

Sunday, January 17, 2010

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REQUEST NUMBER: 10-1305

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valene Davis
General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

These Samples are on:
LANL Request Number: 10-1305
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/18/2010
TURNAROUND/REPORT DUE: 2/17/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Yes, Below Background
LAB REQUEST COMMENTS: 1

LANL ER SMO CONTACT:

Signature:



PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1		1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	

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REQUEST NUMBER: 10-1305

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
HASL-300:AM-241						
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
HASL-300:ISOPU						
		1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
		1	RE15-10-7164	R	1/13/2010	
HASL-300:ISOU						
		1	RE15-10-7164	R	1/13/2010	

Sunday, January 17, 2010

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REQUEST NUMBER: 10-1305

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	EPA:906.0	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300:AM-241	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	

Sunday, January 17, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1305C

LOS ALAMOS

REQUEST NUMBER: 10-1305

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/17/2010

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
RE15-10-7165	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7171	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7170	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7164	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7167	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7169	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7168	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7166	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7177	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7177	1	POLY	H3	Ice	R
RE15-10-7181	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7181	1	POLY	H3	Ice	R
RE15-10-7178	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7178	1	POLY	H3	Ice	R
RE15-10-7182	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7182	1	POLY	H3	Ice	R
RE15-10-7183	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7183	1	POLY	H3	Ice	R
RE15-10-7176	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7176	1	POLY	H3	Ice	R
RE15-10-7180	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7180	1	POLY	H3	Ice	R
RE15-10-7179	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7179	1	POLY	H3	Ice	R
RE15-10-7165	1	POLY	H3	Ice	R
RE15-10-7171	1	POLY	H3	Ice	R

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LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1305C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7170	1	POLY	H3	Ice	R
RE15-10-7166	1	POLY	H3	Ice	R
RE15-10-7164	1	POLY	H3	Ice	R
RE15-10-7167	1	POLY	H3	Ice	R
RE15-10-7169	1	POLY	H3	Ice	R
RE15-10-7168	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time



1/18/10

3:00

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2479

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

SAMPLE ID: RE15-10-7164

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT	
TIME COLLECTED (HH:MM)		0821		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: 15-610503		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		2.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.9		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	
1		Met+U+CLO4+C N	1 GAT POLY Liter RC 12/16/09	Ice	Y	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Y	
1	↓	H3	500 ML POLY	Ice	Y	

SAMPLE DESC: Brown silty sand, some tuff fragments

FTB RE15-10-7234

SAMPLE COMMENTS: NA

LOCATION DESC: 14h-1 below pavement

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 33 dpm
Beta/Gamma \leq 2070 dpmPID $\frac{\text{Ambient}}{\text{Reading}} = \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/14/10 7:48	RECEIVED BY (Printed Name) [Signature] (Signature) [Signature]	Date/Time 1/14/10 7:48
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: RE15-10-7165

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA: QBT3		A11h	
TIME COLLECTED (HH:MM)		0851		SUB-MEDIA: TUFF 1		NA	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE: HA		OK	
LOCATION ID: 15-610503		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		7.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		8.8		SCREEN/PORT DESC:		NA	
FIELD MATRIX: B		S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Regular	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY Liter Re 12/16/09	Ice	Y	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Y	
1		H3	500 ML POLY	Ice	Y	

SAMPLE DESC:

Brown clay, and silty sand, tuff fragments

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-1 below pavement

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 27 dpm

Beta/Gamma = 1983 dpm

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

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon R. Marin	Date/Time 1/14/10 7:48	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) Sheri Sherwood	Date/Time 1/14/10 7:48
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: RE15-10-7166

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/13/2010	MEDIA:		QBT3
TIME COLLECTED(HH:MM)		1038	SUB-MEDIA:		TUFF 1
PRS ID:	15-014(h)	OK	SAMPLE TECH CODE:		HA
LOCATION ID:	15-610504	↓	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	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	Regular	8260B	125 ML SEPTUM AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	
1		Met+U+CLO4+CN	1 GAL POLY Liter 12/16/09	Ice	y	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	y	
1		H3	500 ML POLY	Ice	y	

SAMPLE DESC:

moist brown and black sand with roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-20, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 22 dpm

Beta/Gamma = 2070 dpm

PID

COLLECTED BY (PRINT)

JLMCFarlane

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) JON MARIN	1/14/10	(Printed Name) Sheri Sherwood	1/14/10
(Signature) Jon Marin	7:48	(Signature) Sheri Sherwood	7:48
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: RE15-10-7167

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1115		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610504		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		2.2		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	Regular	8260B	125 ML SEPTUM AMBER GLASS	Ice	y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	
1		Met+U+CLO4+C N	1 GAL POLY Liter Re 12/14/09	Ice	y	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	y	
1	✓	H3	500 ML POLY	Ice	y	

SAMPLE DESC:

Black and brown silty clay

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-20, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 22 dpm
Beta/Gamma \leq 2370 dpm

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

COLLECTED BY (PRINT)

T. McFarlane

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) JOW MARIN (Signature) <i>Jow Marin</i>	Date/Time 1/14/10 7:45	RECEIVED BY (Printed Name) <i>Elizabeth White</i> (Signature) <i>Elizabeth White</i>	Date/Time 1/14/10 7:45
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: RE15-10-7168

WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED(MM/DD/YYYY):		01/13/2010 01/13/2010	MEDIA:	OBT3	SED
TIME COLLECTED (HH:MM)		1025	SUB-MEDIA:	TUFF1	NA
PRS ID:	15-014(h)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	15-610505	↓	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		
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None		
1		Met+U+CLO4+C N	1 GAL POLY Liter RC 12/16/09	Ice		
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice		
1	↓	H3	500 ML POLY	Ice	↓	

SAMPLE DESC: dry silt, roots and small rocks

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-12, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

HE neg

Alpha \leq 22 dpm
Beta/Gamma \leq 2050 dpm

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

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) MARIN	1/14/10	(Printed Name) Sheri Sherwood	1/14/10
(Signature) <i>Jan R Marin</i>	7:49	(Signature) <i>Sheri Sherwood</i>	7:49
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: RE15-10-7169

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1035		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610505		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		2.1		SCREEN/PORT DESC:		NA	
FIELD MATRIX: B		OK		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		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 GAT 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 weathered tuff

FR: RE15-10-7224
 SAMPLE COMMENTS:
 NA

LOCATION DESC: 14h-12, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 16 dpm
 Beta/Gamma = 2160 dpm

PID Ambient Reading 0.0 ppm

COLLECTED BY (PRINT)
 R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) MARIN (Signature) J. R. Marin	Date/Time 1/14/10 7:49	RECEIVED BY (Printed Name) M. L. M. M. (Signature) M. L. M. M.	Date/Time 1/14/10 7:49
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: RE15-10-7170

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:	QBT3		SED
TIME COLLECTED (HH:MM)		1314		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-014(h)	OK		SAMPLE TECH CODE:	HA		OK
LOCATION ID:	15-610506	↓		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	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	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	
1		Met+U+CLO4+C N	1 GAL POLY Liter LC 12/16/09	Ice	Y	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	Y	
1		H3	500 ML POLY	Ice	Y	

SAMPLE DESC:

Brown clayey, silt, roots and rocks

FD RE15-10-7219

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-14, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 3% dpm

Beta/Gamma = 2300 dpm

HE negative

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

COLLECTED BY (PRINT)

Th. McFarland

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) <i>for R. Marin</i>	Date/Time 1/14/10 7:52	RECEIVED BY (Printed Name) <i>M. W. H.</i> (Signature) <i>M. W. H.</i>	Date/Time 1/14/10 7:52
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: RE15-10-7171

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA: QBT3		ALLH	
TIME COLLECTED (HH:MM)		1325		SUB-MEDIA: TUFF 1		NA	
PRS ID:	15-014(h)	ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID:	15-610506	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP: NA		↓	
TOP DEPTH:	0	1.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	2.1		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		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	y	
1		Met+U+CLO4+C N	1 GAL POLY Liter LC 12/14/09	Ice	y	
1		8082+8270+NME D-EXP	500 ML AMBER GLASS	Ice	y	
1		H3	500 ML POLY	Ice	y	

SAMPLE DESC:

Brown sand, few roots and few small rocks

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-14 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 38 dpm
Beta/Gamma \leq 2350 dpm

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

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) MARIN (Signature) R. G. Marin	Date/Time 1/14/10 7:52	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) Sheri Sherwood	Date/Time 1/14/10 7:52
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: RE15-10-7176

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		0850		SUB-MEDIA:		TUFF 1	
PRS ID:	15-014(h)	OK		SAMPLE TECH CODE:		HA	
LOCATION ID:	15-610509	↓		FIELD QC TYPE:		NA	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:		NA	
TOP DEPTH:	0	0.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH:	0	0.0 0.6		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA		NA	
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA		NA	
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA		NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	8260B	125 ML SEPTUM AMBER GLASS	Ice	Y	
1		8270C+NMED Exp	500 ML AMBER GLASS	Ice		
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None		
1		H3	500 ML POLY	Ice		
1		Met+U+CLO4+C N	1 GAL POLY Liter RC 12/16/09	Ice		
1	✓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	✓	

SAMPLE DESC: dark-brown loose top soil with some roots and pine needles

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-10

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 33 dpm
Beta/Gamma \leq 2300 dpm

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

HE = NEG

COLLECTED BY (PRINT)

R. Saunders

REVIEWED BY (PRINT)

LARRY A. LOPEZ

RELINQUISHED BY (Printed Name) JON MARIN (Signature) Jon K. Marin	Date/Time 1/14/10 7:49	RECEIVED BY (Printed Name) [Signature] (Signature) [Signature]	Date/Time 1/14/10 7:49
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: RE15-10-7177

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	<u>01/13/2010</u>	MEDIA:	<u>QBT3</u>
TIME COLLECTED (HH:MM)	<u>0930</u>	SUB-MEDIA:	<u>TUFF 1</u>
PRS ID: <u>15-014(h)</u>	<u>OK</u>	SAMPLE TECH CODE:	<u>HA</u>
LOCATION ID: <u>15-610509</u>	<u>↓</u>	FIELD QC TYPE:	<u>NA</u>
LOCATION TYPE: <u>GENERIC</u>	<u>↓</u>	FIELD PREP:	<u>NA</u>
TOP DEPTH: <u>0</u>	<u>1.0</u>	SAMPLE USAGE:	<u>INV</u>
BOTTOM DEPTH: <u>0</u>	<u>2.0</u>	SCREEN/PORT DESC:	<u>NA</u>
FIELD MATRIX: <u>R</u>	<u>S</u>	EXCAVATED: YES / <input checked="" type="checkbox"/> NO / NA	
COMPOSITE TYPE: <u>NA</u>	COMPOSITE TIME INTERVAL: <u>NA</u>	WATER FLOWING: YES / <input checked="" type="checkbox"/> NO / NA	
BOREHOLE: YES / <input checked="" type="checkbox"/> NO	BOREHOLE DECLINATION: <u>NA</u>	BOREHOLE DIRECTION: <u>NA</u>	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	<u>normal</u>	8260B	125 ML SEPTUM AMBER GLASS	Ice	<u>Yes</u>	
1	<u>↓</u>	8270C+NMED Exp	500 ML AMBER GLASS	Ice	<u>↓</u>	
1	<u>↓</u>	AM241+GS+ISO PU+ISOU	1 LITER POLY	None	<u>↓</u>	
1	<u>↓</u>	H3	500 ML POLY	Ice	<u>↓</u>	
1	<u>↓</u>	Met+U+CLO4+C N	1 GAL POLY <u>liter</u> <u>Le 12/14/09</u>	Ice	<u>↓</u>	
1	<u>↓</u>	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	<u>↓</u>	

SAMPLE DESC: brown silty sand with whiteish grey pumice fragments

SAMPLE COMMENTS: hit pumice at 1.3'

LOCATION DESC: 14h-10

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 38 dpm
Beta/Gamma \leq 2520 dpm

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

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TL McFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) <u>JOE MARIN</u>	<u>1/14/10</u>	(Printed Name) <u>Sherrin Sherwood</u>	<u>1/14/10</u>
(Signature) <u>J. R. Marin</u>	<u>7:49</u>	(Signature) <u>Sherrin Sherwood</u>	<u>7:49</u>
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: RE15-10-7178

WORK ORDER:

	<u>AS PLANNED</u>	<u>AS COLLECTED</u>		<u>AS PLANNED</u>	<u>AS COLLECTED</u>
DATE COLLECTED(MM/DD/YYYY):		01/13/2010	MEDIA:	QBT3	72m 1/13/10 AHH SED
TIME COLLECTED (HH:MM)		0946	SUB-MEDIA:	TUFF 1	NA
PRS ID: 15-014(h)		ok	SAMPLE TECH CODE: HA		ok
LOCATION ID: 15-610510		↓	FIELD QC TYPE: NA		↓
LOCATION TYPE: <u>GENERIC</u>		↓	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	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 GAT POLY Liter SC 12/16/09	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: Brown sandy silt, few roots and rocks

SAMPLE COMMENTS: NA

LOCATION DESC: 14h-11, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 44 dpm
Beta/Gamma \leq 2390 dpm

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

COLLECTED BY (PRINT)

TL McFarlane

REVIEWED BY (PRINT)

LETTER A. LOPEZ

RELINQUISHED BY (Printed Name) MARIN (Signature) J. R. Marin	Date/Time 1/14/10 7:50	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) Sherri Sherwood	Date/Time 1/14/10 7:50
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: RE15-10-7179

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1005		SUB-MEDIA:		TUFF 1	
PRS ID:	15-014(h)	OK		SAMPLE TECH CODE:		HA	
LOCATION ID:	15-610510	↓		FIELD QC TYPE:		NA	
LOCATION TYPE:	GENERIC	↓		FIELD PREP:		NA	
TOP DEPTH:	0	1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH:	0	2.0		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA		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		8270C+NMED Exp	500 ML AMBER GLASS	Ice	↓	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	↓	
1		H3	500 ML POLY	Ice	↓	
1		Met+U+CLO4+C N	1 GAL POLY Liter 2C 12/16/09	Ice	↓	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	↓	

SAMPLE DESC: brown silty sand, some rock + root

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-11, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha ≤ 27 dpm

Beta/Gamma ≤ 2122 dpm

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

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) MARIN (Signature) J. R. Marin	Date/Time 1/14/10 7:50	RECEIVED BY (Printed Name) Sheri Sherwood (Signature) Sheri Sherwood	Date/Time 1/14/10 7:50
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: RE15-10-7180

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		0955		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		ok		SAMPLE TECH CODE: HA		SED	
LOCATION ID: 15-610511		↓		FIELD QC TYPE: NA		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		1.0		SCREEN/PORT DESC: NA		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	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 RC 12/16/09	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown pebbly sand, roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h - 19, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

HE neg

Alpha = 22 dpm
Beta/Gamma = 2260 dpm

PID $\frac{\text{Ambient Reading}}{0.0} = \frac{0.6}{0.0}$ ppm

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT)

R. Saunders

RELINQUISHED BY (Printed Name) MABIX	Date/Time 1/14/10 7:50	RECEIVED BY (Printed Name) R. Saunders	Date/Time 1/14/10 7:50
(Signature) R. Saunders		(Signature) R. Saunders	
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: RE15-10-7181

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		OBT3	
TIME COLLECTED (HH:MM)		1007		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		ok		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610511		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		1.9		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 LC 12/12/09	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC:

Brown silty sand, rocks and roots

SAMPLE COMMENTS:

NA

LOCATION DESC:

14h-19, drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 33 dpm
Beta/Gamma \leq 2280 dpm

PID $\frac{\text{Ambient Reading}}{5.0} = \frac{0.0}{5.0}$ ppm

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

T. McFarland

R Saunders

RELINQUISHED BY (Printed Name) <u>MARIN</u> (Signature) <u>Jen R. Marin</u>	Date/Time <u>1/14/10</u> <u>7:51</u>	RECEIVED BY (Printed Name) <u>Sherrin Sherwood</u> (Signature) <u>Sherrin Sherwood</u>	Date/Time <u>1/14/10</u> <u>7:51</u>
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: RE15-10-7182

WORK ORDER:

AS PLANNED		AS COLLECTED	AS PLANNED		AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):		01/13/2010	MEDIA:	QBT3	01/13/10 ALLH SED
TIME COLLECTED (HH:MM)		1120	SUB-MEDIA:	TUFF 1	NA
PRS ID:	15-014(h)	OK	SAMPLE TECH CODE:	HA	OK
LOCATION ID:	15-610512	↓	FIELD QC TYPE:	NA	↓
LOCATION TYPE:	GENERIC	↓	FIELD PREP:	NA	↓
TOP DEPTH:	0	0.0	SAMPLE USAGE:	INV	↓
BOTTOM DEPTH:	0	0.6	SCREEN/PORT DESC:		NA
FIELD MATRIX:	R	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		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 2 liter RC 12/16/09	Ice	Yes	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC: Moist brown sand with lots of roots

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-13 drainage

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 27 dpm
Beta/Gamma \leq 2540 dpmHE neg
PID $\frac{\text{Ambient}}{\text{Reading}} \frac{0.0}{0.0}$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarlane

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) MARIN	1/14/10	(Printed Name) [Signature]	1/14/10
(Signature) [Signature]	7:51	(Signature) [Signature]	7:51
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: RE15-10-7183

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/13/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1157		SUB-MEDIA:		TUFF 1	
PRS ID: 15-014(h)		OK		SAMPLE TECH CODE:		HA	
LOCATION ID: 15-610512		↓		FIELD QC TYPE:		NA	
LOCATION TYPE: GENERIC		↓		FIELD PREP:		NA	
TOP DEPTH: 0		1.0		SAMPLE USAGE:		INV	
BOTTOM DEPTH: 0		1.8		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	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 GAE POLY Liter xc 12/19/09	Ice	Yes	
1	↓	RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Yes	

SAMPLE DESC:

Pinkish gray, tuff

SAMPLE COMMENTS:

NA

LOCATION DESC: 14h-13 drainage

FIELD SCREENING/MEASUREMENT RESULTS:


Alpha \leq 27 dpmBeta/Gamma \leq 2530 dpmPID $\frac{\text{Ambient Reading}}{0.6} = 0.0$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) MARIN	Date/Time 1/14/10 7:51	RECEIVED BY (Printed Name) M. B. M. M.	Date/Time 1/14/10 7:51
(Signature) J. R. Marin		(Signature) M. B. M. M.	
RELINQUISHED BY (Printed Name)	Date/Time	RECEIVED BY (Printed Name)	Date/Time

DATA VALIDATION COVER SHEET	
5119-1 <p style="text-align: center;">Data Validation Cover Sheet</p>	Records Use only 

Section I.		
REQUEST NUMBER: <u>10-1305</u>	VALIDATION DATE: <u>02/22/2010</u>	LAB CODE: <u>GEL</u>
CONTRACT LABORATORY NAME: <u>GEL Laboratories LLC</u>		
VALIDATOR: <u>Mary Donovan</u> ORGANIZATION: <u>Analytical Quality Associates, Inc.</u>		
ANALYTICAL SUITE (CHECK ALL THAT APPLY):		
<input type="checkbox"/> TPH-GRO	<input type="checkbox"/> HIGH EXPLOSIVES	<input type="checkbox"/> DIOXIN FURANS
<input type="checkbox"/> TPH-DRO	<input type="checkbox"/> METALS	<input type="checkbox"/> PCB CONGENERS
<input type="checkbox"/> GENERAL CHEMISTRY	<input checked="" type="checkbox"/> RADIOCHEMISTRY	<input type="checkbox"/> LCMSMS HIGH EXPLOSIVES
		<input type="checkbox"/> LCMSMS PERCHLORATES
		<input type="checkbox"/> ORGANOCHLORINE 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):

1. The gamma spec sample results which were rejected by the laboratory due to spectral interference or low abundance were qualified R,R5a. In the QC samples, several results were also rejected by the laboratory. No sample data were qualified as a result.
2. The alpha spec Am-243 tracer %R was < the laboratory LAL in sample RE15-10-7168. The associated sample result was an ND and, thus, was not qualified.


The alpha spec Am-243 tracer %R was > the laboratory UAL but ≤125% in the LCS and the U-232 tracer %R was > the laboratory UAL but ≤125% in the MB. However, these were QC samples and, thus, no sample results were qualified.
3. An MS was not analyzed for tritium. However, an LCS was analyzed and met acceptance criteria, thus, no sample results were qualified.

Reviewed by: Monica Dymerski **Level I** **Date:** 02/23/10


VALIDATOR'S SIGNATURE: Mary R. Donovan DATE: 02/22/2010

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

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

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

Yes No N/A				Assign Qualifier Listed Below If Criterion = Yes	
(Check One)				Non-detected Analyte	Detected Analyte
<input type="checkbox"/>	<input 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 16, 2010

Client Sample ID: RE15-10-7165
Sample ID: 245107001
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 19.4%

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	0.000967	0.0237	+/-0.00229	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00483	0.0197	+/-0.00343	0.050	pCi/g		JXD2	02/09/10	1857	944928	2
Plutonium-239/240	U	0.00	0.0149	+/-0.00171	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.948	0.0955	+/-0.0857	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0685	0.0593	+/-0.0177	0.100	pCi/g						
Uranium-238		0.974	0.0554	+/-0.0873	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0192	0.111	+/-0.0344	0.200	pCi/g		MXR1	02/01/10	1126	944038	5
Bismuth-211	UI	4.05	R,R5a	0.394	+/-0.327	pCi/g						
Bismuth-214		1.42		0.144	+/-0.118	pCi/g						
Cadmium-109	UI	4.95	R,R5a	1.08	+/-0.577	pCi/g						
Cerium-139	U	-0.0322		0.0539	+/-0.0172	pCi/g						
Cesium-134	UI	0.122	R,R5a	0.121	+/-0.036	pCi/g						
Cesium-137	U	0.00869		0.0865	+/-0.026	pCi/g						
Cobalt-60	U	-0.00612		0.0868	+/-0.0265	pCi/g						
Europium-152	U	0.105		0.195	+/-0.074	pCi/g						
Lanthanum-140	U	-0.0168		0.234	+/-0.0731	pCi/g						
Lead-212		1.65		0.100	+/-0.0987	pCi/g						
Lead-214		1.41		0.137	+/-0.119	pCi/g						
Mercury-203	U	-0.00134		0.0848	+/-0.0251	pCi/g						
Potassium-40		23.6		0.786	+/-1.15	pCi/g						
Radium-223	U	-1.22		1.26	+/-0.424	pCi/g						
Radium-224	UI	4.79	R,R5a	1.14	+/-0.773	pCi/g						
Radium-226		1.42		0.144	+/-0.118	pCi/g						
Radium-228		1.57		0.291	+/-0.217	pCi/g						
Ruthenium-106	U	0.0313		0.719	+/-0.217	pCi/g						
Sodium-22	U	0.0107		0.0962	+/-0.0285	pCi/g						
Strontium-85	U	0.0828		0.0862	+/-0.0261	pCi/g						

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7165
Sample ID: 245107001
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		0.467	0.0872	+/-0.0565	0.080	pCi/g						
Thorium-227	U	0.202	0.768	+/-0.222		pCi/g						
Thorium-231	U	-1.22	1.26	+/-0.424		pCi/g						
Thorium-234		1.75	1.08	+/-0.688	2.00	pCi/g						
Tin-113	U	-0.0158	0.0895	+/-0.0279	0.100	pCi/g						
Uranium-235	U	-0.0513	0.406	+/-0.124	0.500	pCi/g						
Yttrium-88	U	-0.00115	0.0755	+/-0.023	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	69.2	218	+/-65.4	250	pCi/L		KXK2	02/01/10	1739	946394	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	89.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows:

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

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7171
Sample ID: 245107002
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 7.8%

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	-0.000661	0.0197	+/-0.00164	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0205	+/-0.00307	0.050	pCi/g		JXD2	02/09/10	1857	944928	2
Plutonium-239/240	U	0.0025	0.0154	+/-0.00177	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.108	+/-0.0939	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0736	0.0674	+/-0.0186	0.100	pCi/g						
Uranium-238		1.13	0.0629	+/-0.101	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0576	0.209	+/-0.0699	0.200	pCi/g		MXR1	02/01/10	1130	944038	5
Bismuth-211	UI	3.88	R,R5a	+/-0.291		pCi/g						
Bismuth-214		1.15		+/-0.0986	0.200	pCi/g						
Cadmium-109	UI	2.26	R,R5a	+/-0.471		pCi/g						
Cerium-139	U	-0.0127	0.0433	+/-0.0128	0.050	pCi/g						
Cesium-134	UI	0.132	R,R5a	+/-0.0291	0.100	pCi/g						
Cesium-137	U	-0.00687	0.0557	+/-0.0172	0.100	pCi/g						
Cobalt-60	U	0.0193	0.0631	+/-0.0183	0.100	pCi/g						
Europium-152	U	-0.06	0.129	+/-0.0404	0.200	pCi/g						
Lanthanum-140	U	-0.0841	0.123	+/-0.0454		pCi/g						
Lead-212		1.69	0.0782	+/-0.113	0.100	pCi/g						
Lead-214		1.35	0.0965	+/-0.107	0.100	pCi/g						
Mercury-203	U	0.0221	0.0633	+/-0.0207	0.100	pCi/g						
Potassium-40		22.9	0.433	+/-1.26	1.00	pCi/g						
Radium-223	U	-0.264	0.881	+/-0.317		pCi/g						
Radium-224	UI	4.74	R,R5a	+/-0.640		pCi/g						
Radium-226		1.15	0.0994	+/-0.0986		pCi/g						
Radium-228		1.44	0.181	+/-0.153	0.500	pCi/g						
Ruthenium-106	U	0.194	0.466	+/-0.132	0.800	pCi/g						
Sodium-22	U	-0.00255	0.0588	+/-0.018	0.080	pCi/g						
Strontium-85	UI	0.0688	R,R5a	+/-0.0176		pCi/g						
Thallium-208		0.506	0.0528	+/-0.0433	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7171
Sample ID: 245107002

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	0.0169	0.540	+/-0.161		pCi/g						
Thorium-231	U	-0.264	0.881	+/-0.317		pCi/g						
Thorium-234	U	1.18	1.78	+/-0.835	2.00	pCi/g						
Tin-113	U	-0.0378	0.061	+/-0.019	0.100	pCi/g						
Uranium-235	U	0.0735	0.311	+/-0.0894	0.500	pCi/g						
Yttrium-88	U	0.0125	0.056	+/-0.0159	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	0.00	218	+/-64.0	250	pCi/L		KXK2	02/01/10	1917	946394	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"	95.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.6	(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

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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 16, 2010

Client Sample ID: RE15-10-7170
Sample ID: 245107003
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 23.2%

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	0.0149	0.0202	+/-0.00462	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00769	0.0209	+/-0.00316	0.050	pCi/g		JXD2	02/09/10	1857	944928	2
Plutonium-239/240		0.0436	0.0158	+/-0.00841	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.80	0.126	+/-0.226	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.131	0.0783	+/-0.0273	0.100	pCi/g						
Uranium-238		3.58	0.0732	+/-0.282	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.228	0.328	+/-0.102	0.200	pCi/g		MXR1	02/01/10	1237	944038	5
Bismuth-211	UI	3.80 R,R5a	0.278	+/-0.224		pCi/g						
Bismuth-214		1.09	0.0917	+/-0.0927	0.200	pCi/g						
Cadmium-109	UI	3.03 R,R5a	1.54	+/-0.497		pCi/g						
Cerium-139	U	-0.0142	0.046	+/-0.0137	0.050	pCi/g						
Cesium-134	UI	0.117 R,R5a	0.0747	+/-0.0276	0.100	pCi/g						
Cesium-137		0.648	0.0515	+/-0.0518	0.100	pCi/g						
Cobalt-60	U	0.00631	0.0555	+/-0.0167	0.100	pCi/g						
Europium-152	U	-0.0322	0.141	+/-0.0516	0.200	pCi/g						
Lanthanum-140	U	0.00161	0.127	+/-0.045		pCi/g						
Lead-212		1.61	0.0812	+/-0.0772	0.100	pCi/g						
Lead-214		1.32	0.097	+/-0.0852	0.100	pCi/g						
Mercury-203	U	0.0381	0.0659	+/-0.0217	0.100	pCi/g						
Potassium-40		22.6	0.445	+/-1.10	1.00	pCi/g						
Radium-223	U	0.0787	0.955	+/-0.335		pCi/g						
Radium-224	UI	3.99 R,R5a	0.923	+/-0.485		pCi/g						
Radium-226		1.09	0.0917	+/-0.0927		pCi/g						
Radium-228		1.47	0.156	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	-0.049	0.462	+/-0.145	0.800	pCi/g						
Sodium-22	U	-0.021	0.0534	+/-0.0174	0.080	pCi/g						
Strontium-85	UI	0.0971 R,R5a	0.0676	+/-0.0204		pCi/g						
Thallium-208		0.534	0.0467	+/-0.043	0.080	pCi/g						

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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 16, 2010

Client Sample ID: RE15-10-7170
Sample ID: 245107003
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	0.265	0.598	+/-0.176		pCi/g						
Thorium-231	U	0.0787	0.955	+/-0.335		pCi/g						
Thorium-234	U	2.28	2.56	+/-1.26	2.00	pCi/g						
Tin-113	U	0.00639	0.0672	+/-0.0198	0.100	pCi/g						
Uranium-235	U	0.315	0.323	+/-0.127	0.500	pCi/g						
Yttrium-88	U	-0.00449	0.0404	+/-0.0133	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	-12.4	218	+/-63.6	250	pCi/L		KXK2	02/01/10	2055	946394	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"	87.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.0	(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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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 16, 2010

Client Sample ID: RE15-10-7164
Sample ID: 245107004
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 17.7%

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	0.0021	0.0222	+/-0.00166	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.0011	0.018	+/-0.00246	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.0011	0.0135	+/-0.00246	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.0995	+/-0.0931	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0793	0.0617	+/-0.0186	0.100	pCi/g						
Uranium-238		0.960	0.0577	+/-0.0872	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0224	0.277	+/-0.0927	0.200	pCi/g		MXR1	02/01/10	1238	944038	5
Bismuth-211	UI	4.20	R,R5a	+/-0.305		pCi/g						
Bismuth-214		1.33		+/-0.114	0.200	pCi/g						
Cadmium-109	UI	2.85	R,R5a	+/-0.504		pCi/g						
Cerium-139	U	-0.00561	0.0579	+/-0.0178	0.050	pCi/g						
Cesium-134	U	0.0328	0.0978	+/-0.0289	0.100	pCi/g						
Cesium-137	U	0.0188	0.0678	+/-0.0199	0.100	pCi/g						
Cobalt-60	U	0.021	0.0719	+/-0.0205	0.100	pCi/g						
Europium-152	U	-0.0156	0.174	+/-0.0686	0.200	pCi/g						
Lanthanum-140	U	-0.0792	0.144	+/-0.0516		pCi/g						
Lead-212		1.83	0.100	+/-0.0911	0.100	pCi/g						
Lead-214		1.46	0.119	+/-0.113	0.100	pCi/g						
Mercury-203	U	-0.00622	0.0805	+/-0.0238	0.100	pCi/g						
Potassium-40		26.7	0.587	+/-1.38	1.00	pCi/g						
Radium-223	U	-0.829	1.16	+/-0.433		pCi/g						
Radium-224	UI	5.25	R,R5a	+/-0.731		pCi/g						
Radium-226		1.33	0.111	+/-0.114		pCi/g						
Radium-228		1.71	0.226	+/-0.175	0.500	pCi/g						
Ruthenium-106	U	0.0249	0.575	+/-0.174	0.800	pCi/g						
Sodium-22	U	0.00585	0.0807	+/-0.0241	0.080	pCi/g						
Strontium-85	U	0.0779	0.0824	+/-0.0226		pCi/g						
Thallium-208		0.496	0.0581	+/-0.0454	0.080	pCi/g						

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Certificate of Analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7164
Sample ID: 245107004
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	0.0503	0.707	+/-0.218		pCi/g						
Thorium-231	U	-0.829	1.16	+/-0.433		pCi/g						
Thorium-234	U	1.25	2.32	+/-1.14	2.00	pCi/g						
Tin-113	U	0.0102	0.0883	+/-0.026	0.100	pCi/g						
Uranium-235	U	0.082	0.394	+/-0.121	0.500	pCi/g						
Yttrium-88	U	0.00872	0.0642	+/-0.019	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	-49.6	219	+/-63.1	250	pCi/L		KXX2	02/01/10	2233	946394	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"	87.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.2	(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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Los Alamos, New Mexico 87545
Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7167
Sample ID: 245107005
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 22%

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	0.00192	0.0212	+/-0.00235	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00222	0.0181	+/-0.00157	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00111	0.0136	+/-0.00192	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.0969	+/-0.101	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0695	0.0601	+/-0.0171	0.100	pCi/g						
Uranium-238		1.10	0.0562	+/-0.0964	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0987	0.184	+/-0.0575	0.200	pCi/g		MXR1	02/01/10	1238	944038	5
Bismuth-211	UI	4.08	R,R5a	0.287	+/-0.275	pCi/g						
Bismuth-214		1.27		0.103	+/-0.101	0.200	pCi/g					
Cadmium-109	UI	2.13	R,R5a	1.06	+/-0.529	pCi/g						
Cerium-139	U	-0.0111		0.0459	+/-0.0143	0.050	pCi/g					
Cesium-134	UI	0.0919	R,R5a	0.0915	+/-0.0438	0.100	pCi/g					
Cesium-137	U	-0.00983		0.0592	+/-0.0178	0.100	pCi/g					
Cobalt-60	U	-0.0153		0.0512	+/-0.0171	0.100	pCi/g					
Europium-152	U	0.00917		0.154	+/-0.0471	0.200	pCi/g					
Lanthanum-140	U	-0.0663		0.123	+/-0.0433	pCi/g						
Lead-212		1.60		0.0838	+/-0.102	0.100	pCi/g					
Lead-214		1.42		0.0984	+/-0.103	0.100	pCi/g					
Mercury-203	U	0.0411		0.0725	+/-0.0204	0.100	pCi/g					
Potassium-40		23.7		0.453	+/-1.32	1.00	pCi/g					
Radium-223	U	0.121		1.03	+/-0.343	pCi/g						
Radium-224	UI	4.72	R,R5a	0.953	+/-0.751	pCi/g						
Radium-226		1.27		0.103	+/-0.101	pCi/g						
Radium-228		1.57		0.186	+/-0.153	0.500	pCi/g					
Ruthenium-106	U	0.124		0.479	+/-0.143	0.800	pCi/g					
Sodium-22	U	0.0101		0.0655	+/-0.0197	0.080	pCi/g					
Strontium-85	U	0.0576		0.0649	+/-0.020	pCi/g						
Thallium-208		0.551		0.0508	+/-0.0501	0.080	pCi/g					

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7167
Sample ID: 245107005
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	-0.129	0.544	+/-0.163		pCi/g						
Thorium-231	U	0.121	1.03	+/-0.343		pCi/g						
Thorium-234		1.93	1.56	+/-0.751	2.00	pCi/g						
Tin-113	U	-0.0213	0.0669	+/-0.0208	0.100	pCi/g						
Uranium-235	U	0.195	0.336	+/-0.0994	0.500	pCi/g						
Yttrium-88	U	0.0191	0.049	+/-0.0128	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	-42.1	218	+/-63.1	250	pCi/L		KXK2	02/02/10	0011	946394	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"	90.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.9	(50%-105%)

Notes:

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

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

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7169
Sample ID: 245107006
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 8.93%

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	0.000694	0.0214	+/-0.00126	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00113	0.0184	+/-0.00113	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00225	0.0139	+/-0.0016	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.14	0.111	+/-0.103	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236	U	0.0532	0.069	+/-0.0158	0.100	pCi/g						
Uranium-238		1.18	0.0645	+/-0.106	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0123	0.0777	+/-0.024	0.200	pCi/g		MXR1	02/01/10	1238	944038	5
Bismuth-211	UI	4.24 R,R5a	0.301	+/-0.325		pCi/g						
Bismuth-214		1.34	0.125	+/-0.120	0.200	pCi/g						
Cadmium-109	UI	3.43 R,R5a	0.759	+/-0.383		pCi/g						
Cerium-139	U	-0.00255	0.0417	+/-0.012	0.050	pCi/g						
Cesium-134	U	0.0197	0.103	+/-0.0311	0.100	pCi/g						
Cesium-137	U	-0.00708	0.0758	+/-0.0235	0.100	pCi/g						
Cobalt-60	U	0.015	0.0986	+/-0.0285	0.100	pCi/g						
Europium-152	U	0.0584	0.160	+/-0.0486	0.200	pCi/g						
Lanthanum-140	U	-0.0411	0.221	+/-0.0714		pCi/g						
Lead-212		1.76	0.0834	+/-0.106	0.100	pCi/g						
Lead-214		1.47	0.105	+/-0.119	0.100	pCi/g						
Mercury-203	U	-0.0192	0.0691	+/-0.0214	0.100	pCi/g						
Potassium-40		21.6	0.878	+/-1.40	1.00	pCi/g						
Radium-223	U	-0.000372	1.04	+/-0.354		pCi/g						
Radium-224	UI	4.77 R,R5a	0.952	+/-0.631		pCi/g						
Radium-226		1.34	0.125	+/-0.120		pCi/g						
Radium-228		1.58	0.252	+/-0.189	0.500	pCi/g						
Ruthenium-106	U	-0.296	0.620	+/-0.204	0.800	pCi/g						
Sodium-22	U	-0.00252	0.0857	+/-0.0268	0.080	pCi/g						
Strontium-85	U	0.0416	0.0738	+/-0.0225		pCi/g						
Thallium-208		0.504	0.066	+/-0.0516	0.080	pCi/g						

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Certificate of Analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7169
Sample ID: 245107006
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	0.0551	0.596	+/-0.175		pCi/g					
Thorium-231	U	-0.000372	1.04	+/-0.354		pCi/g					
Thorium-234		1.52	0.746	+/-0.394	2.00	pCi/g					
Tin-113	U	0.00347	0.0783	+/-0.0241	0.100	pCi/g					
Uranium-235	U	0.118	0.312	+/-0.0947	0.500	pCi/g					
Yttrium-88	U	0.00816	0.0838	+/-0.0249	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	-19.8	218	+/-63.6	250	pCi/L		KXK2	02/02/10 0301	946394	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"	93.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.3	(50%-105%)

Notes:

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

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

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Certificate of Analysis

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7168
Sample ID: 245107007
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 19.2%

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	0.006	0.0443	+/-0.0161	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0042	0.0172	+/-0.00258	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0252	0.0129	+/-0.0055	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.56	0.137	+/-0.286	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.219	0.0852	+/-0.0403	0.100	pCi/g						
Uranium-238		4.44	0.0796	+/-0.350	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.118	0.236	+/-0.0747	0.200	pCi/g		MXR1	02/01/10	1239	944038	5
Bismuth-211	UI	4.55 R,R5a	0.336	+/-0.349		pCi/g						
Bismuth-214		1.35	0.120	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	2.84 R,R5a	1.20	+/-0.477		pCi/g						
Cerium-139	U	-0.0088	0.052	+/-0.0155	0.050	pCi/g						
Cesium-134	UI	0.0855 R,R5a	0.0841	+/-0.0239	0.100	pCi/g						
Cesium-137		0.681	0.0581	+/-0.056	0.100	pCi/g						
Cobalt-60	U	-0.000955	0.0515	+/-0.0157	0.100	pCi/g						
Europium-152	U	-0.0356	0.162	+/-0.0723	0.200	pCi/g						
Lanthanum-140	U	-0.015	0.150	+/-0.0546		pCi/g						
Lead-212		1.74	0.093	+/-0.128	0.100	pCi/g						
Lead-214		1.58	0.117	+/-0.128	0.100	pCi/g						
Mercury-203	U	0.0609	0.0766	+/-0.0256	0.100	pCi/g						
Potassium-40		20.8	0.562	+/-1.19	1.00	pCi/g						
Radium-223	U	0.0872	1.08	+/-0.367		pCi/g						
Radium-224	UI	5.24 R,R5a	1.06	+/-0.705		pCi/g						
Radium-226		1.35	0.120	+/-0.104		pCi/g						
Radium-228		1.89	0.219	+/-0.184	0.500	pCi/g						
Ruthenium-106	U	0.190	0.540	+/-0.158	0.800	pCi/g						
Sodium-22	U	-0.0411	0.057	+/-0.0191	0.080	pCi/g						
Strontium-85	UI	0.186 R,R5a	0.0803	+/-0.0245		pCi/g						
Thallium-208		0.500	0.0534	+/-0.0467	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7168
Sample ID: 245107007
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	0.0895	0.668	+/-0.203		pCi/g						
Thorium-231	U	0.0872	1.08	+/-0.367		pCi/g						
Thorium-234		3.16	1.99	+/-0.995	2.00	pCi/g						
Tin-113	U	-0.0105	0.0756	+/-0.0231	0.100	pCi/g						
Uranium-235	U	0.0333	0.368	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.00276	0.0495	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	27.2	218	+/-64.4	250	pCi/L		KXK2	02/02/10	0439	946394	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"	44.4 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.5	(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

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7166
Sample ID: 245107008
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 31.6%

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	0.00269	0.0191	+/-0.00326	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00107	0.0174	+/-0.00185	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00639	0.0131	+/-0.00303	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.48	0.121	+/-0.130	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0919	0.0753	+/-0.0221	0.100	pCi/g						
Uranium-238		1.59	0.0703	+/-0.138	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.227	0.389	+/-0.124	0.200	pCi/g		MXR1	02/01/10	1239	944038	5
Bismuth-211	UI	4.05 R,R5a	0.366	+/-0.301		pCi/g						
Bismuth-214		1.37	0.143	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	3.89 R,R5a	2.12	+/-0.662		pCi/g						
Cerium-139	U	-0.000874	0.0597	+/-0.0182	0.050	pCi/g						
Cesium-134	U	0.0367	0.101	+/-0.0286	0.100	pCi/g						
Cesium-137		0.142	0.0723	+/-0.0333	0.100	pCi/g						
Cobalt-60	U	-0.0387	0.073	+/-0.0253	0.100	pCi/g						
Europium-152	U	-0.0313	0.192	+/-0.0641	0.200	pCi/g						
Lanthanum-140	U	-0.242	0.127	+/-0.0635		pCi/g						
Lead-212		1.62	0.108	+/-0.0856	0.100	pCi/g						
Lead-214		1.41	0.128	+/-0.111	0.100	pCi/g						
Mercury-203	U	0.0105	0.0914	+/-0.0267	0.100	pCi/g						
Potassium-40		21.3	0.580	+/-1.19	1.00	pCi/g						
Radium-223	U	-0.934	1.30	+/-0.421		pCi/g						
Radium-224	UI	5.45 R,R5a	1.23	+/-0.787		pCi/g						
Radium-226		1.37	0.143	+/-0.111		pCi/g						
Radium-228		1.81	0.249	+/-0.205	0.500	pCi/g						
Ruthenium-106	U	0.205	0.662	+/-0.195	0.800	pCi/g						
Sodium-22	U	-0.024	0.0781	+/-0.0257	0.080	pCi/g						
Strontium-85	U	0.0563	0.0764	+/-0.0238		pCi/g						
Thallium-208		0.559	0.0751	+/-0.0495	0.080	pCi/g						

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7166
Sample ID: 245107008
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	-0.289	0.745	+/-0.241		pCi/g					
Thorium-231	U	-0.934	1.30	+/-0.421		pCi/g					
Thorium-234	U	1.94	2.99	+/-1.34	2.00	pCi/g					
Tin-113	U	-0.0216	0.093	+/-0.0286	0.100	pCi/g					
Uranium-235	U	0.427	0.475	+/-0.143	0.500	pCi/g					
Yttrium-88	U	-0.0106	0.0781	+/-0.0248	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
H3 "As Received"											
Tritium	U	44.4	217	+/-64.7	250	pCi/L		KXK2	02/02/10	0617 946394	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"	91.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.3	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7177
Sample ID: 245107009
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 7.46%

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	0.00665	0.0206	+/-0.00446	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00714	0.0167	+/-0.00272	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0194	0.0125	+/-0.00455	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.69	0.104	+/-0.140	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0993	0.0644	+/-0.0214	0.100	pCi/g						
Uranium-238		1.76	0.0602	+/-0.145	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.144	0.312	+/-0.100	0.200	pCi/g		MXR1	02/01/10	1328	944038	5
Bismuth-211	UI	5.32	R,R5a	0.412	+/-0.354	pCi/g						
Bismuth-214		1.26		0.149	+/-0.117	0.200	pCi/g					
Cadmium-109	UI	2.71	R,R5a	1.56	+/-0.626	pCi/g						
Cerium-139	U	-0.0169	0.0596	+/-0.0177	0.050	pCi/g						
Cesium-134	U	0.0832	0.113	+/-0.0446	0.100	pCi/g						
Cesium-137		0.339	0.0778	+/-0.050	0.100	pCi/g						
Cobalt-60	U	-0.0138	0.0667	+/-0.0211	0.100	pCi/g						
Europium-152	U	-0.0313	0.193	+/-0.068	0.200	pCi/g						
Lanthanum-140	U	-0.0815	0.204	+/-0.0689		pCi/g						
Lead-212		1.68	0.112	+/-0.108	0.100	pCi/g						
Lead-214		1.85	0.145	+/-0.132	0.100	pCi/g						
Mercury-203	U	0.0163	0.0901	+/-0.0265	0.100	pCi/g						
Potassium-40		25.5	0.688	+/-1.49	1.00	pCi/g						
Radium-223	U	-0.76	1.33	+/-0.427		pCi/g						
Radium-224	UI	4.52	R,R5a	1.27	+/-0.685	pCi/g						
Radium-226		1.26	0.149	+/-0.117		pCi/g						
Radium-228		1.53	0.251	+/-0.212	0.500	pCi/g						
Ruthenium-106	U	0.245	0.658	+/-0.186	0.800	pCi/g						
Sodium-22	U	0.0124	0.0864	+/-0.0252	0.080	pCi/g						
Strontium-85	U	0.0838	0.0913	+/-0.0287		pCi/g						
Thallium-208		0.534	0.070	+/-0.0623	0.080	pCi/g						

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7177
Sample ID: 245107009
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	-0.0658	0.798	+/-0.239		pCi/g						
Thorium-231	U	-0.76	1.33	+/-0.427		pCi/g						
Thorium-234		3.84	2.41	+/-1.49	2.00	pCi/g						
Tin-113	U	0.0396	0.0961	+/-0.028	0.100	pCi/g						
Uranium-235	U	0.0311	0.432	+/-0.127	0.500	pCi/g						
Yttrium-88	U	-0.0119	0.0774	+/-0.0251	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	59.2	217	+/-65.0	250	pCi/L		KXK2	02/02/10	0755	946394	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"	87.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.8	(50%-105%)

Notes:

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

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

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 Contact: Ms. Joylene Valdez
 Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7181
 Sample ID: 245107010
 Matrix: S
 Collect Date: 13-JAN-10
 Receive Date: 20-JAN-10
 Collector: Client
 Moisture: 12.1%

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	0.00294	0.027	+/-0.00217	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00232	0.019	+/-0.00233	0.050	pCi/g		JXD2	02/09/10	1925	944928	3
Plutonium-239/240	U	0.00232	0.0143	+/-0.00165	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.926	0.109	+/-0.0868	0.100	pCi/g		JXD2	02/09/10	1439	944930	5
Uranium-235/236		0.0694	0.0675	+/-0.019	0.100	pCi/g						
Uranium-238		1.00	0.0631	+/-0.0925	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.177	0.335	+/-0.102	0.200	pCi/g		MXR1	02/01/10	1328	944038	6
Bismuth-211	UI	4.23 R,R5a	0.379	+/-0.347		pCi/g						
Bismuth-214		1.32	0.109	+/-0.122	0.200	pCi/g						
Cadmium-109	UI	2.39 R,R5a	1.51	+/-0.543		pCi/g						
Cerium-139	U	-0.000151	0.0562	+/-0.0171	0.050	pCi/g						
Cesium-134	U	0.0674	0.0962	+/-0.0265	0.100	pCi/g						
Cesium-137	U	-0.0233	0.0682	+/-0.0215	0.100	pCi/g						
Cobalt-60	U	-0.0156	0.060	+/-0.0196	0.100	pCi/g						
Europium-152	U	-0.147	0.166	+/-0.0552	0.200	pCi/g						
Lanthanum-140	U	-0.0503	0.203	+/-0.0659		pCi/g						
Lead-212		1.56	0.100	+/-0.116	0.100	pCi/g						
Lead-214		1.47	0.132	+/-0.127	0.100	pCi/g						
Mercury-203	U	0.0827	0.0868	+/-0.0264	0.100	pCi/g						
Potassium-40		23.2	0.762	+/-1.43	1.00	pCi/g						
Radium-223	U	-0.505	1.27	+/-0.395		pCi/g						
Radium-224	UI	4.76 R,R5a	1.14	+/-0.838		pCi/g						
Radium-226		1.32	0.109	+/-0.122		pCi/g						
Radium-228		1.25	0.214	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	0.120	0.605	+/-0.175	0.800	pCi/g						
Sodium-22	U	0.016	0.0899	+/-0.0266	0.080	pCi/g						
Strontium-85	U	0.063	0.0796	+/-0.0251		pCi/g						
Thallium-208		0.452	0.0619	+/-0.049	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID:
Sample ID:

RE15-10-7181
245107010

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	0.0238	0.730	+/-0.213		pCi/g					
Thorium-231	U	-0.505	1.27	+/-0.395		pCi/g					
Thorium-234	U	2.15	2.50	+/-1.31	2.00	pCi/g					
Tin-113	U	-0.0188	0.0848	+/-0.0263	0.100	pCi/g					
Uranium-235	U	-0.0229	0.409	+/-0.126	0.500	pCi/g					
Yttrium-88	U	0.0346	0.0805	+/-0.0214	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	-32.2	219	+/-63.4	250	pCi/L		KXK2	02/02/10 0933	946394	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	67.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	80.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.7	(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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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis

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Certificate of Analysis

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 16, 2010

Client Sample ID: RE15-10-7178
Sample ID: 245107011
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 21.4%

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	0.0145	0.0213	+/-0.00435	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0176	+/-0.00108	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0334	0.0132	+/-0.00621	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.77	0.138	+/-0.155	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.127	0.0858	+/-0.029	0.100	pCi/g						
Uranium-238		2.73	0.0802	+/-0.225	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0718	0.351	+/-0.112	0.200	pCi/g		MXR1	02/01/10	1329	944038	5
Bismuth-211	UI	4.00	R,R5a	0.361	+/-0.294	pCi/g						
Bismuth-214		1.24		0.125	+/-0.100	pCi/g						
Cadmium-109	UI	1.63	R,R5a	1.55	+/-0.718	pCi/g						
Cerium-139	U	0.00556		0.0609	+/-0.018	pCi/g						
Cesium-134	UI	0.141	R,R5a	0.115	+/-0.0293	pCi/g						
Cesium-137		0.600		0.0626	+/-0.041	pCi/g						
Cobalt-60	U	-0.0118		0.0647	+/-0.0208	pCi/g						
Europium-152	U	0.0701		0.190	+/-0.0693	pCi/g						
Lanthanum-140	U	0.0343		0.196	+/-0.056	pCi/g						
Lead-212		1.56		0.104	+/-0.0826	pCi/g						
Lead-214		1.39		0.126	+/-0.109	pCi/g						
Mercury-203	U	0.0539		0.0882	+/-0.0243	pCi/g						
Potassium-40		21.2		0.660	+/-1.08	pCi/g						
Radium-223	U	-1.11		1.28	+/-0.414	pCi/g						
Radium-224	UI	4.92	R,R5a	1.18	+/-0.755	pCi/g						
Radium-226		1.24		0.125	+/-0.100	pCi/g						
Radium-228		1.46		0.226	+/-0.192	pCi/g						
Ruthenium-106	U	-0.146		0.566	+/-0.179	pCi/g						
Sodium-22	U	-0.0216		0.0758	+/-0.0245	pCi/g						
Strontium-85	U	0.00284		0.0729	+/-0.0252	pCi/g						
Thallium-208		0.510		0.0673	+/-0.0457	pCi/g						

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7178
Sample ID: 245107011
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	0.132	0.784	+/-0.236		pCi/g						
Thorium-231	U	-1.11	1.28	+/-0.414		pCi/g						
Thorium-234	U	1.57	2.78	+/-1.09	2.00	pCi/g						
Tin-113	U	-0.0164	0.0841	+/-0.0254	0.100	pCi/g						
Uranium-235	U	-0.112	0.404	+/-0.124	0.500	pCi/g						
Yttrium-88	U	-0.0274	0.0635	+/-0.022	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	22.2	218	+/-64.3	250	pCi/L		KXK2	02/02/10	1112	946394	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"	86.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.0	(50%-105%)

Notes:

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

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- BD Results are either below the MDC or tracer recovery is low
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample

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 Contact: Ms. Joylene Valdez
 Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7182
 Sample ID: 245107012
 Matrix: S
 Collect Date: 13-JAN-10
 Receive Date: 20-JAN-10
 Collector: Client
 Moisture: 18%

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	0.00336	0.022	+/-0.00279	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00328	0.0179	+/-0.0019	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0142	0.0134	+/-0.004	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.63	0.146	+/-0.148	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236	U	0.0467	0.0909	+/-0.0205	0.100	pCi/g						
Uranium-238		1.79	0.0849	+/-0.160	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0281	0.186	+/-0.0602	0.200	pCi/g		MXR1	02/01/10	1329	944038	5
Bismuth-211	UI	4.35	R,R5a	+/-0.312		pCi/g						
Bismuth-214		1.36		+/-0.117	0.200	pCi/g						
Cadmium-109	UI	5.04	R,R5a	+/-0.526		pCi/g						
Cerium-139	U	-0.0232	0.0494	+/-0.016	0.050	pCi/g						
Cesium-134	UI	0.193	R,R5a	+/-0.0424	0.100	pCi/g						
Cesium-137		0.238	0.0709	+/-0.0342	0.100	pCi/g						
Cobalt-60	U	-0.0127	0.071	+/-0.0223	0.100	pCi/g						
Europium-152	U	0.0509	0.177	+/-0.0537	0.200	pCi/g						
Lanthanum-140	U	0.0422	0.164	+/-0.0534		pCi/g						
Lead-212		1.83	0.0997	+/-0.107	0.100	pCi/g						
Lead-214		1.51	0.121	+/-0.116	0.100	pCi/g						
Mercury-203	U	0.00296	0.0769	+/-0.0228	0.100	pCi/g						
Potassium-40		21.6	0.469	+/-1.24	1.00	pCi/g						
Radium-223	U	-0.264	1.22	+/-0.374		pCi/g						
Radium-224	UI	5.08	R,R5a	+/-0.666		pCi/g						
Radium-226		1.36	0.123	+/-0.117		pCi/g						
Radium-228		1.77	0.210	+/-0.185	0.500	pCi/g						
Ruthenium-106	U	-0.0933	0.545	+/-0.167	0.800	pCi/g						
Sodium-22	U	-0.0449	0.0608	+/-0.0214	0.080	pCi/g						
Strontium-85	UI	0.102	R,R5a	+/-0.0231		pCi/g						
Thallium-208		0.600	0.0616	+/-0.0522	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID:
Sample ID:

RE15-10-7182
245107012

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	-0.096	0.646	+/-0.194		pCi/g						
Thorium-231	U	-0.264	1.22	+/-0.374		pCi/g						
Thorium-234		2.16	1.62	+/-0.875	2.00	pCi/g						
Tin-113	U	-0.0254	0.0841	+/-0.0277	0.100	pCi/g						
Uranium-235	U	0.189	0.389	+/-0.117	0.500	pCi/g						
Yttrium-88	U	-0.015	0.0513	+/-0.0172	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	39.6	218	+/-64.8	250	pCi/L		KXK2	02/02/10	1250	946394	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"	84.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	64.9	(50%-105%)

Notes:

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

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- 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 16, 2010

Client Sample ID: RE15-10-7183
Sample ID: 245107013
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 12.2%

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	0.000543	0.0201	+/-0.00118	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.017	+/-0.00104	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00417	0.0128	+/-0.0021	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.879	0.149	+/-0.0921	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236	U	0.0474	0.0923	+/-0.0171	0.100	pCi/g						
Uranium-238		0.979	0.0862	+/-0.099	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0388	0.397	+/-0.112	0.200	pCi/g		MXR1	02/01/10	1330	944038	5
Bismuth-211	UI	3.26 R,R5a	0.297	+/-0.248		pCi/g						
Bismuth-214		1.14	0.0934	+/-0.0784	0.200	pCi/g						
Cadmium-109	UI	1.81 R,R5a	1.19	+/-0.626		pCi/g						
Cerium-139	U	0.0165	0.0501	+/-0.0148	0.050	pCi/g						
Cesium-134	UI	0.110 R,R5a	0.0893	+/-0.0302	0.100	pCi/g						
Cesium-137	U	0.0578	0.063	+/-0.0229	0.100	pCi/g						
Cobalt-60	U	-0.0298	0.0705	+/-0.0229	0.100	pCi/g						
Europium-152	U	0.00188	0.148	+/-0.0438	0.200	pCi/g						
Lanthanum-140	U	-0.0312	0.175	+/-0.056		pCi/g						
Lead-212		1.60	0.091	+/-0.0808	0.100	pCi/g						
Lead-214		1.13	0.104	+/-0.091	0.100	pCi/g						
Mercury-203	U	0.0221	0.0696	+/-0.0197	0.100	pCi/g						
Potassium-40		30.8	0.298	+/-1.60	1.00	pCi/g						
Radium-223	U	-0.238	0.971	+/-0.336		pCi/g						
Radium-224	UI	4.23 R,R5a	1.04	+/-0.671		pCi/g						
Radium-226		1.14	0.0934	+/-0.0784		pCi/g						
Radium-228		1.31	0.209	+/-0.160	0.500	pCi/g						
Ruthenium-106	U	-0.0508	0.513	+/-0.153	0.800	pCi/g						
Sodium-22	U	-0.0219	0.0736	+/-0.0232	0.080	pCi/g						
Strontium-85	U	0.0555	0.0664	+/-0.0206		pCi/g						
Thallium-208		0.482	0.0552	+/-0.0398	0.080	pCi/g						

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7183
Sample ID: 245107013
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	-0.0226	0.584	+/-0.170		pCi/g						
Thorium-231	U	-0.238	0.971	+/-0.336		pCi/g						
Thorium-234	U	0.510	3.11	+/-0.885	2.00	pCi/g						
Tin-113	U	0.0199	0.0771	+/-0.0224	0.100	pCi/g						
Uranium-235	U	-0.0953	0.346	+/-0.107	0.500	pCi/g						
Yttrium-88	U	0.000827	0.0528	+/-0.0163	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	19.8	219	+/-64.5	250	pCi/L		KXK2	02/02/10	1428	946394	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"	92.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.5	(50%-105%)

Notes:

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

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- 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 16, 2010

Client Sample ID: RE15-10-7176
 Sample ID: 245107014
 Matrix: S
 Collect Date: 13-JAN-10
 Receive Date: 20-JAN-10
 Collector: Client
 Moisture: 4.66%

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	0.0069	0.0212	+/-0.00296	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00443	0.0181	+/-0.00272	0.050	pCi/g		JXD2	02/09/10	1926	944928	2
Plutonium-239/240		0.0177	0.0136	+/-0.00451	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.57	0.158	+/-0.146	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236	U	0.0881	0.098	+/-0.026	0.100	pCi/g						
Uranium-238		1.86	0.0915	+/-0.167	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.106	0.280	+/-0.087	0.200	pCi/g		MXR1	02/01/10	1330	944038	5
Bismuth-211	UI	4.25	R,R5a	0.355	+/-0.277	pCi/g						
Bismuth-214		1.24		0.114	+/-0.102	pCi/g						
Cadmium-109	UI	4.38	R,R5a	1.27	+/-0.552	pCi/g						
Cerium-139	U	-0.0162	0.0487	+/-0.0153	0.050	pCi/g						
Cesium-134	UI	0.137	R,R5a	0.108	+/-0.0366	pCi/g						
Cesium-137		0.535		0.073	+/-0.0451	pCi/g						
Cobalt-60	U	-0.0302	0.0624	+/-0.0212	0.100	pCi/g						
Europium-152	U	-0.0807	0.150	+/-0.0554	0.200	pCi/g						
Lanthanum-140	U	-0.0298	0.195	+/-0.0607	pCi/g							
Lead-212		1.70	0.0978	+/-0.0844	0.100	pCi/g						
Lead-214		1.48	0.126	+/-0.104	0.100	pCi/g						
Mercury-203	U	-0.0202	0.0755	+/-0.0261	0.100	pCi/g						
Potassium-40		23.0	0.588	+/-1.17	1.00	pCi/g						
Radium-223	U	0.662	1.21	+/-0.388	pCi/g							
Radium-224	UI	4.73	R,R5a	1.11	+/-0.630	pCi/g						
Radium-226		1.24	0.114	+/-0.102	pCi/g							
Radium-228		1.72	0.233	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	0.0134	0.595	+/-0.177	0.800	pCi/g						
Sodium-22	U	0.0161	0.0858	+/-0.0254	0.080	pCi/g						
Strontium-85	UI	0.0883	R,R5a	0.0721	+/-0.0209	pCi/g						
Thallium-208		0.524	0.0607	+/-0.0492	0.080	pCi/g						

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7176
Sample ID: 245107014
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	-0.192	0.635	+/-0.193		pCi/g						
Thorium-231	U	0.662	1.21	+/-0.388		pCi/g						
Thorium-234		2.65	2.32	+/-1.07	2.00	pCi/g						
Tin-113	U	-0.00305	0.0786	+/-0.024	0.100	pCi/g						
Uranium-235	U	-0.0101	0.367	+/-0.113	0.500	pCi/g						
Yttrium-88	U	-0.0162	0.0733	+/-0.0237	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		253	219	+/-71.3	250	pCi/L		KXK2	02/02/10	1606	946394	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"	92.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	69.5	(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

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 16, 2010

Client Sample ID: RE15-10-7180
Sample ID: 245107015
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 13.4%

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	0.00486	0.0227	+/-0.00318	0.050	pCi/g		JXD2	02/08/10	1219 944922	1
<i>ISOPU "Dry Weight Corrected"</i>											
Plutonium-238		0.0599	0.020	+/-0.00908	0.050	pCi/g		JXD2	02/09/10	1926 944928	2
Plutonium-239/240	U	0.00489	0.015	+/-0.003	0.050	pCi/g					
<i>ISOU "Dry Weight Corrected"</i>											
Uranium-233/234		1.30	0.142	+/-0.122	0.100	pCi/g		JXD2	02/09/10	1435 944930	4
Uranium-235/236	U	0.079	0.0878	+/-0.0219	0.100	pCi/g					
Uranium-238		1.39	0.0821	+/-0.128	0.100	pCi/g					
Rad Gamma Spec Analysis											
<i>GAMMA SPEC "Dry Weight Corrected"</i>											
Americium-241	U	-0.0232	0.589	+/-0.176	0.200	pCi/g		MXR1	02/01/10	1330 944038	5
Bismuth-211	UI	4.49	R,R5a	+/-0.357		pCi/g					
Bismuth-214		1.50		+/-0.126	0.200	pCi/g					
Cadmium-109	U	0.235	2.42	+/-1.14		pCi/g					
Cerium-139	U	0.00352	0.0718	+/-0.022	0.050	pCi/g					
Cesium-134	U	0.109	0.119	+/-0.0319	0.100	pCi/g					
Cesium-137	U	0.0647	0.0972	+/-0.0279	0.100	pCi/g					
Cobalt-60	U	-0.0195	0.0837	+/-0.0274	0.100	pCi/g					
Europium-152	U	0.177	0.230	+/-0.0893	0.200	pCi/g					
Lanthanum-140	U	0.0448	0.234	+/-0.0778		pCi/g					
Lead-212		2.00	0.129	+/-0.113	0.100	pCi/g					
Lead-214		1.56	0.157	+/-0.131	0.100	pCi/g					
Mercury-203	U	0.0427	0.107	+/-0.0351	0.100	pCi/g					
Potassium-40		24.4	0.677	+/-1.30	1.00	pCi/g					
Radium-223	U	-1.1	1.57	+/-0.507		pCi/g					
Radium-224	UI	6.06	R,R5a	+/-0.889		pCi/g					
Radium-226		1.50	0.149	+/-0.126		pCi/g					
Radium-228		1.52	0.289	+/-0.195	0.500	pCi/g					
Ruthenium-106	U	-0.16	0.652	+/-0.210	0.800	pCi/g					
Sodium-22	U	-0.0068	0.0956	+/-0.0301	0.080	pCi/g					
Strontium-85	U	0.0919	0.0962	+/-0.0299		pCi/g					
Thallium-208		0.685	0.0843	+/-0.0548	0.080	pCi/g					

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 16, 2010

Client Sample ID: RE15-10-7180
Sample ID: 245107015
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	-0.403	0.869	+/-0.270		pCi/g						
Thorium-231	U	-1.1	1.57	+/-0.507		pCi/g						
Thorium-234	U	-2.11	4.32	+/-1.36	2.00	pCi/g						
Tin-113	U	-0.0169	0.104	+/-0.0319	0.100	pCi/g						
Uranium-235	U	0.111	0.509	+/-0.155	0.500	pCi/g						
Yttrium-88	U	0.0418	0.0799	+/-0.0202	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	46.9	218	+/-64.8	250	pCi/L		KXK2	02/02/10	1744	946394	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"	83.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Certificate of Analysis

Company : Los Alamos National Laboratory
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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 16, 2010

Client Sample ID: RE15-10-7179
 Sample ID: 245107016
 Matrix: S
 Collect Date: 13-JAN-10
 Receive Date: 20-JAN-10
 Collector: Client
 Moisture: 20.3%

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	0.00542	0.0205	+/-0.00309	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0182	+/-0.00111	0.050	pCi/g		JXD2	02/09/10	1141	944928	2
Plutonium-239/240	U	0.0122	0.0137	+/-0.00374	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.58	0.180	+/-0.228	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236		0.129	0.112	+/-0.032	0.100	pCi/g						
Uranium-238		2.86	0.105	+/-0.248	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0316	0.391	+/-0.125	0.200	pCi/g		MXR1	02/01/10	1333	944038	5
Bismuth-211	UI	4.04	R,R5a	0.293	+/-0.255	pCi/g						
Bismuth-214		1.11		0.107	+/-0.0986	0.200	pCi/g					
Cadmium-109	UI	2.05	R,R5a	1.61	+/-0.591	pCi/g						
Cerium-139	U	-0.016		0.0469	+/-0.0145	0.050	pCi/g					
Cesium-134	UI	0.137	R,R5a	0.0979	+/-0.0329	0.100	pCi/g					
Cesium-137		0.450		0.0576	+/-0.0416	0.100	pCi/g					
Cobalt-60	U	-0.0242		0.0619	+/-0.0201	0.100	pCi/g					
Europium-152	U	0.0857		0.156	+/-0.046	0.200	pCi/g					
Lanthanum-140	U	0.00617		0.182	+/-0.0552	pCi/g						
Lead-212		1.61		0.0966	+/-0.0871	0.100	pCi/g					
Lead-214		1.41		0.104	+/-0.0959	0.100	pCi/g					
Mercury-203	U	-0.0146		0.072	+/-0.0213	0.100	pCi/g					
Potassium-40		22.7		0.418	+/-1.15	1.00	pCi/g					
Radium-223	U	0.494		1.08	+/-0.341	pCi/g						
Radium-224	UI	3.76	R,R5a	1.10	+/-0.619	pCi/g						
Radium-226		1.11		0.107	+/-0.0986	pCi/g						
Radium-228		1.66		0.207	+/-0.155	0.500	pCi/g					
Ruthenium-106	U	0.102		0.556	+/-0.168	0.800	pCi/g					
Sodium-22	U	0.0201		0.0708	+/-0.020	0.080	pCi/g					
Strontium-85	U	0.024		0.0597	+/-0.0194	pCi/g						
Thallium-208		0.488		0.0548	+/-0.0483	0.080	pCi/g					

MAD
02/22/10

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 16, 2010

Client Sample ID:
Sample ID:

RE15-10-7179
245107016

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	-0.0566	0.624	+/-0.182		pCi/g					
Thorium-231	U	0.494	1.08	+/-0.341		pCi/g					
Thorium-234		3.79	2.92	+/-1.69	2.00	pCi/g					
Tin-113	U	0.00751	0.0741	+/-0.0218	0.100	pCi/g					
Uranium-235	U	0.0122	0.339	+/-0.102	0.500	pCi/g					
Yttrium-88	U	-0.0208	0.045	+/-0.0166	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	-91.4	218	+/-61.9	250	pCi/L	KXK2	02/02/10	1923	946394	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"	92.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	59.1	(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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- 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

Sunday, January 17, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1305C

LOS ALAMOS

REQUEST NUMBER: 10-1305

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/17/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

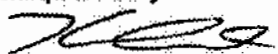
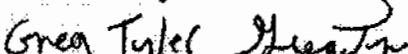
245071

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7165	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7171	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7170	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7164	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7167	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7169	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7168	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7166	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7177	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7177	1	POLY	H3	Ice	R
RE15-10-7181	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7181	1	POLY	H3	Ice	R
RE15-10-7178	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7178	1	POLY	H3	Ice	R
RE15-10-7182	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7182	1	POLY	H3	Ice	R
RE15-10-7183	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7183	1	POLY	H3	Ice	R
RE15-10-7176	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7176	1	POLY	H3	Ice	R
RE15-10-7180	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7180	1	POLY	H3	Ice	R
RE15-10-7179	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7179	1	POLY	H3	Ice	R
RE15-10-7165	1	POLY	H3	Ice	R
RE15-10-7171	1	POLY	H3	Ice	R

Sunday, January 17, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1305C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7170	1	POLY	H3	Ice	R
RE15-10-7168	1	POLY	H3	Ice	R
RE15-10-7164	1	POLY	H3	Ice	R
RE15-10-7167	1	POLY	H3	Ice	R
RE15-10-7169	1	POLY	H3	Ice	R
RE15-10-7168	1	POLY	H3	Ice	R

Relinquished By:		Date	Time	Received By:		Date	Time
		1/18/10	3:00			1-20-10	0845
Printed Name	Signature			Printed Name	Signature		

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

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

Received for DISPOSAL By:	Date	Time	Remarks:
----------------------------------	-------------	-------------	-----------------

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

Sunday, January 17, 2010
LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis
General Engineering Laboratories, Inc., Charleston, SC.
2040 Savage Rd
Charleston, SC 29407

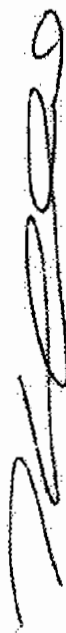
These Samples are on:
LANL Request Number: 10-1305
Per Agreement Number: 126310011
Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated.

SHIP DATE: 1/18/2010
TURNAROUND/REPORT DUE: 2/17/2010
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
	EPA301.1	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	

Sunday, January 17, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE15-10-7177	R	1/13/2010	
		1	RE16-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE16-10-7183	R	1/13/2010	
	EPA-906.0	1	RE15-10-7184	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300-AM-241	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	

Sunday, January 17, 2010

REQUEST NUMBER: 10-1305

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300:ISOPU	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300:ISOU	1	RE15-10-7164	R	1/13/2010	

Sunday, January 17, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300ISOU	1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	

Final Page of REQUEST NUMBER 10-1305



January 22, 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: 245107
SDG: 10-1305

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 20, 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: 10-1305
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 245107
SDG: 10-1305

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 245107
SDG # : 10-1305**

January 22, 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 20, 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 12-15,17C 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>
245107001	RE15-10-7165
245107002	RE15-10-7171
245107003	RE15-10-7170
245107004	RE15-10-7164
245107005	RE15-10-7167
245107006	RE15-10-7169
245107007	RE15-10-7168
245107008	RE15-10-7166
245107009	RE15-10-7177
245107010	RE15-10-7181
245107011	RE15-10-7178
245107012	RE15-10-7182
245107013	RE15-10-7183
245107014	RE15-10-7176
245107015	RE15-10-7180
245107016	RE15-10-7179

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.

A handwritten signature in black ink, appearing to read "for Valerie Davis".

Valerie Davis

Project Manager

List of current GEL Certifications as of 22 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

Sunday, January 17, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1305C

LOS ALAMOS

REQUEST NUMBER: 10-1305

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/17/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

24507/.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7165	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7171	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7170	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7164	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7167	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7169	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7168	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7166	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7177	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7177	1	POLY	H3	Ice	R
RE15-10-7181	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7181	1	POLY	H3	Ice	R
RE15-10-7178	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7178	1	POLY	H3	Ice	R
RE15-10-7182	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7182	1	POLY	H3	Ice	R
RE15-10-7183	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7183	1	POLY	H3	Ice	R
RE15-10-7176	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7176	1	POLY	H3	Ice	R
RE15-10-7180	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7180	1	POLY	H3	Ice	R
RE15-10-7179	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7179	1	POLY	H3	Ice	R
RE15-10-7165	1	POLY	H3	Ice	R
RE15-10-7171	1	POLY	H3	Ice	R

Sunday, January 17, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1305C

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7170	1	POLY	H3	Ice	R
RE15-10-7166	1	POLY	H3	Ice	R
RE15-10-7164	1	POLY	H3	Ice	R
RE15-10-7167	1	POLY	H3	Ice	R
RE15-10-7169	1	POLY	H3	Ice	R
RE15-10-7168	1	POLY	H3	Ice	R

Relinquished By:


Date

Time

Received By:

Date

Time


 Printed Name Signature

1/18/10 3:00

Greg Tyler  1-20-10 0845
 Printed Name Signature

Printed Name Signature

Printed Name Signature

Printed Name Signature

Printed Name Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name Signature

Sunday, January 17, 2010

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

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

Page 1 of 4

REQUEST NUMBER: 10-1305

These Samples are on:

LANL Request Number: 10-1305

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/18/2010

TURNAROUND/REPORT DUE: 2/17/2010

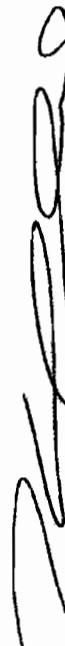
TURNAROUND REQ'D: 30 Days

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	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	

Sunday, January 17, 2010

Page 2 of 4

REQUEST NUMBER: 10-1305

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	EPA:906.0	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300:AM-241	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	

Sunday, January 17, 2010

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REQUEST NUMBER: 10-1305

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:AM-241	1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300:ISOPU	1	RE15-10-7164	R	1/13/2010	
		1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	
	HASL-300:ISOU	1	RE15-10-7164	R	1/13/2010	

Sunday, January 17, 2010

Page 4 of 4

REQUEST NUMBER: 10-1305

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-7165	R	1/13/2010	
		1	RE15-10-7166	R	1/13/2010	
		1	RE15-10-7167	R	1/13/2010	
		1	RE15-10-7168	R	1/13/2010	
		1	RE15-10-7169	R	1/13/2010	
		1	RE15-10-7170	R	1/13/2010	
		1	RE15-10-7171	R	1/13/2010	
		1	RE15-10-7176	R	1/13/2010	
		1	RE15-10-7177	R	1/13/2010	
		1	RE15-10-7178	R	1/13/2010	
		1	RE15-10-7179	R	1/13/2010	
		1	RE15-10-7180	R	1/13/2010	
		1	RE15-10-7181	R	1/13/2010	
		1	RE15-10-7182	R	1/13/2010	
		1	RE15-10-7183	R	1/13/2010	

Final Page of REQUEST NUMBER 10-1305



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCOC/Work Order: 10-1305		
Received By: Greg Tyler			Date Received: 1/20/10		
Suspected Hazard Information		Yes	No	*If Counts > x2 area background on samples not marked "radioactive", contact the Radiation Safety Group of further investigation.	
COC/Samples marked as radioactive?			X	Maximum Counts Observed*: 80cpm	
Classified Radioactive II by RSO?			X		
COC/Samples marked containing PCBs?			X		
Shipped as a DOT Hazardous?			X	Hazard Class Shipped: UN#:	
Samples identified as Foreign Soil?			X		

Sample Receipt Criteria		Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
2	Samples requiring cold preservation within $0 \leq 6$ deg. C?	X			Preservation Method: ice bags blue ice dry ice none other 2-5 12-15, 17
3	Chain of custody documents included with shipment?	X			
4	Sample containers intact and sealed?	X			Circle Applicable: seals broken damaged container leaking container other (describe)
5	Samples requiring chemical preservation at proper pH?		X		Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6	VOA vials free of headspace (defined as < 6mm bubble)?		X		Sample ID's and containers affected:
7	Are Encore containers present?			X	(If yes, immediately deliver to Volatiles laboratory)
8	Samples received within holding time?	X			Id's and tests affected:
9	Sample ID's on COC match ID's on bottles?	X			Sample ID's and containers affected:
10	Date & time on COC match date & time on bottles?		X		Sample ID's affected: 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 Tracking Numbers:

7209 7849 5644 2C	7209 7849 5714 4C	7209 7849 5699 13C
7209 7849 5725 2C	7209 7849 5828 4C	7209 7849 5817 14C
7209 7849 5736 2C	7209 7849 5839 4C	7209 7849 5872 14C
7209 7849 5840 2C	7209 7849 5861 4C	7209 7849 5703 15C
7209 7849 5688 3C	7209 7849 5883 4C	7209 7849 5633 17C
7209 7849 5850 3C	7209 7849 5747 5C	
7209 7849 5655 4C	7209 7849 6055 5C	
7209 7849 5666 4C	7209 7849 5677 12C	

PM (or PMA) review: Initials

Date

1/21/10



SHIP DATE: 19JAN10
 ACTWGT: 62.0 LB MAN
 CAD: 0014176/CAFE2449
 STILL SENDER

SHS
 SC-US

7209 7849 5644

2c

PRIORITY OVERNIGHT
 TUE - 19JAN A1

FedEx
 Express



WED - 20JAN A1
 PRIORITY OVERNIGHT

PSN 7209 7849 5644
 str# 7209 7849 5622 0201

XX CHSA

29407
 SC-US
 CHS



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

SHIP DATE: 19JAN10
 ACTWGT: 61.0 LB MAN
 CAD: 0014176/CAFE2449

BILL SENDER

LOS ALAMOS, NM 87545
 UNITED STATES US

VALERIE DAVIS
 GENERAL ENGINEERING LAB
 2040 SAVAGE RD

CHARLESTON SC 29407
 (843) 556-8171
 REF: 68010AMR2A0515BYDU

2c



FedEx
 Express

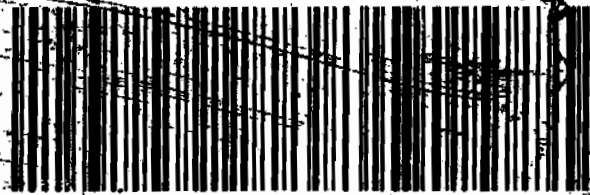


WED - 20JAN A1
 PRIORITY OVERNIGHT

PSN 7209 7849 5725
 str# 7209 7849 5725 0201

XX CHSA

29407
 SC-US
 CHS



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

SHIP DATE: 19JAN10
 ACTWGT: 62.0 LB MAN
 CAD: 0014176/CAFE2449

LOS ALAMOS, NM 87545
 UNITED STATES US

BILL SENDER

VALERIE DAVIS
 GENERAL ENGINEERING LAB
 2040 SAVAGE RD

CHARLESTON SC 29407
 (843) 556-8171
 REF: 68010AMR2A0515BYDU

2c



FedEx
 Express



WED - 20JAN A1
 PRIORITY OVERNIGHT

PSN 7209 7849 5736
 str# 7209 7849 5725 0201

XX CHSA

29407
 SC-US
 CHS

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

SHIP DATE: 19JAN10
 ACTWGT: 61.0 LB MAN
 CAD: 0014176/CAFE2449

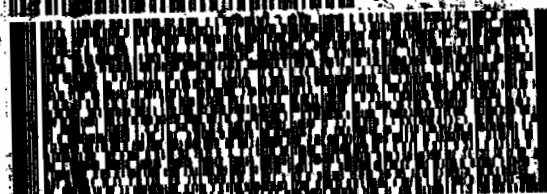
BILL SENDER

LOS ALAMOS, NM 87545
 UNITED STATES US

VALERIE DAVIS
 GENERAL ENGINEERING LAB
 2040 SAVAGE RD

CHARLESTON SC 29407
 (843) 556-8171
 REF: 68010AMR3A05529E00

2c



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 Express



WED - 20JAN A1
 PRIORITY OVERNIGHT

PSN 7209 7849 5840
 str# 7209 7849 5839 0201

XX CHSA

29407
 SC-US
 CHS

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

SHIP DATE: 19 JAN 80
ACTWGT: 53.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A05529E00

3c

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Express



2 of 2
MPS# 8263 7209 7849 5688

Matr# 7209 7849 5677 8201

WED - 20 JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19 JAN 80
ACTWGT: 54.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A05529E00

4c

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Express



1 of 2
TRKN 8201 7209 7849 5655

MM MASTER MM

WED - 20 JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

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

SHIP DATE: 19 JAN 80
ACTWGT: 52.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

LOS ALAMOS, NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A05529E00

3c

FedEx
Express

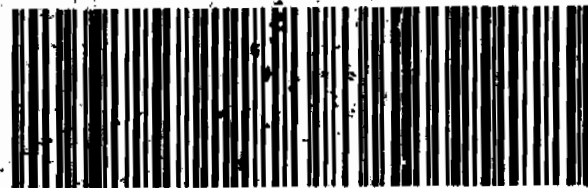


TRKN 8201 7209 7849 5850

WED - 20 JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19 JAN 80
ACTWGT: 54.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171

REF: 68010AMR3A05529E00

4c

FedEx
Express



2 of 2
MPS# 8263 7209 7849 5666

Matr# 7209 7849 5655 8201

WED - 20 JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

XX CHSA

JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTMGT: 54.0 LB MAN
CAD: 0014176/CAFE2449
BILL SENDER

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTMGT: 51.0 LB MAN
CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR2A0515BYDO

4C

FedEx
Express



JAN200911302221

3 of 3
MPS# 0263 7209 7849 5714
Matr# 7209 7849 5699 0201

WED - 20JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



Part # 156148-434 INRT V3 04-08

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR3A05529E00

4C

FedEx
Express



JAN200911302221

3 of 3
MPS# 0263 7209 7849 5828
Matr# 7209 7849 5806 0201

WED - 20JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



Part # 156148-434 INRT V3 04-08

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTMGT: 54.0 LB MAN
CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
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CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR3A05529E00

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Express



JAN200911302221

1 of 2
TRK# 0201 7209 7849 5839
MM MASTER MM

WED - 20JAN A1
PRIORITY OVERNIGHT

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29407
SC-US
CHS

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTMGT: 51.0 LB MAN
CAD: 0014176/CAFE2449
BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 6B010AMR3A0352VA00

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FedEx
Express



JAN200911302221

TRK# 0201 7209 7849 5861

WED - 20JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTWGT: 41.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

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

LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTWGT: 48.0 LB MAN
CAD: 0014176/CAFE2449

BILL SENDER

° VALERIE DAVIS
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2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR2A0515BYD0

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° VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR3A05520E00

14c



1 of 3
TRKH 7209 7849 5699
0201
HH MASTER HH

WED - 20 JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



2 of 3
TRKH 7209 7849 5817
0203
Matr-H 7209 7849 5806 0201

WED - 20 JAN A1
PRIORITY OVERNIGHT

XX CHSA

29407
SC-US
CHS



ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGO BLDG 1237 DPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 19JAN10
ACTWGT: 127.0 LB MAN
CAD: 0014176/CAFE2449
BILL SENDER

° VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR3A0352VA00

14c



TRKH 7209 7849 5872
0201

WED - 20 JAN A1
PRIORITY OVERNIGHT

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29407
SC-US
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 10-1305**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 944922
Prep Batch Number: 943977

Sample ID	Client ID
245107001	RE15-10-7165
245107002	RE15-10-7171
245107003	RE15-10-7170
245107004	RE15-10-7164
245107005	RE15-10-7167
245107006	RE15-10-7169
245107007	RE15-10-7168
245107008	RE15-10-7166
245107009	RE15-10-7177
245107010	RE15-10-7181
245107011	RE15-10-7178
245107012	RE15-10-7182
245107013	RE15-10-7183
245107014	RE15-10-7176
245107015	RE15-10-7180
245107016	RE15-10-7179
1202023619	Method Blank (MB)
1202023620	245107001(RE15-10-7165) Sample Duplicate (DUP)
1202023621	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 1202023619 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245107001 (RE15-10-7165). The QC was from LANL work order 245107.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is less than 1.65 times the CSU.

Technical Information:**Holding Time**

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

Sample Re-prep/Re-analysis

Sample 245107010 was given additional clean-up steps and recounted due to poor resolution, however original results are being reported. No activity in sample.

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

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

DER 789686 was generated due to Other. 1. Sample 245107010 did not meet resolution requirements of 100keV. 1. Sample has no activity. Reporting results.

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample, 1202023621 (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. Sample 245107007 (RE15-10-7168) did not meet the client's yield requirement. However, there are 400 tracer counts, GEL's standard tracer yield requirements are met, and the client's detection limits are met.

Blank Decision Level

The 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: 944928
Prep Batch Number: 943977

Sample ID	Client ID
245107001	RE15-10-7165
245107002	RE15-10-7171
245107003	RE15-10-7170
245107004	RE15-10-7164
245107005	RE15-10-7167
245107006	RE15-10-7169
245107007	RE15-10-7168
245107008	RE15-10-7166
245107009	RE15-10-7177
245107010	RE15-10-7181
245107011	RE15-10-7178
245107012	RE15-10-7182
245107013	RE15-10-7183
245107014	RE15-10-7176
245107015	RE15-10-7180
245107016	RE15-10-7179
1202023622	Method Blank (MB)
1202023623	245107001(RE15-10-7165) Sample Duplicate (DUP)
1202023624	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 1202023622 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245107001 (RE15-10-7165). The QC was from LANL work order 245107.

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 were recounted due to low recovery.

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

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

Manual Integration

Manual integration of alpha spectroscopy spectra 1202023624 (LCS) was performed to fully separate counts in Regions of Interest which would have been biased.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	ISOU
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	944930
Prep Batch Number:	943977

Sample ID	Client ID
245107001	RE15-10-7165
245107002	RE15-10-7171
245107003	RE15-10-7170
245107004	RE15-10-7164
245107005	RE15-10-7167
245107006	RE15-10-7169
245107007	RE15-10-7168
245107008	RE15-10-7166
245107009	RE15-10-7177
245107010	RE15-10-7181
245107011	RE15-10-7178
245107012	RE15-10-7182
245107013	RE15-10-7183
245107014	RE15-10-7176
245107015	RE15-10-7180
245107016	RE15-10-7179
1202023625	Method Blank (MB)
1202023626	245107001(RE15-10-7165) Sample Duplicate (DUP)
1202023627	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 1202023625 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245107001 (RE15-10-7165). The QC was from LANL work order 245107.

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:	944038
Prep Batch Number:	943977

Sample ID	Client ID
245107001	RE15-10-7165
245107002	RE15-10-7171
245107003	RE15-10-7170
245107004	RE15-10-7164
245107005	RE15-10-7167
245107006	RE15-10-7169
245107007	RE15-10-7168
245107008	RE15-10-7166
245107009	RE15-10-7177
245107010	RE15-10-7181

245107011	RE15-10-7178
245107012	RE15-10-7182
245107013	RE15-10-7183
245107014	RE15-10-7176
245107015	RE15-10-7180
245107016	RE15-10-7179
1202021396	Method Blank (MB)
1202021397	245107001(RE15-10-7165) Sample Duplicate (DUP)
1202021398	Laboratory Control Sample (LCS)

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

SOP Reference

Procedure for preparation, analysis and reporting of analytical data are controlled by GEL Laboratories LLC as Standard Operating Procedure (SOP). The data discussed in this narrative has been analyzed in accordance with GL-RAD-A-013 REV# 18.

Calibration Information:

Calibration Information

All initial and continuing calibration requirements have been met. The initial Calibrations were performed in February 2009, March 2009, April 2009, May 2009, June 2009, July 2009, August 2009, October 2009, November 2009, December 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: 245107001 (RE15-10-7165). The QC was from LANL work order 245107.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank, 1202021396 (MB), result for Hg-203 is greater than 1.65 times the CSU but less than the MDC

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

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

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

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

Additional Comments

Additional comments were not required for this sample set.

Blank Decision Level

The blank result is less than the decision level.

Qualifier information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Data rejected due to interference.	Bismuth-211	245107001	RE15-10-7165
			245107002	RE15-10-7171
			245107003	RE15-10-7170
			245107004	RE15-10-7164
			245107005	RE15-10-7167
			245107006	RE15-10-7169
			245107007	RE15-10-7168
			245107008	RE15-10-7166
			245107009	RE15-10-7177
			245107010	RE15-10-7181
			245107011	RE15-10-7178
			245107012	RE15-10-7182
			245107013	RE15-10-7183
			245107014	RE15-10-7176
			245107015	RE15-10-7180
			245107016	RE15-10-7179
			1202021397	RE15-10-7165(245107001DUP)
		Cadmium-109	245107001	RE15-10-7165
			245107003	RE15-10-7170
			245107004	RE15-10-7164
			245107005	RE15-10-7167
			245107006	RE15-10-7169

			245107007	RE15-10-7168
			245107008	RE15-10-7166
			245107009	RE15-10-7177
			245107010	RE15-10-7181
			245107011	RE15-10-7178
			245107012	RE15-10-7182
			245107013	RE15-10-7183
			245107014	RE15-10-7176
			245107016	RE15-10-7179
			1202021397	RE15-10-7165(245107001DUP)
		Radium-224	245107001	RE15-10-7165
			245107002	RE15-10-7171
			245107003	RE15-10-7170
			245107004	RE15-10-7164
			245107005	RE15-10-7167
			245107006	RE15-10-7169
			245107007	RE15-10-7168
			245107008	RE15-10-7166
			245107009	RE15-10-7177
			245107010	RE15-10-7181
			245107011	RE15-10-7178
			245107012	RE15-10-7182
			245107013	RE15-10-7183
			245107014	RE15-10-7176
			245107015	RE15-10-7180
			245107016	RE15-10-7179
			1202021397	RE15-10-7165(245107001DUP)
UI	Data rejected due to low abundance.	Cadmium-109	245107002	RE15-10-7171
		Cesium-134	245107001	RE15-10-7165
			245107002	RE15-10-7171
			245107003	RE15-10-7170
			245107005	RE15-10-7167

	245107007	RE15-10-7168
	245107011	RE15-10-7178
	245107012	RE15-10-7182
	245107013	RE15-10-7183
	245107014	RE15-10-7176
	245107016	RE15-10-7179
Strontium-85	245107002	RE15-10-7171
	245107003	RE15-10-7170
	245107007	RE15-10-7168
	245107012	RE15-10-7182
	245107014	RE15-10-7176

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 946394

Sample ID	Client ID
245107001	RE15-10-7165
245107002	RE15-10-7171
245107003	RE15-10-7170
245107004	RE15-10-7164
245107005	RE15-10-7167
245107006	RE15-10-7169
245107007	RE15-10-7168
245107008	RE15-10-7166
245107009	RE15-10-7177
245107010	RE15-10-7181
245107011	RE15-10-7178
245107012	RE15-10-7182
245107013	RE15-10-7183
245107014	RE15-10-7176
245107015	RE15-10-7180
245107016	RE15-10-7179
1202027110	Method Blank (MB)
1202027111	245107001(RE15-10-7165) Sample Duplicate (DUP)
1202027112	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: 245107001 (RE15-10-7165). The QC was from LANL work order 245107.

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:

 2/12/20

DATA EXCEPTION REPORT

Mo.Day Yr. 11-FEB-10	Division: Radiochemistry	Quality Criteria: SOP	Type: Process
Instrument Type: ALPHA SPECTROMETER	Test / Method: DOE EML HASL-300, Am-05-RC Modified	Matrix Type: Solid	Client Code: LANL
Batch ID: 944922	Sample Numbers: see below		
Potentially affected work order(s)(SDG): 245107(10-1305) Application Issues: Other			
Specification and Requirements Exception Description:		DER Disposition:	
1. Sample 245107010 did not meet resolution requirements of 100keV.		1. Sample has no activity. Reporting results.	

Originator's Name:

Denise Green

11-FEB-10

Data Validator/Group Leader:

Kate Gellatly

11-FEB-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: 10-1305 GEL Work Order: 245107

The Qualifiers in this report are defined as follows:

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

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

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

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

Reviewed by



GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7165
Sample ID: 245107001
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 19.4%

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	0.000967	0.0237	+/-0.00229	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00483	0.0197	+/-0.00343	0.050	pCi/g		JXD2	02/09/10	1857	944928	2
Plutonium-239/240	U	0.00	0.0149	+/-0.00171	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.948	0.0955	+/-0.0857	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0685	0.0593	+/-0.0177	0.100	pCi/g						
Uranium-238		0.974	0.0554	+/-0.0873	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0192	0.111	+/-0.0344	0.200	pCi/g		MXR1	02/01/10	1126	944038	5
Bismuth-211	UI	4.05	0.394	+/-0.327		pCi/g						
Bismuth-214		1.42	0.144	+/-0.118	0.200	pCi/g						
Cadmium-109	UI	4.95	1.08	+/-0.577		pCi/g						
Cerium-139	U	-0.0322	0.0539	+/-0.0172	0.050	pCi/g						
Cesium-134	UI	0.122	0.121	+/-0.036	0.100	pCi/g						
Cesium-137	U	0.00869	0.0865	+/-0.026	0.100	pCi/g						
Cobalt-60	U	-0.00612	0.0868	+/-0.0265	0.100	pCi/g						
Europium-152	U	0.105	0.195	+/-0.074	0.200	pCi/g						
Lanthanum-140	U	-0.0168	0.234	+/-0.0731		pCi/g						
Lead-212		1.65	0.100	+/-0.0987	0.100	pCi/g						
Lead-214		1.41	0.137	+/-0.119	0.100	pCi/g						
Mercury-203	U	-0.00134	0.0848	+/-0.0251	0.100	pCi/g						
Potassium-40		23.6	0.786	+/-1.15	1.00	pCi/g						
Radium-223	U	-1.22	1.26	+/-0.424		pCi/g						
Radium-224	UI	4.79	1.14	+/-0.773		pCi/g						
Radium-226		1.42	0.144	+/-0.118		pCi/g						
Radium-228		1.57	0.291	+/-0.217	0.500	pCi/g						
Ruthenium-106	U	0.0313	0.719	+/-0.217	0.800	pCi/g						
Sodium-22	U	0.0107	0.0962	+/-0.0285	0.080	pCi/g						
Strontium-85	U	0.0828	0.0862	+/-0.0261		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 16, 2010

Client Sample ID: RE15-10-7165
Sample ID: 245107001

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		0.467	0.0872	+/-0.0565	0.080	pCi/g					
Thorium-227	U	0.202	0.768	+/-0.222		pCi/g					
Thorium-231	U	-1.22	1.26	+/-0.424		pCi/g					
Thorium-234		1.75	1.08	+/-0.688	2.00	pCi/g					
Tin-113	U	-0.0158	0.0895	+/-0.0279	0.100	pCi/g					
Uranium-235	U	-0.0513	0.406	+/-0.124	0.500	pCi/g					
Yttrium-88	U	-0.00115	0.0755	+/-0.023	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	69.2	218	+/-65.4	250	pCi/L		KXK2	02/01/10	1739 946394	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	87.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	83.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	89.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

B For General Chemistry and Organic analysis the target analyte was detected in the associated blank.

BD Results are either below the MDC or tracer recovery is low

C Analyte has been confirmed by GC/MS analysis

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7165
Sample ID: 245107001

Project: LANL01004
Client ID: LANL010

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

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7171
Sample ID: 245107002
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 7.8%

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	-0.000661	0.0197	+/-0.00164	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0205	+/-0.00307	0.050	pCi/g		JXD2	02/09/10	1857	944928	2
Plutonium-239/240	U	0.0025	0.0154	+/-0.00177	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.02	0.108	+/-0.0939	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0736	0.0674	+/-0.0186	0.100	pCi/g						
Uranium-238		1.13	0.0629	+/-0.101	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0576	0.209	+/-0.0699	0.200	pCi/g		MXR1	02/01/10	1130	944038	5
Bismuth-211	UI	3.88	0.277	+/-0.291		pCi/g						
Bismuth-214		1.15	0.0994	+/-0.0986	0.200	pCi/g						
Cadmium-109	UI	2.26	1.37	+/-0.471		pCi/g						
Cerium-139	U	-0.0127	0.0433	+/-0.0128	0.050	pCi/g						
Cesium-134	UI	0.132	0.0803	+/-0.0291	0.100	pCi/g						
Cesium-137	U	-0.00687	0.0557	+/-0.0172	0.100	pCi/g						
Cobalt-60	U	0.0193	0.0631	+/-0.0183	0.100	pCi/g						
Europium-152	U	-0.06	0.129	+/-0.0404	0.200	pCi/g						
Lanthanum-140	U	-0.0841	0.123	+/-0.0454		pCi/g						
Lead-212		1.69	0.0782	+/-0.113	0.100	pCi/g						
Lead-214		1.35	0.0965	+/-0.107	0.100	pCi/g						
Mercury-203	U	0.0221	0.0633	+/-0.0207	0.100	pCi/g						
Potassium-40		22.9	0.433	+/-1.26	1.00	pCi/g						
Radium-223	U	-0.264	0.881	+/-0.317		pCi/g						
Radium-224	UI	4.74	0.890	+/-0.640		pCi/g						
Radium-226		1.15	0.0994	+/-0.0986		pCi/g						
Radium-228		1.44	0.181	+/-0.153	0.500	pCi/g						
Ruthenium-106	U	0.194	0.466	+/-0.132	0.800	pCi/g						
Sodium-22	U	-0.00255	0.0588	+/-0.018	0.080	pCi/g						
Strontium-85	UI	0.0688	0.0611	+/-0.0176		pCi/g						
Thallium-208		0.506	0.0528	+/-0.0433	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7171
Sample ID: 245107002

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	0.0169	0.540	+/-0.161		pCi/g					
Thorium-231	U	-0.264	0.881	+/-0.317		pCi/g					
Thorium-234	U	1.18	1.78	+/-0.835	2.00	pCi/g					
Tin-113	U	-0.0378	0.061	+/-0.019	0.100	pCi/g					
Uranium-235	U	0.0735	0.311	+/-0.0894	0.500	pCi/g					
Yttrium-88	U	0.0125	0.056	+/-0.0159	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	0.00	218	+/-64.0	250	pCi/L	KXX2	02/01/10	1917	946394	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"	95.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.7	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	85.6	(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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7171
Sample ID: 245107002

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 16, 2010

Client Sample ID: RE15-10-7170
Sample ID: 245107003
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 23.2%

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	0.0149	0.0202	+/-0.00462	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00769	0.0209	+/-0.00316	0.050	pCi/g		JXD2	02/09/10	1857	944928	2
Plutonium-239/240		0.0436	0.0158	+/-0.00841	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.80	0.126	+/-0.226	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.131	0.0783	+/-0.0273	0.100	pCi/g						
Uranium-238		3.58	0.0732	+/-0.282	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.228	0.328	+/-0.102	0.200	pCi/g		MXR1	02/01/10	1237	944038	5
Bismuth-211	UI	3.80	0.278	+/-0.224		pCi/g						
Bismuth-214		1.09	0.0917	+/-0.0927	0.200	pCi/g						
Cadmium-109	UI	3.03	1.54	+/-0.497		pCi/g						
Cerium-139	U	-0.0142	0.046	+/-0.0137	0.050	pCi/g						
Cesium-134	UI	0.117	0.0747	+/-0.0276	0.100	pCi/g						
Cesium-137		0.648	0.0515	+/-0.0518	0.100	pCi/g						
Cobalt-60	U	0.00631	0.0555	+/-0.0167	0.100	pCi/g						
Europium-152	U	-0.0322	0.141	+/-0.0516	0.200	pCi/g						
Lanthanum-140	U	0.00161	0.127	+/-0.045		pCi/g						
Lead-212		1.61	0.0812	+/-0.0772	0.100	pCi/g						
Lead-214		1.32	0.097	+/-0.0852	0.100	pCi/g						
Mercury-203	U	0.0381	0.0659	+/-0.0217	0.100	pCi/g						
Potassium-40		22.6	0.445	+/-1.10	1.00	pCi/g						
Radium-223	U	0.0787	0.955	+/-0.335		pCi/g						
Radium-224	UI	3.99	0.923	+/-0.485		pCi/g						
Radium-226		1.09	0.0917	+/-0.0927		pCi/g						
Radium-228		1.47	0.156	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	-0.049	0.462	+/-0.145	0.800	pCi/g						
Sodium-22	U	-0.021	0.0534	+/-0.0174	0.080	pCi/g						
Strontium-85	UI	0.0971	0.0676	+/-0.0204		pCi/g						
Thallium-208		0.534	0.0467	+/-0.043	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7170
Sample ID: 245107003
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	0.265	0.598	+/-0.176		pCi/g					
Thorium-231	U	0.0787	0.955	+/-0.335		pCi/g					
Thorium-234	U	2.28	2.56	+/-1.26	2.00	pCi/g					
Tin-113	U	0.00639	0.0672	+/-0.0198	0.100	pCi/g					
Uranium-235	U	0.315	0.323	+/-0.127	0.500	pCi/g					
Yttrium-88	U	-0.00449	0.0404	+/-0.0133	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
H3 "As Received"											
Tritium	U	-12.4	218	+/-63.6	250	pCi/L		KXK2	02/01/10	2055 946394	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"	87.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.0	(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 16, 2010

Client Sample ID: RE15-10-7170
Sample ID: 245107003

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 16, 2010

Client Sample ID: RE15-10-7164
Sample ID: 245107004
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 17.7%

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	0.0021	0.0222	+/-0.00166	0.050	pCi/g	JXD2	02/08/10	1219	944922	1	
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.0011	0.018	+/-0.00246	0.050	pCi/g	JXD2	02/09/10	1925	944928	2	
Plutonium-239/240	U	0.0011	0.0135	+/-0.00246	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.04	0.0995	+/-0.0931	0.100	pCi/g	JXD2	02/09/10	1439	944930	4	
Uranium-235/236		0.0793	0.0617	+/-0.0186	0.100	pCi/g						
Uranium-238		0.960	0.0577	+/-0.0872	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0224	0.277	+/-0.0927	0.200	pCi/g	MXR1	02/01/10	1238	944038	5	
Bismuth-211	UI	4.20	0.342	+/-0.305		pCi/g						
Bismuth-214		1.33	0.111	+/-0.114	0.200	pCi/g						
Cadmium-109	UI	2.85	1.78	+/-0.504		pCi/g						
Cerium-139	U	-0.00561	0.0579	+/-0.0178	0.050	pCi/g						
Cesium-134	U	0.0328	0.0978	+/-0.0289	0.100	pCi/g						
Cesium-137	U	0.0188	0.0678	+/-0.0199	0.100	pCi/g						
Cobalt-60	U	0.021	0.0719	+/-0.0205	0.100	pCi/g						
Europium-152	U	-0.0156	0.174	+/-0.0686	0.200	pCi/g						
Lanthanum-140	U	-0.0792	0.144	+/-0.0516		pCi/g						
Lead-212		1.83	0.100	+/-0.0911	0.100	pCi/g						
Lead-214		1.46	0.119	+/-0.113	0.100	pCi/g						
Mercury-203	U	-0.00622	0.0805	+/-0.0238	0.100	pCi/g						
Potassium-40		26.7	0.587	+/-1.38	1.00	pCi/g						
Radium-223	U	-0.829	1.16	+/-0.433		pCi/g						
Radium-224	UI	5.25	1.14	+/-0.731		pCi/g						
Radium-226		1.33	0.111	+/-0.114		pCi/g						
Radium-228		1.71	0.226	+/-0.175	0.500	pCi/g						
Ruthenium-106	U	0.0249	0.575	+/-0.174	0.800	pCi/g						
Sodium-22	U	0.00585	0.0807	+/-0.0241	0.080	pCi/g						
Strontium-85	U	0.0779	0.0824	+/-0.0226		pCi/g						
Thallium-208		0.496	0.0581	+/-0.0454	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7164
Sample ID: 245107004

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	0.0503	0.707	+/-0.218		pCi/g					
Thorium-231	U	-0.829	1.16	+/-0.433		pCi/g					
Thorium-234	U	1.25	2.32	+/-1.14	2.00	pCi/g					
Tin-113	U	0.0102	0.0883	+/-0.026	0.100	pCi/g					
Uranium-235	U	0.082	0.394	+/-0.121	0.500	pCi/g					
Yttrium-88	U	0.00872	0.0642	+/-0.019	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	-49.6	219	+/-63.1	250	pCi/L		KXX2	02/01/10	2233 946394	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"	87.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	91.2	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7164
Sample ID: 245107004

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7167
Sample ID: 245107005
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 22%

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	0.00192	0.0212	+/-0.00235	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00222	0.0181	+/-0.00157	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00111	0.0136	+/-0.00192	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.16	0.0969	+/-0.101	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0695	0.0601	+/-0.0171	0.100	pCi/g						
Uranium-238		1.10	0.0562	+/-0.0964	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0987	0.184	+/-0.0575	0.200	pCi/g		MXR1	02/01/10	1238	944038	5
Bismuth-211	UI	4.08	0.287	+/-0.275		pCi/g						
Bismuth-214		1.27	0.103	+/-0.101	0.200	pCi/g						
Cadmium-109	UI	2.13	1.06	+/-0.529		pCi/g						
Cerium-139	U	-0.0111	0.0459	+/-0.0143	0.050	pCi/g						
Cesium-134	UI	0.0919	0.0915	+/-0.0438	0.100	pCi/g						
Cesium-137	U	-0.00983	0.0592	+/-0.0178	0.100	pCi/g						
Cobalt-60	U	-0.0153	0.0512	+/-0.0171	0.100	pCi/g						
Europium-152	U	0.00917	0.154	+/-0.0471	0.200	pCi/g						
Lanthanum-140	U	-0.0663	0.123	+/-0.0433		pCi/g						
Lead-212		1.60	0.0838	+/-0.102	0.100	pCi/g						
Lead-214		1.42	0.0984	+/-0.103	0.100	pCi/g						
Mercury-203	U	0.0411	0.0725	+/-0.0204	0.100	pCi/g						
Potassium-40		23.7	0.453	+/-1.32	1.00	pCi/g						
Radium-223	U	0.121	1.03	+/-0.343		pCi/g						
Radium-224	UI	4.72	0.953	+/-0.751		pCi/g						
Radium-226		1.27	0.103	+/-0.101		pCi/g						
Radium-228		1.57	0.186	+/-0.153	0.500	pCi/g						
Ruthenium-106	U	0.124	0.479	+/-0.143	0.800	pCi/g						
Sodium-22	U	0.0101	0.0655	+/-0.0197	0.080	pCi/g						
Strontium-85	U	0.0576	0.0649	+/-0.020		pCi/g						
Thallium-208		0.551	0.0508	+/-0.0501	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7167
Sample ID: 245107005
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	-0.129	0.544	+/-0.163		pCi/g						
Thorium-231	U	0.121	1.03	+/-0.343		pCi/g						
Thorium-234		1.93	1.56	+/-0.751	2.00	pCi/g						
Tin-113	U	-0.0213	0.0669	+/-0.0208	0.100	pCi/g						
Uranium-235	U	0.195	0.336	+/-0.0994	0.500	pCi/g						
Yttrium-88	U	0.0191	0.049	+/-0.0128	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	-42.1	218	+/-63.1	250	pCi/L		KXK2	02/02/10	0011	946394	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"	90.1	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	88.9	(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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7167
Sample ID: 245107005
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 16, 2010

Client Sample ID: RE15-10-7169
Sample ID: 245107006
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 8.93%

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	0.000694	0.0214	+/-0.00126	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00113	0.0184	+/-0.00113	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00225	0.0139	+/-0.0016	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.14	0.111	+/-0.103	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236	U	0.0532	0.069	+/-0.0158	0.100	pCi/g						
Uranium-238		1.18	0.0645	+/-0.106	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0123	0.0777	+/-0.024	0.200	pCi/g		MXR1	02/01/10	1238	944038	5
Bismuth-211	UI	4.24	0.301	+/-0.325		pCi/g						
Bismuth-214		1.34	0.125	+/-0.120	0.200	pCi/g						
Cadmium-109	UI	3.43	0.759	+/-0.383		pCi/g						
Cerium-139	U	-0.00255	0.0417	+/-0.012	0.050	pCi/g						
Cesium-134	U	0.0197	0.103	+/-0.0311	0.100	pCi/g						
Cesium-137	U	-0.00708	0.0758	+/-0.0235	0.100	pCi/g						
Cobalt-60	U	0.015	0.0986	+/-0.0285	0.100	pCi/g						
Europium-152	U	0.0584	0.160	+/-0.0486	0.200	pCi/g						
Lanthanum-140	U	-0.0411	0.221	+/-0.0714		pCi/g						
Lead-212		1.76	0.0834	+/-0.106	0.100	pCi/g						
Lead-214		1.47	0.105	+/-0.119	0.100	pCi/g						
Mercury-203	U	-0.0192	0.0691	+/-0.0214	0.100	pCi/g						
Potassium-40		21.6	0.878	+/-1.40	1.00	pCi/g						
Radium-223	U	-0.000372	1.04	+/-0.354		pCi/g						
Radium-224	UI	4.77	0.952	+/-0.631		pCi/g						
Radium-226		1.34	0.125	+/-0.120		pCi/g						
Radium-228		1.58	0.252	+/-0.189	0.500	pCi/g						
Ruthenium-106	U	-0.296	0.620	+/-0.204	0.800	pCi/g						
Sodium-22	U	-0.00252	0.0857	+/-0.0268	0.080	pCi/g						
Strontium-85	U	0.0416	0.0738	+/-0.0225		pCi/g						
Thallium-208		0.504	0.066	+/-0.0516	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7169
Sample ID: 245107006

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	0.0551	0.596	+/-0.175		pCi/g					
Thorium-231	U	-0.000372	1.04	+/-0.354		pCi/g					
Thorium-234		1.52	0.746	+/-0.394	2.00	pCi/g					
Tin-113	U	0.00347	0.0783	+/-0.0241	0.100	pCi/g					
Uranium-235	U	0.118	0.312	+/-0.0947	0.500	pCi/g					
Yttrium-88	U	0.00816	0.0838	+/-0.0249	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	-19.8	218	+/-63.6	250	pCi/L	KXX2	02/02/10	0301	946394	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"	93.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	85.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	80.3	(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 16, 2010

Client Sample ID: RE15-10-7169
Sample ID: 245107006
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 16, 2010

Client Sample ID: RE15-10-7168
Sample ID: 245107007
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 19.2%

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	0.006	0.0443	+/-0.0161	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0042	0.0172	+/-0.00258	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0252	0.0129	+/-0.0055	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		3.56	0.137	+/-0.286	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.219	0.0852	+/-0.0403	0.100	pCi/g						
Uranium-238		4.44	0.0796	+/-0.350	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.118	0.236	+/-0.0747	0.200	pCi/g		MXR1	02/01/10	1239	944038	5
Bismuth-211	UI	4.55	0.336	+/-0.349		pCi/g						
Bismuth-214		1.35	0.120	+/-0.104	0.200	pCi/g						
Cadmium-109	UI	2.84	1.20	+/-0.477		pCi/g						
Cerium-139	U	-0.0088	0.052	+/-0.0155	0.050	pCi/g						
Cesium-134	UI	0.0855	0.0841	+/-0.0239	0.100	pCi/g						
Cesium-137		0.681	0.0581	+/-0.056	0.100	pCi/g						
Cobalt-60	U	-0.000955	0.0515	+/-0.0157	0.100	pCi/g						
Europium-152	U	-0.0356	0.162	+/-0.0723	0.200	pCi/g						
Lanthanum-140	U	-0.015	0.150	+/-0.0546		pCi/g						
Lead-212		1.74	0.093	+/-0.128	0.100	pCi/g						
Lead-214		1.58	0.117	+/-0.128	0.100	pCi/g						
Mercury-203	U	0.0609	0.0766	+/-0.0256	0.100	pCi/g						
Potassium-40		20.8	0.562	+/-1.19	1.00	pCi/g						
Radium-223	U	0.0872	1.08	+/-0.367		pCi/g						
Radium-224	UI	5.24	1.06	+/-0.705		pCi/g						
Radium-226		1.35	0.120	+/-0.104		pCi/g						
Radium-228		1.89	0.219	+/-0.184	0.500	pCi/g						
Ruthenium-106	U	0.190	0.540	+/-0.158	0.800	pCi/g						
Sodium-22	U	-0.0411	0.057	+/-0.0191	0.080	pCi/g						
Strontium-85	UI	0.186	0.0803	+/-0.0245		pCi/g						
Thallium-208		0.500	0.0534	+/-0.0467	0.080	pCi/g						

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Certificate of Analysis

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7168
Sample ID: 245107007

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	0.0895	0.668	+/-0.203		pCi/g						
Thorium-231	U	0.0872	1.08	+/-0.367		pCi/g						
Thorium-234		3.16	1.99	+/-0.995	2.00	pCi/g						
Tin-113	U	-0.0105	0.0756	+/-0.0231	0.100	pCi/g						
Uranium-235	U	0.0333	0.368	+/-0.110	0.500	pCi/g						
Yttrium-88	U	0.00276	0.0495	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	27.2	218	+/-64.4	250	pCi/L		KXX2	02/02/10	0439	946394	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"	44.4 *	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.5	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7168
Sample ID: 245107007

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 16, 2010

Client Sample ID: RE15-10-7166
Sample ID: 245107008
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 31.6%

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	0.00269	0.0191	+/-0.00326	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00107	0.0174	+/-0.00185	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00639	0.0131	+/-0.00303	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.48	0.121	+/-0.130	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0919	0.0753	+/-0.0221	0.100	pCi/g						
Uranium-238		1.59	0.0703	+/-0.138	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.227	0.389	+/-0.124	0.200	pCi/g		MXR1	02/01/10	1239	944038	5
Bismuth-211	UI	4.05	0.366	+/-0.301		pCi/g						
Bismuth-214		1.37	0.143	+/-0.111	0.200	pCi/g						
Cadmium-109	UI	3.89	2.12	+/-0.662		pCi/g						
Cerium-139	U	-0.000874	0.0597	+/-0.0182	0.050	pCi/g						
Cesium-134	U	0.0367	0.101	+/-0.0286	0.100	pCi/g						
Cesium-137		0.142	0.0723	+/-0.0333	0.100	pCi/g						
Cobalt-60	U	-0.0387	0.073	+/-0.0253	0.100	pCi/g						
Europium-152	U	-0.0313	0.192	+/-0.0641	0.200	pCi/g						
Lanthanum-140	U	-0.242	0.127	+/-0.0635		pCi/g						
Lead-212		1.62	0.108	+/-0.0856	0.100	pCi/g						
Lead-214		1.41	0.128	+/-0.111	0.100	pCi/g						
Mercury-203	U	0.0105	0.0914	+/-0.0267	0.100	pCi/g						
Potassium-40		21.3	0.580	+/-1.19	1.00	pCi/g						
Radium-223	U	-0.934	1.30	+/-0.421		pCi/g						
Radium-224	UI	5.45	1.23	+/-0.787		pCi/g						
Radium-226		1.37	0.143	+/-0.111		pCi/g						
Radium-228		1.81	0.249	+/-0.205	0.500	pCi/g						
Ruthenium-106	U	0.205	0.662	+/-0.195	0.800	pCi/g						
Sodium-22	U	-0.024	0.0781	+/-0.0257	0.080	pCi/g						
Strontium-85	U	0.0563	0.0764	+/-0.0238		pCi/g						
Thallium-208		0.559	0.0751	+/-0.0495	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7166
Sample ID: 245107008

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	-0.289	0.745	+/-0.241		pCi/g					
Thorium-231	U	-0.934	1.30	+/-0.421		pCi/g					
Thorium-234	U	1.94	2.99	+/-1.34	2.00	pCi/g					
Tin-113	U	-0.0216	0.093	+/-0.0286	0.100	pCi/g					
Uranium-235	U	0.427	0.475	+/-0.143	0.500	pCi/g					
Yttrium-88	U	-0.0106	0.0781	+/-0.0248	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	44.4	217	+/-64.7	250	pCi/L		KXK2	02/02/10	0617 946394	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"	91.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	86.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	72.3	(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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7166 Project: LANL01004
Sample ID: 245107008 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 16, 2010

Client Sample ID: RE15-10-7177
Sample ID: 245107009
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 7.46%

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	0.00665	0.0206	+/-0.00446	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00714	0.0167	+/-0.00272	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0194	0.0125	+/-0.00455	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.69	0.104	+/-0.140	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.0993	0.0644	+/-0.0214	0.100	pCi/g						
Uranium-238		1.76	0.0602	+/-0.145	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.144	0.312	+/-0.100	0.200	pCi/g		MXR1	02/01/10	1328	944038	5
Bismuth-211	UI	5.32	0.412	+/-0.354		pCi/g						
Bismuth-214		1.26	0.149	+/-0.117	0.200	pCi/g						
Cadmium-109	UI	2.71	1.56	+/-0.626		pCi/g						
Cerium-139	U	-0.0169	0.0596	+/-0.0177	0.050	pCi/g						
Cesium-134	U	0.0832	0.113	+/-0.0446	0.100	pCi/g						
Cesium-137		0.339	0.0778	+/-0.050	0.100	pCi/g						
Cobalt-60	U	-0.0138	0.0667	+/-0.0211	0.100	pCi/g						
Europium-152	U	-0.0313	0.193	+/-0.068	0.200	pCi/g						
Lanthanum-140	U	-0.0815	0.204	+/-0.0689		pCi/g						
Lead-212		1.68	0.112	+/-0.108	0.100	pCi/g						
Lead-214		1.85	0.145	+/-0.132	0.100	pCi/g						
Mercury-203	U	0.0163	0.0901	+/-0.0265	0.100	pCi/g						
Potassium-40		25.5	0.688	+/-1.49	1.00	pCi/g						
Radium-223	U	-0.76	1.33	+/-0.427		pCi/g						
Radium-224	UI	4.52	1.27	+/-0.685		pCi/g						
Radium-226		1.26	0.149	+/-0.117		pCi/g						
Radium-228		1.53	0.251	+/-0.212	0.500	pCi/g						
Ruthenium-106	U	0.245	0.658	+/-0.186	0.800	pCi/g						
Sodium-22	U	0.0124	0.0864	+/-0.0252	0.080	pCi/g						
Strontium-85	U	0.0838	0.0913	+/-0.0287		pCi/g						
Thallium-208		0.534	0.070	+/-0.0623	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7177
Sample ID: 245107009
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	-0.0658	0.798	+/-0.239		pCi/g						
Thorium-231	U	-0.76	1.33	+/-0.427		pCi/g						
Thorium-234		3.84	2.41	+/-1.49	2.00	pCi/g						
Tin-113	U	0.0396	0.0961	+/-0.028	0.100	pCi/g						
Uranium-235	U	0.0311	0.432	+/-0.127	0.500	pCi/g						
Yttrium-88	U	-0.0119	0.0774	+/-0.0251	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium	U	59.2	217	+/-65.0	250	pCi/L		KXX2	02/02/10	0755	946394	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"	87.4	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	94.6	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	77.8	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7177
Sample ID: 245107009
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 16, 2010

Client Sample ID: RE15-10-7181
Sample ID: 245107010
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 12.1%

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	0.00294	0.027	+/-0.00217	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00232	0.019	+/-0.00233	0.050	pCi/g		JXD2	02/09/10	1925	944928	3
Plutonium-239/240	U	0.00232	0.0143	+/-0.00165	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.926	0.109	+/-0.0868	0.100	pCi/g		JXD2	02/09/10	1439	944930	5
Uranium-235/236		0.0694	0.0675	+/-0.019	0.100	pCi/g						
Uranium-238		1.00	0.0631	+/-0.0925	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.177	0.335	+/-0.102	0.200	pCi/g		MXR1	02/01/10	1328	944038	6
Bismuth-211	UI	4.23	0.379	+/-0.347		pCi/g						
Bismuth-214		1.32	0.109	+/-0.122	0.200	pCi/g						
Cadmium-109	UI	2.39	1.51	+/-0.543		pCi/g						
Cerium-139	U	-0.000151	0.0562	+/-0.0171	0.050	pCi/g						
Cesium-134	U	0.0674	0.0962	+/-0.0265	0.100	pCi/g						
Cesium-137	U	-0.0233	0.0682	+/-0.0215	0.100	pCi/g						
Cobalt-60	U	-0.0156	0.060	+/-0.0196	0.100	pCi/g						
Europium-152	U	-0.147	0.166	+/-0.0552	0.200	pCi/g						
Lanthanum-140	U	-0.0503	0.203	+/-0.0659		pCi/g						
Lead-212		1.56	0.100	+/-0.116	0.100	pCi/g						
Lead-214		1.47	0.132	+/-0.127	0.100	pCi/g						
Mercury-203	U	0.0827	0.0868	+/-0.0264	0.100	pCi/g						
Potassium-40		23.2	0.762	+/-1.43	1.00	pCi/g						
Radium-223	U	-0.505	1.27	+/-0.395		pCi/g						
Radium-224	UI	4.76	1.14	+/-0.838		pCi/g						
Radium-226		1.32	0.109	+/-0.122		pCi/g						
Radium-228		1.25	0.214	+/-0.196	0.500	pCi/g						
Ruthenium-106	U	0.120	0.605	+/-0.175	0.800	pCi/g						
Sodium-22	U	0.016	0.0899	+/-0.0266	0.080	pCi/g						
Strontium-85	U	0.063	0.0796	+/-0.0251		pCi/g						
Thallium-208		0.452	0.0619	+/-0.049	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7181
Sample ID: 245107010

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	0.0238	0.730	+/-0.213		pCi/g						
Thorium-231	U	-0.505	1.27	+/-0.395		pCi/g						
Thorium-234	U	2.15	2.50	+/-1.31	2.00	pCi/g						
Tin-113	U	-0.0188	0.0848	+/-0.0263	0.100	pCi/g						
Uranium-235	U	-0.0229	0.409	+/-0.126	0.500	pCi/g						
Yttrium-88	U	0.0346	0.0805	+/-0.0214	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	-32.2	219	+/-63.4	250	pCi/L		KXXK2	02/02/10	0933	946394	7

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	67.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	80.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.7	(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

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

Report Date: February 16, 2010

Client Sample ID: RE15-10-7181
Sample ID: 245107010
Project: LANL01004
Client ID: LANL010

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7178
Sample ID: 245107011
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 21.4%

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	0.0145	0.0213	+/-0.00435	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0176	+/-0.00108	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0334	0.0132	+/-0.00621	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.77	0.138	+/-0.155	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236		0.127	0.0858	+/-0.029	0.100	pCi/g						
Uranium-238		2.73	0.0802	+/-0.225	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0718	0.351	+/-0.112	0.200	pCi/g		MXR1	02/01/10	1329	944038	5
Bismuth-211	UI	4.00	0.361	+/-0.294		pCi/g						
Bismuth-214		1.24	0.125	+/-0.100	0.200	pCi/g						
Cadmium-109	UI	1.63	1.55	+/-0.718		pCi/g						
Cerium-139	U	0.00556	0.0609	+/-0.018	0.050	pCi/g						
Cesium-134	UI	0.141	0.115	+/-0.0293	0.100	pCi/g						
Cesium-137		0.600	0.0626	+/-0.041	0.100	pCi/g						
Cobalt-60	U	-0.0118	0.0647	+/-0.0208	0.100	pCi/g						
Europium-152	U	0.0701	0.190	+/-0.0693	0.200	pCi/g						
Lanthanum-140	U	0.0343	0.196	+/-0.056		pCi/g						
Lead-212		1.56	0.104	+/-0.0826	0.100	pCi/g						
Lead-214		1.39	0.126	+/-0.109	0.100	pCi/g						
Mercury-203	U	0.0539	0.0882	+/-0.0243	0.100	pCi/g						
Potassium-40		21.2	0.660	+/-1.08	1.00	pCi/g						
Radium-223	U	-1.11	1.28	+/-0.414		pCi/g						
Radium-224	UI	4.92	1.18	+/-0.755		pCi/g						
Radium-226		1.24	0.125	+/-0.100		pCi/g						
Radium-228		1.46	0.226	+/-0.192	0.500	pCi/g						
Ruthenium-106	U	-0.146	0.566	+/-0.179	0.800	pCi/g						
Sodium-22	U	-0.0216	0.0758	+/-0.0245	0.080	pCi/g						
Strontium-85	U	0.00284	0.0729	+/-0.0252		pCi/g						
Thallium-208		0.510	0.0673	+/-0.0457	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7178
Sample ID: 245107011

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	0.132	0.784	+/-0.236		pCi/g					
Thorium-231	U	-1.11	1.28	+/-0.414		pCi/g					
Thorium-234	U	1.57	2.78	+/-1.09	2.00	pCi/g					
Tin-113	U	-0.0164	0.0841	+/-0.0254	0.100	pCi/g					
Uranium-235	U	-0.112	0.404	+/-0.124	0.500	pCi/g					
Yttrium-88	U	-0.0274	0.0635	+/-0.022	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	22.2	218	+/-64.3	250	pCi/L		KXX2	02/02/10	1112 946394	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"	86.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	89.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.0	(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 16, 2010

Client Sample ID: RE15-10-7178 Project: LANL01004
Sample ID: 245107011 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 16, 2010

Client Sample ID: RE15-10-7182
Sample ID: 245107012
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 18%

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	0.00336	0.022	+/-0.00279	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00328	0.0179	+/-0.0019	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240		0.0142	0.0134	+/-0.004	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.63	0.146	+/-0.148	0.100	pCi/g		JXD2	02/09/10	1439	944930	4
Uranium-235/236	U	0.0467	0.0909	+/-0.0205	0.100	pCi/g						
Uranium-238		1.79	0.0849	+/-0.160	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0281	0.186	+/-0.0602	0.200	pCi/g		MXR1	02/01/10	1329	944038	5
Bismuth-211	UI	4.35	0.348	+/-0.312		pCi/g						
Bismuth-214		1.36	0.123	+/-0.117	0.200	pCi/g						
Cadmium-109	UI	5.04	1.03	+/-0.526		pCi/g						
Cerium-139	U	-0.0232	0.0494	+/-0.016	0.050	pCi/g						
Cesium-134	UI	0.193	0.107	+/-0.0424	0.100	pCi/g						
Cesium-137		0.238	0.0709	+/-0.0342	0.100	pCi/g						
Cobalt-60	U	-0.0127	0.071	+/-0.0223	0.100	pCi/g						
Europium-152	U	0.0509	0.177	+/-0.0537	0.200	pCi/g						
Lanthanum-140	U	0.0422	0.164	+/-0.0534		pCi/g						
Lead-212		1.83	0.0997	+/-0.107	0.100	pCi/g						
Lead-214		1.51	0.121	+/-0.116	0.100	pCi/g						
Mercury-203	U	0.00296	0.0769	+/-0.0228	0.100	pCi/g						
Potassium-40		21.6	0.469	+/-1.24	1.00	pCi/g						
Radium-223	U	-0.264	1.22	+/-0.374		pCi/g						
Radium-224	UI	5.08	1.14	+/-0.666		pCi/g						
Radium-226		1.36	0.123	+/-0.117		pCi/g						
Radium-228		1.77	0.210	+/-0.185	0.500	pCi/g						
Ruthenium-106	U	-0.0933	0.545	+/-0.167	0.800	pCi/g						
Sodium-22	U	-0.0449	0.0608	+/-0.0214	0.080	pCi/g						
Strontium-85	UI	0.102	0.0803	+/-0.0231		pCi/g						
Thallium-208		0.600	0.0616	+/-0.0522	0.080	pCi/g						

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7182
Sample ID: 245107012

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	-0.096	0.646	+/-0.194		pCi/g					
Thorium-231	U	-0.264	1.22	+/-0.374		pCi/g					
Thorium-234		2.16	1.62	+/-0.875	2.00	pCi/g					
Tin-113	U	-0.0254	0.0841	+/-0.0277	0.100	pCi/g					
Uranium-235	U	0.189	0.389	+/-0.117	0.500	pCi/g					
Yttrium-88	U	-0.015	0.0513	+/-0.0172	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium	U	39.6	218	+/-64.8	250	pCi/L		KXK2	02/02/10	1250 946394	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"	84.0	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	64.9	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7182
Sample ID: 245107012

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 16, 2010

Client Sample ID: RE15-10-7183
Sample ID: 245107013
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 12.2%

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	0.000543	0.0201	+/-0.00118	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.017	+/-0.00104	0.050	pCi/g		JXD2	02/09/10	1925	944928	2
Plutonium-239/240	U	0.00417	0.0128	+/-0.0021	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.879	0.149	+/-0.0921	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236	U	0.0474	0.0923	+/-0.0171	0.100	pCi/g						
Uranium-238		0.979	0.0862	+/-0.099	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0388	0.397	+/-0.112	0.200	pCi/g		MXR1	02/01/10	1330	944038	5
Bismuth-211	UI	3.26	0.297	+/-0.248		pCi/g						
Bismuth-214		1.14	0.0934	+/-0.0784	0.200	pCi/g						
Cadmium-109	UI	1.81	1.19	+/-0.626		pCi/g						
Cerium-139	U	0.0165	0.0501	+/-0.0148	0.050	pCi/g						
Cesium-134	UI	0.110	0.0893	+/-0.0302	0.100	pCi/g						
Cesium-137	U	0.0578	0.063	+/-0.0229	0.100	pCi/g						
Cobalt-60	U	-0.0298	0.0705	+/-0.0229	0.100	pCi/g						
Europium-152	U	0.00188	0.148	+/-0.0438	0.200	pCi/g						
Lanthanum-140	U	-0.0312	0.175	+/-0.056		pCi/g						
Lead-212		1.60	0.091	+/-0.0808	0.100	pCi/g						
Lead-214		1.13	0.104	+/-0.091	0.100	pCi/g						
Mercury-203	U	0.0221	0.0696	+/-0.0197	0.100	pCi/g						
Potassium-40		30.8	0.298	+/-1.60	1.00	pCi/g						
Radium-223	U	-0.238	0.971	+/-0.336		pCi/g						
Radium-224	UI	4.23	1.04	+/-0.671		pCi/g						
Radium-226		1.14	0.0934	+/-0.0784		pCi/g						
Radium-228		1.31	0.209	+/-0.160	0.500	pCi/g						
Ruthenium-106	U	-0.0508	0.513	+/-0.153	0.800	pCi/g						
Sodium-22	U	-0.0219	0.0736	+/-0.0232	0.080	pCi/g						
Strontium-85	U	0.0555	0.0664	+/-0.0206		pCi/g						
Thallium-208		0.482	0.0552	+/-0.0398	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID:
Sample ID:

RE15-10-7183
245107013

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	-0.0226	0.584	+/-0.170		pCi/g						
Thorium-231	U	-0.238	0.971	+/-0.336		pCi/g						
Thorium-234	U	0.510	3.11	+/-0.885	2.00	pCi/g						
Tin-113	U	0.0199	0.0771	+/-0.0224	0.100	pCi/g						
Uranium-235	U	-0.0953	0.346	+/-0.107	0.500	pCi/g						
Yttrium-88	U	0.000827	0.0528	+/-0.0163	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	19.8	219	+/-64.5	250	pCi/L		KXX2	02/02/10	1428	946394	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"	92.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.8	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	73.5	(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

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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 16, 2010

Client Sample ID: RE15-10-7183
Sample ID: 245107013

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 16, 2010

Client Sample ID: RE15-10-7176
Sample ID: 245107014
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 4.66%

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	0.0069	0.0212	+/-0.00296	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00443	0.0181	+/-0.00272	0.050	pCi/g		JXD2	02/09/10	1926	944928	2
Plutonium-239/240		0.0177	0.0136	+/-0.00451	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.57	0.158	+/-0.146	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236	U	0.0881	0.098	+/-0.026	0.100	pCi/g						
Uranium-238		1.86	0.0915	+/-0.167	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.106	0.280	+/-0.087	0.200	pCi/g		MXR1	02/01/10	1330	944038	5
Bismuth-211	UI	4.25	0.355	+/-0.277		pCi/g						
Bismuth-214		1.24	0.114	+/-0.102	0.200	pCi/g						
Cadmium-109	UI	4.38	1.27	+/-0.552		pCi/g						
Cerium-139	U	-0.0162	0.0487	+/-0.0153	0.050	pCi/g						
Cesium-134	UI	0.137	0.108	+/-0.0366	0.100	pCi/g						
Cesium-137		0.535	0.073	+/-0.0451	0.100	pCi/g						
Cobalt-60	U	-0.0302	0.0624	+/-0.0212	0.100	pCi/g						
Europium-152	U	-0.0807	0.150	+/-0.0554	0.200	pCi/g						
Lanthanum-140	U	-0.0298	0.195	+/-0.0607		pCi/g						
Lead-212		1.70	0.0978	+/-0.0844	0.100	pCi/g						
Lead-214		1.48	0.126	+/-0.104	0.100	pCi/g						
Mercury-203	U	-0.0202	0.0755	+/-0.0261	0.100	pCi/g						
Potassium-40		23.0	0.588	+/-1.17	1.00	pCi/g						
Radium-223	U	0.662	1.21	+/-0.388		pCi/g						
Radium-224	UI	4.73	1.11	+/-0.630		pCi/g						
Radium-226		1.24	0.114	+/-0.102		pCi/g						
Radium-228		1.72	0.233	+/-0.181	0.500	pCi/g						
Ruthenium-106	U	0.0134	0.595	+/-0.177	0.800	pCi/g						
Sodium-22	U	0.0161	0.0858	+/-0.0254	0.080	pCi/g						
Strontium-85	UI	0.0883	0.0721	+/-0.0209		pCi/g						
Thallium-208		0.524	0.0607	+/-0.0492	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID:
Sample ID:

RE15-10-7176
245107014

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	-0.192	0.635	+/-0.193		pCi/g					
Thorium-231	U	0.662	1.21	+/-0.388		pCi/g					
Thorium-234		2.65	2.32	+/-1.07	2.00	pCi/g					
Tin-113	U	-0.00305	0.0786	+/-0.024	0.100	pCi/g					
Uranium-235	U	-0.0101	0.367	+/-0.113	0.500	pCi/g					
Yttrium-88	U	-0.0162	0.0733	+/-0.0237	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		253	219	+/-71.3	250	pCi/L		KXK2	02/02/10	1606 946394	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"	92.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	69.5	(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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7176
Sample ID: 245107014
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 16, 2010

Client Sample ID: RE15-10-7180
Sample ID: 245107015
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 13.4%

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	0.00486	0.0227	+/-0.00318	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238		0.0599	0.020	+/-0.00908	0.050	pCi/g		JXD2	02/09/10	1926	944928	2
Plutonium-239/240	U	0.00489	0.015	+/-0.003	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		1.30	0.142	+/-0.122	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236	U	0.079	0.0878	+/-0.0219	0.100	pCi/g						
Uranium-238		1.39	0.0821	+/-0.128	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0232	0.589	+/-0.176	0.200	pCi/g		MXR1	02/01/10	1330	944038	5
Bismuth-211	UI	4.49	0.452	+/-0.357		pCi/g						
Bismuth-214		1.50	0.149	+/-0.126	0.200	pCi/g						
Cadmium-109	U	0.235	2.42	+/-1.14		pCi/g						
Cerium-139	U	0.00352	0.0718	+/-0.022	0.050	pCi/g						
Cesium-134	U	0.109	0.119	+/-0.0319	0.100	pCi/g						
Cesium-137	U	0.0647	0.0972	+/-0.0279	0.100	pCi/g						
Cobalt-60	U	-0.0195	0.0837	+/-0.0274	0.100	pCi/g						
Europium-152	U	0.177	0.230	+/-0.0893	0.200	pCi/g						
Lanthanum-140	U	0.0448	0.234	+/-0.0778		pCi/g						
Lead-212		2.00	0.129	+/-0.113	0.100	pCi/g						
Lead-214		1.56	0.157	+/-0.131	0.100	pCi/g						
Mercury-203	U	0.0427	0.107	+/-0.0351	0.100	pCi/g						
Potassium-40		24.4	0.677	+/-1.30	1.00	pCi/g						
Radium-223	U	-1.1	1.57	+/-0.507		pCi/g						
Radium-224	UI	6.06	1.47	+/-0.889		pCi/g						
Radium-226		1.50	0.149	+/-0.126		pCi/g						
Radium-228		1.52	0.289	+/-0.195	0.500	pCi/g						
Ruthenium-106	U	-0.16	0.652	+/-0.210	0.800	pCi/g						
Sodium-22	U	-0.0068	0.0956	+/-0.0301	0.080	pCi/g						
Strontium-85	U	0.0919	0.0962	+/-0.0299		pCi/g						
Thallium-208		0.685	0.0843	+/-0.0548	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7180
Sample ID: 245107015

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	-0.403	0.869	+/-0.270		pCi/g						
Thorium-231	U	-1.1	1.57	+/-0.507		pCi/g						
Thorium-234	U	-2.11	4.32	+/-1.36	2.00	pCi/g						
Tin-113	U	-0.0169	0.104	+/-0.0319	0.100	pCi/g						
Uranium-235	U	0.111	0.509	+/-0.155	0.500	pCi/g						
Yttrium-88	U	0.0418	0.0799	+/-0.0202	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	46.9	218	+/-64.8	250	pCi/L		KXK2	02/02/10	1744	946394	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"	83.2	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	77.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	76.1	(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

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7180 Project: LANL01004
Sample ID: 245107015 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 16, 2010

Client Sample ID: RE15-10-7179
Sample ID: 245107016
Matrix: S
Collect Date: 13-JAN-10
Receive Date: 20-JAN-10
Collector: Client
Moisture: 20.3%

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	0.00542	0.0205	+/-0.00309	0.050	pCi/g		JXD2	02/08/10	1219	944922	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00	0.0182	+/-0.00111	0.050	pCi/g		JXD2	02/09/10	1141	944928	2
Plutonium-239/240	U	0.0122	0.0137	+/-0.00374	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		2.58	0.180	+/-0.228	0.100	pCi/g		JXD2	02/09/10	1435	944930	4
Uranium-235/236		0.129	0.112	+/-0.032	0.100	pCi/g						
Uranium-238		2.86	0.105	+/-0.248	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0316	0.391	+/-0.125	0.200	pCi/g		MXR1	02/01/10	1333	944038	5
Bismuth-211	UI	4.04	0.293	+/-0.255		pCi/g						
Bismuth-214		1.11	0.107	+/-0.0986	0.200	pCi/g						
Cadmium-109	UI	2.05	1.61	+/-0.591		pCi/g						
Cerium-139	U	-0.016	0.0469	+/-0.0145	0.050	pCi/g						
Cesium-134	UI	0.137	0.0979	+/-0.0329	0.100	pCi/g						
Cesium-137		0.450	0.0576	+/-0.0416	0.100	pCi/g						
Cobalt-60	U	-0.0242	0.0619	+/-0.0201	0.100	pCi/g						
Europium-152	U	0.0857	0.156	+/-0.046	0.200	pCi/g						
Lanthanum-140	U	0.00617	0.182	+/-0.0552		pCi/g						
Lead-212		1.61	0.0966	+/-0.0871	0.100	pCi/g						
Lead-214		1.41	0.104	+/-0.0959	0.100	pCi/g						
Mercury-203	U	-0.0146	0.072	+/-0.0213	0.100	pCi/g						
Potassium-40		22.7	0.418	+/-1.15	1.00	pCi/g						
Radium-223	U	0.494	1.08	+/-0.341		pCi/g						
Radium-224	UI	3.76	1.10	+/-0.619		pCi/g						
Radium-226		1.11	0.107	+/-0.0986		pCi/g						
Radium-228		1.66	0.207	+/-0.155	0.500	pCi/g						
Ruthenium-106	U	0.102	0.556	+/-0.168	0.800	pCi/g						
Sodium-22	U	0.0201	0.0708	+/-0.020	0.080	pCi/g						
Strontium-85	U	0.024	0.0597	+/-0.0194		pCi/g						
Thallium-208		0.488	0.0548	+/-0.0483	0.080	pCi/g						

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Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID:
Sample ID:

RE15-10-7179
245107016

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	-0.0566	0.624	+/-0.182		pCi/g						
Thorium-231	U	0.494	1.08	+/-0.341		pCi/g						
Thorium-234		3.79	2.92	+/-1.69	2.00	pCi/g						
Tin-113	U	0.00751	0.0741	+/-0.0218	0.100	pCi/g						
Uranium-235	U	0.0122	0.339	+/-0.102	0.500	pCi/g						
Yttrium-88	U	-0.0208	0.045	+/-0.0166	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium	U	-91.4	218	+/-61.9	250	pCi/L		KXK2	02/02/10	1923	946394	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"	92.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	84.0	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	59.1	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 16, 2010

Client Sample ID: RE15-10-7179
Sample ID: 245107016
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.

