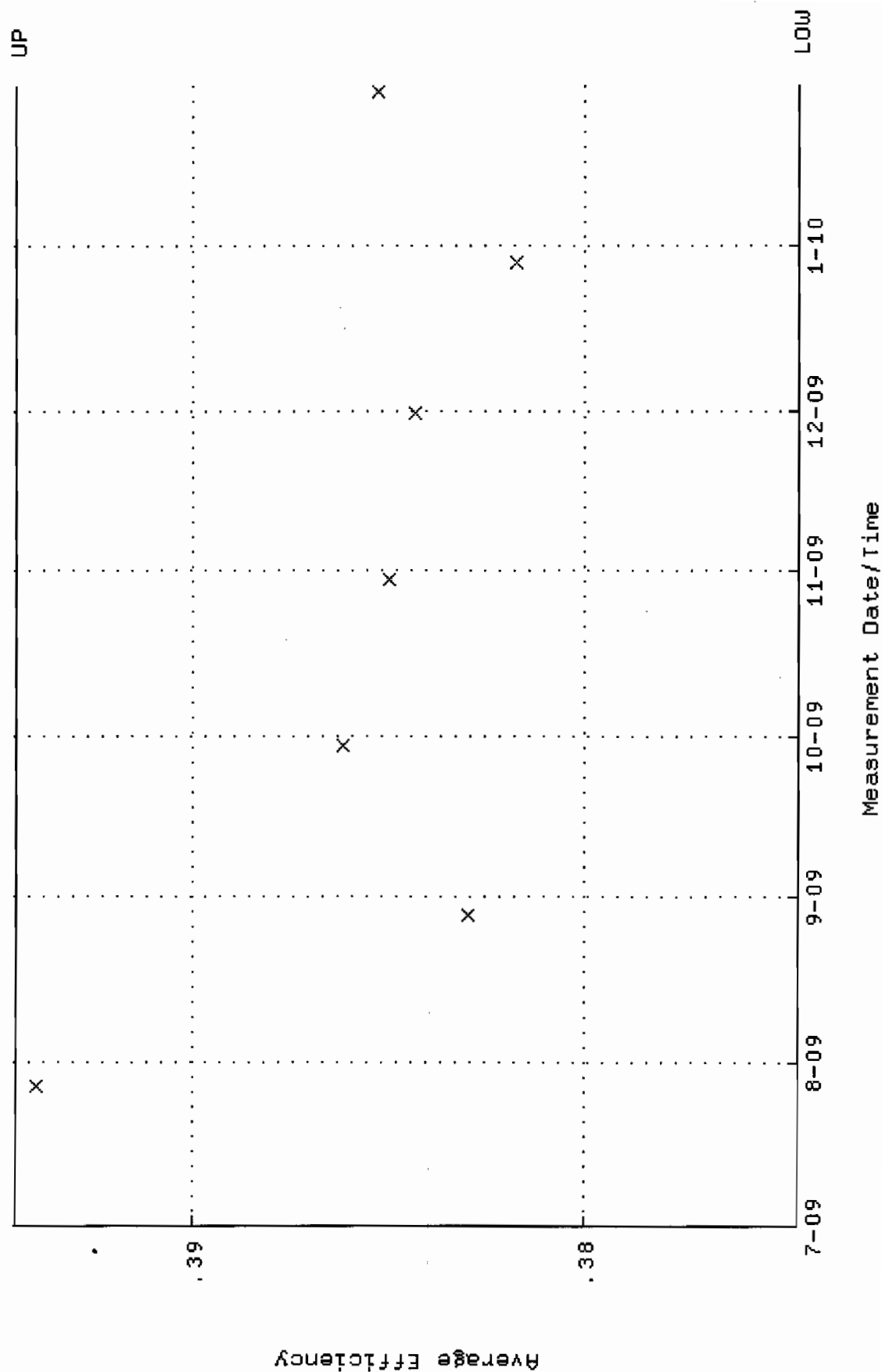
QA filename : DKA100:[ENV_ALPHA.QA.W]W209.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:13 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 89.3423 through 92.0753



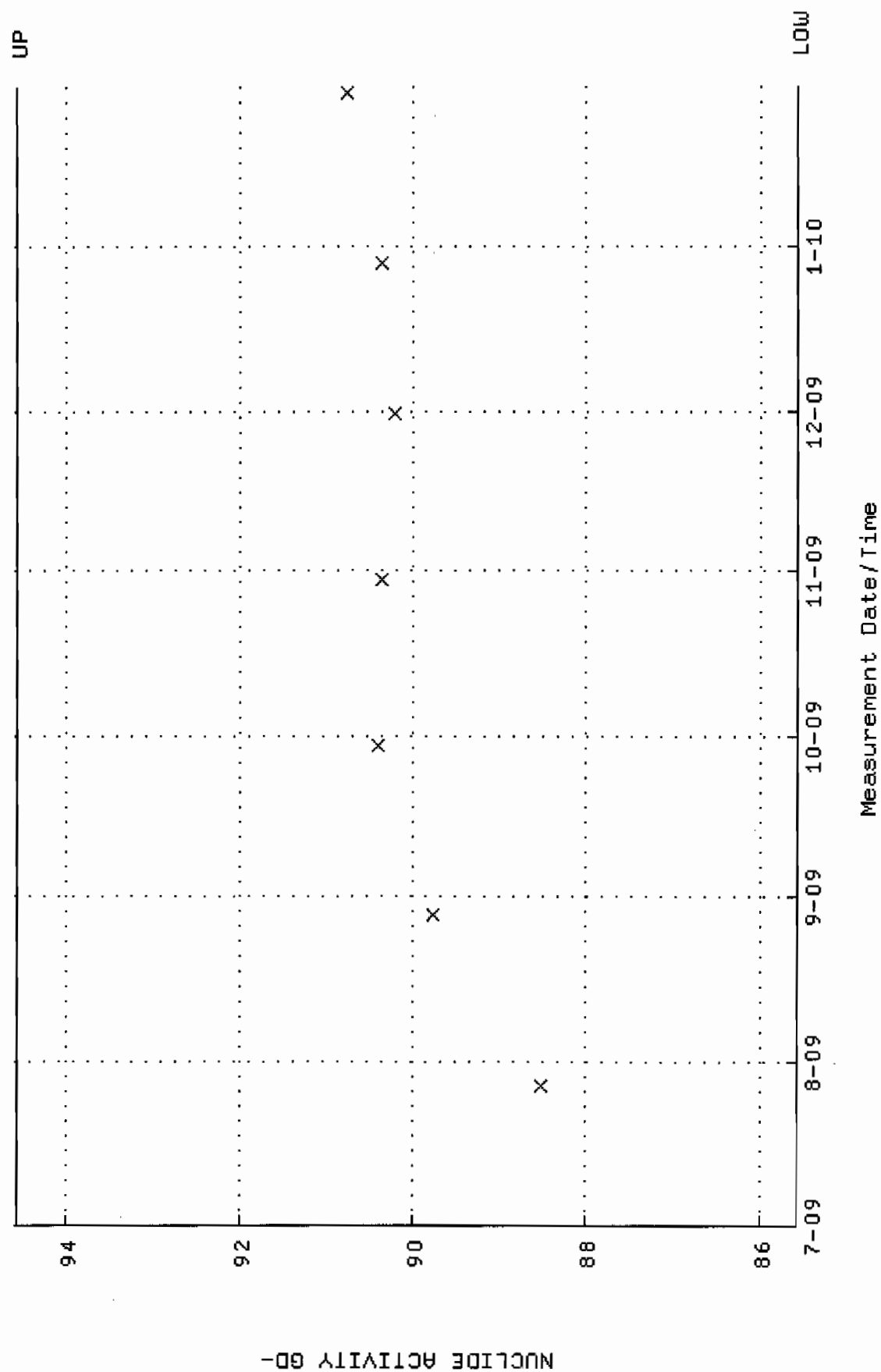
QA filename : DKA100:[ENV_ALPHA.QA.B]B209.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:19 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



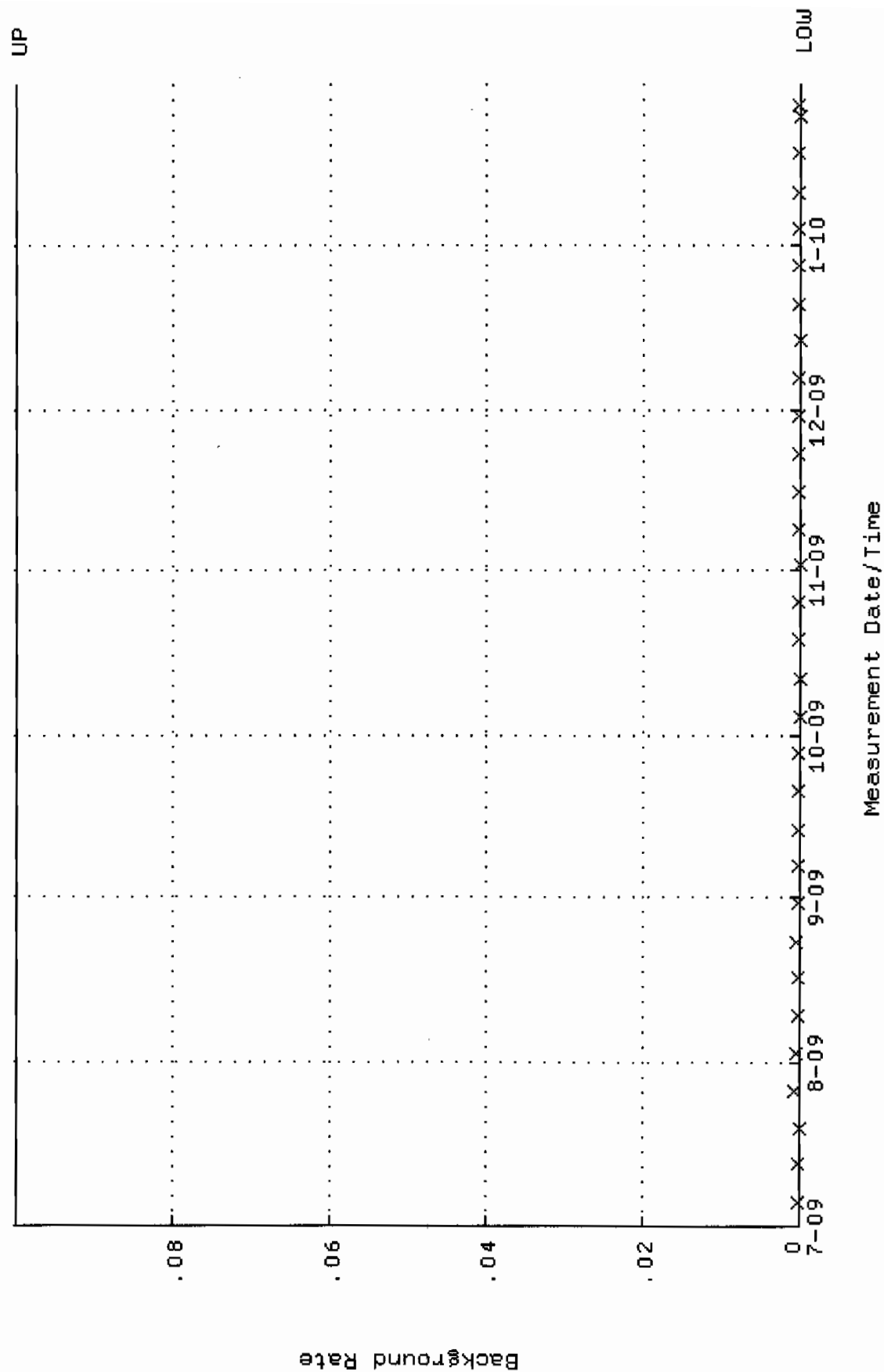
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:19 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.374526 through 0.394526



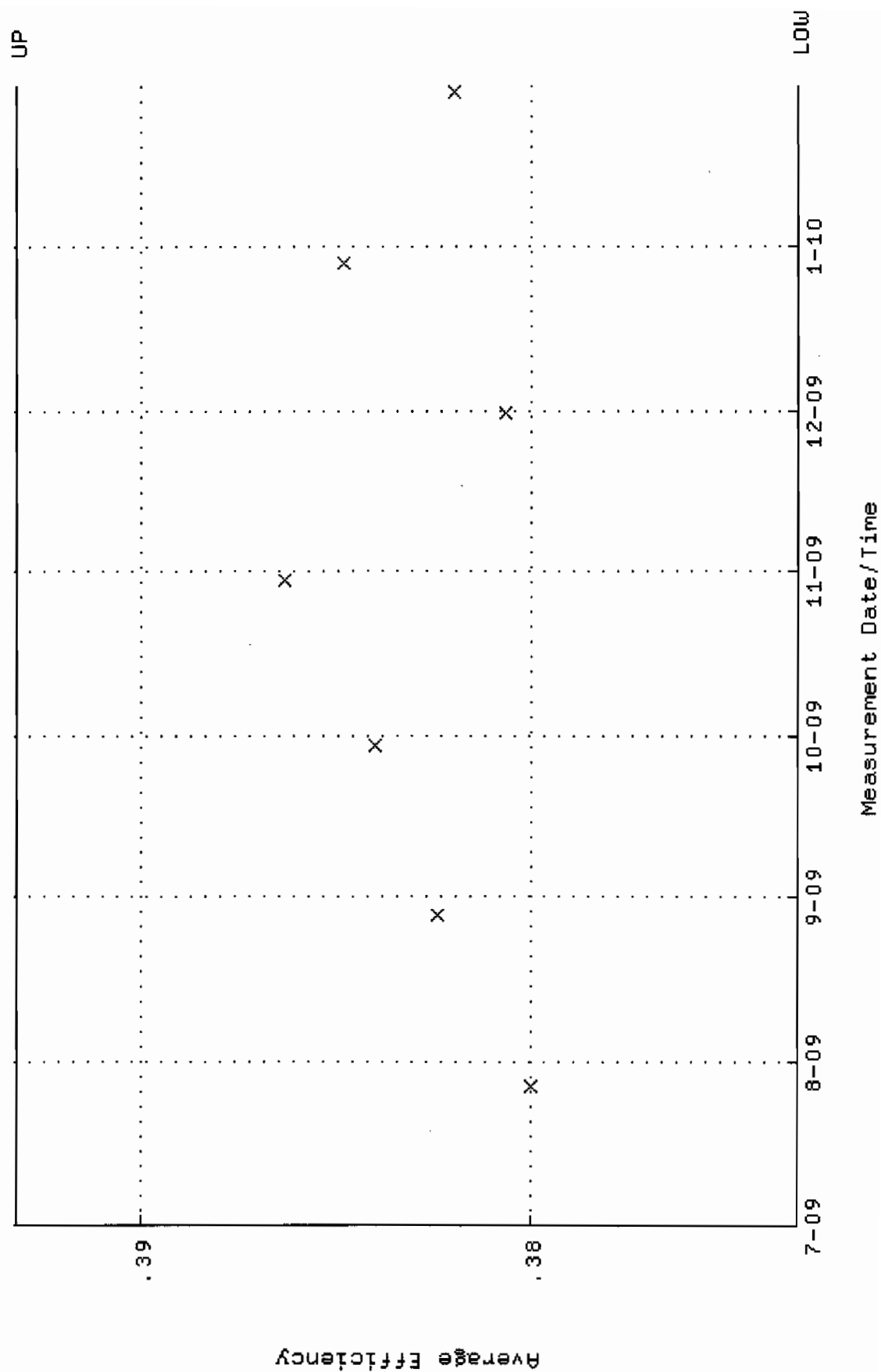
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:19 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.5688 through 94.5760



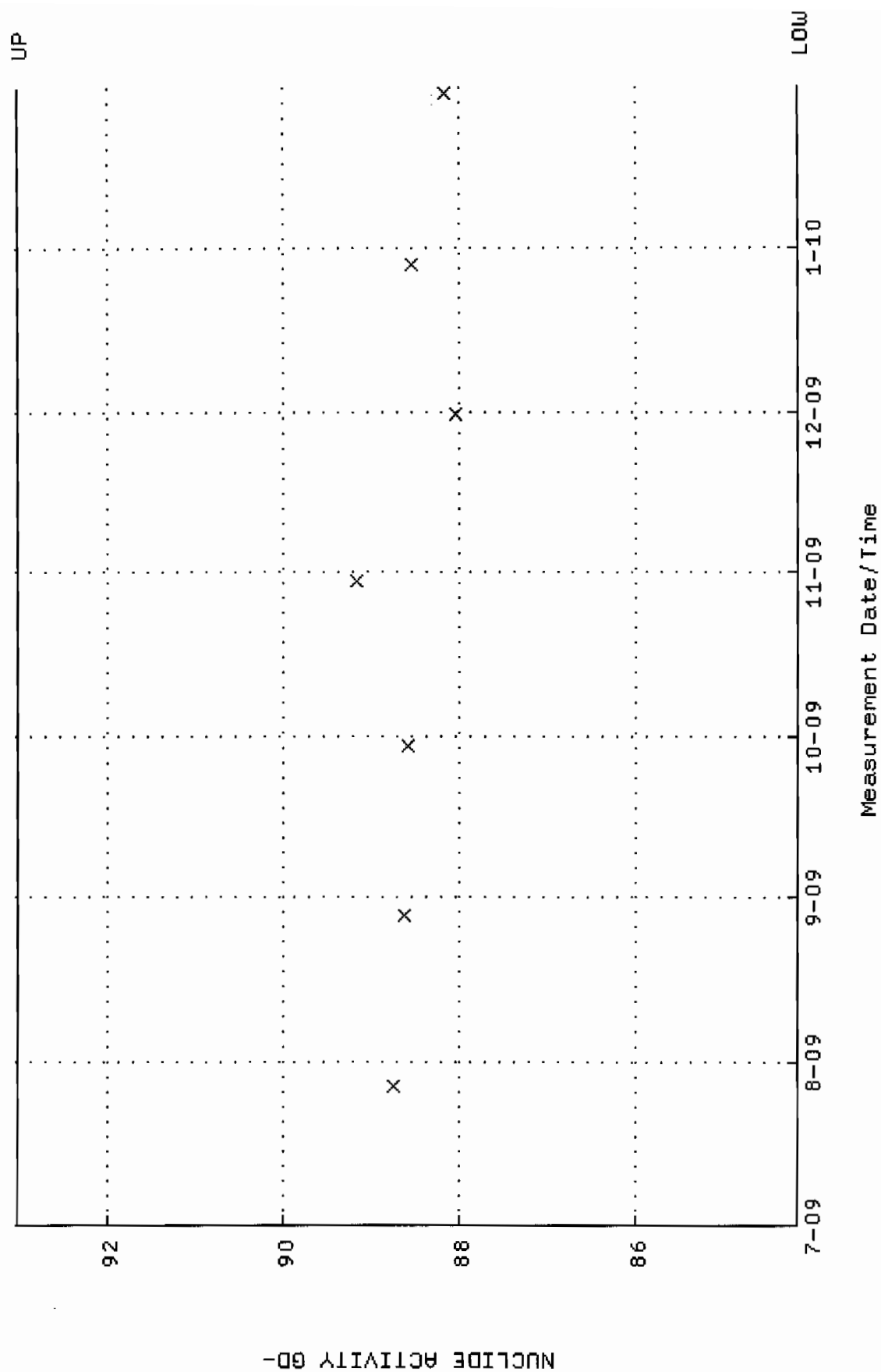
QA filename : DKA100:[ENV_ALPHA.QA.B]B210.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:24 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



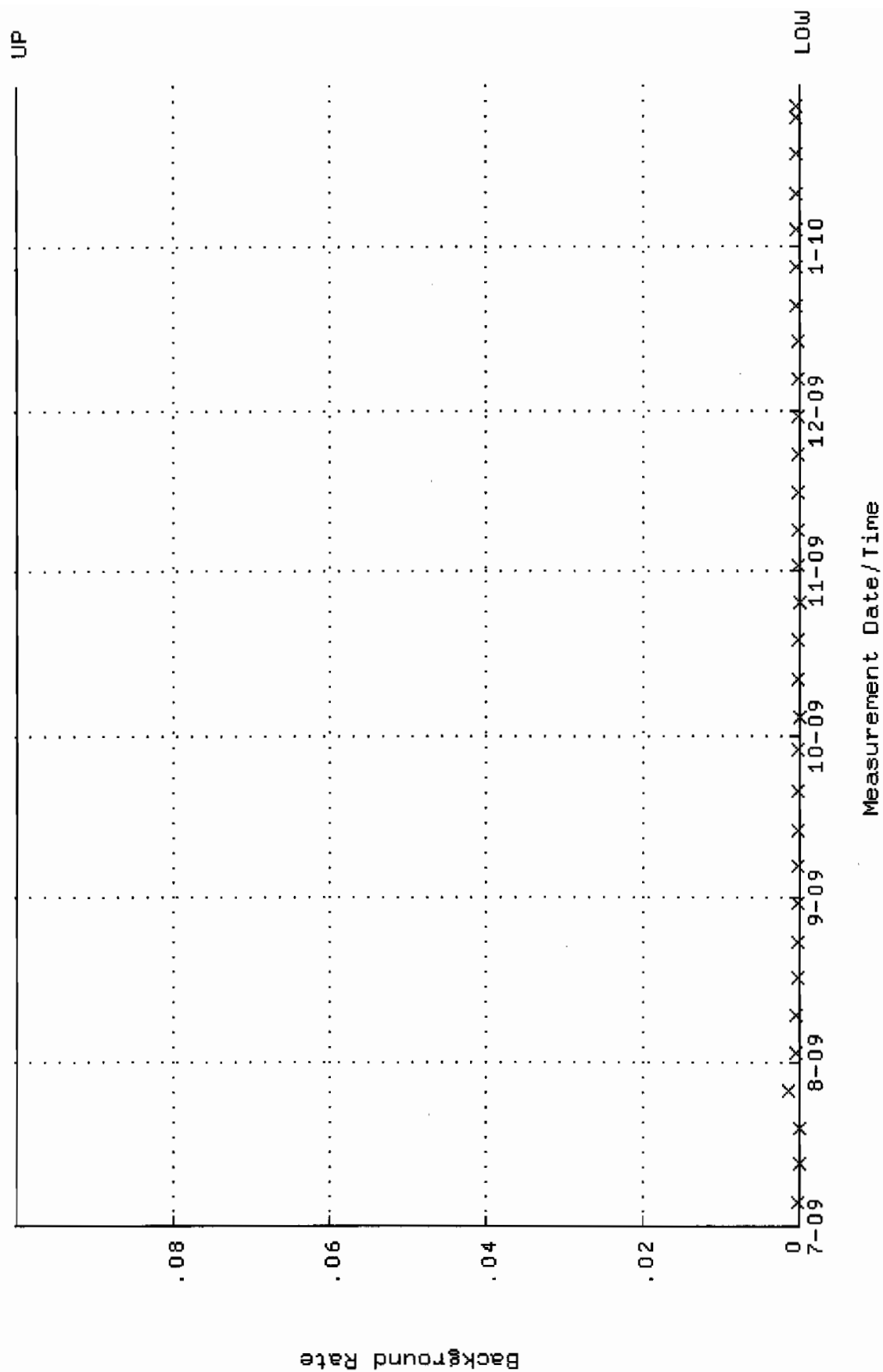
QA filename : DKA100:[ENV_ALPHA.QA.W]W211.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:25 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.373189 through 0.393189



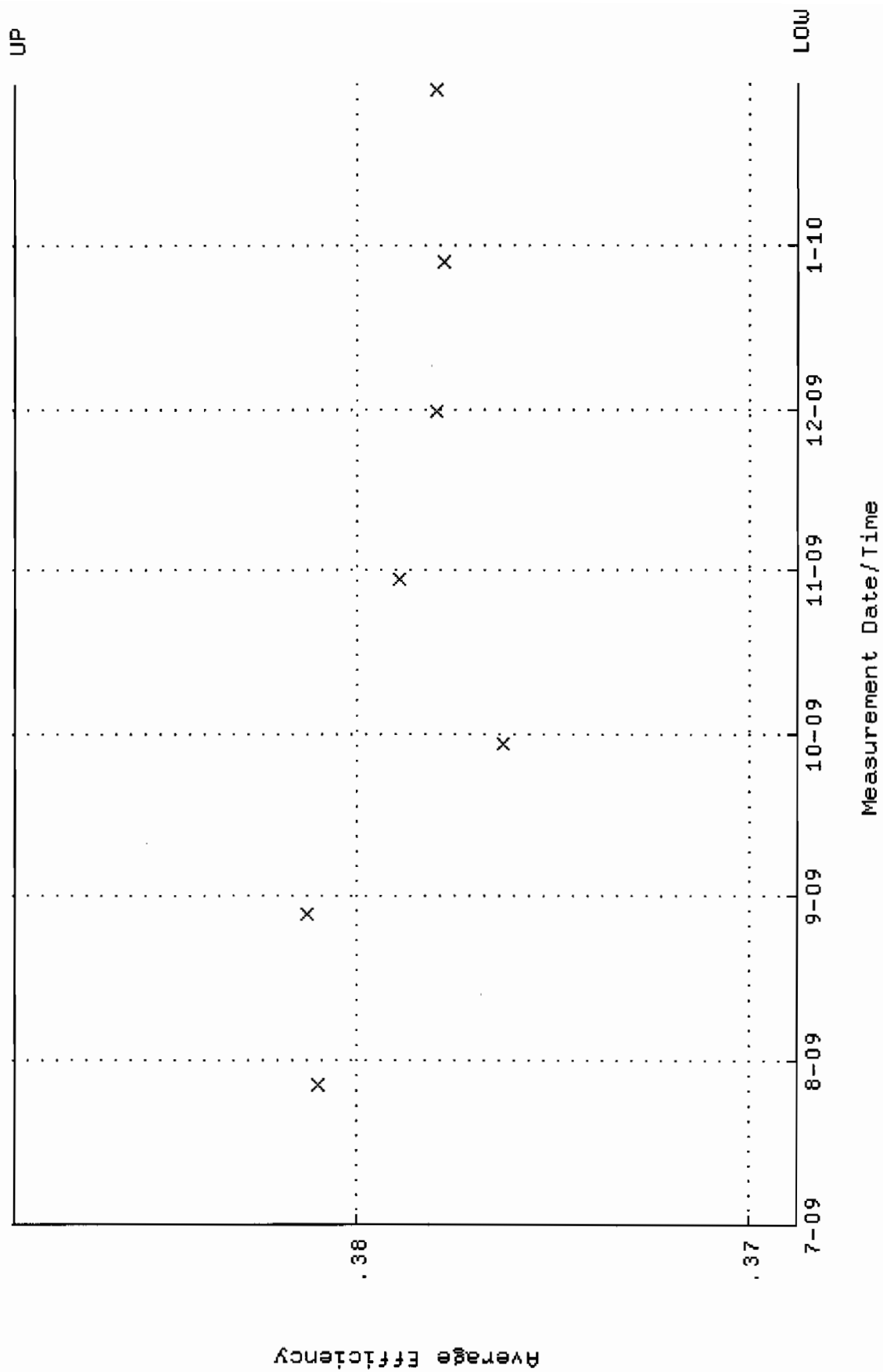
QA filename : DKA100:[ENV_ALPHA.QA.W]W211.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:25 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.1583 through 93.0171



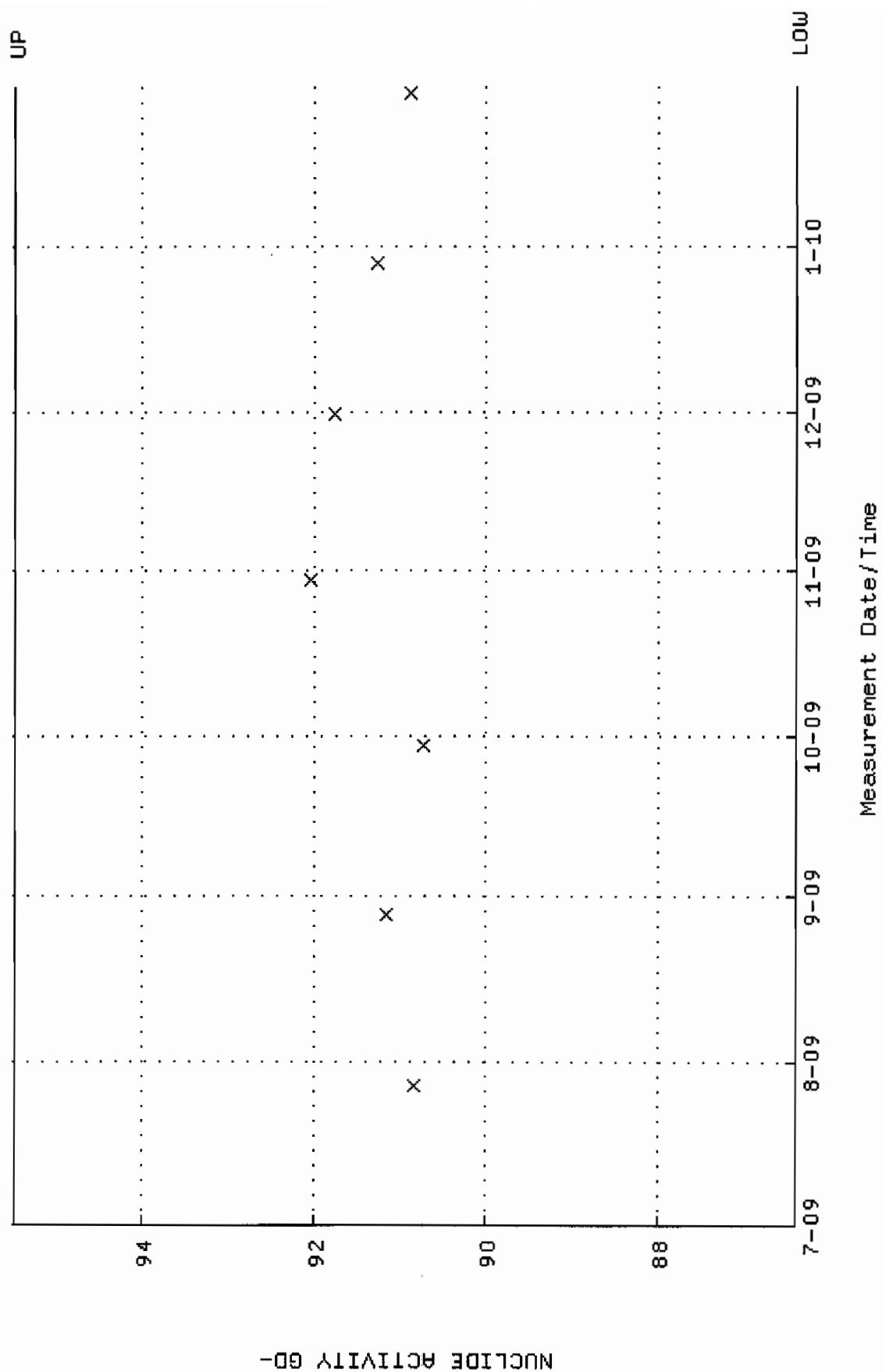
QA filename : DKA100:[ENV_ALPHA.QA.B]B211.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:28 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



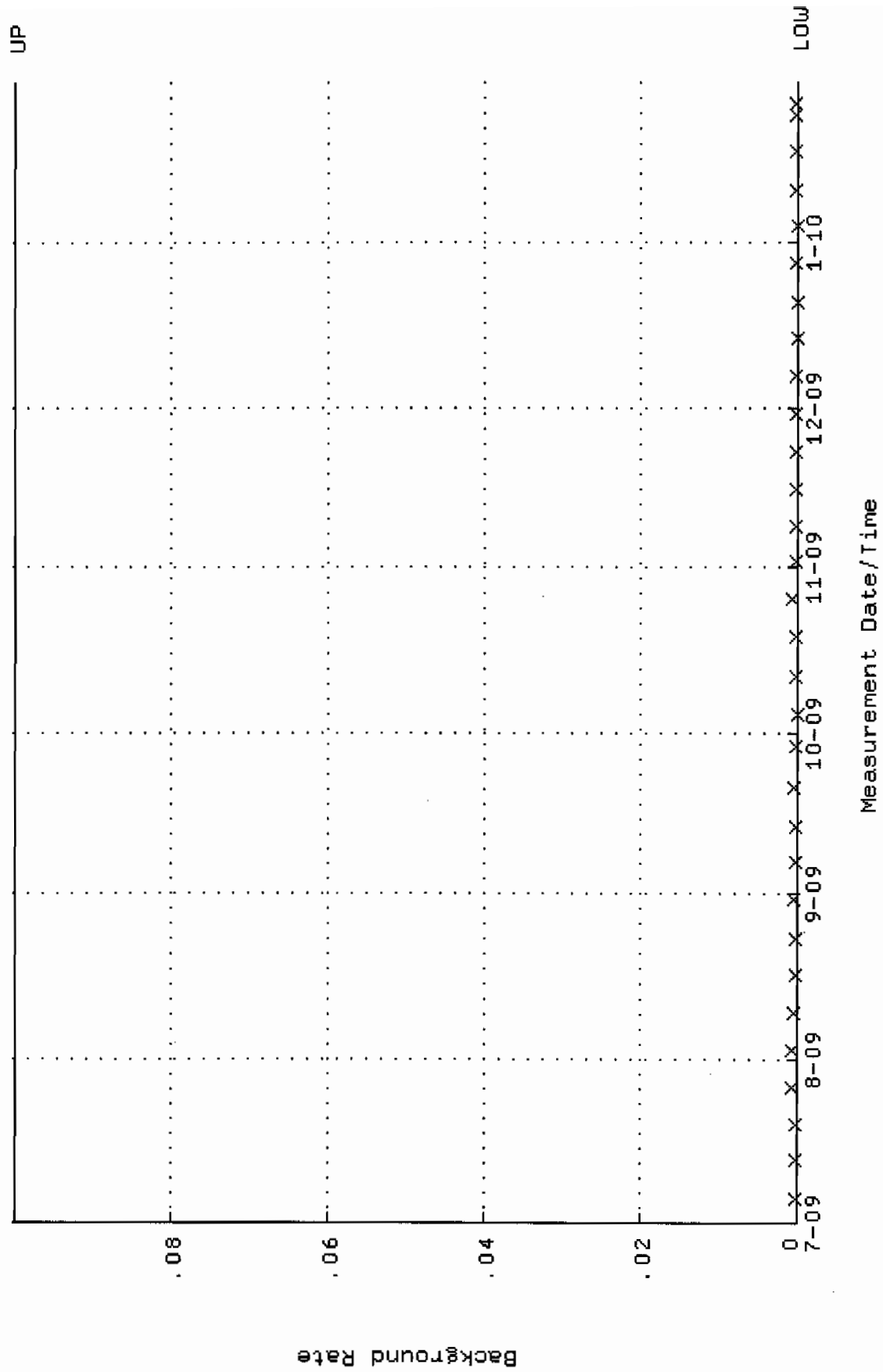
QA filename : DKA100:[ENV_ALPHA.QA.W]W212.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:32 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.368761 through 0.388761