QUALITY CONTROL DATA

GEL LABORATORIES LLC

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QC Summary

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 245107

Report Date: February 16, 2010
Page 1 of 6

Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	944922										
QC1202023620	245107001	DUP									
Americium-241	0.00	U	0.000967	U	-0.00293	pCi/g	0.400	(0-1)	JXD2	02/08/1011:01	
		TPU:	+/-0.00229		+/-0.00258						
		Yield:	87.8		81.7						
QC1202023621	LCS										
Americium-241	33.2				29.1	pCi/g	87.8	(75%-125%)		02/08/1012:19	
		TPU:			+/-2.02						
		Yield:			108						
QC1202023619	MB										
Americium-241			U	-0.00228	pCi/g						
		TPU:		+/-0.00404							
		Yield:		92.2							
Batch	944928										
QC1202023623	245107001	DUP									
Plutonium-238		U	0.00483	U	0.00103	pCi/g	0.427	(0-1)	JXD2	02/09/1019:26	
		TPU:	+/-0.00343		+/-0.00103						
		Yield:	83.6		91.4						
Plutonium-239/240		U	0.00	U	-0.00103	pCi/g	0.147	(0-1)			
		TPU:	+/-0.00171		+/-0.00178						
		Yield:	83.6		91.4						
QC1202023624	LCS										
Plutonium-238					6.01	pCi/g		(75%-125%)		02/09/1019:26	
		TPU:			+/-0.437						
		Yield:			102						
Plutonium-239/240	41.8				33.2	pCi/g	79.5	(75%-125%)			
		TPU:			+/-2.02						
		Yield:			102						
QC1202023622	MB										
Plutonium-238			U	-0.00275	pCi/g					02/09/1011:41	
		TPU:		+/-0.0039							
		Yield:		85.7							
Plutonium-239/240			U	-0.00413	pCi/g						
		TPU:		+/-0.00364							
		Yield:		85.7							
Batch	944930										
QC1202023626	245107001	DUP									
Uranium-233/234			0.948		1.04	pCi/g	0.272	(0-1)	JXD2	02/09/1011:26	
		TPU:	+/-0.0857		+/-0.0888						
		Yield:	89.1		91.3						
Uranium-235/236			0.0685		0.0752	pCi/g	0.0949	(0-1)			
		TPU:	+/-0.0177		+/-0.0171						
		Yield:	89.1		91.3						
Uranium-238			0.974		1.10	pCi/g	0.357	(0-1)			
		TPU:	+/-0.0873		+/-0.093						

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QC Summary

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Parmname		NOM	Sample Qual		QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec												
Batch	944930											
		Yield:	89.1		91.3							
QC1202023627	LCS				5.37	pCi/g			(75%-125%)		02/09/10	11:26
Uranium-233/234		TPU:			+/-0.460							
		Yield:			98.5							
Uranium-235/236					0.521	pCi/g			(75%-125%)			
		TPU:			+/-0.0909							
		Yield:			98.5							
Uranium-238	5.75				5.50	pCi/g		95.7	(75%-125%)			
		TPU:			+/-0.470							
		Yield:			98.5							
QC1202023625	MB											
Uranium-233/234			U		0.00301	pCi/g					02/08/10	11:55
		TPU:			+/-0.00408							
		Yield:			110							
Uranium-235/236			U		0.00626	pCi/g						
		TPU:			+/-0.00386							
		Yield:			110							
Uranium-238			U		0.0038	pCi/g						
		TPU:			+/-0.00336							
		Yield:			110							
Rad Gamma Spec												
Batch	944038											
QC1202021397	245107001	DUP										
Americium-241		U	0.0192	U	0.0036	pCi/g	0.237		(0-1)	MXR1	02/01/10	13:47
		TPU:	+/-0.0344		+/-0.0329							
Bismuth-211		UI	4.05	UI	4.37	pCi/g	0.502		(0-1)			
		TPU:	+/-0.327		+/-0.321							
Bismuth-214			1.42		1.41	pCi/g	0.0168		(0-1)			
		TPU:	+/-0.118		+/-0.119							
Cadmium-109		UI	4.95	UI	4.26	pCi/g	0.746		(0-1)			
		TPU:	+/-0.577		+/-0.469							
Cerium-139		U	-0.0322	U	-0.00319	pCi/g	0.957		(0-1)			
		TPU:	+/-0.0172		+/-0.0152							
Cesium-134		UI	0.122	U	0.121	pCi/g	0.00834		(0-1)			
		TPU:	+/-0.036		+/-0.042							
Cesium-137		U	0.00869	U	-0.0234	pCi/g	0.603		(0-1)			
		TPU:	+/-0.026		+/-0.0266							
Cobalt-60		U	-0.00612	U	0.00141	pCi/g	0.152		(0-1)			
		TPU:	+/-0.0265		+/-0.0247							
Europium-152		U	0.105	U	-0.0113	pCi/g	1.13		(0-1)			
		TPU:	+/-0.074		+/-0.0515							
Lanthanum-140		U	-0.0168	U	0.125	pCi/g	1.01		(0-1)			
		TPU:	+/-0.0731		+/-0.0707							
Lead-212			1.65		1.60	pCi/g	0.243		(0-1)			
		TPU:	+/-0.0987		+/-0.101							
Lead-214			1.41		1.52	pCi/g	0.473		(0-1)			
		TPU:	+/-0.119		+/-0.119							
Mercury-203		U	-0.00134	U	0.00791	pCi/g	0.189		(0-1)			
		TPU:	+/-0.0251		+/-0.0244							

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QC Summary

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Gamma Spec											
Batch	944038										
Potassium-40		23.6		22.3	pCi/g	0.482		(0-1)			
	TPU:	+/-1.15		+/-1.38							
Radium-223	U	-1.22	U	-0.16	pCi/g	1.31		(0-1)			
	TPU:	+/-0.424		+/-0.406							
Radium-224	UI	4.79	UI	4.24	pCi/g	0.446		(0-1)			
	TPU:	+/-0.773		+/-0.607							
Radium-226		1.42		1.41	pCi/g	0.0168		(0-1)			
	TPU:	+/-0.118		+/-0.119							
Radium-228		1.57		1.84	pCi/g	0.610		(0-1)			
	TPU:	+/-0.217		+/-0.218							
Ruthenium-106	U	0.0313	U	0.188	pCi/g	0.401		(0-1)			
	TPU:	+/-0.217		+/-0.195							
Sodium-22	U	0.0107	U	-0.0393	pCi/g	0.752		(0-1)			
	TPU:	+/-0.0285		+/-0.0333							
Strontium-85	U	0.0828	U	0.0413	pCi/g	0.867		(0-1)			
	TPU:	+/-0.0261		+/-0.024							
Thallium-208		0.467		0.506	pCi/g	0.334		(0-1)			
	TPU:	+/-0.0565		+/-0.0581							
Thorium-227	U	0.202	U	0.119	pCi/g	0.198		(0-1)			
	TPU:	+/-0.222		+/-0.211							
Thorium-231	U	-1.22	U	-0.16	pCi/g	1.31		(0-1)			
	TPU:	+/-0.424		+/-0.406							
Thorium-234		1.75		1.51	pCi/g	0.238		(0-1)			
	TPU:	+/-0.688		+/-0.497							
Tin-113	U	-0.0158	U	-0.0104	pCi/g	0.111		(0-1)			
	TPU:	+/-0.0279		+/-0.0241							
Uranium-235	U	-0.0513	U	0.219	pCi/g	0.346		(0-1)			
	TPU:	+/-0.124		+/-0.113							
Yttrium-88	U	-0.00115	U	0.0159	pCi/g	0.409		(0-1)			
	TPU:	+/-0.023		+/-0.0209							
QC1202021398	LCS										
Americium-241	16.3			14.6	pCi/g		89.7 (75%-125%)			02/01/10	13:35
	TPU:			+/-0.681							
Bismuth-211				3.31	pCi/g						
	TPU:			+/-0.413							
Bismuth-214				0.966	pCi/g						
	TPU:			+/-0.134							
Cadmium-109				34.9	pCi/g						
	TPU:			+/-2.00							
Cerium-139			U	-0.00465	pCi/g						
	TPU:			+/-0.0201							
Cesium-134			U	0.072	pCi/g						
	TPU:			+/-0.0436							
Cesium-137	5.70			6.33	pCi/g		111 (75%-125%)				
	TPU:			+/-0.314							
Cobalt-60	6.59			7.13	pCi/g		108 (75%-125%)				
	TPU:			+/-0.344							
Europium-152			U	-0.0332	pCi/g						
	TPU:			+/-0.0839							
Lanthanum-140			U	-0.122	pCi/g						
	TPU:			+/-0.047							

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QC Summary

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec									
Batch	944038								
Lead-212			1.28	pCi/g					
	TPU:		+/-0.121						
Lead-214			1.15	pCi/g					
	TPU:		+/-0.147						
Mercury-203		U	-0.0586	pCi/g					
	TPU:		+/-0.0318						
Potassium-40			1.36	pCi/g					
	TPU:		+/-0.362						
Radium-223		U	0.0768	pCi/g					
	TPU:		+/-0.583						
Radium-224			3.11	pCi/g					
	TPU:		+/-0.735						
Radium-226			0.966	pCi/g					
	TPU:		+/-0.134						
Radium-228			1.10	pCi/g					
	TPU:		+/-0.241						
Ruthenium-106		U	0.133	pCi/g					
	TPU:		+/-0.268						
Sodium-22		U	-0.0185	pCi/g					
	TPU:		+/-0.0247						
Strontium-85		U	0.0347	pCi/g					
	TPU:		+/-0.0331						
Thallium-208			0.454	pCi/g					
	TPU:		+/-0.0587						
Thorium-227		U	0.337	pCi/g					
	TPU:		+/-0.322						
Thorium-231		U	0.0768	pCi/g					
	TPU:		+/-0.583						
Thorium-234		U	0.910	pCi/g					
	TPU:		+/-0.987						
Tin-113		U	-0.0241	pCi/g					
	TPU:		+/-0.0378						
Uranium-235		U	0.00693	pCi/g					
	TPU:		+/-0.142						
Yttrium-88		U	0.00869	pCi/g					
	TPU:		+/-0.0214						
QC1202021396 MB									
Americium-241		U	-0.00146	pCi/g					02/01/1013:34
	TPU:		+/-0.0166						
Bismuth-211		U	-0.222	pCi/g					
	TPU:		+/-0.0952						
Bismuth-214		U	-0.0308	pCi/g					
	TPU:		+/-0.0375						
Cadmium-109		U	0.249	pCi/g					
	TPU:		+/-0.194						
Cerium-139		U	-0.00774	pCi/g					
	TPU:		+/-0.010						
Cesium-134		U	-0.0101	pCi/g					
	TPU:		+/-0.0202						
Cesium-137		U	0.00917	pCi/g					
	TPU:		+/-0.0175						

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QC Summary

Workorder: 245107

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch	944038									
Cobalt-60			U	-0.011	pCi/g					
	TPU:			+/-0.0146						
Europium-152			U	0.0142	pCi/g					
	TPU:			+/-0.0395						
Lanthanum-140			U	-0.00501	pCi/g					
	TPU:			+/-0.0262						
Lead-212			U	0.0157	pCi/g					
	TPU:			+/-0.0397						
Lead-214			U	-0.0883	pCi/g					
	TPU:			+/-0.0338						
Mercury-203			U	0.0229	pCi/g					
	TPU:			+/-0.0131						
Potassium-40			U	0.0476	pCi/g					
	TPU:			+/-0.163						
Radium-223			U	-0.31	pCi/g					
	TPU:			+/-0.258						
Radium-224			U	0.177	pCi/g					
	TPU:			+/-0.448						
Radium-226			U	-0.0308	pCi/g					
	TPU:			+/-0.0375						
Radium-228			U	-0.00362	pCi/g					
	TPU:			+/-0.0661						
Ruthenium-106			U	0.106	pCi/g					
	TPU:			+/-0.143						
Sodium-22			U	-0.00523	pCi/g					
	TPU:			+/-0.0161						
Strontium-85			U	-0.0697	pCi/g					
	TPU:			+/-0.0191						
Thallium-208			U	-0.0132	pCi/g					
	TPU:			+/-0.0196						
Thorium-227			U	-0.0637	pCi/g					
	TPU:			+/-0.134						
Thorium-231			U	-0.31	pCi/g					
	TPU:			+/-0.258						
Thorium-234			U	-0.239	pCi/g					
	TPU:			+/-0.264						
Tin-113			U	0.00582	pCi/g					
	TPU:			+/-0.0178						
Uranium-235			U	0.0803	pCi/g					
	TPU:			+/-0.0812						
Yttrium-88			U	-0.0202	pCi/g					
	TPU:			+/-0.0135						
Rad Liquid Scintillation										
Batch	946394									
QC1202027111	245107001	DUP								
Tritium		U	69.2	U	71.6	pCi/L	0.00903	(0-1)	KXK2	02/02/1022:39
		TPU:	+/-65.4		+/-65.4					
QC1202027112	LCS									
Tritium	5570				6430	pCi/L		115 (75%-125%)		02/03/1000:15
		TPU:			+/-566					

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QC Summary

Workorder: 245107

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Parmname	NOM	Sample Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Liquid Scintillation										
Batch	946394									
QC1202027110	MB									
Tritium		U	-121	pCi/L						02/02/1021:01
	TPU:		+/-61.0							

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#

044988

Product:

Am

Date:

2/11/10

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 ⁶ MDA/MDC, error is 150% or less of sample activity. If greater 10 ⁶ MDA/MDC, error is 40% or less. If below the MDA/MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument big check is within limits.	✓		
Method RDL/LLD has been met.	✓		
If duplicate activities are less 5 ⁶ MDA/MDC, then RPD is 100% or less. If greater 5 ⁶ 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.	✓		
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.			
All line cuts 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 stored.	✓		
QC data entered into QC database and batch is in REVIEW	✓		
HR notification complete (if necessary)			N/A
Batch entered into Case Narrative.	✓		
Batch Data Exception Reports (DER) completed, if applicable.	✓		N/A DER 789686
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.	✓		N/A DER 789686
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:

D. Denise Brown 2/11/10

Secondary Review Performed By:

L. H. S. 2/11/10

Am/Cm Que Sheet

25-JAN-10

Batch #: 944922 Analyst: JXD2 First Client Due Date: 17-FEB-10 Internal Due Date: 06-FEB-10 Comments:
 Tracer(s): Am241/Cm244 Tracer Code: 445-56-2-53 Expiration Date: 05/11/10 Vol: 0.1
 LCS Isotope(s): Am241/Cm244 LCS Code(s): Spike Code(s): Expiration Date: Vol(s):
 Spike Isotope(s): Am241/Cm244 Spike Code(s): Expiration Date: Vol(s):
 Prep Date: 02/04/10 Initials: J42 Pipet ID: 217058 Balance ID: 50410272 Witness: MDA 2/4/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet(Dry)	Am/Cm Det #
										Aliquot (g/l/h)	
245107001-1	RE15-10-7165	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	1	1	1.252	89
245107002-1	RE15-10-7171	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	2	2	1.255	90
245107003-1	RE15-10-7170	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	3	3	1.250	91
245107004-1	RE15-10-7164	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	4	4	1.259	92
245107005-1	RE15-10-7167	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	5	5	1.256	93
245107006-1	RE15-10-7169	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	6	6	1.254	94
245107007-1	RE15-10-7168	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	7	7	1.256	95
245107008-1	RE15-10-7166	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	8	8	1.257	97
245107009-1	RE15-10-7177	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	9	9	1.255	99
245107010-1	RE15-10-7181	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	10	10	1.252	100
245107011-1	RE15-10-7178	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	11	11	1.255	101
245107012-1	RE15-10-7182	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	12	12	1.254	102
245107013-1	RE15-10-7183	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	13	13	1.256	103
245107014-1	RE15-10-7176	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	14	14	1.254	104
245107015-1	RE15-10-7180	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	15	15	1.253	105
245107016-1	RE15-10-7179	SAMPLE	.05	pCi/g	SOIL	LANL010	13-JAN-10	16	16	1.253	106
1202023619-1	MB for batch 944922	MB	.05	pCi/g	SOIL	QC ACCOUNT		17	17	1	107
1202023620-1	RE15-10-7165(245107001DUP)	DUP	.05	pCi/g	SOIL	QC ACCOUNT	13-JAN-10	18	18	1.259	237
1202023621-1	LCS for batch 944922	LCS	.05	pCi/g	SOIL	QC ACCOUNT		19	19	0.101	237

* SRM 0244-B exp 04/30/20

942-840

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

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By:

Page 1 of 1

Blank Correction Report

Batch ID 944922

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023620	DUP	Americium-241	1.26 g	-0.00293	0.00258	0.0189	-.00180952	pCi/g	NO
1202023621	LCS	Americium-241	0.101 g	29.1	2.02	0.206	-.02257426	pCi/g	NO
1202023619	MB	Americium-241	1.00 g	-0.00228	0.00404	0.0268	-.00228	pCi/g	NO
245107001	RE15-10-7165	Americium-241	1.25 g	0.000967	0.00229	0.0237	-.001824	pCi/g	NO
245107002	RE15-10-7171	Americium-241	1.26 g	-0.000661	0.00164	0.0197	-.00180952	pCi/g	NO
245107003	RE15-10-7170	Americium-241	1.25 g	0.0149	0.00462	0.0202	-.001824	pCi/g	NO
245107004	RE15-10-7164	Americium-241	1.26 g	0.0021	0.00166	0.0222	-.00180952	pCi/g	NO
245107005	RE15-10-7167	Americium-241	1.26 g	0.00192	0.00235	0.0212	-.00180952	pCi/g	NO
245107006	RE15-10-7169	Americium-241	1.25 g	0.000694	0.00126	0.0214	-.001824	pCi/g	NO
245107007	RE15-10-7168	Americium-241	1.26 g	0.006	0.0161	0.0443	-.00180952	pCi/g	NO
245107008	RE15-10-7166	Americium-241	1.26 g	0.00269	0.00326	0.0191	-.00180952	pCi/g	NO
245107009	RE15-10-7177	Americium-241	1.26 g	0.00665	0.00446	0.0206	-.00180952	pCi/g	NO
245107010	RE15-10-7181	Americium-241	1.25 g	0.00294	0.00217	0.027	-.001824	pCi/g	NO
245107011	RE15-10-7178	Americium-241	1.26 g	0.0145	0.00435	0.0213	-.00180952	pCi/g	NO
245107012	RE15-10-7182	Americium-241	1.25 g	0.00336	0.00279	0.022	-.001824	pCi/g	NO
245107013	RE15-10-7183	Americium-241	1.26 g	0.000543	0.00118	0.0201	-.00180952	pCi/g	NO
245107014	RE15-10-7176	Americium-241	1.25 g	0.0069	0.00296	0.0212	-.001824	pCi/g	NO
245107015	RE15-10-7180	Americium-241	1.25 g	0.00486	0.00318	0.0227	-.001824	pCi/g	NO
245107016	RE15-10-7179	Americium-241	1.25 g	0.00542	0.00309	0.0205	-.001824	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107001_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 87.807	CHAMBER : 089 DETECTOR S/N : 78262 AVERAGE %EFFICIENCY : 29.3898 COUNT DATE : 8-FEB-2010 12:19:14 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B089.CNF;715 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W089.CNF;193 CAL DATE : 11-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5610E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5564.656	74.875	3.000	0.693	1.000	3.0704	99.94000	9.67E-04	2.29E-03	9.96E-03	2.37E-02	2.29E-03
AM243	5270.000	5265.386	40.520	752.000	751.000	1.000	1.0000	99.78000	1.05E+00	7.50E-02	3.25E-03	1.03E-02	3.83E-02
CM-242	6102.000	6031.159	39.829	8.000	8.000	0.000	4.3186	100.0000	1.25E-02	4.49E-03	1.40E-02	3.18E-02	4.42E-03
CM-3/4	5795.020	5727.510	64.892	4.000	3.000	1.000	5.2338	100.0000	4.19E-03	3.14E-03	1.70E-02	3.77E-02	3.13E-03
CM-5/6	5386.000	5384.962	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.62E-03	7.48E-02	1.54E-01	1.62E-03
CM-247	4946.000	4916.756	7.332	10.000	10.000	0.000	15.3366	79.30000	1.76E-02	5.66E-03	6.27E-02	1.30E-01	5.56E-03
CM-248	5078.600	5076.816	0.000	16.000	16.000	0.000	22.1555	91.00000	2.45E-02	6.31E-03	7.90E-02	1.62E-01	6.13E-03

NOTES:

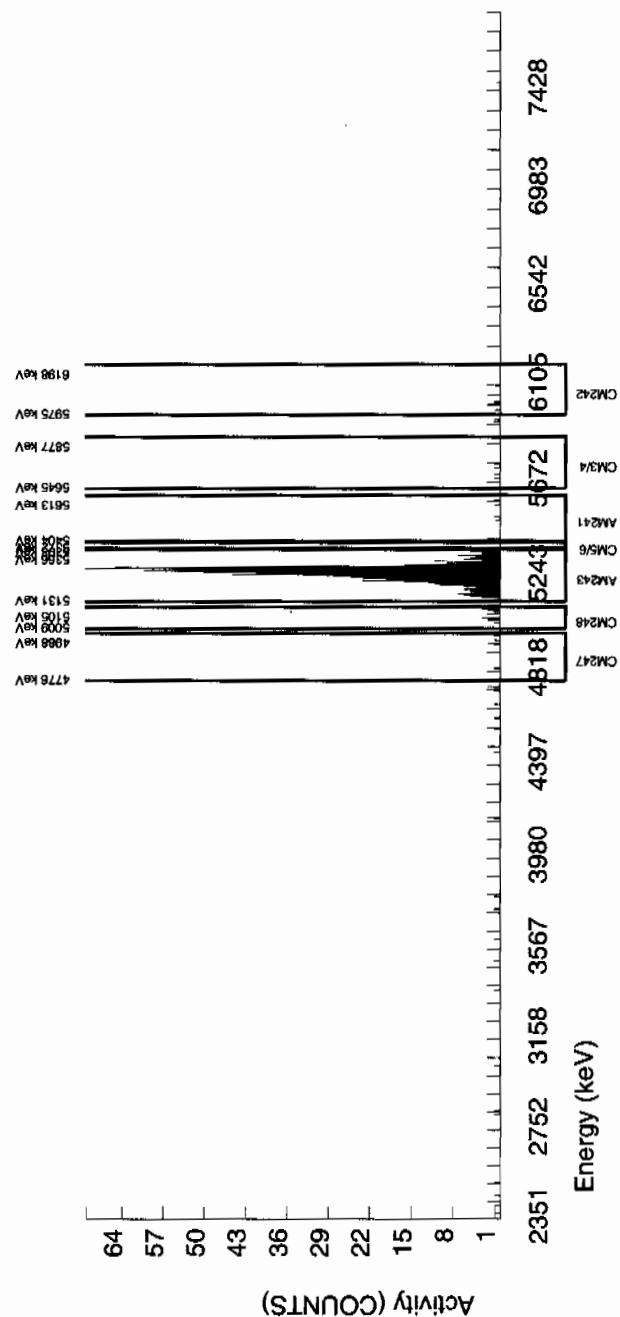
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



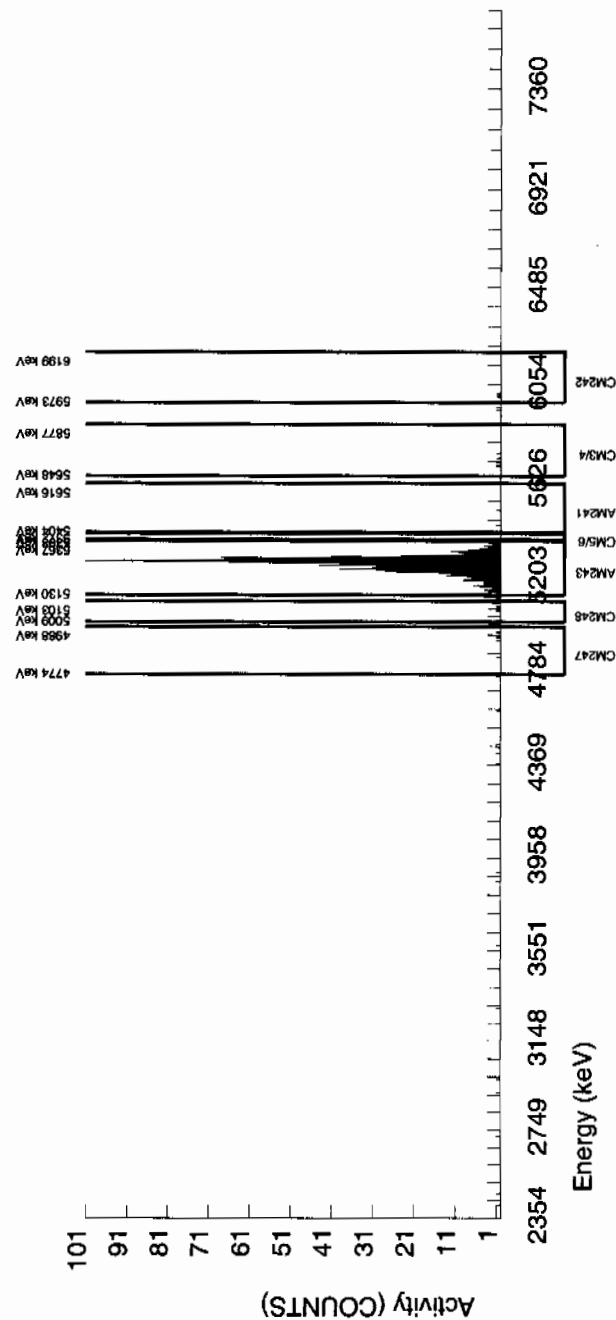
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107002_AM SAMPLE QTY : 1.255 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 95.337				CHAMBER : 090 DETECTOR S/N : 78263 AVERAGE %EFFICIENCY : 32.5470 COUNT DATE : 8-FEB-2010 12:19:14 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B090.CNF:723 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W090.CNF:199 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.7806E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5472.583	63.823	2.000	-0.571	1.000	3.0704	99.94000	-6.61E-04	1.64E-03	8.27E-03	1.97E-02	1.64E-03
AM243	5270.000	5270.360	25.289	904.000	903.000	1.000	1.0000	99.78000	1.05E+00	7.29E-02	2.70E-03	8.54E-03	3.49E-02
CM-242	6102.000	6012.649	19.024	3.000	3.000	0.000	4.3186	100.0000	3.89E-03	2.26E-03	1.16E-02	2.64E-02	2.25E-03
CM-3/4	5795.020	5719.068	58.299	5.000	5.000	0.000	5.2338	100.0000	5.80E-03	2.62E-03	1.41E-02	3.13E-02	2.59E-03
CM-5/6	5386.000	5377.331	4.909	1.000	1.000	0.000	19.8463	86.09000	1.34E-03	1.35E-03	6.20E-02	1.28E-01	1.34E-03
CM-247	4946.000	4935.539	112.917	6.000	4.000	2.000	15.3366	79.30000	5.83E-03	4.14E-03	5.20E-02	1.08E-01	4.13E-03
CM-248	5078.600	5068.576	30.592	13.000	13.000	0.000	22.1555	91.00000	1.65E-02	4.89E-03	6.55E-02	1.34E-01	4.58E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 5-JAN-2010)

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

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

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922	CHAMBER : 091	LIB FILE : ENV_ALPHA_AM
SAMPLE ID : S0245107003_AM	DETECTOR S/N : 78259	BKG FILE : B091.CNF:721
SAMPLE QTY : 1.250 G	AVERAGE %EFFICIENCY : 34.6360	BKG DATE : 7-FEB-2010
SAMPLE DATE : 13-JAN-2010 00:00:00	COUNT DATE : 8-FEB-2010 12:19:14	BKG LIVE TIME(SEC) : 59999.99
ANALYST : JXD2	ELAPSED LIVE TIME(SEC) : 59999.99	EFF FILE : W091.CNF:190
% YIELD : 87.405		CAL DATE : 11-JAN-2010

TRACER	MS/MSD	LCS/LCSD
ID : 445-96-2-SS	ID : 0244-B	ID : 0244-B
NUCLIDE : AM243	NUCLIDE : AM-241	NUCLIDE : AM-241
NOMINAL : 2.9166E+00 dpm	NOMINAL : 3.3158E+01 pCi/G	NOMINAL : 3.3158E+01 pCi/G
RESULTS : 2.5492E+00 dpm		

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5487.162	4.970	15.000	12.467	1.000	3.0704	99.94000	1.49E-02	4.62E-03	8.51E-03	2.02E-02	4.53E-03
AM243	5270.000	5269.362	44.008	881.000	881.000	0.000	0.0000	99.78000	1.05E+00	7.36E-02	0.00E+00	3.23E-03	3.54E-02
CM-242	6102.000	6056.076	7.299	6.000	6.000	0.000	4.3186	100.0000	8.01E-03	3.31E-03	1.20E-02	2.71E-02	3.27E-03
CM-3/4	5795.020	5740.485	7.299	4.000	4.000	0.000	5.2338	100.0000	4.77E-03	2.41E-03	1.45E-02	3.22E-02	2.39E-03
CM-5/6	5386.000	5382.523	0.000	1.000	1.000	0.000	19.8463	86.09000	1.38E-03	1.39E-03	6.38E-02	1.31E-01	1.38E-03
CM-247	4946.000	4919.325	4.970	6.000	4.000	2.000	15.3366	79.30000	6.00E-03	4.26E-03	5.36E-02	1.11E-01	4.25E-03
CM-248	5078.600	5074.916	0.000	14.000	14.000	0.000	22.1555	91.00000	1.83E-02	5.02E-03	6.74E-02	1.38E-01	4.89E-03

NOTES:

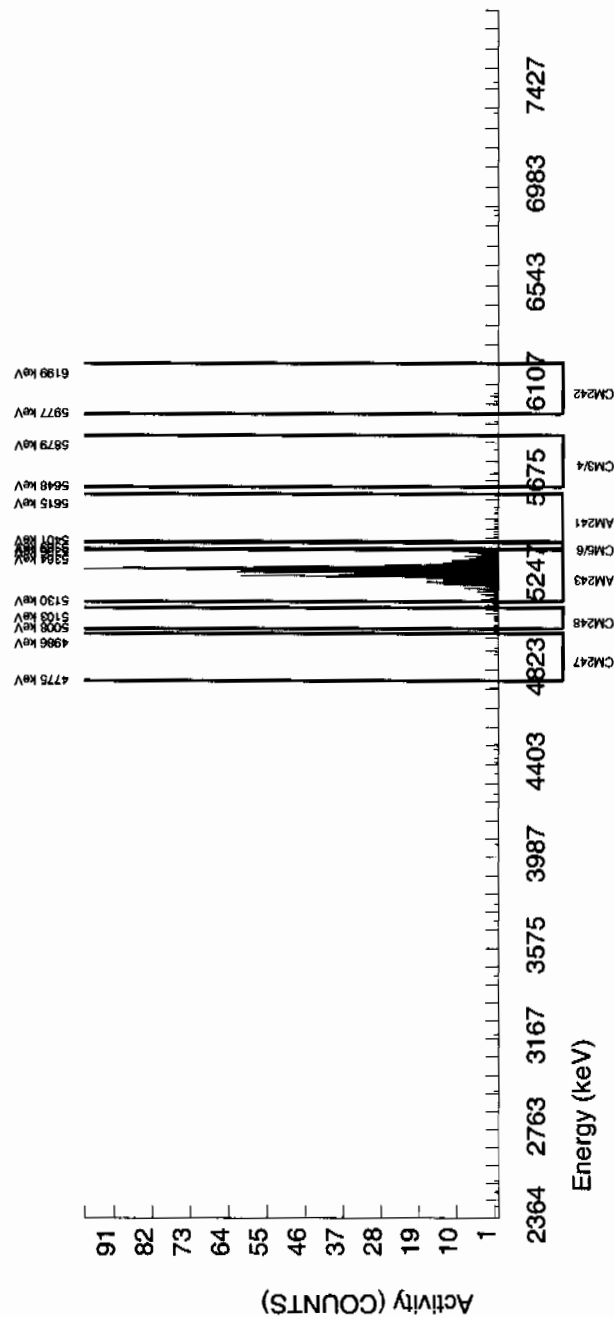
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107004_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 87.144	CHAMBER : 092 DETECTOR S/N : 79457 AVERAGE %EFFICIENCY : 31.5061 COUNT DATE : 8-FEB-2010 12:19:14 ELAPSED LIVE TIME(SEC) : 59999.99	LIB FILE : ENV_ALPHA_AM BKG FILE : B092.CNF;724 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W092.CNF;233 CAL DATE : 11-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5416E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

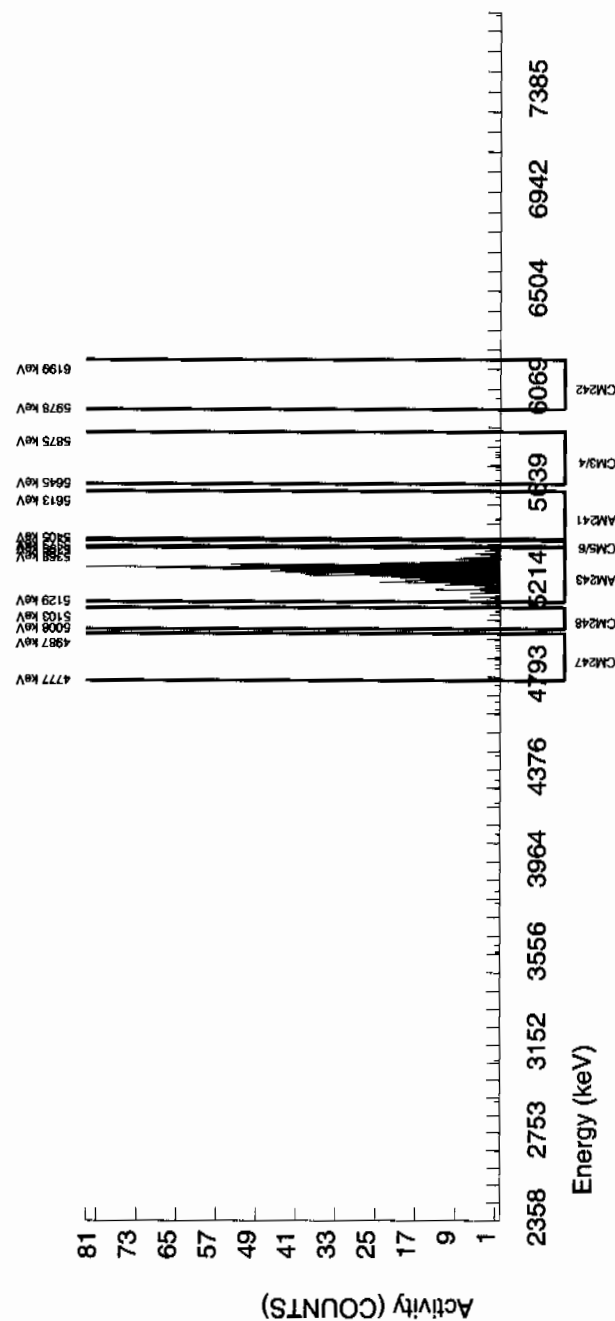
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5527.257	98.124	3.000	1.610	0.000	3.0704	99.94000	2.10E-03	1.66E-03	9.31E-03	2.22E-02	1.65E-03
AM243	5270.000	5267.706	36.707	802.000	799.000	3.000	1.7321	99.78000	1.04E+00	7.49E-02	5.26E-03	1.41E-02	3.71E-02
CM-242	6102.000	6007.219	49.062	2.000	2.000	0.000	4.3186	100.00000	2.92E-03	2.07E-03	1.31E-02	2.97E-02	2.07E-03
CM-3/4	5795.020	5750.614	4.906	9.000	8.000	1.000	5.2338	100.00000	1.05E-02	4.18E-03	1.59E-02	3.53E-02	4.13E-03
CM-5/6	5386.000	5378.230	4.906	1.000	1.000	0.000	19.8463	86.09000	1.51E-03	1.52E-03	6.99E-02	1.44E-01	1.51E-03
CM-247	4946.000	4900.239	122.655	8.000	7.000	1.000	15.3366	79.30000	1.15E-02	4.98E-03	5.86E-02	1.22E-01	4.93E-03
CM-248	5078.600	5083.111	4.906	4.000	4.000	0.000	22.1555	91.00000	5.73E-03	2.89E-03	7.38E-02	1.51E-01	2.86E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107005_AM SAMPLE QTY : 1.256 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 90.147				CHAMBER : 093 DETECTOR S/N : 33206 AVERAGE %EFFICIENCY : 31.9813 COUNT DATE : 8-FEB-2010 12:19:14 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_AM BKG FILE : B093.CNF;712 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W093.CNF;199 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6292E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5537.281	0.000	4.000	1.540	1.000	3.0704	99.94000	1.92E-03	2.35E-03	8.89E-03	2.12E-02	2.34E-03
AM243	5270.000	5278.237	34.106	841.000	839.000	2.000	1.4142	99.78000	1.05E+00	7.42E-02	4.10E-03	1.16E-02	3.62E-02
CM-242	6102.000	6024.861	48.458	4.000	4.000	0.000	4.3186	100.0000	5.58E-03	2.81E-03	1.25E-02	2.84E-02	2.79E-03
CM-3/4	5795.020	5750.343	43.550	4.000	3.000	1.000	5.2338	100.0000	3.74E-03	2.80E-03	1.51E-02	3.37E-02	2.79E-03
CM-5/6	5386.000	5380.820	0.000	4.000	4.000	0.000	19.8463	86.09000	5.78E-03	2.91E-03	6.67E-02	1.37E-01	2.89E-03
CM-247	4946.000	4911.867	4.907	7.000	7.000	0.000	15.3366	79.30000	1.10E-02	4.21E-03	5.60E-02	1.16E-01	4.15E-03
CM-248	5078.600	5066.631	0.000	15.000	15.000	0.000	22.1555	91.00000	2.05E-02	5.44E-03	7.05E-02	1.45E-01	5.29E-03

NOTES:

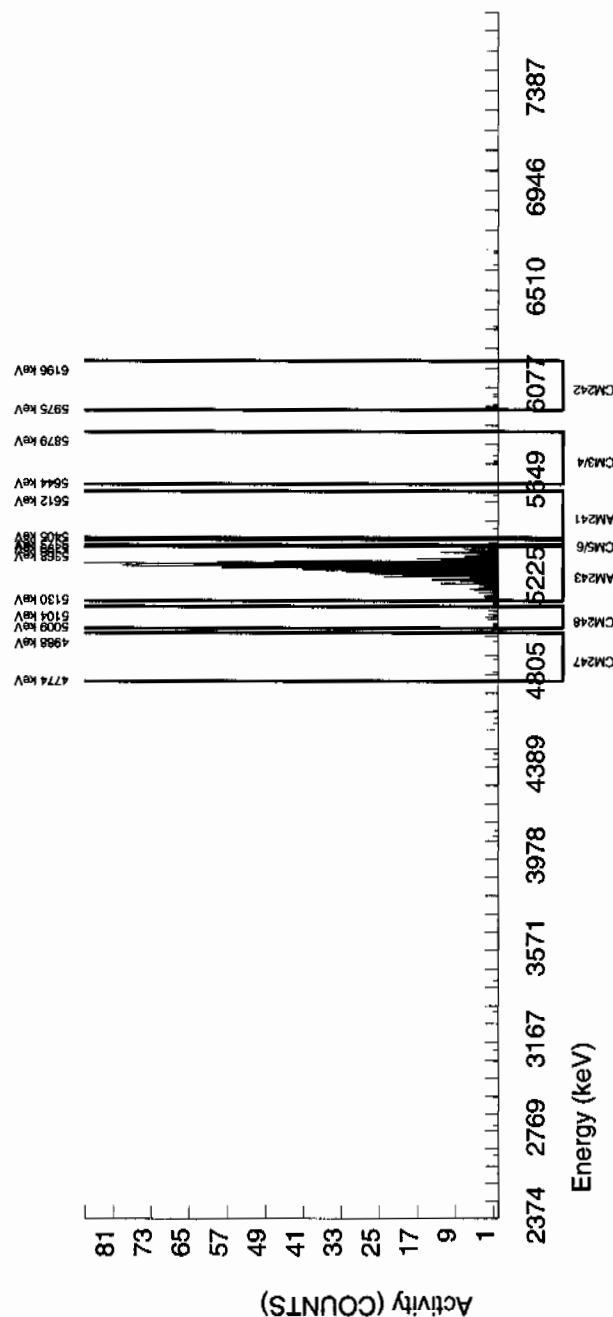
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

LIB FILE : ENV_ALPHA_AM
BKG FILE : B094.CNF;713
BKG DATE : 7-FEB-2010
BKG LIVE TIME(SEC) : 59999.99
EFF FILE : W094.CNF;191
CAL DATE : 11-JAN-2010

CHAMBER	:	094
DETECTOR S/N	:	78267
AVERAGE %EFFICIENCY	:	30.7541
COUNT DATE	:	8-FEB-2010 12:19:14
ELAPSED LIVE TIME(SEC)	:	59999.99

BATCH NUMBER	: 944922
SAMPLE ID	: S0245107006_AM
SAMPLE QTY	: 1.254 G
SAMPLE DATE	: 13-JAN-2010 00:00:00
ANALYST	: JXD2
% YIELD	: 92.962

LCS/LCSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3158E+01 pCi/G

MS/MSD
ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3158E+01 pCi/G

TRACER	:	445-96-2-SS
ID	:	AM243
NUCLIDE	:	2.9166E+00 dpm
NOMINAL	:	2.7113E+00 dpm
RESULTS	:	

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NUCLIDE ACTIVITY SUMMARY				ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
					NET AREA	BKG AREA	BKG Sg	%ABUN					
AM-241	5479.150	5532.135	113.496	2.000	0.552	0.000	3.0704	99.94000	6.94E-04	1.26E-03	8.98E-03	2.14E-02	1.26E-03
AM243	5270.000	5277.064	33.290	833.000	832.000	1.000	1.0000	99.78000	1.05E+00	7.44E-02	2.93E-03	9.27E-03	3.64E-02
CM-242	6102.000	6032.131	0.000	5.000	5.000	0.000	4.3186	100.0000	7.04E-03	3.18E-03	1.26E-02	2.87E-02	3.15E-03
CM-3/4	5795.020	5738.037	78.953	3.000	2.000	1.000	5.2338	100.0000	2.52E-03	2.52E-03	1.53E-02	3.40E-02	2.52E-03
CM-5/6	5386.000	5375.662	0.000	4.000	4.000	0.000	19.8463	86.09000	5.84E-03	2.94E-03	6.74E-02	1.39E-01	2.92E-03
CM-247	4946.000	4929.655	107.944	7.000	5.000	2.000	15.3366	79.30000	7.92E-03	4.78E-03	5.65E-02	1.17E-01	4.75E-03
CM-248	5078.600	5056.423	74.019	6.000	6.000	0.000	22.1555	91.00000	8.28E-03	3.42E-03	7.12E-02	1.46E-01	3.38E-03

NOTES:

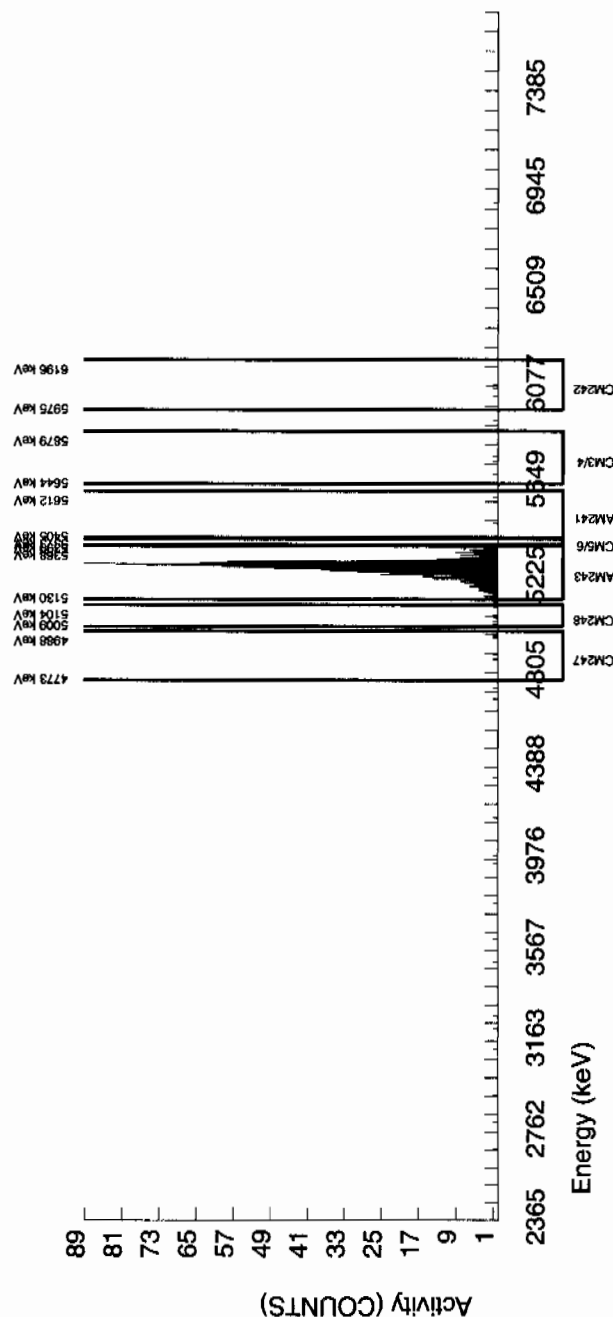
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107007_AM SAMPLE QTY : 1.256 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 44.363				CHAMBER : 095 DETECTOR SIN : 64279 AVERAGE %EFFICIENCY : 31.0608 COUNT DATE : 8-FEB-2010 12:19:15 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B095.CNF;679 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W095.CNF;207 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.2939E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5468.091	7.231	21.000	2.302	18.000	3.0704	99.94000	6.00E-03	1.61E-02	1.86E-02	4.43E-02	1.61E-02
AM-243	5270.000	5271.027	31.366	411.000	401.000	10.000	3.1623	99.78000	1.05E+00	9.16E-02	1.92E-02	4.54E-02	5.35E-02
CM-242	6102.000	6090.748	83.697	14.000	9.000	5.000	4.3186	100.0000	2.63E-02	1.29E-02	2.61E-02	5.94E-02	1.27E-02
CM-3/4	5795.020	5729.471	93.543	14.000	-1.000	15.000	5.2338	100.0000	-2.61E-03	1.41E-02	3.17E-02	7.04E-02	1.41E-02
CM-5/6	5386.000	5381.826	0.000	4.000	3.000	1.000	19.8463	86.09000	9.07E-03	6.79E-03	1.40E-01	2.87E-01	6.76E-03
CM-247	4946.000	4869.131	4.923	8.000	5.000	3.000	15.3366	79.30000	1.64E-02	1.09E-02	1.17E-01	2.43E-01	1.09E-02
CM-248	5078.600	5071.069	0.000	11.000	11.000	0.000	22.1555	91.00000	3.15E-02	9.75E-03	1.47E-01	3.03E-01	9.49E-03

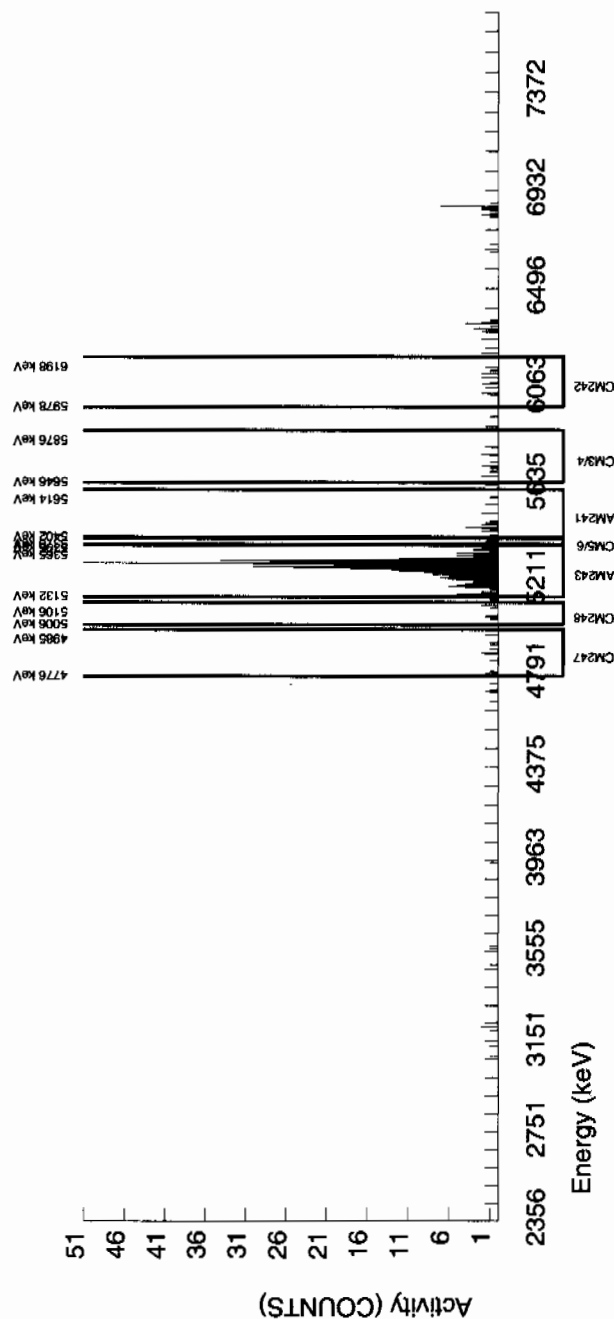
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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



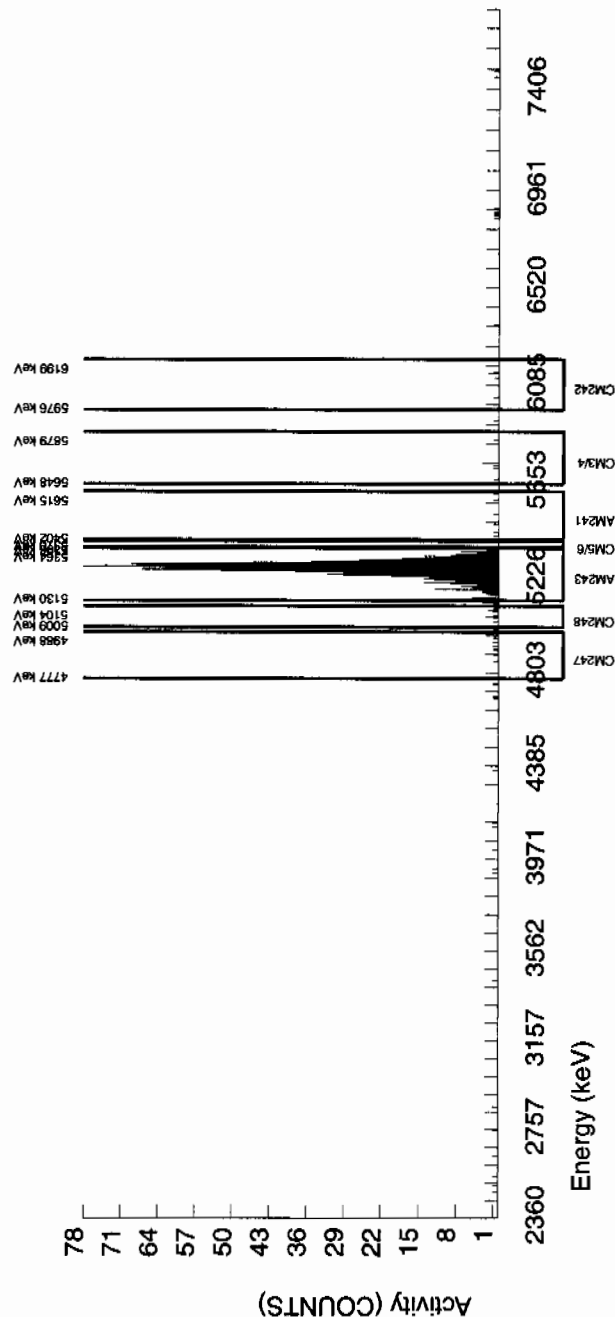
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107008_AM SAMPLE QTY : 1.257 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 91.857				CHAMBER : 097 DETECTOR S/N : 67599 AVERAGE %EFFICIENCY : 34.6778 COUNT DATE : 8-FEB-2010 12:19:15 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B097.CNF;673 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W097.CNF;191 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6791E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5494.626	187.055	7.000	2.387	3.000	3.0704	99.94000	2.69E-03	3.26E-03	8.04E-03	1.91E-02	3.26E-03
AM243	5270.000	5276.164	41.759	929.000	927.000	2.000	1.4142	99.78000	1.05E+00	7.09E-02	3.71E-03	1.05E-02	3.44E-02
CM-242	6102.000	6119.216	7.230	5.000	3.000	2.000	4.3186	100.00000	3.78E-03	3.34E-03	1.13E-02	2.57E-02	3.34E-03
CM-3/4	5795.020	5733.575	4.923	8.000	7.000	1.000	5.2338	100.00000	7.90E-03	3.42E-03	1.37E-02	3.04E-02	3.38E-03
CM-5/6	5386.000	5376.239	7.230	8.000	8.000	0.000	19.8463	86.09000	1.05E-02	3.75E-03	6.03E-02	1.24E-01	3.70E-03
CM-247	4946.000	4912.052	0.000	9.000	6.000	3.000	15.3366	79.30000	8.51E-03	4.94E-03	5.06E-02	1.05E-01	4.91E-03
CM-248	5078.600	5069.571	9.845	10.000	9.000	1.000	22.1555	91.00000	1.11E-02	4.15E-03	6.37E-02	1.31E-01	4.10E-03

NOTES:

* Sg calculated via blank population.
(Sg updated 5-JAN-2010)

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

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

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107009_AM SAMPLE QTY : 1.255 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 87.384				CHAMBER : 099 DETECTOR S/N : 70317 AVERAGE %EFFICIENCY : 33.9756 COUNT DATE : 8-FEB-2010 12:19:15 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B099.CNF;676 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W099.CNF;191 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5486E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5501.333	7.205	11.000	5.496	4.000	3.0704	99.94000	6.65E-03	4.46E-03	8.64E-03	2.06E-02	4.44E-03
AM243	5270.000	5273.482	28.975	866.000	864.000	2.000	1.4142	99.78000	1.05E+00	7.22E-02	3.99E-03	1.13E-02	3.57E-02
CM-242	6102.000	6046.631	4.905	6.000	6.000	0.000	4.3186	100.0000	8.13E-03	3.36E-03	1.21E-02	2.76E-02	3.32E-03
CM-3/4	5795.020	5740.484	166.785	8.000	8.000	0.000	5.2338	100.0000	9.70E-03	3.48E-03	1.47E-02	3.27E-02	3.43E-03
CM-5/6	5386.000	5381.218	0.000	4.000	4.000	0.000	19.8463	86.09000	5.62E-03	2.83E-03	6.48E-02	1.33E-01	2.81E-03
CM-247	4946.000	4880.454	4.905	10.000	10.000	0.000	15.3366	79.30000	1.52E-02	4.91E-03	5.44E-02	1.13E-01	4.82E-03
CM-248	5078.600	5073.906	42.463	15.000	14.000	1.000	22.1555	91.00000	1.86E-02	5.43E-03	6.85E-02	1.41E-01	5.31E-03

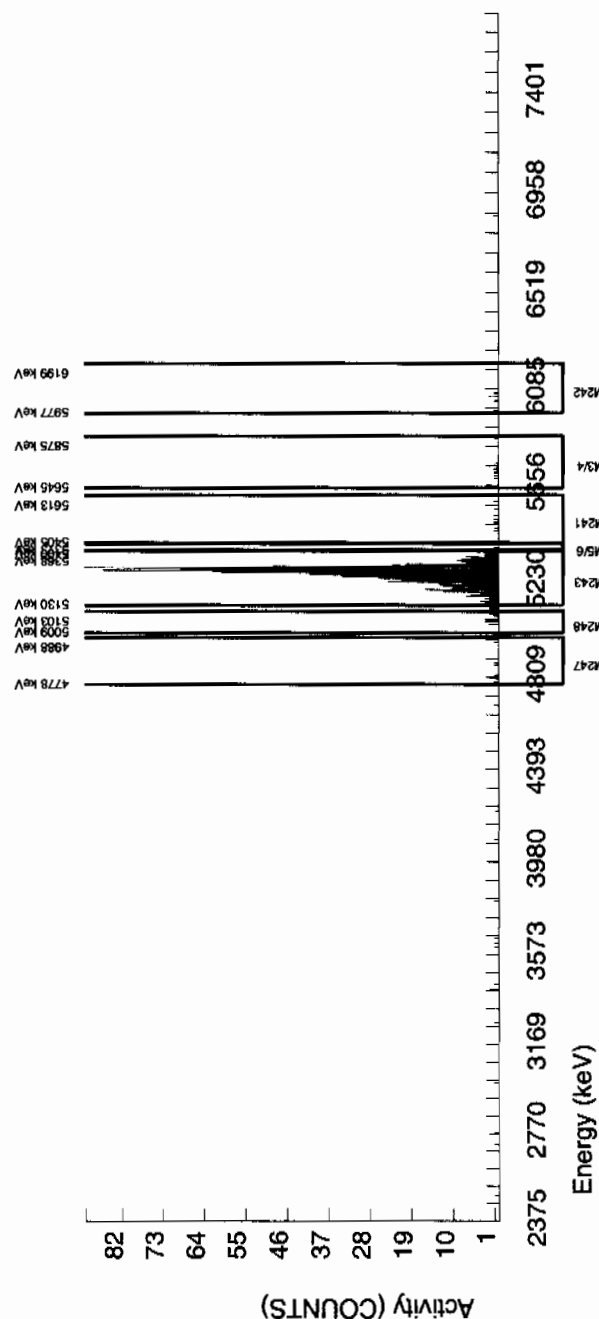
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107010_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 67.167	CHAMBER : 100 DETECTOR S/N : 79456 AVERAGE %EFFICIENCY : 33.7658 COUNT DATE : 8-FEB-2010 12:19:15 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B100.CNF:677 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W100.CNF:199 CAL DATE : 11-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.9590E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5554.720	102.774	3.000	1.851	0.000	3.0704	99.94000	2.94E-03	2.17E-03	1.13E-02	2.70E-02	2.16E-03
AM243	5270.000	5225.162	143.726	660.000	660.000	0.000	0.0000	99.78000	1.05E+00	7.75E-02	0.00E+00	4.31E-03	4.08E-02
CM-242	6102.000	6061.767	4.894	5.000	5.000	0.000	4.3186	100.00000	8.89E-03	4.02E-03	1.59E-02	3.62E-02	3.98E-03
CM-3/4	5795.020	5732.283	122.350	4.000	3.000	1.000	5.2338	100.00000	4.77E-03	3.57E-03	1.93E-02	4.29E-02	3.56E-03
CM-5/6	5386.000	5386.245	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.85E-03	8.51E-02	1.75E-01	1.84E-03
CM-247	4946.000	4906.535	8.539	47.000	45.000	2.000	15.3366	79.30000	9.00E-02	1.51E-02	7.14E-02	1.48E-01	1.40E-02
CM-248	5078.600	5067.793	0.000	75.000	74.000	1.000	22.1555	91.00000	1.29E-01	1.72E-02	8.99E-02	1.84E-01	1.52E-02

NOTES:

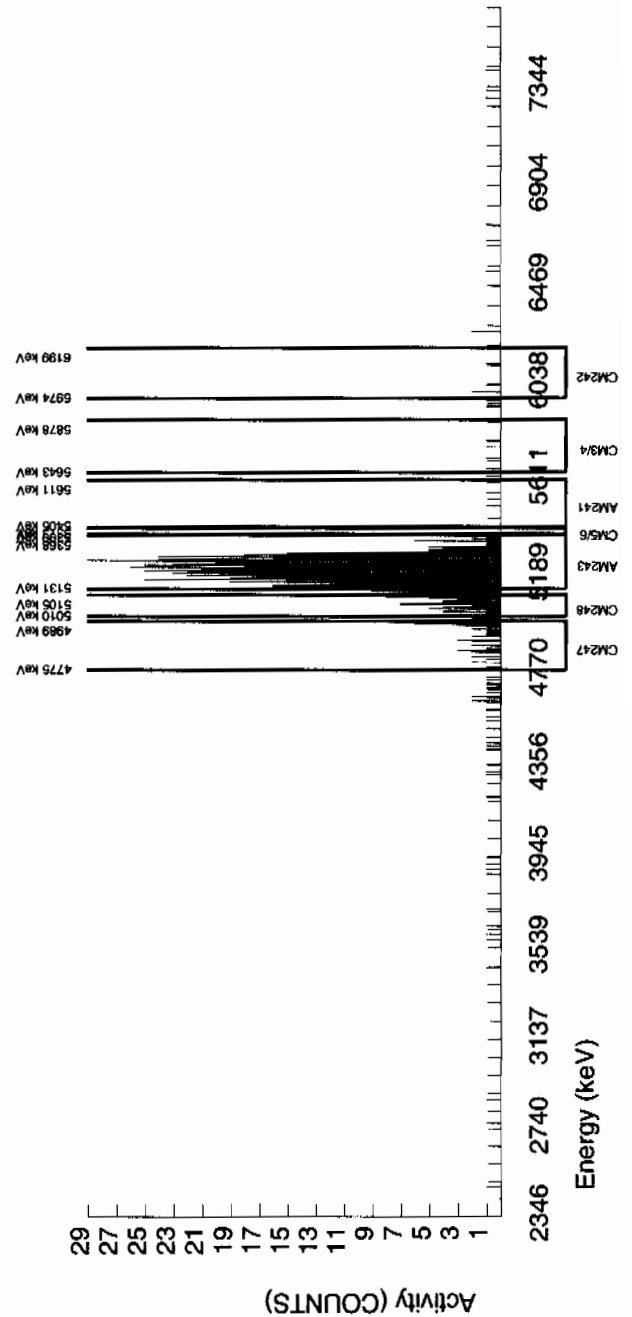
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107011_AM SAMPLE QTY : 1.255 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 86.611	CHAMBER : 101 DETECTOR S/N : 64253 AVERAGE %EFFICIENCY : 33.0490 COUNT DATE : 8-FEB-2010 12:19:16 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B101.CNF;680 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W101.CNF;178 CAL DATE : 11-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5261E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

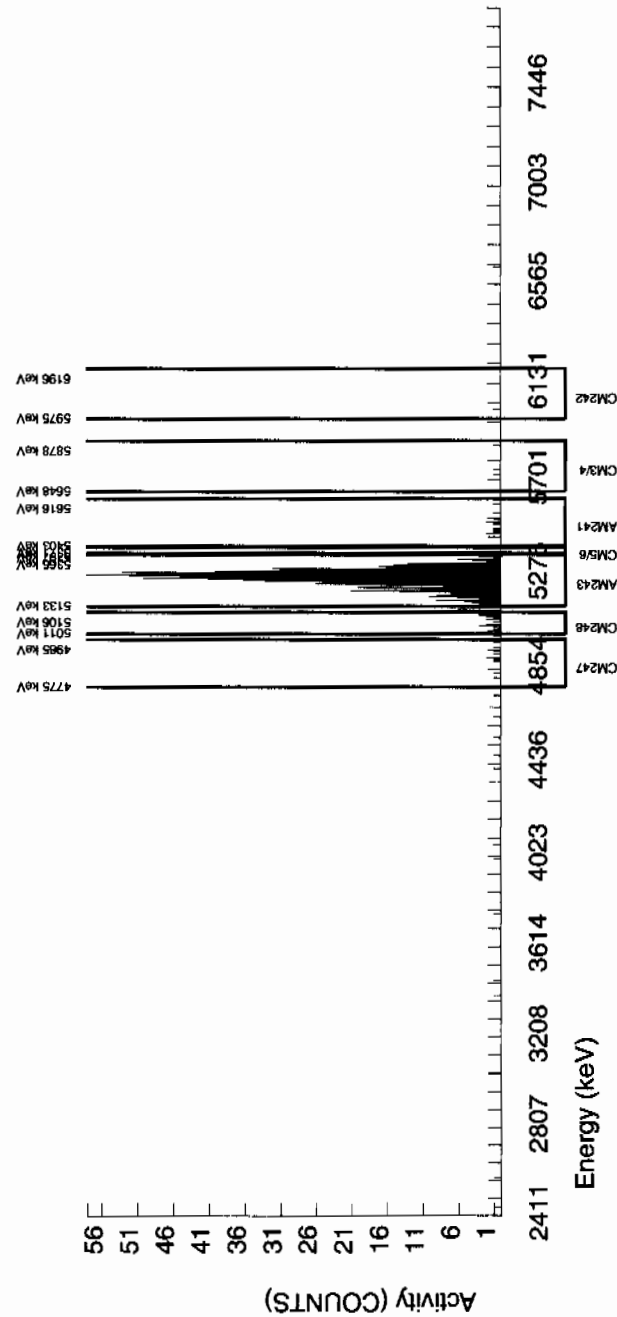
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5505.728	49.230	13.000	11.550	0.000	3.0704	99.94000	1.45E-02	4.35E-03	8.96E-03	2.13E-02	4.26E-03
AM243	5270.000	5263.633	57.653	834.000	833.000	1.000	1.0000	99.78000	1.05E+00	7.28E-02	2.92E-03	9.25E-03	3.63E-02
CM-242	6102.000	6036.694	29.600	2.000	1.000	1.000	4.3186	100.0000	1.41E-03	2.44E-03	1.26E-02	2.86E-02	2.43E-03
CM-3/4	5795.020	5781.439	128.265	3.000	1.000	2.000	5.2338	100.0000	1.26E-03	2.81E-03	1.53E-02	3.39E-02	2.81E-03
CM-5/6	5386.000	5376.074	0.000	4.000	4.000	0.000	19.8463	86.09000	5.83E-03	2.93E-03	6.72E-02	1.38E-01	2.91E-03
CM-247	4946.000	4908.038	7.246	11.000	8.000	3.000	15.3366	79.30000	1.26E-02	5.97E-03	5.64E-02	1.17E-01	5.92E-03
CM-248	5078.600	5074.286	0.000	24.000	24.000	0.000	22.1555	91.00000	3.31E-02	7.04E-03	7.10E-02	1.46E-01	6.75E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107012_AM SAMPLE QTY : 1.254 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 84.006				CHAMBER : 102 DETECTOR S/N : 72525 AVERAGE %EFFICIENCY : 33.0102 COUNT DATE : 8-FEB-2010 12:19:16 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B102.CNF;678 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W102.CNF;192 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4501E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5486.562	53.417	5.000	2.596	1.000	3.0704	99.94000	3.36E-03	2.79E-03	9.26E-03	2.20E-02	2.78E-03
AM243	5270.000	5267.426	36.168	807.000	807.000	0.000	0.0000	99.78000	1.05E+00	7.34E-02	0.00E+00	3.52E-03	3.69E-02
CM-242	6102.000	6039.615	87.410	6.000	6.000	0.000	4.3186	100.0000	8.71E-03	3.60E-03	1.30E-02	2.95E-02	3.56E-03
CM-3/4	5795.020	5781.394	4.856	9.000	9.000	0.000	5.2338	100.0000	1.17E-02	3.96E-03	1.58E-02	3.51E-02	3.90E-03
CM-5/6	5386.000	5375.468	9.712	4.000	4.000	0.000	19.8463	86.09000	6.02E-03	3.03E-03	6.95E-02	1.43E-01	3.01E-03
CM-247	4946.000	4899.729	4.856	13.000	12.000	1.000	15.3366	79.30000	1.96E-02	6.23E-03	5.83E-02	1.21E-01	6.11E-03
CM-248	5078.600	5063.733	82.493	16.000	16.000	0.000	22.1555	91.00000	2.28E-02	5.86E-03	7.34E-02	1.51E-01	5.69E-03

NOTES:

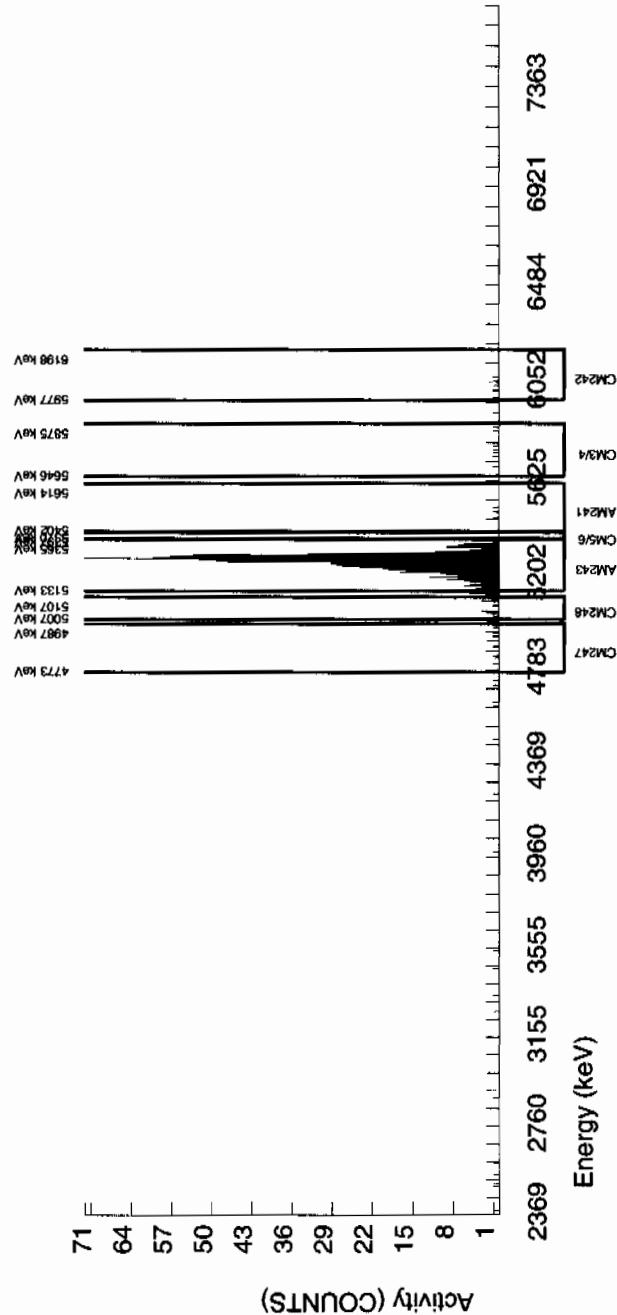
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	944922
SAMPLE ID	S0245107013_AM
SAMPLE QTY	1.256 G
SAMPLE DATE	13-JAN-2010 00:00
ANALYST	JXD2
% YIELD	92.840

CHAMBER	:	103
DETECTOR S/N	:	79461
AVERAGE %EFFICIENCY	:	32.7561
COUNT DATE	:	8-FEB-2010 12:19:16
ELAPSED LIVE TIME(SEC)	:	60000.00

LIB FILE	:	ENV_ALPHA_AM
BKG FILE	:	B103.CNF:682
BKG DATE	:	7-FEB-2010
BKG LIVE TIME(SEC)	:	59999.99
EFF FILE	:	W103.CNF:196
CAL DATE	:	11-JAN-2010

TRACER

ID : 445-96-2-SS
NUCLIDE : AM243
NOMINAL : 2.9166E+00 dpm
RESULTS : 2.7078E+00 dpm

MS/MSD

ID : 0244-B
NUCLIDE : AM-241
NOMINAL : 3.3158E+01 pCi/G

LCS/CSD

ID : 0244-B
 NUCLIDE : AM-241
 NOMINAL : 3.3158E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5523.239	4.910	2.000	0.460	0.000	3.0704	99.94000	5.43E-04	1.18E-03	8.43E-03	2.01E-02	1.18E-03
AM-243	5270.000	5266.239	44.050	887.000	885.000	2.000	1.4142	99.78000	1.05E+00	7.17E-02	3.89E-03	1.10E-02	3.52E-02
CM-242	6102.000	6059.355	4.910	9.000	9.000	0.000	4.3186	100.0000	1.19E-02	4.03E-03	1.18E-02	2.69E-02	3.97E-03
CM-3/4	5795.020	5725.271	7.212	6.000	6.000	0.000	5.2338	100.0000	7.10E-03	2.93E-03	1.44E-02	3.19E-02	2.90E-03
CM-5/6	5386.000	5387.616	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.37E-03	6.32E-02	1.30E-01	1.37E-03
CM-247	4946.000	4892.365	142.389	6.000	4.000	2.000	15.3366	79.30000	5.95E-03	4.22E-03	5.31E-02	1.10E-01	4.21E-03
CM-248	5078.600	5073.936	37.285	15.000	15.000	0.000	22.1555	91.00000	1.94E-02	5.15E-03	6.68E-02	1.37E-01	5.02E-03

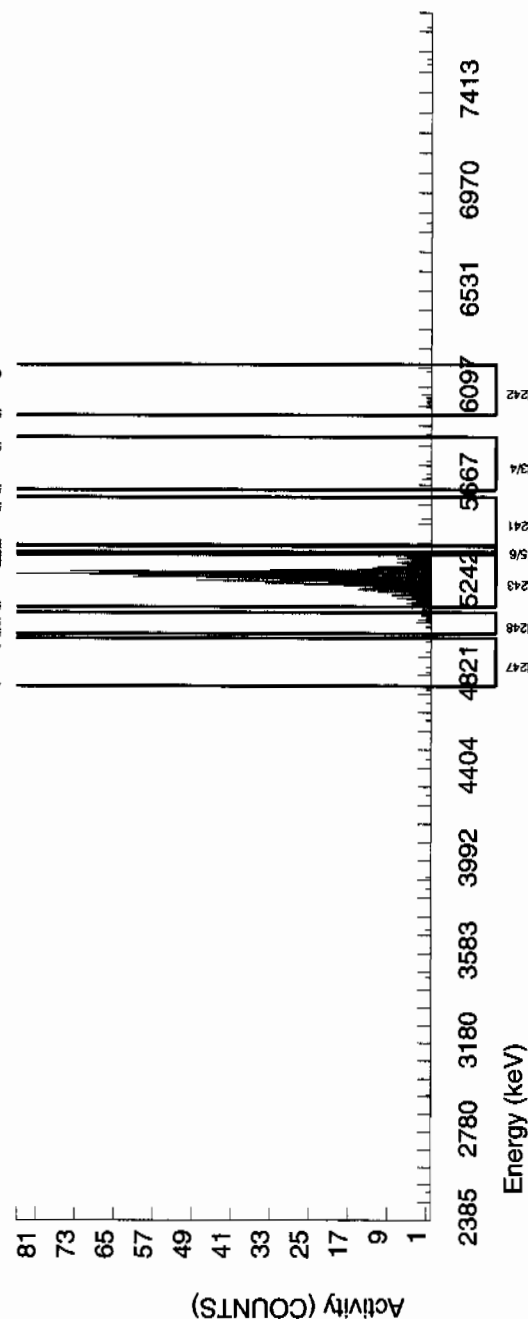
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107014_AM SAMPLE QTY : 1.254 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 92.588	CHAMBER : 104 DETECTOR S/N : 72524 AVERAGE %EFFICIENCY : 31.1752 COUNT DATE : 8-FEB-2010 12:19:16 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B104.CNF:678 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W104.CNF:201 CAL DATE : 11-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.7004E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/g	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/g
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g	MDC pCi/g	UNC pCi/g
AM-241	5479.150	5502.274	92.233	7.000	5.538	0.000	3.0704	99.94000	6.90E-03	2.96E-03	8.89E-03	2.12E-02	2.93E-03
AM-243	5270.000	5272.278	41.825	840.000	840.000	0.000	0.0000	99.78000	1.05E+00	7.27E-02	0.00E+00	3.38E-03	3.61E-02
CM-242	6102.000	6013.670	68.411	3.000	3.000	0.000	4.3186	100.0000	4.19E-03	2.43E-03	1.25E-02	2.84E-02	2.42E-03
CM-3/4	5795.020	5727.188	29.319	9.000	9.000	0.000	5.2338	100.0000	1.12E-02	3.80E-03	1.52E-02	3.37E-02	3.74E-03
CM-5/6	5386.000	5385.023	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.45E-03	6.67E-02	1.37E-01	1.45E-03
CM-247	4946.000	4877.898	4.886	8.000	7.000	1.000	15.3366	79.30000	1.10E-02	4.75E-03	5.60E-02	1.16E-01	4.71E-03
CM-248	5078.600	5066.059	7.177	9.000	7.000	2.000	22.1555	91.00000	9.57E-03	4.57E-03	7.05E-02	1.45E-01	4.54E-03

NOTES:

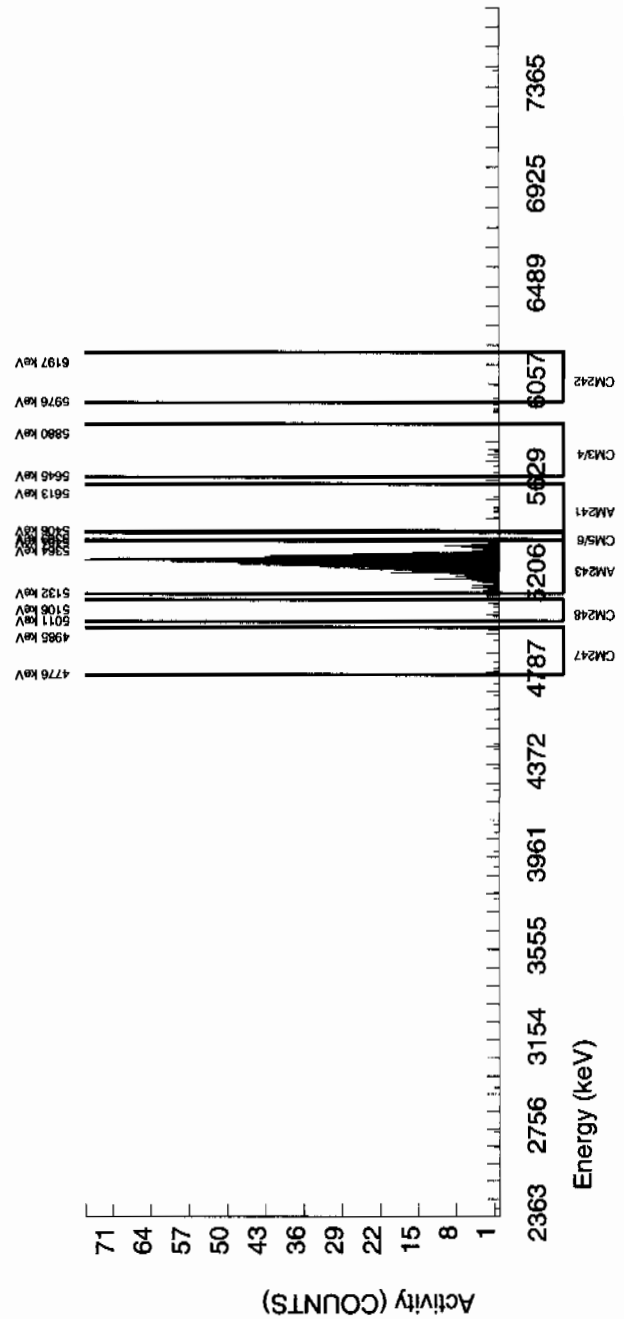
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922 SAMPLE ID : S0245107015_AM SAMPLE QTY : 1.253 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 83.195				CHAMBER : 105 DETECTOR S/N : 78777 AVERAGE %EFFICIENCY : 32.3821 COUNT DATE : 8-FEB-2010 12:19:16 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B105.CNF;680 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W105.CNF;173 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4264E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3158E+01 pCi/G					
NUCLEIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5478.133	7.168	6.000	3.636	1.000	3.0704	99.94000	4.86E-03	3.18E-03	9.54E-03	2.27E-02	3.17E-03
AM243	5270.000	5261.310	30.588	784.000	784.000	0.000	0.0000	99.78000	1.05E+00	7.40E-02	0.00E+00	3.62E-03	3.74E-02
CM-242	6102.000	6018.928	67.715	5.000	5.000	0.000	4.3186	100.0000	7.48E-03	3.38E-03	1.34E-02	3.04E-02	3.35E-03
CM-3/4	5795.020	5729.860	43.923	4.000	4.000	0.000	5.2338	100.0000	5.35E-03	2.70E-03	1.62E-02	3.61E-02	2.68E-03
CM-5/6	5386.000	5387.218	0.000	0.000	0.000	0.000	19.8463	86.09000	0.00E+00	1.55E-03	7.16E-02	1.47E-01	1.55E-03
CM-247	4946.000	4879.938	4.880	12.000	6.000	6.000	15.3366	79.30000	1.01E-02	7.17E-03	6.00E-02	1.25E-01	7.14E-03
CM-248	5078.600	5069.481	0.000	15.000	15.000	0.000	22.1555	91.00000	2.20E-02	5.84E-03	7.56E-02	1.55E-01	5.68E-03

NOTES:

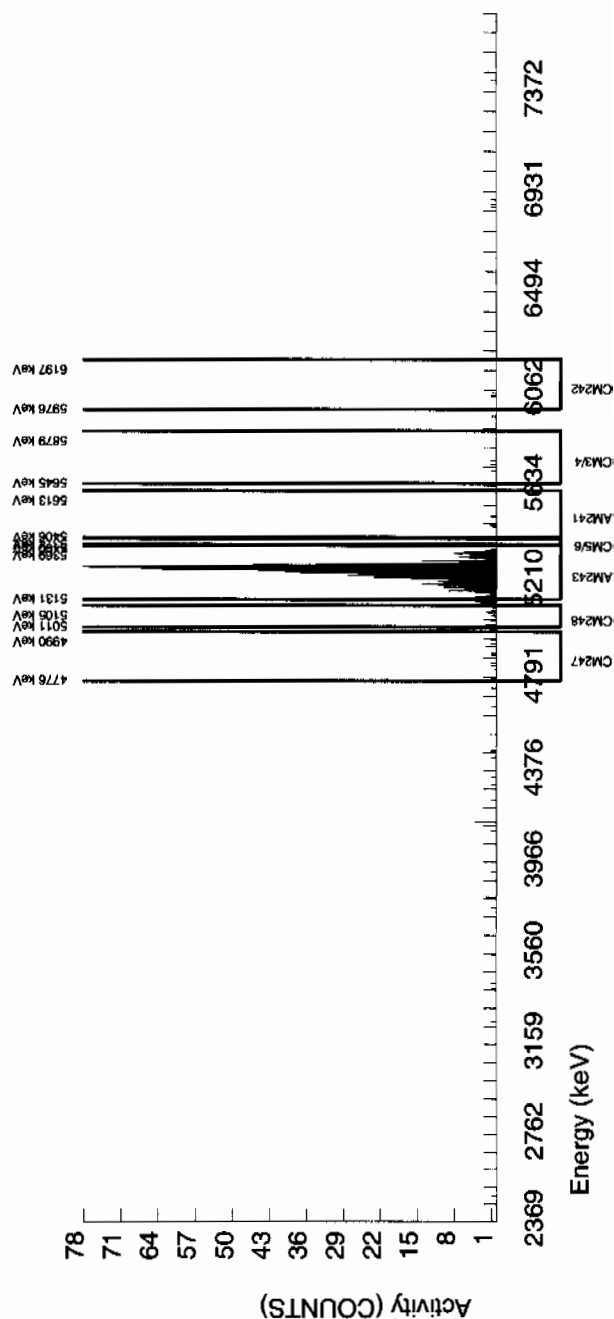
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944922				CHAMBER : 106				LIB FILE : ENV_ALPHA_AM					
SAMPLE ID : S0245107016_AM				DETECTOR S/N : 64274				BKG FILE : B106.CNF.680					
SAMPLE QTY : 1.253 G				AVERAGE %EFFICIENCY : 32.1326				BKG DATE : 7-FEB-2010					
SAMPLE DATE : 13-JAN-2010 00:00:00				COUNT DATE : 8-FEB-2010 12:19:16				BKG LIVE TIME(SEC) : 59999.99					
ANALYST : JXD2				ELAPSED LIVE TIME(SEC) : 60000.00				EFF FILE : W106.CNF.184					
% YIELD : 92.717								CAL DATE : 14-JAN-2010					
TRACER ID : 445-96-2-SS				MS/MSD ID : 0244-B				LCS/LCSD ID : 0244-B					
NUCLIDE : AM243				NUCLIDE : AM-241				NUCLIDE : AM-241					
NOMINAL : 2.9166E+00 dpm				NOMINAL : 3.3158E+01 pCi/G				NOMINAL : 3.3158E+01 pCi/G					
RESULTS : 2.7042E+00 dpm													
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5512.213	6.110	7.000	4.491	1.000	3.0704	99.94000	5.42E-03	3.09E-03	8.62E-03	2.05E-02	3.08E-03
AM243	5270.000	5254.235	46.238	869.000	867.000	2.000	1.4142	99.78000	1.05E+00	7.23E-02	3.98E-03	1.12E-02	3.57E-02
CM-242	6102.000	6006.730	0.000	4.000	4.000	0.000	4.3186	100.0000	5.41E-03	2.72E-03	1.21E-02	2.75E-02	2.71E-03
CM-3/4	5795.020	5703.274	4.929	5.000	4.000	1.000	5.2338	100.0000	4.84E-03	2.98E-03	1.47E-02	3.27E-02	2.96E-03
CM-5/6	5386.000	5391.052	4.929	1.000	1.000	0.000	19.8463	86.09000	1.40E-03	1.40E-03	6.47E-02	1.33E-01	1.40E-03
CM-247	4946.000	4929.633	0.000	18.000	14.000	4.000	15.3366	79.30000	2.13E-02	7.25E-03	5.43E-02	1.13E-01	7.14E-03
CM-248	5078.600	5064.611	0.000	36.000	34.000	2.000	22.1555	91.00000	4.51E-02	8.61E-03	6.83E-02	1.40E-01	8.17E-03

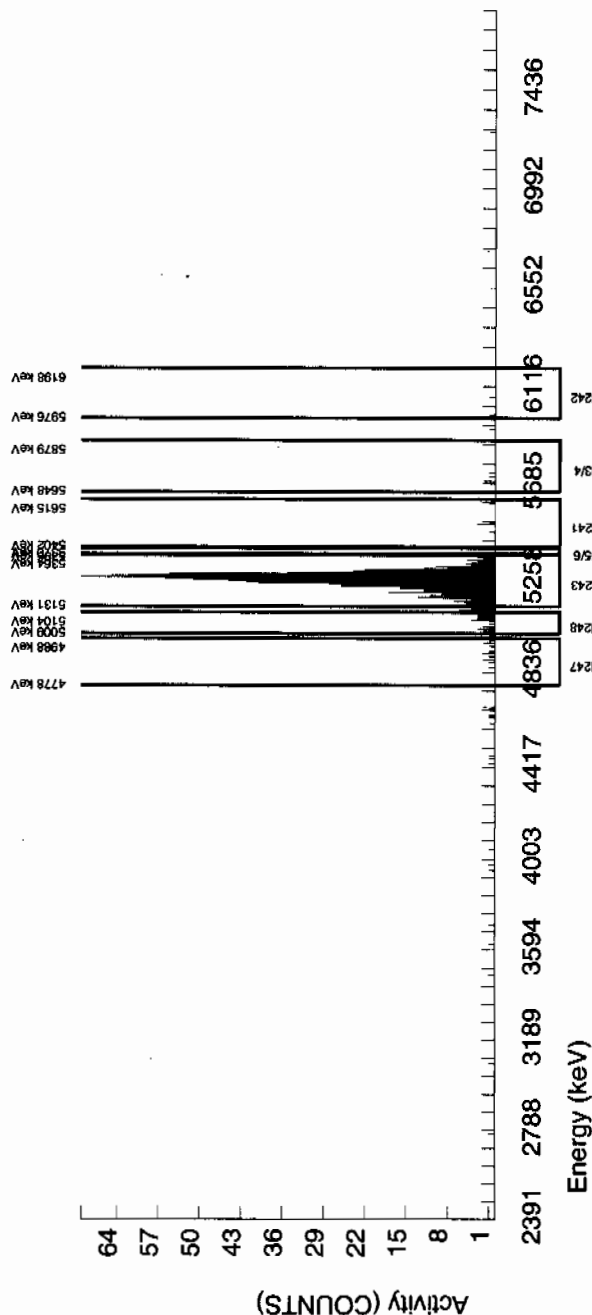
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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



BATCH NUMBER : 944922 SAMPLE ID : S1202023619_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 92.221				CHAMBER : 107 DETECTOR S/N : 67578 AVERAGE %EFFICIENCY : 30.9640 COUNT DATE : 8-FEB-2010 12:19:17 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B107.CNF;682 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W107.CNF;230 CAL DATE : 11-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6897E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3155E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3155E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-S/GMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5502.391	104.231	4.000	-1.446	4.000	3.0704	99.94000	-2.28E-03	4.04E-03	1.13E-02	2.68E-02	4.04E-03
AM243	5270.000	5273.513	46.440	833.000	831.000	2.000	1.4142	99.78000	1.31E+00	9.16E-02	5.20E-03	1.47E-02	4.57E-02
CM-242	6102.000	6057.978	7.290	8.000	8.000	0.000	4.3186	100.0000	1.29E-02	4.62E-03	1.58E-02	3.60E-02	4.55E-03
CM-3/4	5795.020	5725.413	81.740	9.000	7.000	2.000	5.2338	100.0000	1.10E-02	5.28E-03	1.92E-02	4.27E-02	5.23E-03
CM-5/6	5386.000	5380.163	4.963	3.000	3.000	0.000	19.8463	86.09000	5.50E-03	3.19E-03	8.46E-02	1.74E-01	3.17E-03
CM-247	4946.000	4886.090	4.963	7.000	4.000	3.000	15.3366	79.30000	7.96E-03	6.31E-03	7.10E-02	1.47E-01	6.29E-03
CM-248	5078.600	5081.388	0.000	12.000	12.000	0.000	22.1555	91.00000	2.08E-02	6.13E-03	8.93E-02	1.83E-01	6.00E-03

NOTES:

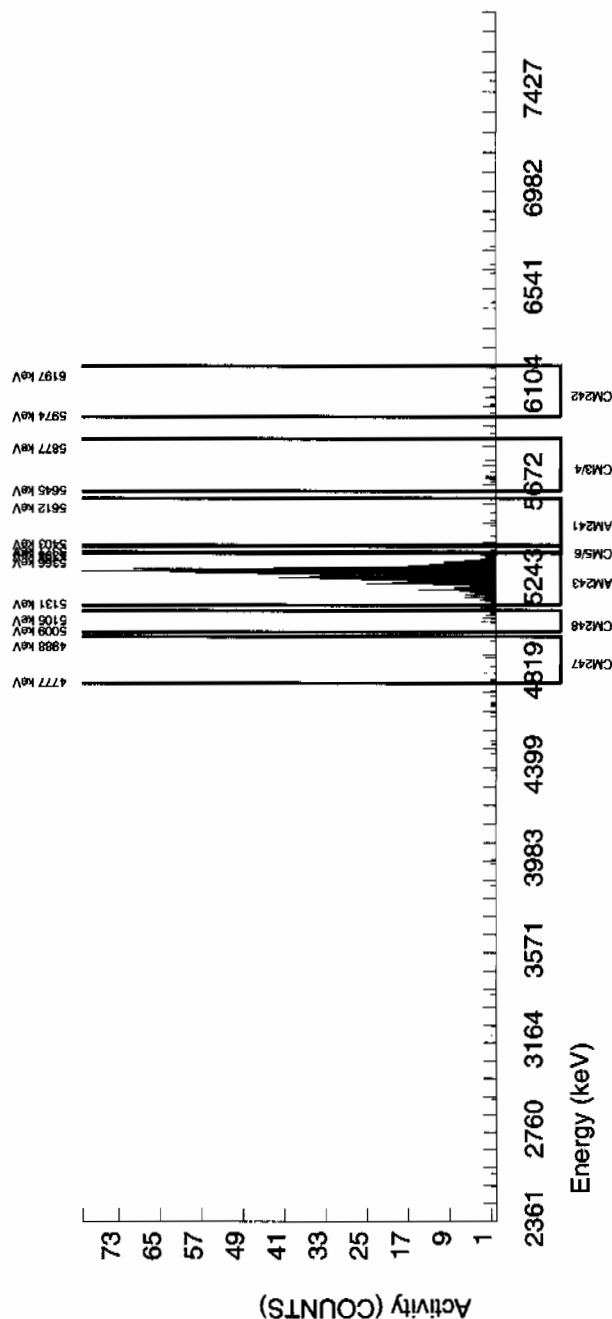
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



BATCH NUMBER : 944922 SAMPLE ID : S120203620_AM SAMPLE QTY : 1.259 G SAMPLE DATE : 13-FEB-2009 00:00:00 ANALYST : JXD2 % YIELD : 81.722				CHAMBER : 237 DETECTOR S/N : 79430 AVERAGE %EFFICIENCY : 39.3990 COUNT DATE : 8-FEB-2010 11:01:48 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B237.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W237.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9168E+00 dpm RESULTS : 2.3837E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3207E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3207E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5468.661	0.000	3.000	-2.631	4.000	3.0704	99.94000	-2.93E-03	2.58E-03	7.94E-03	1.89E-02	2.58E-03
AM243	5270.000	5277.357	50.491	938.000	937.000	1.000	1.0000	99.78000	1.04E+00	7.20E-02	2.59E-03	8.20E-03	3.41E-02
CM-242	6102.000	6053.559	98.395	4.000	4.000	0.000	4.3186	100.0000	2.06E-02	1.04E-02	1.12E-02	2.53E-02	1.03E-02
CM-3/4	5795.020	5765.059	93.476	3.000	3.000	0.000	5.2338	100.0000	3.46E-03	2.01E-03	1.35E-02	3.01E-02	2.00E-03
CM-5/6	5386.000	5377.914	0.000	14.000	14.000	0.000	19.8463	86.09000	1.81E-02	4.95E-03	5.96E-02	1.23E-01	4.83E-03
CM-247	4946.000	4912.934	185.260	27.000	25.000	2.000	15.3366	79.30000	3.50E-02	7.84E-03	5.00E-02	1.04E-01	7.55E-03
CM-248	5078.600	5071.885	31.722	42.000	42.000	0.000	22.1555	91.00000	5.13E-02	8.50E-03	6.29E-02	1.29E-01	7.91E-03

NOTES:

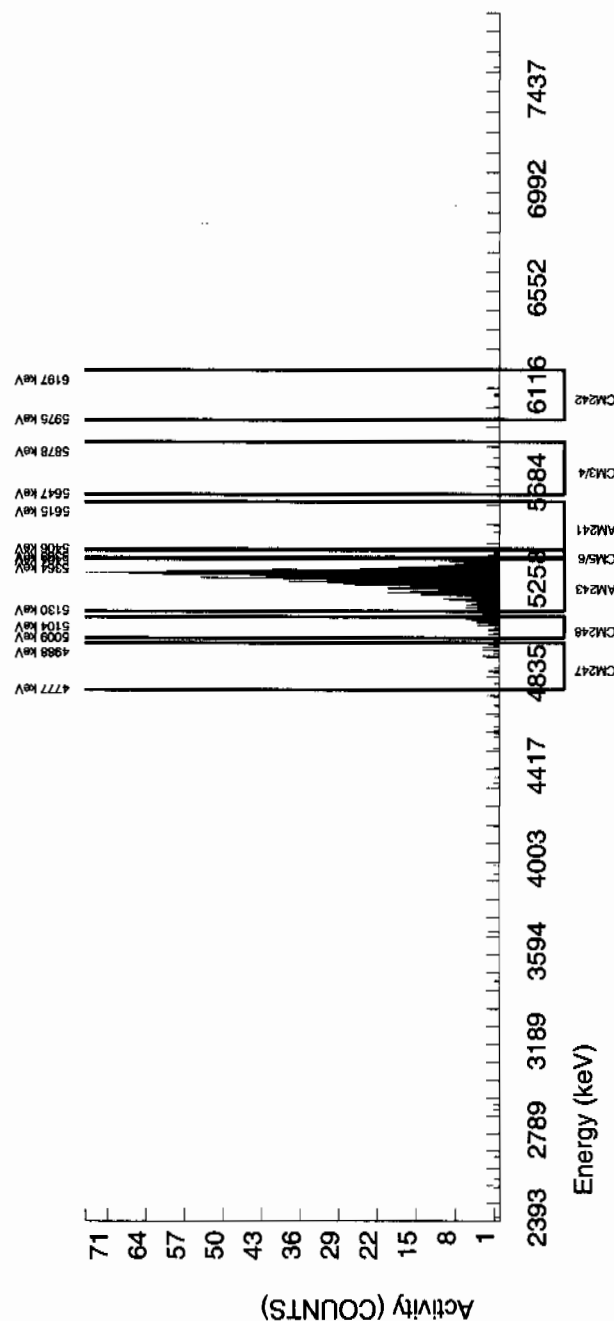
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

```
LIB FILE      : ENV_ALPHA_AM
BKG FILE      : B108.CNF;680
BKG DATE      : 7-FEB-2010
BKG LIVE TIME(SEC) : 60000.00
EFF FILE      : W108.CNF;211
CAL DATE      : 11-JAN-2010
```

CHAMBER : 108
DETECTOR S/N : 78778
AVERAGE %EFFICIENCY : 34.0779
COUNT DATE : 8-FEB-2010 12:19:17
ELAPSED LIVE TIME(SEC) : 60000.00

BATCH NUMBER	: 944922
SAMPLE ID	: S1202023621_AM
SAMPLE QTY	: 0.101 G
SAMPLE DATE	: 4-FEB-2010 00:00:00.
ANALYST	: JXD2
% YIELD	: 107.894

LCS/LCSD	
ID :	0244-B
NUCLIDE :	AM-241
NOMINAL :	3.3155E+01 pCi/G

MS/MSD	ID : 0244-B
	NUCLIDE : AM-241
	NOMINAL : 3.3155E+01 pCi/G

TRACER	ID	: 445-96-2-SS
	NUCLIDE	: AM243
	NOMINAL	: 2.9166E+00 dpm
	RESULTS	: 3.1468E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5487.595	44.959	2403.000	2399.138	2.000	3.0704	99.94000	2.91E+01	2.02E+00	8.67E-02	2.06E-01	5.95E-01
AM243	5270.000	5271.365	43.909	1073.000	1070.000	3.000	1.7321	99.78000	1.30E+01	9.49E-01	4.90E-02	1.31E-01	3.99E-01
CM-242	6102.000	6031.439	29.284	3.000	3.000	0.000	4.3186	100.00000	3.71E-02	2.16E-02	1.22E-01	2.77E-01	2.14E-02
CM-3/4	5795.020	5741.266	4.881	7.000	7.000	0.000	5.2338	100.00000	8.50E-02	3.26E-02	1.48E-01	3.21E-02	3.21E-02
CM-5/6	5386.000	5385.459	0.000	83.000	83.000	0.000	19.8463	86.09000	1.17E+00	1.50E-01	6.51E-01	1.34E+00	1.28E-01
CM-247	4946.000	4902.707	90.292	17.000	15.000	2.000	15.3366	79.30000	2.29E-01	6.84E-02	5.46E-01	1.13E+00	6.67E-02
CM-248	5078.600	5060.026	0.000	37.000	37.000	0.000	22.1555	91.00000	4.93E-01	8.74E-02	6.87E-01	1.41E+00	8.11E-02

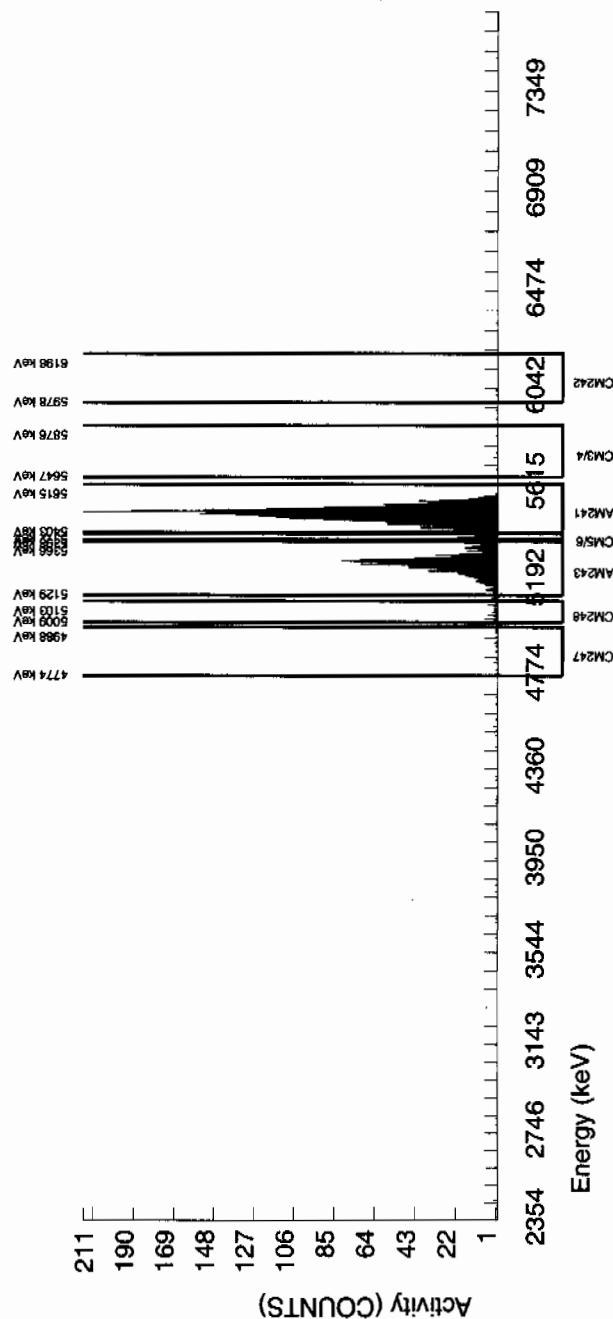
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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



Radiochemistry Batch Checklist, Rev10

Batch: 944928 Product: PL Date: 2/11/10

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% . Counter 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 Spikes 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 labeled.	✓		
QC data entered into QC database and batch is in REVIEW	✓		
HR 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 REMIP, results above MDC have been verified by historical results, recount or re-analyze.)	✓		

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: Devin Green 2/11/10

Secondary Review Performed By: E. J. [Signature] 2/11/10

Plutonium Que Sheet

25-JAN-10

Batch #: 944928 Analyst: JXD2 First Client Due Date: 17-FEB-10 Internal Due Date: 06-FEB-10
 Tracer Isotope(s): Pu-239/Pu-238 Tracer Code: 137C-A Expiration Date: 01/21/11 Vol: 0.1
 LCS Isotope(s): Pu-239/Pu-238 LCS Code: Expiration Date: Vol:
 Spike Isotope(s): Pu-239/Pu-238 Spike Code: Expiration Date: Vol:
 Prep Date: 02/04/10 Initials: JXD2 Pipet ID: 289058 Balance ID: 50410272 Witness: ADA 2/4/10


Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry Aliquot (g/l)	Pu Det #
245107001-1	RE15-10-7165	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	1	1	1.252	109 207
245107002-1	RE15-10-7171	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	2	2	1.255	111 207
245107003-1	RE15-10-7170	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	3	3	1.250	112 207
245107004-1	RE15-10-7164	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	4	4	1.259	222 207
245107005-1	RE15-10-7167	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	5	5	1.256	222 207
245107006-1	RE15-10-7169	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	6	6	1.254	227 207
245107007-1	RE15-10-7168	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	7	7	1.256	228 207
245107008-1	RE15-10-7166	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	8	8	1.257	231 207
245107009-1	RE15-10-7177	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	9	9	1.255	232 207
245107010-1	RE15-10-7181	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	10	10	1.252	233 207
245107011-1	RE15-10-7178	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	11	11	1.255	234 207
245107012-1	RE15-10-7182	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	12	12	1.254	235 207
245107013-1	RE15-10-7183	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	13	13	1.256	236 207
245107014-1	RE15-10-7176	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	14	14	1.254	237 207
245107015-1	RE15-10-7180	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	15	15	1.253	238 207
245107016-1	RE15-10-7179	SAMPLE	.05 pCi/g		SOIL	LANL010	13-JAN-10	16	16	1.253	239 207
1202023622-1	MB for batch 944928	MB	.05 pCi/g		SOIL	QC ACCOUNT	13-JAN-10	17	17	1.253	240 207
1202023623-1	RE15-10-7165(245107001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	13-JAN-10	18	18	1.259	241 207
1202023624-1	LCS for batch 944928	LCS	.05 pCi/g		SOIL	QC ACCOUNT	13-JAN-10	19	19	0.101	242 207

* SEM 0244-8 04/10/10 0.101g

Solid Sample Dissolution by LEACH or DIGESTION
 Circle One

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

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By:  2/11/10

Blank Correction Report

Batch ID 944928

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023623	DUP	Plutonium-238	1.26 g	0.00103	0.00103	0.0168	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	-0.00103	0.00178	0.0126	-0.00327778	pCi/g	NO
1202023624	LCS	Plutonium-238	0.101 g	6.01	0.437	0.190	-0.02722772	pCi/g	NO
		Plutonium-239/240	0.101 g	33.2	2.02	0.143	-0.04089109	pCi/g	NO
1202023622	MB	Plutonium-238	1.00 g	-0.00275	0.0039	0.0225	-0.00275	pCi/g	NO
		Plutonium-239/240	1.00 g	-0.00413	0.00364	0.0169	-0.00413	pCi/g	NO
245107001	RE15-10-7165	Plutonium-238	1.25 g	0.00483	0.00343	0.0197	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00	0.00171	0.0149	-0.003304	pCi/g	NO
245107002	RE15-10-7171	Plutonium-238	1.26 g	0.00	0.00307	0.0205	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0025	0.00177	0.0154	-0.00327778	pCi/g	NO
245107003	RE15-10-7170	Plutonium-238	1.25 g	0.00769	0.00316	0.0209	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0436	0.00841	0.0158	-0.003304	pCi/g	NO
245107004	RE15-10-7164	Plutonium-238	1.26 g	-0.0011	0.00246	0.018	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0011	0.00246	0.0135	-0.00327778	pCi/g	NO
245107005	RE15-10-7167	Plutonium-238	1.26 g	0.00222	0.00157	0.0181	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00111	0.00192	0.0136	-0.00327778	pCi/g	NO
245107006	RE15-10-7169	Plutonium-238	1.25 g	0.00113	0.00113	0.0184	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00225	0.0016	0.0139	-0.003304	pCi/g	NO
245107007	RE15-10-7168	Plutonium-238	1.26 g	0.0042	0.00258	0.0172	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0252	0.0055	0.0129	-0.00327778	pCi/g	NO
245107008	RE15-10-7166	Plutonium-238	1.26 g	0.00107	0.00185	0.0174	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00639	0.00303	0.0131	-0.00327778	pCi/g	NO
245107009	RE15-10-7177	Plutonium-238	1.26 g	0.00714	0.00272	0.0167	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0194	0.00455	0.0125	-0.00327778	pCi/g	NO
245107010	RE15-10-7181	Plutonium-238	1.25 g	0.00232	0.00233	0.019	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00232	0.00165	0.0143	-0.003304	pCi/g	NO
245107011	RE15-10-7178	Plutonium-238	1.26 g	0.00	0.00108	0.0176	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0334	0.00621	0.0132	-0.00327778	pCi/g	NO
245107012	RE15-10-7182	Plutonium-238	1.25 g	0.00328	0.0019	0.0179	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0142	0.004	0.0134	-0.003304	pCi/g	NO
245107013	RE15-10-7183	Plutonium-238	1.26 g	0.00	0.00104	0.017	-0.00218254	pCi/g	NO
		Plutonium-239/240	1.26 g	0.00417	0.0021	0.0128	-0.00327778	pCi/g	NO
245107014	RE15-10-7176	Plutonium-238	1.25 g	0.00443	0.00272	0.0181	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0177	0.00451	0.0136	-0.003304	pCi/g	NO
245107015	RE15-10-7180	Plutonium-238	1.25 g	0.0599	0.00908	0.020	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00489	0.003	0.015	-0.003304	pCi/g	NO
245107016	RE15-10-7179	Plutonium-238	1.25 g	0.00	0.00111	0.0182	-0.0022	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0122	0.00374	0.0137	-0.003304	pCi/g	NO

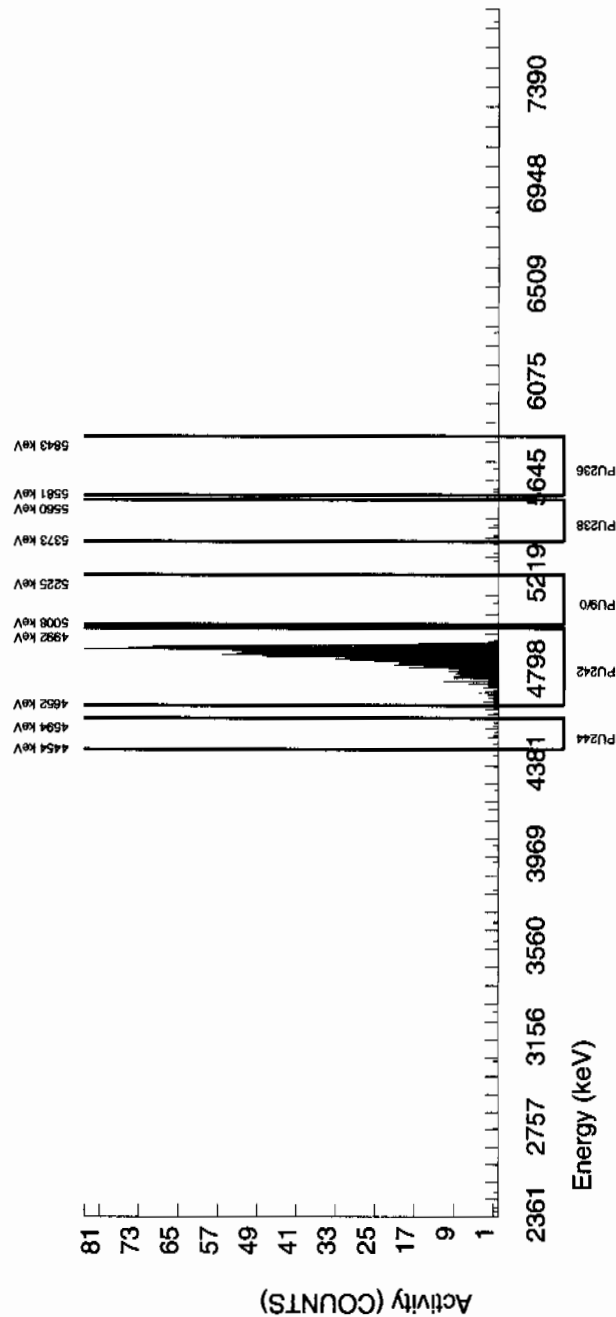
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107001_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 83.634				CHAMBER : 109 DETECTOR S/N : 79463 AVERAGE %EFFICIENCY : 35.6501 COUNT DATE : 9-FEB-2010 18:57:42 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B109.CNF;678 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W109.CNF;194 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8275E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5639.646	98.289	3.000	1.000	2.000	2.6925	100.0000	1.23E-03	2.75E-03	7.56E-03	1.84E-02	2.75E-03
PU-238	5499.000	5422.799	4.914	6.000	4.000	2.000	2.9312	99.900000	4.83E-03	3.43E-03	8.24E-03	1.97E-02	3.42E-03
PU-9/0	5155.000	5108.417	4.914	1.000	0.000	1.000	2.0604	99.900000	0.00E+00	1.71E-03	5.79E-03	1.49E-02	1.71E-03
PU242	4890.000	4872.349	49.275	1009.000	1008.000	1.000	1.0000	100.0000	1.22E+00	7.27E-02	2.81E-03	8.88E-03	3.83E-02
PU-244	4589.000	4523.526	7.218	10.000	9.000	1.000	3.7241	99.900000	1.09E-02	4.04E-03	1.05E-02	2.42E-02	4.01E-03

NOTES:

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

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



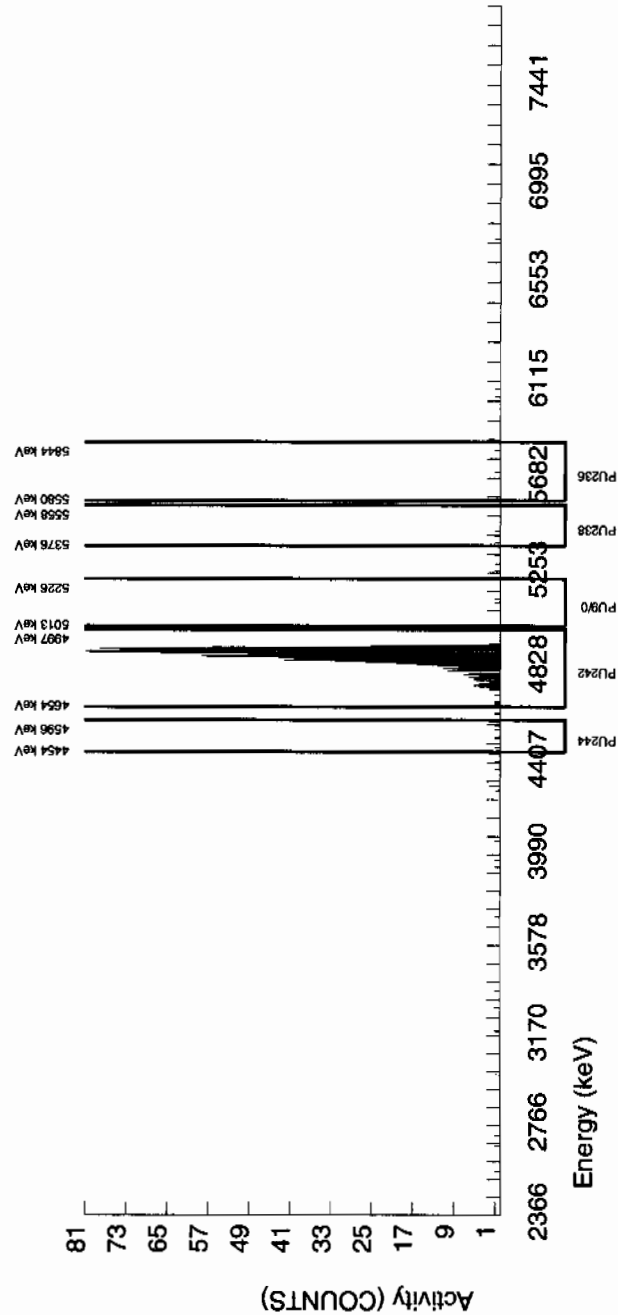
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107002_PU SAMPLE QTY : 1.255 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 86.715				CHAMBER : 111 DETECTOR S/N : 79462 AVERAGE %EFFICIENCY : 33.1216 COUNT DATE : 9-FEB-2010 18:57:42 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B111.CNF;677 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W111.CNF;209 CAL DATE : 9-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9316E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5762.827	94.416	2.000	2.000	0.000	2.6925	100.0000	2.55E-03	1.81E-03	7.83E-03	1.90E-02	1.80E-03
PU-238	5499.000	5423.855	54.662	3.000	0.000	3.000	2.9312	99.90000	0.00E+00	3.07E-03	8.53E-03	2.05E-02	3.07E-03
PU-9/0	5155.000	5132.725	19.877	2.000	2.000	0.000	2.0604	99.90000	2.50E-03	1.77E-03	6.00E-03	1.54E-02	1.77E-03
PU242	4890.000	4881.625	57.707	971.000	971.000	0.000	0.0000	100.0000	1.21E+00	7.32E-02	0.00E+00	3.39E-03	3.89E-02
PU-244	4589.000	4537.300	4.969	8.000	6.000	2.000	3.7241	99.90000	7.51E-03	3.97E-03	1.08E-02	2.51E-02	3.96E-03

NOTES:

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944928 SAMPLE ID : S0245107003_PU SAMPLE QTY : 1.250 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 88.509</p>	<p>CHAMBER : 112 DETECTOR S/N : 78261 AVERAGE %EFFICIENCY : 31.8150 COUNT DATE : 9-FEB-2010 18:57:42 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B112.CNF:685 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W112.CNF:221 CAL DATE : 15-FEB-2010</p>
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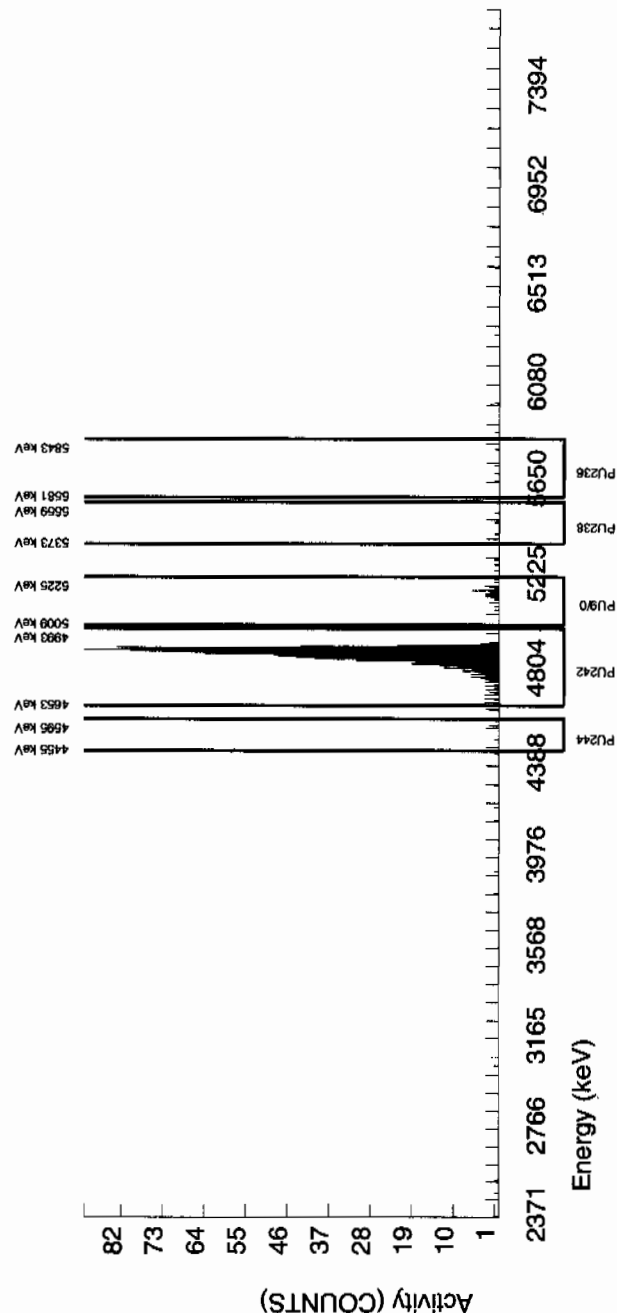
<p>TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9923E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
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NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5720.924	132.400	4.000	4.000	0.000	2.6925	100.0000	5.22E-03	2.62E-03	8.02E-03	1.95E-02	2.61E-03
PU-238	5499.000	5465.332	92.557	6.000	6.000	0.000	2.9312	99.900000	7.69E-03	3.16E-03	8.74E-03	2.09E-02	3.14E-03
PU-9/0	5155.000	5153.584	10.097	37.000	34.000	3.000	2.0604	99.900000	4.36E-02	8.41E-03	6.14E-03	1.58E-02	8.10E-03
PU242	4890.000	4878.646	42.662	954.000	952.000	2.000	1.4142	100.0000	1.22E+00	7.41E-02	4.21E-03	1.19E-02	3.96E-02
PU-244	4589.000	4559.052	4.904	4.000	4.000	0.000	3.7241	99.900000	5.12E-03	2.58E-03	1.11E-02	2.57E-02	2.56E-03

NOTES:

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

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



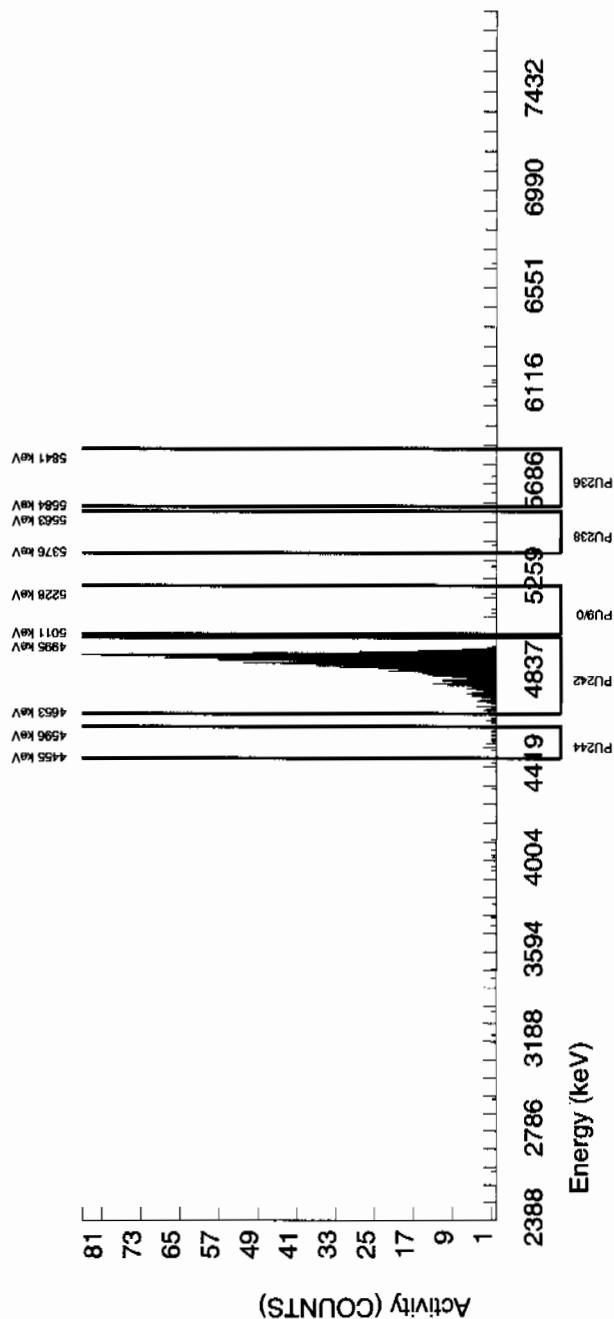
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107004_PU SAMPLE QTY : 1.259 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 86.544				CHAMBER : 221 DETECTOR S/N : 79414 AVERAGE %EFFICIENCY : 37.5959 COUNT DATE : 9-FEB-2010 19:25:35 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B221.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W221.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9259E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5688.563	69.310	2.000	2.000	0.000	2.6925	100.0000	2.24E-03	1.59E-03	6.89E-03	1.68E-02	1.58E-03
PU-238	5499.000	5397.583	0.000	2.000	-1.000	3.000	2.9312	99.90000	-1.10E-03	2.46E-03	7.51E-03	1.80E-02	2.46E-03
PU-9/0	5155.000	5144.625	84.162	3.000	1.000	2.000	2.0604	99.90000	1.10E-03	2.46E-03	5.28E-03	1.35E-02	2.46E-03
PU242	4890.000	4879.593	49.120	1100.000	1100.000	0.000	0.0000	100.0000	1.21E+00	7.03E-02	0.00E+00	2.98E-03	3.65E-02
PU-244	4589.000	4550.965	69.207	13.000	13.000	0.000	3.7241	99.90000	1.43E-02	4.03E-03	9.54E-03	2.21E-02	3.97E-03

NOTES:

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

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



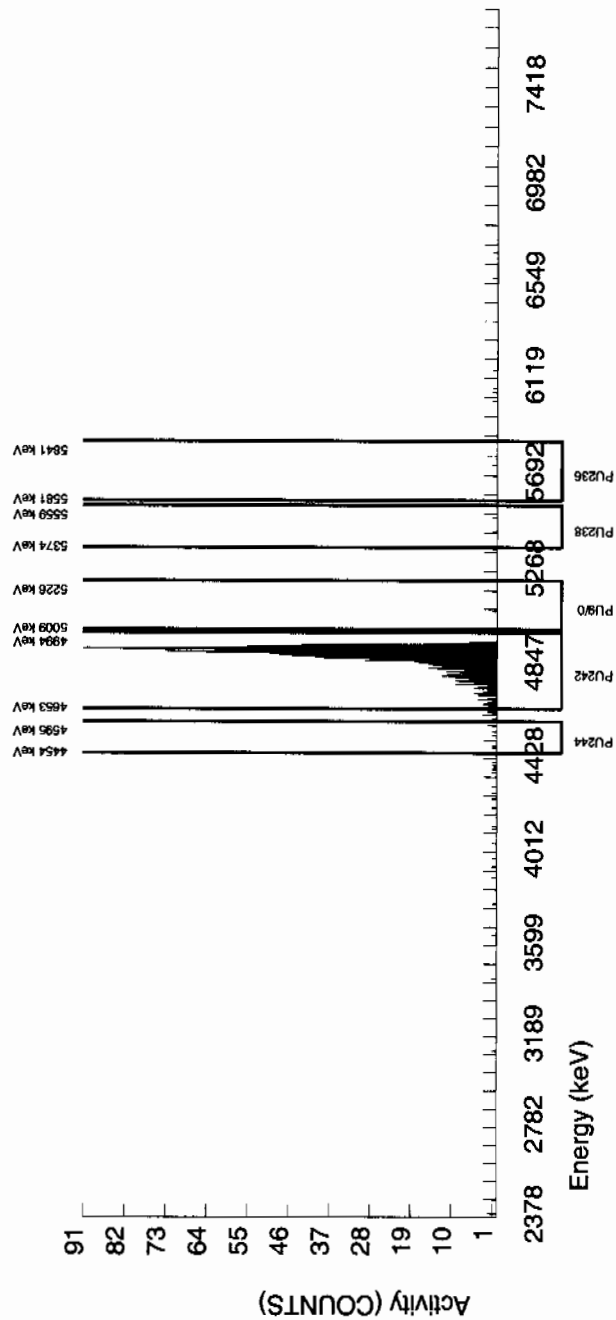
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107005_PU SAMPLE QTY : 1.256 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 90.029				CHAMBER : 222 DETECTOR S/N : 79415 AVERAGE %EFFICIENCY : 36.0091 COUNT DATE : 9-FEB-2010 19:25:36 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B222.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W222.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0437E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5733.043	75.529	3.000	2.000	1.000	2.6925	100.0000	2.25E-03	2.26E-03	6.93E-03	1.69E-02	2.25E-03
PU-238	5499.000	5479.735	65.458	2.000	2.000	0.000	2.9312	99.900000	2.22E-03	1.57E-03	7.55E-03	1.81E-02	1.57E-03
PU-9/0	5155.000	5138.587	90.634	2.000	1.000	1.000	2.0604	99.900000	1.11E-03	1.92E-03	5.31E-03	1.36E-02	1.92E-03
PU242	4890.000	4887.550	46.128	1096.000	1096.000	0.000	0.0000	100.0000	1.21E+00	7.06E-02	0.00E+00	3.00E-03	3.66E-02
PU-244	4589.000	4542.308	7.396	11.000	11.000	0.000	3.7241	99.900000	1.22E-02	3.72E-03	9.59E-03	2.22E-02	3.67E-03

NOTES:

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

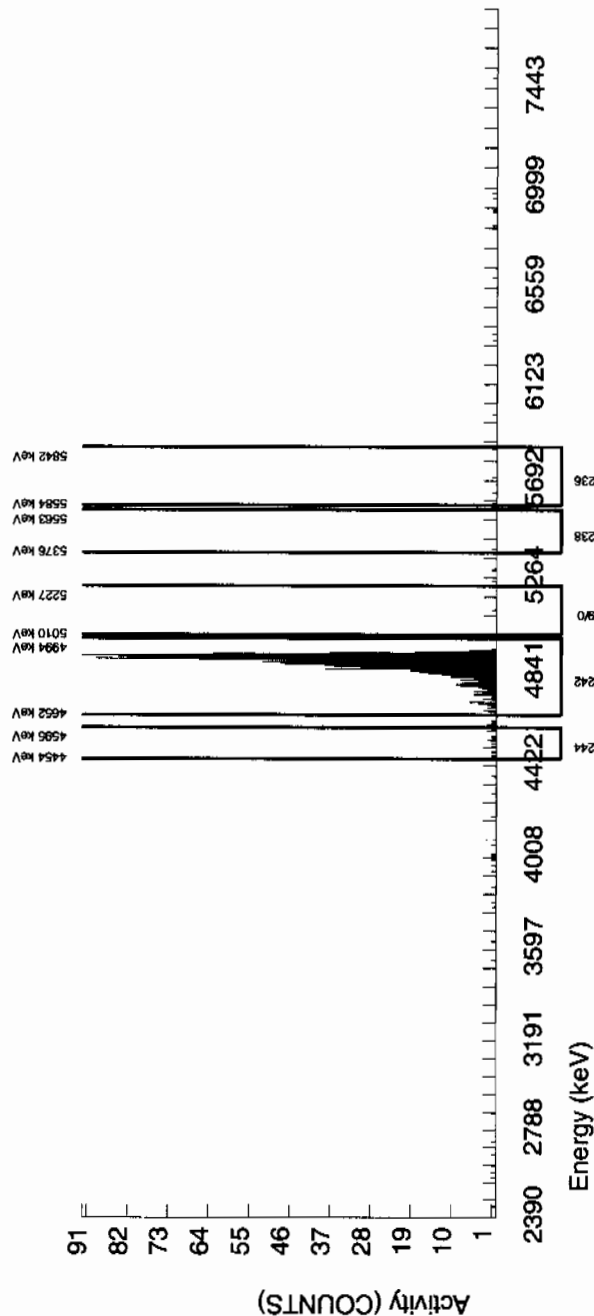
* Sg of PU242 calculated as sqrt(BKG AREA).



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107006_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 85.941				CHAMBER : 223 DETECTOR S/N : 79416 AVERAGE %EFFICIENCY : 37.1371 COUNT DATE : 9-FEB-2010 19:25:39 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B223.CNF;80 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W223.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9054E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5714.259	227.607	5.000	3.000	2.000	2.6925	100.0000	3.44E-03	3.04E-03	7.05E-03	1.71E-02	3.03E-03
PU-238	5499.000	5397.462	4.948	1.000	1.000	0.000	2.9312	99.90000	1.13E-03	1.13E-03	7.68E-03	1.84E-02	1.13E-03
PU-9/0	5155.000	5155.540	59.376	2.000	2.000	0.000	2.0604	99.90000	2.25E-03	1.60E-03	5.40E-03	1.39E-02	1.59E-03
PU242	4890.000	4886.029	47.765	1080.000	1079.000	1.000	1.0000	100.0000	1.21E+00	7.10E-02	2.62E-03	8.29E-03	3.70E-02
PU-244	4589.000	4533.932	49.480	15.000	15.000	0.000	3.7241	99.90000	1.69E-02	4.44E-03	9.76E-03	2.26E-02	4.36E-03

NOTES:

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

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

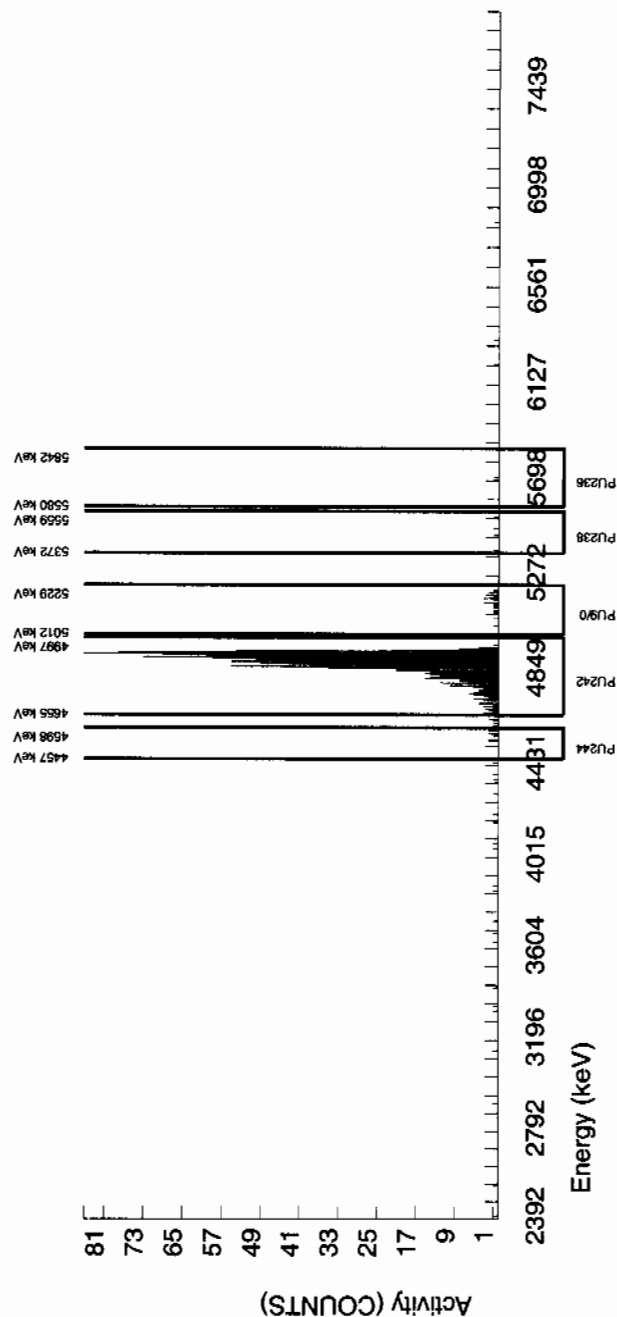
BATCH NUMBER : 944928 SAMPLE ID : S0245107007_PU SAMPLE QTY : 1.256 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 90.505				CHAMBER : 224 DETECTOR S/N : 79417 AVERAGE %EFFICIENCY : 37.7809 COUNT DATE : 9-FEB-2010 19:25:43 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B224.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W224.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0597E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5713.715	14.944	2.000	2.000	0.000	2.6925	100.0000	2.14E-03	1.51E-03	6.57E-03	1.60E-02	1.51E-03
PU-238	5499.000	5482.050	139.474	5.000	4.000	1.000	2.9312	99.90000	4.20E-03	2.58E-03	7.16E-03	1.72E-02	2.57E-03
PU-9/0	5155.000	5158.476	50.964	25.000	24.000	1.000	2.0604	99.90000	2.52E-02	5.50E-03	5.03E-03	1.29E-02	5.35E-03
PU242	4890.000	4888.530	68.621	1157.000	1156.000	1.000	1.0000	100.0000	1.21E+00	6.96E-02	2.44E-03	7.72E-03	3.57E-02
PU-244	4589.000	4548.274	46.388	14.000	14.000	0.000	3.7241	99.90000	1.47E-02	3.99E-03	9.10E-03	2.10E-02	3.93E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



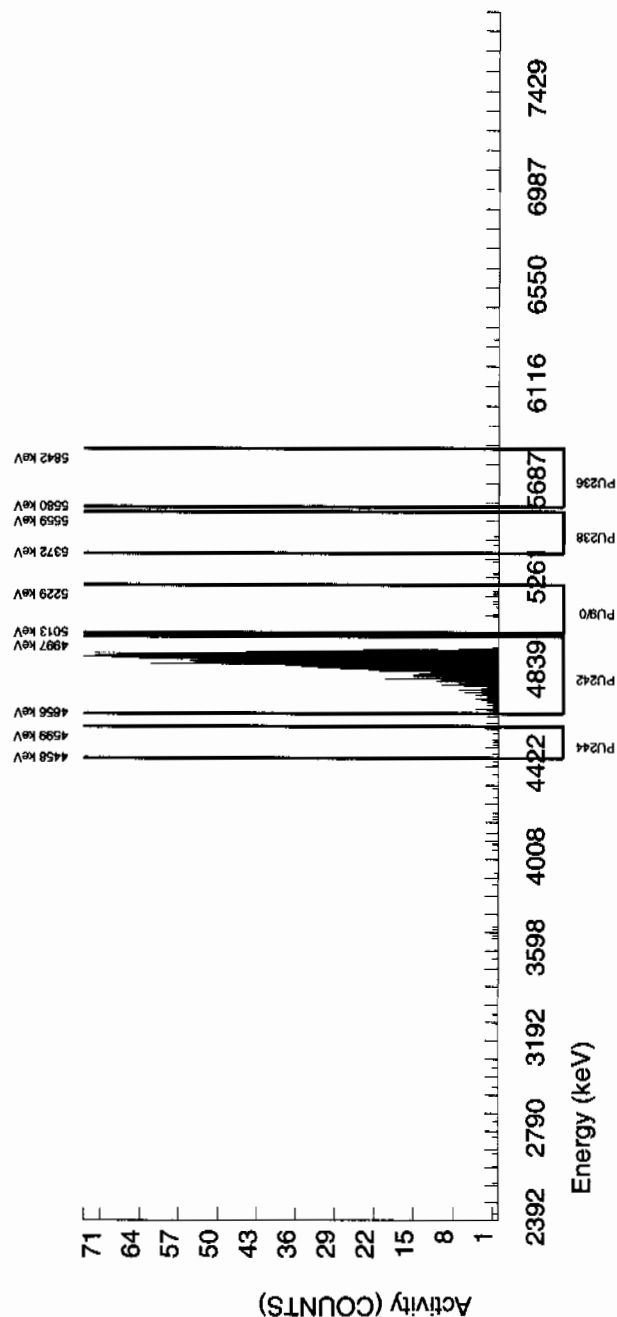
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107008_PU SAMPLE QTY : 1.257 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 86.772				CHAMBER : 225 DETECTOR S/N : 79418 AVERAGE %EFFICIENCY : 38.7926 COUNT DATE : 9-FEB-2010 19:25:45 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B225.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W225.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9335E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5710.877	0.000	0.000	0.000	0.000	2.6925	100.0000	0.00E+00	1.09E-03	6.67E-03	1.62E-02	1.08E-03
PU-238	5499.000	5433.594	39.612	2.000	1.000	1.000	2.9312	99.90000	1.07E-03	1.85E-03	7.27E-03	1.74E-02	1.85E-03
PU-9/0	5155.000	5147.783	108.932	7.000	6.000	1.000	2.0604	99.90000	6.39E-03	3.03E-03	5.11E-03	1.31E-02	3.01E-03
PU242	4890.000	4882.860	61.261	1139.000	1138.000	1.000	1.0000	100.0000	1.21E+00	6.98E-02	2.48E-03	7.84E-03	3.59E-02
PU-244	4589.000	4531.528	118.835	8.000	8.000	0.000	3.7241	99.90000	8.53E-03	3.04E-03	9.23E-03	2.14E-02	3.01E-03

NOTES:

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER	: 944928
SAMPLE ID	: S0245107009_PU
SAMPLE QTY	: 1.255 G
SAMPLE DATE	: 13-JAN-2010 00:00:00
ANALYST	: JXD2
% YIELD	: 94.614

CHAMBER : 226
DETECTOR S/N : 79419
AVERAGE %EFFICIENCY : 37.2343
COUNT DATE : 9-FEB-2010 19:25:47
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE	:	ENV_ALPHA_PU
BKG FILE	:	B226.CNF;78
BKG DATE	:	7-FEB-2010
BKG LIVE TIME(SEC)	:	60000.00
EFF FILE	:	W226.CNF;28
CAL DATE	:	29-JAN-2010

TRACER	
ID	: 1375-A
NUCLIDE	: PU242
NOMINAL	: 3.3808EE
RESULTS	: 3.1987EE

MS/MSD
ID : 0244-B
NUCLIDE : PU-9/0
NOMINAL : 4.1778E+01 pCi/G

LCS/LCSD ID	NUCLIDE	NOMINAL
1	137Cs	1000
2	137Cs	1000
3	137Cs	1000
4	137Cs	1000
5	137Cs	1000
6	137Cs	1000
7	137Cs	1000
8	137Cs	1000
9	137Cs	1000
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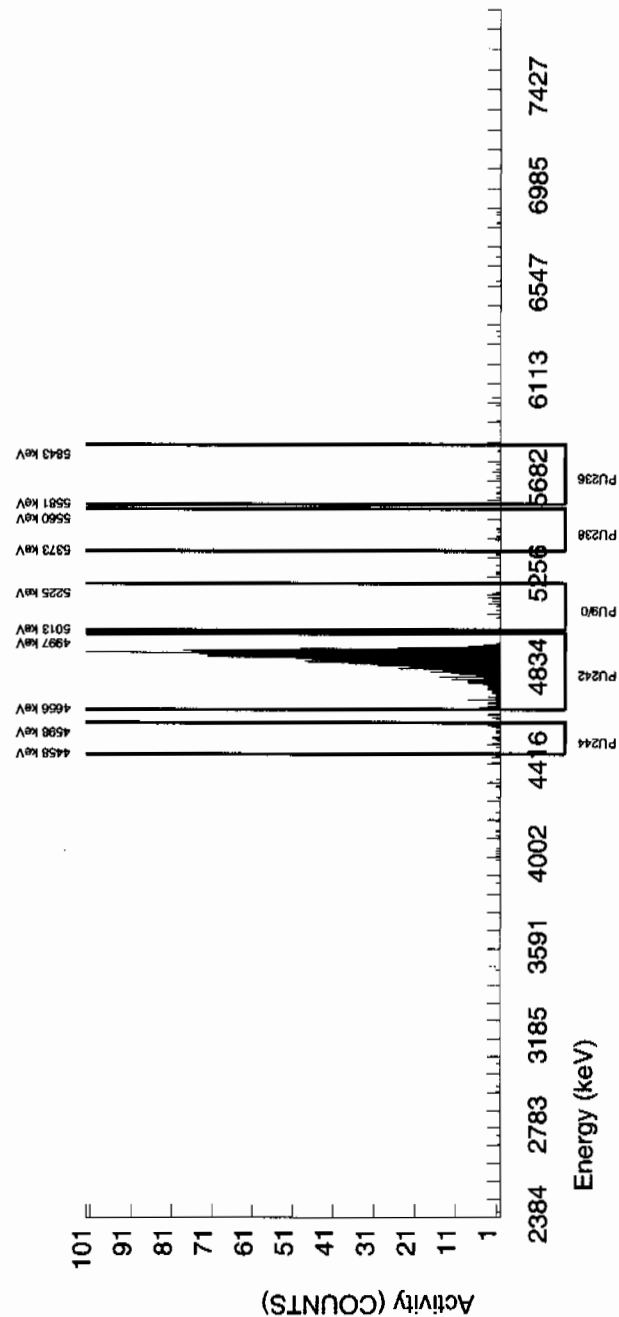
NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5702.925	4.955	11.000	10.000	1.000	2.6925	100.0000	1.04E-02	3.63E-03	6.38E-03	1.55E-02	3.60E-03
PU-238	5499.000	5433.161	0.000	7.000	7.000	0.000	2.9312	99.900000	7.14E-03	2.72E-03	6.95E-03	1.67E-02	2.70E-03
PU-9/0	5155.000	5147.627	43.353	19.000	19.000	0.000	2.0604	99.900000	1.94E-02	4.55E-03	4.89E-03	1.25E-02	4.45E-03
PU242	4890.000	4881.324	39.002	1193.000	1191.000	2.000	1.4142	100.0000	1.21E+00	6.92E-02	3.35E-03	9.47E-03	3.52E-02
PU-244	4589.000	4541.579	74.320	17.000	17.000	0.000	3.7241	99.900000	1.73E-02	4.29E-03	8.84E-03	2.04E-02	4.20E-03

NOTES:

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

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



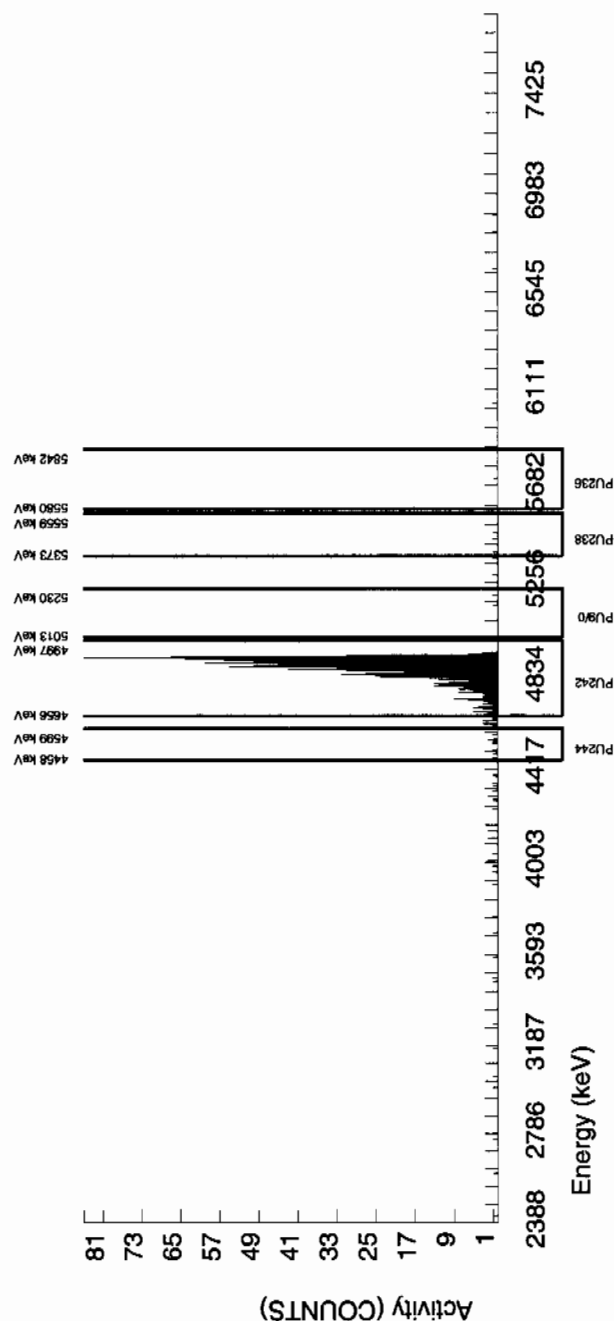
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928										LIB FILE : ENV_ALPHA_PU									
SAMPLE ID : S0245107010_PU										BKG FILE : B227.CNF;78									
SAMPLE QTY : 1.252 G										BKG DATE : 7-FEB-2010									
SAMPLE DATE : 13-JAN-2010 00:00:00										BKG LIVE TIME(SEC) : 60000.00									
ANALYST : JXD2										EFF FILE : W227.CNF;28									
% YIELD : 80.300										CAL DATE : 29-JAN-2010									
TRACER ID : 1375-A										LCS/LCSD ID : 0244-B									
NUCLIDE : PU242										NUCLIDE : PU-9/0									
NOMINAL : 3.3808E+00 dpm										NOMINAL : 4.1778E+01 pCi/G									
RESULTS : 2.7147E+00 dpm																			
NUCLIDE ACTIVITY SUMMARY																			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G						
PU-236	5749.000	5703.114	34.617	2.000	2.000	0.000	2.6925	100.0000	2.36E-03	1.67E-03	7.26E-03	1.77E-02	1.67E-03						
PU-238	5498.000	5441.749	84.069	3.000	2.000	1.000	2.9312	99.90000	2.32E-03	2.33E-03	7.91E-03	1.90E-02	2.32E-03						
PU-9/0	5155.000	5181.887	44.507	2.000	2.000	0.000	2.0604	99.90000	2.32E-03	1.65E-03	5.56E-03	1.43E-02	1.64E-03						
PU242	4890.000	4874.949	57.961	1050.000	1049.000	1.000	1.0000	100.0000	1.22E+00	7.17E-02	2.70E-03	8.54E-03	3.76E-02						
PU-244	4589.000	4526.765	0.000	16.000	16.000	0.000	3.7241	99.90000	1.86E-02	4.74E-03	1.01E-02	2.33E-02	4.64E-03						

NOTES:

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

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



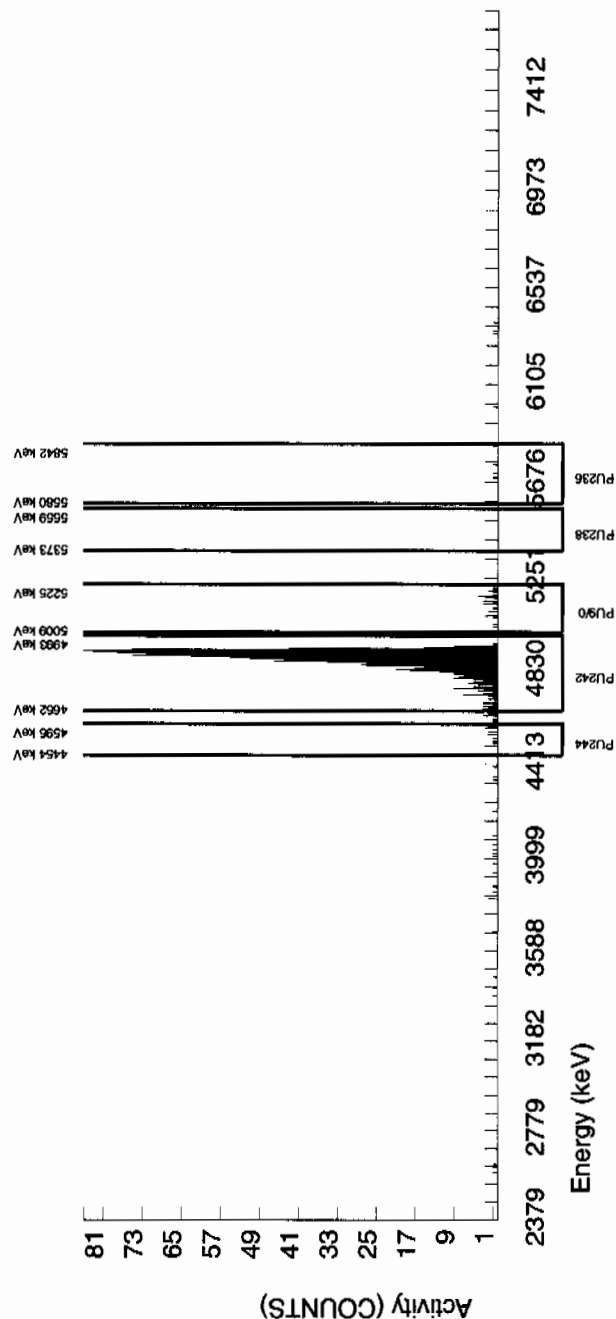
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107011_PU SAMPLE QTY : 1.255 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 89.925				CHAMBER : 228 DETECTOR S/N : 79421 AVERAGE %EFFICIENCY : 37.1363 COUNT DATE : 9-FEB-2010 19:25:52 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B228.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W228.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0402E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5742.477	133.554	5.000	4.000	1.000	2.6925	100.0000	4.38E-03	2.69E-03	6.73E-03	1.64E-02	2.68E-03
PU-238	5499.000	5466.054	0.000	0.000	0.000	0.000	2.9312	99.90000	0.00E+00	1.08E-03	7.34E-03	1.76E-02	1.08E-03
PU-9/0	5155.000	5142.526	39.726	31.000	31.000	0.000	2.0604	99.90000	3.34E-02	6.21E-03	5.16E-03	1.32E-02	5.99E-03
PU242	4890.000	4887.715	56.124	1129.000	1129.000	0.000	0.0000	100.0000	1.21E+00	7.01E-02	0.00E+00	2.91E-03	3.61E-02
PU-244	4589.000	4537.088	42.240	14.000	14.000	0.000	3.7241	99.90000	1.51E-02	4.09E-03	9.32E-03	2.16E-02	4.03E-03

NOTES:

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

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



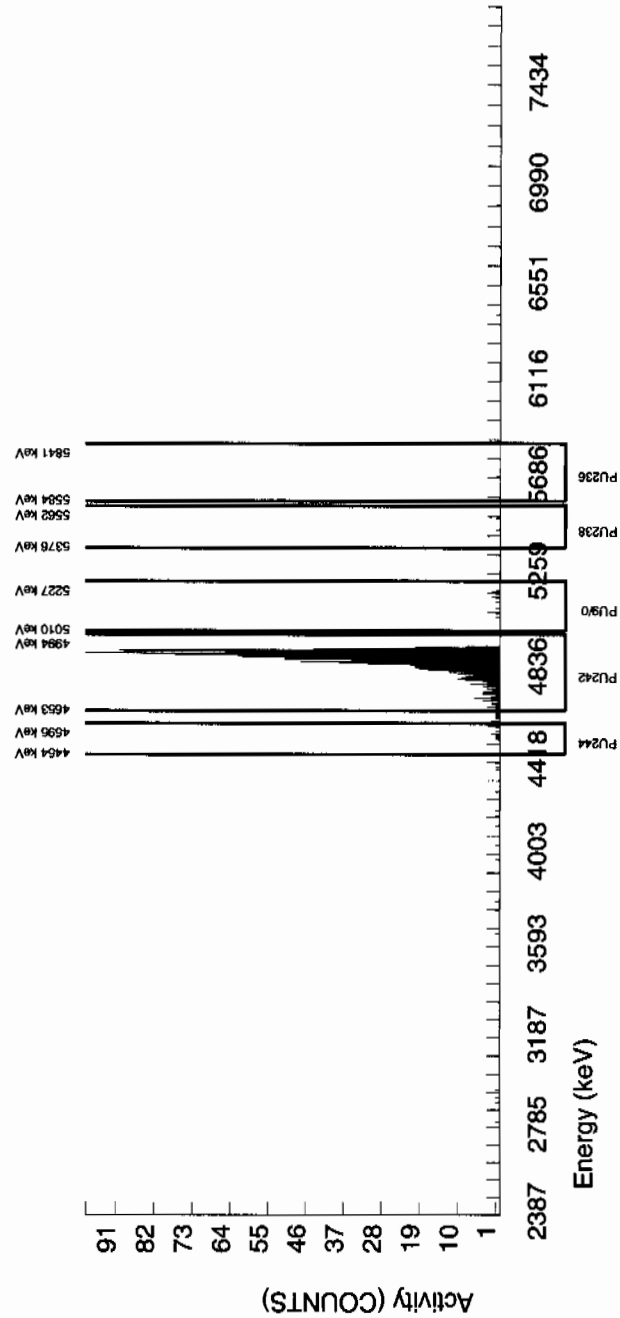
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107012_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 88.298		CHAMBER : 229 DETECTOR S/N : 79422 AVERAGE %EFFICIENCY : 37.2509 COUNT DATE : 9-FEB-2010 19:25:55 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B229.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W229.CNF;28 CAL DATE : 29-JAN-2010
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9852E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
PU-236	5749.000	5701.620	4.947
PU-238	5499.000	5468.116	74.205
PU-9/0	5155.000	5134.479	29.476
PU242	4890.000	4886.248	44.534
PU-244	4589.000	4554.288	7.266
	GROSS AREA	NET AREA	BKG AREA
	11.000	11.000	0.000
	%ABUN	BKG Sg	ACTIVITY pCi/G
	100.0000	2.6925	1.11E-03
	99.90000	2.9312	3.28E-03
	99.90000	2.0604	1.42E-02
	100.0000	0.0000	1.21E+00
	99.90000	3.7241	1.20E-02
			TPU 1-SIGMA
			1.11E-03
			1.90E-03
			4.00E-03
			7.04E-02
			3.67E-03
			DLC pCi/G
			6.84E-03
			7.45E-03
			5.24E-03
			0.00E+00
			9.47E-03
			MDC pCi/G
			1.66E-02
			1.79E-02
			1.34E-02
			2.96E-03
			2.19E-02
			UNC pCi/G
			1.11E-03
			1.89E-03
			3.94E-03
			3.64E-02
			3.63E-03

NOTES:

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

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 944928 SAMPLE ID : S0245107013_PU SAMPLE QTY : 1.256 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 91.783</p>	<p>CHAMBER : 230 DETECTOR S/N : 79423 AVERAGE %EFFICIENCY : 37.5123 COUNT DATE : 9-FEB-2010 19:25:58 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_PU BKG FILE : B230.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W230.CNF;28 CAL DATE : 29-JAN-2010</p>
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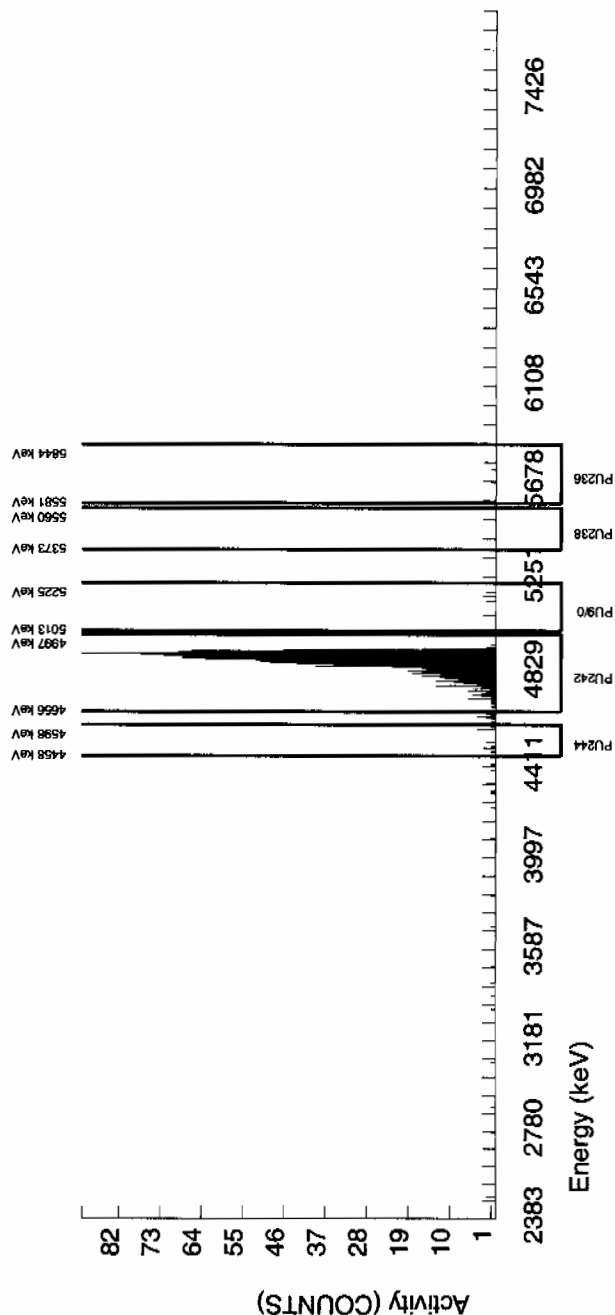
<p>TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.1030E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G</p>
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NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5707.249	59.270	2.000	2.000	0.000	2.6925	100.0000	2.12E-03	1.50E-03	6.52E-03	1.59E-02	1.50E-03
PU-238	5499.000	5466.669	0.000	0.000	0.000	0.000	2.9312	99.900000	0.00E+00	1.04E-03	7.11E-03	1.70E-02	1.04E-03
PU-9/0	5155.000	5169.125	39.513	4.000	4.000	0.000	2.0604	99.900000	4.17E-03	2.10E-03	5.00E-03	1.28E-02	2.09E-03
PU242	4890.000	4880.784	57.672	1165.000	1164.000	1.000	1.0000	100.0000	1.21E+00	6.95E-02	2.42E-03	7.67E-03	3.56E-02
PU-244	4589.000	4529.292	4.939	16.000	16.000	0.000	3.7241	99.900000	1.67E-02	4.25E-03	9.03E-03	2.09E-02	4.17E-03

NOTES:

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

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



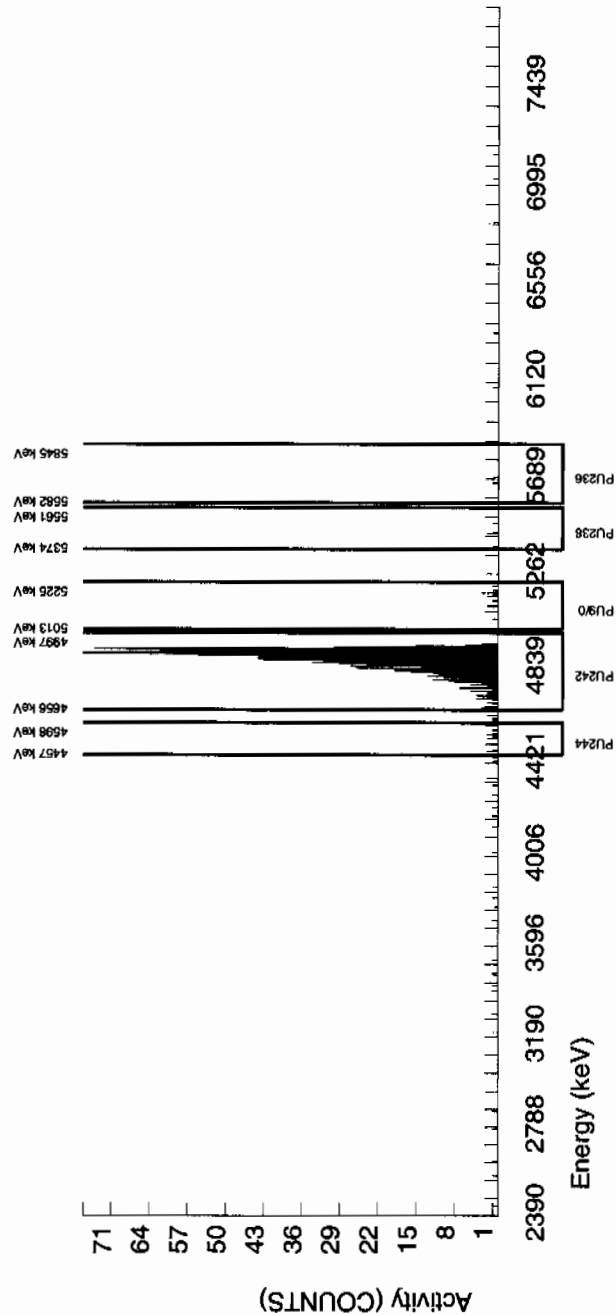
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107014_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 83.982				CHAMBER : 251 DETECTOR S/N : 79444 AVERAGE %EFFICIENCY : 38.7077 COUNT DATE : 9-FEB-2010 19:26:00 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B251.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W251.CNF;29 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8392E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5685.699	33.993	3.000	3.000	0.000	2.6925	100.0000	3.38E-03	1.96E-03	6.92E-03	1.68E-02	1.95E-03
PU-238	5499.000	5447.493	7.262	5.000	4.000	1.000	2.9312	99.90000	4.43E-03	2.72E-03	7.54E-03	1.81E-02	2.71E-03
PU-9/0	5155.000	5148.206	63.041	16.000	16.000	0.000	2.0604	99.90000	1.77E-02	4.51E-03	5.30E-03	1.36E-02	4.42E-03
PU242	4890.000	4882.008	54.949	1102.000	1099.000	3.000	1.7321	100.0000	1.21E+00	7.08E-02	4.45E-03	1.19E-02	3.67E-02
PU-244	4589.000	4524.755	76.483	18.000	17.000	1.000	3.7241	99.90000	1.88E-02	4.91E-03	9.58E-03	2.22E-02	4.82E-03

NOTES:

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

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



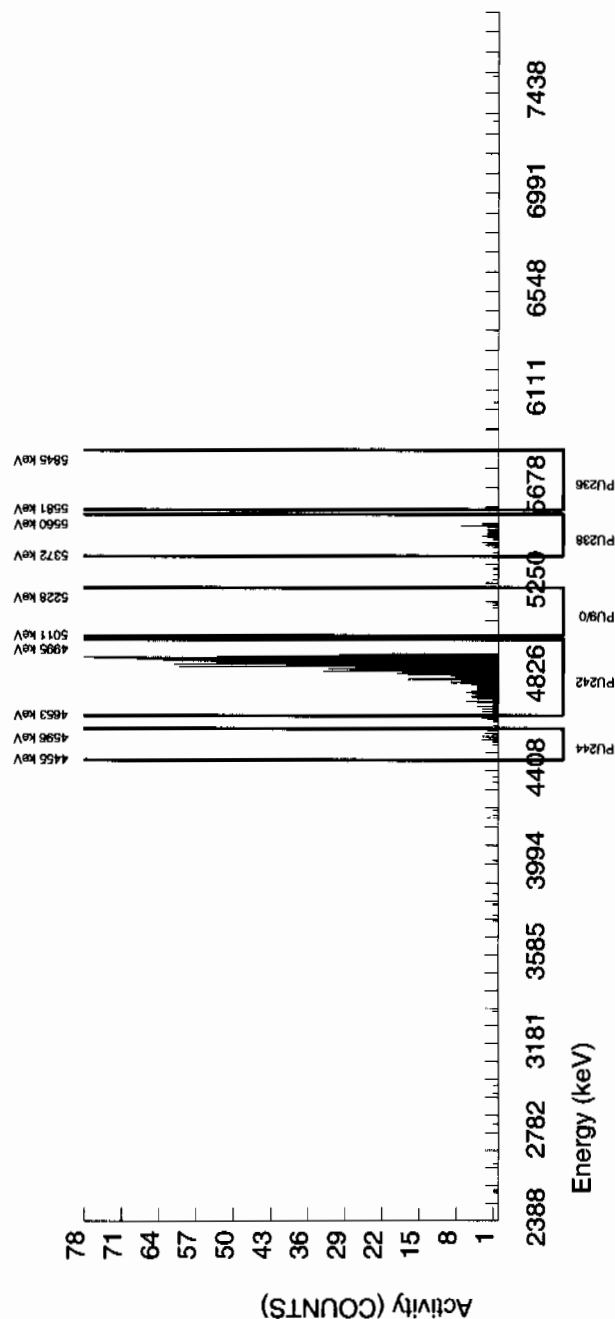
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107015_PU SAMPLE QTY : 1.253 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 77.870				CHAMBER : 252 DETECTOR S/N : 79445 AVERAGE %EFFICIENCY : 37.8334 COUNT DATE : 9-FEB-2010 19:26:02 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B252.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W252.CNF;29 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.6326E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5712.765	0.000	0.000	0.000	0.000	2.6925	100.0000	0.00E+00	1.24E-03	7.64E-03	1.86E-02	1.24E-03
PU-238	5499.000	5474.285	7.703	49.000	49.000	0.000	2.9312	99.90000	5.99E-02	9.08E-03	8.33E-03	2.00E-02	8.56E-03
PU-9/0	5155.000	5155.124	0.000	5.000	4.000	1.000	2.0604	99.90000	4.89E-03	3.00E-03	5.85E-03	1.50E-02	2.99E-03
PU242	4890.000	4876.622	49.763	1001.000	996.000	5.000	2.2361	100.0000	1.22E+00	7.29E-02	6.35E-03	1.60E-02	3.87E-02
PU-244	4589.000	4552.506	44.043	15.000	15.000	0.000	3.7241	99.90000	1.83E-02	4.82E-03	1.06E-02	2.45E-02	4.73E-03

NOTES:

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

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



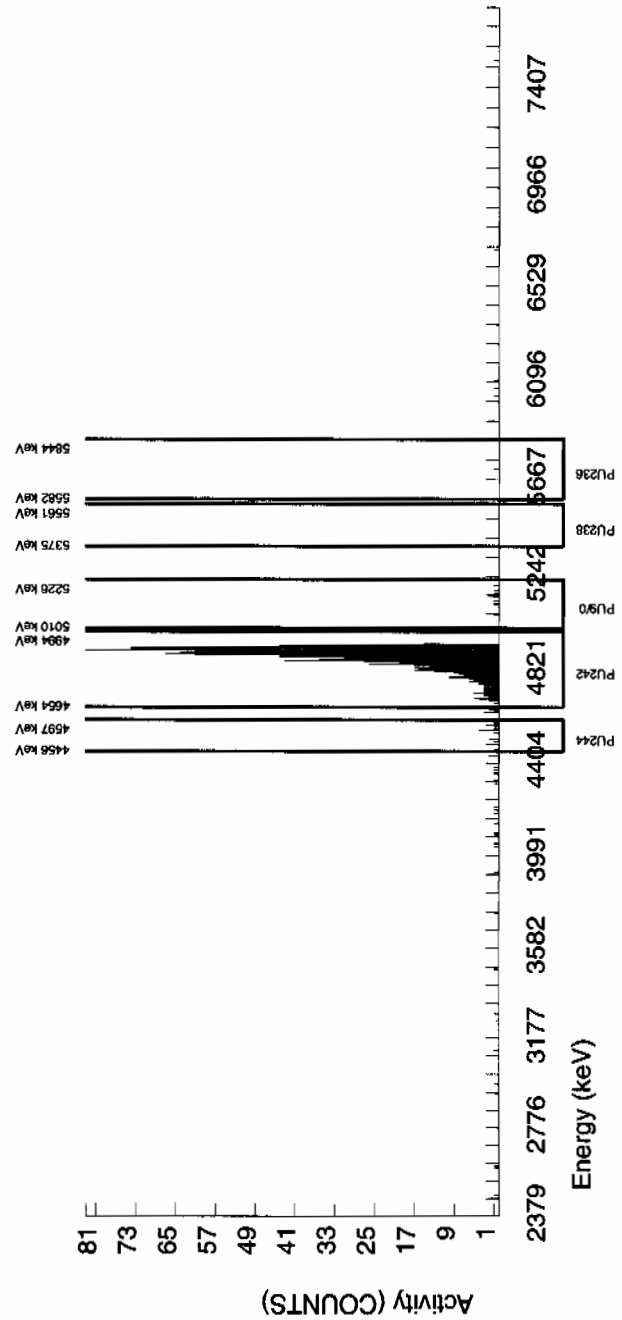
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S0245107016_PU SAMPLE QTY : 1.253 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 84.001				CHAMBER : 210 DETECTOR S/N : 79189 AVERAGE %EFFICIENCY : 38.5227 COUNT DATE : 9-FEB-2010 11:41:45 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B210.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W210.CNF;29 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8399E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5720.516	4.938	1.000	1.000	0.000	2.6925	100.0000	1.13E-03	1.13E-03	6.96E-03	1.69E-02	1.13E-03
PU-238	5499.000	5467.436	0.000	0.000	0.000	0.000	2.9312	99.90000	0.00E+00	1.11E-03	7.58E-03	1.82E-02	1.11E-03
PU-9/0	5155.000	5150.478	11.420	11.000	11.000	0.000	2.0604	99.90000	1.22E-02	3.74E-03	5.33E-03	1.37E-02	3.69E-03
PU242	4890.000	4880.245	64.924	1094.000	1094.000	0.000	0.0000	100.0000	1.22E+00	7.08E-02	0.00E+00	3.01E-03	3.67E-02
PU-244	4589.000	4533.813	5.736	17.000	16.000	1.000	3.7241	99.90000	1.78E-02	4.80E-03	9.63E-03	2.23E-02	4.72E-03

NOTES:

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

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



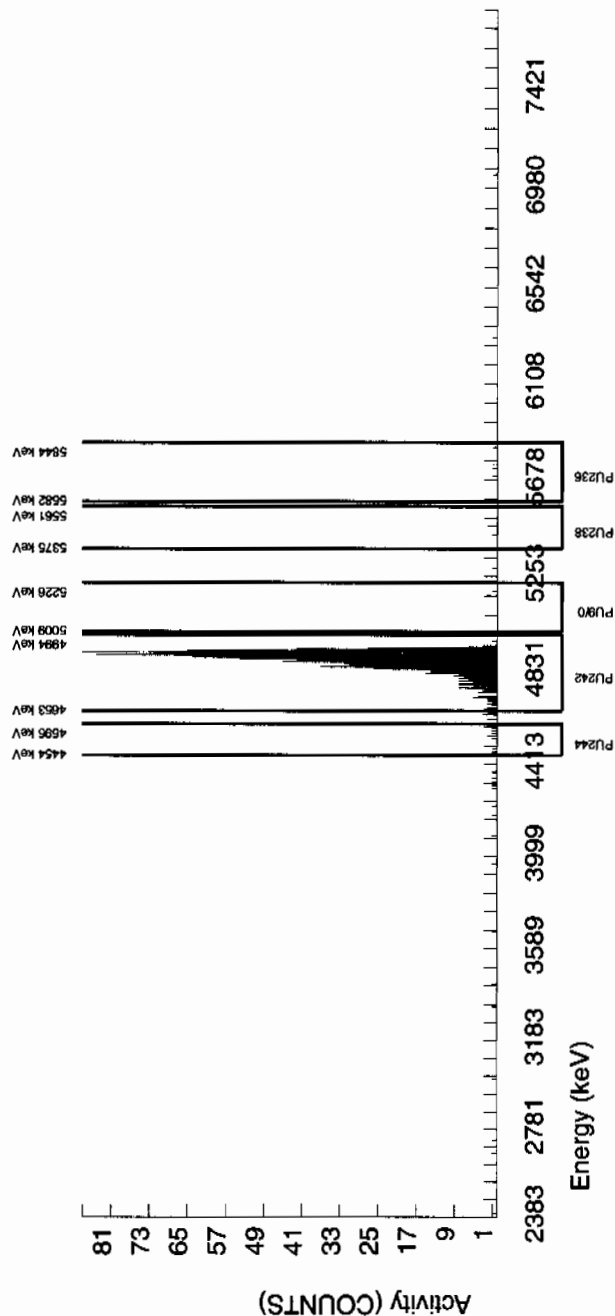
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S120203622_PU SAMPLE QTY : 1.000 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 85.727				CHAMBER : 211 DETECTOR S/N : 79190 AVERAGE %EFFICIENCY : 38.1959 COUNT DATE : 9-FEB-2010 11:41:49 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B211.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W211.CNF;29 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.8982E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5753.277	123.778	4.000	4.000	0.000	2.6925	100.0000	5.52E-03	2.78E-03	8.62E-03	2.10E-02	2.76E-03
PU-238	5499.000	5468.502	4.951	3.000	-2.000	5.000	2.9312	99.90000	-2.75E-03	3.90E-03	9.39E-03	2.25E-02	3.90E-03
PU-9/0	5155.000	5183.723	24.756	2.000	-3.000	5.000	2.0604	99.90000	-4.13E-03	3.64E-03	6.60E-03	1.69E-02	3.64E-03
PU242	4890.000	4883.817	54.709	1109.000	1107.000	2.000	1.4142	100.0000	1.52E+00	8.85E-02	4.53E-03	1.28E-02	4.59E-02
PU-244	4589.000	4528.523	44.560	13.000	13.000	0.000	3.7241	99.90000	1.79E-02	5.04E-03	1.19E-02	2.76E-02	4.97E-03

NOTES:

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

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



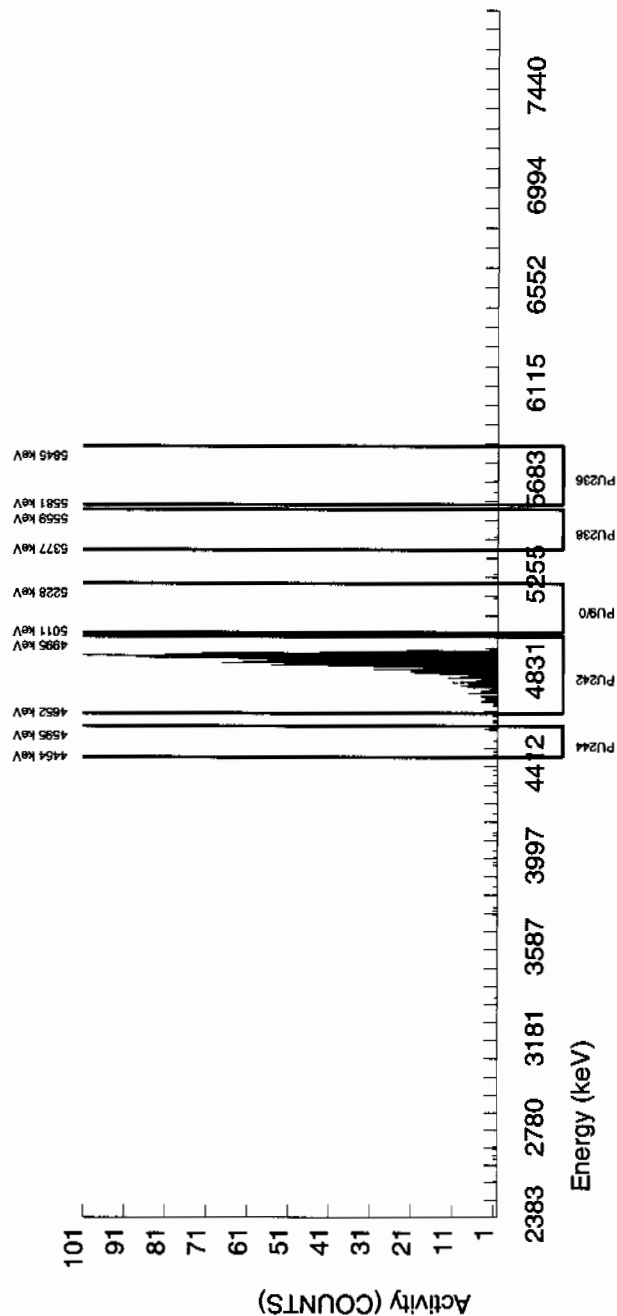
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S1202023623_PU SAMPLE QTY : 1.259 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 91.412				CHAMBER : 255 DETECTOR S/N : 79448 AVERAGE %EFFICIENCY : 38.1825 COUNT DATE : 9-FEB-2010 19:26:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B255.CNF;78 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W255.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0904E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5666.665	54.239	2.000	1.000	1.000	2.6925	100.0000	1.04E-03	1.81E-03	6.42E-03	1.56E-02	1.81E-03
PU-238	5499.000	5441.431	4.931	1.000	1.000	0.000	2.9312	99.900000	1.03E-03	1.03E-03	7.00E-03	1.68E-02	1.03E-03
PU-9/0	5155.000	5164.281	4.931	1.000	-1.000	2.000	2.0604	99.900000	-1.03E-03	1.78E-03	4.92E-03	1.26E-02	1.78E-03
PU242	4890.000	4882.458	54.412	1181.000	1180.000	1.000	1.0000	100.0000	1.21E+00	6.91E-02	2.38E-03	7.55E-03	3.52E-02
PU-244	4589.000	4533.090	0.000	9.000	8.000	1.000	3.7241	99.900000	8.21E-03	3.27E-03	8.89E-03	2.06E-02	3.24E-03

NOTES:

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S1202023624_PU SAMPLE QTY : 0.101 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 101.746	CHAMBER : 256 DETECTOR S/N : 79449 AVERAGE %EFFICIENCY : 37.7639 COUNT DATE : 9-FEB-2010 19:26:08 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B256.CNF:80 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W256.CNF:28 CAL DATE : 29-JAN-2010
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TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.4398E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

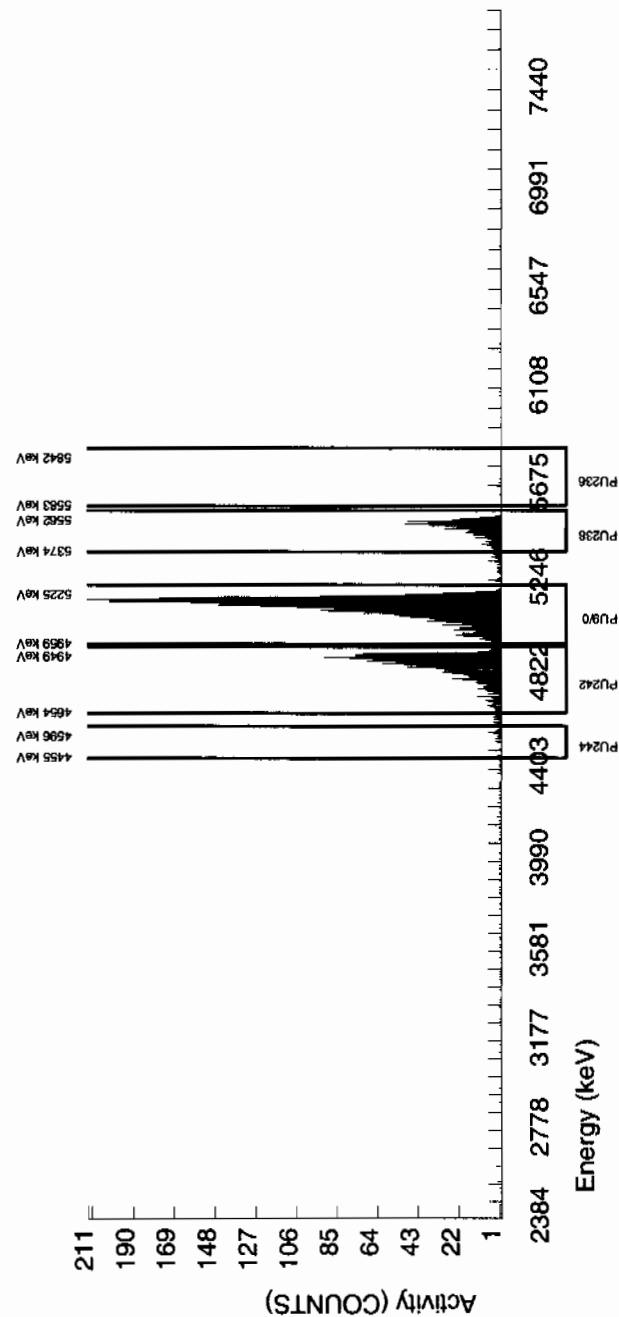
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5676.901	4.892	5.000	3.000	2.000	2.6925	100.0000	3.50E-02	3.09E-02	7.27E-02	1.77E-01	3.08E-02
PU-238	5499.000	5484.589	41.440	518.000	517.000	1.000	2.9312	99.90000	6.01E+00	4.37E-01	7.92E-02	1.90E-01	2.65E-01
PU-9/0	5155.000	5128.033	47.004	2859.000	2859.000	0.000	2.0604	99.90000	3.32E+01	2.02E+00	5.57E-02	1.43E-01	6.21E-01
PU242	4890.000	4864.872	58.394	1302.000	1299.000	3.000	1.7321	100.0000	1.51E+01	9.69E-01	4.68E-02	1.25E-01	4.19E-01
PU-244	4589.000	4544.710	11.374	39.000	39.000	0.000	3.7241	99.90000	4.53E-01	7.72E-02	1.01E-01	2.33E-01	7.26E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944928 SAMPLE ID : S1202023624_PU SAMPLE QTY : 0.101 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 108.326		CHAMBER : 256 DETECTOR S/N : 79449 AVERAGE %EFFICIENCY : 37.7639 COUNT DATE : 9-FEB-2010 19:26:08 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B256.CNF:80 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W256.CNF:28 CAL DATE : 29-JAN-2010
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.6622E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G		LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G

NUCLIDE ACTIVITY SUMMARY

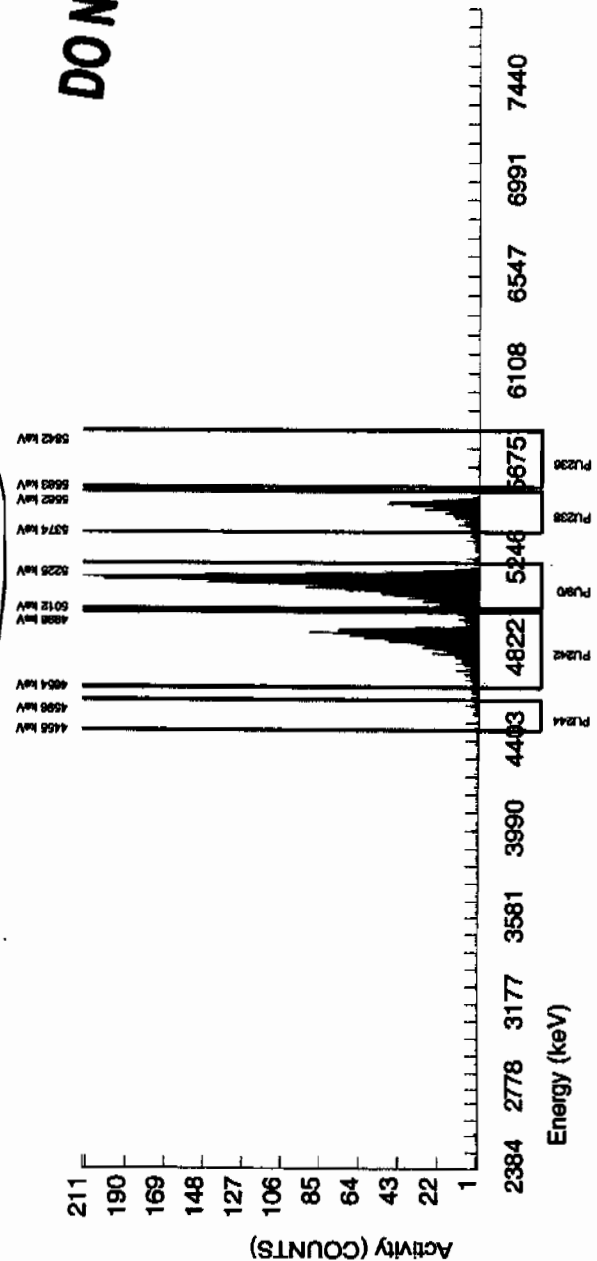
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5676.901	4.892	5.000	3.000	2.000	2.6925	100.0000	3.28E-02	2.90E-02	6.83E-02	1.66E-01	2.90E-02
PU-238	5499.000	5484.589	41.440	518.000	517.000	1.000	2.8312	99.900000	5.84E+00	4.09E-01	7.44E-02	1.78E-01	2.49E-01
PU-9/0	5155.000	5134.143	47.004	2739.000	2739.000	0.000	2.0604	98.900000	2.99E+01	1.81E+00	5.23E-02	1.34E-01	5.71E-01
PU242	4890.000	4871.764	58.394	1386.000	1383.000	3.000	1.7321	100.0000	1.51E+01	9.58E-01	4.39E-02	1.17E-01	4.06E-01
PU-244	4589.000	4544.710	11.374	39.000	39.000	0.000	3.7241	99.900000	4.26E-01	7.24E-02	9.45E-02	2.19E-01	6.82E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

Integrated**DO NOT REPORT**

Radiochemistry Batch Checklist, Rev10

Batch# 944930

Product: U

Date: 2/10/10

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 RDU/ LLD has been met.	X		
If duplicate activities are less 5" MDA/ MDC, then RPD is 100% or less. If greater 5" MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	X		
Or meets the client's required RER acceptance criteria.	X		
Tracer yield is 15-125% . Carrier yield 25-125%.	X		
Or meets the client's contract acceptance criteria.	X		
Method blank is less than the RDU/ LLD.	X		
(If rad samples, < 5% of lowest activity)	X		
Sample was run within hold time.	X		
Sample was correctly preserved if required.	X		
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	X		
No blank spaces on data forms.	X		
All line outs initialed and dated.	X		
No transcription errors are apparent.	X		
Aux data is correct.			N/A
Client Special requirements page has been checked.	X		
Raw Data and/ or spectrum are Included and properly statused.	X		
QC data entered into QC database and batch is in REVW	X		
Hit notification complete (if necessary)			N/A
Batch entered into Case Narrative.	X		
Batch Data Exception Reports (DER) completed, if applicable.			N/A
Batch Data Exception Reports (DER) second reviewed and disposition verified to be completed.			N/A
Aliquot Correction completed if required.			N/A
Review sample historical results if available (if 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. Jones 2/10/10

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

Uranium Que Sheet

25-JAN-10

Batch #: 944930 Analyst: JXD2 First Client Due Date: 17-FEB-10 Internal Due Date: 06-FEB-10
 Tracer Isotope: U-235 Tracer Code: 1293-H Expiration Date: 12/31/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: Expiration Date: Vol:
 Spike Isotope: U-238 Spike Code: Expiration Date: Vol:
 Prep Date: 01/04/10 Initials: JMD Pipet ID: 237058 Balance ID: 55410272

Witness: MDA 2/4/10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	U Allquot	Det #
245107001-1	RE15-10-7165	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	1	1	0.529	1
245107002-1	RE15-10-7171	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	2	2	0.508	2
245107003-1	RE15-10-7170	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	3	3	0.501	3
245107004-1	RE15-10-7164	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	4	4	0.505	4
245107005-1	RE15-10-7167	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	5	5	0.508	5
245107006-1	RE15-10-7169	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	6	6	0.502	6
245107007-1	RE15-10-7168	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	7	7	0.503	7
245107008-1	RE15-10-7166	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	8	8	0.501	8
245107009-1	RE15-10-7177	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	9	9	0.507	9
245107010-1	RE15-10-7181	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	10	10	0.505	10
245107011-1	RE15-10-7170	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	11	11	0.501	11
245107012-1	RE15-10-7182	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	12	12	0.500	12
245107013-1	RE15-10-7183	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	13	13	0.509	13
245107014-1	RE15-10-7176	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	14	14	0.500	14
245107015-1	RE15-10-7180	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	15	15	0.505	15
245107016-1	RE15-10-7179	SAMPLE		.1 pCi/g	SOIL	LANL010	13-JAN-10	16	16	0.504	16
1202023625-1	MB for batch 944930	MB		.1 pCi/g	SOIL	QC ACCOUNT	13-JAN-10	17	17	1	1
1202023626-1	RE15-10-7165(245107001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	13-JAN-10	18	18	0.507	161
1202023627-1	LCS for batch 944930	LCS		.1 pCi/g	SOIL	QC ACCOUNT	13-JAN-10	19	19	0.117	162

* SAM 0244-A 10/31/10 exp. 0.117g

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH DIGESTION

Circle One

Data Reviewed By:

Handwritten signature 2/10/10

Blank Correction Report

Batch ID 944930

GEL Sample ID	Client sample ID	Parameter	Alliquot	Result	TPU	MDA	Alliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202023626	DUP	Uranium-233/234	0.507 g	1.04	0.0888	0.0819	.005936884	pCi/g	NO
		Uranium-235/236	0.507 g	0.0752	0.0171	0.0509	.012347140	pCi/g	NO
		Uranium-238	0.507 g	1.10	0.093	0.0475	.007495069	pCi/g	NO
1202023627	LCS	Uranium-233/234	0.117 g	5.37	0.460	0.327	.025726496	pCi/g	NO
		Uranium-235/236	0.117 g	0.521	0.0909	0.203	.053504274	pCi/g	NO
		Uranium-238	0.117 g	5.50	0.470	0.190	.032478632	pCi/g	NO
1202023625	MB	Uranium-233/234	1.00 g	0.00301	0.00408	0.0392	.00301	pCi/g	YES
		Uranium-235/236	1.00 g	0.00626	0.00386	0.0244	.00626	pCi/g	YES
		Uranium-238	1.00 g	0.0038	0.00336	0.0228	.0038	pCi/g	YES
245107001	RE15-10-7165	Uranium-233/234	0.509 g	0.948	0.0857	0.0955	.005913556	pCi/g	NO
		Uranium-235/236	0.509 g	0.0685	0.0177	0.0593	.012298625	pCi/g	NO
		Uranium-238	0.509 g	0.974	0.0873	0.0554	.007465619	pCi/g	NO
245107002	RE15-10-7171	Uranium-233/234	0.508 g	1.02	0.0939	0.108	.005925197	pCi/g	NO
		Uranium-235/236	0.508 g	0.0736	0.0186	0.0674	.012322835	pCi/g	NO
		Uranium-238	0.508 g	1.13	0.101	0.0629	.007480315	pCi/g	NO
245107003	RE15-10-7170	Uranium-233/234	0.501 g	2.80	0.226	0.128	.006007984	pCi/g	NO
		Uranium-235/236	0.501 g	0.131	0.0273	0.0783	.012495010	pCi/g	NO
		Uranium-238	0.501 g	3.58	0.282	0.0732	.007584830	pCi/g	NO
245107004	RE15-10-7164	Uranium-233/234	0.505 g	1.04	0.0931	0.0995	.005960396	pCi/g	NO
		Uranium-235/236	0.505 g	0.0793	0.0186	0.0617	.012396040	pCi/g	NO
		Uranium-238	0.505 g	0.960	0.0872	0.0577	.007524752	pCi/g	NO
245107005	RE15-10-7167	Uranium-233/234	0.508 g	1.16	0.101	0.0969	.005925197	pCi/g	NO
		Uranium-235/236	0.508 g	0.0695	0.0171	0.0601	.012322835	pCi/g	NO
		Uranium-238	0.508 g	1.10	0.0964	0.0582	.007480315	pCi/g	NO
245107006	RE15-10-7169	Uranium-233/234	0.502 g	1.14	0.103	0.111	.005996016	pCi/g	NO
		Uranium-235/236	0.502 g	0.0532	0.0158	0.069	.012470120	pCi/g	YES
		Uranium-238	0.502 g	1.18	0.106	0.0645	.007569721	pCi/g	NO
245107007	RE15-10-7168	Uranium-233/234	0.503 g	3.56	0.286	0.137	.005984095	pCi/g	NO
		Uranium-235/236	0.503 g	0.219	0.0403	0.0852	.012445328	pCi/g	NO
		Uranium-238	0.503 g	4.44	0.350	0.0796	.007554672	pCi/g	NO
245107008	RE15-10-7166	Uranium-233/234	0.501 g	1.48	0.130	0.121	.006007984	pCi/g	NO
		Uranium-235/236	0.501 g	0.0919	0.0221	0.0753	.012495010	pCi/g	NO
		Uranium-238	0.501 g	1.59	0.138	0.0703	.007584830	pCi/g	NO
245107009	RE15-10-7177	Uranium-233/234	0.507 g	1.69	0.140	0.104	.005936884	pCi/g	NO
		Uranium-235/236	0.507 g	0.0993	0.0214	0.0644	.012347140	pCi/g	NO
		Uranium-238	0.507 g	1.76	0.145	0.0602	.007495069	pCi/g	NO
245107010	RE15-10-7181	Uranium-233/234	0.505 g	0.926	0.0868	0.109	.005980396	pCi/g	NO
		Uranium-235/236	0.505 g	0.0694	0.019	0.0675	.012396040	pCi/g	NO
		Uranium-238	0.505 g	1.00	0.0925	0.0631	.007524752	pCi/g	NO
245107011	RE15-10-7178	Uranium-233/234	0.501 g	1.77	0.155	0.138	.006007984	pCi/g	NO
		Uranium-235/236	0.501 g	0.127	0.029	0.0858	.012495010	pCi/g	NO

Blank Correction Report

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
245107011	RE15-10-7178	Uranium-238	0.501 g	2.73	0.225	0.0802	.007584830	pCi/g	NO
245107012	RE15-10-7182	Uranium-233/234	0.500 g	1.63	0.148	0.146	.00602	pCi/g	NO
		Uranium-235/236	0.500 g	0.0467	0.0205	0.0909	.01252	pCi/g	YES
		Uranium-238	0.500 g	1.79	0.160	0.0849	.0076	pCi/g	NO
245107013	RE15-10-7183	Uranium-233/234	0.509 g	0.879	0.0921	0.149	.005913556	pCi/g	NO
		Uranium-235/236	0.509 g	0.0474	0.0171	0.0923	.012298625	pCi/g	YES
		Uranium-238	0.509 g	0.979	0.099	0.0862	.007465619	pCi/g	NO
245107014	RE15-10-7176	Uranium-233/234	0.500 g	1.57	0.146	0.158	.00602	pCi/g	NO
		Uranium-235/236	0.500 g	0.0881	0.026	0.098	.01252	pCi/g	NO
		Uranium-238	0.500 g	1.86	0.167	0.0915	.0076	pCi/g	NO
245107015	RE15-10-7180	Uranium-233/234	0.505 g	1.30	0.122	0.142	.005960396	pCi/g	NO
		Uranium-235/236	0.505 g	0.079	0.0219	0.0878	.012396040	pCi/g	NO
		Uranium-238	0.505 g	1.39	0.128	0.0821	.007524752	pCi/g	NO
245107016	RE15-10-7179	Uranium-233/234	0.504 g	2.58	0.228	0.180	.005972222	pCi/g	NO
		Uranium-235/236	0.504 g	0.129	0.032	0.112	.012420635	pCi/g	NO
		Uranium-238	0.504 g	2.86	0.248	0.105	.007539683	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

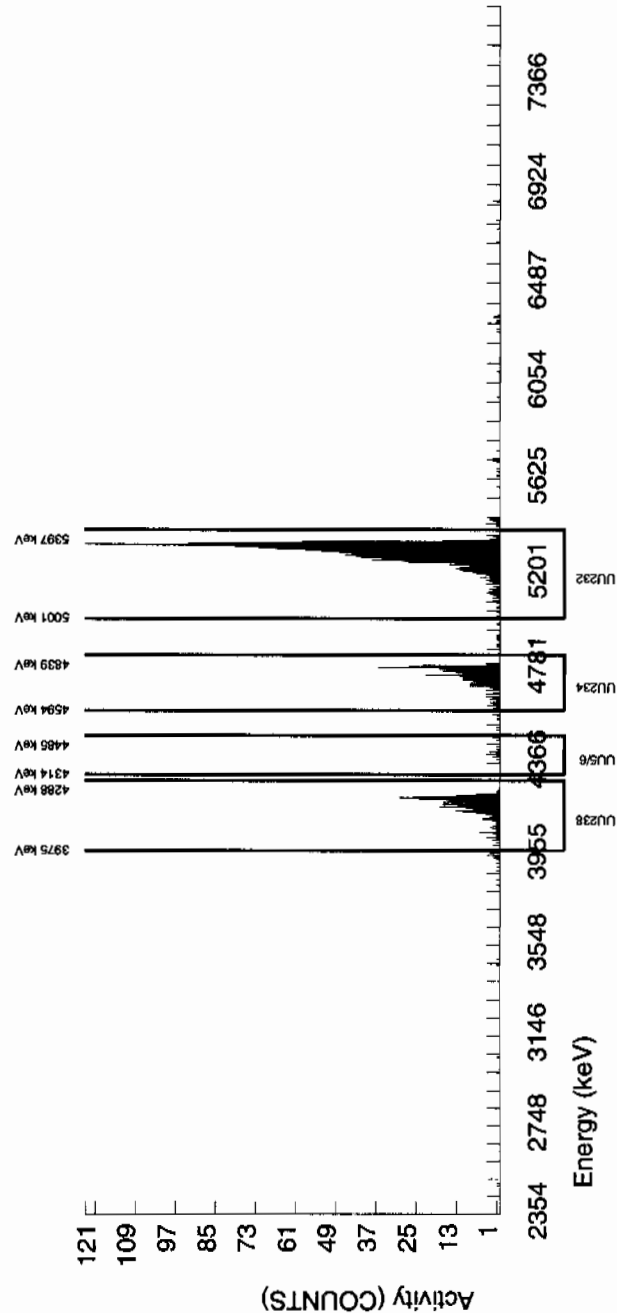
BATCH NUMBER : 944930 SAMPLE ID : S0245107001_UU SAMPLE QTY : 0.509 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 89.111		CHAMBER : 001 DETECTOR S/N : 79451 AVERAGE %EFFICIENCY : 32.2368 COUNT DATE : 9-FEB-2010 14:39:05 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B001.CNF;1123 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W001.CNF;382 CAL DATE : 3-FEB-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 4.0171E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5297.530	31.453
U-3/4	4763.020	4751.949	42.228
U-235	4391.000	4419.547	14.672
U-238	4184.730	4173.418	49.918
	GROSS AREA	NET AREA	BKG AREA
	1295.000	1294.000	1.000
	313.000	307.691	4.000
	19.000	18.000	1.000
	318.000	316.000	2.000
	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA
	100.0000	3.99E+00	2.99E-01
	100.0000	9.48E-01	8.57E-02
	80.90000	6.85E-02	1.77E-02
	100.0000	9.73E-01	8.73E-02
			DLC pCi/G
			7.17E-03
			4.36E-02
			2.45E-02
			2.35E-02
			MDC pCi/G
			2.27E-02
			9.55E-02
			5.93E-02
			5.54E-02
			UNC pCi/G
			1.11E-01
			5.47E-02
			1.70E-02
			5.51E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area due to tracer impurity:
U-3/4

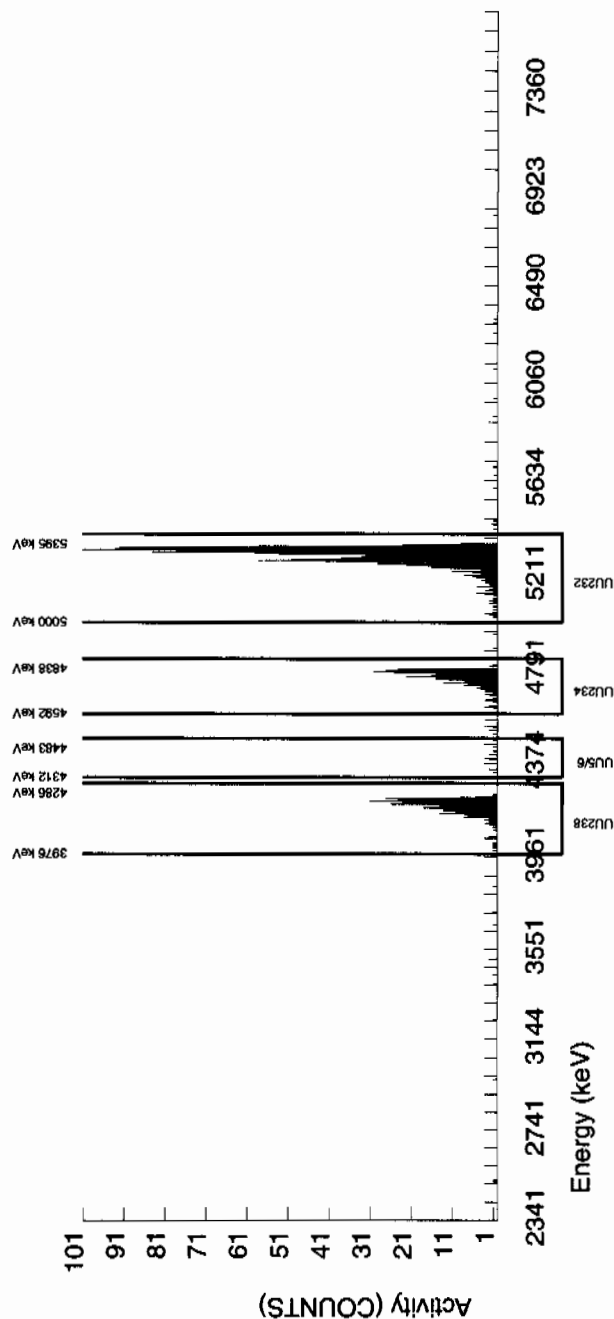
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107002_UU SAMPLE QTY : 0.508 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 85.630		CHAMBER : 002 DETECTOR S/N : 79452 AVERAGE %EFFICIENCY : 29.5805 COUNT DATE : 9-FEB-2010 14:39:05 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B002.CNF;1113 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W002.CNF;328 CAL DATE : 3-FEB-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.8602E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5300.319	62.936
U-3/4	4763.020	4758.502	38.016
U-235	4391.000	4396.432	61.919
U-238	4184.730	4185.841	45.492
	GROSS AREA	NET AREA	BKG AREA
	1148.000	1141.000	7.000
	297.000	290.845	5.000
	17.000	17.000	0.000
	323.000	323.000	0.000
	BKG Sg	%ABUN	ACTIVITY pCi/G
	2.6458	100.0000	4.00E+00
	6.0782	100.0000	1.02E+00
	2.7628	80.90000	7.36E-02
	3.2810	100.0000	1.13E+00
			TPU 1-SIGMA
			3.05E-01
			9.39E-02
			1.86E-02
			1.01E-01
			DLC pCi/G
			2.15E-02
			4.95E-02
			2.78E-02
			2.67E-02
			MDC pCi/G
			5.26E-02
			1.08E-01
			6.74E-02
			6.29E-02
			UNC pCi/G
			1.19E-01
			6.07E-02
			1.78E-02
			6.29E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area due to tracer impurity:
U-3/4

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107003_UU SAMPLE QTY : 0.501 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 71.038				CHAMBER : 003 DETECTOR S/N : 79453 AVERAGE %EFFICIENCY : 31.0941 COUNT DATE : 9-FEB-2010 14:39:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B003.CNF;1108 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W003.CNF;341 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.2024E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5309.407	56.633	998.000	995.000	3.000	1.7321	100.0000	4.05E+00	3.16E-01	1.64E-02	4.38E-02	1.29E-01
U-3/4	4763.020	4766.461	39.328	690.000	686.993	2.000	6.0782	100.0000	2.80E+00	2.26E-01	5.76E-02	1.26E-01	1.07E-01
U-235	4391.000	4406.421	44.664	26.000	26.000	0.000	2.7628	80.90000	1.31E-01	2.73E-02	3.23E-02	7.83E-02	2.57E-02
U-238	4184.730	4194.862	44.536	880.000	879.000	1.000	3.2810	100.0000	3.58E+00	2.82E-01	3.11E-02	7.32E-02	1.21E-01

NOTES:

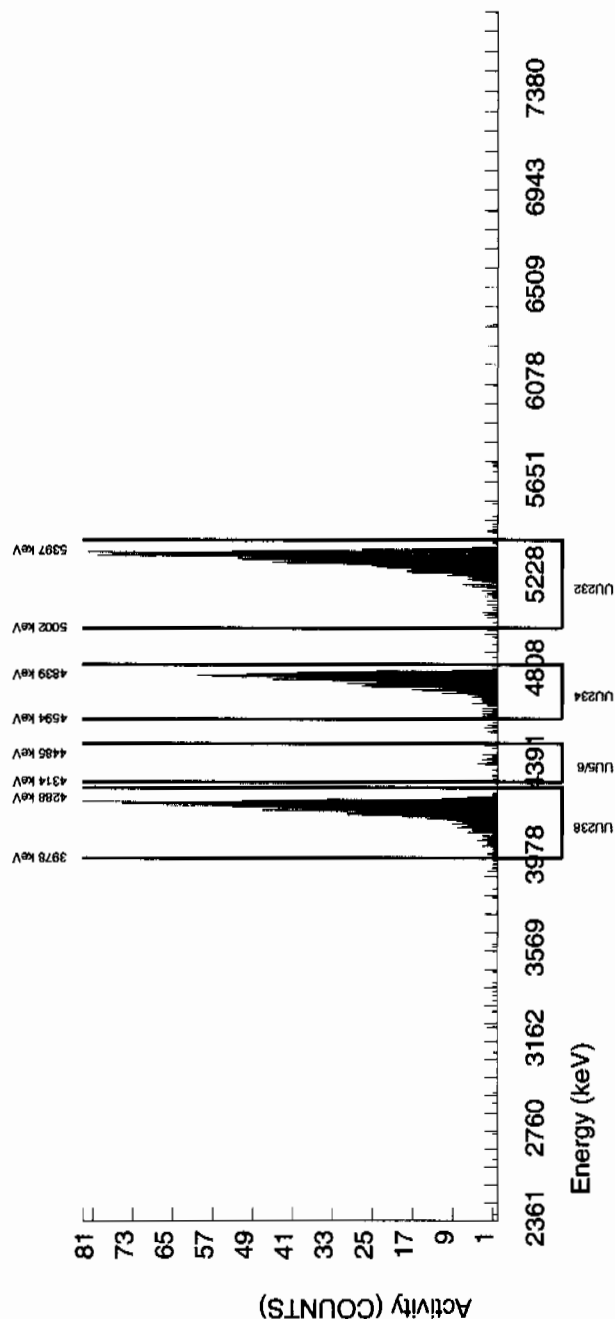
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107004_UU SAMPLE QTY : 0.505 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 91.192				CHAMBER : 004 DETECTOR S/N : 68548 AVERAGE %EFFICIENCY : 30.4786 COUNT DATE : 9-FEB-2010 14:39:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B004.CNF;1117 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W004.CNF;330 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 4.1110E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.688	35.771	1258.000	1252.000	6.000	2.4495	100.0000	4.02E+00	3.03E-01	1.83E-02	4.53E-02	1.14E-01
U-3/4	4763.020	4758.337	46.289	328.000	324.733	2.000	6.0782	100.0000	1.04E+00	9.31E-02	4.54E-02	9.95E-02	5.82E-02
U-235	4391.000	4395.656	48.945	20.000	20.000	0.000	2.7628	80.90000	7.93E-02	1.86E-02	2.55E-02	6.17E-02	1.77E-02
U-238	4184.730	4187.669	62.388	301.000	299.000	2.000	3.2810	100.0000	9.60E-01	8.72E-02	2.45E-02	5.77E-02	5.59E-02

NOTES:

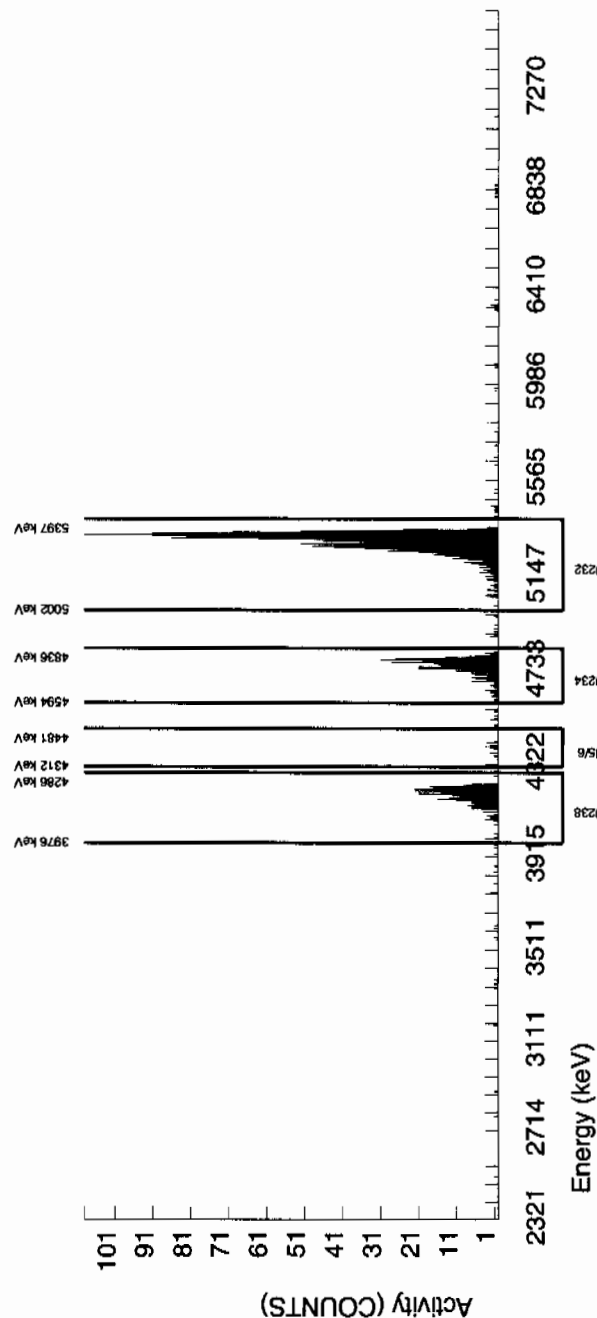
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

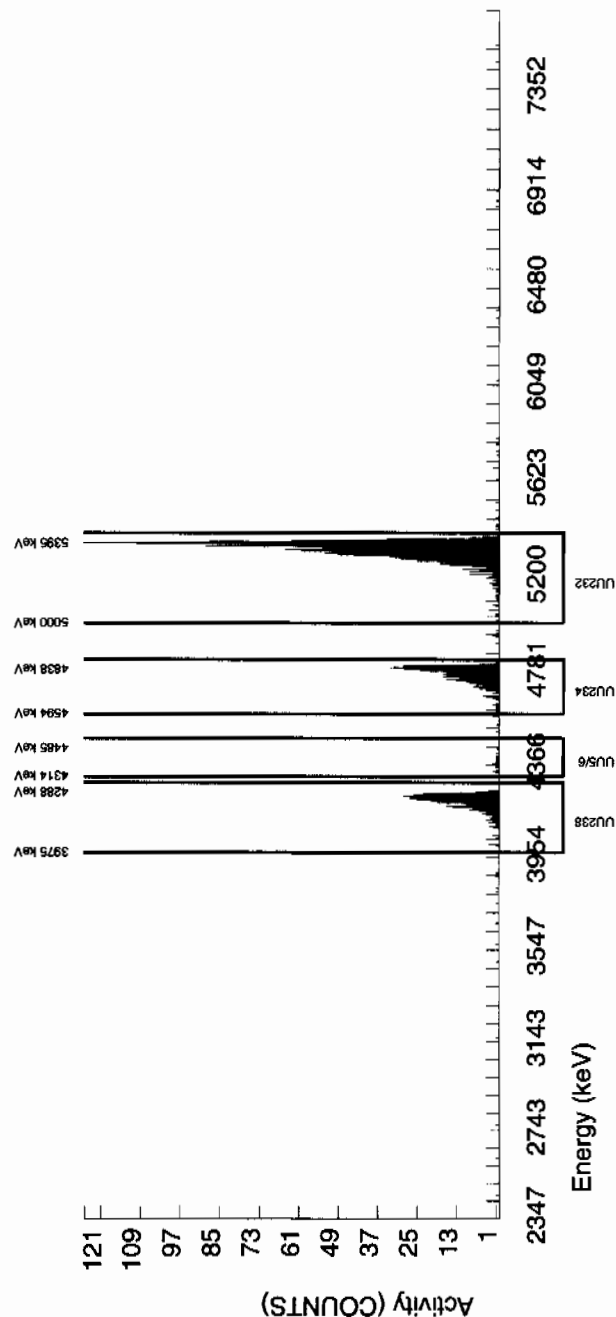
BATCH NUMBER : 944930 SAMPLE ID : S0245107005_UU SAMPLE QTY : 0.508 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 88.874				CHAMBER : 005 DETECTOR S/N : 79454 AVERAGE %EFFICIENCY : 31.9230 COUNT DATE : 9-FEB-2010 14:39:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B005.CNF;1103 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W005.CNF;337 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 4.0065E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5322.008	40.716	1282.000	1278.000	4.000	2.0000	100.0000	4.00E+00	3.00E-01	1.45E-02	3.76E-02	1.12E-01
U-3/4	4763.020	4772.275	52.430	374.000	372.707	0.000	6.0782	100.0000	1.16E+00	1.01E-01	4.42E-02	9.69E-02	6.03E-02
U-235	4391.000	4378.046	44.334	18.000	18.000	0.000	2.7628	80.90000	6.95E-02	1.71E-02	2.48E-02	6.01E-02	1.64E-02
U-238	4184.730	4202.016	61.650	353.000	351.000	2.000	3.2810	100.0000	1.10E+00	9.64E-02	2.39E-02	5.62E-02	5.89E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

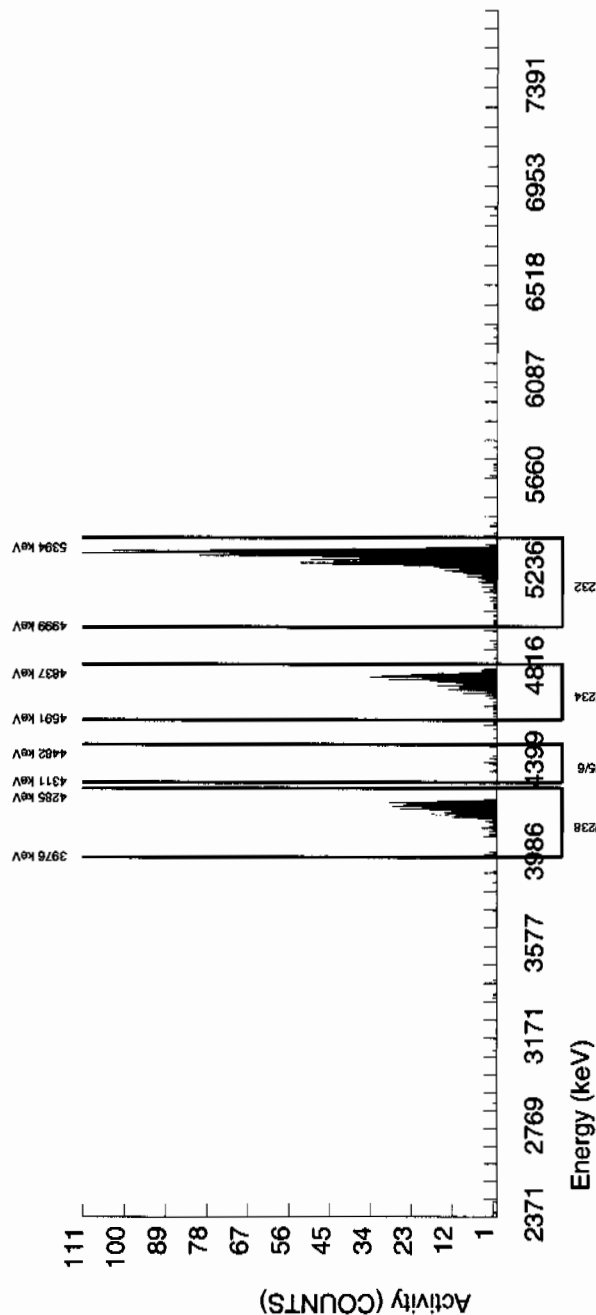
* Corrections made to the following net area due to tracer impurity:
U-3/4

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107006_UU SAMPLE QTY : 0.502 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 80.281				CHAMBER : 006 DETECTOR S/N : 79455 AVERAGE %EFFICIENCY : 31.1643 COUNT DATE : 9-FEB-2010 14:39:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B006.CNF;1116 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W006.CNF;361 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.6191E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5306.711	31.148	1128.000	1127.000	1.000	1.0000	100.0000	4.05E+00	3.09E-01	8.34E-03	2.64E-02	1.21E-01
U-3/4	4763.020	4763.537	30.094	319.000	317.860	0.000	6.0782	100.0000	1.14E+00	1.03E-01	5.07E-02	1.11E-01	6.39E-02
U-235	4391.000	4412.644	114.008	12.000	12.000	0.000	2.7628	80.90000	5.32E-02	1.58E-02	2.85E-02	6.90E-02	1.54E-02
U-238	4184.730	4193.085	62.152	330.000	330.000	0.000	3.2810	100.0000	1.18E+00	1.06E-01	2.74E-02	6.45E-02	6.52E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

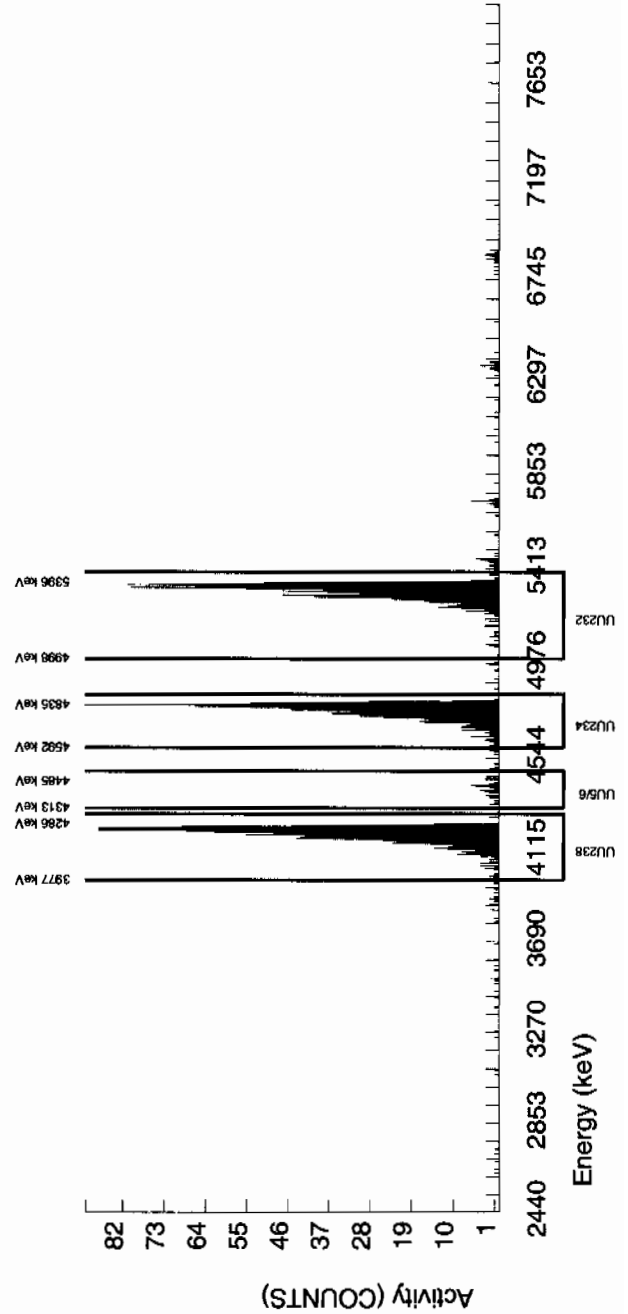


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107007_UU SAMPLE QTY : 0.503 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 68.461				CHAMBER : 007 DETECTOR S/N : 67607 AVERAGE %EFFICIENCY : 29.5407 COUNT DATE : 9-FEB-2010 14:39:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B007.CNF;1111 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W007.CNF;312 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.0863E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5308.405	58.254	924.000	911.000	13.000	3.6056	100.0000	4.04E+00	3.21E-01	3.71E-02	8.63E-02	1.36E-01
U-3/4	4763.020	4762.336	27.442	805.000	804.078	0.000	6.0782	100.0000	3.56E+00	2.86E-01	6.26E-02	1.37E-01	1.26E-01
U-235	4391.000	4402.506	33.954	43.000	40.000	3.000	2.7628	80.90000	2.19E-01	4.03E-02	3.52E-02	8.52E-02	3.71E-02
U-238	4184.730	4193.116	45.225	1006.000	1003.000	3.000	3.2810	100.0000	4.44E+00	3.50E-01	3.38E-02	7.96E-02	1.41E-01

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4

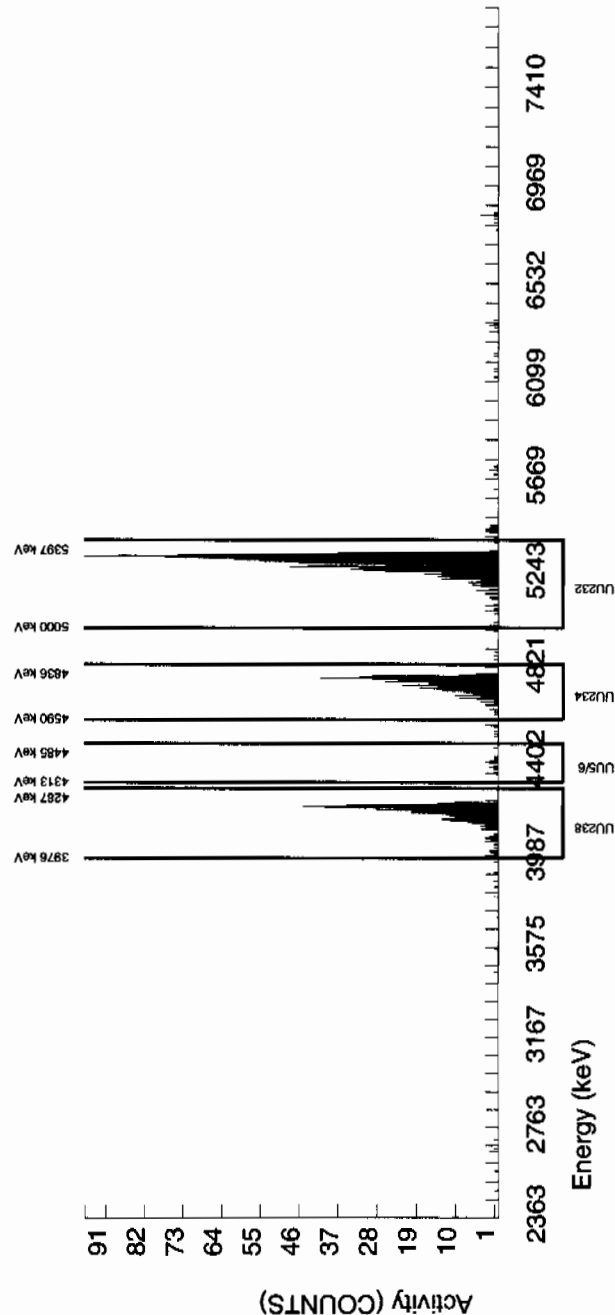


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107008_UU SAMPLE QTY : 0.501 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 72.310				CHAMBER : 008 DETECTOR S/N : 78788 AVERAGE %EFFICIENCY : 31.7753 COUNT DATE : 9-FEB-2010 14:39:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA.UU BKG FILE : B008.CNF;1113 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W008.CNF;343 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.2598E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5295.933	37.086	1038.000	1035.000	3.000	1.7321	100.0000	4.05E+00	3.14E-01	1.58E-02	4.21E-02	1.26E-01
U-3/4	4763.020	4750.165	42.897	382.000	378.953	2.000	6.0782	100.0000	1.48E+00	1.30E-01	5.53E-02	1.21E-01	7.66E-02
U-235	4391.000	4394.747	56.064	19.000	19.000	0.000	2.7628	80.90000	9.19E-02	2.21E-02	3.11E-02	7.53E-02	2.11E-02
U-238	4184.730	4182.554	31.220	408.000	407.000	1.000	3.2810	100.0000	1.59E+00	1.38E-01	2.99E-02	7.03E-02	7.91E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

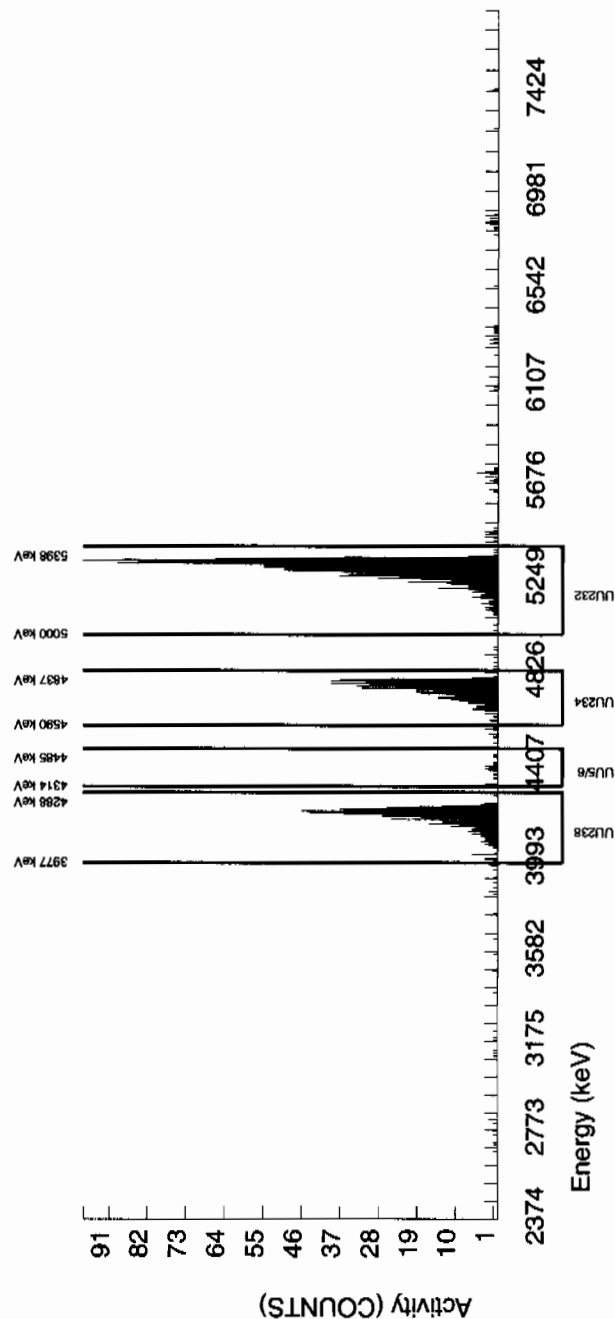
BATCH NUMBER : 944930 SAMPLE ID : S0245107009_UU SAMPLE QTY : 0.507 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 77.754				CHAMBER : 009 DETECTOR S/N : 72528 AVERAGE %EFFICIENCY : 34.1471 COUNT DATE : 9-FEB-2010 14:39:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B009.CNF;1104 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W009.CNF;307 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.5052E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.772	56.030	1202.000	1196.000	6.000	2.4495	100.0000	4.01E+00	3.04E-01	1.91E-02	4.72E-02	1.16E-01
U-3/4	4763.020	4757.827	45.831	506.000	503.790	1.000	6.0782	100.0000	1.69E+00	1.40E-01	4.73E-02	1.04E-01	7.53E-02
U-235	4391.000	4400.054	24.772	24.000	24.000	0.000	2.7628	80.90000	9.93E-02	2.14E-02	2.66E-02	6.44E-02	2.03E-02
U-238	4184.730	4180.727	51.918	526.000	525.000	1.000	3.2810	100.0000	1.76E+00	1.45E-01	2.55E-02	6.02E-02	7.68E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area due to tracer impurity:
U-3/4

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

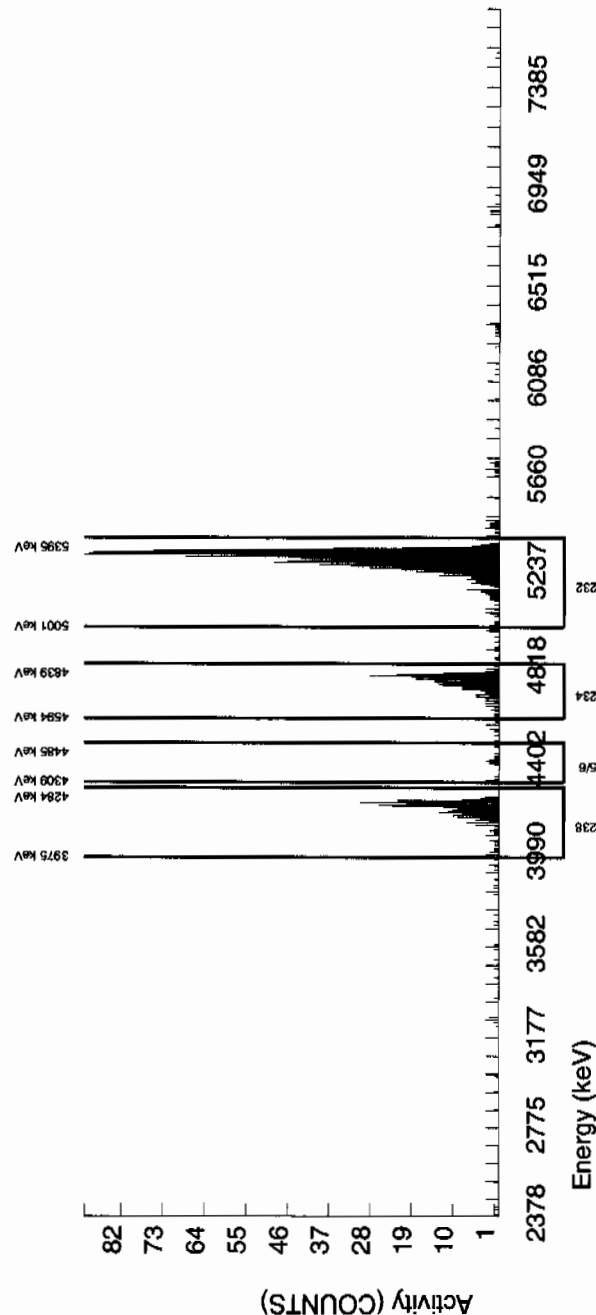
BATCH NUMBER : 944930 SAMPLE ID : S0245107010_UU SAMPLE QTY : 0.505 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 79.692				CHAMBER : 010 DETECTOR S/N : 72529 AVERAGE %EFFICIENCY : 31.8962 COUNT DATE : 9-FEB-2010 14:39:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B010.CNF;1122 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W010.CNF;335 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.5925E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5300.183	58.404	1153.000	1145.000	8.000	2.8284	100.0000	4.02E+00	3.07E-01	2.31E-02	5.57E-02	1.20E-01
U-3/4	4763.020	4758.644	25.709	267.000	263.841	2.000	6.0782	100.0000	9.26E-01	8.68E-02	4.96E-02	1.09E-01	5.74E-02
U-235	4391.000	4399.640	96.547	17.000	16.000	1.000	2.7628	80.90000	6.94E-02	1.90E-02	2.79E-02	6.75E-02	1.84E-02
U-238	4184.730	4190.601	30.798	288.000	286.000	2.000	3.2810	100.0000	1.00E+00	9.25E-02	2.68E-02	6.31E-02	5.98E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area
due to tracer impurity:
U-3/4

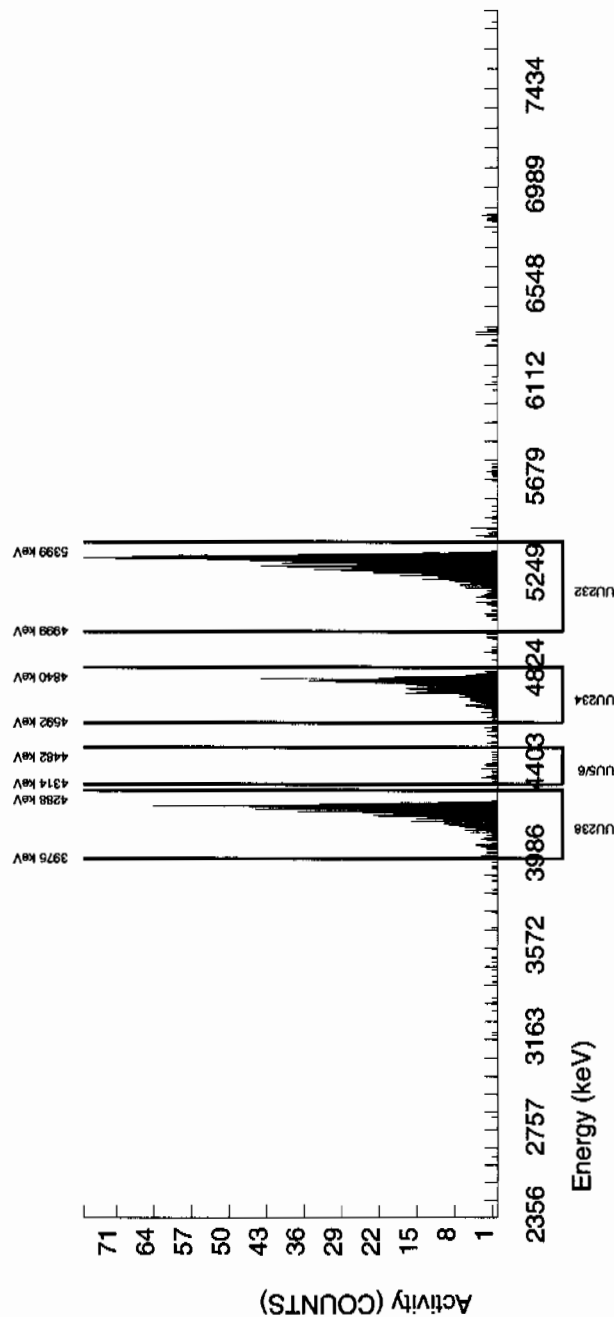
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107011_UU SAMPLE QTY : 0.501 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 67.987				CHAMBER : 011 DETECTOR S/N : 72531 AVERAGE %EFFICIENCY : 29.6489 COUNT DATE : 9-FEB-2010 14:39:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B011.CNF;1114 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W011.CNF;313 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.0649E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5299.288	54.808	914.000	908.000	6.000	2.4495	100.0000	4.05E+00	3.22E-01	2.54E-02	6.29E-02	1.35E-01
U-3/4	4763.020	4758.430	22.916	399.000	396.081	2.000	6.0782	100.0000	1.77E+00	1.55E-01	6.31E-02	1.38E-01	8.92E-02
U-235	4391.000	4390.537	66.033	24.000	23.000	1.000	2.7628	80.90000	1.27E-01	2.90E-02	3.54E-02	8.58E-02	2.76E-02
U-238	4184.730	4184.605	37.381	612.000	611.000	1.000	3.2810	100.0000	2.73E+00	2.25E-01	3.40E-02	8.02E-02	1.10E-01

NOTES:

* Sg calculated via blank population.
(Sg updated 5-JAN-2010)

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

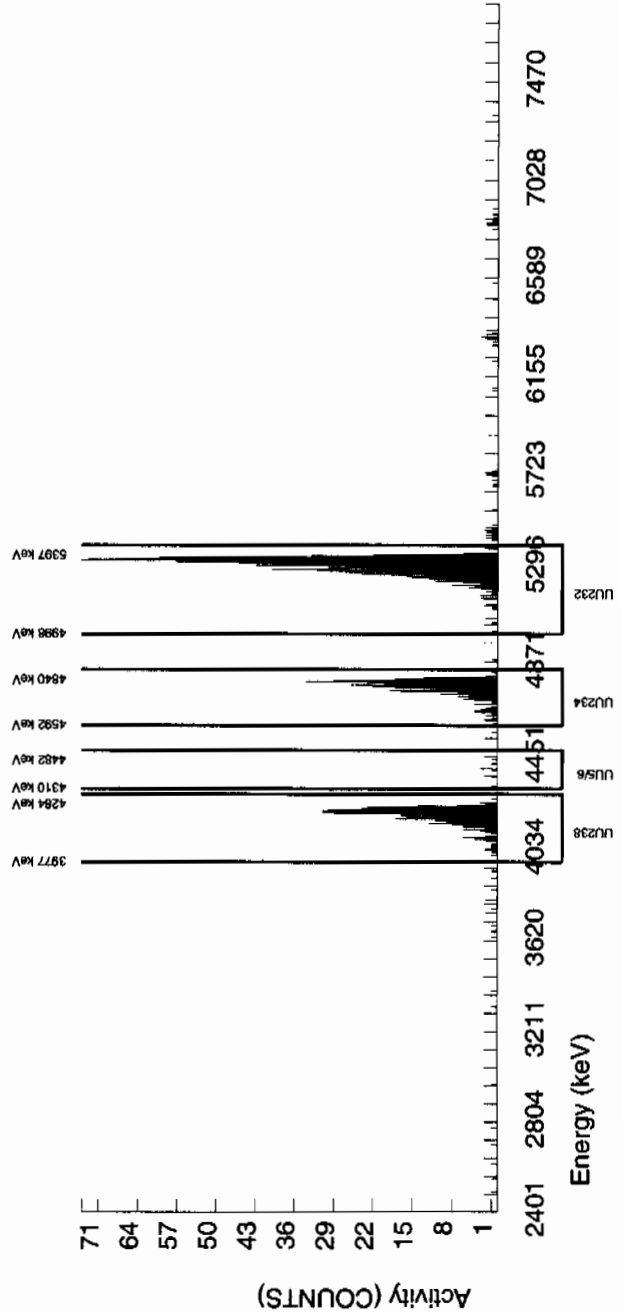
* Corrections made to the following net area due to tracer impurity:
U-3/4

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107012_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 64.886				CHAMBER : 012 DETECTOR S/N : 67594 AVERAGE %EFFICIENCY : 29.3895 COUNT DATE : 9-FEB-2010 14:39:06 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B012.CNF;1116 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W012.CNF;314 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 2.9251E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5306.650	61.109	867.000	859.000	8.000	2.8284	100.0000	4.06E+00	3.26E-01	3.11E-02	7.50E-02	1.40E-01
U-3/4	4763.020	4762.063	55.634	350.000	344.131	5.000	6.0782	100.0000	1.63E+00	1.48E-01	6.68E-02	1.46E-01	8.89E-02
U-235	4391.000	4405.854	6.212	10.000	8.000	2.000	2.7628	80.90000	4.67E-02	2.05E-02	3.75E-02	9.09E-02	2.02E-02
U-238	4184.730	4187.332	55.921	387.000	379.000	8.000	3.2810	100.0000	1.79E+00	1.60E-01	3.61E-02	8.49E-02	9.39E-02

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



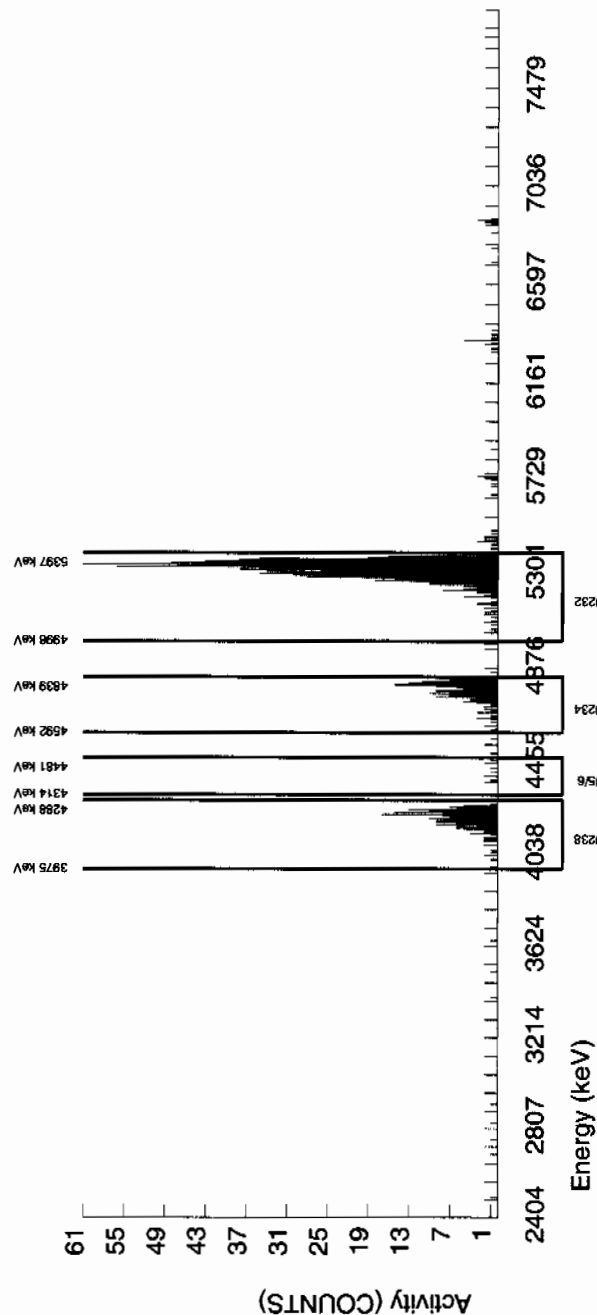
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107013_UU SAMPLE QTY : 0.509 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 73.535				CHAMBER : 117 DETECTOR S/N : 33450 AVERAGE %EFFICIENCY : 25.0873 COUNT DATE : 9-FEB-2010 14:35:41 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B117.CNF;450 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W117.CNF;119 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.3150E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5321.938	71.087	837.000	831.000	6.000	2.4495	100.0000	3.99E+00	3.22E-01	2.79E-02	6.77E-02	1.39E-01
U-3/4	4763.020	4775.312	70.032	188.000	183.159	4.000	6.0782	100.0000	8.79E-01	9.21E-02	6.78E-02	1.49E-01	6.63E-02
U-235	4391.000	4403.978	5.014	8.000	8.000	0.000	2.7628	80.90000	4.74E-02	1.71E-02	3.81E-02	9.23E-02	1.68E-02
U-238	4184.730	4203.852	68.816	205.000	204.000	1.000	3.2810	100.0000	9.79E-01	9.90E-02	3.66E-02	8.62E-02	6.89E-02

NOTES:

* Sg calculated via blank population.
(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area due to tracer impurity:
U-3/4

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

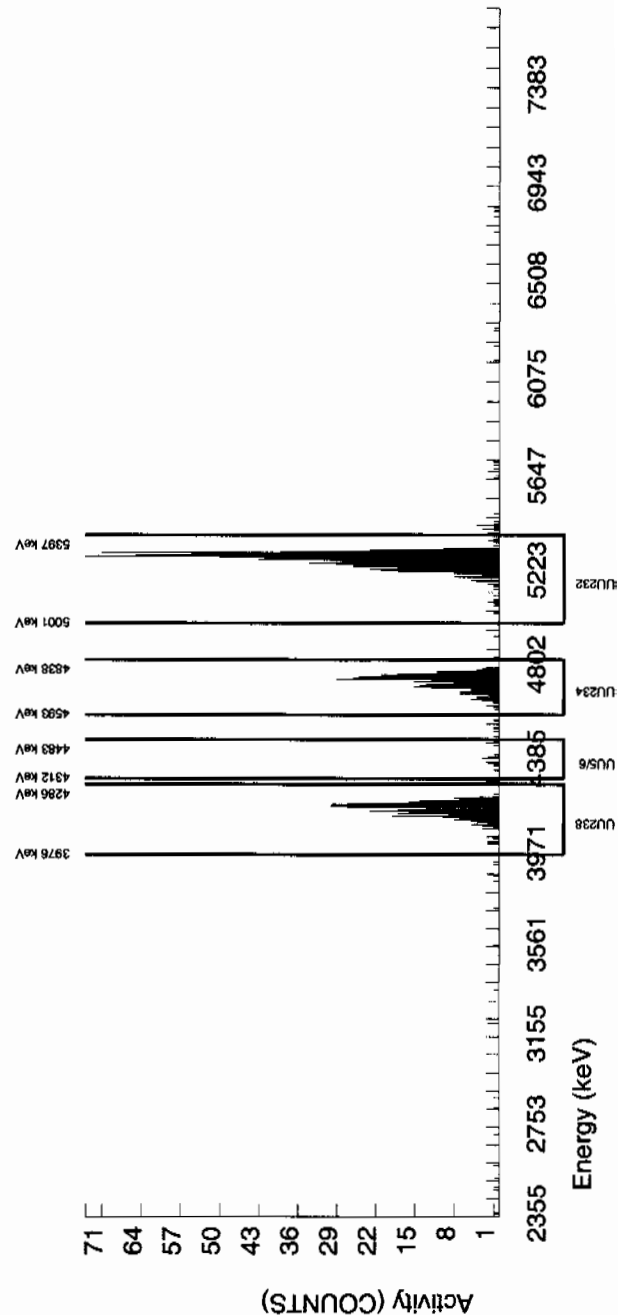
BATCH NUMBER : 944930 SAMPLE ID : S0245107014_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 69.456		CHAMBER : 118 DETECTOR S/N : 75544 AVERAGE %EFFICIENCY : 25.4737 COUNT DATE : 9-FEB-2010 14:35:42 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B118.CNF;449 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W118.CNF;116 CAL DATE : 18-JAN-2010
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.1311E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/g	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/g	
NUCLIDE ACTIVITY SUMMARY			
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM
U232	5302.100	5288.896	37.314
U-3/4	4763.020	4745.068	30.881
U-235	4391.000	4405.298	28.039
U-238	4184.730	4177.544	63.866
	GROSS AREA	NET AREA	BKG AREA
	800.000	797.000	3.000
	310.000	309.194	0.000
	15.000	14.000	1.000
	365.000	365.000	0.000
	%ABUN	BKG	Sg
	100.0000	1.7321	100.0000
	100.0000	6.0782	100.0000
	80.90000	2.7628	80.90000
	100.0000	3.2810	100.0000
	ACTIVITY pCi/g	TPU 1-SIGMA	DLC pCi/g
	4.06E+00	3.30E-01	2.05E-02
	1.57E+00	1.46E-01	7.20E-02
	8.81E-02	2.60E-02	4.05E-02
	1.86E+00	1.67E-01	3.89E-02
			MDC pCi/g
			5.48E-02
			1.58E-01
			9.80E-02
			9.15E-02
			UNC pCi/g
			1.44E-01
			8.95E-02
			2.52E-02
			9.73E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area due to tracer impurity:
U-3/4

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107015_UU SAMPLE QTY : 0.505 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 76.068				CHAMBER : 119 DETECTOR S/N : 79450 AVERAGE %EFFICIENCY : 25.6819 COUNT DATE : 9-FEB-2010 14:35:46 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B119.CNF;458 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W119.CNF;119 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 3.4292E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5302.248	38.756	881.000	880.000	1.000	1.0000	100.0000	4.02E+00	3.20E-01	1.06E-02	3.36E-02	1.36E-01
U-3/4	4763.020	4759.517	69.681	287.000	285.110	1.000	6.0782	100.0000	1.30E+00	1.22E-01	6.46E-02	1.41E-01	7.74E-02
U-235	4391.000	4386.498	61.783	14.000	14.000	0.000	2.7628	80.90000	7.90E-02	2.19E-02	3.63E-02	8.78E-02	2.11E-02
U-238	4184.730	4186.660	55.393	306.000	304.000	2.000	3.2810	100.0000	1.39E+00	1.28E-01	3.49E-02	8.21E-02	8.01E-02

NOTES:

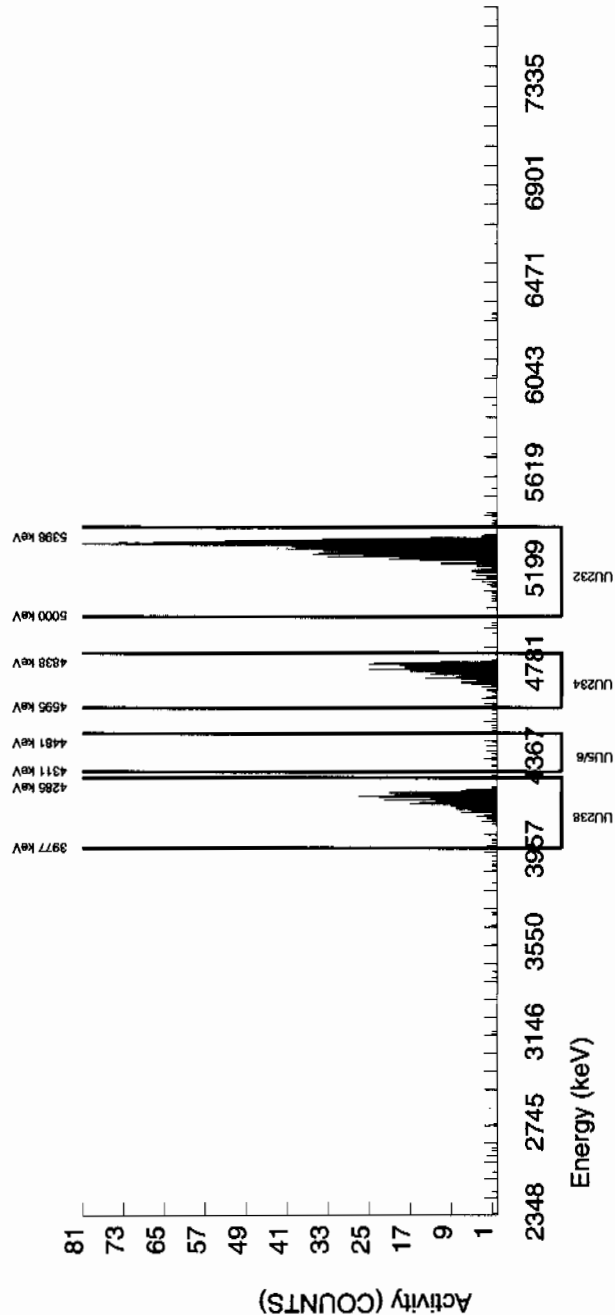
* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

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

U-3/4

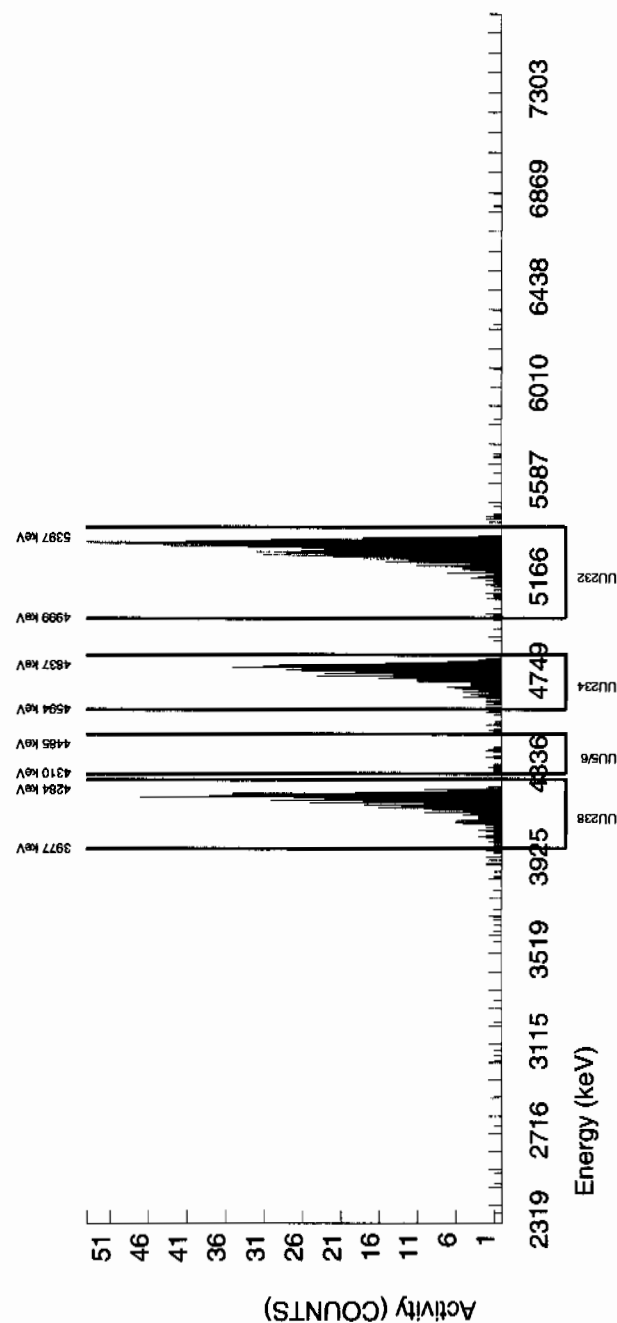


GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 944930 SAMPLE ID : S0245107016_UU SAMPLE QTY : 0.504 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 59.126				CHAMBER : 120 DETECTOR S/N : 74430 AVERAGE %EFFICIENCY : 25.9820 COUNT DATE : 9-FEB-2010 14:35:47 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B120.CNF;462 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W120.CNF;126 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 2.6654E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5298.258	66.944	693.000	692.000	1.000	1.0000	100.0000	4.03E+00	3.36E-01	1.35E-02	4.28E-02	1.53E-01
U-3/4	4763.020	4756.222	55.979	445.000	444.300	0.000	6.0782	100.0000	2.58E+00	2.28E-01	8.23E-02	1.80E-01	1.23E-01
U-235	4391.000	4389.381	37.001	18.000	18.000	0.000	2.7628	80.90000	1.29E-01	3.20E-02	4.62E-02	1.12E-01	3.05E-02
U-238	4184.730	4183.040	43.341	492.000	491.000	1.000	3.2810	100.0000	2.86E+00	2.48E-01	4.44E-02	1.05E-01	1.29E-01

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

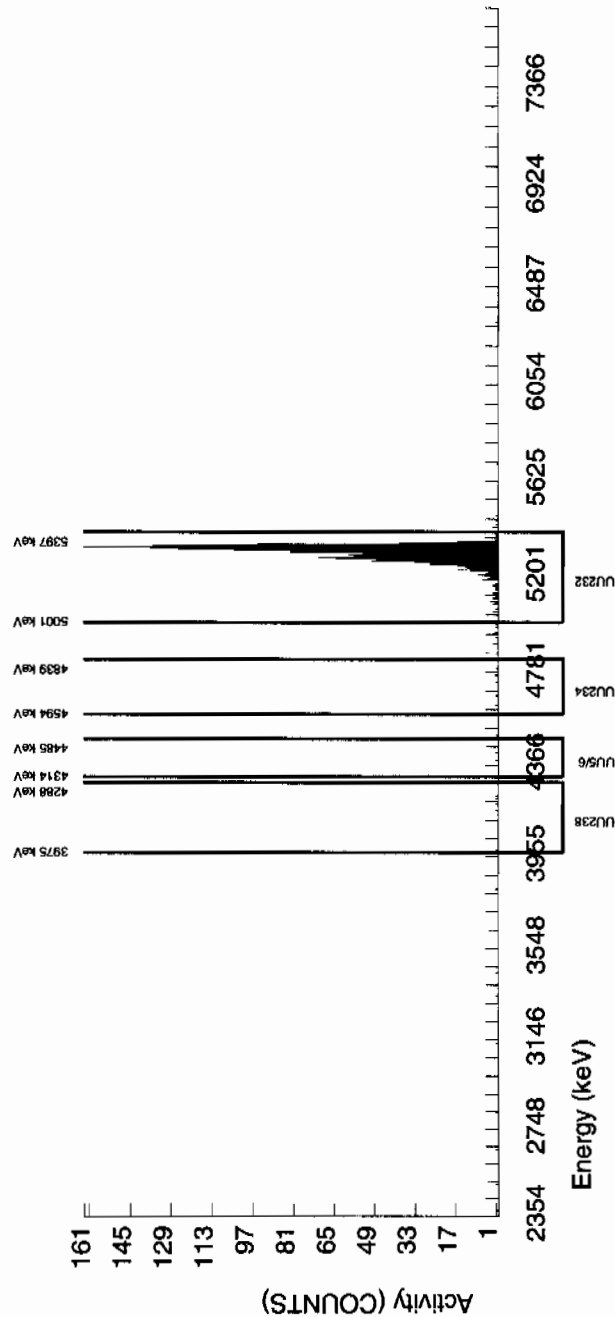
BATCH NUMBER : 944930 SAMPLE ID : S1202023625_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 110.387				CHAMBER : 001 DETECTOR S/N : 79451 AVERAGE %EFFICIENCY : 32.2368 COUNT DATE : 8-FEB-2010 11:55:56 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B001.CNF;1123 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W001.CNF;382 CAL DATE : 3-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5053E+00 dpm RESULTS : 4.9732E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5308.528	35.497	1604.000	1603.000	1.000	1.0000	100.0000	2.03E+00	1.48E-01	2.94E-03	9.32E-03	5.07E-02
U-3/4	4763.020	4725.046	156.497	8.000	2.378	4.000	6.0782	100.0000	3.01E-03	4.08E-03	1.79E-02	3.92E-02	4.08E-03
U-235	4391.000	4355.348	4.891	5.000	4.000	1.000	2.7628	80.90000	6.26E-03	3.86E-03	1.01E-02	2.44E-02	3.83E-03
U-238	4184.730	4160.628	234.746	5.000	3.000	2.000	3.2810	100.0000	3.80E-03	3.36E-03	9.66E-03	2.28E-02	3.35E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area
due to tracer impurity:
U-3/4

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

Alpha Spectroscopy Software Version 2.1
effective date: 01-Feb-2010

BATCH NUMBER : 944930 SAMPLE ID : S1202023626_UU SAMPLE QTY : 0.507 G SAMPLE DATE : 13-JAN-2010 00:00:00 ANALYST : JXD2 % YIELD : 91.339	CHAMBER : 161 DETECTOR S/N : 70321 AVERAGE %EFFICIENCY : 36.7974 COUNT DATE : 9-FEB-2010 11:26:18 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B161.CNF;170 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W161.CNF;60 CAL DATE : 21-JAN-2010
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TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5080E+00 dpm RESULTS : 4.1176E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY									
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G
U232	5302.100	5303.322	54.863	1519.000	1514.000	5.000	2.2361	100.0000	4.01E+00
U-3/4	4763.020	4760.256	65.607	396.000	394.468	0.000	6.0782	100.0000	1.04E+00
U-235	4391.000	4412.698	57.358	24.000	23.000	1.000	2.7628	80.90000	7.52E-02
U-238	4184.730	4185.318	55.471	417.000	417.000	0.000	3.2810	100.0000	1.10E+00

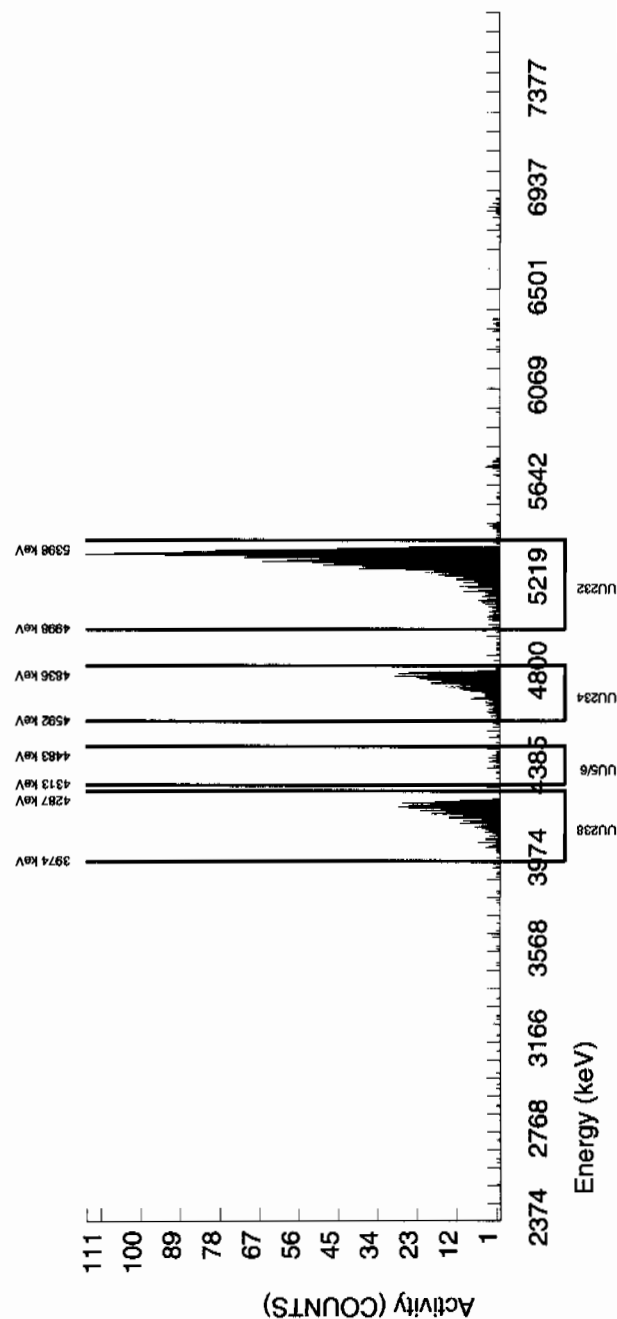
NOTES:

* Sg calculated via blank population.

(Sg updated 5-JAN-2010)

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

* Corrections made to the following net area due to tracer impurity:
U-3/4



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

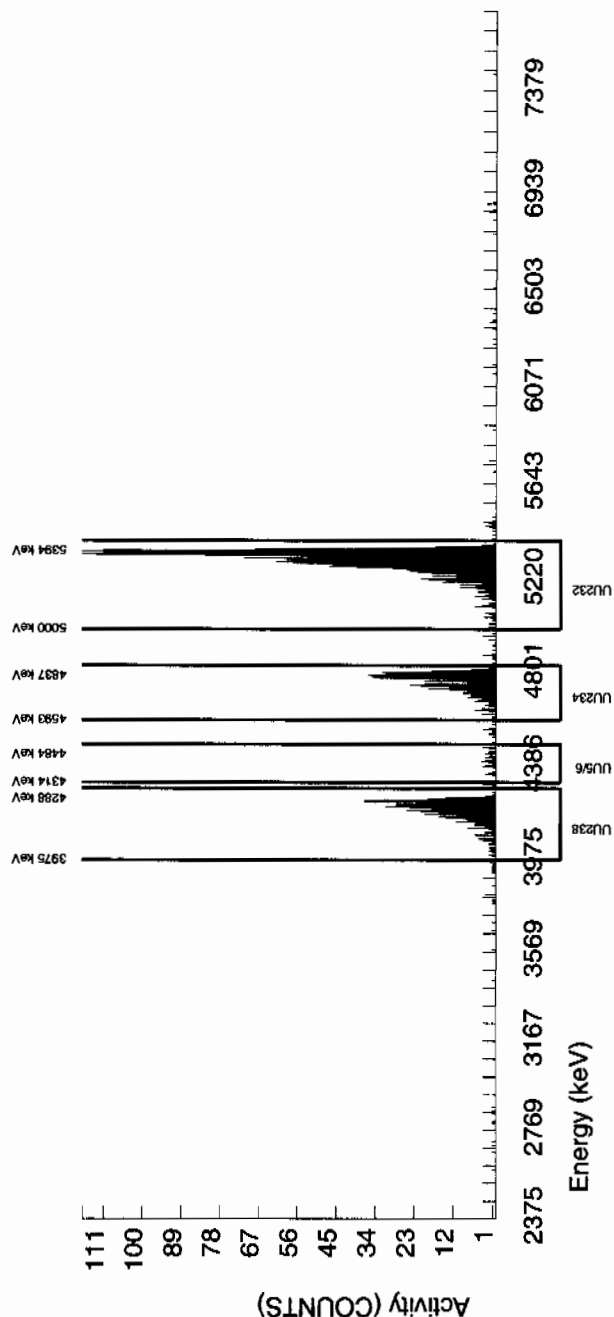
BATCH NUMBER : 944930 SAMPLE ID : S1202023627_UU SAMPLE QTY : 0.117 G SAMPLE DATE : 4-FEB-2010 00:00:00. ANALYST : JXD2 % YIELD : 98.473	CHAMBER : 162 DETECTOR S/N : 70323 AVERAGE %EFFICIENCY : 37.0846 COUNT DATE : 9-FEB-2010 11:26:20 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B162.CNF;170 BKG DATE : 7-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W162.CNF;66 CAL DATE : 21-JAN-2010
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TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5053E+00 dpm RESULTS : 4.4365E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY									
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G
U232	5302.100	5305.563	58.742	1646.000	1645.000	1.000	1.0000	100.0000	1.73E+01
U-3/4	4763.020	4762.610	74.045	512.000	509.336	1.000	6.0782	100.0000	5.37E+00
U-235	4391.000	4411.902	95.297	40.000	40.000	0.000	2.7628	80.90000	5.21E-01
U-238	4184.730	4193.460	63.774	522.000	522.000	0.000	3.2810	100.0000	5.50E+00

NOTES:

- * Sg calculated via blank population.
(Sg updated 5-JAN-2010)
- * Sg of U232 calculated as sqrt(BKG AREA).
- * Corrections made to the following net area due to tracer impurity:
U-3/4



Radiochemistry Batch Checklist, Rev10

Batch# 944038 Product: YS Date: 2/2/10

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

GEL Laboratories, LLC

RADchecklistrev10. revised 1/13/2010

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

Secondary Review Performed By: [Signature] 2/14/10

Gamma Spec Que Sheet

1.G- 2/1/10

01/21/2010

Batch #: 944038 Analyst: MXR1 First Client Due Date: 02/17/2010 Internal Due Date: 02/06/2010
 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: 241/6.30-0.15-701
 Initials: MS Prep Date: 1/25/10 Library: SOLID Witness: NA Co: 6.587

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Aliquot (1/g F)	Detector	Sealing Date/Time (if Applicable)
245107001-1	RE15-10-7165	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF	CAN	124.44	13	1/25/10
245107002-1	RE15-10-7171	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		138.12	16	
245107003-1	RE15-10-7170	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		110.79	18	
245107004-1	RE15-10-7164	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		113.22	19	
245107005-1	RE15-10-7167	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		124.58	20	
245107006-1	RE15-10-7169	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		121.17	21	
245107007-1	RE15-10-7168	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		114.15	22	
245107008-1	RE15-10-7166	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		107.97	23	
245107009-1	RE15-10-7177	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		118.81	1	
245107010-1	RE15-10-7181	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		114.83	2	
245107011-1	RE15-10-7178	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		125.93	6	
245107012-1	RE15-10-7182	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		116.58	7	
245107013-1	RE15-10-7183	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		129.70	10	
245107014-1	RE15-10-7176	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		113.23	12	
245107015-1	RE15-10-7180	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		106.99	15	
245107016-1	RE15-10-7179	SAMPLE	LANL010	SOIL	13-JAN-10 12:00:00	RF		124.28	4	
1202021396-1	MB	MB	QC ACCOUNT	SOIL	1/25/10	RF		138.12	13	
1202021397-1	DUP RE15-10-7165(245107001)	DUP	QC ACCOUNT	SOIL	13-JAN-10 12:00:00	RF		124.44	17	
1202021398-1	LCS	LCS	QC ACCOUNT	SOIL	1/25/10	RF		151.73	16	

GEL Laboratories LLC, Radiochemistry Division

Data Reviewed By: MS 1/25/10

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
944038	245107001	SAMPLE	01-FEB-10		Cerium-139	-0.03221	0.05236	0.050
					Sodium-22	0.01069	0.09615	0.080
944038	245107002	SAMPLE	01-FEB-10					
944038	245107003	SAMPLE	01-FEB-10		Americium-241	0.2283	0.3222	0.200
					Thorium-234	2.281	2.508	2.00
944038	245107004	SAMPLE	01-FEB-10		Americium-241	0.02241	0.2702	0.200
					Cerium-139	-0.00561	0.05707	0.050
					Sodium-22	0.00585	0.08096	0.080
					Thorium-234	1.247	2.269	2.00
944038	245107005	SAMPLE	01-FEB-10					
944038	245107006	SAMPLE	01-FEB-10		Cesium-134	0.0197	0.1028	0.100
					Sodium-22	-0.00252	0.08576	0.080
944038	245107007	SAMPLE	01-FEB-10		Americium-241	0.1181	0.2306	0.200
					Cerium-139	-0.0088	0.0512	0.050
944038	245107008	SAMPLE	01-FEB-10		Americium-241	0.227	0.3894	0.200
					Cerium-139	-0.00087	0.0597	0.050
					Cesium-134	0.03667	0.1007	0.100
					Thorium-234	1.936	2.99	2.00
944038	245107009	SAMPLE	01-FEB-10		Americium-241	0.1437	0.3021	0.200
					Cerium-139	-0.01685	0.05829	0.050
					Cesium-134	0.08321	0.1121	0.100
					Sodium-22	0.01242	0.08646	0.080
944038	245107010	SAMPLE	01-FEB-10		Americium-241	0.1771	0.3265	0.200
					Cerium-139	-0.00015	0.05532	0.050
					Sodium-22	0.01597	0.0901	0.080
					Thorium-234	2.154	2.437	2.00
944038	245107011	SAMPLE	01-FEB-10		Americium-241	0.0718	0.3358	0.200
					Cerium-139	0.00556	0.05905	0.050
					Thorium-234	1.569	2.664	2.00
944038	245107012	SAMPLE	01-FEB-10					
944038	245107013	SAMPLE	01-FEB-10		Americium-241	0.03877	0.3773	0.200
					Thorium-234	1.403	2.955	2.00
944038	245107014	SAMPLE	01-FEB-10		Americium-241	0.1064	0.2734	0.200
					Sodium-22	0.01608	0.08613	0.080
944038	245107015	SAMPLE	01-FEB-10		Americium-241	-0.02319	0.5891	0.200
					Cerium-139	0.00352	0.07175	0.050
					Cesium-134	0.1089	0.1188	0.100
					Europium-152	0.1771	0.23	0.200
					Mercury-203	0.04266	0.1068	0.100
					Sodium-22	-0.0068	0.09562	0.080
					Thorium-234	-2.111	4.319	2.00
					Tin-113	-0.01692	0.1037	0.100
					Uranium-235	0.1109	0.509	0.500
944038	245107016	SAMPLE	01-FEB-10		Americium-241	-0.00359	0.375	0.200

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
944038	1202021396	MB	01-FEB-10					
944038	1202021397	DUP	01-FEB-10		Cerium-139	-0.00319	0.05052	0.050
					Cesium-134	0.1208	0.1215	0.100
					Sodium-22	-0.03934	0.09928	0.080
944038	1202021398	LCS	01-FEB-10		Cerium-139	-0.00465	0.07028	0.050
					Cesium-134	0.072	0.1578	0.100
					Europium-152	-0.03317	0.2841	0.200
					Mercury-203	-0.05863	0.1005	0.100
					Ruthenium-106	0.1326	0.9154	0.800
					Thorium-234	0.9095	3.16	2.00
					Tin-113	-0.02413	0.13	0.100
					Uranium-235	0.00693	0.5036	0.500

Gamma Review Report based on Result > MDA for Batch:944038

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245107001	13-JAN-10 12:00	01-FEB-10 11:26	19	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.574	0.217	pCi/g 0.2913	N	910.6 3	2.022	IDENTIFIED 12.78	<input type="checkbox"/>	
Americium-243	INT	0.3927	0.03443	pCi/g 0.06581	N	74.65 1	1.224	IDENTIFIED 7.628	<input type="checkbox"/>	
Annihilation Rad.		0.2046	0.04901	pCi/g 0.05931	N	510.3 1	1.955	IDENTIFIED 23.7	<input type="checkbox"/>	
Bismuth-211	INT	4.047	0.3266	pCi/g 0.3938	Y	351.4 4	1.453	IDENTIFIED 7.2	<input checked="" type="checkbox"/>	UI
Bismuth-212	HE	0.8842	0.2708	pCi/g 0.8228	N	0 12 0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	✓	1.415	0.1179	pCi/g 0.1435	0.200	608.8 4	1.672	IDENTIFIED 6.902	<input type="checkbox"/>	
Cadmium-109	INT	4.954	0.5772	pCi/g 1.079	Y	87.06 3	1.529	IDENTIFIED 10.95	<input checked="" type="checkbox"/>	UI
Cerium-143		5559	943.6	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.1215	0.036	pCi/g 0.1207	0.100	0 12 0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-135	HE	0.3878	0.09971	pCi/g 0.3294	N	0 12 0	NOT_IDENTI	0	<input type="checkbox"/>	
Gross Gamma		9.187	1.469	pCi/g 3.649	N	0			<input type="checkbox"/>	
Iodine-133	HE	56970	87410	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	
Iodine-135		6.30E+19	0	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	✓	1.649	0.09871	pCi/g 0.1004	0.100	238.4 4	1.291	IDENTIFIED 3.898	<input type="checkbox"/>	
Lead-214	✓	1.408	0.1194	pCi/g 0.1373	0.100	351.4 4	1.453	IDENTIFIED 7.2	<input type="checkbox"/>	
Lutetium-177	HE	5.132	1.243	pCi/g 3.408	N	0 12 0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	INT	1.422	0.2212	pCi/g 0.3082	N	87.06 3	1.529	IDENTIFIED 10.95	<input type="checkbox"/>	
Niobium-95m	HE	0.3159	0.08457	pCi/g 0.2768	N	0 12 0	NOT_IDENTI	0	<input type="checkbox"/>	
Polonium-212	NR	1.649	0.09871	pCi/g 0.1004	N	238.4 4	1.291	IDENTIFIED 3.898	<input type="checkbox"/>	
Polonium-214	NR	1.408	0.1194	pCi/g 0.1373	N	351.4 4	1.453	IDENTIFIED 7.2	<input type="checkbox"/>	
Polonium-216	NR	1.649	0.09871	pCi/g 0.1004	N	238.4 4	1.291	IDENTIFIED 3.898	<input type="checkbox"/>	
Polonium-218	NR	1.408	0.1194	pCi/g 0.1373	N	351.4 4	1.453	IDENTIFIED 7.2	<input type="checkbox"/>	
Potassium-40	✓	23.63	1.152	pCi/g 0.7859	1.00	1460 1	2.459	IDENTIFIED 3.797	<input type="checkbox"/>	
Promethium-149	HE	166.4	179.9	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	
Radium-224	INT	4.785	0.7732	pCi/g 1.143	Y	241.3 1	1.831	IDENTIFIED 15.67	<input checked="" type="checkbox"/>	UI
Radium-226	✓	1.415	0.1179	pCi/g 0.1435	Y	608.8 4	1.672	IDENTIFIED 6.902	<input type="checkbox"/>	
Radium-228	✓	1.574	0.217	pCi/g 0.2913	0.500	910.6 3	2.022	IDENTIFIED 12.78	<input type="checkbox"/>	
Technetium-99m		1.38E+20	0	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.467	0.05645	pCi/g 0.08718	0.080	582.8 1	1.515	IDENTIFIED 11.36	<input type="checkbox"/>	
Thorium-228	NR	1.681	0.1006	pCi/g 0.1023	N	238.4 4	1.291	IDENTIFIED 3.898	<input type="checkbox"/>	
Thorium-230	NR	1.415	0.1179	pCi/g 0.1435	N	608.8 4	1.672	IDENTIFIED 6.902	<input type="checkbox"/>	
Thorium-232	NR	1.574	0.217	pCi/g 0.2913	N	910.6 3	2.022	IDENTIFIED 12.78	<input type="checkbox"/>	
Thorium-234	✓	1.749	0.6883	pCi/g 1.078	2.00	62.97 2	1.188	IDENTIFIED 38.27	<input type="checkbox"/>	
Tin-126	INT	0.4841	0.0564	pCi/g 0.1053	N	87.06 3	1.529	IDENTIFIED 10.95	<input type="checkbox"/>	
Titanium-44	LA	0.1668	0.01782	pCi/g 0.05982	N	0 12 0	NOT_IDENTI	0	<input type="checkbox"/>	
Total Uranium		5.1793	2.05E-06	ug/g 1.6075	N	0			<input type="checkbox"/>	
Uranium-234	NR	1.415	0.1179	pCi/g 0.1435	N	608.8 4	1.672	IDENTIFIED 6.902	<input type="checkbox"/>	
Uranium-238	HE	1.749	0.6883	pCi/g 1.078	N	62.97 2	1.188	IDENTIFIED 38.27	<input type="checkbox"/>	
Zirconium-97		3.03E+08	6.36E+07	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	

*** = 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
245107002	13-JAN-10 12:00	01-FEB-10 11:30	19	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.437	0.1531	pCi/g 0.1808	N	911.3 3	1.414	IDENTIFIED 8.843	<input type="checkbox"/>	
Americium-243	INT	0.3342	0.03374	pCi/g 0.07479	N	74.87 1	0.9375	IDENTIFIED 9.203	<input type="checkbox"/>	
Annihilation Rad.		0.1148	0.03145	pCi/g 0.03761	N	511.1 1	1.482	IDENTIFIED 26.98	<input type="checkbox"/>	
Bismuth-211	INT	3.879	0.2907	pCi/g 0.2768	Y	351.9 4	1.087	IDENTIFIED 5.136	<input checked="" type="checkbox"/>	UI
Bismuth-212	LA	1.116	0.1999	pCi/g 0.6302	N	0 12 0	FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	NR	1.152	0.0986	pCi/g 0.09939	0.200	609.2 4	1.376	IDENTIFIED 6.734	<input type="checkbox"/>	
Cadmium-109	NR	2.255	0.4712	pCi/g 1.373	Y	0 12 0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cadmium-115	HE	0.3754	14.01	pCi/g 0	N	0 12 0	SHORT_HLIF	0	<input type="checkbox"/>	

Polonium-218	NR	1.321	0.08521	pCi/g	0.097	N	351.9	4	1.369	IDENTIFIED	4.948	<input type="checkbox"/>
Potassium-40	✓	22.55	1.101	pCi/g	0.4447	1.00	1460	1	2.159	IDENTIFIED	3.07	<input type="checkbox"/>
Promethium-149	HE	160.3	140	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>
Radium-224	INT	3.988	0.4847	pCi/g	0.9232	Y	241.8	1	1.564	IDENTIFIED	11.83	<input checked="" type="checkbox"/>
Radium-226	✓	1.092	0.09268	pCi/g	0.09167	Y	609	4	1.507	IDENTIFIED	7.218	<input type="checkbox"/>
Radium-228	✓	1.469	0.1547	pCi/g	0.1562	0.500	910.7	3	1.469	IDENTIFIED	8.177	<input type="checkbox"/>
Rhenium-188	HE	0.329	0.1009	pCi/g	0.2623	N	154.1	1	1.13	IDENTIFIED	30.55	<input type="checkbox"/>
Silver-110m	HE	0.1015	0.01966	pCi/g	0.06729	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>
Strontium-85	LA	0.09709	0.02037	pCi/g	0.06758	Y	0	16	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI
Thallium-200	HE	1776	2346	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.5342	0.04298	pCi/g	0.04673	0.080	582.9	1	1.54	IDENTIFIED	7.026	<input type="checkbox"/>
Thorium-228	NR	1.641	0.07866	pCi/g	0.08278	N	238.7	4	1.219	IDENTIFIED	3.196	<input type="checkbox"/>
Thorium-230	NR	1.092	0.09268	pCi/g	0.09167	N	609	4	1.507	IDENTIFIED	7.218	<input type="checkbox"/>
Thorium-232	NR	1.469	0.1547	pCi/g	0.1562	N	910.7	3	1.469	IDENTIFIED	8.177	<input type="checkbox"/>
Tin-126	INT	0.2957	0.0486	pCi/g	0.1484	N	87.23	3	1.253	IDENTIFIED	15.78	<input type="checkbox"/>
Titanium-44	LA	0.3334	0.02893	pCi/g	0.08397	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		6.931	3.74E-06	ug/g	3.8028	N	0					<input type="checkbox"/>
Uranium-234	NR	1.092	0.09268	pCi/g	0.09167	N	609	4	1.507	IDENTIFIED	7.218	<input type="checkbox"/>
Zirconium-97		1.87E+08	4.61E+07	pCi/g	0	N	0	16	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
245107004	13-JAN-10 12:00	01-FEB-10 12:38	19	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.708	0.1754	pCi/g	0.2263	N	911.3	3	1.924	IDENTIFIED 8.579 <input type="checkbox"/>
Americium-243	INT	0.4103	0.04857	pCi/g	0.1	N	74.86	1	1.572	IDENTIFIED 11.15 <input type="checkbox"/>
Annihilation Rad.		0.2159	0.03923	pCi/g	0.05295	N	511.1	1	2.235	IDENTIFIED 17.93 <input type="checkbox"/>
Bismuth-211	INT	4.199	0.3053	pCi/g	0.3418	Y	351.8	4	1.533	IDENTIFIED 6.533 <input checked="" type="checkbox"/>
Bismuth-212	HE	1.004	0.2444	pCi/g	0.7303	N	0	10	0	FAIL_ABUND 0 <input type="checkbox"/>
Bismuth-214	✓	1.326	0.1135	pCi/g	0.1106	0.200	609.2	4	1.586	IDENTIFIED 7.601 <input type="checkbox"/>
Bromine-77	HE	17.59	17.62	pCi/g	0	N	0	10	0	SHORT_HLIF 0 <input type="checkbox"/>
Cadmium-109	INT	2.85	0.5044	pCi/g	1.781	Y	87.28	3	1.204	IDENTIFIED 17.13 <input checked="" type="checkbox"/>
Cerium-143		7052	1084	pCi/g	0	N	0	10	0	SHORT_HLIF 0 <input type="checkbox"/>
Gross Gamma		9.366	1.571	pCi/g	3.842	N	0			<input type="checkbox"/>
Iodine-133	HE	22090	72320	pCi/g	0	N	0	10	0	SHORT_HLIF 0 <input type="checkbox"/>
Iodine-135		1.96E+19	0	pCi/g	0	N	0	10	0	SHORT_HLIF 0 <input type="checkbox"/>
Lead-212	✓	1.83	0.0911	pCi/g	0.09998	0.100	238.5	4	1.334	IDENTIFIED 3.429 <input type="checkbox"/>
Lead-214	✓	1.461	0.1128	pCi/g	0.1191	0.100	351.8	4	1.533	IDENTIFIED 6.533 <input type="checkbox"/>
Lutetium-177	HE	3.907	1.057	pCi/g	3.416	N	0	10	0	FAIL_ABUND 0 <input type="checkbox"/>
Neptunium-237	INT	0.8177	0.1675	pCi/g	0.4743	N	87.28	3	1.204	IDENTIFIED 17.13 <input type="checkbox"/>
Niobium-95m	LA	0.5742	0.09549	pCi/g	0.3086	N	0	10	0	NOT_IDENTI 0 <input type="checkbox"/>
Polonium-212	NR	1.83	0.0911	pCi/g	0.09998	N	238.5	4	1.334	IDENTIFIED 3.429 <input type="checkbox"/>
Polonium-214	NR	1.461	0.1128	pCi/g	0.1191	N	351.8	4	1.533	IDENTIFIED 6.533 <input type="checkbox"/>
Polonium-216	NR	1.83	0.0911	pCi/g	0.09998	N	238.5	4	1.334	IDENTIFIED 3.429 <input type="checkbox"/>
Polonium-218	NR	1.461	0.1128	pCi/g	0.1191	N	351.8	4	1.533	IDENTIFIED 6.533 <input type="checkbox"/>
Potassium-40	✓	26.66	1.381	pCi/g	0.5868	1.00	1461	1	1.966	IDENTIFIED 3.6 <input type="checkbox"/>
Promethium-149	HE	96.47	174.7	pCi/g	0	N	0	10	0	SHORT_HLIF 0 <input type="checkbox"/>
Radium-224	INT	5.249	0.731	pCi/g	1.137	Y	241.5	1	1.765	IDENTIFIED 13.64 <input checked="" type="checkbox"/>
Radium-226	✓	1.326	0.1135	pCi/g	0.1106	Y	609.2	4	1.586	IDENTIFIED 7.601 <input type="checkbox"/>
Radium-228	✓	1.708	0.1754	pCi/g	0.2263	0.500	911.3	3	1.924	IDENTIFIED 8.579 <input type="checkbox"/>
Thallium-208	✓	0.4964	0.04537	pCi/g	0.05806	0.080	583	1	1.299	IDENTIFIED 8.485 <input type="checkbox"/>
Thorium-228	NR	1.865	0.09284	pCi/g	0.1019	N	238.5	4	1.334	IDENTIFIED 3.429 <input type="checkbox"/>
Thorium-230	NR	1.326	0.1135	pCi/g	0.1106	N	609.2	4	1.586	IDENTIFIED 7.601 <input type="checkbox"/>
Thorium-232	NR	1.708	0.1754	pCi/g	0.2263	N	911.3	3	1.924	IDENTIFIED 8.579 <input type="checkbox"/>
Tin-126	INT	0.2784	0.04929	pCi/g	0.177	N	87.28	3	1.204	IDENTIFIED 17.13 <input type="checkbox"/>
Titanium-44	LA	0.4019	0.03128	pCi/g	0.09372	N	0	10	0	FAIL_ABUND 0 <input type="checkbox"/>
Total Uranium		3.7485	3.39E-06	ug/g	3.4562	N	0			<input type="checkbox"/>
Uranium-234	NR	1.326	0.1135	pCi/g	0.1106	N	609.2	4	1.586	IDENTIFIED 7.601 <input type="checkbox"/>
Zirconium-97		2.32E+08	5.85E+07	pCi/g	0	N	0	10	0	SHORT_HLIF 0 <input type="checkbox"/>

Iodine-123	HE	3.08E+08	3.29E+08	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	26310	72900	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.763	0.1059	pCi/g	0.08341	0.100	238.4	4	0.8609	IDENTIFIED	3.372	<input type="checkbox"/>
Lead-214	✓	1.473	0.1194	pCi/g	0.1049	0.100	351.7	4	1.108	IDENTIFIED	6.205	<input type="checkbox"/>
Lutetium-177	HE	4.716	1.201	pCi/g	2.997	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	INT	0.9839	0.1495	pCi/g	0.2165	N	87.21	3	0.9913	IDENTIFIED	10.13	<input type="checkbox"/>
Niobium-97	HE	1.68E+06	3.02E+06	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.763	0.1059	pCi/g	0.08341	N	238.4	4	0.8609	IDENTIFIED	3.372	<input type="checkbox"/>
Polonium-214	NR	1.473	0.1194	pCi/g	0.1049	N	351.7	4	1.108	IDENTIFIED	6.205	<input type="checkbox"/>
Polonium-216	NR	1.763	0.1059	pCi/g	0.08341	N	238.4	4	0.8609	IDENTIFIED	3.372	<input type="checkbox"/>
Polonium-218	NR	1.473	0.1194	pCi/g	0.1049	N	351.7	4	1.108	IDENTIFIED	6.205	<input type="checkbox"/>
Potassium-40	✓	21.59	1.396	pCi/g	0.8777	1.00	1460	1	2.152	IDENTIFIED	4.858	<input type="checkbox"/>
Radium-224	INT	4.772	0.6307	pCi/g	0.9519	Y	241.3	1	1.542	IDENTIFIED	12.45	<input checked="" type="checkbox"/>
Radium-226	✓	1.341	0.1202	pCi/g	0.1246	Y	608.9	4	1.207	IDENTIFIED	6.747	<input type="checkbox"/>
Radium-228	✓	1.578	0.1885	pCi/g	0.2518	0.500	910.4	3	1.299	IDENTIFIED	10.51	<input type="checkbox"/>
Technetium-99m	✓	1.70E+21	0	pCi/g	0	N	0	10	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.5035	0.05157	pCi/g	0.06601	0.080	582.9	1	1.223	IDENTIFIED	8.675	<input type="checkbox"/>
Thorium-228	NR	1.797	0.108	pCi/g	0.08501	N	238.4	4	0.8609	IDENTIFIED	3.372	<input type="checkbox"/>
Thorium-230	NR	1.341	0.1202	pCi/g	0.1246	N	608.9	4	1.207	IDENTIFIED	6.747	<input type="checkbox"/>
Thorium-232	NR	1.578	0.1885	pCi/g	0.2518	N	910.4	3	1.299	IDENTIFIED	10.51	<input type="checkbox"/>
Thorium-234	✓	1.52	0.3935	pCi/g	0.7462	2.00	63.16	2	0.8838	IDENTIFIED	24.33	<input type="checkbox"/>
Tin-126	INT	0.3351	0.03739	pCi/g	0.074	N	87.21	3	0.9913	IDENTIFIED	10.13	<input type="checkbox"/>
Titanium-44	LA	0.404	0.02331	pCi/g	0.03942	N	0	10	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		4.5768	1.17E-06	ug/g	1.1129	N	0					<input type="checkbox"/>
Uranium-234	NR	1.341	0.1202	pCi/g	0.1246	N	608.9	4	1.207	IDENTIFIED	6.747	<input type="checkbox"/>
Uranium-238	HE	1.52	0.3935	pCi/g	0.7462	N	63.16	2	0.8838	IDENTIFIED	24.33	<input type="checkbox"/>
Zirconium-97		1.24E+08	4.83E+07	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
245107007	13-JAN-10 12:00	01-FEB-10 12:39	19	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.888	0.1844	pCi/g	0.2193	N	911.3	3	1.94	IDENTIFIED	7.181 <input type="checkbox"/>
Americium-243	0.3493	0.04048	pCi/g	0.08828	N	74.81	1	1.097	IDENTIFIED	10.84 <input type="checkbox"/>
Annihilation Rad.	0.1661	0.03751	pCi/g	0.04433	N	511	1	2.123	IDENTIFIED	22.02 <input type="checkbox"/>
Barium-137m	0.6438	0.05293	pCi/g	0.05498	N	661.8	2	1.84	IDENTIFIED	6.307 <input type="checkbox"/>
Bismuth-211	4.548	0.3489	pCi/g	0.3361	Y	351.8	4	1.428	IDENTIFIED	5.002 <input checked="" type="checkbox"/>
Bismuth-212	0.9461	0.1714	pCi/g	0.5965	N	0	15	0	NOT_IDENTI	0 <input type="checkbox"/>
Bismuth-214	1.349	0.1044	pCi/g	0.1203	0.200	609.3	4	1.699	IDENTIFIED	5.104 <input type="checkbox"/>
Cadmium-109	2.84	0.477	pCi/g	1.2	Y	87.19	3	1.251	IDENTIFIED	16.12 <input checked="" type="checkbox"/>
Cadmium-115	7.468	18.12	pCi/g	0	N	0	15	0	SHORT_HLIF	0 <input type="checkbox"/>
Cerium-143	6945	1107	pCi/g	0	N	0	15	0	SHORT_HLIF	0 <input type="checkbox"/>
Cesium-134	0.08549	0.0239	pCi/g	0.0841	0.100	0	15	0	NOT_IDENTI	0 <input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	0.6806	0.05598	pCi/g	0.05812	0.100	661.8	2	1.84	IDENTIFIED	6.307 <input type="checkbox"/>
Gross Gamma	9.695	1.326	pCi/g	2.692	N	0				<input type="checkbox"/>
Iodine-133	69400	68510	pCi/g	0	N	0	15	0	SHORT_HLIF	0 <input type="checkbox"/>
Krypton-85	34.82	4.584	pCi/g	15.04	N	0	15	0	NOT_IDENTI	0 <input type="checkbox"/>
Lead-212	1.735	0.1276	pCi/g	0.09302	0.100	238.6	4	1.261	IDENTIFIED	3.226 <input type="checkbox"/>
Lead-214	1.582	0.1282	pCi/g	0.1171	0.100	351.8	4	1.428	IDENTIFIED	5.002 <input type="checkbox"/>
Lutetium-177	3.371	1.502	pCi/g	3.186	N	0	15	0	FAIL_ABUND	0 <input type="checkbox"/>
Neptunium-237	0.8151	0.1606	pCi/g	0.3806	N	87.19	3	1.251	IDENTIFIED	16.12 <input type="checkbox"/>
Niobium-95	0.09094	0.02478	pCi/g	0.07834	N	0	15	0	NOT_IDENTI	0 <input type="checkbox"/>
Niobium-95m	0.2416	0.07936	pCi/g	0.2408	N	0	15	0	NOT_IDENTI	0 <input type="checkbox"/>
Niobium-97	1.71E+07	2.97E+06	pCi/g	0	N	0	15	0	SHORT_HLIF	0 <input type="checkbox"/>
Polonium-212	1.735	0.1276	pCi/g	0.09302	N	238.6	4	1.261	IDENTIFIED	3.226 <input type="checkbox"/>
Polonium-214	1.582	0.1282	pCi/g	0.1171	N	351.8	4	1.428	IDENTIFIED	5.002 <input type="checkbox"/>
Polonium-216	1.735	0.1276	pCi/g	0.09302	N	238.6	4	1.261	IDENTIFIED	3.226 <input type="checkbox"/>
Polonium-218	1.582	0.1282	pCi/g	0.1171	N	351.8	4	1.428	IDENTIFIED	5.002 <input type="checkbox"/>
Potassium-40	20.76	1.192	pCi/g	0.5623	1.00	1461	1	2.42	IDENTIFIED	3.462 <input type="checkbox"/>

Radium-224	INT	5.243	0.7053	pCi/g	1.057	Y	241.8	1	1.886	IDENTIFIED	11.9	<input checked="" type="checkbox"/>	UI
Radium-226	✓	1.349	0.1044	pCi/g	0.1203	Y	609.3	4	1.699	IDENTIFIED	5.104	<input type="checkbox"/>	
Radium-228	✓	1.888	0.1844	pCi/g	0.2193	0.500	911.3	3	1.94	IDENTIFIED	7.181	<input type="checkbox"/>	
Silver-110m	HE	0.1013	0.02185	pCi/g	0.07073	N	0	15	0	NOT_IDENTI	0	<input type="checkbox"/>	
Sodium-24	HE	2.67E+07	2.84E+07	pCi/g	0	N	0	15	0	SHORT_HLIF	0	<input type="checkbox"/>	
Strontium-85	LA	0.186	0.02449	pCi/g	0.08033	Y	0	15	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.5004	0.04668	pCi/g	0.05339	0.080	583.2	1	1.242	IDENTIFIED	7.592	<input type="checkbox"/>	
Thorium-228	NR	1.768	0.13	pCi/g	0.0948	N	238.6	4	1.261	IDENTIFIED	3.226	<input type="checkbox"/>	
Thorium-230	NR	1.349	0.1044	pCi/g	0.1203	N	609.3	4	1.699	IDENTIFIED	5.104	<input type="checkbox"/>	
Thorium-232	NR	1.888	0.1844	pCi/g	0.2193	N	911.3	3	1.94	IDENTIFIED	7.181	<input type="checkbox"/>	
Thorium-234	✓	3.157	0.9953	pCi/g	1.994	2.00	63.18	2	1.043	IDENTIFIED	30.31	<input type="checkbox"/>	
Tin-126	INT	0.2776	0.04661	pCi/g	0.1199	N	87.19	3	1.251	IDENTIFIED	16.12	<input type="checkbox"/>	
Titanium-44	LA	0.3745	0.03015	pCi/g	0.07495	N	0	15	0	FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		9.4065	2.96E-06	ug/g	2.9686	N	0					<input type="checkbox"/>	
Uranium-234	NR	1.349	0.1044	pCi/g	0.1203	N	609.3	4	1.699	IDENTIFIED	5.104	<input type="checkbox"/>	
Uranium-238	HE	3.157	0.9953	pCi/g	1.994	N	63.18	2	1.043	IDENTIFIED	30.31	<input type="checkbox"/>	
Zirconium-97		3.18E+08	5.32E+07	pCi/g	0	N	0	15	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	
245107008	13-JAN-10 12:00	01-FEB-10 12:39	19	SAMPLE	LOAD	1	LANL	LANL01004GEL		N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.807	0.2046	pCi/g	0.2485	N	910	3	1.796	IDENTIFIED	9.743	
Americium-243	INT	0.5141	0.05406	pCi/g	0.115	N	74.63	1	1.385	IDENTIFIED	9.532	
Annihilation Rad. HE		0.1089	0.04066	pCi/g	0.05672	N	510.5	1	1.413	IDENTIFIED	37.22	
Barium-137m	NR	0.1342	0.03147	pCi/g	0.06835	N	661	2	1.214	IDENTIFIED	23.32	
Bismuth-211	INT	4.045	0.3014	pCi/g	0.3659	Y	351.5	4	1.127	IDENTIFIED	6.703	✓
Bismuth-212	HE	1.295	0.3159	pCi/g	0.7489	N	0	12	0	FAIL_ABUND	0	
Bismuth-214	✓	1.372	0.1108	pCi/g	0.1425	0.200	608.7	4	1.369	IDENTIFIED	7.144	
Cadmium-109	INT	3.892	0.6622	pCi/g	2.116	Y	86.92	3	1.527	IDENTIFIED	16.31	✓
Cadmium-115	HE	17.61	22.96	pCi/g	0	N	0	12	0	SHORT_HLIF	0	
Cerium-143		11030	1570	pCi/g	0	N	0	12	0	SHORT_HLIF	0	
Cesium-135	HE	0.4616	0.114	pCi/g	0.3638	N	0	12	0	NOT_IDENTI	0	
Cesium-137	✓	0.1418	0.03327	pCi/g	0.07225	0.100	661	2	1.214	IDENTIFIED	23.32	
Gross Gamma		8.786	1.499	pCi/g	3.565	N	0					
Lead-212	✓	1.622	0.08558	pCi/g	0.108	0.100	238.4	4	1.104	IDENTIFIED	3.864	
Lead-214	✓	1.407	0.1111	pCi/g	0.1276	0.100	351.5	4	1.127	IDENTIFIED	6.703	
Lutetium-177	HE	4.272	1.255	pCi/g	3.574	N	0	12	0	FAIL_ABUND	0	
Neptunium-237	INT	1.117	0.2222	pCi/g	0.6021	N	86.92	3	1.527	IDENTIFIED	16.31	
Niobium-95m	HE	0.5223	0.1045	pCi/g	0.3322	N	0	12	0	NOT_IDENTI	0	
Niobium-97	HE	1.69E+06	3.37E+06	pCi/g	0	N	0	12	0	SHORT_HLIF	0	
Polonium-212	NR	1.622	0.08558	pCi/g	0.108	N	238.4	4	1.104	IDENTIFIED	3.864	
Polonium-214	NR	1.407	0.1111	pCi/g	0.1276	N	351.5	4	1.127	IDENTIFIED	6.703	
Polonium-216	NR	1.622	0.08558	pCi/g	0.108	N	238.4	4	1.104	IDENTIFIED	3.864	
Polonium-218	NR	1.407	0.1111	pCi/g	0.1276	N	351.5	4	1.127	IDENTIFIED	6.703	
Potassium-40	✓	21.32	1.189	pCi/g	0.5796	1.00	1460	1	2.3	IDENTIFIED	4.14	
Promethium-149	HE	78.34	181.6	pCi/g	0	N	0	12	0	SHORT_HLIF	0	
Radium-224	INT	5.445	0.7871	pCi/g	1.23	Y	241.4	1	1.855	IDENTIFIED	14.18	✓
Radium-226	✓	1.372	0.1108	pCi/g	0.1425	Y	608.7	4	1.369	IDENTIFIED	7.144	
Radium-228	✓	1.807	0.2046	pCi/g	0.2485	0.500	910	3	1.796	IDENTIFIED	9.743	
Sodium-24	HE	6.23E+07	3.94E+07	pCi/g	0	N	0	12	0	SHORT_HLIF	0	
Thallium-200	HE	3219	3424	pCi/g	0	N	0	12	0	SHORT_HLIF	0	
Thallium-208	✓	0.5592	0.04948	pCi/g	0.07511	0.080	582.6	1	1.548	IDENTIFIED	8.231	
Thorium-228	NR	1.653	0.08722	pCi/g	0.1101	N	238.4	4	1.104	IDENTIFIED	3.864	
Thorium-230	NR	1.372	0.1108	pCi/g	0.1424	N	608.7	4	1.369	IDENTIFIED	7.144	
Thorium-232	NR	1.807	0.2046	pCi/g	0.2485	N	910	3	1.796	IDENTIFIED	9.743	
Tin-126	INT	0.3804	0.06471	pCi/g	0.1852	N	86.92	3	1.527	IDENTIFIED	16.31	
Titanium-44	LA	0.5062	0.04057	pCi/g	0.1024	N	0	12	0	FAIL_ABUND	0	
Total Uranium		5.9577	3.99E-06	ug/g	4.4522	N	0					

Uranium-234 *NR* 1.372 0.1108 pCi/g 0.1424 N 608.7 4 1.369 IDENTIFIED 7.144 ☐
 Zirconium-97 3.16E+08 7.01E+07 pCi/g 0 N 0 12 0 SHORT_HLIF 0 ☐

*** = Number of isotopes identified with a keyline at this energy.

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245107009	13-JAN-10 12:00	01-FEB-10 13:28	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>NR</i>	1.534	0.2115	pCi/g	0.2506	N	911.7 3	1.622	IDENTIFIED 12.51	<input type="checkbox"/>	
Americium-243 <i>INT</i>	0.3751	0.04906	pCi/g	0.1131	N	74.83 1	1.174	IDENTIFIED 12.4	<input type="checkbox"/>	
Annihilation Rad. HE	0.1166	0.04122	pCi/g	0.05404	N	511 1	1.567	IDENTIFIED 35.09	<input type="checkbox"/>	
Barium-137m <i>NR</i>	0.3206	0.0473	pCi/g	0.0736	N	661.9 2	1.438	IDENTIFIED 14.17	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	5.324	0.3543	pCi/g	0.4116	Y	352.2 4	1.241	IDENTIFIED 4.865	<input checked="" type="checkbox"/>	<i>UE</i>
Bismuth-212 <i>LA</i>	1.619	0.3437	pCi/g	0.8526	N	0 11 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.258	0.1173	pCi/g	0.1486	0.200	609.6 4	1.535	IDENTIFIED 7.91	<input type="checkbox"/>	
Bromine-77 HE	18.73	20.91	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cadmium-109 <i>INT</i>	2.709	0.6259	pCi/g	1.561	Y	87.36 3	1.159	IDENTIFIED 22.62	<input checked="" type="checkbox"/>	<i>UE</i>
Cadmium-115	45.06	21.9	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cerium-143	2750	749.8	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-137 <i>✓</i>	0.3389	0.05	pCi/g	0.0778	0.100	661.9 2	1.438	IDENTIFIED 14.17	<input type="checkbox"/>	
Gross Gamma	9.472	1.607	pCi/g	3.394	N	0			<input type="checkbox"/>	
Iodine-123 HE	5.17E+08	5.05E+08	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135	2.55E+19	0	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Lead-212 <i>✓</i>	1.683	0.1079	pCi/g	0.112	0.100	239 4	1.226	IDENTIFIED 3.937	<input type="checkbox"/>	
Lead-214 <i>✓</i>	1.852	0.1324	pCi/g	0.1453	0.100	352.2 4	1.241	IDENTIFIED 4.865	<input type="checkbox"/>	
Lutetium-177 <i>LA</i>	7.022	1.485	pCi/g	3.749	N	0 11 0		FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237 HE	0.7773	0.1967	pCi/g	0.4983	N	87.36 3	1.159	IDENTIFIED 22.62	<input type="checkbox"/>	
Niobium-97 HE	8.42E+05	3.19E+06	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Polonium-212 <i>NR</i>	1.683	0.1079	pCi/g	0.112	N	239 4	1.226	IDENTIFIED 3.937	<input type="checkbox"/>	
Polonium-214 <i>NR</i>	1.852	0.1324	pCi/g	0.1453	N	352.2 4	1.241	IDENTIFIED 4.865	<input type="checkbox"/>	
Polonium-216 <i>NR</i>	1.683	0.1079	pCi/g	0.112	N	239 4	1.226	IDENTIFIED 3.937	<input type="checkbox"/>	
Polonium-218 <i>NR</i>	1.852	0.1324	pCi/g	0.1453	N	352.2 4	1.241	IDENTIFIED 4.865	<input type="checkbox"/>	
Potassium-40 <i>✓</i>	25.51	1.492	pCi/g	0.6882	1.00	1461 1	1.995	IDENTIFIED 3.801	<input type="checkbox"/>	
Promethium-149 HE	51.16	193.9	pCi/g	0	N	0 11 0		SHORT_HLIF 0	<input type="checkbox"/>	
Radium-224 <i>INT</i>	4.515	0.6846	pCi/g	1.274	Y	242 1	1.553	IDENTIFIED 14.46	<input checked="" type="checkbox"/>	<i>UE</i>
Radium-226 <i>✓</i>	1.258	0.1173	pCi/g	0.1486	Y	609.6 4	1.535	IDENTIFIED 7.91	<input type="checkbox"/>	
Radium-228 <i>✓</i>	1.534	0.2115	pCi/g	0.2506	0.500	911.7 3	1.622	IDENTIFIED 12.51	<input type="checkbox"/>	
Thallium-208 <i>✓</i>	0.5342	0.06225	pCi/g	0.07001	0.080	583.2 1	1.457	IDENTIFIED 10.73	<input type="checkbox"/>	
Thorium-228 <i>NR</i>	1.715	0.11	pCi/g	0.1141	N	239 4	1.226	IDENTIFIED 3.937	<input type="checkbox"/>	
Thorium-230 <i>NR</i>	1.258	0.1173	pCi/g	0.1486	N	609.6 4	1.535	IDENTIFIED 7.91	<input type="checkbox"/>	
Thorium-232 <i>NR</i>	1.534	0.2115	pCi/g	0.2506	N	911.7 3	1.622	IDENTIFIED 12.51	<input type="checkbox"/>	
Thorium-234 <i>✓</i>	3.842	1.493	pCi/g	2.407	2.00	63.14 2	1.389	IDENTIFIED 37.86	<input type="checkbox"/>	
Tin-126 HE	0.2647	0.06116	pCi/g	0.1533	N	87.36 3	1.159	IDENTIFIED 22.62	<input type="checkbox"/>	
Titanium-44 <i>LA</i>	0.4299	0.0377	pCi/g	0.09936	N	0 11 0		FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium	11.444	4.44E-06	ug/g	3.5838	N	0			<input type="checkbox"/>	
Uranium-234 <i>NR</i>	1.258	0.1173	pCi/g	0.1486	N	609.6 4	1.535	IDENTIFIED 7.91	<input type="checkbox"/>	
Uranium-238 HE	3.842	1.493	pCi/g	2.407	N	63.14 2	1.389	IDENTIFIED 37.86	<input type="checkbox"/>	
Zirconium-97 HE	7.99E+07	5.42E+07	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
245107010	13-JAN-10 12:00	01-FEB-10 13:28	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228 <i>NR</i>	1.252	0.1957	pCi/g	0.2135	N	910.9 3	1.67	IDENTIFIED 14.33	<input type="checkbox"/>	
Americium-243 <i>INT</i>	0.3462	0.04686	pCi/g	0.09713	N	74.71 1	1.085	IDENTIFIED 12.81	<input type="checkbox"/>	
Annihilation Rad. HE	0.07058	0.03856	pCi/g	0.05431	N	510.5 1	1.939	IDENTIFIED 54.4	<input type="checkbox"/>	
Bismuth-211 <i>INT</i>	4.23	0.3472	pCi/g	0.3785	Y	351.7 4	1.247	IDENTIFIED 5.847	<input checked="" type="checkbox"/>	<i>UE</i>
Bismuth-212 HE	1.161	0.3233	pCi/g	0.696	N	0 10 0		FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214 <i>✓</i>	1.317	0.1217	pCi/g	0.1094	0.200	608.9 4	1.432	IDENTIFIED 7.581	<input type="checkbox"/>	
Bromine-77 HE	37.6	20.26	pCi/g	0	N	0 10 0		SHORT_HLIF 0	<input type="checkbox"/>	

Cadmium-109	✓	2.385	0.5427	pCi/g	1.509	Y	86.99	3	0.9131	IDENTIFIED	22.21	✓ UI
Cerium-143		5894	1041	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Cesium-135	HE	0.4381	0.1716	pCi/g	0.2956	N	269.6	1	1.728	IDENTIFIED	38.6	
Gross Gamma		8.35	1.451	pCi/g	3.481	N		0				
Iodine-123	HE	1.82E+08	4.59E+08	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Lead-212	✓	1.562	0.116	pCi/g	0.09999	0.100	238.4	4	1.18	IDENTIFIED	3.952	
Lead-214	✓	1.471	0.1267	pCi/g	0.1319	0.100	351.7	4	1.247	IDENTIFIED	5.847	
Lutetium-177	HE	3.944	1.418	pCi/g	3.414	N	0	10	0	FAIL_ABUND	0	
Neptunium-237	HE	0.6843	0.171	pCi/g	0.4668	N	86.99	3	0.9131	IDENTIFIED	22.21	
Polonium-212	NR	1.562	0.116	pCi/g	0.09999	N	238.4	4	1.18	IDENTIFIED	3.952	
Polonium-214	NR	1.471	0.1267	pCi/g	0.1319	N	351.7	4	1.247	IDENTIFIED	5.847	
Polonium-216	NR	1.562	0.116	pCi/g	0.09999	N	238.4	4	1.18	IDENTIFIED	3.952	
Polonium-218	NR	1.471	0.1267	pCi/g	0.1319	N	351.7	4	1.247	IDENTIFIED	5.847	
Potassium-40	✓	23.23	1.429	pCi/g	0.7616	1.00	1460	1	2.098	IDENTIFIED	3.903	
Promethium-149	HE	16.56	170.3	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Radium-224	INT	4.756	0.8376	pCi/g	1.138	Y	241.4	1	1.893	IDENTIFIED	16.59	✓ UI
Radium-226	✓	1.317	0.1217	pCi/g	0.1094	Y	608.9	4	1.432	IDENTIFIED	7.581	
Radium-228	✓	1.252	0.1957	pCi/g	0.2135	0.500	910.9	3	1.67	IDENTIFIED	14.33	
Sodium-24	HE	3.01E+07	3.33E+07	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Thallium-200	HE	3121	3144	pCi/g	0	N	0	10	0	SHORT_HLIF	0	
Thallium-208	✓	0.4519	0.04899	pCi/g	0.06187	0.080	582.9	1	1.235	IDENTIFIED	9.615	
Thorium-228	NR	1.592	0.1182	pCi/g	0.1019	N	238.4	4	1.18	IDENTIFIED	3.952	
Thorium-230	NR	1.317	0.1217	pCi/g	0.1094	N	608.9	4	1.432	IDENTIFIED	7.581	
Thorium-232	NR	1.252	0.1957	pCi/g	0.2135	N	910.9	3	1.67	IDENTIFIED	14.33	
Tin-126	HE	0.233	0.05303	pCi/g	0.1574	N	86.99	3	0.9131	IDENTIFIED	22.21	
Titanium-44	LA	0.3349	0.03113	pCi/g	0.07359	N	0	10	0	FAIL_ABUND	0	
Total Uranium		6.3962	3.90E-06	ug/g	3.7216	N		0				
Uranium-234	NR	1.317	0.1217	pCi/g	0.1094	N	608.9	4	1.432	IDENTIFIED	7.581	
Zirconium-97		1.64E+08	5.49E+07	pCi/g	0	N	0	10	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	
245107011	13-JAN-10 12:00	01-FEB-10 13:29	19.1	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment	
Actinium-228	NR	1.462	0.1917	pCi/g	0.2256	N	911	3	1.711	IDENTIFIED 12.08	
Americium-243	INT	0.3817	0.04742	pCi/g	0.1077	N	74.59	1	1.385	IDENTIFIED 11.57	
Annihilation Rad.		0.1372	0.03961	pCi/g	0.05248	N	510.5	1	1.799	IDENTIFIED 28.73	
Barium-137m	NR	0.5679	0.03879	pCi/g	0.05922	N	661.4	2	1.525	IDENTIFIED 6.367	
Bismuth-211	INT	3.997	0.2941	pCi/g	0.3614	Y	351.6	4	1.32	IDENTIFIED 6.614	✓
Bismuth-212	HE	1.103	0.2919	pCi/g	0.7241	N	0	12	0	FAIL_ABUND 0	
Bismuth-214	✓	1.244	0.1002	pCi/g	0.1246	0.200	609.1	4	1.403	IDENTIFIED 7.157	
Cadmium-109	INT	1.625	0.7175	pCi/g	1.545	Y	87.38	2	1.379	IDENTIFIED 43.87	✓
Cadmium-115	HE	23.98	22.25	pCi/g	0	N	0	12	0	SHORT_HLIF 0	
Cerium-143		7294	1129	pCi/g	0	N	0	12	0	SHORT_HLIF 0	
Cesium-134	LA	0.1413	0.02925	pCi/g	0.1146	0.100	0	12	0	NOT_IDENTI 0	✓ UI Data rejected due to low abundance.
Cesium-137	✓	0.6004	0.04103	pCi/g	0.0626	0.100	661.4	2	1.525	IDENTIFIED 6.367	
Gross Gamma		8.689	1.385	pCi/g	3.877	N	0				
Iodine-126	HE	0.4509	0.2515	pCi/g	0.4409	N	0	12	0	FAIL_ABUND 0	
Lead-212	✓	1.56	0.08256	pCi/g	0.1035	0.100	238.4	4	1.174	IDENTIFIED 3.797	
Lead-214	✓	1.39	0.1086	pCi/g	0.126	0.100	351.6	4	1.32	IDENTIFIED 6.614	
Lutetium-177	HE	5.169	1.101	pCi/g	3.602	N	0	12	0	FAIL_ABUND 0	
Niobium-95m	HE	0.4889	0.09697	pCi/g	0.3139	N	0	12	0	NOT_IDENTI 0	
Niobium-97		8.24E+06	3.30E+06	pCi/g	0	N	0	12	0	SHORT_HLIF 0	
Polonium-212	NR	1.56	0.08256	pCi/g	0.1035	N	238.4	4	1.174	IDENTIFIED 3.797	
Polonium-214	NR	1.39	0.1086	pCi/g	0.126	N	351.6	4	1.32	IDENTIFIED 6.614	
Polonium-216	NR	1.56	0.08256	pCi/g	0.1035	N	238.4	4	1.174	IDENTIFIED 3.797	
Polonium-218	NR	1.39	0.1086	pCi/g	0.126	N	351.6	4	1.32	IDENTIFIED 6.614	
Potassium-40	✓	21.18	1.078	pCi/g	0.6598	1.00	1461	1	2.204	IDENTIFIED 3.865	
Promethium-149	HE	86.64	179.1	pCi/g	0	N	0	12	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
245107015	13-JAN-10 12:00	01-FEB-10 13:30	19.1	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	1.522	0.1947	pCi/g	0.2887	N	910.7 3	1.49	IDENTIFIED	11.52	<input type="checkbox"/>
Americium-243	WT	0.4827	0.06983	pCi/g	0.1491	N	74.27 1	1.272	IDENTIFIED	13.36	<input type="checkbox"/>
Annihilation Rad.		0.2089	0.04649	pCi/g	0.06227	N	510.3 1	1.971	IDENTIFIED	22.08	<input type="checkbox"/>
Bismuth-211	WT	4.489	0.3574	pCi/g	0.4517	Y	351.4 4	1.366	IDENTIFIED	7.183	<input checked="" type="checkbox"/> WT
Bismuth-212	HE	1.331	0.3041	pCi/g	0.8489	N	0 8 0		FAIL_ABUND	0	<input type="checkbox"/>
Bismuth-214	✓	1.499	0.1257	pCi/g	0.1486	0.200	608.8 4	1.531	IDENTIFIED	7.519	<input type="checkbox"/>
Cerium-143		12070	1815	pCi/g	0	N	0 8 0		SHORT_HLIF	0	<input type="checkbox"/>
Cesium-135	HE	0.5937	0.1897	pCi/g	0.3551	N	269.3 1	1.106	IDENTIFIED	31.66	<input type="checkbox"/>
Gross Gamma		9.888	1.654	pCi/g	3.646	N	0				<input type="checkbox"/>
Iodine-123	HE	6.44E+08	6.48E+08	pCi/g	0	N	0 8 0		SHORT_HLIF	0	<input type="checkbox"/>
Iodine-133	HE	50010	97340	pCi/g	0	N	0 8 0		SHORT_HLIF	0	<input type="checkbox"/>
Lead-212	✓	1.995	0.1129	pCi/g	0.129	0.100	238 4	1.382	IDENTIFIED	3.86	<input type="checkbox"/>
Lead-214	✓	1.561	0.1308	pCi/g	0.1574	0.100	351.4 4	1.366	IDENTIFIED	7.183	<input type="checkbox"/>
Lutetium-177	HE	6.168	1.759	pCi/g	4.376	N	0 8 0		FAIL_ABUND	0	<input type="checkbox"/>
Neptunium-237	HE	0.8384	0.3643	pCi/g	0.6317	N	86 1	3.877	IDENTIFIED	41.82	<input type="checkbox"/>
Niobium-95m	LA	2.038	0.1619	pCi/g	0.5213	N	0 8 0		NOT_IDENTI	0	<input type="checkbox"/>
Polonium-212	ML	1.995	0.1129	pCi/g	0.129	N	238 4	1.382	IDENTIFIED	3.86	<input type="checkbox"/>
Polonium-214	ML	1.561	0.1308	pCi/g	0.1574	N	351.4 4	1.366	IDENTIFIED	7.183	<input type="checkbox"/>
Polonium-216	ML	1.995	0.1129	pCi/g	0.129	N	238 4	1.382	IDENTIFIED	3.86	<input type="checkbox"/>
Polonium-218	ML	1.561	0.1308	pCi/g	0.1574	N	351.4 4	1.366	IDENTIFIED	7.183	<input type="checkbox"/>
Potassium-40	✓	24.35	1.301	pCi/g	0.6768	1.00	1460 1	2.088	IDENTIFIED	3.732	<input type="checkbox"/>
Radium-224	mg	6.061	0.8891	pCi/g	1.467	Y	241.1 1	1.891	IDENTIFIED	14.25	<input checked="" type="checkbox"/> WT
Radium-226	✓	1.499	0.1257	pCi/g	0.1486	Y	608.8 4	1.531	IDENTIFIED	7.519	<input type="checkbox"/>

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Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
1202021397	13-JAN-10 12:00	01-FEB-10 13:47	19.1	DUP	LOAD	1		LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	NR	1.84	0.2181	pCi/g	0.2632	N	910.4	3 1.562 IDENTIFIED 10.41	<input type="checkbox"/>	
Americium-243	WT	0.3489	0.03049	pCi/g	0.06425	N	74.84	1 0.8351 IDENTIFIED 7.251	<input type="checkbox"/>	
Annihilation Rad. HE		0.1016	0.03968	pCi/g	0.05916	N	510.8	1 2.144 IDENTIFIED 38.78	<input type="checkbox"/>	
Bismuth-210	HE	0.977	0.5157	pCi/g	0.8305	N	46.51	3 0.9291 IDENTIFIED 52.5	<input type="checkbox"/>	
Bismuth-211	WT	4.369	0.3209	pCi/g	0.3272	Y	351.7	4 1.063 IDENTIFIED 5.676	<input checked="" type="checkbox"/>	✓
Bismuth-212	HE	1.03	0.2468	pCi/g	0.8323	N	0	9 0 FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214	✓	1.411	0.1194	pCi/g	0.1325	0.200	608.9	4 1.467 IDENTIFIED 6.762	<input type="checkbox"/>	
Cadmium-109	INT	4.255	0.4686	pCi/g	0.8838	Y	87.3	3 1.223 IDENTIFIED 9.875	<input checked="" type="checkbox"/>	✓
Cerium-143		4914	871.4	pCi/g	0	N	0	9 0 SHORT_HLIF 0	<input type="checkbox"/>	
Gross Gamma	HE	9.077	1.631	pCi/g	5.878	N	0		<input type="checkbox"/>	
Iodine-133	HE	54560	75550	pCi/g	0	N	0	9 0 SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135		6.29E+19	0	pCi/g	0	N	0	9 0 SHORT_HLIF 0	<input type="checkbox"/>	
Lead-210	HE	0.977	0.5157	pCi/g	0.8305	N	46.51	3 0.9291 IDENTIFIED 52.5	<input type="checkbox"/>	
Lead-212	✓	1.6	0.101	pCi/g	0.09923	0.100	238.5	4 0.9772 IDENTIFIED 3.803	<input type="checkbox"/>	
Lead-214	✓	1.52	0.1185	pCi/g	0.1141	0.100	351.7	4 1.063 IDENTIFIED 5.676	<input type="checkbox"/>	
Lutetium-177	HE	5.998	1.399	pCi/g	3.385	N	0	9 0 FAIL_ABUND 0	<input type="checkbox"/>	
Neptunium-237	INT	1.221	0.1842	pCi/g	0.2467	N	87.3	3 1.223 IDENTIFIED 9.875	<input type="checkbox"/>	
Polonium-210	HE	0.977	0.5153	pCi/g	0.8305	N	46.51	3 0.9291 IDENTIFIED 52.5	<input type="checkbox"/>	
Polonium-212	NR	1.6	0.101	pCi/g	0.09923	N	238.5	4 0.9772 IDENTIFIED 3.803	<input type="checkbox"/>	
Polonium-214	NR	1.52	0.1185	pCi/g	0.1141	N	351.7	4 1.063 IDENTIFIED 5.676	<input type="checkbox"/>	
Polonium-216	NR	1.6	0.101	pCi/g	0.09923	N	238.5	4 0.9772 IDENTIFIED 3.803	<input type="checkbox"/>	
Polonium-218	NR	1.52	0.1185	pCi/g	0.1141	N	351.7	4 1.063 IDENTIFIED 5.676	<input type="checkbox"/>	
Potassium-40	✓	22.3	1.38	pCi/g	0.5716	1.00	1459	1 1.9 IDENTIFIED 4.313	<input type="checkbox"/>	
Promethium-149		370	173.2	pCi/g	0	N	0	9 0 SHORT_HLIF 0	<input type="checkbox"/>	
Radium-224	INT	4.243	0.6071	pCi/g	1.13	Y	241.3	1 1.82 IDENTIFIED 13.58	<input checked="" type="checkbox"/>	✓
Radium-226	✓	1.411	0.1194	pCi/g	0.1325	Y	608.9	4 1.467 IDENTIFIED 6.762	<input type="checkbox"/>	
Radium-228	✓	1.84	0.2181	pCi/g	0.2632	0.500	910.4	3 1.562 IDENTIFIED 10.41	<input type="checkbox"/>	
Thallium-200	HE	4692	3209	pCi/g	0	N	0	9 0 SHORT_HLIF 0	<input type="checkbox"/>	
Thallium-208	✓	0.5058	0.05813	pCi/g	0.07076	0.080	582.8	1 1.385 IDENTIFIED 10.47	<input type="checkbox"/>	
Thorium-228	NR	1.63	0.1029	pCi/g	0.1011	N	238.5	4 0.9772 IDENTIFIED 3.803	<input type="checkbox"/>	
Thorium-230	NR	1.411	0.1194	pCi/g	0.1325	N	608.9	4 1.467 IDENTIFIED 6.762	<input type="checkbox"/>	
Thorium-232	NR	1.84	0.2181	pCi/g	0.2632	N	910.4	3 1.562 IDENTIFIED 10.41	<input type="checkbox"/>	
Thorium-234	✓	1.513	0.4967	pCi/g	0.9986	2.00	63.25	2 1.04 IDENTIFIED 31.48	<input type="checkbox"/>	
Tin-126	WT	0.4157	0.04579	pCi/g	0.08624	N	87.3	3 1.223 IDENTIFIED 9.875	<input type="checkbox"/>	
Titanium-44	LT	0.3627	0.02565	pCi/g	0.06234	N	0	9 0 FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium	NR	4.6015	1.48E-06	ug/g	1.4889	N	0		<input type="checkbox"/>	
Uranium-234		1.411	0.1194	pCi/g	0.1325	N	608.9	4 1.467 IDENTIFIED 6.762	<input type="checkbox"/>	
Uranium-238	HE	1.513	0.4967	pCi/g	0.9986	N	63.25	2 1.04 IDENTIFIED 31.48	<input type="checkbox"/>	
Zirconium-97	HE	1.07E+08	6.05E+07	pCi/g	0	N	0	9 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
1202021398		01-FEB-10 13:35	0	LCS	LOAD	1		GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228		1.103	0.2411	pCi/g	0.5011	N	911.3	3 1.078 IDENTIFIED 21.04	<input type="checkbox"/>	
Americium-241	✓	14.62	0.6806	pCi/g	0.4981	0.200	59.52	1 0.9562 IDENTIFIED 2.508	<input type="checkbox"/>	
Americium-243		0.3396	0.05339	pCi/g	0.1361	N	74.72	1 1.022 IDENTIFIED 15.16	<input type="checkbox"/>	
Barium-137m		5.989	0.2968	pCi/g	0.1152	N	661.6	2 1.368 IDENTIFIED 2.207	<input type="checkbox"/>	
Bismuth-211		3.305	0.4134	pCi/g	0.5704	Y	351.7	4 1.086 IDENTIFIED 11.25	<input type="checkbox"/>	
Bismuth-212	HE	1.761	0.3629	pCi/g	1.09	N	0	5 0 FAIL_ABUND 0	<input type="checkbox"/>	
Bismuth-214		0.9657	0.1339	pCi/g	0.1947	0.200	609.4	4 1.196 IDENTIFIED 12.82	<input type="checkbox"/>	
Cadmium-109	✓	34.91	1.999	pCi/g	2.054	Y	87.99	3 0.957 IDENTIFIED 3.091	<input type="checkbox"/>	
Cesium-137		6.331	0.3142	pCi/g	0.1218	0.100	661.6	2 1.368 IDENTIFIED 2.207	<input type="checkbox"/>	
Cobalt-57		0.2602	0.02881	pCi/g	0.05616	N	122	1 1.061 IDENTIFIED 10.26	<input type="checkbox"/>	