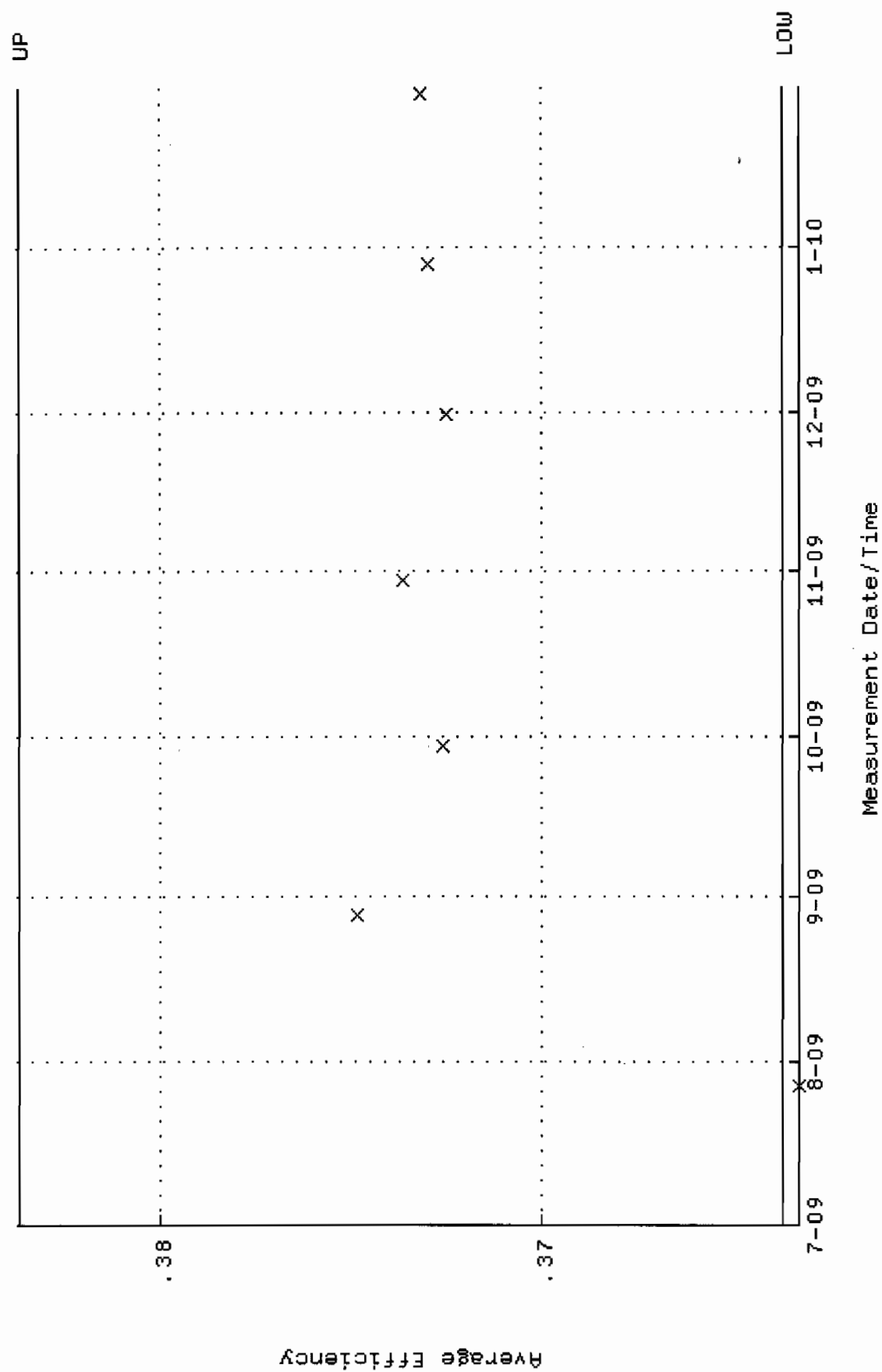
QA filename : DKA100:[ENV_ALPHA.QA.W]W212.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:32 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.3850 through 95.4782



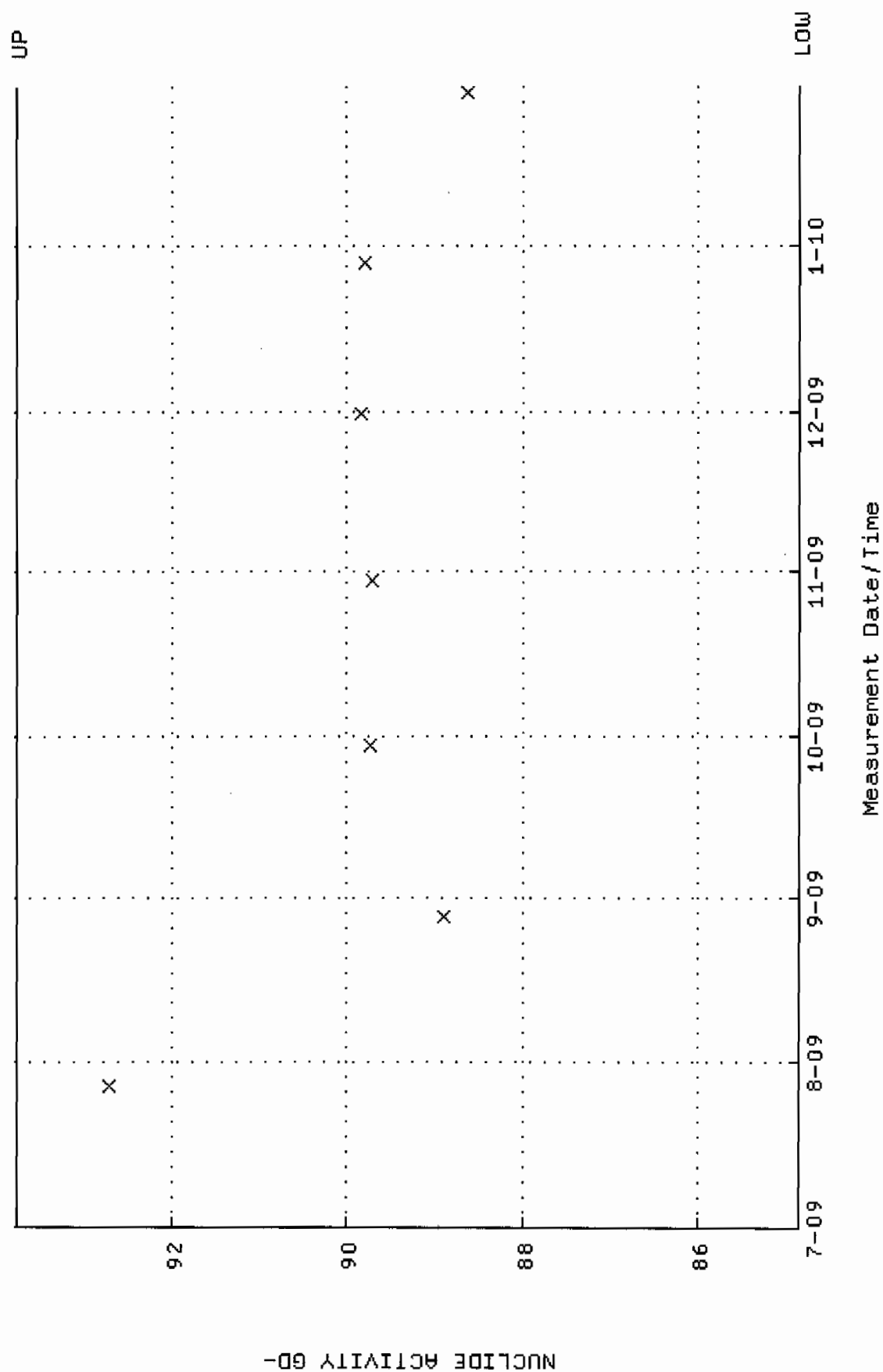
QA filename : DKA100:[ENV_ALPHA.QA.B]B212.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:33 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



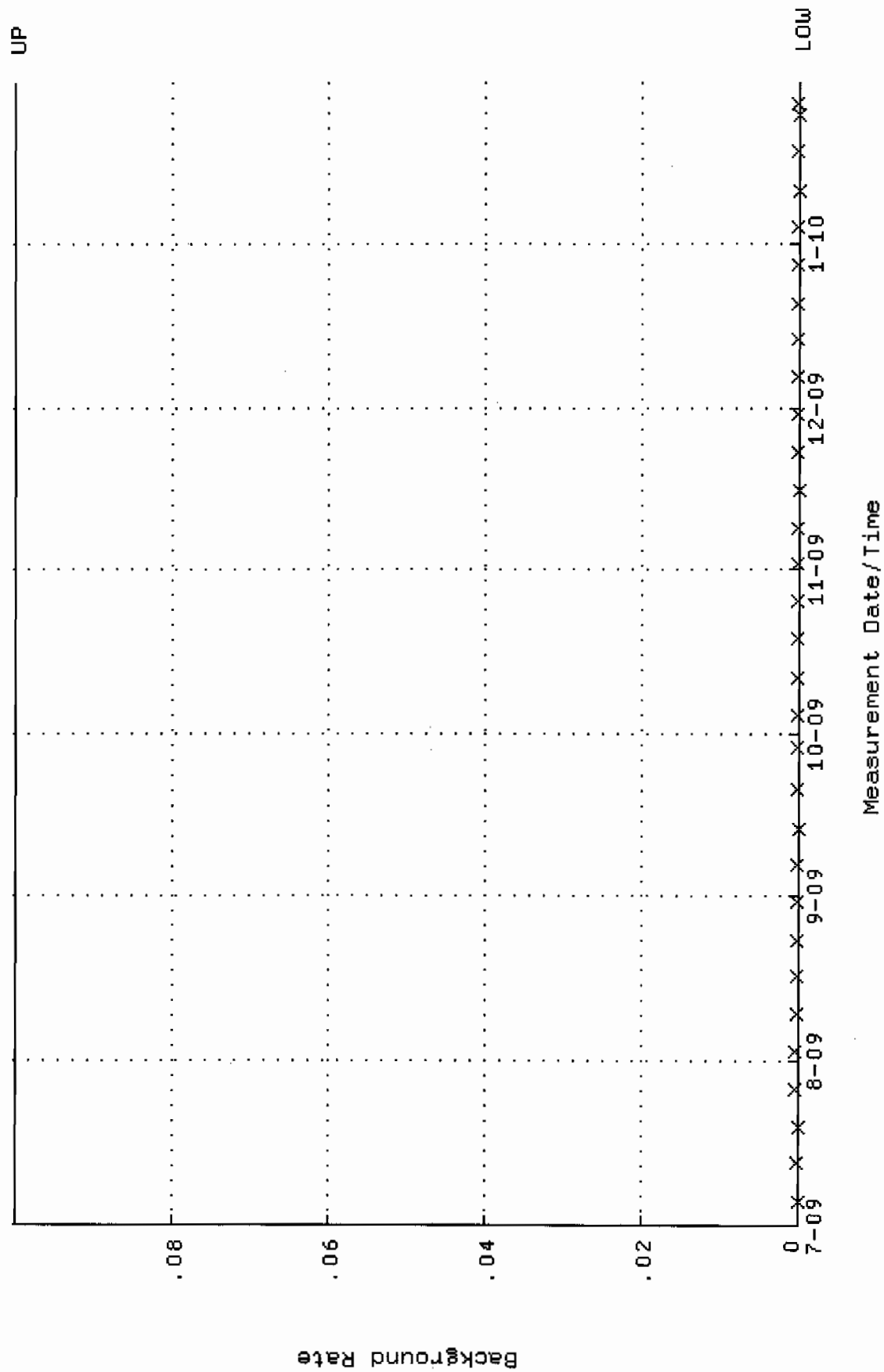
QA filename : DKA100:[ENV_ALPHA.QA.W]W213.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:39 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.363706 through 0.383706



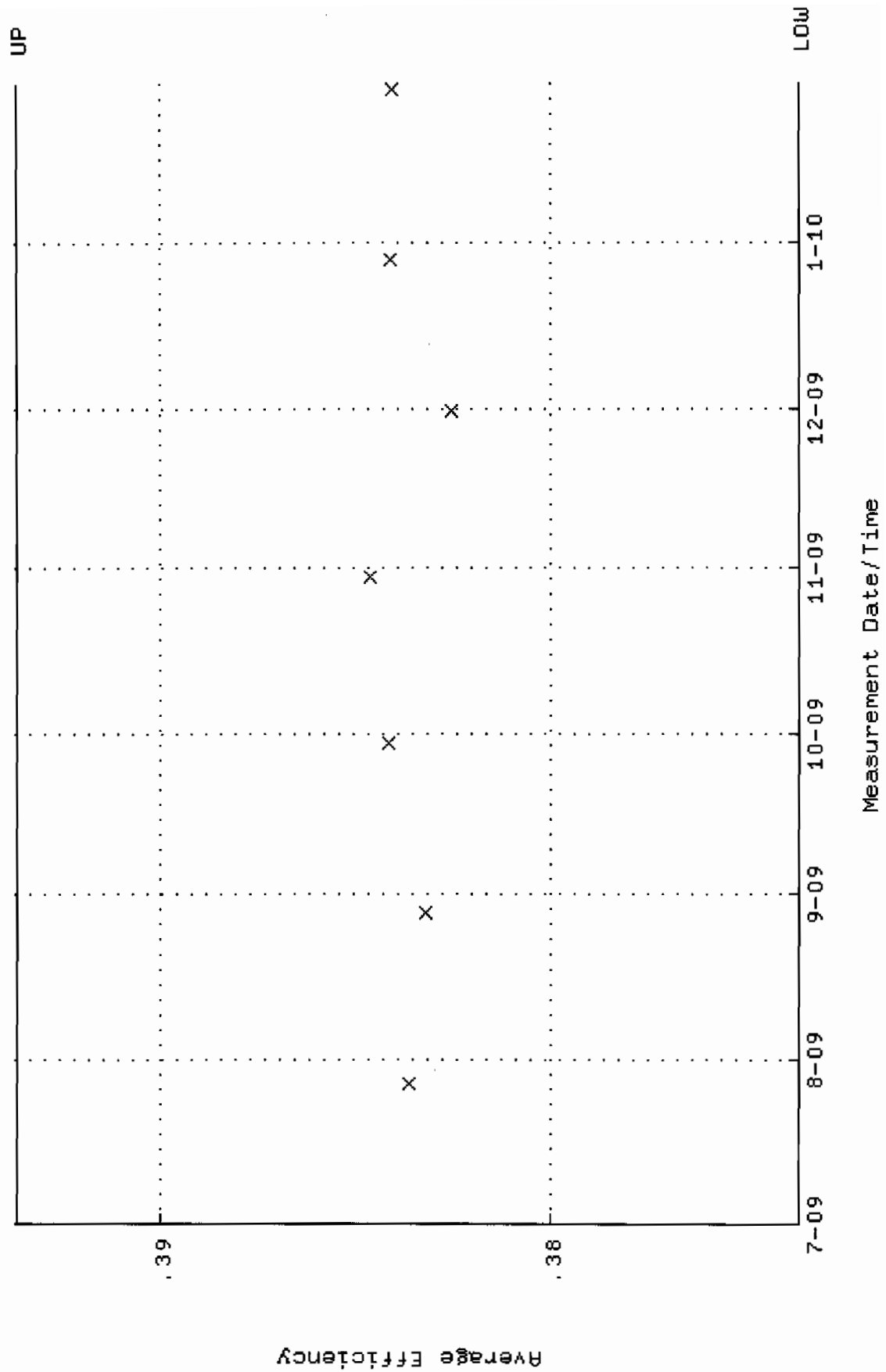
QA filename : DKA100:[ENV_ALPHA.QA.W]W213.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:39 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.8395 through 93.7699



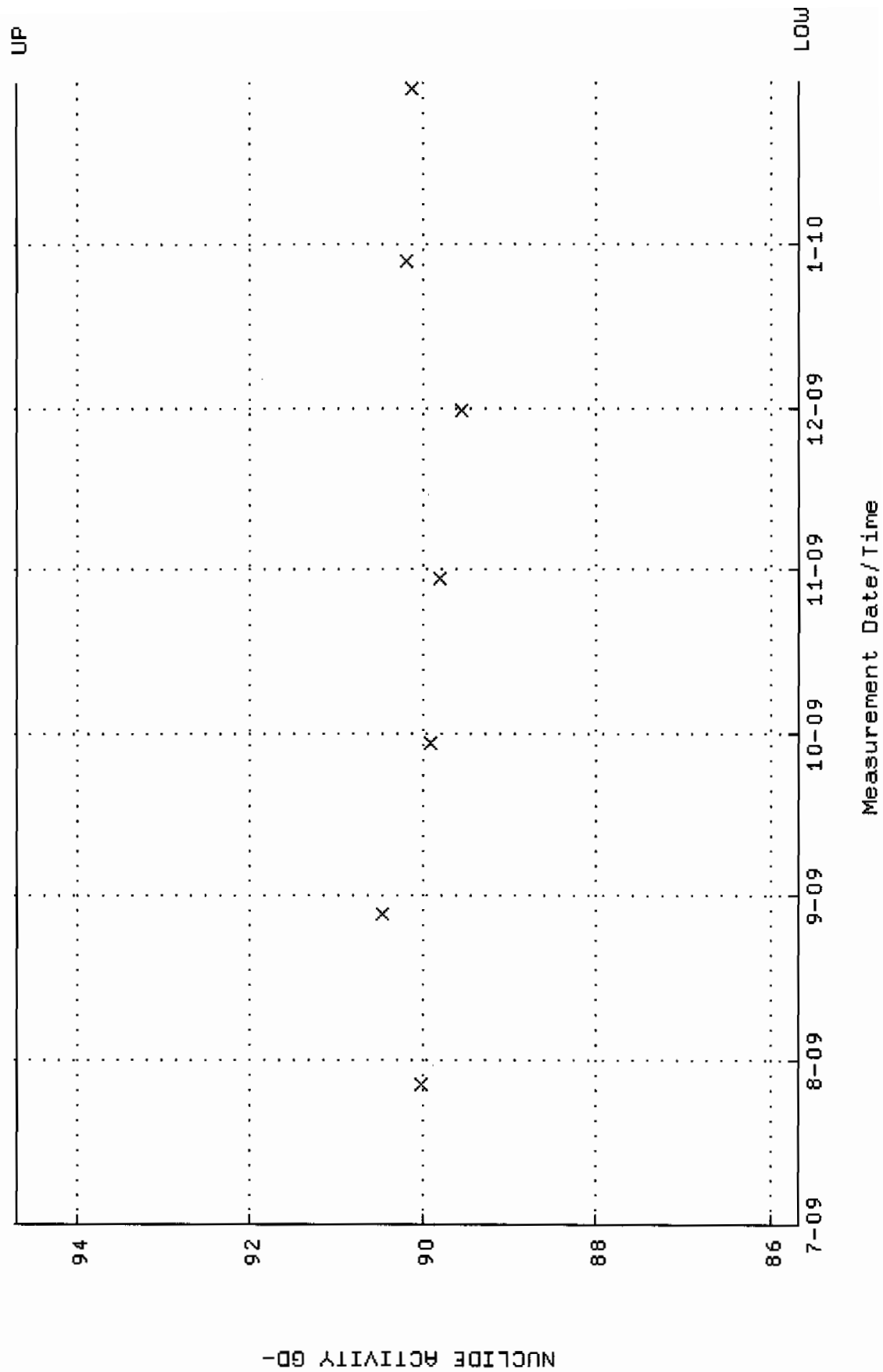
QA filename : DKA100:[ENV_ALPHA.QA.B]B213.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:38 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



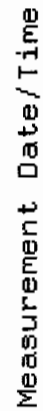
QA filename : DKA100:[ENV_ALPHA.QA.W]W214.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:45 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.373649 through 0.393649



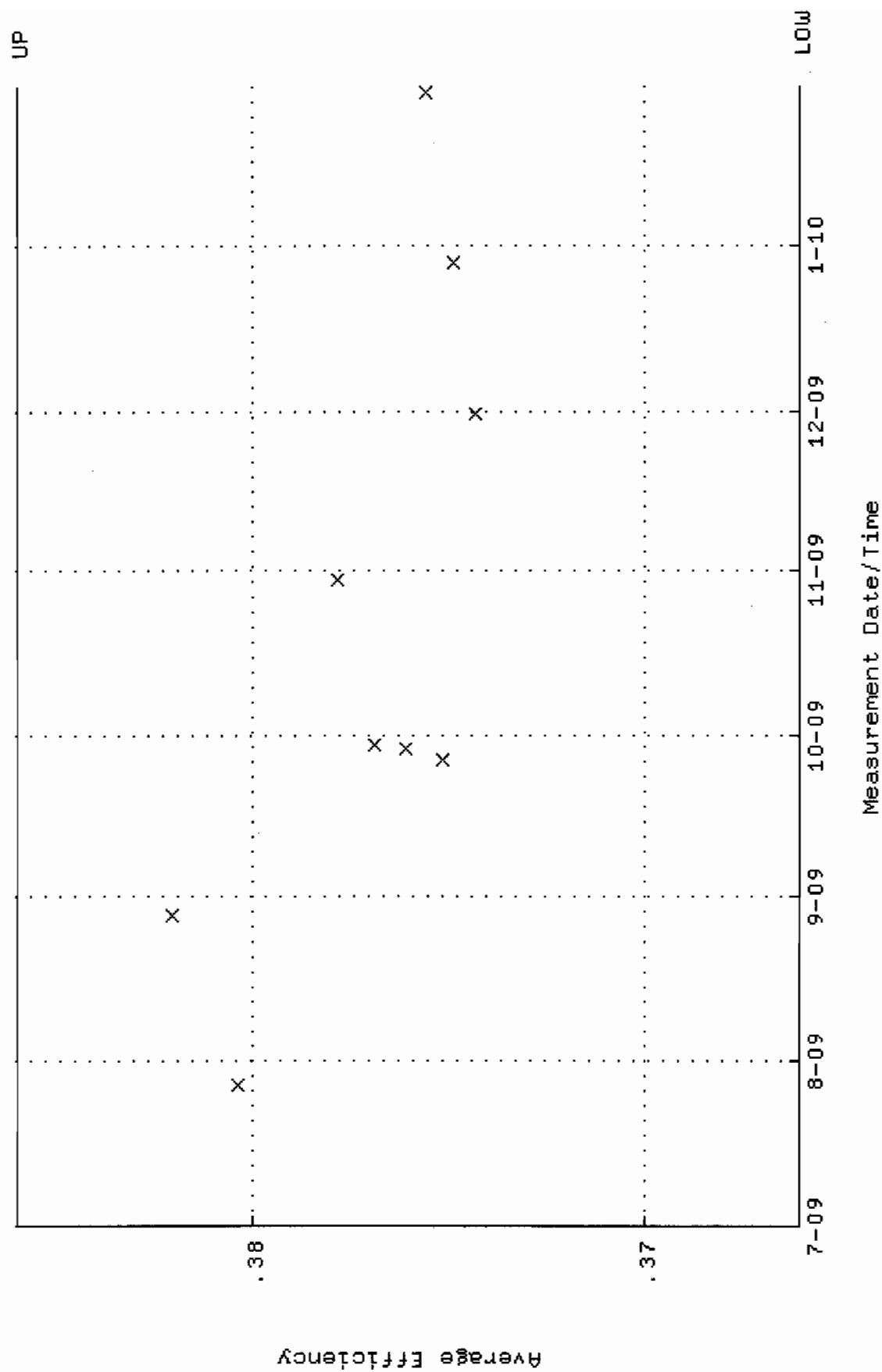
QA filename : DKA100:[ENV_ALPHA.QA.W]W214.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:45 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.6739 through 94.6921



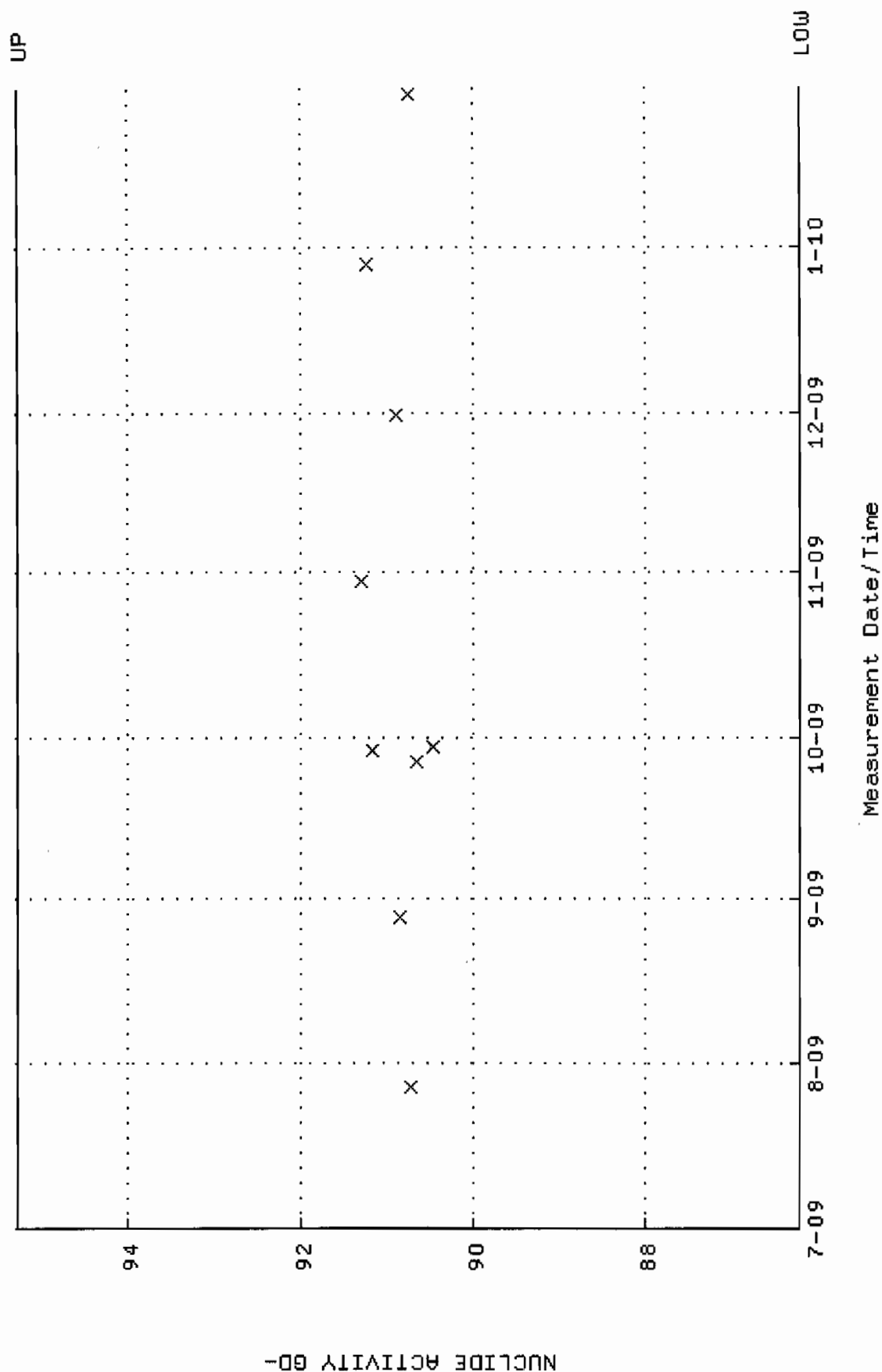
Lower/Upper Lmts: 0.000000E+00 through 0.100000



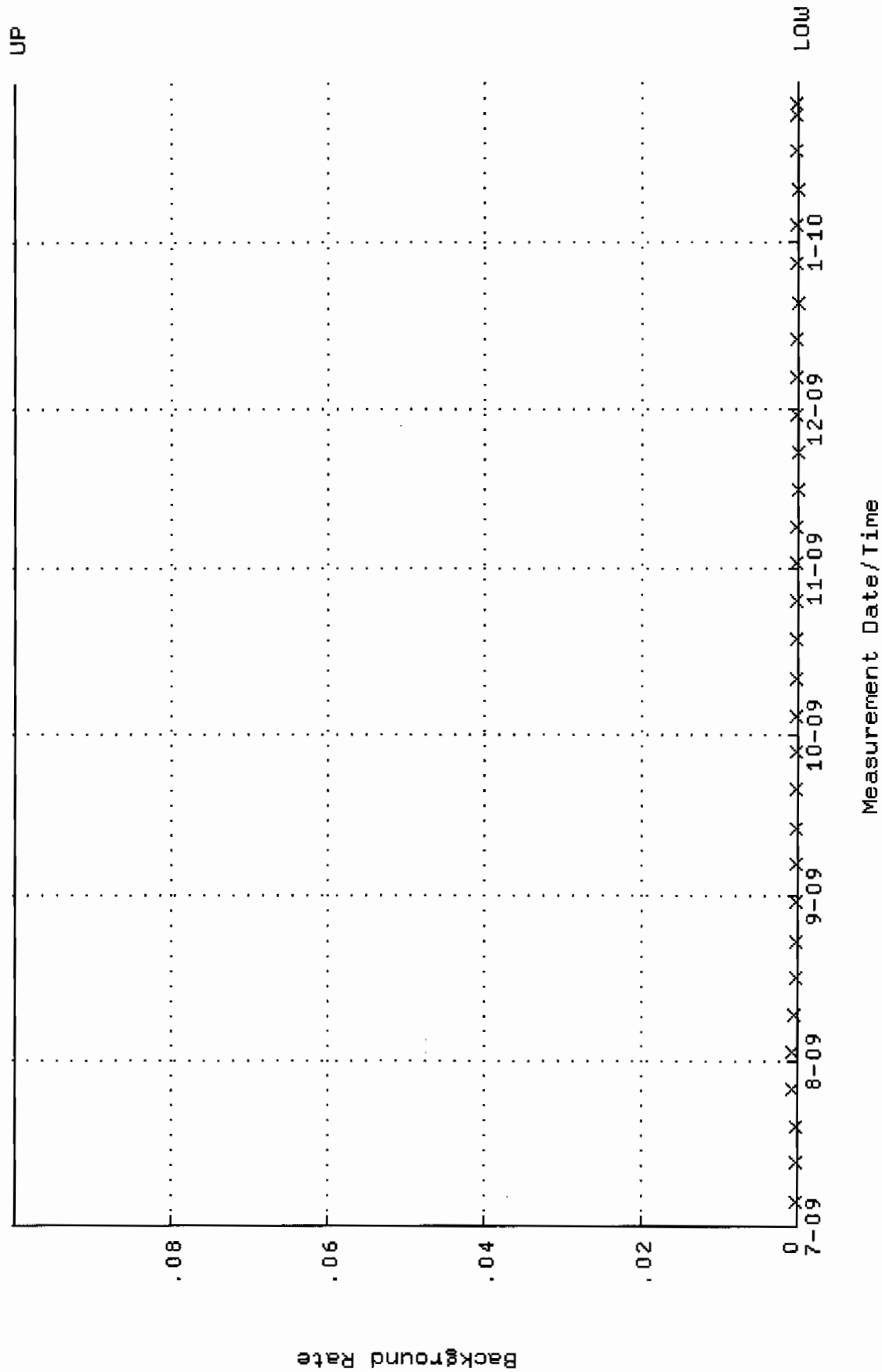
QA filename : DKA100:[ENV_ALPHA.QA.W]W215.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:51 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.366025 through 0.386025



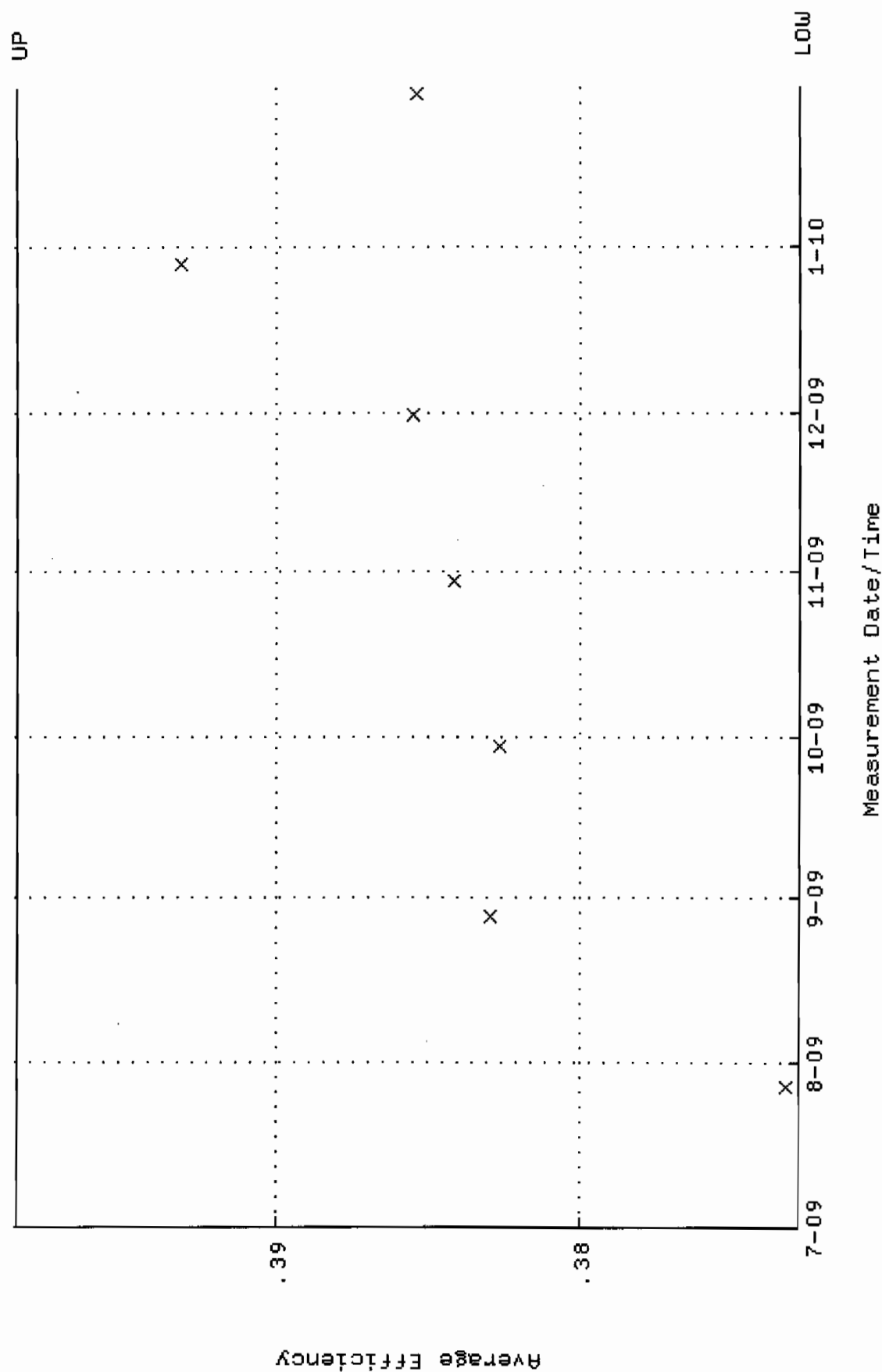
QA filename : DKA100:[ENV_ALPHA.QA.W]W215.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:51 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.2153 through 95.2905



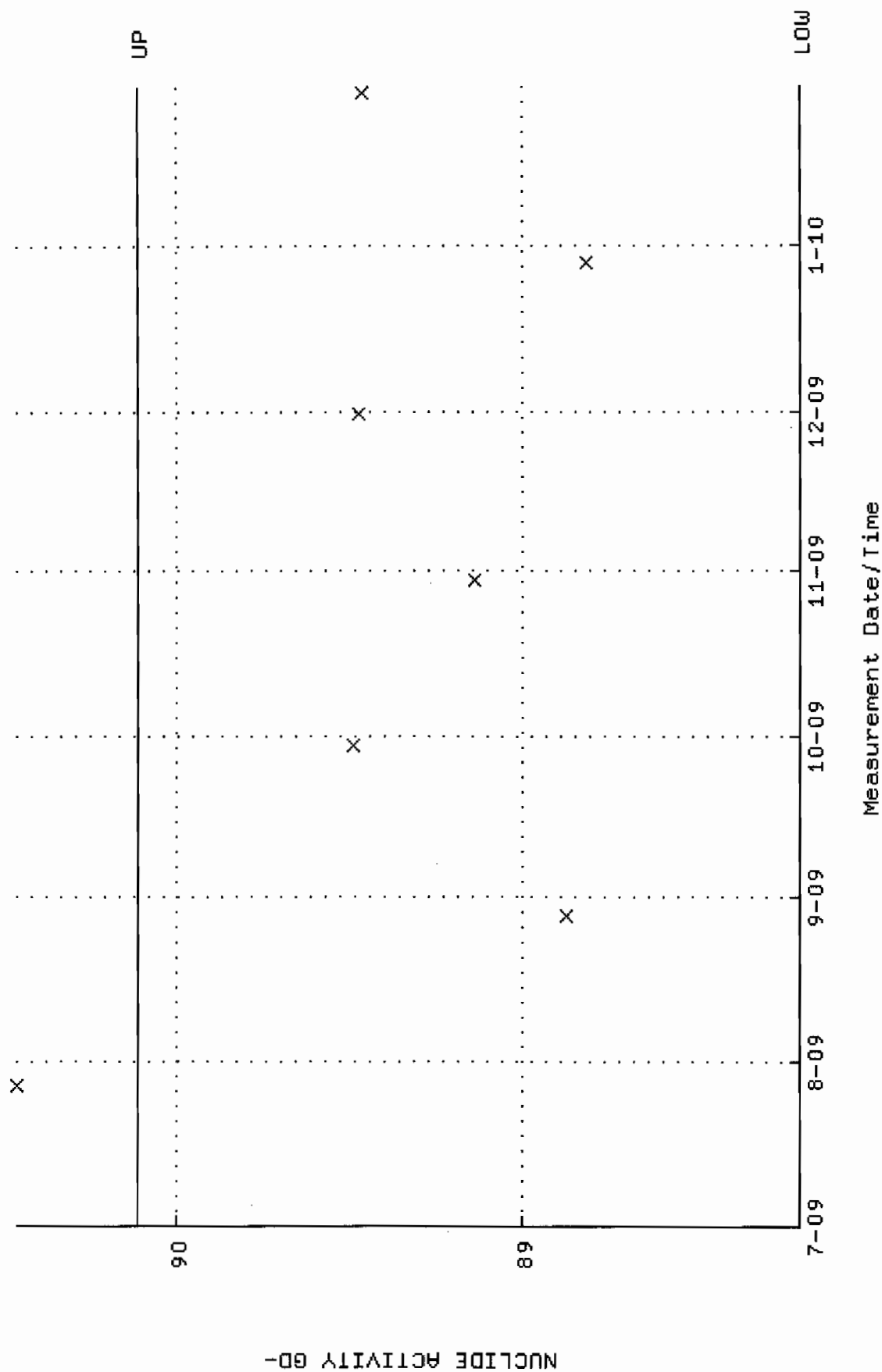
QA filename : DKA100:[ENV_ALPHA.QA.B]B215.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:47 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