Cobalt-60	✓	7.133	0.3439	pCi/g	0.07635	0.100	1333	1	1.739	IDENTIFIED	2.335	<input type="checkbox"/>
Gross Gamma		30.34	3.01	pCi/g	4.958	N		0				<input type="checkbox"/>
Iodine-123	HE	92.5	272.6	pCi/g	0	N	0	5	0	SHORT_HLIF	0	<input type="checkbox"/>
Lead-212		1.28	0.1207	pCi/g	0.1735	0.100	238.4	4	1.072	IDENTIFIED	7.342	<input type="checkbox"/>
Lead-214		1.15	0.1469	pCi/g	0.1988	0.100	351.7	4	1.086	IDENTIFIED	11.25	<input type="checkbox"/>
Neptunium-237		10.19	1.202	pCi/g	0.6091	N	87.99	3	0.957	IDENTIFIED	3.091	<input type="checkbox"/>
Niobium-97	HE	12.8	62.69	pCi/g	0	N	0	5	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212		1.28	0.1207	pCi/g	0.1735	N	238.4	4	1.072	IDENTIFIED	7.342	<input type="checkbox"/>
Polonium-214		1.15	0.1469	pCi/g	0.1988	N	351.7	4	1.086	IDENTIFIED	11.25	<input type="checkbox"/>
Polonium-216		1.28	0.1207	pCi/g	0.1735	N	238.4	4	1.072	IDENTIFIED	7.342	<input type="checkbox"/>
Polonium-218		1.15	0.1469	pCi/g	0.1988	N	351.7	4	1.086	IDENTIFIED	11.25	<input type="checkbox"/>
Potassium-40		1.359	0.362	pCi/g	0.6228	1.00	1461	1	1.195	IDENTIFIED	26.28	<input type="checkbox"/>
Radium-224		3.113	0.7346	pCi/g	1.974	Y	241.5	1	1.775	IDENTIFIED	22.94	<input type="checkbox"/>
Radium-226		0.9657	0.1339	pCi/g	0.1947	Y	609.4	4	1.196	IDENTIFIED	12.82	<input type="checkbox"/>
Radium-228		1.103	0.2411	pCi/g	0.5011	0.500	911.3	3	1.078	IDENTIFIED	21.04	<input type="checkbox"/>
Thallium-208		0.4543	0.0587	pCi/g	0.1071	0.080	583.2	1	1.314	IDENTIFIED	11.93	<input type="checkbox"/>
Thorium-228		1.29	0.1216	pCi/g	0.1748	N	238.4	4	1.072	IDENTIFIED	7.342	<input type="checkbox"/>
Thorium-230		0.9657	0.1339	pCi/g	0.1947	N	609.4	4	1.196	IDENTIFIED	12.82	<input type="checkbox"/>
Thorium-232		1.103	0.2411	pCi/g	0.5011	N	911.3	3	1.078	IDENTIFIED	21.04	<input type="checkbox"/>
Tin-126		3.47	0.1987	pCi/g	0.2051	N	87.99	3	0.957	IDENTIFIED	3.091	<input type="checkbox"/>
Titanium-44		0.2877	0.0331	pCi/g	0.1048	N	0	5	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234		0.9657	0.1339	pCi/g	0.1947	N	609.4	4	1.196	IDENTIFIED	12.82	<input type="checkbox"/>
Zirconium-97	HE	492.2	1028	pCi/g	0	N	0	5	0	SHORT_HLIF	0	<input type="checkbox"/>

*** = Number of isotopes identified with a keyline at this energy.

GEL QUALS

Batch ID: 944038

Report run on: February 2, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245107001-1 01-FEB-2010 11:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.047			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.954			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1215		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.785			
245107002-1 01-FEB-2010 11:30	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.879			
	Cadmium-109	UI	UI	UI	Data rejected due to low abundance.		2.255			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1323		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.74			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.06877			
245107003-1 01-FEB-2010 12:37	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.798			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.026			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1167		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.988			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.09709			
245107004-1 01-FEB-2010 12:38	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.199			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.85			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.249			
245107005-1 01-FEB-2010 12:38	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.08			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.131			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.09193		.1	.1

GEL QUALS

Batch ID: 944038

Report run on: February 2, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245107005-1 01-FEB-2010 12:38	Radium-224	UI	UI	UI	Data rejected due to interference.		4.721			
245107006-1 01-FEB-2010 12:38	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.235			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.429			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.772			
245107007-1 01-FEB-2010 12:39	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.548			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.84			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08549		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.243			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.186			
245107008-1 01-FEB-2010 12:39	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.045			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.892			
	Radium-224	UI	UI	UI	Data rejected due to interference.		5.445			
245107009-1 01-FEB-2010 13:28	Bismuth-211	UI	UI	UI	Data rejected due to interference.		5.324			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.709			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.515			
245107010-1 01-FEB-2010 13:28	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.23			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.385			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.756			
245107011-1	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.997			

GEL QUALS

Batch ID: 944038

Report run on: February 2, 2010 5:23 PM

Samp Id	Parname	Cofa	Edd	Qual Comments	Auto	Result	MDA	Uncert	SQL
245107011-1 01-FEB-2010 13:29	Cadmium-109	UI	UI	Data rejected due to interference.		1.625			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1413		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.918			
245107012-1 01-FEB-2010 13:29	Bismuth-211	UI	UI	Data rejected due to interference.		4.354			
	Cadmium-109	UI	UI	Data rejected due to interference.		5.042			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1925		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		5.081			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.1024			
245107013-1 01-FEB-2010 13:30	Bismuth-211	UI	UI	Data rejected due to interference.		3.255			
	Cadmium-109	UI	UI	Data rejected due to interference.		1.812			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1096		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.231			
245107014-1 01-FEB-2010 13:30	Bismuth-211	UI	UI	Data rejected due to interference.		4.248			
	Cadmium-109	UI	UI	Data rejected due to interference.		4.381			
	Cesium-134	UI	UI	Data rejected due to low abundance.		.1367		.1	.1
	Radium-224	UI	UI	Data rejected due to interference.		4.725			
	Strontium-85	UI	UI	Data rejected due to low abundance.		.08829			
245107015-1 01-FEB-2010 13:30	Bismuth-211	UI	UI	Data rejected due to interference.		4.489			
	Radium-224	UI	UI	Data rejected due to interference.		6.061			

GEL QUALS

Batch ID: 944038

Report run on: February 2, 2010 5:23 PM

Samp Id	Parmname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245107016-1 01-FEB-2010 13:33	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.039			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.053			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.1371		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		3.759			
1202021397-1 DUP 01-FEB-2010 13:47	Bismuth-211	UI	UI	UI	Data rejected due to interference.		4.369			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.255			
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.243			

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Paramname	Result	Uncertainty	Units	DL	RDL
944038	245107016	SAMPLE	01-FEB-10	Lead-212	1.608	0.08712	pCi/g	0.04833	0.100
				Lead-214	1.405	0.09586	pCi/g	0.052	0.100
				Niobium-97	1.43E+06	2.54E+06	pCi/g	0	N
				Polonium-210	10.1	4.499	pCi/g	8.252	N
				Potassium-40	22.73	1.145	pCi/g	0.2093	1.00
				Radium-224	3.759	0.6193	pCi/g	0.5501	Y
				Radium-226	1.111	0.09855	pCi/g	0.05328	Y
				Radium-228	1.661	0.1548	pCi/g	0.1036	0.500
				Thallium-201	15.74	8.276	pCi/g	14.4	N
				Thallium-208	0.4882	0.04825	pCi/g	0.02739	0.080
				Thorium-234	3.793	1.689	pCi/g	1.461	2.00
				Zirconium-97	9.91E+07	4.28E+07	pCi/g	0	N

MBP 2/2/10

944038	1202021396	MB	01-FEB-10						
944038	1202021397	DUP	01-FEB-10	Bismuth-211	4.369	0.3209	pCi/g	0.1637	Y
				Bismuth-214	1.411	0.1194	pCi/g	0.06829	0.200
				Cadmium-109	4.255	0.4686	pCi/g	0.4422	Y
				Cerium-143	4914	871.4	pCi/g	0	N
				Cesium-134	0.1208	0.04198	pCi/g	0.06077	0.100
				Gross Gamma	9.077	1.631	pCi/g	2.846	N
				Iodine-133	54560	75550	pCi/g	0	N
				Iodine-135	6.29E+19	0	pCi/g	0	N
				Krypton-85	7.719	4.481	pCi/g	7.139	N
				Lanthanum-140	0.1253	0.07068	pCi/g	0.1231	Y
				Lead-212	1.6	0.101	pCi/g	0.04964	0.100
				Lead-214	1.52	0.1185	pCi/g	0.05708	0.100
				Lutetium-177	5.998	1.399	pCi/g	1.694	N
				Potassium-40	22.3	1.38	pCi/g	0.286	1.00
				Promethium-149	370	173.2	pCi/g	0	N
				Radium-224	4.243	0.8071	pCi/g	0.5654	Y
				Radium-226	1.411	0.1194	pCi/g	0.06829	Y
				Radium-228	1.84	0.2181	pCi/g	0.1317	0.500
				Strontium-85	0.04126	0.02395	pCi/g	0.03816	Y
				Thallium-200	4692	3209	pCi/g	0	N
				Thallium-208	0.5058	0.05813	pCi/g	0.0354	0.080
				Thorium-234	1.513	0.4967	pCi/g	0.4996	2.00
				Uranium-235	0.2186	0.1127	pCi/g	0.1921	0.500
				Zirconium-97	1.07E+08	6.05E+07	pCi/g	0	N

MBP 2/2/10

VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:44:17.01

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107001.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 11:26:37.
Sample ID          : G245107001 Sample quantity : 1.24440E+02 GRAM
Detector name      : GAM13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.61 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	46.28*	86	558	1.21	92.33	88	9	1.20E-02	53.1	
2	0	62.97*	163	860	1.19	125.70	120	11	2.26E-02	38.3	
3	4	74.65	632	642	1.22	149.07	144	15	8.78E-02	7.6	1.69E+00
4	4	76.88*	973	578	1.18	153.53	144	15	1.35E-01	5.6	
5	5	83.76*	129	452	1.48	167.30	164	28	1.79E-02	29.6	1.77E+00
6	5	87.06	430	559	1.53	173.91	164	28	5.98E-02	11.0	
7	5	89.88	238	415	1.20	179.54	164	28	3.30E-02	15.8	
8	5	92.51*	291	506	1.46	184.80	164	28	4.04E-02	18.3	
9	0	128.96	70	462	1.46	257.73	254	9	9.67E-03	57.1	
10	0	185.59*	186	410	1.54	371.01	366	12	2.58E-02	24.8	
11	0	209.09	135	278	1.20	418.02	414	9	1.88E-02	23.9	
12	4	238.37*	1150	241	1.29	476.59	472	17	1.60E-01	3.9	1.12E+00
13	4	241.28	293	283	1.83	482.42	472	17	4.07E-02	15.7	
14	0	269.85	123	303	1.54	539.58	535	13	1.71E-02	30.4	
15	3	294.96	365	183	1.74	589.81	585	34	5.06E-02	8.6	1.53E+00
16	3	299.77	124	189	1.78	599.42	585	34	1.72E-02	23.7	
17	0	338.03*	283	208	1.24	675.96	669	13	3.93E-02	12.3	
18	0	351.35*	608	258	1.45	702.62	695	15	8.44E-02	7.2	
19	0	462.03	99	117	1.41	924.04	917	13	1.37E-02	24.7	
20	0	510.28*	172	195	1.96	1020.56	1011	21	2.39E-02	23.7	
21	0	582.76*	294	176	1.52	1165.57	1160	13	4.09E-02	11.4	
22	0	608.76*	472	127	1.67	1217.59	1211	13	6.55E-02	6.9	
23	0	726.86	64	89	1.17	1453.88	1449	10	8.93E-03	30.3	
24	0	794.11	67	68	1.76	1588.41	1581	13	9.28E-03	28.3	
25	0	860.11	55	40	2.37	1720.47	1716	9	7.61E-03	24.9	
26	0	910.60*	221	104	2.02	1821.49	1815	18	3.07E-02	12.8	
27	0	967.85	183	112	1.63	1936.03	1927	18	2.55E-02	15.6	
28	0	1120.28	61	90	1.50	2241.01	2238	12	8.48E-03	35.7	
29	0	1376.99	26	22	0.98	2754.69	2749	12	3.62E-03	42.1	
30	0	1459.82	871	41	2.46	2920.43	2909	19	1.21E-01	3.8	
31	0	1728.79	32	14	1.79	3458.64	3451	18	4.48E-03	32.0	
32	0	1763.35*	83	10	1.93	3527.79	3517	19	1.15E-02	15.0	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:44:20

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 11:26:37
Sample ID        : G245107001 Sample quantity : 124.44 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.61 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	*	2.363E+01	2.304E+00	7.867E-01	4.810E-02	30.039
CD-109	+	88.03	*	4.954E+00	1.154E+00	1.039E+00	8.201E-02	4.766
SN-126	+	64.28		6.923E-01	5.408E-01	4.232E-01	6.589E-02	1.636
	+	86.94		2.012E+00	9.395E-01	4.209E-01	1.735E-01	4.781
	+	87.57	*	4.841E-01	1.128E-01	1.014E-01	8.024E-03	4.772
TL-208		277.35		6.548E-01	4.525E-01	7.654E-01	8.965E-02	0.856
	+	510.84		9.474E-01	4.606E-01	2.708E-01	2.943E-02	3.499
	+	583.14	*	4.670E-01	1.129E-01	8.616E-02	7.132E-03	5.420
	+	860.37		8.262E-01	4.172E-01	5.870E-01	4.949E-02	1.408
BI-210	+	46.50	*	8.837E-01	9.411E-01	8.670E-01	7.068E-02	1.019
PB-210	+	46.50	*	8.837E-01	9.411E-01	8.670E-01	7.068E-02	1.019
PO-210	+	46.50	*	8.837E-01	9.404E-01	8.670E-01	6.182E-02	1.019
BI-211		72.87		4.630E+00	2.408E+00	3.839E+00	3.357E-01	1.206
	+	351.07	*	4.047E+00	6.531E-01	3.865E-01	2.817E-02	10.472
PB-212	+	74.81		2.422E+00	4.813E-01	3.904E-01	4.966E-02	6.205
	+	77.11		2.219E+00	3.110E-01	2.334E-01	1.982E-02	9.509
	+	87.30		2.239E+00	5.677E-01	4.688E-01	5.981E-02	4.776
	+	238.63	*	1.649E+00	1.974E-01	9.805E-02	8.907E-03	16.819
	+	300.09		2.749E+00	1.327E+00	1.382E+00	1.315E-01	1.989
PO-212	+	74.81		2.422E+00	4.813E-01	3.904E-01	4.966E-02	6.205
	+	77.11		2.219E+00	3.110E-01	2.334E-01	1.982E-02	9.509
	+	87.30		2.239E+00	5.677E-01	4.688E-01	5.981E-02	4.776
	+	115.19		1.120E+00	3.781E+00	6.258E+00	7.257E-01	0.179
	+	238.63	*	1.649E+00	1.974E-01	9.805E-02	8.907E-03	16.819
	+	300.09		2.749E+00	1.327E+00	1.382E+00	1.315E-01	1.989
BI-214	+	609.31	*	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
	+	1120.29		9.478E-01	6.818E-01	6.455E-01	5.775E-02	1.468
	+	1764.49		1.759E+00	5.387E-01	4.260E-01	2.419E-02	4.131
PB-214	+	74.81		4.174E+00	7.944E-01	6.727E-01	7.650E-02	6.205
	+	77.11		3.804E+00	6.068E-01	4.001E-01	4.565E-02	9.509
	+	87.30		3.835E+00	9.414E-01	8.030E-01	8.878E-02	4.776
	+	241.98		2.523E+00	8.278E-01	5.908E-01	5.719E-02	4.271
	+	295.21		1.421E+00	2.814E-01	2.418E-01	2.368E-02	5.880
	+	351.92	*	1.408E+00	2.388E-01	1.348E-01	1.207E-02	10.447

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		4.174E+00	7.944E-01	6.727E-01	7.650E-02	6.205
	+	77.11		3.804E+00	6.068E-01	4.001E-01	4.565E-02	9.509
	+	87.30		3.835E+00	9.414E-01	8.030E-01	8.878E-02	4.776
	+	241.98		2.523E+00	8.278E-01	5.908E-01	5.719E-02	4.271
	+	295.21		1.421E+00	2.814E-01	2.418E-01	2.368E-02	5.880
	+	351.92	*	1.408E+00	2.388E-01	1.348E-01	1.207E-02	10.447
PO-216	+	74.81		2.422E+00	4.813E-01	3.904E-01	4.966E-02	6.205
	+	77.11		2.219E+00	3.110E-01	2.334E-01	1.982E-02	9.509
	+	87.30		2.239E+00	5.677E-01	4.688E-01	5.981E-02	4.776
	+	238.63	*	1.649E+00	1.974E-01	9.805E-02	8.907E-03	16.819
	+	300.09		2.749E+00	1.327E+00	1.382E+00	1.315E-01	1.989
PO-218	+	74.81		4.174E+00	7.944E-01	6.727E-01	7.650E-02	6.205
	+	77.11		3.804E+00	6.068E-01	4.001E-01	4.565E-02	9.509
	+	87.30		3.835E+00	9.414E-01	8.030E-01	8.878E-02	4.776
	+	241.98		2.523E+00	8.278E-01	5.908E-01	5.719E-02	4.271
	+	295.21		1.421E+00	2.814E-01	2.418E-01	2.368E-02	5.880
	+	351.92	*	1.408E+00	2.388E-01	1.348E-01	1.207E-02	10.447
RA-224	+	240.98	*	4.785E+00	1.546E+00	1.116E+00	8.812E-02	4.286
RA-226	+	609.31	*	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
	+	1120.29		9.478E-01	6.818E-01	6.455E-01	5.775E-02	1.468
	+	1764.49		1.759E+00	5.387E-01	4.260E-01	2.419E-02	4.131
AC-228	+	338.32		2.072E+00	9.898E-01	4.245E-01	1.738E-01	4.880
	+	911.07	*	1.574E+00	4.340E-01	2.897E-01	3.008E-02	5.432
	+	969.11		2.293E+00	8.878E-01	5.123E-01	1.170E-01	4.476
RA-228	+	338.32		2.072E+00	9.898E-01	4.245E-01	1.738E-01	4.880
	+	911.07	*	1.574E+00	4.340E-01	2.897E-01	3.008E-02	5.432
	+	969.11		2.293E+00	8.878E-01	5.123E-01	1.170E-01	4.476
TH-228	+	74.81		2.469E+00	4.337E-01	3.978E-01	3.462E-02	6.205
	+	77.11		2.261E+00	3.169E-01	2.378E-01	2.020E-02	9.509
	+	87.30		2.282E+00	5.317E-01	4.777E-01	3.786E-02	4.776
	+	238.63	*	1.681E+00	2.012E-01	9.992E-02	9.077E-03	16.819
	+	300.09		2.801E+00	2.122E+00	1.409E+00	8.329E-01	1.989
TH-230	+	609.31	*	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
	+	1120.29		9.478E-01	6.818E-01	6.455E-01	5.775E-02	1.468
	+	1764.49		1.759E+00	5.387E-01	4.260E-01	2.419E-02	4.131
TH-232	+	338.32		2.072E+00	5.300E-01	4.245E-01	2.956E-02	4.880
	+	911.07	*	1.574E+00	4.340E-01	2.897E-01	3.008E-02	5.432
	+	969.11		2.293E+00	8.878E-01	5.123E-01	1.170E-01	4.476
TH-234	+	63.29	*	1.749E+00	1.377E+00	1.034E+00	1.898E-01	1.691
	+	92.38		2.256E+00	9.209E-01	7.040E-01	1.267E-01	3.205
U-234	+	609.31	*	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
	+	1120.29		9.478E-01	6.818E-01	6.455E-01	5.775E-02	1.468
	+	1764.49		1.759E+00	5.387E-01	4.260E-01	2.419E-02	4.131
NP-237	+	86.50	*	1.422E+00	4.425E-01	2.969E-01	6.568E-02	4.788
	+	95.87		4.365E-02	9.187E-01	1.366E+00	3.378E-01	0.032
U-238	+	63.29	*	1.749E+00	1.377E+00	1.034E+00	1.898E-01	1.691
	+	92.38		2.256E+00	8.481E-01	7.040E-01	5.943E-02	3.205
AM-243	+	74.67	*	3.927E-01	6.885E-02	6.327E-02	5.465E-03	6.207
	+	86.72		5.331E+01	1.242E+01	1.114E+01	8.865E-01	4.784

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-9.316E-01	4.034E+00	6.529E+00	7.814E-01	-0.143
		142.18		-2.125E+01	2.118E+01	3.226E+01	3.419E+00	-0.659
ANH-511	+	511.00	*	2.046E-01	9.803E-02	5.851E-02	4.083E-03	3.498

---- 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	*	2.043E-01	4.145E-01	7.133E-01	5.363E-02	0.286
NA-22		1274.54	*	1.069E-02	5.689E-02	9.615E-02	5.427E-03	0.111
NA-24		1368.53	*	-2.091E+01	5.689E-02	Half-Life too short		
AL-26		1129.67		1.748E+00	2.306E+00	3.735E+00	2.214E-01	0.468
		1808.65	*	-1.785E-02	3.908E-02	5.967E-02	3.367E-03	-0.299
TI-44		67.85		5.548E-03	2.751E-02	4.469E-02	4.047E-03	0.124
		78.38	*	1.668E-01	3.564E-02	5.755E-02	4.847E-03	2.899
SC-46		889.25	*	1.074E-02	5.513E-02	9.268E-02	7.018E-03	0.116
	+	1120.51		1.675E-01	1.200E-01	1.681E-01	1.011E-02	0.996
V-48		944.10		1.011E+00	1.323E+00	2.320E+00	1.694E-01	0.436
		983.50	*	-1.225E-01	1.127E-01	1.660E-01	1.174E-02	-0.738
		1312.09		-1.133E-01	1.134E-01	1.666E-01	9.445E-03	-0.680
CR-51		320.08	*	-1.773E-01	4.828E-01	7.725E-01	6.012E-02	-0.230
MN-52		744.21		7.181E-01	5.365E-01	9.448E-01	7.670E-02	0.760
		848.13		-4.184E+00	1.534E+01	2.498E+01	1.945E+00	-0.168
		935.52		8.979E-01	5.712E-01	1.045E+00	7.677E-02	0.859
		1246.25		-4.152E+00	1.553E+01	2.533E+01	1.418E+00	-0.164
		1333.61		-2.298E-01	1.099E+01	1.815E+01	1.033E+00	-0.013
		1434.06	*	-5.967E-01	5.145E-01	7.192E-01	4.133E-02	-0.830
MN-54		834.83	*	-4.600E-03	5.394E-02	8.931E-02	7.008E-03	-0.052
CO-56		846.75	*	-4.675E-02	5.582E-02	8.660E-02	6.750E-03	-0.540
		977.42		3.669E+00	4.377E+00	7.368E+00	5.240E-01	0.498
		1037.82		1.456E-01	4.216E-01	7.089E-01	5.164E-02	0.205
		1175.09		-2.835E+00	2.963E+00	4.327E+00	2.380E-01	-0.655
		1238.25		1.617E-01	1.224E-01	2.213E-01	1.320E-02	0.731
		1360.21		5.013E-01	1.354E+00	2.325E+00	1.327E-01	0.216
		1771.40		-9.784E-01	4.377E-01	5.071E-01	2.877E-02	-1.929
CO-57		122.06	*	1.199E-02	2.677E-02	4.442E-02	5.618E-03	0.270
		136.48		-1.647E-01	2.290E-01	3.577E-01	4.186E-02	-0.460
CO-58		810.76	*	-4.892E-03	5.625E-02	9.332E-02	7.433E-03	-0.052
FE-59		142.65		-2.784E+00	3.453E+00	5.315E+00	5.605E-01	-0.524
		192.34		1.315E-01	1.117E+00	1.845E+00	2.394E-01	0.071
		1099.22	*	-4.134E-02	1.439E-01	2.280E-01	1.629E-02	-0.181
		1291.56		-1.203E-01	1.841E-01	2.879E-01	2.103E-02	-0.418
CO-60		1173.22		-4.299E-02	5.748E-02	8.597E-02	4.725E-03	-0.500
		1332.49	*	-6.119E-03	5.305E-02	8.681E-02	4.937E-03	-0.070
ZN-65		1115.52	*	5.251E-02	1.425E-01	2.063E-01	1.252E-02	0.255
GE-68		1077.35	*	-6.736E-01	1.750E+00	2.748E+00	1.756E-01	-0.245
AS-73		53.44	*	4.559E-02	2.550E-01	4.228E-01	3.571E-02	0.108
AS-74		595.88	*	3.873E-02	1.427E-01	2.383E-01	1.830E-02	0.163
		634.78		1.571E-01	5.542E-01	9.223E-01	7.349E-02	0.170

---- 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			3.873E-01	2.898E+00	4.431E+00	4.827E-01	0.087
	96.73			-5.289E-01	7.997E-01	1.140E+00	1.582E-01	-0.464
	121.11			-3.781E-02	1.462E-01	2.358E-01	3.399E-02	-0.160
	136.00			-2.339E-02	4.289E-02	6.763E-02	7.640E-03	-0.346
	198.60			-2.151E-01	2.100E+00	3.426E+00	3.062E-01	-0.063
	264.65	*		4.980E-03	5.372E-02	7.885E-02	6.177E-03	0.063
	279.53			-7.105E-02	1.310E-01	2.104E-01	1.693E-02	-0.338
	303.91			4.958E-02	2.461E+00	4.043E+00	4.295E-01	0.012
	400.65			-2.427E-02	3.329E-01	5.316E-01	4.886E-02	-0.046
BR-77	87.88		+	3.280E+03	7.643E+02	9.585E+02	7.565E+01	3.422
	200.40			-9.408E+01	5.507E+02	9.256E+02	7.332E+01	-0.102
	239.00		+	8.163E+02	9.061E+01	1.274E+02	1.007E+01	6.406
	249.79			3.769E+01	2.232E+02	3.748E+02	2.947E+01	0.101
	281.68			-2.270E+02	3.164E+02	5.024E+02	3.852E+01	-0.452
	297.23			5.468E+02	2.062E+02	3.711E+02	2.792E+01	1.473
	303.76			-2.129E+01	6.301E+02	1.032E+03	7.690E+01	-0.021
	439.47			-1.221E+02	5.278E+02	8.760E+02	5.534E+01	-0.139
	484.57			-6.210E+02	8.070E+02	1.273E+03	8.584E+01	-0.488
	520.65	*		9.865E+00	4.059E+01	6.842E+01	4.833E+00	0.144
	574.64			-7.955E+02	8.764E+02	1.351E+03	1.015E+02	-0.589
	578.91			4.232E+02	4.189E+02	6.479E+02	4.889E+01	0.653
	585.48			3.322E+03	9.683E+02	1.659E+03	1.261E+02	2.002
	755.35			9.820E+02	7.281E+02	1.279E+03	1.036E+02	0.768
	817.79			6.170E+01	5.707E+02	9.596E+02	7.596E+01	0.064
SR-82	698.33			9.339E+00	5.427E+01	8.879E+01	7.249E+00	0.105
	776.49	*		-1.752E-02	5.888E-01	9.847E-01	7.926E-02	-0.018
	1395.20			-7.885E+00	1.579E+01	2.446E+01	1.401E+00	-0.322
RB-83	520.41	*		2.621E-02	9.241E-02	1.523E-01	1.075E-02	0.172
	529.64			7.894E-03	1.445E-01	2.403E-01	1.716E-02	0.033
	552.65			-1.196E-01	2.620E-01	4.187E-01	3.071E-02	-0.286
RB-84	881.50	*		-3.733E-02	1.015E-01	1.630E-01	1.241E-02	-0.229
KR-85	513.99	*		1.550E+01	9.780E+00	1.593E+01	1.116E+00	0.973
SR-85	513.99	*		8.277E-02	5.222E-02	8.503E-02	5.957E-03	0.973
RB-86	1076.63	*		-1.221E+00	1.311E+00	1.955E+00	1.250E-01	-0.625
Y-88	898.02			-1.880E-02	6.005E-02	9.689E-02	7.334E-03	-0.194
	1836.01	*		-1.149E-03	4.590E-02	7.579E-02	4.268E-03	-0.015
ZR-88	392.90	*		-7.898E-03	3.855E-02	6.110E-02	3.579E-03	-0.129
Y-91	1204.90	*		-1.969E+01	2.570E+01	4.035E+01	2.237E+00	-0.488
NB-94	702.63	*		1.025E-02	4.737E-02	7.770E-02	6.343E-03	0.132
	871.10			-8.283E-03	4.549E-02	7.433E-02	5.703E-03	-0.111
NB-95	765.79	*		8.375E-02	6.219E-02	1.121E-01	9.056E-03	0.747
NB-95M	235.69	*		3.159E-01	1.691E-01	2.702E-01	2.499E-02	1.169
ZR-95	724.18			1.357E-01	1.702E-01	2.533E-01	2.263E-02	0.535
	756.15	*		1.425E-01	1.051E-01	1.845E-01	1.664E-02	0.772
NB-97	657.90	*		-7.264E-01	1.051E-01	Half-Life	too short	
	1024.50			-1.696E+02	1.051E-01	Half-Life	too short	
ZR-97	254.15			-1.266E+02	1.051E-01	Half-Life	too short	
	355.39			-1.921E+02	1.051E-01	Half-Life	too short	
	507.63	*		3.029E+02	1.051E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	602.52			4.507E+02	1.051E-01	Half-Life	too short	
	1021.30			4.713E+02	1.051E-01	Half-Life	too short	
	1147.95			-1.299E+02	1.051E-01	Half-Life	too short	
	1362.66			3.184E+02	1.051E-01	Half-Life	too short	
	1750.46			-1.618E+02	1.051E-01	Half-Life	too short	
MO-99	140.51			5.865E+00	7.916E+01	1.282E+02	3.646E+01	0.046
	181.06			5.008E+01	5.717E+01	8.391E+01	1.506E+01	0.597
	366.43			-2.114E+02	2.863E+02	4.416E+02	2.841E+01	-0.479
	739.58	*		-2.636E+01	4.352E+01	6.632E+01	9.888E+00	-0.397
	778.00			-4.550E+01	1.284E+02	2.099E+02	1.688E+01	-0.217
TC-99M	140.51	*		1.382E+14	1.284E+02	Half-Life	too short	
RH-101	127.23			3.993E-02	3.991E-02	6.053E-02	7.350E-03	0.660
	198.01	*		3.179E-03	3.727E-02	6.123E-02	4.848E-03	0.052
	325.23			-9.369E-02	2.765E-01	4.432E-01	3.177E-02	-0.211
RH-102	418.52			2.097E-01	3.822E-01	6.145E-01	3.757E-02	0.341
	475.06	*		-7.277E-03	3.607E-02	5.956E-02	3.964E-03	-0.122
	631.29			2.793E-02	7.393E-02	1.238E-01	9.838E-03	0.226
	697.49			1.863E-02	1.099E-01	1.797E-01	1.468E-02	0.104
	766.84			2.286E-01	1.556E-01	2.814E-01	2.271E-02	0.812
	1046.59			-5.728E-02	1.689E-01	2.676E-01	1.776E-02	-0.214
	1112.84			-2.740E-01	3.116E-01	4.512E-01	2.745E-02	-0.607
RU-103	497.08	*		-7.520E-03	5.621E-02	9.287E-02	1.222E-02	-0.081
	610.33			1.478E+01	3.070E+00	3.808E+00	6.196E-01	3.881
RH-106	511.85			3.118E-01	2.819E-01	5.195E-01	3.630E-02	0.600
	621.84	*		3.126E-02	4.332E-01	7.115E-01	9.170E-02	0.044
	1050.47			1.887E+00	3.496E+00	5.932E+00	3.920E-01	0.318
RU-106	511.85			3.118E-01	2.819E-01	5.195E-01	3.630E-02	0.600
	621.84	*		3.126E-02	4.332E-01	7.115E-01	5.603E-02	0.044
	1050.47			1.887E+00	3.496E+00	5.932E+00	3.920E-01	0.318
AG-108M	433.93	*		1.170E-02	3.863E-02	6.623E-02	4.455E-03	0.177
	614.37			1.502E-02	5.375E-02	7.830E-02	6.414E-03	0.192
	722.95			-2.112E-02	6.906E-02	9.283E-02	7.894E-03	-0.228
AG-110M	657.75	*		1.333E-03	4.864E-02	7.924E-02	6.656E-03	0.017
	677.61			-7.895E-02	4.387E-01	7.019E-01	5.911E-02	-0.112
	706.67			-9.945E-02	3.008E-01	4.740E-01	3.987E-02	-0.210
	763.93			-2.674E-01	2.336E-01	3.607E-01	3.008E-02	-0.741
	884.67			-2.028E-02	6.656E-02	1.074E-01	8.501E-03	-0.189
	937.48			-5.590E-02	1.501E-01	2.395E-01	1.844E-02	-0.233
	1384.27			4.033E-02	2.441E-01	3.532E-01	2.149E-02	0.114
IN-111	171.28			1.347E+00	2.888E+00	4.697E+00	3.687E-01	0.287
	245.39	*		-1.555E+00	3.191E+00	4.521E+00	3.562E-01	-0.344
IN-113M	391.69	*		-1.575E-02	5.577E-02	8.799E-02	5.482E-03	-0.179
SN-113	391.69	*		-1.575E-02	5.577E-02	8.799E-02	5.482E-03	-0.179
IN-114M	190.27	*		4.670E-02	2.472E-01	3.508E-01	2.773E-02	0.133
CD-115	260.90			-1.260E-04	2.472E-01	Half-Life	too short	
	492.35			3.047E-05	2.472E-01	Half-Life	too short	
	527.90	*		-1.270E-05	2.472E-01	Half-Life	too short	
SN-117M	156.02			-4.078E+00	3.102E+00	4.638E+00	4.191E-01	-0.879
	158.56	*		-6.801E-02	7.562E-02	1.157E-01	1.011E-02	-0.588

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		2.797E+00	7.105E+00	1.201E+01	8.922E-01	0.233
	692.80			-7.843E+01	1.700E+02	2.660E+02	2.172E+01	-0.295
I-123	159.00	*		-6.938E+02	1.700E+02	Half-Life too short		
	528.96			-2.709E+03	1.700E+02	Half-Life too short		
TE-123M	159.00	*		-2.635E-02	3.314E-02	5.101E-02	4.454E-03	-0.517
I-124	602.71	*		9.334E-01	1.918E+00	2.843E+00	2.198E-01	0.328
	722.78			2.609E-01	1.313E+01	1.828E+01	1.489E+00	0.014
	1325.50			1.711E+01	9.855E+01	1.657E+02	9.415E+00	0.103
+	1376.25			1.042E+02	8.783E+01	1.401E+02	8.010E+00	0.744
	1509.49			-1.347E+00	3.685E+01	5.998E+01	3.458E+00	-0.022
	1691.02			-9.676E+00	1.032E+01	1.401E+01	8.021E-01	-0.691
SB-124	602.71			2.990E-02	6.145E-02	9.107E-02	7.043E-03	0.328
	645.85			-4.449E-01	7.258E-01	1.127E+00	9.692E-02	-0.395
	709.31			-3.815E-02	4.216E+00	6.803E+00	5.551E-01	-0.006
	713.82			-2.424E-01	2.482E+00	3.977E+00	4.657E-01	-0.061
	722.78			1.212E-02	6.099E-01	8.490E-01	7.084E-02	0.014
+	968.20			2.468E+01	7.916E+00	9.404E+00	6.739E-01	2.624
	1045.16			-1.930E+00	3.690E+00	5.747E+00	3.820E-01	-0.336
	1325.50			8.485E-01	4.888E+00	8.220E+00	4.670E-01	0.103
	1368.21			-5.119E-01	2.697E+00	4.077E+00	4.823E-01	-0.126
	1436.60			-4.445E+00	4.922E+00	7.087E+00	4.074E-01	-0.627
	1691.02	*		-1.060E-01	1.131E-01	1.534E-01	9.556E-03	-0.691
SB-125	427.89	*		-1.841E-02	1.085E-01	1.811E-01	1.166E-02	-0.102
+	463.38			1.054E+00	5.263E-01	6.445E-01	4.778E-02	1.636
	600.56			-1.104E-01	2.476E-01	3.820E-01	3.216E-02	-0.289
	635.90			-2.610E-01	3.812E-01	5.899E-01	5.147E-02	-0.442
TE-125M	109.28	*		-5.146E-01	9.815E+00	1.609E+01	1.956E+00	-0.032
I-126	388.63			1.826E-01	3.169E-01	5.271E-01	3.121E-01	0.346
	666.33	*		-5.079E-02	3.099E-01	4.974E-01	4.059E-02	-0.102
	753.82			2.067E+00	2.506E+00	4.272E+00	3.460E-01	0.484
SB-126	223.80			4.472E+00	5.446E+00	9.443E+00	7.486E-01	0.474
	278.60			2.559E+00	3.522E+00	6.010E+00	4.623E-01	0.426
	296.50			1.179E+01	2.529E+00	4.617E+00	3.476E-01	2.553
	414.70			-8.048E-02	1.188E-01	1.813E-01	1.102E-02	-0.444
	415.30			-3.842E+00	9.719E+00	1.513E+01	9.198E-01	-0.254
	555.20			5.341E+00	6.366E+00	1.107E+01	8.143E-01	0.482
	573.80			-1.437E+00	1.690E+00	2.611E+00	1.960E-01	-0.550
	593.00			1.217E-01	1.577E+00	2.602E+00	1.993E-01	0.047
	656.30			-2.300E+00	5.947E+00	9.405E+00	7.636E-01	-0.245
	666.33			-2.141E-02	1.307E-01	2.097E-01	1.711E-02	-0.102
	675.00			-1.809E+00	3.543E+00	5.529E+00	4.514E-01	-0.327
	695.00			1.054E-01	1.360E-01	2.313E-01	1.889E-02	0.456
	697.00			3.698E-01	4.713E-01	8.019E-01	6.547E-02	0.461
	720.50	*		1.123E-01	2.796E-01	4.054E-01	3.304E-02	0.277
	856.80			-8.283E-02	9.554E-01	1.354E+00	1.049E-01	-0.061
	989.30			3.862E-01	2.089E+00	3.478E+00	2.448E-01	0.111
	1034.80			6.667E-01	1.440E+01	2.361E+01	1.588E+00	0.028
	1213.00			5.717E-01	7.071E+00	1.189E+01	6.602E-01	0.048
SB-127	61.10			4.376E+01	5.580E+01	8.759E+01	1.140E+01	0.500

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XE-127	252.40	-5.219E-01		9.864E+00	1.637E+01	6.914E+00	-0.032	
	290.80	-5.373E+00		5.547E+01	7.959E+01	9.304E+00	-0.068	
	411.60	-2.611E+01		3.096E+01	4.639E+01	7.162E+00	-0.563	
	444.90	-4.196E-01		2.319E+01	3.895E+01	4.805E+00	-0.011	
	473.00	1.187E+00		4.108E+00	6.990E+00	8.954E-01	0.170	
	543.00	-3.346E+01		4.489E+01	7.018E+01	1.027E+01	-0.477	
	603.60	1.347E+01		3.528E+01	5.176E+01	6.765E+00	0.260	
	685.20	* -2.288E+00		3.539E+00	5.412E+00	6.645E-01	-0.423	
	698.50	9.189E+00		4.344E+01	7.123E+01	1.173E+01	0.129	
	722.20	-6.083E+00		9.482E+01	1.308E+02	1.578E+01	-0.046	
	783.80	1.186E+01		1.047E+01	1.858E+01	2.445E+00	0.638	
	57.60	2.704E+00		2.608E+00	4.164E+00	3.848E-01	0.649	
	145.22	8.573E-01		8.400E-01	1.403E+00	1.440E-01	0.611	
	172.10	3.754E-02		1.447E-01	2.331E-01	1.831E-02	0.161	
I-131	202.84	* -2.370E-02		5.629E-02	9.357E-02	7.415E-03	-0.253	
	374.96	8.969E-03		2.635E-01	4.259E-01	2.660E-02	0.021	
	80.18	-2.831E+00		6.666E+00	7.924E+00	6.664E-01	-0.357	
	284.30	3.067E-01		2.401E+00	3.986E+00	3.261E-01	0.077	
TE-132	364.48	* -4.269E-02		2.069E-01	3.305E-01	2.354E-02	-0.129	
	636.97	-2.825E+00		3.098E+00	4.710E+00	4.020E-01	-0.600	
	722.89	-5.129E+00		1.621E+01	2.177E+01	1.793E+00	-0.236	
	49.72	1.019E+01		1.002E+01	1.610E+01	1.824E+00	0.633	
BA-133	111.76	-1.747E+01		7.304E+01	1.154E+02	1.598E+01	-0.151	
	116.30	3.174E+01		6.574E+01	1.094E+02	1.573E+01	0.290	
	228.16	* 3.016E-01		1.705E+00	2.881E+00	4.649E-01	0.105	
	53.15	4.198E-02		1.039E+00	1.715E+00	1.439E-01	0.024	
I-133	79.62	-7.227E-01		1.364E+00	1.606E+00	2.420E-01	-0.450	
	81.00	9.944E-03		9.799E-02	1.209E-01	1.898E-02	0.082	
	276.40	4.008E-01		4.845E-01	7.370E-01	1.026E-01	0.544	
	302.84	2.229E-02		1.645E-01	2.719E-01	3.416E-02	0.082	
	356.01	* -7.566E-02		6.785E-02	8.642E-02	1.038E-02	-0.876	
	383.85	1.318E-02		3.991E-01	6.437E-01	7.081E-02	0.020	
	510.53	4.562E+01		3.991E-01	Half-Life	too short		
	529.87	* 5.697E-02		3.991E-01	Half-Life	too short		
	706.58	-4.801E+00		3.991E-01	Half-Life	too short		
	856.28	-5.717E+00		3.991E-01	Half-Life	too short		
CS-134	875.33	2.457E+00		3.991E-01	Half-Life	too short		
	1236.41	2.238E+01		3.991E-01	Half-Life	too short		
	1298.22	-6.312E-01		3.991E-01	Half-Life	too short		
	475.35	-2.733E-01		2.401E+00	3.988E+00	2.655E-01	-0.069	
	563.23	4.664E-02		4.580E-01	7.602E-01	5.714E-02	0.061	
	569.32	1.120E-01		2.680E-01	4.377E-01	3.329E-02	0.256	
	604.70	5.376E-02		5.124E-02	7.933E-02	6.165E-03	0.678	
	795.84	* 1.215E-01		7.201E-02	1.198E-01	9.653E-03	1.014	
CS-135	801.93	-4.281E-01		6.432E-01	9.004E-01	7.226E-02	-0.475	
	1038.57	5.077E-02		5.190E+00	8.476E+00	5.677E-01	0.006	
	1167.94	-2.106E-01		3.106E+00	4.977E+00	2.762E-01	-0.042	
	1365.15	3.037E-01		1.715E+00	2.885E+00	1.814E-01	0.105	
	268.24	* 3.878E-01		1.994E-01	3.221E-01	2.975E-02	1.204	

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

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I-135	288.45			-4.750E+14	1.994E-01	Half-Life	too short	
	417.63			-2.247E+14	1.994E-01	Half-Life	too short	
	546.56			1.107E+14	1.994E-01	Half-Life	too short	
	836.80			3.399E+14	1.994E-01	Half-Life	too short	
	1038.76			-1.166E+13	1.994E-01	Half-Life	too short	
	1124.00			1.302E+15	1.994E-01	Half-Life	too short	
	1131.51			-1.233E+14	1.994E-01	Half-Life	too short	
	1260.41	*		6.301E+13	1.994E-01	Half-Life	too short	
	1457.56			1.550E+16	1.994E-01	Half-Life	too short	
	1678.03			-2.874E+14	1.994E-01	Half-Life	too short	
	1706.46			3.418E+14	1.994E-01	Half-Life	too short	
	1791.20			-1.011E+14	1.994E-01	Half-Life	too short	
CS-136	66.91			2.722E-01	5.762E-01	8.903E-01	1.399E-01	0.306
	86.29	+		7.741E+00	1.949E+00	2.252E+00	2.800E-01	3.438
	153.22			6.051E-01	8.958E-01	1.477E+00	1.523E-01	0.410
	163.89			-1.856E+00	1.580E+00	2.299E+00	2.112E-01	-0.807
	176.55			-3.750E-02	5.174E-01	8.192E-01	6.893E-02	-0.046
	273.65			-1.230E+00	7.404E-01	9.429E-01	7.885E-02	-1.305
	340.57			1.950E-01	2.029E-01	3.088E-01	2.236E-02	0.631
	818.51			5.017E-03	1.245E-01	2.083E-01	1.651E-02	0.024
	1048.07	*		3.441E-02	1.908E-01	3.157E-01	2.241E-02	0.109
	1235.34			9.082E-01	9.781E-01	1.724E+00	1.701E-01	0.527
	661.65	*		8.218E-03	4.927E-02	8.099E-02	6.605E-03	0.101
BA-137M	661.65	*		8.688E-03	5.208E-02	8.561E-02	6.997E-03	0.101
CS-137	165.85	*		-3.221E-02	3.441E-02	5.236E-02	4.105E-03	-0.615
CE-139	162.64			3.973E-01	1.096E+00	1.724E+00	1.511E-01	0.230
BA-140	304.84			1.853E-01	1.827E+00	3.012E+00	8.338E-01	0.062
	423.70			8.420E-02	3.032E+00	4.848E+00	1.544E+00	0.017
LA-140	537.32	*		4.131E-02	4.279E-01	7.123E-01	2.336E-01	0.058
	328.77			4.381E-01	4.500E-01	7.676E-01	5.906E-02	0.571
	432.53			8.950E-01	3.002E+00	5.146E+00	3.508E-01	0.174
	487.03			-1.128E-01	1.949E-01	3.119E-01	2.318E-02	-0.362
	751.79			-3.065E+00	2.911E+00	4.237E+00	3.847E-01	-0.723
	815.85			-1.553E-01	5.495E-01	8.973E-01	8.070E-02	-0.173
	867.82			-7.074E-01	2.240E+00	3.533E+00	2.896E-01	-0.200
	919.63			-6.797E-01	5.481E+00	7.658E+00	7.431E-01	-0.089
	925.24			-1.491E-01	1.838E+00	3.011E+00	2.415E-01	-0.050
	1596.49	*		-1.678E-02	1.462E-01	2.342E-01	1.350E-02	-0.072
CE-141	145.44	*		3.268E-02	7.650E-02	1.254E-01	1.300E-02	0.261
CE-143	57.37			2.139E-03	7.650E-02	Half-Life	too short	
	231.56			-1.832E-02	7.650E-02	Half-Life	too short	
	293.26	*		5.559E-03	7.650E-02	Half-Life	too short	
+ CE-144	350.59			2.246E-01	7.650E-02	Half-Life	too short	
	490.36			2.127E-02	7.650E-02	Half-Life	too short	
	664.57			-3.022E-04	7.650E-02	Half-Life	too short	
	721.93			-1.120E-03	7.650E-02	Half-Life	too short	
	80.11			-8.517E-01	2.220E+00	2.647E+00	2.203E-01	-0.322
CE-144	133.54	*		-1.955E-02	2.417E-01	3.477E-01	6.027E-02	-0.056
PM-144	476.78			5.009E-02	8.607E-02	1.487E-01	1.143E-02	0.337

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		618.01		-2.873E-03	4.105E-02	6.678E-02	5.415E-03	-0.043
		696.49	*	4.597E-02	4.945E-02	8.483E-02	6.930E-03	0.542
		778.57		-3.266E-01	3.245E+00	5.401E+00	4.346E-01	-0.060
PR-144		696.49	*	3.122E+00	3.358E+00	5.760E+00	4.703E-01	0.542
		1489.15		3.469E+00	1.430E+01	2.422E+01	1.396E+00	0.143
PM-146		453.90	*	1.018E-02	5.501E-02	9.102E-02	8.262E-03	0.112
		633.02		-7.374E-01	1.951E+00	3.015E+00	1.122E+00	-0.245
		735.90		-7.872E-02	2.079E-01	3.224E-01	9.175E-02	-0.244
		747.13		7.392E-03	1.245E-01	2.010E-01	2.761E-02	0.037
ND-147	+	91.11		1.179E+00	3.881E-01	6.875E-01	6.201E-02	1.715
		319.41		-6.296E-01	4.975E+00	8.074E+00	5.858E-01	-0.078
		439.89		5.787E-01	8.744E+00	1.477E+01	9.345E-01	0.039
		531.02	*	8.187E-01	9.466E-01	1.642E+00	2.324E-01	0.499
PM-149		285.90	*	1.664E-04	9.466E-01	Half-Life too short		
EU-152		121.78		5.563E-03	7.737E-02	1.266E-01	1.712E-02	0.044
		244.69		-4.656E-02	3.738E-01	5.440E-01	4.288E-02	-0.086
		344.27	*	1.053E-01	1.480E-01	1.910E-01	1.432E-02	0.551
		443.98		-3.408E-01	1.155E+00	1.907E+00	1.213E-01	-0.179
		778.89		-9.034E-02	3.753E-01	6.185E-01	4.975E-02	-0.146
		867.32		-3.151E-01	1.126E+00	1.736E+00	1.336E-01	-0.181
		964.01		7.935E-01	4.807E-01	7.807E-01	5.614E-02	1.016
		1085.78		-1.023E-01	5.886E-01	9.425E-01	5.957E-02	-0.109
		1112.02		-4.490E-01	4.351E-01	6.386E-01	3.889E-02	-0.703
		1407.95		1.336E-01	2.487E-01	4.326E-01	2.481E-02	0.309
GD-153		69.67		-7.185E-01	1.139E+00	1.680E+00	1.502E-01	-0.428
	+	83.37		2.560E+01	1.531E+01	2.107E+01	1.715E+00	1.215
		97.43	*	-6.029E-02	8.484E-02	1.183E-01	1.077E-02	-0.510
		103.18		-7.311E-02	1.023E-01	1.633E-01	1.613E-02	-0.448
EU-154		123.07		-1.893E-02	5.550E-02	8.904E-02	1.298E-02	-0.213
		247.94		-3.731E-02	4.062E-01	6.515E-01	7.117E-02	-0.057
		591.81		-1.367E-01	8.569E-01	1.391E+00	1.527E-01	-0.098
		723.30		-5.479E-02	2.909E-01	3.961E-01	3.605E-02	-0.138
		756.87		1.867E+00	1.118E+00	1.981E+00	2.299E-01	0.943
		873.19		-6.261E-02	4.069E-01	6.665E-01	7.724E-02	-0.094
		996.32		-5.228E-01	5.027E-01	7.341E-01	1.251E-01	-0.712
		1004.76		-2.799E-01	2.950E-01	4.406E-01	4.606E-02	-0.635
		1274.45	*	2.846E-02	1.585E-01	2.676E-01	2.472E-02	0.106
EU-155		48.70		-2.473E-01	4.981E-01	7.534E-01	5.686E-02	-0.328
		60.01		2.635E-01	2.244E+00	3.451E+00	3.304E-01	0.076
	+	86.54		5.839E-01	1.362E-01	1.729E-01	1.393E-02	3.378
		105.31	*	7.063E-02	1.046E-01	1.763E-01	1.809E-02	0.401
TB-160	+	86.79		1.616E+00	3.766E-01	4.795E-01	3.814E-02	3.370
		197.04		-6.559E-01	6.538E-01	1.023E+00	8.096E-02	-0.641
		215.65		-6.316E-01	8.542E-01	1.391E+00	1.103E-01	-0.454
	+	298.57		4.151E-01	1.989E-01	2.489E-01	1.868E-02	1.668
		879.36	*	-2.583E-02	1.931E-01	3.165E-01	2.414E-02	-0.082
		962.29		7.144E-01	8.961E-01	1.364E+00	9.825E-02	0.524
		966.15		1.672E+00	3.843E-01	7.387E-01	5.303E-02	2.264
		1177.93		-2.861E-02	4.897E-01	7.851E-01	4.321E-02	-0.036

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		6.015E-01	9.446E-01	1.658E+00	9.327E-02	0.363
		80.57		-1.993E-01	2.890E-01	3.367E-01	2.794E-02	-0.592
	+	184.41		1.406E-01	7.070E-02	8.100E-02	6.391E-03	1.736
		280.46		-4.037E-02	9.792E-02	1.583E-01	1.215E-02	-0.255
		410.95		-9.841E-02	3.092E-01	4.847E-01	2.927E-02	-0.203
		711.68	*	6.159E-02	8.697E-02	1.472E-01	1.201E-02	0.418
TM-171		752.31		-2.696E-01	3.816E-01	5.762E-01	4.669E-02	-0.468
		810.29		-1.686E-02	8.382E-02	1.379E-01	1.096E-02	-0.122
		51.35		-2.256E+00	7.476E+00	1.267E+01	1.020E+00	-0.178
		52.39		-1.290E+00	4.393E+00	7.174E+00	5.917E-01	-0.180
		59.40		3.015E+00	1.179E+01	1.825E+01	1.750E+00	0.165
		66.72	*	8.256E+00	1.703E+01	2.637E+01	2.406E+00	0.313
LU-176	+	88.36		1.148E+00	2.675E-01	3.262E-01	2.588E-02	3.519
		201.83		-4.069E-02	3.202E-02	5.117E-02	4.055E-03	-0.795
		306.84	*	3.953E-03	2.956E-02	4.882E-02	3.619E-03	0.081
		401.10		-3.700E+00	8.715E+00	1.361E+01	8.082E-01	-0.272
LU-177		112.95		-7.458E-01	2.621E+00	4.130E+00	4.652E-01	-0.181
	+	208.36	*	5.132E+00	2.485E+00	3.321E+00	2.634E-01	1.545
LU-177M		52.97		-1.249E-01	4.767E-01	7.791E-01	6.511E-02	-0.160
		54.07		-4.495E-02	2.687E-01	4.400E-01	3.769E-02	-0.102
		61.30		9.568E-01	6.986E-01	1.223E+00	1.159E-01	0.783
		121.62		2.104E-02	4.027E-01	6.583E-01	8.277E-02	0.032
		147.16		8.618E-02	7.402E-01	1.198E+00	1.204E-01	0.072
		171.86		8.990E-02	5.544E-01	8.893E-01	6.983E-02	0.101
		218.09		7.176E-01	9.564E-01	1.655E+00	1.313E-01	0.433
	+	268.79		2.754E+00	1.690E+00	1.728E+00	1.341E-01	1.594
		319.02		5.775E-02	3.058E-01	5.051E-01	3.666E-02	0.114
		367.43		-1.808E-01	1.162E+00	1.861E+00	1.193E-01	-0.097
		413.65	*	-1.704E-01	2.256E-01	3.424E-01	2.077E-02	-0.498
		56.28		-2.467E-01	3.412E-01	5.664E-01	5.091E-02	-0.436
HF-181		57.53		1.672E-01	2.062E-01	3.450E-01	3.184E-02	0.485
		65.20		-7.403E-02	5.785E-01	8.760E-01	8.080E-02	-0.085
		133.02		-8.733E-03	8.199E-02	1.178E-01	1.362E-02	-0.074
		136.25		-2.950E-01	5.211E-01	8.205E-01	9.210E-02	-0.360
		345.85		-1.312E-01	2.786E-01	3.801E-01	2.597E-02	-0.345
		482.03	*	6.930E-03	5.361E-02	9.029E-02	6.066E-03	0.077
W-181		56.28		-9.228E-02	1.282E-01	2.129E-01	1.914E-02	-0.433
		57.53		6.283E-02	7.753E-02	1.297E-01	1.197E-02	0.484
		65.20	*	-2.761E-02	2.158E-01	3.268E-01	3.014E-02	-0.085
TA-182		67.75		1.722E-02	6.711E-02	1.092E-01	9.898E-03	0.158
		100.10		8.843E-02	1.790E-01	2.911E-01	2.753E-02	0.304
		152.43		2.303E-01	3.783E-01	6.229E-01	5.888E-02	0.370
		222.10		-3.259E-01	3.953E-01	6.394E-01	5.070E-02	-0.510
		1001.68		2.229E+00	2.722E+00	4.752E+00	3.306E-01	0.469
	+	1121.28		4.587E-01	3.286E-01	4.479E-01	2.690E-02	1.024
RE-183		1189.05		-3.019E-01	3.986E-01	6.253E-01	3.451E-02	-0.483
		1221.42	*	-1.336E-01	2.636E-01	4.231E-01	2.354E-02	-0.316
		1230.97		-6.706E-01	6.956E-01	1.081E+00	6.030E-02	-0.620
		57.98		9.327E-02	8.415E-02	1.346E-01	1.254E-02	0.693

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		1.211E-02	4.998E-02	7.731E-02	7.401E-03	0.157
		67.20		2.604E-02	1.272E-01	1.949E-01	1.772E-02	0.134
		162.32	*	8.851E-02	1.368E-01	2.180E-01	1.804E-02	0.406
	+	208.81		3.217E+00	1.558E+00	2.105E+00	1.669E-01	1.528
		291.72		-2.810E-01	1.286E+00	1.829E+00	1.386E-01	-0.154
		57.98		3.361E-01	3.032E-01	4.850E-01	4.518E-02	0.693
		59.32		4.361E-02	1.800E-01	2.784E-01	2.665E-02	0.157
		67.20		9.381E-02	4.582E-01	7.020E-01	6.384E-02	0.134
		161.27		5.187E-01	4.132E-01	6.934E-01	5.828E-02	0.748
		216.55		7.450E-02	2.890E-01	4.916E-01	3.899E-02	0.152
		252.85	*	-8.309E-02	2.723E-01	4.467E-01	3.507E-02	-0.186
		318.01		-8.809E-02	5.391E-01	8.736E-01	6.352E-02	-0.101
		792.07		1.787E+00	1.570E+00	2.507E+00	2.006E-01	0.713
		903.28		6.648E-02	1.597E+00	2.280E+00	1.710E-01	0.029
OS-185		920.93		-1.365E-01	6.659E-01	9.963E-01	7.390E-02	-0.137
		59.72		2.240E-02	1.357E-01	2.092E-01	2.006E-02	0.107
		61.14		7.762E-02	8.199E-02	1.296E-01	1.231E-02	0.599
		69.30		-1.275E-01	1.922E-01	3.021E-01	2.707E-02	-0.422
		592.07		-5.731E-01	3.596E+00	5.840E+00	4.467E-01	-0.098
		646.12	*	-4.709E-02	6.107E-02	9.362E-02	7.535E-03	-0.503
		717.42		-2.265E-01	1.306E+00	2.078E+00	1.694E-01	-0.109
		874.81		1.898E-01	8.322E-01	1.404E+00	1.075E-01	0.135
		880.27		-7.206E-01	1.085E+00	1.697E+00	1.294E-01	-0.425
		155.03	*	1.289E-01	1.964E-01	3.237E-01	2.962E-02	0.398
RE-188		477.96		2.658E+00	3.914E+00	6.806E+00	4.547E-01	0.390
		633.10		-1.635E+00	4.049E+00	6.304E+00	5.016E-01	-0.259
	+	63.58		7.306E+01	5.634E+01	6.236E+01	5.819E+00	1.171
W-188		227.08		3.614E+00	1.445E+01	2.449E+01	1.940E+00	0.148
		290.67	*	2.407E+00	9.783E+00	1.439E+01	1.091E+00	0.167
IR-192	+	295.96		1.124E+00	2.114E-01	3.146E-01	2.393E-02	3.572
		308.46		7.726E-02	1.226E-01	1.849E-01	1.377E-02	0.418
AU-195		316.51	*	3.987E-02	4.206E-02	7.216E-02	5.278E-03	0.552
		468.07		3.203E-02	9.342E-02	1.402E-01	1.035E-02	0.228
		604.41		6.678E-01	7.136E-01	1.092E+00	1.360E-01	0.612
		612.46		1.375E+00	1.066E+00	1.682E+00	1.547E-01	0.818
		65.12		1.132E-02	9.967E-02	1.524E-01	1.407E-02	0.074
		66.83		2.729E-02	5.709E-02	8.839E-02	8.060E-03	0.309
	+	75.70		1.290E+00	2.261E-01	3.754E-01	3.220E-02	3.435
		98.88	*	6.173E-02	2.238E-01	3.616E-01	3.361E-02	0.171
	+	129.76		4.239E+00	4.868E+00	5.586E+00	6.641E-01	0.759
		367.94	*	-1.074E-03	4.868E+00	Half-Life	too short	
TL-200		579.30		5.268E-02	4.868E+00	Half-Life	too short	
		828.27		1.488E-02	4.868E+00	Half-Life	too short	
		1205.75		-2.099E-02	4.868E+00	Half-Life	too short	
TL-201		68.90		-3.309E+00	6.764E+00	1.123E+01	1.009E+00	-0.295
		70.82		1.560E+00	4.507E+00	6.916E+00	6.134E-01	0.226
		80.30		-5.815E+00	1.256E+01	1.488E+01	1.237E+00	-0.391
		135.34		2.021E+01	6.384E+01	1.048E+02	1.186E+01	0.193
		167.43	*	8.625E+00	1.838E+01	2.995E+01	2.347E+00	0.288

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		-1.538E-01	3.144E-01	5.220E-01	4.691E-02	-0.295
		70.82		7.231E-02	2.089E-01	3.206E-01	2.843E-02	0.226
		80.30		-2.696E-01	5.822E-01	6.901E-01	5.737E-02	-0.391
		439.56	*	6.717E-03	1.014E-01	1.712E-01	1.082E-02	0.039
HG-203		70.83		2.706E-01	7.713E-01	1.183E+00	1.628E-01	0.229
		72.87		9.754E-01	5.166E-01	8.087E-01	1.074E-01	1.206
	+	82.60		1.993E+00	1.211E+00	1.589E+00	2.141E-01	1.255
		279.20	*	-1.336E-03	5.028E-02	8.296E-02	6.605E-03	-0.016
BI-207		72.80		2.301E-01	1.388E-01	2.202E-01	1.927E-02	1.045
	+	74.97		7.051E-01	1.236E-01	1.827E-01	1.575E-02	3.859
	+	84.90		3.275E-01	1.959E-01	2.705E-01	2.179E-02	1.211
		569.67		1.928E-02	4.178E-02	6.842E-02	5.113E-03	0.282
		1063.62	*	2.162E-02	6.796E-02	1.138E-01	7.400E-03	0.190
		1770.23		0.000E+00	6.308E-01	8.938E-01	5.072E-02	0.000
TL-207		81.07		1.541E-02	2.162E-01	2.662E-01	2.202E-02	0.058
	+	83.78		2.159E-01	1.291E-01	1.795E-01	1.457E-02	1.203
		94.90		3.343E-01	2.192E-01	3.465E-01	3.038E-02	0.965
		122.32		3.559E-01	1.865E+00	3.064E+00	4.004E-01	0.116
		144.24		2.320E-01	7.981E-01	1.287E+00	1.446E-01	0.180
		154.21		5.726E-01	4.298E-01	7.243E-01	7.281E-02	0.791
	+	269.46		6.341E-01	3.893E-01	4.140E-01	3.294E-02	1.532
		323.87	*	-1.224E+00	8.478E-01	1.233E+00	2.103E-01	-0.992
	+	338.28		8.650E+00	2.340E+00	2.905E+00	3.258E-01	2.978
		445.03		1.475E-01	2.689E+00	4.536E+00	4.809E-01	0.033
PO-209		260.50		-3.189E+00	1.071E+01	1.752E+01	1.368E+00	-0.182
		262.80		-2.603E+01	2.937E+01	4.581E+01	3.573E+00	-0.568
		896.60	*	7.824E-01	1.022E+01	1.700E+01	1.280E+00	0.046
PB-211		404.84	*	-5.650E-01	1.270E+00	1.899E+00	1.184E+00	-0.297
		427.08		1.154E+00	2.702E+00	4.279E+00	2.647E+00	0.270
		831.96		-3.817E-01	1.751E+00	2.845E+00	1.780E+00	-0.134
BI-212	+	727.18	*	8.842E-01	5.417E-01	8.156E-01	7.830E-02	1.084
		785.46		1.559E+00	2.651E+00	4.310E+00	3.458E-01	0.362
		1620.62		1.011E+00	1.862E+00	2.994E+00	1.723E-01	0.338
PO-215		81.07		1.541E-02	2.162E-01	2.662E-01	2.202E-02	0.058
	+	83.78		2.159E-01	1.291E-01	1.795E-01	1.457E-02	1.203
		94.90		3.343E-01	2.192E-01	3.465E-01	3.038E-02	0.965
		122.32		3.559E-01	1.865E+00	3.064E+00	4.004E-01	0.116
		144.24		2.320E-01	7.981E-01	1.287E+00	1.446E-01	0.180
		154.21		5.726E-01	4.298E-01	7.243E-01	7.281E-02	0.791
	+	269.46		6.341E-01	3.893E-01	4.140E-01	3.294E-02	1.532
		323.87	*	-1.224E+00	8.478E-01	1.233E+00	2.103E-01	-0.992
	+	338.28		8.650E+00	2.340E+00	2.905E+00	3.258E-01	2.978
		445.03		1.475E-01	2.689E+00	4.536E+00	4.809E-01	0.033
RN-219	+	271.23		8.136E-01	5.014E-01	5.235E-01	5.023E-02	1.554
		401.81	*	-4.320E-01	5.349E-01	8.087E-01	1.105E-01	-0.534
RN-220		549.76	*	-1.813E+01	3.281E+01	5.205E+01	3.805E+00	-0.348
RA-223		81.07		1.541E-02	2.162E-01	2.662E-01	2.202E-02	0.058
	+	83.78		2.159E-01	1.291E-01	1.795E-01	1.457E-02	1.203
		94.90		3.343E-01	2.192E-01	3.465E-01	3.038E-02	0.965

---- 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		3.559E-01	1.865E+00	3.064E+00	4.004E-01	0.116
		144.24		2.320E-01	7.981E-01	1.287E+00	1.446E-01	0.180
		154.21		5.726E-01	4.298E-01	7.243E-01	7.281E-02	0.791
	+	269.46		6.341E-01	3.893E-01	4.140E-01	3.294E-02	1.532
		323.87	*	-1.224E+00	8.478E-01	1.233E+00	2.103E-01	-0.992
	+	338.28		8.650E+00	2.340E+00	2.905E+00	3.258E-01	2.978
		445.03		1.475E-01	2.689E+00	4.536E+00	4.809E-01	0.033
		79.80		-9.417E-01	1.740E+00	2.039E+00	4.361E-01	-0.462
		236.00		1.200E+00	3.480E-01	5.527E-01	6.496E-02	2.171
		256.20	*	2.022E-01	4.431E-01	7.504E-01	1.120E-01	0.270
		286.10		1.014E+00	1.808E+00	3.057E+00	3.845E-01	0.332
	+	299.80		5.094E+00	2.561E+00	3.121E+00	5.294E-01	1.632
TH-227		304.40		5.134E-01	2.185E+00	3.627E+00	6.498E-01	0.142
		334.20		-9.214E-01	3.029E+00	4.206E+00	7.889E-01	-0.219
		79.80		-9.417E-01	1.740E+00	2.039E+00	4.418E-01	-0.462
	+	94.00		8.719E+00	3.712E+00	3.723E+00	8.112E-01	2.342
		236.00		1.200E+00	3.424E-01	5.527E-01	5.821E-02	2.171
		256.20	*	2.022E-01	4.435E-01	7.504E-01	1.328E-01	0.270
		286.10		1.014E+00	2.071E+00	3.057E+00	3.066E+00	0.332
	+	299.80		5.094E+00	2.561E+00	3.121E+00	5.294E-01	1.632
		304.40		5.134E-01	2.185E+00	3.627E+00	6.498E-01	0.142
		334.20		-9.214E-01	3.029E+00	4.206E+00	7.889E-01	-0.219
		85.43		4.991E-01	1.582E-01	2.797E-01	2.245E-02	1.784
	+	88.47		6.609E-01	1.540E-01	1.859E-01	1.477E-02	3.555
PA-231		100.00		9.459E-02	1.816E-01	2.956E-01	2.792E-02	0.320
		193.63	*	-1.889E-01	5.509E-01	9.215E-01	7.290E-02	-0.205
		210.97		1.134E+00	9.257E-01	1.463E+00	1.160E-01	0.775
		283.67	*	-9.274E-01	1.777E+00	2.845E+00	4.169E-01	-0.326
		301.29		1.279E+00	7.060E-01	1.231E+00	1.412E-01	1.039
		81.07		1.541E-02	2.162E-01	2.662E-01	2.202E-02	0.058
	+	83.78		2.159E-01	1.291E-01	1.795E-01	1.457E-02	1.203
		94.90		3.343E-01	2.192E-01	3.465E-01	3.038E-02	0.965
		122.32		3.559E-01	1.865E+00	3.064E+00	4.004E-01	0.116
		144.24		2.320E-01	7.981E-01	1.287E+00	1.446E-01	0.180
		154.21		5.726E-01	4.298E-01	7.243E-01	7.281E-02	0.791
	+	269.46		6.341E-01	3.893E-01	4.140E-01	3.294E-02	1.532
U-231		323.87	*	-1.224E+00	8.478E-01	1.233E+00	2.103E-01	-0.992
	+	338.28		8.650E+00	2.340E+00	2.905E+00	3.258E-01	2.978
		445.03		1.475E-01	2.689E+00	4.536E+00	4.809E-01	0.033
	+	84.21		1.758E+01	1.051E+01	1.456E+01	1.178E+00	1.208
	+	92.29		1.628E+01	6.120E+00	8.583E+00	7.235E-01	1.897
		95.87	*	9.351E-02	1.968E+00	2.926E+00	2.603E-01	0.032
		108.00		-1.037E+00	3.882E+00	6.310E+00	6.658E-01	-0.164
	+	75.28		2.057E+01	4.453E+00	5.683E+00	8.716E-01	3.620
	+	86.59		9.477E+00	3.266E+00	2.807E+00	7.471E-01	3.376
	+	300.12		1.420E+00	7.020E-01	8.649E-01	1.232E-01	1.642
		311.98	*	6.355E-03	8.232E-02	1.189E-01	9.078E-03	0.053
		340.50		9.046E-01	8.341E-01	1.244E+00	2.895E-01	0.727
PA-233		398.62		2.820E+00	2.763E+00	4.550E+00	1.178E+00	0.620

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		6.384E-01	2.121E+00	3.351E+00	6.926E-01	0.191
		63.00		2.039E+00	1.594E+00	1.758E+00	2.800E-01	1.160
		94.67		3.986E-01	1.678E-01	2.652E-01	3.311E-02	1.503
		98.44		2.789E-02	9.450E-02	1.449E-01	8.100E-02	0.192
		99.86		2.072E-01	4.618E-01	7.501E-01	7.070E-02	0.276
		111.00		8.288E-02	1.873E-01	3.121E-01	4.329E-02	0.266
		131.20		3.081E-02	1.245E-01	1.827E-01	2.146E-02	0.169
		152.70		3.725E-01	3.596E-01	5.942E-01	1.038E-01	0.627
	+	186.00		5.063E+00	2.964E+00	3.111E+00	9.651E-01	1.627
		226.40		1.236E-02	4.433E-01	7.447E-01	9.502E-02	0.017
		227.20		6.033E-02	4.723E-01	7.966E-01	6.312E-02	0.076
		248.90		3.362E-01	8.977E-01	1.517E+00	3.359E-01	0.222
	+	293.70		6.823E+00	1.640E+00	1.839E+00	3.089E-01	3.710
		369.80		6.166E-01	1.066E+00	1.769E+00	3.712E-01	0.349
		568.70		3.344E-01	1.343E+00	2.169E+00	1.619E-01	0.154
		569.50		1.630E-01	3.701E-01	6.053E-01	4.522E-02	0.269
		574.00		-1.478E+00	1.967E+00	3.066E+00	2.302E-01	-0.482
		699.00		9.578E-02	1.018E+00	1.657E+00	3.128E-01	0.058
		706.10		-8.898E-01	1.547E+00	2.311E+00	1.029E+00	-0.385
		733.00		-5.675E-02	5.884E-01	8.480E-01	1.867E-01	-0.067
		742.81		6.551E-01	2.027E+00	3.260E+00	2.189E+00	0.201
		796.30		2.095E+00	1.488E+00	2.281E+00	6.126E-01	0.918
		805.60		8.250E-01	1.420E+00	2.430E+00	7.404E-01	0.340
		819.60		3.829E-01	1.683E+00	2.845E+00	1.077E+00	0.135
		826.30		-3.260E-01	1.123E+00	1.815E+00	8.095E-01	-0.180
		831.60		2.357E-02	8.874E-01	1.481E+00	4.388E-01	0.016
		876.40		4.613E-01	1.210E+00	1.907E+00	1.959E+00	0.242
		880.51		-2.682E-01	3.799E-01	5.921E-01	4.513E-02	-0.453
		883.24		-1.443E-01	3.885E-01	6.032E-01	4.047E-01	-0.239
		899.00		-3.798E-01	1.171E+00	1.867E+00	8.125E-01	-0.203
		925.00		-1.720E-02	1.559E+00	2.569E+00	1.900E-01	-0.007
		926.50		-1.582E-01	2.385E-01	3.656E-01	9.097E-02	-0.433
		946.00	*	3.375E-01	3.874E-01	6.770E-01	1.232E-01	0.498
		949.00		-3.779E-01	6.305E-01	9.507E-01	6.916E-02	-0.397
		980.50		1.569E-01	9.984E-01	1.660E+00	1.177E-01	0.095
		1394.10		-8.607E-01	1.559E+00	2.219E+00	1.437E+00	-0.388
PA-234M		766.42		2.219E+01	1.962E+01	2.916E+01	1.477E+01	0.761
		1001.03	*	1.728E+00	6.553E+00	1.085E+01	9.297E-01	0.159
U-235	+	89.95		3.682E+00	1.625E+00	1.760E+00	5.406E-01	2.092
	+	93.35		2.713E+00	1.250E+00	1.361E+00	3.812E-01	1.993
		105.00		8.171E-01	1.054E+00	1.740E+00	5.274E-01	0.470
		143.76	*	-5.130E-02	2.488E-01	3.935E-01	7.265E-02	-0.130
		163.35		-4.141E-01	5.698E-01	8.449E-01	1.594E-01	-0.490
	+	185.71		1.875E-01	9.426E-02	1.151E-01	9.082E-03	1.630
		205.31		1.199E-01	6.645E-01	9.839E-01	1.847E-01	0.122
NP-236		94.67		3.058E-01	1.246E-01	2.015E-01	1.761E-02	1.518
		98.44		2.109E-02	7.049E-02	1.096E-01	1.012E-02	0.192
		111.00		6.269E-02	1.416E-01	2.361E-01	2.592E-02	0.266
		160.31	*	4.534E-02	9.092E-02	1.486E-01	1.266E-02	0.305

---- 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		8.896E-02	1.538E-01	2.509E-01	2.354E-02	0.355
		117.00	*	-5.081E-02	2.006E-01	3.245E-01	3.851E-02	-0.157
	+	209.75		2.443E+00	1.183E+00	1.578E+00	1.251E-01	1.548
		228.18		1.583E-02	2.464E-01	4.144E-01	3.283E-02	0.038
		277.60		3.787E-01	2.134E-01	3.686E-01	2.839E-02	1.027
		334.30		-4.785E-01	1.716E+00	2.391E+00	1.681E-01	-0.200
AM-241		59.54	*	1.917E-02	6.875E-02	1.065E-01	1.083E-02	0.180
CM-243		99.55		9.157E-02	1.583E-01	2.582E-01	2.423E-02	0.355
		103.76	*	-3.997E-02	9.432E-02	1.527E-01	1.520E-02	-0.262
		117.00		-5.229E-02	2.064E-01	3.339E-01	3.963E-02	-0.157
	+	209.75		2.409E+00	1.166E+00	1.556E+00	1.234E-01	1.548
		228.18		1.600E-02	2.491E-01	4.188E-01	3.318E-02	0.038
		277.60		3.819E-01	2.152E-01	3.717E-01	2.863E-02	1.027
AM-246		798.80		-4.353E-02	2.083E-01	2.933E-01	2.341E-02	-0.148
		1036.00		-1.460E-01	3.906E-01	6.152E-01	4.132E-02	-0.237
		1062.04		6.545E-02	3.016E-01	5.005E-01	3.261E-02	0.131
		1078.86	*	-2.414E-02	1.966E-01	3.161E-01	2.017E-02	-0.076
CM-247		278.00		1.085E+00	8.701E-01	1.514E+00	1.165E-01	0.716
		287.40		7.931E-01	1.450E+00	2.452E+00	1.868E-01	0.323
		402.60	*	-4.588E-02	4.755E-02	7.142E-02	4.253E-03	-0.642
CF-249		252.85		-3.069E-01	1.006E+00	1.650E+00	1.295E-01	-0.186
		333.44		1.136E-02	2.265E-01	3.242E-01	2.283E-02	0.035
		387.95	*	2.037E-02	5.072E-02	8.354E-02	4.961E-03	0.244
CF-251		176.60	*	2.640E-02	1.441E-01	2.309E-01	1.817E-02	0.114
		227.00		1.075E-01	4.172E-01	7.076E-01	5.606E-02	0.152
		285.00		-7.893E-01	2.044E+00	3.304E+00	2.524E-01	-0.239

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]G245107001 *
* Acquisition date   : 1-FEB-2010 11:26:37 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 02:00:01.61                               Half life ratio  : 8.000 *
*                               *****                                *
*                               *                                     *
*                               *                               SAMPLE DATA *
*                               *                                     *
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID *
* Sample ID          : G245107001 Analyst initials: MXR1 *
* Batch Number       : 944038 Sample Quantity : 1.2444E+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	2.363E+01	2.258E+00	7.859E-01	0.000E+00
CD-109	4.954E+00	1.131E+00	1.079E+00	0.000E+00
SN-126	4.841E-01	1.105E-01	1.053E-01	0.000E+00
TL-208	4.670E-01	1.106E-01	8.718E-02	0.000E+00
BI-210	8.837E-01	9.222E-01	9.074E-01	0.000E+00
PB-210	8.837E-01	9.222E-01	9.074E-01	0.000E+00
PO-210	8.837E-01	9.216E-01	9.074E-01	0.000E+00
BI-211	4.047E+00	6.401E-01	3.938E-01	0.000E+00
PB-212	1.649E+00	1.935E-01	1.004E-01	0.000E+00
PO-212	1.649E+00	1.935E-01	1.004E-01	0.000E+00
BI-214	1.415E+00	2.311E-01	1.435E-01	0.000E+00
PB-214	1.408E+00	2.340E-01	1.373E-01	0.000E+00
PO-214	1.408E+00	2.340E-01	1.373E-01	0.000E+00
PO-216	1.649E+00	1.935E-01	1.004E-01	0.000E+00
PO-218	1.408E+00	2.340E-01	1.373E-01	0.000E+00
RA-224	4.785E+00	1.516E+00	1.143E+00	0.000E+00
RA-226	1.415E+00	2.311E-01	1.435E-01	0.000E+00
AC-228	1.574E+00	4.253E-01	2.913E-01	0.000E+00
RA-228	1.574E+00	4.253E-01	2.913E-01	0.000E+00
TH-228	1.681E+00	1.972E-01	1.023E-01	0.000E+00
TH-230	1.415E+00	2.311E-01	1.435E-01	0.000E+00
TH-232	1.574E+00	4.253E-01	2.913E-01	0.000E+00
TH-234	1.749E+00	1.349E+00	1.078E+00	0.000E+00
U-234	1.415E+00	2.311E-01	1.435E-01	0.000E+00
NP-237	1.422E+00	4.336E-01	3.082E-01	0.000E+00
U-238	1.749E+00	1.349E+00	1.078E+00	0.000E+00
AM-243	3.927E-01	6.748E-02	6.581E-02	0.000E+00
ANH-511	2.046E-01	9.607E-02	5.931E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	2.043E-01	4.062E-01	7.237E-01	0.000E+00	NOT IDENT.
NA-22	1.069E-02	5.575E-02	9.623E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.028E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.785E-02	3.830E-02	5.943E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	3.493E-02	5.982E-02	0.000E+00	NOT IDENT.
SC-46	1.074E-02	5.403E-02	9.323E-02	0.000E+00	FAIL ABUN
V-48	-1.225E-01	1.104E-01	1.668E-01	0.000E+00	NOT IDENT.
CR-51	-1.773E-01	4.731E-01	7.881E-01	0.000E+00	NOT IDENT.
MN-52	-5.967E-01	5.042E-01	7.186E-01	0.000E+00	NOT IDENT.
MN-54	-4.600E-03	5.286E-02	8.991E-02	0.000E+00	NOT IDENT.
CO-56	-4.675E-02	5.471E-02	8.718E-02	0.000E+00	NOT IDENT.
CO-57	1.199E-02	2.624E-02	4.590E-02	0.000E+00	NOT IDENT.
CO-58	-4.892E-03	5.512E-02	9.399E-02	0.000E+00	NOT IDENT.
FE-59	-4.134E-02	1.410E-01	2.287E-01	0.000E+00	NOT IDENT.
CO-60	-6.119E-03	5.199E-02	8.683E-02	0.000E+00	NOT IDENT.
ZN-65	5.251E-02	1.397E-01	2.068E-01	0.000E+00	NOT IDENT.
GE-68	-6.736E-01	1.715E+00	2.756E+00	0.000E+00	NOT IDENT.
AS-73	4.559E-02	2.499E-01	4.417E-01	0.000E+00	NOT IDENT.
AS-74	3.873E-02	1.398E-01	2.410E-01	0.000E+00	NOT IDENT.
SE-75	4.980E-03	5.265E-02	8.065E-02	0.000E+00	NOT IDENT.
BR-77	9.865E+00	3.978E+01	6.934E+01	0.000E+00	FAIL DECAY
SR-82	-1.752E-02	5.770E-01	9.924E-01	0.000E+00	NOT IDENT.
RB-83	2.621E-02	9.056E-02	1.544E-01	0.000E+00	NOT IDENT.
RB-84	-3.733E-02	9.944E-02	1.640E-01	0.000E+00	NOT IDENT.
KR-85	1.550E+01	9.584E+00	1.614E+01	0.000E+00	NOT IDENT.
SR-85	8.277E-02	5.118E-02	8.619E-02	0.000E+00	NOT IDENT.
RB-86	-1.221E+00	1.285E+00	1.961E+00	0.000E+00	NOT IDENT.
Y-88	-1.149E-03	4.498E-02	7.546E-02	0.000E+00	NOT IDENT.
ZR-88	-7.898E-03	3.778E-02	6.216E-02	0.000E+00	NOT IDENT.
Y-91	-1.969E+01	2.519E+01	4.042E+01	0.000E+00	NOT IDENT.
NB-94	1.025E-02	4.642E-02	7.842E-02	0.000E+00	NOT IDENT.
NB-95	8.375E-02	6.095E-02	1.130E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.658E-01	2.768E-01	0.000E+00	NOT IDENT.
ZR-95	1.425E-01	1.030E-01	1.860E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.932E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.247E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.636E+01	4.265E+01	6.689E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.829E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.179E-03	3.653E-02	6.287E-02	0.000E+00	NOT IDENT.
RH-102	-7.277E-03	3.535E-02	6.044E-02	0.000E+00	NOT IDENT.
RU-103	-7.520E-03	5.509E-02	9.418E-02	0.000E+00	NOT IDENT.
RH-106	3.126E-02	4.245E-01	7.193E-01	0.000E+00	NOT IDENT.
RU-106	3.126E-02	4.245E-01	7.193E-01	0.000E+00	NOT IDENT.
AG-108M	1.170E-02	3.786E-02	6.728E-02	0.000E+00	NOT IDENT.
AG-110M	1.333E-03	4.767E-02	8.004E-02	0.000E+00	NOT IDENT.
IN-111	-1.555E+00	3.128E+00	4.629E+00	0.000E+00	NOT IDENT.
IN-113M	-1.575E-02	5.466E-02	8.952E-02	0.000E+00	NOT IDENT.
SN-113	-1.575E-02	5.466E-02	8.952E-02	0.000E+00	NOT IDENT.
IN-114M	4.670E-02	2.423E-01	3.604E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.626E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-6.801E-02	7.410E-02	1.192E-01	0.000E+00	NOT IDENT.
SB-122	2.797E+00	6.963E+00	1.216E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.550E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.635E-02	3.248E-02	5.253E-02	0.000E+00	NOT IDENT.
I-124	9.334E-01	1.880E+00	2.875E+00	0.000E+00	FAIL ABUN
SB-124	-1.060E-01	1.108E-01	1.530E-01	0.000E+00	FAIL ABUN
SB-125	-1.841E-02	1.063E-01	1.841E-01	0.000E+00	FAIL ABUN
TE-125M	-5.146E-01	9.619E+00	1.665E+01	0.000E+00	NOT IDENT.
I-126	-5.079E-02	3.037E-01	5.024E-01	0.000E+00	NOT IDENT.
SB-126	1.123E-01	2.740E-01	4.090E-01	0.000E+00	NOT IDENT.
SB-127	-2.288E+00	3.469E+00	5.463E+00	0.000E+00	NOT IDENT.
XE-127	-2.370E-02	5.516E-02	9.605E-02	0.000E+00	NOT IDENT.
I-131	-4.269E-02	2.028E-01	3.366E-01	0.000E+00	NOT IDENT.
TE-132	3.016E-01	1.671E+00	2.952E+00	0.000E+00	NOT IDENT.
BA-133	-7.566E-02	6.649E-02	8.804E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.713E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.057E-02	1.207E-01	0.000E+00	NOT IDENT.
CS-135	0.000E+00	1.954E-01	3.294E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.088E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.441E-02	1.870E-01	3.168E-01	0.000E+00	FAIL ABUN
BA-137M	8.218E-03	4.828E-02	8.181E-02	0.000E+00	NOT IDENT.
CS-137	8.688E-03	5.104E-02	8.648E-02	0.000E+00	NOT IDENT.
CE-139	-3.221E-02	3.372E-02	5.389E-02	0.000E+00	NOT IDENT.
BA-140	4.131E-02	4.194E-01	7.215E-01	0.000E+00	NOT IDENT.
LA-140	-1.678E-02	1.433E-01	2.337E-01	0.000E+00	NOT IDENT.
CE-141	3.268E-02	7.497E-02	1.293E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.850E+03	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-1.955E-02	2.369E-01	3.589E-01	0.000E+00	NOT IDENT.
PM-144	4.597E-02	4.846E-02	8.562E-02	0.000E+00	NOT IDENT.
PR-144	3.122E+00	3.291E+00	5.814E+00	0.000E+00	NOT IDENT.
PM-146	1.018E-02	5.391E-02	9.242E-02	0.000E+00	NOT IDENT.
ND-147	8.187E-01	9.277E-01	1.663E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.526E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.053E-01	1.450E-01	1.947E-01	0.000E+00	NOT IDENT.
GD-153	-6.029E-02	8.315E-02	1.226E-01	0.000E+00	FAIL ABUN
EU-154	2.846E-02	1.553E-01	2.679E-01	0.000E+00	NOT IDENT.
EU-155	7.063E-02	1.025E-01	1.826E-01	0.000E+00	FAIL ABUN
TB-160	-2.583E-02	1.892E-01	3.184E-01	0.000E+00	FAIL ABUN
HO-166M	6.159E-02	8.524E-02	1.486E-01	0.000E+00	FAIL ABUN
TM-171	8.256E+00	1.668E+01	2.747E+01	0.000E+00	NOT IDENT.
LU-176	3.953E-03	2.897E-02	4.983E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.435E+00	3.408E+00	0.000E+00	FAIL ABUN
LU-177M	-1.704E-01	2.211E-01	3.481E-01	0.000E+00	FAIL ABUN
HF-181	6.930E-03	5.254E-02	9.160E-02	0.000E+00	NOT IDENT.
W-181	-2.761E-02	2.115E-01	3.405E-01	0.000E+00	NOT IDENT.
TA-182	-1.336E-01	2.584E-01	4.237E-01	0.000E+00	FAIL ABUN
RE-183	8.851E-02	1.341E-01	2.244E-01	0.000E+00	FAIL ABUN
RE-184	-8.309E-02	2.669E-01	4.572E-01	0.000E+00	NOT IDENT.
OS-185	-4.709E-02	5.985E-02	9.459E-02	0.000E+00	NOT IDENT.
RE-188	1.289E-01	1.925E-01	3.334E-01	0.000E+00	NOT IDENT.
W-188	2.407E+00	9.587E+00	1.469E+01	0.000E+00	FAIL ABUN
IR-192	3.987E-02	4.121E-02	7.363E-02	0.000E+00	FAIL ABUN
AU-195	6.173E-02	2.193E-01	3.748E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.727E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.625E+00	1.801E+01	3.082E+01	0.000E+00	NOT IDENT.
TL-202	6.717E-03	9.933E-02	1.740E-01	0.000E+00	NOT IDENT.
HG-203	-1.336E-03	4.927E-02	8.479E-02	0.000E+00	FAIL ABUN
BI-207	2.162E-02	6.660E-02	1.142E-01	0.000E+00	FAIL ABUN
TL-207	-1.224E+00	8.308E-01	1.258E+00	0.000E+00	FAIL ABUN
PO-209	7.824E-01	1.001E+01	1.710E+01	0.000E+00	NOT IDENT.
PB-211	-5.650E-01	1.244E+00	1.932E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.309E-01	8.228E-01	0.000E+00	FAIL ABUN
PO-215	-1.224E+00	8.308E-01	1.258E+00	0.000E+00	FAIL ABUN
RN-219	-4.320E-01	5.242E-01	8.225E-01	0.000E+00	FAIL ABUN
RN-220	-1.813E+01	3.215E+01	5.270E+01	0.000E+00	NOT IDENT.
RA-223	-1.224E+00	8.308E-01	1.258E+00	0.000E+00	FAIL ABUN
AC-227	2.022E-01	4.342E-01	7.679E-01	0.000E+00	FAIL ABUN
TH-227	2.022E-01	4.346E-01	7.679E-01	0.000E+00	FAIL ABUN
TH-229	-1.889E-01	5.399E-01	9.465E-01	0.000E+00	FAIL ABUN
PA-231	-9.274E-01	1.741E+00	2.907E+00	0.000E+00	NOT IDENT.
TH-231	-1.224E+00	8.308E-01	1.258E+00	0.000E+00	FAIL ABUN
U-231	9.351E-02	1.929E+00	3.034E+00	0.000E+00	FAIL ABUN
PA-233	6.355E-03	8.067E-02	1.213E-01	0.000E+00	FAIL ABUN
PA-234	3.375E-01	3.797E-01	6.804E-01	0.000E+00	FAIL ABUN
PA-234M	1.728E+00	6.422E+00	1.089E+01	0.000E+00	NOT IDENT.
U-235	-5.130E-02	2.439E-01	4.058E-01	0.000E+00	FAIL ABUN
NP-236	4.534E-02	8.910E-02	1.530E-01	0.000E+00	NOT IDENT.
NP-239	-5.081E-02	1.966E-01	3.355E-01	0.000E+00	FAIL ABUN
AM-241	1.917E-02	6.738E-02	1.111E-01	0.000E+00	NOT IDENT.
CM-243	-3.997E-02	9.243E-02	1.581E-01	0.000E+00	FAIL ABUN
AM-246	-2.414E-02	1.926E-01	3.171E-01	0.000E+00	NOT IDENT.
CM-247	-4.588E-02	4.660E-02	7.264E-02	0.000E+00	NOT IDENT.
CF-249	2.037E-02	4.971E-02	8.500E-02	0.000E+00	NOT IDENT.
CF-251	2.640E-02	1.412E-01	2.375E-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]G245107001.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 11:26:37.
Sample ID          : G245107001 Sample quantity   : 1.24440E+02 GRAM
Detector name      : GAM13 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.61 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity        : 5.00000
Batch ID           : 944038 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	871	10.67*	1.041E+00	2.363E+01	2.363E+01	9.75
CD-109	88.03	430	3.72*	7.249E+00	4.815E+00	4.954E+00	23.30
SN-126	64.28	163	9.60	7.391E+00	6.923E-01	6.923E-01	78.12
	86.94	430	8.90	7.249E+00	2.012E+00	2.012E+00	46.68
	87.57	430	37.00*	7.249E+00	4.841E-01	4.841E-01	23.30
TL-208	277.35	-----	6.80	4.225E+00	-----	Line Not Found	-----
	510.84	172	21.60	2.539E+00	9.474E-01	9.474E-01	48.62
	583.14	294	84.20*	2.258E+00	4.670E-01	4.670E-01	24.17
	860.37	55	12.46	1.606E+00	8.262E-01	8.262E-01	50.49
BI-210	46.50	86	4.05*	7.295E+00	8.823E-01	8.837E-01	106.49
PB-210	46.50	86	4.05*	7.295E+00	8.823E-01	8.837E-01	106.49
PO-210	46.50	86	4.05*	7.295E+00	8.823E-01	8.837E-01	106.42
BI-211	72.87	-----	1.27	7.369E+00	-----	Line Not Found	-----
	351.07	608	12.94*	3.501E+00	4.047E+00	4.047E+00	16.14
PB-212	74.81	632	10.70	7.359E+00	2.422E+00	2.422E+00	19.87
	77.11	973	18.00	7.344E+00	2.219E+00	2.219E+00	14.01
	87.30	430	8.00	7.249E+00	2.239E+00	2.239E+00	25.36
	238.63	1150	44.60*	4.717E+00	1.649E+00	1.649E+00	11.97
	300.09	124	3.41	3.980E+00	2.749E+00	2.749E+00	48.28
PO-212	74.81	632	10.70	7.359E+00	2.422E+00	2.422E+00	19.87
	77.11	973	18.00	7.344E+00	2.219E+00	2.219E+00	14.01
	87.30	430	8.00	7.249E+00	2.239E+00	2.239E+00	25.36
	115.19	-----	0.60	6.822E+00	-----	Line Not Found	-----
	238.63	1150	44.60*	4.717E+00	1.649E+00	1.649E+00	11.97
	300.09	124	3.41	3.980E+00	2.749E+00	2.749E+00	48.28
BI-214	609.31	472	46.30*	2.172E+00	1.415E+00	1.415E+00	16.67
	1120.29	61	15.10	1.287E+00	9.478E-01	9.478E-01	71.94
	1764.49	83	15.80	8.992E-01	1.759E+00	1.759E+00	30.62
PB-214	74.81	632	6.21	7.359E+00	4.174E+00	4.174E+00	19.03
	77.11	973	10.50	7.344E+00	3.804E+00	3.804E+00	15.95
	87.30	430	4.67	7.249E+00	3.835E+00	3.835E+00	24.54
	241.98	293	7.49	4.677E+00	2.523E+00	2.523E+00	32.80

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	365	19.20	4.030E+00	1.421E+00	1.421E+00	19.80
	351.92	608	37.20*	3.501E+00	1.408E+00	1.408E+00	16.96
	74.81	632	6.21	7.359E+00	4.174E+00	4.174E+00	19.03
	77.11	973	10.50	7.344E+00	3.804E+00	3.804E+00	15.95
	87.30	430	4.67	7.249E+00	3.835E+00	3.835E+00	24.54
	241.98	293	7.49	4.677E+00	2.523E+00	2.523E+00	32.80
PO-216	295.21	365	19.20	4.030E+00	1.421E+00	1.421E+00	19.80
	351.92	608	37.20*	3.501E+00	1.408E+00	1.408E+00	16.96
	74.81	632	10.70	7.359E+00	2.422E+00	2.422E+00	19.87
	77.11	973	18.00	7.344E+00	2.219E+00	2.219E+00	14.01
	87.30	430	8.00	7.249E+00	2.239E+00	2.239E+00	25.36
	238.63	1150	44.60*	4.717E+00	1.649E+00	1.649E+00	11.97
PO-218	300.09	124	3.41	3.980E+00	2.749E+00	2.749E+00	48.28
	74.81	632	6.21	7.359E+00	4.174E+00	4.174E+00	19.03
	77.11	973	10.50	7.344E+00	3.804E+00	3.804E+00	15.95
	87.30	430	4.67	7.249E+00	3.835E+00	3.835E+00	24.54
	241.98	293	7.49	4.677E+00	2.523E+00	2.523E+00	32.80
	295.21	365	19.20	4.030E+00	1.421E+00	1.421E+00	19.80
RA-224	351.92	608	37.20*	3.501E+00	1.408E+00	1.408E+00	16.96
RA-226	240.98	293	3.95*	4.677E+00	4.785E+00	4.785E+00	32.32
AC-228	609.31	472	46.30*	2.172E+00	1.415E+00	1.415E+00	16.67
	1120.29	61	15.10	1.287E+00	9.478E-01	9.478E-01	71.94
	1764.49	83	15.80	8.992E-01	1.759E+00	1.759E+00	30.62
	338.32	283	11.40	3.614E+00	2.072E+00	2.072E+00	47.78
	911.07	221	27.70*	1.530E+00	1.574E+00	1.574E+00	27.58
	969.11	183	16.60	1.453E+00	2.293E+00	2.293E+00	38.72
RA-228	338.32	283	11.40	3.614E+00	2.072E+00	2.072E+00	47.78
	911.07	221	27.70*	1.530E+00	1.574E+00	1.574E+00	27.58
	969.11	183	16.60	1.453E+00	2.293E+00	2.293E+00	38.72
TH-228	74.81	632	10.70	7.359E+00	2.422E+00	2.469E+00	17.57
	77.11	973	18.00	7.344E+00	2.219E+00	2.261E+00	14.01
	87.30	430	8.00	7.249E+00	2.239E+00	2.282E+00	23.30
	238.63	1150	44.60*	4.717E+00	1.649E+00	1.681E+00	11.97
	300.09	124	3.41	3.980E+00	2.749E+00	2.801E+00	75.74
	609.31	472	46.30*	2.172E+00	1.415E+00	1.415E+00	16.67
TH-230	1120.29	61	15.10	1.287E+00	9.478E-01	9.478E-01	71.94
	1764.49	83	15.80	8.992E-01	1.759E+00	1.759E+00	30.62
	338.32	283	11.40	3.614E+00	2.072E+00	2.072E+00	25.59
TH-232	911.07	221	27.70*	1.530E+00	1.574E+00	1.574E+00	27.58
	969.11	183	16.60	1.453E+00	2.293E+00	2.293E+00	38.72
	63.29	163	3.80*	7.391E+00	1.749E+00	1.749E+00	78.71
TH-234	92.38	291	5.41	7.181E+00	2.256E+00	2.256E+00	40.81
	609.31	472	46.30*	2.172E+00	1.415E+00	1.415E+00	16.67
	1120.29	61	15.10	1.287E+00	9.478E-01	9.478E-01	71.94
U-234	1764.49	83	15.80	8.992E-01	1.759E+00	1.759E+00	30.62
	86.50	430	12.60*	7.249E+00	1.422E+00	1.422E+00	31.13
	95.87	---	2.60	7.135E+00	---	---	---
NP-237	63.29	163	3.80*	7.391E+00	1.749E+00	1.749E+00	78.71
	92.38	291	5.41	7.181E+00	2.256E+00	2.256E+00	37.59
	---	---	---	---	---	---	---

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	632	66.00*	7.359E+00	3.927E-01	3.927E-01	17.53
	86.72	430	0.34	7.249E+00	5.331E+01	5.331E+01	23.30
	117.66	-----	0.55	6.778E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.323E+00	-----	Line Not Found	-----
ANH-511	511.00	172	100.00*	2.539E+00	2.046E-01	2.046E-01	47.90

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 2
Number of lines tentatively identified by NID 30 93.75%

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	2.363E+01	2.363E+01	0.230E+01	9.75	
CD-109	464.00D	1.03	4.815E+00	4.954E+00	1.154E+00	23.30	
SN-126	1.00E+05Y	1.00	4.841E-01	4.841E-01	1.128E-01	23.30	
TL-208	1.41E+10Y	1.00	4.670E-01	4.670E-01	1.129E-01	24.17	
BI-210	22.26Y	1.00	8.823E-01	8.837E-01	9.411E-01	106.49	
PB-210	22.26Y	1.00	8.823E-01	8.837E-01	9.411E-01	106.49	
PO-210	22.26Y	1.00	8.823E-01	8.837E-01	9.404E-01	106.42	
BI-211	7.04E+08Y	1.00	4.047E+00	4.047E+00	0.653E+00	16.14	
PB-212	1.41E+10Y	1.00	1.649E+00	1.649E+00	0.197E+00	11.97	
PO-212	1.41E+10Y	1.00	1.649E+00	1.649E+00	0.197E+00	11.97	
BI-214	1600.00Y	1.00	1.415E+00	1.415E+00	0.236E+00	16.67	
PB-214	1600.00Y	1.00	1.408E+00	1.408E+00	0.239E+00	16.96	
PO-214	1600.00Y	1.00	1.408E+00	1.408E+00	0.239E+00	16.96	
PO-216	1.41E+10Y	1.00	1.649E+00	1.649E+00	0.197E+00	11.97	
PO-218	1600.00Y	1.00	1.408E+00	1.408E+00	0.239E+00	16.96	
RA-224	1.41E+10Y	1.00	4.785E+00	4.785E+00	1.546E+00	32.32	
RA-226	1600.00Y	1.00	1.415E+00	1.415E+00	0.236E+00	16.67	
AC-228	1.41E+10Y	1.00	1.574E+00	1.574E+00	0.434E+00	27.58	
RA-228	1.41E+10Y	1.00	1.574E+00	1.574E+00	0.434E+00	27.58	
TH-228	1.91Y	1.02	1.649E+00	1.681E+00	0.201E+00	11.97	
TH-230	4.47E+09Y	1.00	1.415E+00	1.415E+00	0.236E+00	16.67	
TH-232	1.41E+10Y	1.00	1.574E+00	1.574E+00	0.434E+00	27.58	
TH-234	4.47E+09Y	1.00	1.749E+00	1.749E+00	1.377E+00	78.71	
U-234	4.47E+09Y	1.00	1.415E+00	1.415E+00	0.236E+00	16.67	
NP-237	2.14E+06Y	1.00	1.422E+00	1.422E+00	0.442E+00	31.13	
U-238	4.47E+09Y	1.00	1.749E+00	1.749E+00	1.377E+00	78.71	
AM-243	7380.00Y	1.00	3.927E-01	3.927E-01	0.689E-01	17.53	
ANH-511	1.00E+09Y	1.00	2.046E-01	2.046E-01	0.980E-01	47.90	

Total Activity : 6.759E+01 6.777E+01

Grand Total Activity : 6.759E+01 6.777E+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
5	83.76	129	452	1.48	167.30	164	28	1.79E-02	59.3	7.28E+00	T
5	89.88	238	415	1.20	179.54	164	28	3.30E-02	31.7	7.21E+00	T
0	128.96	70	462	1.46	257.73	254	9	9.67E-03	****	6.57E+00	T
0	185.59	186	410	1.54	371.01	366	12	2.58E-02	49.6	5.53E+00	T
0	209.09	135	278	1.20	418.02	414	9	1.88E-02	47.8	5.15E+00	T
0	269.85	123	303	1.54	539.58	535	13	1.71E-02	60.9	4.31E+00	T
0	462.03	99	117	1.41	924.04	917	13	1.37E-02	49.4	2.77E+00	T
0	726.86	64	89	1.17	1453.88	1449	10	8.93E-03	60.5	1.86E+00	T
0	794.11	67	68	1.76	1588.41	1581	13	9.28E-03	56.5	1.72E+00	T
0	1376.99	26	22	0.98	2754.69	2749	12	3.62E-03	84.1	1.09E+00	T
0	1728.79	32	14	1.79	3458.64	3451	18	4.48E-03	64.1	9.13E-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]G245107001.CNF;1
* Acquisition date   : 1-FEB-2010 11:26:37.  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 02:00:01.61             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107001             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.24440E+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	2.363E+01	2.304E+00	7.867E-01	4.810E-02	30.039
CD-109	4.954E+00	1.154E+00	1.039E+00	8.201E-02	4.766
SN-126	4.841E-01	1.128E-01	1.014E-01	8.024E-03	4.772
TL-208	4.670E-01	1.129E-01	8.616E-02	7.132E-03	5.420
BI-210	8.837E-01	9.411E-01	8.670E-01	7.068E-02	1.019
PB-210	8.837E-01	9.411E-01	8.670E-01	7.068E-02	1.019
PO-210	8.837E-01	9.404E-01	8.670E-01	6.182E-02	1.019
BI-211	4.047E+00	6.531E-01	3.865E-01	2.817E-02	10.472
PB-212	1.649E+00	1.974E-01	9.805E-02	8.907E-03	16.819
PO-212	1.649E+00	1.974E-01	9.805E-02	8.907E-03	16.819
BI-214	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
PB-214	1.408E+00	2.388E-01	1.348E-01	1.207E-02	10.447
PO-214	1.408E+00	2.388E-01	1.348E-01	1.207E-02	10.447
PO-216	1.649E+00	1.974E-01	9.805E-02	8.907E-03	16.819
PO-218	1.408E+00	2.388E-01	1.348E-01	1.207E-02	10.447
RA-224	4.785E+00	1.546E+00	1.116E+00	8.812E-02	4.286
RA-226	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
AC-228	1.574E+00	4.340E-01	2.897E-01	3.008E-02	5.432

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.574E+00	4.340E-01	2.897E-01	3.008E-02	5.432
TH-228	1.681E+00	2.012E-01	9.992E-02	9.077E-03	16.819
TH-230	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
TH-232	1.574E+00	4.340E-01	2.897E-01	3.008E-02	5.432
TH-234	1.749E+00	1.377E+00	1.034E+00	1.898E-01	1.691
U-234	1.415E+00	2.358E-01	1.419E-01	1.327E-02	9.968
NP-237	1.422E+00	4.425E-01	2.969E-01	6.568E-02	4.788
U-238	1.749E+00	1.377E+00	1.034E+00	1.898E-01	1.691
AM-243	3.927E-01	6.885E-02	6.327E-02	5.465E-03	6.207
ANH-511	2.046E-01	9.803E-02	5.851E-02	4.083E-03	3.498

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.043E-01		4.145E-01	7.133E-01	5.363E-02	0.286
NA-22	1.069E-02		5.689E-02	9.615E-02	5.427E-03	0.111
NA-24	-2.091E+01		4.096E+01	Half-Life	too short	
AL-26	-1.785E-02		3.908E-02	5.967E-02	3.367E-03	-0.299
TI-44	1.668E-01		3.564E-02	5.755E-02	4.847E-03	2.899
SC-46	1.074E-02		5.513E-02	9.268E-02	7.018E-03	0.116
V-48	-1.225E-01		1.127E-01	1.660E-01	1.174E-02	-0.738
CR-51	-1.773E-01		4.828E-01	7.725E-01	6.012E-02	-0.230
MN-52	-5.967E-01		5.145E-01	7.192E-01	4.133E-02	-0.830
MN-54	-4.600E-03		5.394E-02	8.931E-02	7.008E-03	-0.052
CO-56	-4.675E-02		5.582E-02	8.660E-02	6.750E-03	-0.540
CO-57	1.199E-02		2.677E-02	4.442E-02	5.618E-03	0.270
CO-58	-4.892E-03		5.625E-02	9.332E-02	7.433E-03	-0.052
FE-59	-4.134E-02		1.439E-01	2.280E-01	1.629E-02	-0.181
CO-60	-6.119E-03		5.305E-02	8.681E-02	4.937E-03	-0.070
ZN-65	5.251E-02		1.425E-01	2.063E-01	1.252E-02	0.255
GE-68	-6.736E-01		1.750E+00	2.748E+00	1.756E-01	-0.245
AS-73	4.559E-02		2.550E-01	4.228E-01	3.571E-02	0.108
AS-74	3.873E-02		1.427E-01	2.383E-01	1.830E-02	0.163
SE-75	4.980E-03		5.372E-02	7.885E-02	6.177E-03	0.063
BR-77	9.865E+00		4.059E+01	6.842E+01	4.833E+00	0.144
SR-82	-1.752E-02		5.888E-01	9.847E-01	7.926E-02	-0.018
RB-83	2.621E-02		9.241E-02	1.523E-01	1.075E-02	0.172
RB-84	-3.733E-02		1.015E-01	1.630E-01	1.241E-02	-0.229
KR-85	1.550E+01		9.780E+00	1.593E+01	1.116E+00	0.973
SR-85	8.277E-02		5.222E-02	8.503E-02	5.957E-03	0.973
RB-86	-1.221E+00		1.311E+00	1.955E+00	1.250E-01	-0.625
Y-88	-1.149E-03		4.590E-02	7.579E-02	4.268E-03	-0.015
ZR-88	-7.898E-03		3.855E-02	6.110E-02	3.579E-03	-0.129
Y-91	-1.969E+01		2.570E+01	4.035E+01	2.237E+00	-0.488
NB-94	1.025E-02		4.737E-02	7.770E-02	6.343E-03	0.132
NB-95	8.375E-02		6.219E-02	1.121E-01	9.056E-03	0.747
NB-95M	3.159E-01		1.691E-01	2.702E-01	2.499E-02	1.169

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	1.425E-01		1.051E-01	1.845E-01	1.664E-02	0.772
NB-97	-7.264E-01		3.027E+00	Half-Life too short		
ZR-97	3.029E+02		6.363E+01	Half-Life too short		
MO-99	-2.636E+01		4.352E+01	6.632E+01	9.888E+00	-0.397
TC-99M	1.382E+14		9.329E+14	Half-Life too short		
RH-101	3.179E-03		3.727E-02	6.123E-02	4.848E-03	0.052
RH-102	-7.277E-03		3.607E-02	5.956E-02	3.964E-03	-0.122
RU-103	-7.520E-03		5.621E-02	9.287E-02	1.222E-02	-0.081
RH-106	3.126E-02		4.332E-01	7.115E-01	9.170E-02	0.044
RU-106	3.126E-02		4.332E-01	7.115E-01	5.603E-02	0.044
AG-108M	1.170E-02		3.863E-02	6.623E-02	4.455E-03	0.177
AG-110M	1.333E-03		4.864E-02	7.924E-02	6.656E-03	0.017
IN-111	-1.555E+00		3.191E+00	4.521E+00	3.562E-01	-0.344
IN-113M	-1.575E-02		5.577E-02	8.799E-02	5.482E-03	-0.179
SN-113	-1.575E-02		5.577E-02	8.799E-02	5.482E-03	-0.179
IN-114M	4.670E-02		2.472E-01	3.508E-01	2.773E-02	0.133
CD-115	-1.270E-05		2.360E-05	Half-Life too short		
SN-117M	-6.801E-02		7.562E-02	1.157E-01	1.011E-02	-0.588
SB-122	2.797E+00		7.105E+00	1.201E+01	8.922E-01	0.233
I-123	-6.938E+02		4.362E+02	Half-Life too short		
TE-123M	-2.635E-02		3.314E-02	5.101E-02	4.454E-03	-0.517
I-124	9.334E-01		1.918E+00	2.843E+00	2.198E-01	0.328
SB-124	-1.060E-01		1.131E-01	1.534E-01	9.556E-03	-0.691
SB-125	-1.841E-02		1.085E-01	1.811E-01	1.166E-02	-0.102
TE-125M	-5.146E-01		9.815E+00	1.609E+01	1.956E+00	-0.032
I-126	-5.079E-02		3.099E-01	4.974E-01	4.059E-02	-0.102
SB-126	1.123E-01		2.796E-01	4.054E-01	3.304E-02	0.277
SB-127	-2.288E+00		3.539E+00	5.412E+00	6.645E-01	-0.423
XE-127	-2.370E-02		5.629E-02	9.357E-02	7.415E-03	-0.253
I-131	-4.269E-02		2.069E-01	3.305E-01	2.354E-02	-0.129
TE-132	3.016E-01		1.705E+00	2.881E+00	4.649E-01	0.105
BA-133	-7.566E-02		6.785E-02	8.642E-02	1.038E-02	-0.876
I-133	5.697E-02		8.741E-02	Half-Life too short		
CS-134	1.215E-01		7.201E-02	1.198E-01	9.653E-03	1.014
CS-135	3.878E-01		1.994E-01	3.221E-01	2.975E-02	1.204
I-135	6.301E+13		5.550E+13	Half-Life too short		
CS-136	3.441E-02		1.908E-01	3.157E-01	2.241E-02	0.109
BA-137M	8.218E-03		4.927E-02	8.099E-02	6.605E-03	0.101
CS-137	8.688E-03		5.208E-02	8.561E-02	6.997E-03	0.101
CE-139	-3.221E-02		3.441E-02	5.236E-02	4.105E-03	-0.615
BA-140	4.131E-02		4.279E-01	7.123E-01	2.336E-01	0.058
LA-140	-1.678E-02		1.462E-01	2.342E-01	1.350E-02	-0.072
CE-141	3.268E-02		7.650E-02	1.254E-01	1.300E-02	0.261
CE-143	5.559E-03		9.436E-04	Half-Life too short		
CE-144	-1.955E-02		2.417E-01	3.477E-01	6.027E-02	-0.056
PM-144	4.597E-02		4.945E-02	8.483E-02	6.930E-03	0.542
PR-144	3.122E+00		3.358E+00	5.760E+00	4.703E-01	0.542
PM-146	1.018E-02		5.501E-02	9.102E-02	8.262E-03	0.112

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	8.187E-01		9.466E-01	1.642E+00	2.324E-01	0.499
PM-149	1.664E-04		1.799E-04	Half-Life too short		
EU-152	1.053E-01		1.480E-01	1.910E-01	1.432E-02	0.551
GD-153	-6.029E-02		8.484E-02	1.183E-01	1.077E-02	-0.510
EU-154	2.846E-02		1.585E-01	2.676E-01	2.472E-02	0.106
EU-155	7.063E-02		1.046E-01	1.763E-01	1.809E-02	0.401
TB-160	-2.583E-02		1.931E-01	3.165E-01	2.414E-02	-0.082
HO-166M	6.159E-02		8.697E-02	1.472E-01	1.201E-02	0.418
TM-171	8.256E+00		1.703E+01	2.637E+01	2.406E+00	0.313
LU-176	3.953E-03		2.956E-02	4.882E-02	3.619E-03	0.081
LU-177	5.132E+00	+	2.485E+00	3.321E+00	2.634E-01	1.545
LU-177M	-1.704E-01		2.256E-01	3.424E-01	2.077E-02	-0.498
HF-181	6.930E-03		5.361E-02	9.029E-02	6.066E-03	0.077
W-181	-2.761E-02		2.158E-01	3.268E-01	3.014E-02	-0.085
TA-182	-1.336E-01		2.636E-01	4.231E-01	2.354E-02	-0.316
RE-183	8.851E-02		1.368E-01	2.180E-01	1.804E-02	0.406
RE-184	-8.309E-02		2.723E-01	4.467E-01	3.507E-02	-0.186
OS-185	-4.709E-02		6.107E-02	9.362E-02	7.535E-03	-0.503
RE-188	1.289E-01		1.964E-01	3.237E-01	2.962E-02	0.398
W-188	2.407E+00		9.783E+00	1.439E+01	1.091E+00	0.167
IR-192	3.987E-02		4.206E-02	7.216E-02	5.278E-03	0.552
AU-195	6.173E-02		2.238E-01	3.616E-01	3.361E-02	0.171
TL-200	-1.074E-03		3.432E-03	Half-Life too short		
TL-201	8.625E+00		1.838E+01	2.995E+01	2.347E+00	0.288
TL-202	6.717E-03		1.014E-01	1.712E-01	1.082E-02	0.039
HG-203	-1.336E-03		5.028E-02	8.296E-02	6.605E-03	-0.016
BI-207	2.162E-02		6.796E-02	1.138E-01	7.400E-03	0.190
TL-207	-1.224E+00		8.478E-01	1.233E+00	2.103E-01	-0.992
PO-209	7.824E-01		1.022E+01	1.700E+01	1.280E+00	0.046
PB-211	-5.650E-01		1.270E+00	1.899E+00	1.184E+00	-0.297
BI-212	8.842E-01	+	5.417E-01	8.156E-01	7.830E-02	1.084
PO-215	-1.224E+00		8.478E-01	1.233E+00	2.103E-01	-0.992
RN-219	-4.320E-01		5.349E-01	8.087E-01	1.105E-01	-0.534
RN-220	-1.813E+01		3.281E+01	5.205E+01	3.805E+00	-0.348
RA-223	-1.224E+00		8.478E-01	1.233E+00	2.103E-01	-0.992
AC-227	2.022E-01		4.431E-01	7.504E-01	1.120E-01	0.270
TH-227	2.022E-01		4.435E-01	7.504E-01	1.328E-01	0.270
TH-229	-1.889E-01		5.509E-01	9.215E-01	7.290E-02	-0.205
PA-231	-9.274E-01		1.777E+00	2.845E+00	4.169E-01	-0.326
TH-231	-1.224E+00		8.478E-01	1.233E+00	2.103E-01	-0.992
U-231	9.351E-02		1.968E+00	2.926E+00	2.603E-01	0.032
PA-233	6.355E-03		8.232E-02	1.189E-01	9.078E-03	0.053
PA-234	3.375E-01		3.874E-01	6.770E-01	1.232E-01	0.498
PA-234M	1.728E+00		6.553E+00	1.085E+01	9.297E-01	0.159
U-235	-5.130E-02		2.488E-01	3.935E-01	7.265E-02	-0.130
NP-236	4.534E-02		9.092E-02	1.486E-01	1.266E-02	0.305
NP-239	-5.081E-02		2.006E-01	3.245E-01	3.851E-02	-0.157
AM-241	1.917E-02		6.875E-02	1.065E-01	1.083E-02	0.180

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.997E-02		9.432E-02	1.527E-01	1.520E-02	-0.262
AM-246	-2.414E-02		1.966E-01	3.161E-01	2.017E-02	-0.076
CM-247	-4.588E-02		4.755E-02	7.142E-02	4.253E-03	-0.642
CF-249	2.037E-02		5.072E-02	8.354E-02	4.961E-03	0.244
CF-251	2.640E-02		1.441E-01	2.309E-01	1.817E-02	0.114

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]G245107001          *
* Acquisition date   : 1-FEB-2010 11:26:37 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 02:00:01.61 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107001 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.2444E+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	2.363E+01	2.258E+00	3.932E-01	1.152E+00
CD-109	4.954E+00	1.131E+00	5.397E-01	5.772E-01
SN-126	4.841E-01	1.105E-01	5.267E-02	5.640E-02
TL-208	4.670E-01	1.106E-01	4.361E-02	5.645E-02
BI-210	8.837E-01	9.222E-01	4.540E-01	4.705E-01
PB-210	8.837E-01	9.222E-01	4.540E-01	4.705E-01
PO-210	8.837E-01	9.216E-01	4.540E-01	4.702E-01
BI-211	4.047E+00	6.401E-01	1.970E-01	3.266E-01
PB-212	1.649E+00	1.935E-01	5.024E-02	9.871E-02
PO-212	1.649E+00	1.935E-01	5.024E-02	9.871E-02
BI-214	1.415E+00	2.311E-01	7.181E-02	1.179E-01
PB-214	1.408E+00	2.340E-01	6.870E-02	1.194E-01
PO-214	1.408E+00	2.340E-01	6.870E-02	1.194E-01
PO-216	1.649E+00	1.935E-01	5.024E-02	9.871E-02
PO-218	1.408E+00	2.340E-01	6.870E-02	1.194E-01
RA-224	4.785E+00	1.516E+00	5.720E-01	7.732E-01
RA-226	1.415E+00	2.311E-01	7.181E-02	1.179E-01
AC-228	1.574E+00	4.253E-01	1.457E-01	2.170E-01
RA-228	1.574E+00	4.253E-01	1.457E-01	2.170E-01
TH-228	1.681E+00	1.972E-01	5.120E-02	1.006E-01
TH-230	1.415E+00	2.311E-01	7.180E-02	1.179E-01
TH-232	1.574E+00	4.253E-01	1.457E-01	2.170E-01
TH-234	1.749E+00	1.349E+00	5.394E-01	6.883E-01
U-234	1.415E+00	2.311E-01	7.180E-02	1.179E-01
NP-237	1.422E+00	4.336E-01	1.542E-01	2.212E-01
U-238	1.749E+00	1.349E+00	5.394E-01	6.883E-01
AM-243	3.927E-01	6.748E-02	3.292E-02	3.443E-02
ANH-511	2.046E-01	9.607E-02	2.967E-02	4.901E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	2.043E-01	4.062E-01	3.621E-01	2.072E-01	NOT IDENT.
NA-22	1.069E-02	5.575E-02	4.814E-02	2.845E-02	NOT IDENT.
NA-24	-2.091E+07	8.028E+07	0.000E+00	4.096E+07	SHORT HLIF
AL-26	-1.785E-02	3.830E-02	2.973E-02	1.954E-02	NOT IDENT.
TI-44	1.668E-01	3.493E-02	2.993E-02	1.782E-02	NOT IDENT.
SC-46	1.074E-02	5.403E-02	4.664E-02	2.757E-02	FAIL ABUN
V-48	-1.225E-01	1.104E-01	8.343E-02	5.634E-02	NOT IDENT.
CR-51	-1.773E-01	4.731E-01	3.943E-01	2.414E-01	NOT IDENT.
MN-52	-5.967E-01	5.042E-01	3.595E-01	2.572E-01	NOT IDENT.
MN-54	-4.600E-03	5.286E-02	4.498E-02	2.697E-02	NOT IDENT.
CO-56	-4.675E-02	5.471E-02	4.361E-02	2.791E-02	NOT IDENT.
CO-57	1.199E-02	2.624E-02	2.296E-02	1.339E-02	NOT IDENT.
CO-58	-4.892E-03	5.512E-02	4.702E-02	2.812E-02	NOT IDENT.
FE-59	-4.134E-02	1.410E-01	1.144E-01	7.195E-02	NOT IDENT.
CO-60	-6.119E-03	5.199E-02	4.344E-02	2.652E-02	NOT IDENT.
ZN-65	5.251E-02	1.397E-01	1.035E-01	7.127E-02	NOT IDENT.
GE-68	-6.736E-01	1.715E+00	1.379E+00	8.748E-01	NOT IDENT.
AS-73	4.559E-02	2.499E-01	2.210E-01	1.275E-01	NOT IDENT.
AS-74	3.873E-02	1.398E-01	1.206E-01	7.134E-02	NOT IDENT.
SE-75	4.980E-03	5.265E-02	4.035E-02	2.686E-02	NOT IDENT.
BR-77	9.865E+00	3.978E+01	3.469E+01	2.029E+01	FAIL DECAY
SR-82	-1.752E-02	5.770E-01	4.965E-01	2.944E-01	NOT IDENT.
RB-83	2.621E-02	9.056E-02	7.722E-02	4.621E-02	NOT IDENT.
RB-84	-3.733E-02	9.944E-02	8.204E-02	5.073E-02	NOT IDENT.
KR-85	1.550E+01	9.584E+00	8.076E+00	4.890E+00	NOT IDENT.
SR-85	8.277E-02	5.118E-02	4.312E-02	2.611E-02	NOT IDENT.
RB-86	-1.221E+00	1.285E+00	9.810E-01	6.554E-01	NOT IDENT.
Y-88	-1.149E-03	4.498E-02	3.775E-02	2.295E-02	NOT IDENT.
ZR-88	-7.898E-03	3.778E-02	3.110E-02	1.927E-02	NOT IDENT.
Y-91	-1.969E+01	2.519E+01	2.022E+01	1.285E+01	NOT IDENT.
NB-94	1.025E-02	4.642E-02	3.923E-02	2.368E-02	NOT IDENT.
NB-95	8.375E-02	6.095E-02	5.655E-02	3.109E-02	NOT IDENT.
NB-95M	3.159E-01	1.658E-01	1.385E-01	8.457E-02	NOT IDENT.
ZR-95	1.425E-01	1.030E-01	9.304E-02	5.253E-02	NOT IDENT.
NB-97	-7.264E+05	5.932E+06	0.000E+00	3.027E+06	SHORT HLIF
ZR-97	3.029E+08	1.247E+08	0.000E+00	6.363E+07	SHORT HLIF
MO-99	-2.636E+01	4.265E+01	3.346E+01	2.176E+01	NOT IDENT.
TC-99M	1.382E+20	1.829E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.179E-03	3.653E-02	3.145E-02	1.864E-02	NOT IDENT.
RH-102	-7.277E-03	3.535E-02	3.024E-02	1.803E-02	NOT IDENT.
RU-103	-7.520E-03	5.509E-02	4.712E-02	2.811E-02	NOT IDENT.
RH-106	3.126E-02	4.245E-01	3.598E-01	2.166E-01	NOT IDENT.
RU-106	3.126E-02	4.245E-01	3.598E-01	2.166E-01	NOT IDENT.
AG-108M	1.170E-02	3.786E-02	3.366E-02	1.932E-02	NOT IDENT.
AG-110M	1.333E-03	4.767E-02	4.004E-02	2.432E-02	NOT IDENT.
IN-111	-1.555E+00	3.128E+00	2.316E+00	1.596E+00	NOT IDENT.
IN-113M	-1.575E-02	5.466E-02	4.478E-02	2.789E-02	NOT IDENT.
SN-113	-1.575E-02	5.466E-02	4.478E-02	2.789E-02	NOT IDENT.
IN-114M	4.670E-02	2.423E-01	1.803E-01	1.236E-01	NOT IDENT.
CD-115	-1.270E+01	4.626E+01	0.000E+00	2.360E+01	SHORT HLIF
SN-117M	-6.801E-02	7.410E-02	5.962E-02	3.781E-02	NOT IDENT.
SB-122	2.797E+00	6.963E+00	6.084E+00	3.552E+00	NOT IDENT.
I-123	-6.938E+08	8.550E+08	0.000E+00	4.362E+08	SHORT HLIF
TE-123M	-2.635E-02	3.248E-02	2.628E-02	1.657E-02	NOT IDENT.
I-124	9.334E-01	1.880E+00	1.438E+00	9.591E-01	FAIL ABUN
SB-124	-1.060E-01	1.108E-01	7.652E-02	5.654E-02	FAIL ABUN
SB-125	-1.841E-02	1.063E-01	9.208E-02	5.424E-02	FAIL ABUN
TE-125M	-5.146E-01	9.619E+00	8.329E+00	4.908E+00	NOT IDENT.
I-126	-5.079E-02	3.037E-01	2.513E-01	1.550E-01	NOT IDENT.
SB-126	1.123E-01	2.740E-01	2.046E-01	1.398E-01	NOT IDENT.
SB-127	-2.288E+00	3.469E+00	2.733E+00	1.770E+00	NOT IDENT.
XE-127	-2.370E-02	5.516E-02	4.805E-02	2.814E-02	NOT IDENT.
I-131	-4.269E-02	2.028E-01	1.684E-01	1.034E-01	NOT IDENT.
TE-132	3.016E-01	1.671E+00	1.477E+00	8.527E-01	NOT IDENT.
BA-133	-7.566E-02	6.649E-02	4.405E-02	3.392E-02	NOT IDENT.
I-133	5.697E+04	1.713E+05	0.000E+00	8.741E+04	SHORT HLIF
CS-134	1.215E-01	7.057E-02	6.037E-02	3.600E-02	NOT IDENT.
CS-135	3.878E-01	1.954E-01	1.648E-01	9.971E-02	NOT IDENT.
I-135	6.301E+19	1.088E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.441E-02	1.870E-01	1.585E-01	9.542E-02	FAIL ABUN
BA-137M	8.218E-03	4.828E-02	4.093E-02	2.463E-02	NOT IDENT.
CS-137	8.688E-03	5.104E-02	4.326E-02	2.604E-02	NOT IDENT.
CE-139	-3.221E-02	3.372E-02	2.696E-02	1.720E-02	NOT IDENT.
BA-140	4.131E-02	4.194E-01	3.610E-01	2.140E-01	NOT IDENT.
LA-140	-1.678E-02	1.433E-01	1.169E-01	7.312E-02	NOT IDENT.
CE-141	3.268E-02	7.497E-02	6.466E-02	3.825E-02	NOT IDENT.
CE-143	5.559E+03	1.850E+03	0.000E+00	9.436E+02	SHORT HLIF

CE-144	-1.955E-02	2.369E-01	1.796E-01	1.209E-01	NOT IDENT.
PM-144	4.597E-02	4.846E-02	4.284E-02	2.473E-02	NOT IDENT.
PR-144	3.122E+00	3.291E+00	2.909E+00	1.679E+00	NOT IDENT.
PM-146	1.018E-02	5.391E-02	4.624E-02	2.751E-02	NOT IDENT.
ND-147	8.187E-01	9.277E-01	8.321E-01	4.733E-01	FAIL ABUN
PM-149	1.664E+02	3.526E+02	0.000E+00	1.799E+02	SHORT HLIF
EU-152	1.053E-01	1.450E-01	9.738E-02	7.398E-02	NOT IDENT.
GD-153	-6.029E-02	8.315E-02	6.135E-02	4.242E-02	FAIL ABUN
EU-154	2.846E-02	1.553E-01	1.340E-01	7.924E-02	NOT IDENT.
EU-155	7.063E-02	1.025E-01	9.134E-02	5.228E-02	FAIL ABUN
TB-160	-2.583E-02	1.892E-01	1.593E-01	9.654E-02	FAIL ABUN
HO-166M	6.159E-02	8.524E-02	7.432E-02	4.349E-02	FAIL ABUN
TM-171	8.256E+00	1.668E+01	1.374E+01	8.513E+00	NOT IDENT.
LU-176	3.953E-03	2.897E-02	2.493E-02	1.478E-02	FAIL ABUN
LU-177	5.132E+00	2.435E+00	1.705E+00	1.243E+00	FAIL ABUN
LU-177M	-1.704E-01	2.211E-01	1.741E-01	1.128E-01	FAIL ABUN
HF-181	6.930E-03	5.254E-02	4.583E-02	2.680E-02	NOT IDENT.
W-181	-2.761E-02	2.115E-01	1.703E-01	1.079E-01	NOT IDENT.
TA-182	-1.336E-01	2.584E-01	2.120E-01	1.318E-01	FAIL ABUN
RE-183	8.851E-02	1.341E-01	1.123E-01	6.841E-02	FAIL ABUN
RE-184	-8.309E-02	2.669E-01	2.287E-01	1.362E-01	NOT IDENT.
OS-185	-4.709E-02	5.985E-02	4.732E-02	3.054E-02	NOT IDENT.
RE-188	1.289E-01	1.925E-01	1.668E-01	9.822E-02	NOT IDENT.
W-188	2.407E+00	9.587E+00	7.352E+00	4.891E+00	FAIL ABUN
IR-192	3.987E-02	4.121E-02	3.684E-02	2.103E-02	FAIL ABUN
AU-195	6.173E-02	2.193E-01	1.875E-01	1.119E-01	FAIL ABUN
TL-200	-1.074E+03	6.727E+03	0.000E+00	3.432E+03	SHORT HLIF
TL-201	8.625E+00	1.801E+01	1.542E+01	9.189E+00	NOT IDENT.
TL-202	6.717E-03	9.933E-02	8.703E-02	5.068E-02	NOT IDENT.
HG-203	-1.336E-03	4.927E-02	4.242E-02	2.514E-02	FAIL ABUN
BI-207	2.162E-02	6.660E-02	5.712E-02	3.398E-02	FAIL ABUN
TL-207	-1.224E+00	8.308E-01	6.294E-01	4.239E-01	FAIL ABUN
PO-209	7.824E-01	1.001E+01	8.556E+00	5.108E+00	NOT IDENT.
PB-211	-5.650E-01	1.244E+00	9.664E-01	6.349E-01	NOT IDENT.
BI-212	8.842E-01	5.309E-01	4.116E-01	2.708E-01	FAIL ABUN
PO-215	-1.224E+00	8.308E-01	6.294E-01	4.239E-01	FAIL ABUN
RN-219	-4.320E-01	5.242E-01	4.115E-01	2.674E-01	FAIL ABUN
RN-220	-1.813E+01	3.215E+01	2.637E+01	1.640E+01	NOT IDENT.
RA-223	-1.224E+00	8.308E-01	6.294E-01	4.239E-01	FAIL ABUN
AC-227	2.022E-01	4.342E-01	3.842E-01	2.215E-01	FAIL ABUN
TH-227	2.022E-01	4.346E-01	3.842E-01	2.217E-01	FAIL ABUN
TH-229	-1.889E-01	5.399E-01	4.735E-01	2.755E-01	FAIL ABUN
PA-231	-9.274E-01	1.741E+00	1.454E+00	8.883E-01	NOT IDENT.
TH-231	-1.224E+00	8.308E-01	6.294E-01	4.239E-01	FAIL ABUN
U-231	9.351E-02	1.929E+00	1.518E+00	9.842E-01	FAIL ABUN
PA-233	6.355E-03	8.067E-02	6.069E-02	4.116E-02	FAIL ABUN
PA-234	3.375E-01	3.797E-01	3.404E-01	1.937E-01	FAIL ABUN
PA-234M	1.728E+00	6.422E+00	5.450E+00	3.276E+00	NOT IDENT.
U-235	-5.130E-02	2.439E-01	2.030E-01	1.244E-01	FAIL ABUN
NP-236	4.534E-02	8.910E-02	7.653E-02	4.546E-02	NOT IDENT.
NP-239	-5.081E-02	1.966E-01	1.679E-01	1.003E-01	FAIL ABUN
AM-241	1.917E-02	6.738E-02	5.557E-02	3.438E-02	NOT IDENT.
CM-243	-3.997E-02	9.243E-02	7.910E-02	4.716E-02	FAIL ABUN
AM-246	-2.414E-02	1.926E-01	1.587E-01	9.829E-02	NOT IDENT.
CM-247	-4.588E-02	4.660E-02	3.634E-02	2.378E-02	NOT IDENT.
CF-249	2.037E-02	4.971E-02	4.252E-02	2.536E-02	NOT IDENT.
CF-251	2.640E-02	1.412E-01	1.188E-01	7.206E-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	332.6466
46.50	332.6466
46.50	332.6466
48.70	349.5397
49.72	314.5304
51.35	371.4984
52.39	359.4753
52.97	357.7476
53.15	340.9932
53.44	341.3797
54.07	350.7500
56.28	389.8602
56.28	389.8648
57.37	0.0000
57.53	352.7770
57.53	352.7801
57.60	338.5979
57.98	337.7737
57.98	337.7737
59.32	387.7335
59.32	387.7335
59.40	387.8457
59.54	388.0417
59.72	393.5239
60.01	393.9349
61.10	405.9798
61.14	406.0375
61.30	425.9891
63.00	428.5333
63.29	428.9634
63.29	428.9634
63.58	429.3936
64.28	458.3242
65.12	462.2996
65.20	462.4247
65.20	462.4247
66.05	446.3764
66.72	432.6389
66.83	432.8016
66.91	432.9149
67.20	449.4304
67.20	449.4304
67.75	454.8154
67.85	454.9677
68.90	483.8738
68.90	483.8738
69.30	500.3503
69.67	505.8225
70.82	472.3934
70.82	472.3934
70.83	472.4094
72.80	512.2347
72.87	512.3463
72.87	512.3463
74.67	479.9442
74.81	480.1494
74.81	480.1494
74.81	480.1494
74.81	480.1494
74.81	480.1494
74.81	480.1494
74.97	480.3867
75.28	480.8397
75.70	481.4554
77.11	483.5076
77.11	483.5076

77.11	483.5076
77.11	483.5076
77.11	483.5076
77.11	483.5076
77.11	483.5076
78.38	465.4249
79.62	446.2109
79.80	446.4453
79.80	446.4453
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80.18	424.5939
80.30	424.7400
80.30	424.7400
80.57	447.4463
81.00	369.6024
81.07	369.6779
81.07	369.6779
81.07	369.6779
81.07	369.6779
82.60	443.0336
83.37	371.1724
83.78	371.6064
83.78	371.6064
83.78	371.6064
83.78	371.6064
84.21	372.0564
84.90	372.7756
85.43	373.3261
86.29	374.2162
86.50	374.4331
86.54	374.4733
86.59	374.5255
86.72	374.6581
86.79	374.7285
86.94	374.8852
87.30	375.2548
87.30	375.2548
87.30	375.2548
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87.57	375.5321
87.88	375.8495
88.03	376.0022
88.36	376.3397
88.47	376.4522
89.95	377.9530
91.11	379.1223
92.29	380.3036
92.38	380.3940
92.38	380.3940
93.35	381.3584
94.00	382.0013
94.67	302.2516
94.67	302.2563
94.90	302.4341
94.90	302.4341
94.90	302.4341
94.90	302.4341
95.87	323.5930
95.87	323.5930
96.73	350.5994
97.43	336.5824
98.44	308.6815
98.44	308.6815
98.88	307.4551
99.55	294.2368
99.55	294.2368
99.86	298.3888
100.00	292.6011
100.10	292.6753
103.18	331.4951
103.76	328.9858
105.00	292.1981
105.31	292.4134
108.00	328.3036
109.28	323.2578

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111.00	305.3888
111.76	322.0714
112.95	316.8670
115.19	320.4955
116.30	299.8648
117.00	316.6712
117.00	316.6712
117.66	317.1300
121.11	297.8622
121.62	289.9327
121.78	290.0314
122.06	276.7785
122.32	293.4644
122.32	293.4644
122.32	293.4644
122.32	293.4644
123.07	309.4554
127.23	308.5001
129.76	312.7236
131.20	287.3243
133.02	283.6206
133.54	279.1545
135.34	267.4167
136.00	297.5143
136.25	297.6595
136.48	309.4924
140.51	331.2043
140.51	0.0000
142.18	344.0853
142.65	339.0102
143.76	312.7595
144.24	291.4508
144.24	291.4508
144.24	291.4508
144.24	291.4508
145.22	289.8208
145.44	304.0050
147.16	304.9741
152.43	272.8478
152.70	259.8239
153.22	277.6221
154.21	244.0342
154.21	244.0342
154.21	244.0342
154.21	244.0342
155.03	270.8117
156.02	323.1155
158.56	309.0502
159.00	0.0000
159.00	310.3943
160.31	281.0991
161.27	261.5327
162.32	263.1185
162.64	262.1470
163.35	295.9684
163.89	307.4196
165.85	302.8299
167.43	248.5283
171.28	252.3790
171.86	265.0805
172.10	259.5166
176.55	277.3696
176.60	265.9766
181.06	250.0440
184.41	280.8204
185.71	281.3840
186.00	281.5101
190.27	265.8562
192.34	266.6842
193.63	280.3833
197.04	277.3828
198.01	254.7751
198.60	266.5051
200.40	278.7435
201.83	314.9031
202.84	294.8701
205.31	267.4840

208.36	304.5533
208.81	288.3936
209.75	251.8893
209.75	251.8893
210.97	240.7842
215.65	272.0901
216.55	234.2849
218.09	233.8670
222.10	269.8983
223.80	218.2405
226.40	241.0755
227.00	229.2942
227.08	229.3189
227.20	234.8797
228.16	228.7196
228.18	233.3367
228.18	233.3367
231.56	0.0000
235.69	245.8524
236.00	245.9491
236.00	245.9491
238.63	215.9228
238.63	215.9228
238.63	215.9228
238.63	215.9228
239.00	216.0232
240.98	216.5616
241.98	216.8322
241.98	216.8322
241.98	216.8322
244.69	185.3528
245.39	197.5778
247.94	199.9274
248.90	191.2352
249.79	194.2849
252.40	211.0619
252.85	223.5433
252.85	223.5433
254.15	0.0000
256.20	209.1596
256.20	209.1596
260.50	202.5485
260.90	0.0000
262.80	193.4674
264.65	169.7695
268.24	164.2741
268.79	181.4386
269.46	191.0812
269.46	191.0812
269.46	191.0812
269.46	191.0812
271.23	191.4690
273.65	258.8522
276.40	195.5200
277.35	183.4247
277.60	170.0511
277.60	170.0511
278.00	188.0361
278.60	194.0422
279.20	210.8434
279.53	224.6531
280.46	209.1746
281.68	206.5041
283.67	202.0315
284.30	186.3901
285.00	201.3386
285.90	0.0000
286.10	184.7801
286.10	184.7801
287.40	185.0426
288.45	0.0000
290.67	179.5392
290.80	192.2780
291.72	203.6031
293.26	0.0000
293.70	199.2523
295.21	177.6198
295.21	177.6198

295.21	177.6198
295.96	177.7610
296.50	177.8615
297.23	178.0000
298.57	178.2526
299.80	178.4807
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300.09	178.5351
300.09	178.5351
300.09	178.5351
300.09	178.5351
300.12	178.5405
301.29	178.7605
302.84	179.0484
303.76	179.2195
303.91	179.2467
304.40	179.3390
304.40	179.3390
304.84	179.4205
306.84	179.7926
308.46	137.5979
311.98	155.9625
316.51	149.9451
318.01	172.6438
319.02	160.5479
319.41	169.8172
320.08	175.0470
323.87	221.9458
323.87	221.9458
323.87	221.9458
323.87	221.9458
325.23	202.6933
328.77	179.6472
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334.20	171.0439
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334.30	171.0615
338.28	155.2477
338.28	155.2477
338.28	155.2477
338.28	155.2477
338.32	155.2546
338.32	155.2546
338.32	155.2546
340.50	157.0369
340.57	157.0484
344.27	131.3288
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351.07	156.0621
351.92	156.1841
351.92	156.1841
351.92	156.1841
355.39	0.0000
356.01	188.1255
364.48	166.5117
366.43	173.2176
367.43	158.3882
367.94	0.0000
369.80	140.4888
374.96	147.5902
383.85	166.0994
387.95	145.9818
388.63	140.6154
391.69	144.2582
391.69	144.2582
392.90	140.0293
398.62	130.8063
400.65	149.7419
401.10	163.0166
401.81	166.4189
402.60	167.6300
404.84	165.7288
410.95	152.1203
411.60	157.7544
413.65	152.4505
414.70	151.4664
415.30	141.5107

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423.70	137.9715
427.08	123.7181
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432.53	118.3701
433.93	117.5935
439.47	128.0893
439.56	119.0130
439.89	119.0434
443.98	128.5300
444.90	119.4975
445.03	117.6842
445.03	117.6842
445.03	117.6842
445.03	117.6842
453.90	123.4700
463.38	134.0984
468.07	109.8122
473.00	112.6872
475.06	122.1808
475.35	125.0034
476.78	115.7944
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477.96	105.6106
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487.03	107.2312
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492.35	0.0000
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513.99	97.4142
513.99	97.4142
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528.96	0.0000
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529.87	0.0000
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546.56	0.0000
549.76	109.8453
552.65	112.0100
555.20	93.4924
563.23	104.8432
563.90	101.9162
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569.32	96.3014
569.50	96.3132
569.67	96.3227
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574.00	122.4655
574.64	132.4740
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579.30	0.0000
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592.07	117.7655
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602.71	108.0417
603.60	111.4771
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604.70	103.0964
609.31	103.3744

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612.46	89.9810
614.37	88.3805
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621.84	102.4146
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661.65	104.7046
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666.33	111.2664
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692.80	120.2860
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696.49	97.0519
697.00	98.1453
697.49	109.9077
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698.50	109.9631
699.00	111.0611
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722.78	100.8825
722.78	100.8825
722.89	113.4979
722.95	113.5031
723.30	113.5210
724.18	113.5723
727.18	107.2419
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735.90	95.7408
739.58	101.3623
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744.21	72.0989
747.13	85.3277
751.79	101.9685
752.31	99.8001
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755.35	75.7838
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756.87	71.4429
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766.84	97.5548
776.49	97.0767
778.00	105.4718
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792.07	79.8253

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798.80	84.8773
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805.60	84.3384
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826.30	85.1312
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836.80	0.0000
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867.82	72.5039
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881.50	77.5049
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884.67	75.6688
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896.60	76.0481
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911.07	76.5035
911.07	76.5035
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969.11	77.4348
969.11	77.4348
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1037.82	59.7464
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1038.76	0.0000
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1046.59	84.7393
1048.07	75.4803

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1050.47	77.6154
1062.04	62.3511
1063.62	59.2660
1076.63	87.7461
1077.35	76.2734
1078.86	72.1333
1085.78	82.7899
1099.22	87.3905
1112.02	86.7213
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1120.29	79.9986
1120.29	79.9986
1120.29	79.9986
1120.51	80.0047
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1147.95	0.0000
1167.94	62.5053
1173.22	74.4889
1175.09	76.6942
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1274.54	57.3277
1291.56	72.0311
1298.22	0.0000
1312.09	51.2144
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1325.50	59.1789
1332.49	49.5806
1333.61	48.6241
1360.21	37.2406
1362.66	0.0000
1365.15	42.2006
1368.21	45.0048
1368.53	0.0000
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1384.27	36.2642
1394.10	37.6011
1395.20	40.5825
1407.95	36.7548
1434.06	46.0257
1436.60	38.0477
1457.56	0.0000
1460.81	38.8035
1489.15	22.3422
1509.49	29.6099
1596.49	32.3634
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1678.03	0.0000
1691.02	28.8419
1691.02	28.8419
1706.46	0.0000
1750.46	0.0000
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1764.49	18.5935
1764.49	18.5935
1764.49	18.5935
1770.23	15.2324
1771.40	56.1858
1791.20	0.0000
1808.65	19.2059

1836.01

17.3903

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107001

Total Uranium Activity	5.1793E+00	ug/g
Total Uranium Counting Unc.	4.0152E+00	ug/g
Total Uranium Tpu	2.0486E-06	ug/g
Total Uranium Mda	1.6075E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107001
*  ANALYST       : MXR1                             DETECTOR    : GAM13
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 11:26:37.68          SAMPLE ALQT  : 124.440 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.187E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.469E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.649E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.773E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:45:14.82

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*                                     *****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107002.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 11:30:18.
Sample ID          : G245107002          Sample quantity  : 1.38120E+02 GRAM
Detector name      : GAM16              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.99 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 944038              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	63.12*	58	498	0.98	126.42	123	8	8.02E-03	70.3	
2	4	74.87*	415	417	0.94	149.93	145	20	5.76E-02	9.2	2.36E+00
3	4	77.13*	754	353	0.94	154.45	145	20	1.05E-01	5.5	
4	0	86.14*	325	748	1.01	172.47	166	12	4.51E-02	17.8	
5	5	89.92	168	254	0.93	180.03	178	14	2.33E-02	15.2	1.37E+00
6	5	92.85*	306	445	1.41	185.89	178	14	4.26E-02	14.1	
7	0	129.02	90	374	1.02	258.23	254	8	1.25E-02	38.8	
8	0	185.91*	203	347	1.09	372.02	368	9	2.82E-02	18.7	
9	0	209.29	197	281	1.04	418.78	414	9	2.73E-02	17.0	
10	6	238.58*	1450	166	0.98	477.36	471	20	2.01E-01	3.0	1.34E+00
11	6	241.53	357	261	1.70	483.25	471	20	4.96E-02	12.3	
12	0	270.40	140	182	0.78	541.00	537	9	1.94E-02	19.4	
13	0	277.29	46	132	0.87	554.76	552	6	6.35E-03	42.3	
14	0	295.09	452	201	1.10	590.38	585	11	6.27E-02	7.7	
15	0	299.82	91	152	0.94	599.84	596	8	1.26E-02	25.9	
16	0	327.87	62	146	1.26	655.94	652	8	8.59E-03	36.2	
17	0	338.07*	253	188	1.06	676.32	670	12	3.51E-02	12.8	
18	0	351.91*	728	169	1.09	704.01	699	11	1.01E-01	5.1	
19	0	463.31	71	109	1.22	926.78	923	10	9.84E-03	29.9	
20	0	511.06*	125	160	1.48	1022.27	1014	16	1.74E-02	27.0	
21	0	583.17*	418	99	1.28	1166.48	1161	12	5.81E-02	7.0	
22	0	609.24*	505	134	1.38	1218.61	1212	15	7.02E-02	6.7	
23	0	727.43*	108	62	1.65	1454.96	1450	10	1.49E-02	17.1	
24	0	795.75	76	40	1.44	1591.57	1585	14	1.05E-02	21.5	
25	0	835.79	28	34	1.01	1671.62	1668	8	3.93E-03	40.3	
26	0	911.32*	267	61	1.41	1822.64	1817	14	3.71E-02	8.8	
27	0	965.54	47	74	1.90	1931.05	1921	13	6.47E-03	40.9	
28	3	969.14*	202	32	1.59	1938.25	1934	17	2.81E-02	8.4	1.31E+00
29	3	972.98	29	12	2.14	1945.94	1934	17	4.07E-03	36.9	
30	0	1120.81*	125	69	1.27	2241.49	2234	14	1.73E-02	17.1	
31	0	1237.99	66	63	1.93	2475.77	2468	14	9.17E-03	28.3	
32	0	1378.14	46	6	1.14	2755.96	2752	10	6.39E-03	17.4	
33	0	1461.08*	1085	35	1.73	2921.77	2914	18	1.51E-01	3.3	
34	0	1497.05	6	14	0.88	2993.66	2988	8	8.85E-04	108.7	
35	0	1588.20	37	22	2.57	3175.87	3165	17	5.17E-03	32.8	
36	0	1631.48	9	14	0.85	3262.40	3257	9	1.27E-03	80.2	
37	0	1731.45	7	16	0.85	3462.23	3455	11	1.03E-03	111.2	
38	0	1764.82*	112	4	1.48	3528.92	3523	14	1.56E-02	10.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
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Flag: "*" = Peak area was modified by background subtraction

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 11:30:18
Sample ID        : G245107002 Sample quantity : 138.12 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA16 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.99 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	*	2.287E+01	2.523E+00	4.316E-01	3.794E-02	53.000
MN-54	+	834.83	*	4.076E-02	3.306E-02	5.792E-02	5.440E-03	0.704
SN-126	+	64.28		4.666E-01	6.592E-01	6.411E-01	9.341E-02	0.728
	+	86.94		1.605E+00	8.785E-01	4.125E-01	1.714E-01	3.891
	+	87.57	*	3.860E-01	1.424E-01	1.013E-01	9.711E-03	3.811
TL-208	+	277.35		3.891E-01	3.342E-01	5.019E-01	7.460E-02	0.775
	+	510.84		5.315E-01	2.946E-01	1.699E-01	2.148E-02	3.129
	+	583.14	*	5.061E-01	8.659E-02	5.163E-02	5.118E-03	9.802
		860.37		4.533E-01	2.855E-01	5.223E-01	5.229E-02	0.868
BI-211		72.87		2.340E+00	2.577E+00	4.126E+00	3.354E-01	0.567
	+	351.07	*	3.879E+00	5.813E-01	2.682E-01	2.932E-02	14.464
PB-212	+	74.81		2.062E+00	4.587E-01	4.329E-01	5.408E-02	4.763
	+	77.11		2.123E+00	2.948E-01	2.456E-01	2.086E-02	8.646
	+	87.30		1.785E+00	6.823E-01	4.572E-01	6.324E-02	3.905
	+	238.63	*	1.691E+00	2.251E-01	7.525E-02	8.909E-03	22.479
	+	300.09		1.628E+00	8.702E-01	9.774E-01	1.281E-01	1.666
PO-212	+	74.81		2.062E+00	4.587E-01	4.329E-01	5.408E-02	4.763
	+	77.11		2.123E+00	2.948E-01	2.456E-01	2.086E-02	8.646
	+	87.30		1.785E+00	6.823E-01	4.572E-01	6.324E-02	3.905
		115.19		-2.787E+00	2.797E+00	4.483E+00	3.741E-01	-0.622
	+	238.63	*	1.691E+00	2.251E-01	7.525E-02	8.909E-03	22.479
	+	300.09		1.628E+00	8.702E-01	9.774E-01	1.281E-01	1.666
BI-214	+	609.31	*	1.152E+00	1.972E-01	9.735E-02	1.029E-02	11.832
	+	1120.29		1.479E+00	5.308E-01	4.153E-01	4.458E-02	3.562
	+	1764.49		1.833E+00	4.166E-01	1.706E-01	1.412E-02	10.742
PB-214	+	74.81		3.552E+00	7.640E-01	7.459E-01	8.292E-02	4.763
	+	77.11		3.640E+00	5.765E-01	4.210E-01	4.804E-02	8.646
	+	87.30		3.059E+00	1.153E+00	7.832E-01	9.616E-02	3.905
	+	241.98		2.500E+00	6.891E-01	4.532E-01	5.615E-02	5.515
	+	295.21		1.424E+00	2.900E-01	1.657E-01	2.212E-02	8.595
	+	351.92	*	1.349E+00	2.141E-01	9.349E-02	1.131E-02	14.433
PO-214	+	74.81		3.552E+00	7.640E-01	7.459E-01	8.292E-02	4.763
	+	77.11		3.640E+00	5.765E-01	4.210E-01	4.804E-02	8.646
	+	87.30		3.059E+00	1.153E+00	7.832E-01	9.616E-02	3.905

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.500E+00	6.891E-01	4.532E-01	5.615E-02	5.515
	+	295.21		1.424E+00	2.900E-01	1.657E-01	2.212E-02	8.595
	+	351.92	*	1.349E+00	2.141E-01	9.349E-02	1.131E-02	14.433
	+	74.81		2.062E+00	4.587E-01	4.329E-01	5.408E-02	4.763
	+	77.11		2.123E+00	2.948E-01	2.456E-01	2.086E-02	8.646
	+	87.30		1.785E+00	6.823E-01	4.572E-01	6.324E-02	3.905
PO-218	+	238.63	*	1.691E+00	2.251E-01	7.525E-02	8.909E-03	22.479
	+	300.09		1.628E+00	8.702E-01	9.774E-01	1.281E-01	1.666
	+	74.81		3.552E+00	7.640E-01	7.459E-01	8.292E-02	4.763
	+	77.11		3.640E+00	5.765E-01	4.210E-01	4.804E-02	8.646
	+	87.30		3.059E+00	1.153E+00	7.832E-01	9.616E-02	3.905
	+	241.98		2.500E+00	6.891E-01	4.532E-01	5.615E-02	5.515
RA-224	+	295.21		1.424E+00	2.900E-01	1.657E-01	2.212E-02	8.595
	+	351.92	*	1.349E+00	2.141E-01	9.349E-02	1.131E-02	14.433
	+	240.98	*	4.740E+00	1.279E+00	8.565E-01	9.438E-02	5.534
RA-226	+	609.31	*	1.152E+00	1.972E-01	9.735E-02	1.029E-02	11.832
	+	1120.29		1.479E+00	5.308E-01	4.153E-01	4.458E-02	3.562
	+	1764.49		1.833E+00	4.166E-01	1.706E-01	1.412E-02	10.742
AC-228	+	338.32		1.483E+00	7.267E-01	3.141E-01	1.313E-01	4.721
	+	911.07	*	1.437E+00	3.061E-01	1.785E-01	2.121E-02	8.049
	+	969.11		1.919E+00	5.559E-01	3.352E-01	7.904E-02	5.725
RA-228	+	338.32		1.483E+00	7.267E-01	3.141E-01	1.313E-01	4.721
	+	911.07	*	1.437E+00	3.061E-01	1.785E-01	2.121E-02	8.049
	+	969.11		1.919E+00	5.559E-01	3.352E-01	7.904E-02	5.725
TH-228	+	74.81		2.101E+00	4.248E-01	4.411E-01	3.691E-02	4.763
	+	77.11		2.164E+00	3.004E-01	2.503E-01	2.126E-02	8.646
	+	87.30		1.819E+00	6.711E-01	4.659E-01	4.452E-02	3.905
TH-230	+	238.63	*	1.724E+00	2.294E-01	7.668E-02	9.079E-03	22.479
	+	300.09		1.659E+00	1.313E+00	9.960E-01	5.957E-01	1.666
	+	609.31	*	1.152E+00	1.972E-01	9.734E-02	1.029E-02	11.832
TH-232	+	1120.29		1.479E+00	5.308E-01	4.153E-01	4.458E-02	3.562
	+	1764.49		1.833E+00	4.166E-01	1.706E-01	1.412E-02	10.742
	+	338.32		1.483E+00	4.123E-01	3.141E-01	3.429E-02	4.721
TH-234	+	911.07	*	1.437E+00	3.061E-01	1.785E-01	2.121E-02	8.049
	+	969.11		1.919E+00	5.559E-01	3.352E-01	7.904E-02	5.725
	+	63.29	*	1.179E+00	1.669E+00	1.674E+00	2.919E-01	0.704
U-234	+	92.38		2.333E+00	7.856E-01	5.695E-01	1.047E-01	4.097
	+	609.31	*	1.152E+00	1.972E-01	9.734E-02	1.029E-02	11.832
	+	1120.29		1.479E+00	5.308E-01	4.153E-01	4.458E-02	3.562
NP-237	+	1764.49		1.833E+00	4.166E-01	1.706E-01	1.412E-02	10.742
	+	86.50	*	1.134E+00	4.791E-01	2.927E-01	6.645E-02	3.873
	+	95.87		-2.450E-01	7.781E-01	1.163E+00	2.879E-01	-0.211
U-238	+	63.29	*	1.179E+00	1.669E+00	1.674E+00	2.919E-01	0.704
	+	92.38		2.333E+00	6.925E-01	5.695E-01	5.255E-02	4.097
AM-243	+	74.67	*	3.342E-01	6.748E-02	7.039E-02	5.828E-03	4.748
	+	86.72		4.251E+01	1.568E+01	1.095E+01	1.039E+00	3.882
	+	117.66		-1.016E+00	2.985E+00	4.934E+00	4.106E-01	-0.206
ANH-511	+	142.18		-1.788E+01	1.480E+01	2.323E+01	1.981E+00	-0.769
	+	511.00	*	1.148E-01	6.291E-02	3.671E-02	3.491E-03	3.128

---- 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	*		2.831E-02	2.695E-01	4.502E-01	4.554E-02	0.063
NA-22	1274.54	*		-2.550E-03	3.604E-02	5.849E-02	4.867E-03	-0.044
NA-24	1368.53	*		-2.180E+01	3.604E-02	Half-Life too short		
AL-26	1129.67			-4.042E-02	1.455E+00	2.378E+00	1.993E-01	-0.017
	1808.65	*		-5.309E-03	1.647E-02	2.418E-02	1.977E-03	-0.220
TI-44	67.85			-1.415E-02	3.858E-02	5.881E-02	4.554E-03	-0.241
	78.38	*		3.919E-01	5.441E-02	6.319E-02	5.441E-03	6.203
SC-46	889.25	*		1.259E-02	3.594E-02	6.185E-02	5.847E-03	0.203
	1120.51	+		2.615E-01	9.220E-02	1.312E-01	1.108E-02	1.993
V-48	944.10			-6.329E-01	8.948E-01	1.366E+00	1.277E-01	-0.463
	983.50	*		-1.123E-03	6.502E-02	1.076E-01	9.901E-03	-0.010
	1312.09			3.348E-03	8.976E-02	1.458E-01	1.224E-02	0.023
CR-51	320.08	*		3.645E-02	3.529E-01	5.624E-01	6.575E-02	0.065
MN-52	744.21			-2.804E-02	3.264E-01	5.184E-01	4.759E-02	-0.054
	848.13			-4.436E+00	9.375E+00	1.504E+01	1.415E+00	-0.295
	935.52			3.992E-01	3.264E-01	6.025E-01	5.644E-02	0.663
	1246.25			6.606E+00	1.078E+01	1.850E+01	1.525E+00	0.357
	1333.61			1.293E+00	7.716E+00	1.271E+01	1.072E+00	0.102
	1434.06	*		1.477E-01	3.166E-01	5.449E-01	4.649E-02	0.271
CO-56	846.75	*		5.041E-03	3.618E-02	6.138E-02	5.776E-03	0.082
	977.42			1.901E+00	2.626E+00	4.192E+00	3.868E-01	0.454
	1037.82			-1.808E-01	2.665E-01	4.065E-01	3.821E-02	-0.445
	1175.09			-1.304E-01	1.966E+00	3.189E+00	2.566E-01	-0.041
	1238.25	+		2.280E-01	1.306E-01	1.683E-01	1.427E-02	1.355
	1360.21			-2.647E-01	1.003E+00	1.559E+00	1.320E-01	-0.170
	1771.40			9.006E-02	1.880E-01	3.081E-01	2.546E-02	0.292
CO-57	122.06	*		-2.037E-02	2.036E-02	3.251E-02	2.702E-03	-0.627
	136.48			1.328E-02	1.715E-01	2.865E-01	2.605E-02	0.046
CO-58	810.76	*		-2.173E-02	3.395E-02	5.373E-02	5.033E-03	-0.404
FE-59	142.65			-6.421E-01	2.462E+00	3.985E+00	3.402E-01	-0.161
	192.34			8.770E-02	8.415E-01	1.383E+00	1.957E-01	0.063
	1099.22	*		-6.731E-02	8.923E-02	1.353E-01	1.258E-02	-0.497
	1291.56			-1.697E-02	1.118E-01	1.777E-01	1.696E-02	-0.096
CO-60	1173.22			4.817E-03	3.883E-02	6.419E-02	5.161E-03	0.075
	1332.49	*		1.925E-02	3.662E-02	6.279E-02	5.297E-03	0.307
ZN-65	1115.52	*		4.230E-03	9.097E-02	1.300E-01	1.104E-02	0.033
GE-68	1077.35	*		3.699E-01	1.036E+00	1.767E+00	1.543E-01	0.209
AS-73	53.44	*		-1.171E-01	7.273E-01	1.130E+00	8.623E-02	-0.104
AS-74	595.88	*		5.165E-02	8.689E-02	1.486E-01	1.379E-02	0.348
	634.78			-9.629E-02	3.505E-01	5.544E-01	5.025E-02	-0.174
SE-75	66.05			-2.159E+00	4.482E+00	6.214E+00	5.978E-01	-0.348
	96.73			-5.082E-01	6.655E-01	9.667E-01	1.336E-01	-0.526
	121.11			-1.746E-02	1.075E-01	1.789E-01	1.964E-02	-0.098
	136.00			9.239E-04	3.240E-02	5.405E-02	4.588E-03	0.017
	198.60			4.145E-01	1.557E+00	2.571E+00	2.756E-01	0.161
	264.65	*		-2.007E-02	3.783E-02	5.853E-02	6.831E-03	-0.343
	279.53			2.815E-03	1.072E-01	1.527E-01	1.869E-02	0.018
	303.91			-1.507E+00	2.065E+00	2.707E+00	3.762E-01	-0.557
	400.65			-1.501E-01	2.046E-01	3.244E-01	3.776E-02	-0.463

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	87.88			1.573E+03	6.289E+02	8.677E+02	8.352E+01	1.812
	200.40			2.789E+02	4.193E+02	7.041E+02	6.996E+01	0.396
	239.00		+	8.379E+02	1.050E+02	1.107E+02	1.214E+01	7.567
	249.79			1.634E+02	1.656E+02	2.805E+02	3.157E+01	0.583
	281.68			4.134E+01	2.443E+02	3.754E+02	4.498E+01	0.110
	297.23			3.793E+02	2.080E+02	2.728E+02	3.209E+01	1.390
	303.76			-1.788E+02	5.099E+02	6.959E+02	8.110E+01	-0.257
	439.47			3.385E+02	3.669E+02	6.471E+02	6.107E+01	0.523
	484.57			-1.865E+02	5.992E+02	9.685E+02	9.213E+01	-0.193
	520.65		*	-6.234E+00	2.565E+01	4.137E+01	3.930E+00	-0.151
	574.64			-5.686E+02	5.656E+02	8.440E+02	7.909E+01	-0.674
	578.91			5.201E+01	2.541E+02	3.719E+02	3.479E+01	0.140
	585.48			2.428E+03	6.573E+02	1.150E+03	1.073E+02	2.110
	755.35			2.695E+02	4.726E+02	7.936E+02	7.312E+01	0.340
	817.79			-2.197E+02	3.350E+02	5.275E+02	4.939E+01	-0.416
SR-82	698.33			1.366E+01	3.327E+01	5.543E+01	5.001E+00	0.247
	776.49		*	-4.321E-01	3.799E-01	5.323E-01	4.936E-02	-0.812
	1395.20			0.000E+00	9.720E+00	1.563E+01	1.330E+00	0.000
RB-83	520.41		*	-1.603E-02	5.651E-02	9.082E-02	8.629E-03	-0.177
	529.64			-6.552E-02	8.593E-02	1.315E-01	1.248E-02	-0.498
	552.65			1.558E-01	1.673E-01	2.939E-01	2.775E-02	0.530
RB-84	881.50		*	2.435E-02	6.201E-02	1.074E-01	1.015E-02	0.227
KR-85	513.99		*	1.288E+01	6.607E+00	1.116E+01	1.061E+00	1.154
SR-85	513.99		*	6.877E-02	3.528E-02	5.959E-02	5.666E-03	1.154
RB-86	1076.63		*	-3.582E-01	7.776E-01	1.216E+00	1.063E-01	-0.294
Y-88	898.02			4.812E-03	3.584E-02	6.057E-02	5.752E-03	0.079
	1836.01		*	1.245E-02	3.186E-02	5.606E-02	4.551E-03	0.222
ZR-88	392.90		*	-1.292E-02	2.622E-02	4.258E-02	3.938E-03	-0.303
Y-91	1204.90		*	3.266E+00	1.688E+01	2.801E+01	2.278E+00	0.117
NB-94	702.63		*	-3.668E-03	2.856E-02	4.542E-02	4.106E-03	-0.081
	871.10			1.347E-02	3.054E-02	5.299E-02	5.001E-03	0.254
NB-95	765.79		*	1.707E-02	4.211E-02	6.950E-02	6.424E-03	0.246
NB-95M	235.69		*	2.722E-02	1.240E-01	1.810E-01	2.153E-02	0.150
ZR-95	724.18			1.546E-02	9.529E-02	1.362E-01	1.338E-02	0.114
	756.15		*	2.653E-02	6.735E-02	1.115E-01	1.120E-02	0.238
NB-97	657.90		*	-2.718E+00	6.735E-02	Half-Life	too short	
	1024.50			-4.586E+02	6.735E-02	Half-Life	too short	
ZR-97	254.15			1.137E+02	6.735E-02	Half-Life	too short	
	355.39			-3.585E-01	6.735E-02	Half-Life	too short	
	507.63		*	6.051E+01	6.735E-02	Half-Life	too short	
	602.52			3.248E+01	6.735E-02	Half-Life	too short	
	1021.30			2.165E+02	6.735E-02	Half-Life	too short	
	1147.95			4.640E+01	6.735E-02	Half-Life	too short	
	1362.66			-3.798E+01	6.735E-02	Half-Life	too short	
	1750.46			-2.107E+01	6.735E-02	Half-Life	too short	
MO-99	140.51			1.588E+01	5.749E+01	9.542E+01	2.639E+01	0.166
	181.06			2.895E+01	3.906E+01	6.285E+01	1.175E+01	0.461
	366.43			-1.062E+02	1.900E+02	3.090E+02	3.126E+01	-0.344
	739.58		*	7.408E+00	2.850E+01	4.670E+01	7.240E+00	0.159

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	778.00			-3.952E+01	7.835E+01	1.185E+02	1.099E+01	-0.334
RH-101	140.51	*		3.766E+14	7.835E+01	Half-Life too short		
	127.23			7.476E-05	3.043E-02	4.566E-02	3.801E-03	0.002
	198.01	*		1.095E-02	2.793E-02	4.638E-02	4.579E-03	0.236
RH-102	325.23			-1.446E-02	2.062E-01	2.874E-01	3.227E-02	-0.050
	418.52			3.120E-02	2.287E-01	3.860E-01	3.615E-02	0.081
	475.06	*		-1.991E-02	2.460E-02	3.817E-02	3.628E-03	-0.522
	631.29			8.404E-03	4.619E-02	7.617E-02	6.922E-03	0.110
	697.49			4.951E-03	6.877E-02	1.114E-01	1.005E-02	0.044
	766.84			1.247E-01	1.034E-01	1.800E-01	1.664E-02	0.693
	1046.59			1.023E-01	9.526E-02	1.731E-01	1.543E-02	0.591
	1112.84			-2.402E-02	2.203E-01	3.234E-01	2.750E-02	-0.074
RU-103	497.08	*		-3.405E-02	3.561E-02	5.365E-02	7.900E-03	-0.635
	610.33	+		1.331E+01	2.887E+00	2.950E+00	5.013E-01	4.513
RH-106	511.85	+		5.776E-01	3.165E-01	3.783E-01	3.597E-02	1.527
	621.84	*		1.937E-01	2.651E-01	4.561E-01	6.250E-02	0.425
	1050.47			-8.909E-01	1.983E+00	3.114E+00	2.768E-01	-0.286
RU-106	511.85	+		5.776E-01	3.165E-01	3.783E-01	3.597E-02	1.527
	621.84	*		1.937E-01	2.644E-01	4.561E-01	4.171E-02	0.425
	1050.47			-8.909E-01	1.983E+00	3.114E+00	2.768E-01	-0.286
AG-108M	433.93	*		-1.416E-02	2.552E-02	4.074E-02	3.966E-03	-0.348
	614.37			1.087E-02	3.586E-02	5.285E-02	5.023E-03	0.206
	722.95			2.270E-02	3.982E-02	5.973E-02	5.634E-03	0.380
CD-109	88.03	*		2.255E+00	9.424E-01	1.296E+00	1.249E-01	1.740
AG-110M	657.75	*		-1.647E-02	2.937E-02	4.496E-02	4.116E-03	-0.366
	677.61			6.530E-02	2.731E-01	4.501E-01	4.130E-02	0.145
	706.67			-4.616E-02	1.868E-01	2.938E-01	2.727E-02	-0.157
	763.93			6.333E-02	1.514E-01	2.506E-01	2.372E-02	0.253
	884.67			-7.027E-03	4.324E-02	7.118E-02	6.907E-03	-0.099
	937.48			-9.736E-02	9.215E-02	1.357E-01	1.310E-02	-0.717
	1384.27			-2.537E-02	1.606E-01	2.152E-01	1.881E-02	-0.118
IN-111	171.28			2.222E+00	2.103E+00	3.612E+00	3.321E-01	0.615
	245.39	*		1.180E+00	2.331E+00	3.478E+00	3.874E-01	0.339
IN-113M	391.69	*		-3.775E-02	3.789E-02	5.924E-02	5.623E-03	-0.637
SN-113	391.69	*		-3.775E-02	3.789E-02	5.924E-02	5.623E-03	-0.637
IN-114M	190.27	*		-9.218E-02	1.837E-01	2.598E-01	2.512E-02	-0.355
CD-115	260.90			-2.088E-05	1.837E-01	Half-Life too short		
	492.35			3.383E-05	1.837E-01	Half-Life too short		
	527.90	*		3.754E-07	1.837E-01	Half-Life too short		
SN-117M	156.02			-2.849E-01	2.264E+00	3.725E+00	3.285E-01	-0.076
	158.56	*		1.149E-02	5.463E-02	9.111E-02	8.092E-03	0.126
SB-122	563.90	*		9.642E-01	4.844E+00	7.921E+00	7.452E-01	0.122
	692.80			-2.423E+01	1.107E+02	1.752E+02	1.577E+01	-0.138
I-123	159.00	*		-9.580E+01	1.107E+02	Half-Life too short		
	528.96			-2.274E+04	1.107E+02	Half-Life too short		
TE-123M	159.00	*		-3.627E-03	2.393E-02	3.928E-02	3.513E-03	-0.092
I-124	602.71	*		3.405E-01	1.130E+00	1.669E+00	1.543E-01	0.204
	722.78			5.977E+00	7.690E+00	1.182E+01	1.077E+00	0.506
	1325.50			3.719E+01	5.938E+01	1.031E+02	8.681E+00	0.361

---- 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		9.396E+01	5.809E+01	1.021E+02	8.668E+00	0.920
		1509.49		2.566E+01	2.818E+01	5.201E+01	4.447E+00	0.493
		1691.02		4.281E+00	6.209E+00	1.148E+01	9.655E-01	0.373
		602.71		1.090E-02	3.619E-02	5.344E-02	4.944E-03	0.204
		645.85		3.937E-01	4.724E-01	8.157E-01	7.739E-02	0.483
		709.31		-5.231E-01	2.611E+00	4.124E+00	3.738E-01	-0.127
		713.82		-1.061E-01	1.515E+00	2.419E+00	2.993E-01	-0.044
		722.78		2.775E-01	3.570E-01	5.486E-01	5.096E-02	0.506
	+	968.20		2.065E+01	3.967E+00	7.329E+00	6.788E-01	2.818
		1045.16		-7.905E-01	2.130E+00	3.372E+00	3.007E-01	-0.234
		1325.50		1.844E+00	2.944E+00	5.111E+00	4.304E-01	0.361
		1368.21		-5.425E-01	1.704E+00	2.622E+00	3.510E-01	-0.207
		1436.60		-3.214E+00	3.380E+00	4.894E+00	4.176E-01	-0.657
		1691.02	*	4.687E-02	6.800E-02	1.257E-01	1.101E-02	0.373
SB-125		427.89	*	-1.874E-02	7.686E-02	1.262E-01	1.205E-02	-0.149
	+	463.38		5.894E-01	3.574E-01	4.802E-01	4.854E-02	1.227
		600.56		-3.807E-02	1.504E-01	2.398E-01	2.363E-02	-0.159
		635.90		-1.023E-01	2.345E-01	3.651E-01	3.550E-02	-0.280
TE-125M		109.28	*	-5.845E+00	7.871E+00	1.282E+01	1.307E+00	-0.456
I-126		388.63		2.426E-02	2.044E-01	3.460E-01	3.237E-02	0.070
		666.33	*	3.323E-02	2.045E-01	3.349E-01	2.979E-02	0.099
SB-126		753.82		2.659E+00	1.626E+00	2.948E+00	2.715E-01	0.902
		223.80		3.569E+00	4.607E+00	7.711E+00	8.144E-01	0.463
	+	278.60		3.192E+00	2.727E+00	4.678E+00	5.611E-01	0.682
	+	296.50		1.760E+01	3.410E+00	4.011E+00	4.723E-01	4.387
		414.70		-3.844E-02	7.470E-02	1.204E-01	1.126E-02	-0.319
		415.30		1.069E+00	6.151E+00	1.041E+01	9.737E-01	0.103
		555.20		-2.681E+00	4.020E+00	6.192E+00	5.841E-01	-0.433
		573.80		-1.250E-01	1.101E+00	1.783E+00	1.672E-01	-0.070
		593.00		6.237E-02	9.149E-01	1.501E+00	1.395E-01	0.042
		656.30		-2.003E-01	3.390E+00	5.456E+00	4.864E-01	-0.037
		666.33		1.401E-02	8.623E-02	1.412E-01	1.256E-02	0.099
		675.00		1.010E+00	2.166E+00	3.636E+00	3.248E-01	0.278
		695.00		1.817E-02	8.750E-02	1.434E-01	1.292E-02	0.127
		697.00		-3.419E-02	3.001E-01	4.785E-01	4.316E-02	-0.071
SB-127		720.50	*	3.324E-02	1.549E-01	2.537E-01	2.310E-02	0.131
		856.80		-8.476E-01	5.583E-01	8.079E-01	7.613E-02	-1.049
		989.30		-4.760E-02	1.203E+00	1.985E+00	1.822E-01	-0.024
		1034.80		4.216E+00	9.511E+00	1.637E+01	1.469E+00	0.258
		1213.00		4.200E+00	4.879E+00	8.579E+00	6.996E-01	0.490
		61.10		4.156E+01	1.013E+02	1.485E+02	1.703E+01	0.280
		252.40		-1.354E+00	7.346E+00	1.165E+01	5.009E+00	-0.116
		290.80		-2.624E+00	3.875E+01	5.455E+01	8.087E+00	-0.048
		411.60		-1.294E+01	2.105E+01	3.368E+01	5.727E+00	-0.384
		444.90		7.680E-01	1.574E+01	2.630E+01	3.728E+00	0.029
		473.00		6.380E-01	2.747E+00	4.630E+00	6.716E-01	0.138
		543.00		-2.203E+00	2.948E+01	4.812E+01	7.629E+00	-0.046
		603.60		-1.430E+01	2.252E+01	2.961E+01	4.150E+00	-0.483
		685.20	*	-4.853E-01	2.395E+00	3.790E+00	4.863E-01	-0.128

---- 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		1.043E+01	2.669E+01	4.432E+01	7.497E+00	0.235
		722.20		2.908E+01	5.781E+01	8.596E+01	1.094E+01	0.338
		783.80		1.985E+00	7.059E+00	1.152E+01	1.609E+00	0.172
		57.60		1.568E+00	5.452E+00	8.638E+00	6.245E-01	0.182
		145.22		5.922E-01	6.150E-01	1.058E+00	9.082E-02	0.560
		172.10		1.186E-01	1.058E-01	1.820E-01	1.677E-02	0.652
I-131		202.84	*	-2.533E-02	4.251E-02	6.715E-02	6.716E-03	-0.377
		374.96		-2.331E-02	1.781E-01	2.975E-01	2.926E-02	-0.078
		80.18		-5.991E-01	5.339E+00	8.172E+00	7.249E-01	-0.073
		284.30		-5.430E-01	1.759E+00	2.749E+00	3.380E-01	-0.198
		364.48	*	4.545E-02	1.340E-01	2.305E-01	2.443E-02	0.197
		636.97		3.378E-01	1.860E+00	3.064E+00	2.923E-01	0.110
TE-132		722.89		7.163E+00	9.123E+00	1.403E+01	1.290E+00	0.510
		49.72		-6.112E+00	3.621E+01	5.640E+01	6.528E+00	-0.108
		111.76		8.088E+01	5.321E+01	9.346E+01	1.102E+01	0.865
		116.30		4.467E+01	4.833E+01	8.381E+01	9.844E+00	0.533
BA-133		228.16	*	-3.065E-01	1.454E+00	2.327E+00	4.109E-01	-0.132
		53.15		3.056E-01	3.013E+00	4.749E+00	3.639E-01	0.064
		79.62		-3.376E-01	1.071E+00	1.622E+00	2.480E-01	-0.208
		81.00		1.626E-02	9.434E-02	1.176E-01	1.883E-02	0.138
	+	276.40		3.847E-01	3.317E-01	5.407E-01	8.999E-02	0.712
		302.84		-6.960E-02	1.335E-01	1.788E-01	2.761E-02	-0.389
I-133		356.01	*	-1.492E-02	3.643E-02	5.217E-02	7.538E-03	-0.286
		383.85		-3.095E-02	2.476E-01	4.130E-01	5.469E-02	-0.075
	+	510.53		2.565E+01	2.476E-01	Half-Life	too short	
		529.87	*	-7.687E-02	2.476E-01	Half-Life	too short	
		706.58		-1.923E+00	2.476E-01	Half-Life	too short	
		856.28		-1.701E+01	2.476E-01	Half-Life	too short	
CS-134		875.33		-1.035E+00	2.476E-01	Half-Life	too short	
		1236.41		2.346E+01	2.476E-01	Half-Life	too short	
		1298.22		-2.389E+00	2.476E-01	Half-Life	too short	
		475.35		-2.711E-01	1.561E+00	2.553E+00	2.427E-01	-0.106
		563.23		-1.197E-01	3.174E-01	4.952E-01	4.697E-02	-0.242
		569.32		-1.097E-01	1.684E-01	2.602E-01	2.471E-02	-0.422
CS-135		604.70		-1.540E-04	3.119E-02	4.443E-02	4.114E-03	-0.003
	+	795.84	*	1.323E-01	5.812E-02	7.904E-02	7.410E-03	1.674
		801.93		-2.328E-01	3.936E-01	5.429E-01	5.090E-02	-0.429
		1038.57		-1.933E+00	3.211E+00	4.945E+00	4.427E-01	-0.391
		1167.94		-4.100E-01	2.230E+00	3.577E+00	2.892E-01	-0.115
		1365.15		1.622E-01	1.132E+00	1.859E+00	1.650E-01	0.087
I-135		268.24	*	1.084E-01	1.491E-01	2.234E-01	2.849E-02	0.485
		288.45		4.103E+14	1.491E-01	Half-Life	too short	
		417.63		7.941E+13	1.491E-01	Half-Life	too short	
		546.56		1.166E+12	1.491E-01	Half-Life	too short	
	+	836.80		3.605E+14	1.491E-01	Half-Life	too short	
		1038.76		-1.658E+14	1.491E-01	Half-Life	too short	
		1124.00		3.868E+14	1.491E-01	Half-Life	too short	
		1131.51		-5.544E+13	1.491E-01	Half-Life	too short	
		1260.41	*	8.109E+11	1.491E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		3.297E+15	1.491E-01	Half-Life	too short	
		1678.03		6.711E+13	1.491E-01	Half-Life	too short	
		1706.46		-2.070E+14	1.491E-01	Half-Life	too short	
		1791.20		8.034E+13	1.491E-01	Half-Life	too short	
		66.91		2.152E-01	8.483E-01	1.226E+00	1.831E-01	0.176
	+	86.29		6.174E+00	2.352E+00	2.058E+00	2.761E-01	3.001
		153.22		7.374E-01	6.625E-01	1.142E+00	1.115E-01	0.646
		163.89		5.514E-01	1.137E+00	1.860E+00	1.863E-01	0.296
		176.55		3.072E-01	3.725E-01	6.330E-01	6.197E-02	0.485
		273.65		4.982E-01	5.801E-01	7.190E-01	8.837E-02	0.693
		340.57		1.390E-01	1.353E-01	2.171E-01	2.402E-02	0.640
		818.51		-3.214E-04	7.313E-02	1.229E-01	1.152E-02	-0.003
		1048.07	*	5.131E-02	1.094E-01	1.888E-01	1.749E-02	0.272
		1235.34		3.849E-01	7.478E-01	1.114E+00	1.288E-01	0.345
BA-137M		661.65	*	-6.496E-03	3.249E-02	5.165E-02	4.584E-03	-0.126
CS-137		661.65	*	-6.867E-03	3.434E-02	5.460E-02	4.854E-03	-0.126
CE-139		165.85	*	-1.273E-02	2.565E-02	4.131E-02	3.747E-03	-0.308
BA-140		162.64		8.252E-01	7.953E-01	1.328E+00	1.257E-01	0.622
		304.84		-8.844E-01	1.445E+00	2.025E+00	5.892E-01	-0.437
		423.70		-4.153E-01	1.865E+00	3.059E+00	9.981E-01	-0.136
LA-140		537.32	*	8.986E-02	2.782E-01	4.656E-01	1.554E-01	0.193
	+	328.77		5.533E-01	4.053E-01	5.862E-01	6.755E-02	0.944
		432.53		2.550E-01	2.025E+00	3.408E+00	3.340E-01	0.075
		487.03		7.628E-02	1.460E-01	2.503E-01	2.502E-02	0.305
		751.79		-4.994E-01	1.939E+00	3.028E+00	3.050E-01	-0.165
		815.85		-5.156E-02	3.160E-01	5.233E-01	5.380E-02	-0.099
		867.82		-8.866E-02	1.453E+00	2.418E+00	2.383E-01	-0.037
		919.63		2.924E-01	2.912E+00	4.776E+00	5.395E-01	0.061
		925.24		3.328E-01	1.126E+00	1.929E+00	1.909E-01	0.173
		1596.49	*	-8.411E-02	9.081E-02	1.232E-01	1.050E-02	-0.683
CE-141		145.44	*	3.546E-02	5.539E-02	9.428E-02	8.247E-03	0.376
CE-143		57.37		-5.478E-05	5.539E-02	Half-Life	too short	
		231.56		-5.921E-05	5.539E-02	Half-Life	too short	
		293.26	*	2.772E-03	5.539E-02	Half-Life	too short	
	+	350.59		2.155E-01	5.539E-02	Half-Life	too short	
		490.36		-1.055E-02	5.539E-02	Half-Life	too short	
		664.57		1.565E-03	5.539E-02	Half-Life	too short	
		721.93		6.760E-03	5.539E-02	Half-Life	too short	
CE-144		80.11		-2.303E-01	1.778E+00	2.719E+00	2.387E-01	-0.085
		133.54	*	-3.683E-02	1.743E-01	2.744E-01	4.238E-02	-0.134
PM-144		476.78		2.997E-02	5.416E-02	9.334E-02	9.563E-03	0.321
		618.01		-1.658E-02	2.812E-02	4.334E-02	4.071E-03	-0.383
		696.49	*	2.864E-03	3.137E-02	5.091E-02	4.592E-03	0.056
		778.57		-9.515E-01	1.957E+00	2.960E+00	2.747E-01	-0.321
PR-144		696.49	*	1.945E-01	2.130E+00	3.457E+00	3.117E-01	0.056
		1489.15		9.449E-01	1.025E+01	1.664E+01	1.423E+00	0.057
PM-146		453.90	*	1.618E-02	3.808E-02	6.504E-02	7.427E-03	0.249
		633.02		4.322E-02	1.167E+00	1.900E+00	7.119E-01	0.023
		735.90		4.928E-02	1.372E-01	2.259E-01	6.497E-02	0.218

---- 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		-2.481E-02	7.398E-02	1.141E-01	1.642E-02	-0.217
		91.11		8.411E-01	2.690E-01	5.316E-01	5.314E-02	1.582
		319.41		9.886E-02	3.678E+00	5.832E+00	6.623E-01	0.017
		439.89		4.452E+00	6.264E+00	1.091E+01	1.030E+00	0.408
		531.02	*	-5.100E-01	5.778E-01	8.682E-01	1.343E-01	-0.587
PM-149		285.90	*	-3.377E-05	5.778E-01	Half-Life too short		
EU-152		121.78		-6.399E-02	5.873E-02	9.319E-02	8.996E-03	-0.687
		244.69		2.140E-01	2.708E-01	4.126E-01	4.588E-02	0.519
		344.27	*	-5.995E-02	8.071E-02	1.253E-01	1.401E-02	-0.478
		443.98		-1.788E-01	7.645E-01	1.251E+00	1.182E-01	-0.143
		778.89		-1.025E-01	2.249E-01	3.415E-01	3.168E-02	-0.300
		867.32		-2.351E-01	6.840E-01	1.107E+00	1.044E-01	-0.212
		964.01		4.733E-01	3.099E-01	5.140E-01	4.769E-02	0.921
		1085.78		-5.381E-02	3.547E-01	5.742E-01	4.985E-02	-0.094
		1112.02		1.480E-01	2.798E-01	4.711E-01	4.008E-02	0.314
		1407.95		1.528E-01	1.647E-01	2.964E-01	2.524E-02	0.516
GD-153		69.67		-4.977E-01	1.300E+00	2.104E+00	1.658E-01	-0.237
		83.37		2.248E+01	1.474E+01	2.007E+01	1.830E+00	1.120
		97.43	*	-5.479E-02	7.025E-02	1.015E-01	9.015E-03	-0.540
		103.18		-1.056E-01	8.450E-02	1.346E-01	1.160E-02	-0.785
EU-154		123.07		-2.902E-02	4.173E-02	6.760E-02	7.521E-03	-0.429
		247.94		1.389E-01	3.021E-01	4.767E-01	6.448E-02	0.291
		591.81		-1.353E-01	4.849E-01	7.701E-01	9.381E-02	-0.176
		723.30		7.702E-02	1.652E-01	2.451E-01	2.445E-02	0.314
		756.87		1.458E-01	6.981E-01	1.138E+00	1.413E-01	0.128
		873.19		1.888E-02	2.642E-01	4.447E-01	5.708E-02	0.042
		996.32		-3.027E-01	3.127E-01	4.573E-01	8.244E-02	-0.662
EU-155		1004.76		-1.314E-01	1.991E-01	3.083E-01	3.703E-02	-0.426
		1274.45	*	1.040E-02	9.825E-02	1.629E-01	1.804E-02	0.064
		48.70		-2.282E+00	2.006E+00	2.942E+00	2.417E-01	-0.776
		60.01		-4.844E-01	4.445E+00	6.331E+00	4.522E-01	-0.077
		86.54	+	4.656E-01	1.718E-01	1.573E-01	1.502E-02	2.960
		105.31	*	7.776E-02	9.073E-02	1.574E-01	1.362E-02	0.494
TB-160	+	86.79		1.289E+00	4.754E-01	4.365E-01	4.145E-02	2.953
		197.04		-4.313E-02	4.999E-01	8.130E-01	8.006E-02	-0.053
		215.65		-3.641E-01	6.627E-01	1.045E+00	1.080E-01	-0.349
		298.57	+	2.459E-01	1.306E-01	1.811E-01	2.127E-02	1.357
		879.36	*	-3.940E-02	1.216E-01	1.970E-01	1.861E-02	-0.200
HO-166M	+	962.29		1.410E-01	5.697E-01	8.572E-01	7.958E-02	0.165
		966.15		3.627E-01	2.987E-01	4.370E-01	4.051E-02	0.830
		1177.93		3.823E-02	3.032E-01	5.015E-01	4.039E-02	0.076
		1271.85		-1.730E-01	6.614E-01	1.041E+00	8.647E-02	-0.166
		80.57		-6.489E-02	2.241E-01	3.400E-01	3.000E-02	-0.191
		184.41		1.678E-02	3.395E-02	5.289E-02	5.035E-03	0.317
		280.46		-3.041E-02	8.295E-02	1.142E-01	1.370E-02	-0.266
		410.95		1.747E-01	2.062E-01	3.620E-01	3.379E-02	0.483
		711.68	*	2.544E-02	5.288E-02	8.862E-02	8.040E-03	0.287
		752.31		4.577E-03	2.553E-01	4.093E-01	3.768E-02	0.011
		810.29		-3.809E-02	5.055E-02	7.920E-02	7.404E-03	-0.481

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171	51.35			-8.812E+00	2.593E+01	3.996E+01	3.149E+00	-0.221
	52.39			1.270E+00	1.322E+01	2.085E+01	1.616E+00	0.061
	59.40			-1.045E+01	2.411E+01	3.365E+01	2.390E+00	-0.311
	66.72	*		9.868E+00	2.486E+01	3.623E+01	2.776E+00	0.272
LU-176	88.36			4.197E-01	2.131E-01	2.892E-01	2.777E-02	1.451
	201.83			-1.918E-02	2.450E-02	3.832E-02	3.822E-03	-0.501
	306.84	*		1.313E-04	2.183E-02	3.421E-02	3.968E-03	0.004
	401.10			-6.591E+00	5.338E+00	8.127E+00	7.551E-01	-0.811
LU-177	112.95			4.141E-01	1.902E+00	3.225E+00	2.700E-01	0.128
	208.36	*		6.070E+00	2.153E+00	2.753E+00	2.793E-01	2.205
LU-177M	52.97			1.843E-01	1.389E+00	2.193E+00	1.685E-01	0.084
	54.07			4.600E-01	7.220E-01	1.167E+00	8.822E-02	0.394
	61.30			6.501E-01	1.330E+00	1.958E+00	1.420E-01	0.332
	121.62			-2.028E-01	2.994E-01	4.859E-01	4.033E-02	-0.417
	147.16			-3.502E-01	5.332E-01	8.580E-01	7.399E-02	-0.408
	171.86			4.607E-01	4.032E-01	6.943E-01	6.393E-02	0.664
	218.09			3.038E-01	7.403E-01	1.225E+00	1.275E-01	0.248
	268.79			1.621E+00	8.099E-01	1.286E+00	1.511E-01	1.260
	319.02			6.009E-02	2.277E-01	3.669E-01	4.168E-02	0.164
	367.43			-2.664E-01	7.519E-01	1.239E+00	1.249E-01	-0.215
HF-181	413.65	*		-1.753E-01	1.460E-01	2.225E-01	2.080E-02	-0.788
	56.28			3.570E-02	8.417E-01	1.319E+00	9.684E-02	0.027
	57.53			1.205E-01	4.537E-01	7.182E-01	5.196E-02	0.168
	65.20			1.480E-01	8.878E-01	1.279E+00	9.662E-02	0.116
	133.02			4.938E-03	6.154E-02	9.250E-02	7.756E-03	0.053
	136.25			1.855E-02	3.956E-01	6.603E-01	5.566E-02	0.028
	345.85			-1.855E-01	1.752E-01	2.654E-01	2.844E-02	-0.699
	482.03	*		1.920E-02	3.623E-02	6.233E-02	5.929E-03	0.308
W-181	56.28			1.329E-02	3.162E-01	4.956E-01	3.638E-02	0.027
	57.53			4.518E-02	1.706E-01	2.700E-01	1.954E-02	0.167
	65.20	*		5.520E-02	3.312E-01	4.773E-01	3.604E-02	0.116
	67.75			-3.596E-02	9.424E-02	1.435E-01	1.111E-02	-0.251
TA-182	100.10			8.383E-02	1.415E-01	2.445E-01	2.138E-02	0.343
	152.43			-1.821E-01	2.884E-01	4.641E-01	4.055E-02	-0.392
	222.10			-1.083E-01	3.222E-01	5.136E-01	5.401E-02	-0.211
	1001.68			1.889E+00	1.955E+00	3.476E+00	3.174E-01	0.543
	1121.28			7.160E-01	2.525E-01	3.591E-01	3.032E-02	1.994
	1189.05			-1.087E-01	2.717E-01	4.250E-01	3.437E-02	-0.256
	1221.42	*		3.253E-01	1.830E-01	3.399E-01	2.780E-02	0.957
	1230.97			2.393E-01	4.887E-01	7.301E-01	5.989E-02	0.328
RE-183	57.98			9.230E-02	1.704E-01	2.732E-01	1.967E-02	0.338
	59.32			-5.034E-02	1.031E-01	1.434E-01	1.019E-02	-0.351
	67.20			-2.902E-02	1.865E-01	2.635E-01	2.028E-02	-0.110
	162.32	*		6.414E-02	9.420E-02	1.598E-01	1.435E-02	0.401
	208.81			3.804E+00	1.350E+00	1.770E+00	1.799E-01	2.149
	291.72			9.967E-04	8.638E-01	1.223E+00	1.449E-01	0.001
RE-184	57.98			3.326E-01	6.140E-01	9.844E-01	7.087E-02	0.338
	59.32			-1.813E-01	3.711E-01	5.162E-01	3.669E-02	-0.351
	67.20			-1.045E-01	6.719E-01	9.493E-01	7.307E-02	-0.110

---- 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		-2.766E-01	2.997E-01	4.726E-01	4.230E-02	-0.585
		216.55		1.044E-02	2.332E-01	3.795E-01	3.934E-02	0.028
		252.85	*	4.049E-02	1.984E-01	3.227E-01	3.657E-02	0.125
		318.01		9.530E-02	3.853E-01	6.205E-01	7.062E-02	0.154
		792.07		-6.197E-02	8.866E-01	1.291E+00	1.202E-01	-0.048
		903.28		3.476E-01	8.513E-01	1.472E+00	1.391E-01	0.236
		920.93		7.645E-02	3.842E-01	6.523E-01	6.136E-02	0.117
		59.72		-9.245E-02	2.734E-01	3.840E-01	2.732E-02	-0.241
		61.14		6.304E-02	1.479E-01	2.171E-01	1.572E-02	0.290
		69.30		-7.021E-02	2.248E-01	3.817E-01	2.997E-02	-0.184
		592.07		-2.403E-01	2.063E+00	3.329E+00	3.096E-01	-0.072
		646.12	*	3.873E-02	3.922E-02	6.850E-02	6.157E-03	0.565
		717.42		-6.468E-01	7.871E-01	1.158E+00	1.053E-01	-0.559
		874.81		-1.645E-01	5.276E-01	8.573E-01	8.095E-02	-0.192
		880.27		-2.215E-01	6.721E-01	1.088E+00	1.028E-01	-0.204
RE-188		155.03	*	3.909E-02	1.487E-01	2.487E-01	2.187E-02	0.157
		477.96		-1.632E-01	2.595E+00	4.280E+00	4.069E-01	-0.038
		633.10		1.611E-01	2.454E+00	4.005E+00	3.635E-01	0.040
W-188	+	63.58		4.925E+01	6.929E+01	7.677E+01	5.706E+00	0.641
		227.08		7.156E+00	1.204E+01	2.002E+01	2.132E+00	0.358
IR-192		290.67	*	-4.364E-02	6.979E+00	9.880E+00	1.172E+00	-0.004
	+	295.96		1.126E+00	2.185E-01	2.730E-01	3.229E-02	4.124
		308.46		4.968E-02	8.386E-02	1.381E-01	1.602E-02	0.360
		316.51	*	-1.854E-02	3.144E-02	4.765E-02	5.446E-03	-0.389
		468.07		-7.396E-03	6.722E-02	9.687E-02	9.748E-03	-0.076
AU-195		604.41		-4.359E-02	4.328E-01	6.095E-01	8.190E-02	-0.072
		612.46		6.577E-01	7.196E-01	1.118E+00	1.164E-01	0.588
		65.12		3.089E-02	1.525E-01	2.202E-01	1.662E-02	0.140
		66.83		3.752E-02	8.320E-02	1.216E-01	9.327E-03	0.309
	+	75.70		1.098E+00	2.216E-01	3.774E-01	3.158E-02	2.908
		98.88	*	1.975E-01	1.832E-01	3.170E-01	2.791E-02	0.623
TL-200	+	129.76		4.547E+00	3.553E+00	4.297E+00	3.587E-01	1.058
		367.94	*	-2.637E-03	3.553E+00	Half-Life	too short	
		579.30		1.499E-02	3.553E+00	Half-Life	too short	
		828.27		3.408E-04	3.553E+00	Half-Life	too short	
TL-201		1205.75		3.705E-03	3.553E+00	Half-Life	too short	
		68.90		2.900E+00	8.574E+00	1.488E+01	1.164E+00	0.195
		70.82		-1.057E-01	5.379E+00	8.318E+00	6.627E-01	-0.013
		80.30		-8.296E-01	1.006E+01	1.541E+01	1.356E+00	-0.054
TL-202		135.34		-1.784E+01	4.900E+01	8.034E+01	6.762E+00	-0.222
		167.43	*	6.599E+00	1.390E+01	2.337E+01	2.128E+00	0.282
		68.90		1.347E-01	3.983E-01	6.914E-01	5.408E-02	0.195
		70.82		-4.899E-03	2.492E-01	3.854E-01	3.070E-02	-0.013
		80.30		-3.845E-02	4.661E-01	7.143E-01	6.284E-02	-0.054
HG-203		439.56	*	7.086E-02	7.170E-02	1.269E-01	1.198E-02	0.558
		70.83		-1.508E-02	9.190E-01	1.421E+00	1.876E-01	-0.011
		72.87		4.930E-01	5.452E-01	8.692E-01	1.120E-01	0.567
		82.60		8.943E-01	1.128E+00	1.473E+00	2.063E-01	0.607
		279.20	*	2.210E-02	4.132E-02	6.109E-02	7.445E-03	0.362

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		72.80		1.281E-01	1.502E-01	2.401E-01	1.950E-02	0.534
	+	74.97		6.001E-01	1.212E-01	1.895E-01	1.573E-02	3.167
	+	84.90		8.772E-01	3.236E-01	2.537E-01	2.355E-02	3.458
		569.67		4.432E-04	2.533E-02	4.149E-02	3.895E-03	0.011
		1063.62	*	-1.314E-02	4.465E-02	7.127E-02	6.283E-03	-0.184
TL-207		1770.23		2.556E-01	3.781E-01	6.459E-01	5.338E-02	0.396
		81.07		3.273E-02	2.079E-01	2.588E-01	2.297E-02	0.126
		83.78		2.477E-01	1.233E-01	1.720E-01	1.575E-02	1.440
		94.90		2.698E-01	1.863E-01	3.023E-01	2.733E-02	0.893
		122.32		-1.417E+00	1.407E+00	2.245E+00	2.011E-01	-0.631
		144.24		4.755E-01	5.744E-01	9.681E-01	9.288E-02	0.491
		154.21		3.849E-02	3.321E-01	5.524E-01	5.315E-02	0.070
	+	269.46		5.846E-01	2.374E-01	3.182E-01	3.784E-02	1.838
		323.87	*	-2.637E-01	6.336E-01	8.519E-01	1.629E-01	-0.310
	+	338.28		6.193E+00	1.806E+00	2.173E+00	3.045E-01	2.850
		445.03		1.074E-01	1.831E+00	3.061E+00	3.886E-01	0.035
PO-209		260.50		3.210E+00	8.170E+00	1.340E+01	1.546E+00	0.240
		262.80		9.487E+00	2.204E+01	3.623E+01	4.200E+00	0.262
		896.60	*	-1.382E-01	6.299E+00	1.050E+01	9.927E-01	-0.013
BI-210		46.50	*	1.353E+00	3.098E+00	4.930E+00	4.598E-01	0.275
PB-210		46.50	*	1.353E+00	3.098E+00	4.930E+00	4.598E-01	0.275
PO-210		46.50	*	1.353E+00	3.097E+00	4.930E+00	4.164E-01	0.275
PB-211		404.84	*	1.493E-01	8.040E-01	1.353E+00	8.494E-01	0.110
		427.08		7.958E-01	1.746E+00	2.886E+00	1.796E+00	0.276
BI-212		831.96		5.217E-01	1.178E+00	1.749E+00	1.098E+00	0.298
	+	727.18	*	1.116E+00	3.998E-01	6.194E-01	6.471E-02	1.802
		785.46		2.116E+00	1.637E+00	2.992E+00	2.781E-01	0.707
PO-215		1620.62		5.470E-01	1.092E+00	1.949E+00	1.656E-01	0.281
		81.07		3.273E-02	2.079E-01	2.588E-01	2.297E-02	0.126
		83.78		2.477E-01	1.233E-01	1.720E-01	1.575E-02	1.440
		94.90		2.698E-01	1.863E-01	3.023E-01	2.733E-02	0.893
		122.32		-1.417E+00	1.407E+00	2.245E+00	2.011E-01	-0.631
		144.24		4.755E-01	5.744E-01	9.681E-01	9.288E-02	0.491
		154.21		3.849E-02	3.321E-01	5.524E-01	5.315E-02	0.070
	+	269.46		5.846E-01	2.374E-01	3.182E-01	3.784E-02	1.838
		323.87	*	-2.637E-01	6.336E-01	8.519E-01	1.629E-01	-0.310
	+	338.28		6.193E+00	1.806E+00	2.173E+00	3.045E-01	2.850
		445.03		1.074E-01	1.831E+00	3.061E+00	3.886E-01	0.035
RN-219	+	271.23		7.501E-01	3.073E-01	3.996E-01	5.233E-02	1.877
		401.81	*	-4.100E-01	3.428E-01	5.189E-01	8.002E-02	-0.790
RN-220		549.76	*	-4.134E-01	2.330E+01	3.816E+01	3.606E+00	-0.011
RA-223		81.07		3.273E-02	2.079E-01	2.588E-01	2.297E-02	0.126
		83.78		2.477E-01	1.233E-01	1.720E-01	1.575E-02	1.440
		94.90		2.698E-01	1.863E-01	3.023E-01	2.733E-02	0.893
		122.32		-1.417E+00	1.407E+00	2.245E+00	2.011E-01	-0.631
		144.24		4.755E-01	5.744E-01	9.681E-01	9.288E-02	0.491
		154.21		3.849E-02	3.321E-01	5.524E-01	5.315E-02	0.070
	+	269.46		5.846E-01	2.374E-01	3.182E-01	3.784E-02	1.838
		323.87	*	-2.637E-01	6.336E-01	8.519E-01	1.629E-01	-0.310

---- 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		6.193E+00	1.806E+00	2.173E+00	3.045E-01	2.850
		445.03		1.074E-01	1.831E+00	3.061E+00	3.886E-01	0.035
		79.80		-3.150E-01	1.361E+00	2.069E+00	4.461E-01	-0.152
		236.00		-6.674E-03	2.242E-01	3.222E-01	4.489E-02	-0.021
		256.20	*	1.692E-02	3.228E-01	5.202E-01	8.884E-02	0.033
		286.10		-1.366E-01	1.312E+00	2.079E+00	3.235E-01	-0.066
TH-227	+	299.80		3.018E+00	1.667E+00	2.296E+00	4.411E-01	1.314
		304.40		-1.182E+00	1.698E+00	2.377E+00	4.761E-01	-0.497
		334.20		-1.357E+00	2.088E+00	2.938E+00	6.049E-01	-0.462
		79.80		-3.150E-01	1.361E+00	2.069E+00	4.517E-01	-0.152
	+	94.00		9.016E+00	3.227E+00	3.144E+00	6.909E-01	2.868
		236.00		-6.674E-03	2.242E-01	3.222E-01	4.162E-02	-0.021
TH-229		256.20	*	1.692E-02	3.228E-01	5.202E-01	1.017E-01	0.033
		286.10		-1.366E-01	1.319E+00	2.079E+00	2.093E+00	-0.066
	+	299.80		3.018E+00	1.667E+00	2.296E+00	4.411E-01	1.314
		304.40		-1.182E+00	1.698E+00	2.377E+00	4.761E-01	-0.497
		334.20		-1.357E+00	2.088E+00	2.938E+00	6.049E-01	-0.462
	+	85.43		8.656E-01	3.193E-01	2.518E-01	2.352E-02	3.438
PA-231	+	88.47		2.615E-01	8.312E-02	1.663E-01	1.594E-02	1.573
		100.00		6.241E-02	1.465E-01	2.482E-01	2.172E-02	0.251
		193.63	*	-3.532E-02	4.387E-01	7.144E-01	6.971E-02	-0.049
		210.97		7.393E-01	7.488E-01	1.145E+00	1.170E-01	0.645
		283.67	*	-5.202E-02	1.297E+00	2.064E+00	3.570E-01	-0.025
	+	301.29		1.207E+00	6.497E-01	8.812E-01	1.284E-01	1.370
TH-231		81.07		3.273E-02	2.079E-01	2.588E-01	2.297E-02	0.126
		83.78		2.477E-01	1.233E-01	1.720E-01	1.575E-02	1.440
		94.90		2.698E-01	1.863E-01	3.023E-01	2.733E-02	0.893
		122.32		-1.417E+00	1.407E+00	2.245E+00	2.011E-01	-0.631
		144.24		4.755E-01	5.744E-01	9.681E-01	9.288E-02	0.491
		154.21		3.849E-02	3.321E-01	5.524E-01	5.315E-02	0.070
U-231	+	269.46		5.846E-01	2.374E-01	3.182E-01	3.784E-02	1.838
		323.87	*	-2.637E-01	6.336E-01	8.519E-01	1.629E-01	-0.310
	+	338.28		6.193E+00	1.806E+00	2.173E+00	3.045E-01	2.850
		445.03		1.074E-01	1.831E+00	3.061E+00	3.886E-01	0.035
		84.21		1.069E+01	1.072E+01	1.409E+01	1.297E+00	0.758
	+	92.29		1.684E+01	4.999E+00	6.686E+00	6.174E-01	2.519
PA-233		95.87	*	-5.252E-01	1.663E+00	2.492E+00	2.237E-01	-0.211
		108.00		2.977E-01	3.276E+00	5.538E+00	4.691E-01	0.054
	+	75.28		1.751E+01	4.176E+00	5.578E+00	8.471E-01	3.139
	+	86.59		7.557E+00	3.384E+00	2.554E+00	6.924E-01	2.959
	+	300.12		8.412E-01	4.583E-01	6.384E-01	1.076E-01	1.318
		311.98	*	-1.430E-02	5.621E-02	8.756E-02	1.023E-02	-0.163
PA-234		340.50		6.129E-01	5.565E-01	8.709E-01	2.154E-01	0.704
		398.62		-4.944E-01	1.679E+00	2.754E+00	7.393E-01	-0.180
		415.76		4.985E-01	1.292E+00	2.211E+00	4.832E-01	0.225
	+	63.00		1.374E+00	1.942E+00	2.208E+00	3.279E-01	0.622
		94.67		3.519E-01	1.422E-01	2.315E-01	2.943E-02	1.520
		98.44		6.358E-02	8.264E-02	1.239E-01	6.915E-02	0.513
		99.86		2.656E-01	3.690E-01	6.314E-01	5.529E-02	0.421

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-9.312E-02	1.484E-01	2.427E-01	2.897E-02	-0.384
		131.20		2.792E-02	9.359E-02	1.425E-01	1.192E-02	0.196
		152.70		1.173E-01	2.641E-01	4.445E-01	7.604E-02	0.264
	+	186.00		4.490E+00	2.192E+00	2.337E+00	7.360E-01	1.921
		226.40		1.944E-01	3.776E-01	6.244E-01	9.114E-02	0.311
		227.20		2.220E-01	3.909E-01	6.490E-01	6.913E-02	0.342
		248.90		-1.346E-01	6.702E-01	1.064E+00	2.506E-01	-0.126
	+	293.70		6.837E+00	1.675E+00	1.440E+00	2.749E-01	4.749
		369.80		-1.382E-01	7.208E-01	1.200E+00	2.683E-01	-0.115
		568.70		-5.426E-01	8.454E-01	1.307E+00	1.228E-01	-0.415
		569.50		-1.349E-01	2.333E-01	3.632E-01	3.410E-02	-0.371
		574.00		-2.853E-01	1.263E+00	2.026E+00	1.899E-01	-0.141
		699.00		2.283E-02	6.309E-01	1.019E+00	1.963E-01	0.022
		706.10		-3.477E-01	9.463E-01	1.452E+00	6.488E-01	-0.239
		733.00		-7.594E-02	3.520E-01	5.069E-01	1.136E-01	-0.150
		742.81		-7.236E-02	1.201E+00	1.912E+00	1.287E+00	-0.038
	+	796.30		2.562E+00	1.303E+00	1.500E+00	4.091E-01	1.709
		805.60		6.176E-01	8.805E-01	1.531E+00	4.725E-01	0.403
		819.60		6.605E-01	9.769E-01	1.691E+00	6.461E-01	0.391
		826.30		-5.745E-01	7.419E-01	1.081E+00	4.852E-01	-0.532
		831.60		2.877E-01	5.933E-01	9.105E-01	2.738E-01	0.316
		876.40		-1.238E-01	7.106E-01	1.150E+00	1.183E+00	-0.108
		880.51		1.319E-02	2.280E-01	3.833E-01	3.621E-02	0.034
		883.24		-9.495E-02	2.568E-01	4.011E-01	2.701E-01	-0.237
		899.00		-6.873E-03	6.949E-01	1.159E+00	5.086E-01	-0.006
		925.00		1.586E-02	9.790E-01	1.633E+00	1.535E-01	0.010
		926.50		2.698E-02	1.426E-01	2.417E-01	6.176E-02	0.112
		946.00	*	-2.289E-01	2.603E-01	3.886E-01	7.423E-02	-0.589
		949.00		2.426E-01	4.047E-01	7.069E-01	6.593E-02	0.343
		980.50		-2.546E-01	5.877E-01	9.283E-01	8.555E-02	-0.274
		1394.10		-3.681E-01	9.884E-01	1.445E+00	9.406E-01	-0.255
PA-234M		766.42		1.390E+01	1.288E+01	1.897E+01	9.643E+00	0.733
		1001.03	*	3.479E+00	4.335E+00	7.615E+00	7.928E-01	0.457
U-235	+	89.95		2.625E+00	1.141E+00	1.617E+00	5.028E-01	1.624
	+	93.35		2.805E+00	1.119E+00	1.099E+00	3.099E-01	2.552
		105.00		7.253E-01	9.053E-01	1.528E+00	4.558E-01	0.475
		143.76	*	7.354E-02	1.788E-01	2.966E-01	5.184E-02	0.248
		163.35		1.078E-02	4.081E-01	6.554E-01	1.262E-01	0.016
	+	185.71		1.663E-01	6.407E-02	8.590E-02	8.206E-03	1.936
		205.31		5.281E-01	4.936E-01	7.388E-01	1.461E-01	0.715
NP-236		94.67		2.690E-01	1.053E-01	1.759E-01	1.593E-02	1.529
		98.44		4.803E-02	5.658E-02	9.364E-02	8.267E-03	0.513
		111.00		-7.044E-02	1.121E-01	1.836E-01	1.543E-02	-0.384
		160.31	*	-2.881E-02	6.641E-02	1.075E-01	9.595E-03	-0.268
NP-239		99.55		7.366E-02	1.248E-01	2.126E-01	1.865E-02	0.346
		117.00	*	3.676E-02	1.454E-01	2.466E-01	2.053E-02	0.149
	+	209.75		2.888E+00	1.025E+00	1.330E+00	1.355E-01	2.172
		228.18		-4.540E-02	2.089E-01	3.345E-01	3.572E-02	-0.136
	+	277.60		1.876E-01	1.603E-01	2.714E-01	3.248E-02	0.691

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-241 CM-243		334.30		-7.885E-01	1.175E+00	1.661E+00	1.830E-01	-0.475
		59.54	*	-5.760E-02	1.399E-01	1.955E-01	1.534E-02	-0.295
		99.55		7.582E-02	1.284E-01	2.188E-01	1.920E-02	0.346
		103.76	*	-8.780E-02	7.803E-02	1.252E-01	1.076E-02	-0.701
		117.00		3.783E-02	1.496E-01	2.538E-01	2.113E-02	0.149
+ AM-246		209.75		2.848E+00	1.010E+00	1.311E+00	1.336E-01	2.172
		228.18		-4.589E-02	2.112E-01	3.381E-01	3.611E-02	-0.136
		277.60		1.892E-01	1.617E-01	2.737E-01	3.276E-02	0.691
		798.80		-4.216E-02	1.176E-01	1.639E-01	1.528E-02	-0.257
		1036.00		8.521E-03	2.584E-01	4.279E-01	3.837E-02	0.020
+ CM-247		1062.04		-2.235E-02	1.883E-01	3.063E-01	2.703E-02	-0.073
		1078.86	*	6.224E-02	1.208E-01	2.088E-01	1.822E-02	0.298
		278.00		7.781E-01	6.648E-01	1.146E+00	1.372E-01	0.679
		287.40		6.716E-01	1.053E+00	1.741E+00	2.073E-01	0.386
		402.60	*	-1.424E-02	2.947E-02	4.776E-02	4.440E-03	-0.298
CF-249		252.85		1.495E-01	7.326E-01	1.192E+00	1.351E-01	0.125
		333.44		-5.910E-02	1.532E-01	2.225E-01	2.456E-02	-0.266
		387.95	*	4.090E-04	3.343E-02	5.622E-02	5.274E-03	0.007
CF-251		176.60	*	8.691E-02	1.048E-01	1.782E-01	1.661E-02	0.488
		227.00		1.124E-01	3.533E-01	5.803E-01	6.178E-02	0.194
		285.00		-1.093E+00	1.475E+00	2.229E+00	2.661E-01	-0.490

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]G245107002
* Acquisition date   : 1-FEB-2010 11:30:18 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 02:00:01.99 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107002 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.3812E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.287E+01	2.472E+00	4.330E-01	0.000E+00
MN-54	4.076E-02	3.240E-02	5.876E-02	0.000E+00
SN-126	3.860E-01	1.395E-01	1.073E-01	0.000E+00
TL-208	5.061E-01	8.485E-02	5.276E-02	0.000E+00
BI-211	3.879E+00	5.697E-01	2.768E-01	0.000E+00
PB-212	1.691E+00	2.206E-01	7.823E-02	0.000E+00
PO-212	1.691E+00	2.206E-01	7.823E-02	0.000E+00
BI-214	1.152E+00	1.933E-01	9.939E-02	0.000E+00
PB-214	1.349E+00	2.098E-01	9.648E-02	0.000E+00
PO-214	1.349E+00	2.098E-01	9.648E-02	0.000E+00
PO-216	1.691E+00	2.206E-01	7.823E-02	0.000E+00
PO-218	1.349E+00	2.098E-01	9.648E-02	0.000E+00
RA-224	4.740E+00	1.254E+00	8.903E-01	0.000E+00
RA-226	1.152E+00	1.933E-01	9.939E-02	0.000E+00
AC-228	1.437E+00	3.000E-01	1.808E-01	0.000E+00
RA-228	1.437E+00	3.000E-01	1.808E-01	0.000E+00
TH-228	1.724E+00	2.248E-01	7.973E-02	0.000E+00
TH-230	1.152E+00	1.933E-01	9.939E-02	0.000E+00
TH-232	1.437E+00	3.000E-01	1.808E-01	0.000E+00
TH-234	1.179E+00	1.636E+00	1.784E+00	0.000E+00
U-234	1.152E+00	1.933E-01	9.939E-02	0.000E+00
NP-237	1.134E+00	4.695E-01	3.101E-01	0.000E+00
U-238	1.179E+00	1.636E+00	1.784E+00	0.000E+00
AM-243	3.342E-01	6.613E-02	7.479E-02	0.000E+00
ANH-511	1.148E-01	6.165E-02	3.761E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.831E-02	2.641E-01	4.618E-01	0.000E+00 NOT IDENT.
NA-22	-2.550E-03	3.532E-02	5.884E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	4.814E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-5.309E-03	1.614E-02	2.415E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.332E-02	6.707E-02	0.000E+00	FAIL ABUN
SC-46	1.259E-02	3.522E-02	6.268E-02	0.000E+00	FAIL ABUN
V-48	-1.123E-03	6.372E-02	1.088E-01	0.000E+00	NOT IDENT.
CR-51	3.645E-02	3.458E-01	5.815E-01	0.000E+00	NOT IDENT.
MN-52	1.477E-01	3.103E-01	5.468E-01	0.000E+00	NOT IDENT.
CO-56	5.041E-03	3.546E-02	6.226E-02	0.000E+00	FAIL ABUN
CO-57	-2.037E-02	1.996E-02	3.423E-02	0.000E+00	NOT IDENT.
CO-58	-2.173E-02	3.327E-02	5.454E-02	0.000E+00	NOT IDENT.
FE-59	-6.731E-02	8.745E-02	1.365E-01	0.000E+00	NOT IDENT.
CO-60	1.925E-02	3.588E-02	6.311E-02	0.000E+00	NOT IDENT.
ZN-65	4.230E-03	8.915E-02	1.311E-01	0.000E+00	NOT IDENT.
GE-68	3.699E-01	1.016E+00	1.784E+00	0.000E+00	NOT IDENT.
AS-73	-1.171E-01	7.127E-01	1.208E+00	0.000E+00	NOT IDENT.
AS-74	5.165E-02	8.515E-02	1.517E-01	0.000E+00	NOT IDENT.
SE-75	-2.007E-02	3.707E-02	6.074E-02	0.000E+00	NOT IDENT.
BR-77	-6.234E+00	2.513E+01	4.236E+01	0.000E+00	FAIL DECAY
SR-82	-4.321E-01	3.723E-01	5.409E-01	0.000E+00	NOT IDENT.
RB-83	-1.603E-02	5.538E-02	9.301E-02	0.000E+00	NOT IDENT.
RB-84	2.435E-02	6.077E-02	1.089E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.474E+00	1.143E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.457E-02	6.105E-02	0.000E+00	NOT IDENT.
RB-86	-3.582E-01	7.620E-01	1.228E+00	0.000E+00	NOT IDENT.
Y-88	1.245E-02	3.122E-02	5.598E-02	0.000E+00	NOT IDENT.
ZR-88	-1.292E-02	2.569E-02	4.385E-02	0.000E+00	NOT IDENT.
Y-91	3.266E+00	1.654E+01	2.821E+01	0.000E+00	NOT IDENT.
NB-94	-3.668E-03	2.799E-02	4.624E-02	0.000E+00	NOT IDENT.
NB-95	1.707E-02	4.127E-02	7.063E-02	0.000E+00	NOT IDENT.
NB-95M	2.722E-02	1.215E-01	1.883E-01	0.000E+00	NOT IDENT.
ZR-95	2.653E-02	6.600E-02	1.134E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.617E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	7.235E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	7.408E+00	2.793E+01	4.750E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.339E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.095E-02	2.737E-02	4.839E-02	0.000E+00	NOT IDENT.
RH-102	-1.991E-02	2.411E-02	3.917E-02	0.000E+00	NOT IDENT.
RU-103	-3.405E-02	3.489E-02	5.500E-02	0.000E+00	FAIL ABUN
RH-106	1.937E-01	2.598E-01	4.655E-01	0.000E+00	FAIL ABUN
RU-106	1.937E-01	2.591E-01	4.655E-01	0.000E+00	FAIL ABUN
AG-108M	-1.416E-02	2.501E-02	4.187E-02	0.000E+00	NOT IDENT.
CD-109	0.000E+00	9.235E-01	1.373E+00	0.000E+00	NOT IDENT.
AG-110M	-1.647E-02	2.878E-02	4.584E-02	0.000E+00	NOT IDENT.
IN-111	1.180E+00	2.285E+00	3.615E+00	0.000E+00	NOT IDENT.
IN-113M	-3.775E-02	3.713E-02	6.100E-02	0.000E+00	NOT IDENT.
SN-113	-3.775E-02	3.713E-02	6.100E-02	0.000E+00	NOT IDENT.
IN-114M	-9.218E-02	1.800E-01	2.713E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	2.747E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.149E-02	5.353E-02	9.546E-02	0.000E+00	NOT IDENT.
SB-122	9.642E-01	4.747E+00	8.100E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.195E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.627E-03	2.346E-02	4.116E-02	0.000E+00	NOT IDENT.
I-124	3.405E-01	1.108E+00	1.704E+00	0.000E+00	NOT IDENT.
SB-124	4.687E-02	6.664E-02	1.258E-01	0.000E+00	FAIL ABUN
SB-125	-1.874E-02	7.532E-02	1.297E-01	0.000E+00	FAIL ABUN
TE-125M	-5.845E+00	7.714E+00	1.353E+01	0.000E+00	NOT IDENT.
I-126	3.323E-02	2.004E-01	3.413E-01	0.000E+00	NOT IDENT.
SB-126	3.324E-02	1.518E-01	2.581E-01	0.000E+00	FAIL ABUN
SB-127	-4.853E-01	2.347E+00	3.861E+00	0.000E+00	NOT IDENT.
XE-127	-2.533E-02	4.166E-02	7.004E-02	0.000E+00	NOT IDENT.
I-131	4.545E-02	1.313E-01	2.377E-01	0.000E+00	NOT IDENT.
TE-132	-3.065E-01	1.425E+00	2.422E+00	0.000E+00	NOT IDENT.
BA-133	-1.492E-02	3.570E-02	5.382E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.042E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.696E-02	8.027E-02	0.000E+00	FAIL ABUN
CS-135	1.084E-01	1.461E-01	2.318E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.803E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.131E-02	1.072E-01	1.907E-01	0.000E+00	FAIL ABUN
BA-137M	-6.496E-03	3.184E-02	5.265E-02	0.000E+00	NOT IDENT.
CS-137	-6.867E-03	3.365E-02	5.566E-02	0.000E+00	NOT IDENT.
CE-139	-1.273E-02	2.513E-02	4.325E-02	0.000E+00	NOT IDENT.
BA-140	8.986E-02	2.726E-01	4.766E-01	0.000E+00	NOT IDENT.
LA-140	-8.411E-02	8.899E-02	1.234E-01	0.000E+00	FAIL ABUN
CE-141	3.546E-02	5.428E-02	9.894E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.142E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.683E-02	1.708E-01	2.885E-01	0.000E+00	NOT IDENT.
PM-144	2.864E-03	3.074E-02	5.184E-02	0.000E+00	NOT IDENT.
PR-144	1.945E-01	2.087E+00	3.520E+00	0.000E+00	NOT IDENT.

PM-146	1.618E-02	3.732E-02	6.679E-02	0.000E+00	NOT IDENT.
ND-147	-5.100E-01	5.663E-01	8.889E-01	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.581E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-5.995E-02	7.910E-02	1.294E-01	0.000E+00	NOT IDENT.
GD-153	-5.479E-02	6.885E-02	1.073E-01	0.000E+00	NOT IDENT.
EU-154	1.040E-02	9.629E-02	1.638E-01	0.000E+00	NOT IDENT.
EU-155	7.776E-02	8.891E-02	1.662E-01	0.000E+00	FAIL ABUN
TB-160	-3.940E-02	1.192E-01	1.997E-01	0.000E+00	FAIL ABUN
HO-166M	2.544E-02	5.183E-02	9.020E-02	0.000E+00	NOT IDENT.
TM-171	9.868E+00	2.436E+01	3.858E+01	0.000E+00	NOT IDENT.
LU-176	1.313E-04	2.139E-02	3.540E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	2.110E+00	2.869E+00	0.000E+00	FAIL ABUN
LU-177M	-1.753E-01	1.431E-01	2.289E-01	0.000E+00	NOT IDENT.
HF-181	1.920E-02	3.551E-02	6.394E-02	0.000E+00	NOT IDENT.
W-181	5.520E-02	3.245E-01	5.083E-01	0.000E+00	NOT IDENT.
TA-182	3.253E-01	1.793E-01	3.423E-01	0.000E+00	FAIL ABUN
RE-183	6.414E-02	9.232E-02	1.674E-01	0.000E+00	FAIL ABUN
RE-184	4.049E-02	1.944E-01	3.351E-01	0.000E+00	NOT IDENT.
OS-185	3.873E-02	3.844E-02	6.985E-02	0.000E+00	NOT IDENT.
RE-188	3.909E-02	1.457E-01	2.606E-01	0.000E+00	NOT IDENT.
W-188	-4.364E-02	6.839E+00	1.023E+01	0.000E+00	FAIL ABUN
IR-192	-1.854E-02	3.081E-02	4.928E-02	0.000E+00	FAIL ABUN
AU-195	1.975E-01	1.795E-01	3.351E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.438E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	6.599E+00	1.362E+01	2.446E+01	0.000E+00	NOT IDENT.
TL-202	7.086E-02	7.026E-02	1.304E-01	0.000E+00	NOT IDENT.
HG-203	2.210E-02	4.049E-02	6.332E-02	0.000E+00	NOT IDENT.
BI-207	-1.314E-02	4.376E-02	7.196E-02	0.000E+00	FAIL ABUN
TL-207	-2.637E-01	6.209E-01	8.805E-01	0.000E+00	FAIL ABUN
PO-209	-1.382E-01	6.173E+00	1.063E+01	0.000E+00	NOT IDENT.
BI-210	1.353E+00	3.036E+00	5.283E+00	0.000E+00	NOT IDENT.
PB-210	1.353E+00	3.036E+00	5.283E+00	0.000E+00	NOT IDENT.
PO-210	1.353E+00	3.035E+00	5.283E+00	0.000E+00	NOT IDENT.
PB-211	1.493E-01	7.879E-01	1.393E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.918E-01	6.302E-01	0.000E+00	FAIL ABUN
PO-215	-2.637E-01	6.209E-01	8.805E-01	0.000E+00	FAIL ABUN
RN-219	-4.100E-01	3.360E-01	5.341E-01	0.000E+00	FAIL ABUN
RN-220	-4.134E-01	2.283E+01	3.904E+01	0.000E+00	NOT IDENT.
RA-223	-2.637E-01	6.209E-01	8.805E-01	0.000E+00	FAIL ABUN
AC-227	1.692E-02	3.163E-01	5.401E-01	0.000E+00	FAIL ABUN
TH-227	1.692E-02	3.163E-01	5.401E-01	0.000E+00	FAIL ABUN
TH-229	-3.532E-02	4.300E-01	7.457E-01	0.000E+00	FAIL ABUN
PA-231	-5.202E-02	1.271E+00	2.139E+00	0.000E+00	FAIL ABUN
TH-231	-2.637E-01	6.209E-01	8.805E-01	0.000E+00	FAIL ABUN
U-231	-5.252E-01	1.630E+00	2.635E+00	0.000E+00	FAIL ABUN
PA-233	-1.430E-02	5.509E-02	9.057E-02	0.000E+00	FAIL ABUN
PA-234	-2.289E-01	2.551E-01	3.933E-01	0.000E+00	FAIL ABUN
PA-234M	3.479E+00	4.248E+00	7.698E+00	0.000E+00	NOT IDENT.
U-235	7.354E-02	1.752E-01	3.114E-01	0.000E+00	FAIL ABUN
NP-236	-2.881E-02	6.508E-02	1.126E-01	0.000E+00	NOT IDENT.
NP-239	3.676E-02	1.425E-01	2.599E-01	0.000E+00	FAIL ABUN
AM-241	-5.760E-02	1.371E-01	2.086E-01	0.000E+00	NOT IDENT.
CM-243	-8.780E-02	7.647E-02	1.322E-01	0.000E+00	FAIL ABUN
AM-246	6.224E-02	1.184E-01	2.108E-01	0.000E+00	NOT IDENT.
CM-247	-1.424E-02	2.888E-02	4.916E-02	0.000E+00	FAIL ABUN
CF-249	4.090E-04	3.276E-02	5.790E-02	0.000E+00	NOT IDENT.
CF-251	8.691E-02	1.027E-01	1.863E-01	0.000E+00	NOT IDENT.

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*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107002.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 11:30:18.
Sample ID          : G245107002 Sample quantity : 1.38120E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.99 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	1085	10.67*	1.208E+00	2.287E+01	2.287E+01	11.03
MN-54	834.83	28	99.97*	1.969E+00	3.908E-02	4.076E-02	81.11
SN-126	64.28	58	9.60	3.504E+00	4.666E-01	4.666E-01	141.26
	86.94	325	8.90	6.179E+00	1.605E+00	1.605E+00	54.74
	87.57	325	37.00*	6.179E+00	3.860E-01	3.860E-01	36.88
TL-208	277.35	46	6.80	4.695E+00	3.891E-01	3.891E-01	85.89
	510.84	125	21.60	2.963E+00	5.315E-01	5.315E-01	55.43
	583.14	418	84.20*	2.668E+00	5.061E-01	5.061E-01	17.11
	860.37	-----	12.46	1.920E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	728	12.94*	3.940E+00	3.879E+00	3.879E+00	14.99
PB-212	74.81	415	10.70	5.112E+00	2.062E+00	2.062E+00	22.25
	77.11	754	18.00	5.365E+00	2.123E+00	2.123E+00	13.88
	87.30	325	8.00	6.179E+00	1.785E+00	1.785E+00	38.22
	238.63	1450	44.60*	5.225E+00	1.691E+00	1.691E+00	13.31
	300.09	91	3.41	4.435E+00	1.628E+00	1.628E+00	53.44
PO-212	74.81	415	10.70	5.112E+00	2.062E+00	2.062E+00	22.25
	77.11	754	18.00	5.365E+00	2.123E+00	2.123E+00	13.88
	87.30	325	8.00	6.179E+00	1.785E+00	1.785E+00	38.22
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	1450	44.60*	5.225E+00	1.691E+00	1.691E+00	13.31
	300.09	91	3.41	4.435E+00	1.628E+00	1.628E+00	53.44
BI-214	609.31	505	46.30*	2.575E+00	1.152E+00	1.152E+00	17.12
	1120.29	125	15.10	1.516E+00	1.479E+00	1.479E+00	35.88
	1764.49	112	15.80	1.056E+00	1.833E+00	1.833E+00	22.73
PB-214	74.81	415	6.21	5.112E+00	3.552E+00	3.552E+00	21.51
	77.11	754	10.50	5.365E+00	3.640E+00	3.640E+00	15.84
	87.30	325	4.67	6.179E+00	3.058E+00	3.059E+00	37.68
	241.98	357	7.49	5.181E+00	2.500E+00	2.500E+00	27.57
	295.21	452	19.20	4.487E+00	1.424E+00	1.424E+00	20.36
	351.92	728	37.20*	3.940E+00	1.349E+00	1.349E+00	15.87
PO-214	74.81	415	6.21	5.112E+00	3.552E+00	3.552E+00	21.51

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	754	10.50	5.365E+00	3.640E+00	3.640E+00	15.84
	87.30	325	4.67	6.179E+00	3.058E+00	3.059E+00	37.68
	241.98	357	7.49	5.181E+00	2.500E+00	2.500E+00	27.57
	295.21	452	19.20	4.487E+00	1.424E+00	1.424E+00	20.36
	351.92	728	37.20*	3.940E+00	1.349E+00	1.349E+00	15.87
PO-216	74.81	415	10.70	5.112E+00	2.062E+00	2.062E+00	22.25
	77.11	754	18.00	5.365E+00	2.123E+00	2.123E+00	13.88
	87.30	325	8.00	6.179E+00	1.785E+00	1.785E+00	38.22
	238.63	1450	44.60*	5.225E+00	1.691E+00	1.691E+00	13.31
	300.09	91	3.41	4.435E+00	1.628E+00	1.628E+00	53.44
PO-218	74.81	415	6.21	5.112E+00	3.552E+00	3.552E+00	21.51
	77.11	754	10.50	5.365E+00	3.640E+00	3.640E+00	15.84
	87.30	325	4.67	6.179E+00	3.058E+00	3.059E+00	37.68
	241.98	357	7.49	5.181E+00	2.500E+00	2.500E+00	27.57
	295.21	452	19.20	4.487E+00	1.424E+00	1.424E+00	20.36
	351.92	728	37.20*	3.940E+00	1.349E+00	1.349E+00	15.87
RA-224	240.98	357	3.95*	5.181E+00	4.740E+00	4.740E+00	26.99
RA-226	609.31	505	46.30*	2.575E+00	1.152E+00	1.152E+00	17.12
	1120.29	125	15.10	1.516E+00	1.479E+00	1.479E+00	35.88
	1764.49	112	15.80	1.056E+00	1.833E+00	1.833E+00	22.73
AC-228	338.32	253	11.40	4.059E+00	1.483E+00	1.483E+00	49.00
	911.07	267	27.70*	1.824E+00	1.437E+00	1.437E+00	21.30
	969.11	202	16.60	1.727E+00	1.919E+00	1.919E+00	28.97
RA-228	338.32	253	11.40	4.059E+00	1.483E+00	1.483E+00	49.00
	911.07	267	27.70*	1.824E+00	1.437E+00	1.437E+00	21.30
	969.11	202	16.60	1.727E+00	1.919E+00	1.919E+00	28.97
TH-228	74.81	415	10.70	5.112E+00	2.062E+00	2.101E+00	20.22
	77.11	754	18.00	5.365E+00	2.123E+00	2.164E+00	13.88
	87.30	325	8.00	6.179E+00	1.785E+00	1.819E+00	36.88
	238.63	1450	44.60*	5.225E+00	1.691E+00	1.724E+00	13.31
	300.09	91	3.41	4.435E+00	1.628E+00	1.659E+00	79.13
TH-230	609.31	505	46.30*	2.575E+00	1.152E+00	1.152E+00	17.12
	1120.29	125	15.10	1.516E+00	1.479E+00	1.479E+00	35.88
	1764.49	112	15.80	1.056E+00	1.833E+00	1.833E+00	22.73
TH-232	338.32	253	11.40	4.059E+00	1.483E+00	1.483E+00	27.80
	911.07	267	27.70*	1.824E+00	1.437E+00	1.437E+00	21.30
	969.11	202	16.60	1.727E+00	1.919E+00	1.919E+00	28.97
TH-234	63.29	58	3.80*	3.504E+00	1.179E+00	1.179E+00	141.59
	92.38	306	5.41	6.599E+00	2.333E+00	2.333E+00	33.67
U-234	609.31	505	46.30*	2.575E+00	1.152E+00	1.152E+00	17.12
	1120.29	125	15.10	1.516E+00	1.479E+00	1.479E+00	35.88
	1764.49	112	15.80	1.056E+00	1.833E+00	1.833E+00	22.73
NP-237	86.50	325	12.60*	6.179E+00	1.134E+00	1.134E+00	42.26
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
U-238	63.29	58	3.80*	3.504E+00	1.179E+00	1.179E+00	141.59
	92.38	306	5.41	6.599E+00	2.333E+00	2.333E+00	29.68
AM-243	74.67	415	66.00*	5.112E+00	3.342E-01	3.342E-01	20.19
	86.72	325	0.34	6.179E+00	4.251E+01	4.251E+01	36.88
	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	125	100.00*	2.963E+00	1.148E-01	1.148E-01	54.80

Flag: "*" = Keyline

Total number of lines in spectrum 38
Number of unidentified lines 6
Number of lines tentatively identified by NID 32 84.21%

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	2.287E+01	2.287E+01	0.252E+01	11.03	
MN-54	312.70D	1.04	3.908E-02	4.076E-02	3.306E-02	81.11	
SN-126	1.00E+05Y	1.00	3.860E-01	3.860E-01	1.424E-01	36.88	
TL-208	1.41E+10Y	1.00	5.061E-01	5.061E-01	0.866E-01	17.11	
BI-211	7.04E+08Y	1.00	3.879E+00	3.879E+00	0.581E+00	14.99	
PB-212	1.41E+10Y	1.00	1.691E+00	1.691E+00	0.225E+00	13.31	
PO-212	1.41E+10Y	1.00	1.691E+00	1.691E+00	0.225E+00	13.31	
BI-214	1600.00Y	1.00	1.152E+00	1.152E+00	0.197E+00	17.12	
PB-214	1600.00Y	1.00	1.349E+00	1.349E+00	0.214E+00	15.87	
PO-214	1600.00Y	1.00	1.349E+00	1.349E+00	0.214E+00	15.87	
PO-216	1.41E+10Y	1.00	1.691E+00	1.691E+00	0.225E+00	13.31	
PO-218	1600.00Y	1.00	1.349E+00	1.349E+00	0.214E+00	15.87	
RA-224	1.41E+10Y	1.00	4.740E+00	4.740E+00	1.279E+00	26.99	
RA-226	1600.00Y	1.00	1.152E+00	1.152E+00	0.197E+00	17.12	
AC-228	1.41E+10Y	1.00	1.437E+00	1.437E+00	0.306E+00	21.30	
RA-228	1.41E+10Y	1.00	1.437E+00	1.437E+00	0.306E+00	21.30	
TH-228	1.91Y	1.02	1.691E+00	1.724E+00	0.229E+00	13.31	
TH-230	4.47E+09Y	1.00	1.152E+00	1.152E+00	0.197E+00	17.12	
TH-232	1.41E+10Y	1.00	1.437E+00	1.437E+00	0.306E+00	21.30	
TH-234	4.47E+09Y	1.00	1.179E+00	1.179E+00	1.669E+00	141.59	
U-234	4.47E+09Y	1.00	1.152E+00	1.152E+00	0.197E+00	17.12	
NP-237	2.14E+06Y	1.00	1.134E+00	1.134E+00	0.479E+00	42.26	
U-238	4.47E+09Y	1.00	1.179E+00	1.179E+00	1.669E+00	141.59	
AM-243	7380.00Y	1.00	3.342E-01	3.342E-01	0.675E-01	20.19	
ANH-511	1.00E+09Y	1.00	1.148E-01	1.148E-01	0.629E-01	54.80	

Total Activity : 5.610E+01 5.613E+01

Grand Total Activity : 5.610E+01 5.613E+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
5	89.92	168	254	0.93	180.03	178	14	2.33E-02	30.3	6.43E+00	T
0	129.02	90	374	1.02	258.23	254	8	1.25E-02	77.7	7.13E+00	T
0	185.91	203	347	1.09	372.02	368	9	2.82E-02	37.3	6.14E+00	T
0	209.29	197	281	1.04	418.78	414	9	2.73E-02	34.0	5.71E+00	T
0	270.40	140	182	0.78	541.00	537	9	1.94E-02	38.8	4.78E+00	T
0	327.87	62	146	1.26	655.94	652	8	8.59E-03	72.3	4.15E+00	T
0	463.31	71	109	1.22	926.78	923	10	9.84E-03	59.8	3.20E+00	T
0	727.43	108	62	1.65	1454.96	1450	10	1.49E-02	34.3	2.22E+00	T
0	795.75	76	40	1.44	1591.57	1585	14	1.05E-02	42.9	2.06E+00	T
0	965.54	47	74	1.90	1931.05	1921	13	6.47E-03	81.8	1.73E+00	T
3	972.98	29	12	2.14	1945.94	1934	17	4.07E-03	73.8	1.72E+00	
0	1237.99	66	63	1.93	2475.77	2468	14	9.17E-03	56.7	1.39E+00	T
0	1378.14	46	6	1.14	2755.96	2752	10	6.39E-03	34.9	1.27E+00	
0	1497.05	6	14	0.88	2993.66	2988	8	8.85E-04	****	1.18E+00	
0	1588.20	37	22	2.57	3175.87	3165	17	5.17E-03	65.7	1.13E+00	
0	1631.48	9	14	0.85	3262.40	3257	9	1.27E-03	****	1.11E+00	
0	1731.45	7	16	0.85	3462.23	3455	11	1.03E-03	****	1.07E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107002.CNF;1  *
* Acquisition date   : 1-FEB-2010 11:30:18.  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 02:00:01.99      Half life ratio     : 8.00000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library    : SOLID        *
* Sample ID          : G245107002           Analyst initials   : MXR1         *
* Batch Number       : 944038              Sample Quantity    : 1.38120E+02 GRAM *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 16-NOV-2009 11:22:16.1MS Isotope       :             *
* MSD ID             :                      MSD Isotope        :             *
* LCS ID             : 1032-A              LCS Isotope         :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.287E+01	2.523E+00	4.316E-01	3.794E-02	53.000
MN-54	4.076E-02	3.306E-02	5.792E-02	5.440E-03	0.704
SN-126	3.860E-01	1.424E-01	1.013E-01	9.711E-03	3.811
TL-208	5.061E-01	8.659E-02	5.163E-02	5.118E-03	9.802
BI-211	3.879E+00	5.813E-01	2.682E-01	2.932E-02	14.464
PB-212	1.691E+00	2.251E-01	7.525E-02	8.909E-03	22.479
PO-212	1.691E+00	2.251E-01	7.525E-02	8.909E-03	22.479
BI-214	1.152E+00	1.972E-01	9.735E-02	1.029E-02	11.832
PB-214	1.349E+00	2.141E-01	9.349E-02	1.131E-02	14.433
PO-214	1.349E+00	2.141E-01	9.349E-02	1.131E-02	14.433
PO-216	1.691E+00	2.251E-01	7.525E-02	8.909E-03	22.479
PO-218	1.349E+00	2.141E-01	9.349E-02	1.131E-02	14.433
RA-224	4.740E+00	1.279E+00	8.565E-01	9.438E-02	5.534
RA-226	1.152E+00	1.972E-01	9.735E-02	1.029E-02	11.832
AC-228	1.437E+00	3.061E-01	1.785E-01	2.121E-02	8.049
RA-228	1.437E+00	3.061E-01	1.785E-01	2.121E-02	8.049
TH-228	1.724E+00	2.294E-01	7.668E-02	9.079E-03	22.479
TH-230	1.152E+00	1.972E-01	9.734E-02	1.029E-02	11.832

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.437E+00	3.061E-01	1.785E-01	2.121E-02	8.049
TH-234	1.179E+00	1.669E+00	1.674E+00	2.919E-01	0.704
U-234	1.152E+00	1.972E-01	9.734E-02	1.029E-02	11.832
NP-237	1.134E+00	4.791E-01	2.927E-01	6.645E-02	3.873
U-238	1.179E+00	1.669E+00	1.674E+00	2.919E-01	0.704
AM-243	3.342E-01	6.748E-02	7.039E-02	5.828E-03	4.748
ANH-511	1.148E-01	6.291E-02	3.671E-02	3.491E-03	3.128

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.831E-02		2.695E-01	4.502E-01	4.554E-02	0.063
NA-22	-2.550E-03		3.604E-02	5.849E-02	4.867E-03	-0.044
NA-24	-2.180E+01		2.456E+01	Half-Life	too short	
AL-26	-5.309E-03		1.647E-02	2.418E-02	1.977E-03	-0.220
TI-44	3.919E-01	+	5.441E-02	6.319E-02	5.441E-03	6.203
SC-46	1.259E-02		3.594E-02	6.185E-02	5.847E-03	0.203
V-48	-1.123E-03		6.502E-02	1.076E-01	9.901E-03	-0.010
CR-51	3.645E-02		3.529E-01	5.624E-01	6.575E-02	0.065
MN-52	1.477E-01		3.166E-01	5.449E-01	4.649E-02	0.271
CO-56	5.041E-03		3.618E-02	6.138E-02	5.776E-03	0.082
CO-57	-2.037E-02		2.036E-02	3.251E-02	2.702E-03	-0.627
CO-58	-2.173E-02		3.395E-02	5.373E-02	5.033E-03	-0.404
FE-59	-6.731E-02		8.923E-02	1.353E-01	1.258E-02	-0.497
CO-60	1.925E-02		3.662E-02	6.279E-02	5.297E-03	0.307
ZN-65	4.230E-03		9.097E-02	1.300E-01	1.104E-02	0.033
GE-68	3.699E-01		1.036E+00	1.767E+00	1.543E-01	0.209
AS-73	-1.171E-01		7.273E-01	1.130E+00	8.623E-02	-0.104
AS-74	5.165E-02		8.689E-02	1.486E-01	1.379E-02	0.348
SE-75	-2.007E-02		3.783E-02	5.853E-02	6.831E-03	-0.343
BR-77	-6.234E+00		2.565E+01	4.137E+01	3.930E+00	-0.151
SR-82	-4.321E-01		3.799E-01	5.323E-01	4.936E-02	-0.812
RB-83	-1.603E-02		5.651E-02	9.082E-02	8.629E-03	-0.177
RB-84	2.435E-02		6.201E-02	1.074E-01	1.015E-02	0.227
KR-85	1.288E+01		6.607E+00	1.116E+01	1.061E+00	1.154
SR-85	6.877E-02		3.528E-02	5.959E-02	5.666E-03	1.154
RB-86	-3.582E-01		7.776E-01	1.216E+00	1.063E-01	-0.294
Y-88	1.245E-02		3.186E-02	5.606E-02	4.551E-03	0.222
ZR-88	-1.292E-02		2.622E-02	4.258E-02	3.938E-03	-0.303
Y-91	3.266E+00		1.688E+01	2.801E+01	2.278E+00	0.117
NB-94	-3.668E-03		2.856E-02	4.542E-02	4.106E-03	-0.081
NB-95	1.707E-02		4.211E-02	6.950E-02	6.424E-03	0.246
NB-95M	2.722E-02		1.240E-01	1.810E-01	2.153E-02	0.150
ZR-95	2.653E-02		6.735E-02	1.115E-01	1.120E-02	0.238
NB-97	-2.718E+00		1.845E+00	Half-Life	too short	
ZR-97	6.051E+01		3.691E+01	Half-Life	too short	
MO-99	7.408E+00		2.850E+01	4.670E+01	7.240E+00	0.159

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	3.766E+14		6.832E+14	Half-Life too short		
RH-101	1.095E-02		2.793E-02	4.638E-02	4.579E-03	0.236
RH-102	-1.991E-02		2.460E-02	3.817E-02	3.628E-03	-0.522
RU-103	-3.405E-02		3.561E-02	5.365E-02	7.900E-03	-0.635
RH-106	1.937E-01		2.651E-01	4.561E-01	6.250E-02	0.425
RU-106	1.937E-01		2.644E-01	4.561E-01	4.171E-02	0.425
AG-108M	-1.416E-02		2.552E-02	4.074E-02	3.966E-03	-0.348
CD-109	2.255E+00		9.424E-01	1.296E+00	1.249E-01	1.740
AG-110M	-1.647E-02		2.937E-02	4.496E-02	4.116E-03	-0.366
IN-111	1.180E+00		2.331E+00	3.478E+00	3.874E-01	0.339
IN-113M	-3.775E-02		3.789E-02	5.924E-02	5.623E-03	-0.637
SN-113	-3.775E-02		3.789E-02	5.924E-02	5.623E-03	-0.637
IN-114M	-9.218E-02		1.837E-01	2.598E-01	2.512E-02	-0.355
CD-115	3.754E-07		1.401E-05	Half-Life too short		
SN-117M	1.149E-02		5.463E-02	9.111E-02	8.092E-03	0.126
SB-122	9.642E-01		4.844E+00	7.921E+00	7.452E-01	0.122
I-123	-9.580E+01		3.161E+02	Half-Life too short		
TE-123M	-3.627E-03		2.393E-02	3.928E-02	3.513E-03	-0.092
I-124	3.405E-01		1.130E+00	1.669E+00	1.543E-01	0.204
SB-124	4.687E-02		6.800E-02	1.257E-01	1.101E-02	0.373
SB-125	-1.874E-02		7.686E-02	1.262E-01	1.205E-02	-0.149
TE-125M	-5.845E+00		7.871E+00	1.282E+01	1.307E+00	-0.456
I-126	3.323E-02		2.045E-01	3.349E-01	2.979E-02	0.099
SB-126	3.324E-02		1.549E-01	2.537E-01	2.310E-02	0.131
SB-127	-4.853E-01		2.395E+00	3.790E+00	4.863E-01	-0.128
XE-127	-2.533E-02		4.251E-02	6.715E-02	6.716E-03	-0.377
I-131	4.545E-02		1.340E-01	2.305E-01	2.443E-02	0.197
TE-132	-3.065E-01		1.454E+00	2.327E+00	4.109E-01	-0.132
BA-133	-1.492E-02		3.643E-02	5.217E-02	7.538E-03	-0.286
I-133	-7.687E-02		5.315E-02	Half-Life too short		
CS-134	1.323E-01	+	5.812E-02	7.904E-02	7.410E-03	1.674
CS-135	1.084E-01		1.491E-01	2.234E-01	2.849E-02	0.485
I-135	8.109E+11		3.981E+13	Half-Life too short		
CS-136	5.131E-02		1.094E-01	1.888E-01	1.749E-02	0.272
BA-137M	-6.496E-03		3.249E-02	5.165E-02	4.584E-03	-0.126
CS-137	-6.867E-03		3.434E-02	5.460E-02	4.854E-03	-0.126
CE-139	-1.273E-02		2.565E-02	4.131E-02	3.747E-03	-0.308
BA-140	8.986E-02		2.782E-01	4.656E-01	1.554E-01	0.193
LA-140	-8.411E-02		9.081E-02	1.232E-01	1.050E-02	-0.683
CE-141	3.546E-02		5.539E-02	9.428E-02	8.247E-03	0.376
CE-143	2.772E-03		5.827E-04	Half-Life too short		
CE-144	-3.683E-02		1.743E-01	2.744E-01	4.238E-02	-0.134
PM-144	2.864E-03		3.137E-02	5.091E-02	4.592E-03	0.056
PR-144	1.945E-01		2.130E+00	3.457E+00	3.117E-01	0.056
PM-146	1.618E-02		3.808E-02	6.504E-02	7.427E-03	0.249
ND-147	-5.100E-01		5.778E-01	8.682E-01	1.343E-01	-0.587
PM-149	-3.377E-05		1.317E-04	Half-Life too short		
EU-152	-5.995E-02		8.071E-02	1.253E-01	1.401E-02	-0.478

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-5.479E-02		7.025E-02	1.015E-01	9.015E-03	-0.540
EU-154	1.040E-02		9.825E-02	1.629E-01	1.804E-02	0.064
EU-155	7.776E-02		9.073E-02	1.574E-01	1.362E-02	0.494
TB-160	-3.940E-02		1.216E-01	1.970E-01	1.861E-02	-0.200
HO-166M	2.544E-02		5.288E-02	8.862E-02	8.040E-03	0.287
TM-171	9.868E+00		2.486E+01	3.623E+01	2.776E+00	0.272
LU-176	1.313E-04		2.183E-02	3.421E-02	3.968E-03	0.004
LU-177	6.070E+00	+	2.153E+00	2.753E+00	2.793E-01	2.205
LU-177M	-1.753E-01		1.460E-01	2.225E-01	2.080E-02	-0.788
HF-181	1.920E-02		3.623E-02	6.233E-02	5.929E-03	0.308
W-181	5.520E-02		3.312E-01	4.773E-01	3.604E-02	0.116
TA-182	3.253E-01		1.830E-01	3.399E-01	2.780E-02	0.957
RE-183	6.414E-02		9.420E-02	1.598E-01	1.435E-02	0.401
RE-184	4.049E-02		1.984E-01	3.227E-01	3.657E-02	0.125
OS-185	3.873E-02		3.922E-02	6.850E-02	6.157E-03	0.565
RE-188	3.909E-02		1.487E-01	2.487E-01	2.187E-02	0.157
W-188	-4.364E-02		6.979E+00	9.880E+00	1.172E+00	-0.004
IR-192	-1.854E-02		3.144E-02	4.765E-02	5.446E-03	-0.389
AU-195	1.975E-01		1.832E-01	3.170E-01	2.791E-02	0.623
TL-200	-2.637E-03		2.264E-03	Half-Life	too short	
TL-201	6.599E+00		1.390E+01	2.337E+01	2.128E+00	0.282
TL-202	7.086E-02		7.170E-02	1.269E-01	1.198E-02	0.558
HG-203	2.210E-02		4.132E-02	6.109E-02	7.445E-03	0.362
BI-207	-1.314E-02		4.465E-02	7.127E-02	6.283E-03	-0.184
TL-207	-2.637E-01		6.336E-01	8.519E-01	1.629E-01	-0.310
PO-209	-1.382E-01		6.299E+00	1.050E+01	9.927E-01	-0.013
BI-210	1.353E+00		3.098E+00	4.930E+00	4.598E-01	0.275
PB-210	1.353E+00		3.098E+00	4.930E+00	4.598E-01	0.275
PO-210	1.353E+00		3.097E+00	4.930E+00	4.164E-01	0.275
PB-211	1.493E-01		8.040E-01	1.353E+00	8.494E-01	0.110
BI-212	1.116E+00	+	3.998E-01	6.194E-01	6.471E-02	1.802
PO-215	-2.637E-01		6.336E-01	8.519E-01	1.629E-01	-0.310
RN-219	-4.100E-01		3.428E-01	5.189E-01	8.002E-02	-0.790
RN-220	-4.134E-01		2.330E+01	3.816E+01	3.606E+00	-0.011
RA-223	-2.637E-01		6.336E-01	8.519E-01	1.629E-01	-0.310
AC-227	1.692E-02		3.228E-01	5.202E-01	8.884E-02	0.033
TH-227	1.692E-02		3.228E-01	5.202E-01	1.017E-01	0.033
TH-229	-3.532E-02		4.387E-01	7.144E-01	6.971E-02	-0.049
PA-231	-5.202E-02		1.297E+00	2.064E+00	3.570E-01	-0.025
TH-231	-2.637E-01		6.336E-01	8.519E-01	1.629E-01	-0.310
U-231	-5.252E-01		1.663E+00	2.492E+00	2.237E-01	-0.211
PA-233	-1.430E-02		5.621E-02	8.756E-02	1.023E-02	-0.163
PA-234	-2.289E-01		2.603E-01	3.886E-01	7.423E-02	-0.589
PA-234M	3.479E+00		4.335E+00	7.615E+00	7.928E-01	0.457
U-235	7.354E-02		1.788E-01	2.966E-01	5.184E-02	0.248
NP-236	-2.881E-02		6.641E-02	1.075E-01	9.595E-03	-0.268
NP-239	3.676E-02		1.454E-01	2.466E-01	2.053E-02	0.149
AM-241	-5.760E-02		1.399E-01	1.955E-01	1.534E-02	-0.295

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-8.780E-02		7.803E-02	1.252E-01	1.076E-02	-0.701
AM-246	6.224E-02		1.208E-01	2.088E-01	1.822E-02	0.298
CM-247	-1.424E-02		2.947E-02	4.776E-02	4.440E-03	-0.298
CF-249	4.090E-04		3.343E-02	5.622E-02	5.274E-03	0.007
CF-251	8.691E-02		1.048E-01	1.782E-01	1.661E-02	0.488

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]G245107002          *
* Acquisition date   : 1-FEB-2010 11:30:18 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 02:00:01.99 Half life ratio : 8.000   *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G245107002 Analyst initials: MXR1          *
* Batch Number      : 944038 Sample Quantity : 1.3812E+02 GRAM  *
* Recovery          : 1.00000 Carrier Weight : 0.00000          *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME  : 16-NOV-2009 11:22:16 MS Isotope       :              *
* MSD DPM           : 0.000 MSD Isotope       :                  *
* LCS DPM           : 0.000 LCS Isotope       :                  *
* LCSD DPM          : 0.000 LCSD Isotope      :                  *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.287E+01	2.472E+00	2.166E-01	1.261E+00
MN-54	4.076E-02	3.240E-02	2.940E-02	1.653E-02
SN-126	3.860E-01	1.395E-01	5.368E-02	7.119E-02
TL-208	5.061E-01	8.485E-02	2.640E-02	4.329E-02
BI-211	3.879E+00	5.697E-01	1.385E-01	2.907E-01
PB-212	1.691E+00	2.206E-01	3.914E-02	1.126E-01
PO-212	1.691E+00	2.206E-01	3.914E-02	1.126E-01
BI-214	1.152E+00	1.933E-01	4.972E-02	9.860E-02
PB-214	1.349E+00	2.098E-01	4.827E-02	1.071E-01
PO-214	1.349E+00	2.098E-01	4.827E-02	1.071E-01
PO-216	1.691E+00	2.206E-01	3.914E-02	1.126E-01
PO-218	1.349E+00	2.098E-01	4.827E-02	1.071E-01
RA-224	4.740E+00	1.254E+00	4.454E-01	6.397E-01
RA-226	1.152E+00	1.933E-01	4.972E-02	9.860E-02
AC-228	1.437E+00	3.000E-01	9.047E-02	1.531E-01
RA-228	1.437E+00	3.000E-01	9.047E-02	1.531E-01
TH-228	1.724E+00	2.248E-01	3.989E-02	1.147E-01
TH-230	1.152E+00	1.933E-01	4.972E-02	9.860E-02
TH-232	1.437E+00	3.000E-01	9.047E-02	1.531E-01
TH-234	1.179E+00	1.636E+00	8.923E-01	8.346E-01
U-234	1.152E+00	1.933E-01	4.972E-02	9.860E-02
NP-237	1.134E+00	4.695E-01	1.552E-01	2.396E-01
U-238	1.179E+00	1.636E+00	8.923E-01	8.346E-01
AM-243	3.342E-01	6.613E-02	3.742E-02	3.374E-02
ANH-511	1.148E-01	6.165E-02	1.881E-02	3.145E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.831E-02	2.641E-01	2.310E-01	1.348E-01 NOT IDENT.
NA-22	-2.550E-03	3.532E-02	2.944E-02	1.802E-02 NOT IDENT.

NA-24	-2.180E+07	4.814E+07	0.000E+00	2.456E+07	SHORT HLIF
AL-26	-5.309E-03	1.614E-02	1.208E-02	8.235E-03	NOT IDENT.
TI-44	3.919E-01	5.332E-02	3.356E-02	2.721E-02	FAIL ABUN
SC-46	1.259E-02	3.522E-02	3.136E-02	1.797E-02	FAIL ABUN
V-48	-1.123E-03	6.372E-02	5.442E-02	3.251E-02	NOT IDENT.
CR-51	3.645E-02	3.458E-01	2.909E-01	1.764E-01	NOT IDENT.
MN-52	1.477E-01	3.103E-01	2.736E-01	1.583E-01	NOT IDENT.
CO-56	5.041E-03	3.546E-02	3.115E-02	1.809E-02	FAIL ABUN
CO-57	-2.037E-02	1.996E-02	1.713E-02	1.018E-02	NOT IDENT.
CO-58	-2.173E-02	3.327E-02	2.729E-02	1.697E-02	NOT IDENT.
FE-59	-6.731E-02	8.745E-02	6.831E-02	4.462E-02	NOT IDENT.
CO-60	1.925E-02	3.588E-02	3.157E-02	1.831E-02	NOT IDENT.
ZN-65	4.230E-03	8.915E-02	6.559E-02	4.549E-02	NOT IDENT.
GE-68	3.699E-01	1.016E+00	8.925E-01	5.181E-01	NOT IDENT.
AS-73	-1.171E-01	7.127E-01	6.045E-01	3.636E-01	NOT IDENT.
AS-74	5.165E-02	8.515E-02	7.592E-02	4.345E-02	NOT IDENT.
SE-75	-2.007E-02	3.707E-02	3.039E-02	1.891E-02	NOT IDENT.
BR-77	-6.234E+00	2.513E+01	2.119E+01	1.282E+01	FAIL DECAY
SR-82	-4.321E-01	3.723E-01	2.706E-01	1.899E-01	NOT IDENT.
RB-83	-1.603E-02	5.538E-02	4.653E-02	2.826E-02	NOT IDENT.
RB-84	2.435E-02	6.077E-02	5.448E-02	3.101E-02	NOT IDENT.
KR-85	1.288E+01	6.474E+00	5.720E+00	3.303E+00	NOT IDENT.
SR-85	6.877E-02	3.457E-02	3.054E-02	1.764E-02	NOT IDENT.
RB-86	-3.582E-01	7.620E-01	6.142E-01	3.888E-01	NOT IDENT.
Y-88	1.245E-02	3.122E-02	2.800E-02	1.593E-02	NOT IDENT.
ZR-88	-1.292E-02	2.569E-02	2.194E-02	1.311E-02	NOT IDENT.
Y-91	3.266E+00	1.654E+01	1.411E+01	8.438E+00	NOT IDENT.
NB-94	-3.668E-03	2.799E-02	2.313E-02	1.428E-02	NOT IDENT.
NB-95	1.707E-02	4.127E-02	3.534E-02	2.106E-02	NOT IDENT.
NB-95M	2.722E-02	1.215E-01	9.418E-02	6.200E-02	NOT IDENT.
ZR-95	2.653E-02	6.600E-02	5.673E-02	3.368E-02	NOT IDENT.
NB-97	-2.718E+06	3.617E+06	0.000E+00	1.845E+06	SHORT HLIF
ZR-97	6.051E+07	7.235E+07	0.000E+00	3.691E+07	SHORT HLIF
MO-99	7.408E+00	2.793E+01	2.376E+01	1.425E+01	NOT IDENT.
TC-99M	3.766E+20	1.339E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.095E-02	2.737E-02	2.421E-02	1.396E-02	NOT IDENT.
RH-102	-1.991E-02	2.411E-02	1.959E-02	1.230E-02	NOT IDENT.
RU-103	-3.405E-02	3.489E-02	2.752E-02	1.780E-02	FAIL ABUN
RH-106	1.937E-01	2.598E-01	2.329E-01	1.325E-01	FAIL ABUN
RU-106	1.937E-01	2.591E-01	2.329E-01	1.322E-01	FAIL ABUN
AG-108M	-1.416E-02	2.501E-02	2.095E-02	1.276E-02	NOT IDENT.
CD-109	2.255E+00	9.235E-01	6.869E-01	4.712E-01	NOT IDENT.
AG-110M	-1.647E-02	2.878E-02	2.293E-02	1.469E-02	NOT IDENT.
IN-111	1.180E+00	2.285E+00	1.808E+00	1.166E+00	NOT IDENT.
IN-113M	-3.775E-02	3.713E-02	3.052E-02	1.895E-02	NOT IDENT.
SN-113	-3.775E-02	3.713E-02	3.052E-02	1.895E-02	NOT IDENT.
IN-114M	-9.218E-02	1.800E-01	1.357E-01	9.183E-02	NOT IDENT.
CD-115	3.754E-01	2.747E+01	0.000E+00	1.401E+01	SHORT HLIF
SN-117M	1.149E-02	5.353E-02	4.776E-02	2.731E-02	NOT IDENT.
SB-122	9.642E-01	4.747E+00	4.052E+00	2.422E+00	NOT IDENT.
I-123	-9.580E+07	6.195E+08	0.000E+00	3.161E+08	SHORT HLIF
TE-123M	-3.627E-03	2.346E-02	2.059E-02	1.197E-02	NOT IDENT.
I-124	3.405E-01	1.108E+00	8.526E-01	5.651E-01	NOT IDENT.
SB-124	4.687E-02	6.664E-02	6.292E-02	3.400E-02	FAIL ABUN
SB-125	-1.874E-02	7.532E-02	6.489E-02	3.843E-02	FAIL ABUN
TE-125M	-5.845E+00	7.714E+00	6.769E+00	3.936E+00	NOT IDENT.
I-126	3.323E-02	2.004E-01	1.708E-01	1.023E-01	NOT IDENT.
SB-126	3.324E-02	1.518E-01	1.291E-01	7.746E-02	FAIL ABUN
SB-127	-4.853E-01	2.347E+00	1.931E+00	1.198E+00	NOT IDENT.
XE-127	-2.533E-02	4.166E-02	3.504E-02	2.125E-02	NOT IDENT.
I-131	4.545E-02	1.313E-01	1.189E-01	6.699E-02	NOT IDENT.
TE-132	-3.065E-01	1.425E+00	1.212E+00	7.269E-01	NOT IDENT.
BA-133	-1.492E-02	3.570E-02	2.693E-02	1.821E-02	FAIL ABUN
I-133	-7.687E+04	1.042E+05	0.000E+00	5.315E+04	SHORT HLIF
CS-134	1.323E-01	5.696E-02	4.016E-02	2.906E-02	FAIL ABUN
CS-135	1.084E-01	1.461E-01	1.160E-01	7.453E-02	NOT IDENT.
I-135	8.109E+17	7.803E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	5.131E-02	1.072E-01	9.542E-02	5.470E-02	FAIL ABUN
BA-137M	-6.496E-03	3.184E-02	2.634E-02	1.624E-02	NOT IDENT.
CS-137	-6.867E-03	3.365E-02	2.784E-02	1.717E-02	NOT IDENT.
CE-139	-1.273E-02	2.513E-02	2.164E-02	1.282E-02	NOT IDENT.
BA-140	8.986E-02	2.726E-01	2.384E-01	1.391E-01	NOT IDENT.
LA-140	-8.411E-02	8.899E-02	6.173E-02	4.540E-02	FAIL ABUN
CE-141	3.546E-02	5.428E-02	4.950E-02	2.769E-02	NOT IDENT.
CE-143	2.772E+03	1.142E+03	0.000E+00	5.827E+02	SHORT HLIF
CE-144	-3.683E-02	1.708E-01	1.443E-01	8.713E-02	NOT IDENT.
PM-144	2.864E-03	3.074E-02	2.593E-02	1.568E-02	NOT IDENT.
PR-144	1.945E-01	2.087E+00	1.761E+00	1.065E+00	NOT IDENT.

PM-146	1.618E-02	3.732E-02	3.341E-02	1.904E-02	NOT IDENT.
ND-147	-5.100E-01	5.663E-01	4.447E-01	2.889E-01	FAIL ABUN
PM-149	-3.377E+01	2.581E+02	0.000E+00	1.317E+02	SHORT HLIF
EU-152	-5.995E-02	7.910E-02	6.474E-02	4.036E-02	NOT IDENT.
GD-153	-5.479E-02	6.885E-02	5.368E-02	3.513E-02	NOT IDENT.
EU-154	1.040E-02	9.629E-02	8.197E-02	4.913E-02	NOT IDENT.
EU-155	7.776E-02	8.891E-02	8.316E-02	4.536E-02	FAIL ABUN
TB-160	-3.940E-02	1.192E-01	9.989E-02	6.080E-02	FAIL ABUN
HO-166M	2.544E-02	5.183E-02	4.513E-02	2.644E-02	NOT IDENT.
TM-171	9.868E+00	2.436E+01	1.930E+01	1.243E+01	NOT IDENT.
LU-176	1.313E-04	2.139E-02	1.771E-02	1.091E-02	NOT IDENT.
LU-177	6.070E+00	2.110E+00	1.435E+00	1.077E+00	FAIL ABUN
LU-177M	-1.753E-01	1.431E-01	1.145E-01	7.300E-02	NOT IDENT.
HF-181	1.920E-02	3.551E-02	3.199E-02	1.812E-02	NOT IDENT.
W-181	5.520E-02	3.245E-01	2.543E-01	1.656E-01	NOT IDENT.
TA-182	3.253E-01	1.793E-01	1.712E-01	9.149E-02	FAIL ABUN
RE-183	6.414E-02	9.232E-02	8.375E-02	4.710E-02	FAIL ABUN
RE-184	4.049E-02	1.944E-01	1.677E-01	9.918E-02	NOT IDENT.
OS-185	3.873E-02	3.844E-02	3.495E-02	1.961E-02	NOT IDENT.
RE-188	3.909E-02	1.457E-01	1.304E-01	7.433E-02	NOT IDENT.
W-188	-4.364E-02	6.839E+00	5.120E+00	3.489E+00	FAIL ABUN
IR-192	-1.854E-02	3.081E-02	2.465E-02	1.572E-02	FAIL ABUN
AU-195	1.975E-01	1.795E-01	1.676E-01	9.160E-02	FAIL ABUN
TL-200	-2.637E+03	4.438E+03	0.000E+00	2.264E+03	SHORT HLIF
TL-201	6.599E+00	1.362E+01	1.224E+01	6.949E+00	NOT IDENT.
TL-202	7.086E-02	7.026E-02	6.524E-02	3.585E-02	NOT IDENT.
HG-203	2.210E-02	4.049E-02	3.168E-02	2.066E-02	NOT IDENT.
BI-207	-1.314E-02	4.376E-02	3.600E-02	2.233E-02	FAIL ABUN
TL-207	-2.637E-01	6.209E-01	4.405E-01	3.168E-01	FAIL ABUN
PO-209	-1.382E-01	6.173E+00	5.320E+00	3.150E+00	NOT IDENT.
BI-210	1.353E+00	3.036E+00	2.643E+00	1.549E+00	NOT IDENT.
PB-210	1.353E+00	3.036E+00	2.643E+00	1.549E+00	NOT IDENT.
PO-210	1.353E+00	3.035E+00	2.643E+00	1.549E+00	NOT IDENT.
PB-211	1.493E-01	7.879E-01	6.969E-01	4.020E-01	NOT IDENT.
BI-212	1.116E+00	3.918E-01	3.153E-01	1.999E-01	FAIL ABUN
PO-215	-2.637E-01	6.209E-01	4.405E-01	3.168E-01	FAIL ABUN
RN-219	-4.100E-01	3.360E-01	2.672E-01	1.714E-01	FAIL ABUN
RN-220	-4.134E-01	2.283E+01	1.953E+01	1.165E+01	NOT IDENT.
RA-223	-2.637E-01	6.209E-01	4.405E-01	3.168E-01	FAIL ABUN
AC-227	1.692E-02	3.163E-01	2.702E-01	1.614E-01	FAIL ABUN
TH-227	1.692E-02	3.163E-01	2.702E-01	1.614E-01	FAIL ABUN
TH-229	-3.532E-02	4.300E-01	3.731E-01	2.194E-01	FAIL ABUN
PA-231	-5.202E-02	1.271E+00	1.070E+00	6.483E-01	FAIL ABUN
TH-231	-2.637E-01	6.209E-01	4.405E-01	3.168E-01	FAIL ABUN
U-231	-5.252E-01	1.630E+00	1.319E+00	8.317E-01	FAIL ABUN
PA-233	-1.430E-02	5.509E-02	4.531E-02	2.811E-02	FAIL ABUN
PA-234	-2.289E-01	2.551E-01	1.967E-01	1.302E-01	FAIL ABUN
PA-234M	3.479E+00	4.248E+00	3.851E+00	2.167E+00	NOT IDENT.
U-235	7.354E-02	1.752E-01	1.558E-01	8.941E-02	FAIL ABUN
NP-236	-2.881E-02	6.508E-02	5.634E-02	3.320E-02	NOT IDENT.
NP-239	3.676E-02	1.425E-01	1.300E-01	7.269E-02	FAIL ABUN
AM-241	-5.760E-02	1.371E-01	1.044E-01	6.994E-02	NOT IDENT.
CM-243	-8.780E-02	7.647E-02	6.613E-02	3.901E-02	FAIL ABUN
AM-246	6.224E-02	1.184E-01	1.055E-01	6.042E-02	NOT IDENT.
CM-247	-1.424E-02	2.888E-02	2.459E-02	1.474E-02	FAIL ABUN
CF-249	4.090E-04	3.276E-02	2.897E-02	1.671E-02	NOT IDENT.
CF-251	8.691E-02	1.027E-01	9.322E-02	5.240E-02	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT             *
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ENERGY	MDA COUNTS
--------	------------

46.50	204.5328
46.50	204.5328
46.50	204.5328
48.70	241.4461
49.72	224.3899
51.35	242.1916
52.39	232.1637
52.97	237.3520
53.15	237.4763
53.44	248.4791
54.07	224.8788
56.28	252.9097
56.28	252.9113
57.37	0.0000
57.53	256.2181
57.53	256.2194
57.60	256.2676
57.98	246.8084
57.98	246.8084
59.32	291.2310
59.32	291.2310
59.40	288.0391
59.54	289.7760
59.72	289.9159
60.01	283.6217
61.10	277.9067
61.14	277.9357
61.30	278.0528
63.00	315.4360
63.29	315.6733
63.29	315.6733
63.58	315.9097
64.28	321.4220
65.12	308.8965
65.20	308.9578
65.20	308.9578
66.05	342.7364
66.72	300.1900
66.83	300.2729
66.91	313.6080
67.20	332.0984
67.20	332.0984
67.75	342.9422
67.85	343.0283
68.90	324.3210
68.90	324.3210
69.30	336.3212
69.67	345.8128
70.82	345.5145
70.82	345.5145
70.83	345.5229
72.80	354.7188
72.87	354.7766
72.87	354.7766
74.67	349.9316
74.81	350.0432
74.81	350.0432
74.81	350.0432
74.81	350.0432
74.81	350.0432
74.81	350.0432
74.81	350.0432
74.97	350.1737
75.28	350.4243
75.70	350.7612
77.11	351.8899
77.11	351.8899

77.11	351.8899
77.11	351.8899
77.11	351.8899
77.11	351.8899
77.11	351.8899
78.38	352.8985
79.62	353.8756
79.80	354.0167
79.80	354.0167
80.11	354.2588
80.18	354.3136
80.30	354.4062
80.30	354.4062
80.57	354.6168
81.00	298.3651
81.07	298.4111
81.07	298.4111
81.07	298.4111
81.07	298.4111
82.60	268.4329
83.37	268.8772
83.78	253.5894
83.78	253.5894
83.78	253.5894
83.78	253.5894
84.21	326.3434
84.90	326.8221
85.43	327.1893
86.29	327.7834
86.50	327.9276
86.54	327.9545
86.59	327.9891
86.72	328.0776
86.79	328.1237
86.94	328.2295
87.30	328.4756
87.30	328.4756
87.30	328.4756
87.30	328.4756
87.30	328.4756
87.30	328.4756
87.57	346.9190
87.88	347.1423
88.03	347.2498
88.36	347.4873
88.47	347.5664
89.95	369.5914
91.11	256.1711
92.29	256.7810
92.38	256.8272
92.38	256.8272
93.35	257.3241
94.00	257.6573
94.67	234.1801
94.67	234.1828
94.90	247.5248
94.90	247.5248
94.90	247.5248
94.90	247.5248
95.87	275.8453
95.87	275.8453
96.73	289.5945
97.43	295.3062
98.44	242.0340
98.44	242.0354
98.88	246.3298
99.55	254.6584
99.55	254.6584
99.86	244.1177
100.00	254.8759
100.10	254.9268
103.18	302.1221
103.76	306.0376
105.00	279.7510
105.31	283.5109
108.00	306.6032
109.28	299.1498

111.00	290.0608
111.00	290.0608
111.76	223.0718
112.95	258.2076
115.19	278.4456
116.30	220.2441
117.00	230.6144
117.00	230.6144
117.66	255.7072
121.11	237.7624
121.62	253.7045
121.78	272.2948
122.06	269.6421
122.32	274.3926
122.32	274.3926
122.32	274.3926
122.32	274.3926
123.07	270.0906
127.23	301.3546
129.76	256.1291
131.20	252.4808
133.02	247.5410
133.54	261.6120
135.34	261.2039
136.00	254.8391
136.25	256.8303
136.48	256.9213
140.51	253.7207
140.51	0.0000
142.18	313.6360
142.65	272.7104
143.76	250.1542
144.24	234.0245
144.24	234.0245
144.24	234.0245
144.24	234.0245
145.22	247.8090
145.44	247.8878
147.16	269.6977
152.43	283.3829
152.70	243.6848
153.22	231.2331
154.21	266.5775
154.21	266.5775
154.21	266.5775
154.21	266.5775
155.03	259.0919
156.02	257.4983
158.56	239.8061
159.00	0.0000
159.00	250.7214
160.31	262.9456
161.27	270.1660
162.32	232.1805
162.64	223.4208
163.35	253.1909
163.89	242.5291
165.85	265.8996
167.43	229.8052
171.28	202.0934
171.86	204.2388
172.10	204.3014
176.55	213.4875
176.60	213.5027
181.06	220.1463
184.41	250.5162
185.71	250.4071
186.00	250.4976
190.27	255.3645
192.34	227.8954
193.63	245.6445
197.04	246.6333
198.01	228.3955
198.60	231.6399
200.40	209.4284
201.83	252.1438
202.84	241.0563
205.31	192.9742

208.36	241.5298
208.81	241.6525
209.75	226.7882
209.75	226.7882
210.97	231.7965
215.65	227.7502
216.55	219.5708
218.09	204.1555
222.10	243.0905
223.80	221.2971
226.40	234.6506
227.00	230.5493
227.08	216.7562
227.20	216.7832
228.16	242.5330
228.18	242.5376
228.18	242.5376
231.56	0.0000
235.69	225.1395
236.00	239.6900
236.00	239.6900
238.63	192.4836
238.63	192.4836
238.63	192.4836
238.63	192.4836
239.00	192.5547
240.98	192.9425
241.98	193.1373
241.98	193.1373
241.98	193.1373
244.69	126.5834
245.39	138.0407
247.94	141.9714
248.90	160.7925
249.79	134.8366
252.40	166.7975
252.85	159.2360
252.85	159.2360
254.15	0.0000
256.20	164.1304
256.20	164.1304
260.50	154.9216
260.90	0.0000
262.80	143.1476
264.65	164.3541
268.24	154.3945
268.79	144.5079
269.46	149.5844
269.46	149.5844
269.46	149.5844
269.46	149.5844
271.23	168.1412
273.65	116.7941
276.40	173.9607
277.35	160.7168
277.60	155.1731
277.60	155.1731
278.00	150.7626
278.60	140.7887
279.20	150.9247
279.53	161.0361
280.46	167.8864
281.68	145.2120
283.67	147.0445
284.30	149.3734
285.00	155.0844
285.90	0.0000
286.10	149.6115
286.10	149.6115
287.40	136.2702
288.45	0.0000
290.67	137.2289
290.80	137.2437
291.72	132.2677
293.26	0.0000
293.70	125.7015
295.21	127.5673
295.21	127.5673

295.21	127.5673
295.96	142.9702
296.50	143.0369
297.23	143.1266
298.57	143.2906
299.80	140.0266
299.80	140.0266
300.09	136.6455
300.09	136.6455
300.09	136.6455
300.09	136.6455
300.12	136.6504
301.29	121.3986
302.84	142.1041
303.76	137.0752
303.91	152.5152
304.40	141.2629
304.40	141.2629
304.84	141.3157
306.84	130.5601
308.46	119.2703
311.98	141.4755
316.51	144.3151
318.01	121.3742
319.02	127.2591
319.41	131.9285
320.08	128.5267
323.87	135.8930
323.87	135.8930
323.87	135.8930
323.87	135.8930
325.23	125.5781
328.77	150.4213
333.44	139.0447
334.20	143.3429
334.20	143.3429
334.30	143.3553
338.28	132.1724
338.28	132.1724
338.28	132.1724
338.28	132.1724
338.32	132.1770
338.32	132.1770
338.32	132.1770
340.50	115.8070
340.57	115.8130
344.27	133.5469
345.85	145.8658
350.59	0.0000
351.07	117.4638
351.92	117.5403
351.92	117.5403
351.92	117.5403
355.39	0.0000
356.01	105.7562
364.48	111.4592
366.43	129.6233
367.43	117.1063
367.94	0.0000
369.80	122.7250
374.96	118.6568
383.85	113.0334
387.95	115.1911
388.63	107.0132
391.69	126.4923
391.69	126.4923
392.90	117.4258
398.62	106.8401
400.65	107.9111
401.10	119.0164
401.81	125.5348
402.60	108.9793
404.84	115.6197
410.95	101.2395
411.60	127.3003
413.65	120.0320
414.70	105.2185
415.30	93.1503

415.76	86.6568
417.63	0.0000
418.52	92.4167
423.70	95.5441
427.08	89.1843
427.89	103.3214
432.53	87.6175
433.93	92.4103
439.47	82.3311
439.56	81.3887
439.89	88.0318
443.98	90.1598
444.90	87.3632
445.03	87.3716
445.03	87.3716
445.03	87.3716
445.03	87.3716
453.90	96.4536
463.38	93.1784
468.07	95.5642
473.00	82.1297
475.06	100.6135
475.35	87.0845
476.78	73.6006
477.59	79.4500
477.96	84.3131
482.03	72.8600
484.57	93.4014
487.03	83.7941
490.36	0.0000
492.35	0.0000
497.08	91.1495
507.63	0.0000
510.53	0.0000
510.84	74.0902
511.00	74.0971
511.85	74.1320
511.85	74.1320
513.99	66.5027
513.99	66.5027
520.41	75.4828
520.65	75.4944
527.90	0.0000
528.96	0.0000
529.64	78.8674
529.87	0.0000
531.02	81.9249
537.32	79.2001
543.00	87.4885
546.56	0.0000
549.76	86.8005
552.65	60.6519
555.20	78.9545
563.23	80.3067
563.90	71.1813
568.70	87.6718
569.32	88.7205
569.50	88.7284
569.67	75.4769
573.80	80.7503
574.00	80.7575
574.64	96.1228
578.91	77.0681
579.30	0.0000
583.14	84.2197
585.48	74.0369
591.81	66.0234
592.07	66.0313
593.00	63.9980
595.88	63.0570
600.56	81.8569
602.52	0.0000
602.71	66.3848
602.71	66.3848
603.60	89.6590
604.41	76.4076
604.70	76.4188
609.31	84.2926

609.31	84.2926
609.31	84.2926
609.31	84.2926
610.33	84.3346
612.46	75.0432
614.37	68.4368
618.01	83.6084
621.84	57.5882
621.84	57.5882
631.29	65.2147
633.02	66.3223
633.10	66.3242
634.78	70.5925
635.90	74.8460
636.97	67.5020
645.85	64.6077
646.12	61.4391
656.30	63.8599
657.75	72.4243
657.90	0.0000
661.65	83.2249
661.65	83.2249
664.57	0.0000
666.33	80.1956
666.33	80.1956
675.00	64.4110
677.61	66.6375
685.20	71.1804
692.80	86.5723
695.00	75.8255
696.49	76.9586
696.49	76.9586
697.00	79.1442
697.49	75.9088
698.33	69.4277
698.50	69.4336
699.00	74.8749
702.63	70.6474
706.10	79.4628
706.58	0.0000
706.67	76.2164
709.31	76.3040
711.68	62.1976
713.82	69.9004
717.42	72.1976
720.50	64.6267
721.93	0.0000
722.20	61.3850
722.78	54.3832
722.78	54.3832
722.89	54.3862
722.95	59.6511
723.30	59.6594
724.18	68.4595
727.18	57.1226
733.00	66.0754
735.90	65.0534
739.58	67.3629
742.81	64.1384
744.21	59.7497
747.13	56.4987
751.79	72.1490
752.31	71.0547
753.82	46.6591
755.35	63.3631
756.15	63.3840
756.87	64.5154
763.93	69.1653
765.79	79.2661
766.42	69.2372
766.84	70.3655
776.49	76.2489
778.00	65.0765
778.57	61.7239
778.89	61.7323
783.80	75.3505
785.46	62.1219
792.07	55.6656

795.84	45.2026
796.30	45.2112
798.80	51.2891
801.93	63.4358
805.60	54.4526
810.29	68.1921
810.76	63.6580
815.85	51.9387
817.79	59.2728
818.51	51.0795
819.60	39.2386
826.30	65.8723
828.27	0.0000
831.60	51.9504
831.96	51.9574
834.83	74.9615
836.80	0.0000
846.75	60.8566
848.13	62.7340
856.28	0.0000
856.80	92.5562
860.37	52.8280
867.32	54.8228
867.82	54.8328
871.10	53.9686
873.19	56.8033
874.81	59.6328
875.33	0.0000
876.40	53.1411
879.36	55.0662
880.27	55.0849
880.51	47.6195
881.50	44.8348
883.24	58.8825
884.67	56.1079
889.25	53.3916
896.60	52.5943
898.02	50.7423
899.00	50.7608
903.28	48.9557
911.07	50.9796
911.07	50.9796
911.07	50.9796
919.63	47.3474
920.93	47.3694
925.00	48.3853
925.24	42.6962
926.50	44.6144
935.52	34.2800
937.48	59.0786
944.10	51.5742
946.00	60.2084
949.00	51.6612
962.29	64.0690
964.01	59.2985
966.15	57.7383
968.20	57.7778
969.11	57.7969
969.11	57.7969
969.11	57.7969
977.42	32.1989
980.50	47.3814
983.50	40.6537
989.30	39.7628
996.32	58.3242
1001.03	45.7584
1001.68	43.8212
1004.76	67.2598
1021.30	0.0000
1024.50	0.0000
1034.80	44.2947
1036.00	48.2511
1037.82	51.2332
1038.57	50.2604
1038.76	0.0000
1045.16	48.3923
1046.59	34.5813
1048.07	40.5275

1050.47	52.4307
1050.47	52.4307
1062.04	45.6721
1063.62	50.6613
1076.63	51.8629
1077.35	40.9019
1078.86	41.9180
1085.78	53.0104
1099.22	64.2750
1112.02	45.9293
1112.84	56.1876
1115.52	55.5103
1120.29	56.6016
1120.29	56.6016
1120.29	56.6016
1120.29	56.6016
1120.51	56.6043
1121.28	56.6180
1124.00	0.0000
1129.67	50.6787
1131.51	0.0000
1147.95	0.0000
1167.94	57.4000
1173.22	51.3281
1175.09	51.3574
1177.93	45.2311
1189.05	57.7500
1204.90	52.8303
1205.75	0.0000
1213.00	44.6461
1221.42	42.6696
1230.97	55.6510
1235.34	64.4248
1236.41	0.0000
1238.25	66.2186
1246.25	51.3471
1260.41	0.0000
1271.85	47.4829
1274.45	32.7347
1274.54	35.9025
1291.56	39.2493
1298.22	0.0000
1312.09	41.5956
1325.50	29.9688
1325.50	29.9688
1332.49	32.1665
1333.61	36.4670
1360.21	35.6361
1362.66	0.0000
1365.15	29.1938
1368.21	33.5445
1368.53	0.0000
1376.25	19.8784
1384.27	27.1619
1394.10	25.0507
1395.20	21.7891
1407.95	21.8584
1434.06	18.6992
1436.60	32.1018
1457.56	0.0000
1460.81	19.3739
1489.15	18.9474
1509.49	22.3975
1596.49	25.9610
1620.62	16.2688
1678.03	0.0000
1691.02	10.6876
1691.02	10.6876
1706.46	0.0000
1750.46	0.0000
1764.49	5.0736
1764.49	5.0736
1764.49	5.0736
1764.49	5.0736
1770.23	6.7726
1771.40	6.7743
1791.20	0.0000
1808.65	5.9722

1836.01

12.0093

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107002

Total Uranium Activity	3.5412E+00	ug/g
Total Uranium Counting Unc.	4.8673E+00	ug/g
Total Uranium Tpu	2.4833E-06	ug/g
Total Uranium Mda	2.6557E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107002
*  ANALYST       : MXR1                             DETECTOR    : GAM16
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 11:30:18.13          SAMPLE ALQT  : 138.120 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.861E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.319E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.561E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.722E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:46:10.13

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration   : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107003.CNF;1
Sample date     : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:37:37.
Sample ID       : G245107003      Sample quantity   : 1.10790E+02 GRAM
Detector name   : GAM18           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        : 944038          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	63.66*	80	534	0.74	126.45	122	9	1.12E-02	54.4	
2	3	74.95	378	428	1.17	149.01	144	19	5.24E-02	10.4	7.09E-01
3	3	77.29*	505	359	0.96	153.69	144	19	7.01E-02	7.6	
4	0	87.23	208	347	1.25	173.57	171	6	2.89E-02	15.8	
5	0	93.16*	352	792	1.20	185.42	180	10	4.89E-02	16.4	
6	0	129.63	50	308	1.04	258.34	255	7	6.97E-03	60.1	
7	0	143.95	80	310	1.69	286.96	284	8	1.12E-02	39.6	
8	0	154.12	98	263	1.13	307.30	304	8	1.36E-02	30.5	
9	0	186.10*	329	403	1.28	371.25	366	11	4.57E-02	13.6	
10	0	209.18	114	336	1.13	417.38	413	10	1.59E-02	31.3	
11	2	238.67*	1440	224	1.22	476.34	469	21	2.00E-01	3.2	2.20E+00
12	2	241.76*	314	244	1.56	482.52	469	21	4.36E-02	11.8	
13	0	269.89	161	288	1.98	538.76	533	14	2.23E-02	23.8	
14	0	277.35	135	262	1.51	553.69	546	15	1.87E-02	27.6	
15	0	295.19*	445	269	1.31	589.35	583	12	6.18E-02	8.9	
16	0	300.31	99	174	1.23	599.58	595	9	1.38E-02	25.9	
17	0	328.43	83	190	1.54	655.80	650	10	1.16E-02	33.0	
18	0	338.31*	282	225	1.29	675.56	670	12	3.92E-02	12.5	
19	0	351.90*	791	179	1.37	702.73	697	11	1.10E-01	4.9	
20	0	462.92	119	93	1.73	924.70	920	9	1.65E-02	17.4	
21	0	510.86*	138	159	2.09	1020.55	1013	16	1.91E-02	26.5	
22	0	582.94*	522	138	1.54	1164.67	1156	18	7.26E-02	7.0	
23	0	608.99*	569	194	1.51	1216.75	1208	18	7.90E-02	7.2	
24	0	661.26	584	190	1.78	1321.27	1312	19	8.10E-02	7.0	
25	0	678.02	24	71	1.26	1354.78	1350	10	3.29E-03	70.1	
26	0	726.95	140	99	1.88	1452.63	1446	15	1.95E-02	17.6	
27	0	767.66	90	58	3.65	1534.02	1529	11	1.24E-02	19.6	
28	0	794.38	81	62	2.08	1587.45	1578	14	1.12E-02	23.2	
29	0	861.62*	69	96	1.13	1721.91	1712	21	9.59E-03	38.8	
30	0	910.72*	334	82	1.47	1820.08	1813	14	4.64E-02	8.2	
31	4	964.19	83	39	3.09	1926.99	1920	21	1.16E-02	22.5	1.85E+00
32	4	968.50*	221	31	1.82	1935.61	1920	21	3.06E-02	8.9	
33	0	1119.86*	134	65	1.98	2238.30	2233	13	1.87E-02	15.6	
34	0	1237.26*	94	87	1.77	2473.05	2464	19	1.31E-02	26.5	
35	0	1459.82	1345	57	2.16	2918.12	2908	21	1.87E-01	3.1	
36	0	1588.98*	33	35	1.15	3176.43	3165	23	4.58E-03	50.2	
37	0	1728.56	44	20	1.91	3455.57	3446	20	6.11E-03	29.1	
38	1	1759.77	30	3	2.66	3518.00	3515	18	4.18E-03	16.4	1.56E+00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	1	1763.31*	112	8	2.93	3525.07	3515	18	1.56E-02	12.3	
40	0	1846.82	27	10	1.24	3692.09	3686	11	3.73E-03	30.6	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:37:37
Sample ID         : G245107003 Sample quantity : 110.79 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA18 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.48 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	*	2.255E+01	2.202E+00	4.470E-01	3.392E-02	50.449
CD-109	+	88.03	*	3.026E+00	9.947E-01	1.512E+00	1.398E-01	2.001
SN-126	+	64.28		9.028E-01	9.910E-01	9.509E-01	1.406E-01	0.949
	+	86.94		1.229E+00	6.407E-01	6.194E-01	2.569E-01	1.985
	+	87.57	*	2.957E-01	9.720E-02	1.460E-01	1.345E-02	2.025
BA-137M	+	661.65	*	6.130E-01	9.789E-02	4.872E-02	3.714E-03	12.582
CS-137	+	661.65	*	6.480E-01	1.035E-01	5.150E-02	3.936E-03	12.582
CE-141	+	145.44	*	1.027E-01	8.150E-02	1.008E-01	5.754E-03	1.019
RE-188	+	155.03	*	3.290E-01	2.018E-01	2.592E-01	1.387E-02	1.269
		477.96		1.490E+00	2.909E+00	4.939E+00	3.147E-01	0.302
		633.10		-1.710E+00	2.626E+00	4.017E+00	2.986E-01	-0.426
TL-208	+	277.35		1.073E+00	6.024E-01	5.091E-01	5.347E-02	2.108
	+	510.84		5.007E-01	2.706E-01	2.041E-01	2.170E-02	2.454
	+	583.14	*	5.342E-01	8.596E-02	4.665E-02	3.657E-03	11.453
	+	860.37		6.448E-01	5.057E-01	3.753E-01	4.198E-02	1.718
BI-211		72.87		1.575E+00	3.652E+00	5.518E+00	4.557E-01	0.285
	+	351.07	*	3.798E+00	4.480E-01	2.768E-01	1.777E-02	13.723
PB-212	+	74.81		2.426E+00	5.897E-01	5.637E-01	7.066E-02	4.303
	+	77.11		1.807E+00	3.134E-01	3.154E-01	2.673E-02	5.728
	+	87.30		1.368E+00	4.699E-01	6.779E-01	9.208E-02	2.017
	+	238.63	*	1.610E+00	1.544E-01	8.054E-02	5.753E-03	19.994
	+	300.09		1.651E+00	8.659E-01	1.093E+00	8.978E-02	1.510
PO-212	+	74.81		2.426E+00	5.897E-01	5.637E-01	7.066E-02	4.303
	+	77.11		1.807E+00	3.134E-01	3.154E-01	2.673E-02	5.728
	+	87.30		1.368E+00	4.699E-01	6.779E-01	9.208E-02	2.017
		115.19		2.091E+00	3.389E+00	5.603E+00	3.530E-01	0.373
	+	238.63	*	1.610E+00	1.544E-01	8.054E-02	5.753E-03	19.994
	+	300.09		1.651E+00	8.659E-01	1.093E+00	8.978E-02	1.510
BI-214	+	609.31	*	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
	+	1120.29		1.291E+00	4.204E-01	3.862E-01	3.697E-02	3.343
	+	1764.49		1.417E+00	3.579E-01	2.601E-01	1.581E-02	5.450
PB-214	+	74.81		4.180E+00	9.878E-01	9.713E-01	1.084E-01	4.303
	+	77.11		3.097E+00	5.869E-01	5.407E-01	6.162E-02	5.728
	+	87.30		2.343E+00	7.910E-01	1.161E+00	1.393E-01	2.017

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		2.103E+00	5.247E-01	4.841E-01	3.828E-02	4.345
	+	295.21		1.300E+00	2.570E-01	1.951E-01	1.655E-02	6.665
	+	351.92	*	1.321E+00	1.704E-01	9.645E-02	7.979E-03	13.698
	+	74.81		4.180E+00	9.878E-01	9.713E-01	1.084E-01	4.303
	+	77.11		3.097E+00	5.869E-01	5.407E-01	6.162E-02	5.728
	+	87.30		2.343E+00	7.910E-01	1.161E+00	1.393E-01	2.017
PO-216	+	241.98		2.103E+00	5.247E-01	4.841E-01	3.828E-02	4.345
	+	295.21		1.300E+00	2.570E-01	1.951E-01	1.655E-02	6.665
	+	351.92	*	1.321E+00	1.704E-01	9.645E-02	7.979E-03	13.698
	+	74.81		2.426E+00	5.897E-01	5.637E-01	7.066E-02	4.303
	+	77.11		1.807E+00	3.134E-01	3.154E-01	2.673E-02	5.728
	+	87.30		1.368E+00	4.699E-01	6.779E-01	9.208E-02	2.017
PO-218	+	238.63	*	1.610E+00	1.544E-01	8.054E-02	5.753E-03	19.994
	+	300.09		1.651E+00	8.659E-01	1.093E+00	8.978E-02	1.510
	+	74.81		4.180E+00	9.878E-01	9.713E-01	1.084E-01	4.303
	+	77.11		3.097E+00	5.869E-01	5.407E-01	6.162E-02	5.728
	+	87.30		2.343E+00	7.910E-01	1.161E+00	1.393E-01	2.017
	+	241.98		2.103E+00	5.247E-01	4.841E-01	3.828E-02	4.345
RA-224	+	295.21		1.300E+00	2.570E-01	1.951E-01	1.655E-02	6.665
	+	351.92	*	1.321E+00	1.704E-01	9.645E-02	7.979E-03	13.698
	+	240.98	*	3.988E+00	9.694E-01	9.154E-01	5.099E-02	4.357
RA-226	+	609.31	*	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
	+	1120.29		1.291E+00	4.204E-01	3.862E-01	3.697E-02	3.343
	+	1764.49		1.417E+00	3.579E-01	2.601E-01	1.581E-02	5.450
AC-228	+	338.32		1.503E+00	7.182E-01	3.121E-01	1.272E-01	4.816
	+	911.07	*	1.469E+00	3.093E-01	1.564E-01	2.073E-02	9.393
	+	969.11		1.706E+00	5.083E-01	2.781E-01	6.660E-02	6.134
RA-228	+	338.32		1.503E+00	7.182E-01	3.121E-01	1.272E-01	4.816
	+	911.07	*	1.469E+00	3.093E-01	1.564E-01	2.073E-02	9.393
	+	969.11		1.706E+00	5.083E-01	2.781E-01	6.660E-02	6.134
TH-228	+	74.81		2.472E+00	5.555E-01	5.745E-01	4.841E-02	4.303
	+	77.11		1.841E+00	3.194E-01	3.214E-01	2.724E-02	5.728
	+	87.30		1.394E+00	4.581E-01	6.909E-01	6.350E-02	2.017
TH-230	+	238.63	*	1.641E+00	1.573E-01	8.208E-02	5.864E-03	19.994
	+	300.09		1.682E+00	1.320E+00	1.114E+00	6.567E-01	1.510
	+	609.31	*	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
TH-232	+	1120.29		1.291E+00	4.204E-01	3.861E-01	3.697E-02	3.343
	+	1764.49		1.417E+00	3.579E-01	2.600E-01	1.581E-02	5.450
	+	338.32		1.503E+00	3.845E-01	3.121E-01	1.805E-02	4.816
TH-234	+	911.07	*	1.469E+00	3.093E-01	1.564E-01	2.073E-02	9.393
	+	969.11		1.706E+00	5.083E-01	2.781E-01	6.660E-02	6.134
	+	63.29	*	2.281E+00	2.513E+00	2.508E+00	4.421E-01	0.909
U-234	+	92.38		3.159E+00	1.183E+00	8.730E-01	1.574E-01	3.619
	+	609.31	*	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
	+	1120.29		1.291E+00	4.204E-01	3.861E-01	3.697E-02	3.343
U-235	+	1764.49		1.417E+00	3.579E-01	2.600E-01	1.581E-02	5.450
	+	89.95		-4.725E-01	1.708E+00	1.926E+00	5.958E-01	-0.245
	+	93.35		3.798E+00	1.638E+00	1.039E+00	2.904E-01	3.655
	+	105.00		7.567E-01	1.037E+00	1.694E+00	4.985E-01	0.447

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	143.76	*	3.152E-01	2.547E-01	3.194E-01	5.173E-02	0.987
		163.35		4.687E-01	4.426E-01	7.636E-01	1.361E-01	0.614
	+	185.71		2.698E-01	7.471E-02	6.116E-02	3.253E-03	4.411
		205.31		3.768E-01	5.294E-01	7.931E-01	1.417E-01	0.475
NP-237	+	86.50	*	8.683E-01	3.370E-01	4.197E-01	9.470E-02	2.069
		95.87		2.002E-01	1.061E+00	1.557E+00	3.804E-01	0.129
U-238	+	63.29	*	2.281E+00	2.513E+00	2.508E+00	4.421E-01	0.909
	+	92.38		3.159E+00	1.071E+00	8.730E-01	7.420E-02	3.619
AM-243	+	74.67	*	3.933E-01	8.826E-02	9.175E-02	7.657E-03	4.286
	+	86.72		3.256E+01	1.070E+01	1.646E+01	1.505E+00	1.978
		117.66		-1.126E+00	3.608E+00	5.719E+00	3.518E-01	-0.197
		142.18		9.994E+00	1.889E+01	2.748E+01	1.513E+00	0.364
ANH-511	+	511.00	*	1.082E-01	5.775E-02	4.409E-02	2.912E-03	2.453

---- 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	*	9.615E-02	3.078E-01	5.168E-01	3.745E-02	0.186
NA-22		1274.54	*	-2.100E-02	3.471E-02	5.358E-02	3.646E-03	-0.392
NA-24		1368.53	*	-7.465E+01	3.471E-02	Half-Life too short		
AL-26		1129.67		1.105E+00	1.443E+00	2.456E+00	1.640E-01	0.450
		1808.65	*	-5.484E-03	2.423E-02	3.820E-02	2.230E-03	-0.144
TI-44		67.85		-4.357E-02	5.965E-02	8.551E-02	6.876E-03	-0.510
	+	78.38	*	3.334E-01	5.785E-02	8.257E-02	7.060E-03	4.038
SC-46		889.25	*	-6.415E-03	3.731E-02	6.015E-02	6.709E-03	-0.107
	+	1120.51		2.282E-01	7.277E-02	1.127E-01	7.785E-03	2.026
V-48		944.10		-3.768E-01	9.286E-01	1.456E+00	1.541E-01	-0.259
		983.50	*	-2.450E-02	7.333E-02	1.152E-01	1.139E-02	-0.213
		1312.09		3.017E-02	7.755E-02	1.319E-01	9.605E-03	0.229
CR-51		320.08	*	-1.379E-01	3.532E-01	5.554E-01	3.576E-02	-0.248
MN-52		744.21		-5.145E-03	3.011E-01	4.994E-01	4.404E-02	-0.010
		848.13		3.692E+00	9.868E+00	1.663E+01	1.740E+00	0.222
		935.52		6.735E-01	3.631E-01	6.628E-01	7.109E-02	1.016
		1246.25		9.006E+00	1.003E+01	1.572E+01	1.011E+00	0.573
		1333.61		6.625E-01	6.986E+00	1.153E+01	8.711E-01	0.057
		1434.06	*	-2.974E-02	3.230E-01	5.184E-01	3.820E-02	-0.057
MN-54		834.83	*	-5.852E-04	3.475E-02	5.706E-02	5.844E-03	-0.010
CO-56		846.75	*	1.030E-02	3.551E-02	5.955E-02	6.217E-03	0.173
		977.42		1.028E-01	2.672E+00	4.343E+00	4.344E-01	0.024
		1037.82		-1.595E-02	2.574E-01	4.287E-01	3.972E-02	-0.037
		1175.09		1.001E+00	2.012E+00	3.452E+00	1.916E-01	0.290
	+	1238.25		2.619E-01	1.400E-01	1.574E-01	1.049E-02	1.664
		1360.21		-5.336E-01	8.088E-01	1.210E+00	9.090E-02	-0.441
		1771.40		-1.060E-01	2.124E-01	2.774E-01	1.676E-02	-0.382
CO-57		122.06	*	7.007E-03	2.343E-02	3.812E-02	2.258E-03	0.184
		136.48		-4.054E-02	2.036E-01	3.213E-01	2.103E-02	-0.126
CO-58		810.76	*	2.311E-02	3.351E-02	5.806E-02	5.731E-03	0.398
FE-59	+	142.65		4.321E+00	3.428E+00	4.620E+00	2.542E-01	0.935

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60		192.34		2.371E-01	9.140E-01	1.496E+00	1.734E-01	0.159
		1099.22	*	-8.433E-03	7.555E-02	1.246E-01	1.026E-02	-0.068
		1291.56		-2.703E-02	1.096E-01	1.756E-01	1.476E-02	-0.154
		1173.22		1.302E-02	3.871E-02	6.568E-02	3.630E-03	0.198
		1332.49	*	6.311E-03	3.348E-02	5.578E-02	4.215E-03	0.113
		1115.52	*	6.133E-02	9.315E-02	1.415E-01	9.966E-03	0.434
		1077.35	*	8.265E-01	1.118E+00	1.963E+00	1.559E-01	0.421
		53.44	*	1.466E+00	1.167E+00	2.049E+00	1.624E-01	0.715
		595.88	*	-2.998E-02	9.001E-02	1.420E-01	1.020E-02	-0.211
		634.78		-2.335E-03	3.695E-01	5.942E-01	4.424E-02	-0.004
SE-75		66.05		-2.237E+00	6.268E+00	9.172E+00	9.084E-01	-0.244
		96.73		-3.625E-01	8.878E-01	1.260E+00	1.662E-01	-0.288
		121.11		-2.960E-02	1.277E-01	2.027E-01	1.892E-02	-0.146
		136.00		-2.317E-02	3.918E-02	6.070E-02	3.457E-03	-0.382
		198.60		-6.574E-01	1.627E+00	2.671E+00	1.812E-01	-0.246
		264.65	*	3.488E-02	4.220E-02	6.407E-02	3.664E-03	0.544
		279.53		6.979E-02	1.105E-01	1.644E-01	1.016E-02	0.425
		303.91		1.853E+00	2.084E+00	3.136E+00	2.983E-01	0.591
		400.65		3.931E-02	2.265E-01	3.825E-01	3.485E-02	0.103
		87.88		2.033E-03	2.265E-01	Half-Life	too short	
BR-77	+	200.40		-1.180E-04	2.265E-01	Half-Life	too short	
	+	239.00		8.086E-04	2.265E-01	Half-Life	too short	
		249.79		1.423E-04	2.265E-01	Half-Life	too short	
		281.68		1.014E-04	2.265E-01	Half-Life	too short	
		297.23		9.519E-04	2.265E-01	Half-Life	too short	
		303.76		4.921E-04	2.265E-01	Half-Life	too short	
		439.47		1.389E-04	2.265E-01	Half-Life	too short	
		484.57		-4.708E-04	2.265E-01	Half-Life	too short	
		520.65	*	-2.094E-05	2.265E-01	Half-Life	too short	
		574.64		-3.323E-04	2.265E-01	Half-Life	too short	
SR-82		578.91		2.492E-04	2.265E-01	Half-Life	too short	
		585.48		4.216E-03	2.265E-01	Half-Life	too short	
		755.35		1.252E-04	2.265E-01	Half-Life	too short	
		817.79		-2.157E-04	2.265E-01	Half-Life	too short	
		698.33		3.473E+00	3.298E+01	5.544E+01	4.514E+00	0.063
		776.49	*	-3.657E-01	3.608E-01	5.485E-01	5.108E-02	-0.667
		1395.20		6.084E+00	1.076E+01	1.856E+01	1.383E+00	0.328
		520.41	*	-4.859E-02	6.235E-02	9.657E-02	6.441E-03	-0.503
		529.64		1.618E-02	9.328E-02	1.543E-01	1.039E-02	0.105
		552.65		7.622E-03	1.745E-01	2.851E-01	1.965E-02	0.027
RB-84		881.50	*	-2.264E-02	6.636E-02	1.054E-01	1.162E-02	-0.215
KR-85		513.99	*	1.817E+01	7.628E+00	1.262E+01	8.358E-01	1.440
SR-85		513.99	*	9.709E-02	4.075E-02	6.740E-02	4.465E-03	1.440
RB-86		1076.63	*	5.553E-01	8.079E-01	1.414E+00	1.126E-01	0.393
Y-88		898.02		1.301E-02	3.939E-02	6.588E-02	7.468E-03	0.197
		1836.01	*	-4.487E-03	2.664E-02	4.069E-02	2.318E-03	-0.110
ZR-88		392.90	*	-1.750E-02	2.718E-02	4.388E-02	2.524E-03	-0.399
Y-91		1204.90	*	8.762E+00	1.621E+01	2.785E+01	1.647E+00	0.315
NB-94		702.63	*	1.724E-03	2.875E-02	4.818E-02	3.953E-03	0.036

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	871.10			-4.077E-03	3.195E-02	4.608E-02	4.998E-03	-0.088
NB-95	765.79	*		9.596E-02	4.217E-02	7.170E-02	6.559E-03	1.338
NB-95M	235.69	*		1.656E-01	1.382E-01	2.122E-01	1.557E-02	0.780
ZR-95	724.18			1.619E-01	1.006E-01	1.629E-01	1.510E-02	0.994
	756.15	*		2.429E-02	6.302E-02	1.073E-01	1.056E-02	0.226
NB-97	657.90	*		1.717E+01	6.302E-02	Half-Life	too short	
	1024.50			5.104E+01	6.302E-02	Half-Life	too short	
ZR-97	254.15			-2.001E+02	6.302E-02	Half-Life	too short	
	355.39			1.574E+01	6.302E-02	Half-Life	too short	
	507.63	*		1.869E+02	6.302E-02	Half-Life	too short	
	602.52			7.488E+01	6.302E-02	Half-Life	too short	
	1021.30			4.173E+02	6.302E-02	Half-Life	too short	
	1147.95			1.611E+02	6.302E-02	Half-Life	too short	
	1362.66			1.329E+02	6.302E-02	Half-Life	too short	
	1750.46			1.376E+02	6.302E-02	Half-Life	too short	
MO-99	140.51			-1.879E+01	7.753E+01	1.059E+02	2.848E+01	-0.177
	181.06			6.269E+00	4.488E+01	6.696E+01	1.137E+01	0.094
	366.43			7.353E+01	1.900E+02	3.266E+02	1.887E+01	0.225
	739.58	*		1.077E+01	2.552E+01	4.362E+01	6.656E+00	0.247
	778.00			-1.169E+02	7.732E+01	1.114E+02	1.040E+01	-1.049
TC-99M	140.51	*		-5.011E+14	7.732E+01	Half-Life	too short	
RH-101	127.23			3.831E-03	3.512E-02	5.032E-02	2.907E-03	0.076
	198.01	*		-2.974E-03	2.932E-02	4.877E-02	2.621E-03	-0.061
	325.23			1.615E-01	2.198E-01	3.261E-01	1.884E-02	0.495
RH-102	418.52			1.135E-01	2.598E-01	4.366E-01	2.594E-02	0.260
	475.06	*		-8.585E-03	2.649E-02	4.284E-02	2.721E-03	-0.200
	631.29			-1.324E-02	4.903E-02	7.733E-02	5.740E-03	-0.171
	697.49			2.140E-04	6.682E-02	1.116E-01	9.075E-03	0.002
+	766.84			2.825E-01	1.135E-01	1.785E-01	1.636E-02	1.583
	1046.59			-7.605E-02	9.678E-02	1.511E-01	1.304E-02	-0.503
	1112.84			-3.632E-02	2.296E-01	3.208E-01	2.278E-02	-0.113
RU-103	497.08	*		3.012E-03	3.797E-02	6.272E-02	8.144E-03	0.048
+	610.33			1.263E+01	2.725E+00	2.713E+00	4.351E-01	4.655
RH-106	511.85	+		5.442E-01	2.906E-01	3.965E-01	2.621E-02	1.373
	621.84	*		-4.900E-02	2.901E-01	4.618E-01	5.810E-02	-0.106
	1050.47			8.837E-01	1.879E+00	3.258E+00	2.784E-01	0.271
RU-106	511.85	+		5.442E-01	2.906E-01	3.965E-01	2.621E-02	1.373
	621.84	*		-4.900E-02	2.900E-01	4.618E-01	3.398E-02	-0.106
	1050.47			8.837E-01	1.879E+00	3.258E+00	2.784E-01	0.271
AG-108M	433.93	*		-2.441E-02	2.709E-02	4.239E-02	2.769E-03	-0.576
	614.37			-2.006E-03	3.926E-02	5.434E-02	4.187E-03	-0.037
	722.95			-1.213E-02	3.804E-02	5.267E-02	4.658E-03	-0.230
AG-110M	657.75	*		1.015E-01	3.931E-02	6.724E-02	5.303E-03	1.510
+	677.61			2.251E-01	3.162E-01	4.524E-01	3.670E-02	0.498
	706.67			4.826E-02	1.831E-01	3.105E-01	2.643E-02	0.155
	763.93			1.233E-01	1.483E-01	2.296E-01	2.147E-02	0.537
	884.67			-6.010E-03	4.451E-02	7.198E-02	8.129E-03	-0.083
	937.48			-8.465E-02	1.069E-01	1.570E-01	1.719E-02	-0.539
	1384.27			6.845E-02	1.416E-01	2.424E-01	1.880E-02	0.282