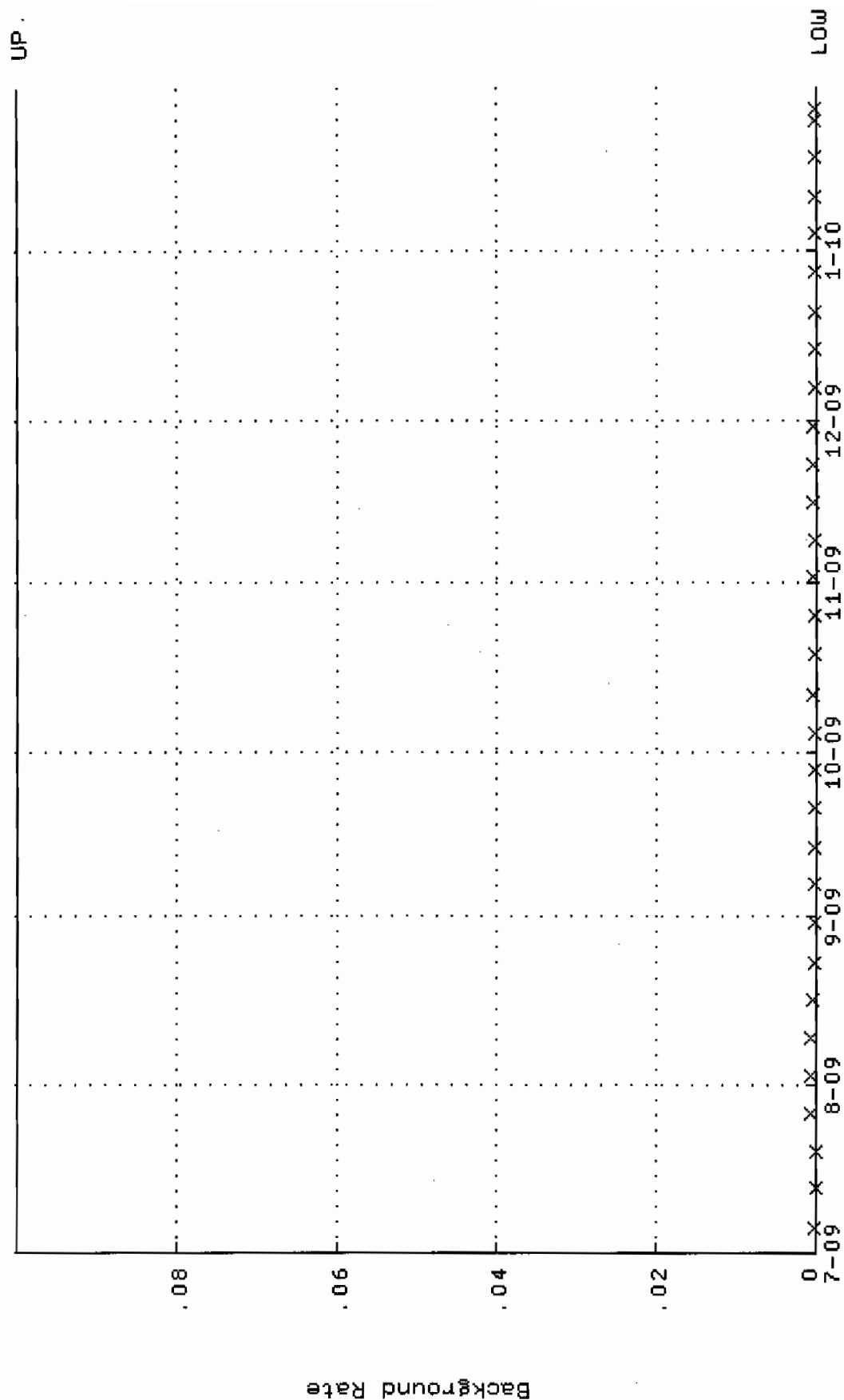
QA filename : DKA100:[ENV_ALPHA.QA.W]w216.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:57 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.372749 through 0.398591



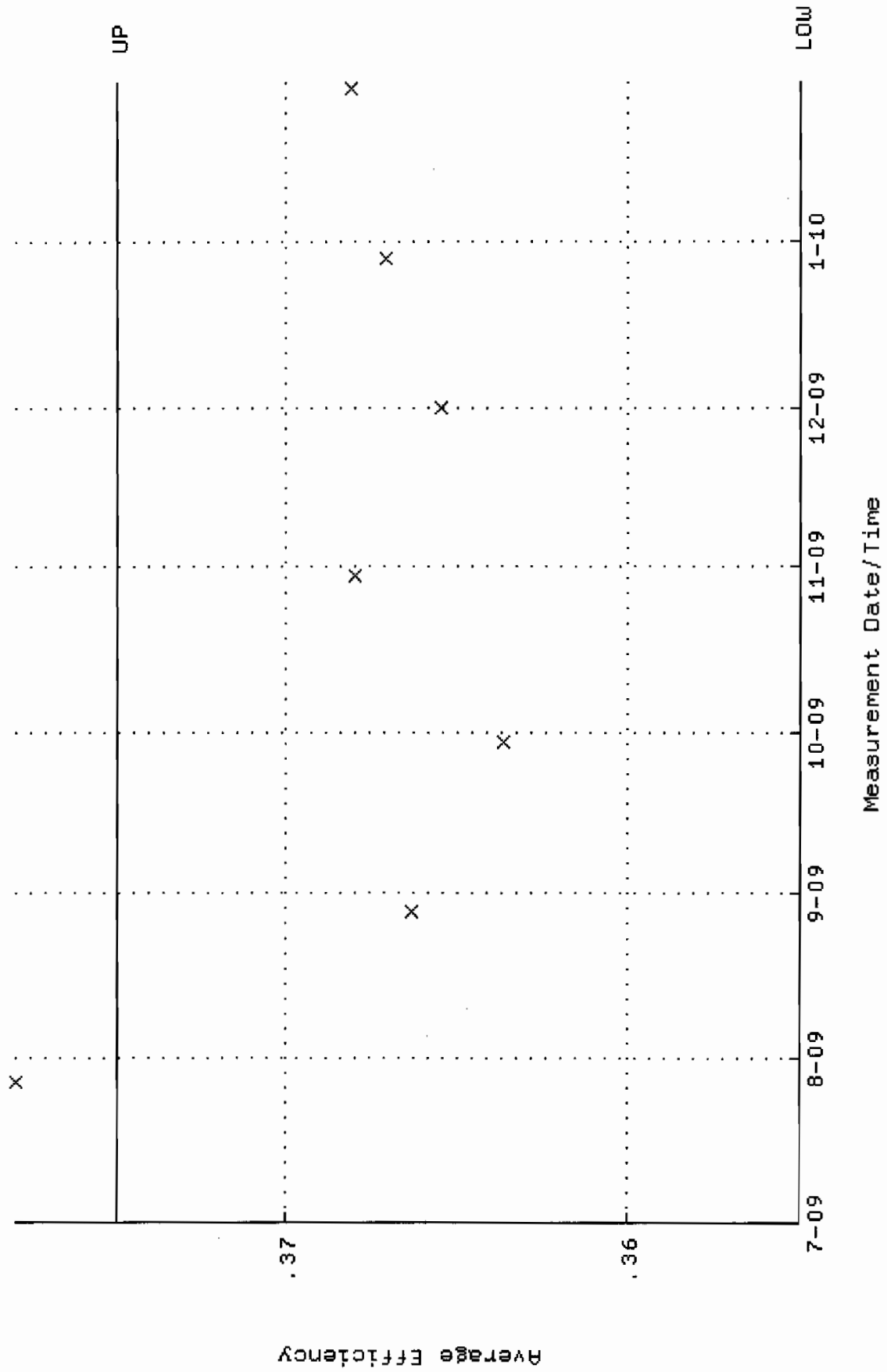
QA filename : DKA100:[ENV_ALPHA.QA.W]W216.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:57 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.1955 through 90.1147



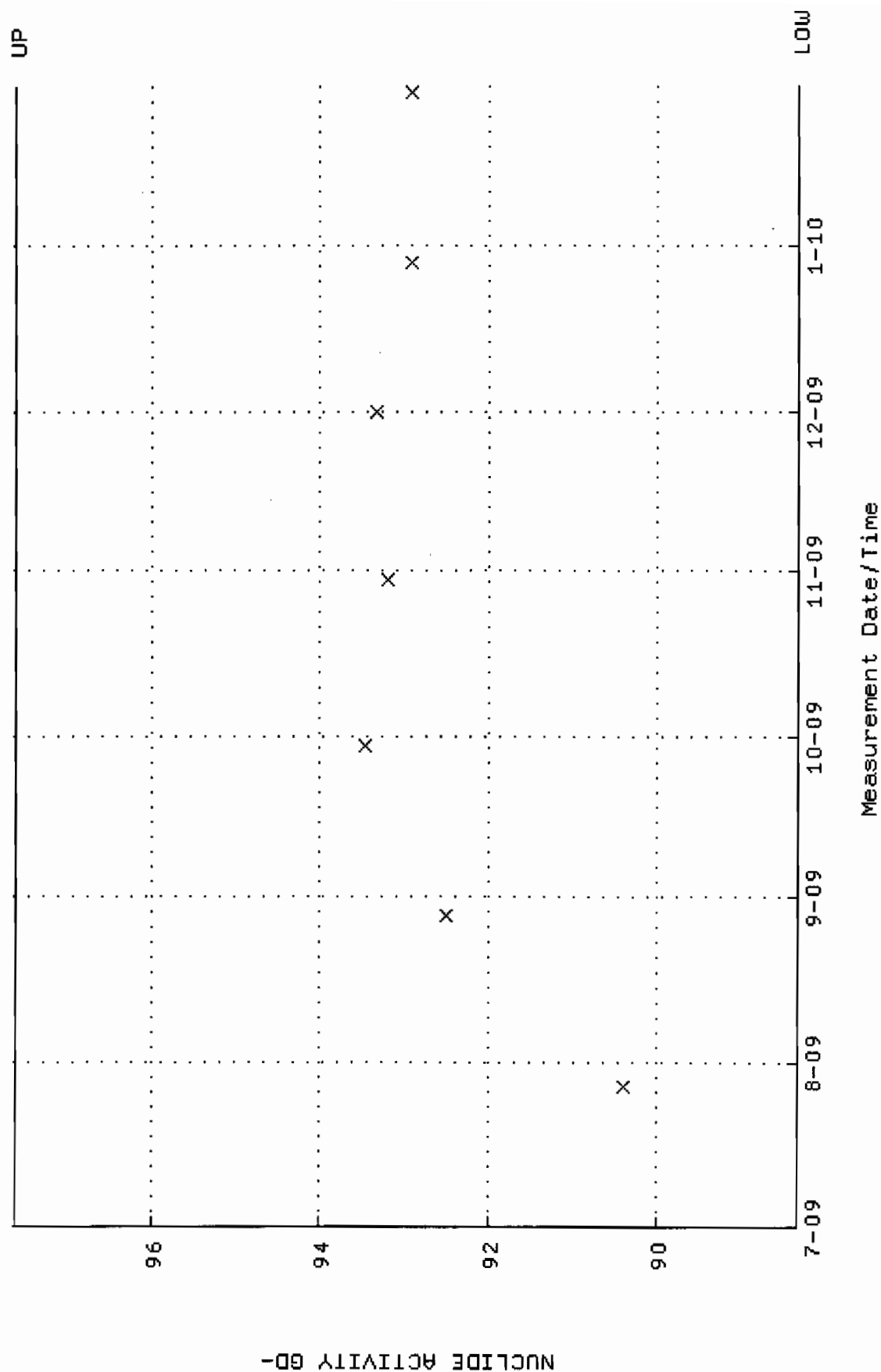
QA filename : DKA100:[ENV_ALPHA.QA.B]B216.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:52 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



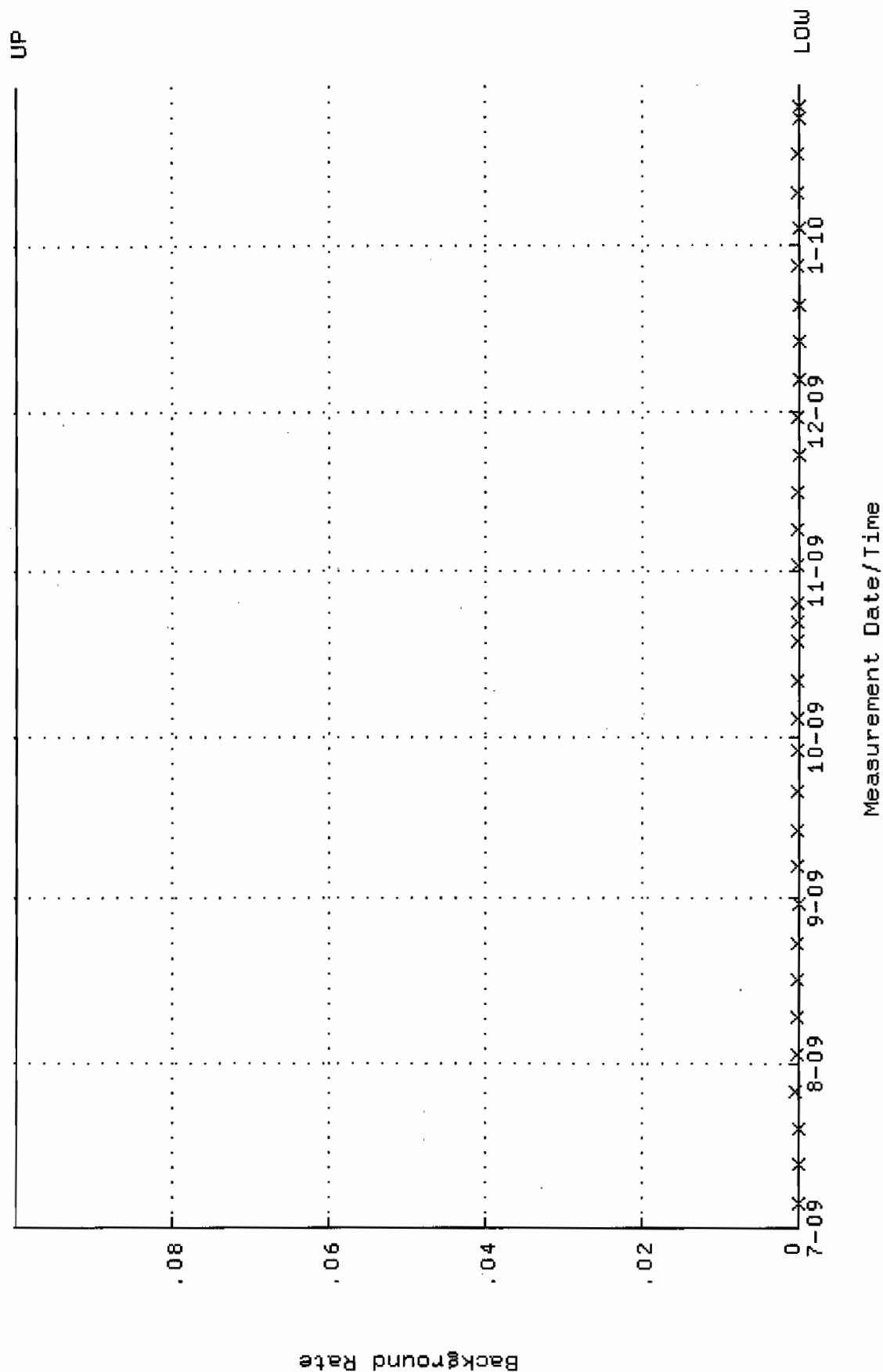
QA filename : DKA100:[ENV_ALPHA.QA.W]U217.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:04 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.354934 through 0.374934



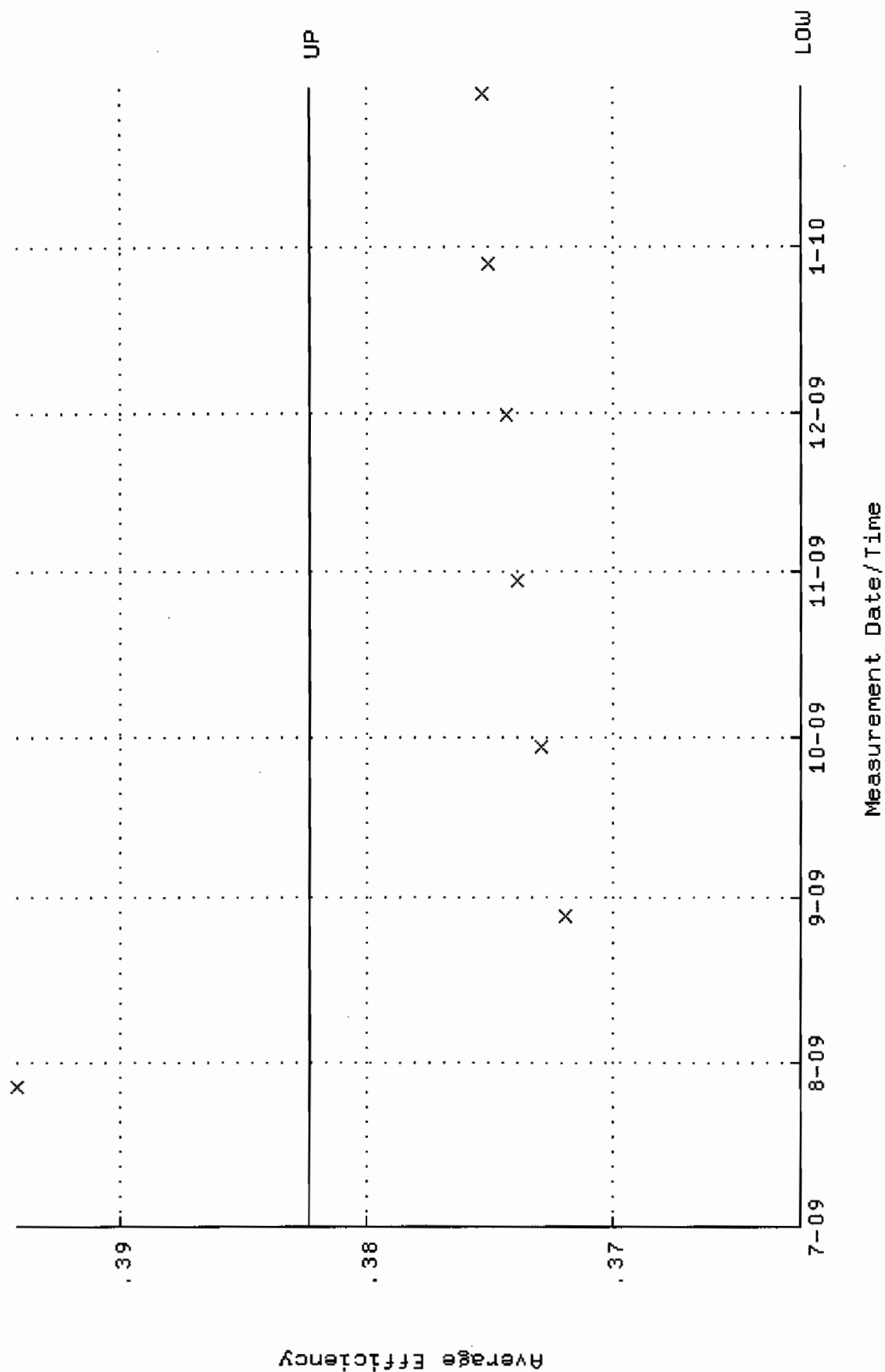
QA filename : DKA100:[ENV_ALPHA.QA.W]W217.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:04 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.3174 through 97.6140



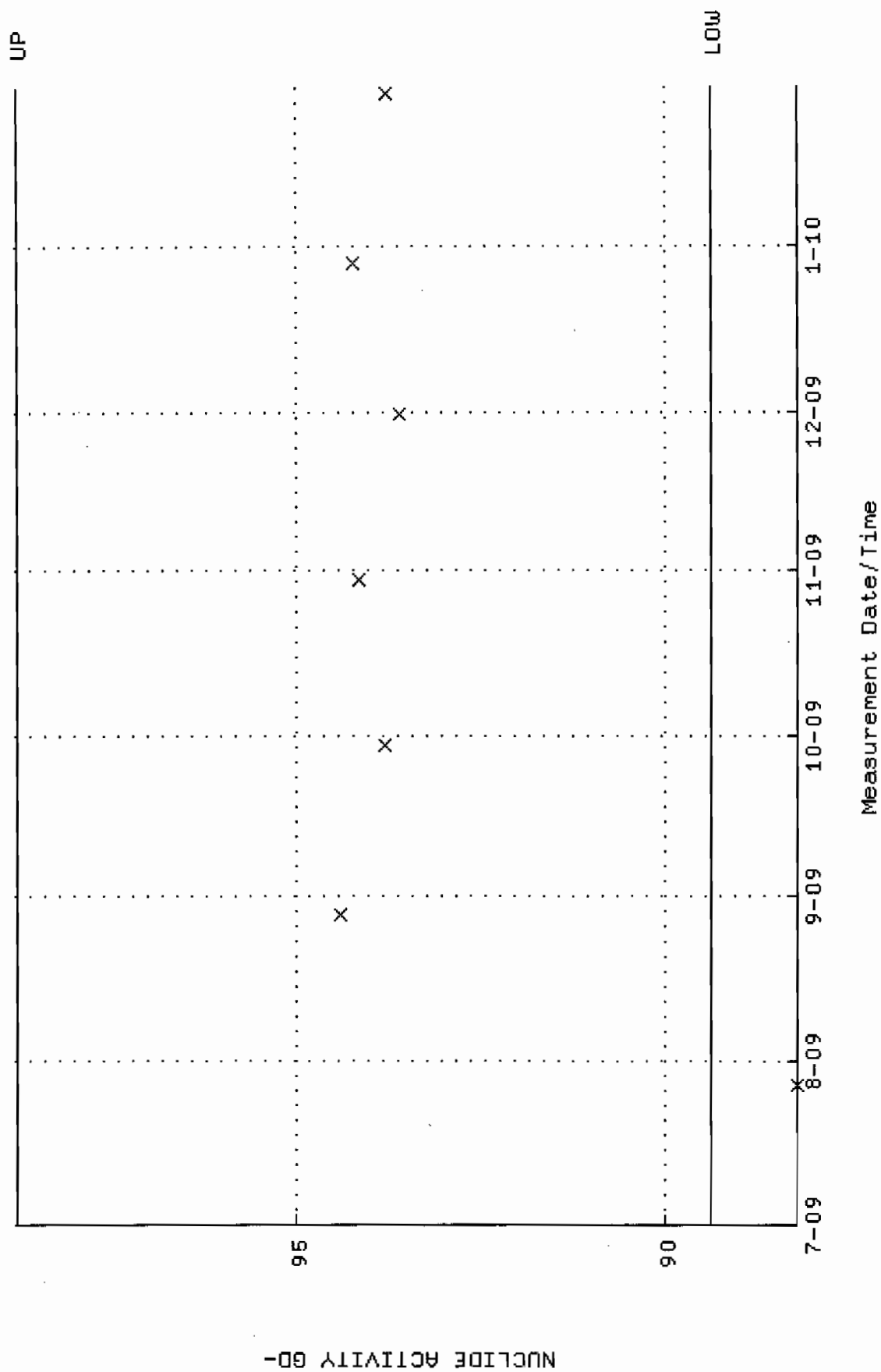
QA filename : DKA100:[ENV_ALPHA.QA.B]B217.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:56 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



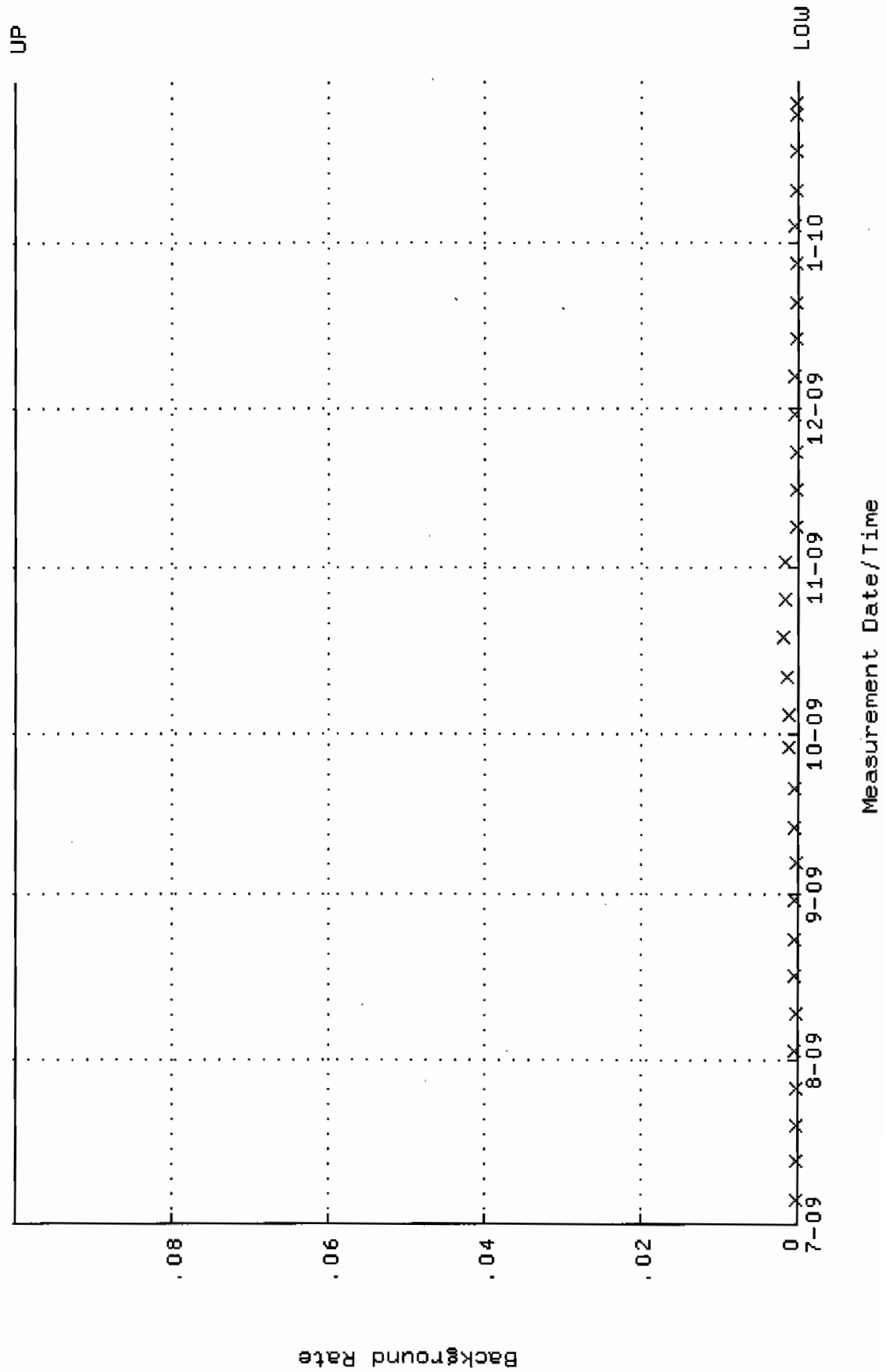
QA filename : DKA100:[ENV_ALPHA.QA.W]W218.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.362380 through 0.382380



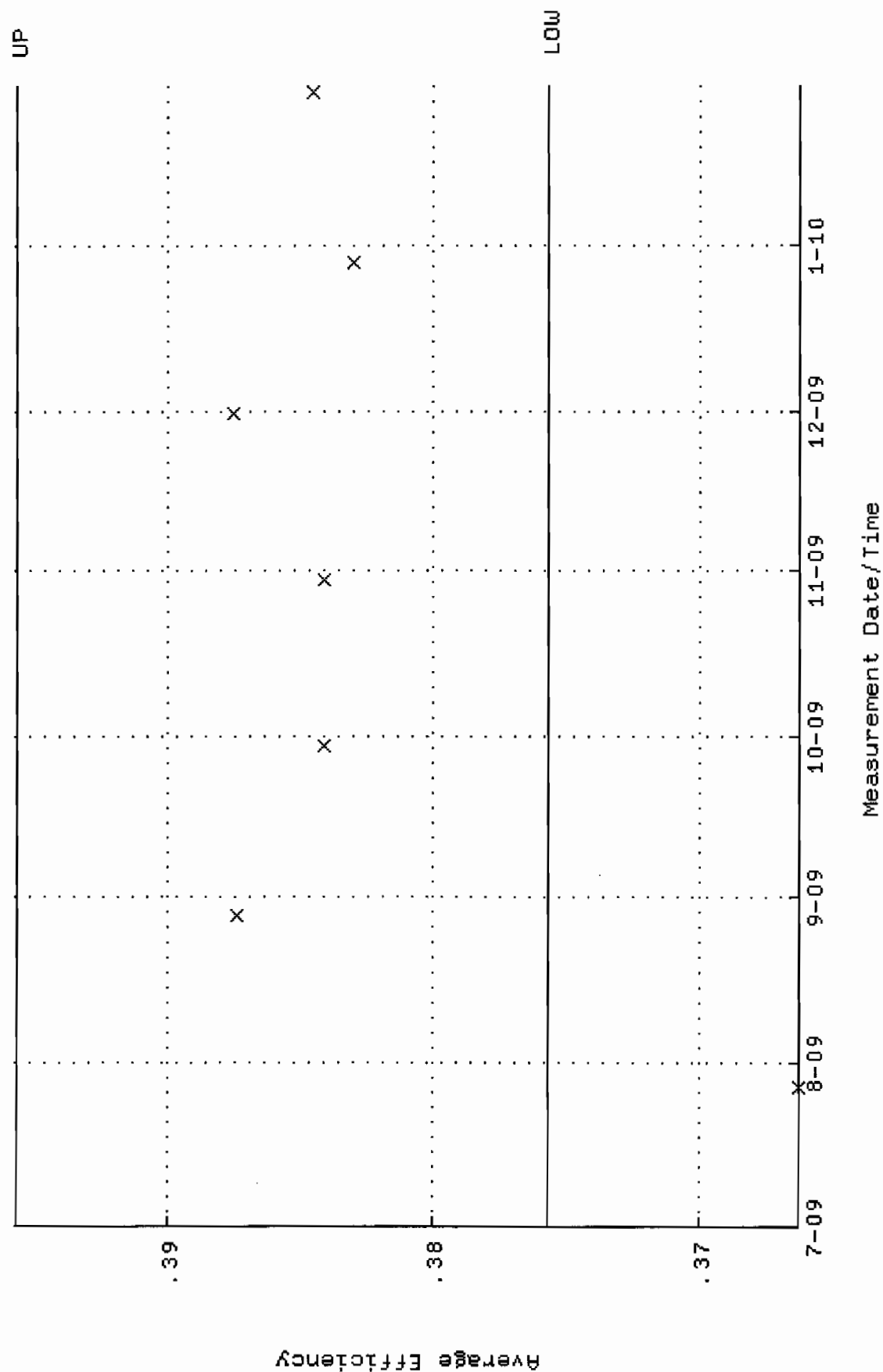
QA filename : DKA100:[ENV-ALPHA.QA.W]W218.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 89.3892 through 98.7986



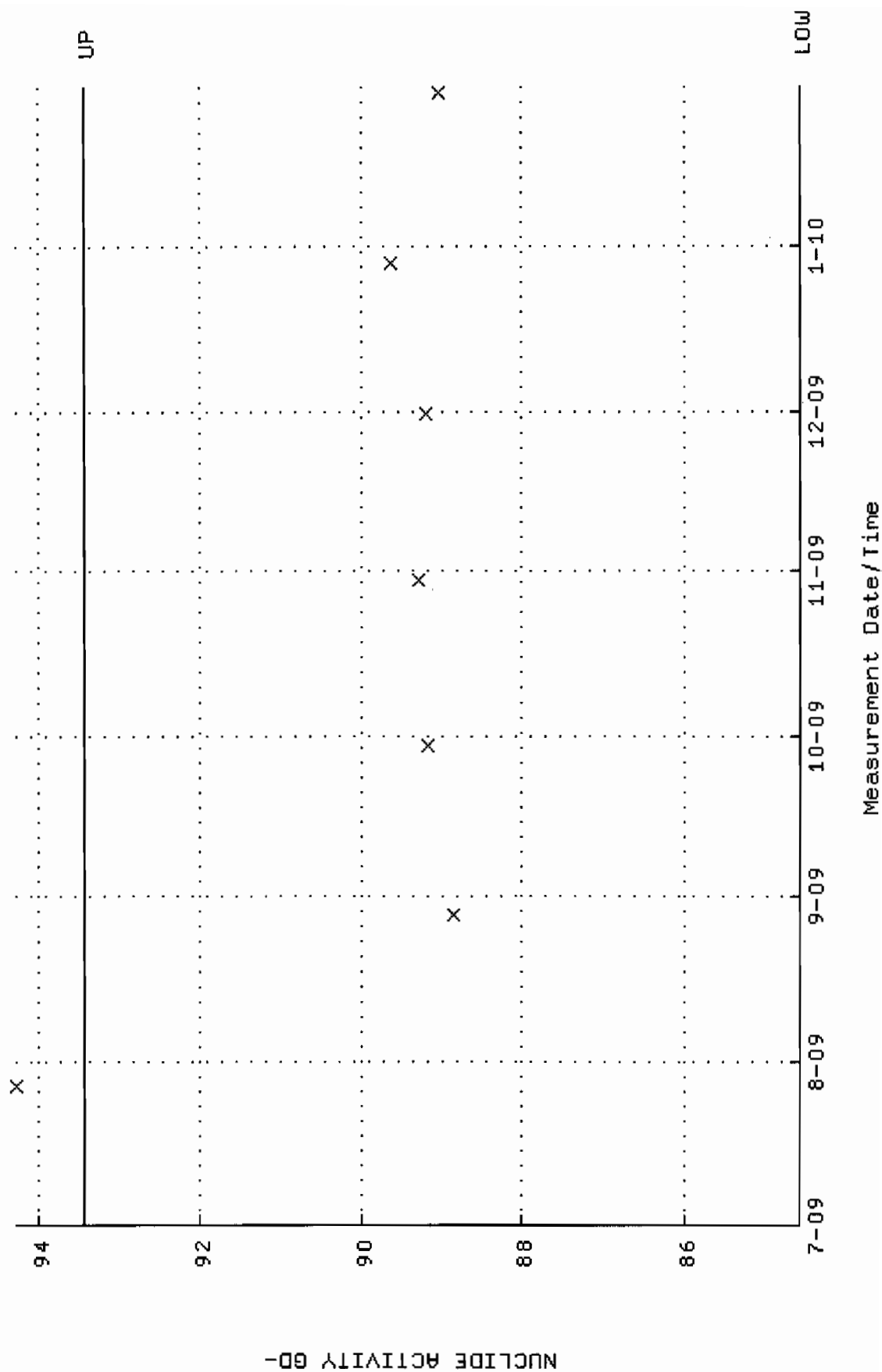
QA filename : DKA100:[ENV_ALPHA.QA.B]B218.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:01 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



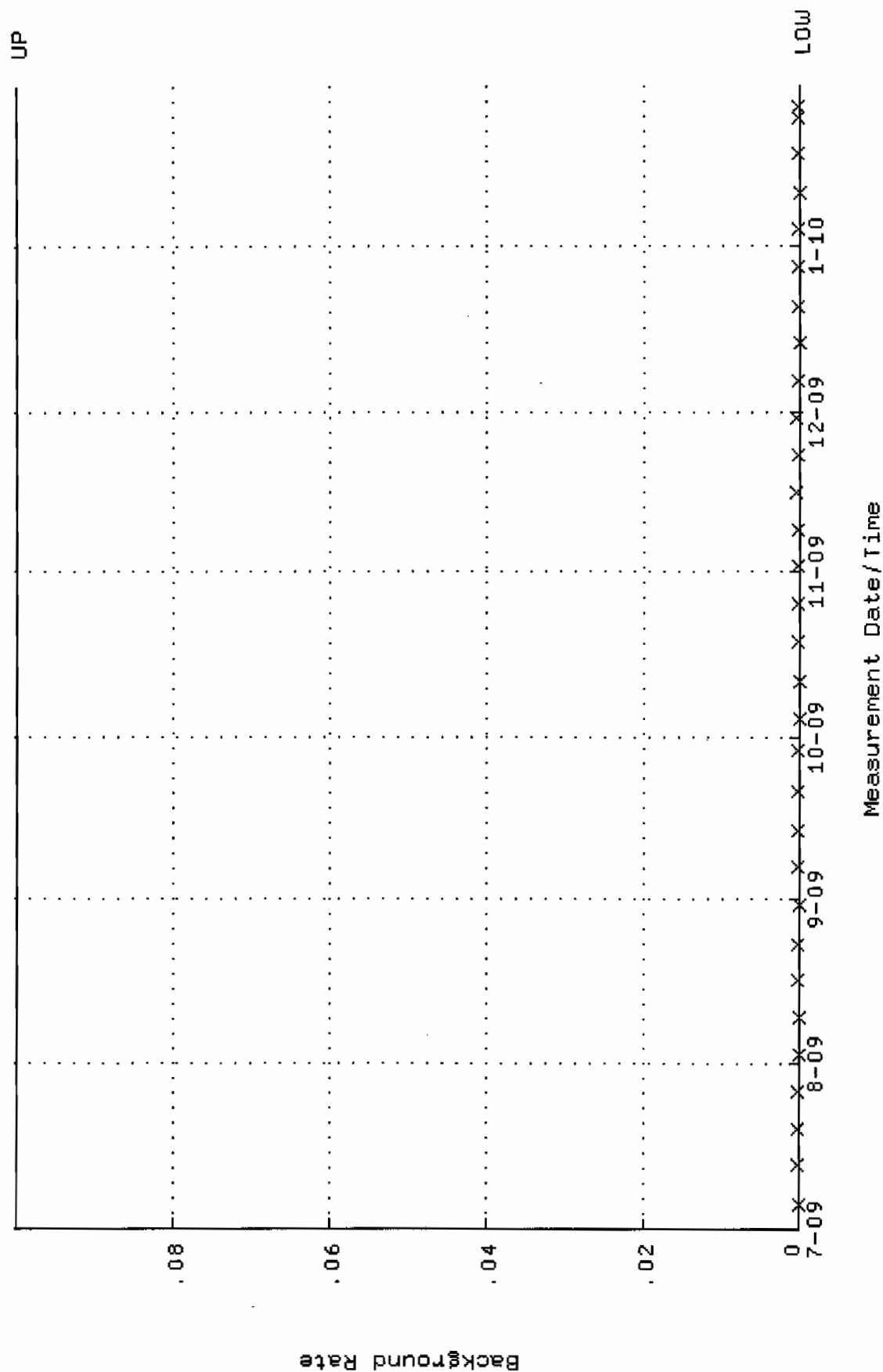
QA filename : DKA100:[ENV_ALPHA.QA.W]W219.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:16 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.375667 through 0.395667



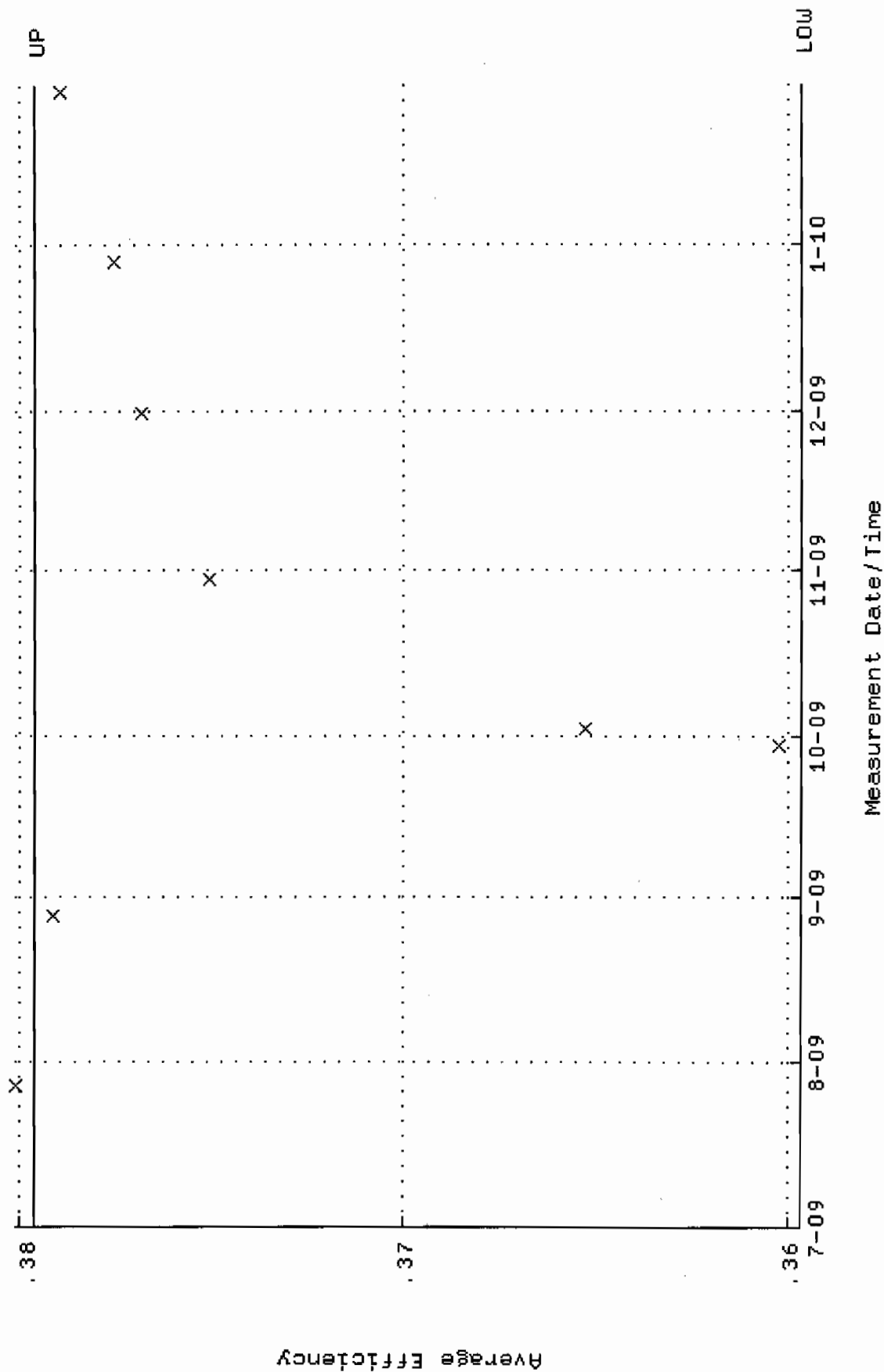
QA filename : DKA100:[ENV_ALPHA.QA.W]w219.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:16 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.5518 through 93.4520



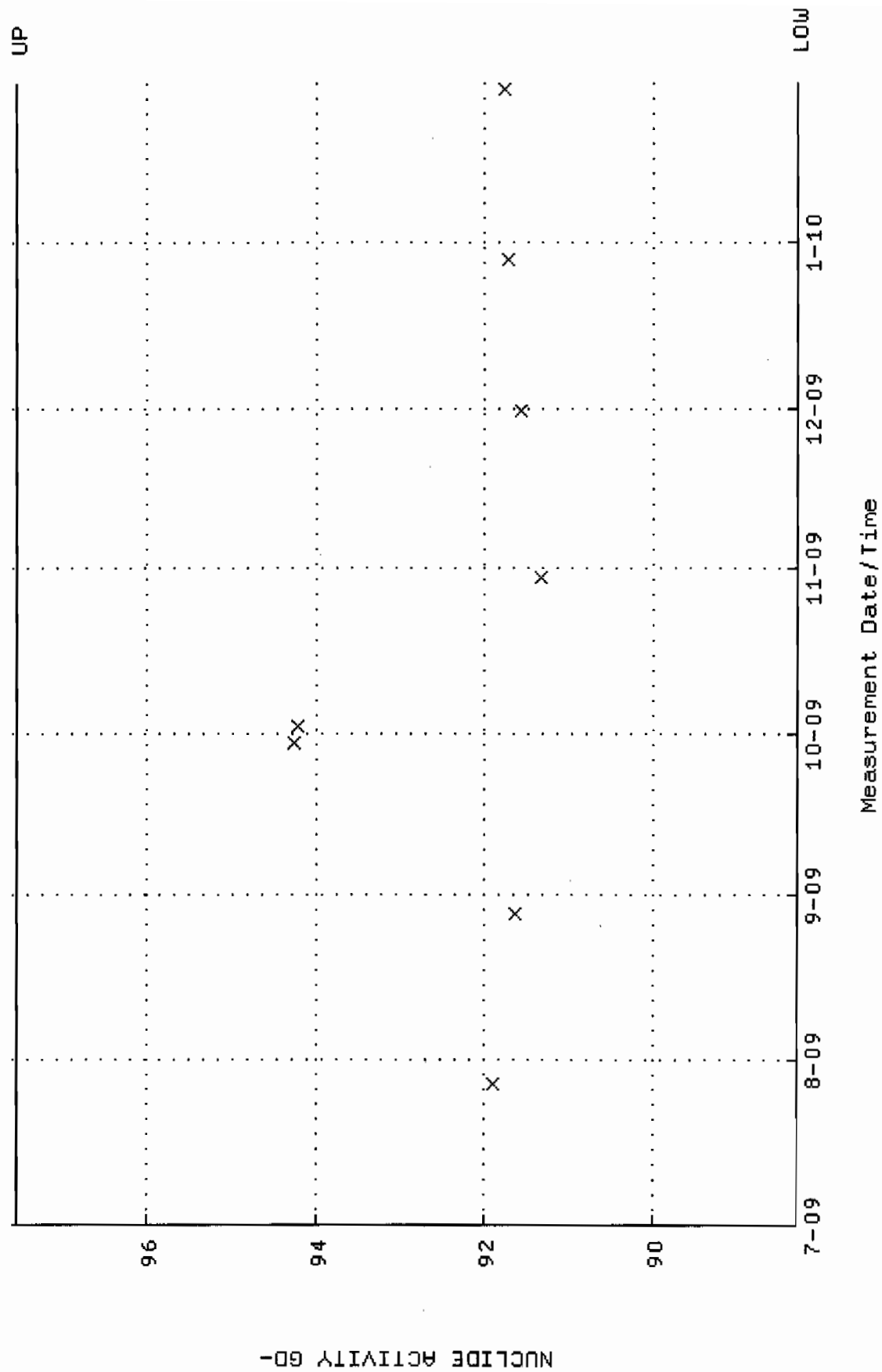
QA filename : DKA100:[ENV_ALPHA.QA.B]B219.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:06 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



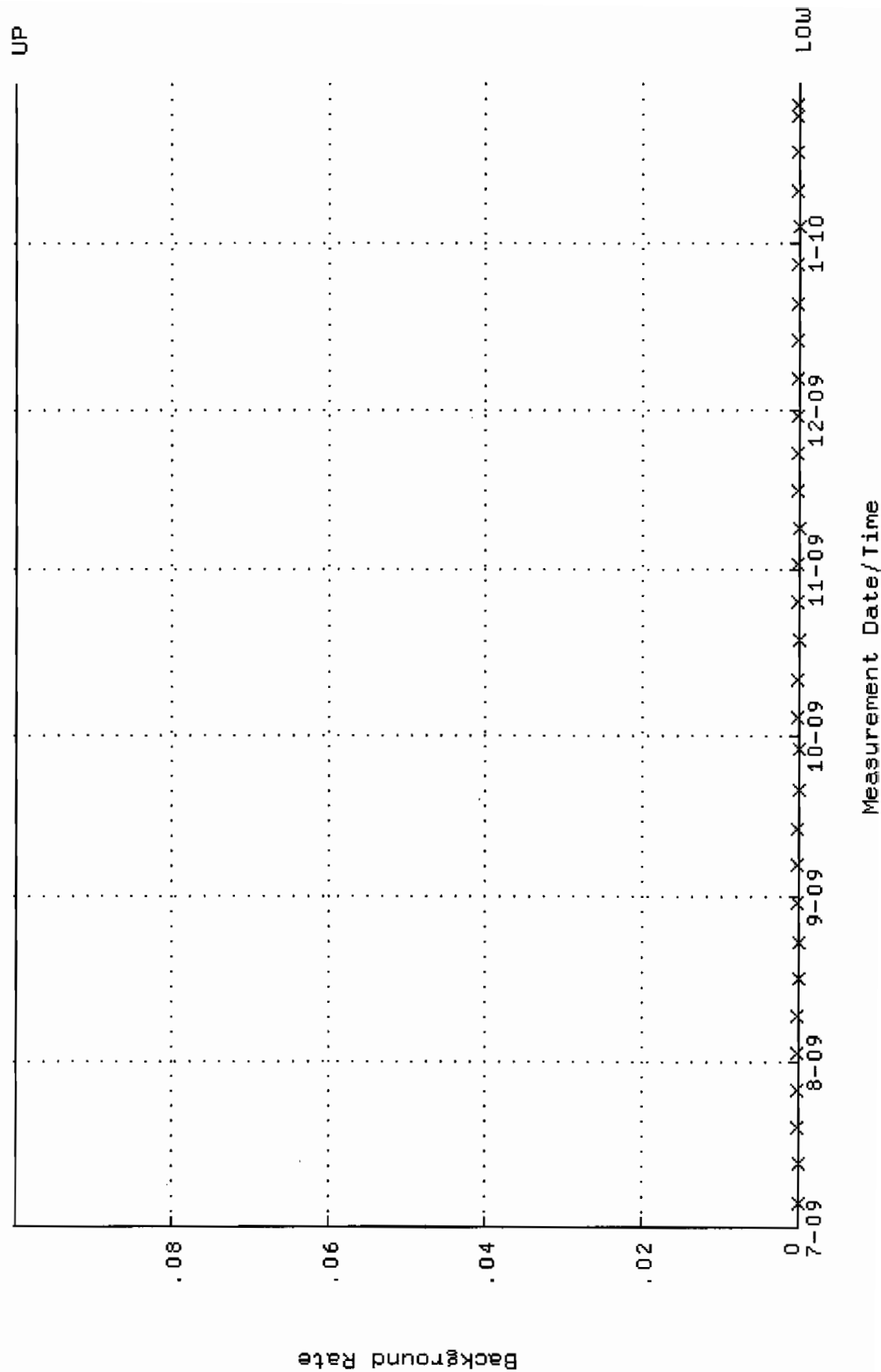
QA filename : DKA100:[ENV_ALPHA.QA.W]W220.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:23 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.359644 through 0.379644



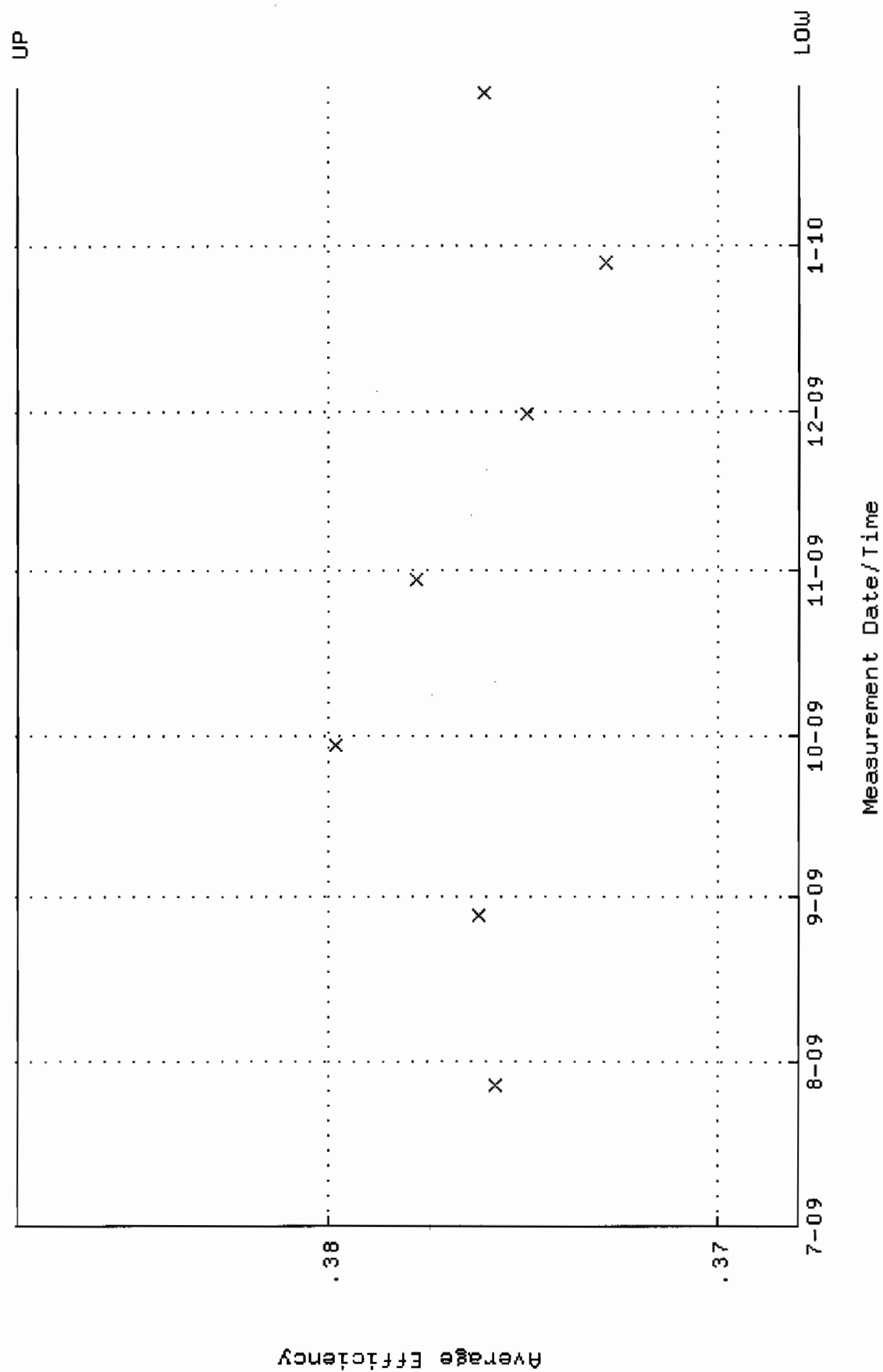
QA filename : DKA100:[ENV_ALPHA.QA.W]W220.QAF;1
 Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:23 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.2863 through 97.5795



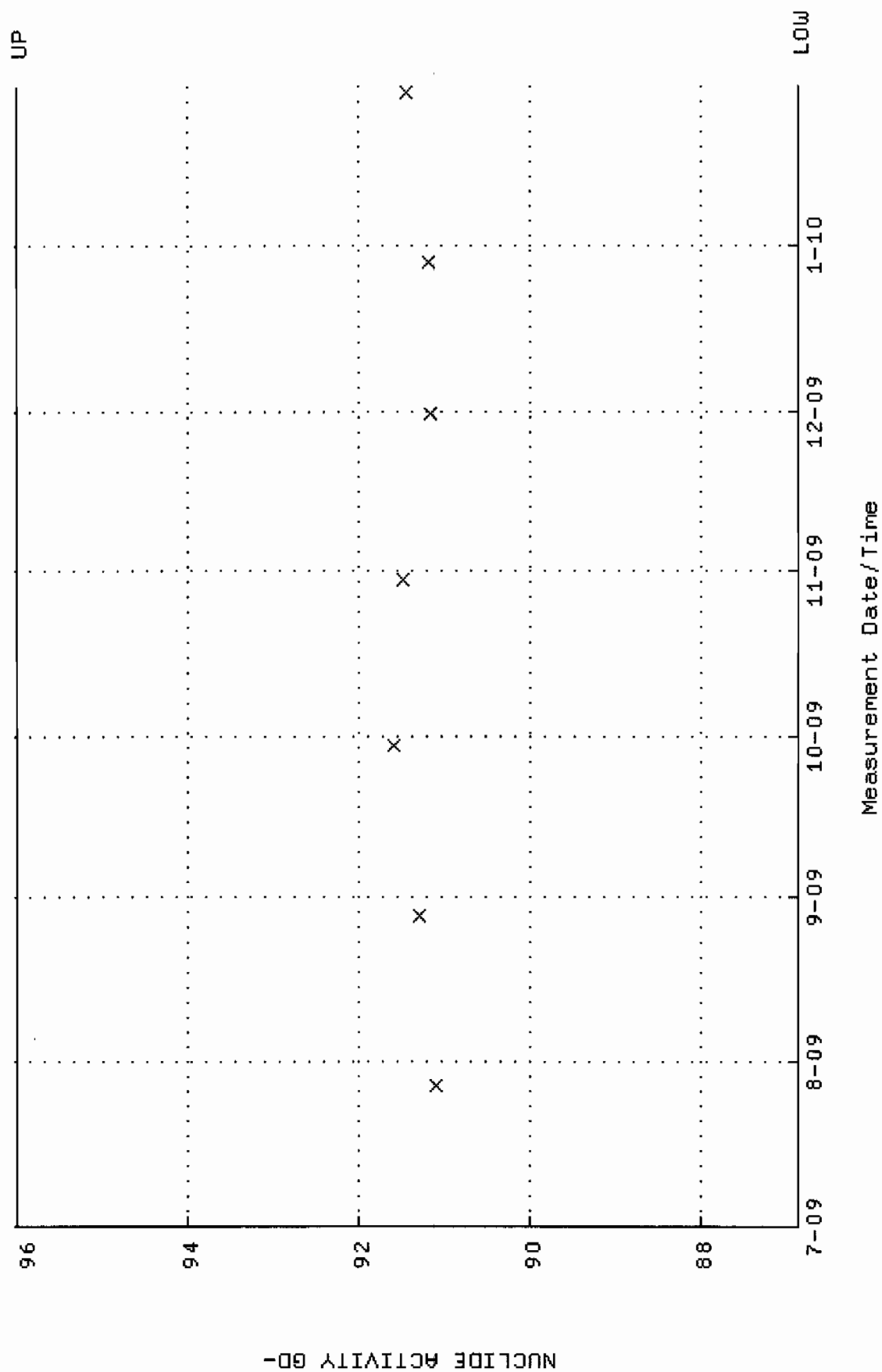
QA filename : DKA100:[ENV_ALPHA.QA.B]B220.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



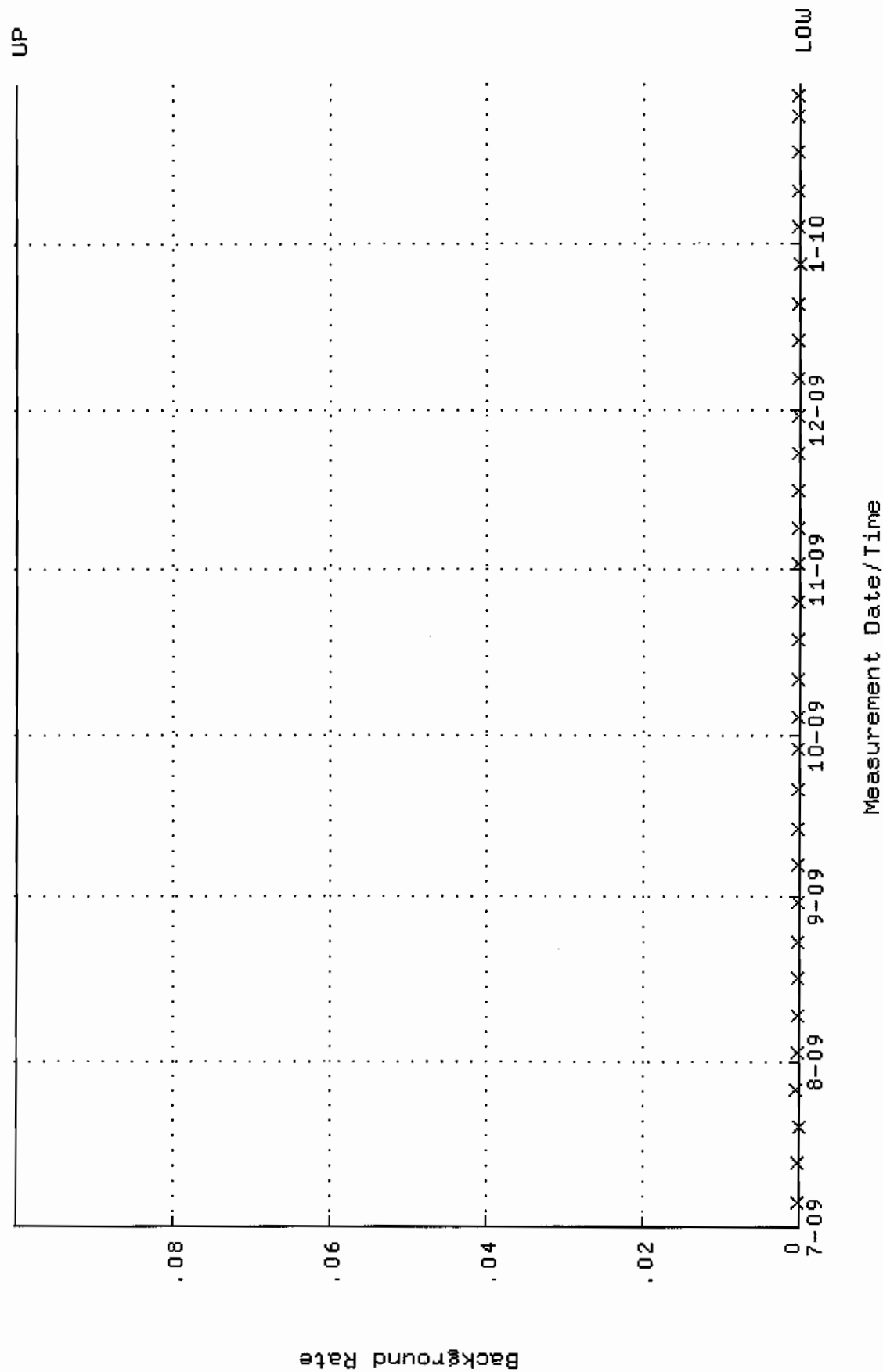
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.367948 through 0.387948



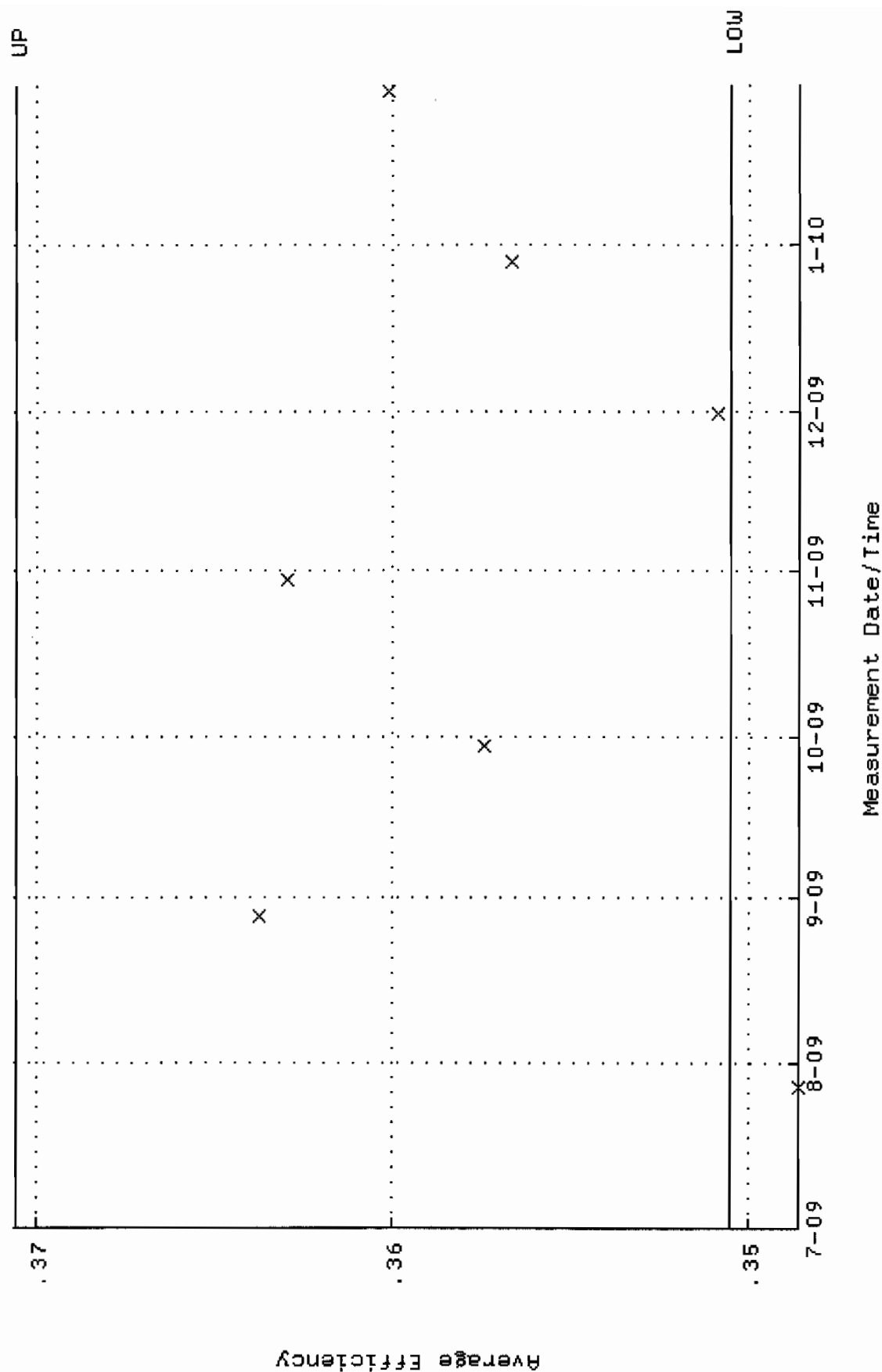
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.8591 through 96.0021



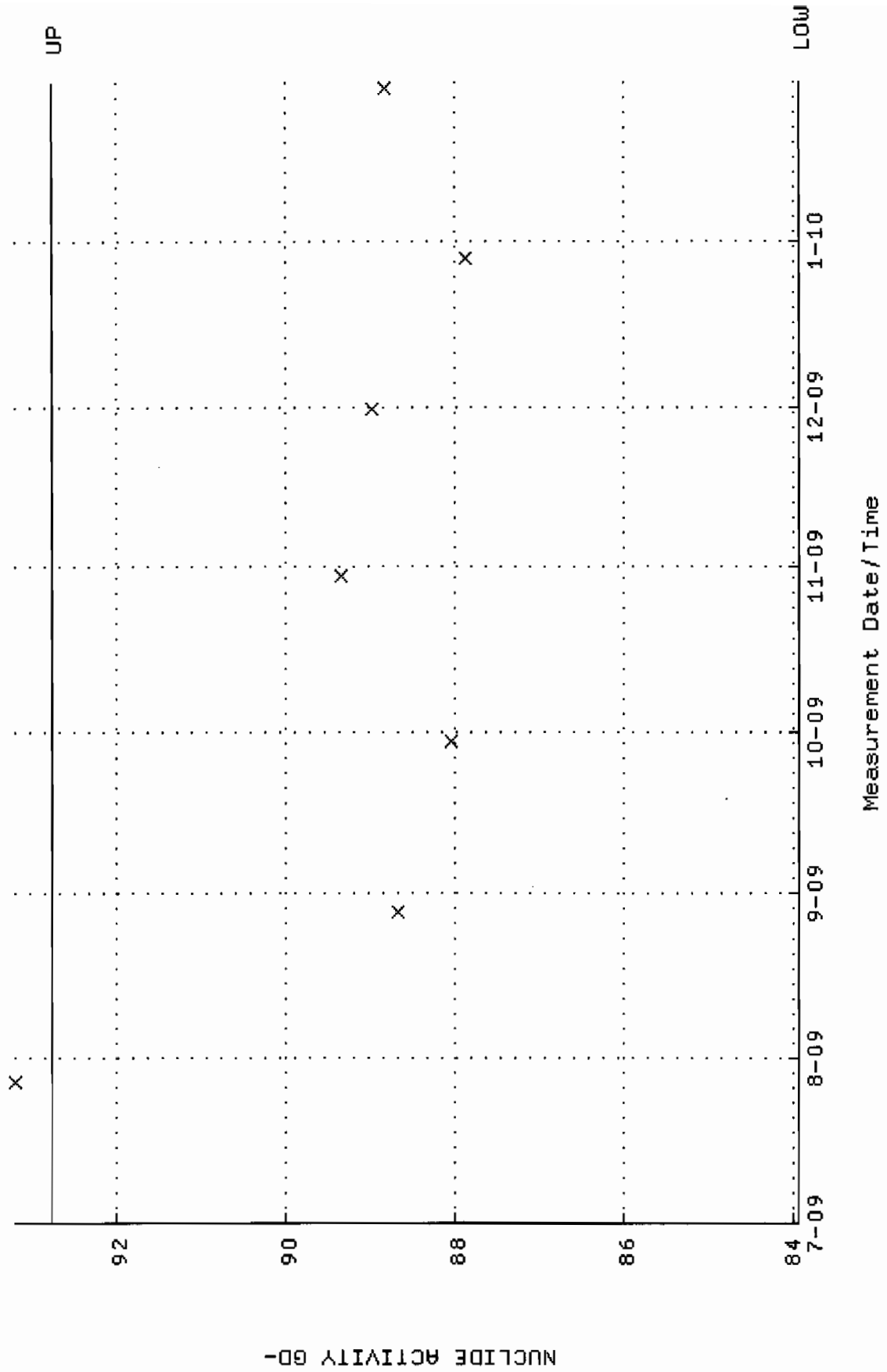
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:15 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