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
IN-111	171.28			1.021E-01	2.295E+00	3.877E+00	2.040E-01	0.026
	245.39	*		-2.028E+00	2.848E+00	3.911E+00	2.186E-01	-0.519
IN-113M	391.69	*		6.385E-03	3.954E-02	6.683E-02	4.099E-03	0.096
SN-113	391.69	*		6.385E-03	3.954E-02	6.683E-02	4.099E-03	0.096
IN-114M	190.27	*		4.430E-02	1.869E-01	2.794E-01	1.492E-02	0.159
CD-115	260.90			-3.373E-04	1.869E-01	Half-Life	too short	
	492.35			-4.790E-05	1.869E-01	Half-Life	too short	
	527.90	*		1.257E-05	1.869E-01	Half-Life	too short	
SN-117M	156.02			-1.761E-01	2.733E+00	4.082E+00	2.180E-01	-0.043
	158.56	*		-3.412E-02	6.896E-02	1.004E-01	5.339E-03	-0.340
SB-122	563.90	*		6.127E+00	5.095E+00	8.884E+00	6.191E-01	0.690
	692.80			2.701E+01	9.706E+01	1.652E+02	1.332E+01	0.163
I-123	159.00	*		-2.413E+02	9.706E+01	Half-Life	too short	
	528.96			2.012E+04	9.706E+01	Half-Life	too short	
TE-123M	159.00	*		-8.611E-03	2.855E-02	4.434E-02	2.392E-03	-0.194
I-124	602.71	*		-4.180E-04	1.257E+00	1.753E+00	1.267E-01	0.000
	722.78			-3.176E+00	7.551E+00	1.033E+01	8.777E-01	-0.308
	1325.50			-1.920E-02	5.702E+01	9.328E+01	6.961E+00	0.000
	1376.25			1.193E+02	5.900E+01	1.110E+02	8.308E+00	1.075
	1509.49			1.764E+01	2.677E+01	4.702E+01	3.368E+00	0.375
	1691.02			1.639E+00	5.548E+00	9.590E+00	6.186E-01	0.171
SB-124	602.71			-1.329E-05	3.997E-02	5.572E-02	4.030E-03	0.000
	645.85			-9.389E-02	4.759E-01	7.532E-01	6.106E-02	-0.125
	709.31			2.687E-01	2.488E+00	4.180E+00	3.470E-01	0.064
	713.82			8.044E-02	1.509E+00	2.524E+00	2.993E-01	0.032
	722.78			-1.464E-01	3.480E-01	4.760E-01	4.135E-02	-0.308
	968.20	+		1.837E+01	3.753E+00	6.666E+00	6.779E-01	2.756
	1045.16			1.232E-01	2.127E+00	3.574E+00	3.095E-01	0.034
	1325.50			-9.453E-04	2.807E+00	4.592E+00	3.426E-01	0.000
	1368.21			-2.379E+00	1.789E+00	2.460E+00	3.146E-01	-0.967
	1436.60			5.544E-01	3.430E+00	5.509E+00	4.057E-01	0.101
	1691.02	*		1.782E-02	6.032E-02	1.043E-01	7.193E-03	0.171
SB-125	427.89	*		6.804E-02	7.904E-02	1.378E-01	8.611E-03	0.494
	463.38	+		8.547E-01	3.035E-01	4.952E-01	3.550E-02	1.726
	600.56			7.745E-02	1.669E-01	2.542E-01	2.024E-02	0.305
	635.90			1.551E-02	2.411E-01	3.897E-01	3.214E-02	0.040
TE-125M	109.28	*		2.876E-01	9.252E+00	1.497E+01	1.318E+00	0.019
I-126	388.63			9.096E-02	2.209E-01	3.783E-01	2.175E-02	0.240
	666.33	*		1.577E-01	2.090E-01	3.239E-01	2.490E-02	0.487
	753.82			1.410E+00	1.540E+00	2.709E+00	2.428E-01	0.520
SB-126	223.80			-1.316E-01	4.565E+00	7.548E+00	4.149E-01	-0.017
	278.60	+		8.830E+00	4.894E+00	4.824E+00	2.749E-01	1.830
	296.50	+		1.611E+01	3.020E+00	4.072E+00	2.337E-01	3.956
	414.70			-5.467E-02	8.290E-02	1.331E-01	7.874E-03	-0.411
	415.30			-4.887E+00	6.938E+00	1.111E+01	6.577E-01	-0.440
	555.20			1.503E+00	4.183E+00	6.980E+00	4.823E-01	0.215
	573.80			-1.323E+00	1.259E+00	1.756E+00	1.235E-01	-0.753
	593.00			-1.583E-01	9.421E-01	1.505E+00	1.079E-01	-0.105
	656.30			7.374E-01	3.990E+00	5.887E+00	4.466E-01	0.125

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127		666.33		6.651E-02	8.814E-02	1.366E-01	1.050E-02	0.487
		675.00		1.930E+00	2.354E+00	3.667E+00	2.864E-01	0.526
		695.00		1.153E-02	8.369E-02	1.411E-01	1.142E-02	0.082
		697.00		-4.895E-02	2.896E-01	4.784E-01	3.886E-02	-0.102
		720.50	*	-1.758E-01	1.797E-01	2.306E-01	1.952E-02	-0.762
		856.80		4.813E-01	5.431E-01	8.394E-01	8.903E-02	0.573
		989.30		6.875E-01	1.342E+00	2.265E+00	2.216E-01	0.304
		1034.80		-5.958E+00	8.978E+00	1.349E+01	1.198E+00	-0.442
		1213.00		8.574E-01	4.422E+00	7.413E+00	4.457E-01	0.116
		61.10		3.717E+01	1.543E+02	2.340E+02	2.759E+01	0.159
		252.40		-6.963E+00	8.292E+00	1.216E+01	5.092E+00	-0.573
		290.80		-4.762E+01	4.800E+01	6.308E+01	6.685E+00	-0.755
		411.60		1.963E+01	2.266E+01	3.914E+01	6.025E+00	0.501
		444.90		-2.603E+00	1.654E+01	2.717E+01	3.324E+00	-0.096
		473.00		-1.850E-01	3.027E+00	4.978E+00	6.308E-01	-0.037
		543.00		1.717E+01	2.814E+01	4.767E+01	6.888E+00	0.360
		603.60		-1.007E+01	2.346E+01	3.124E+01	3.998E+00	-0.322
		685.20	*	-2.280E-02	2.255E+00	3.600E+00	4.377E-01	-0.006
		698.50		1.586E+00	2.656E+01	4.452E+01	7.335E+00	0.036
		722.20		-6.641E+01	5.891E+01	7.357E+01	9.058E+00	-0.903
XE-127		783.80		1.140E+01	6.686E+00	1.179E+01	1.659E+00	0.967
		57.60		-3.617E+00	8.076E+00	1.328E+01	1.024E+00	-0.272
	+	145.22		1.122E+00	8.904E-01	1.202E+00	6.568E-02	0.934
		172.10		1.873E-02	1.127E-01	1.912E-01	1.006E-02	0.098
I-131		202.84	*	9.740E-03	4.499E-02	7.564E-02	4.083E-03	0.129
		374.96		-1.330E-02	1.924E-01	3.225E-01	1.860E-02	-0.041
		80.18		9.862E-01	6.386E+00	1.057E+01	9.251E-01	0.093
		284.30		-9.506E-01	2.058E+00	3.000E+00	1.924E-01	-0.317
TE-132		364.48	*	-1.923E-02	1.360E-01	2.274E-01	1.478E-02	-0.085
		636.97		9.800E-01	1.923E+00	3.205E+00	2.578E-01	0.306
		722.89		-3.176E+00	8.955E+00	1.235E+01	1.060E+00	-0.257
		49.72		-2.189E+01	6.452E+01	1.073E+02	1.221E+01	-0.204
BA-133		111.76		1.597E+01	6.588E+01	1.074E+02	1.134E+01	0.149
		116.30		4.839E+01	6.069E+01	1.008E+02	1.046E+01	0.480
		228.16	*	3.465E-01	1.454E+00	2.426E+00	3.667E-01	0.143
		53.15		5.412E+00	4.911E+00	8.587E+00	6.814E-01	0.630
I-133		79.62		5.959E-01	1.305E+00	2.180E+00	3.319E-01	0.273
		81.00		-1.364E-02	1.100E-01	1.609E-01	2.563E-02	-0.085
	+	276.40		1.061E+00	6.011E-01	5.781E-01	7.467E-02	1.836
		302.84		8.045E-02	1.464E-01	2.149E-01	2.500E-02	0.374
I-133		356.01	*	1.358E-02	4.157E-02	5.947E-02	6.869E-03	0.228
		383.85		-1.895E-01	2.702E-01	4.290E-01	4.654E-02	-0.442
	+	510.53		2.508E+01	2.702E-01	Half-Life too short		
		529.87	*	-1.693E-03	2.702E-01	Half-Life too short		
		706.58		2.000E+00	2.702E-01	Half-Life too short		
		856.28		3.949E+00	2.702E-01	Half-Life too short		
		875.33		5.218E-01	2.702E-01	Half-Life too short		
	+	1236.41		4.179E+01	2.702E-01	Half-Life too short		
		1298.22		3.473E+00	2.702E-01	Half-Life too short		

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-134		475.35		-1.105E-01	1.742E+00	2.863E+00	1.819E-01	-0.039
		563.23		3.884E-01	3.235E-01	5.645E-01	3.988E-02	0.688
		569.32		2.958E-02	1.867E-01	2.989E-01	2.137E-02	0.099
		604.70		-1.091E-02	3.453E-02	4.663E-02	3.390E-03	-0.234
	+	795.84	*	1.167E-01	5.521E-02	7.475E-02	7.229E-03	1.562
		801.93		1.805E-01	3.409E-01	5.725E-01	5.585E-02	0.315
		1038.57		3.345E-01	3.135E+00	5.294E+00	4.658E-01	0.063
		1167.94		-4.978E-01	2.023E+00	3.282E+00	1.861E-01	-0.152
		1365.15		-1.628E-01	1.027E+00	1.644E+00	1.307E-01	-0.099
		268.24	*	2.760E-01	1.616E-01	2.547E-01	1.925E-02	1.084
CS-135		288.45		2.091E+14	1.616E-01	Half-Life	too short	
I-135		417.63		-1.624E+14	1.616E-01	Half-Life	too short	
		546.56		-1.435E+14	1.616E-01	Half-Life	too short	
		836.80		3.939E+14	1.616E-01	Half-Life	too short	
		1038.76		6.236E+13	1.616E-01	Half-Life	too short	
		1124.00		-6.805E+13	1.616E-01	Half-Life	too short	
		1131.51		1.417E+14	1.616E-01	Half-Life	too short	
		1260.41	*	2.651E+13	1.616E-01	Half-Life	too short	
		1457.56		1.792E+16	1.616E-01	Half-Life	too short	
		1678.03		1.807E+12	1.616E-01	Half-Life	too short	
		1706.46		9.530E+13	1.616E-01	Half-Life	too short	
		1791.20		-6.787E+13	1.616E-01	Half-Life	too short	
CS-136		66.91		-3.719E-01	1.203E+00	1.762E+00	2.661E-01	-0.211
	+	86.29		4.741E+00	1.623E+00	2.505E+00	3.304E-01	1.892
	+	153.22		1.493E+00	9.179E-01	1.294E+00	8.917E-02	1.153
		163.89		9.424E-01	1.205E+00	2.093E+00	1.431E-01	0.450
		176.55		-3.859E-01	4.041E-01	6.527E-01	3.959E-02	-0.591
		273.65		8.306E-01	5.808E-01	7.210E-01	4.701E-02	1.152
		340.57		3.881E-01	1.769E-01	2.805E-01	1.728E-02	1.383
		818.51		-2.371E-02	7.649E-02	1.228E-01	1.226E-02	-0.193
		1048.07	*	-2.683E-02	1.094E-01	1.792E-01	1.607E-02	-0.150
		1235.34		1.806E+00	7.743E-01	1.287E+00	1.324E-01	1.403
CE-139		165.85	*	-1.418E-02	2.745E-02	4.544E-02	2.385E-03	-0.312
BA-140		162.64		4.975E-01	8.578E-01	1.481E+00	8.976E-02	0.336
		304.84		1.387E+00	1.569E+00	2.303E+00	6.282E-01	0.603
		423.70		-5.966E-01	2.130E+00	3.479E+00	1.107E+00	-0.172
		537.32	*	-1.943E-01	2.789E-01	4.209E-01	1.377E-01	-0.462
LA-140	+	328.77		6.810E-01	4.515E-01	5.951E-01	3.856E-02	1.144
		432.53		-1.452E+00	2.116E+00	3.364E+00	2.230E-01	-0.432
		487.03		6.008E-02	1.501E-01	2.532E-01	1.806E-02	0.237
		751.79		9.565E-01	1.764E+00	3.037E+00	2.983E-01	0.315
		815.85		-2.665E-01	3.229E-01	4.924E-01	5.322E-02	-0.541
		867.82		-9.727E-01	1.647E+00	2.133E+00	2.380E-01	-0.456
		919.63		-5.056E-01	2.717E+00	4.245E+00	5.363E-01	-0.119
		925.24		6.350E-01	1.098E+00	1.878E+00	2.126E-01	0.338
		1596.49	*	1.608E-03	8.999E-02	1.277E-01	8.759E-03	0.013
CE-143		57.37		-6.081E-03	8.999E-02	Half-Life	too short	
		231.56		-2.750E-03	8.999E-02	Half-Life	too short	
		293.26	*	5.669E-03	8.999E-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
	+	350.59		2.160E-01	8.999E-02	Half-Life	too short	
		490.36		-8.732E-03	8.999E-02	Half-Life	too short	
		664.57		4.518E-02	8.999E-02	Half-Life	too short	
		721.93		-1.029E-02	8.999E-02	Half-Life	too short	
CE-144		80.11		3.826E-01	2.122E+00	3.517E+00	3.045E-01	0.109
		133.54	*	1.057E-01	2.228E-01	3.241E-01	4.583E-02	0.326
PM-144		476.78		2.011E-02	6.135E-02	1.031E-01	7.655E-03	0.195
		618.01		8.837E-03	3.006E-02	4.672E-02	3.557E-03	0.189
		696.49	*	-6.845E-03	2.963E-02	4.874E-02	3.957E-03	-0.140
		778.57		-2.297E+00	1.948E+00	2.908E+00	2.718E-01	-0.790
PR-144		696.49	*	-4.648E-01	2.012E+00	3.309E+00	2.686E-01	-0.140
		1489.15		-9.492E+00	1.037E+01	1.458E+01	1.053E+00	-0.651
PM-146		453.90	*	-8.949E-03	3.850E-02	6.287E-02	5.593E-03	-0.142
		633.02		-2.372E-01	1.215E+00	1.921E+00	7.131E-01	-0.123
		735.90		-3.864E-02	1.318E-01	2.033E-01	5.820E-02	-0.190
		747.13		-7.760E-02	7.306E-02	1.095E-01	1.554E-02	-0.708
ND-147		91.11		8.990E-01	5.688E-01	7.121E-01	6.698E-02	1.263
		319.41		-1.385E+00	3.671E+00	5.779E+00	3.339E-01	-0.240
		439.89		2.268E+00	6.433E+00	1.090E+01	6.653E-01	0.208
		531.02	*	-2.216E-02	6.039E-01	9.845E-01	1.374E-01	-0.023
PM-149		285.90	*	1.603E-04	6.039E-01	Half-Life	too short	
EU-152		121.78		1.229E-02	6.789E-02	1.099E-01	8.467E-03	0.112
		244.69		-1.614E-01	3.392E-01	4.740E-01	2.648E-02	-0.341
		344.27	*	-3.221E-02	1.031E-01	1.403E-01	9.153E-03	-0.230
		443.98		-2.899E-01	8.060E-01	1.307E+00	8.012E-02	-0.222
		778.89		-1.930E-01	2.219E-01	3.412E-01	3.190E-02	-0.566
		867.32		-3.398E-01	7.936E-01	1.053E+00	1.135E-01	-0.323
	+	964.01		7.418E-01	3.429E-01	5.033E-01	5.155E-02	1.474
		1085.78		-8.711E-02	3.323E-01	5.419E-01	4.199E-02	-0.161
		1112.02		1.959E-02	2.940E-01	4.502E-01	3.205E-02	0.044
		1407.95		-2.096E-02	1.707E-01	2.740E-01	2.035E-02	-0.076
GD-153		69.67		1.274E-01	1.925E+00	3.057E+00	2.481E-01	0.042
		83.37		1.396E+01	2.067E+01	2.507E+01	2.227E+00	0.557
		97.43	*	-1.123E-02	8.940E-02	1.290E-01	1.009E-02	-0.087
		103.18		-6.293E-02	1.042E-01	1.643E-01	1.185E-02	-0.383
EU-154		123.07		1.379E-02	4.872E-02	7.912E-02	7.483E-03	0.174
		247.94		1.331E-01	3.695E-01	5.448E-01	5.132E-02	0.244
		591.81		1.179E-01	5.213E-01	8.106E-01	8.622E-02	0.145
		723.30		3.504E-02	1.618E-01	2.372E-01	2.236E-02	0.148
		756.87		1.324E-01	6.590E-01	1.108E+00	1.359E-01	0.119
		873.19		1.378E-01	2.479E-01	4.233E-01	5.896E-02	0.326
		996.32		-4.953E-01	3.473E-01	4.722E-01	8.635E-02	-1.049
		1004.76		-2.539E-01	2.023E-01	2.884E-01	3.546E-02	-0.880
		1274.45	*	-4.376E-02	9.556E-02	1.497E-01	1.495E-02	-0.292
EU-155		48.70		1.718E+00	3.737E+00	6.422E+00	4.871E-01	0.267
		60.01		5.409E+00	6.589E+00	1.028E+01	7.845E-01	0.526
	+	86.54		3.567E-01	1.173E-01	1.909E-01	1.758E-02	1.869
		105.31	*	6.569E-02	1.040E-01	1.728E-01	1.236E-02	0.380
TB-160	+	86.79		9.876E-01	3.246E-01	5.299E-01	4.848E-02	1.864

---- 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			-1.865E-01	5.158E-01	8.489E-01	4.559E-02	-0.220
	215.65			-3.331E-01	7.092E-01	1.112E+00	6.069E-02	-0.300
	298.57			2.212E-01	1.515E-01	1.822E-01	1.046E-02	1.214
	879.36	*		-2.330E-02	1.254E-01	2.019E-01	2.218E-02	-0.115
	962.29			6.946E-01	5.683E-01	8.814E-01	9.055E-02	0.788
	966.15			1.511E+00	2.992E-01	5.287E-01	5.396E-02	2.859
	1177.93			-2.234E-02	3.343E-01	5.503E-01	3.073E-02	-0.041
	1271.85			-2.841E-01	5.813E-01	9.086E-01	6.140E-02	-0.313
	80.57			2.275E-01	2.939E-01	4.484E-01	3.896E-02	0.507
	184.41			1.769E-01	3.995E-02	6.851E-02	3.640E-03	2.582
	280.46			2.565E-02	8.167E-02	1.190E-01	6.789E-03	0.215
	410.95			2.071E-01	2.222E-01	3.879E-01	2.283E-02	0.534
	711.68	*		-4.378E-02	5.447E-02	8.582E-02	7.153E-03	-0.510
	752.31			2.234E-01	2.303E-01	4.067E-01	3.636E-02	0.549
	810.29			1.053E-02	5.055E-02	8.462E-02	8.332E-03	0.124
TM-171	51.35			-6.651E+01	4.336E+01	6.784E+01	5.376E+00	-0.980
	52.39			1.264E+01	2.178E+01	3.747E+01	2.977E+00	0.337
	59.40			3.640E+01	3.514E+01	5.543E+01	4.209E+00	0.657
LU-176	66.72	*		-1.186E+01	3.576E+01	5.236E+01	4.187E+00	-0.226
	88.36			7.013E-01	2.305E-01	3.702E-01	3.399E-02	1.895
	201.83			-3.313E-02	2.563E-02	4.033E-02	2.175E-03	-0.821
LU-177	306.84	*		3.919E-03	2.139E-02	3.493E-02	2.011E-03	0.112
	401.10			3.034E-01	5.764E+00	9.669E+00	5.621E-01	0.031
	112.95			-7.692E-01	2.372E+00	3.771E+00	2.430E-01	-0.204
LU-177M	208.36	*		3.482E+00	2.191E+00	2.698E+00	1.464E-01	1.291
	52.97			2.754E+00	2.251E+00	3.952E+00	3.137E-01	0.697
	54.07			1.600E+00	1.176E+00	2.069E+00	1.636E-01	0.773
HF-181	61.30			5.357E-01	2.000E+00	3.037E+00	2.347E-01	0.176
	121.62			5.190E-02	3.535E-01	5.712E-01	3.388E-02	0.091
	147.16			-1.085E-01	7.056E-01	9.832E-01	5.350E-02	-0.110
	171.86			-1.058E-01	4.325E-01	7.219E-01	3.800E-02	-0.147
	218.09			2.115E-01	7.639E-01	1.282E+00	7.012E-02	0.165
	268.79			2.736E+00	1.313E+00	1.384E+00	7.848E-02	1.977
	319.02			2.947E-02	2.238E-01	3.633E-01	2.097E-02	0.081
	367.43			7.321E-02	7.743E-01	1.311E+00	7.569E-02	0.056
	413.65	*		-1.306E-01	1.609E-01	2.563E-01	1.514E-02	-0.509
	56.28			-1.450E+00	1.289E+00	2.055E+00	1.601E-01	-0.706
	57.53			-3.806E-01	6.745E-01	1.104E+00	8.512E-02	-0.345
	65.20			-4.809E-01	1.307E+00	1.913E+00	1.517E-01	-0.251
	133.02			3.068E-02	7.563E-02	1.086E-01	6.144E-03	0.283
	136.25			-1.706E-01	4.733E-01	7.413E-01	4.151E-02	-0.230
	345.85			1.216E-01	2.161E-01	3.147E-01	1.821E-02	0.386
W-181	482.03	*		-2.447E-02	4.149E-02	6.588E-02	4.217E-03	-0.371
	56.28			-5.447E-01	4.841E-01	7.718E-01	6.012E-02	-0.706
	57.53			-1.433E-01	2.535E-01	4.148E-01	3.199E-02	-0.345
TA-182	65.20	*		-1.793E-01	4.871E-01	7.132E-01	5.657E-02	-0.251
	67.75			-5.497E-02	1.434E-01	2.093E-01	1.682E-02	-0.263
	100.10			3.637E-02	1.765E-01	2.893E-01	2.175E-02	0.126
	152.43			1.469E-01	3.652E-01	5.248E-01	2.823E-02	0.280

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		222.10		-2.468E-01	3.215E-01	5.142E-01	2.822E-02	-0.480
		1001.68		1.573E+00	1.924E+00	3.301E+00	3.151E-01	0.476
	+	1121.28		6.249E-01	1.992E-01	3.054E-01	2.104E-02	2.047
		1189.05		4.800E-02	2.620E-01	4.392E-01	2.512E-02	0.109
		1221.42	*	-6.105E-02	1.652E-01	2.644E-01	1.618E-02	-0.231
		1230.97		-2.157E-01	4.997E-01	6.692E-01	4.174E-02	-0.322
		57.98		-1.246E-01	2.579E-01	4.235E-01	3.254E-02	-0.294
		59.32		1.475E-01	1.495E-01	2.354E-01	1.789E-02	0.627
		67.20		-9.786E-02	2.615E-01	3.820E-01	3.062E-02	-0.256
		162.32	*	3.041E-02	1.070E-01	1.828E-01	9.651E-03	0.166
	+	208.81		2.173E+00	1.367E+00	1.704E+00	9.247E-02	1.275
		291.72		1.128E-01	1.042E+00	1.489E+00	8.534E-02	0.076
RE-184		57.98		-4.489E-01	9.290E-01	1.526E+00	1.172E-01	-0.294
		59.32		5.310E-01	5.382E-01	8.474E-01	6.438E-02	0.627
		67.20		-3.524E-01	9.417E-01	1.376E+00	1.103E-01	-0.256
		161.27		1.168E-01	3.361E-01	5.759E-01	3.046E-02	0.203
		216.55		1.772E-03	2.359E-01	3.915E-01	2.139E-02	0.005
		252.85	*	-2.183E-01	2.108E-01	3.273E-01	1.838E-02	-0.667
		318.01		-3.197E-02	3.900E-01	6.254E-01	3.610E-02	-0.051
		792.07		6.340E-01	1.081E+00	1.618E+00	1.546E-01	0.392
		903.28		-9.939E-01	1.129E+00	1.413E+00	1.586E-01	-0.703
		920.93		-1.157E-01	3.598E-01	5.681E-01	6.225E-02	-0.204
	OS-185	59.72		4.133E-01	4.005E-01	6.311E-01	4.800E-02	0.655
		61.14		5.477E-02	2.233E-01	3.388E-01	2.614E-02	0.162
		69.30		-3.523E-02	3.508E-01	5.533E-01	4.482E-02	-0.064
		592.07		4.379E-01	2.128E+00	3.409E+00	2.440E-01	0.128
W-188		646.12	*	-1.370E-02	4.028E-02	6.307E-02	4.743E-03	-0.217
		717.42		6.100E-01	7.934E-01	1.386E+00	1.167E-01	0.440
		874.81		2.317E-01	5.137E-01	8.705E-01	9.496E-02	0.266
		880.27		-1.420E-01	6.876E-01	1.105E+00	1.216E-01	-0.128
	+	63.58		9.532E+01	1.040E+02	1.194E+02	9.378E+00	0.799
		227.08		2.303E+00	1.272E+01	2.073E+01	1.142E+00	0.111
		290.67	*	-8.835E+00	8.504E+00	1.118E+01	6.403E-01	-0.790
	IR-192	295.96		1.029E+00	1.931E-01	2.688E-01	1.567E-02	3.827
		308.46		-7.224E-02	8.520E-02	1.305E-01	7.603E-03	-0.554
		316.51	*	-1.704E-02	3.115E-02	4.856E-02	2.817E-03	-0.351
		468.07		-1.428E-02	6.855E-02	9.637E-02	6.867E-03	-0.148
		604.41		-1.139E-01	4.708E-01	6.402E-01	7.779E-02	-0.178
AU-195		612.46		1.734E+00	7.903E-01	1.283E+00	1.125E-01	1.352
	+	65.12		3.212E-01	3.503E-01	3.301E-01	2.617E-02	0.973
		66.83		-3.824E-02	1.194E-01	1.749E-01	1.399E-02	-0.219
	+	75.70		1.292E+00	2.899E-01	4.658E-01	3.912E-02	2.773
TL-200		98.88	*	1.861E-01	2.238E-01	3.758E-01	2.875E-02	0.495
	+	129.76		2.735E+00	3.291E+00	4.708E+00	2.694E-01	0.581
		367.94	*	1.776E-03	3.291E+00	Half-Life too short		
		579.30		7.522E-02	3.291E+00	Half-Life too short		
TL-201		828.27		-2.886E-02	3.291E+00	Half-Life too short		
		1205.75		1.951E-02	3.291E+00	Half-Life too short		
		68.90		-1.815E+00	1.274E+01	2.104E+01	1.701E+00	-0.086

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TL-202		70.82		3.801E+00	7.850E+00	1.192E+01	9.732E-01	0.319
		80.30		8.932E+00	1.320E+01	2.007E+01	1.740E+00	0.445
		135.34		-4.675E+00	5.976E+01	9.489E+01	5.328E+00	-0.049
		167.43	*	-6.786E+00	1.492E+01	2.473E+01	1.298E+00	-0.274
		68.90		-8.363E-02	5.870E-01	9.695E-01	7.838E-02	-0.086
		70.82		1.747E-01	3.608E-01	5.478E-01	4.473E-02	0.319
HG-203		80.30		4.106E-01	6.070E-01	9.228E-01	8.001E-02	0.445
		439.56	*	2.560E-02	7.504E-02	1.271E-01	7.747E-03	0.202
		70.83		6.446E-01	1.329E+00	2.016E+00	2.686E-01	0.320
		72.87		3.321E-01	7.707E-01	1.163E+00	1.509E-01	0.285
BI-207		82.60		-1.359E+00	1.376E+00	1.878E+00	2.606E-01	-0.724
		279.20	*	3.812E-02	4.331E-02	6.541E-02	3.967E-03	0.583
		72.80		5.413E-02	2.122E-01	3.182E-01	2.626E-02	0.170
	+	74.97		7.061E-01	1.585E-01	2.369E-01	1.981E-02	2.980
		84.90		3.295E-01	2.101E-01	3.238E-01	2.914E-02	1.017
		569.67		-1.334E-03	2.922E-02	4.618E-02	3.236E-03	-0.029
TL-207		1063.62	*	3.489E-02	4.635E-02	8.153E-02	6.730E-03	0.428
		1770.23		-1.201E-02	3.889E-01	5.380E-01	3.255E-02	-0.022
		81.07		-3.618E-02	2.422E-01	3.539E-01	3.087E-02	-0.102
		83.78		5.654E-02	1.777E-01	2.100E-01	1.872E-02	0.269
		94.90		6.940E-01	2.656E-01	4.261E-01	3.468E-02	1.628
		122.32		5.890E-01	1.608E+00	2.624E+00	1.782E-01	0.224
PO-209	+	144.24		1.022E+00	8.117E-01	1.110E+00	7.748E-02	0.920
	+	154.21		7.311E-01	4.493E-01	6.306E-01	4.196E-02	1.159
	+	269.46		6.299E-01	3.025E-01	3.319E-01	1.972E-02	1.898
		323.87	*	7.865E-02	6.699E-01	9.494E-01	1.567E-01	0.083
	+	338.28		6.277E+00	1.698E+00	2.251E+00	2.369E-01	2.788
		445.03		-3.277E-01	1.912E+00	3.138E+00	3.283E-01	-0.104
BI-210		260.50		-8.839E+00	8.752E+00	1.358E+01	7.664E-01	-0.651
		262.80		-1.456E+01	2.422E+01	3.693E+01	2.087E+00	-0.394
		896.60	*	4.600E+00	6.935E+00	1.185E+01	1.337E+00	0.388
		46.50	*	2.608E+00	5.669E+00	9.760E+00	7.552E-01	0.267
PB-210		46.50	*	2.608E+00	5.669E+00	9.760E+00	7.552E-01	0.267
PO-210		46.50	*	2.608E+00	5.668E+00	9.760E+00	6.492E-01	0.267
PB-211		404.84	*	-7.608E-01	9.947E-01	1.380E+00	8.604E-01	-0.551
BI-212		427.08		1.944E+00	2.149E+00	3.145E+00	1.945E+00	0.618
		831.96		-1.236E-01	1.045E+00	1.698E+00	1.068E+00	-0.073
	+	727.18	*	1.205E+00	4.397E-01	5.896E-01	5.872E-02	2.043
		785.46		2.299E+00	1.715E+00	2.821E+00	2.667E-01	0.815
		1620.62		2.828E-01	1.169E+00	1.991E+00	1.347E-01	0.142
		81.07		-3.618E-02	2.422E-01	3.539E-01	3.087E-02	-0.102
PO-215		83.78		5.654E-02	1.777E-01	2.100E-01	1.872E-02	0.269
		94.90		6.940E-01	2.656E-01	4.261E-01	3.468E-02	1.628
		122.32		5.890E-01	1.608E+00	2.624E+00	1.782E-01	0.224
	+	144.24		1.022E+00	8.117E-01	1.110E+00	7.748E-02	0.920
	+	154.21		7.311E-01	4.493E-01	6.306E-01	4.196E-02	1.159
	+	269.46		6.299E-01	3.025E-01	3.319E-01	1.972E-02	1.898
		323.87	*	7.865E-02	6.699E-01	9.494E-01	1.567E-01	0.083
	+	338.28		6.277E+00	1.698E+00	2.251E+00	2.369E-01	2.788

---- 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		-3.277E-01	1.912E+00	3.138E+00	3.283E-01	-0.104	
		271.23		8.082E-01	3.906E-01	4.102E-01	3.288E-02	1.970	
		401.81	*	1.059E-02	3.569E-01	5.979E-01	8.140E-02	0.018	
RN-220		549.76	*	-4.678E-01	2.167E+01	3.527E+01	2.423E+00	-0.013	
RA-223		81.07		-3.618E-02	2.422E-01	3.539E-01	3.087E-02	-0.102	
		83.78		5.654E-02	1.777E-01	2.100E-01	1.872E-02	0.269	
		94.90		6.940E-01	2.656E-01	4.261E-01	3.468E-02	1.628	
AC-227		122.32		5.890E-01	1.608E+00	2.624E+00	1.782E-01	0.224	
		144.24		1.022E+00	8.117E-01	1.110E+00	7.748E-02	0.920	
		154.21		7.311E-01	4.493E-01	6.306E-01	4.196E-02	1.159	
	+	269.46		6.299E-01	3.025E-01	3.319E-01	1.972E-02	1.898	
		323.87	*	7.865E-02	6.699E-01	9.494E-01	1.567E-01	0.083	
		338.28		6.277E+00	1.698E+00	2.251E+00	2.369E-01	2.788	
		445.03		-3.277E-01	1.912E+00	3.138E+00	3.283E-01	-0.104	
		79.80		4.822E-01	1.641E+00	2.726E+00	5.864E-01	0.177	
		236.00		8.387E-01	2.695E-01	4.293E-01	4.429E-02	1.954	
	+	256.20	*	2.654E-01	3.516E-01	5.935E-01	8.243E-02	0.447	
		286.10		9.544E-01	1.386E+00	2.325E+00	2.679E-01	0.410	
		299.80		3.059E+00	1.661E+00	2.329E+00	3.788E-01	1.314	
	TH-227		304.40		1.422E+00	1.864E+00	2.763E+00	4.776E-01	0.515
			334.20		3.749E-01	2.343E+00	3.092E+00	5.667E-01	0.121
			79.80		4.822E-01	1.641E+00	2.726E+00	5.939E-01	0.177
+		94.00		1.221E+01	4.806E+00	4.538E+00	9.819E-01	2.690	
		236.00		8.387E-01	2.659E-01	4.293E-01	3.821E-02	1.954	
		256.20	*	2.654E-01	3.525E-01	5.935E-01	9.995E-02	0.447	
+		286.10		9.544E-01	1.680E+00	2.325E+00	2.329E+00	0.410	
		299.80		3.059E+00	1.661E+00	2.329E+00	3.788E-01	1.314	
		304.40		1.422E+00	1.864E+00	2.763E+00	4.776E-01	0.515	
TH-229			334.20		3.749E-01	2.343E+00	3.092E+00	5.667E-01	0.121
	85.43			4.147E-01	2.107E-01	3.281E-01	2.966E-02	1.264	
	88.47			4.037E-01	1.327E-01	2.116E-01	1.938E-02	1.908	
	+	100.00		5.063E-02	1.795E-01	2.952E-01	2.223E-02	0.171	
		193.63	*	-1.421E-01	4.492E-01	7.412E-01	3.969E-02	-0.192	
		210.97		1.150E+00	7.745E-01	1.220E+00	6.634E-02	0.942	
	PA-231	+	283.67	*	-3.399E-01	1.578E+00	2.209E+00	3.036E-01	-0.154
			301.29		1.224E+00	6.467E-01	9.522E-01	9.926E-02	1.285
	TH-231		81.07		-3.618E-02	2.422E-01	3.539E-01	3.087E-02	-0.102
			83.78		5.654E-02	1.777E-01	2.100E-01	1.872E-02	0.269
94.90				6.940E-01	2.656E-01	4.261E-01	3.468E-02	1.628	
		122.32		5.890E-01	1.608E+00	2.624E+00	1.782E-01	0.224	
		144.24		1.022E+00	8.117E-01	1.110E+00	7.748E-02	0.920	
		154.21		7.311E-01	4.493E-01	6.306E-01	4.196E-02	1.159	
+		269.46		6.299E-01	3.025E-01	3.319E-01	1.972E-02	1.898	
		323.87	*	7.865E-02	6.699E-01	9.494E-01	1.567E-01	0.083	
		338.28		6.277E+00	1.698E+00	2.251E+00	2.369E-01	2.788	
U-231		+	445.03		-3.277E-01	1.912E+00	3.138E+00	3.283E-01	-0.104
			84.21		9.064E+00	1.249E+01	1.724E+01	1.542E+00	0.526
			92.29		2.298E+01	7.793E+00	9.366E+00	7.973E-01	2.454
			95.87	*	4.324E-01	2.290E+00	3.364E+00	2.695E-01	0.129

---- 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		-2.357E+00	3.805E+00	5.982E+00	4.068E-01	-0.394
	+	75.28		2.060E+01	5.312E+00	6.985E+00	1.063E+00	2.949
	+	86.59		5.789E+00	2.405E+00	3.105E+00	8.381E-01	1.864
	+	300.12		8.529E-01	4.565E-01	6.493E-01	8.710E-02	1.314
		311.98	*	1.862E-02	5.352E-02	8.815E-02	5.400E-03	0.211
		340.50		1.759E+00	8.087E-01	1.137E+00	2.611E-01	1.547
		398.62		5.586E-02	1.764E+00	2.958E+00	7.647E-01	0.019
PA-234		415.76		-1.408E+00	1.500E+00	2.324E+00	4.793E-01	-0.606
	+	63.00		2.659E+00	2.919E+00	3.405E+00	5.133E-01	0.781
		94.67		7.180E-01	2.113E-01	3.277E-01	3.964E-02	2.191
		98.44		4.485E-02	9.350E-02	1.496E-01	8.327E-02	0.300
		99.86		1.751E-01	4.567E-01	7.541E-01	5.689E-02	0.232
		111.00		6.601E-02	1.775E-01	2.910E-01	3.122E-02	0.227
		131.20		-6.939E-03	1.171E-01	1.639E-01	9.327E-03	-0.042
	+	152.70		5.999E-01	3.784E-01	5.060E-01	7.923E-02	1.186
	+	186.00		7.285E+00	2.974E+00	2.689E+00	8.193E-01	2.709
		226.40		2.200E-01	3.821E-01	6.315E-01	7.209E-02	0.348
		227.20		1.047E-01	4.111E-01	6.716E-01	3.702E-02	0.156
		248.90		6.280E-01	7.618E-01	1.242E+00	2.663E-01	0.506
	+	293.70		6.242E+00	1.499E+00	1.613E+00	2.591E-01	3.869
		369.80		-2.429E-01	7.286E-01	1.202E+00	2.501E-01	-0.202
		568.70		3.047E-01	9.522E-01	1.540E+00	1.078E-01	0.198
		569.50		-9.215E-03	2.594E-01	4.102E-01	2.874E-02	-0.022
		574.00		-1.725E+00	1.457E+00	2.007E+00	1.412E-01	-0.860
		699.00		2.231E-02	6.180E-01	1.034E+00	1.952E-01	0.022
		706.10		2.430E-02	8.894E-01	1.486E+00	6.618E-01	0.016
		733.00		-9.639E-02	3.585E-01	4.976E-01	1.105E-01	-0.194
		742.81		4.637E-01	1.117E+00	1.840E+00	1.237E+00	0.252
		796.30		1.510E+00	9.525E-01	1.434E+00	3.926E-01	1.054
		805.60		6.591E-01	8.820E-01	1.494E+00	4.630E-01	0.441
		819.60		6.896E-02	1.034E+00	1.712E+00	6.566E-01	0.040
		826.30		-2.780E-01	7.197E-01	1.130E+00	5.092E-01	-0.246
		831.60		-5.113E-02	5.436E-01	8.873E-01	2.691E-01	-0.058
		876.40		7.017E-02	7.050E-01	1.157E+00	1.192E+00	0.061
		880.51		7.123E-03	2.396E-01	3.930E-01	4.325E-02	0.018
		883.24		-4.581E-02	2.479E-01	3.960E-01	2.676E-01	-0.116
		899.00		2.569E-01	7.827E-01	1.296E+00	5.743E-01	0.198
		925.00		6.265E-01	9.084E-01	1.568E+00	1.709E-01	0.399
		926.50		6.958E-03	1.454E-01	2.377E-01	6.210E-02	0.029
		946.00	*	1.252E-01	2.610E-01	4.390E-01	8.660E-02	0.285
		949.00		2.300E-01	4.059E-01	6.874E-01	7.219E-02	0.335
		980.50		3.846E-01	6.235E-01	1.061E+00	1.056E-01	0.362
PA-234M		1394.10		4.707E-01	1.097E+00	1.798E+00	1.168E+00	0.262
	+	766.42		2.964E+01	1.902E+01	1.874E+01	9.527E+00	1.582
NP-236		1001.03	*	4.640E+00	4.184E+00	7.310E+00	7.886E-01	0.635
		94.67		5.497E-01	1.530E-01	2.491E-01	2.035E-02	2.207
		98.44		3.387E-02	6.817E-02	1.131E-01	8.710E-03	0.299
		111.00		4.993E-02	1.342E-01	2.201E-01	1.448E-02	0.227
		160.31	*	8.593E-03	7.222E-02	1.228E-01	6.507E-03	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		1.204E-01	1.526E-01	2.558E-01	1.938E-02	0.471
		117.00	*	6.589E-02	1.788E-01	2.925E-01	1.811E-02	0.225
	+	209.75		1.649E+00	1.038E+00	1.282E+00	6.962E-02	1.286
		228.18		4.844E-02	2.069E-01	3.454E-01	1.905E-02	0.140
	+	277.60		5.176E-01	2.869E-01	2.839E-01	1.617E-02	1.823
AM-241		334.30		1.532E-01	1.324E+00	1.741E+00	1.007E-01	0.088
		59.54	*	2.283E-01	2.037E-01	3.222E-01	2.672E-02	0.709
		99.55		1.239E-01	1.570E-01	2.633E-01	1.995E-02	0.471
		103.76	*	6.807E-02	9.267E-02	1.548E-01	1.108E-02	0.440
		117.00		6.780E-02	1.840E-01	3.010E-01	1.863E-02	0.225
CM-243	+	209.75		1.626E+00	1.023E+00	1.264E+00	6.865E-02	1.286
		228.18		4.896E-02	2.091E-01	3.491E-01	1.925E-02	0.140
	+	277.60		5.220E-01	2.893E-01	2.863E-01	1.631E-02	1.823
		798.80		-9.113E-02	1.337E-01	1.742E-01	1.684E-02	-0.523
		1036.00		-1.420E-01	2.358E-01	3.736E-01	3.307E-02	-0.380
AM-246		1062.04		2.871E-01	1.989E-01	3.649E-01	3.025E-02	0.787
		1078.86	*	4.736E-02	1.264E-01	2.166E-01	1.713E-02	0.219
	+	278.00		2.147E+00	1.190E+00	1.184E+00	6.745E-02	1.813
		287.40		-3.805E-02	1.137E+00	1.844E+00	1.055E-01	-0.021
		402.60	*	-5.099E-03	3.263E-02	5.411E-02	3.151E-03	-0.094
CF-249		252.85		-8.061E-01	7.784E-01	1.208E+00	6.788E-02	-0.667
		333.44		5.245E-02	2.286E-01	2.366E-01	1.368E-02	0.222
		387.95	*	2.167E-04	3.589E-02	6.021E-02	3.461E-03	0.004
CF-251		176.60	*	-1.093E-01	1.133E-01	1.831E-01	9.667E-03	-0.597
		227.00		7.409E-02	3.675E-01	5.993E-01	3.303E-02	0.124
		285.00		-3.176E-03	1.583E+00	2.573E+00	1.471E-01	-0.001

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]G245107003
* Acquisition date   : 1-FEB-2010 12:37:37 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 02:00:01.48                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107003                     Analyst initials: MXR1
* Batch Number       : 944038                           Sample Quantity : 1.1079E+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	2.255E+01	2.158E+00	4.447E-01	0.000E+00
CD-109	3.026E+00	9.748E-01	1.536E+00	0.000E+00
SN-126	2.957E-01	9.525E-02	1.484E-01	0.000E+00
BA-137M	6.130E-01	9.593E-02	4.876E-02	0.000E+00
CS-137	6.480E-01	1.015E-01	5.154E-02	0.000E+00
CE-141	1.027E-01	7.987E-02	1.020E-01	0.000E+00
RE-188	3.290E-01	1.978E-01	2.623E-01	0.000E+00
TL-208	5.342E-01	8.424E-02	4.673E-02	0.000E+00
BI-211	3.798E+00	4.391E-01	2.783E-01	0.000E+00
PB-212	1.610E+00	1.513E-01	8.123E-02	0.000E+00
PO-212	1.610E+00	1.513E-01	8.123E-02	0.000E+00
BI-214	1.092E+00	1.817E-01	9.167E-02	0.000E+00
PB-214	1.321E+00	1.670E-01	9.700E-02	0.000E+00
PO-214	1.321E+00	1.670E-01	9.700E-02	0.000E+00
PO-216	1.610E+00	1.513E-01	8.123E-02	0.000E+00
PO-218	1.321E+00	1.670E-01	9.700E-02	0.000E+00
RA-224	3.988E+00	9.500E-01	9.232E-01	0.000E+00
RA-226	1.092E+00	1.817E-01	9.167E-02	0.000E+00
AC-228	1.469E+00	3.031E-01	1.562E-01	0.000E+00
RA-228	1.469E+00	3.031E-01	1.562E-01	0.000E+00
TH-228	1.641E+00	1.542E-01	8.278E-02	0.000E+00
TH-230	1.092E+00	1.817E-01	9.167E-02	0.000E+00
TH-232	1.469E+00	3.031E-01	1.562E-01	0.000E+00
TH-234	2.281E+00	2.463E+00	2.555E+00	0.000E+00
U-234	1.092E+00	1.817E-01	9.167E-02	0.000E+00
U-235	3.152E-01	2.496E-01	3.234E-01	0.000E+00
NP-237	8.683E-01	3.303E-01	4.266E-01	0.000E+00
U-238	2.281E+00	2.463E+00	2.555E+00	0.000E+00
AM-243	3.933E-01	8.649E-02	9.335E-02	0.000E+00
ANH-511	1.082E-01	5.659E-02	4.422E-02	0.000E+00

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

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	9.615E-02	3.016E-01	5.185E-01	0.000E+00	NOT IDENT.
NA-22	-2.100E-02	3.402E-02	5.335E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.496E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-5.484E-03	2.374E-02	3.793E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.670E-02	8.397E-02	0.000E+00	FAIL ABUN
SC-46	-6.415E-03	3.656E-02	6.006E-02	0.000E+00	FAIL ABUN
V-48	-2.450E-02	7.187E-02	1.149E-01	0.000E+00	NOT IDENT.
CR-51	-1.379E-01	3.461E-01	5.589E-01	0.000E+00	NOT IDENT.
MN-52	-2.974E-02	3.166E-01	5.157E-01	0.000E+00	NOT IDENT.
MN-54	-5.852E-04	3.405E-02	5.700E-02	0.000E+00	NOT IDENT.
CO-56	1.030E-02	3.480E-02	5.949E-02	0.000E+00	FAIL ABUN
CO-57	7.007E-03	2.296E-02	3.864E-02	0.000E+00	NOT IDENT.
CO-58	2.311E-02	3.284E-02	5.801E-02	0.000E+00	NOT IDENT.
FE-59	-8.433E-03	7.404E-02	1.242E-01	0.000E+00	FAIL ABUN
CO-60	6.311E-03	3.281E-02	5.553E-02	0.000E+00	NOT IDENT.
ZN-65	6.133E-02	9.129E-02	1.410E-01	0.000E+00	NOT IDENT.
GE-68	8.265E-01	1.095E+00	1.957E+00	0.000E+00	NOT IDENT.
AS-73	1.466E+00	1.143E+00	2.090E+00	0.000E+00	NOT IDENT.
AS-74	-2.998E-02	8.821E-02	1.423E-01	0.000E+00	NOT IDENT.
SE-75	3.488E-02	4.135E-02	6.457E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	2.809E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-3.657E-01	3.536E-01	5.483E-01	0.000E+00	NOT IDENT.
RB-83	-4.859E-02	6.110E-02	9.682E-02	0.000E+00	NOT IDENT.
RB-84	-2.264E-02	6.503E-02	1.053E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.475E+00	1.265E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.993E-02	6.758E-02	0.000E+00	NOT IDENT.
RB-86	5.553E-01	7.918E-01	1.410E+00	0.000E+00	NOT IDENT.
Y-88	-4.487E-03	2.611E-02	4.040E-02	0.000E+00	NOT IDENT.
ZR-88	-1.750E-02	2.664E-02	4.409E-02	0.000E+00	NOT IDENT.
Y-91	8.762E+00	1.588E+01	2.774E+01	0.000E+00	NOT IDENT.
NB-94	1.724E-03	2.818E-02	4.820E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	4.132E-02	7.168E-02	0.000E+00	NOT IDENT.
NB-95M	1.656E-01	1.354E-01	2.141E-01	0.000E+00	NOT IDENT.
ZR-95	2.429E-02	6.176E-02	1.073E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.249E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.033E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.077E+01	2.501E+01	4.362E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.030E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.974E-03	2.874E-02	4.926E-02	0.000E+00	NOT IDENT.
RH-102	-8.585E-03	2.596E-02	4.299E-02	0.000E+00	FAIL ABUN
RU-103	3.012E-03	3.721E-02	6.291E-02	0.000E+00	FAIL ABUN
RH-106	-4.900E-02	2.843E-01	4.624E-01	0.000E+00	FAIL ABUN
RU-106	-4.900E-02	2.842E-01	4.624E-01	0.000E+00	FAIL ABUN
AG-108M	-2.441E-02	2.654E-02	4.256E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	3.853E-02	6.729E-02	0.000E+00	FAIL ABUN
IN-111	-2.028E+00	2.791E+00	3.944E+00	0.000E+00	NOT IDENT.
IN-113M	6.385E-03	3.875E-02	6.715E-02	0.000E+00	NOT IDENT.
SN-113	6.385E-03	3.875E-02	6.715E-02	0.000E+00	NOT IDENT.
IN-114M	4.430E-02	1.832E-01	2.823E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.050E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.412E-02	6.758E-02	1.016E-01	0.000E+00	NOT IDENT.
SB-122	6.127E+00	4.993E+00	8.902E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.840E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-8.611E-03	2.798E-02	4.486E-02	0.000E+00	NOT IDENT.
I-124	-4.180E-04	1.232E+00	1.755E+00	0.000E+00	NOT IDENT.
SB-124	1.782E-02	5.911E-02	1.036E-01	0.000E+00	FAIL ABUN
SB-125	6.804E-02	7.746E-02	1.384E-01	0.000E+00	FAIL ABUN
TE-125M	2.876E-01	9.067E+00	1.519E+01	0.000E+00	NOT IDENT.
I-126	1.577E-01	2.049E-01	3.241E-01	0.000E+00	NOT IDENT.
SB-126	-1.758E-01	1.761E-01	2.307E-01	0.000E+00	FAIL ABUN
SB-127	-2.280E-02	2.210E+00	3.602E+00	0.000E+00	NOT IDENT.
XE-127	9.740E-03	4.409E-02	7.638E-02	0.000E+00	FAIL ABUN
I-131	-1.923E-02	1.333E-01	2.286E-01	0.000E+00	NOT IDENT.
TE-132	3.465E-01	1.425E+00	2.448E+00	0.000E+00	NOT IDENT.
BA-133	1.358E-02	4.074E-02	5.979E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.157E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.411E-02	7.470E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.584E-01	2.566E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.630E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.683E-02	1.072E-01	1.787E-01	0.000E+00	FAIL ABUN
CE-139	-1.418E-02	2.690E-02	4.595E-02	0.000E+00	NOT IDENT.
BA-140	-1.943E-01	2.733E-01	4.219E-01	0.000E+00	NOT IDENT.
LA-140	1.608E-03	8.819E-02	1.269E-01	0.000E+00	FAIL ABUN
CE-143	0.000E+00	1.707E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.057E-01	2.183E-01	3.283E-01	0.000E+00	NOT IDENT.

PM-144	-6.845E-03	2.903E-02	4.875E-02	0.000E+00	NOT IDENT.
PR-144	-4.648E-01	1.972E+00	3.311E+00	0.000E+00	NOT IDENT.
PM-146	-8.949E-03	3.773E-02	6.310E-02	0.000E+00	NOT IDENT.
ND-147	-2.216E-02	5.918E-01	9.869E-01	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.744E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.221E-02	1.011E-01	1.411E-01	0.000E+00	FAIL ABUN
GD-153	-1.123E-02	8.761E-02	1.310E-01	0.000E+00	NOT IDENT.
EU-154	-4.376E-02	9.365E-02	1.491E-01	0.000E+00	NOT IDENT.
EU-155	6.569E-02	1.019E-01	1.754E-01	0.000E+00	FAIL ABUN
TB-160	-2.330E-02	1.229E-01	2.017E-01	0.000E+00	FAIL ABUN
HO-166M	-4.378E-02	5.339E-02	8.584E-02	0.000E+00	NOT IDENT.
TM-171	-1.186E+01	3.504E+01	5.332E+01	0.000E+00	NOT IDENT.
LU-176	3.919E-03	2.096E-02	3.516E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.147E+00	2.724E+00	0.000E+00	FAIL ABUN
LU-177M	-1.306E-01	1.577E-01	2.575E-01	0.000E+00	FAIL ABUN
HF-181	-2.447E-02	4.066E-02	6.609E-02	0.000E+00	NOT IDENT.
W-181	-1.793E-01	4.774E-01	7.263E-01	0.000E+00	NOT IDENT.
TA-182	-6.105E-02	1.619E-01	2.634E-01	0.000E+00	FAIL ABUN
RE-183	3.041E-02	1.048E-01	1.849E-01	0.000E+00	FAIL ABUN
RE-184	-2.183E-01	2.066E-01	3.299E-01	0.000E+00	NOT IDENT.
OS-185	-1.370E-02	3.948E-02	6.313E-02	0.000E+00	NOT IDENT.
W-188	-8.835E+00	8.333E+00	1.126E+01	0.000E+00	FAIL ABUN
IR-192	-1.704E-02	3.053E-02	4.888E-02	0.000E+00	FAIL ABUN
AU-195	1.861E-01	2.193E-01	3.816E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.597E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.786E+00	1.462E+01	2.501E+01	0.000E+00	NOT IDENT.
TL-202	2.560E-02	7.354E-02	1.276E-01	0.000E+00	NOT IDENT.
HG-203	3.812E-02	4.244E-02	6.589E-02	0.000E+00	NOT IDENT.
BI-207	3.489E-02	4.542E-02	8.129E-02	0.000E+00	FAIL ABUN
TL-207	7.865E-02	6.565E-01	9.553E-01	0.000E+00	FAIL ABUN
PO-209	4.600E+00	6.796E+00	1.183E+01	0.000E+00	NOT IDENT.
BI-210	2.608E+00	5.556E+00	9.965E+00	0.000E+00	NOT IDENT.
PB-210	2.608E+00	5.556E+00	9.965E+00	0.000E+00	NOT IDENT.
PO-210	2.608E+00	5.555E+00	9.965E+00	0.000E+00	NOT IDENT.
PB-211	-7.608E-01	9.748E-01	1.386E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.309E-01	5.897E-01	0.000E+00	FAIL ABUN
PO-215	7.865E-02	6.565E-01	9.553E-01	0.000E+00	FAIL ABUN
RN-219	1.059E-02	3.498E-01	6.007E-01	0.000E+00	FAIL ABUN
RN-220	-4.678E-01	2.124E+01	3.534E+01	0.000E+00	NOT IDENT.
RA-223	7.865E-02	6.565E-01	9.553E-01	0.000E+00	FAIL ABUN
AC-227	2.654E-01	3.446E-01	5.982E-01	0.000E+00	FAIL ABUN
TH-227	2.654E-01	3.455E-01	5.982E-01	0.000E+00	FAIL ABUN
TH-229	-1.421E-01	4.402E-01	7.487E-01	0.000E+00	FAIL ABUN
PA-231	-3.399E-01	1.547E+00	2.225E+00	0.000E+00	FAIL ABUN
TH-231	7.865E-02	6.565E-01	9.553E-01	0.000E+00	FAIL ABUN
U-231	4.324E-01	2.244E+00	3.416E+00	0.000E+00	FAIL ABUN
PA-233	1.862E-02	5.245E-02	8.873E-02	0.000E+00	FAIL ABUN
PA-234	1.252E-01	2.557E-01	4.381E-01	0.000E+00	FAIL ABUN
PA-234M	4.640E+00	4.101E+00	7.293E+00	0.000E+00	FAIL ABUN
NP-236	8.593E-03	7.078E-02	1.242E-01	0.000E+00	NOT IDENT.
NP-239	6.589E-02	1.753E-01	2.966E-01	0.000E+00	FAIL ABUN
AM-241	2.283E-01	1.997E-01	3.284E-01	0.000E+00	NOT IDENT.
CM-243	6.807E-02	9.081E-02	1.571E-01	0.000E+00	FAIL ABUN
AM-246	4.736E-02	1.239E-01	2.160E-01	0.000E+00	NOT IDENT.
CM-247	-5.099E-03	3.197E-02	5.435E-02	0.000E+00	FAIL ABUN
CF-249	2.167E-04	3.517E-02	6.050E-02	0.000E+00	NOT IDENT.
CF-251	-1.093E-01	1.111E-01	1.850E-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]G245107003.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:37:37.
Sample ID          : G245107003      Sample quantity   : 1.10790E+02 GRAM
Detector name      : GAM18            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           : 944038            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	1345	10.67*	1.894E+00	2.255E+01	2.255E+01	9.76
CD-109	88.03	208	3.72*	6.440E+00	2.941E+00	3.026E+00	32.87
SN-126	64.28	80	9.60	3.142E+00	9.028E-01	9.028E-01	109.77
	86.94	208	8.90	6.440E+00	1.229E+00	1.229E+00	52.12
	87.57	208	37.00*	6.440E+00	2.957E-01	2.957E-01	32.87
BA-137M	661.65	584	89.98*	3.589E+00	6.123E-01	6.130E-01	15.97
CS-137	661.65	584	85.12*	3.589E+00	6.472E-01	6.480E-01	15.98
CE-141	145.44	80	48.40*	8.221E+00	6.839E-02	1.027E-01	79.35
RE-188	155.03	98	15.00*	8.124E+00	2.720E-01	3.290E-01	61.33
	477.96	-----	1.04	4.504E+00	-----	Line Not Found	-----
	633.10	-----	1.26	3.707E+00	-----	Line Not Found	-----
TL-208	277.35	135	6.80	6.258E+00	1.073E+00	1.073E+00	56.13
	510.84	138	21.60	4.310E+00	5.007E-01	5.007E-01	54.04
	583.14	522	84.20*	3.934E+00	5.342E-01	5.342E-01	16.09
	860.37	69	12.46	2.911E+00	6.448E-01	6.448E-01	78.43
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	791	12.94*	5.451E+00	3.798E+00	3.798E+00	11.80
PB-212	74.81	378	10.70	4.929E+00	2.426E+00	2.426E+00	24.31
	77.11	505	18.00	5.258E+00	1.807E+00	1.807E+00	17.35
	87.30	208	8.00	6.440E+00	1.368E+00	1.368E+00	34.36
	238.63	1440	44.60*	6.793E+00	1.610E+00	1.610E+00	9.59
	300.09	99	3.41	5.982E+00	1.651E+00	1.651E+00	52.46
PO-212	74.81	378	10.70	4.929E+00	2.426E+00	2.426E+00	24.31
	77.11	505	18.00	5.258E+00	1.807E+00	1.807E+00	17.35
	87.30	208	8.00	6.440E+00	1.368E+00	1.368E+00	34.36
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----
	238.63	1440	44.60*	6.793E+00	1.610E+00	1.610E+00	9.59
	300.09	99	3.41	5.982E+00	1.651E+00	1.651E+00	52.46
BI-214	609.31	569	46.30*	3.813E+00	1.092E+00	1.092E+00	16.98
	1120.29	134	15.10	2.335E+00	1.291E+00	1.291E+00	32.56
	1764.49	112	15.80	1.695E+00	1.417E+00	1.417E+00	25.25
PB-214	74.81	378	6.21	4.929E+00	4.180E+00	4.180E+00	23.63

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	505	10.50	5.258E+00	3.097E+00	3.097E+00	18.95
	87.30	208	4.67	6.440E+00	2.343E+00	2.343E+00	33.76
	241.98	314	7.49	6.747E+00	2.103E+00	2.103E+00	24.94
	295.21	445	19.20	6.041E+00	1.300E+00	1.300E+00	19.76
	351.92	791	37.20*	5.451E+00	1.321E+00	1.321E+00	12.90
	74.81	378	6.21	4.929E+00	4.180E+00	4.180E+00	23.63
	77.11	505	10.50	5.258E+00	3.097E+00	3.097E+00	18.95
	87.30	208	4.67	6.440E+00	2.343E+00	2.343E+00	33.76
	241.98	314	7.49	6.747E+00	2.103E+00	2.103E+00	24.94
	295.21	445	19.20	6.041E+00	1.300E+00	1.300E+00	19.76
PO-216	351.92	791	37.20*	5.451E+00	1.321E+00	1.321E+00	12.90
	74.81	378	10.70	4.929E+00	2.426E+00	2.426E+00	24.31
	77.11	505	18.00	5.258E+00	1.807E+00	1.807E+00	17.35
	87.30	208	8.00	6.440E+00	1.368E+00	1.368E+00	34.36
	238.63	1440	44.60*	6.793E+00	1.610E+00	1.610E+00	9.59
	300.09	99	3.41	5.982E+00	1.651E+00	1.651E+00	52.46
	74.81	378	6.21	4.929E+00	4.180E+00	4.180E+00	23.63
	77.11	505	10.50	5.258E+00	3.097E+00	3.097E+00	18.95
	87.30	208	4.67	6.440E+00	2.343E+00	2.343E+00	33.76
	241.98	314	7.49	6.747E+00	2.103E+00	2.103E+00	24.94
RA-224	295.21	445	19.20	6.041E+00	1.300E+00	1.300E+00	19.76
	351.92	791	37.20*	5.451E+00	1.321E+00	1.321E+00	12.90
	240.98	314	3.95*	6.747E+00	3.988E+00	3.988E+00	24.31
	609.31	569	46.30*	3.813E+00	1.092E+00	1.092E+00	16.98
	1120.29	134	15.10	2.335E+00	1.291E+00	1.291E+00	32.56
	1764.49	112	15.80	1.695E+00	1.417E+00	1.417E+00	25.25
	338.32	282	11.40	5.580E+00	1.503E+00	1.503E+00	47.78
	911.07	334	27.70*	2.780E+00	1.469E+00	1.469E+00	21.05
	969.11	221	16.60	2.640E+00	1.706E+00	1.706E+00	29.79
	338.32	282	11.40	5.580E+00	1.503E+00	1.503E+00	47.78
RA-226	911.07	334	27.70*	2.780E+00	1.469E+00	1.469E+00	21.05
	969.11	221	16.60	2.640E+00	1.706E+00	1.706E+00	29.79
	74.81	378	10.70	4.929E+00	2.426E+00	2.426E+00	22.47
	77.11	505	18.00	5.258E+00	1.807E+00	1.841E+00	17.35
	87.30	208	8.00	6.440E+00	1.368E+00	1.394E+00	32.87
	238.63	1440	44.60*	6.793E+00	1.610E+00	1.641E+00	9.59
	300.09	99	3.41	5.982E+00	1.651E+00	1.682E+00	78.47
	609.31	569	46.30*	3.813E+00	1.092E+00	1.092E+00	16.98
	1120.29	134	15.10	2.335E+00	1.291E+00	1.291E+00	32.56
	1764.49	112	15.80	1.695E+00	1.417E+00	1.417E+00	25.25
AC-228	338.32	282	11.40	5.580E+00	1.503E+00	1.503E+00	25.58
	911.07	334	27.70*	2.780E+00	1.469E+00	1.469E+00	21.05
	969.11	221	16.60	2.640E+00	1.706E+00	1.706E+00	29.79
	63.29	80	3.80*	3.142E+00	2.281E+00	2.281E+00	110.20
	92.38	352	5.41	6.975E+00	3.159E+00	3.159E+00	37.45
	609.31	569	46.30*	3.813E+00	1.092E+00	1.092E+00	16.98
	1120.29	134	15.10	2.335E+00	1.291E+00	1.291E+00	32.56
	1764.49	112	15.80	1.695E+00	1.417E+00	1.417E+00	25.25
	89.95	-----	2.70	6.701E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	93.35	352	4.50	6.975E+00	3.798E+00	3.798E+00	43.14
	105.00	-----	2.10	7.709E+00	-----	Line Not Found	-----
	143.76	80	10.50*	8.221E+00	3.152E-01	3.152E-01	80.79
	163.35	-----	4.70	8.004E+00	-----	Line Not Found	-----
	185.71	329	54.00	7.646E+00	2.698E-01	2.698E-01	27.69
	205.31	-----	4.70	7.323E+00	-----	Line Not Found	-----
NP-237	86.50	208	12.60*	6.440E+00	8.683E-01	8.683E-01	38.81
	95.87	-----	2.60	7.180E+00	-----	Line Not Found	-----
U-238	63.29	80	3.80*	3.142E+00	2.281E+00	2.281E+00	110.20
	92.38	352	5.41	6.975E+00	3.159E+00	3.159E+00	33.91
AM-243	74.67	378	66.00*	4.929E+00	3.933E-01	3.933E-01	22.44
	86.72	208	0.34	6.440E+00	3.256E+01	3.256E+01	32.87
	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
ANH-511	511.00	138	100.00*	4.310E+00	1.082E-01	1.082E-01	53.39

Flag: "*" = Keyline

Total number of lines in spectrum 40
Number of unidentified lines 4
Number of lines tentatively identified by NID 36 90.00%

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	2.255E+01	2.255E+01	0.220E+01	9.76	
CD-109	464.00D	1.03	2.941E+00	3.026E+00	0.995E+00	32.87	
SN-126	1.00E+05Y	1.00	2.957E-01	2.957E-01	0.972E-01	32.87	
BA-137M	30.17Y	1.00	6.123E-01	6.130E-01	0.979E-01	15.97	
CS-137	30.17Y	1.00	6.472E-01	6.480E-01	1.035E-01	15.98	
CE-141	32.50D	1.50	6.839E-02	1.027E-01	0.815E-01	79.35	
RE-188	69.40D	1.21	2.720E-01	3.290E-01	2.018E-01	61.33	
TL-208	1.41E+10Y	1.00	5.342E-01	5.342E-01	0.860E-01	16.09	
BI-211	7.04E+08Y	1.00	3.798E+00	3.798E+00	0.448E+00	11.80	
PB-212	1.41E+10Y	1.00	1.610E+00	1.610E+00	0.154E+00	9.59	
PO-212	1.41E+10Y	1.00	1.610E+00	1.610E+00	0.154E+00	9.59	
BI-214	1600.00Y	1.00	1.092E+00	1.092E+00	0.185E+00	16.98	
PB-214	1600.00Y	1.00	1.321E+00	1.321E+00	0.170E+00	12.90	
PO-214	1600.00Y	1.00	1.321E+00	1.321E+00	0.170E+00	12.90	
PO-216	1.41E+10Y	1.00	1.610E+00	1.610E+00	0.154E+00	9.59	
PO-218	1600.00Y	1.00	1.321E+00	1.321E+00	0.170E+00	12.90	
RA-224	1.41E+10Y	1.00	3.988E+00	3.988E+00	0.969E+00	24.31	
RA-226	1600.00Y	1.00	1.092E+00	1.092E+00	0.185E+00	16.98	
AC-228	1.41E+10Y	1.00	1.469E+00	1.469E+00	0.309E+00	21.05	
RA-228	1.41E+10Y	1.00	1.469E+00	1.469E+00	0.309E+00	21.05	
TH-228	1.91Y	1.02	1.610E+00	1.641E+00	0.157E+00	9.59	
TH-230	4.47E+09Y	1.00	1.092E+00	1.092E+00	0.185E+00	16.98	
TH-232	1.41E+10Y	1.00	1.469E+00	1.469E+00	0.309E+00	21.05	
TH-234	4.47E+09Y	1.00	2.281E+00	2.281E+00	2.513E+00	110.20	
U-234	4.47E+09Y	1.00	1.092E+00	1.092E+00	0.185E+00	16.98	
U-235	7.04E+08Y	1.00	3.152E-01	3.152E-01	2.547E-01	80.79	
NP-237	2.14E+06Y	1.00	8.683E-01	8.683E-01	3.370E-01	38.81	
U-238	4.47E+09Y	1.00	2.281E+00	2.281E+00	2.513E+00	110.20	
AM-243	7380.00Y	1.00	3.933E-01	3.933E-01	0.883E-01	22.44	
ANH-511	1.00E+09Y	1.00	1.082E-01	1.082E-01	0.577E-01	53.39	

Total Activity : 6.114E+01 6.135E+01

Grand Total Activity : 6.114E+01 6.135E+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	129.63	50	308	1.04	258.34	255	7	6.97E-03	****	8.25E+00	T
0	209.18	114	336	1.13	417.38	413	10	1.59E-02	62.7	7.26E+00	T
0	269.89	161	288	1.98	538.76	533	14	2.23E-02	47.7	6.35E+00	T
0	328.43	83	190	1.54	655.80	650	10	1.16E-02	66.0	5.68E+00	T
0	462.92	119	93	1.73	924.70	920	9	1.65E-02	34.8	4.60E+00	T
0	678.02	24	71	1.26	1354.78	1350	10	3.29E-03	****	3.52E+00	T
0	726.95	140	99	1.88	1452.63	1446	15	1.95E-02	35.1	3.34E+00	T
0	767.66	90	58	3.65	1534.02	1529	11	1.24E-02	39.1	3.20E+00	T
0	794.38	81	62	2.08	1587.45	1578	14	1.12E-02	46.3	3.11E+00	T
4	964.19	83	39	3.09	1926.99	1920	21	1.16E-02	45.1	2.65E+00	T
0	1237.26	94	87	1.77	2473.05	2464	19	1.31E-02	53.1	2.15E+00	T
0	1588.98	33	35	1.15	3176.43	3165	23	4.58E-03	****	1.79E+00	
0	1728.56	44	20	1.91	3455.57	3446	20	6.11E-03	58.2	1.71E+00	
1	1759.77	30	3	2.66	3518.00	3515	18	4.18E-03	32.9	1.70E+00	
0	1846.82	27	10	1.24	3692.09	3686	11	3.73E-03	61.1	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]G245107003.CNF;1  *
* Acquisition date   : 1-FEB-2010 12:37:37.  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 02:00:01.48             Half life ratio : 8.00000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G245107003             Analyst initials: MXR1          *
* Batch Number       : 944038                 Sample Quantity : 1.10790E+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	2.255E+01	2.202E+00	4.470E-01	3.392E-02	50.449
CD-109	3.026E+00	9.947E-01	1.512E+00	1.398E-01	2.001
SN-126	2.957E-01	9.720E-02	1.460E-01	1.345E-02	2.025
BA-137M	6.130E-01	9.789E-02	4.872E-02	3.714E-03	12.582
CS-137	6.480E-01	1.035E-01	5.150E-02	3.936E-03	12.582
CE-141	1.027E-01	8.150E-02	1.008E-01	5.754E-03	1.019
RE-188	3.290E-01	2.018E-01	2.592E-01	1.387E-02	1.269
TL-208	5.342E-01	8.596E-02	4.665E-02	3.657E-03	11.453
BI-211	3.798E+00	4.480E-01	2.768E-01	1.777E-02	13.723
PB-212	1.610E+00	1.544E-01	8.054E-02	5.753E-03	19.994
PO-212	1.610E+00	1.544E-01	8.054E-02	5.753E-03	19.994
BI-214	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
PB-214	1.321E+00	1.704E-01	9.645E-02	7.979E-03	13.698
PO-214	1.321E+00	1.704E-01	9.645E-02	7.979E-03	13.698
PO-216	1.610E+00	1.544E-01	8.054E-02	5.753E-03	19.994
PO-218	1.321E+00	1.704E-01	9.645E-02	7.979E-03	13.698
RA-224	3.988E+00	9.694E-01	9.154E-01	5.099E-02	4.357
RA-226	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.469E+00	3.093E-01	1.564E-01	2.073E-02	9.393
RA-228	1.469E+00	3.093E-01	1.564E-01	2.073E-02	9.393
TH-228	1.641E+00	1.573E-01	8.208E-02	5.864E-03	19.994
TH-230	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
TH-232	1.469E+00	3.093E-01	1.564E-01	2.073E-02	9.393
TH-234	2.281E+00	2.513E+00	2.508E+00	4.421E-01	0.909
U-234	1.092E+00	1.854E-01	9.154E-02	8.177E-03	11.928
U-235	3.152E-01	2.547E-01	3.194E-01	5.173E-02	0.987
NP-237	8.683E-01	3.370E-01	4.197E-01	9.470E-02	2.069
U-238	2.281E+00	2.513E+00	2.508E+00	4.421E-01	0.909
AM-243	3.933E-01	8.826E-02	9.175E-02	7.657E-03	4.286
ANH-511	1.082E-01	5.775E-02	4.409E-02	2.912E-03	2.453

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	9.615E-02		3.078E-01	5.168E-01	3.745E-02	0.186
NA-22	-2.100E-02		3.471E-02	5.358E-02	3.646E-03	-0.392
NA-24	-7.465E+01		2.804E+01	Half-Life too short		
AL-26	-5.484E-03		2.423E-02	3.820E-02	2.230E-03	-0.144
TI-44	3.334E-01	+	5.785E-02	8.257E-02	7.060E-03	4.038
SC-46	-6.415E-03		3.731E-02	6.015E-02	6.709E-03	-0.107
V-48	-2.450E-02		7.333E-02	1.152E-01	1.139E-02	-0.213
CR-51	-1.379E-01		3.532E-01	5.554E-01	3.576E-02	-0.248
MN-52	-2.974E-02		3.230E-01	5.184E-01	3.820E-02	-0.057
MN-54	-5.852E-04		3.475E-02	5.706E-02	5.844E-03	-0.010
CO-56	1.030E-02		3.551E-02	5.955E-02	6.217E-03	0.173
CO-57	7.007E-03		2.343E-02	3.812E-02	2.258E-03	0.184
CO-58	2.311E-02		3.351E-02	5.806E-02	5.731E-03	0.398
FE-59	-8.433E-03		7.555E-02	1.246E-01	1.026E-02	-0.068
CO-60	6.311E-03		3.348E-02	5.578E-02	4.215E-03	0.113
ZN-65	6.133E-02		9.315E-02	1.415E-01	9.966E-03	0.434
GE-68	8.265E-01		1.118E+00	1.963E+00	1.559E-01	0.421
AS-73	1.466E+00		1.167E+00	2.049E+00	1.624E-01	0.715
AS-74	-2.998E-02		9.001E-02	1.420E-01	1.020E-02	-0.211
SE-75	3.488E-02		4.220E-02	6.407E-02	3.664E-03	0.544
BR-77	-2.094E-05		1.433E-05	Half-Life too short		
SR-82	-3.657E-01		3.608E-01	5.485E-01	5.108E-02	-0.667
RB-83	-4.859E-02		6.235E-02	9.657E-02	6.441E-03	-0.503
RB-84	-2.264E-02		6.636E-02	1.054E-01	1.162E-02	-0.215
KR-85	1.817E+01		7.628E+00	1.262E+01	8.358E-01	1.440
SR-85	9.709E-02		4.075E-02	6.740E-02	4.465E-03	1.440
RB-86	5.553E-01		8.079E-01	1.414E+00	1.126E-01	0.393
Y-88	-4.487E-03		2.664E-02	4.069E-02	2.318E-03	-0.110
ZR-88	-1.750E-02		2.718E-02	4.388E-02	2.524E-03	-0.399
Y-91	8.762E+00		1.621E+01	2.785E+01	1.647E+00	0.315
NB-94	1.724E-03		2.875E-02	4.818E-02	3.953E-03	0.036

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	9.596E-02		4.217E-02	7.170E-02	6.559E-03	1.338
NB-95M	1.656E-01		1.382E-01	2.122E-01	1.557E-02	0.780
ZR-95	2.429E-02		6.302E-02	1.073E-01	1.056E-02	0.226
NB-97	1.717E+01		2.678E+00	Half-Life too short		
ZR-97	1.869E+02		4.609E+01	Half-Life too short		
MO-99	1.077E+01		2.552E+01	4.362E+01	6.656E+00	0.247
TC-99M	-5.011E+14		1.036E+15	Half-Life too short		
RH-101	-2.974E-03		2.932E-02	4.877E-02	2.621E-03	-0.061
RH-102	-8.585E-03		2.649E-02	4.284E-02	2.721E-03	-0.200
RU-103	3.012E-03		3.797E-02	6.272E-02	8.144E-03	0.048
RH-106	-4.900E-02		2.901E-01	4.618E-01	5.810E-02	-0.106
RU-106	-4.900E-02		2.900E-01	4.618E-01	3.398E-02	-0.106
AG-108M	-2.441E-02		2.709E-02	4.239E-02	2.769E-03	-0.576
AG-110M	1.015E-01		3.931E-02	6.724E-02	5.303E-03	1.510
IN-111	-2.028E+00		2.848E+00	3.911E+00	2.186E-01	-0.519
IN-113M	6.385E-03		3.954E-02	6.683E-02	4.099E-03	0.096
SN-113	6.385E-03		3.954E-02	6.683E-02	4.099E-03	0.096
IN-114M	4.430E-02		1.869E-01	2.794E-01	1.492E-02	0.159
CD-115	1.257E-05		1.556E-05	Half-Life too short		
SN-117M	-3.412E-02		6.896E-02	1.004E-01	5.339E-03	-0.340
SB-122	6.127E+00		5.095E+00	8.884E+00	6.191E-01	0.690
I-123	-2.413E+02		4.000E+02	Half-Life too short		
TE-123M	-8.611E-03		2.855E-02	4.434E-02	2.392E-03	-0.194
I-124	-4.180E-04		1.257E+00	1.753E+00	1.267E-01	0.000
SB-124	1.782E-02		6.032E-02	1.043E-01	7.193E-03	0.171
SB-125	6.804E-02		7.904E-02	1.378E-01	8.611E-03	0.494
TE-125M	2.876E-01		9.252E+00	1.497E+01	1.318E+00	0.019
I-126	1.577E-01		2.090E-01	3.239E-01	2.490E-02	0.487
SB-126	-1.758E-01		1.797E-01	2.306E-01	1.952E-02	-0.762
SB-127	-2.280E-02		2.255E+00	3.600E+00	4.377E-01	-0.006
XE-127	9.740E-03		4.499E-02	7.564E-02	4.083E-03	0.129
I-131	-1.923E-02		1.360E-01	2.274E-01	1.478E-02	-0.085
TE-132	3.465E-01		1.454E+00	2.426E+00	3.667E-01	0.143
BA-133	1.358E-02		4.157E-02	5.947E-02	6.869E-03	0.228
I-133	-1.693E-03		5.905E-02	Half-Life too short		
CS-134	1.167E-01	+	5.521E-02	7.475E-02	7.229E-03	1.562
CS-135	2.760E-01		1.616E-01	2.547E-01	1.925E-02	1.084
I-135	2.651E+13		4.403E+13	Half-Life too short		
CS-136	-2.683E-02		1.094E-01	1.792E-01	1.607E-02	-0.150
CE-139	-1.418E-02		2.745E-02	4.544E-02	2.385E-03	-0.312
BA-140	-1.943E-01		2.789E-01	4.209E-01	1.377E-01	-0.462
LA-140	1.608E-03		8.999E-02	1.277E-01	8.759E-03	0.013
CE-143	5.669E-03		8.709E-04	Half-Life too short		
CE-144	1.057E-01		2.228E-01	3.241E-01	4.583E-02	0.326
PM-144	-6.845E-03		2.963E-02	4.874E-02	3.957E-03	-0.140
PR-144	-4.648E-01		2.012E+00	3.309E+00	2.686E-01	-0.140
PM-146	-8.949E-03		3.850E-02	6.287E-02	5.593E-03	-0.142
ND-147	-2.216E-02		6.039E-01	9.845E-01	1.374E-01	-0.023

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	1.603E-04		1.400E-04	Half-Life too short		
EU-152	-3.221E-02		1.031E-01	1.403E-01	9.153E-03	-0.230
GD-153	-1.123E-02		8.940E-02	1.290E-01	1.009E-02	-0.087
EU-154	-4.376E-02		9.556E-02	1.497E-01	1.495E-02	-0.292
EU-155	6.569E-02		1.040E-01	1.728E-01	1.236E-02	0.380
TB-160	-2.330E-02		1.254E-01	2.019E-01	2.218E-02	-0.115
HO-166M	-4.378E-02		5.447E-02	8.582E-02	7.153E-03	-0.510
TM-171	-1.186E+01		3.576E+01	5.236E+01	4.187E+00	-0.226
LU-176	3.919E-03		2.139E-02	3.493E-02	2.011E-03	0.112
LU-177	3.482E+00	+	2.191E+00	2.698E+00	1.464E-01	1.291
LU-177M	-1.306E-01		1.609E-01	2.563E-01	1.514E-02	-0.509
HF-181	-2.447E-02		4.149E-02	6.588E-02	4.217E-03	-0.371
W-181	-1.793E-01		4.871E-01	7.132E-01	5.657E-02	-0.251
TA-182	-6.105E-02		1.652E-01	2.644E-01	1.618E-02	-0.231
RE-183	3.041E-02		1.070E-01	1.828E-01	9.651E-03	0.166
RE-184	-2.183E-01		2.108E-01	3.273E-01	1.838E-02	-0.667
OS-185	-1.370E-02		4.028E-02	6.307E-02	4.743E-03	-0.217
W-188	-8.835E+00		8.504E+00	1.118E+01	6.403E-01	-0.790
IR-192	-1.704E-02		3.115E-02	4.856E-02	2.817E-03	-0.351
AU-195	1.861E-01		2.238E-01	3.758E-01	2.875E-02	0.495
TL-200	1.776E-03		2.346E-03	Half-Life too short		
TL-201	-6.786E+00		1.492E+01	2.473E+01	1.298E+00	-0.274
TL-202	2.560E-02		7.504E-02	1.271E-01	7.747E-03	0.202
HG-203	3.812E-02		4.331E-02	6.541E-02	3.967E-03	0.583
BI-207	3.489E-02		4.635E-02	8.153E-02	6.730E-03	0.428
TL-207	7.865E-02		6.699E-01	9.494E-01	1.567E-01	0.083
PO-209	4.600E+00		6.935E+00	1.185E+01	1.337E+00	0.388
BI-210	2.608E+00		5.669E+00	9.760E+00	7.552E-01	0.267
PB-210	2.608E+00		5.669E+00	9.760E+00	7.552E-01	0.267
PO-210	2.608E+00		5.668E+00	9.760E+00	6.492E-01	0.267
PB-211	-7.608E-01		9.947E-01	1.380E+00	8.604E-01	-0.551
BI-212	1.205E+00	+	4.397E-01	5.896E-01	5.872E-02	2.043
PO-215	7.865E-02		6.699E-01	9.494E-01	1.567E-01	0.083
RN-219	1.059E-02		3.569E-01	5.979E-01	8.140E-02	0.018
RN-220	-4.678E-01		2.167E+01	3.527E+01	2.423E+00	-0.013
RA-223	7.865E-02		6.699E-01	9.494E-01	1.567E-01	0.083
AC-227	2.654E-01		3.516E-01	5.935E-01	8.243E-02	0.447
TH-227	2.654E-01		3.525E-01	5.935E-01	9.995E-02	0.447
TH-229	-1.421E-01		4.492E-01	7.412E-01	3.969E-02	-0.192
PA-231	-3.399E-01		1.578E+00	2.209E+00	3.036E-01	-0.154
TH-231	7.865E-02		6.699E-01	9.494E-01	1.567E-01	0.083
U-231	4.324E-01		2.290E+00	3.364E+00	2.695E-01	0.129
PA-233	1.862E-02		5.352E-02	8.815E-02	5.400E-03	0.211
PA-234	1.252E-01		2.610E-01	4.390E-01	8.660E-02	0.285
PA-234M	4.640E+00		4.184E+00	7.310E+00	7.886E-01	0.635
NP-236	8.593E-03		7.222E-02	1.228E-01	6.507E-03	0.070
NP-239	6.589E-02		1.788E-01	2.925E-01	1.811E-02	0.225
AM-241	2.283E-01		2.037E-01	3.222E-01	2.672E-02	0.709

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.807E-02		9.267E-02	1.548E-01	1.108E-02	0.440
AM-246	4.736E-02		1.264E-01	2.166E-01	1.713E-02	0.219
CM-247	-5.099E-03		3.263E-02	5.411E-02	3.151E-03	-0.094
CF-249	2.167E-04		3.589E-02	6.021E-02	3.461E-03	0.004
CF-251	-1.093E-01		1.133E-01	1.831E-01	9.667E-03	-0.597

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]G245107003          *
* Acquisition date   : 1-FEB-2010 12:37:37 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 02:00:01.48 Half life ratio : 8.000            *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G245107003 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.1079E+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	2.255E+01	2.158E+00	2.225E-01	1.101E+00
CD-109	3.026E+00	9.748E-01	7.687E-01	4.973E-01
SN-126	2.957E-01	9.525E-02	7.424E-02	4.860E-02
BA-137M	6.130E-01	9.593E-02	2.439E-02	4.894E-02
CS-137	6.480E-01	1.015E-01	2.579E-02	5.177E-02
CE-141	1.027E-01	7.987E-02	5.105E-02	4.075E-02
RE-188	3.290E-01	1.978E-01	1.312E-01	1.009E-01
TL-208	5.342E-01	8.424E-02	2.338E-02	4.298E-02
BI-211	3.798E+00	4.391E-01	1.392E-01	2.240E-01
PB-212	1.610E+00	1.513E-01	4.064E-02	7.718E-02
PO-212	1.610E+00	1.513E-01	4.064E-02	7.718E-02
BI-214	1.092E+00	1.817E-01	4.586E-02	9.268E-02
PB-214	1.321E+00	1.670E-01	4.853E-02	8.521E-02
PO-214	1.321E+00	1.670E-01	4.853E-02	8.521E-02
PO-216	1.610E+00	1.513E-01	4.064E-02	7.718E-02
PO-218	1.321E+00	1.670E-01	4.853E-02	8.521E-02
RA-224	3.988E+00	9.500E-01	4.619E-01	4.847E-01
RA-226	1.092E+00	1.817E-01	4.586E-02	9.268E-02
AC-228	1.469E+00	3.031E-01	7.813E-02	1.547E-01
RA-228	1.469E+00	3.031E-01	7.813E-02	1.547E-01
TH-228	1.641E+00	1.542E-01	4.142E-02	7.866E-02
TH-230	1.092E+00	1.817E-01	4.586E-02	9.268E-02
TH-232	1.469E+00	3.031E-01	7.813E-02	1.547E-01
TH-234	2.281E+00	2.463E+00	1.278E+00	1.257E+00
U-234	1.092E+00	1.817E-01	4.586E-02	9.268E-02
U-235	3.152E-01	2.496E-01	1.618E-01	1.273E-01
NP-237	8.683E-01	3.303E-01	2.134E-01	1.685E-01
U-238	2.281E+00	2.463E+00	1.278E+00	1.257E+00
AM-243	3.933E-01	8.649E-02	4.670E-02	4.413E-02
ANH-511	1.082E-01	5.659E-02	2.212E-02	2.887E-02

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

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	9.615E-02	3.016E-01	2.594E-01	1.539E-01 NOT IDENT.
NA-22	-2.100E-02	3.402E-02	2.669E-02	1.736E-02 NOT IDENT.
NA-24	-7.465E+07	5.496E+07	0.000E+00	2.804E+07 SHORT HLIF
AL-26	-5.484E-03	2.374E-02	1.898E-02	1.211E-02 NOT IDENT.
TI-44	3.334E-01	5.670E-02	4.201E-02	2.893E-02 FAIL ABUN
SC-46	-6.415E-03	3.656E-02	3.005E-02	1.865E-02 FAIL ABUN
V-48	-2.450E-02	7.187E-02	5.749E-02	3.667E-02 NOT IDENT.
CR-51	-1.379E-01	3.461E-01	2.796E-01	1.766E-01 NOT IDENT.
MN-52	-2.974E-02	3.166E-01	2.580E-01	1.615E-01 NOT IDENT.
MN-54	-5.852E-04	3.405E-02	2.852E-02	1.737E-02 NOT IDENT.
CO-56	1.030E-02	3.480E-02	2.976E-02	1.775E-02 FAIL ABUN
CO-57	7.007E-03	2.296E-02	1.933E-02	1.171E-02 NOT IDENT.
CO-58	2.311E-02	3.284E-02	2.902E-02	1.676E-02 NOT IDENT.
FE-59	-8.433E-03	7.404E-02	6.214E-02	3.778E-02 FAIL ABUN
CO-60	6.311E-03	3.281E-02	2.778E-02	1.674E-02 NOT IDENT.
ZN-65	6.133E-02	9.129E-02	7.056E-02	4.657E-02 NOT IDENT.
GE-68	8.265E-01	1.095E+00	9.791E-01	5.589E-01 NOT IDENT.
AS-73	1.466E+00	1.143E+00	1.045E+00	5.834E-01 NOT IDENT.
AS-74	-2.998E-02	8.821E-02	7.117E-02	4.500E-02 NOT IDENT.
SE-75	3.488E-02	4.135E-02	3.230E-02	2.110E-02 NOT IDENT.
BR-77	-2.094E+01	2.809E+01	0.000E+00	1.433E+01 SHORT HLIF
SR-82	-3.657E-01	3.536E-01	2.743E-01	1.804E-01 NOT IDENT.
RB-83	-4.859E-02	6.110E-02	4.844E-02	3.117E-02 NOT IDENT.
RB-84	-2.264E-02	6.503E-02	5.268E-02	3.318E-02 NOT IDENT.
KR-85	1.817E+01	7.475E+00	6.329E+00	3.814E+00 NOT IDENT.
SR-85	9.709E-02	3.993E-02	3.381E-02	2.037E-02 NOT IDENT.
RB-86	5.553E-01	7.918E-01	7.055E-01	4.040E-01 NOT IDENT.
Y-88	-4.487E-03	2.611E-02	2.021E-02	1.332E-02 NOT IDENT.
ZR-88	-1.750E-02	2.664E-02	2.206E-02	1.359E-02 NOT IDENT.
Y-91	8.762E+00	1.588E+01	1.388E+01	8.103E+00 NOT IDENT.
NB-94	1.724E-03	2.818E-02	2.411E-02	1.438E-02 NOT IDENT.
NB-95	9.596E-02	4.132E-02	3.586E-02	2.108E-02 NOT IDENT.
NB-95M	1.656E-01	1.354E-01	1.071E-01	6.909E-02 NOT IDENT.
ZR-95	2.429E-02	6.176E-02	5.366E-02	3.151E-02 NOT IDENT.
NB-97	1.717E+07	5.249E+06	0.000E+00	2.678E+06 SHORT HLIF
ZR-97	1.869E+08	9.033E+07	0.000E+00	4.609E+07 SHORT HLIF
MO-99	1.077E+01	2.501E+01	2.182E+01	1.276E+01 NOT IDENT.
TC-99M	-5.011E+20	2.030E+21	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-2.974E-03	2.874E-02	2.464E-02	1.466E-02 NOT IDENT.
RH-102	-8.585E-03	2.596E-02	2.151E-02	1.324E-02 FAIL ABUN
RU-103	3.012E-03	3.721E-02	3.147E-02	1.898E-02 FAIL ABUN
RH-106	-4.900E-02	2.843E-01	2.313E-01	1.450E-01 FAIL ABUN
RU-106	-4.900E-02	2.842E-01	2.313E-01	1.450E-01 FAIL ABUN
AG-108M	-2.441E-02	2.654E-02	2.129E-02	1.354E-02 NOT IDENT.
AG-110M	1.015E-01	3.853E-02	3.367E-02	1.966E-02 FAIL ABUN
IN-111	-2.028E+00	2.791E+00	1.973E+00	1.424E+00 NOT IDENT.
IN-113M	6.385E-03	3.875E-02	3.359E-02	1.977E-02 NOT IDENT.
SN-113	6.385E-03	3.875E-02	3.359E-02	1.977E-02 NOT IDENT.
IN-114M	4.430E-02	1.832E-01	1.412E-01	9.347E-02 NOT IDENT.
CD-115	1.257E+01	3.050E+01	0.000E+00	1.556E+01 SHORT HLIF
SN-117M	-3.412E-02	6.758E-02	5.084E-02	3.448E-02 NOT IDENT.
SB-122	6.127E+00	4.993E+00	4.454E+00	2.547E+00 NOT IDENT.
I-123	-2.413E+08	7.840E+08	0.000E+00	4.000E+08 SHORT HLIF
TE-123M	-8.611E-03	2.798E-02	2.244E-02	1.428E-02 NOT IDENT.
I-124	-4.180E-04	1.232E+00	8.781E-01	6.286E-01 NOT IDENT.
SB-124	1.782E-02	5.911E-02	5.182E-02	3.016E-02 FAIL ABUN
SB-125	6.804E-02	7.746E-02	6.923E-02	3.952E-02 FAIL ABUN
TE-125M	2.876E-01	9.067E+00	7.599E+00	4.626E+00 NOT IDENT.
I-126	1.577E-01	2.049E-01	1.622E-01	1.045E-01 NOT IDENT.
SB-126	-1.758E-01	1.761E-01	1.154E-01	8.984E-02 FAIL ABUN
SB-127	-2.280E-02	2.210E+00	1.802E+00	1.128E+00 NOT IDENT.
XE-127	9.740E-03	4.409E-02	3.821E-02	2.249E-02 FAIL ABUN
I-131	-1.923E-02	1.333E-01	1.144E-01	6.799E-02 NOT IDENT.
TE-132	3.465E-01	1.425E+00	1.225E+00	7.269E-01 NOT IDENT.
BA-133	1.358E-02	4.074E-02	2.991E-02	2.078E-02 FAIL ABUN
I-133	-1.693E+03	1.157E+05	0.000E+00	5.905E+04 SHORT HLIF
CS-134	1.167E-01	5.411E-02	3.737E-02	2.761E-02 FAIL ABUN
CS-135	2.760E-01	1.584E-01	1.284E-01	8.081E-02 NOT IDENT.
I-135	2.651E+19	8.630E+19	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-2.683E-02	1.072E-01	8.941E-02	5.468E-02 FAIL ABUN
CE-139	-1.418E-02	2.690E-02	2.299E-02	1.373E-02 NOT IDENT.
BA-140	-1.943E-01	2.733E-01	2.111E-01	1.394E-01 NOT IDENT.
LA-140	1.608E-03	8.819E-02	6.349E-02	4.499E-02 FAIL ABUN
CE-143	5.669E+03	1.707E+03	0.000E+00	8.709E+02 SHORT HLIF
CE-144	1.057E-01	2.183E-01	1.643E-01	1.114E-01 NOT IDENT.

PM-144	-6.845E-03	2.903E-02	2.439E-02	1.481E-02	NOT IDENT.
PR-144	-4.648E-01	1.972E+00	1.656E+00	1.006E+00	NOT IDENT.
PM-146	-8.949E-03	3.773E-02	3.157E-02	1.925E-02	NOT IDENT.
ND-147	-2.216E-02	5.918E-01	4.938E-01	3.019E-01	NOT IDENT.
PM-149	1.603E+02	2.744E+02	0.000E+00	1.400E+02	SHORT HLIF
EU-152	-3.221E-02	1.011E-01	7.058E-02	5.156E-02	FAIL ABUN
GD-153	-1.123E-02	8.761E-02	6.553E-02	4.470E-02	NOT IDENT.
EU-154	-4.376E-02	9.365E-02	7.457E-02	4.778E-02	NOT IDENT.
EU-155	6.569E-02	1.019E-01	8.775E-02	5.199E-02	FAIL ABUN
TB-160	-2.330E-02	1.229E-01	1.009E-01	6.268E-02	FAIL ABUN
HO-166M	-4.378E-02	5.339E-02	4.294E-02	2.724E-02	NOT IDENT.
TM-171	-1.186E+01	3.504E+01	2.667E+01	1.788E+01	NOT IDENT.
LU-176	3.919E-03	2.096E-02	1.759E-02	1.069E-02	FAIL ABUN
LU-177	3.482E+00	2.147E+00	1.363E+00	1.095E+00	FAIL ABUN
LU-177M	-1.306E-01	1.577E-01	1.288E-01	8.045E-02	FAIL ABUN
HF-181	-2.447E-02	4.066E-02	3.307E-02	2.074E-02	NOT IDENT.
W-181	-1.793E-01	4.774E-01	3.634E-01	2.436E-01	NOT IDENT.
TA-182	-6.105E-02	1.619E-01	1.318E-01	8.261E-02	FAIL ABUN
RE-183	3.041E-02	1.048E-01	9.252E-02	5.349E-02	FAIL ABUN
RE-184	-2.183E-01	2.066E-01	1.651E-01	1.054E-01	NOT IDENT.
OS-185	-1.370E-02	3.948E-02	3.158E-02	2.014E-02	NOT IDENT.
W-188	-8.835E+00	8.333E+00	5.632E+00	4.252E+00	FAIL ABUN
IR-192	-1.704E-02	3.053E-02	2.445E-02	1.558E-02	FAIL ABUN
AU-195	1.861E-01	2.193E-01	1.909E-01	1.119E-01	FAIL ABUN
TL-200	1.776E+03	4.597E+03	0.000E+00	2.346E+03	SHORT HLIF
TL-201	-6.786E+00	1.462E+01	1.251E+01	7.460E+00	NOT IDENT.
TL-202	2.560E-02	7.354E-02	6.382E-02	3.752E-02	NOT IDENT.
HG-203	3.812E-02	4.244E-02	3.296E-02	2.166E-02	NOT IDENT.
BI-207	3.489E-02	4.542E-02	4.067E-02	2.317E-02	FAIL ABUN
TL-207	7.865E-02	6.565E-01	4.780E-01	3.350E-01	FAIL ABUN
PO-209	4.600E+00	6.796E+00	5.920E+00	3.467E+00	NOT IDENT.
BI-210	2.608E+00	5.556E+00	4.985E+00	2.834E+00	NOT IDENT.
PB-210	2.608E+00	5.556E+00	4.985E+00	2.834E+00	NOT IDENT.
PO-210	2.608E+00	5.555E+00	4.985E+00	2.834E+00	NOT IDENT.
PB-211	-7.608E-01	9.748E-01	6.936E-01	4.973E-01	NOT IDENT.
BI-212	1.205E+00	4.309E-01	2.950E-01	2.199E-01	FAIL ABUN
PO-215	7.865E-02	6.565E-01	4.780E-01	3.350E-01	FAIL ABUN
RN-219	1.059E-02	3.498E-01	3.005E-01	1.785E-01	FAIL ABUN
RN-220	-4.678E-01	2.124E+01	1.768E+01	1.084E+01	NOT IDENT.
RA-223	7.865E-02	6.565E-01	4.780E-01	3.350E-01	FAIL ABUN
AC-227	2.654E-01	3.446E-01	2.993E-01	1.758E-01	FAIL ABUN
TH-227	2.654E-01	3.455E-01	2.993E-01	1.763E-01	FAIL ABUN
TH-229	-1.421E-01	4.402E-01	3.746E-01	2.246E-01	FAIL ABUN
PA-231	-3.399E-01	1.547E+00	1.113E+00	7.892E-01	FAIL ABUN
TH-231	7.865E-02	6.565E-01	4.780E-01	3.350E-01	FAIL ABUN
U-231	4.324E-01	2.244E+00	1.709E+00	1.145E+00	FAIL ABUN
PA-233	1.862E-02	5.245E-02	4.439E-02	2.676E-02	FAIL ABUN
PA-234	1.252E-01	2.557E-01	2.192E-01	1.305E-01	FAIL ABUN
PA-234M	4.640E+00	4.101E+00	3.648E+00	2.092E+00	FAIL ABUN
NP-236	8.593E-03	7.078E-02	6.216E-02	3.611E-02	NOT IDENT.
NP-239	6.589E-02	1.753E-01	1.484E-01	8.942E-02	FAIL ABUN
AM-241	2.283E-01	1.997E-01	1.643E-01	1.019E-01	NOT IDENT.
CM-243	6.807E-02	9.081E-02	7.861E-02	4.633E-02	FAIL ABUN
AM-246	4.736E-02	1.239E-01	1.080E-01	6.320E-02	NOT IDENT.
CM-247	-5.099E-03	3.197E-02	2.719E-02	1.631E-02	FAIL ABUN
CF-249	2.167E-04	3.517E-02	3.027E-02	1.794E-02	NOT IDENT.
CF-251	-1.093E-01	1.111E-01	9.258E-02	5.667E-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	267.5847
46.50	267.5847
46.50	267.5847
48.70	265.5459
49.72	267.5343
51.35	297.2693
52.39	251.2947
52.97	237.3059
53.15	244.7472
53.44	240.4632
54.07	243.7749
56.28	306.5322
56.28	306.5356
57.37	0.0000
57.53	296.8321
57.53	296.8337
57.60	293.2066
57.98	305.6480
57.98	305.6480
59.32	266.6236
59.32	266.6236
59.40	266.6986
59.54	266.8298
59.72	275.3855
60.01	288.2589
61.10	328.6813
61.14	328.7269
61.30	328.9081
63.00	346.8418
63.29	347.1806
63.29	347.1806
63.58	347.5184
64.28	353.5387
65.12	354.5232
65.20	354.6168
65.20	354.6168
66.05	345.6096
66.72	343.4985
66.83	343.6230
66.91	343.7109
67.20	351.2006
67.20	351.2006
67.75	359.0012
67.85	380.6646
68.90	370.8885
68.90	370.8885
69.30	375.2060
69.67	375.6464
70.82	359.5936
70.82	359.5936
70.83	359.6049
72.80	395.3413
72.87	395.4261
72.87	395.4261
74.67	353.0752
74.81	353.2230
74.81	353.2230
74.81	353.2230
74.81	353.2230
74.81	353.2230
74.81	353.2230
74.97	353.3911
75.28	353.7179
75.70	354.1585
77.11	355.6275
77.11	355.6275

77.11	355.6275
77.11	355.6275
77.11	355.6275
77.11	355.6275
77.11	355.6275
78.38	356.9403
79.62	358.2127
79.80	358.3964
79.80	358.3964
80.11	358.7122
80.18	358.7838
80.30	329.5762
80.30	329.5762
80.57	329.8291
81.00	379.5388
81.07	379.6144
81.07	379.6144
81.07	379.6144
81.07	379.6144
82.60	414.2611
83.37	339.9345
83.78	367.4278
83.78	367.4278
83.78	367.4278
83.78	367.4278
84.21	349.7700
84.90	324.7505
85.43	328.2433
86.29	456.3639
86.50	456.6211
86.54	456.6693
86.59	456.7313
86.72	502.9329
86.79	503.0239
86.94	503.2287
87.30	492.5654
87.30	492.5654
87.30	492.5654
87.30	492.5654
87.30	492.5654
87.30	492.5654
87.57	492.9189
87.88	0.0000
88.03	511.8007
88.36	521.3940
88.47	521.5453
89.95	514.3898
91.11	515.9407
92.29	429.2043
92.38	429.3042
92.38	429.3042
93.35	430.3651
94.00	321.7595
94.67	300.6044
94.67	300.6088
94.90	300.7820
94.90	300.7820
94.90	300.7820
94.90	300.7820
95.87	329.4870
95.87	329.4870
96.73	336.4239
97.43	319.8402
98.44	289.8718
98.44	289.8718
98.88	277.6570
99.55	274.9723
99.55	274.9723
99.86	285.6414
100.00	285.7386
100.10	285.8094
103.18	309.0056
103.76	262.9604
105.00	266.9002
105.31	272.3932
108.00	311.4084
109.28	283.4360

111.00	281.3121
111.00	281.3121
111.76	290.3920
112.95	308.4107
115.19	267.6625
116.30	262.8750
117.00	261.0950
117.00	261.0950
117.66	281.0747
121.11	257.8907
121.62	252.6727
121.78	252.7569
122.06	246.3068
122.32	246.4389
122.32	246.4389
122.32	246.4389
122.32	246.4389
123.07	262.2494
127.23	306.7118
129.76	309.3842
131.20	299.0659
133.02	268.0966
133.54	280.1807
135.34	298.0957
136.00	314.2997
136.25	305.4007
136.48	298.7456
140.51	294.1868
140.51	0.0000
142.18	291.6713
142.65	285.0567
143.76	306.2879
144.24	315.7420
144.24	315.7420
144.24	315.7420
144.24	315.7420
145.22	286.4017
145.44	286.5182
147.16	296.0667
152.43	277.8837
152.70	281.5117
153.22	278.6194
154.21	266.4778
154.21	266.4778
154.21	266.4778
154.21	266.4778
155.03	273.8807
156.02	284.1981
158.56	309.4605
159.00	0.0000
159.00	307.5692
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161.27	304.3146
162.32	311.0725
162.64	294.3423
163.35	280.4460
163.89	284.2627
165.85	305.7470
167.43	284.1324
171.28	266.9673
171.86	276.2433
172.10	261.8987
176.55	301.9490
176.60	301.9718
181.06	271.0977
184.41	288.6885
185.71	257.3415
186.00	257.4543
190.27	255.5708
192.34	261.8855
193.63	278.1132
197.04	262.6068
198.01	258.2762
198.60	263.1943
200.40	0.0000
201.83	307.8436
202.84	270.4554
205.31	256.5883

208.36	301.8920
208.81	275.5700
209.75	275.9250
209.75	275.9250
210.97	254.0072
215.65	265.0773
216.55	247.6394
218.09	243.3214
222.10	277.6146
223.80	260.7189
226.40	244.0281
227.00	258.8699
227.08	258.8962
227.20	254.0511
228.16	255.3428
228.18	255.3488
228.18	255.3488
231.56	0.0000
235.69	282.8733
236.00	264.0117
236.00	264.0117
238.63	239.8952
238.63	239.8952
238.63	239.8952
238.63	239.8952
239.00	0.0000
240.98	240.5894
241.98	240.8848
241.98	240.8848
241.98	240.8848
244.69	250.8684
245.39	249.4819
247.94	211.7495
248.90	195.0150
249.79	0.0000
252.40	226.7870
252.85	232.9580
252.85	232.9580
254.15	0.0000
256.20	208.5657
256.20	208.5657
260.50	237.0815
260.90	0.0000
262.80	209.8734
264.65	160.3075
268.24	188.8824
268.79	189.0004
269.46	185.8513
269.46	185.8513
269.46	185.8513
269.46	185.8513
271.23	186.2210
273.65	107.4071
276.40	188.9489
277.35	189.1465
277.60	189.1966
277.60	189.1966
278.00	189.2801
278.60	189.4053
279.20	186.2027
279.53	186.2684
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281.68	0.0000
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284.30	208.9661
285.00	198.6685
285.90	0.0000
286.10	183.1978
286.10	183.1978
287.40	207.5652
288.45	0.0000
290.67	255.8320
290.80	255.8691
291.72	222.4181
293.26	0.0000
293.70	207.6826
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295.21	206.3218

295.21	206.3218
295.96	156.5544
296.50	156.6425
297.23	0.0000
298.57	156.9790
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299.80	192.0117
300.09	200.5683
300.09	200.5683
300.09	200.5683
300.09	200.5683
300.12	200.5741
301.29	200.8132
302.84	182.3833
303.76	0.0000
303.91	156.9862
304.40	163.8938
304.40	163.8938
304.84	153.7207
306.84	164.7271
308.46	177.8542
311.98	147.3018
316.51	173.8852
318.01	160.0819
319.02	154.8265
319.41	168.9659
320.08	167.9916
323.87	174.0527
323.87	174.0527
323.87	174.0527
323.87	174.0527
325.23	158.5946
328.77	180.1192
333.44	158.0867
334.20	153.8043
334.20	153.8043
334.30	153.8193
338.28	158.8052
338.28	158.8052
338.28	158.8052
338.28	158.8052
338.32	158.8118
338.32	158.8118
338.32	158.8118
340.50	175.0482
340.57	175.0603
344.27	182.7571
345.85	167.0290
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351.07	153.9887
351.92	154.1087
351.92	154.1087
351.92	154.1087
355.39	0.0000
356.01	136.2935
364.48	150.8728
366.43	140.2720
367.43	145.8296
367.94	0.0000
369.80	157.9296
374.96	171.3985
383.85	166.2672
387.95	167.7613
388.63	152.1779
391.69	151.6399
391.69	151.6399
392.90	161.0477
398.62	144.1375
400.65	149.9627
401.10	150.9515
401.81	152.9022
402.60	162.3285
404.84	186.9238
410.95	153.0891
411.60	154.1084
413.65	176.0065
414.70	165.7906
415.30	167.7550

415.76	171.5870
417.63	0.0000
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423.70	159.3744
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427.89	121.8219
432.53	136.5814
433.93	138.6403
439.47	0.0000
439.56	130.5896
439.89	128.7018
443.98	131.9863
444.90	127.2562
445.03	128.2333
445.03	128.2333
445.03	128.2333
445.03	128.2333
453.90	141.6924
463.38	128.6643
468.07	134.0007
473.00	135.7831
475.06	143.8631
475.35	140.9367
476.78	132.1991
477.59	134.2485
477.96	130.3339
482.03	148.5297
484.57	0.0000
487.03	121.2241
490.36	0.0000
492.35	0.0000
497.08	121.0606
507.63	0.0000
510.53	0.0000
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511.00	145.4247
511.85	145.5073
511.85	145.5073
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513.99	121.4268
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527.90	0.0000
528.96	0.0000
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529.87	0.0000
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537.32	119.1690
543.00	95.8835
546.56	0.0000
549.76	102.5046
552.65	106.8374
555.20	99.7336
563.23	103.3603
563.90	105.4903
568.70	120.4664
569.32	120.5114
569.50	125.7627
569.67	125.7773
573.80	140.5387
574.00	143.1823
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	96.1543
585.48	0.0000
591.81	86.2924
592.07	87.3390
593.00	96.7142
595.88	108.5892
600.56	103.6981
602.52	0.0000
602.71	114.0078
602.71	114.0078
603.60	124.7587
604.41	123.0354
604.70	130.1887
609.31	105.1418

609.31	105.1418
609.31	105.1418
609.31	105.1418
610.33	105.2041
612.46	103.8978
614.37	116.5641
618.01	103.7766
621.84	113.4543
621.84	113.4543
631.29	109.7117
633.02	103.2916
633.10	116.3442
634.78	104.4820
635.90	102.3673
636.97	95.8912
645.85	109.4971
646.12	113.8947
656.30	97.5324
657.75	92.8851
657.90	0.0000
661.65	99.3911
661.65	99.3911
664.57	0.0000
666.33	88.5664
666.33	88.5664
675.00	84.2063
677.61	98.3743
685.20	84.9749
692.80	93.5384
695.00	108.6273
696.49	111.5213
696.49	111.5213
697.00	114.3626
697.49	112.5171
698.33	111.6255
698.50	111.6351
699.00	111.6642
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706.58	0.0000
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713.82	105.8841
717.42	89.0277
720.50	115.4518
721.93	0.0000
722.20	115.5483
722.78	94.4199
722.78	94.4199
722.89	94.4240
722.95	94.4260
723.30	91.1875
724.18	94.4846
727.18	79.9412
733.00	93.2592
735.90	95.1926
739.58	80.4265
742.81	73.8402
744.21	77.7272
747.13	93.2129
751.79	81.8630
752.31	77.0671
753.82	80.0145
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756.87	90.7508
763.93	73.0653
765.79	66.4816
766.42	81.4639
766.84	88.1306
776.49	104.2593
778.00	108.2313
778.57	103.3841
778.89	98.5219
783.80	74.6593
785.46	80.7208
792.07	104.3093

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796.30	67.4261
798.80	92.8163
801.93	78.5071
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810.29	82.1303
810.76	69.2822
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826.30	88.6976
828.27	0.0000
831.60	91.9008
831.96	90.9167
834.83	108.0352
836.80	0.0000
846.75	81.4466
848.13	84.5144
856.28	0.0000
856.80	64.0544
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867.32	76.5135
867.82	78.2697
871.10	74.6768
873.19	65.0820
874.81	70.2143
875.33	0.0000
876.40	72.2972
879.36	80.5430
880.27	79.5536
880.51	75.4814
881.50	83.6766
883.24	78.6308
884.67	83.7867
889.25	90.0894
896.60	81.1200
898.02	85.2780
899.00	85.3117
903.28	107.6712
911.07	58.4337
911.07	58.4337
911.07	58.4337
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920.93	65.3328
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925.24	55.0574
926.50	68.5969
935.52	55.2827
937.48	96.0374
944.10	81.6356
946.00	69.1273
949.00	76.5496
962.29	83.1183
964.01	82.2704
966.15	82.3386
968.20	65.1973
969.11	59.7860
969.11	59.7860
969.11	59.7860
977.42	74.2126
980.50	62.6239
983.50	77.5714
989.30	63.8977
996.32	101.4381
1001.03	57.7617
1001.68	65.2642
1004.76	103.9012
1021.30	0.0000
1024.50	0.0000
1034.80	69.3125
1036.00	69.6533
1037.82	65.9806
1038.57	65.0684
1038.76	0.0000
1045.16	68.9517
1046.59	82.0396
1048.07	72.7550

1050.47	61.6149
1050.47	61.6149
1062.04	58.1185
1063.62	70.3439
1076.63	70.6683
1077.35	70.6839
1078.86	75.4381
1085.78	73.7289
1099.22	64.5753
1112.02	77.4476
1112.84	85.1505
1115.52	81.8860
1120.29	74.6049
1120.29	74.6049
1120.29	74.6049
1120.29	74.6049
1120.51	78.4365
1121.28	65.3007
1124.00	0.0000
1129.67	62.6878
1131.51	0.0000
1147.95	0.0000
1167.94	74.8220
1173.22	77.8711
1175.09	76.9445
1177.93	89.6897
1189.05	76.3133
1204.90	72.7663
1205.75	0.0000
1213.00	67.0395
1221.42	86.9841
1230.97	102.3641
1235.34	78.1815
1236.41	0.0000
1238.25	75.5176
1246.25	48.8103
1260.41	0.0000
1271.85	60.2365
1274.45	59.2778
1274.54	62.2941
1291.56	60.5922
1298.22	0.0000
1312.09	45.7220
1325.50	51.0010
1325.50	51.0010
1332.49	47.0172
1333.61	48.0540
1360.21	42.2412
1362.66	0.0000
1365.15	41.2695
1368.21	67.1197
1368.53	0.0000
1376.25	43.4692
1384.27	39.4181
1394.10	39.5268
1395.20	37.4577
1407.95	51.1636
1434.06	36.8079
1436.60	32.6240
1457.56	0.0000
1460.81	32.8369
1489.15	39.4880
1509.49	30.0420
1596.49	23.8863
1620.62	33.7898
1678.03	0.0000
1691.02	16.6908
1691.02	16.6908
1706.46	0.0000
1750.46	0.0000
1764.49	19.5269
1764.49	19.5269
1764.49	19.5269
1764.49	19.5269
1770.23	15.9971
1771.40	17.7794
1791.20	0.0000
1808.65	19.1600

1836.01

16.2319

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107003

Total Uranium Activity	6.9310E+00	ug/g
Total Uranium Counting Unc.	7.3283E+00	ug/g
Total Uranium Tpu	3.7389E-06	ug/g
Total Uranium Mda	3.8028E+00	ug/g

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*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
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*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107003
*  ANALYST       : MXR1                             DETECTOR    : GAM18
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 12:37:37.42          SAMPLE ALQT  : 110.790 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.463E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.431E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 3.253E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.575E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:47:05.89

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107004.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:06.
Sample ID          : G245107004      Sample quantity   : 1.13220E+02 GRAM
Detector name      : GAM19           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.42  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID           : 944038          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	63.19*	52	558	1.32	126.25	121	11	7.17E-03	90.9	
2	2	74.86	414	513	1.57	149.56	145	15	5.75E-02	11.2	5.19E-01
3	2	77.20	627	355	1.19	154.23	145	15	8.71E-02	6.7	
4	0	87.28	189	347	1.20	174.38	172	6	2.63E-02	17.1	
5	0	90.17	95	354	0.83	180.15	177	6	1.32E-02	33.1	
6	0	93.16*	254	436	1.88	186.13	183	11	3.53E-02	18.1	
7	0	129.44	130	412	1.44	258.63	252	13	1.80E-02	33.5	
8	0	185.68*	110	406	1.30	371.04	363	14	1.52E-02	41.2	
9	0	209.28	99	202	1.46	418.20	415	8	1.37E-02	26.9	
10	3	238.52*	1235	169	1.33	476.64	468	21	1.72E-01	3.4	6.94E-01
11	3	241.47	311	182	1.77	482.53	468	21	4.32E-02	13.6	
12	0	269.68	44	184	1.00	538.93	536	9	6.14E-03	57.3	
13	0	295.05*	357	190	1.48	589.63	584	12	4.96E-02	9.5	
14	0	300.50	96	152	1.62	600.53	596	11	1.34E-02	27.0	
15	0	327.74	37	182	1.02	654.97	651	10	5.15E-03	70.7	
16	0	338.06	216	152	1.36	675.60	670	11	3.00E-02	13.0	
17	0	351.81*	621	197	1.53	703.09	696	16	8.62E-02	6.5	
18	0	462.46	93	75	1.29	924.26	919	11	1.30E-02	20.7	
19	0	511.10*	185	102	2.24	1021.51	1012	21	2.57E-02	17.9	
20	0	568.16*	142	123	2.03	1135.59	1128	17	1.97E-02	19.8	
21	0	582.98*	322	91	1.30	1165.21	1158	14	4.47E-02	8.5	
22	0	609.24*	456	131	1.59	1217.71	1209	18	6.34E-02	7.6	
23	0	727.72	76	66	2.51	1454.61	1449	11	1.05E-02	24.0	
24	0	860.75	37	27	1.63	1720.62	1717	9	5.19E-03	29.3	
25	0	911.32*	249	49	1.92	1821.76	1815	12	3.46E-02	8.6	
26	0	969.80	120	110	1.51	1938.71	1930	15	1.66E-02	21.8	
27	0	1120.53	94	47	2.31	2240.21	2234	11	1.31E-02	17.4	
28	0	1378.42	44	17	1.05	2756.13	2750	16	6.15E-03	26.8	
29	0	1461.00	1002	52	1.97	2921.35	2913	19	1.39E-01	3.6	
30	0	1729.99	23	8	1.47	3459.65	3454	10	3.13E-03	31.0	
31	0	1764.66*	87	4	2.65	3529.04	3521	17	1.21E-02	12.4	
32	0	1847.34	19	6	1.12	3694.54	3688	12	2.69E-03	33.8	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:47:09

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107004.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:06
 Sample ID : G245107004 Sample quantity : 113.22 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA19 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 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	*	2.666E+01	2.761E+00	5.895E-01	4.390E-02	45.221
CD-109	+	88.03	*	2.850E+00	1.009E+00	1.746E+00	1.564E-01	1.632
SN-126	+	64.28		4.937E-01	9.000E-01	8.909E-01	1.301E-01	0.554
	+	86.94		1.158E+00	6.223E-01	7.222E-01	2.991E-01	1.603
	+	87.57	*	2.784E-01	9.858E-02	1.735E-01	1.548E-02	1.605
CS-135	+	268.24	*	1.992E-01	2.288E-01	2.812E-01	2.146E-02	0.708
TL-208		277.35		2.002E-01	4.175E-01	7.180E-01	7.576E-02	0.279
	+	510.84		9.997E-01	3.727E-01	2.439E-01	2.491E-02	4.099
	+	583.14	*	4.964E-01	9.075E-02	5.786E-02	3.935E-03	8.579
	+	860.37		5.417E-01	3.208E-01	4.829E-01	4.324E-02	1.122
BI-211		72.87		1.158E+01	4.165E+00	6.529E+00	5.116E-01	1.773
	+	351.07	*	4.199E+00	6.107E-01	3.391E-01	2.165E-02	12.385
PB-212	+	74.81		2.531E+00	6.442E-01	6.023E-01	7.385E-02	4.202
	+	77.11		2.177E+00	3.389E-01	3.427E-01	2.769E-02	6.353
	+	87.30		1.288E+00	4.738E-01	7.925E-01	1.061E-01	1.625
	+	238.63	*	1.830E+00	1.822E-01	9.885E-02	7.135E-03	18.514
	+	300.09		2.201E+00	1.204E+00	1.323E+00	1.092E-01	1.664
PO-212	+	74.81		2.531E+00	6.442E-01	6.023E-01	7.385E-02	4.202
	+	77.11		2.177E+00	3.389E-01	3.427E-01	2.769E-02	6.353
	+	87.30		1.288E+00	4.738E-01	7.925E-01	1.061E-01	1.625
		115.19		1.964E+00	3.972E+00	6.602E+00	4.203E-01	0.297
	+	238.63	*	1.830E+00	1.822E-01	9.885E-02	7.135E-03	18.514
	+	300.09		2.201E+00	1.204E+00	1.323E+00	1.092E-01	1.664
BI-214	+	609.31	*	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
	+	1120.29		1.424E+00	5.123E-01	4.989E-01	4.564E-02	2.854
	+	1764.49		1.776E+00	4.537E-01	2.884E-01	1.748E-02	6.157
PB-214	+	74.81		4.360E+00	1.082E+00	1.038E+00	1.127E-01	4.202
	+	77.11		3.733E+00	6.469E-01	5.875E-01	6.524E-02	6.353
	+	87.30		2.206E+00	7.993E-01	1.358E+00	1.598E-01	1.625
	+	241.98		2.768E+00	7.865E-01	5.948E-01	4.743E-02	4.654
	+	295.21		1.430E+00	2.967E-01	2.250E-01	1.920E-02	6.359
	+	351.92	*	1.461E+00	2.257E-01	1.182E-01	9.743E-03	12.361
PO-214	+	74.81		4.360E+00	1.082E+00	1.038E+00	1.127E-01	4.202
	+	77.11		3.733E+00	6.469E-01	5.875E-01	6.524E-02	6.353

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		2.206E+00	7.993E-01	1.358E+00	1.598E-01	1.625
	+	241.98		2.768E+00	7.865E-01	5.948E-01	4.743E-02	4.654
	+	295.21		1.430E+00	2.967E-01	2.250E-01	1.920E-02	6.359
	+	351.92	*	1.461E+00	2.257E-01	1.182E-01	9.743E-03	12.361
PO-216	+	74.81		2.531E+00	6.442E-01	6.023E-01	7.385E-02	4.202
	+	77.11		2.177E+00	3.389E-01	3.427E-01	2.769E-02	6.353
	+	87.30		1.288E+00	4.738E-01	7.925E-01	1.061E-01	1.625
	+	238.63	*	1.830E+00	1.822E-01	9.885E-02	7.135E-03	18.514
	+	300.09		2.201E+00	1.204E+00	1.323E+00	1.092E-01	1.664
PO-218	+	74.81		4.360E+00	1.082E+00	1.038E+00	1.127E-01	4.202
	+	77.11		3.733E+00	6.469E-01	5.875E-01	6.524E-02	6.353
	+	87.30		2.206E+00	7.993E-01	1.358E+00	1.598E-01	1.625
	+	241.98		2.768E+00	7.865E-01	5.948E-01	4.743E-02	4.654
	+	295.21		1.430E+00	2.967E-01	2.250E-01	1.920E-02	6.359
	+	351.92	*	1.461E+00	2.257E-01	1.182E-01	9.743E-03	12.361
RA-224	+	240.98	*	5.249E+00	1.462E+00	1.124E+00	6.371E-02	4.668
RA-226	+	609.31	*	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
	+	1120.29		1.424E+00	5.123E-01	4.989E-01	4.564E-02	2.854
	+	1764.49		1.776E+00	4.537E-01	2.884E-01	1.748E-02	6.157
AC-228	+	338.32		1.611E+00	7.791E-01	4.136E-01	1.686E-01	3.894
	+	911.07	*	1.708E+00	3.509E-01	2.264E-01	2.561E-02	7.542
	+	969.11		1.445E+00	7.138E-01	5.187E-01	1.202E-01	2.786
RA-228	+	338.32		1.611E+00	7.791E-01	4.136E-01	1.686E-01	3.894
	+	911.07	*	1.708E+00	3.509E-01	2.264E-01	2.561E-02	7.542
	+	969.11		1.445E+00	7.138E-01	5.187E-01	1.202E-01	2.786
TH-228	+	74.81		2.579E+00	6.114E-01	6.138E-01	4.921E-02	4.202
	+	77.11		2.219E+00	3.454E-01	3.493E-01	2.822E-02	6.353
	+	87.30		1.312E+00	4.646E-01	8.077E-01	7.184E-02	1.625
	+	238.63	*	1.865E+00	1.857E-01	1.007E-01	7.271E-03	18.514
	+	300.09		2.243E+00	1.794E+00	1.348E+00	7.945E-01	1.664
TH-230	+	609.31	*	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
	+	1120.29		1.424E+00	5.123E-01	4.989E-01	4.564E-02	2.854
	+	1764.49		1.776E+00	4.537E-01	2.884E-01	1.748E-02	6.157
TH-232	+	338.32		1.611E+00	4.296E-01	4.136E-01	2.391E-02	3.894
	+	911.07	*	1.708E+00	3.509E-01	2.264E-01	2.561E-02	7.542
	+	969.11		1.445E+00	7.138E-01	5.187E-01	1.202E-01	2.786
TH-234	+	63.29	*	1.247E+00	2.277E+00	2.269E+00	3.971E-01	0.550
	+	92.38		2.431E+00	9.806E-01	9.335E-01	1.676E-01	2.604
U-234	+	609.31	*	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
	+	1120.29		1.424E+00	5.123E-01	4.989E-01	4.564E-02	2.854
	+	1764.49		1.776E+00	4.537E-01	2.884E-01	1.748E-02	6.157
NP-237	+	86.50	*	8.177E-01	3.351E-01	4.649E-01	1.043E-01	1.759
	+	95.87		1.533E-01	1.204E+00	1.736E+00	4.236E-01	0.088
U-238	+	63.29	*	1.247E+00	2.277E+00	2.269E+00	3.971E-01	0.550
	+	92.38		2.431E+00	9.013E-01	9.335E-01	7.797E-02	2.604
AM-243	+	74.67	*	4.103E-01	9.715E-02	9.792E-02	7.766E-03	4.190
	+	86.72		3.066E+01	1.086E+01	1.739E+01	1.538E+00	1.763
	+	117.66		1.679E-01	4.319E+00	7.047E+00	4.378E-01	0.024
	+	142.18		-1.086E+01	2.010E+01	3.184E+01	1.772E+00	-0.341

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	2.159E-01	7.846E-02	5.270E-02	3.110E-03	4.097

---- 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	*	2.118E-01	3.734E-01	6.421E-01	4.358E-02	0.330
NA-22		1274.54	*	5.847E-03	4.816E-02	8.096E-02	5.400E-03	0.072
NA-24		1368.53	*	-1.199E+01	4.816E-02	Half-Life too short		
AL-26		1129.67		-9.495E-01	1.808E+00	2.863E+00	1.766E-01	-0.332
		1808.65	*	2.080E-02	3.008E-02	5.611E-02	3.276E-03	0.371
TI-44		67.85		-3.951E-02	5.991E-02	8.363E-02	6.384E-03	-0.472
	+	78.38	*	4.019E-01	6.255E-02	9.179E-02	7.493E-03	4.378
SC-46		889.25	*	3.057E-03	4.538E-02	7.372E-02	6.406E-03	0.041
	+	1120.51		2.518E-01	8.903E-02	1.501E-01	9.466E-03	1.677
V-48		944.10		8.150E-02	1.082E+00	1.756E+00	1.480E-01	0.046
		983.50	*	1.534E-02	9.500E-02	1.552E-01	1.247E-02	0.099
		1312.09		-4.694E-02	9.974E-02	1.558E-01	1.109E-02	-0.301
CR-51		320.08	*	3.253E-01	4.137E-01	7.248E-01	4.690E-02	0.449
MN-52		744.21		-6.304E-02	4.476E-01	7.190E-01	4.888E-02	-0.088
		848.13		-2.127E+00	1.227E+01	1.950E+01	1.585E+00	-0.109
		935.52		5.163E-01	5.503E-01	9.340E-01	7.940E-02	0.553
		1246.25		5.085E+00	1.248E+01	2.154E+01	1.361E+00	0.236
		1333.61		1.293E+00	9.213E+00	1.551E+01	1.143E+00	0.083
		1434.06	*	2.826E-02	3.575E-01	5.976E-01	4.311E-02	0.047
MN-54		834.83	*	2.708E-02	4.279E-02	7.304E-02	5.811E-03	0.371
CO-56		846.75	*	2.906E-02	4.397E-02	7.567E-02	6.139E-03	0.384
		977.42		-1.424E+00	3.757E+00	5.402E+00	4.377E-01	-0.264
		1037.82		-2.624E-01	3.208E-01	4.890E-01	3.890E-02	-0.537
		1175.09		-5.069E-01	2.561E+00	4.191E+00	2.305E-01	-0.121
		1238.25		1.949E-01	1.071E-01	2.007E-01	1.318E-02	0.971
		1360.21		1.320E-01	1.122E+00	1.885E+00	1.383E-01	0.070
		1771.40		1.505E-01	2.113E-01	3.723E-01	2.243E-02	0.404
CO-57		122.06	*	-1.156E-02	3.080E-02	4.732E-02	2.824E-03	-0.244
		136.48		2.927E-02	2.440E-01	3.982E-01	2.629E-02	0.074
CO-58		810.76	*	-4.754E-03	4.632E-02	7.431E-02	5.695E-03	-0.064
FE-59		142.65		-1.033E+00	3.267E+00	5.228E+00	2.907E-01	-0.198
		192.34		-4.511E-01	1.204E+00	1.832E+00	2.128E-01	-0.246
		1099.22	*	3.507E-02	1.152E-01	1.976E-01	1.483E-02	0.177
		1291.56		1.907E-02	1.380E-01	2.325E-01	1.925E-02	0.082
CO-60		1173.22		-1.850E-03	5.165E-02	8.502E-02	4.659E-03	-0.022
		1332.49	*	2.099E-02	4.100E-02	7.212E-02	5.315E-03	0.291
ZN-65		1115.52	*	-9.934E-02	1.093E-01	1.359E-01	8.686E-03	-0.731
GE-68		1077.35	*	-7.354E-02	1.278E+00	2.127E+00	1.472E-01	-0.035
AS-73		53.44	*	-1.080E-01	9.025E-01	1.484E+00	1.098E-01	-0.073
AS-74		595.88	*	4.384E-02	1.242E-01	2.091E-01	1.239E-02	0.210
		634.78		1.024E-02	4.190E-01	6.876E-01	4.041E-02	0.015
SE-75		66.05		-2.640E+00	6.224E+00	8.790E+00	8.437E-01	-0.300
		96.73		-3.033E-01	9.828E-01	1.383E+00	1.819E-01	-0.219

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-2.592E-02	1.611E-01	2.589E-01	2.425E-02	-0.100
		136.00		1.826E-02	4.819E-02	7.682E-02	4.424E-03	0.238
		198.60		1.172E+00	2.065E+00	3.408E+00	2.326E-01	0.344
	*	264.65		-6.815E-03	5.154E-02	7.856E-02	4.568E-03	-0.087
		279.53		-1.008E-01	1.250E-01	2.019E-01	1.264E-02	-0.499
		303.91		2.258E+00	2.398E+00	3.764E+00	3.595E-01	0.600
		400.65		1.847E-01	2.783E-01	4.821E-01	4.329E-02	0.383
BR-77	+	87.88		1.914E-03	2.783E-01	Half-Life	too short	
		200.40		-2.662E-04	2.783E-01	Half-Life	too short	
	+	239.00		9.191E-04	2.783E-01	Half-Life	too short	
		249.79		1.286E-04	2.783E-01	Half-Life	too short	
		281.68		-1.681E-04	2.783E-01	Half-Life	too short	
		297.23		1.051E-03	2.783E-01	Half-Life	too short	
		303.76		6.344E-04	2.783E-01	Half-Life	too short	
		439.47		3.943E-04	2.783E-01	Half-Life	too short	
		484.57		-9.573E-05	2.783E-01	Half-Life	too short	
	*	520.65		1.759E-05	2.783E-01	Half-Life	too short	
		574.64		5.236E-04	2.783E-01	Half-Life	too short	
		578.91		8.797E-05	2.783E-01	Half-Life	too short	
		585.48		3.719E-03	2.783E-01	Half-Life	too short	
		755.35		-7.964E-05	2.783E-01	Half-Life	too short	
		817.79		-6.924E-05	2.783E-01	Half-Life	too short	
SR-82		698.33		-1.183E+01	4.299E+01	6.850E+01	4.279E+00	-0.173
	*	776.49		-3.594E-01	4.842E-01	7.304E-01	5.259E-02	-0.492
		1395.20		-5.470E+00	1.240E+01	1.914E+01	1.394E+00	-0.286
RB-83	*	520.41		4.599E-02	7.857E-02	1.249E-01	7.381E-03	0.368
		529.64		1.534E-02	1.141E-01	1.902E-01	1.126E-02	0.081
		552.65		7.333E-02	2.269E-01	3.827E-01	2.271E-02	0.192
RB-84	*	881.50		6.442E-02	8.273E-02	1.438E-01	1.235E-02	0.448
KR-85	*	513.99		1.458E+01	8.460E+00	1.534E+01	9.059E-01	0.950
SR-85	*	513.99		7.787E-02	4.520E-02	8.197E-02	4.840E-03	0.950
RB-86	*	1076.63		-4.784E-01	9.324E-01	1.476E+00	1.023E-01	-0.324
Y-88		898.02		3.246E-03	4.695E-02	7.627E-02	6.751E-03	0.043
	*	1836.01		8.718E-03	3.792E-02	6.460E-02	3.687E-03	0.135
ZR-88	*	392.90		2.553E-02	3.604E-02	6.252E-02	3.481E-03	0.408
Y-91	*	1204.90		1.672E+01	2.173E+01	3.853E+01	2.250E+00	0.434
NB-94	*	702.63		2.108E-02	3.589E-02	6.140E-02	3.867E-03	0.343
		871.10		-1.412E-02	3.674E-02	5.681E-02	4.796E-03	-0.249
NB-95	*	765.79		7.874E-03	5.295E-02	8.702E-02	6.149E-03	0.090
NB-95M	*	235.69		5.742E-01	1.910E-01	3.051E-01	2.260E-02	1.882
ZR-95		724.18		9.702E-02	1.245E-01	1.908E-01	1.432E-02	0.509
	*	756.15		-1.661E-03	8.769E-02	1.423E-01	1.139E-02	-0.012
NB-97	*	657.90		-1.752E+00	8.769E-02	Half-Life	too short	
		1024.50		-4.439E+02	8.769E-02	Half-Life	too short	
ZR-97		254.15		-1.648E+02	8.769E-02	Half-Life	too short	
		355.39		1.351E+02	8.769E-02	Half-Life	too short	
	*	507.63		2.321E+02	8.769E-02	Half-Life	too short	
		602.52		-4.473E+02	8.769E-02	Half-Life	too short	
		1021.30		2.748E+02	8.769E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1147.95			-8.928E+01	8.769E-02	Half-Life	too short	
	1362.66			-2.155E+01	8.769E-02	Half-Life	too short	
	1750.46			1.010E+01	8.769E-02	Half-Life	too short	
MO-99	140.51			-2.541E+01	7.940E+01	1.266E+02	3.405E+01	-0.201
	181.06			1.205E+01	5.842E+01	8.328E+01	1.414E+01	0.145
	366.43			-2.550E+02	2.315E+02	3.570E+02	2.032E+01	-0.714
	739.58	*		-1.104E+01	3.571E+01	5.644E+01	8.016E+00	-0.196
	778.00			-7.336E+01	1.051E+02	1.593E+02	1.150E+01	-0.461
TC-99M	140.51	*		-6.783E+14	1.051E+02	Half-Life	too short	
RH-101	127.23			4.156E-02	4.118E-02	6.185E-02	3.609E-03	0.672
	198.01	*		2.310E-02	3.715E-02	6.146E-02	3.334E-03	0.376
	325.23			3.932E-02	2.965E-01	4.368E-01	2.536E-02	0.090
RH-102	418.52			-3.158E-01	3.215E-01	4.990E-01	2.830E-02	-0.633
	475.06	*		1.329E-03	3.278E-02	5.441E-02	3.176E-03	0.024
	631.29			-3.677E-03	5.746E-02	9.357E-02	5.504E-03	-0.039
	697.49			-5.156E-03	8.979E-02	1.393E-01	8.690E-03	-0.037
	766.84			2.186E-01	1.308E-01	2.372E-01	1.679E-02	0.922
	1046.59			5.965E-02	1.122E-01	1.982E-01	1.450E-02	0.301
	1112.84			9.788E-03	2.332E-01	3.636E-01	2.334E-02	0.027
RU-103	497.08	*		-2.125E-02	4.500E-02	7.145E-02	9.061E-03	-0.297
+	610.33			1.534E+01	3.326E+00	3.606E+00	5.576E-01	4.253
RH-106	511.85	+		1.087E+00	3.948E-01	4.892E-01	2.887E-02	2.221
	621.84	*		2.490E-02	3.478E-01	5.734E-01	6.758E-02	0.043
	1050.47			-3.334E+00	2.410E+00	3.416E+00	2.483E-01	-0.976
RU-106	511.85	+		1.087E+00	3.948E-01	4.892E-01	2.887E-02	2.221
	621.84	*		2.490E-02	3.478E-01	5.734E-01	3.381E-02	0.043
	1050.47			-3.334E+00	2.410E+00	3.416E+00	2.483E-01	-0.976
AG-108M	433.93	*		-2.527E-02	3.549E-02	5.595E-02	3.485E-03	-0.452
	614.37			-1.662E-03	4.651E-02	6.571E-02	4.199E-03	-0.025
	722.95			-2.876E-02	5.322E-02	6.966E-02	4.862E-03	-0.413
AG-110M	657.75	*		-1.306E-02	3.826E-02	6.069E-02	3.766E-03	-0.215
	677.61			2.212E-01	3.201E-01	5.548E-01	3.523E-02	0.399
	706.67			-1.045E-01	2.197E-01	3.422E-01	2.281E-02	-0.305
	763.93			-2.490E-01	2.064E-01	3.005E-01	2.206E-02	-0.829
	884.67			-2.235E-03	5.656E-02	9.090E-02	8.094E-03	-0.025
	937.48			-7.108E-02	1.411E-01	2.160E-01	1.901E-02	-0.329
	1384.27			-1.973E-02	1.779E-01	2.466E-01	1.871E-02	-0.080
IN-111	171.28			-7.460E-01	2.934E+00	4.680E+00	2.457E-01	-0.159
	245.39	*		-2.565E+00	3.553E+00	4.663E+00	2.651E-01	-0.550
IN-113M	391.69	*		1.015E-02	5.200E-02	8.766E-02	5.230E-03	0.116
SN-113	391.69	*		1.015E-02	5.200E-02	8.766E-02	5.230E-03	0.116
IN-114M	190.27	*		2.059E-01	2.399E-01	3.559E-01	1.913E-02	0.578
CD-115	260.90			-3.046E-04	2.399E-01	Half-Life	too short	
	492.35			8.422E-07	2.399E-01	Half-Life	too short	
	527.90	*		-2.435E-05	2.399E-01	Half-Life	too short	
SN-117M	156.02			1.381E+00	3.184E+00	5.247E+00	2.812E-01	0.263
	158.56	*		-5.157E-02	7.907E-02	1.242E-01	6.611E-03	-0.415
SB-122	563.90	*		6.499E+00	7.680E+00	1.185E+01	7.034E-01	0.548
	692.80			1.172E+02	1.287E+02	2.256E+02	1.395E+01	0.520

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	159.00	*		-7.137E+02	1.287E+02	Half-Life too short		
	528.96			5.320E+03	1.287E+02	Half-Life too short		
TE-123M	159.00	*		-2.546E-02	3.444E-02	5.388E-02	2.910E-03	-0.473
I-124	602.71	*		-1.424E+00	1.668E+00	2.136E+00	1.264E-01	-0.667
	722.78			-6.002E+00	1.061E+01	1.384E+01	9.048E-01	-0.434
	1325.50			-7.445E+01	7.484E+01	1.086E+02	7.908E+00	-0.686
	1376.25			1.244E+02	7.533E+01	1.340E+02	9.801E+00	0.929
	1509.49			3.239E+01	3.259E+01	6.074E+01	4.273E+00	0.533
	1691.02			-1.556E+00	8.154E+00	1.286E+01	8.228E-01	-0.121
SB-124	602.71			-4.528E-02	5.302E-02	6.792E-02	4.022E-03	-0.667
	645.85			-3.375E-01	6.071E-01	9.467E-01	6.243E-02	-0.357
	709.31			-1.829E+00	3.028E+00	4.650E+00	2.966E-01	-0.393
	713.82			1.127E+00	1.807E+00	3.103E+00	3.284E-01	0.363
	722.78			-2.766E-01	4.890E-01	6.377E-01	4.325E-02	-0.434
	968.20			1.565E+01	4.673E+00	8.667E+00	7.103E-01	1.806
	1045.16			2.986E+00	2.540E+00	4.737E+00	3.475E-01	0.630
	1325.50			-3.665E+00	3.684E+00	5.345E+00	3.892E-01	-0.686
	1368.21			-1.325E-01	1.874E+00	3.070E+00	3.895E-01	-0.043
	1436.60			-1.944E+00	3.993E+00	6.082E+00	4.384E-01	-0.320
	1691.02	*		-1.692E-02	8.864E-02	1.398E-01	9.577E-03	-0.121
SB-125	427.89	*		-6.613E-02	1.004E-01	1.591E-01	9.474E-03	-0.416
	463.38			9.855E-01	4.129E-01	6.088E-01	4.123E-02	1.619
	600.56			2.090E-02	2.089E-01	3.260E-01	2.221E-02	0.064
	635.90			-1.289E-02	2.801E-01	4.567E-01	3.131E-02	-0.028
TE-125M	109.28	*		-2.038E+00	1.110E+01	1.797E+01	1.591E+00	-0.113
I-126	388.63			-1.498E-01	2.809E-01	4.526E-01	2.526E-02	-0.331
	666.33	*		-6.912E-02	2.248E-01	3.568E-01	2.097E-02	-0.194
	753.82			2.016E+00	2.116E+00	3.706E+00	2.564E-01	0.544
SB-126	223.80			-5.085E-01	5.733E+00	9.147E+00	5.105E-01	-0.056
	278.60			8.994E-01	3.436E+00	5.857E+00	3.390E-01	0.154
	296.50			1.772E+01	3.504E+00	5.095E+00	2.962E-01	3.478
	414.70			-2.634E-02	1.063E-01	1.740E-01	9.846E-03	-0.151
	415.30			8.968E-01	8.679E+00	1.453E+01	8.223E-01	0.062
	555.20			-2.282E+00	5.423E+00	8.623E+00	5.118E-01	-0.265
	573.80			6.144E-01	1.508E+00	2.251E+00	1.336E-01	0.273
	593.00			-2.958E-01	1.287E+00	2.073E+00	1.229E-01	-0.143
	656.30			-3.732E+00	4.648E+00	7.063E+00	4.121E-01	-0.528
	666.33			-2.914E-02	9.478E-02	1.504E-01	8.840E-03	-0.194
	675.00			-1.788E+00	2.539E+00	3.862E+00	2.308E-01	-0.463
	695.00			-2.296E-02	1.149E-01	1.763E-01	1.095E-02	-0.130
	697.00			-7.947E-02	3.909E-01	5.987E-01	3.731E-02	-0.133
	720.50	*		-8.645E-02	2.031E-01	2.969E-01	1.933E-02	-0.291
	856.80			3.876E-02	7.270E-01	1.021E+00	8.422E-02	0.038
	989.30			-1.623E-01	1.719E+00	2.730E+00	2.178E-01	-0.059
	1034.80			8.163E+00	1.169E+01	2.086E+01	1.557E+00	0.391
	1213.00			-2.555E+00	6.531E+00	1.049E+01	6.225E-01	-0.243
SB-127	61.10			7.638E+01	1.371E+02	2.035E+02	2.374E+01	0.375
	252.40			-7.722E+00	1.072E+01	1.563E+01	6.545E+00	-0.494
	290.80			-3.877E+01	5.349E+01	7.385E+01	7.859E+00	-0.525

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

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	411.60			-7.338E+00	2.891E+01	4.734E+01	7.244E+00	-0.155
	444.90			-2.187E+00	2.080E+01	3.426E+01	4.128E+00	-0.064
	473.00			8.426E-02	3.733E+00	6.191E+00	7.695E-01	0.014
	543.00			-1.719E+01	3.551E+01	5.604E+01	7.872E+00	-0.307
	603.60			-2.090E+01	2.937E+01	3.809E+01	4.610E+00	-0.549
	685.20	*		3.190E+00	2.970E+00	5.261E+00	5.802E-01	0.606
	698.50			-9.560E+00	3.475E+01	5.533E+01	8.647E+00	-0.173
	722.20			9.530E+00	7.135E+01	1.021E+02	1.129E+01	0.093
	783.80			8.415E+00	8.259E+00	1.447E+01	1.843E+00	0.582
XE-127	57.60			3.682E+00	7.719E+00	1.146E+01	8.585E-01	0.321
	145.22			2.544E-01	8.602E-01	1.385E+00	7.642E-02	0.184
	172.10			-4.254E-02	1.460E-01	2.325E-01	1.221E-02	-0.183
	202.84	*		-1.800E-02	5.710E-02	9.036E-02	4.930E-03	-0.199
	374.96			-1.583E-01	2.353E-01	3.761E-01	2.126E-02	-0.421
I-131	80.18			-9.841E+00	8.255E+00	1.115E+01	9.344E-01	-0.883
	284.30			5.775E-01	2.372E+00	4.040E+00	2.622E-01	0.143
	364.48	*		8.942E-04	1.663E-01	2.780E-01	1.787E-02	0.003
	636.97			1.737E-01	2.259E+00	3.724E+00	2.459E-01	0.047
	722.89			-6.892E+00	1.255E+01	1.640E+01	1.091E+00	-0.420
TE-132	49.72			-4.691E+01	4.748E+01	7.509E+01	8.225E+00	-0.625
	111.76			-2.625E+01	7.698E+01	1.228E+02	1.302E+01	-0.214
	116.30			7.159E+01	7.071E+01	1.194E+02	1.244E+01	0.600
	228.16	*		-6.437E-01	1.771E+00	2.778E+00	4.208E-01	-0.232
BA-133	53.15			-1.879E+00	3.798E+00	6.152E+00	4.544E-01	-0.305
	79.62			2.107E+00	1.697E+00	2.534E+00	3.806E-01	0.832
	81.00			-3.617E-01	1.432E-01	1.647E-01	2.592E-02	-2.196
	276.40			3.576E-01	4.390E-01	7.261E-01	9.408E-02	0.493
	302.84			2.275E-01	1.687E-01	2.693E-01	3.142E-02	0.845
	356.01	*		-1.595E-02	5.317E-02	7.523E-02	8.671E-03	-0.212
	383.85			8.590E-02	3.348E-01	5.668E-01	6.104E-02	0.152
I-133	510.53	+		5.009E+01	3.348E-01	Half-Life	too short	
	529.87	*		2.209E-02	3.348E-01	Half-Life	too short	
	706.58			-4.814E+00	3.348E-01	Half-Life	too short	
	856.28			2.751E+00	3.348E-01	Half-Life	too short	
	875.33			2.143E+00	3.348E-01	Half-Life	too short	
	1236.41			3.707E+01	3.348E-01	Half-Life	too short	
	1298.22			-6.398E+00	3.348E-01	Half-Life	too short	
CS-134	475.35			2.209E-01	2.165E+00	3.609E+00	2.107E-01	0.061
	563.23			3.467E-01	4.790E-01	7.326E-01	4.436E-02	0.473
	569.32	+		1.188E+00	4.753E-01	5.654E-01	3.451E-02	2.102
	604.70			-1.170E-02	4.149E-02	5.700E-02	3.391E-03	-0.205
	795.84	*		3.283E-02	5.770E-02	9.774E-02	7.349E-03	0.336
	801.93			-1.920E-01	4.495E-01	6.851E-01	5.194E-02	-0.280
	1038.57			-5.919E+00	3.929E+00	5.434E+00	4.030E-01	-1.089
	1167.94			-1.805E+00	2.749E+00	4.296E+00	2.391E-01	-0.420
I-135	1365.15			1.957E-01	1.278E+00	2.158E+00	1.681E-01	0.091
	288.45			-1.217E+13	1.278E+00	Half-Life	too short	
	417.63			-1.406E+14	1.278E+00	Half-Life	too short	
	546.56			-1.643E+14	1.278E+00	Half-Life	too short	

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		836.80		-2.194E+13	1.278E+00	Half-Life	too short	
		1038.76		-5.457E+14	1.278E+00	Half-Life	too short	
		1124.00		2.976E+14	1.278E+00	Half-Life	too short	
		1131.51		2.365E+13	1.278E+00	Half-Life	too short	
		1260.41	*	1.961E+13	1.278E+00	Half-Life	too short	
		1457.56		6.528E+15	1.278E+00	Half-Life	too short	
		1678.03		-1.766E+14	1.278E+00	Half-Life	too short	
		1706.46		6.448E+13	1.278E+00	Half-Life	too short	
		1791.20		6.964E+13	1.278E+00	Half-Life	too short	
		66.91		-7.092E-01	1.210E+00	1.689E+00	2.517E-01	-0.420
	+	86.29		4.465E+00	1.637E+00	2.957E+00	3.836E-01	1.510
		153.22		5.385E-01	9.133E-01	1.515E+00	1.047E-01	0.355
		163.89		4.642E-01	1.491E+00	2.443E+00	1.667E-01	0.190
		176.55		9.220E-02	5.190E-01	8.440E-01	5.121E-02	0.109
		273.65		-1.038E+00	7.313E-01	9.653E-01	6.372E-02	-1.075
		340.57		4.466E-01	1.916E-01	3.233E-01	1.988E-02	1.382
		818.51		-3.271E-02	9.981E-02	1.562E-01	1.211E-02	-0.209
		1048.07	*	-5.175E-02	1.349E-01	2.171E-01	1.679E-02	-0.238
BA-137M		1235.34		1.166E+00	8.276E-01	1.509E+00	1.543E-01	0.773
		661.65	*	1.774E-02	3.773E-02	6.401E-02	3.727E-03	0.277
		661.65	*	1.876E-02	3.988E-02	6.766E-02	3.957E-03	0.277
CS-137		661.65	*	1.876E-02	3.988E-02	6.766E-02	3.957E-03	0.277
CE-139		165.85	*	-5.608E-03	3.556E-02	5.707E-02	2.979E-03	-0.098
BA-140		162.64		-1.638E-01	1.072E+00	1.721E+00	1.041E-01	-0.095
		304.84		5.710E-01	1.766E+00	2.643E+00	7.215E-01	0.216
LA-140		423.70		1.896E+00	2.693E+00	4.562E+00	1.449E+00	0.416
		537.32	*	1.044E-01	3.465E-01	5.816E-01	1.893E-01	0.180
	+	328.77		4.221E-01	5.977E-01	7.597E-01	4.935E-02	0.556
		432.53		1.479E+00	2.726E+00	4.692E+00	2.972E-01	0.315
		487.03		9.373E-02	1.798E-01	3.088E-01	2.044E-02	0.304
		751.79		-3.906E-03	2.509E+00	4.078E+00	3.269E-01	-0.001
		815.85		-1.406E-01	4.217E-01	6.588E-01	5.799E-02	-0.213
		867.82		1.054E-01	1.829E+00	2.802E+00	2.484E-01	0.038
		919.63		-1.734E+00	3.764E+00	5.748E+00	6.129E-01	-0.302
		925.24		-1.333E+00	1.631E+00	2.391E+00	2.184E-01	-0.558
		1596.49	*	-7.921E-02	1.033E-01	1.449E-01	9.804E-03	-0.547
		145.44	*	-5.810E-03	7.907E-02	1.253E-01	7.216E-03	-0.046
CE-141		145.44	*	-5.810E-03	7.907E-02	1.253E-01	7.216E-03	-0.046
CE-143		57.37		5.077E-03	7.907E-02	Half-Life	too short	
		231.56		3.824E-03	7.907E-02	Half-Life	too short	
		293.26	*	7.052E-03	7.907E-02	Half-Life	too short	
	+	350.59		2.389E-01	7.907E-02	Half-Life	too short	
		490.36		-6.963E-03	7.907E-02	Half-Life	too short	
		664.57		-5.047E-03	7.907E-02	Half-Life	too short	
		721.93		4.294E-03	7.907E-02	Half-Life	too short	
		80.11		-2.966E+00	2.745E+00	3.733E+00	3.093E-01	-0.795
CE-144		133.54	*	-3.793E-02	2.695E-01	3.797E-01	5.378E-02	-0.100
PM-144		476.78		6.126E-02	7.596E-02	1.325E-01	9.244E-03	0.463
		618.01		2.440E-02	3.530E-02	5.822E-02	3.637E-03	0.419
		696.49	*	-8.547E-03	4.115E-02	6.309E-02	3.932E-03	-0.135
		778.57		-5.683E-01	2.622E+00	4.171E+00	3.017E-01	-0.136