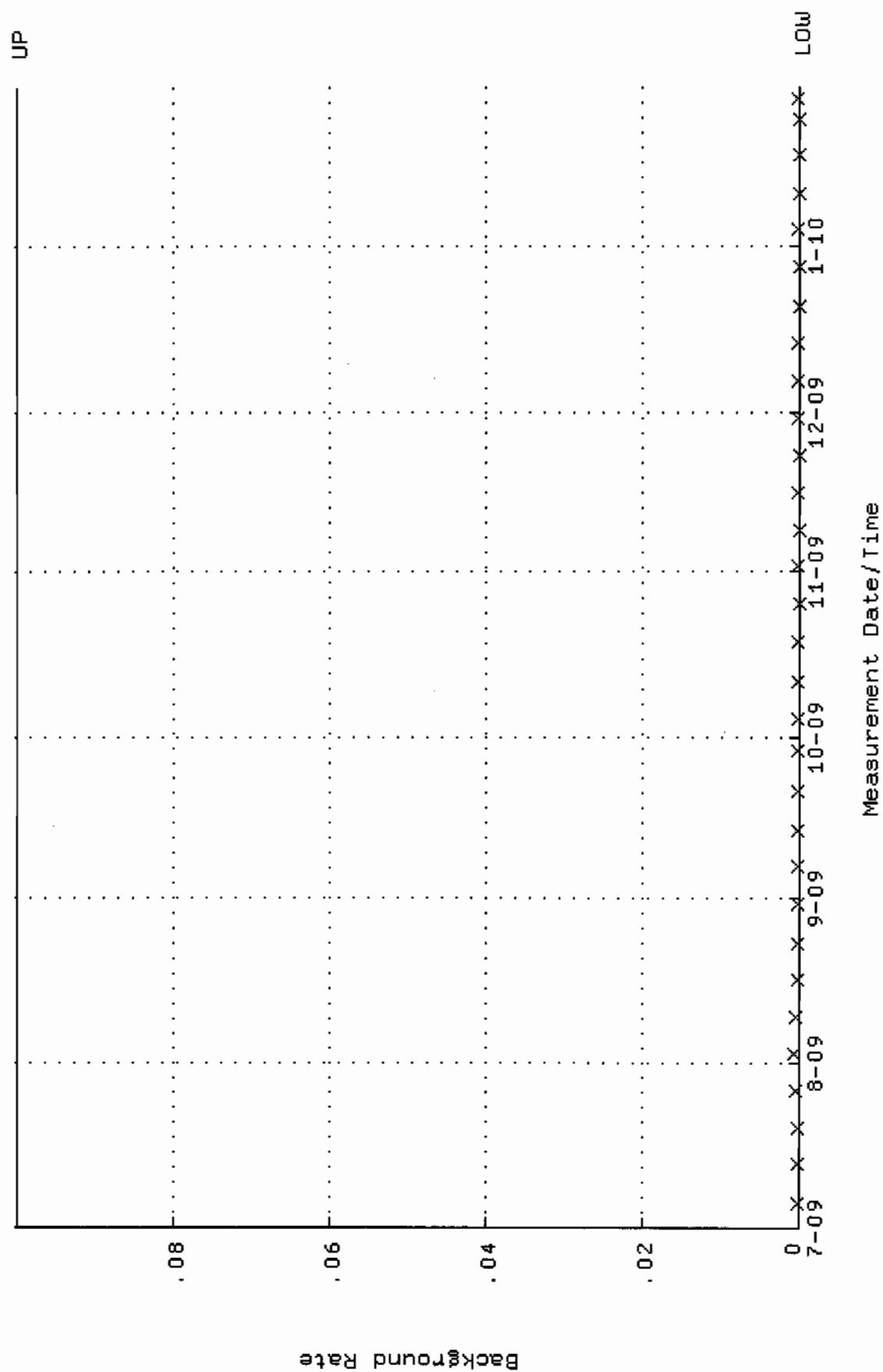
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:37 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.350566 through 0.370566



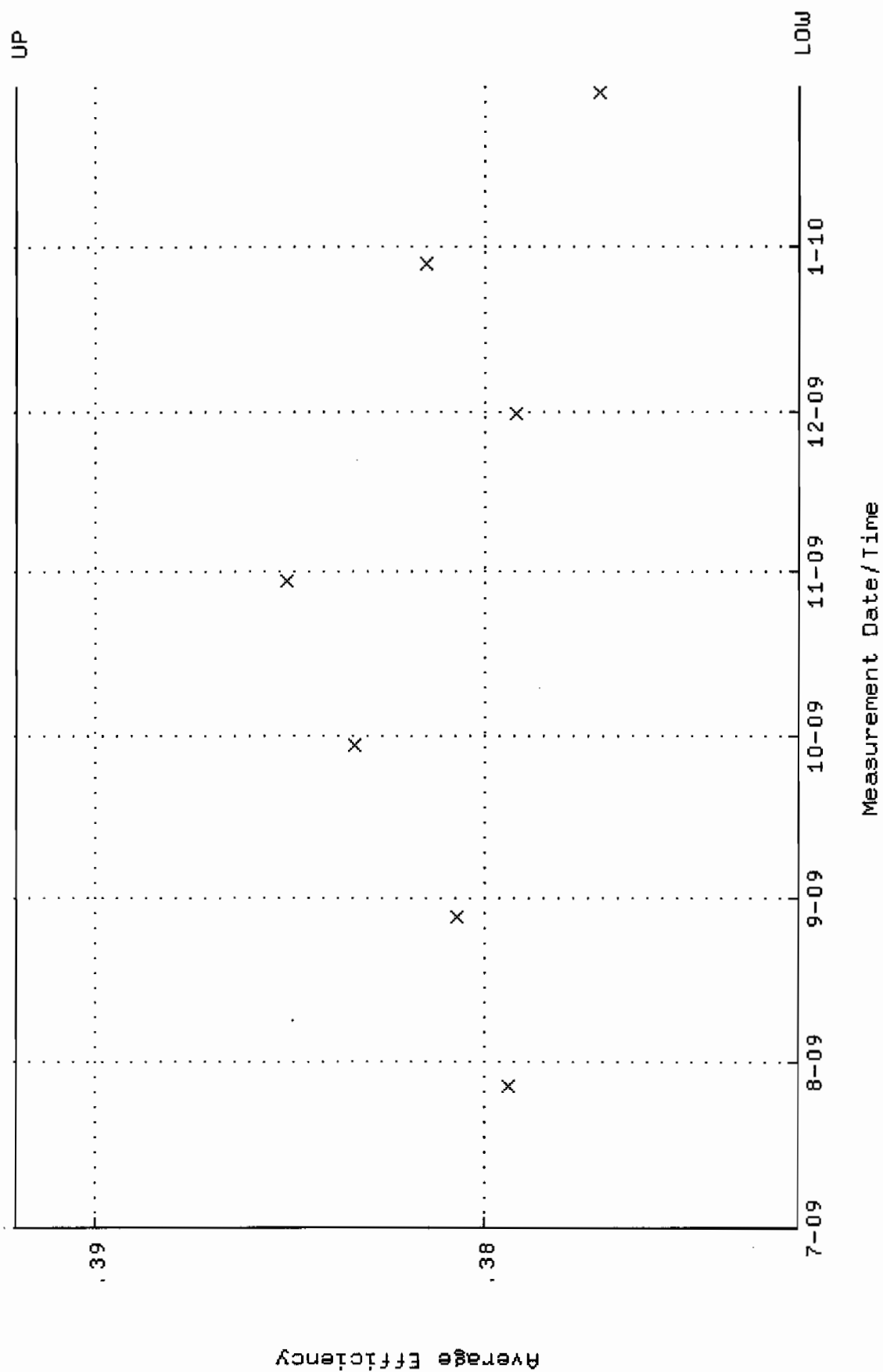
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:37 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.9445 through 92.7807



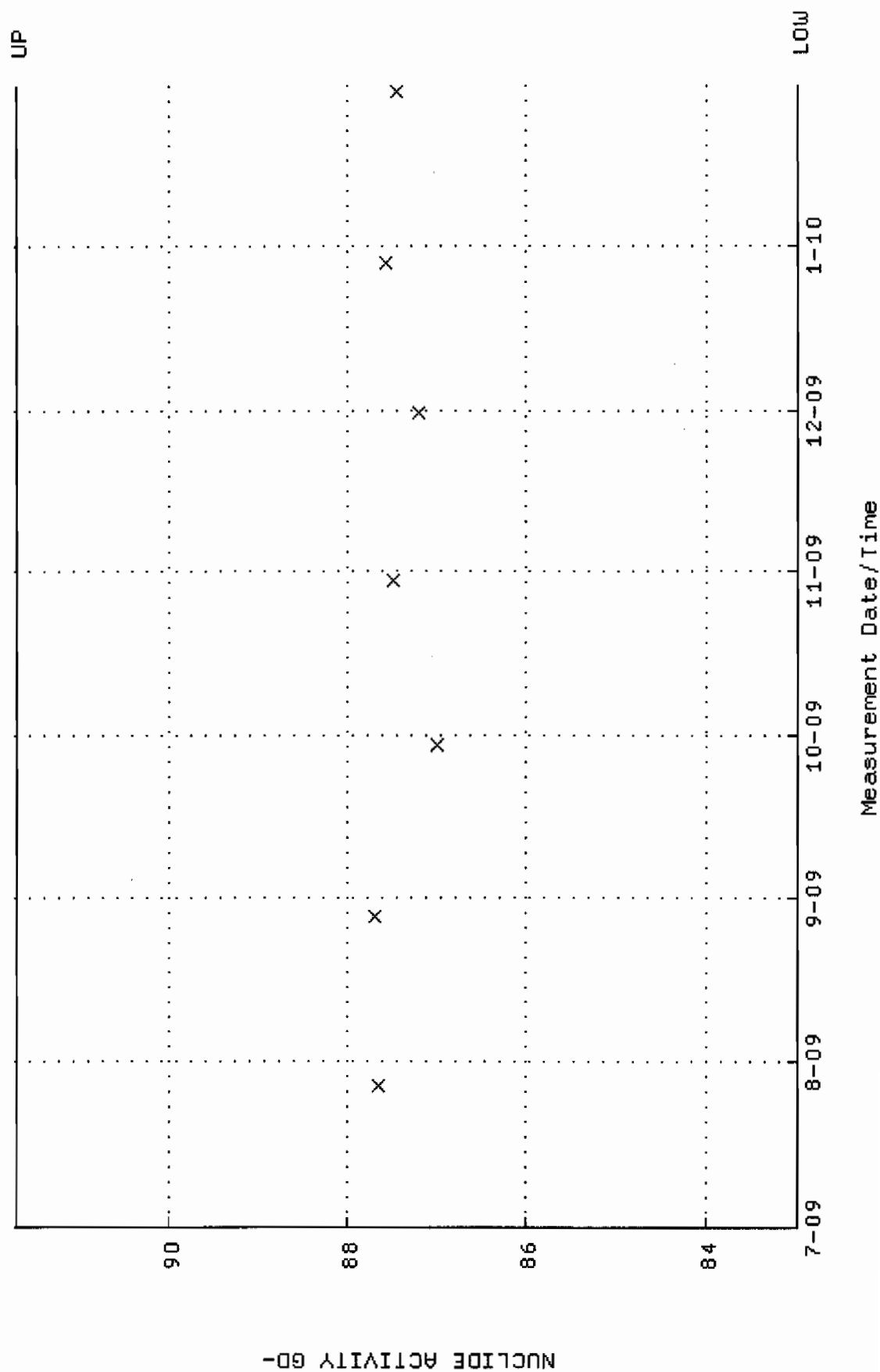
QA filename : DKA100:[ENV_ALPHA.QA.B]B222.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:20 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



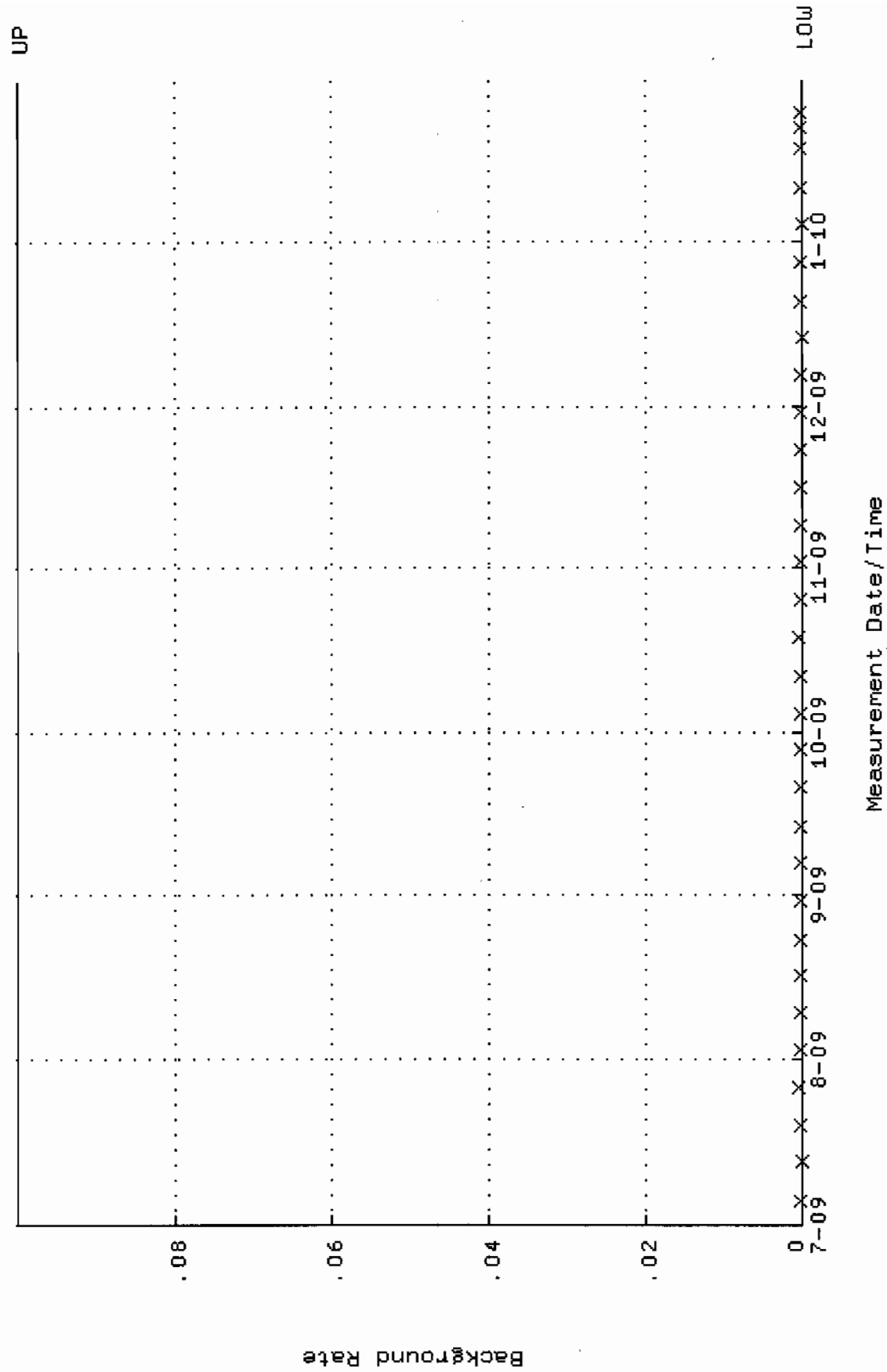
QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.372001 through 0.392001



QA filename : DKA100:[ENV_ALPHA.QA.W]W233.QAF;1
Parameter Name : NLAIVITY-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

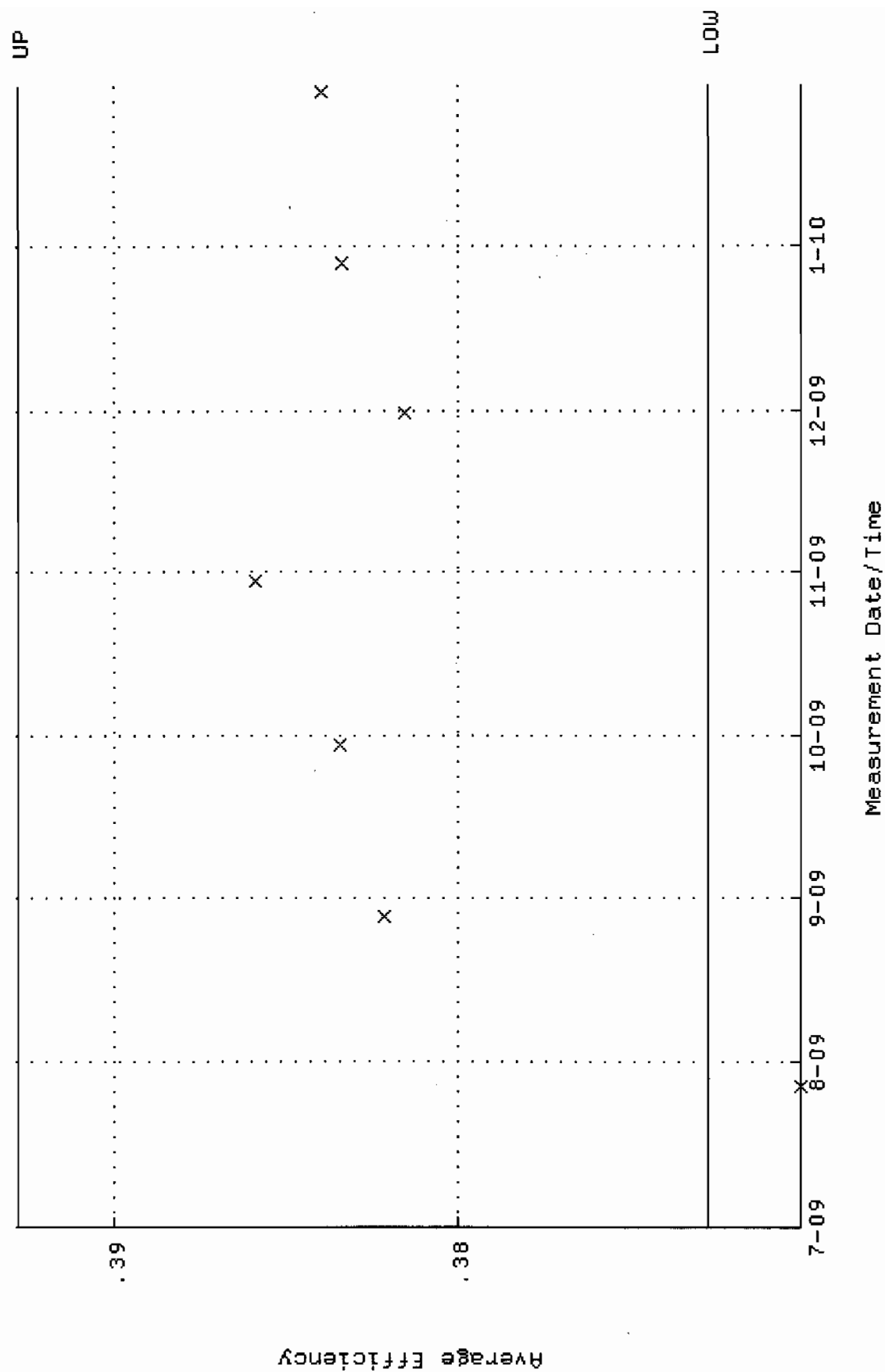


QA filename : DKA100:[ENV_ALPHA.QA.W]W234.QAF;1

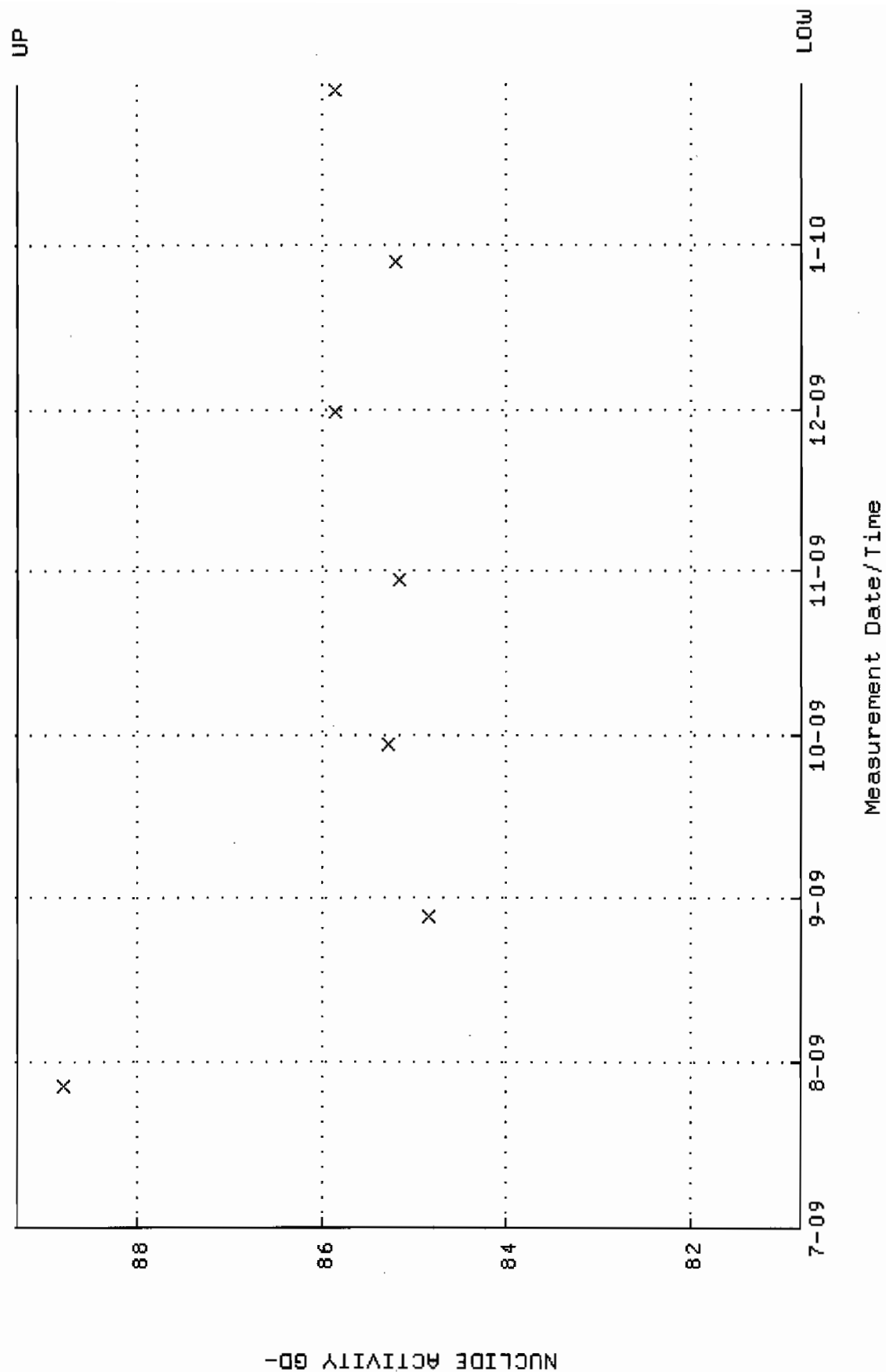
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 27-JUL-2009 11:49:54 through 30-JAN-2010 12:00:00

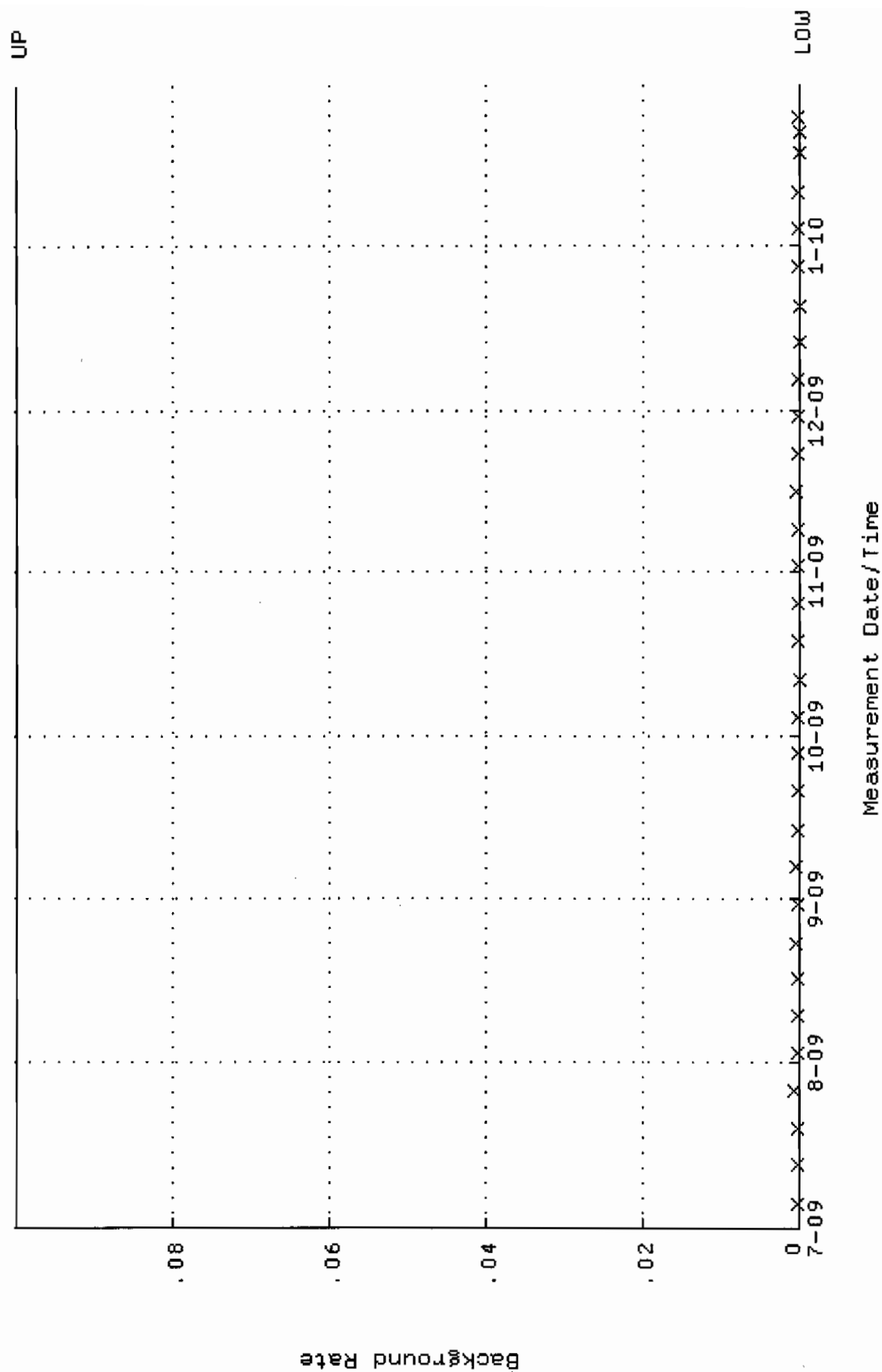
Lower/Upper Lmts: 0.372763 through 0.392763



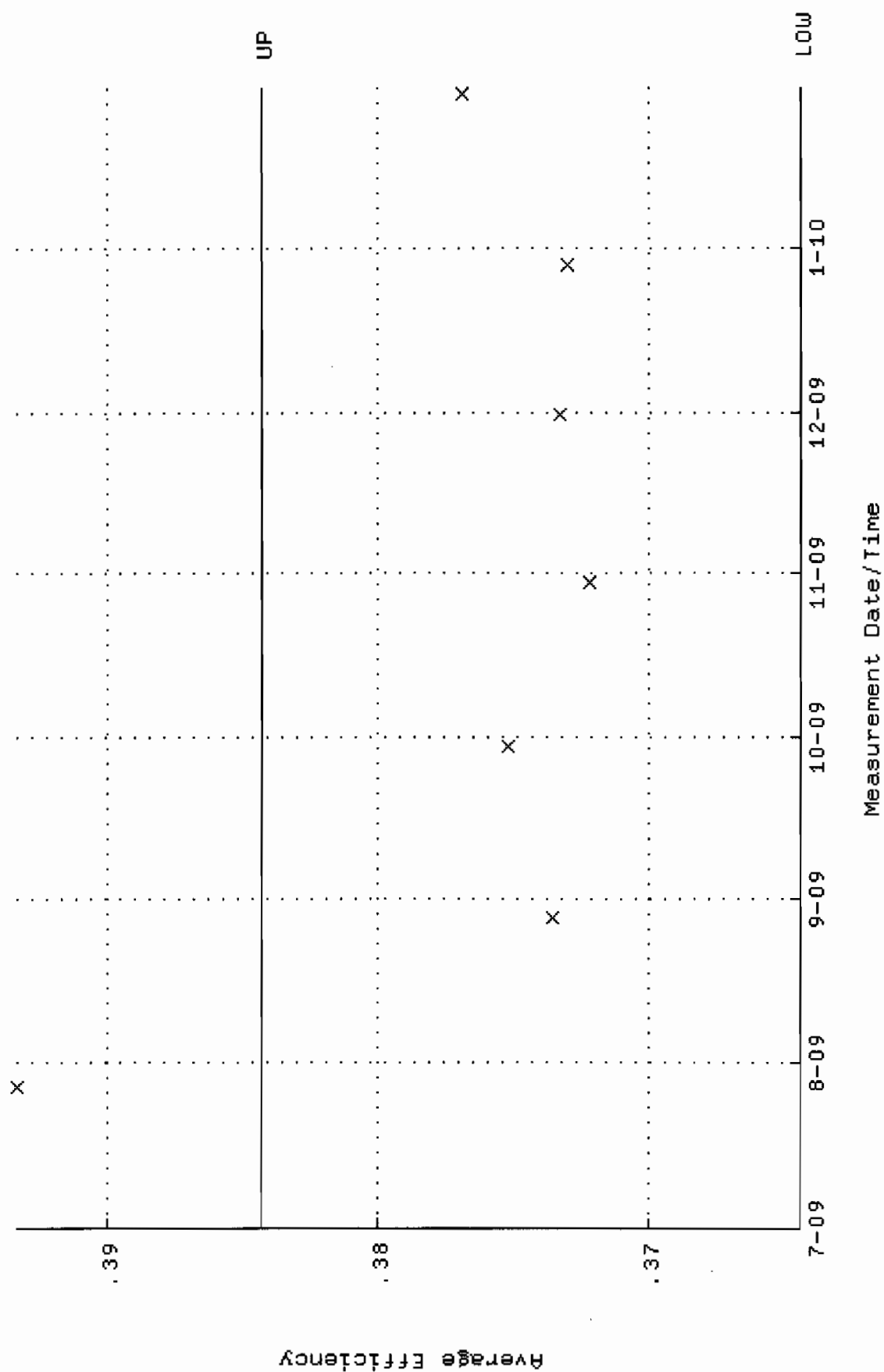
QA filename : DKA100:[ENV_ALPHA.QA.W]W234.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:54 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 80.7996 through 89.3048



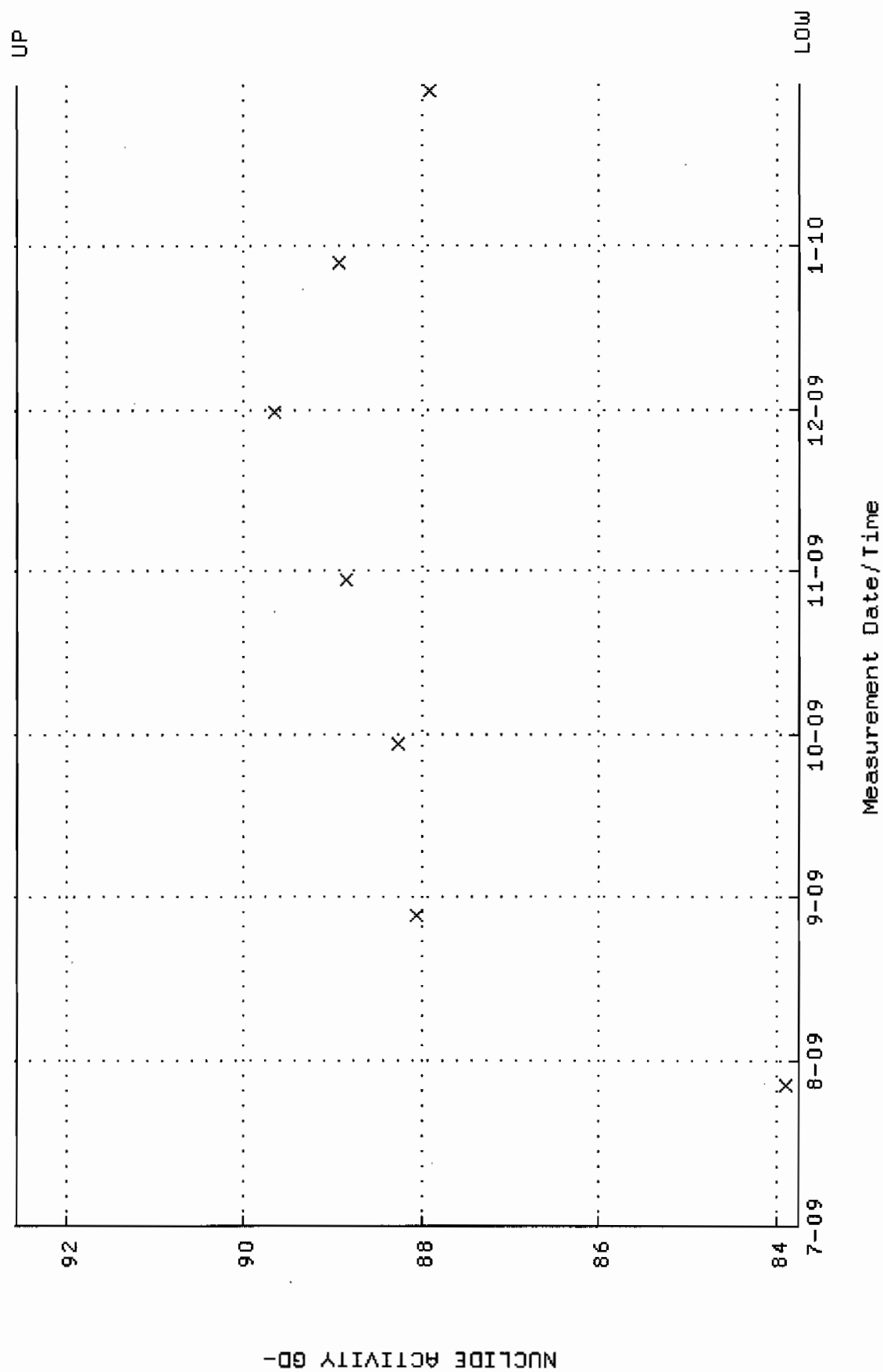
QA filename : DKA100:[ENV_ALPHA.QA.B]B234.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:15 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



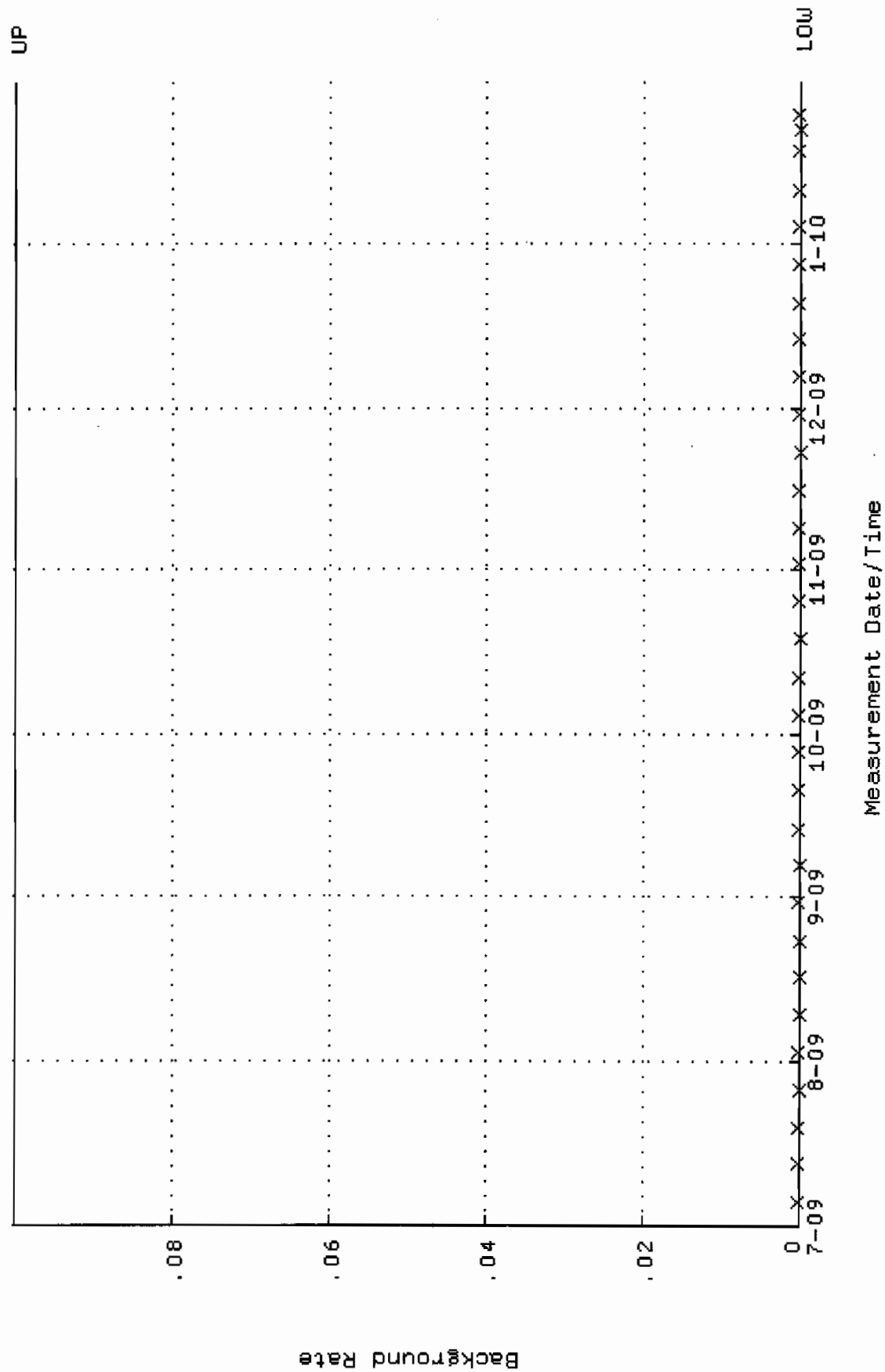
QA filename : DKA100:[ENV_ALPHA.QA.W]W235.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:01 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.364314 through 0.384314



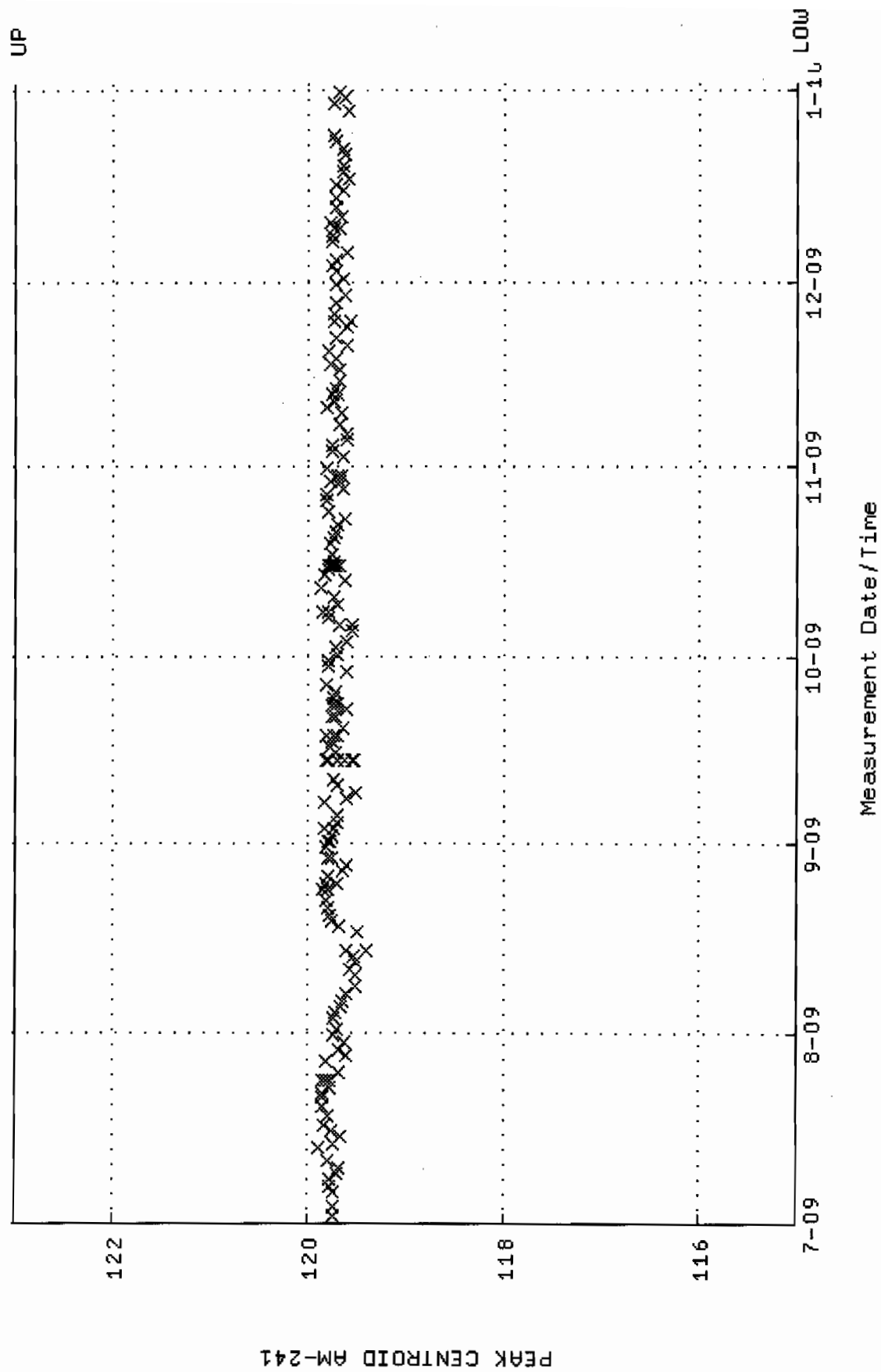
QA filename : DKA100:[ENV_ALPHA.QA.W]W235.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:01 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.7416 through 92.5566



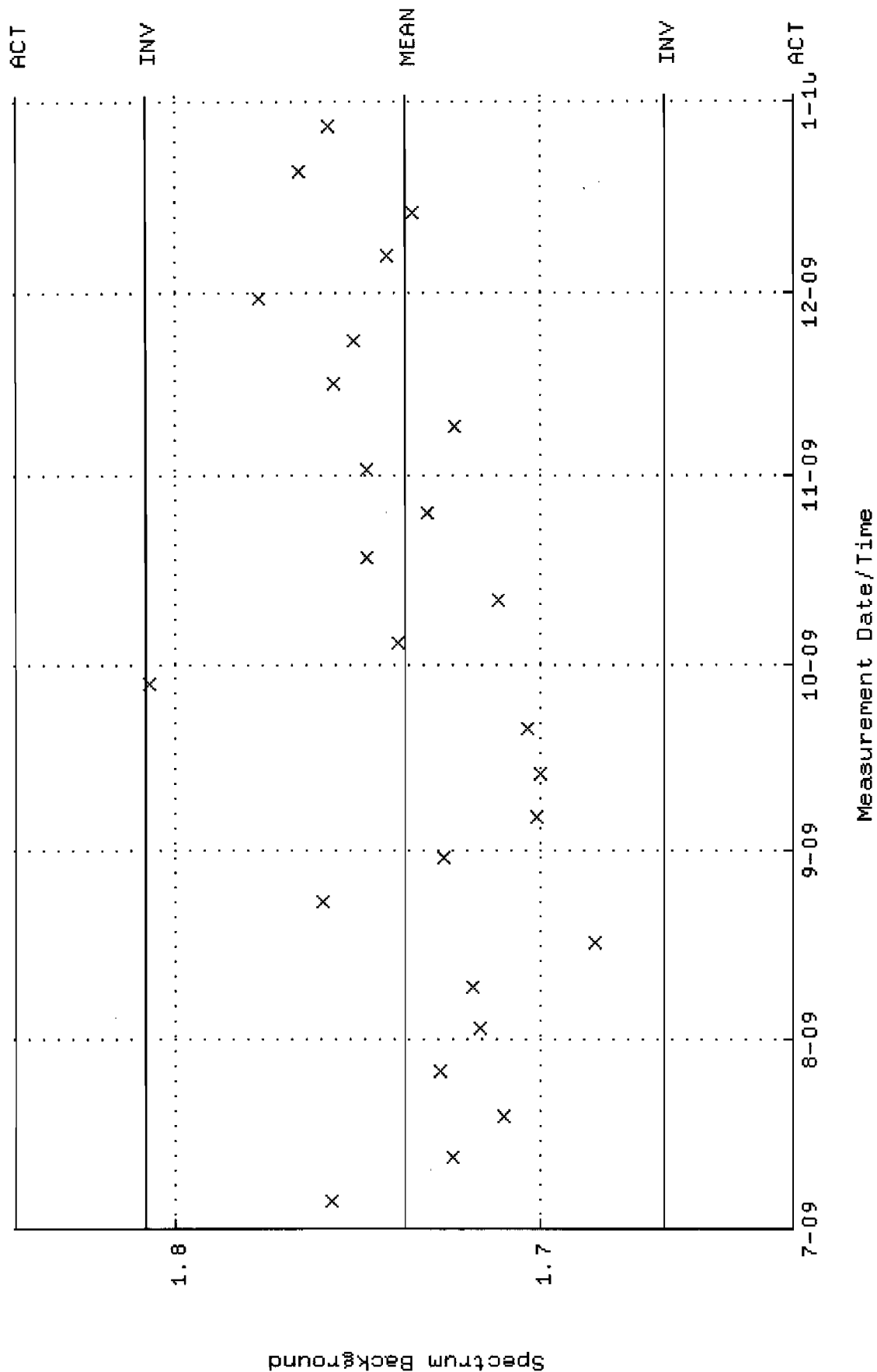
QA filename : DKA100:[ENV_ALPHA.QA.B]B235.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:20 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



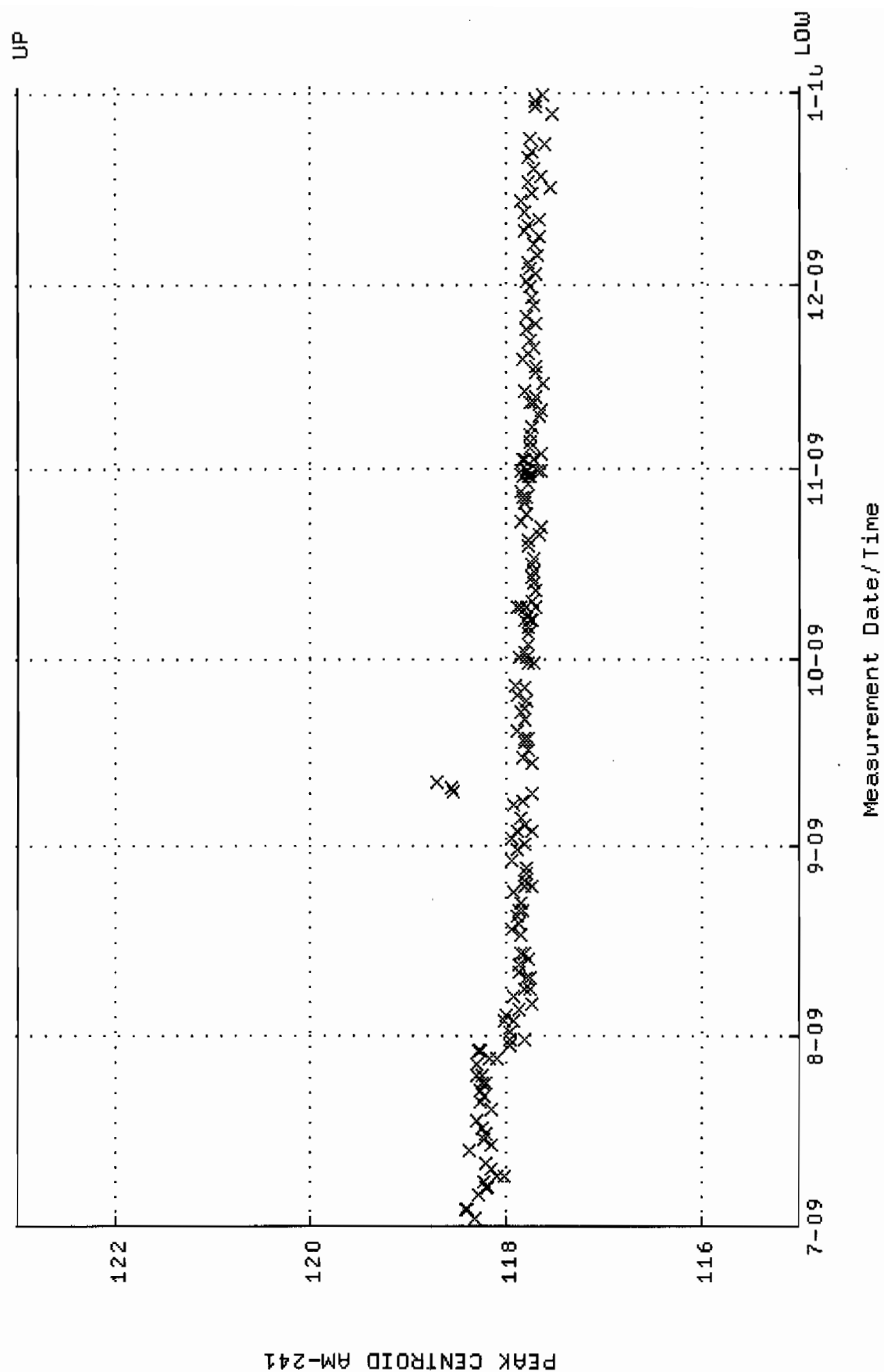
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM01-500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:58:53 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



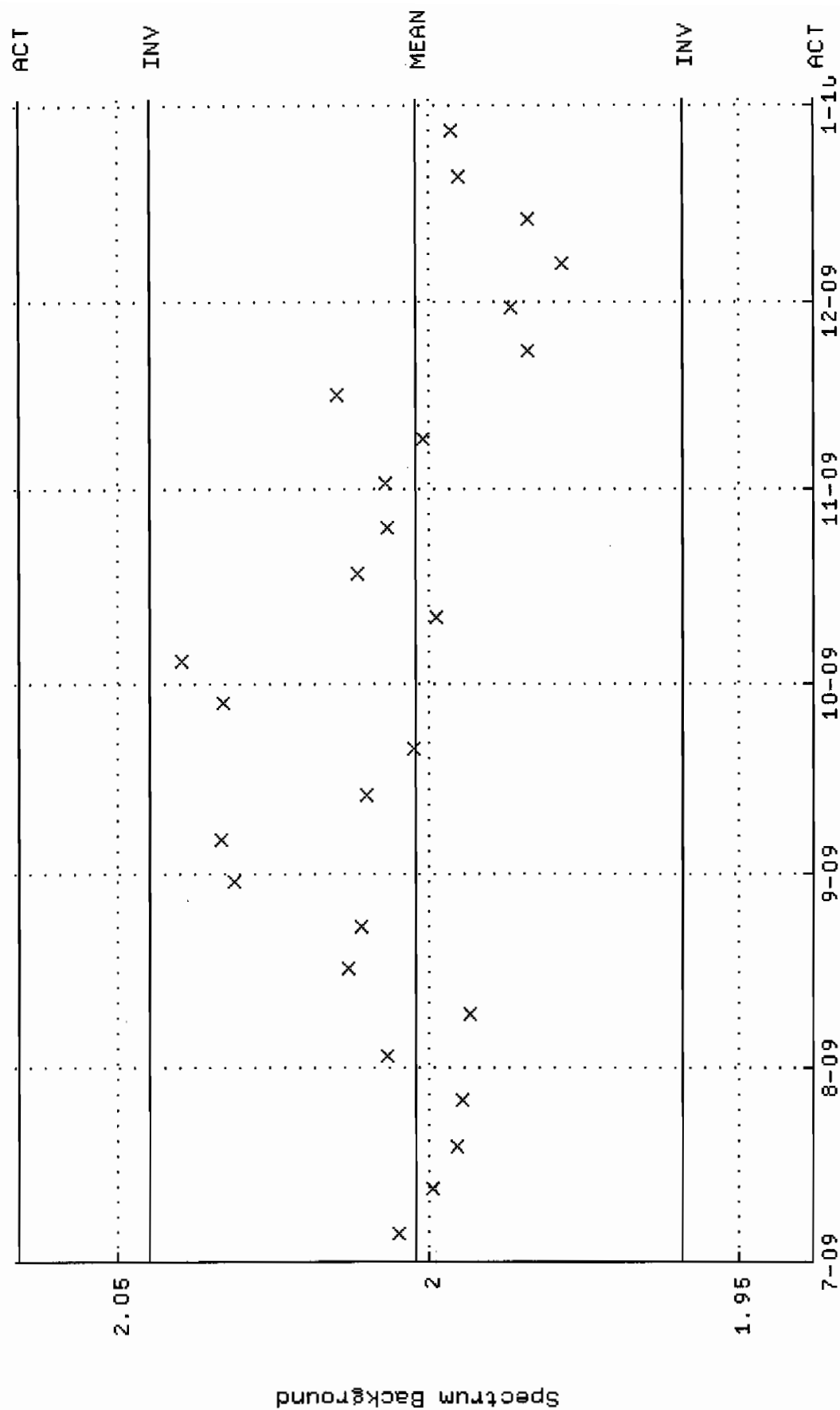
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM01.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:24 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



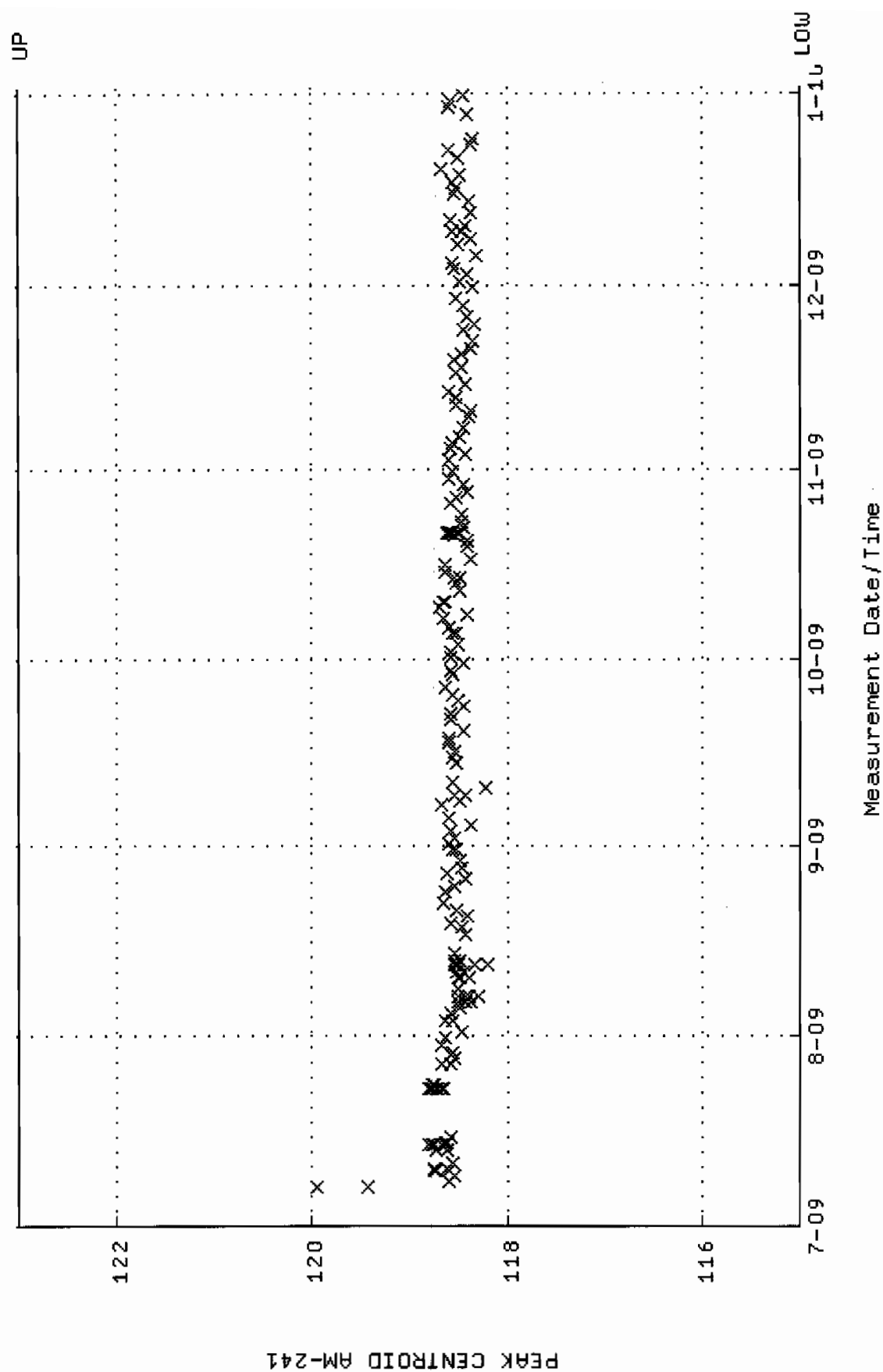
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:58:43 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



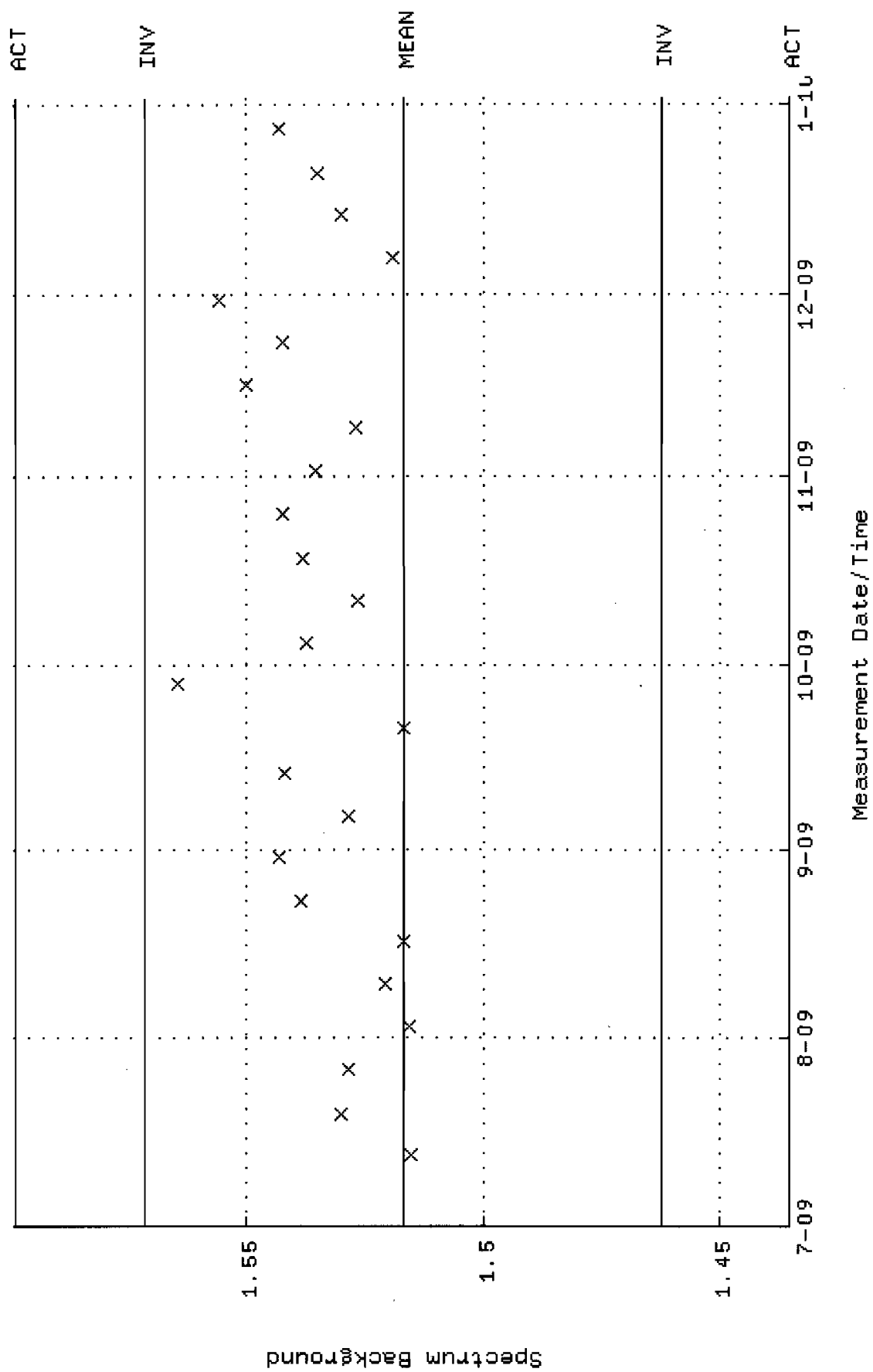
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM02.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:39 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.00226 +- 2.139827E-02 (1.07 %)



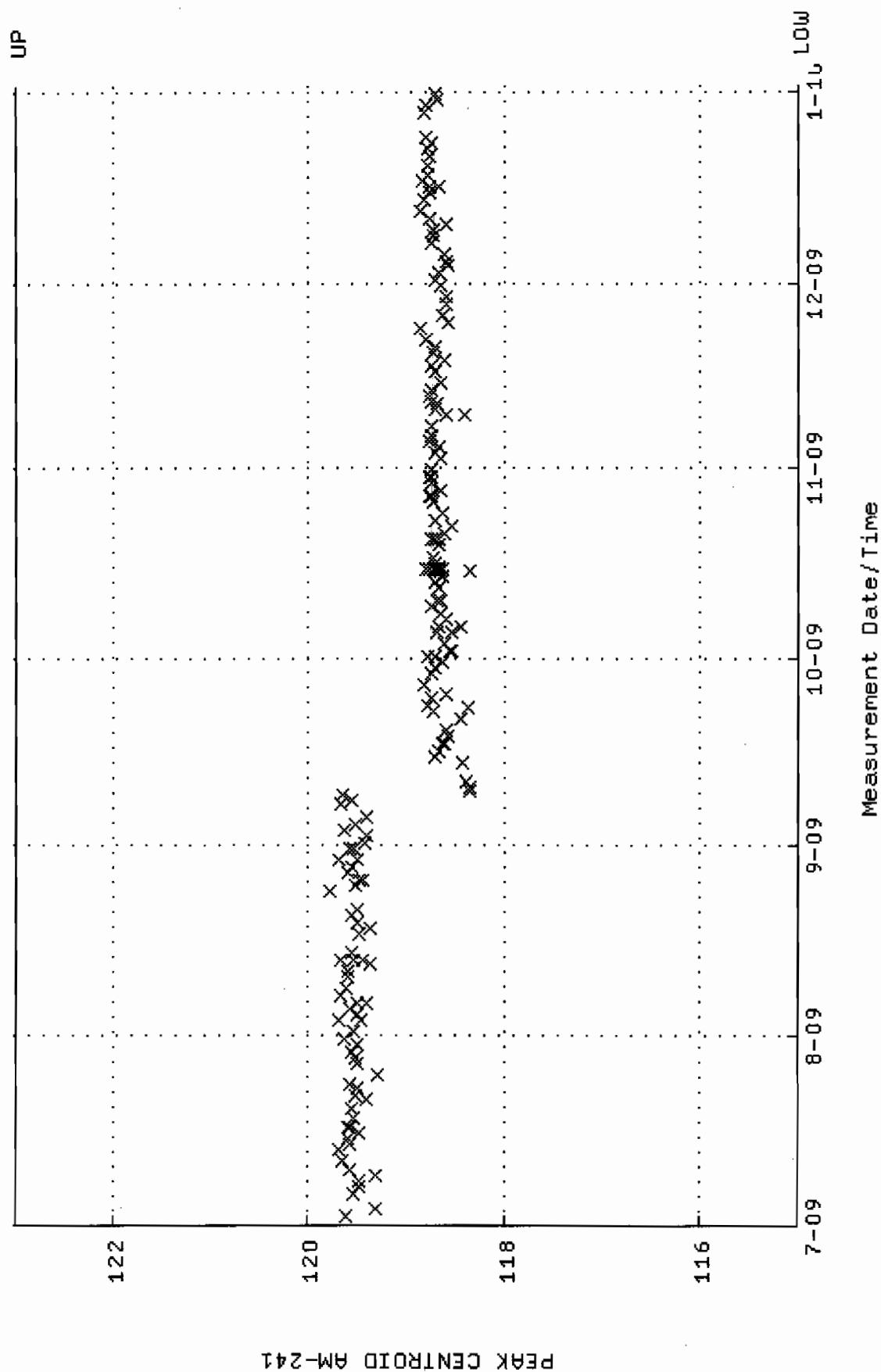
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 7-JUL-2009 09:02:00 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



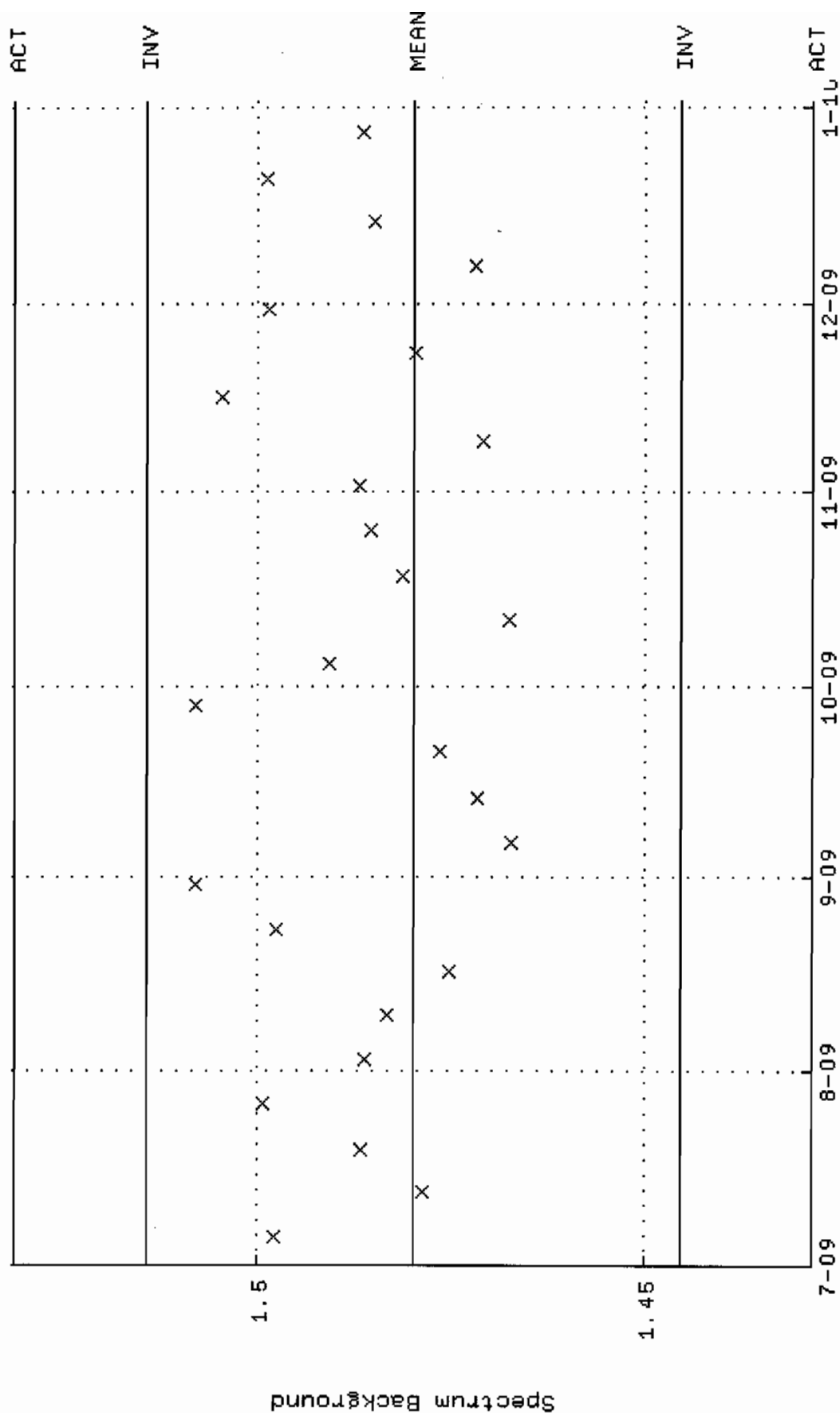
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 12-JUL-2009 17:17:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



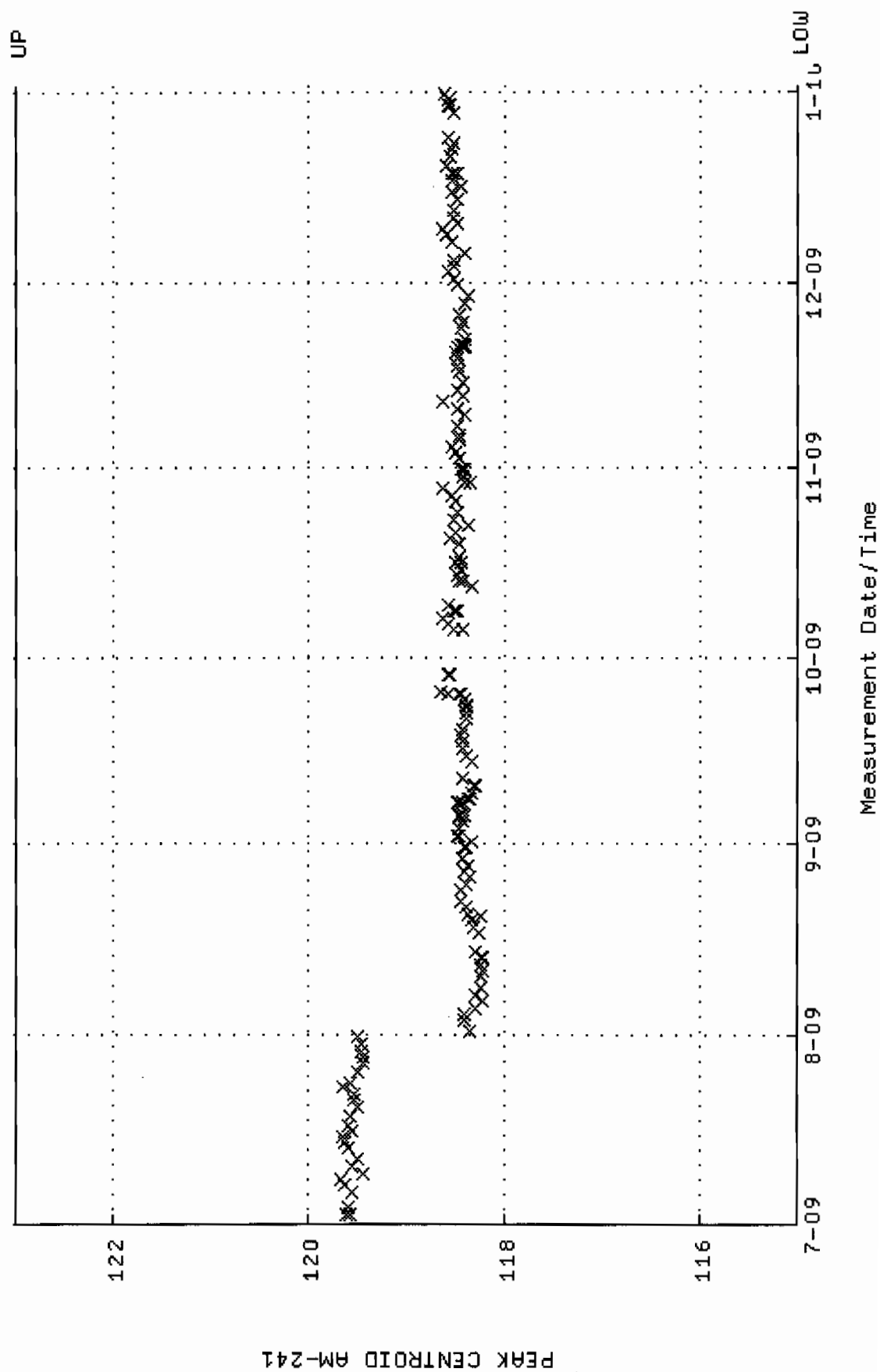
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM10-500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:17 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