---- 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	*	-5.804E-01	2.794E+00	4.284E+00	2.667E-01	-0.135	
	1489.15		-1.583E+01	1.238E+01	1.553E+01	1.101E+00	-1.019	
PM-146	453.90	*	-5.232E-03	4.713E-02	7.754E-02	6.677E-03	-0.067	
	633.02		-4.064E-01	1.461E+00	2.320E+00	8.544E-01	-0.175	
	735.90		-4.866E-02	1.699E-01	2.685E-01	7.539E-02	-0.181	
	747.13		-4.822E-02	1.058E-01	1.647E-01	2.145E-02	-0.293	
ND-147	91.11	+	5.984E-01	4.004E-01	7.762E-01	7.170E-02	0.771	
	319.41		4.189E+00	4.242E+00	7.516E+00	4.371E-01	0.557	
	439.89		8.774E+00	8.246E+00	1.461E+01	8.399E-01	0.601	
	531.02	*	3.615E-01	7.547E-01	1.289E+00	1.750E-01	0.281	
PM-149	285.90	*	9.647E-05	7.547E-01	Half-Life	too short		
EU-152	121.78		1.130E-02	8.407E-02	1.368E-01	1.059E-02	0.083	
	244.69		5.775E-02	4.020E-01	5.664E-01	3.219E-02	0.102	
	344.27	*	-1.555E-02	1.373E-01	1.728E-01	1.125E-02	-0.090	
	443.98		2.815E-01	1.046E+00	1.767E+00	1.017E-01	0.159	
	778.89		-2.749E-03	3.011E-01	4.884E-01	3.532E-02	-0.006	
	867.32		-2.123E-01	9.412E-01	1.330E+00	1.116E-01	-0.160	
	964.01		3.734E-01	4.007E-01	6.150E-01	5.065E-02	0.607	
	1085.78		-2.138E-01	4.029E-01	6.358E-01	4.326E-02	-0.336	
	1112.02		1.611E-01	3.247E-01	5.474E-01	3.521E-02	0.294	
	1407.95		1.225E-01	2.196E-01	3.859E-01	2.802E-02	0.318	
GD-153	69.67		-8.269E-01	2.286E+00	3.011E+00	2.317E-01	-0.275	
	83.37		2.589E+01	2.061E+01	2.921E+01	2.496E+00	0.886	
	97.43	*	5.768E-02	9.824E-02	1.452E-01	1.129E-02	0.397	
	103.18		-2.866E-02	1.238E-01	2.004E-01	1.451E-02	-0.143	
EU-154	123.07		4.300E-02	6.597E-02	9.723E-02	9.225E-03	0.442	
	247.94		1.010E-01	4.546E-01	6.798E-01	6.443E-02	0.149	
	591.81		-2.733E-02	6.463E-01	1.057E+00	1.042E-01	-0.026	
	723.30		-5.780E-02	2.190E-01	2.977E-01	2.293E-02	-0.194	
	756.87		1.290E-01	9.014E-01	1.483E+00	1.607E-01	0.087	
	873.19		2.296E-01	3.116E-01	5.406E-01	6.563E-02	0.425	
	996.32		1.165E-01	4.065E-01	6.715E-01	1.170E-01	0.174	
	1004.76		6.227E-02	2.202E-01	3.795E-01	4.195E-02	0.164	
	1274.45	*	3.362E-02	1.332E-01	2.269E-01	2.246E-02	0.148	
EU-155	48.70		1.225E+00	2.572E+00	4.329E+00	3.036E-01	0.283	
	60.01		1.985E+00	5.876E+00	8.650E+00	6.508E-01	0.229	
	86.54	+	3.359E-01	1.190E-01	2.195E-01	1.955E-02	1.530	
	105.31	*	6.833E-02	1.243E-01	2.072E-01	1.490E-02	0.330	
TB-160	86.79	+	9.300E-01	3.292E-01	5.993E-01	5.302E-02	1.552	
	197.04		6.512E-01	6.606E-01	1.109E+00	6.011E-02	0.587	
	215.65		-2.199E-01	8.974E-01	1.422E+00	7.872E-02	-0.155	
	298.57		2.264E-01	2.099E-01	2.375E-01	1.381E-02	0.953	
	879.36	*	-1.573E-01	1.657E-01	2.396E-01	2.049E-02	-0.657	
	962.29		1.576E-01	7.243E-01	1.031E+00	8.512E-02	0.153	
	966.15		9.456E-01	3.352E-01	5.785E-01	4.752E-02	1.635	
	1177.93		-2.855E-01	4.247E-01	6.639E-01	3.673E-02	-0.430	
	1271.85		-1.861E-01	8.258E-01	1.340E+00	8.876E-02	-0.139	
HO-166M	80.57		-9.075E-01	3.668E-01	4.550E-01	3.786E-02	-1.995	
	184.41	+	8.569E-02	7.077E-02	7.245E-02	3.865E-03	1.183	

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

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TM-171		280.46		-9.419E-02	9.616E-02	1.539E-01	8.916E-03	-0.612
		410.95		9.482E-02	2.866E-01	4.859E-01	2.742E-02	0.195
		711.68	*	9.679E-06	6.475E-02	1.055E-01	6.759E-03	0.000
		752.31		-4.561E-02	3.235E-01	5.195E-01	3.584E-02	-0.088
		810.29		-1.496E-02	6.697E-02	1.062E-01	8.104E-03	-0.141
		51.35		2.891E+00	3.225E+01	5.351E+01	3.902E+00	0.054
		52.39		-4.982E+00	1.654E+01	2.701E+01	1.986E+00	-0.184
		59.40		3.732E+00	3.206E+01	4.670E+01	3.513E+00	0.080
		66.72	*	-2.078E+01	3.572E+01	5.004E+01	3.804E+00	-0.415
		88.36		6.604E-01	2.338E-01	4.412E-01	3.930E-02	1.497
LU-176	+	201.83		-1.596E-02	3.282E-02	5.151E-02	2.807E-03	-0.310
		306.84	*	-3.245E-02	2.936E-02	4.116E-02	2.394E-03	-0.788
		401.10		1.288E+00	7.138E+00	1.202E+01	6.737E-01	0.107
LU-177		112.95		-1.220E+00	2.789E+00	4.433E+00	2.887E-01	-0.275
	+	208.36	*	3.907E+00	2.113E+00	3.373E+00	1.852E-01	1.158
LU-177M		52.97		-9.375E-01	1.744E+00	2.820E+00	2.081E-01	-0.332
		54.07		3.743E-01	9.133E-01	1.532E+00	1.136E-01	0.244
		61.30		1.249E+00	1.806E+00	2.699E+00	2.030E-01	0.463
HF-181		121.62		8.732E-02	4.394E-01	7.170E-01	4.286E-02	0.122
		147.16		1.796E-01	7.471E-01	1.223E+00	6.715E-02	0.147
		171.86		-2.419E-01	5.567E-01	8.803E-01	4.624E-02	-0.275
		218.09		4.042E-01	9.878E-01	1.616E+00	8.968E-02	0.250
	+	268.79		1.018E+00	1.168E+00	1.642E+00	9.470E-02	0.620
		319.02		2.595E-01	2.598E-01	4.609E-01	2.678E-02	0.563
		367.43		-1.571E+00	9.697E-01	1.436E+00	8.167E-02	-1.094
		413.65	*	-6.703E-02	2.067E-01	3.370E-01	1.905E-02	-0.199
		56.28		-6.523E-01	1.083E+00	1.746E+00	1.304E-01	-0.374
		57.53		3.229E-01	6.434E-01	9.563E-01	7.163E-02	0.338
W-181		65.20		3.751E-01	1.288E+00	1.882E+00	1.424E-01	0.199
		133.02		7.878E-03	8.985E-02	1.283E-01	7.343E-03	0.061
		136.25		1.600E-01	5.834E-01	9.258E-01	5.244E-02	0.173
		345.85		-2.057E-01	2.599E-01	3.525E-01	2.031E-02	-0.583
	*	482.03		-2.490E-02	4.891E-02	7.783E-02	4.554E-03	-0.320
TA-182		56.28		-1.694E-01	4.037E-01	6.556E-01	4.896E-02	-0.258
		57.53		1.215E-01	2.418E-01	3.594E-01	2.692E-02	0.338
	*	65.20		1.399E-01	4.801E-01	7.015E-01	5.309E-02	0.199
RE-183		67.75		-6.537E-02	1.448E-01	2.042E-01	1.558E-02	-0.320
		100.10		-1.214E-03	2.230E-01	3.371E-01	2.533E-02	-0.004
		152.43		-1.300E-01	3.932E-01	6.274E-01	3.395E-02	-0.207
		222.10		2.609E-01	4.069E-01	6.727E-01	3.748E-02	0.388
		1001.68		8.193E-02	2.212E+00	3.698E+00	2.901E-01	0.022
	+	1121.28		6.893E-01	2.437E-01	4.164E-01	2.621E-02	1.656
		1189.05		2.680E-01	3.558E-01	6.303E-01	3.566E-02	0.425
RE-183		1221.42	*	-3.482E-02	2.168E-01	3.554E-01	2.143E-02	-0.098
		1230.97		-2.063E-01	5.366E-01	8.623E-01	5.295E-02	-0.239
		57.98		1.145E-01	2.422E-01	3.595E-01	2.696E-02	0.319
		59.32		1.402E-02	1.365E-01	1.987E-01	1.495E-02	0.071
		67.20		-1.294E-01	2.620E-01	3.686E-01	2.807E-02	-0.351
	*	162.32		-3.750E-02	1.322E-01	2.111E-01	1.112E-02	-0.178

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RE-184	+	208.81	2.438E+00	1.319E+00	2.090E+00	1.148E-01	1.166
		291.72	-5.851E-01	1.196E+00	1.686E+00	9.797E-02	-0.347
		57.98	4.126E-01	8.725E-01	1.295E+00	9.710E-02	0.319
		59.32	5.046E-02	4.914E-01	7.152E-01	5.379E-02	0.071
		67.20	-4.659E-01	9.433E-01	1.327E+00	1.011E-01	-0.351
		161.27	7.801E-02	4.162E-01	6.785E-01	3.585E-02	0.115
		216.55	-1.665E-01	3.201E-01	5.004E-01	2.772E-02	-0.333
		252.85	* -2.574E-01	2.747E-01	4.145E-01	2.369E-02	-0.621
		318.01	-1.471E-01	4.572E-01	7.520E-01	4.371E-02	-0.196
		792.07	1.334E+00	1.222E+00	2.149E+00	1.590E-01	0.621
OS-185		903.28	-5.193E-01	1.288E+00	1.862E+00	1.633E-01	-0.279
		920.93	3.024E-01	4.774E-01	8.213E-01	7.085E-02	0.368
		59.72	4.583E-02	3.621E-01	5.276E-01	3.969E-02	0.087
		61.14	1.213E-01	1.986E-01	2.959E-01	2.226E-02	0.410
		69.30	-2.841E-01	4.205E-01	5.438E-01	4.178E-02	-0.522
		592.07	1.835E-01	2.739E+00	4.522E+00	2.680E-01	0.041
		646.12	* -2.482E-02	5.077E-02	7.965E-02	4.665E-03	-0.312
		717.42	3.292E-01	9.772E-01	1.640E+00	1.062E-01	0.201
		874.81	3.991E-01	6.361E-01	1.094E+00	9.287E-02	0.365
		880.27	-7.024E-01	9.037E-01	1.335E+00	1.143E-01	-0.526
RE-188		155.03	* 3.143E-02	2.061E-01	3.357E-01	1.804E-02	0.094
		477.96	2.902E+00	3.496E+00	6.114E+00	3.573E-01	0.475
W-188	+	633.10	-7.679E-01	3.058E+00	4.894E+00	2.877E-01	-0.157
		63.58	5.213E+01	9.480E+01	1.021E+02	7.699E+00	0.511
IR-192	+	227.08	-9.145E+00	1.479E+01	2.290E+01	1.282E+00	-0.399
		290.67	* -5.065E+00	9.380E+00	1.317E+01	7.650E-01	-0.385
AU-195	+	295.96	1.131E+00	2.240E-01	3.322E-01	1.962E-02	3.406
		308.46	-7.198E-02	1.074E-01	1.735E-01	1.021E-02	-0.415
		316.51	* -6.544E-02	3.722E-02	5.538E-02	3.236E-03	-1.182
		468.07	-3.175E-02	8.277E-02	1.140E-01	7.644E-03	-0.279
		604.41	-5.517E-01	6.150E-01	7.804E-01	8.905E-02	-0.707
TL-200		612.46	1.425E+00	1.022E+00	1.632E+00	1.250E-01	0.873
		65.12	8.098E-02	2.213E-01	3.244E-01	2.454E-02	0.250
		66.83	-6.789E-02	1.194E-01	1.674E-01	1.273E-02	-0.406
	+	75.70	1.347E+00	3.191E-01	5.455E-01	4.359E-02	2.470
TL-201	+	98.88	* 4.124E-02	2.931E-01	4.230E-01	3.228E-02	0.097
		129.76	8.378E+00	5.640E+00	5.818E+00	3.365E-01	1.440
		367.94	* -4.005E-03	5.640E+00	Half-Life	too short	
		579.30	3.592E-02	5.640E+00	Half-Life	too short	
TL-202		828.27	-2.408E-02	5.640E+00	Half-Life	too short	
		1205.75	2.958E-02	5.640E+00	Half-Life	too short	
		68.90	-1.152E+01	1.603E+01	2.068E+01	1.586E+00	-0.557
		70.82	2.096E+00	8.201E+00	1.197E+01	9.266E-01	0.175
TL-202		80.30	-2.157E+01	1.558E+01	2.078E+01	1.725E+00	-1.038
		135.34	3.934E+01	8.202E+01	1.197E+02	6.797E+00	0.329
		167.43	* 1.214E+01	1.919E+01	3.187E+01	1.665E+00	0.381
		68.90	-5.311E-01	7.388E-01	9.532E-01	7.309E-02	-0.557
TL-202		70.82	9.632E-02	3.769E-01	5.501E-01	4.259E-02	0.175
		80.30	-9.916E-01	7.162E-01	9.554E-01	7.930E-02	-1.038

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

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HG-203		439.56	*	7.918E-02	9.612E-02	1.680E-01	9.645E-03	0.471
		70.83		2.559E-01	1.392E+00	2.024E+00	2.645E-01	0.126
		72.87		2.441E+00	9.112E-01	1.376E+00	1.749E-01	1.773
		82.60		-6.973E-02	1.829E+00	2.209E+00	3.016E-01	-0.032
BI-207		279.20	*	-6.216E-03	4.764E-02	7.972E-02	4.902E-03	-0.078
		72.80		6.276E-01	2.412E-01	3.770E-01	2.953E-02	1.665
	+	74.97		7.366E-01	1.744E-01	2.692E-01	2.140E-02	2.736
		84.90		6.788E-01	2.516E-01	3.926E-01	3.405E-02	1.729
		569.67		9.295E-02	4.683E-02	8.446E-02	5.013E-03	1.100
		1063.62	*	2.366E-02	5.800E-02	1.007E-01	7.151E-03	0.235
TL-207		1770.23		3.534E-01	4.693E-01	8.131E-01	4.905E-02	0.435
		81.07		-7.872E-01	2.974E-01	3.644E-01	3.046E-02	-2.160
		83.78		2.493E-01	1.741E-01	2.483E-01	2.130E-02	1.004
		94.90		6.013E-01	3.036E-01	4.706E-01	3.788E-02	1.278
		122.32		-5.928E-01	2.188E+00	3.234E+00	2.209E-01	-0.183
		144.24		8.434E-01	7.807E-01	1.294E+00	9.089E-02	0.652
		154.21		2.843E-01	4.495E-01	7.467E-01	4.984E-02	0.381
	+	269.46		2.343E-01	2.690E-01	3.843E-01	2.318E-02	0.610
		323.87	*	-8.285E-01	8.656E-01	1.151E+00	1.902E-01	-0.720
	+	338.28		6.726E+00	1.889E+00	2.659E+00	2.798E-01	2.530
		445.03		-7.131E-01	2.426E+00	3.939E+00	4.036E-01	-0.181
		260.50		-3.325E+00	1.085E+01	1.700E+01	9.761E-01	-0.196
PO-209		262.80		1.754E+00	2.935E+01	4.699E+01	2.701E+00	0.037
		896.60	*	9.811E-01	7.921E+00	1.295E+01	1.138E+00	0.076
		46.50	*	2.148E+00	3.711E+00	6.193E+00	4.720E-01	0.347
PB-210		46.50	*	2.148E+00	3.711E+00	6.193E+00	4.720E-01	0.347
PO-210		46.50	*	2.148E+00	3.710E+00	6.193E+00	4.036E-01	0.347
PB-211		404.84	*	-1.485E+00	1.409E+00	1.614E+00	1.006E+00	-0.920
		427.08		-1.984E+00	2.584E+00	3.558E+00	2.199E+00	-0.558
		831.96		-7.936E-01	1.452E+00	2.084E+00	1.304E+00	-0.381
BI-212	+	727.18	*	1.004E+00	4.887E-01	7.291E-01	6.070E-02	1.377
		785.46		-1.454E+00	2.071E+00	3.147E+00	2.302E-01	-0.462
		1620.62		1.379E+00	1.492E+00	2.762E+00	1.844E-01	0.499
PO-215		81.07		-7.872E-01	2.974E-01	3.644E-01	3.046E-02	-2.160
		83.78		2.493E-01	1.741E-01	2.483E-01	2.130E-02	1.004
		94.90		6.013E-01	3.036E-01	4.706E-01	3.788E-02	1.278
		122.32		-5.928E-01	2.188E+00	3.234E+00	2.209E-01	-0.183
		144.24		8.434E-01	7.807E-01	1.294E+00	9.089E-02	0.652
		154.21		2.843E-01	4.495E-01	7.467E-01	4.984E-02	0.381
	+	269.46		2.343E-01	2.690E-01	3.843E-01	2.318E-02	0.610
		323.87	*	-8.285E-01	8.656E-01	1.151E+00	1.902E-01	-0.720
	+	338.28		6.726E+00	1.889E+00	2.659E+00	2.798E-01	2.530
		445.03		-7.131E-01	2.426E+00	3.939E+00	4.036E-01	-0.181
		271.23		1.774E-01	3.148E-01	4.787E-01	3.870E-02	0.371
		401.81	*	-1.825E-01	4.489E-01	7.269E-01	9.831E-02	-0.251
RN-220		549.76	*	1.688E+01	2.947E+01	5.057E+01	3.000E+00	0.334
RA-223		81.07		-7.872E-01	2.974E-01	3.644E-01	3.046E-02	-2.160
		83.78		2.493E-01	1.741E-01	2.483E-01	2.130E-02	1.004
		94.90		6.013E-01	3.036E-01	4.706E-01	3.788E-02	1.278

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-5.928E-01	2.188E+00	3.234E+00	2.209E-01	-0.183
		144.24		8.434E-01	7.807E-01	1.294E+00	9.089E-02	0.652
		154.21		2.843E-01	4.495E-01	7.467E-01	4.984E-02	0.381
	+	269.46		2.343E-01	2.690E-01	3.843E-01	2.318E-02	0.610
		323.87	*	-8.285E-01	8.656E-01	1.151E+00	1.902E-01	-0.720
	+	338.28		6.726E+00	1.889E+00	2.659E+00	2.798E-01	2.530
		445.03		-7.131E-01	2.426E+00	3.939E+00	4.036E-01	-0.181
		79.80		7.377E-01	2.064E+00	3.010E+00	6.431E-01	0.245
		236.00		2.251E+00	4.373E-01	6.663E-01	6.907E-02	3.378
		256.20	*	5.026E-02	4.354E-01	6.995E-01	9.744E-02	0.072
TH-227		286.10		4.936E-01	1.720E+00	2.934E+00	3.392E-01	0.168
	+	299.80		4.079E+00	2.304E+00	2.948E+00	4.803E-01	1.384
		304.40		9.037E-01	2.115E+00	3.195E+00	5.528E-01	0.283
		334.20		6.696E-01	3.746E+00	4.397E+00	8.060E-01	0.152
		79.80		7.377E-01	2.064E+00	3.010E+00	6.514E-01	0.245
	+	94.00		9.393E+00	3.957E+00	4.308E+00	9.305E-01	2.180
		236.00		2.251E+00	4.212E-01	6.663E-01	5.968E-02	3.378
		256.20	*	5.026E-02	4.354E-01	6.995E-01	1.180E-01	0.072
		286.10		4.936E-01	1.789E+00	2.934E+00	2.939E+00	0.168
	+	299.80		4.079E+00	2.304E+00	2.948E+00	4.803E-01	1.384
TH-229		304.40		9.037E-01	2.115E+00	3.195E+00	5.528E-01	0.283
		334.20		6.696E-01	3.746E+00	4.397E+00	8.060E-01	0.152
		85.43		8.112E-01	2.590E-01	4.050E-01	3.532E-02	2.003
	+	88.47		3.802E-01	1.346E-01	2.535E-01	2.253E-02	1.500
		100.00		4.620E-03	2.263E-01	3.425E-01	2.577E-02	0.013
		193.63	*	-4.733E-01	5.982E-01	9.200E-01	4.964E-02	-0.514
		210.97		1.877E+00	9.722E-01	1.522E+00	8.379E-02	1.233
		283.67	*	4.483E-01	1.710E+00	2.915E+00	4.016E-01	0.154
	+	301.29		1.632E+00	8.989E-01	1.158E+00	1.211E-01	1.409
		81.07		-7.872E-01	2.974E-01	3.644E-01	3.046E-02	-2.160
PA-231		83.78		2.493E-01	1.741E-01	2.483E-01	2.130E-02	1.004
		94.90		6.013E-01	3.036E-01	4.706E-01	3.788E-02	1.278
		122.32		-5.928E-01	2.188E+00	3.234E+00	2.209E-01	-0.183
		144.24		8.434E-01	7.807E-01	1.294E+00	9.089E-02	0.652
		154.21		2.843E-01	4.495E-01	7.467E-01	4.984E-02	0.381
	+	269.46		2.343E-01	2.690E-01	3.843E-01	2.318E-02	0.610
		323.87	*	-8.285E-01	8.656E-01	1.151E+00	1.902E-01	-0.720
	+	338.28		6.726E+00	1.889E+00	2.659E+00	2.798E-01	2.530
		445.03		-7.131E-01	2.426E+00	3.939E+00	4.036E-01	-0.181
		84.21		2.411E+01	1.327E+01	2.034E+01	1.752E+00	1.186
U-231	+	92.29		1.768E+01	6.557E+00	8.661E+00	7.243E-01	2.042
		95.87	*	3.312E-01	2.599E+00	3.749E+00	2.978E-01	0.088
		108.00		-3.617E-01	4.480E+00	7.287E+00	4.998E-01	-0.050
	+	75.28		2.149E+01	5.774E+00	8.340E+00	1.250E+00	2.577
	+	86.59		5.451E+00	2.375E+00	3.552E+00	9.551E-01	1.535
	+	300.12		1.137E+00	6.338E-01	8.261E-01	1.111E-01	1.376
		311.98	*	9.744E-02	6.808E-02	1.227E-01	7.574E-03	0.794
		340.50		1.914E+00	8.745E-01	1.300E+00	2.985E-01	1.472
		398.62		-1.055E+00	2.368E+00	3.809E+00	9.831E-01	-0.277

----- 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		8.239E-01	1.766E+00	3.014E+00	6.193E-01	0.273
		63.00		1.454E+00	2.651E+00	2.927E+00	4.368E-01	0.497
		94.67		6.285E-01	2.284E-01	3.506E-01	4.218E-02	1.793
		98.44		1.271E-02	1.167E-01	1.679E-01	9.343E-02	0.076
		99.86		3.228E-02	6.056E-01	8.695E-01	6.554E-02	0.037
		111.00		9.087E-04	2.068E-01	3.373E-01	3.632E-02	0.003
		131.20		2.915E-02	1.391E-01	2.000E-01	1.151E-02	0.146
		152.70		1.082E-02	3.698E-01	5.995E-01	9.394E-02	0.018
		186.00		3.085E+00	2.711E+00	2.638E+00	8.037E-01	1.170
		226.40		1.647E-02	4.408E-01	7.077E-01	8.109E-02	0.023
		227.20		-2.228E-01	4.749E-01	7.414E-01	4.151E-02	-0.300
		248.90		6.301E-01	9.574E-01	1.569E+00	3.367E-01	0.402
		293.70		6.866E+00	1.704E+00	1.983E+00	3.190E-01	3.463
		369.80		3.011E-01	8.993E-01	1.530E+00	3.180E-01	0.197
		568.70		6.005E+00	2.401E+00	2.970E+00	1.763E-01	2.022
		569.50		1.638E+00	6.548E-01	7.660E-01	4.546E-02	2.138
		574.00		7.860E-01	1.746E+00	2.619E+00	1.554E-01	0.300
		699.00		-2.667E-01	8.072E-01	1.278E+00	2.317E-01	-0.209
		706.10		2.482E-02	1.080E+00	1.764E+00	7.797E-01	0.014
		733.00		3.408E-03	4.733E-01	6.661E-01	1.433E-01	0.005
		742.81		1.614E+00	1.842E+00	2.657E+00	1.780E+00	0.608
		796.30		3.630E-01	1.115E+00	1.848E+00	4.935E-01	0.196
		805.60		1.213E-01	1.109E+00	1.815E+00	5.511E-01	0.067
		819.60		3.973E-01	1.319E+00	2.189E+00	8.282E-01	0.182
		826.30		-5.577E-02	8.758E-01	1.408E+00	6.279E-01	-0.040
		831.60		-3.217E-01	7.084E-01	1.086E+00	3.219E-01	-0.296
		876.40		-8.353E-02	8.917E-01	1.418E+00	1.458E+00	-0.059
		880.51		-1.857E-01	3.101E-01	4.675E-01	4.007E-02	-0.397
		883.24		3.412E-01	3.843E-01	5.536E-01	3.721E-01	0.616
		899.00		-1.170E-01	9.458E-01	1.504E+00	6.579E-01	-0.078
		925.00		-1.182E+00	1.365E+00	1.988E+00	1.709E-01	-0.595
		926.50		-1.591E-01	2.308E-01	3.082E-01	7.786E-02	-0.516
		946.00	*	-1.490E-02	3.065E-01	4.902E-01	9.151E-02	-0.030
		949.00		-2.489E-01	4.747E-01	7.171E-01	6.009E-02	-0.347
		980.50		-6.490E-02	8.174E-01	1.301E+00	1.050E-01	-0.050
		1394.10		-1.813E-02	1.123E+00	1.851E+00	1.202E+00	-0.010
PA-234M	+	766.42		1.353E+01	1.534E+01	2.396E+01	1.210E+01	0.565
		1001.03	*	-1.850E-01	4.951E+00	8.222E+00	7.654E-01	-0.022
U-235	+	89.95		1.862E+00	1.361E+00	2.239E+00	6.913E-01	0.832
		93.35		2.922E+00	1.335E+00	1.375E+00	3.838E-01	2.125
		105.00		6.451E-01	1.232E+00	2.029E+00	5.972E-01	0.318
		143.76	*	8.200E-02	2.410E-01	3.881E-01	6.294E-02	0.211
		163.35		1.025E-04	5.502E-01	8.894E-01	1.584E-01	0.000
NP-236	+	185.71		1.143E-01	9.436E-02	9.741E-02	5.205E-03	1.173
		205.31		3.871E-01	6.701E-01	9.700E-01	1.734E-01	0.399
		94.67		4.792E-01	1.680E-01	2.662E-01	2.150E-02	1.800
		98.44		9.597E-03	8.809E-02	1.269E-01	9.741E-03	0.076
		111.00		6.874E-04	1.564E-01	2.551E-01	1.695E-02	0.003
		160.31	*	1.907E-02	9.217E-02	1.504E-01	7.967E-03	0.127

----- 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		1.193E-02	2.026E-01	2.910E-01	2.202E-02	0.041
		117.00	*	-3.802E-02	2.166E-01	3.503E-01	2.190E-02	-0.109
	+	209.75		1.850E+00	1.001E+00	1.559E+00	8.571E-02	1.187
		228.18		-9.213E-02	2.519E-01	3.955E-01	2.217E-02	-0.233
		277.60		8.620E-02	2.008E-01	3.448E-01	1.995E-02	0.250
AM-241		334.30		4.293E-01	2.124E+00	2.501E+00	1.448E-01	0.172
		59.54	*	2.241E-02	1.855E-01	2.702E-01	2.225E-02	0.083
	CM-243	99.55		1.228E-02	2.086E-01	2.996E-01	2.267E-02	0.041
		103.76	*	3.429E-02	1.120E-01	1.851E-01	1.331E-02	0.185
		117.00		-3.913E-02	2.229E-01	3.605E-01	2.254E-02	-0.109
AM-246	+	209.75		1.825E+00	9.869E-01	1.537E+00	8.451E-02	1.187
		228.18		-9.312E-02	2.546E-01	3.998E-01	2.240E-02	-0.233
		277.60		8.693E-02	2.024E-01	3.477E-01	2.012E-02	0.250
		798.80		-1.459E-01	1.602E-01	2.368E-01	1.772E-02	-0.616
		1036.00		1.880E-01	3.072E-01	5.454E-01	4.062E-02	0.345
CM-247		1062.04		-6.347E-02	2.615E-01	4.282E-01	3.050E-02	-0.148
		1078.86	*	1.316E-01	1.463E-01	2.657E-01	1.833E-02	0.495
		278.00		5.887E-01	8.265E-01	1.437E+00	8.318E-02	0.410
		287.40		6.262E-01	1.390E+00	2.334E+00	1.355E-01	0.268
		402.60	*	-2.935E-02	4.052E-02	6.427E-02	3.605E-03	-0.457
CF-249		252.85		-9.505E-01	1.014E+00	1.531E+00	8.748E-02	-0.621
		333.44		-2.019E-02	3.365E-01	3.267E-01	1.892E-02	-0.062
		387.95	*	-1.380E-02	4.478E-02	7.324E-02	4.090E-03	-0.188
CF-251		176.60	*	1.384E-02	1.463E-01	2.371E-01	1.253E-02	0.058
		227.00		-2.539E-01	4.272E-01	6.624E-01	3.708E-02	-0.383
		285.00		-1.216E-01	1.977E+00	3.317E+00	1.924E-01	-0.037

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]G245107004      *
* Acquisition date   : 1-FEB-2010 12:38:06 Detector SN# :                  *
* Detector ID        : GAM19 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                       *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000            *
* Elapsed real time  : 0 02:00:01.42 Half life ratio : 8.000             *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G245107004 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.1322E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                           *
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM              : 0.000 LCS Isotope :                               *
* LCSD DPM             : 0.000 LCSD Isotope :                             *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.666E+01	2.706E+00	5.868E-01	0.000E+00
CD-109	2.850E+00	9.886E-01	1.781E+00	0.000E+00
SN-126	2.784E-01	9.661E-02	1.770E-01	0.000E+00
CS-135	1.992E-01	2.243E-01	2.841E-01	0.000E+00
TL-208	4.964E-01	8.893E-02	5.806E-02	0.000E+00
BI-211	4.199E+00	5.985E-01	3.418E-01	0.000E+00
PB-212	1.830E+00	1.786E-01	9.998E-02	0.000E+00
PO-212	1.830E+00	1.786E-01	9.998E-02	0.000E+00
BI-214	1.326E+00	2.224E-01	1.106E-01	0.000E+00
PB-214	1.461E+00	2.212E-01	1.191E-01	0.000E+00
PO-214	1.461E+00	2.212E-01	1.191E-01	0.000E+00
PO-216	1.830E+00	1.786E-01	9.998E-02	0.000E+00
PO-218	1.461E+00	2.212E-01	1.191E-01	0.000E+00
RA-224	5.249E+00	1.433E+00	1.137E+00	0.000E+00
RA-226	1.326E+00	2.224E-01	1.106E-01	0.000E+00
AC-228	1.708E+00	3.439E-01	2.263E-01	0.000E+00
RA-228	1.708E+00	3.439E-01	2.263E-01	0.000E+00
TH-228	1.865E+00	1.820E-01	1.019E-01	0.000E+00
TH-230	1.326E+00	2.224E-01	1.106E-01	0.000E+00
TH-232	1.708E+00	3.439E-01	2.263E-01	0.000E+00
TH-234	1.247E+00	2.231E+00	2.321E+00	0.000E+00
U-234	1.326E+00	2.224E-01	1.106E-01	0.000E+00
NP-237	8.177E-01	3.284E-01	4.743E-01	0.000E+00
U-238	1.247E+00	2.231E+00	2.321E+00	0.000E+00
AM-243	4.103E-01	9.521E-02	1.000E-01	0.000E+00
ANH-511	2.159E-01	7.689E-02	5.295E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.118E-01	3.660E-01	6.455E-01	0.000E+00 NOT IDENT.

NA-22	5.847E-03	4.720E-02	8.069E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.545E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.080E-02	2.948E-02	5.574E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.130E-02	9.372E-02	0.000E+00	FAIL ABUN
SC-46	3.057E-03	4.447E-02	7.371E-02	0.000E+00	FAIL ABUN
V-48	1.534E-02	9.310E-02	1.550E-01	0.000E+00	NOT IDENT.
CR-51	3.253E-01	4.054E-01	7.312E-01	0.000E+00	NOT IDENT.
MN-52	2.826E-02	3.503E-01	5.950E-01	0.000E+00	NOT IDENT.
MN-54	2.708E-02	4.193E-02	7.307E-02	0.000E+00	NOT IDENT.
CO-56	2.906E-02	4.310E-02	7.569E-02	0.000E+00	NOT IDENT.
CO-57	-1.156E-02	3.018E-02	4.814E-02	0.000E+00	NOT IDENT.
CO-58	-4.754E-03	4.539E-02	7.436E-02	0.000E+00	NOT IDENT.
FE-59	3.507E-02	1.129E-01	1.972E-01	0.000E+00	NOT IDENT.
CO-60	2.099E-02	4.018E-02	7.186E-02	0.000E+00	NOT IDENT.
ZN-65	-9.934E-02	1.071E-01	1.356E-01	0.000E+00	NOT IDENT.
GE-68	-7.354E-02	1.253E+00	2.123E+00	0.000E+00	NOT IDENT.
AS-73	-1.080E-01	8.844E-01	1.520E+00	0.000E+00	NOT IDENT.
AS-74	4.384E-02	1.217E-01	2.098E-01	0.000E+00	NOT IDENT.
SE-75	-6.815E-03	5.051E-02	7.938E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.454E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-3.594E-01	4.745E-01	7.311E-01	0.000E+00	NOT IDENT.
RB-83	4.599E-02	7.700E-02	1.254E-01	0.000E+00	NOT IDENT.
RB-84	6.442E-02	8.108E-02	1.438E-01	0.000E+00	NOT IDENT.
KR-85	1.458E+01	8.291E+00	1.541E+01	0.000E+00	NOT IDENT.
SR-85	7.787E-02	4.429E-02	8.235E-02	0.000E+00	NOT IDENT.
RB-86	-4.784E-01	9.138E-01	1.473E+00	0.000E+00	NOT IDENT.
Y-88	8.718E-03	3.716E-02	6.417E-02	0.000E+00	NOT IDENT.
ZR-88	2.553E-02	3.532E-02	6.296E-02	0.000E+00	NOT IDENT.
Y-91	1.672E+01	2.130E+01	3.842E+01	0.000E+00	NOT IDENT.
NB-94	2.108E-02	3.517E-02	6.151E-02	0.000E+00	NOT IDENT.
NB-95	7.874E-03	5.189E-02	8.712E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.872E-01	3.086E-01	0.000E+00	NOT IDENT.
ZR-95	-1.661E-03	8.594E-02	1.425E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.847E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.147E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.104E+01	3.500E+01	5.652E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.083E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.310E-02	3.641E-02	6.226E-02	0.000E+00	NOT IDENT.
RH-102	1.329E-03	3.212E-02	5.471E-02	0.000E+00	NOT IDENT.
RU-103	-2.125E-02	4.410E-02	7.181E-02	0.000E+00	FAIL ABUN
RH-106	2.490E-02	3.409E-01	5.751E-01	0.000E+00	FAIL ABUN
RU-106	2.490E-02	3.409E-01	5.751E-01	0.000E+00	FAIL ABUN
AG-108M	-2.527E-02	3.478E-02	5.629E-02	0.000E+00	NOT IDENT.
AG-110M	-1.306E-02	3.750E-02	6.084E-02	0.000E+00	NOT IDENT.
IN-111	-2.565E+00	3.482E+00	4.715E+00	0.000E+00	NOT IDENT.
IN-113M	1.015E-02	5.096E-02	8.828E-02	0.000E+00	NOT IDENT.
SN-113	1.015E-02	5.096E-02	8.828E-02	0.000E+00	NOT IDENT.
IN-114M	2.059E-01	2.351E-01	3.607E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.672E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-5.157E-02	7.749E-02	1.261E-01	0.000E+00	NOT IDENT.
SB-122	6.499E+00	7.526E+00	1.190E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.461E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.546E-02	3.375E-02	5.468E-02	0.000E+00	NOT IDENT.
I-124	-1.424E+00	1.634E+00	2.143E+00	0.000E+00	NOT IDENT.
SB-124	-1.692E-02	8.687E-02	1.390E-01	0.000E+00	NOT IDENT.
SB-125	-6.613E-02	9.836E-02	1.601E-01	0.000E+00	FAIL ABUN
TE-125M	-2.038E+00	1.088E+01	1.830E+01	0.000E+00	NOT IDENT.
I-126	-6.912E-02	2.203E-01	3.577E-01	0.000E+00	NOT IDENT.
SB-126	-8.645E-02	1.990E-01	2.974E-01	0.000E+00	FAIL ABUN
SB-127	3.190E+00	2.911E+00	5.272E+00	0.000E+00	NOT IDENT.
XE-127	-1.800E-02	5.595E-02	9.151E-02	0.000E+00	NOT IDENT.
I-131	8.942E-04	1.630E-01	2.801E-01	0.000E+00	NOT IDENT.
TE-132	-6.437E-01	1.736E+00	2.811E+00	0.000E+00	NOT IDENT.
BA-133	-1.595E-02	5.211E-02	7.583E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.417E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.283E-02	5.655E-02	9.782E-02	0.000E+00	FAIL ABUN
I-135	0.000E+00	1.021E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.175E-02	1.322E-01	2.167E-01	0.000E+00	FAIL ABUN
BA-137M	1.774E-02	3.698E-02	6.416E-02	0.000E+00	NOT IDENT.
CS-137	1.876E-02	3.909E-02	6.783E-02	0.000E+00	NOT IDENT.
CE-139	-5.608E-03	3.485E-02	5.790E-02	0.000E+00	NOT IDENT.
BA-140	1.044E-01	3.395E-01	5.841E-01	0.000E+00	NOT IDENT.
LA-140	-7.921E-02	1.012E-01	1.441E-01	0.000E+00	FAIL ABUN
CE-141	-5.810E-03	7.749E-02	1.273E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.124E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.793E-02	2.642E-01	3.859E-01	0.000E+00	NOT IDENT.
PM-144	-8.547E-03	4.033E-02	6.322E-02	0.000E+00	NOT IDENT.
PR-144	-5.804E-01	2.739E+00	4.293E+00	0.000E+00	NOT IDENT.

PM-146	-5.232E-03	4.618E-02	7.798E-02	0.000E+00	NOT IDENT.
ND-147	3.615E-01	7.396E-01	1.294E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.423E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.555E-02	1.345E-01	1.742E-01	0.000E+00	NOT IDENT.
GD-153	5.768E-02	9.628E-02	1.480E-01	0.000E+00	NOT IDENT.
EU-154	3.362E-02	1.306E-01	2.261E-01	0.000E+00	NOT IDENT.
EU-155	6.833E-02	1.218E-01	2.110E-01	0.000E+00	FAIL ABUN
TB-160	-1.573E-01	1.624E-01	2.396E-01	0.000E+00	FAIL ABUN
HO-166M	9.679E-06	6.346E-02	1.057E-01	0.000E+00	FAIL ABUN
TM-171	-2.078E+01	3.501E+01	5.116E+01	0.000E+00	NOT IDENT.
LU-176	-3.245E-02	2.877E-02	4.154E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.071E+00	3.416E+00	0.000E+00	FAIL ABUN
LU-177M	-6.703E-02	2.026E-01	3.392E-01	0.000E+00	FAIL ABUN
HF-181	-2.490E-02	4.794E-02	7.823E-02	0.000E+00	NOT IDENT.
W-181	1.399E-01	4.705E-01	7.174E-01	0.000E+00	NOT IDENT.
TA-182	-3.482E-02	2.124E-01	3.544E-01	0.000E+00	FAIL ABUN
RE-183	-3.750E-02	1.296E-01	2.142E-01	0.000E+00	FAIL ABUN
RE-184	-2.574E-01	2.692E-01	4.190E-01	0.000E+00	NOT IDENT.
OS-185	-2.482E-02	4.975E-02	7.986E-02	0.000E+00	NOT IDENT.
RE-188	3.143E-02	2.020E-01	3.408E-01	0.000E+00	NOT IDENT.
W-188	-5.065E+00	9.192E+00	1.330E+01	0.000E+00	FAIL ABUN
IR-192	-6.544E-02	3.648E-02	5.588E-02	0.000E+00	FAIL ABUN
AU-195	4.124E-02	2.873E-01	4.310E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.602E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.214E+01	1.880E+01	3.233E+01	0.000E+00	NOT IDENT.
TL-202	7.918E-02	9.420E-02	1.690E-01	0.000E+00	NOT IDENT.
HG-203	-6.216E-03	4.669E-02	8.052E-02	0.000E+00	NOT IDENT.
BI-207	2.366E-02	5.684E-02	1.005E-01	0.000E+00	FAIL ABUN
TL-207	-8.285E-01	8.483E-01	1.161E+00	0.000E+00	FAIL ABUN
PO-209	9.811E-01	7.763E+00	1.294E+01	0.000E+00	NOT IDENT.
BI-210	2.148E+00	3.637E+00	6.351E+00	0.000E+00	NOT IDENT.
PB-210	2.148E+00	3.637E+00	6.351E+00	0.000E+00	NOT IDENT.
PO-210	2.148E+00	3.636E+00	6.351E+00	0.000E+00	NOT IDENT.
PB-211	-1.485E+00	1.381E+00	1.625E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.790E-01	7.303E-01	0.000E+00	FAIL ABUN
PO-215	-8.285E-01	8.483E-01	1.161E+00	0.000E+00	FAIL ABUN
RN-219	-1.825E-01	4.399E-01	7.319E-01	0.000E+00	NOT IDENT.
RN-220	1.688E+01	2.889E+01	5.078E+01	0.000E+00	NOT IDENT.
RA-223	-8.285E-01	8.483E-01	1.161E+00	0.000E+00	FAIL ABUN
AC-227	5.026E-02	4.267E-01	7.070E-01	0.000E+00	FAIL ABUN
TH-227	5.026E-02	4.267E-01	7.070E-01	0.000E+00	FAIL ABUN
TH-229	-4.733E-01	5.862E-01	9.321E-01	0.000E+00	FAIL ABUN
PA-231	4.483E-01	1.676E+00	2.943E+00	0.000E+00	FAIL ABUN
TH-231	-8.285E-01	8.483E-01	1.161E+00	0.000E+00	FAIL ABUN
U-231	3.312E-01	2.547E+00	3.822E+00	0.000E+00	FAIL ABUN
PA-233	9.744E-02	6.672E-02	1.238E-01	0.000E+00	FAIL ABUN
PA-234	-1.490E-02	3.003E-01	4.899E-01	0.000E+00	FAIL ABUN
PA-234M	-1.850E-01	4.852E+00	8.212E+00	0.000E+00	NOT IDENT.
U-235	8.200E-02	2.362E-01	3.943E-01	0.000E+00	FAIL ABUN
NP-236	1.907E-02	9.033E-02	1.526E-01	0.000E+00	NOT IDENT.
NP-239	-3.802E-02	2.123E-01	3.564E-01	0.000E+00	FAIL ABUN
AM-241	2.241E-02	1.818E-01	2.765E-01	0.000E+00	NOT IDENT.
CM-243	3.429E-02	1.098E-01	1.886E-01	0.000E+00	FAIL ABUN
AM-246	1.316E-01	1.434E-01	2.652E-01	0.000E+00	NOT IDENT.
CM-247	-2.935E-02	3.971E-02	6.471E-02	0.000E+00	NOT IDENT.
CF-249	-1.380E-02	4.388E-02	7.377E-02	0.000E+00	NOT IDENT.
CF-251	1.384E-02	1.434E-01	2.404E-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]G245107004.CNF;1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:06.
Sample ID        : G245107004 Sample quantity : 1.13220E+02 GRAM
Detector name    : GAM19 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.42 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity : 5.00000
Batch ID        : 944038 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	1002	10.67*	1.168E+00	2.666E+01	2.666E+01	10.36
CD-109	88.03	189	3.72*	6.096E+00	2.769E+00	2.850E+00	35.40
SN-126	64.28	52	9.60	3.611E+00	4.937E-01	4.937E-01	182.29
	86.94	189	8.90	6.096E+00	1.158E+00	1.158E+00	53.75
	87.57	189	37.00*	6.096E+00	2.784E-01	2.784E-01	35.40
CS-135	268.24	44	16.00*	4.603E+00	1.992E-01	1.992E-01	114.90
TL-208	277.35	-----	6.80	4.511E+00	-----	Line Not Found	-----
	510.84	185	21.60	2.841E+00	9.997E-01	9.997E-01	37.28
	583.14	322	84.20*	2.555E+00	4.964E-01	4.964E-01	18.28
	860.37	37	12.46	1.836E+00	5.417E-01	5.417E-01	59.22
BI-211	72.87	-----	1.27	4.857E+00	-----	Line Not Found	-----
	351.07	621	12.94*	3.787E+00	4.199E+00	4.199E+00	14.54
PB-212	74.81	414	10.70	5.073E+00	2.531E+00	2.531E+00	25.46
	77.11	627	18.00	5.308E+00	2.177E+00	2.177E+00	15.57
	87.30	189	8.00	6.096E+00	1.288E+00	1.288E+00	36.79
	238.63	1235	44.60*	5.017E+00	1.830E+00	1.830E+00	9.96
	300.09	96	3.41	4.256E+00	2.201E+00	2.201E+00	54.72
PO-212	74.81	414	10.70	5.073E+00	2.531E+00	2.531E+00	25.46
	77.11	627	18.00	5.308E+00	2.177E+00	2.177E+00	15.57
	87.30	189	8.00	6.096E+00	1.288E+00	1.288E+00	36.79
	115.19	-----	0.60	6.866E+00	-----	Line Not Found	-----
	238.63	1235	44.60*	5.017E+00	1.830E+00	1.830E+00	9.96
	300.09	96	3.41	4.256E+00	2.201E+00	2.201E+00	54.72
BI-214	609.31	456	46.30*	2.465E+00	1.326E+00	1.326E+00	17.11
	1120.29	94	15.10	1.455E+00	1.424E+00	1.424E+00	35.98
	1764.49	87	15.80	1.030E+00	1.776E+00	1.776E+00	25.55
PB-214	74.81	414	6.21	5.073E+00	4.360E+00	4.360E+00	24.81
	77.11	627	10.50	5.308E+00	3.732E+00	3.733E+00	17.33
	87.30	189	4.67	6.096E+00	2.206E+00	2.206E+00	36.23
	241.98	311	7.49	4.975E+00	2.768E+00	2.768E+00	28.41
	295.21	357	19.20	4.314E+00	1.430E+00	1.430E+00	20.74
	351.92	621	37.20*	3.787E+00	1.461E+00	1.461E+00	15.45

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	414	6.21	5.073E+00	4.360E+00	4.360E+00	24.81
	77.11	627	10.50	5.308E+00	3.732E+00	3.733E+00	17.33
	87.30	189	4.67	6.096E+00	2.206E+00	2.206E+00	36.23
	241.98	311	7.49	4.975E+00	2.768E+00	2.768E+00	28.41
	295.21	357	19.20	4.314E+00	1.430E+00	1.430E+00	20.74
	351.92	621	37.20*	3.787E+00	1.461E+00	1.461E+00	15.45
PO-216	74.81	414	10.70	5.073E+00	2.531E+00	2.531E+00	25.46
	77.11	627	18.00	5.308E+00	2.177E+00	2.177E+00	15.57
	87.30	189	8.00	6.096E+00	1.288E+00	1.288E+00	36.79
	238.63	1235	44.60*	5.017E+00	1.830E+00	1.830E+00	9.96
	300.09	96	3.41	4.256E+00	2.201E+00	2.201E+00	54.72
	74.81	414	6.21	5.073E+00	4.360E+00	4.360E+00	24.81
PO-218	77.11	627	10.50	5.308E+00	3.732E+00	3.733E+00	17.33
	87.30	189	4.67	6.096E+00	2.206E+00	2.206E+00	36.23
	241.98	311	7.49	4.975E+00	2.768E+00	2.768E+00	28.41
	295.21	357	19.20	4.314E+00	1.430E+00	1.430E+00	20.74
	351.92	621	37.20*	3.787E+00	1.461E+00	1.461E+00	15.45
	240.98	311	3.95*	4.975E+00	5.249E+00	5.249E+00	27.85
RA-224	609.31	456	46.30*	2.465E+00	1.326E+00	1.326E+00	17.11
RA-226	1120.29	94	15.10	1.455E+00	1.424E+00	1.424E+00	35.98
	1764.49	87	15.80	1.030E+00	1.776E+00	1.776E+00	25.55
	338.32	216	11.40	3.902E+00	1.611E+00	1.611E+00	48.37
	911.07	249	27.70*	1.746E+00	1.708E+00	1.708E+00	20.55
	969.11	120	16.60	1.653E+00	1.445E+00	1.445E+00	49.39
	338.32	216	11.40	3.902E+00	1.611E+00	1.611E+00	48.37
RA-228	911.07	249	27.70*	1.746E+00	1.708E+00	1.708E+00	20.55
	969.11	120	16.60	1.653E+00	1.445E+00	1.445E+00	49.39
	74.81	414	10.70	5.073E+00	2.531E+00	2.579E+00	23.71
	77.11	627	18.00	5.308E+00	2.177E+00	2.219E+00	15.57
	87.30	189	8.00	6.096E+00	1.288E+00	1.312E+00	35.40
	238.63	1235	44.60*	5.017E+00	1.830E+00	1.865E+00	9.96
TH-228	300.09	96	3.41	4.256E+00	2.201E+00	2.243E+00	80.00
	609.31	456	46.30*	2.465E+00	1.326E+00	1.326E+00	17.11
	1120.29	94	15.10	1.455E+00	1.424E+00	1.424E+00	35.98
	1764.49	87	15.80	1.030E+00	1.776E+00	1.776E+00	25.55
	338.32	216	11.40	3.902E+00	1.611E+00	1.611E+00	26.67
	911.07	249	27.70*	1.746E+00	1.708E+00	1.708E+00	20.55
TH-232	969.11	120	16.60	1.653E+00	1.445E+00	1.445E+00	49.39
	63.29	52	3.80*	3.611E+00	1.247E+00	1.247E+00	182.54
	92.38	254	5.41	6.405E+00	2.431E+00	2.431E+00	40.34
	609.31	456	46.30*	2.465E+00	1.326E+00	1.326E+00	17.11
	1120.29	94	15.10	1.455E+00	1.424E+00	1.424E+00	35.98
	1764.49	87	15.80	1.030E+00	1.776E+00	1.776E+00	25.55
TH-234	86.50	189	12.60*	6.096E+00	8.177E-01	8.177E-01	40.98
	95.87	-----	2.60	6.515E+00	-----	Line Not Found	-----
	63.29	52	3.80*	3.611E+00	1.247E+00	1.247E+00	182.54
	92.38	254	5.41	6.405E+00	2.431E+00	2.431E+00	37.08
	74.67	414	66.00*	5.073E+00	4.103E-01	4.103E-01	23.68
	86.72	189	0.34	6.096E+00	3.066E+01	3.066E+01	35.40

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.871E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.659E+00	-----	Line Not Found	-----
ANH-511	511.00	185	100.00*	2.841E+00	2.159E-01	2.159E-01	36.33

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	2.666E+01	2.666E+01	0.276E+01	10.36	
CD-109	464.00D	1.03	2.769E+00	2.850E+00	1.009E+00	35.40	
SN-126	1.00E+05Y	1.00	2.784E-01	2.784E-01	0.986E-01	35.40	
CS-135	2.30E+06Y	1.00	1.992E-01	1.992E-01	2.288E-01	114.90	
TL-208	1.41E+10Y	1.00	4.964E-01	4.964E-01	0.907E-01	18.28	
BI-211	7.04E+08Y	1.00	4.199E+00	4.199E+00	0.611E+00	14.54	
PB-212	1.41E+10Y	1.00	1.830E+00	1.830E+00	0.182E+00	9.96	
PO-212	1.41E+10Y	1.00	1.830E+00	1.830E+00	0.182E+00	9.96	
BI-214	1600.00Y	1.00	1.326E+00	1.326E+00	0.227E+00	17.11	
PB-214	1600.00Y	1.00	1.461E+00	1.461E+00	0.226E+00	15.45	
PO-214	1600.00Y	1.00	1.461E+00	1.461E+00	0.226E+00	15.45	
PO-216	1.41E+10Y	1.00	1.830E+00	1.830E+00	0.182E+00	9.96	
PO-218	1600.00Y	1.00	1.461E+00	1.461E+00	0.226E+00	15.45	
RA-224	1.41E+10Y	1.00	5.249E+00	5.249E+00	1.462E+00	27.85	
RA-226	1600.00Y	1.00	1.326E+00	1.326E+00	0.227E+00	17.11	
AC-228	1.41E+10Y	1.00	1.708E+00	1.708E+00	0.351E+00	20.55	
RA-228	1.41E+10Y	1.00	1.708E+00	1.708E+00	0.351E+00	20.55	
TH-228	1.91Y	1.02	1.830E+00	1.865E+00	0.186E+00	9.96	
TH-230	4.47E+09Y	1.00	1.326E+00	1.326E+00	0.227E+00	17.11	
TH-232	1.41E+10Y	1.00	1.708E+00	1.708E+00	0.351E+00	20.55	
TH-234	4.47E+09Y	1.00	1.247E+00	1.247E+00	2.277E+00	182.54	
U-234	4.47E+09Y	1.00	1.326E+00	1.326E+00	0.227E+00	17.11	
NP-237	2.14E+06Y	1.00	8.177E-01	8.177E-01	3.351E-01	40.98	
U-238	4.47E+09Y	1.00	1.247E+00	1.247E+00	2.277E+00	182.54	
AM-243	7380.00Y	1.00	4.103E-01	4.103E-01	0.971E-01	23.68	
ANH-511	1.00E+09Y	1.00	2.159E-01	2.159E-01	0.785E-01	36.33	

Total Activity : 6.592E+01 6.603E+01

Grand Total Activity : 6.592E+01 6.603E+01

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

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

Unidentified Energy Lines
Sample ID : G245107004

Page : 5
Acquisition date : 1-FEB-2010 12:38:06

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	90.17	95	354	0.83	180.15	177	6	1.32E-02	66.3	6.26E+00	T
0	129.44	130	412	1.44	258.63	252	13	1.80E-02	67.1	6.82E+00	T
0	185.68	110	406	1.30	371.04	363	14	1.52E-02	82.4	5.89E+00	T
0	209.28	99	202	1.46	418.20	415	8	1.37E-02	53.8	5.47E+00	T
0	327.74	37	182	1.02	654.97	651	10	5.15E-03	****	3.99E+00	T
0	462.46	93	75	1.29	924.26	919	11	1.30E-02	41.3	3.07E+00	T
0	568.16	142	123	2.03	1135.59	1128	17	1.97E-02	39.5	2.61E+00	T
0	727.72	76	66	2.51	1454.61	1449	11	1.05E-02	48.0	2.12E+00	T
0	1378.42	44	17	1.05	2756.13	2750	16	6.15E-03	53.6	1.22E+00	
0	1729.99	23	8	1.47	3459.65	3454	10	3.13E-03	62.1	1.04E+00	
0	1847.34	19	6	1.12	3694.54	3688	12	2.69E-03	67.6	1.00E+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]G245107004.CNF;1 *
* Acquisition date   : 1-FEB-2010 12:38:06.  Detector SN#      :             *
* Detector ID        : GAM19                      Sensitivity    : 5.00000      *
* Geometry           : CAN                      Energy tolerance: 1.50000      *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000      *
* Elapsed real time  : 0 02:00:01.42             Half life ratio : 8.00000      *
*****
*                                     SAMPLE DATA                            *
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G245107004              Analyst initials: MXR1         *
* Batch Number       : 944038                  Sample Quantity : 1.13220E+02 GRAM *
*****
*                                     QC DATA                               *
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54.1MS Isotope        :             *
* MSD ID              :                      MSD Isotope        :             *
* LCS ID              : 1032-A                LCS Isotope       :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.666E+01	2.761E+00	5.895E-01	4.390E-02	45.221
CD-109	2.850E+00	1.009E+00	1.746E+00	1.564E-01	1.632
SN-126	2.784E-01	9.858E-02	1.735E-01	1.548E-02	1.605
CS-135	1.992E-01	2.288E-01	2.812E-01	2.146E-02	0.708
TL-208	4.964E-01	9.075E-02	5.786E-02	3.935E-03	8.579
BI-211	4.199E+00	6.107E-01	3.391E-01	2.165E-02	12.385
PB-212	1.830E+00	1.822E-01	9.885E-02	7.135E-03	18.514
PO-212	1.830E+00	1.822E-01	9.885E-02	7.135E-03	18.514
BI-214	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
PB-214	1.461E+00	2.257E-01	1.182E-01	9.743E-03	12.361
PO-214	1.461E+00	2.257E-01	1.182E-01	9.743E-03	12.361
PO-216	1.830E+00	1.822E-01	9.885E-02	7.135E-03	18.514
PO-218	1.461E+00	2.257E-01	1.182E-01	9.743E-03	12.361
RA-224	5.249E+00	1.462E+00	1.124E+00	6.371E-02	4.668
RA-226	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
AC-228	1.708E+00	3.509E-01	2.264E-01	2.561E-02	7.542
RA-228	1.708E+00	3.509E-01	2.264E-01	2.561E-02	7.542
TH-228	1.865E+00	1.857E-01	1.007E-01	7.271E-03	18.514

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
TH-232	1.708E+00	3.509E-01	2.264E-01	2.561E-02	7.542
TH-234	1.247E+00	2.277E+00	2.269E+00	3.971E-01	0.550
U-234	1.326E+00	2.269E-01	1.103E-01	8.672E-03	12.022
NP-237	8.177E-01	3.351E-01	4.649E-01	1.043E-01	1.759
U-238	1.247E+00	2.277E+00	2.269E+00	3.971E-01	0.550
AM-243	4.103E-01	9.715E-02	9.792E-02	7.766E-03	4.190
ANH-511	2.159E-01	7.846E-02	5.270E-02	3.110E-03	4.097

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.118E-01		3.734E-01	6.421E-01	4.358E-02	0.330
NA-22	5.847E-03		4.816E-02	8.096E-02	5.400E-03	0.072
NA-24	-1.199E+01		2.829E+01	Half-Life too short		
AL-26	2.080E-02		3.008E-02	5.611E-02	3.276E-03	0.371
TI-44	4.019E-01	+	6.255E-02	9.179E-02	7.493E-03	4.378
SC-46	3.057E-03		4.538E-02	7.372E-02	6.406E-03	0.041
V-48	1.534E-02		9.500E-02	1.552E-01	1.247E-02	0.099
CR-51	3.253E-01		4.137E-01	7.248E-01	4.690E-02	0.449
MN-52	2.826E-02		3.575E-01	5.976E-01	4.311E-02	0.047
MN-54	2.708E-02		4.279E-02	7.304E-02	5.811E-03	0.371
CO-56	2.906E-02		4.397E-02	7.567E-02	6.139E-03	0.384
CO-57	-1.156E-02		3.080E-02	4.732E-02	2.824E-03	-0.244
CO-58	-4.754E-03		4.632E-02	7.431E-02	5.695E-03	-0.064
FE-59	3.507E-02		1.152E-01	1.976E-01	1.483E-02	0.177
CO-60	2.099E-02		4.100E-02	7.212E-02	5.315E-03	0.291
ZN-65	-9.934E-02		1.093E-01	1.359E-01	8.686E-03	-0.731
GE-68	-7.354E-02		1.278E+00	2.127E+00	1.472E-01	-0.035
AS-73	-1.080E-01		9.025E-01	1.484E+00	1.098E-01	-0.073
AS-74	4.384E-02		1.242E-01	2.091E-01	1.239E-02	0.210
SE-75	-6.815E-03		5.154E-02	7.856E-02	4.568E-03	-0.087
BR-77	1.759E-05		1.762E-05	Half-Life too short		
SR-82	-3.594E-01		4.842E-01	7.304E-01	5.259E-02	-0.492
RB-83	4.599E-02		7.857E-02	1.249E-01	7.381E-03	0.368
RB-84	6.442E-02		8.273E-02	1.438E-01	1.235E-02	0.448
KR-85	1.458E+01		8.460E+00	1.534E+01	9.059E-01	0.950
SR-85	7.787E-02		4.520E-02	8.197E-02	4.840E-03	0.950
RB-86	-4.784E-01		9.324E-01	1.476E+00	1.023E-01	-0.324
Y-88	8.718E-03		3.792E-02	6.460E-02	3.687E-03	0.135
ZR-88	2.553E-02		3.604E-02	6.252E-02	3.481E-03	0.408
Y-91	1.672E+01		2.173E+01	3.853E+01	2.250E+00	0.434
NB-94	2.108E-02		3.589E-02	6.140E-02	3.867E-03	0.343
NB-95	7.874E-03		5.295E-02	8.702E-02	6.149E-03	0.090
NB-95M	5.742E-01		1.910E-01	3.051E-01	2.260E-02	1.882
ZR-95	-1.661E-03		8.769E-02	1.423E-01	1.139E-02	-0.012
NB-97	-1.752E+00		2.473E+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
ZR-97	2.321E+02		5.854E+01	Half-Life too short		
MO-99	-1.104E+01		3.571E+01	5.644E+01	8.016E+00	-0.196
TC-99M	-6.783E+14		1.063E+15	Half-Life too short		
RH-101	2.310E-02		3.715E-02	6.146E-02	3.334E-03	0.376
RH-102	1.329E-03		3.278E-02	5.441E-02	3.176E-03	0.024
RU-103	-2.125E-02		4.500E-02	7.145E-02	9.061E-03	-0.297
RH-106	2.490E-02		3.478E-01	5.734E-01	6.758E-02	0.043
RU-106	2.490E-02		3.478E-01	5.734E-01	3.381E-02	0.043
AG-108M	-2.527E-02		3.549E-02	5.595E-02	3.485E-03	-0.452
AG-110M	-1.306E-02		3.826E-02	6.069E-02	3.766E-03	-0.215
IN-111	-2.565E+00		3.553E+00	4.663E+00	2.651E-01	-0.550
IN-113M	1.015E-02		5.200E-02	8.766E-02	5.230E-03	0.116
SN-113	1.015E-02		5.200E-02	8.766E-02	5.230E-03	0.116
IN-114M	2.059E-01		2.399E-01	3.559E-01	1.913E-02	0.578
CD-115	-2.435E-05		1.874E-05	Half-Life too short		
SN-117M	-5.157E-02		7.907E-02	1.242E-01	6.611E-03	-0.415
SB-122	6.499E+00		7.680E+00	1.185E+01	7.034E-01	0.548
I-123	-7.137E+02		4.827E+02	Half-Life too short		
TE-123M	-2.546E-02		3.444E-02	5.388E-02	2.910E-03	-0.473
I-124	-1.424E+00		1.668E+00	2.136E+00	1.264E-01	-0.667
SB-124	-1.692E-02		8.864E-02	1.398E-01	9.577E-03	-0.121
SB-125	-6.613E-02		1.004E-01	1.591E-01	9.474E-03	-0.416
TE-125M	-2.038E+00		1.110E+01	1.797E+01	1.591E+00	-0.113
I-126	-6.912E-02		2.248E-01	3.568E-01	2.097E-02	-0.194
SB-126	-8.645E-02		2.031E-01	2.969E-01	1.933E-02	-0.291
SB-127	3.190E+00		2.970E+00	5.261E+00	5.802E-01	0.606
XE-127	-1.800E-02		5.710E-02	9.036E-02	4.930E-03	-0.199
I-131	8.942E-04		1.663E-01	2.780E-01	1.787E-02	0.003
TE-132	-6.437E-01		1.771E+00	2.778E+00	4.208E-01	-0.232
BA-133	-1.595E-02		5.317E-02	7.523E-02	8.671E-03	-0.212
I-133	2.209E-02		7.232E-02	Half-Life too short		
CS-134	3.283E-02		5.770E-02	9.774E-02	7.349E-03	0.336
I-135	1.961E+13		5.208E+13	Half-Life too short		
CS-136	-5.175E-02		1.349E-01	2.171E-01	1.679E-02	-0.238
BA-137M	1.774E-02		3.773E-02	6.401E-02	3.727E-03	0.277
CS-137	1.876E-02		3.988E-02	6.766E-02	3.957E-03	0.277
CE-139	-5.608E-03		3.556E-02	5.707E-02	2.979E-03	-0.098
BA-140	1.044E-01		3.465E-01	5.816E-01	1.893E-01	0.180
LA-140	-7.921E-02		1.033E-01	1.449E-01	9.804E-03	-0.547
CE-141	-5.810E-03		7.907E-02	1.253E-01	7.216E-03	-0.046
CE-143	7.052E-03		1.084E-03	Half-Life too short		
CE-144	-3.793E-02		2.695E-01	3.797E-01	5.378E-02	-0.100
PM-144	-8.547E-03		4.115E-02	6.309E-02	3.932E-03	-0.135
PR-144	-5.804E-01		2.794E+00	4.284E+00	2.667E-01	-0.135
PM-146	-5.232E-03		4.713E-02	7.754E-02	6.677E-03	-0.067
ND-147	3.615E-01		7.547E-01	1.289E+00	1.750E-01	0.281
PM-149	9.647E-05		1.747E-04	Half-Life too short		
EU-152	-1.555E-02		1.373E-01	1.728E-01	1.125E-02	-0.090

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	5.768E-02		9.824E-02	1.452E-01	1.129E-02	0.397
EU-154	3.362E-02		1.332E-01	2.269E-01	2.246E-02	0.148
EU-155	6.833E-02		1.243E-01	2.072E-01	1.490E-02	0.330
TB-160	-1.573E-01		1.657E-01	2.396E-01	2.049E-02	-0.657
HO-166M	9.679E-06		6.475E-02	1.055E-01	6.759E-03	0.000
TM-171	-2.078E+01		3.572E+01	5.004E+01	3.804E+00	-0.415
LU-176	-3.245E-02		2.936E-02	4.116E-02	2.394E-03	-0.788
LU-177	3.907E+00	+	2.113E+00	3.373E+00	1.852E-01	1.158
LU-177M	-6.703E-02		2.067E-01	3.370E-01	1.905E-02	-0.199
HF-181	-2.490E-02		4.891E-02	7.783E-02	4.554E-03	-0.320
W-181	1.399E-01		4.801E-01	7.015E-01	5.309E-02	0.199
TA-182	-3.482E-02		2.168E-01	3.554E-01	2.143E-02	-0.098
RE-183	-3.750E-02		1.322E-01	2.111E-01	1.112E-02	-0.178
RE-184	-2.574E-01		2.747E-01	4.145E-01	2.369E-02	-0.621
OS-185	-2.482E-02		5.077E-02	7.965E-02	4.665E-03	-0.312
RE-188	3.143E-02		2.061E-01	3.357E-01	1.804E-02	0.094
W-188	-5.065E+00		9.380E+00	1.317E+01	7.650E-01	-0.385
IR-192	-6.544E-02		3.722E-02	5.538E-02	3.236E-03	-1.182
AU-195	4.124E-02		2.931E-01	4.230E-01	3.228E-02	0.097
TL-200	-4.005E-03		2.858E-03	Half-Life too short		
TL-201	1.214E+01		1.919E+01	3.187E+01	1.665E+00	0.381
TL-202	7.918E-02		9.612E-02	1.680E-01	9.645E-03	0.471
HG-203	-6.216E-03		4.764E-02	7.972E-02	4.902E-03	-0.078
BI-207	2.366E-02		5.800E-02	1.007E-01	7.151E-03	0.235
TL-207	-8.285E-01		8.656E-01	1.151E+00	1.902E-01	-0.720
PO-209	9.811E-01		7.921E+00	1.295E+01	1.138E+00	0.076
BI-210	2.148E+00		3.711E+00	6.193E+00	4.720E-01	0.347
PB-210	2.148E+00		3.711E+00	6.193E+00	4.720E-01	0.347
PO-210	2.148E+00		3.710E+00	6.193E+00	4.036E-01	0.347
PB-211	-1.485E+00		1.409E+00	1.614E+00	1.006E+00	-0.920
BI-212	1.004E+00	+	4.887E-01	7.291E-01	6.070E-02	1.377
PO-215	-8.285E-01		8.656E-01	1.151E+00	1.902E-01	-0.720
RN-219	-1.825E-01		4.489E-01	7.269E-01	9.831E-02	-0.251
RN-220	1.688E+01		2.947E+01	5.057E+01	3.000E+00	0.334
RA-223	-8.285E-01		8.656E-01	1.151E+00	1.902E-01	-0.720
AC-227	5.026E-02		4.354E-01	6.995E-01	9.744E-02	0.072
TH-227	5.026E-02		4.354E-01	6.995E-01	1.180E-01	0.072
TH-229	-4.733E-01		5.982E-01	9.200E-01	4.964E-02	-0.514
PA-231	4.483E-01		1.710E+00	2.915E+00	4.016E-01	0.154
TH-231	-8.285E-01		8.656E-01	1.151E+00	1.902E-01	-0.720
U-231	3.312E-01		2.599E+00	3.749E+00	2.978E-01	0.088
PA-233	9.744E-02		6.808E-02	1.227E-01	7.574E-03	0.794
PA-234	-1.490E-02		3.065E-01	4.902E-01	9.151E-02	-0.030
PA-234M	-1.850E-01		4.951E+00	8.222E+00	7.654E-01	-0.022
U-235	8.200E-02		2.410E-01	3.881E-01	6.294E-02	0.211
NP-236	1.907E-02		9.217E-02	1.504E-01	7.967E-03	0.127
NP-239	-3.802E-02		2.166E-01	3.503E-01	2.190E-02	-0.109
AM-241	2.241E-02		1.855E-01	2.702E-01	2.225E-02	0.083

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.429E-02		1.120E-01	1.851E-01	1.331E-02	0.185
AM-246	1.316E-01		1.463E-01	2.657E-01	1.833E-02	0.495
CM-247	-2.935E-02		4.052E-02	6.427E-02	3.605E-03	-0.457
CF-249	-1.380E-02		4.478E-02	7.324E-02	4.090E-03	-0.188
CF-251	1.384E-02		1.463E-01	2.371E-01	1.253E-02	0.058

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]G245107004          *
* Acquisition date   : 1-FEB-2010 12:38:06 Detector SN# :                  *
* Detector ID        : GAM19 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.42 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107004 Analyst initials: MXR1                  *
* Batch Number       : 944038 Sample Quantity : 1.1322E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 12-MAR-2009 10:24:54 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.666E+01	2.706E+00	2.936E-01	1.381E+00
CD-109	2.850E+00	9.886E-01	8.911E-01	5.044E-01
SN-126	2.784E-01	9.661E-02	8.856E-02	4.929E-02
CS-135	1.992E-01	2.243E-01	1.421E-01	1.144E-01
TL-208	4.964E-01	8.893E-02	2.905E-02	4.537E-02
BI-211	4.199E+00	5.985E-01	1.710E-01	3.053E-01
PB-212	1.830E+00	1.786E-01	5.002E-02	9.110E-02
PO-212	1.830E+00	1.786E-01	5.002E-02	9.110E-02
BI-214	1.326E+00	2.224E-01	5.536E-02	1.135E-01
PB-214	1.461E+00	2.212E-01	5.960E-02	1.128E-01
PO-214	1.461E+00	2.212E-01	5.960E-02	1.128E-01
PO-216	1.830E+00	1.786E-01	5.002E-02	9.110E-02
PO-218	1.461E+00	2.212E-01	5.960E-02	1.128E-01
RA-224	5.249E+00	1.433E+00	5.688E-01	7.310E-01
RA-226	1.326E+00	2.224E-01	5.536E-02	1.135E-01
AC-228	1.708E+00	3.439E-01	1.132E-01	1.754E-01
RA-228	1.708E+00	3.439E-01	1.132E-01	1.754E-01
TH-228	1.865E+00	1.820E-01	5.097E-02	9.284E-02
TH-230	1.326E+00	2.224E-01	5.535E-02	1.135E-01
TH-232	1.708E+00	3.439E-01	1.132E-01	1.754E-01
TH-234	1.247E+00	2.231E+00	1.161E+00	1.138E+00
U-234	1.326E+00	2.224E-01	5.535E-02	1.135E-01
NP-237	8.177E-01	3.284E-01	2.373E-01	1.675E-01
U-238	1.247E+00	2.231E+00	1.161E+00	1.138E+00
AM-243	4.103E-01	9.521E-02	5.004E-02	4.857E-02
ANH-511	2.159E-01	7.689E-02	2.649E-02	3.923E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.118E-01	3.660E-01	3.229E-01	1.867E-01 NOT IDENT.

NA-22	5.847E-03	4.720E-02	4.037E-02	2.408E-02	NOT IDENT.
NA-24	-1.199E+07	5.545E+07	0.000E+00	2.829E+07	SHORT HLIF
AL-26	2.080E-02	2.948E-02	2.789E-02	1.504E-02	NOT IDENT.
TI-44	4.019E-01	6.130E-02	4.689E-02	3.128E-02	FAIL ABUN
SC-46	3.057E-03	4.447E-02	3.688E-02	2.269E-02	FAIL ABUN
V-48	1.534E-02	9.310E-02	7.754E-02	4.750E-02	NOT IDENT.
CR-51	3.253E-01	4.054E-01	3.658E-01	2.068E-01	NOT IDENT.
MN-52	2.826E-02	3.503E-01	2.977E-01	1.787E-01	NOT IDENT.
MN-54	2.708E-02	4.193E-02	3.656E-02	2.139E-02	NOT IDENT.
CO-56	2.906E-02	4.310E-02	3.787E-02	2.199E-02	NOT IDENT.
CO-57	-1.156E-02	3.018E-02	2.408E-02	1.540E-02	NOT IDENT.
CO-58	-4.754E-03	4.539E-02	3.720E-02	2.316E-02	NOT IDENT.
FE-59	3.507E-02	1.129E-01	9.865E-02	5.760E-02	NOT IDENT.
CO-60	2.099E-02	4.018E-02	3.595E-02	2.050E-02	NOT IDENT.
ZN-65	-9.934E-02	1.071E-01	6.782E-02	5.464E-02	NOT IDENT.
GE-68	-7.354E-02	1.253E+00	1.062E+00	6.392E-01	NOT IDENT.
AS-73	-1.080E-01	8.844E-01	7.607E-01	4.512E-01	NOT IDENT.
AS-74	4.384E-02	1.217E-01	1.050E-01	6.208E-02	NOT IDENT.
SE-75	-6.815E-03	5.051E-02	3.971E-02	2.577E-02	NOT IDENT.
BR-77	1.759E+01	3.454E+01	0.000E+00	1.762E+01	SHORT HLIF
SR-82	-3.594E-01	4.745E-01	3.658E-01	2.421E-01	NOT IDENT.
RB-83	4.599E-02	7.700E-02	6.275E-02	3.929E-02	NOT IDENT.
RB-84	6.442E-02	8.108E-02	7.196E-02	4.137E-02	NOT IDENT.
KR-85	1.458E+01	8.291E+00	7.712E+00	4.230E+00	NOT IDENT.
SR-85	7.787E-02	4.429E-02	4.120E-02	2.260E-02	NOT IDENT.
RB-86	-4.784E-01	9.138E-01	7.371E-01	4.662E-01	NOT IDENT.
Y-88	8.718E-03	3.716E-02	3.210E-02	1.896E-02	NOT IDENT.
ZR-88	2.553E-02	3.532E-02	3.150E-02	1.802E-02	NOT IDENT.
Y-91	1.672E+01	2.130E+01	1.922E+01	1.087E+01	NOT IDENT.
NB-94	2.108E-02	3.517E-02	3.078E-02	1.794E-02	NOT IDENT.
NB-95	7.874E-03	5.189E-02	4.359E-02	2.647E-02	NOT IDENT.
NB-95M	5.742E-01	1.872E-01	1.544E-01	9.549E-02	NOT IDENT.
ZR-95	-1.661E-03	8.594E-02	7.128E-02	4.384E-02	NOT IDENT.
NB-97	-1.752E+06	4.847E+06	0.000E+00	2.473E+06	SHORT HLIF
ZR-97	2.321E+08	1.147E+08	0.000E+00	5.854E+07	SHORT HLIF
MO-99	-1.104E+01	3.500E+01	2.828E+01	1.786E+01	NOT IDENT.
TC-99M	-6.783E+20	2.083E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.310E-02	3.641E-02	3.115E-02	1.858E-02	NOT IDENT.
RH-102	1.329E-03	3.212E-02	2.737E-02	1.639E-02	NOT IDENT.
RU-103	-2.125E-02	4.410E-02	3.592E-02	2.250E-02	FAIL ABUN
RH-106	2.490E-02	3.409E-01	2.877E-01	1.739E-01	FAIL ABUN
RU-106	2.490E-02	3.409E-01	2.877E-01	1.739E-01	FAIL ABUN
AG-108M	-2.527E-02	3.478E-02	2.816E-02	1.774E-02	NOT IDENT.
AG-110M	-1.306E-02	3.750E-02	3.044E-02	1.913E-02	NOT IDENT.
IN-111	-2.565E+00	3.482E+00	2.359E+00	1.776E+00	NOT IDENT.
IN-113M	1.015E-02	5.096E-02	4.416E-02	2.600E-02	NOT IDENT.
SN-113	1.015E-02	5.096E-02	4.416E-02	2.600E-02	NOT IDENT.
IN-114M	2.059E-01	2.351E-01	1.804E-01	1.199E-01	NOT IDENT.
CD-115	-2.435E+01	3.672E+01	0.000E+00	1.874E+01	SHORT HLIF
SN-117M	-5.157E-02	7.749E-02	6.307E-02	3.953E-02	NOT IDENT.
SB-122	6.499E+00	7.526E+00	5.951E+00	3.840E+00	NOT IDENT.
I-123	-7.137E+08	9.461E+08	0.000E+00	4.827E+08	SHORT HLIF
TE-123M	-2.546E-02	3.375E-02	2.736E-02	1.722E-02	NOT IDENT.
I-124	-1.424E+00	1.634E+00	1.072E+00	8.338E-01	NOT IDENT.
SB-124	-1.692E-02	8.687E-02	6.955E-02	4.432E-02	NOT IDENT.
SB-125	-6.613E-02	9.836E-02	8.011E-02	5.018E-02	FAIL ABUN
TE-125M	-2.038E+00	1.088E+01	9.156E+00	5.550E+00	NOT IDENT.
I-126	-6.912E-02	2.203E-01	1.789E-01	1.124E-01	NOT IDENT.
SB-126	-8.645E-02	1.990E-01	1.488E-01	1.015E-01	FAIL ABUN
SB-127	3.190E+00	2.911E+00	2.637E+00	1.485E+00	NOT IDENT.
XE-127	-1.800E-02	5.595E-02	4.578E-02	2.855E-02	NOT IDENT.
I-131	8.942E-04	1.630E-01	1.401E-01	8.317E-02	NOT IDENT.
TE-132	-6.437E-01	1.736E+00	1.406E+00	8.857E-01	NOT IDENT.
BA-133	-1.595E-02	5.211E-02	3.794E-02	2.659E-02	NOT IDENT.
I-133	2.209E+04	1.417E+05	0.000E+00	7.232E+04	SHORT HLIF
CS-134	3.283E-02	5.655E-02	4.894E-02	2.885E-02	FAIL ABUN
I-135	1.961E+19	1.021E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.175E-02	1.322E-01	1.084E-01	6.747E-02	FAIL ABUN
BA-137M	1.774E-02	3.698E-02	3.210E-02	1.887E-02	NOT IDENT.
CS-137	1.876E-02	3.909E-02	3.393E-02	1.994E-02	NOT IDENT.
CE-139	-5.608E-03	3.485E-02	2.897E-02	1.778E-02	NOT IDENT.
BA-140	1.044E-01	3.395E-01	2.922E-01	1.732E-01	NOT IDENT.
LA-140	-7.921E-02	1.012E-01	7.211E-02	5.163E-02	FAIL ABUN
CE-141	-5.810E-03	7.749E-02	6.367E-02	3.954E-02	NOT IDENT.
CE-143	7.052E+03	2.124E+03	0.000E+00	1.084E+03	SHORT HLIF
CE-144	-3.793E-02	2.642E-01	1.931E-01	1.348E-01	NOT IDENT.
PM-144	-8.547E-03	4.033E-02	3.163E-02	2.058E-02	NOT IDENT.
PR-144	-5.804E-01	2.739E+00	2.148E+00	1.397E+00	NOT IDENT.

PM-146	-5.232E-03	4.618E-02	3.901E-02	2.356E-02	NOT IDENT.
ND-147	3.615E-01	7.396E-01	6.476E-01	3.774E-01	FAIL ABUN
PM-149	9.647E+01	3.423E+02	0.000E+00	1.747E+02	SHORT HLIF
EU-152	-1.555E-02	1.345E-01	8.717E-02	6.864E-02	NOT IDENT.
GD-153	5.768E-02	9.628E-02	7.403E-02	4.912E-02	NOT IDENT.
EU-154	3.362E-02	1.306E-01	1.131E-01	6.662E-02	NOT IDENT.
EU-155	6.833E-02	1.218E-01	1.056E-01	6.216E-02	FAIL ABUN
TB-160	-1.573E-01	1.624E-01	1.198E-01	8.283E-02	FAIL ABUN
HO-166M	9.679E-06	6.346E-02	5.289E-02	3.238E-02	FAIL ABUN
TM-171	-2.078E+01	3.501E+01	2.560E+01	1.786E+01	NOT IDENT.
LU-176	-3.245E-02	2.877E-02	2.078E-02	1.468E-02	FAIL ABUN
LU-177	3.907E+00	2.071E+00	1.709E+00	1.057E+00	FAIL ABUN
LU-177M	-6.703E-02	2.026E-01	1.697E-01	1.033E-01	FAIL ABUN
HF-181	-2.490E-02	4.794E-02	3.914E-02	2.446E-02	NOT IDENT.
W-181	1.399E-01	4.705E-01	3.589E-01	2.400E-01	NOT IDENT.
TA-182	-3.482E-02	2.124E-01	1.773E-01	1.084E-01	FAIL ABUN
RE-183	-3.750E-02	1.296E-01	1.072E-01	6.612E-02	FAIL ABUN
RE-184	-2.574E-01	2.692E-01	2.096E-01	1.373E-01	NOT IDENT.
OS-185	-2.482E-02	4.975E-02	3.995E-02	2.538E-02	NOT IDENT.
RE-188	3.143E-02	2.020E-01	1.705E-01	1.030E-01	NOT IDENT.
W-188	-5.065E+00	9.192E+00	6.654E+00	4.690E+00	FAIL ABUN
IR-192	-6.544E-02	3.648E-02	2.796E-02	1.861E-02	FAIL ABUN
AU-195	4.124E-02	2.873E-01	2.156E-01	1.466E-01	FAIL ABUN
TL-200	-4.005E+03	5.602E+03	0.000E+00	2.858E+03	SHORT HLIF
TL-201	1.214E+01	1.880E+01	1.617E+01	9.594E+00	NOT IDENT.
TL-202	7.918E-02	9.420E-02	8.453E-02	4.806E-02	NOT IDENT.
HG-203	-6.216E-03	4.669E-02	4.028E-02	2.382E-02	NOT IDENT.
BI-207	2.366E-02	5.684E-02	5.030E-02	2.900E-02	FAIL ABUN
TL-207	-8.285E-01	8.483E-01	5.811E-01	4.328E-01	FAIL ABUN
PO-209	9.811E-01	7.763E+00	6.475E+00	3.961E+00	NOT IDENT.
BI-210	2.148E+00	3.637E+00	3.177E+00	1.856E+00	NOT IDENT.
PB-210	2.148E+00	3.637E+00	3.177E+00	1.856E+00	NOT IDENT.
PO-210	2.148E+00	3.636E+00	3.177E+00	1.855E+00	NOT IDENT.
PB-211	-1.485E+00	1.381E+00	8.128E-01	7.045E-01	NOT IDENT.
BI-212	1.004E+00	4.790E-01	3.653E-01	2.444E-01	FAIL ABUN
PO-215	-8.285E-01	8.483E-01	5.811E-01	4.328E-01	FAIL ABUN
RN-219	-1.825E-01	4.399E-01	3.662E-01	2.244E-01	NOT IDENT.
RN-220	1.688E+01	2.889E+01	2.540E+01	1.474E+01	NOT IDENT.
RA-223	-8.285E-01	8.483E-01	5.811E-01	4.328E-01	FAIL ABUN
AC-227	5.026E-02	4.267E-01	3.537E-01	2.177E-01	FAIL ABUN
TH-227	5.026E-02	4.267E-01	3.537E-01	2.177E-01	FAIL ABUN
TH-229	-4.733E-01	5.862E-01	4.663E-01	2.991E-01	FAIL ABUN
PA-231	4.483E-01	1.676E+00	1.473E+00	8.552E-01	FAIL ABUN
TH-231	-8.285E-01	8.483E-01	5.811E-01	4.328E-01	FAIL ABUN
U-231	3.312E-01	2.547E+00	1.912E+00	1.299E+00	FAIL ABUN
PA-233	9.744E-02	6.672E-02	6.193E-02	3.404E-02	FAIL ABUN
PA-234	-1.490E-02	3.003E-01	2.451E-01	1.532E-01	FAIL ABUN
PA-234M	-1.850E-01	4.852E+00	4.109E+00	2.475E+00	NOT IDENT.
U-235	8.200E-02	2.362E-01	1.973E-01	1.205E-01	FAIL ABUN
NP-236	1.907E-02	9.033E-02	7.636E-02	4.609E-02	NOT IDENT.
NP-239	-3.802E-02	2.123E-01	1.783E-01	1.083E-01	FAIL ABUN
AM-241	2.241E-02	1.818E-01	1.383E-01	9.273E-02	NOT IDENT.
CM-243	3.429E-02	1.098E-01	9.434E-02	5.602E-02	FAIL ABUN
AM-246	1.316E-01	1.434E-01	1.327E-01	7.314E-02	NOT IDENT.
CM-247	-2.935E-02	3.971E-02	3.238E-02	2.026E-02	NOT IDENT.
CF-249	-1.380E-02	4.388E-02	3.691E-02	2.239E-02	NOT IDENT.
CF-251	1.384E-02	1.434E-01	1.203E-01	7.316E-02	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                          *
*                               GAMMA SPECTROSCOPY BACKGROUND REPORT            *
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ENERGY	MDA COUNTS
46.50	315.8412
46.50	315.8412
46.50	315.8412
48.70	326.4271
49.72	364.8713
51.35	324.5151
52.39	331.7549
52.97	345.6847
53.15	345.7560
53.44	332.1526
54.07	319.6428
56.28	369.5757
56.28	359.7479
57.37	0.0000
57.53	325.9881
57.53	325.9890
57.60	326.0130
57.98	322.9964
57.98	322.9964
59.32	366.0648
59.32	366.0648
59.40	366.0960
59.54	366.1512
59.72	366.2213
60.01	356.8604
61.10	365.1764
61.14	365.1912
61.30	373.1584
63.00	410.8463
63.29	410.9694
63.29	410.9694
63.58	411.0921
64.28	436.1697
65.12	444.4799
65.20	444.5158
65.20	444.5158
66.05	449.6649
66.72	449.9672
66.83	450.0173
66.91	453.2342
67.20	453.3647
67.20	453.3647
67.75	463.1614
67.85	479.1272
68.90	493.9641
68.90	493.9641
69.30	494.1590
69.67	480.3857
70.82	453.3825
70.82	453.3825
70.83	458.1770
72.80	467.0414
72.87	467.0735
72.87	467.0735
74.67	448.6409
74.81	448.7007
74.81	448.7007
74.81	448.7007
74.81	448.7007
74.81	448.7007
74.81	448.7007
74.97	448.7673
75.28	448.8972
75.70	449.0732
77.11	449.6611
77.11	449.6611

77.11	449.6611
77.11	449.6611
77.11	449.6611
77.11	449.6611
77.11	449.6611
78.38	379.4423
79.62	444.2549
79.80	444.3273
79.80	444.3273
80.11	500.8137
80.18	500.8440
80.30	500.8991
80.30	500.8991
80.57	576.7375
81.00	596.2998
81.07	596.3359
81.07	596.3359
81.07	596.3359
81.07	596.3359
82.60	492.2462
83.37	423.9413
83.78	424.0952
83.78	424.0952
83.78	424.0952
83.78	424.0952
84.21	407.2852
84.90	397.8281
85.43	419.0444
86.29	463.0742
86.50	527.9353
86.54	527.9532
86.59	527.9771
86.72	528.0368
86.79	528.0667
86.94	641.5398
87.30	628.7736
87.30	628.7736
87.30	628.7736
87.30	628.7736
87.30	628.7736
87.30	628.7736
87.30	628.7736
87.57	648.3716
87.88	0.0000
88.03	632.4099
88.36	632.5884
88.47	454.2087
89.95	759.3194
91.11	434.8997
92.29	435.3292
92.38	435.3618
92.38	435.3618
93.35	513.0805
94.00	340.6072
94.67	340.7935
94.67	340.7947
94.90	358.7998
94.90	358.7998
94.90	358.7998
94.90	358.7998
95.87	355.8187
95.87	355.8187
96.73	339.7342
97.43	302.3379
98.44	327.1167
98.44	327.1179
98.88	330.5050
99.55	335.5924
99.55	335.5924
99.86	334.0375
100.00	334.3478
100.10	334.3752
103.18	349.8924
103.76	329.5202
105.00	321.6159
105.31	320.6657
108.00	332.6551
109.28	330.9149

111.00	311.7301
111.00	311.7301
111.76	316.0388
112.95	325.6212
115.19	288.8831
116.30	269.4273
117.00	308.9620
117.00	308.9620
117.66	300.8115
121.11	298.4365
121.62	283.9807
121.78	284.0129
122.06	306.8126
122.32	301.1200
122.32	301.1200
122.32	301.1200
122.32	301.1200
123.07	261.5721
127.23	282.3818
129.76	289.7767
131.20	311.6317
133.02	291.8854
133.54	303.7340
135.34	299.0582
136.00	297.7479
136.25	297.7976
136.48	302.6470
140.51	307.6635
140.51	0.0000
142.18	322.7624
142.65	314.4196
143.76	284.0249
144.24	264.0457
144.24	264.0457
144.24	264.0457
144.24	264.0457
145.22	285.3486
145.44	297.0146
147.16	287.8151
152.43	301.5073
152.70	293.0626
153.22	274.0384
154.21	274.2057
154.21	274.2057
154.21	274.2057
154.21	274.2057
155.03	295.6104
156.02	284.0868
158.56	315.4304
159.00	0.0000
159.00	318.7118
160.31	282.6927
161.27	280.7217
162.32	294.7830
162.64	289.4985
163.35	291.7579
163.89	268.3325
165.85	293.2594
167.43	250.6816
171.28	260.9072
171.86	270.6608
172.10	266.4006
176.55	262.7721
176.60	267.0874
181.06	257.3960
184.41	258.5252
185.71	258.7094
186.00	258.7513
190.27	222.2438
192.34	269.4241
193.63	279.3958
197.04	233.0731
198.01	237.5510
198.60	237.6259
200.40	0.0000
201.83	265.3270
202.84	254.5433
205.31	238.0249

208.36	247.1648
208.81	256.4267
209.75	260.9353
209.75	260.9353
210.97	207.1237
215.65	245.2231
216.55	261.8360
218.09	220.2011
222.10	214.0213
223.80	225.2417
226.40	203.4175
227.00	222.2774
227.08	222.2866
227.20	214.5571
228.16	216.8708
228.18	216.8723
228.18	216.8723
231.56	0.0000
235.69	236.3137
236.00	236.3494
236.00	236.3494
238.63	205.7298
238.63	205.7298
238.63	205.7298
238.63	205.7298
239.00	0.0000
240.98	205.9570
241.98	206.0544
241.98	206.0544
241.98	206.0544
244.69	176.6507
245.39	205.2663
247.94	190.6172
248.90	179.9004
249.79	0.0000
252.40	205.9317
252.85	208.2127
252.85	208.2127
254.15	0.0000
256.20	181.6234
256.20	181.6234
260.50	180.8523
260.90	0.0000
262.80	163.0453
264.65	167.1995
268.24	181.8496
268.79	174.3776
269.46	175.9332
269.46	175.9332
269.46	175.9332
269.46	175.9332
271.23	201.6516
273.65	241.0319
276.40	180.9912
277.35	185.5911
277.60	185.6111
277.60	185.6111
278.00	176.5878
278.60	189.3144
279.20	187.5508
279.53	206.6069
280.46	209.4086
281.68	0.0000
283.67	170.6619
284.30	175.2479
285.00	179.8411
285.90	0.0000
286.10	169.9299
286.10	169.9299
287.40	160.6271
288.45	0.0000
290.67	172.9877
290.80	180.5845
291.72	176.1004
293.26	0.0000
293.70	154.9735
295.21	145.9492
295.21	145.9492

295.21	145.9492
295.96	155.1188
296.50	155.1541
297.23	0.0000
298.57	155.2869
299.80	155.3657
299.80	155.3657
300.09	155.3844
300.09	155.3844
300.09	155.3844
300.09	155.3844
300.12	155.3865
301.29	144.7923
302.84	120.4818
303.76	0.0000
303.91	114.4318
304.40	123.6110
304.40	123.6110
304.84	122.1061
306.84	166.2866
308.46	158.6650
311.98	114.8056
316.51	160.0983
318.01	127.9709
319.02	103.1543
319.41	105.9335
320.08	111.4893
323.87	175.3279
323.87	175.3279
323.87	175.3279
323.87	175.3279
325.23	170.8043
328.77	180.2845
333.44	171.3486
334.20	157.5011
334.20	157.5011
334.30	157.5073
338.28	142.2825
338.28	142.2825
338.28	142.2825
338.28	142.2825
338.32	142.2844
338.32	142.2844
338.32	142.2844
340.50	116.0889
340.57	116.0919
344.27	134.8542
345.85	151.9965
350.59	0.0000
351.07	116.5512
351.92	116.5878
351.92	116.5878
351.92	116.5878
355.39	0.0000
356.01	130.7766
364.48	108.6934
366.43	122.8365
367.43	136.9499
367.94	0.0000
369.80	107.9641
374.96	134.4989
383.85	119.8283
387.95	131.3391
388.63	133.2598
391.69	125.8337
391.69	125.8337
392.90	115.4741
398.62	130.8760
400.65	100.5978
401.10	109.1559
401.81	122.4744
402.60	129.1552
404.84	151.1140
410.95	130.4744
411.60	139.0760
413.65	132.4979
414.70	124.9169
415.30	114.4512

415.76	98.2523
417.63	0.0000
418.52	128.8960
423.70	101.3806
427.08	121.6003
427.89	113.9710
432.53	91.1232
433.93	111.3172
439.47	0.0000
439.56	93.2547
439.89	88.4568
443.98	96.2756
444.90	94.3776
445.03	99.1966
445.03	99.1966
445.03	99.1966
445.03	99.1966
453.90	98.5112
463.38	79.1086
468.07	93.7745
473.00	95.2126
475.06	98.1902
475.35	99.1711
476.78	86.5697
477.59	87.5632
477.96	81.7349
482.03	96.4501
484.57	0.0000
487.03	78.0576
490.36	0.0000
492.35	0.0000
497.08	85.1447
507.63	0.0000
510.53	0.0000
510.84	94.3354
511.00	94.3395
511.85	94.3623
511.85	94.3623
513.99	94.4221
513.99	94.4221
520.41	64.7549
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	75.0890
529.87	0.0000
531.02	70.1766
537.32	76.2443
543.00	82.3171
546.56	0.0000
549.76	78.4985
552.65	78.5603
555.20	85.5822
563.23	83.1136
563.90	86.4530
568.70	97.8876
569.32	97.9043
569.50	97.9091
569.67	97.9139
573.80	65.0159
574.00	65.0190
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	65.1793
585.48	0.0000
591.81	70.3555
592.07	70.3606
593.00	82.4424
595.88	84.5188
600.56	83.1123
602.52	0.0000
602.71	100.7983
602.71	100.7983
603.60	92.4209
604.41	102.5255
604.70	85.7242
609.31	66.6429

609.31	66.6429
609.31	66.6429
609.31	66.6429
610.33	66.6606
612.46	87.5807
614.37	74.1444
618.01	59.4557
621.84	70.9109
621.84	70.9109
631.29	66.0061
633.02	68.0665
633.10	68.0681
634.78	59.9651
635.90	63.0323
636.97	63.0505
645.85	84.5947
646.12	83.5815
656.30	83.7937
657.75	74.6236
657.90	0.0000
661.65	59.3480
661.65	59.3480
664.57	0.0000
666.33	65.5625
666.33	65.5625
675.00	67.7547
677.61	52.3895
685.20	52.4854
692.80	58.7673
695.00	77.3666
696.49	77.3950
696.49	77.3950
697.00	75.3401
697.49	73.2846
698.33	81.5575
698.50	81.5613
699.00	81.5710
702.63	62.0054
706.10	63.0909
706.58	0.0000
706.67	69.3064
709.31	69.3489
711.68	64.2100
713.82	54.9163
717.42	58.0740
720.50	68.7538
721.93	0.0000
722.20	60.5621
722.78	77.8748
722.78	77.8748
722.89	77.8766
722.95	77.8784
723.30	72.6917
724.18	65.7826
727.18	63.4037
733.00	64.1824
735.90	70.8223
739.58	71.9244
742.81	50.0707
744.21	70.9567
747.13	74.1375
751.79	73.1702
752.31	74.2241
753.82	59.6092
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756.15	73.2419
756.87	69.0680
763.93	102.7182
765.79	82.8381
766.42	75.5086
766.84	65.0273
776.49	74.6280
778.00	74.6523
778.57	67.3016
778.89	65.2029
783.80	54.7447
785.46	81.0944
792.07	64.3374

795.84	73.8914
796.30	76.0096
798.80	77.1063
801.93	61.3050
805.60	58.1797
810.29	62.4743
810.76	61.4225
815.85	54.0680
817.79	0.0000
818.51	57.2814
819.60	47.7455
826.30	52.0637
828.27	0.0000
831.60	65.9507
831.96	68.0844
834.83	58.5449
836.80	0.0000
846.75	45.8870
848.13	57.6413
856.28	0.0000
856.80	53.4680
860.37	51.3680
867.32	47.4612
867.82	42.8721
871.10	52.5542
873.19	38.6279
874.81	40.7869
875.33	0.0000
876.40	48.3168
879.36	64.4604
880.27	61.2486
880.51	56.9543
881.50	41.9174
883.24	37.6318
884.67	53.7756
889.25	51.6727
896.60	46.3583
898.02	50.6856
899.00	55.0105
903.28	66.1234
911.07	50.4572
911.07	50.4572
911.07	50.4572
919.63	53.0710
920.93	37.9172
925.00	62.8853
925.24	62.8881
926.50	60.7346
935.52	56.4967
937.48	71.7347
944.10	41.3547
946.00	42.4592
949.00	51.1986
962.29	63.7067
964.01	63.7280
966.15	61.9321
968.20	85.2820
969.11	85.2973
969.11	85.2973
969.11	85.2973
977.42	56.1323
980.50	49.3165
983.50	48.2475
989.30	47.2024
996.32	46.1662
1001.03	48.5898
1001.68	46.7625
1004.76	44.0371
1021.30	0.0000
1024.50	0.0000
1034.80	39.6686
1036.00	37.8319
1037.82	48.9219
1038.57	56.3138
1038.76	0.0000
1045.16	29.5768
1046.59	35.1318
1048.07	47.1630

1050.47	58.2858
1050.47	58.2858
1062.04	57.4792
1063.62	47.2958
1076.63	48.3332
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1078.86	35.3359
1085.78	47.4825
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1120.29	50.5789
1120.29	50.5789
1120.29	50.5789
1120.51	56.2012
1121.28	49.7847
1124.00	0.0000
1129.67	55.3509
1131.51	0.0000
1147.95	0.0000
1167.94	61.3765
1173.22	53.8712
1175.09	57.6690
1177.93	66.2089
1189.05	51.1699
1204.90	50.3539
1205.75	0.0000
1213.00	66.5934
1221.42	60.0161
1230.97	67.7441
1235.34	55.3780
1236.41	0.0000
1238.25	52.5382
1246.25	45.9121
1260.41	0.0000
1271.85	48.0204
1274.45	41.3133
1274.54	43.2367
1291.56	36.6084
1298.22	0.0000
1312.09	37.6924
1325.50	44.5494
1325.50	44.5494
1332.49	26.1760
1333.61	33.9376
1360.21	28.2342
1362.66	0.0000
1365.15	24.3581
1368.21	25.3441
1368.53	0.0000
1376.25	21.7498
1384.27	21.7752
1394.10	20.5497
1395.20	26.4243
1407.95	29.4165
1434.06	17.7173
1436.60	24.6165
1457.56	0.0000
1460.81	22.7267
1489.15	26.7869
1509.49	16.9142
1596.49	21.1453
1620.62	16.1628
1678.03	0.0000
1691.02	16.3125
1691.02	16.3125
1706.46	0.0000
1750.46	0.0000
1764.49	9.2622
1764.49	9.2622
1764.49	9.2622
1764.49	9.2622
1770.23	5.2965
1771.40	3.5314
1791.20	0.0000
1808.65	7.2435

1836.01

11.4207

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107004

Total Uranium Activity	3.7485E+00	ug/g
Total Uranium Counting Unc.	6.6388E+00	ug/g
Total Uranium Tpu	3.3871E-06	ug/g
Total Uranium Mda	3.4562E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944038                      SAMPLE ID   : G245107004
*  ANALYST       : MXR1                        DETECTOR    : GAM19
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00    COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 12:38:06.35    SAMPLE ALQT  : 113.220 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.366E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.571E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.842E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.865E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:48:03.15

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107005.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:30.
Sample ID          : G245107005 Sample quantity : 1.24580E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:33.11 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.10*	112	493	1.52	126.19	122	9	1.56E-02	37.9	
2	3	74.91	402	496	0.93	149.76	146	22	5.59E-02	9.8	1.89E+00
3	3	77.22*	733	449	0.96	154.37	146	22	1.02E-01	6.0	
4	0	87.57*	178	571	0.95	175.05	170	8	2.47E-02	24.4	
5	3	89.92	171	205	1.02	179.75	178	13	2.37E-02	14.0	1.20E+00
6	3	92.90*	284	371	1.40	185.70	178	13	3.95E-02	14.3	
7	0	129.09	82	358	1.23	257.97	254	9	1.13E-02	43.3	
8	0	185.80*	288	415	1.26	371.23	364	14	4.00E-02	16.6	
9	0	208.99	94	251	1.43	417.55	414	8	1.31E-02	30.8	
10	7	238.64*	1246	220	1.11	476.78	472	18	1.73E-01	3.5	1.70E+00
11	7	241.60	322	243	2.01	482.69	472	18	4.47E-02	15.1	
12	0	269.91	101	185	1.45	539.23	535	10	1.40E-02	27.1	
13	0	295.19	437	175	1.27	589.73	583	13	6.07E-02	7.9	
14	0	299.73	83	135	1.15	598.80	596	9	1.15E-02	27.2	
15	0	327.55	41	147	0.67	654.39	652	8	5.65E-03	53.6	
16	0	338.31	233	168	1.05	675.88	671	10	3.24E-02	12.3	
17	0	351.96*	695	115	1.40	703.15	699	9	9.66E-02	4.8	
18	0	463.04	73	74	0.83	925.11	920	9	1.01E-02	24.4	
19	0	511.00*	75	152	1.37	1020.96	1013	16	1.04E-02	43.8	
20	0	583.28*	415	108	1.54	1165.43	1157	15	5.76E-02	7.5	
21	0	609.50*	507	83	1.46	1217.84	1213	12	7.04E-02	5.7	
22	0	727.43	117	52	1.22	1453.60	1449	12	1.63E-02	15.3	
23	0	768.83	68	94	0.83	1536.37	1531	14	9.43E-03	32.3	
24	0	795.99	48	91	1.69	1590.67	1583	17	6.68E-03	47.3	
25	0	859.96*	75	45	2.84	1718.59	1711	14	1.04E-02	22.6	
26	0	911.34*	268	35	1.54	1821.35	1816	11	3.73E-02	7.6	
27	0	934.28	44	42	1.13	1867.23	1860	14	6.11E-03	34.7	
28	0	969.33*	169	40	1.40	1937.35	1933	11	2.35E-02	10.8	
29	0	1120.79	102	72	1.23	2240.35	2234	13	1.42E-02	19.7	
30	0	1240.16	46	75	1.84	2479.21	2469	16	6.40E-03	44.7	
31	0	1461.10*	1053	47	1.74	2921.46	2912	19	1.46E-01	3.5	
32	0	1764.68	100	3	1.13	3529.44	3523	15	1.39E-02	10.8	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107005.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:30
Sample ID         : G245107005 Sample quantity : 124.58 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA20 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:33.11 0.5%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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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	*	2.372E+01	2.646E+00	4.537E-01	3.957E-02	52.287
CD-109	+	88.03	*	2.131E+00	1.057E+00	1.018E+00	9.628E-02	2.093
SN-126	+	64.28		7.642E-01	5.897E-01	5.680E-01	8.224E-02	1.345
	+	86.94		8.658E-01	5.542E-01	5.188E-01	2.153E-01	1.669
	+	87.57	*	2.082E-01	1.033E-01	9.977E-02	9.385E-03	2.087
TL-208		277.35		2.511E-01	3.501E-01	6.024E-01	8.009E-02	0.417
	+	510.84		3.491E-01	3.086E-01	2.030E-01	2.537E-02	1.720
	+	583.14	*	5.507E-01	1.001E-01	5.020E-02	5.161E-03	10.971
	+	860.37		9.303E-01	4.323E-01	3.847E-01	4.077E-02	2.418
BI-211		72.87		2.104E+00	2.836E+00	4.270E+00	3.372E-01	0.493
	+	351.07	*	4.080E+00	5.502E-01	2.821E-01	2.702E-02	14.466
PB-212	+	74.81		1.873E+00	4.350E-01	4.862E-01	6.001E-02	3.851
	+	77.11		1.960E+00	2.843E-01	2.798E-01	2.314E-02	7.005
	+	87.30		9.632E-01	4.874E-01	5.792E-01	7.939E-02	1.663
	+	238.63	*	1.603E+00	2.037E-01	8.179E-02	8.698E-03	19.605
	+	300.09		1.643E+00	9.148E-01	1.050E+00	1.201E-01	1.565
PO-212	+	74.81		1.873E+00	4.350E-01	4.862E-01	6.001E-02	3.851
	+	77.11		1.960E+00	2.843E-01	2.798E-01	2.314E-02	7.005
	+	87.30		9.632E-01	4.874E-01	5.792E-01	7.939E-02	1.663
		115.19		1.777E+00	3.108E+00	5.131E+00	4.310E-01	0.346
	+	238.63	*	1.603E+00	2.037E-01	8.179E-02	8.698E-03	19.605
	+	300.09		1.643E+00	9.148E-01	1.050E+00	1.201E-01	1.565
BI-214	+	609.31	*	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
	+	1120.29		1.310E+00	5.359E-01	3.848E-01	4.164E-02	3.404
	+	1764.49		1.731E+00	4.012E-01	2.663E-01	2.187E-02	6.501
PB-214	+	74.81		3.226E+00	7.266E-01	8.378E-01	9.172E-02	3.851
	+	77.11		3.360E+00	5.506E-01	4.797E-01	5.394E-02	7.005
	+	87.30		1.650E+00	8.284E-01	9.923E-01	1.204E-01	1.663
	+	241.98		2.490E+00	8.041E-01	4.923E-01	5.506E-02	5.057
	+	295.21		1.519E+00	2.976E-01	1.872E-01	2.185E-02	8.112
	+	351.92	*	1.419E+00	2.052E-01	9.659E-02	1.053E-02	14.696
PO-214	+	74.81		3.226E+00	7.266E-01	8.378E-01	9.172E-02	3.851
	+	77.11		3.360E+00	5.506E-01	4.797E-01	5.394E-02	7.005
	+	87.30		1.650E+00	8.284E-01	9.923E-01	1.204E-01	1.663

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.490E+00	8.041E-01	4.923E-01	5.506E-02	5.057
	+	295.21		1.519E+00	2.976E-01	1.872E-01	2.185E-02	8.112
	+	351.92	*	1.419E+00	2.052E-01	9.659E-02	1.053E-02	14.696
	+	74.81		1.873E+00	4.350E-01	4.862E-01	6.001E-02	3.851
	+	77.11		1.960E+00	2.843E-01	2.798E-01	2.314E-02	7.005
	+	87.30		9.632E-01	4.874E-01	5.792E-01	7.939E-02	1.663
PO-218	+	238.63	*	1.603E+00	2.037E-01	8.179E-02	8.698E-03	19.605
	+	300.09		1.643E+00	9.148E-01	1.050E+00	1.201E-01	1.565
	+	74.81		3.226E+00	7.266E-01	8.378E-01	9.172E-02	3.851
	+	77.11		3.360E+00	5.506E-01	4.797E-01	5.394E-02	7.005
	+	87.30		1.650E+00	8.284E-01	9.923E-01	1.204E-01	1.663
	+	241.98		2.490E+00	8.041E-01	4.923E-01	5.506E-02	5.057
RA-224	+	295.21		1.519E+00	2.976E-01	1.872E-01	2.185E-02	8.112
	+	351.92	*	1.419E+00	2.052E-01	9.659E-02	1.053E-02	14.696
	+	240.98	*	4.721E+00	1.502E+00	9.306E-01	8.995E-02	5.074
RA-226	+	609.31	*	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
	+	1120.29		1.310E+00	5.359E-01	3.848E-01	4.164E-02	3.404
	+	1764.49		1.731E+00	4.012E-01	2.663E-01	2.187E-02	6.501
AC-228	+	338.32		1.509E+00	7.267E-01	3.558E-01	1.474E-01	4.242
	+	911.07	*	1.569E+00	3.064E-01	1.851E-01	2.267E-02	8.479
	+	969.11		1.739E+00	5.578E-01	4.986E-01	1.183E-01	3.487
RA-228	+	338.32		1.509E+00	7.267E-01	3.558E-01	1.474E-01	4.242
	+	911.07	*	1.569E+00	3.064E-01	1.851E-01	2.267E-02	8.479
	+	969.11		1.739E+00	5.578E-01	4.986E-01	1.183E-01	3.487
TH-228	+	74.81		1.908E+00	4.064E-01	4.955E-01	4.033E-02	3.851
	+	77.11		1.997E+00	2.898E-01	2.851E-01	2.358E-02	7.005
	+	87.30		9.816E-01	4.869E-01	5.903E-01	5.533E-02	1.663
TH-230	+	238.63	*	1.634E+00	2.076E-01	8.335E-02	8.864E-03	19.605
	+	300.09		1.674E+00	1.351E+00	1.070E+00	6.364E-01	1.565
	+	609.31	*	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
TH-232	+	1120.29		1.310E+00	5.359E-01	3.848E-01	4.164E-02	3.404
	+	1764.49		1.731E+00	4.012E-01	2.663E-01	2.187E-02	6.501
	+	338.32		1.509E+00	3.964E-01	3.558E-01	3.334E-02	4.242
TH-234	+	911.07	*	1.569E+00	3.064E-01	1.851E-01	2.267E-02	8.479
	+	969.11		1.739E+00	5.578E-01	4.986E-01	1.183E-01	3.487
	+	63.29	*	1.931E+00	1.501E+00	1.498E+00	2.604E-01	1.288
U-234	+	92.38		2.207E+00	7.499E-01	6.070E-01	1.113E-01	3.636
	+	609.31	*	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
	+	1120.29		1.310E+00	5.359E-01	3.848E-01	4.164E-02	3.404
NP-237	+	1764.49		1.731E+00	4.012E-01	2.663E-01	2.187E-02	6.501
	+	86.50	*	6.115E-01	3.286E-01	3.675E-01	8.314E-02	1.664
	+	95.87		-4.177E-01	9.106E-01	1.274E+00	3.152E-01	-0.328
U-238	+	63.29	*	1.931E+00	1.501E+00	1.498E+00	2.604E-01	1.288
	+	92.38		2.207E+00	6.628E-01	6.070E-01	5.548E-02	3.636
AM-243	+	74.67	*	3.036E-01	6.456E-02	7.900E-02	6.359E-03	3.843
	+	86.72		2.293E+01	1.138E+01	1.376E+01	1.280E+00	1.666
	+	117.66		-1.937E+00	3.316E+00	5.176E+00	4.333E-01	-0.374
ANH-511	+	142.18		-6.987E+00	1.613E+01	2.521E+01	2.128E+00	-0.277
	+	511.00	*	7.540E-02	6.637E-02	4.385E-02	4.086E-03	1.720

---- 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	*		2.167E-02	2.969E-01	4.846E-01	4.710E-02	0.045
NA-22	1274.54	*		1.007E-02	3.943E-02	6.545E-02	5.421E-03	0.154
NA-24	1368.53	*		1.998E+01	3.943E-02	Half-Life too short		
AL-26	1129.67			1.468E-01	1.527E+00	2.508E+00	2.124E-01	0.059
	1808.65	*		-1.653E-02	2.497E-02	3.441E-02	2.795E-03	-0.481
TI-44	67.85			-2.230E-02	3.723E-02	5.669E-02	4.265E-03	-0.393
	78.38	*		3.617E-01	5.248E-02	7.304E-02	6.130E-03	4.952
SC-46	889.25	*		8.900E-03	3.785E-02	6.392E-02	6.372E-03	0.139
	1120.51	+		2.316E-01	9.349E-02	1.338E-01	1.144E-02	1.731
V-48	944.10			-6.900E-01	1.077E+00	1.662E+00	1.622E-01	-0.415
	983.50	*		-3.045E-02	7.225E-02	1.128E-01	1.079E-02	-0.270
	1312.09			-8.008E-02	9.180E-02	1.304E-01	1.088E-02	-0.614
CR-51	320.08	*		1.498E-01	3.538E-01	6.015E-01	6.030E-02	0.249
MN-52	744.21			2.509E-01	3.442E-01	6.093E-01	6.190E-02	0.412
	848.13			-1.702E+00	9.913E+00	1.616E+01	1.628E+00	-0.105
	935.52	+		8.194E-01	5.741E-01	7.183E-01	7.037E-02	1.141
	1246.25			1.227E+01	1.141E+01	1.847E+01	1.517E+00	0.664
	1333.61			1.236E+00	6.695E+00	1.105E+01	9.260E-01	0.112
	1434.06	*		-2.179E-01	2.893E-01	4.194E-01	3.550E-02	-0.519
MN-54	834.83	*		5.411E-03	3.448E-02	5.798E-02	5.856E-03	0.093
CO-56	846.75	*		-2.932E-02	3.643E-02	5.532E-02	5.576E-03	-0.530
	977.42			4.876E-01	2.586E+00	4.228E+00	4.055E-01	0.115
	1037.82			-1.365E-01	2.870E-01	4.439E-01	4.283E-02	-0.307
	1175.09			1.249E+00	2.127E+00	3.648E+00	2.935E-01	0.342
	1238.25			1.397E-01	9.343E-02	1.680E-01	1.421E-02	0.832
	1360.21			1.575E-01	8.392E-01	1.444E+00	1.214E-01	0.109
	1771.40			1.087E-01	2.036E-01	3.372E-01	2.766E-02	0.322
CO-57	122.06	*		4.012E-03	2.249E-02	3.645E-02	3.042E-03	0.110
	136.48			1.634E-01	1.910E-01	3.171E-01	2.870E-02	0.515
CO-58	810.76	*		-9.529E-03	3.445E-02	5.566E-02	5.651E-03	-0.171
FE-59	142.65			-6.909E-01	2.722E+00	4.281E+00	3.616E-01	-0.161
	192.34			-1.446E-01	8.914E-01	1.451E+00	1.992E-01	-0.100
	1099.22	*		2.950E-02	8.947E-02	1.506E-01	1.421E-02	0.196
	1291.56			5.608E-02	1.095E-01	1.878E-01	1.786E-02	0.299
CO-60	1173.22			2.607E-03	4.332E-02	7.064E-02	5.680E-03	0.037
	1332.49	*		-1.532E-02	3.416E-02	5.115E-02	4.285E-03	-0.300
ZN-65	1115.52	*		-9.419E-02	1.008E-01	1.215E-01	1.046E-02	-0.775
GE-68	1077.35	*		2.290E-01	1.142E+00	1.902E+00	1.697E-01	0.120
AS-73	53.44	*		2.497E-01	5.451E-01	9.049E-01	6.718E-02	0.276
AS-74	595.88	*		6.093E-03	9.741E-02	1.569E-01	1.535E-02	0.039
	634.78			3.274E-02	3.632E-01	6.171E-01	6.138E-02	0.053
SE-75	66.05			-3.728E+00	4.111E+00	5.753E+00	5.443E-01	-0.648
	96.73			-6.575E-01	7.782E-01	1.061E+00	1.465E-01	-0.620
	121.11			5.748E-03	1.206E-01	1.943E-01	2.140E-02	0.030
	136.00			4.334E-03	3.666E-02	5.898E-02	4.983E-03	0.073
	198.60			9.422E-02	1.710E+00	2.837E+00	2.856E-01	0.033
	264.65	*		4.748E-04	4.115E-02	6.391E-02	6.328E-03	0.007
	279.53			2.254E-02	1.056E-01	1.781E-01	1.823E-02	0.127
	303.91			-7.532E-01	2.142E+00	3.033E+00	3.753E-01	-0.248

---- 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		8.386E-02	2.295E-01	3.856E-01	4.232E-02	0.217
		87.88		1.432E-03	2.295E-01	Half-Life too short		
	+	200.40		2.805E-04	2.295E-01	Half-Life too short		
		239.00		8.054E-04	2.295E-01	Half-Life too short		
		249.79		-1.153E-04	2.295E-01	Half-Life too short		
		281.68		-1.054E-06	2.295E-01	Half-Life too short		
		297.23		8.337E-04	2.295E-01	Half-Life too short		
		303.76		-1.962E-04	2.295E-01	Half-Life too short		
		439.47		3.553E-04	2.295E-01	Half-Life too short		
		484.57		-3.248E-04	2.295E-01	Half-Life too short		
		520.65	*	-1.758E-05	2.295E-01	Half-Life too short		
		574.64		-1.252E-04	2.295E-01	Half-Life too short		
		578.91		-1.243E-04	2.295E-01	Half-Life too short		
		585.48		4.097E-03	2.295E-01	Half-Life too short		
		755.35		7.275E-04	2.295E-01	Half-Life too short		
		817.79		-4.928E-05	2.295E-01	Half-Life too short		
SR-82		698.33		-1.750E+01	3.988E+01	5.450E+01	5.510E+00	-0.321
		776.49	*	-2.307E-01	3.908E-01	5.466E-01	5.554E-02	-0.422
		1395.20		7.036E+00	1.034E+01	1.886E+01	1.592E+00	0.373
RB-83		520.41	*	-4.522E-02	6.844E-02	1.042E-01	9.769E-03	-0.434
		529.64		1.863E-02	9.844E-02	1.613E-01	1.522E-02	0.115
		552.65		-4.257E-02	1.831E-01	2.881E-01	2.757E-02	-0.148
RB-84		881.50	*	1.887E-02	7.414E-02	1.254E-01	1.253E-02	0.150
KR-85		513.99	*	1.078E+01	7.474E+00	1.199E+01	1.119E+00	0.899
SR-85		513.99	*	5.758E-02	3.993E-02	6.403E-02	5.979E-03	0.899
RB-86		1076.63	*	-6.482E-04	8.017E-01	1.308E+00	1.167E-01	0.000
Y-88		898.02		1.426E-02	3.782E-02	6.474E-02	6.459E-03	0.220
		1836.01	*	1.909E-02	2.562E-02	4.923E-02	3.973E-03	0.388
ZR-88		392.90	*	-8.133E-03	2.812E-02	4.515E-02	3.776E-03	-0.180
Y-91		1204.90	*	-3.959E+00	1.837E+01	2.907E+01	2.361E+00	-0.136
NB-94		702.63	*	-1.650E-02	2.773E-02	4.394E-02	4.446E-03	-0.376
		871.10		-4.131E-03	3.137E-02	5.123E-02	5.134E-03	-0.081
NB-95		765.79	*	1.144E-02	4.466E-02	6.670E-02	6.779E-03	0.172
NB-95M		235.69	*	9.239E-04	1.313E-01	1.947E-01	2.092E-02	0.005
ZR-95		724.18		-1.007E-03	1.043E-01	1.517E-01	1.636E-02	-0.007
		756.15	*	6.673E-02	6.725E-02	1.208E-01	1.319E-02	0.552
NB-97		657.90	*	1.393E+00	6.725E-02	Half-Life too short		
		1024.50		-3.493E+02	6.725E-02	Half-Life too short		
ZR-97		254.15		1.154E+01	6.725E-02	Half-Life too short		
		355.39		-4.329E+00	6.725E-02	Half-Life too short		
		507.63	*	3.030E+01	6.725E-02	Half-Life too short		
		602.52		-3.450E+01	6.725E-02	Half-Life too short		
		1021.30		7.118E+01	6.725E-02	Half-Life too short		
		1147.95		-6.757E+00	6.725E-02	Half-Life too short		
		1362.66		-7.285E+00	6.725E-02	Half-Life too short		
		1750.46		-4.115E+01	6.725E-02	Half-Life too short		
MO-99		140.51		-1.109E+02	7.288E+01	9.564E+01	2.643E+01	-1.159
		181.06		1.255E+01	4.936E+01	7.036E+01	1.297E+01	0.178
		366.43		1.353E+02	2.005E+02	3.445E+02	3.063E+01	0.393

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	739.58	*		-1.309E+01	2.801E+01	4.476E+01	7.209E+00	-0.293
	778.00			-3.483E+01	7.748E+01	1.234E+02	1.254E+01	-0.282
TC-99M	140.51	*		-2.964E+15	7.748E+01	Half-Life	too short	
RH-101	127.23			3.711E-02	3.334E-02	5.052E-02	4.215E-03	0.735
	198.01	*		-4.527E-03	3.039E-02	4.999E-02	4.582E-03	-0.091
	325.23			1.625E-01	2.215E-01	3.413E-01	3.259E-02	0.476
RH-102	418.52			-3.917E-02	2.597E-01	4.197E-01	3.611E-02	-0.093
	475.06	*		-1.254E-02	2.606E-02	4.055E-02	3.677E-03	-0.309
	631.29			-4.317E-02	5.198E-02	7.593E-02	7.543E-03	-0.569
	697.49			-4.956E-02	8.316E-02	1.130E-01	1.143E-02	-0.438
	766.84			1.575E-01	1.127E-01	1.866E-01	1.897E-02	0.844
	1046.59			2.256E-02	1.026E-01	1.716E-01	1.571E-02	0.131
	1112.84			2.884E-01	1.972E-01	3.550E-01	3.061E-02	0.812
RU-103	497.08	*		6.441E-03	4.154E-02	6.804E-02	9.892E-03	0.095
	610.33	+		1.466E+01	3.046E+00	3.214E+00	5.578E-01	4.560
RH-106	511.85	+		3.794E-01	3.340E-01	4.081E-01	3.805E-02	0.930
	621.84	*		1.237E-01	2.854E-01	4.738E-01	6.736E-02	0.261
	1050.47			-8.179E-02	2.249E+00	3.661E+00	3.342E-01	-0.022
RU-106	511.85	+		3.794E-01	3.340E-01	4.081E-01	3.805E-02	0.930
	621.84	*		1.237E-01	2.851E-01	4.738E-01	4.690E-02	0.261
	1050.47			-8.179E-02	2.249E+00	3.661E+00	3.342E-01	-0.022
AG-108M	433.93	*		-1.969E-02	2.919E-02	4.499E-02	4.083E-03	-0.438
	614.37			1.473E-02	3.968E-02	5.780E-02	5.875E-03	0.255
	722.95			-1.515E-02	4.359E-02	6.083E-02	6.345E-03	-0.249
AG-110M	657.75	*		7.870E-03	3.225E-02	5.529E-02	5.665E-03	0.142
	677.61			3.411E-01	2.694E-01	4.953E-01	5.092E-02	0.689
	706.67			6.875E-02	1.773E-01	3.066E-01	3.166E-02	0.224
	763.93			3.692E-02	1.462E-01	2.194E-01	2.275E-02	0.168
	884.67			-2.005E-02	4.844E-02	7.685E-02	7.857E-03	-0.261
	937.48			8.581E-02	1.051E-01	1.681E-01	1.691E-02	0.511
	1384.27			-7.556E-02	1.458E-01	2.275E-01	1.974E-02	-0.332
IN-111	171.28			1.653E+00	2.465E+00	4.033E+00	3.550E-01	0.410
	245.39	*		2.921E-01	2.500E+00	3.730E+00	3.621E-01	0.078
IN-113M	391.69	*		-2.133E-02	4.161E-02	6.574E-02	5.671E-03	-0.324
SN-113	391.69	*		-2.133E-02	4.161E-02	6.574E-02	5.671E-03	-0.324
IN-114M	190.27	*		3.734E-02	1.794E-01	2.724E-01	2.468E-02	0.137
CD-115	260.90			6.887E-05	1.794E-01	Half-Life	too short	
	492.35			3.925E-05	1.794E-01	Half-Life	too short	
	527.90	*		-1.364E-05	1.794E-01	Half-Life	too short	
SN-117M	156.02			-1.209E+00	2.633E+00	4.093E+00	3.519E-01	-0.295
	158.56	*		1.147E-03	6.380E-02	1.015E-01	8.761E-03	0.011
SB-122	563.90	*		5.227E+00	5.318E+00	9.193E+00	8.854E-01	0.569
	692.80			-7.693E+01	1.032E+02	1.617E+02	1.633E+01	-0.476
I-123	159.00	*		1.191E+02	1.032E+02	Half-Life	too short	
	528.96			-9.218E+03	1.032E+02	Half-Life	too short	
TE-123M	159.00	*		4.248E-03	2.753E-02	4.409E-02	3.831E-03	0.096
I-124	602.71	*		-2.793E-01	1.187E+00	1.789E+00	1.756E-01	-0.156
	722.78			-2.144E+00	8.769E+00	1.240E+01	1.258E+00	-0.173
	1325.50			-2.059E+01	6.495E+01	1.001E+02	8.370E+00	-0.206

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1376.25		4.610E+01	5.035E+01	9.322E+01	7.852E+00	0.495
		1509.49		2.501E+01	2.712E+01	5.056E+01	4.286E+00	0.495
		1691.02		-6.368E-01	5.620E+00	9.056E+00	7.552E-01	-0.070
		602.71		-8.879E-03	3.774E-02	5.686E-02	5.583E-03	-0.156
		645.85		2.355E-01	4.529E-01	7.944E-01	8.290E-02	0.296
		709.31		-6.124E-01	2.586E+00	4.246E+00	4.300E-01	-0.144
		713.82		-4.725E-01	1.566E+00	2.556E+00	3.364E-01	-0.185
		722.78		-9.882E-02	4.041E-01	5.716E-01	5.888E-02	-0.173
	+	968.20		1.872E+01	4.427E+00	7.568E+00	7.296E-01	2.474
		1045.16		-4.005E-01	2.368E+00	3.800E+00	3.483E-01	-0.105
		1325.50		-1.014E+00	3.197E+00	4.925E+00	4.120E-01	-0.206
		1368.21		3.666E-01	1.440E+00	2.503E+00	3.341E-01	0.146
		1436.60		-8.324E-01	2.891E+00	4.595E+00	3.889E-01	-0.181
		1691.02	*	-6.922E-03	6.109E-02	9.844E-02	8.555E-03	-0.070
SB-125		427.89	*	6.253E-02	7.952E-02	1.373E-01	1.215E-02	0.455
	+	463.38		6.638E-01	3.300E-01	5.223E-01	5.029E-02	1.271
		600.56		-2.737E-02	1.659E-01	2.616E-01	2.713E-02	-0.105
		635.90		8.591E-02	2.394E-01	4.149E-01	4.382E-02	0.207
TE-125M		109.28	*	6.254E+00	8.366E+00	1.392E+01	1.424E+00	0.449
I-126		388.63		1.170E-01	2.292E-01	3.888E-01	3.274E-02	0.301
		666.33	*	1.831E-01	1.965E-01	3.528E-01	3.545E-02	0.519
SB-126		753.82		1.566E+00	1.636E+00	2.936E+00	2.983E-01	0.534
		223.80		-2.395E-01	4.498E+00	7.559E+00	7.170E-01	-0.032
		278.60		3.589E+00	2.950E+00	5.175E+00	5.151E-01	0.693
	+	296.50		1.881E+01	3.494E+00	4.308E+00	4.241E-01	4.368
		414.70		5.190E-02	8.581E-02	1.461E-01	1.252E-02	0.355
		415.30		5.175E-01	7.276E+00	1.196E+01	1.025E+00	0.043
		555.20		2.616E+00	4.711E+00	7.917E+00	7.587E-01	0.330
		573.80		3.235E-01	1.206E+00	1.979E+00	1.916E-01	0.163
		593.00		-4.836E-01	9.878E-01	1.502E+00	1.468E-01	-0.322
		656.30		4.437E-01	3.802E+00	6.457E+00	6.470E-01	0.069
		666.33		7.719E-02	8.284E-02	1.488E-01	1.495E-02	0.519
		675.00		4.355E-01	2.177E+00	3.719E+00	3.743E-01	0.117
		695.00		1.878E-02	8.105E-02	1.386E-01	1.401E-02	0.135
		697.00		-2.877E-01	3.602E-01	4.774E-01	4.826E-02	-0.603
SB-127		720.50	*	4.836E-03	1.813E-01	2.963E-01	3.004E-02	0.016
		856.80		-6.288E-02	5.939E-01	8.409E-01	8.456E-02	-0.075
		989.30		5.648E-01	1.333E+00	2.287E+00	2.179E-01	0.247
		1034.80		-1.617E+00	9.826E+00	1.578E+01	1.458E+00	-0.102
		1213.00		-9.482E-01	5.601E+00	8.910E+00	7.253E-01	-0.106
		61.10		7.721E+01	9.145E+01	1.394E+02	1.593E+01	0.554
		252.40		2.273E+00	7.449E+00	1.259E+01	5.365E+00	0.181
		290.80		-2.022E+01	4.413E+01	6.217E+01	8.277E+00	-0.325
		411.60		2.213E+01	2.197E+01	3.797E+01	6.299E+00	0.583
		444.90		3.503E+00	1.715E+01	2.839E+01	3.913E+00	0.123
		473.00		-1.478E-02	3.085E+00	5.007E+00	7.123E-01	-0.003
		543.00		9.595E-01	3.125E+01	5.045E+01	8.020E+00	0.019
		603.60		-3.861E+00	2.243E+01	3.245E+01	4.679E+00	-0.119
		685.20	*	1.721E+00	2.425E+00	4.289E+00	5.854E-01	0.401

---- 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			-1.775E+01	3.207E+01	4.297E+01	7.533E+00	-0.413
	722.20			1.383E+01	6.380E+01	9.515E+01	1.285E+01	0.145
	783.80			4.913E+00	6.858E+00	1.202E+01	1.752E+00	0.409
	57.60			-3.338E+00	4.391E+00	6.995E+00	4.998E-01	-0.477
	145.22			4.473E-01	7.186E-01	1.174E+00	9.945E-02	0.381
	172.10			2.224E-02	1.230E-01	1.967E-01	1.733E-02	0.113
I-131	202.84		*	-1.588E-02	4.542E-02	7.564E-02	6.981E-03	-0.210
	374.96			-7.264E-02	1.909E-01	2.947E-01	2.570E-02	-0.246
	80.18			-1.023E+01	5.931E+00	8.470E+00	7.336E-01	-1.208
	284.30			-2.315E+00	1.882E+00	2.887E+00	2.987E-01	-0.802
	364.48		*	-1.654E-02	1.462E-01	2.388E-01	2.247E-02	-0.069
	636.97			2.943E-01	1.887E+00	3.221E+00	3.351E-01	0.091
TE-132	722.89			-3.206E+00	1.031E+01	1.446E+01	1.477E+00	-0.222
	49.72			-9.527E-01	2.601E+01	4.292E+01	4.903E+00	-0.022
	111.76			-4.537E+01	6.044E+01	9.367E+01	1.109E+01	-0.484
	116.30			-1.425E+01	5.531E+01	8.789E+01	1.037E+01	-0.162
	228.16		*	-7.662E-01	1.452E+00	2.374E+00	4.035E-01	-0.323
	53.15			-2.506E-01	2.296E+00	3.726E+00	2.776E-01	-0.067
BA-133	79.62			-1.725E+00	1.214E+00	1.735E+00	2.632E-01	-0.994
	81.00			-1.664E-01	9.306E-02	1.281E-01	2.036E-02	-1.299
	276.40			3.272E-01	3.596E-01	6.036E-01	9.219E-02	0.542
	302.84			3.558E-02	1.371E-01	2.047E-01	2.881E-02	0.174
	356.01		*	-2.862E-02	4.365E-02	5.892E-02	7.959E-03	-0.486
	383.85			-4.208E-02	2.688E-01	4.364E-01	5.474E-02	-0.096
I-133	510.53		+	1.750E+01	2.688E-01	Half-Life	too short	
	529.87		*	3.284E-02	2.688E-01	Half-Life	too short	
	706.58			2.800E+00	2.688E-01	Half-Life	too short	
	856.28			-1.792E+00	2.688E-01	Half-Life	too short	
	875.33			-4.234E-01	2.688E-01	Half-Life	too short	
	1236.41			1.454E+01	2.688E-01	Half-Life	too short	
CS-134	1298.22			5.138E-01	2.688E-01	Half-Life	too short	
	475.35			-7.410E-01	1.689E+00	2.637E+00	2.392E-01	-0.281
	563.23			1.741E-01	3.389E-01	5.672E-01	5.502E-02	0.307
	569.32			-6.172E-03	1.920E-01	3.074E-01	3.001E-02	-0.020
	604.70			1.799E-02	3.163E-02	4.731E-02	4.658E-03	0.380
	795.84		+	9.193E-02	8.752E-02	9.076E-02	9.261E-03	1.013
CS-135	801.93		*	-1.306E-01	4.267E-01	6.028E-01	6.140E-02	-0.217
	1038.57			-5.496E-02	3.390E+00	5.533E+00	5.097E-01	-0.010
	1167.94			-4.935E-01	2.264E+00	3.586E+00	2.902E-01	-0.138
	1365.15			-1.224E-01	9.746E-01	1.606E+00	1.415E-01	-0.076
	268.24		*	2.296E-01	1.605E-01	2.568E-01	2.846E-02	0.894
	288.45			4.727E+14	1.605E-01	Half-Life	too short	
I-135	417.63			3.783E+14	1.605E-01	Half-Life	too short	
	546.56			-5.302E+13	1.605E-01	Half-Life	too short	
	836.80			1.240E+14	1.605E-01	Half-Life	too short	
	1038.76			1.340E+13	1.605E-01	Half-Life	too short	
	1124.00			6.779E+14	1.605E-01	Half-Life	too short	
	1131.51			6.827E+13	1.605E-01	Half-Life	too short	
	1260.41		*	3.224E+13	1.605E-01	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		1457.56		4.230E+15	1.605E-01	Half-Life	too short	
		1678.03		9.209E+13	1.605E-01	Half-Life	too short	
		1706.46		-5.134E+13	1.605E-01	Half-Life	too short	
		1791.20		1.528E+14	1.605E-01	Half-Life	too short	
		66.91		-8.574E-01	8.196E-01	1.129E+00	1.673E-01	-0.760
	+	86.29		3.339E+00	1.687E+00	2.283E+00	3.033E-01	1.463
		153.22		7.577E-01	7.483E-01	1.243E+00	1.192E-01	0.609
		163.89		-3.046E-01	1.296E+00	2.006E+00	1.952E-01	-0.152
		176.55		-2.787E-03	4.262E-01	6.743E-01	6.313E-02	-0.004
		273.65		-4.010E-01	5.688E-01	7.900E-01	8.236E-02	-0.508
		340.57		2.960E-01	1.703E-01	2.751E-01	2.633E-02	1.076
		818.51		2.451E-04	7.608E-02	1.264E-01	1.282E-02	0.002
		1048.07	*	-9.133E-03	1.254E-01	2.034E-01	1.931E-02	-0.045
		1235.34		2.721E-01	7.228E-01	1.059E+00	1.223E-01	0.257
BA-137M		661.65	*	-9.295E-03	3.368E-02	5.548E-02	5.568E-03	-0.168
CS-137		661.65	*	-9.825E-03	3.561E-02	5.865E-02	5.894E-03	-0.168
CE-139		165.85	*	-1.106E-02	2.864E-02	4.454E-02	3.888E-03	-0.248
BA-140		162.64		5.081E-01	9.079E-01	1.459E+00	1.340E-01	0.348
		304.84		-1.009E+00	1.621E+00	2.206E+00	6.266E-01	-0.457
		423.70		-4.603E-01	2.043E+00	3.270E+00	1.060E+00	-0.141
LA-140	+	537.32	*	2.624E-01	3.122E-01	5.176E-01	1.727E-01	0.507
		328.77		4.016E-01	4.326E-01	6.393E-01	6.357E-02	0.628
		432.53		-7.417E-01	2.258E+00	3.587E+00	3.279E-01	-0.207
		487.03		-1.077E-02	1.395E-01	2.244E-01	2.167E-02	-0.048
		751.79		-6.816E-01	1.879E+00	3.033E+00	3.323E-01	-0.225
		815.85		3.322E-02	3.276E-01	5.499E-01	6.041E-02	0.060
		867.82		9.910E-02	1.622E+00	2.630E+00	2.742E-01	0.038
		919.63		1.568E+00	2.936E+00	5.101E+00	5.956E-01	0.307
		925.24		-2.546E-01	1.112E+00	1.782E+00	1.839E-01	-0.143
CE-141		1596.49	*	-6.632E-02	8.665E-02	1.236E-01	1.044E-02	-0.536
CE-143		145.44	*	5.048E-02	6.426E-02	1.060E-01	9.152E-03	0.476
		57.37		-4.276E-03	6.426E-02	Half-Life	too short	
		231.56		7.888E-03	6.426E-02	Half-Life	too short	
		293.26	*	4.251E-03	6.426E-02	Half-Life	too short	
	+	350.59		2.322E-01	6.426E-02	Half-Life	too short	
		490.36		-9.918E-03	6.426E-02	Half-Life	too short	
		664.57		2.221E-04	6.426E-02	Half-Life	too short	
		721.93		1.838E-03	6.426E-02	Half-Life	too short	
CE-144		80.11		-3.454E+00	1.966E+00	2.803E+00	2.401E-01	-1.232
		133.54	*	-1.064E-01	2.134E-01	2.935E-01	4.528E-02	-0.362
PM-144		476.78		-9.504E-03	5.927E-02	9.486E-02	9.344E-03	-0.100
		618.01		-1.759E-02	2.989E-02	4.499E-02	4.541E-03	-0.391
		696.49	*	-3.021E-02	3.728E-02	4.923E-02	4.978E-03	-0.614
		778.57		-1.424E-01	1.872E+00	3.096E+00	3.147E-01	-0.046
PR-144		696.49	*	-2.051E+00	2.532E+00	3.343E+00	3.379E-01	-0.614
		1489.15		-3.820E+00	9.937E+00	1.550E+01	1.314E+00	-0.246
PM-146		453.90	*	1.607E-02	3.658E-02	6.162E-02	6.749E-03	0.261
		633.02		1.110E+00	1.293E+00	2.122E+00	7.999E-01	0.523
		735.90		7.804E-02	1.327E-01	2.299E-01	6.691E-02	0.339

---- 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		-5.446E-02	8.145E-02	1.271E-01	1.911E-02	-0.429
		91.11		8.664E-01	2.573E-01	5.794E-01	5.732E-02	1.495
		319.41		-1.239E+00	3.748E+00	6.081E+00	5.851E-01	-0.204
		439.89		3.104E+00	6.900E+00	1.161E+01	1.021E+00	0.267
		531.02	*	-1.784E-01	6.668E-01	1.049E+00	1.620E-01	-0.170
PM-149		285.90	*	-1.655E-04	6.668E-01	Half-Life too short		
EU-152		121.78		8.156E-03	6.462E-02	1.045E-01	1.012E-02	0.078
		244.69		4.253E-02	3.063E-01	4.577E-01	4.440E-02	0.093
		344.27	*	9.170E-03	9.412E-02	1.512E-01	1.475E-02	0.061
		443.98		9.806E-02	8.456E-01	1.390E+00	1.226E-01	0.071
		778.89		-4.837E-02	2.219E-01	3.619E-01	3.677E-02	-0.134
		867.32		1.874E-01	7.860E-01	1.260E+00	1.264E-01	0.149
		964.01		3.923E-01	3.121E-01	5.071E-01	4.900E-02	0.774
		1085.78		-7.294E-02	3.599E-01	5.736E-01	5.079E-02	-0.127
		1112.02		3.034E-01	2.810E-01	5.058E-01	4.365E-02	0.600
		1407.95		1.076E-01	1.495E-01	2.742E-01	2.316E-02	0.393
GD-153		69.67		2.598E-01	1.303E+00	2.149E+00	1.644E-01	0.121
		83.37		-3.426E+01	2.036E+01	2.045E+01	1.823E+00	-1.675
		97.43	*	-2.308E-02	7.890E-02	1.119E-01	9.924E-03	-0.206
		103.18		-8.597E-02	9.427E-02	1.457E-01	1.260E-02	-0.590
		123.07		-4.608E-02	4.760E-02	7.244E-02	8.078E-03	-0.636
EU-154		247.94		-1.165E-03	3.252E-01	5.062E-01	6.243E-02	-0.002
		591.81		-6.990E-01	5.353E-01	7.337E-01	9.203E-02	-0.953
		723.30		-1.201E-01	1.884E-01	2.533E-01	2.768E-02	-0.474
		756.87		2.123E-01	7.287E-01	1.244E+00	1.634E-01	0.171
		873.19		-3.040E-02	2.778E-01	4.546E-01	6.030E-02	-0.067
		996.32		-3.339E-01	3.364E-01	4.822E-01	8.776E-02	-0.693
		1004.76		-1.374E-01	1.904E-01	2.861E-01	3.506E-02	-0.480
		1274.45	*	7.590E-03	1.122E-01	1.822E-01	2.013E-02	0.042
		48.70		9.947E-02	1.410E+00	2.339E+00	1.872E-01	0.043
		60.01		2.449E+00	3.818E+00	5.795E+00	4.111E-01	0.423
EU-155	+	86.54		2.512E-01	1.246E-01	1.714E-01	1.605E-02	1.466
		105.31	*	8.927E-03	9.763E-02	1.573E-01	1.368E-02	0.057
		86.79		6.956E-01	3.451E-01	4.732E-01	4.406E-02	1.470
		197.04		-3.022E-02	5.127E-01	8.660E-01	7.926E-02	-0.035
		215.65		-7.039E-02	7.061E-01	1.186E+00	1.114E-01	-0.059
		298.57		2.482E-01	1.374E-01	1.921E-01	1.888E-02	1.292
		879.36	*	5.991E-02	1.399E-01	2.400E-01	2.400E-02	0.250
		962.29		-8.415E-02	5.395E-01	8.504E-01	8.224E-02	-0.099
		966.15		5.876E-01	2.370E-01	4.176E-01	4.030E-02	1.407
		1177.93		-1.980E-01	3.501E-01	5.333E-01	4.294E-02	-0.371
TB-160	+	1271.85		-1.660E-01	6.738E-01	1.054E+00	8.712E-02	-0.158
		80.57		-4.333E-01	2.498E-01	3.565E-01	3.071E-02	-1.215
		184.41		1.949E-01	6.710E-02	6.692E-02	6.011E-03	2.912
		280.46		-4.408E-02	8.233E-02	1.334E-01	1.327E-02	-0.330
		410.95		2.967E-01	2.154E-01	3.835E-01	3.273E-02	0.774
		711.68	*	4.023E-03	5.386E-02	9.079E-02	9.196E-03	0.044
		752.31		-5.770E-02	2.460E-01	4.022E-01	4.087E-02	-0.143
		810.29		-8.790E-03	4.992E-02	8.150E-02	8.262E-03	-0.108
HO-166M	+							

---- 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		-1.627E+01	1.851E+01	2.935E+01	2.242E+00	-0.555
		52.39		-4.179E+00	9.889E+00	1.583E+01	1.191E+00	-0.264
		59.40		1.804E+01	1.989E+01	3.061E+01	2.166E+00	0.590
		66.72	*	-2.402E+01	2.400E+01	3.345E+01	2.492E+00	-0.718
LU-176	+	88.36		4.939E-01	2.450E-01	3.350E-01	3.159E-02	1.474
		201.83		-6.363E-03	2.609E-02	4.368E-02	4.026E-03	-0.146
		306.84	*	2.539E-03	2.212E-02	3.698E-02	3.608E-03	0.069
		401.10		3.168E+00	5.786E+00	9.842E+00	8.309E-01	0.322
LU-177	+	112.95		4.165E-01	2.089E+00	3.397E+00	2.863E-01	0.123
		208.36	*	3.225E+00	2.008E+00	2.830E+00	2.632E-01	1.140
LU-177M	+	52.97		-1.620E-01	1.052E+00	1.704E+00	1.272E-01	-0.095
		54.07		3.522E-01	5.623E-01	9.392E-01	6.921E-02	0.375
		61.30		1.350E+00	1.190E+00	1.840E+00	1.317E-01	0.733
		121.62		1.395E-01	3.313E-01	5.430E-01	4.528E-02	0.257
		147.16		2.504E-01	6.067E-01	9.862E-01	8.375E-02	0.254
		171.86		1.292E-01	4.701E-01	7.549E-01	6.650E-02	0.171
		218.09		2.899E-01	7.975E-01	1.365E+00	1.286E-01	0.212
		268.79		2.019E+00	1.112E+00	1.407E+00	1.392E-01	1.435
		319.02		-8.639E-02	2.307E-01	3.731E-01	3.591E-02	-0.232
		367.43		2.406E-01	7.972E-01	1.339E+00	1.188E-01	0.180
		413.65	*	-9.707E-02	1.701E-01	2.668E-01	2.283E-02	-0.364
		56.28		-2.699E-01	6.627E-01	1.073E+00	7.740E-02	-0.252
HF-181		57.53		-2.859E-01	3.651E-01	5.810E-01	4.153E-02	-0.492
		65.20		-3.819E-02	8.199E-01	1.204E+00	8.857E-02	-0.032
		133.02		-2.211E-02	7.206E-02	1.006E-01	8.422E-03	-0.220
		136.25		3.291E-01	4.389E-01	7.261E-01	6.092E-02	0.453
		345.85		-2.421E-02	1.922E-01	3.040E-01	2.813E-02	-0.080
		482.03	*	-4.325E-04	3.882E-02	6.289E-02	5.734E-03	-0.007
W-181		56.28		-1.012E-01	2.489E-01	4.029E-01	2.907E-02	-0.251
		57.53		-1.075E-01	1.372E-01	2.183E-01	1.561E-02	-0.492
		65.20	*	-1.424E-02	3.057E-01	4.488E-01	3.302E-02	-0.032
TA-182		67.75		-5.477E-02	9.671E-02	1.381E-01	1.038E-02	-0.397
		100.10		1.009E-01	1.582E-01	2.628E-01	2.301E-02	0.384
		152.43		2.935E-01	3.085E-01	5.128E-01	4.386E-02	0.572
		222.10		-4.682E-02	3.209E-01	5.370E-01	5.084E-02	-0.087
		1001.68		8.118E-01	1.954E+00	3.363E+00	3.179E-01	0.241
		1121.28		6.341E-01	2.560E-01	3.667E-01	3.134E-02	1.729
		1189.05		1.910E-01	2.881E-01	4.969E-01	4.015E-02	0.384
		1221.42	*	1.957E-02	1.901E-01	3.104E-01	2.533E-02	0.063
RE-183		1230.97		-7.012E-01	5.314E-01	6.395E-01	5.232E-02	-1.096
		57.98		-1.175E-01	1.491E-01	2.252E-01	1.605E-02	-0.522
		59.32		7.923E-02	8.476E-02	1.306E-01	9.243E-03	0.607
		67.20		-1.845E-01	1.763E-01	2.451E-01	1.834E-02	-0.753
		162.32	*	9.478E-02	1.094E-01	1.804E-01	1.566E-02	0.525
		208.81		2.013E+00	1.253E+00	1.777E+00	1.654E-01	1.133
RE-184		291.72		5.161E-02	9.600E-01	1.412E+00	1.395E-01	0.037
		57.98		-4.232E-01	5.371E-01	8.112E-01	5.782E-02	-0.522
		59.32		2.852E-01	3.051E-01	4.700E-01	3.327E-02	0.607
		67.20		-6.644E-01	6.350E-01	8.828E-01	6.604E-02	-0.753

---- 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		4.162E-02	3.491E-01	5.579E-01	4.834E-02	0.075
		216.55		1.347E-01	2.456E-01	4.237E-01	3.983E-02	0.318
		252.85	*	4.648E-02	2.011E-01	3.411E-01	3.334E-02	0.136
		318.01		-3.579E-01	3.955E-01	6.145E-01	5.921E-02	-0.582
		792.07		6.084E-01	9.253E-01	1.454E+00	1.477E-01	0.418
		903.28		-3.323E-01	8.841E-01	1.402E+00	1.391E-01	-0.237
		920.93		2.722E-01	3.811E-01	6.746E-01	6.649E-02	0.403
		59.72		1.785E-01	2.242E-01	3.432E-01	2.431E-02	0.520
		61.14		1.170E-01	1.323E-01	2.025E-01	1.447E-02	0.578
		69.30		3.214E-02	2.369E-01	3.898E-01	2.972E-02	0.082
		592.07		-2.377E+00	2.197E+00	3.122E+00	3.050E-01	-0.761
		646.12	*	2.269E-02	3.766E-02	6.647E-02	6.638E-03	0.341
		717.42		4.994E-01	8.861E-01	1.546E+00	1.567E-01	0.323
		874.81		2.155E-02	5.484E-01	9.105E-01	9.116E-02	0.024
		880.27		3.886E-01	7.655E-01	1.323E+00	1.322E-01	0.294
RE-188		155.03	*	3.981E-02	1.661E-01	2.673E-01	2.295E-02	0.149
		477.96		3.805E-01	2.807E+00	4.605E+00	4.185E-01	0.083
		633.10		2.353E+00	2.580E+00	4.460E+00	4.433E-01	0.528
W-188	+	63.58		8.068E+01	6.144E+01	7.215E+01	5.244E+00	1.118
		227.08		7.479E+00	1.180E+01	2.041E+01	1.943E+00	0.366
		290.67	*	-3.602E+00	7.852E+00	1.107E+01	1.095E+00	-0.325
IR-192	+	295.96		1.201E+00	2.234E-01	2.890E-01	2.863E-02	4.156
		308.46		3.637E-02	8.957E-02	1.522E-01	1.488E-02	0.239
		316.51	*	-3.032E-04	3.095E-02	5.129E-02	4.960E-03	-0.006
		468.07		-5.606E-02	7.024E-02	9.696E-02	9.316E-03	-0.578
AU-195		604.41		1.980E-01	4.568E-01	6.710E-01	9.291E-02	0.295
		612.46		1.528E+00	8.676E-01	1.399E+00	1.538E-01	1.092
		65.12		1.492E-02	1.412E-01	2.088E-01	1.535E-02	0.071
		66.83		-8.527E-02	8.058E-02	1.120E-01	8.349E-03	-0.762
	+	75.70		9.971E-01	2.121E-01	4.083E-01	3.324E-02	2.442
		98.88	*	1.261E-01	2.006E-01	3.310E-01	2.915E-02	0.381
	+	129.76		4.479E+00	3.896E+00	4.709E+00	3.932E-01	0.951
TL-200		367.94	*	9.339E-06	3.896E+00	Half-Life	too short	
		579.30		1.992E-03	3.896E+00	Half-Life	too short	
		828.27		-1.431E-02	3.896E+00	Half-Life	too short	
		1205.75		4.520E-03	3.896E+00	Half-Life	too short	
TL-201		68.90		2.011E+00	8.823E+00	1.457E+01	1.106E+00	0.138
		70.82		-1.328E+00	5.808E+00	8.401E+00	6.498E-01	-0.158
		80.30		-1.916E+01	1.124E+01	1.608E+01	1.381E+00	-1.191
		135.34		-2.834E+01	5.698E+01	8.893E+01	7.456E+00	-0.319
TL-202		167.43	*	-6.507E+00	1.585E+01	2.459E+01	2.151E+00	-0.265
		68.90		9.266E-02	4.066E-01	6.713E-01	5.098E-02	0.138
		70.82		-6.104E-02	2.669E-01	3.861E-01	2.986E-02	-0.158
		80.30		-8.807E-01	5.169E-01	7.393E-01	6.347E-02	-1.191
HG-203		439.56	*	6.655E-02	7.924E-02	1.368E-01	1.202E-02	0.487
		70.83		-2.156E-01	9.828E-01	1.422E+00	1.857E-01	-0.152
		72.87		4.435E-01	5.996E-01	9.001E-01	1.147E-01	0.493
		82.60		-2.972E+00	1.613E+00	1.541E+00	2.138E-01	-1.929
		279.20	*	4.112E-02	4.069E-02	7.096E-02	7.216E-03	0.580

---- 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		7.111E-02	1.642E-01	2.443E-01	1.928E-02	0.291
	+	74.97		5.450E-01	1.159E-01	1.925E-01	1.554E-02	2.832
		84.90		-3.422E-01	2.584E-01	2.685E-01	2.440E-02	-1.275
		569.67		-2.744E-03	2.989E-02	4.763E-02	4.602E-03	-0.058
		1063.62	*	4.601E-02	5.014E-02	8.889E-02	8.026E-03	0.518
TL-207		1770.23		3.248E-01	4.142E-01	7.208E-01	5.913E-02	0.451
		81.07		-3.721E-01	1.993E-01	2.819E-01	2.443E-02	-1.320
		83.78		-2.732E-01	1.713E-01	1.735E-01	1.555E-02	-1.575
		94.90		3.920E-01	2.188E-01	3.418E-01	3.074E-02	1.147
		122.32		-3.728E-01	1.567E+00	2.489E+00	2.237E-01	-0.150
		144.24		7.929E-01	6.518E-01	1.087E+00	1.033E-01	0.729
		154.21		2.549E-01	3.659E-01	6.008E-01	5.670E-02	0.424
	+	269.46		4.648E-01	2.561E-01	3.345E-01	3.363E-02	1.390
		323.87	*	1.206E-01	6.863E-01	1.013E+00	1.842E-01	0.119
	+	338.28		6.303E+00	1.746E+00	2.409E+00	3.095E-01	2.616
PO-209		445.03		4.035E-01	1.976E+00	3.271E+00	4.004E-01	0.123
		260.50		-5.388E-01	8.247E+00	1.375E+01	1.352E+00	-0.039
		262.80		6.275E-01	2.313E+01	3.875E+01	3.818E+00	0.016
		896.60	*	1.630E+00	6.674E+00	1.129E+01	1.122E+00	0.144
		46.50	*	2.934E-01	1.999E+00	3.305E+00	3.065E-01	0.089
BI-210		46.50	*	2.934E-01	1.999E+00	3.305E+00	3.065E-01	0.089
PB-210		46.50	*	2.934E-01	1.999E+00	3.305E+00	2.773E-01	0.089
PO-210		46.50	*	2.934E-01	1.999E+00	3.305E+00	2.773E-01	0.089
PB-211		404.84	*	5.998E-02	8.031E-01	1.321E+00	8.274E-01	0.045
		427.08		5.544E-01	1.839E+00	3.018E+00	1.876E+00	0.184
		831.96		-7.829E-01	1.197E+00	1.688E+00	1.062E+00	-0.464
BI-212	+	727.18	*	1.331E+00	4.341E-01	6.674E-01	7.575E-02	1.994
		785.46		1.887E+00	1.695E+00	3.051E+00	3.099E-01	0.618
		1620.62		1.642E+00	1.204E+00	2.362E+00	1.989E-01	0.695
PO-215		81.07		-3.721E-01	1.993E-01	2.819E-01	2.443E-02	-1.320
		83.78		-2.732E-01	1.713E-01	1.735E-01	1.555E-02	-1.575
		94.90		3.920E-01	2.188E-01	3.418E-01	3.074E-02	1.147
		122.32		-3.728E-01	1.567E+00	2.489E+00	2.237E-01	-0.150
		144.24		7.929E-01	6.518E-01	1.087E+00	1.033E-01	0.729
		154.21		2.549E-01	3.659E-01	6.008E-01	5.670E-02	0.424
	+	269.46		4.648E-01	2.561E-01	3.345E-01	3.363E-02	1.390
		323.87	*	1.206E-01	6.863E-01	1.013E+00	1.842E-01	0.119
	+	338.28		6.303E+00	1.746E+00	2.409E+00	3.095E-01	2.616
		445.03		4.035E-01	1.976E+00	3.271E+00	4.004E-01	0.123
RN-219	+	271.23		5.964E-01	3.302E-01	4.126E-01	4.709E-02	1.445
		401.81	*	1.433E-01	3.569E-01	6.006E-01	8.966E-02	0.239
RN-220		549.76	*	-8.520E+00	2.323E+01	3.609E+01	3.448E+00	-0.236
RA-223		81.07		-3.721E-01	1.993E-01	2.819E-01	2.443E-02	-1.320
		83.78		-2.732E-01	1.713E-01	1.735E-01	1.555E-02	-1.575
		94.90		3.920E-01	2.188E-01	3.418E-01	3.074E-02	1.147
		122.32		-3.728E-01	1.567E+00	2.489E+00	2.237E-01	-0.150
		144.24		7.929E-01	6.518E-01	1.087E+00	1.033E-01	0.729
		154.21		2.549E-01	3.659E-01	6.008E-01	5.670E-02	0.424
	+	269.46		4.648E-01	2.561E-01	3.345E-01	3.363E-02	1.390
		323.87	*	1.206E-01	6.863E-01	1.013E+00	1.842E-01	0.119

---- 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		6.303E+00	1.746E+00	2.409E+00	3.095E-01	2.616
		445.03		4.035E-01	1.976E+00	3.271E+00	4.004E-01	0.123
		79.80		-2.737E+00	1.598E+00	2.137E+00	4.587E-01	-1.281
		236.00		3.335E-01	2.507E-01	3.939E-01	5.107E-02	0.847
		256.20	*	-1.288E-01	3.250E-01	5.312E-01	8.521E-02	-0.242
		286.10		-3.750E-01	1.326E+00	2.170E+00	3.057E-01	-0.173
TH-227	+	299.80		3.045E+00	1.748E+00	2.402E+00	4.350E-01	1.268
		304.40		-1.109E+00	1.927E+00	2.663E+00	5.061E-01	-0.416
		334.20		-1.336E+00	2.450E+00	3.375E+00	6.678E-01	-0.396
		79.80		-2.737E+00	1.601E+00	2.137E+00	4.646E-01	-1.281
	+	94.00		8.529E+00	3.077E+00	3.442E+00	7.554E-01	2.478
		236.00		3.335E-01	2.501E-01	3.939E-01	4.675E-02	0.847
TH-229		256.20	*	-1.288E-01	3.252E-01	5.312E-01	9.909E-02	-0.242
		286.10		-3.750E-01	1.377E+00	2.170E+00	2.181E+00	-0.173
	+	299.80		3.045E+00	1.748E+00	2.402E+00	4.350E-01	1.268
		304.40		-1.109E+00	1.927E+00	2.663E+00	5.061E-01	-0.416
		334.20		-1.336E+00	2.450E+00	3.375E+00	6.678E-01	-0.396
		85.43		1.573E-01	2.356E-01	2.834E-01	2.593E-02	0.555
PA-231	+	88.47		2.843E-01	1.411E-01	1.916E-01	1.805E-02	1.484
		100.00		1.201E-01	1.612E-01	2.687E-01	2.354E-02	0.447
		193.63	*	7.081E-03	4.364E-01	7.401E-01	6.741E-02	0.010
		210.97		1.010E+00	8.071E-01	1.279E+00	1.194E-01	0.790
		283.67	*	-9.644E-01	1.369E+00	2.175E+00	3.472E-01	-0.443
		301.29		8.625E-01	5.965E-01	9.481E-01	1.243E-01	0.910
TH-231		81.07		-3.721E-01	1.993E-01	2.819E-01	2.443E-02	-1.320
		83.78		-2.732E-01	1.713E-01	1.735E-01	1.555E-02	-1.575
		94.90		3.920E-01	2.188E-01	3.418E-01	3.074E-02	1.147
		122.32		-3.728E-01	1.567E+00	2.489E+00	2.237E-01	-0.150
		144.24		7.929E-01	6.518E-01	1.087E+00	1.033E-01	0.729
		154.21		2.549E-01	3.659E-01	6.008E-01	5.670E-02	0.424
U-231	+	269.46		4.648E-01	2.561E-01	3.345E-01	3.363E-02	1.390
		323.87	*	1.206E-01	6.863E-01	1.013E+00	1.842E-01	0.119
	+	338.28		6.303E+00	1.746E+00	2.409E+00	3.095E-01	2.616
		445.03		4.035E-01	1.976E+00	3.271E+00	4.004E-01	0.123
		84.21		-2.281E+01	1.402E+01	1.414E+01	1.274E+00	-1.613
	+	92.29		1.606E+01	4.822E+00	7.011E+00	6.412E-01	2.291
PA-233		95.87	*	-9.023E-01	1.956E+00	2.751E+00	2.461E-01	-0.328
		108.00		-2.921E+00	3.574E+00	5.546E+00	4.726E-01	-0.527
	+	75.28		1.590E+01	3.939E+00	5.837E+00	8.792E-01	2.724
	+	86.59		4.077E+00	2.272E+00	2.782E+00	7.523E-01	1.466
	+	300.12		8.488E-01	4.811E-01	6.735E-01	1.050E-01	1.260
		311.98	*	-1.020E-02	5.858E-02	9.618E-02	9.543E-03	-0.106
PA-234		340.50		1.417E+00	7.565E-01	1.126E+00	2.713E-01	1.259
		398.62		-8.029E-01	1.894E+00	2.990E+00	7.943E-01	-0.269
		415.76		-2.587E-01	1.539E+00	2.485E+00	5.352E-01	-0.104
	+	63.00		2.250E+00	1.738E+00	2.076E+00	3.068E-01	1.084
		94.67		4.012E-01	1.683E-01	2.607E-01	3.304E-02	1.539
		98.44		4.714E-02	8.506E-02	1.334E-01	7.449E-02	0.353
		99.86		2.996E-01	4.123E-01	6.866E-01	6.019E-02	0.436

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		111.00		-1.463E-01	1.642E-01	2.523E-01	3.021E-02	-0.580
		131.20		8.921E-02	1.073E-01	1.605E-01	1.341E-02	0.556
		152.70		2.539E-01	2.963E-01	4.865E-01	8.277E-02	0.522
	+	186.00		7.016E+00	3.204E+00	2.607E+00	8.164E-01	2.692
		226.40		2.530E-01	3.567E-01	6.174E-01	8.522E-02	0.410
		227.20		1.485E-01	3.859E-01	6.608E-01	6.293E-02	0.225
		248.90		-5.618E-01	7.141E-01	1.126E+00	2.576E-01	-0.499
	+	293.70		7.290E+00	1.740E+00	1.629E+00	2.925E-01	4.474
		369.80		-6.014E-01	7.431E-01	1.130E+00	2.471E-01	-0.532
		568.70		-2.977E-02	9.564E-01	1.532E+00	1.479E-01	-0.019
		569.50		-4.928E-03	2.649E-01	4.247E-01	4.103E-02	-0.012
		574.00		2.630E-01	1.383E+00	2.255E+00	2.184E-01	0.117
		699.00		-5.751E-01	7.550E-01	9.833E-01	1.947E-01	-0.585
		706.10		-1.018E-01	8.956E-01	1.485E+00	6.668E-01	-0.069
		733.00		-8.637E-02	3.842E-01	5.423E-01	1.238E-01	-0.159
		742.81		7.226E-01	1.307E+00	2.129E+00	1.436E+00	0.339
	+	796.30		1.780E+00	1.755E+00	1.758E+00	4.849E-01	1.012
		805.60		1.325E-01	8.986E-01	1.512E+00	4.706E-01	0.088
		819.60		-4.127E-01	1.095E+00	1.732E+00	6.649E-01	-0.238
		826.30		1.090E-01	7.045E-01	1.184E+00	5.336E-01	0.092
		831.60		-5.003E-01	5.808E-01	8.507E-01	2.578E-01	-0.588
		876.40		7.539E-02	7.982E-01	1.326E+00	1.364E+00	0.057
		880.51		1.976E-01	2.607E-01	4.603E-01	4.601E-02	0.429
		883.24		-1.032E-01	2.915E-01	4.522E-01	3.048E-01	-0.228
		899.00		1.919E-01	7.542E-01	1.269E+00	5.581E-01	0.151
		925.00		-2.140E-01	9.345E-01	1.498E+00	1.474E-01	-0.143
		926.50		7.679E-02	1.479E-01	2.367E-01	6.087E-02	0.324
		946.00	*	2.407E-01	2.996E-01	5.229E-01	1.010E-01	0.460
		949.00		3.825E-01	4.370E-01	7.734E-01	7.529E-02	0.495
		980.50		3.247E-01	6.023E-01	1.047E+00	1.003E-01	0.310
PA-234M		1394.10		8.607E-02	1.032E+00	1.746E+00	1.136E+00	0.049
		766.42		1.265E+01	1.322E+01	1.879E+01	9.586E+00	0.673
U-235	+	1001.03	*	2.422E+00	4.354E+00	7.577E+00	8.105E-01	0.320
	+	89.95		2.696E+00	1.127E+00	1.624E+00	5.043E-01	1.660
	+	93.35		2.654E+00	1.066E+00	1.151E+00	3.243E-01	2.305
		105.00		3.817E-01	9.585E-01	1.554E+00	4.638E-01	0.246
		143.76	*	1.950E-01	1.987E-01	3.259E-01	5.679E-02	0.598
		163.35		8.303E-02	4.640E-01	7.325E-01	1.400E-01	0.113
	+	185.71		2.599E-01	8.946E-02	9.644E-02	8.679E-03	2.694
		205.31		-5.990E-03	5.171E-01	7.672E-01	1.487E-01	-0.008
NP-236		94.67		3.068E-01	1.249E-01	1.980E-01	1.783E-02	1.549
		98.44		3.565E-02	6.123E-02	1.009E-01	8.902E-03	0.353
		111.00		-1.106E-01	1.238E-01	1.908E-01	1.615E-02	-0.580
		160.31	*	-3.873E-03	7.788E-02	1.235E-01	1.068E-02	-0.031
NP-239		99.55		1.422E-01	1.373E-01	2.299E-01	2.018E-02	0.619
		117.00	*	-1.134E-01	1.676E-01	2.604E-01	2.181E-02	-0.436
	+	209.75		1.527E+00	9.507E-01	1.394E+00	1.298E-01	1.096
		228.18		-1.185E-01	2.066E-01	3.380E-01	3.222E-02	-0.351
		277.60		1.390E-01	1.719E-01	2.972E-01	2.957E-02	0.468

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		334.30		-8.287E-01	1.378E+00	1.898E+00	1.789E-01	-0.437
AM-241		59.54	*	9.872E-02	1.150E-01	1.765E-01	1.381E-02	0.559
CM-243		99.55		1.464E-01	1.414E-01	2.366E-01	2.077E-02	0.619
		103.76	*	1.946E-02	8.530E-02	1.383E-01	1.194E-02	0.141
		117.00		-1.167E-01	1.724E-01	2.680E-01	2.245E-02	-0.436
	+	209.75		1.506E+00	9.375E-01	1.374E+00	1.280E-01	1.096
		228.18		-1.198E-01	2.088E-01	3.416E-01	3.257E-02	-0.351
		277.60		1.402E-01	1.734E-01	2.997E-01	2.982E-02	0.468
AM-246		798.80		-2.109E-02	1.423E-01	2.016E-01	2.046E-02	-0.105
		1036.00		-1.718E-01	2.661E-01	4.026E-01	3.716E-02	-0.427
		1062.04		-5.380E-02	2.176E-01	3.461E-01	3.130E-02	-0.155
		1078.86	*	-4.792E-02	1.290E-01	2.016E-01	1.796E-02	-0.238
CM-247		278.00		8.039E-01	7.224E-01	1.262E+00	1.256E-01	0.637
		287.40		-2.567E-02	1.088E+00	1.810E+00	1.794E-01	-0.014
		402.60	*	3.123E-03	3.245E-02	5.351E-02	4.525E-03	0.058
CF-249		252.85		1.716E-01	7.426E-01	1.260E+00	1.231E-01	0.136
		333.44		-9.924E-02	2.211E-01	2.568E-01	2.424E-02	-0.386
		387.95	*	1.735E-02	3.605E-02	6.106E-02	5.152E-03	0.284
CF-251		176.60	*	-1.045E-03	1.196E-01	1.892E-01	1.679E-02	-0.006
		227.00		2.245E-01	3.409E-01	5.903E-01	5.621E-02	0.380
		285.00		-1.877E+00	1.546E+00	2.373E+00	2.355E-01	-0.791

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]G245107005      *
* Acquisition date   : 1-FEB-2010 12:38:30 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 02:00:33.11 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G245107005 Analyst initials: MXR1                  *
* Batch Number      : 944038 Sample Quantity : 1.2458E+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	2.372E+01	2.593E+00	4.533E-01	0.000E+00
CD-109	2.131E+00	1.036E+00	1.057E+00	0.000E+00
SN-126	2.082E-01	1.012E-01	1.036E-01	0.000E+00
TL-208	5.507E-01	9.809E-02	5.080E-02	0.000E+00
BI-211	4.080E+00	5.392E-01	2.874E-01	0.000E+00
PB-212	1.603E+00	1.996E-01	8.378E-02	0.000E+00
PO-212	1.603E+00	1.996E-01	8.378E-02	0.000E+00
BI-214	1.267E+00	1.982E-01	1.031E-01	0.000E+00
PB-214	1.419E+00	2.011E-01	9.842E-02	0.000E+00
PO-214	1.419E+00	2.011E-01	9.842E-02	0.000E+00
PO-216	1.603E+00	1.996E-01	8.378E-02	0.000E+00
PO-218	1.419E+00	2.011E-01	9.842E-02	0.000E+00
RA-224	4.721E+00	1.472E+00	9.531E-01	0.000E+00
RA-226	1.267E+00	1.982E-01	1.031E-01	0.000E+00
AC-228	1.569E+00	3.003E-01	1.861E-01	0.000E+00
RA-228	1.569E+00	3.003E-01	1.861E-01	0.000E+00
TH-228	1.634E+00	2.034E-01	8.538E-02	0.000E+00
TH-230	1.267E+00	1.982E-01	1.031E-01	0.000E+00
TH-232	1.569E+00	3.003E-01	1.861E-01	0.000E+00
TH-234	1.931E+00	1.471E+00	1.562E+00	0.000E+00
U-234	1.267E+00	1.982E-01	1.031E-01	0.000E+00
NP-237	6.115E-01	3.220E-01	3.816E-01	0.000E+00
U-238	1.931E+00	1.471E+00	1.562E+00	0.000E+00
AM-243	3.036E-01	6.327E-02	8.219E-02	0.000E+00
ANH-511	7.540E-02	6.504E-02	4.446E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.167E-02	2.909E-01	4.917E-01	0.000E+00 NOT IDENT.
NA-22	1.007E-02	3.864E-02	6.551E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	4.201E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.653E-02	2.447E-02	3.427E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.143E-02	7.594E-02	0.000E+00	FAIL ABUN
SC-46	8.900E-03	3.709E-02	6.430E-02	0.000E+00	FAIL ABUN
V-48	-3.045E-02	7.081E-02	1.134E-01	0.000E+00	NOT IDENT.
CR-51	1.498E-01	3.468E-01	6.137E-01	0.000E+00	NOT IDENT.
MN-52	-2.179E-01	2.835E-01	4.191E-01	0.000E+00	FAIL ABUN
MN-54	5.411E-03	3.379E-02	5.838E-02	0.000E+00	NOT IDENT.
CO-56	-2.932E-02	3.570E-02	5.569E-02	0.000E+00	NOT IDENT.
CO-57	4.012E-03	2.204E-02	3.767E-02	0.000E+00	NOT IDENT.
CO-58	-9.529E-03	3.377E-02	5.606E-02	0.000E+00	NOT IDENT.
FE-59	2.950E-02	8.768E-02	1.511E-01	0.000E+00	NOT IDENT.
CO-60	-1.532E-02	3.348E-02	5.117E-02	0.000E+00	NOT IDENT.
ZN-65	-9.419E-02	9.880E-02	1.219E-01	0.000E+00	NOT IDENT.
GE-68	2.290E-01	1.119E+00	1.908E+00	0.000E+00	NOT IDENT.
AS-73	2.497E-01	5.342E-01	9.455E-01	0.000E+00	NOT IDENT.
AS-74	6.093E-03	9.546E-02	1.587E-01	0.000E+00	NOT IDENT.
SE-75	4.748E-04	4.032E-02	6.538E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.058E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.307E-01	3.830E-01	5.509E-01	0.000E+00	NOT IDENT.
RB-83	-4.522E-02	6.707E-02	1.056E-01	0.000E+00	NOT IDENT.
RB-84	1.887E-02	7.266E-02	1.261E-01	0.000E+00	NOT IDENT.
KR-85	1.078E+01	7.324E+00	1.215E+01	0.000E+00	NOT IDENT.
SR-85	5.758E-02	3.913E-02	6.491E-02	0.000E+00	NOT IDENT.
RB-86	-6.482E-04	7.857E-01	1.312E+00	0.000E+00	NOT IDENT.
Y-88	1.909E-02	2.510E-02	4.902E-02	0.000E+00	NOT IDENT.
ZR-88	-8.133E-03	2.756E-02	4.594E-02	0.000E+00	NOT IDENT.
Y-91	-3.959E+00	1.800E+01	2.912E+01	0.000E+00	NOT IDENT.
NB-94	-1.650E-02	2.717E-02	4.435E-02	0.000E+00	NOT IDENT.
NB-95	1.144E-02	4.377E-02	6.725E-02	0.000E+00	NOT IDENT.
NB-95M	9.239E-04	1.287E-01	1.995E-01	0.000E+00	NOT IDENT.
ZR-95	6.673E-02	6.590E-02	1.218E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.124E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.935E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-1.309E+01	2.745E+01	4.514E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.023E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.527E-03	2.979E-02	5.133E-02	0.000E+00	NOT IDENT.
RH-102	-1.254E-02	2.554E-02	4.115E-02	0.000E+00	NOT IDENT.
RU-103	6.441E-03	4.071E-02	6.901E-02	0.000E+00	FAIL ABUN
RH-106	1.237E-01	2.797E-01	4.791E-01	0.000E+00	FAIL ABUN
RU-106	1.237E-01	2.794E-01	4.791E-01	0.000E+00	FAIL ABUN
AG-108M	-1.969E-02	2.861E-02	4.571E-02	0.000E+00	NOT IDENT.
AG-110M	7.870E-03	3.161E-02	5.586E-02	0.000E+00	NOT IDENT.
IN-111	2.921E-01	2.450E+00	3.820E+00	0.000E+00	NOT IDENT.
IN-113M	-2.133E-02	4.078E-02	6.689E-02	0.000E+00	NOT IDENT.
SN-113	-2.133E-02	4.078E-02	6.689E-02	0.000E+00	NOT IDENT.
IN-114M	3.734E-02	1.758E-01	2.799E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.438E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	1.147E-03	6.252E-02	1.046E-01	0.000E+00	NOT IDENT.
SB-122	5.227E+00	5.211E+00	9.307E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.567E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	4.248E-03	2.698E-02	4.542E-02	0.000E+00	NOT IDENT.
I-124	-2.793E-01	1.163E+00	1.809E+00	0.000E+00	NOT IDENT.
SB-124	-6.922E-03	5.987E-02	9.814E-02	0.000E+00	FAIL ABUN
SB-125	6.253E-02	7.793E-02	1.395E-01	0.000E+00	FAIL ABUN
TE-125M	6.254E+00	8.198E+00	1.441E+01	0.000E+00	NOT IDENT.
I-126	1.831E-01	1.926E-01	3.564E-01	0.000E+00	NOT IDENT.
SB-126	4.836E-03	1.776E-01	2.989E-01	0.000E+00	FAIL ABUN
SB-127	1.721E+00	2.377E+00	4.330E+00	0.000E+00	NOT IDENT.
XE-127	-1.588E-02	4.451E-02	7.765E-02	0.000E+00	NOT IDENT.
I-131	-1.654E-02	1.433E-01	2.433E-01	0.000E+00	NOT IDENT.
TE-132	-7.662E-01	1.423E+00	2.433E+00	0.000E+00	NOT IDENT.
BA-133	-2.862E-02	4.278E-02	6.003E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.229E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.577E-02	9.145E-02	0.000E+00	FAIL ABUN
CS-135	2.296E-01	1.573E-01	2.627E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.959E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.133E-03	1.229E-01	2.042E-01	0.000E+00	FAIL ABUN
BA-137M	-9.295E-03	3.301E-02	5.604E-02	0.000E+00	NOT IDENT.
CS-137	-9.825E-03	3.490E-02	5.924E-02	0.000E+00	NOT IDENT.
CE-139	-1.106E-02	2.807E-02	4.585E-02	0.000E+00	NOT IDENT.
BA-140	2.624E-01	3.060E-01	5.244E-01	0.000E+00	NOT IDENT.
LA-140	-6.632E-02	8.491E-02	1.233E-01	0.000E+00	FAIL ABUN
CE-141	5.048E-02	6.297E-02	1.093E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.482E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.064E-01	2.092E-01	3.030E-01	0.000E+00	NOT IDENT.
PM-144	-3.021E-02	3.654E-02	4.970E-02	0.000E+00	NOT IDENT.
PR-144	-2.051E+00	2.481E+00	3.375E+00	0.000E+00	NOT IDENT.