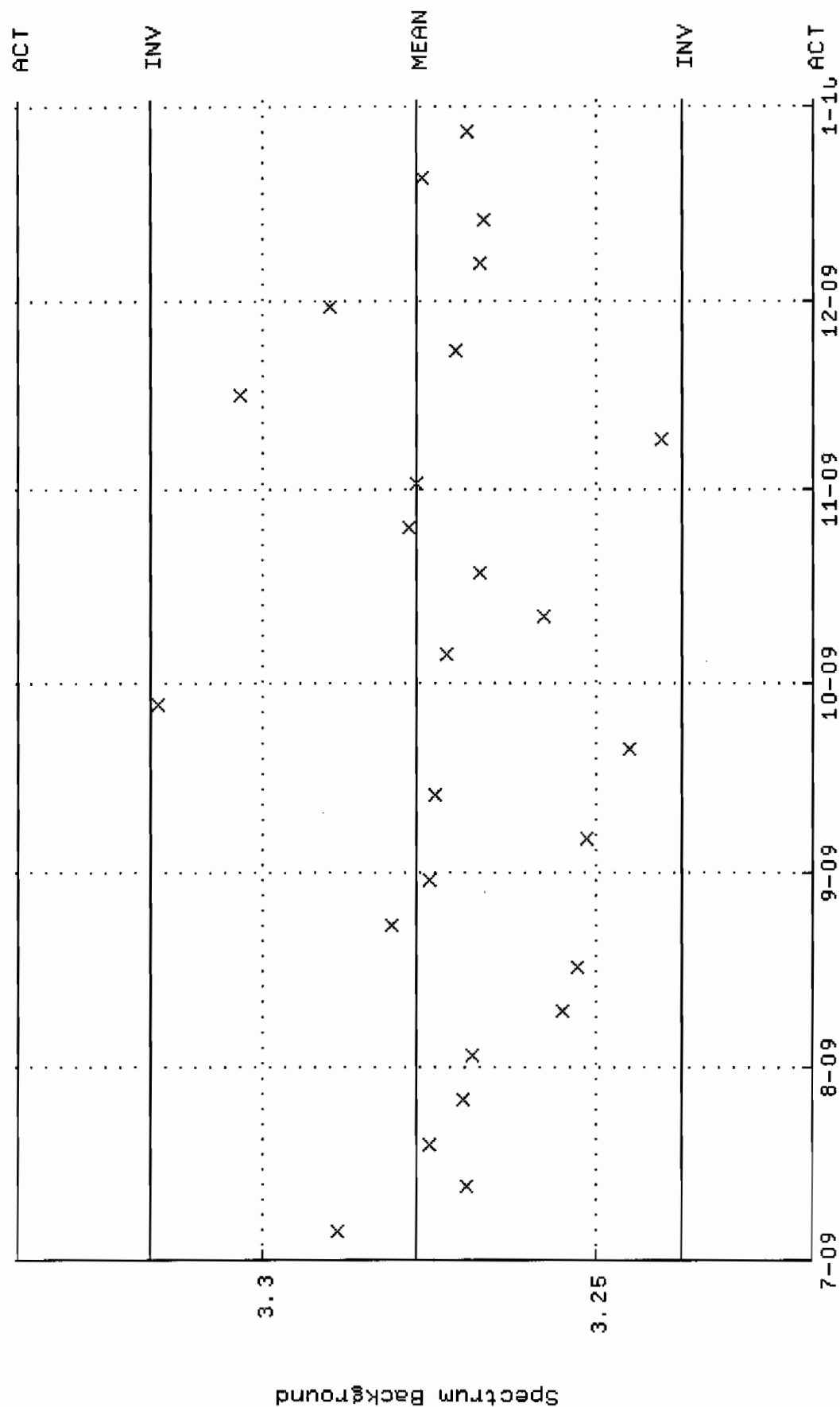
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:51:14 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



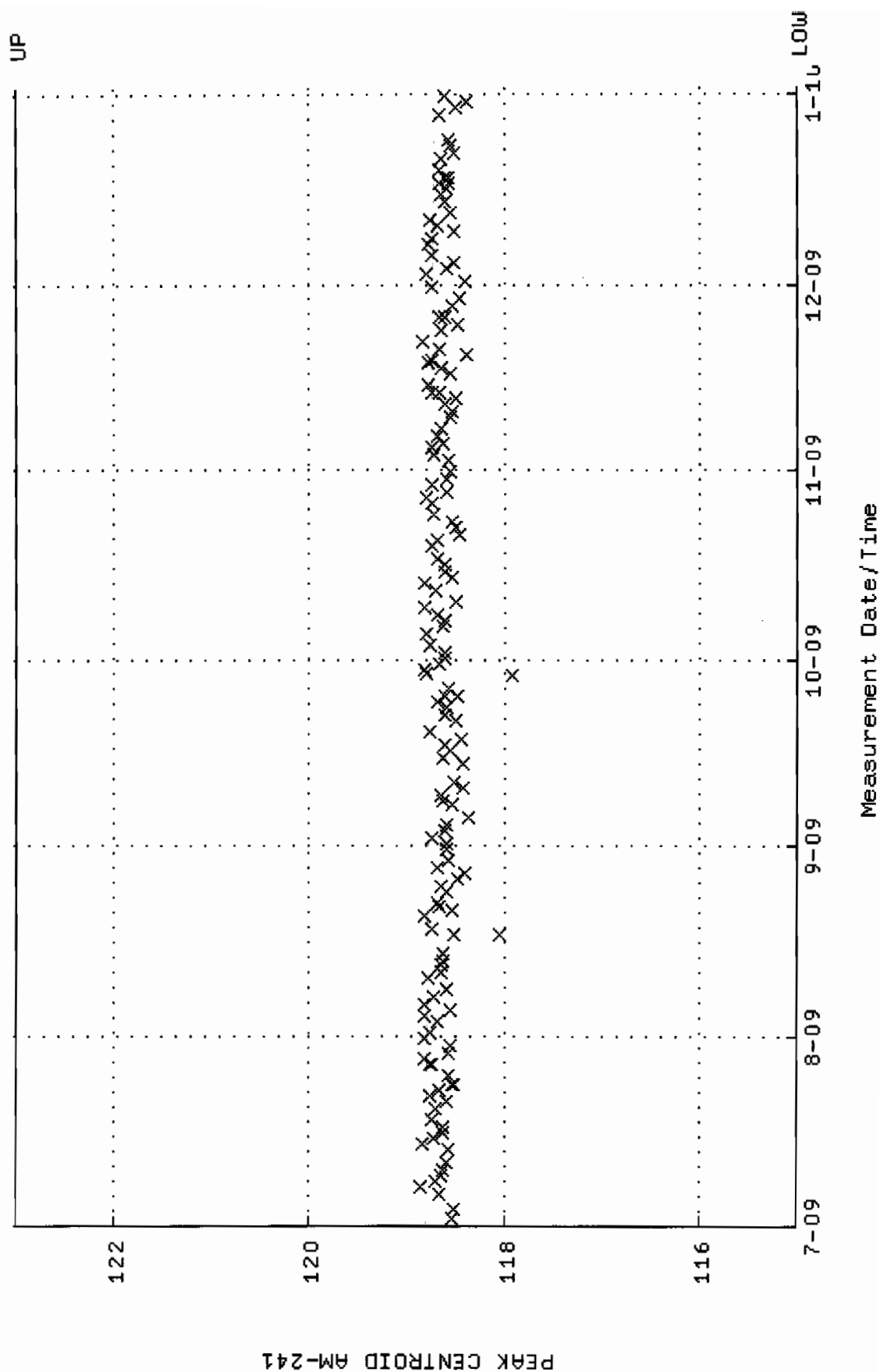
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM13-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:30 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



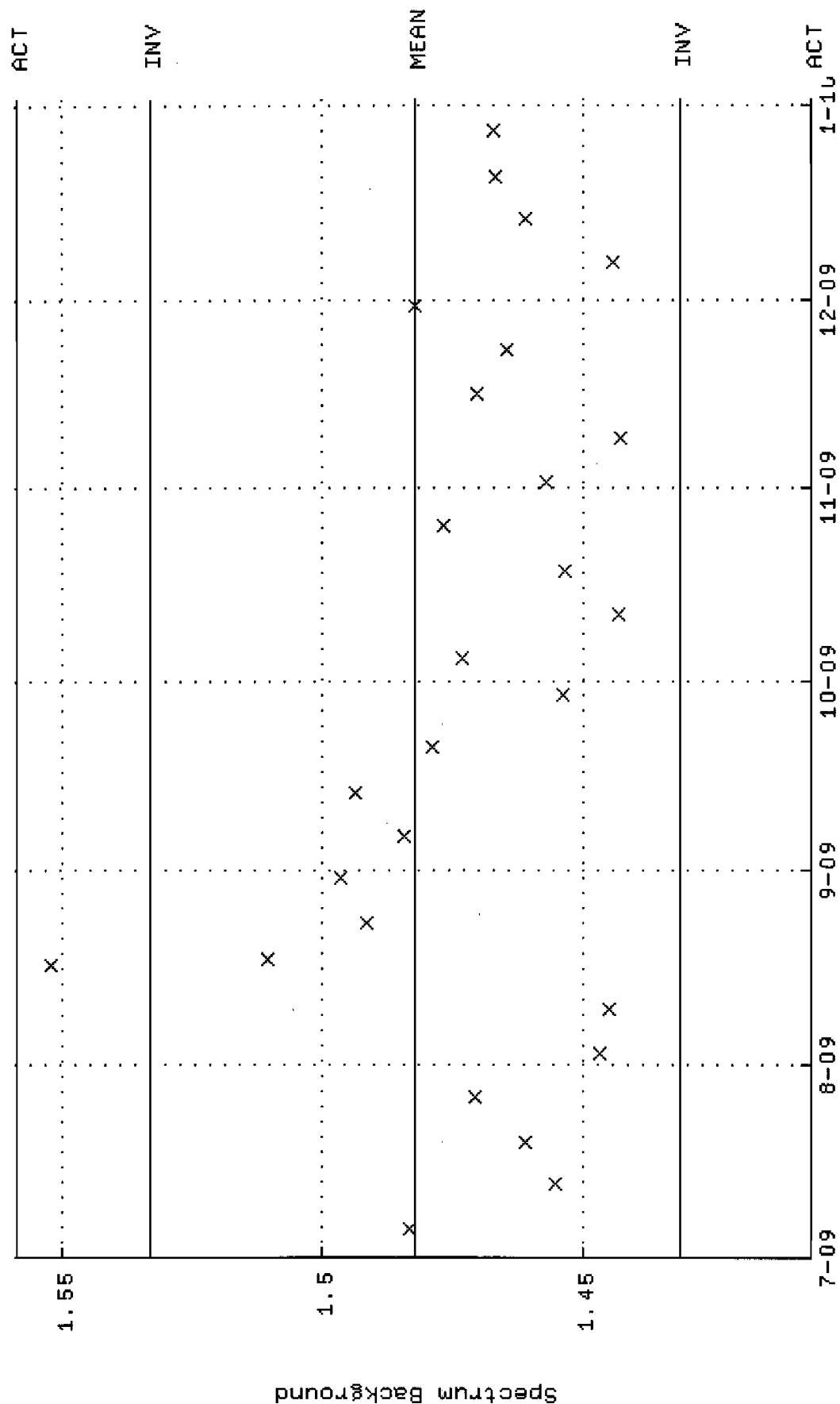
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM13.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:16 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



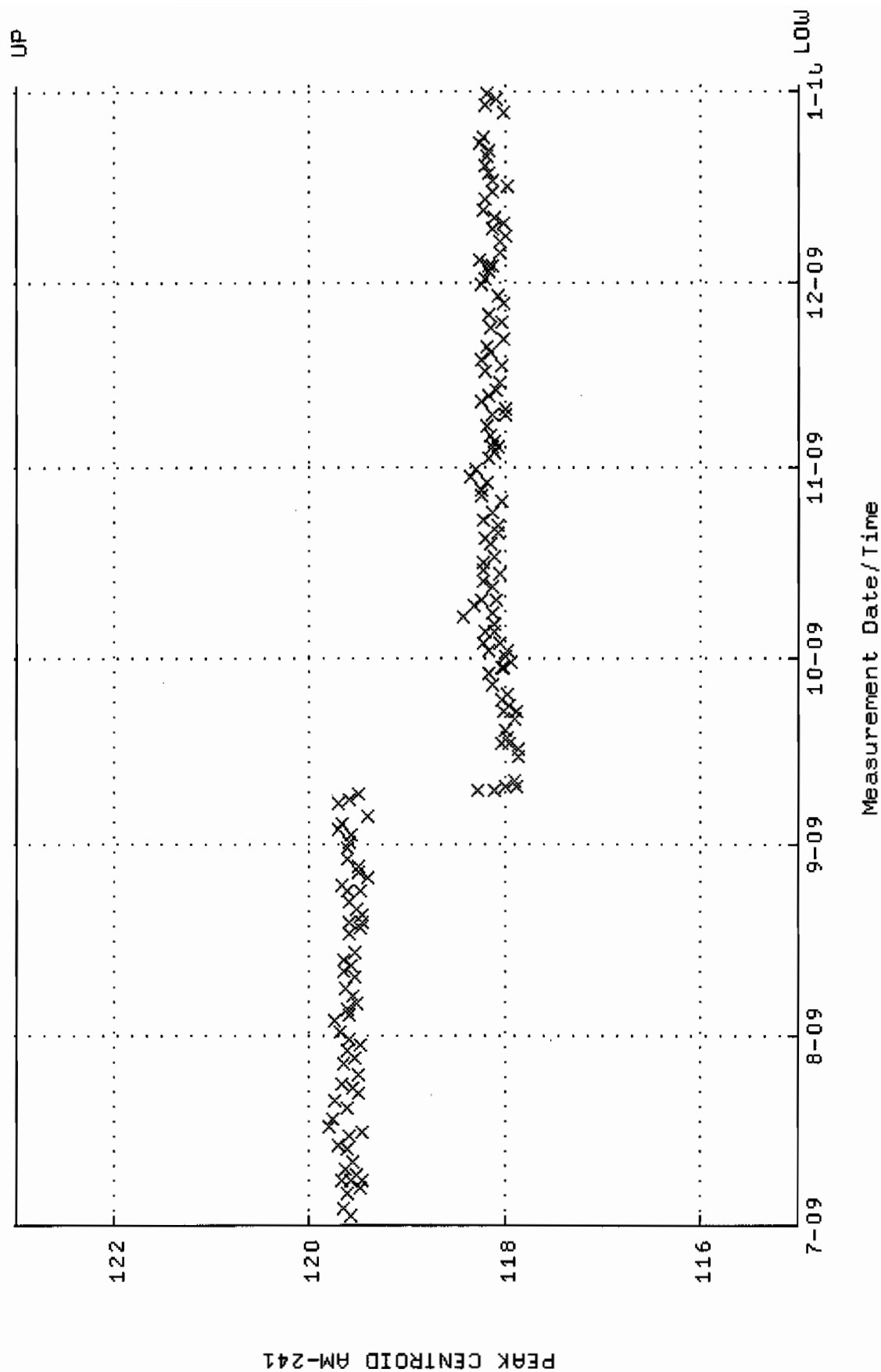
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM14-2LMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:23 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



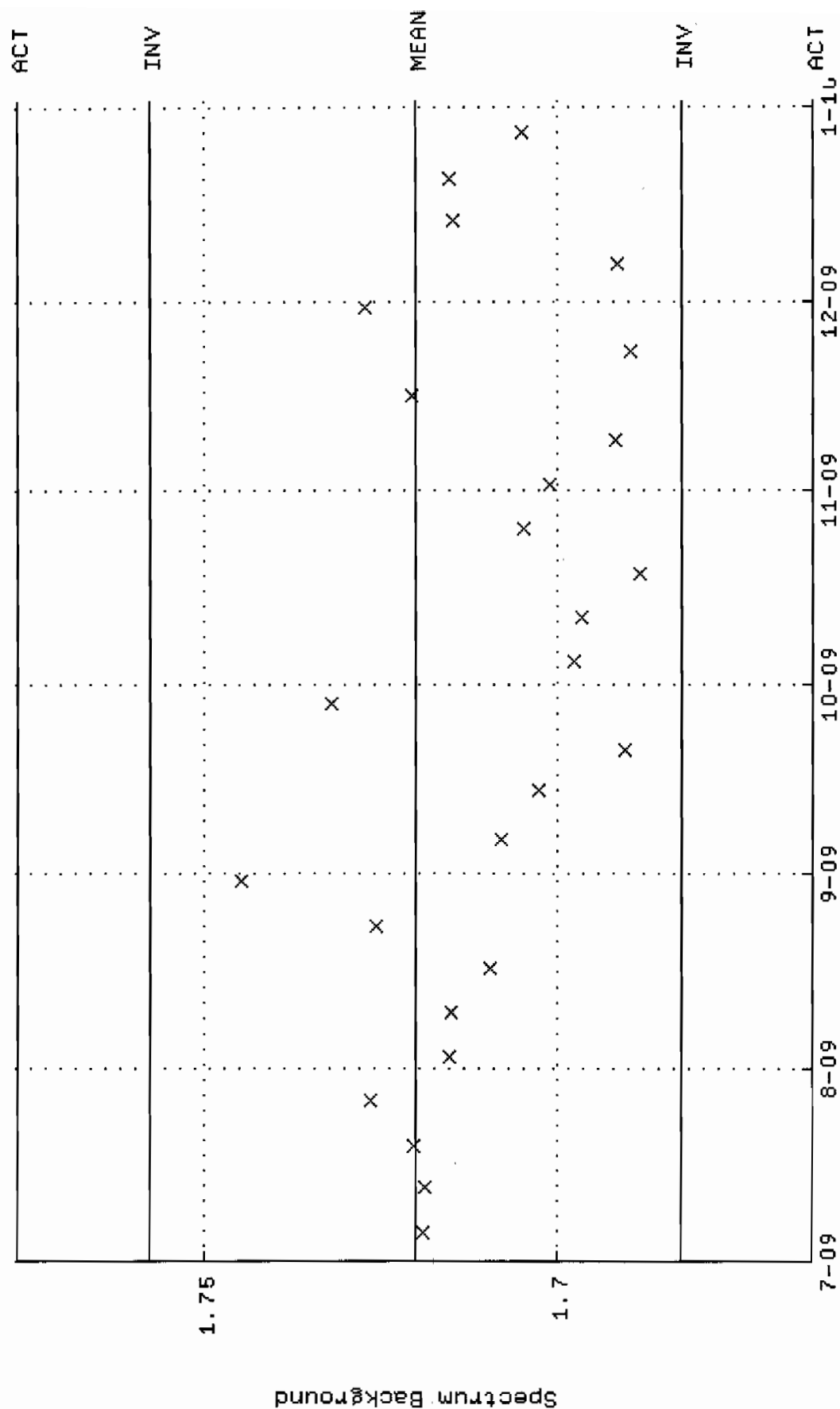
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM14.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48240 +- 2.535500E-02 (1.71 %)



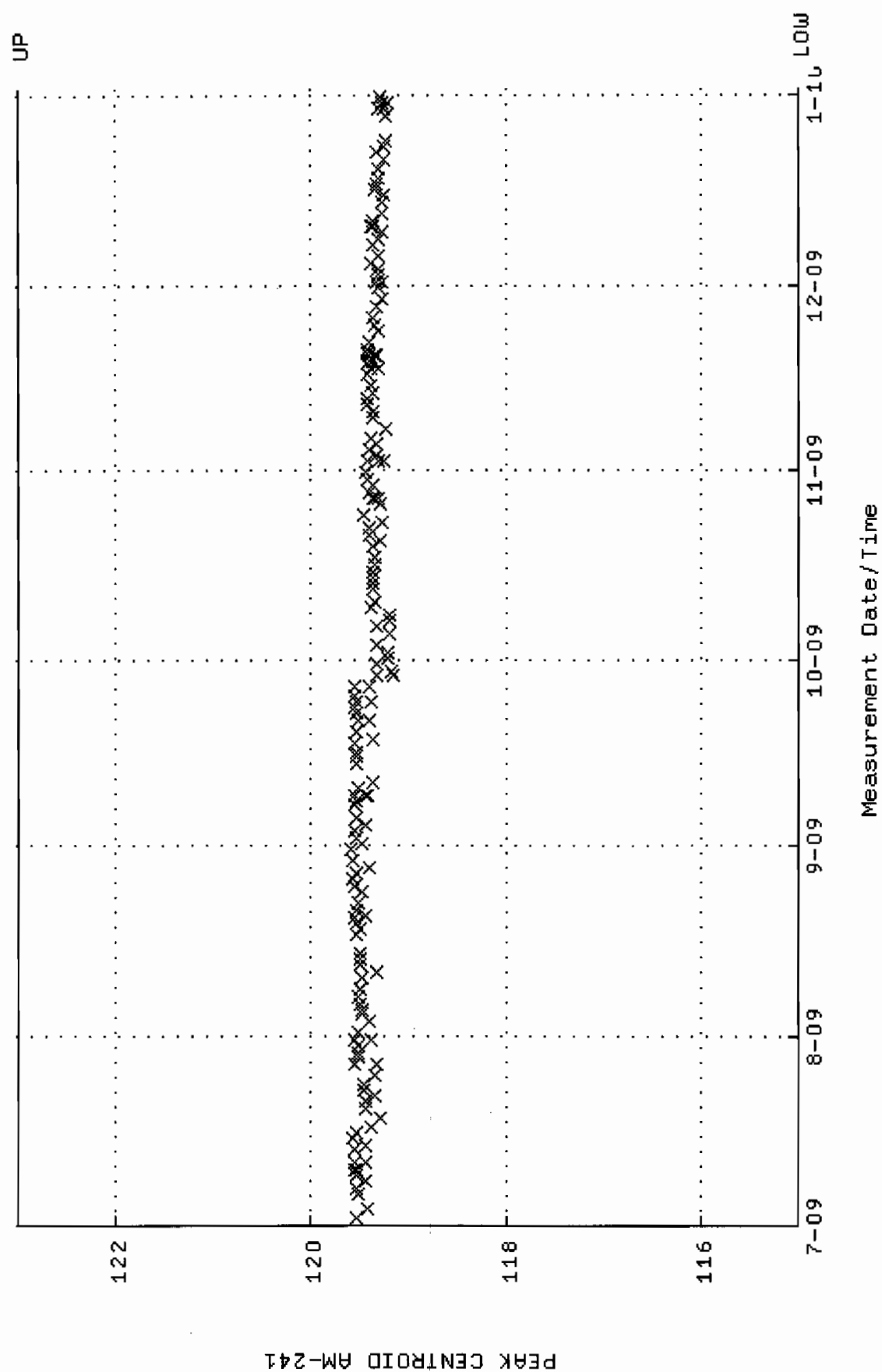
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM15-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



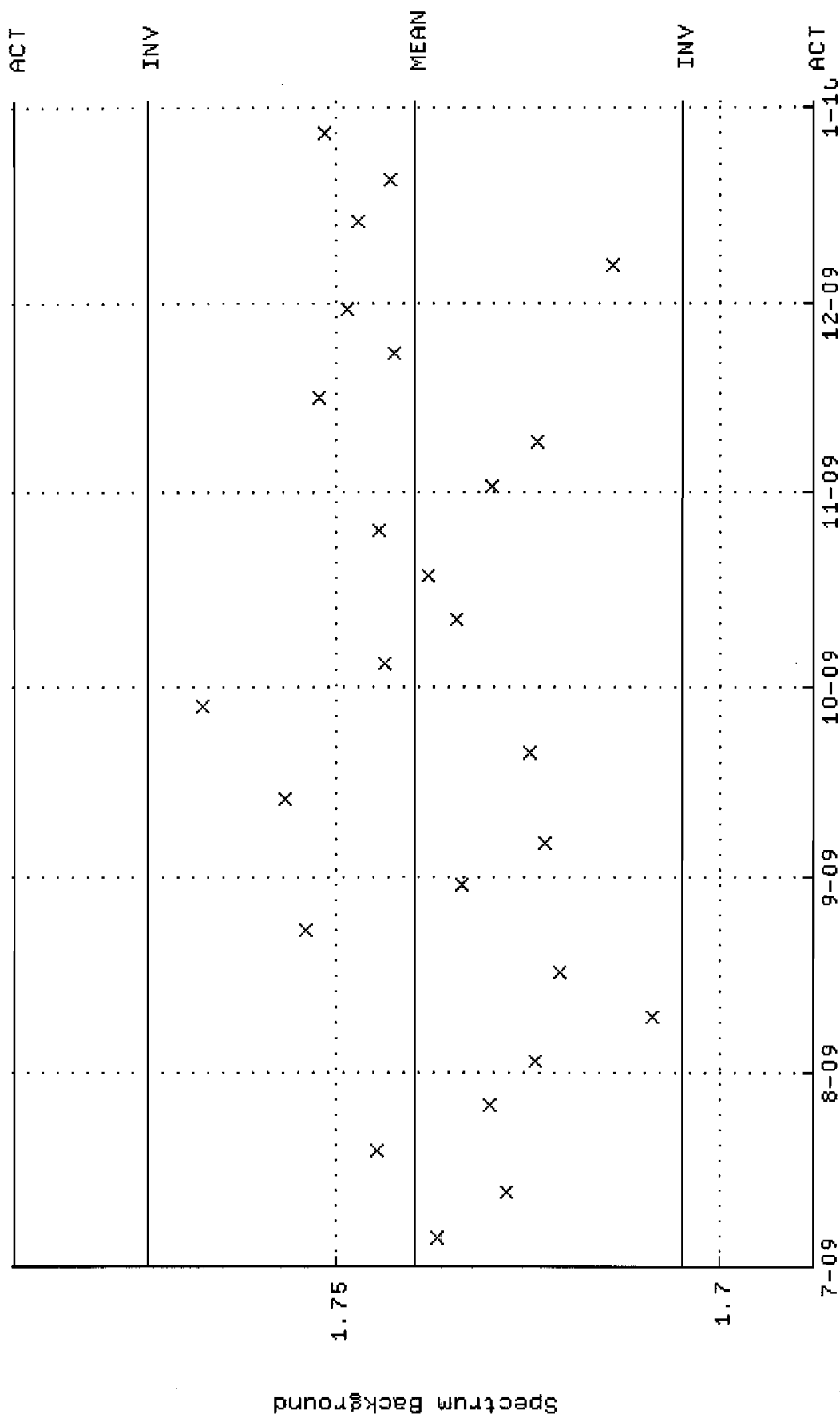
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



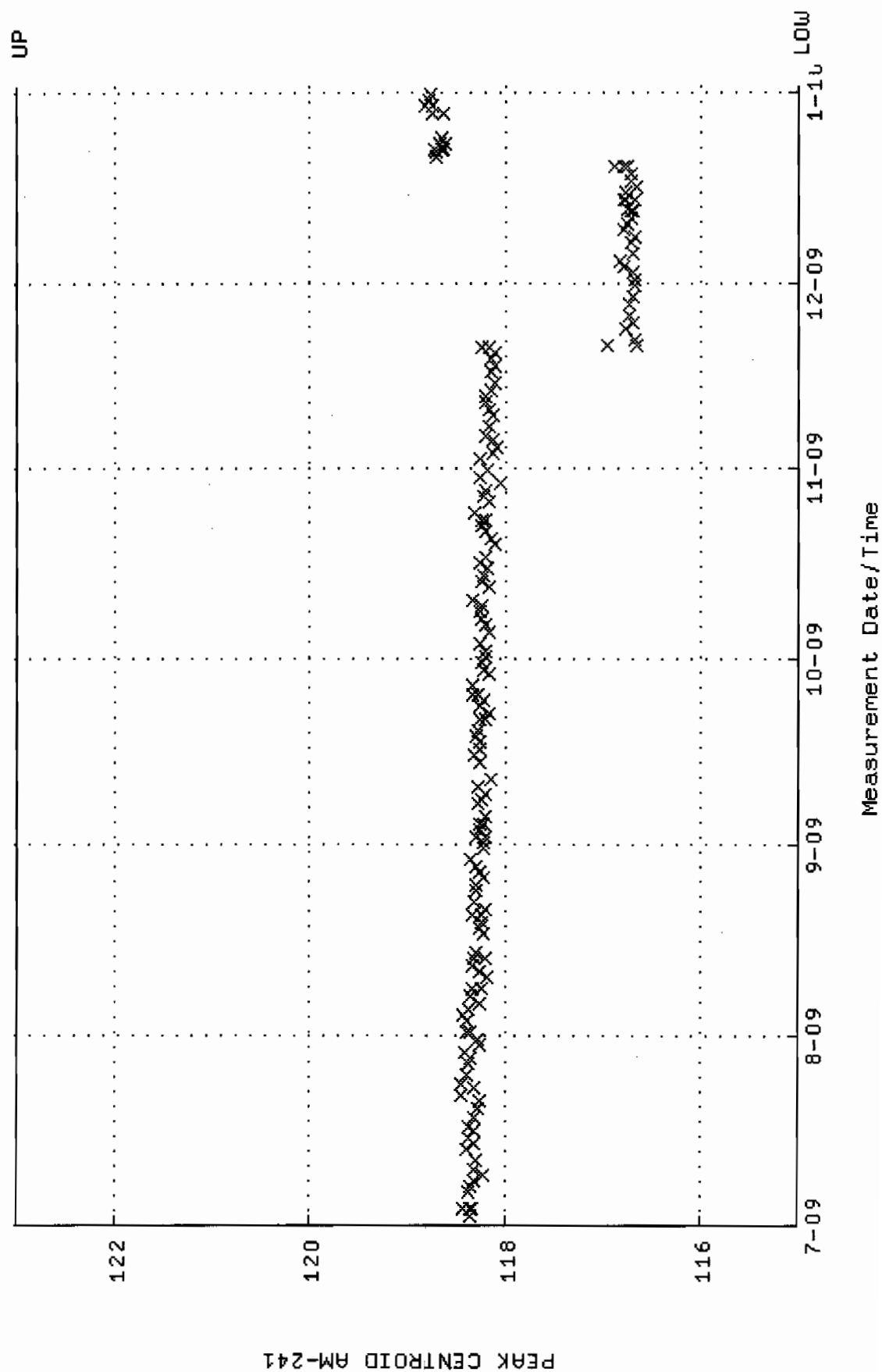
QA filename : DKA100:[CANBERRA,GAMMA,SCUSR,QA]QCC_GAM16_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:19 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



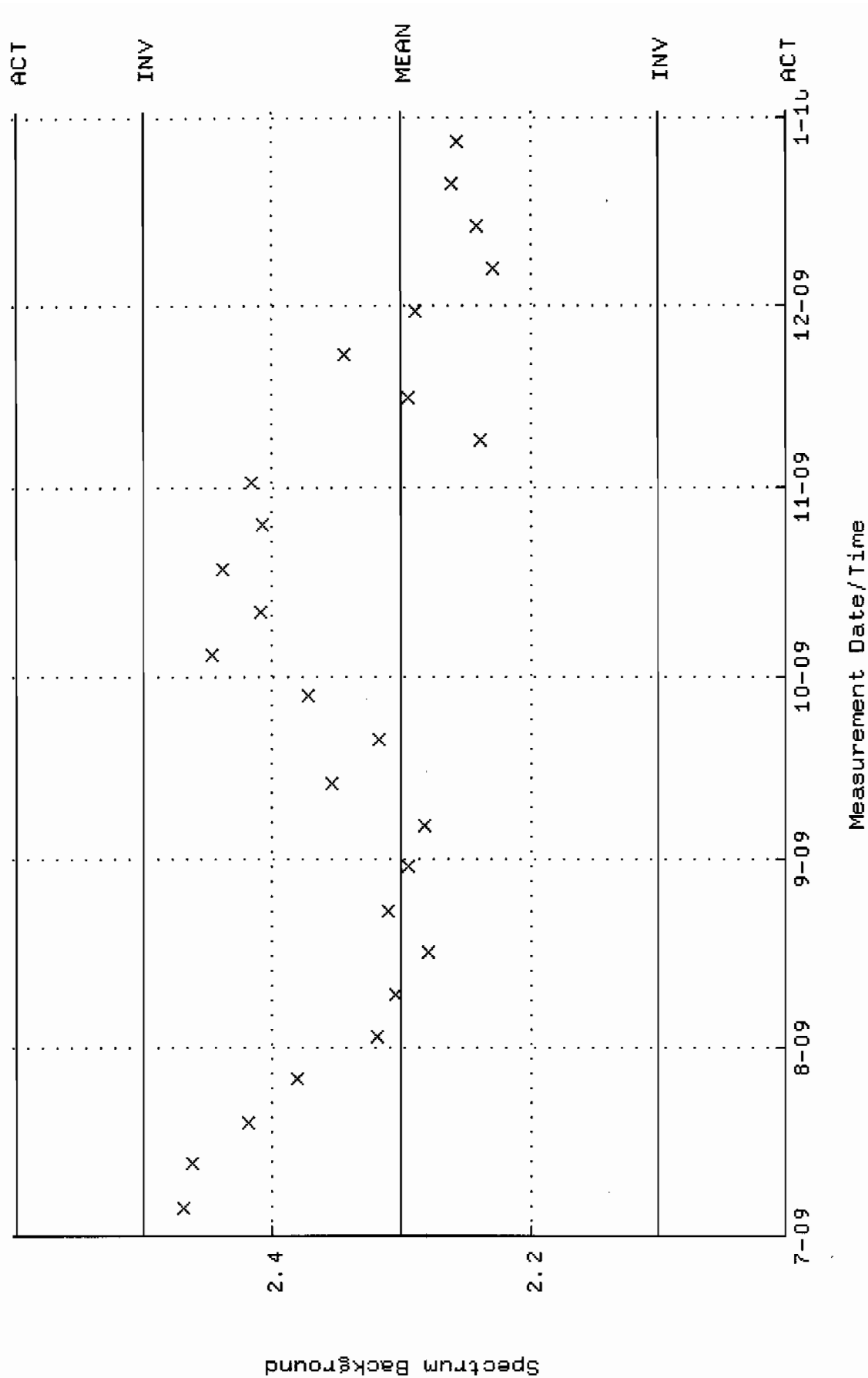
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:58 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)



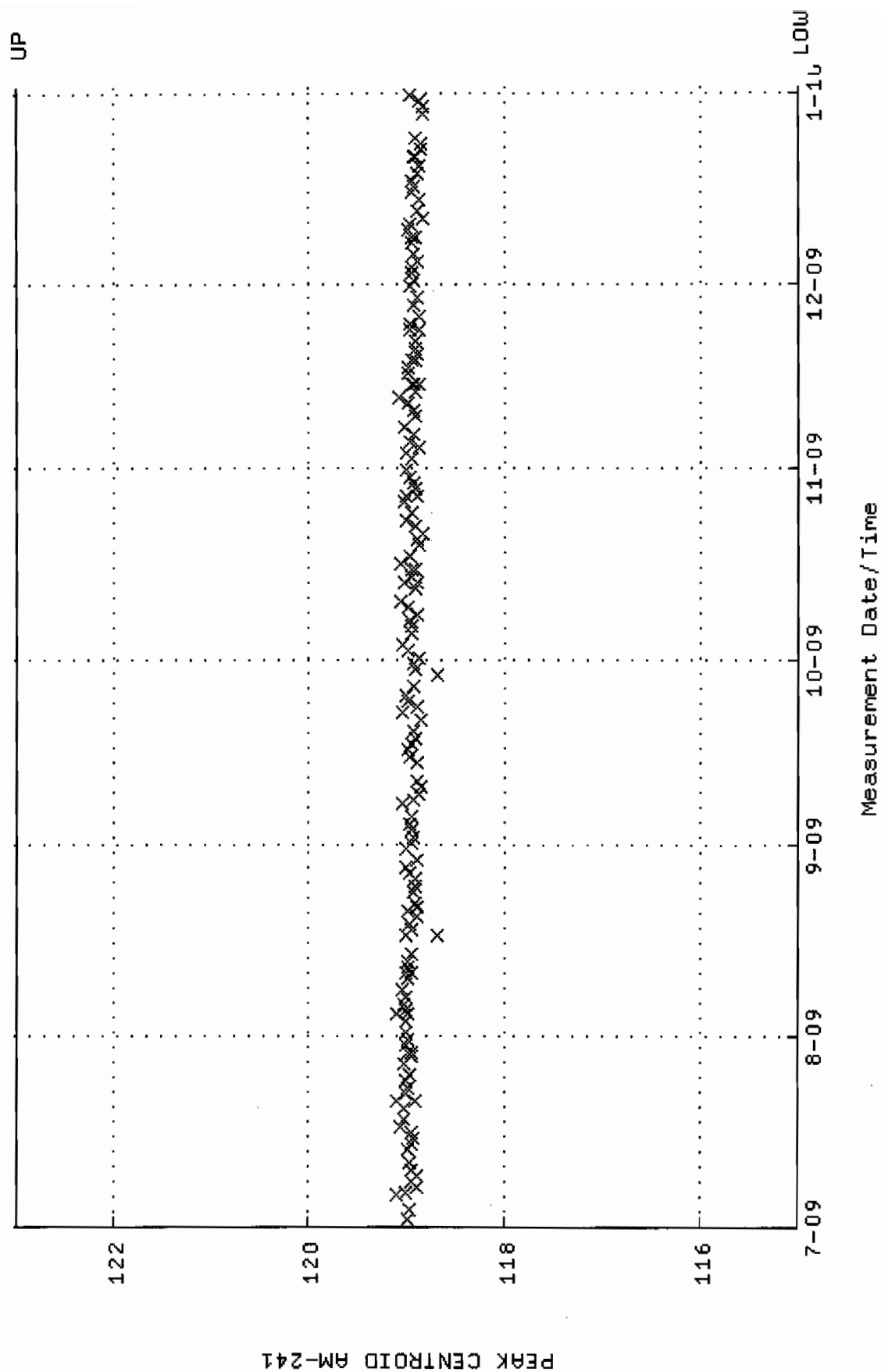
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



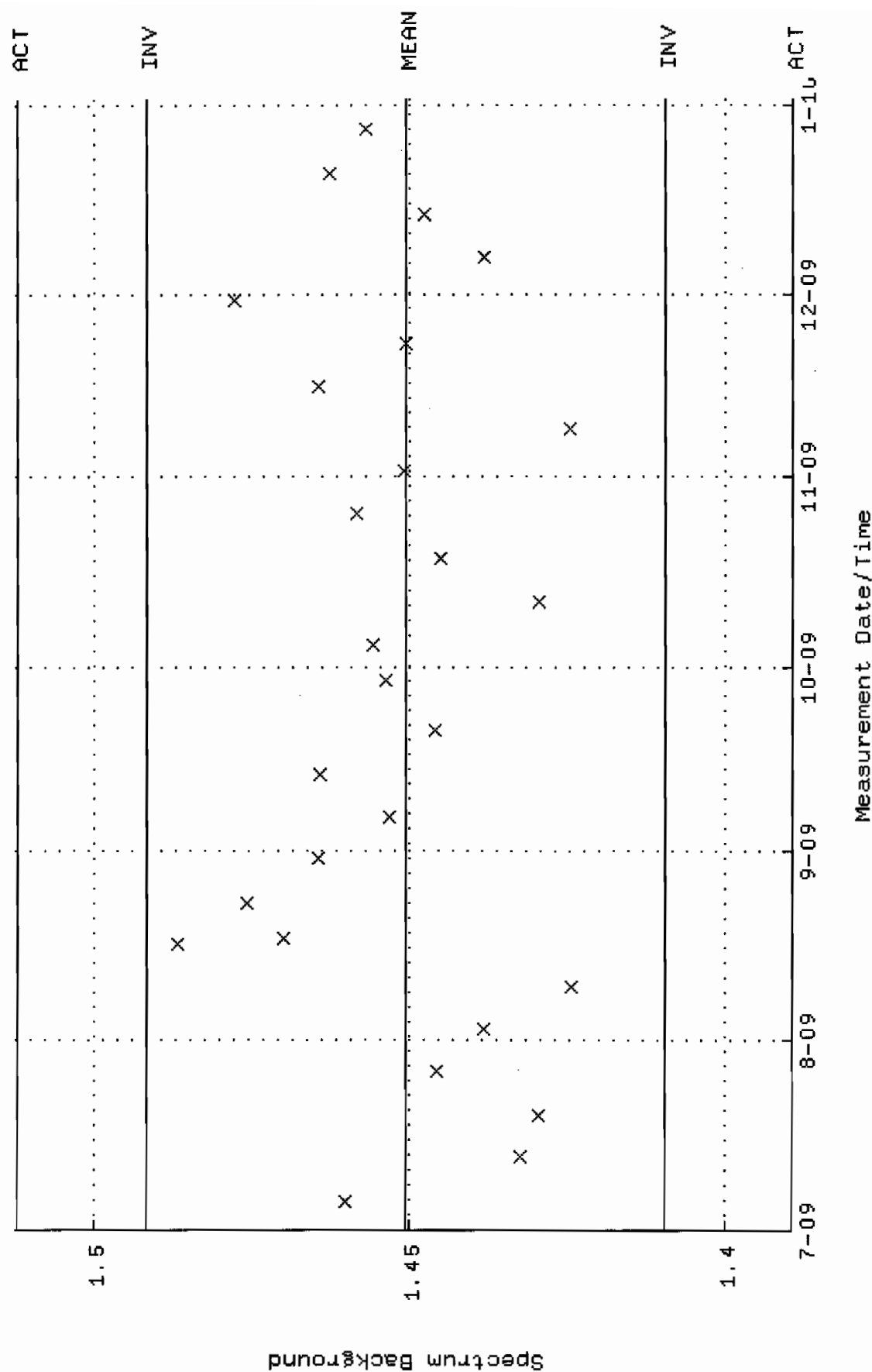
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



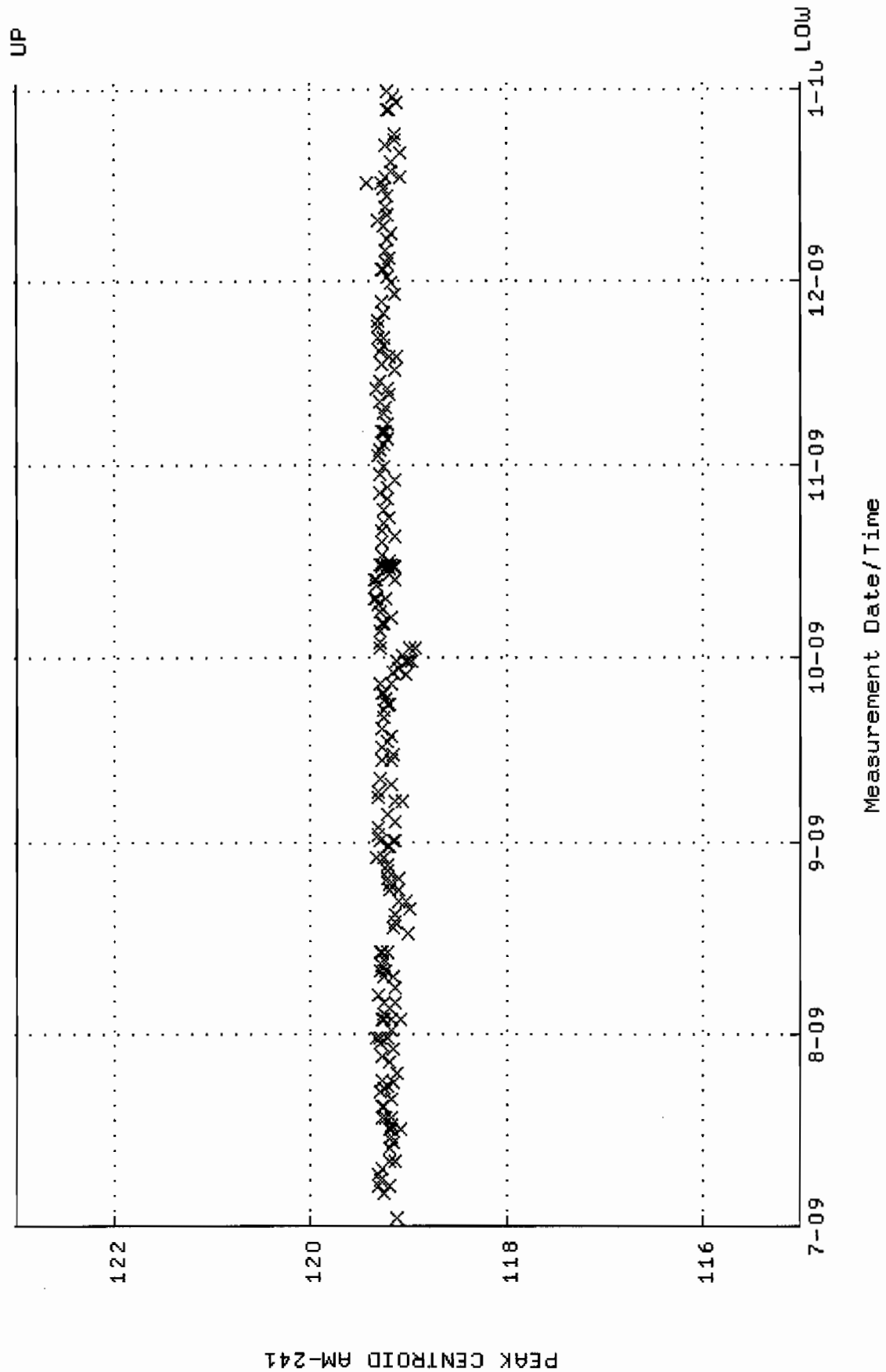
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM19-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:41:19 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM19.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:35 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.45067 +- 2.046038E-02 (1.41 %)



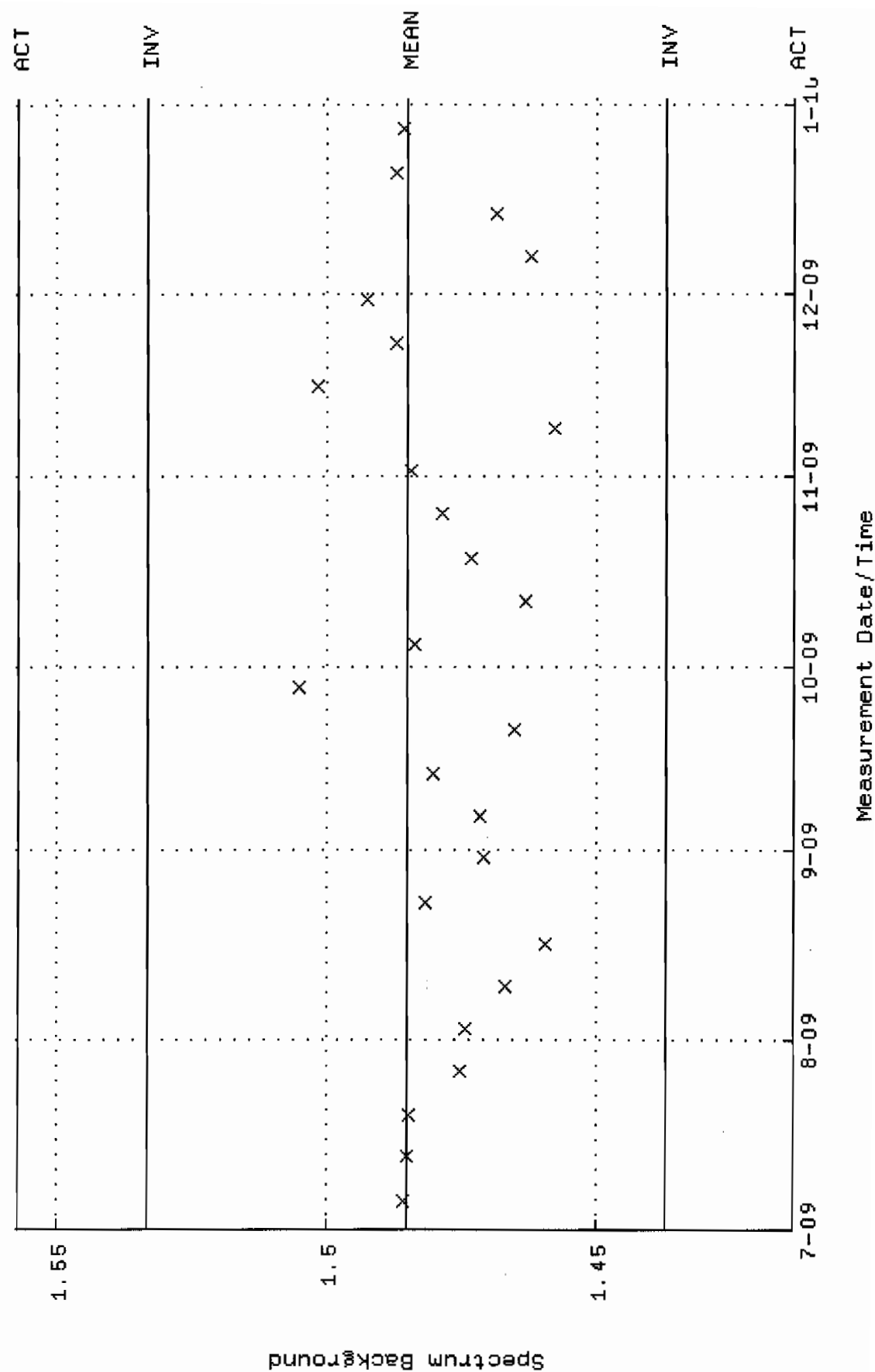
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



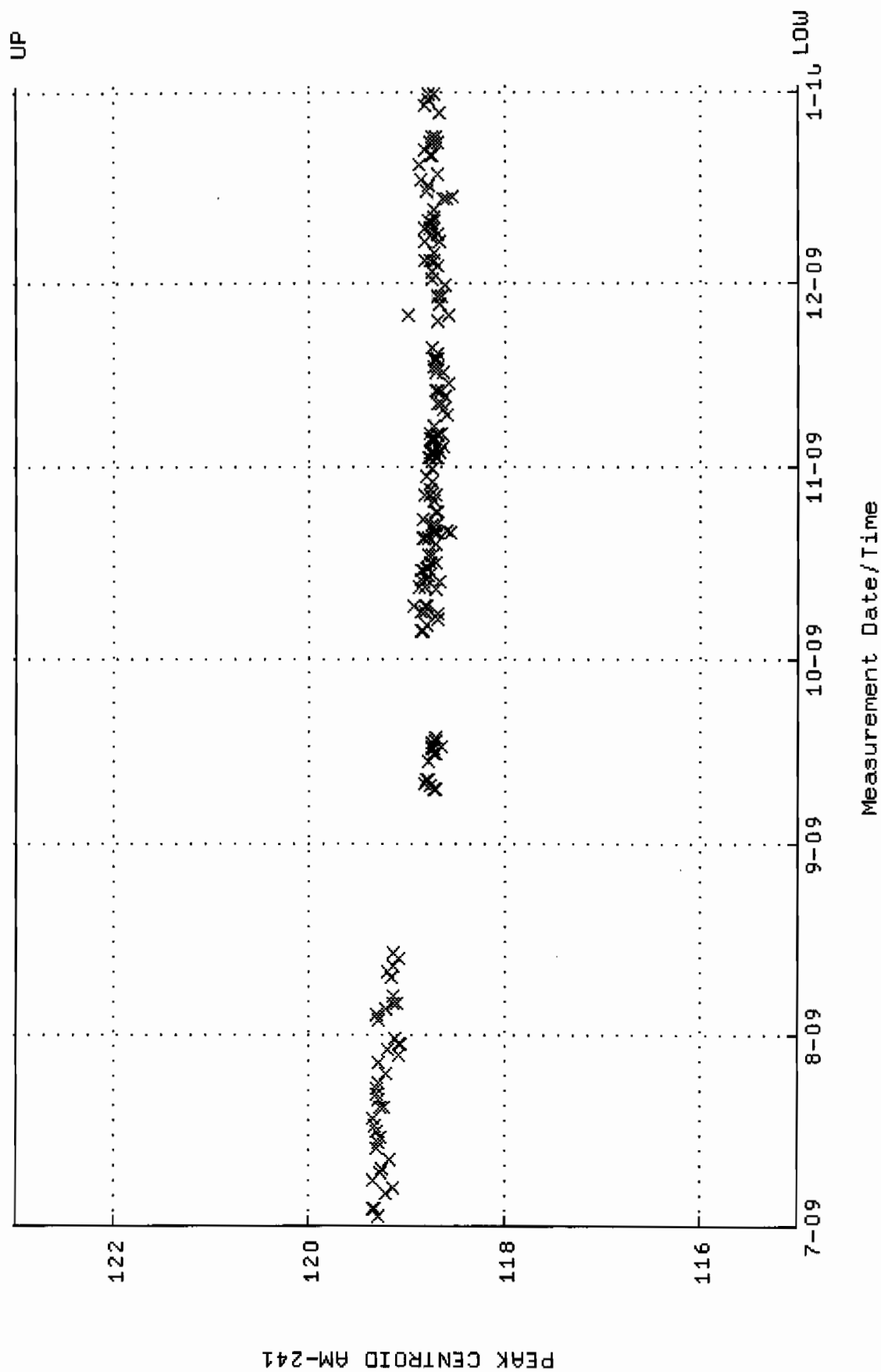
```

QA filename      : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM20.QAF;1
Parameter Name   : BACKRATE (Spectrum Background Rate)
Start/End Dates  : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)

```



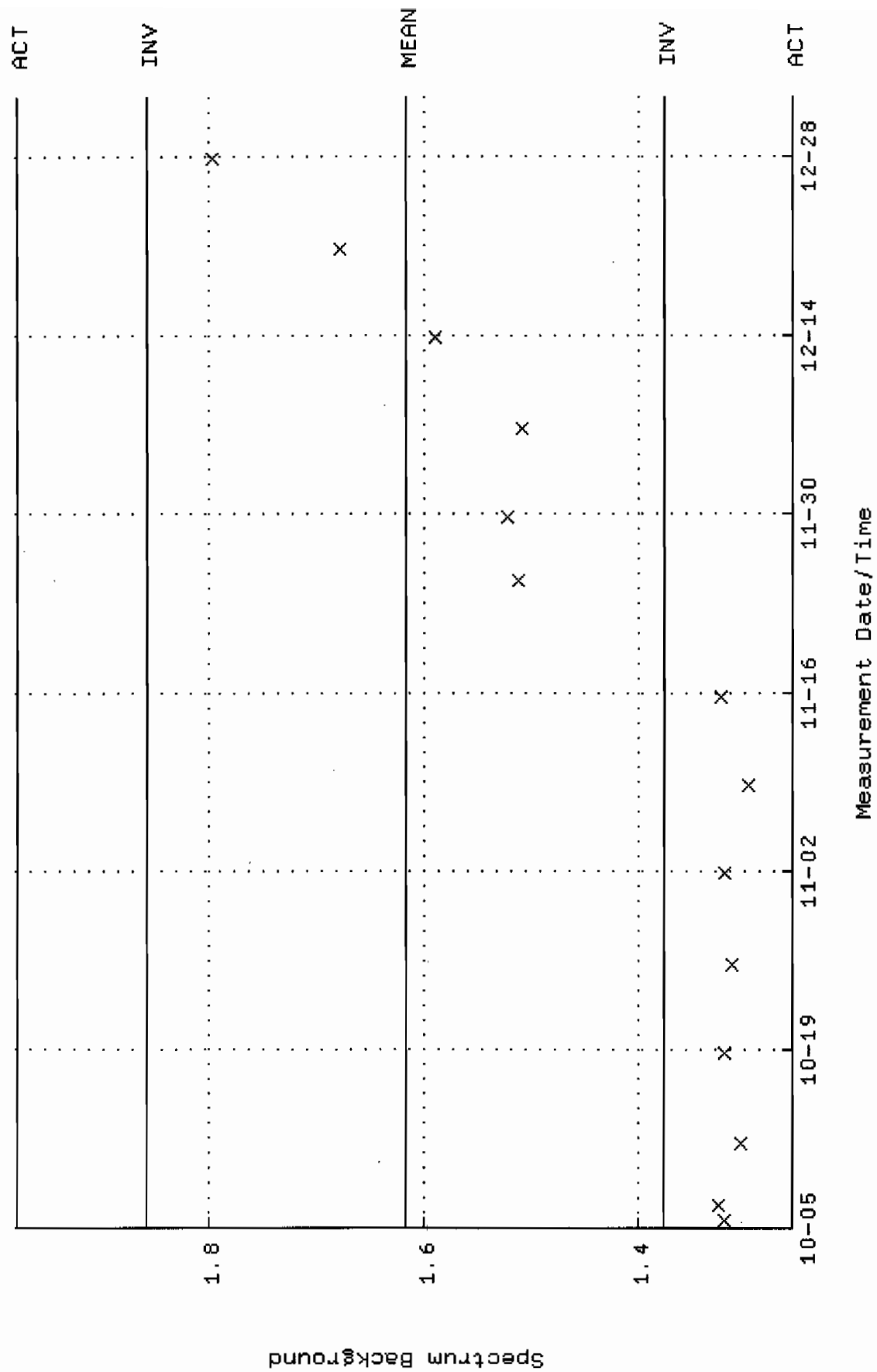
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM23-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



```

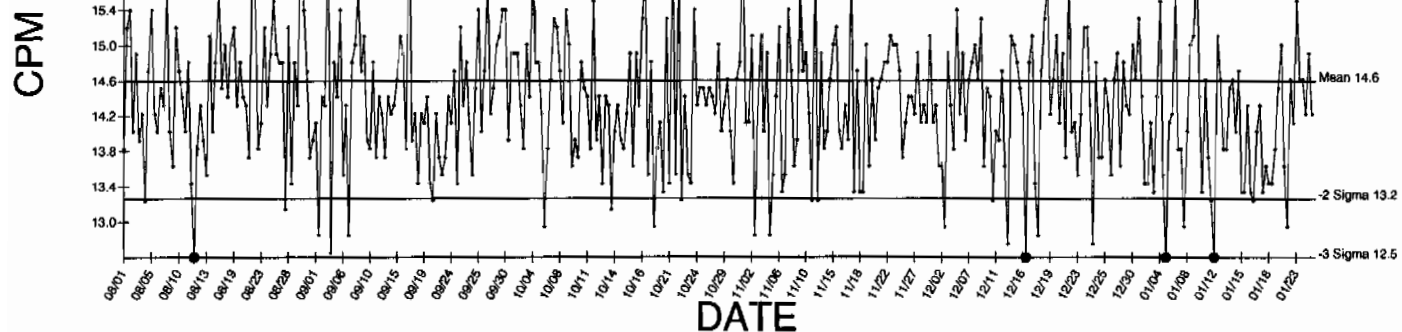
: DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
: BACKRATE (Spectrum Background Rate)
: 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00
: 1.61827 +- 0.119991 (7.41 %)

```

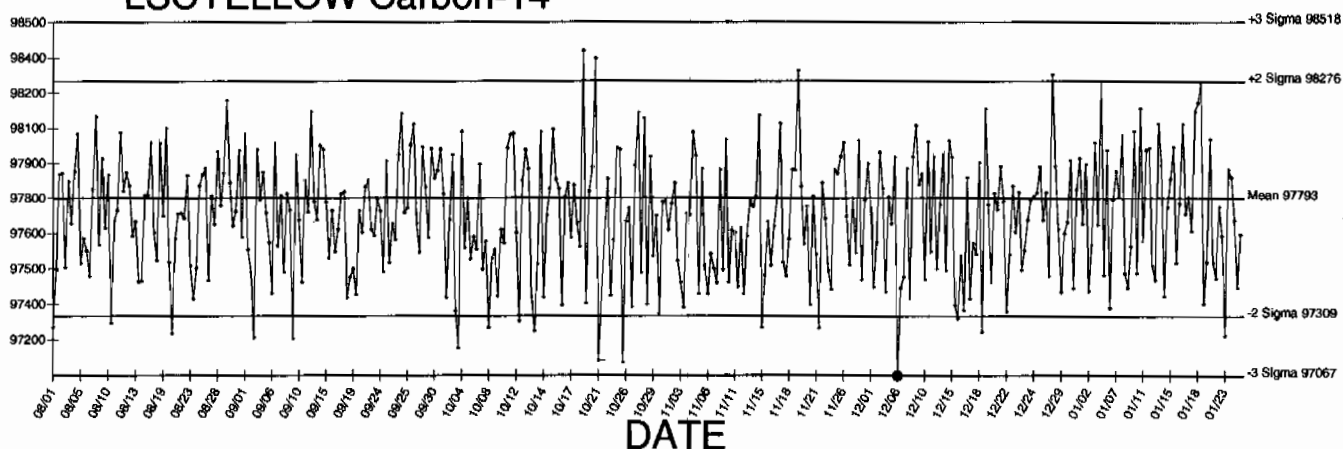


LSCYELLOW BKG

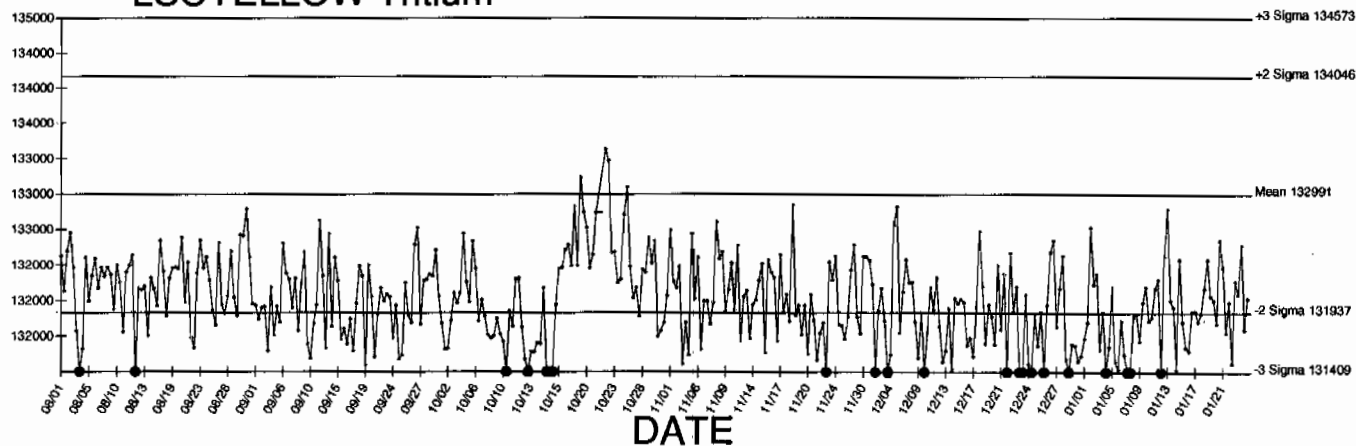
Generated 01/25/2010
+3 Sigma 16.6



LSCYELLOW Carbon-14



LSCYELLOW 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 (μ Ci) = 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

QC-5-023-061a

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
					Average =	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
 Two sigma = 63.06694556 dpm/mL
 10 % of Mean = 270.9778428 dpm/mL
 Rule 2 (Pass/Fail) Pass
 *exception taken due to full recovery of standard

Verification Rules

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

The analyst prepared three standard verification sources for H-3 source 0134-K by transferring 0.1 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecosint 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 Ecosint 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

Henry J. Adams 4/9/09
 Amanda J. Dehn 4/9/09

1032

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. Analytix 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:

J.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytisticsinc.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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

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. Jar. 1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L - Ver. Jar. 5

Mean Value (Counting) = 2485.67
Stdev = 64.065
Rule 3 (Pass/Fail) Pass

Certificate Value = 2485.68018
Lower Limit = 2357.536524
Upper Limit = 2613.796809
Rule 1 (Pass/Fail) Pass
Two sigma = 128.1301422
10 % of Mean = 248.56666667
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.

M. Stamps
12/2/09
independent
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Cs-137

Isotope	Result	pCi/L - Ver. Tab. 1
Mixed Gamma N1	854.2	pCi/L
Mixed Gamma N2	907.6	pCi/L
Mixed Gamma N3	898.9	pCi/L

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.

Handwritten: 12/2/2009
12/2/2009
12/2/2009

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

U.S. Stamp issued 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.

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 4/14/2000 *fit c held 12/1/04*

angela d. johnson 12/13/04

TRM

Invoice:

5 bottles 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
Th-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	258 ± 24	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. Lehn 4/30/04
 Lott & 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.

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	
Parent Code:	445-96-2
Prepared By:	Genie Bost
Carrier Conc:	2M HNO3
Reference Date:	01/01/1994
Ampoule Mass (g):	5.3739 g
Uncertainty:	+/- 3 %
LogBook No:	RC S 005 032

A Solution Material Info	
Isotope:	Americium-243
Prepared By:	Angela Johnson
Prep Date:	01/05/1994
Verification Date:	05/11/2009
Expiration Date:	05/11/2010
Primary Code:	445-96-2-A
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.

M. Aders 5/15/09
Taheri 07509

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. Unterwiesing, 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

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, $u(y)/y$, (%) [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 , $u(y) = |\partial y / \partial x_i| \cdot u(x_i)$, 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 $u(y)/y = |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i/y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i/y)$, and $u(y)/y$, 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		A Solution Material Info	
Parent Code:	1375	Isotope:	Plutonium-242
Prepared By:	Mary Aders	Prepared By:	Ashley Drochter
Carrier Conc:	0.5M HNO3	Prep Date:	01/08/2010
Reference Date:	06/07/1994	Verification Date:	01/08/2010
Ampoule Mass (g):	5.5 g	Expiration Date:	01/08/2011
Uncertainty:	+/- .72 %	Primary Code:	1375-A
LogBook No:	RC-S-051-094	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 1/9/2010	Isotope	Value	Uncertainty
	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
fan 1/12/10



Eckert & Ziegler
Analytics

1380 Seaboard Industrial Blvd.
Atlanta, Georgia 30318
Tel 404-352-8677
Fax 404-352-2837
www.analytiscinc.com

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):	8.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%
5.20483 grams 1M HNO₃ solution.

Source Prepared By: W. Mao

W. Mao, Radiochemist

QA Approved: D. M. 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
	1283-H N2	2.000	pCi/L	0.234
	1283-H N3	2.060	pCi/L	0.242
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

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 942723

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244924001	SAMPLE	MXR1	GAM10	27-JAN-10 18:34	DONE	CAN	16-MAR-09 00:00
244924002	SAMPLE	MXR1	GAM15	27-JAN-10 18:35	DONE	CAN	16-FEB-09 00:00
244924003	SAMPLE	MXR1	GAM13	27-JAN-10 18:39	DONE	CAN	02-FEB-09 00:00
244924004	SAMPLE	MXR1	GAM23	27-JAN-10 18:39	DONE	CAN	02-JUN-09 00:00
244924005	SAMPLE	MXR1	GAM01	27-JAN-10 19:05	DONE	CAN	12-JAN-10 00:00
244924006	SAMPLE	MXR1	GAM18	27-JAN-10 19:05	DONE	CAN	23-APR-09 00:00
244924007	SAMPLE	MXR1	GAM20	27-JAN-10 19:06	DONE	CAN	26-AUG-09 00:00
244924008	SAMPLE	MXR1	GAM02	27-JAN-10 20:40	DONE	CAN	29-OCT-09 00:00
244924009	SAMPLE	MXR1	GAM07	27-JAN-10 20:41	DONE	CAN	20-JUL-09 00:00
244924010	SAMPLE	MXR1	GAM14	27-JAN-10 20:42	DONE	CAN	06-MAR-09 00:00
1202018276	MB	MXR1	GAM15	27-JAN-10 20:43	DONE	CAN	16-FEB-09 00:00
1202018277	DUP	MXR1	GAM16	27-JAN-10 20:43	DONE	CAN	16-NOV-09 00:00
1202018278	LCS	MXR1	GAM19	27-JAN-10 20:44	DONE	CAN	12-MAR-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID:942861

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244924001	SAMPLE	KXM4	1209	01-FEB-10 19:37	DONE		
244924002	SAMPLE	KXM4	1210	01-FEB-10 19:37	DONE		
244924003	SAMPLE	KXM4	1211	01-FEB-10 19:37	DONE		
244924004	SAMPLE	KXM4	1212	01-FEB-10 19:37	DONE		
244924005	SAMPLE	KXM4	1213	01-FEB-10 19:37	DONE		
244924006	SAMPLE	KXM4	1214	01-FEB-10 19:37	DONE		
244924007	SAMPLE	KXM4	1215	01-FEB-10 19:37	DONE		
244924008	SAMPLE	KXM4	1216	01-FEB-10 19:37	DONE		
244924009	SAMPLE	KXM4	1217	01-FEB-10 19:37	DONE		
244924010	SAMPLE	KXM4	1218	01-FEB-10 19:37	DONE		
1202018651	MB	KXM4	1219	01-FEB-10 19:37	DONE		
1202018652	DUP	KXM4	1221	01-FEB-10 19:37	DONE		
1202018653	LCS	KXM4	1222	01-FEB-10 19:37	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 942862

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244924001	SAMPLE	KXM4	1211	27-JAN-10 21:01	DONE		
244924002	SAMPLE	KXM4	1212	27-JAN-10 21:01	DUSE		
244924003	SAMPLE	KXM4	1213	27-JAN-10 21:01	DONE		
244924004	SAMPLE	KXM4	1214	27-JAN-10 21:01	DONE		
244924005	SAMPLE	KXM4	1215	27-JAN-10 21:01	DUSE		
244924006	SAMPLE	KXM4	1216	27-JAN-10 21:01	DONE		
244924007	SAMPLE	KXM4	1217	27-JAN-10 21:01	DONE		
244924008	SAMPLE	KXM4	1218	27-JAN-10 21:01	DUSE		
244924009	SAMPLE	KXM4	1219	27-JAN-10 21:01	DONE		
244924010	SAMPLE	KXM4	1220	27-JAN-10 21:01	DONE		
1202018654	MB	KXM4	1233	27-JAN-10 21:01	DONE		
1202018655	DUP	KXM4	1234	27-JAN-10 21:01	DONE		
1202018656	LCS	KXM4	1235	27-JAN-10 21:01	DONE		
244924002	SAMPLE	KXM4	1026	01-FEB-10 19:39	DONE		
244924005	SAMPLE	KXM4	1027	01-FEB-10 19:39	DONE		
244924008	SAMPLE	KXM4	1028	01-FEB-10 19:39	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 942863

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202018657	MB	KXM4	1125	29-JAN-10 10:10	DONE		
1202018659	LCS	KXM4	1208	29-JAN-10 16:54	DONE		
244924001	SAMPLE	KXM4	1002	29-JAN-10 16:57	DONE		
244924002	SAMPLE	KXM4	1003	29-JAN-10 16:57	DONE		
244924003	SAMPLE	KXM4	1004	29-JAN-10 16:57	DONE		
244924004	SAMPLE	KXM4	1005	29-JAN-10 16:57	DONE		
244924005	SAMPLE	KXM4	1006	29-JAN-10 16:57	DONE		
244924006	SAMPLE	KXM4	1007	29-JAN-10 16:57	DONE		
244924007	SAMPLE	KXM4	1008	29-JAN-10 16:57	DONE		
244924008	SAMPLE	KXM4	1009	29-JAN-10 16:57	DONE		
244924009	SAMPLE	KXM4	1010	29-JAN-10 16:57	DONE		
244924010	SAMPLE	KXM4	1011	29-JAN-10 16:57	DONE		
1202018658	DUP	KXM4	1012	29-JAN-10 16:57	DONE		

Instrument Run Log

Instrument Type: LSC

Batch ID: 943520

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
244924001	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 02:05	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924002	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 05:20	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924003	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 07:21	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924004	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 09:23	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924005	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 11:24	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924006	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 13:25	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924007	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 15:26	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924008	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 17:28	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924009	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 19:29	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
244924010	SAMPLE	KXK2	LSCYELLOW	23-JAN-10 21:30	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202020231	MB	KXK2	LSCYELLOW	23-JAN-10 23:32	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202020232	DUP	KXK2	LSCYELLOW	24-JAN-10 01:33	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00
1202020233	LCS	KXK2	LSCYELLOW	24-JAN-10 03:35	DONE	10mL DW/13mL Ecoscint Ultra	21-AUG-09 00:00