PM-146	1.607E-02	3.585E-02	6.257E-02	0.000E+00	NOT IDENT.
ND-147	-1.784E-01	6.535E-01	1.063E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	2.688E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	9.170E-03	9.223E-02	1.541E-01	0.000E+00	NOT IDENT.
GD-153	-2.308E-02	7.732E-02	1.160E-01	0.000E+00	NOT IDENT.
EU-154	7.590E-03	1.099E-01	1.824E-01	0.000E+00	NOT IDENT.
EU-155	8.927E-03	9.568E-02	1.629E-01	0.000E+00	FAIL ABUN
TB-160	5.991E-02	1.371E-01	2.415E-01	0.000E+00	FAIL ABUN
HO-166M	4.023E-03	5.278E-02	9.162E-02	0.000E+00	FAIL ABUN
TM-171	-2.402E+01	2.352E+01	3.485E+01	0.000E+00	NOT IDENT.
LU-176	2.539E-03	2.168E-02	3.776E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.967E+00	2.904E+00	0.000E+00	FAIL ABUN
LU-177M	-9.707E-02	1.667E-01	2.712E-01	0.000E+00	FAIL ABUN
HF-181	-4.325E-04	3.804E-02	6.381E-02	0.000E+00	NOT IDENT.
W-181	-1.424E-02	2.995E-01	4.677E-01	0.000E+00	NOT IDENT.
TA-182	1.957E-02	1.863E-01	3.109E-01	0.000E+00	FAIL ABUN
RE-183	9.478E-02	1.072E-01	1.858E-01	0.000E+00	FAIL ABUN
RE-184	4.648E-02	1.971E-01	3.492E-01	0.000E+00	NOT IDENT.
OS-185	2.269E-02	3.691E-02	6.717E-02	0.000E+00	NOT IDENT.
RE-188	3.981E-02	1.628E-01	2.754E-01	0.000E+00	NOT IDENT.
W-188	-3.602E+00	7.695E+00	1.131E+01	0.000E+00	FAIL ABUN
IR-192	-3.032E-04	3.033E-02	5.234E-02	0.000E+00	FAIL ABUN
AU-195	1.261E-01	1.966E-01	3.431E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.738E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-6.507E+00	1.553E+01	2.531E+01	0.000E+00	NOT IDENT.
TL-202	6.655E-02	7.766E-02	1.390E-01	0.000E+00	NOT IDENT.
HG-203	4.112E-02	3.988E-02	7.253E-02	0.000E+00	NOT IDENT.
BI-207	4.601E-02	4.913E-02	8.920E-02	0.000E+00	FAIL ABUN
TL-207	1.206E-01	6.726E-01	1.033E+00	0.000E+00	FAIL ABUN
PO-209	1.630E+00	6.541E+00	1.135E+01	0.000E+00	NOT IDENT.
BI-210	2.934E-01	1.959E+00	3.459E+00	0.000E+00	NOT IDENT.
PB-210	2.934E-01	1.959E+00	3.459E+00	0.000E+00	NOT IDENT.
PO-210	2.934E-01	1.959E+00	3.459E+00	0.000E+00	NOT IDENT.
PB-211	5.998E-02	7.870E-01	1.343E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.254E-01	6.733E-01	0.000E+00	FAIL ABUN
PO-215	1.206E-01	6.726E-01	1.033E+00	0.000E+00	FAIL ABUN
RN-219	1.433E-01	3.498E-01	6.109E-01	0.000E+00	FAIL ABUN
RN-220	-8.520E+00	2.276E+01	3.655E+01	0.000E+00	NOT IDENT.
RA-223	1.206E-01	6.726E-01	1.033E+00	0.000E+00	FAIL ABUN
AC-227	-1.288E-01	3.185E-01	5.436E-01	0.000E+00	FAIL ABUN
TH-227	-1.288E-01	3.187E-01	5.436E-01	0.000E+00	FAIL ABUN
TH-229	7.081E-03	4.277E-01	7.603E-01	0.000E+00	FAIL ABUN
PA-231	-9.644E-01	1.341E+00	2.223E+00	0.000E+00	NOT IDENT.
TH-231	1.206E-01	6.726E-01	1.033E+00	0.000E+00	FAIL ABUN
U-231	-9.023E-01	1.917E+00	2.853E+00	0.000E+00	FAIL ABUN
PA-233	-1.020E-02	5.741E-02	9.817E-02	0.000E+00	FAIL ABUN
PA-234	2.407E-01	2.936E-01	5.256E-01	0.000E+00	FAIL ABUN
PA-234M	2.422E+00	4.267E+00	7.610E+00	0.000E+00	NOT IDENT.
U-235	1.950E-01	1.948E-01	3.361E-01	0.000E+00	FAIL ABUN
NP-236	-3.873E-03	7.632E-02	1.272E-01	0.000E+00	NOT IDENT.
NP-239	-1.134E-01	1.642E-01	2.693E-01	0.000E+00	FAIL ABUN
AM-241	9.872E-02	1.127E-01	1.842E-01	0.000E+00	NOT IDENT.
CM-243	1.946E-02	8.359E-02	1.433E-01	0.000E+00	FAIL ABUN
AM-246	-4.792E-02	1.264E-01	2.023E-01	0.000E+00	NOT IDENT.
CM-247	3.123E-03	3.180E-02	5.443E-02	0.000E+00	NOT IDENT.
CF-249	1.735E-02	3.533E-02	6.213E-02	0.000E+00	NOT IDENT.
CF-251	-1.045E-03	1.172E-01	1.946E-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]G245107005.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:30.
Sample ID          : G245107005 Sample quantity : 1.24580E+02 GRAM
Detector name      : GAM20 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:33.11 0.5%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	1053	10.67*	1.253E+00	2.372E+01	2.372E+01	11.15
CD-109	88.03	178	3.72*	6.953E+00	2.071E+00	2.131E+00	49.61
SN-126	64.28	112	9.60	4.608E+00	7.642E-01	7.642E-01	77.17
	86.94	178	8.90	6.953E+00	8.658E-01	8.658E-01	64.01
	87.57	178	37.00*	6.953E+00	2.082E-01	2.082E-01	49.61
TL-208	277.35	-----	6.80	4.722E+00	-----	Line Not Found	-----
	510.84	75	21.60	2.992E+00	3.491E-01	3.491E-01	88.41
	583.14	415	84.20*	2.696E+00	5.507E-01	5.507E-01	18.18
	860.37	75	12.46	1.955E+00	9.303E-01	9.303E-01	46.47
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	695	12.94*	3.969E+00	4.080E+00	4.080E+00	13.48
PB-212	74.81	402	10.70	6.050E+00	1.873E+00	1.873E+00	23.23
	77.11	733	18.00	6.261E+00	1.960E+00	1.960E+00	14.51
	87.30	178	8.00	6.953E+00	9.632E-01	9.632E-01	50.61
	238.63	1246	44.60*	5.249E+00	1.603E+00	1.603E+00	12.70
	300.09	83	3.41	4.465E+00	1.643E+00	1.643E+00	55.68
PO-212	74.81	402	10.70	6.050E+00	1.873E+00	1.873E+00	23.23
	77.11	733	18.00	6.261E+00	1.960E+00	1.960E+00	14.51
	87.30	178	8.00	6.953E+00	9.632E-01	9.632E-01	50.61
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	1246	44.60*	5.249E+00	1.603E+00	1.603E+00	12.70
	300.09	83	3.41	4.465E+00	1.643E+00	1.643E+00	55.68
BI-214	609.31	507	46.30*	2.603E+00	1.267E+00	1.267E+00	15.96
	1120.29	102	15.10	1.557E+00	1.310E+00	1.310E+00	40.91
	1764.49	100	15.80	1.100E+00	1.731E+00	1.731E+00	23.18
PB-214	74.81	402	6.21	6.050E+00	3.226E+00	3.226E+00	22.52
	77.11	733	10.50	6.261E+00	3.360E+00	3.360E+00	16.39
	87.30	178	4.67	6.953E+00	1.650E+00	1.650E+00	50.20
	241.98	322	7.49	5.204E+00	2.490E+00	2.490E+00	32.29
	295.21	437	19.20	4.514E+00	1.519E+00	1.519E+00	19.59
	351.92	695	37.20*	3.969E+00	1.419E+00	1.419E+00	14.46
PO-214	74.81	402	6.21	6.050E+00	3.226E+00	3.226E+00	22.52

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	77.11	733	10.50	6.261E+00	3.360E+00	3.360E+00	16.39
	87.30	178	4.67	6.953E+00	1.650E+00	1.650E+00	50.20
	241.98	322	7.49	5.204E+00	2.490E+00	2.490E+00	32.29
	295.21	437	19.20	4.514E+00	1.519E+00	1.519E+00	19.59
	351.92	695	37.20*	3.969E+00	1.419E+00	1.419E+00	14.46
	74.81	402	10.70	6.050E+00	1.873E+00	1.873E+00	23.23
	77.11	733	18.00	6.261E+00	1.960E+00	1.960E+00	14.51
	87.30	178	8.00	6.953E+00	9.632E-01	9.632E-01	50.61
	238.63	1246	44.60*	5.249E+00	1.603E+00	1.603E+00	12.70
	300.09	83	3.41	4.465E+00	1.643E+00	1.643E+00	55.68
PO-218	74.81	402	6.21	6.050E+00	3.226E+00	3.226E+00	22.52
	77.11	733	10.50	6.261E+00	3.360E+00	3.360E+00	16.39
	87.30	178	4.67	6.953E+00	1.650E+00	1.650E+00	50.20
	241.98	322	7.49	5.204E+00	2.490E+00	2.490E+00	32.29
	295.21	437	19.20	4.514E+00	1.519E+00	1.519E+00	19.59
RA-224	351.92	695	37.20*	3.969E+00	1.419E+00	1.419E+00	14.46
	240.98	322	3.95*	5.204E+00	4.721E+00	4.721E+00	31.80
RA-226	609.31	507	46.30*	2.603E+00	1.267E+00	1.267E+00	15.96
	1120.29	102	15.10	1.557E+00	1.310E+00	1.310E+00	40.91
AC-228	1764.49	100	15.80	1.100E+00	1.731E+00	1.731E+00	23.18
	338.32	233	11.40	4.087E+00	1.509E+00	1.509E+00	48.15
	911.07	268	27.70*	1.860E+00	1.569E+00	1.569E+00	19.52
	969.11	169	16.60	1.764E+00	1.739E+00	1.739E+00	32.08
	338.32	233	11.40	4.087E+00	1.509E+00	1.509E+00	48.15
RA-228	911.07	268	27.70*	1.860E+00	1.569E+00	1.569E+00	19.52
	969.11	169	16.60	1.764E+00	1.739E+00	1.739E+00	32.08
TH-228	74.81	402	10.70	6.050E+00	1.873E+00	1.908E+00	21.30
	77.11	733	18.00	6.261E+00	1.960E+00	1.997E+00	14.51
	87.30	178	8.00	6.953E+00	9.632E-01	9.816E-01	49.61
	238.63	1246	44.60*	5.249E+00	1.603E+00	1.634E+00	12.70
	300.09	83	3.41	4.465E+00	1.643E+00	1.674E+00	80.66
TH-230	609.31	507	46.30*	2.603E+00	1.267E+00	1.267E+00	15.96
	1120.29	102	15.10	1.557E+00	1.310E+00	1.310E+00	40.91
	1764.49	100	15.80	1.100E+00	1.731E+00	1.731E+00	23.18
TH-232	338.32	233	11.40	4.087E+00	1.509E+00	1.509E+00	26.27
	911.07	268	27.70*	1.860E+00	1.569E+00	1.569E+00	19.52
	969.11	169	16.60	1.764E+00	1.739E+00	1.739E+00	32.08
TH-234	63.29	112	3.80*	4.608E+00	1.931E+00	1.931E+00	77.77
	92.38	284	5.41	7.171E+00	2.207E+00	2.207E+00	33.98
U-234	609.31	507	46.30*	2.603E+00	1.267E+00	1.267E+00	15.96
	1120.29	102	15.10	1.557E+00	1.310E+00	1.310E+00	40.91
	1764.49	100	15.80	1.100E+00	1.731E+00	1.731E+00	23.18
NP-237	86.50	178	12.60*	6.953E+00	6.115E-01	6.115E-01	53.73
	95.87	-----	2.60	7.260E+00	-----	Line Not Found	-----
U-238	63.29	112	3.80*	4.608E+00	1.931E+00	1.931E+00	77.77
	92.38	284	5.41	7.171E+00	2.207E+00	2.207E+00	30.03
AM-243	74.67	402	66.00*	6.050E+00	3.036E-01	3.036E-01	21.27
	86.72	178	0.34	6.953E+00	2.293E+01	2.293E+01	49.61
	117.66	-----	0.55	7.416E+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	7.067E+00	-----	Line Not Found	-----
ANH-511	511.00	75	100.00*	2.992E+00	7.540E-02	7.540E-02	88.02

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 2
Number of lines tentatively identified by NID 30 93.75%

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	2.372E+01	2.372E+01	0.265E+01	11.15	
CD-109	464.00D	1.03	2.071E+00	2.131E+00	1.057E+00	49.61	
SN-126	1.00E+05Y	1.00	2.082E-01	2.082E-01	1.033E-01	49.61	
TL-208	1.41E+10Y	1.00	5.507E-01	5.507E-01	1.001E-01	18.18	
BI-211	7.04E+08Y	1.00	4.080E+00	4.080E+00	0.550E+00	13.48	
PB-212	1.41E+10Y	1.00	1.603E+00	1.603E+00	0.204E+00	12.70	
PO-212	1.41E+10Y	1.00	1.603E+00	1.603E+00	0.204E+00	12.70	
BI-214	1600.00Y	1.00	1.267E+00	1.267E+00	0.202E+00	15.96	
PB-214	1600.00Y	1.00	1.419E+00	1.419E+00	0.205E+00	14.46	
PO-214	1600.00Y	1.00	1.419E+00	1.419E+00	0.205E+00	14.46	
PO-216	1.41E+10Y	1.00	1.603E+00	1.603E+00	0.204E+00	12.70	
PO-218	1600.00Y	1.00	1.419E+00	1.419E+00	0.205E+00	14.46	
RA-224	1.41E+10Y	1.00	4.721E+00	4.721E+00	1.502E+00	31.80	
RA-226	1600.00Y	1.00	1.267E+00	1.267E+00	0.202E+00	15.96	
AC-228	1.41E+10Y	1.00	1.569E+00	1.569E+00	0.306E+00	19.52	
RA-228	1.41E+10Y	1.00	1.569E+00	1.569E+00	0.306E+00	19.52	
TH-228	1.91Y	1.02	1.603E+00	1.634E+00	0.208E+00	12.70	
TH-230	4.47E+09Y	1.00	1.267E+00	1.267E+00	0.202E+00	15.96	
TH-232	1.41E+10Y	1.00	1.569E+00	1.569E+00	0.306E+00	19.52	
TH-234	4.47E+09Y	1.00	1.931E+00	1.931E+00	1.501E+00	77.77	
U-234	4.47E+09Y	1.00	1.267E+00	1.267E+00	0.202E+00	15.96	
NP-237	2.14E+06Y	1.00	6.115E-01	6.115E-01	3.286E-01	53.73	
U-238	4.47E+09Y	1.00	1.931E+00	1.931E+00	1.501E+00	77.77	
AM-243	7380.00Y	1.00	3.036E-01	3.036E-01	0.646E-01	21.27	
ANH-511	1.00E+09Y	1.00	7.540E-02	7.540E-02	6.637E-02	88.02	
Total Activity :			6.066E+01	6.075E+01			

Grand Total Activity : 6.066E+01 6.075E+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	89.92	171	205	1.02	179.75	178	13	2.37E-02	28.0	7.06E+00	T
0	129.09	82	358	1.23	257.97	254	9	1.13E-02	86.6	7.29E+00	T
0	185.80	288	415	1.26	371.23	364	14	4.00E-02	33.2	6.18E+00	T
0	208.99	94	251	1.43	417.55	414	8	1.31E-02	61.5	5.74E+00	T
0	269.91	101	185	1.45	539.23	535	10	1.40E-02	54.2	4.81E+00	T
0	327.55	41	147	0.67	654.39	652	8	5.65E-03	****	4.18E+00	T
0	463.04	73	74	0.83	925.11	920	9	1.01E-02	48.8	3.23E+00	T
0	727.43	117	52	1.22	1453.60	1449	12	1.63E-02	30.6	2.25E+00	T
0	768.83	68	94	0.83	1536.37	1531	14	9.43E-03	64.6	2.15E+00	
0	795.99	48	91	1.69	1590.67	1583	17	6.68E-03	94.7	2.09E+00	T
0	934.28	44	42	1.13	1867.23	1860	14	6.11E-03	69.4	1.82E+00	T
0	1240.16	46	75	1.84	2479.21	2469	16	6.40E-03	89.5	1.43E+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]G245107005.CNF;1
* Acquisition date   : 1-FEB-2010 12:38:30. 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 02:00:33.11 Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107005 Analyst initials: MXRl
* Batch Number       : 944038 Sample Quantity : 1.24580E+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	2.372E+01	2.646E+00	4.537E-01	3.957E-02	52.287
CD-109	2.131E+00	1.057E+00	1.018E+00	9.628E-02	2.093
SN-126	2.082E-01	1.033E-01	9.977E-02	9.385E-03	2.087
TL-208	5.507E-01	1.001E-01	5.020E-02	5.161E-03	10.971
BI-211	4.080E+00	5.502E-01	2.821E-01	2.702E-02	14.466
PB-212	1.603E+00	2.037E-01	8.179E-02	8.698E-03	19.605
PO-212	1.603E+00	2.037E-01	8.179E-02	8.698E-03	19.605
BI-214	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
PB-214	1.419E+00	2.052E-01	9.659E-02	1.053E-02	14.696
PO-214	1.419E+00	2.052E-01	9.659E-02	1.053E-02	14.696
PO-216	1.603E+00	2.037E-01	8.179E-02	8.698E-03	19.605
PO-218	1.419E+00	2.052E-01	9.659E-02	1.053E-02	14.696
RA-224	4.721E+00	1.502E+00	9.306E-01	8.995E-02	5.074
RA-226	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
AC-228	1.569E+00	3.064E-01	1.851E-01	2.267E-02	8.479
RA-228	1.569E+00	3.064E-01	1.851E-01	2.267E-02	8.479
TH-228	1.634E+00	2.076E-01	8.335E-02	8.864E-03	19.605
TH-230	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.569E+00	3.064E-01	1.851E-01	2.267E-02	8.479
TH-234	1.931E+00	1.501E+00	1.498E+00	2.604E-01	1.288
U-234	1.267E+00	2.022E-01	1.019E-01	1.134E-02	12.431
NP-237	6.115E-01	3.286E-01	3.675E-01	8.314E-02	1.664
U-238	1.931E+00	1.501E+00	1.498E+00	2.604E-01	1.288
AM-243	3.036E-01	6.456E-02	7.900E-02	6.359E-03	3.843
ANH-511	7.540E-02	6.637E-02	4.385E-02	4.086E-03	1.720

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.167E-02		2.969E-01	4.846E-01	4.710E-02	0.045
NA-22	1.007E-02		3.943E-02	6.545E-02	5.421E-03	0.154
NA-24	1.998E+01		2.143E+01	Half-Life too short		
AL-26	-1.653E-02		2.497E-02	3.441E-02	2.795E-03	-0.481
TI-44	3.617E-01	+	5.248E-02	7.304E-02	6.130E-03	4.952
SC-46	8.900E-03		3.785E-02	6.392E-02	6.372E-03	0.139
V-48	-3.045E-02		7.225E-02	1.128E-01	1.079E-02	-0.270
CR-51	1.498E-01		3.538E-01	6.015E-01	6.030E-02	0.249
MN-52	-2.179E-01		2.893E-01	4.194E-01	3.550E-02	-0.519
MN-54	5.411E-03		3.448E-02	5.798E-02	5.856E-03	0.093
CO-56	-2.932E-02		3.643E-02	5.532E-02	5.576E-03	-0.530
CO-57	4.012E-03		2.249E-02	3.645E-02	3.042E-03	0.110
CO-58	-9.529E-03		3.445E-02	5.566E-02	5.651E-03	-0.171
FE-59	2.950E-02		8.947E-02	1.506E-01	1.421E-02	0.196
CO-60	-1.532E-02		3.416E-02	5.115E-02	4.285E-03	-0.300
ZN-65	-9.419E-02		1.008E-01	1.215E-01	1.046E-02	-0.775
GE-68	2.290E-01		1.142E+00	1.902E+00	1.697E-01	0.120
AS-73	2.497E-01		5.451E-01	9.049E-01	6.718E-02	0.276
AS-74	6.093E-03		9.741E-02	1.569E-01	1.535E-02	0.039
SE-75	4.748E-04		4.115E-02	6.391E-02	6.328E-03	0.007
BR-77	-1.758E-05		1.560E-05	Half-Life too short		
SR-82	-2.307E-01		3.908E-01	5.466E-01	5.554E-02	-0.422
RB-83	-4.522E-02		6.844E-02	1.042E-01	9.769E-03	-0.434
RB-84	1.887E-02		7.414E-02	1.254E-01	1.253E-02	0.150
KR-85	1.078E+01		7.474E+00	1.199E+01	1.119E+00	0.899
SR-85	5.758E-02		3.993E-02	6.403E-02	5.979E-03	0.899
RB-86	-6.482E-04		8.017E-01	1.308E+00	1.167E-01	0.000
Y-88	1.909E-02		2.562E-02	4.923E-02	3.973E-03	0.388
ZR-88	-8.133E-03		2.812E-02	4.515E-02	3.776E-03	-0.180
Y-91	-3.959E+00		1.837E+01	2.907E+01	2.361E+00	-0.136
NB-94	-1.650E-02		2.773E-02	4.394E-02	4.446E-03	-0.376
NB-95	1.144E-02		4.466E-02	6.670E-02	6.779E-03	0.172
NB-95M	9.239E-04		1.313E-01	1.947E-01	2.092E-02	0.005
ZR-95	6.673E-02		6.725E-02	1.208E-01	1.319E-02	0.552
NB-97	1.393E+00		2.104E+00	Half-Life too short		
ZR-97	3.030E+01		4.559E+01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-1.309E+01		2.801E+01	4.476E+01	7.209E+00	-0.293
TC-99M	-2.964E+15		1.032E+15	Half-Life too short		
RH-101	-4.527E-03		3.039E-02	4.999E-02	4.582E-03	-0.091
RH-102	-1.254E-02		2.606E-02	4.055E-02	3.677E-03	-0.309
RU-103	6.441E-03		4.154E-02	6.804E-02	9.892E-03	0.095
RH-106	1.237E-01		2.854E-01	4.738E-01	6.736E-02	0.261
RU-106	1.237E-01		2.851E-01	4.738E-01	4.690E-02	0.261
AG-108M	-1.969E-02		2.919E-02	4.499E-02	4.083E-03	-0.438
AG-110M	7.870E-03		3.225E-02	5.529E-02	5.665E-03	0.142
IN-111	2.921E-01		2.500E+00	3.730E+00	3.621E-01	0.078
IN-113M	-2.133E-02		4.161E-02	6.574E-02	5.671E-03	-0.324
SN-113	-2.133E-02		4.161E-02	6.574E-02	5.671E-03	-0.324
IN-114M	3.734E-02		1.794E-01	2.724E-01	2.468E-02	0.137
CD-115	-1.364E-05		1.754E-05	Half-Life too short		
SN-117M	1.147E-03		6.380E-02	1.015E-01	8.761E-03	0.011
SB-122	5.227E+00		5.318E+00	9.193E+00	8.854E-01	0.569
I-123	1.191E+02		3.861E+02	Half-Life too short		
TE-123M	4.248E-03		2.753E-02	4.409E-02	3.831E-03	0.096
I-124	-2.793E-01		1.187E+00	1.789E+00	1.756E-01	-0.156
SB-124	-6.922E-03		6.109E-02	9.844E-02	8.555E-03	-0.070
SB-125	6.253E-02		7.952E-02	1.373E-01	1.215E-02	0.455
TE-125M	6.254E+00		8.366E+00	1.392E+01	1.424E+00	0.449
I-126	1.831E-01		1.965E-01	3.528E-01	3.545E-02	0.519
SB-126	4.836E-03		1.813E-01	2.963E-01	3.004E-02	0.016
SB-127	1.721E+00		2.425E+00	4.289E+00	5.854E-01	0.401
XE-127	-1.588E-02		4.542E-02	7.564E-02	6.981E-03	-0.210
I-131	-1.654E-02		1.462E-01	2.388E-01	2.247E-02	-0.069
TE-132	-7.662E-01		1.452E+00	2.374E+00	4.035E-01	-0.323
BA-133	-2.862E-02		4.365E-02	5.892E-02	7.959E-03	-0.486
I-133	3.284E-02		6.272E-02	Half-Life too short		
CS-134	9.193E-02	+	8.752E-02	9.076E-02	9.261E-03	1.013
CS-135	2.296E-01		1.605E-01	2.568E-01	2.846E-02	0.894
I-135	3.224E+13		5.081E+13	Half-Life too short		
CS-136	-9.133E-03		1.254E-01	2.034E-01	1.931E-02	-0.045
BA-137M	-9.295E-03		3.368E-02	5.548E-02	5.568E-03	-0.168
CS-137	-9.825E-03		3.561E-02	5.865E-02	5.894E-03	-0.168
CE-139	-1.106E-02		2.864E-02	4.454E-02	3.888E-03	-0.248
BA-140	2.624E-01		3.122E-01	5.176E-01	1.727E-01	0.507
LA-140	-6.632E-02		8.665E-02	1.236E-01	1.044E-02	-0.536
CE-141	5.048E-02		6.426E-02	1.060E-01	9.152E-03	0.476
CE-143	4.251E-03		7.560E-04	Half-Life too short		
CE-144	-1.064E-01		2.134E-01	2.935E-01	4.528E-02	-0.362
PM-144	-3.021E-02		3.728E-02	4.923E-02	4.978E-03	-0.614
PR-144	-2.051E+00		2.532E+00	3.343E+00	3.379E-01	-0.614
PM-146	1.607E-02		3.658E-02	6.162E-02	6.749E-03	0.261
ND-147	-1.784E-01		6.668E-01	1.049E+00	1.620E-01	-0.170
PM-149	-1.655E-04		1.372E-04	Half-Life too short		
EU-152	9.170E-03		9.412E-02	1.512E-01	1.475E-02	0.061

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-2.308E-02		7.890E-02	1.119E-01	9.924E-03	-0.206
EU-154	7.590E-03		1.122E-01	1.822E-01	2.013E-02	0.042
EU-155	8.927E-03		9.763E-02	1.573E-01	1.368E-02	0.057
TB-160	5.991E-02		1.399E-01	2.400E-01	2.400E-02	0.250
HO-166M	4.023E-03		5.386E-02	9.079E-02	9.196E-03	0.044
TM-171	-2.402E+01		2.400E+01	3.345E+01	2.492E+00	-0.718
LU-176	2.539E-03		2.212E-02	3.698E-02	3.608E-03	0.069
LU-177	3.225E+00	+	2.008E+00	2.830E+00	2.632E-01	1.140
LU-177M	-9.707E-02		1.701E-01	2.668E-01	2.283E-02	-0.364
HF-181	-4.325E-04		3.882E-02	6.289E-02	5.734E-03	-0.007
W-181	-1.424E-02		3.057E-01	4.488E-01	3.302E-02	-0.032
TA-182	1.957E-02		1.901E-01	3.104E-01	2.533E-02	0.063
RE-183	9.478E-02		1.094E-01	1.804E-01	1.566E-02	0.525
RE-184	4.648E-02		2.011E-01	3.411E-01	3.334E-02	0.136
OS-185	2.269E-02		3.766E-02	6.647E-02	6.638E-03	0.341
RE-188	3.981E-02		1.661E-01	2.673E-01	2.295E-02	0.149
W-188	-3.602E+00		7.852E+00	1.107E+01	1.095E+00	-0.325
IR-192	-3.032E-04		3.095E-02	5.129E-02	4.960E-03	-0.006
AU-195	1.261E-01		2.006E-01	3.310E-01	2.915E-02	0.381
TL-200	9.339E-06		2.417E-03	Half-Life too short		
TL-201	-6.507E+00		1.585E+01	2.459E+01	2.151E+00	-0.265
TL-202	6.655E-02		7.924E-02	1.368E-01	1.202E-02	0.487
HG-203	4.112E-02		4.069E-02	7.096E-02	7.216E-03	0.580
BI-207	4.601E-02		5.014E-02	8.889E-02	8.026E-03	0.518
TL-207	1.206E-01		6.863E-01	1.013E+00	1.842E-01	0.119
PO-209	1.630E+00		6.674E+00	1.129E+01	1.122E+00	0.144
BI-210	2.934E-01		1.999E+00	3.305E+00	3.065E-01	0.089
PB-210	2.934E-01		1.999E+00	3.305E+00	3.065E-01	0.089
PO-210	2.934E-01		1.999E+00	3.305E+00	2.773E-01	0.089
PB-211	5.998E-02		8.031E-01	1.321E+00	8.274E-01	0.045
BI-212	1.331E+00	+	4.341E-01	6.674E-01	7.575E-02	1.994
PO-215	1.206E-01		6.863E-01	1.013E+00	1.842E-01	0.119
RN-219	1.433E-01		3.569E-01	6.006E-01	8.966E-02	0.239
RN-220	-8.520E+00		2.323E+01	3.609E+01	3.448E+00	-0.236
RA-223	1.206E-01		6.863E-01	1.013E+00	1.842E-01	0.119
AC-227	-1.288E-01		3.250E-01	5.312E-01	8.521E-02	-0.242
TH-227	-1.288E-01		3.252E-01	5.312E-01	9.909E-02	-0.242
TH-229	7.081E-03		4.364E-01	7.401E-01	6.741E-02	0.010
PA-231	-9.644E-01		1.369E+00	2.175E+00	3.472E-01	-0.443
TH-231	1.206E-01		6.863E-01	1.013E+00	1.842E-01	0.119
U-231	-9.023E-01		1.956E+00	2.751E+00	2.461E-01	-0.328
PA-233	-1.020E-02		5.858E-02	9.618E-02	9.543E-03	-0.106
PA-234	2.407E-01		2.996E-01	5.229E-01	1.010E-01	0.460
PA-234M	2.422E+00		4.354E+00	7.577E+00	8.105E-01	0.320
U-235	1.950E-01		1.987E-01	3.259E-01	5.679E-02	0.598
NP-236	-3.873E-03		7.788E-02	1.235E-01	1.068E-02	-0.031
NP-239	-1.134E-01		1.676E-01	2.604E-01	2.181E-02	-0.436
AM-241	9.872E-02		1.150E-01	1.765E-01	1.381E-02	0.559

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.946E-02		8.530E-02	1.383E-01	1.194E-02	0.141
AM-246	-4.792E-02		1.290E-01	2.016E-01	1.796E-02	-0.238
CM-247	3.123E-03		3.245E-02	5.351E-02	4.525E-03	0.058
CF-249	1.735E-02		3.605E-02	6.106E-02	5.152E-03	0.284
CF-251	-1.045E-03		1.196E-01	1.892E-01	1.679E-02	-0.006

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]G245107005      *
* Acquisition date   : 1-FEB-2010 12:38:30 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 02:00:33.11 Half life ratio : 8.000         *
*****
*                               SAMPLE DATA                             *
*                               *                                         *
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID   *
* Sample ID          : G245107005 Analyst initials: MXR1            *
* Batch Number       : 944038 Sample Quantity : 1.2458E+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	2.372E+01	2.593E+00	2.268E-01	1.323E+00
CD-109	2.131E+00	1.036E+00	5.288E-01	5.286E-01
SN-126	2.082E-01	1.012E-01	5.182E-02	5.165E-02
TL-208	5.507E-01	9.809E-02	2.541E-02	5.005E-02
BI-211	4.080E+00	5.392E-01	1.438E-01	2.751E-01
PB-212	1.603E+00	1.996E-01	4.192E-02	1.018E-01
PO-212	1.603E+00	1.996E-01	4.192E-02	1.018E-01
BI-214	1.267E+00	1.982E-01	5.157E-02	1.011E-01
PB-214	1.419E+00	2.011E-01	4.924E-02	1.026E-01
PO-214	1.419E+00	2.011E-01	4.924E-02	1.026E-01
PO-216	1.603E+00	1.996E-01	4.192E-02	1.018E-01
PO-218	1.419E+00	2.011E-01	4.924E-02	1.026E-01
RA-224	4.721E+00	1.472E+00	4.768E-01	7.508E-01
RA-226	1.267E+00	1.982E-01	5.157E-02	1.011E-01
AC-228	1.569E+00	3.003E-01	9.313E-02	1.532E-01
RA-228	1.569E+00	3.003E-01	9.313E-02	1.532E-01
TH-228	1.634E+00	2.034E-01	4.272E-02	1.038E-01
TH-230	1.267E+00	1.982E-01	5.157E-02	1.011E-01
TH-232	1.569E+00	3.003E-01	9.313E-02	1.532E-01
TH-234	1.931E+00	1.471E+00	7.816E-01	7.507E-01
U-234	1.267E+00	1.982E-01	5.157E-02	1.011E-01
NP-237	6.115E-01	3.220E-01	1.909E-01	1.643E-01
U-238	1.931E+00	1.471E+00	7.816E-01	7.507E-01
AM-243	3.036E-01	6.327E-02	4.112E-02	3.228E-02
ANH-511	7.540E-02	6.504E-02	2.224E-02	3.318E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.167E-02	2.909E-01	2.460E-01	1.484E-01 NOT IDENT.
NA-22	1.007E-02	3.864E-02	3.277E-02	1.971E-02 NOT IDENT.

NA-24	1.998E+07	4.201E+07	0.000E+00	2.143E+07	SHORT HLIF
AL-26	-1.653E-02	2.447E-02	1.714E-02	1.249E-02	NOT IDENT.
TI-44	3.617E-01	5.143E-02	3.799E-02	2.624E-02	FAIL ABUN
SC-46	8.900E-03	3.709E-02	3.217E-02	1.892E-02	FAIL ABUN
V-48	-3.045E-02	7.081E-02	5.671E-02	3.613E-02	NOT IDENT.
CR-51	1.498E-01	3.468E-01	3.070E-01	1.769E-01	NOT IDENT.
MN-52	-2.179E-01	2.835E-01	2.097E-01	1.447E-01	FAIL ABUN
MN-54	5.411E-03	3.379E-02	2.921E-02	1.724E-02	NOT IDENT.
CO-56	-2.932E-02	3.570E-02	2.786E-02	1.821E-02	NOT IDENT.
CO-57	4.012E-03	2.204E-02	1.885E-02	1.125E-02	NOT IDENT.
CO-58	-9.529E-03	3.377E-02	2.805E-02	1.723E-02	NOT IDENT.
FE-59	2.950E-02	8.768E-02	7.559E-02	4.474E-02	NOT IDENT.
CO-60	-1.532E-02	3.348E-02	2.560E-02	1.708E-02	NOT IDENT.
ZN-65	-9.419E-02	9.880E-02	6.097E-02	5.041E-02	NOT IDENT.
GE-68	2.290E-01	1.119E+00	9.546E-01	5.709E-01	NOT IDENT.
AS-73	2.497E-01	5.342E-01	4.730E-01	2.725E-01	NOT IDENT.
AS-74	6.093E-03	9.546E-02	7.939E-02	4.870E-02	NOT IDENT.
SE-75	4.748E-04	4.032E-02	3.271E-02	2.057E-02	NOT IDENT.
BR-77	-1.758E+01	3.058E+01	0.000E+00	1.560E+01	SHORT HLIF
SR-82	-2.307E-01	3.830E-01	2.756E-01	1.954E-01	NOT IDENT.
RB-83	-4.522E-02	6.707E-02	5.282E-02	3.422E-02	NOT IDENT.
RB-84	1.887E-02	7.266E-02	6.310E-02	3.707E-02	NOT IDENT.
KR-85	1.078E+01	7.324E+00	6.079E+00	3.737E+00	NOT IDENT.
SR-85	5.758E-02	3.913E-02	3.248E-02	1.996E-02	NOT IDENT.
RB-86	-6.482E-04	7.857E-01	6.564E-01	4.009E-01	NOT IDENT.
Y-88	1.909E-02	2.510E-02	2.453E-02	1.281E-02	NOT IDENT.
ZR-88	-8.133E-03	2.756E-02	2.298E-02	1.406E-02	NOT IDENT.
Y-91	-3.959E+00	1.800E+01	1.457E+01	9.184E+00	NOT IDENT.
NB-94	-1.650E-02	2.717E-02	2.219E-02	1.386E-02	NOT IDENT.
NB-95	1.144E-02	4.377E-02	3.364E-02	2.233E-02	NOT IDENT.
NB-95M	9.239E-04	1.287E-01	9.982E-02	6.567E-02	NOT IDENT.
ZR-95	6.673E-02	6.590E-02	6.096E-02	3.362E-02	NOT IDENT.
NB-97	1.393E+06	4.124E+06	0.000E+00	2.104E+06	SHORT HLIF
ZR-97	3.030E+07	8.935E+07	0.000E+00	4.559E+07	SHORT HLIF
MO-99	-1.309E+01	2.745E+01	2.259E+01	1.401E+01	NOT IDENT.
TC-99M	-2.964E+21	2.023E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.527E-03	2.979E-02	2.568E-02	1.520E-02	NOT IDENT.
RH-102	-1.254E-02	2.554E-02	2.059E-02	1.303E-02	NOT IDENT.
RU-103	6.441E-03	4.071E-02	3.453E-02	2.077E-02	FAIL ABUN
RH-106	1.237E-01	2.797E-01	2.397E-01	1.427E-01	FAIL ABUN
RU-106	1.237E-01	2.794E-01	2.397E-01	1.426E-01	FAIL ABUN
AG-108M	-1.969E-02	2.861E-02	2.287E-02	1.460E-02	NOT IDENT.
AG-110M	7.870E-03	3.161E-02	2.794E-02	1.613E-02	NOT IDENT.
IN-111	2.921E-01	2.450E+00	1.911E+00	1.250E+00	NOT IDENT.
IN-113M	-2.133E-02	4.078E-02	3.346E-02	2.081E-02	NOT IDENT.
SN-113	-2.133E-02	4.078E-02	3.346E-02	2.081E-02	NOT IDENT.
IN-114M	3.734E-02	1.758E-01	1.400E-01	8.972E-02	NOT IDENT.
CD-115	-1.364E+01	3.438E+01	0.000E+00	1.754E+01	SHORT HLIF
SN-117M	1.147E-03	6.252E-02	5.232E-02	3.190E-02	NOT IDENT.
SB-122	5.227E+00	5.211E+00	4.656E+00	2.659E+00	NOT IDENT.
I-123	1.191E+08	7.567E+08	0.000E+00	3.861E+08	SHORT HLIF
TE-123M	4.248E-03	2.698E-02	2.272E-02	1.377E-02	NOT IDENT.
I-124	-2.793E-01	1.163E+00	9.051E-01	5.936E-01	NOT IDENT.
SB-124	-6.922E-03	5.987E-02	4.910E-02	3.054E-02	FAIL ABUN
SB-125	6.253E-02	7.793E-02	6.981E-02	3.976E-02	FAIL ABUN
TE-125M	6.254E+00	8.198E+00	7.208E+00	4.183E+00	NOT IDENT.
I-126	1.831E-01	1.926E-01	1.783E-01	9.824E-02	NOT IDENT.
SB-126	4.836E-03	1.776E-01	1.496E-01	9.063E-02	FAIL ABUN
SB-127	1.721E+00	2.377E+00	2.166E+00	1.213E+00	NOT IDENT.
XE-127	-1.588E-02	4.451E-02	3.885E-02	2.271E-02	NOT IDENT.
I-131	-1.654E-02	1.433E-01	1.217E-01	7.309E-02	NOT IDENT.
TE-132	-7.662E-01	1.423E+00	1.217E+00	7.259E-01	NOT IDENT.
BA-133	-2.862E-02	4.278E-02	3.003E-02	2.182E-02	NOT IDENT.
I-133	3.284E+04	1.229E+05	0.000E+00	6.272E+04	SHORT HLIF
CS-134	9.193E-02	8.577E-02	4.575E-02	4.376E-02	FAIL ABUN
CS-135	2.296E-01	1.573E-01	1.314E-01	8.025E-02	NOT IDENT.
I-135	3.224E+19	9.959E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-9.133E-03	1.229E-01	1.021E-01	6.271E-02	FAIL ABUN
BA-137M	-9.295E-03	3.301E-02	2.804E-02	1.684E-02	NOT IDENT.
CS-137	-9.825E-03	3.490E-02	2.964E-02	1.780E-02	NOT IDENT.
CE-139	-1.106E-02	2.807E-02	2.294E-02	1.432E-02	NOT IDENT.
BA-140	2.624E-01	3.060E-01	2.623E-01	1.561E-01	NOT IDENT.
LA-140	-6.632E-02	8.491E-02	6.171E-02	4.332E-02	FAIL ABUN
CE-141	5.048E-02	6.297E-02	5.469E-02	3.213E-02	NOT IDENT.
CE-143	4.251E+03	1.482E+03	0.000E+00	7.560E+02	SHORT HLIF
CE-144	-1.064E-01	2.092E-01	1.516E-01	1.067E-01	NOT IDENT.
PM-144	-3.021E-02	3.654E-02	2.486E-02	1.864E-02	NOT IDENT.
PR-144	-2.051E+00	2.481E+00	1.688E+00	1.266E+00	NOT IDENT.

PM-146	1.607E-02	3.585E-02	3.131E-02	1.829E-02	NOT IDENT.
ND-147	-1.784E-01	6.535E-01	5.320E-01	3.334E-01	FAIL ABUN
PM-149	-1.655E+02	2.688E+02	0.000E+00	1.372E+02	SHORT HLIF
EU-152	9.170E-03	9.223E-02	7.709E-02	4.706E-02	NOT IDENT.
GD-153	-2.308E-02	7.732E-02	5.804E-02	3.945E-02	NOT IDENT.
EU-154	7.590E-03	1.099E-01	9.124E-02	5.609E-02	NOT IDENT.
EU-155	8.927E-03	9.568E-02	8.152E-02	4.882E-02	FAIL ABUN
TB-160	5.991E-02	1.371E-01	1.208E-01	6.993E-02	FAIL ABUN
HO-166M	4.023E-03	5.278E-02	4.584E-02	2.693E-02	FAIL ABUN
TM-171	-2.402E+01	2.352E+01	1.744E+01	1.200E+01	NOT IDENT.
LU-176	2.539E-03	2.168E-02	1.889E-02	1.106E-02	FAIL ABUN
LU-177	3.225E+00	1.967E+00	1.453E+00	1.004E+00	FAIL ABUN
LU-177M	-9.707E-02	1.667E-01	1.357E-01	8.503E-02	FAIL ABUN
HF-181	-4.325E-04	3.804E-02	3.192E-02	1.941E-02	NOT IDENT.
W-181	-1.424E-02	2.995E-01	2.340E-01	1.528E-01	NOT IDENT.
TA-182	1.957E-02	1.863E-01	1.555E-01	9.506E-02	FAIL ABUN
RE-183	9.478E-02	1.072E-01	9.294E-02	5.468E-02	FAIL ABUN
RE-184	4.648E-02	1.971E-01	1.747E-01	1.005E-01	NOT IDENT.
OS-185	2.269E-02	3.691E-02	3.360E-02	1.883E-02	NOT IDENT.
RE-188	3.981E-02	1.628E-01	1.378E-01	8.304E-02	NOT IDENT.
W-188	-3.602E+00	7.695E+00	5.660E+00	3.926E+00	FAIL ABUN
IR-192	-3.032E-04	3.033E-02	2.618E-02	1.547E-02	FAIL ABUN
AU-195	1.261E-01	1.966E-01	1.717E-01	1.003E-01	FAIL ABUN
TL-200	9.339E+00	4.738E+03	0.000E+00	2.417E+03	SHORT HLIF
TL-201	-6.507E+00	1.553E+01	1.266E+01	7.924E+00	NOT IDENT.
TL-202	6.655E-02	7.766E-02	6.952E-02	3.962E-02	NOT IDENT.
HG-203	4.112E-02	3.988E-02	3.629E-02	2.035E-02	NOT IDENT.
BI-207	4.601E-02	4.913E-02	4.462E-02	2.507E-02	FAIL ABUN
TL-207	1.206E-01	6.726E-01	5.169E-01	3.432E-01	FAIL ABUN
PO-209	1.630E+00	6.541E+00	5.679E+00	3.337E+00	NOT IDENT.
BI-210	2.934E-01	1.959E+00	1.731E+00	9.996E-01	NOT IDENT.
PB-210	2.934E-01	1.959E+00	1.731E+00	9.996E-01	NOT IDENT.
PO-210	2.934E-01	1.959E+00	1.731E+00	9.996E-01	NOT IDENT.
PB-211	5.998E-02	7.870E-01	6.721E-01	4.015E-01	NOT IDENT.
BI-212	1.331E+00	4.254E-01	3.369E-01	2.170E-01	FAIL ABUN
PO-215	1.206E-01	6.726E-01	5.169E-01	3.432E-01	FAIL ABUN
RN-219	1.433E-01	3.498E-01	3.056E-01	1.785E-01	FAIL ABUN
RN-220	-8.520E+00	2.276E+01	1.828E+01	1.161E+01	NOT IDENT.
RA-223	1.206E-01	6.726E-01	5.169E-01	3.432E-01	FAIL ABUN
AC-227	-1.288E-01	3.185E-01	2.720E-01	1.625E-01	FAIL ABUN
TH-227	-1.288E-01	3.187E-01	2.720E-01	1.626E-01	FAIL ABUN
TH-229	7.081E-03	4.277E-01	3.804E-01	2.182E-01	FAIL ABUN
PA-231	-9.644E-01	1.341E+00	1.112E+00	6.844E-01	NOT IDENT.
TH-231	1.206E-01	6.726E-01	5.169E-01	3.432E-01	FAIL ABUN
U-231	-9.023E-01	1.917E+00	1.427E+00	9.781E-01	FAIL ABUN
PA-233	-1.020E-02	5.741E-02	4.912E-02	2.929E-02	FAIL ABUN
PA-234	2.407E-01	2.936E-01	2.630E-01	1.498E-01	FAIL ABUN
PA-234M	2.422E+00	4.267E+00	3.807E+00	2.177E+00	NOT IDENT.
U-235	1.950E-01	1.948E-01	1.682E-01	9.937E-02	FAIL ABUN
NP-236	-3.873E-03	7.632E-02	6.362E-02	3.894E-02	NOT IDENT.
NP-239	-1.134E-01	1.642E-01	1.347E-01	8.378E-02	FAIL ABUN
AM-241	9.872E-02	1.127E-01	9.214E-02	5.751E-02	NOT IDENT.
CM-243	1.946E-02	8.359E-02	7.167E-02	4.265E-02	FAIL ABUN
AM-246	-4.792E-02	1.264E-01	1.012E-01	6.448E-02	NOT IDENT.
CM-247	3.123E-03	3.180E-02	2.723E-02	1.622E-02	NOT IDENT.
CF-249	1.735E-02	3.533E-02	3.109E-02	1.803E-02	NOT IDENT.
CF-251	-1.045E-03	1.172E-01	9.737E-02	5.981E-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	278.1411
46.50	278.1411
46.50	278.1411
48.70	280.4282
49.72	276.1315
51.35	293.7632
52.39	285.5219
52.97	286.8409
53.15	286.9438
53.44	266.3910
54.07	269.6876
56.28	307.5624
56.28	307.5639
57.37	0.0000
57.53	327.1978
57.53	327.1986
57.60	327.2413
57.98	341.6115
57.98	341.6115
59.32	288.8882
59.32	288.8882
59.40	288.9309
59.54	289.0067
59.72	289.1039
60.01	317.7356
61.10	334.8956
61.14	334.9194
61.30	329.0088
63.00	354.6406
63.29	354.8251
63.29	354.8251
63.58	355.0096
64.28	345.8883
65.12	363.0428
65.20	363.0940
65.20	363.0940
66.05	393.9395
66.72	403.5013
66.83	408.1300
66.91	408.1875
67.20	408.3927
67.20	408.3927
67.75	398.1432
67.85	400.0350
68.90	386.7477
68.90	386.7477
69.30	407.3268
69.67	407.5838
70.82	430.7776
70.82	430.7776
70.83	430.7841
72.80	461.3173
72.87	459.8373
72.87	459.8373
74.67	503.0071
74.81	503.1219
74.81	503.1219
74.81	503.1219
74.81	503.1219
74.81	503.1219
74.81	503.1219
74.81	503.1219
74.97	503.2517
75.28	503.5039
75.70	503.8434
77.11	504.9817
77.11	504.9817

77.11	504.9817
77.11	504.9817
77.11	504.9817
77.11	504.9817
77.11	504.9817
78.38	505.9977
79.62	506.9813
79.80	507.1236
79.80	507.1236
80.11	507.3682
80.18	507.4231
80.30	507.5180
80.30	507.5180
80.57	507.7302
81.00	508.0672
81.07	508.1221
81.07	508.1221
81.07	508.1221
81.07	508.1221
82.60	560.3714
83.37	561.0223
83.78	561.3739
83.78	561.3739
83.78	561.3739
83.78	561.3739
84.21	561.7365
84.90	562.3187
85.43	447.0867
86.29	563.4860
86.50	519.8215
86.54	519.8519
86.59	519.8898
86.72	519.9886
86.79	520.0418
86.94	520.1583
87.30	526.7047
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87.30	526.7047
87.30	526.7047
87.30	526.7047
87.30	526.7047
87.57	335.5930
87.88	0.0000
88.03	335.8199
88.36	335.9816
88.47	336.0355
89.95	361.9370
91.11	280.5749
92.29	281.0475
92.38	281.0842
92.38	281.0842
93.35	281.4698
94.00	299.1380
94.67	294.6637
94.67	294.6665
94.90	285.2518
94.90	285.2518
94.90	285.2518
94.90	285.2518
95.87	320.5490
95.87	320.5490
96.73	322.5199
97.43	305.3364
98.44	274.9702
98.44	274.9702
98.88	267.6987
99.55	253.0566
99.55	253.0566
99.86	275.5010
100.00	269.1703
100.10	269.2076
103.18	305.5755
103.76	259.8313
105.00	267.7523
105.31	277.5034
108.00	315.0292
109.28	242.3138

111.00	292.4910
111.00	292.4910
111.76	289.5305
112.95	249.9304
115.19	241.9463
116.30	256.4013
117.00	265.3200
117.00	265.3200
117.66	256.8274
121.11	232.7640
121.62	223.0638
121.78	237.3239
122.06	236.3093
122.32	253.8916
122.32	253.8916
122.32	253.8916
122.32	253.8916
123.07	281.5016
127.23	254.2565
129.76	264.9316
131.20	243.8052
133.02	267.5750
133.54	269.3927
135.34	271.0474
136.00	251.2360
136.25	229.0656
136.48	229.1243
140.51	298.2836
140.51	0.0000
142.18	273.0827
142.65	269.8600
143.76	232.0643
144.24	236.6710
144.24	236.6710
144.24	236.6710
144.24	236.6710
145.22	253.7603
145.44	253.8201
147.16	245.2810
152.43	214.9522
152.70	222.9326
153.22	228.7131
154.21	234.6122
154.21	234.6122
154.21	234.6122
154.21	234.6122
155.03	248.4201
156.02	272.5146
158.56	253.8603
159.00	0.0000
159.00	247.1382
160.31	267.9895
161.27	257.9721
162.32	235.3858
162.64	241.1763
163.35	252.7818
163.89	263.2164
165.85	251.1068
167.43	242.3053
171.28	217.8449
171.86	234.1096
172.10	234.1633
176.55	231.6711
176.60	231.6833
181.06	242.5289
184.41	234.5204
185.71	234.7965
186.00	234.8578
190.27	198.4568
192.34	216.5485
193.63	212.6346
197.04	228.3109
198.01	226.7324
198.60	226.8457
200.40	0.0000
201.83	242.5824
202.84	238.3460
205.31	218.1688

208.36	228.7344
208.81	244.0154
209.75	236.1563
209.75	236.1563
210.97	226.3670
215.65	220.2275
216.55	204.1982
218.09	210.7575
222.10	210.5359
223.80	202.6787
226.40	179.5236
227.00	182.3295
227.08	182.3403
227.20	190.5240
228.16	216.0888
228.18	217.9083
228.18	217.9083
231.56	0.0000
235.69	223.5683
236.00	225.0821
236.00	225.0821
238.63	186.7256
238.63	186.7256
238.63	186.7256
238.63	186.7256
239.00	0.0000
240.98	187.0602
241.98	187.2003
241.98	187.2003
241.98	187.2003
244.69	153.0090
245.39	141.3129
247.94	147.4805
248.90	168.8009
249.79	0.0000
252.40	140.5680
252.85	145.2399
252.85	145.2399
254.15	0.0000
256.20	155.7959
256.20	155.7959
260.50	148.8379
260.90	0.0000
262.80	148.1527
264.65	141.8158
268.24	142.1776
268.79	143.7281
269.46	144.1706
269.46	144.1706
269.46	144.1706
269.46	144.1706
271.23	169.4697
273.65	184.7793
276.40	161.2636
277.35	163.7888
277.60	168.5254
277.60	168.5254
278.00	165.7466
278.60	160.1610
279.20	154.5708
279.53	173.4602
280.46	191.4942
281.68	0.0000
283.67	156.9320
284.30	166.4583
285.00	160.8588
285.90	0.0000
286.10	140.1456
286.10	140.1456
287.40	142.1631
288.45	0.0000
290.67	159.5713
290.80	159.5867
291.72	142.9553
293.26	0.0000
293.70	134.0045
295.21	134.1377
295.21	134.1377

295.21	134.1377
295.96	134.2043
296.50	87.7212
297.23	0.0000
298.57	87.8405
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299.80	118.4883
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300.09	129.9799
300.09	129.9799
300.09	129.9799
300.12	129.9819
301.29	133.1423
302.84	122.5527
303.76	0.0000
303.91	141.0322
304.40	150.2778
304.40	150.2778
304.84	147.2531
306.84	130.5485
308.46	125.8788
311.98	137.7174
316.51	118.7959
318.01	132.4407
319.02	127.6877
319.41	128.6855
320.08	111.3168
323.87	133.5058
323.87	133.5058
323.87	133.5058
323.87	133.5058
325.23	116.5265
328.77	158.8222
333.44	158.7524
334.20	151.5341
334.20	151.5341
334.30	151.5435
338.28	139.9648
338.28	139.9648
338.28	139.9648
338.28	139.9648
338.32	139.9692
338.32	139.9692
338.32	139.9692
340.50	130.1536
340.57	130.1597
344.27	129.0983
345.85	124.7240
350.59	0.0000
351.07	107.2992
351.92	103.6029
351.92	103.6029
351.92	103.6029
355.39	0.0000
356.01	120.2659
364.48	110.3157
366.43	93.5238
367.43	94.5724
367.94	0.0000
369.80	108.6541
374.96	100.9707
383.85	105.4855
387.95	98.6744
388.63	99.7175
391.69	114.0087
391.69	114.0087
392.90	103.9870
398.62	108.3568
400.65	92.2525
401.10	87.2047
401.81	89.2662
402.60	96.4075
404.84	93.4740
410.95	78.4839
411.60	83.6091
413.65	119.4226
414.70	92.9356
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423.70	90.2881
427.08	84.2772
427.89	74.0303
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433.93	96.9447
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443.98	82.9199
444.90	78.8099
445.03	78.8145
445.03	78.8145
445.03	78.8145
445.03	78.8145
453.90	69.7828
463.38	77.0084
468.07	103.4663
473.00	84.0881
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475.35	84.1809
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477.96	75.8551
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490.36	0.0000
492.35	0.0000
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510.53	0.0000
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511.85	87.7375
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513.99	75.3973
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529.87	0.0000
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549.76	72.8764
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555.20	70.8617
563.23	72.1935
563.90	66.7430
568.70	82.2235
569.32	84.4396
569.50	84.4443
569.67	85.5482
573.80	72.5098
574.00	72.5158
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	66.1688
585.48	0.0000
591.81	68.6129
592.07	64.1933
593.00	65.3235
595.88	69.8329
600.56	78.8480
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602.71	76.2158
602.71	76.2158
603.60	74.1231
604.41	62.2839
604.70	56.9516
609.31	76.8901

609.31	76.8901
609.31	76.8901
609.31	76.8901
610.33	76.9217
612.46	74.9766
614.37	66.1014
618.01	76.0331
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621.84	57.1104
631.29	77.5471
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633.10	49.4839
634.78	63.9208
635.90	61.2465
636.97	62.1724
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656.30	69.8846
657.75	69.0142
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661.65	81.8438
664.57	0.0000
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666.33	56.4796
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677.61	45.7349
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692.80	72.6565
695.00	57.9874
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696.49	64.4646
697.00	65.3959
697.49	63.5656
698.33	56.2120
698.50	56.2150
699.00	59.9124
702.63	65.5259
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722.20	69.6918
722.78	74.3535
722.78	74.3535
722.89	74.3555
722.95	74.3574
723.30	82.1138
724.18	75.9384
727.18	74.4668
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735.90	51.3477
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747.13	65.6011
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752.31	62.8992
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763.93	45.5509
765.79	62.8678
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766.84	55.0279
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778.00	56.8081
778.57	48.2956
778.89	53.0359
783.80	57.8636
785.46	55.9967
792.07	42.8005

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819.60	53.7305
826.30	46.1520
828.27	0.0000
831.60	65.4898
831.96	64.5333
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836.80	0.0000
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867.82	51.9362
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873.19	53.6451
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875.33	0.0000
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879.36	51.7902
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880.51	43.9871
881.50	54.7559
883.24	62.6109
884.67	60.6801
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896.60	46.1612
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903.28	51.1710
911.07	46.3563
911.07	46.3563
911.07	46.3563
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920.93	33.6298
925.00	38.6201
925.24	38.6230
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949.00	46.8600
962.29	68.9393
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969.11	108.6163
969.11	108.6163
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983.50	45.2966
989.30	36.2944
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1001.03	40.4551
1001.68	41.4735
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1038.76	0.0000
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1046.59	41.9689
1048.07	50.1795

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1050.47	52.2601
1062.04	52.4145
1063.62	41.1270
1076.63	42.2953
1077.35	43.3351
1078.86	48.5124
1085.78	46.5293
1099.22	44.6125
1112.02	35.3879
1112.84	27.3267
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1120.29	41.7188
1120.29	41.7188
1120.29	41.7188
1120.29	41.7188
1120.51	41.7207
1121.28	39.9898
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1129.67	45.9959
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1147.95	0.0000
1167.94	50.6438
1173.22	54.9352
1175.09	44.3892
1177.93	58.1689
1189.05	44.5368
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1260.41	0.0000
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1274.54	36.7675
1291.56	27.1375
1298.22	0.0000
1312.09	44.7056
1325.50	38.2761
1325.50	38.2761
1332.49	30.6660
1333.61	23.0057
1360.21	22.0352
1362.66	0.0000
1365.15	22.0576
1368.21	19.3132
1368.53	0.0000
1376.25	22.1094
1384.27	31.3742
1394.10	24.0417
1395.20	18.4977
1407.95	17.6192
1434.06	21.4436
1436.60	17.7228
1457.56	0.0000
1460.81	18.7476
1489.15	19.7960
1509.49	17.0361
1596.49	21.1702
1620.62	11.5996
1678.03	0.0000
1691.02	10.7695
1691.02	10.7695
1706.46	0.0000
1750.46	0.0000
1764.49	10.9091
1764.49	10.9091
1764.49	10.9091
1764.49	10.9091
1770.23	6.8072
1771.40	6.8086
1791.20	0.0000
1808.65	12.9905

1836.01

5.0193

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107005

Total Uranium Activity	5.8337E+00	ug/g
Total Uranium Counting Unc.	4.3782E+00	ug/g
Total Uranium Tpu	2.2338E-06	ug/g
Total Uranium Mda	2.3265E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107005
*  ANALYST       : MXR1                             DETECTOR    : GAM20
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 12:38:30.24          SAMPLE ALQT  : 124.580 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.688E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.280E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.843E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.377E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:49:14.33

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107006.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:56.
Sample ID          : G245107006      Sample quantity   : 1.21170E+02 GRAM
Detector name      : GAM21            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:25.15 0.3%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity      : 5.00000
Batch ID           : 944038           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	46.82*	50	324	0.68	93.62	90	7	7.01E-03	61.4	
2	0	63.16*	153	439	0.88	126.29	123	7	2.12E-02	24.3	
3	4	74.84*	662	360	0.83	149.63	145	14	9.19E-02	5.8	2.38E+00
4	4	77.07*	1051	272	0.71	154.10	145	14	1.46E-01	3.8	
5	5	84.13	123	286	0.86	168.20	163	28	1.71E-02	21.9	2.69E+00
6	5	87.21	326	319	0.99	174.36	163	28	4.52E-02	10.1	
7	5	89.98	231	290	1.06	179.90	163	28	3.21E-02	13.5	
8	5	92.91*	298	309	1.16	185.76	163	28	4.14E-02	12.0	
9	0	128.84	98	283	0.68	257.58	254	8	1.36E-02	31.4	
10	0	185.80*	177	292	1.05	371.46	367	9	2.45E-02	19.3	
11	0	209.20	115	220	0.71	418.23	414	9	1.60E-02	25.1	
12	7	238.45*	1114	133	0.86	476.71	472	18	1.55E-01	3.4	2.69E+00
13	7	241.30	264	190	1.54	482.41	472	18	3.67E-02	12.4	
14	0	270.08	96	155	0.92	539.97	536	10	1.34E-02	26.3	
15	0	295.09*	328	164	0.98	589.96	584	12	4.56E-02	9.7	
16	0	299.99	70	157	1.09	599.75	597	11	9.72E-03	36.2	
17	0	327.51	61	95	1.06	654.77	651	8	8.48E-03	30.4	
18	0	338.18	225	136	1.11	676.11	669	14	3.12E-02	12.9	
19	0	351.72*	530	128	1.11	703.20	698	12	7.36E-02	6.2	
20	0	462.67	66	90	1.28	925.04	918	12	9.23E-03	31.1	
21	0	510.33*	78	94	1.34	1020.37	1013	15	1.08E-02	33.0	
22	0	582.91*	243	55	1.22	1165.51	1161	9	3.38E-02	8.7	
23	0	608.94*	341	45	1.21	1217.57	1213	11	4.73E-02	6.7	
24	0	727.09*	64	32	1.42	1453.89	1449	11	8.91E-03	21.8	
25	0	768.26	39	38	1.50	1536.24	1530	11	5.41E-03	34.7	
26	0	860.13	40	21	1.08	1720.01	1714	12	5.53E-03	28.0	
27	0	910.43	160	29	1.30	1820.64	1814	13	2.23E-02	10.5	
28	2	964.27*	49	18	1.95	1928.35	1920	25	6.74E-03	25.0	9.76E-01
29	2	968.44	98	18	1.96	1936.69	1920	25	1.36E-02	13.9	
30	0	1119.89	88	29	1.61	2239.71	2231	14	1.23E-02	16.6	
31	0	1377.72	21	23	0.95	2755.68	2746	15	2.85E-03	55.1	
32	0	1459.99*	536	26	2.15	2920.34	2913	17	7.44E-02	4.9	
33	0	1763.64	62	9	1.97	3528.22	3519	14	8.68E-03	15.6	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:49:17

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107006.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:56
 Sample ID : G245107006 Sample quantity : 121.17 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA21 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:25.15 0.3%
 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	*	2.159E+01	2.792E+00	8.795E-01	7.509E-02	24.547
CD-109	+	88.03	*	3.429E+00	7.653E-01	7.346E-01	6.911E-02	4.668
SN-126	+	64.28		6.017E-01	3.061E-01	2.908E-01	4.309E-02	2.069
	+	86.94		1.393E+00	6.435E-01	2.972E-01	1.234E-01	4.687
	+	87.57	*	3.351E-01	7.478E-02	7.165E-02	6.716E-03	4.676
TL-208		277.35		1.956E-01	3.709E-01	6.272E-01	7.870E-02	0.312
	+	510.84		5.462E-01	3.676E-01	2.466E-01	3.132E-02	2.215
	+	583.14	*	5.035E-01	1.031E-01	6.539E-02	7.123E-03	7.700
	+	860.37		8.233E-01	4.681E-01	4.536E-01	4.504E-02	1.815
BI-210	+	46.50	*	5.246E-01	6.459E-01	6.038E-01	5.758E-02	0.869
PB-210	+	46.50	*	5.246E-01	6.459E-01	6.038E-01	5.758E-02	0.869
PO-210	+	46.50	*	5.246E-01	6.455E-01	6.038E-01	5.240E-02	0.869
BI-211		72.87		1.506E+00	1.541E+00	2.447E+00	2.048E-01	0.615
	+	351.07	*	4.235E+00	6.497E-01	2.960E-01	2.672E-02	14.306
PB-212	+	74.81		2.315E+00	3.959E-01	2.690E-01	3.396E-02	8.606
	+	77.11		2.189E+00	2.526E-01	1.608E-01	1.387E-02	13.613
	+	87.30		1.550E+00	3.790E-01	3.310E-01	4.533E-02	4.681
	+	238.63	*	1.763E+00	2.118E-01	8.174E-02	8.128E-03	21.573
	+	300.09		1.806E+00	1.323E+00	1.102E+00	1.177E-01	1.638
PO-212	+	74.81		2.315E+00	3.959E-01	2.690E-01	3.396E-02	8.606
	+	77.11		2.189E+00	2.526E-01	1.608E-01	1.387E-02	13.613
	+	87.30		1.550E+00	3.790E-01	3.310E-01	4.533E-02	4.681
	+	115.19		9.276E-01	2.801E+00	4.524E+00	4.971E-01	0.205
	+	238.63	*	1.763E+00	2.118E-01	8.174E-02	8.128E-03	21.573
	+	300.09		1.806E+00	1.323E+00	1.102E+00	1.177E-01	1.638
BI-214	+	609.31	*	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
	+	1120.29		1.947E+00	6.800E-01	4.847E-01	5.205E-02	4.017
	+	1764.49		2.047E+00	6.625E-01	4.542E-01	3.776E-02	4.506
PB-214	+	74.81		3.989E+00	6.431E-01	4.635E-01	5.221E-02	8.606
	+	77.11		3.752E+00	5.189E-01	2.756E-01	3.172E-02	13.613
	+	87.30		2.655E+00	6.268E-01	5.671E-01	6.873E-02	4.681
	+	241.98		2.517E+00	6.800E-01	4.942E-01	5.195E-02	5.092
	+	295.21		1.481E+00	3.285E-01	2.124E-01	2.314E-02	6.972
	+	351.92	*	1.473E+00	2.387E-01	1.033E-01	1.076E-02	14.265

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.989E+00	6.431E-01	4.635E-01	5.221E-02	8.606
	+	77.11		3.752E+00	5.189E-01	2.756E-01	3.172E-02	13.613
	+	87.30		2.655E+00	6.268E-01	5.671E-01	6.873E-02	4.681
	+	241.98		2.517E+00	6.800E-01	4.942E-01	5.195E-02	5.092
	+	295.21		1.481E+00	3.285E-01	2.124E-01	2.314E-02	6.972
PO-216	+	351.92	*	1.473E+00	2.387E-01	1.033E-01	1.076E-02	14.265
	+	74.81		2.315E+00	3.959E-01	2.690E-01	3.396E-02	8.606
	+	77.11		2.189E+00	2.526E-01	1.608E-01	1.387E-02	13.613
	+	87.30		1.550E+00	3.790E-01	3.310E-01	4.533E-02	4.681
	+	238.63	*	1.763E+00	2.118E-01	8.174E-02	8.128E-03	21.573
PO-218	+	300.09		1.806E+00	1.323E+00	1.102E+00	1.177E-01	1.638
	+	74.81		3.989E+00	6.431E-01	4.635E-01	5.221E-02	8.606
	+	77.11		3.752E+00	5.189E-01	2.756E-01	3.172E-02	13.613
	+	87.30		2.655E+00	6.268E-01	5.671E-01	6.873E-02	4.681
	+	241.98		2.517E+00	6.800E-01	4.942E-01	5.195E-02	5.092
RA-224	+	295.21		1.481E+00	3.285E-01	2.124E-01	2.314E-02	6.972
	+	351.92	*	1.473E+00	2.387E-01	1.033E-01	1.076E-02	14.265
	+	240.98	*	4.772E+00	1.261E+00	9.328E-01	8.289E-02	5.116
	+	609.31	*	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
	+	1120.29		1.947E+00	6.800E-01	4.847E-01	5.205E-02	4.017
AC-228	+	1764.49		2.047E+00	6.625E-01	4.542E-01	3.776E-02	4.506
	+	338.32		1.956E+00	9.522E-01	3.582E-01	1.479E-01	5.462
	+	911.07	*	1.578E+00	3.770E-01	2.508E-01	2.846E-02	6.291
	+	969.11		1.713E+00	6.230E-01	4.077E-01	9.537E-02	4.202
	+	338.32		1.956E+00	9.522E-01	3.582E-01	1.479E-01	5.462
RA-228	+	911.07	*	1.578E+00	3.770E-01	2.508E-01	2.846E-02	6.291
	+	969.11		1.713E+00	6.230E-01	4.077E-01	9.537E-02	4.202
	+	74.81		2.360E+00	3.389E-01	2.742E-01	2.346E-02	8.606
	+	77.11		2.231E+00	2.575E-01	1.639E-01	1.413E-02	13.613
	+	87.30		1.579E+00	3.525E-01	3.374E-01	3.155E-02	4.681
TH-228	+	238.63	*	1.797E+00	2.159E-01	8.330E-02	8.283E-03	21.573
	+	300.09		1.840E+00	1.724E+00	1.123E+00	6.665E-01	1.638
	+	609.31	*	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
	+	1120.29		1.947E+00	6.800E-01	4.847E-01	5.205E-02	4.017
	+	1764.49		2.047E+00	6.625E-01	4.542E-01	3.776E-02	4.506
TH-232	+	338.32		1.956E+00	5.326E-01	3.582E-01	3.122E-02	5.462
	+	911.07	*	1.578E+00	3.770E-01	2.508E-01	2.846E-02	6.291
	+	969.11		1.713E+00	6.230E-01	4.077E-01	9.537E-02	4.202
	+	63.29	*	1.520E+00	7.870E-01	7.197E-01	1.271E-01	2.112
	+	92.38		2.128E+00	6.476E-01	4.996E-01	9.282E-02	4.259
U-234	+	609.31	*	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
	+	1120.29		1.947E+00	6.800E-01	4.847E-01	5.205E-02	4.017
	+	1764.49		2.047E+00	6.625E-01	4.542E-01	3.776E-02	4.506
	+	86.50	*	9.839E-01	2.991E-01	2.096E-01	4.742E-02	4.695
	+	95.87		-5.528E-01	6.629E-01	9.060E-01	2.271E-01	-0.610
U-238	+	63.29	*	1.520E+00	7.870E-01	7.197E-01	1.271E-01	2.112
	+	92.38		2.128E+00	5.522E-01	4.996E-01	4.804E-02	4.259
	+	74.67	*	3.754E-01	5.374E-02	4.360E-02	3.695E-03	8.609
	+	86.72		3.690E+01	8.235E+00	7.865E+00	7.320E-01	4.691

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-1.584E+00	2.931E+00	4.481E+00	5.001E-01	-0.353
		142.18		8.595E-01	1.581E+01	2.474E+01	2.507E+00	0.035
ANH-511	+	511.00	*	1.180E-01	7.879E-02	5.328E-02	5.108E-03	2.214

---- 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	*	1.673E-01	3.700E-01	6.437E-01	6.307E-02	0.260
NA-22		1274.54	*	-2.517E-03	5.366E-02	8.576E-02	7.035E-03	-0.029
NA-24		1368.53	*	-5.687E+01	5.366E-02	Half-Life too short		
AL-26		1129.67		2.230E+00	2.138E+00	3.918E+00	3.299E-01	0.569
		1808.65	*	4.484E-02	4.119E-02	8.416E-02	6.965E-03	0.533
TI-44		67.85		3.116E-03	1.981E-02	3.286E-02	2.664E-03	0.095
	+	78.38	*	4.040E-01	4.663E-02	3.812E-02	3.319E-03	10.598
SC-46		889.25	*	-1.885E-02	4.884E-02	7.765E-02	6.905E-03	-0.243
	+	1120.51		3.443E-01	1.181E-01	1.906E-01	1.610E-02	1.807
V-48		944.10		7.485E-01	1.388E+00	2.441E+00	2.140E-01	0.307
		983.50	*	6.018E-02	1.085E-01	1.909E-01	1.670E-02	0.315
		1312.09		-5.379E-02	1.173E-01	1.760E-01	1.434E-02	-0.306
CR-51		320.08	*	-1.262E-01	4.338E-01	6.861E-01	6.379E-02	-0.184
MN-52		744.21		-9.527E-02	5.011E-01	7.874E-01	8.369E-02	-0.121
		848.13		-1.126E+01	1.342E+01	2.022E+01	1.924E+00	-0.557
		935.52		4.903E-01	5.820E-01	1.046E+00	9.169E-02	0.469
		1246.25		6.668E+00	1.427E+01	2.448E+01	2.012E+00	0.272
		1333.61		8.475E+00	1.140E+01	2.091E+01	1.697E+00	0.405
		1434.06	*	2.696E-01	4.779E-01	8.714E-01	7.196E-02	0.309
MN-54		834.83	*	1.332E-03	4.903E-02	8.260E-02	8.006E-03	0.016
CO-56		846.75	*	-6.727E-02	4.919E-02	6.785E-02	6.467E-03	-0.992
		977.42		3.528E-01	3.425E+00	5.748E+00	5.031E-01	0.061
		1037.82		-7.728E-02	4.393E-01	7.073E-01	6.458E-02	-0.109
		1175.09		-8.524E-02	2.799E+00	4.526E+00	3.730E-01	-0.019
		1238.25		6.335E-02	1.331E-01	2.252E-01	1.911E-02	0.281
		1360.21		-2.770E-01	1.171E+00	1.877E+00	1.532E-01	-0.148
		1771.40		1.907E-01	3.114E-01	5.830E-01	4.844E-02	0.327
CO-57		122.06	*	1.558E-02	1.947E-02	3.214E-02	3.692E-03	0.485
		136.48		7.132E-03	1.757E-01	2.757E-01	3.055E-02	0.026
CO-58		810.76	*	2.404E-02	4.696E-02	8.350E-02	8.356E-03	0.288
FE-59		142.65		-6.751E-01	2.667E+00	4.097E+00	4.138E-01	-0.165
		192.34		-2.870E-01	8.275E-01	1.369E+00	1.825E-01	-0.210
		1099.22	*	2.393E-02	1.152E-01	1.937E-01	1.788E-02	0.124
		1291.56		1.221E-01	1.708E-01	3.024E-01	2.842E-02	0.404
CO-60		1173.22		-4.206E-02	5.398E-02	7.760E-02	6.395E-03	-0.542
		1332.49	*	1.498E-02	5.694E-02	9.866E-02	8.007E-03	0.152
ZN-65		1115.52	*	-9.824E-02	1.332E-01	1.610E-01	1.365E-02	-0.610
GE-68		1077.35	*	2.236E+00	1.629E+00	3.084E+00	2.647E-01	0.725
AS-73		53.44	*	9.684E-02	1.785E-01	3.059E-01	2.477E-02	0.317
AS-74		595.88	*	-3.810E-02	1.242E-01	1.975E-01	2.073E-02	-0.193
		634.78		-2.242E-01	5.093E-01	7.829E-01	8.484E-02	-0.286

---- 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		-1.295E+00	2.126E+00	3.142E+00	3.128E-01	-0.412
		96.73		-1.796E-01	5.346E-01	7.736E-01	1.117E-01	-0.232
		121.11		-6.537E-02	1.085E-01	1.644E-01	2.217E-02	-0.398
		136.00		-7.723E-03	3.290E-02	5.073E-02	5.391E-03	-0.152
		198.60		4.168E-01	1.609E+00	2.745E+00	2.607E-01	0.152
		264.65	*	-2.979E-02	4.001E-02	6.203E-02	5.569E-03	-0.480
		279.53		-3.667E-02	1.093E-01	1.747E-01	1.613E-02	-0.210
		303.91		-9.135E-01	2.461E+00	3.438E+00	4.021E-01	-0.266
		400.65		6.474E-02	3.036E-01	4.899E-01	5.245E-02	0.132
BR-77	+	87.88		2.304E-03	3.036E-01	Half-Life too short		
		200.40		-1.637E-05	3.036E-01	Half-Life too short		
	+	239.00		8.857E-04	3.036E-01	Half-Life too short		
		249.79		7.840E-05	3.036E-01	Half-Life too short		
		281.68		-1.852E-04	3.036E-01	Half-Life too short		
		297.23		1.683E-04	3.036E-01	Half-Life too short		
		303.76		-1.686E-04	3.036E-01	Half-Life too short		
		439.47		4.329E-05	3.036E-01	Half-Life too short		
		484.57		-2.071E-04	3.036E-01	Half-Life too short		
		520.65	*	-2.635E-05	3.036E-01	Half-Life too short		
		574.64		8.432E-04	3.036E-01	Half-Life too short		
		578.91		-2.822E-04	3.036E-01	Half-Life too short		
		585.48		1.035E-03	3.036E-01	Half-Life too short		
		755.35		1.541E-05	3.036E-01	Half-Life too short		
		817.79		1.890E-04	3.036E-01	Half-Life too short		
SR-82		698.33		1.608E+01	4.565E+01	7.661E+01	8.360E+00	0.210
		776.49	*	-4.053E-01	5.552E-01	8.060E-01	8.344E-02	-0.503
		1395.20		-6.910E+00	1.534E+01	2.359E+01	1.937E+00	-0.293
RB-83		520.41	*	-2.796E-02	6.880E-02	1.092E-01	1.059E-02	-0.256
		529.64		1.913E-02	1.185E-01	1.999E-01	1.960E-02	0.096
		552.65		-1.881E-01	2.390E-01	3.631E-01	3.653E-02	-0.518
RB-84		881.50	*	2.217E-02	9.553E-02	1.638E-01	1.477E-02	0.135
KR-85		513.99	*	7.783E+00	8.416E+00	1.367E+01	1.315E+00	0.569
SR-85		513.99	*	4.158E-02	4.496E-02	7.301E-02	7.026E-03	0.569
RB-86		1076.63	*	1.243E+00	1.262E+00	2.291E+00	1.967E-01	0.543
Y-88		898.02		-2.013E-02	5.115E-02	8.116E-02	7.133E-03	-0.248
		1836.01	*	8.164E-03	4.986E-02	8.425E-02	6.956E-03	0.097
ZR-88		392.90	*	-1.248E-02	3.480E-02	5.337E-02	4.252E-03	-0.234
Y-91		1204.90	*	-2.735E+00	2.504E+01	3.999E+01	3.295E+00	-0.068
NB-94		702.63	*	3.109E-02	4.155E-02	7.221E-02	7.864E-03	0.431
		871.10		4.618E-02	4.652E-02	8.525E-02	7.825E-03	0.542
NB-95		765.79	*	6.713E-02	6.026E-02	9.808E-02	1.025E-02	0.684
NB-95M		235.69	*	-5.269E-02	1.341E-01	1.937E-01	1.951E-02	-0.272
ZR-95		724.18		5.413E-02	1.215E-01	1.836E-01	2.088E-02	0.295
		756.15	*	1.418E-02	9.959E-02	1.623E-01	1.828E-02	0.087
NB-97		657.90	*	1.684E+00	9.959E-02	Half-Life too short		
		1024.50		-1.496E+02	9.959E-02	Half-Life too short		
ZR-97		254.15		-1.784E+02	9.959E-02	Half-Life too short		
		355.39		-3.890E+01	9.959E-02	Half-Life too short		
		507.63	*	1.236E+02	9.959E-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			-3.969E+02	9.959E-02	Half-Life	too short	
	1021.30			2.116E+02	9.959E-02	Half-Life	too short	
	1147.95			-3.291E+02	9.959E-02	Half-Life	too short	
	1362.66			1.809E+02	9.959E-02	Half-Life	too short	
	1750.46			-1.009E+02	9.959E-02	Half-Life	too short	
MO-99	140.51			6.360E+01	6.367E+01	1.011E+02	2.856E+01	0.629
	181.06			-5.267E+00	4.191E+01	6.343E+01	1.151E+01	-0.083
	366.43			4.035E+01	2.359E+02	3.828E+02	3.210E+01	0.105
	739.58	*		2.072E+01	3.969E+01	6.738E+01	1.107E+01	0.307
	778.00			-7.183E+01	1.170E+02	1.724E+02	1.782E+01	-0.417
TC-99M	140.51	*		1.701E+15	1.170E+02	Half-Life	too short	
RH-101	127.23			7.737E-03	2.744E-02	4.057E-02	4.529E-03	0.191
	198.01	*		1.111E-03	2.879E-02	4.860E-02	4.151E-03	0.023
	325.23			-4.414E-02	2.335E-01	3.290E-01	2.902E-02	-0.134
RH-102	418.52			1.196E-01	2.974E-01	5.199E-01	4.341E-02	0.230
	475.06	*		-3.721E-02	3.240E-02	4.841E-02	4.422E-03	-0.769
	631.29			2.913E-02	6.623E-02	1.130E-01	1.222E-02	0.258
	697.49			-1.358E-02	9.659E-02	1.539E-01	1.680E-02	-0.088
+	766.84			2.673E-01	1.878E-01	2.669E-01	2.787E-02	1.001
	1046.59			-1.282E-01	1.541E-01	2.257E-01	1.954E-02	-0.568
	1112.84			-1.797E-02	3.114E-01	4.348E-01	3.686E-02	-0.041
RU-103	497.08	*		-2.519E-03	4.699E-02	7.813E-02	1.145E-02	-0.032
+	610.33			1.551E+01	3.464E+00	3.950E+00	7.033E-01	3.927
RH-106	511.85			1.723E-01	2.518E-01	4.816E-01	4.622E-02	0.358
	621.84	*		-2.955E-01	4.086E-01	6.151E-01	9.107E-02	-0.480
	1050.47			9.929E-01	2.747E+00	4.729E+00	4.090E-01	0.210
RU-106	511.85			1.723E-01	2.518E-01	4.816E-01	4.622E-02	0.358
	621.84	*		-2.955E-01	4.075E-01	6.151E-01	6.599E-02	-0.480
	1050.47			9.929E-01	2.747E+00	4.729E+00	4.090E-01	0.210
AG-108M	433.93	*		-5.880E-03	3.462E-02	5.772E-02	5.147E-03	-0.102
	614.37			3.935E-03	5.271E-02	7.644E-02	8.362E-03	0.051
	722.95			-1.428E-02	5.370E-02	7.204E-02	7.959E-03	-0.198
AG-110M	657.75	*		9.390E-03	4.676E-02	7.755E-02	8.699E-03	0.121
	677.61			-1.859E-01	3.771E-01	5.760E-01	6.444E-02	-0.323
	706.67			-1.935E-01	2.640E-01	3.896E-01	4.309E-02	-0.497
	763.93			-4.850E-03	2.193E-01	3.053E-01	3.258E-02	-0.016
	884.67			-4.123E-02	6.150E-02	9.414E-02	8.693E-03	-0.438
	937.48			-1.552E-01	1.603E-01	2.370E-01	2.150E-02	-0.655
	1384.27			3.587E-01	2.183E-01	4.306E-01	3.639E-02	0.833
IN-111	171.28			-4.945E-01	2.173E+00	3.658E+00	3.000E-01	-0.135
	245.39	*		-1.010E+00	2.692E+00	3.854E+00	3.432E-01	-0.262
IN-113M	391.69	*		3.467E-03	4.828E-02	7.718E-02	6.357E-03	0.045
SN-113	391.69	*		3.467E-03	4.828E-02	7.718E-02	6.357E-03	0.045
IN-114M	190.27	*		1.330E-01	1.697E-01	2.863E-01	2.419E-02	0.465
CD-115	260.90			1.330E-04	1.697E-01	Half-Life	too short	
	492.35			1.459E-05	1.697E-01	Half-Life	too short	
	527.90	*		2.983E-06	1.697E-01	Half-Life	too short	
SN-117M	156.02			-4.181E+00	2.306E+00	3.557E+00	3.210E-01	-1.176
	158.56	*		4.221E-02	5.428E-02	9.616E-02	8.464E-03	0.439

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122	563.90	*		1.537E+00	6.384E+00	1.079E+01	1.098E+00	0.142
	692.80			7.350E+01	1.501E+02	2.550E+02	2.789E+01	0.288
I-123	159.00	*		3.076E+02	1.501E+02	Half-Life too short		
	528.96			1.244E+04	1.501E+02	Half-Life too short		
TE-123M	159.00	*		1.096E-02	2.346E-02	4.104E-02	3.617E-03	0.267
I-124	602.71	*		-1.448E+00	1.628E+00	2.322E+00	2.452E-01	-0.624
	722.78			-3.032E+00	1.071E+01	1.432E+01	1.543E+00	-0.212
	1325.50			1.272E-01	8.779E+01	1.474E+02	1.198E+01	0.001
+	1376.25			1.215E+02	1.341E+02	1.658E+02	1.357E+01	0.733
	1509.49			4.606E+01	2.789E+01	6.214E+01	5.173E+00	0.741
	1691.02			-8.275E-02	6.625E+00	1.079E+01	9.017E-01	-0.008
SB-124	602.71			-4.604E-02	5.174E-02	7.381E-02	7.794E-03	-0.624
	645.85			3.211E-01	5.837E-01	1.010E+00	1.145E-01	0.318
	709.31			1.337E+00	3.443E+00	5.802E+00	6.299E-01	0.230
	713.82			-4.217E-01	2.018E+00	3.174E+00	4.350E-01	-0.133
	722.78			-1.397E-01	4.935E-01	6.599E-01	7.210E-02	-0.212
+	968.20			1.845E+01	5.385E+00	9.767E+00	8.555E-01	1.889
	1045.16			-1.105E+00	3.413E+00	5.381E+00	4.660E-01	-0.205
	1325.50			6.260E-03	4.321E+00	7.253E+00	5.895E-01	0.001
	1368.21			-1.988E+00	2.724E+00	3.599E+00	4.748E-01	-0.552
	1436.60			-7.040E-01	4.742E+00	7.673E+00	6.339E-01	-0.092
	1691.02	*		-8.994E-04	7.201E-02	1.173E-01	1.021E-02	-0.008
SB-125	427.89	*		4.981E-02	9.845E-02	1.730E-01	1.498E-02	0.288
+	463.38			8.921E-01	5.610E-01	6.774E-01	6.524E-02	1.317
	600.56			1.190E-01	2.249E-01	3.861E-01	4.273E-02	0.308
	635.90			-1.426E-01	3.349E-01	5.156E-01	5.882E-02	-0.277
TE-125M	109.28	*		6.801E-01	6.981E+00	1.119E+01	1.346E+00	0.061
I-126	388.63			-1.878E-01	2.716E-01	4.026E-01	3.224E-02	-0.466
	666.33	*		-5.807E-03	2.645E-01	4.288E-01	4.731E-02	-0.014
	753.82			1.699E+00	2.460E+00	4.228E+00	4.462E-01	0.402
SB-126	223.80			1.207E+00	4.051E+00	6.886E+00	6.049E-01	0.175
	278.60			4.233E+00	2.868E+00	5.125E+00	4.570E-01	0.826
+	296.50			1.834E+01	3.904E+00	4.343E+00	3.876E-01	4.223
	414.70			-5.127E-02	9.144E-02	1.478E-01	1.226E-02	-0.347
	415.30			-2.693E+00	7.719E+00	1.272E+01	1.056E+00	-0.212
	555.20			-2.441E+00	5.792E+00	9.176E+00	9.257E-01	-0.266
	573.80			1.350E+00	1.361E+00	2.462E+00	2.531E-01	0.548
	593.00			-2.896E-02	1.226E+00	2.009E+00	2.103E-01	-0.014
	656.30			4.879E-02	5.432E+00	8.849E+00	9.738E-01	0.006
	666.33			-2.449E-03	1.115E-01	1.808E-01	1.995E-02	-0.014
	675.00			-1.044E+00	3.096E+00	4.835E+00	5.321E-01	-0.216
	695.00			-8.438E-02	1.234E-01	1.842E-01	2.013E-02	-0.458
	697.00			-2.265E-01	4.267E-01	6.497E-01	7.094E-02	-0.349
	720.50	*		1.500E-01	2.079E-01	3.534E-01	3.814E-02	0.424
	856.80			4.368E-02	6.760E-01	9.984E-01	9.375E-02	0.044
	989.30			-1.201E+00	2.113E+00	3.248E+00	2.840E-01	-0.370
	1034.80			-1.690E+00	1.410E+01	2.284E+01	1.982E+00	-0.074
	1213.00			3.553E+00	7.411E+00	1.269E+01	1.045E+00	0.280
SB-127	61.10			3.356E+00	3.849E+01	5.948E+01	7.063E+00	0.056

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	252.40			-2.134E+00	7.900E+00	1.272E+01	5.400E+00	-0.168
	290.80			-2.420E+01	5.020E+01	6.982E+01	8.810E+00	-0.347
	411.60			-2.646E+01	2.787E+01	3.943E+01	6.482E+00	-0.671
	444.90			4.338E+00	2.020E+01	3.470E+01	4.760E+00	0.125
	473.00			4.845E-02	3.700E+00	6.217E+00	8.868E-01	0.008
	543.00			5.321E+00	3.690E+01	6.201E+01	1.002E+01	0.086
	603.60			-1.980E+01	3.361E+01	4.441E+01	6.633E+00	-0.446
	685.20	*		-2.496E+00	3.530E+00	5.240E+00	7.500E-01	-0.476
	698.50			1.429E+01	3.708E+01	6.233E+01	1.122E+01	0.229
	722.20			-3.941E+01	7.973E+01	1.023E+02	1.431E+01	-0.385
	783.80			6.404E+00	9.365E+00	1.606E+01	2.354E+00	0.399
XE-127	57.60			-4.570E-01	1.702E+00	2.797E+00	2.203E-01	-0.163
	145.22			-5.297E-01	6.932E-01	1.028E+00	1.018E-01	-0.515
	172.10			3.204E-02	1.039E-01	1.797E-01	1.475E-02	0.178
	202.84	*		-7.045E-03	4.621E-02	7.710E-02	6.626E-03	-0.091
	374.96			9.151E-02	2.331E-01	3.842E-01	3.170E-02	0.238
I-131	80.18			-1.888E+00	4.373E+00	5.619E+00	5.008E-01	-0.336
	284.30			-1.077E-01	2.003E+00	3.263E+00	3.063E-01	-0.033
	364.48	*		-4.739E-02	1.756E-01	2.741E-01	2.446E-02	-0.173
	636.97			1.746E+00	2.564E+00	4.434E+00	4.995E-01	0.394
	722.89			-3.444E+00	1.266E+01	1.697E+01	1.840E+00	-0.203
TE-132	49.72			3.445E+00	7.125E+00	1.142E+01	1.347E+00	0.302
	111.76			9.218E+00	5.072E+01	8.148E+01	1.107E+01	0.113
	116.30			4.021E+00	4.783E+01	7.621E+01	1.054E+01	0.053
	228.16	*		4.128E-01	1.370E+00	2.322E+00	3.856E-01	0.178
BA-133	53.15			8.089E-01	7.264E-01	1.274E+00	1.034E-01	0.635
	79.62			-3.599E-01	8.612E-01	1.106E+00	1.695E-01	-0.325
	81.00			-3.799E-02	6.673E-02	8.439E-02	1.352E-02	-0.450
	276.40			6.645E-02	3.531E-01	5.860E-01	8.573E-02	0.113
	302.84			4.765E-03	1.609E-01	2.343E-01	3.158E-02	0.020
	356.01	*		1.587E-02	4.416E-02	6.582E-02	8.650E-03	0.241
	383.85			1.196E-01	3.346E-01	5.485E-01	6.721E-02	0.218
I-133	510.53	+		2.738E+01	3.346E-01	Half-Life	too short	
	529.87	*		2.631E-02	3.346E-01	Half-Life	too short	
	706.58			-8.197E+00	3.346E-01	Half-Life	too short	
	856.28			-6.191E+00	3.346E-01	Half-Life	too short	
	875.33			-6.441E-01	3.346E-01	Half-Life	too short	
	1236.41			1.731E+01	3.346E-01	Half-Life	too short	
	1298.22			7.494E+00	3.346E-01	Half-Life	too short	
CS-134	475.35			-2.778E+00	2.125E+00	3.114E+00	2.845E-01	-0.892
	563.23			-1.381E-01	4.247E-01	6.792E-01	6.957E-02	-0.203
	569.32			2.964E-03	2.222E-01	3.671E-01	3.794E-02	0.008
	604.70			1.625E-02	3.957E-02	6.036E-02	6.395E-03	0.269
	795.84	*		1.970E-02	6.220E-02	1.028E-01	1.049E-02	0.192
	801.93			1.960E-01	5.091E-01	8.902E-01	9.019E-02	0.220
	1038.57			6.278E-01	5.344E+00	8.911E+00	7.728E-01	0.070
	1167.94			2.070E+00	3.093E+00	5.448E+00	4.502E-01	0.380
	1365.15			1.075E+00	1.555E+00	2.874E+00	2.467E-01	0.374
CS-135	268.24	*		2.316E-01	1.600E-01	2.625E-01	2.688E-02	0.882

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135		288.45		2.006E+13	1.600E-01	Half-Life	too short	
		417.63		3.430E+14	1.600E-01	Half-Life	too short	
		546.56		-8.259E+13	1.600E-01	Half-Life	too short	
		836.80		-4.930E+13	1.600E-01	Half-Life	too short	
		1038.76		5.422E+13	1.600E-01	Half-Life	too short	
		1124.00		-1.036E+15	1.600E-01	Half-Life	too short	
		1131.51		-1.059E+14	1.600E-01	Half-Life	too short	
		1260.41	*	-9.355E+13	1.600E-01	Half-Life	too short	
		1457.56		1.293E+16	1.600E-01	Half-Life	too short	
		1678.03		9.754E+13	1.600E-01	Half-Life	too short	
		1706.46		-3.752E+13	1.600E-01	Half-Life	too short	
		1791.20		3.722E+13	1.600E-01	Half-Life	too short	
CS-136	+	66.91		4.474E-01	3.905E-01	6.648E-01	1.006E-01	0.673
		86.29		5.372E+00	1.304E+00	1.597E+00	2.124E-01	3.365
		153.22		1.327E+00	6.775E-01	1.239E+00	1.266E-01	1.071
		163.89		-1.298E-01	1.039E+00	1.765E+00	1.657E-01	-0.074
		176.55		-2.131E-01	3.773E-01	6.218E-01	5.468E-02	-0.343
		273.65		4.310E-01	4.963E-01	7.899E-01	7.491E-02	0.546
		340.57		1.048E-01	1.574E-01	2.421E-01	2.167E-02	0.433
		818.51		7.791E-03	1.100E-01	1.866E-01	1.849E-02	0.042
		1048.07	*	7.654E-02	1.596E-01	2.784E-01	2.512E-02	0.275
		1235.34		4.618E-01	1.005E+00	1.701E+00	1.967E-01	0.272
BA-137M		661.65	*	-6.693E-03	4.447E-02	7.118E-02	7.861E-03	-0.094
CS-137		661.65	*	-7.075E-03	4.701E-02	7.524E-02	8.319E-03	-0.094
CE-139		165.85	*	-2.553E-03	2.395E-02	4.066E-02	3.305E-03	-0.063
BA-140		162.64		4.480E-02	7.387E-01	1.267E+00	1.133E-01	0.035
		304.84		-3.929E-02	1.778E+00	2.574E+00	7.236E-01	-0.015
LA-140	+	423.70		-7.514E-01	2.433E+00	3.999E+00	1.294E+00	-0.188
		537.32	*	2.256E-01	3.674E-01	6.316E-01	2.116E-01	0.357
		328.77		8.046E-01	4.945E-01	7.315E-01	6.781E-02	1.100
		432.53		-2.107E+00	2.673E+00	4.210E+00	3.779E-01	-0.501
		487.03		-8.162E-02	1.900E-01	3.056E-01	2.991E-02	-0.267
		751.79		-7.021E-01	2.994E+00	4.685E+00	5.309E-01	-0.150
		815.85		-6.951E-02	4.528E-01	7.486E-01	8.087E-02	-0.093
		867.82		1.044E+00	2.241E+00	3.932E+00	3.797E-01	0.265
		919.63		2.278E+00	4.053E+00	7.198E+00	7.747E-01	0.317
		925.24		-8.357E-01	1.720E+00	2.684E+00	2.496E-01	-0.311
		1596.49	*	4.114E-02	1.428E-01	2.216E-01	1.853E-02	-0.186
		CE-141		145.44	*	-5.374E-02	6.333E-02	9.329E-02
CE-143		57.37		-6.179E-04	6.333E-02	Half-Life	too short	
		231.56		1.236E-02	6.333E-02	Half-Life	too short	
		293.26	*	2.277E-03	6.333E-02	Half-Life	too short	
	+	350.59		2.410E-01	6.333E-02	Half-Life	too short	
		490.36		-9.503E-03	6.333E-02	Half-Life	too short	
		664.57		-1.098E-02	6.333E-02	Half-Life	too short	
CE-144		721.93		-7.299E-03	6.333E-02	Half-Life	too short	
		80.11		-6.495E-01	1.448E+00	1.858E+00	1.640E-01	-0.349
		133.54	*	-3.746E-02	1.668E-01	2.577E-01	4.339E-02	-0.145
PM-144		476.78		-6.636E-02	7.660E-02	1.182E-01	1.173E-02	-0.561

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144		618.01		-4.628E-03	4.051E-02	6.558E-02	7.141E-03	-0.071
		696.49	*	-5.438E-03	4.128E-02	6.580E-02	7.188E-03	-0.083
		778.57		-1.425E+00	2.963E+00	4.452E+00	4.601E-01	-0.320
		696.49	*	-3.693E-01	2.803E+00	4.468E+00	4.879E-01	-0.083
PM-146		1489.15		-1.792E+01	1.574E+01	1.960E+01	1.629E+00	-0.914
		453.90	*	2.677E-02	4.373E-02	7.743E-02	8.448E-03	0.346
		633.02		3.203E-01	1.660E+00	2.759E+00	1.047E+00	0.116
		735.90		-2.942E-02	1.872E-01	2.953E-01	8.650E-02	-0.100
ND-147		747.13		-1.313E-03	1.165E-01	1.870E-01	2.868E-02	-0.007
	+	91.11		1.054E+00	3.040E-01	3.850E-01	3.927E-02	2.736
		319.41		-1.079E-01	4.396E+00	7.102E+00	6.289E-01	-0.015
		439.89		-1.804E+00	7.883E+00	1.306E+01	1.131E+00	-0.138
PM-149		531.02	*	-2.942E-01	7.832E-01	1.249E+00	1.958E-01	-0.236
		285.90	*	-2.147E-04	7.832E-01	Half-Life	too short	
EU-152		121.78		-5.393E-03	5.766E-02	9.056E-02	1.130E-02	-0.060
		244.69		-9.737E-02	3.195E-01	4.610E-01	4.104E-02	-0.211
		344.27	*	5.844E-02	9.711E-02	1.573E-01	1.443E-02	0.372
		443.98		1.263E-01	9.688E-01	1.653E+00	1.441E-01	0.076
		778.89		-6.346E-02	3.314E-01	5.174E-01	5.344E-02	-0.123
		867.32		4.492E-01	1.081E+00	1.847E+00	1.706E-01	0.243
	+	964.01		9.743E-01	4.945E-01	8.240E-01	7.219E-02	1.182
		1085.78		6.220E-02	4.729E-01	7.883E-01	6.748E-02	0.079
		1112.02		-2.410E-01	4.677E-01	5.945E-01	5.041E-02	-0.405
		1407.95		2.831E-01	2.545E-01	4.883E-01	4.017E-02	0.580
GD-153		69.67		-3.702E-01	7.409E-01	1.192E+00	9.775E-02	-0.310
	+	83.37		2.237E+01	9.994E+00	1.520E+01	1.376E+00	1.472
		97.43	*	-4.376E-02	5.503E-02	8.438E-02	8.336E-03	-0.519
		103.18		-1.248E-01	7.773E-02	1.112E-01	1.135E-02	-1.123
EU-154		123.07		-1.521E-02	4.112E-02	6.334E-02	8.624E-03	-0.240
		247.94		1.307E-01	3.304E-01	5.602E-01	6.552E-02	0.233
		591.81		-1.909E-01	6.537E-01	1.038E+00	1.358E-01	-0.184
		723.30		-8.602E-02	2.274E-01	2.987E-01	3.439E-02	-0.288
EU-155		756.87		1.353E-01	1.001E+00	1.631E+00	2.188E-01	0.083
		873.19		-9.850E-02	4.140E-01	6.752E-01	8.521E-02	-0.146
		996.32		-2.726E-01	4.824E-01	7.374E-01	1.314E-01	-0.370
		1004.76		-1.961E-01	2.716E-01	4.049E-01	4.745E-02	-0.484
		1274.45	*	4.365E-02	1.429E-01	2.411E-01	2.650E-02	0.181
		48.70		-2.946E-01	3.620E-01	5.355E-01	4.530E-02	-0.550
		60.01		-1.574E-01	1.580E+00	2.419E+00	1.890E-01	-0.065
	+	86.54		4.041E-01	9.034E-02	1.284E-01	1.203E-02	3.149
		105.31	*	1.340E-01	8.126E-02	1.391E-01	1.450E-02	0.963
	TB-160	+	86.79		1.119E+00	2.498E-01	3.711E-01	3.456E-02
		197.04		-1.268E-01	4.968E-01	8.257E-01	7.043E-02	-0.154
		215.65		2.085E-01	6.886E-01	1.171E+00	1.021E-01	0.178
	+	298.57		2.728E-01	1.993E-01	1.972E-01	1.760E-02	1.383
		879.36	*	1.358E-01	1.763E-01	3.198E-01	2.894E-02	0.425
		962.29		1.388E+00	7.407E-01	1.418E+00	1.242E-01	0.979
		966.15		1.362E+00	3.649E-01	7.308E-01	6.402E-02	1.864
		1177.93		1.060E-01	4.423E-01	7.415E-01	6.111E-02	0.143

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		5.167E-02	8.318E-01	1.353E+00	1.109E-01	0.038
		80.57		9.039E-02	1.708E-01	2.352E-01	2.083E-02	0.384
	+	184.41		1.394E-01	5.498E-02	5.908E-02	4.949E-03	2.360
		280.46		7.183E-04	8.039E-02	1.317E-01	1.175E-02	0.005
		410.95		1.835E-01	2.639E-01	4.433E-01	3.652E-02	0.414
		711.68	*	4.650E-02	7.306E-02	1.261E-01	1.367E-02	0.369
		752.31		1.630E-01	3.664E-01	6.161E-01	6.509E-02	0.265
TM-171		810.29		5.097E-02	6.922E-02	1.256E-01	1.255E-02	0.406
		51.35		-4.894E+00	5.506E+00	8.807E+00	7.258E-01	-0.556
		52.39		3.127E+00	3.037E+00	5.312E+00	4.339E-01	0.589
		59.40		2.265E+00	8.236E+00	1.289E+01	1.005E+00	0.176
		66.72	*	7.302E-01	1.255E+01	1.924E+01	1.550E+00	0.038
LU-176	+	88.36		7.947E-01	1.774E-01	2.159E-01	2.034E-02	3.681
		201.83		4.966E-03	2.635E-02	4.475E-02	3.840E-03	0.111
		306.84	*	1.198E-02	2.625E-02	4.215E-02	3.754E-03	0.284
		401.10		-2.290E-02	7.686E+00	1.217E+01	9.850E-01	-0.002
LU-177		112.95		6.476E-01	1.921E+00	3.107E+00	3.366E-01	0.208
	+	208.36	*	4.716E+00	2.402E+00	2.932E+00	2.536E-01	1.608
LU-177M		52.97		3.706E-01	3.303E-01	5.793E-01	4.709E-02	0.640
		54.07		-6.189E-02	1.864E-01	3.064E-01	2.470E-02	-0.202
		61.30		1.169E-01	5.075E-01	7.901E-01	6.201E-02	0.148
		121.62		-1.513E-02	2.958E-01	4.658E-01	5.332E-02	-0.032
		147.16		-4.761E-02	5.935E-01	9.185E-01	8.960E-02	-0.052
		171.86		1.906E-01	3.983E-01	6.943E-01	5.698E-02	0.275
		218.09		4.073E-01	7.572E-01	1.304E+00	1.139E-01	0.312
	+	268.79		2.446E+00	1.307E+00	1.530E+00	1.367E-01	1.599
		319.02		3.066E-02	2.780E-01	4.537E-01	4.017E-02	0.068
		367.43		9.951E-02	9.860E-01	1.589E+00	1.330E-01	0.063
		413.65	*	-9.996E-02	1.840E-01	2.737E-01	2.266E-02	-0.365
		56.28		-4.243E-02	2.383E-01	3.938E-01	3.126E-02	-0.108
HF-181		57.53		-3.983E-02	1.412E-01	2.318E-01	1.826E-02	-0.172
		65.20		-4.418E-01	4.120E-01	5.921E-01	4.732E-02	-0.746
		133.02		-2.077E-02	5.614E-02	8.590E-02	9.263E-03	-0.242
		136.25		-4.113E-02	4.030E-01	6.268E-01	6.620E-02	-0.066
		345.85		8.976E-03	2.202E-01	3.380E-01	2.922E-02	0.027
		482.03	*	-4.181E-02	5.441E-02	8.510E-02	7.851E-03	-0.491
W-181		56.28		-1.592E-02	8.950E-02	1.479E-01	1.174E-02	-0.108
		57.53		-1.499E-02	5.305E-02	8.711E-02	6.863E-03	-0.172
		65.20	*	-1.647E-01	1.536E-01	2.207E-01	1.764E-02	-0.746
TA-182		67.75		4.281E-02	4.715E-02	8.040E-02	6.517E-03	0.532
		100.10		8.635E-02	1.299E-01	2.152E-01	2.158E-02	0.401
		152.43		-4.331E-02	3.160E-01	4.859E-01	4.533E-02	-0.089
		222.10		-4.384E-02	2.908E-01	4.808E-01	4.217E-02	-0.091
		1001.68		4.991E-01	2.640E+00	4.455E+00	3.889E-01	0.112
	+	1121.28		9.426E-01	3.232E-01	5.010E-01	4.233E-02	1.881
RE-183		1189.05		-1.928E-01	4.374E-01	6.713E-01	5.532E-02	-0.287
		1221.42	*	2.359E-03	2.955E-01	4.784E-01	3.938E-02	0.005
		1230.97		-4.168E-01	6.769E-01	1.014E+00	8.341E-02	-0.411
		57.98		-1.191E-02	5.551E-02	9.144E-02	7.185E-03	-0.130

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		9.992E-03	3.496E-02	5.474E-02	4.271E-03	0.183
		67.20		1.311E-01	8.616E-02	1.497E-01	1.209E-02	0.876
		162.32	*	-1.308E-02	9.037E-02	1.534E-01	1.298E-02	-0.085
	+	208.81		2.943E+00	1.499E+00	1.845E+00	1.597E-01	1.595
		291.72		5.434E-01	1.014E+00	1.553E+00	1.386E-01	0.350
		57.98		-4.292E-02	2.000E-01	3.294E-01	2.588E-02	-0.130
		59.32		3.596E-02	1.258E-01	1.970E-01	1.537E-02	0.183
		67.20		4.721E-01	3.103E-01	5.390E-01	4.355E-02	0.876
		161.27		5.251E-02	2.898E-01	5.001E-01	4.279E-02	0.105
		216.55		8.969E-02	2.411E-01	4.115E-01	3.590E-02	0.218
		252.85	*	-1.170E-01	2.125E-01	3.371E-01	3.009E-02	-0.347
		318.01		8.243E-02	4.753E-01	7.797E-01	6.909E-02	0.106
		792.07		1.254E-01	1.308E+00	2.112E+00	2.153E-01	0.059
		903.28		5.737E-01	1.426E+00	2.286E+00	2.000E-01	0.251
OS-185		920.93		1.602E-01	5.486E-01	9.454E-01	8.284E-02	0.169
		59.72		2.187E-02	9.420E-02	1.470E-01	1.147E-02	0.149
		61.14		6.223E-03	5.589E-02	8.647E-02	6.783E-03	0.072
		69.30		-8.953E-02	1.330E-01	2.123E-01	1.736E-02	-0.422
		592.07		1.540E-01	2.676E+00	4.428E+00	4.632E-01	0.035
		646.12	*	-3.573E-03	5.126E-02	8.289E-02	9.058E-03	-0.043
		717.42		1.460E-01	1.076E+00	1.765E+00	1.908E-01	0.083
		874.81		-6.976E-02	7.752E-01	1.284E+00	1.171E-01	-0.054
		880.27		1.760E-01	1.012E+00	1.724E+00	1.558E-01	0.102
		155.03	*	-5.173E-03	1.462E-01	2.504E-01	2.281E-02	-0.021
RE-188		477.96		2.750E+00	3.645E+00	6.472E+00	5.937E-01	0.425
		633.10		6.140E-01	3.468E+00	5.771E+00	6.246E-01	0.106
	+	63.58		6.353E+01	3.132E+01	3.839E+01	3.044E+00	1.655
W-188		227.08		-7.113E-01	1.104E+01	1.832E+01	1.613E+00	-0.039
	*	290.67		-4.511E+00	8.920E+00	1.239E+01	1.106E+00	-0.364
IR-192	+	295.96		1.171E+00	2.496E-01	3.315E-01	2.979E-02	3.533
		308.46		-7.368E-02	1.032E-01	1.581E-01	1.414E-02	-0.466
		316.51	*	1.877E-02	3.707E-02	6.227E-02	5.534E-03	0.301
AU-195		468.07		-6.455E-04	8.269E-02	1.289E-01	1.242E-02	-0.005
		604.41		-6.896E-02	5.967E-01	8.439E-01	1.214E-01	-0.082
		612.46		-9.936E-01	9.977E-01	1.216E+00	1.424E-01	-0.817
		65.12		-7.083E-02	7.059E-02	1.019E-01	8.143E-03	-0.695
		66.83		4.014E-02	3.804E-02	6.527E-02	5.262E-03	0.615
	+	75.70		1.233E+00	1.765E-01	2.482E-01	2.119E-02	4.967
		98.88	*	2.761E-01	1.624E-01	2.795E-01	2.783E-02	0.988
TL-200	+	129.76		5.747E+00	3.668E+00	4.312E+00	4.742E-01	1.333
		367.94	*	-1.227E-03	3.668E+00	Half-Life	too short	
		579.30		-3.520E-02	3.668E+00	Half-Life	too short	
		828.27		-1.343E-02	3.668E+00	Half-Life	too short	
TL-201		1205.75		-1.496E-03	3.668E+00	Half-Life	too short	
		68.90		-6.891E-01	4.999E+00	8.182E+00	6.677E-01	-0.084
		70.82		-1.585E+00	3.154E+00	4.666E+00	3.853E-01	-0.340
		80.30		-2.423E+00	8.248E+00	1.071E+01	9.462E-01	-0.226
		135.34		-1.141E+01	5.022E+01	7.750E+01	8.234E+00	-0.147
	*	167.43		8.616E+00	1.314E+01	2.314E+01	1.885E+00	0.372

---- 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		-3.175E-02	2.304E-01	3.770E-01	3.077E-02	-0.084
		70.82		-7.283E-02	1.449E-01	2.144E-01	1.771E-02	-0.340
		80.30		-1.114E-01	3.792E-01	4.922E-01	4.349E-02	-0.226
HG-203		439.56	*	6.106E-03	9.052E-02	1.538E-01	1.330E-02	0.040
		70.83		-2.672E-01	5.343E-01	7.894E-01	1.056E-01	-0.339
		72.87		3.175E-01	3.265E-01	5.159E-01	6.728E-02	0.615
		82.60		4.182E-01	6.213E-01	1.038E+00	1.451E-01	0.403
BI-207		279.20	*	-1.921E-02	4.274E-02	6.781E-02	6.207E-03	-0.283
		72.80		8.202E-02	8.961E-02	1.419E-01	1.188E-02	0.578
	+	74.97		6.739E-01	9.649E-02	1.441E-01	1.224E-02	4.677
	+	84.90		2.862E-01	1.279E-01	1.974E-01	1.810E-02	1.450
		569.67		-5.670E-03	3.461E-02	5.616E-02	5.751E-03	-0.101
TL-207		1063.62	*	5.274E-03	6.779E-02	1.123E-01	9.680E-03	0.047
		1770.23		-1.564E+00	9.283E-01	9.653E-01	8.021E-02	-1.620
		81.07		-8.318E-02	1.469E-01	1.864E-01	1.657E-02	-0.446
	+	83.78		1.887E-01	8.428E-02	1.357E-01	1.233E-02	1.391
		94.90		6.624E-02	1.439E-01	2.205E-01	2.148E-02	0.300
		122.32		3.617E-01	1.379E+00	2.212E+00	2.644E-01	0.164
		144.24		4.336E-01	6.081E-01	9.836E-01	1.070E-01	0.441
		154.21		4.619E-01	3.315E-01	5.981E-01	5.976E-02	0.772
	+	269.46		5.631E-01	3.010E-01	3.663E-01	3.336E-02	1.537
		323.87	*	-3.723E-04	7.076E-01	1.020E+00	1.816E-01	0.000
PO-209	+	338.28		8.169E+00	2.337E+00	2.752E+00	3.408E-01	2.968
		445.03		4.413E-01	2.322E+00	3.981E+00	4.843E-01	0.111
		260.50		4.587E+00	8.658E+00	1.477E+01	1.320E+00	0.311
		262.80		-1.677E+01	2.354E+01	3.662E+01	3.273E+00	-0.458
PB-211		896.60	*	-8.807E+00	9.374E+00	1.379E+01	1.210E+00	-0.638
		404.84	*	-2.207E-01	1.073E+00	1.653E+00	1.035E+00	-0.133
		427.08		1.100E+00	2.289E+00	3.843E+00	2.387E+00	0.286
BI-212		831.96		-8.482E-02	1.551E+00	2.591E+00	1.628E+00	-0.033
	+	727.18	*	1.185E+00	5.362E-01	8.369E-01	9.952E-02	1.416
		785.46		2.750E-01	2.325E+00	3.766E+00	3.865E-01	0.073
PO-215		1620.62		1.797E+00	1.850E+00	3.543E+00	2.963E-01	0.507
		81.07		-8.318E-02	1.469E-01	1.864E-01	1.657E-02	-0.446
	+	83.78		1.887E-01	8.428E-02	1.357E-01	1.233E-02	1.391
		94.90		6.624E-02	1.439E-01	2.205E-01	2.148E-02	0.300
		122.32		3.617E-01	1.379E+00	2.212E+00	2.644E-01	0.164
		144.24		4.336E-01	6.081E-01	9.836E-01	1.070E-01	0.441
		154.21		4.619E-01	3.315E-01	5.981E-01	5.976E-02	0.772
	+	269.46		5.631E-01	3.010E-01	3.663E-01	3.336E-02	1.537
RN-219		323.87	*	-3.723E-04	7.076E-01	1.020E+00	1.816E-01	0.000
	+	338.28		8.169E+00	2.337E+00	2.752E+00	3.408E-01	2.968
		445.03		4.413E-01	2.322E+00	3.981E+00	4.843E-01	0.111
	+	271.23		7.224E-01	3.881E-01	4.400E-01	4.653E-02	1.642
RN-220		401.81	*	2.360E-01	4.727E-01	7.795E-01	1.149E-01	0.303
RA-223		549.76	*	1.249E+01	3.020E+01	5.191E+01	5.206E+00	-0.241
		81.07		-8.318E-02	1.469E-01	1.864E-01	1.657E-02	-0.446
	+	83.78		1.887E-01	8.428E-02	1.357E-01	1.233E-02	1.391
		94.90		6.624E-02	1.439E-01	2.205E-01	2.148E-02	0.300

---- 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		3.617E-01	1.379E+00	2.212E+00	2.644E-01	0.164
		144.24		4.336E-01	6.081E-01	9.836E-01	1.070E-01	0.441
		154.21		4.619E-01	3.315E-01	5.981E-01	5.976E-02	0.772
	+	269.46		5.631E-01	3.010E-01	3.663E-01	3.336E-02	1.537
		323.87	*	-3.723E-04	7.076E-01	1.020E+00	1.816E-01	0.000
	+	338.28		8.169E+00	2.337E+00	2.752E+00	3.408E-01	2.968
		445.03		4.413E-01	2.322E+00	3.981E+00	4.843E-01	0.111
		79.80		-5.714E-01	1.108E+00	1.407E+00	3.036E-01	-0.406
		236.00		5.970E-02	2.310E-01	3.504E-01	4.351E-02	0.170
		256.20	*	5.513E-02	3.507E-01	5.846E-01	9.076E-02	0.094
		286.10		-8.048E-01	1.527E+00	2.395E+00	3.210E-01	-0.336
	+	299.80		3.347E+00	2.497E+00	2.704E+00	4.769E-01	1.238
TH-227		304.40		-8.249E-01	2.112E+00	2.936E+00	5.452E-01	-0.281
		334.20		7.058E-02	2.565E+00	3.694E+00	7.193E-01	0.019
		79.80		-5.714E-01	1.108E+00	1.407E+00	3.074E-01	-0.406
	+	94.00		8.223E+00	2.694E+00	2.391E+00	5.315E-01	3.439
		236.00		5.970E-02	2.309E-01	3.504E-01	3.948E-02	0.170
		256.20	*	5.513E-02	3.507E-01	5.846E-01	1.065E-01	0.094
		286.10		-8.048E-01	1.724E+00	2.395E+00	2.404E+00	-0.336
	+	299.80		3.347E+00	2.497E+00	2.704E+00	4.769E-01	1.238
		304.40		-8.249E-01	2.112E+00	2.936E+00	5.452E-01	-0.281
		334.20		7.058E-02	2.565E+00	3.694E+00	7.193E-01	0.019
	+	85.43		2.824E-01	1.262E-01	1.845E-01	1.699E-02	1.531
	+	88.47		4.575E-01	1.021E-01	1.221E-01	1.151E-02	3.748
TH-229		100.00		8.551E-02	1.315E-01	2.176E-01	2.181E-02	0.393
		193.63	*	-5.090E-01	4.235E-01	6.625E-01	5.624E-02	-0.768
		210.97		4.887E-01	6.756E-01	1.072E+00	9.300E-02	0.456
		283.67	*	-5.133E-01	1.446E+00	2.298E+00	3.530E-01	-0.223
	+	301.29		1.339E+00	9.847E-01	1.069E+00	1.331E-01	1.253
		81.07		-8.318E-02	1.469E-01	1.864E-01	1.657E-02	-0.446
	+	83.78		1.887E-01	8.428E-02	1.357E-01	1.233E-02	1.391
		94.90		6.624E-02	1.439E-01	2.205E-01	2.148E-02	0.300
		122.32		3.617E-01	1.379E+00	2.212E+00	2.644E-01	0.164
		144.24		4.336E-01	6.081E-01	9.836E-01	1.070E-01	0.441
		154.21		4.619E-01	3.315E-01	5.981E-01	5.976E-02	0.772
	+	269.46		5.631E-01	3.010E-01	3.663E-01	3.336E-02	1.537
U-231		323.87	*	-3.723E-04	7.076E-01	1.020E+00	1.816E-01	0.000
	+	338.28		8.169E+00	2.337E+00	2.752E+00	3.408E-01	2.968
		445.03		4.413E-01	2.322E+00	3.981E+00	4.843E-01	0.111
	+	84.21		1.549E+01	6.919E+00	1.111E+01	1.013E+00	1.394
	+	92.29		1.548E+01	4.018E+00	5.192E+00	4.989E-01	2.982
		95.87	*	-1.194E+00	1.405E+00	1.957E+00	1.917E-01	-0.610
		108.00		1.179E+00	2.849E+00	4.645E+00	4.881E-01	0.254
	+	75.28		1.966E+01	3.763E+00	4.185E+00	6.398E-01	4.698
	+	86.59		6.559E+00	2.218E+00	2.109E+00	5.704E-01	3.110
	+	300.12		9.330E-01	6.908E-01	7.673E-01	1.155E-01	1.216
		311.98	*	6.183E-02	6.722E-02	1.159E-01	1.058E-02	0.534
		340.50		4.383E-01	6.305E-01	9.616E-01	2.295E-01	0.456
PA-233		398.62		-1.835E+00	2.535E+00	3.687E+00	9.754E-01	-0.498

---- 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		4.768E-01	1.604E+00	2.784E+00	5.966E-01	0.171
		63.00		1.772E+00	9.030E-01	1.074E+00	1.624E-01	1.650
		94.67		1.073E-01	1.075E-01	1.687E-01	2.227E-02	0.636
		98.44		8.463E-02	7.816E-02	1.070E-01	5.990E-02	0.791
		99.86		3.038E-01	3.283E-01	5.502E-01	5.510E-02	0.552
		111.00		-1.155E-01	1.359E-01	2.037E-01	2.781E-02	-0.567
		131.20		-7.959E-03	9.234E-02	1.325E-01	1.445E-02	-0.060
		152.70		3.002E-01	2.909E-01	4.721E-01	8.216E-02	0.636
	+	186.00		5.019E+00	2.487E+00	2.500E+00	7.788E-01	2.008
		226.40		-1.809E-01	3.373E-01	5.416E-01	7.215E-02	-0.334
		227.20		-2.308E-02	3.586E-01	5.952E-01	5.242E-02	-0.039
		248.90		2.463E-01	7.468E-01	1.259E+00	2.836E-01	0.196
	+	293.70		7.107E+00	1.851E+00	1.805E+00	3.151E-01	3.937
		369.80		-8.497E-02	9.220E-01	1.460E+00	3.163E-01	-0.058
		568.70		3.660E-01	1.101E+00	1.876E+00	1.919E-01	0.195
		569.50		-3.448E-02	3.086E-01	5.035E-01	5.154E-02	-0.068
		574.00		1.970E+00	1.566E+00	2.893E+00	2.975E-01	0.681
		699.00		7.698E-01	8.604E-01	1.502E+00	3.037E-01	0.512
		706.10		-2.330E-01	1.288E+00	2.032E+00	9.160E-01	-0.115
		733.00		2.375E-01	4.658E-01	7.098E-01	1.639E-01	0.335
		742.81		6.965E-02	1.761E+00	2.843E+00	1.919E+00	0.025
		796.30		-2.176E-03	1.195E+00	1.908E+00	5.261E-01	-0.001
		805.60		-1.136E-01	1.331E+00	2.224E+00	6.914E-01	-0.051
		819.60		-2.791E-01	1.466E+00	2.408E+00	9.230E-01	-0.116
		826.30		-3.432E-01	1.078E+00	1.734E+00	7.798E-01	-0.198
		831.60		-5.813E-02	8.095E-01	1.350E+00	4.076E-01	-0.043
		876.40		-7.325E-01	1.319E+00	1.671E+00	1.718E+00	-0.438
		880.51		7.216E-02	3.566E-01	6.095E-01	5.506E-02	0.118
		883.24		1.899E-01	3.629E-01	6.050E-01	4.070E-01	0.314
		899.00		-1.068E-02	1.025E+00	1.707E+00	7.468E-01	-0.006
		925.00		-7.909E-01	1.435E+00	2.217E+00	1.943E-01	-0.357
		926.50		3.130E-03	2.189E-01	3.647E-01	9.238E-02	0.009
		946.00	*	7.244E-02	3.975E-01	6.732E-01	1.268E-01	0.108
		949.00		-4.797E-02	5.916E-01	9.728E-01	8.528E-02	-0.049
		980.50		-8.022E-01	9.215E-01	1.345E+00	1.177E-01	-0.597
		1394.10		-2.942E-01	1.389E+00	2.207E+00	1.435E+00	-0.133
PA-234M		766.42		1.888E+01	1.923E+01	2.698E+01	1.378E+01	0.700
		1001.03	*	-5.866E-02	5.875E+00	9.688E+00	9.747E-01	-0.006
U-235	+	89.95		3.278E+00	1.351E+00	1.353E+00	4.210E-01	2.423
	+	93.35		2.558E+00	9.519E-01	8.698E-01	2.467E-01	2.941
		105.00		1.454E+00	8.947E-01	1.365E+00	4.147E-01	1.065
		143.76	*	1.178E-01	1.894E-01	3.037E-01	5.539E-02	0.388
		163.35		5.660E-02	3.692E-01	6.357E-01	1.206E-01	0.089
	+	185.71		1.859E-01	7.330E-02	9.298E-02	7.803E-03	1.999
		205.31		1.740E-01	5.056E-01	7.800E-01	1.488E-01	0.223
NP-236		94.67		8.267E-02	8.125E-02	1.282E-01	1.247E-02	0.645
		98.44		6.388E-02	4.740E-02	8.084E-02	8.031E-03	0.790
		111.00		-8.735E-02	1.025E-01	1.541E-01	1.649E-02	-0.567
		160.31	*	-8.482E-03	6.438E-02	1.095E-01	9.465E-03	-0.077

---- 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		9.339E-02	1.112E-01	1.856E-01	1.856E-02	0.503
		117.00	*	-2.453E-01	1.528E-01	2.146E-01	2.385E-02	-1.143
	+	209.75		2.233E+00	1.137E+00	1.410E+00	1.221E-01	1.584
		228.18		5.902E-02	1.949E-01	3.306E-01	2.914E-02	0.178
		277.60		1.525E-01	1.753E-01	3.027E-01	2.700E-02	0.504
		334.30		5.766E-03	1.451E+00	2.085E+00	1.825E-01	0.003
AM-241		59.54	*	1.228E-02	4.791E-02	7.487E-02	6.351E-03	0.164
CM-243		99.55		9.612E-02	1.145E-01	1.911E-01	1.910E-02	0.503
		103.76	*	-8.405E-02	7.101E-02	1.051E-01	1.077E-02	-0.800
		117.00		-2.524E-01	1.573E-01	2.208E-01	2.454E-02	-1.143
	+	209.75		2.202E+00	1.121E+00	1.390E+00	1.204E-01	1.584
		228.18		5.965E-02	1.970E-01	3.342E-01	2.946E-02	0.178
		277.60		1.537E-01	1.768E-01	3.052E-01	2.723E-02	0.504
AM-246		798.80		-1.237E-01	1.860E-01	2.720E-01	2.753E-02	-0.455
		1036.00		-1.469E-01	4.006E-01	6.287E-01	5.456E-02	-0.234
		1062.04		-3.743E-02	2.979E-01	4.810E-01	4.148E-02	-0.078
		1078.86	*	1.244E-01	1.965E-01	3.450E-01	2.960E-02	0.361
CM-247		278.00		1.038E+00	7.131E-01	1.270E+00	1.133E-01	0.817
		287.40		8.132E-01	1.232E+00	2.100E+00	1.875E-01	0.387
		402.60	*	3.097E-02	4.252E-02	7.146E-02	5.797E-03	0.433
CF-249		252.85		-4.319E-01	7.846E-01	1.245E+00	1.111E-01	-0.347
		333.44		1.965E-02	1.871E-01	2.719E-01	2.382E-02	0.072
		387.95	*	-7.120E-03	4.236E-02	6.626E-02	5.315E-03	-0.107
CF-251		176.60	*	-5.950E-02	1.059E-01	1.746E-01	1.444E-02	-0.341
		227.00		-2.055E-02	3.184E-01	5.286E-01	4.655E-02	-0.039
		285.00		-9.842E-01	1.730E+00	2.708E+00	2.417E-01	-0.363

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]G245107006
* Acquisition date   : 1-FEB-2010 12:38:56 Detector SN#      :
* Detector ID        : GAM21                               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 02:00:25.15                     Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107006                     Analyst initials: MXR1
* Batch Number       : 944038                         Sample Quantity : 1.2117E+02 GRAM
* Recovery           : 1.00000                         Carrier Weight  : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 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	2.159E+01	2.737E+00	8.777E-01	0.000E+00
CD-109	3.429E+00	7.500E-01	7.586E-01	0.000E+00
SN-126	3.351E-01	7.329E-02	7.400E-02	0.000E+00
TL-208	5.035E-01	1.011E-01	6.601E-02	0.000E+00
BI-210	5.246E-01	6.329E-01	6.282E-01	0.000E+00
PB-210	5.246E-01	6.329E-01	6.282E-01	0.000E+00
PO-210	5.246E-01	6.326E-01	6.282E-01	0.000E+00
BI-211	4.235E+00	6.367E-01	3.007E-01	0.000E+00
PB-212	1.763E+00	2.076E-01	8.341E-02	0.000E+00
PO-212	1.763E+00	2.076E-01	8.341E-02	0.000E+00
BI-214	1.341E+00	2.356E-01	1.246E-01	0.000E+00
PB-214	1.473E+00	2.339E-01	1.049E-01	0.000E+00
PO-214	1.473E+00	2.339E-01	1.049E-01	0.000E+00
PO-216	1.763E+00	2.076E-01	8.341E-02	0.000E+00
PO-218	1.473E+00	2.339E-01	1.049E-01	0.000E+00
RA-224	4.772E+00	1.236E+00	9.519E-01	0.000E+00
RA-226	1.341E+00	2.356E-01	1.246E-01	0.000E+00
AC-228	1.578E+00	3.695E-01	2.518E-01	0.000E+00
RA-228	1.578E+00	3.695E-01	2.518E-01	0.000E+00
TH-228	1.797E+00	2.116E-01	8.501E-02	0.000E+00
TH-230	1.341E+00	2.356E-01	1.246E-01	0.000E+00
TH-232	1.578E+00	3.695E-01	2.518E-01	0.000E+00
TH-234	1.520E+00	7.713E-01	7.462E-01	0.000E+00
U-234	1.341E+00	2.356E-01	1.246E-01	0.000E+00
NP-237	9.839E-01	2.931E-01	2.165E-01	0.000E+00
U-238	1.520E+00	7.713E-01	7.462E-01	0.000E+00
AM-243	3.754E-01	5.267E-02	4.512E-02	0.000E+00
ANH-511	1.180E-01	7.722E-02	5.387E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	1.673E-01	3.626E-01	6.514E-01	0.000E+00	NOT IDENT.
NA-22	-2.517E-03	5.258E-02	8.573E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	8.684E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	4.484E-02	4.037E-02	8.376E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.569E-02	3.942E-02	0.000E+00	FAIL ABUN
SC-46	-1.885E-02	4.786E-02	7.798E-02	0.000E+00	FAIL ABUN
V-48	6.018E-02	1.063E-01	1.914E-01	0.000E+00	NOT IDENT.
CR-51	-1.262E-01	4.251E-01	6.977E-01	0.000E+00	NOT IDENT.
MN-52	2.696E-01	4.683E-01	8.698E-01	0.000E+00	NOT IDENT.
MN-54	1.332E-03	4.805E-02	8.301E-02	0.000E+00	NOT IDENT.
CO-56	-6.727E-02	4.820E-02	6.817E-02	0.000E+00	NOT IDENT.
CO-57	1.558E-02	1.908E-02	3.306E-02	0.000E+00	NOT IDENT.
CO-58	2.404E-02	4.602E-02	8.395E-02	0.000E+00	NOT IDENT.
FE-59	2.393E-02	1.129E-01	1.940E-01	0.000E+00	NOT IDENT.
CO-60	1.498E-02	5.580E-02	9.857E-02	0.000E+00	NOT IDENT.
ZN-65	-9.824E-02	1.305E-01	1.613E-01	0.000E+00	NOT IDENT.
GE-68	2.236E+00	1.596E+00	3.089E+00	0.000E+00	NOT IDENT.
AS-73	9.684E-02	1.750E-01	3.178E-01	0.000E+00	NOT IDENT.
AS-74	-3.810E-02	1.217E-01	1.993E-01	0.000E+00	NOT IDENT.
SE-75	-2.979E-02	3.921E-02	6.322E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.098E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-4.053E-01	5.441E-01	8.108E-01	0.000E+00	NOT IDENT.
RB-83	-2.796E-02	6.742E-02	1.104E-01	0.000E+00	NOT IDENT.
RB-84	2.217E-02	9.362E-02	1.645E-01	0.000E+00	NOT IDENT.
KR-85	7.783E+00	8.247E+00	1.382E+01	0.000E+00	NOT IDENT.
SR-85	4.158E-02	4.406E-02	7.382E-02	0.000E+00	NOT IDENT.
RB-86	1.243E+00	1.237E+00	2.295E+00	0.000E+00	NOT IDENT.
Y-88	8.164E-03	4.886E-02	8.383E-02	0.000E+00	NOT IDENT.
ZR-88	-1.248E-02	3.410E-02	5.414E-02	0.000E+00	NOT IDENT.
Y-91	-2.735E+00	2.454E+01	4.001E+01	0.000E+00	NOT IDENT.
NB-94	3.109E-02	4.072E-02	7.272E-02	0.000E+00	NOT IDENT.
NB-95	6.713E-02	5.905E-02	9.867E-02	0.000E+00	NOT IDENT.
NB-95M	-5.269E-02	1.314E-01	1.977E-01	0.000E+00	NOT IDENT.
ZR-95	1.418E-02	9.760E-02	1.633E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.923E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.462E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.072E+01	3.890E+01	6.781E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.713E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.111E-03	2.822E-02	4.971E-02	0.000E+00	NOT IDENT.
RH-102	-3.721E-02	3.176E-02	4.899E-02	0.000E+00	FAIL ABUN
RU-103	-2.519E-03	4.605E-02	7.902E-02	0.000E+00	FAIL ABUN
RH-106	-2.955E-01	4.004E-01	6.204E-01	0.000E+00	NOT IDENT.
RU-106	-2.955E-01	3.993E-01	6.204E-01	0.000E+00	NOT IDENT.
AG-108M	-5.880E-03	3.393E-02	5.848E-02	0.000E+00	NOT IDENT.
AG-110M	9.390E-03	4.582E-02	7.817E-02	0.000E+00	NOT IDENT.
IN-111	-1.010E+00	2.638E+00	3.932E+00	0.000E+00	NOT IDENT.
IN-113M	3.467E-03	4.731E-02	7.829E-02	0.000E+00	NOT IDENT.
SN-113	3.467E-03	4.731E-02	7.829E-02	0.000E+00	NOT IDENT.
IN-114M	1.330E-01	1.663E-01	2.929E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.942E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	4.221E-02	5.319E-02	9.861E-02	0.000E+00	NOT IDENT.
SB-122	1.537E+00	6.256E+00	1.089E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	6.450E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.096E-02	2.299E-02	4.209E-02	0.000E+00	NOT IDENT.
I-124	-1.448E+00	1.595E+00	2.343E+00	0.000E+00	FAIL ABUN
SB-124	-8.994E-04	7.057E-02	1.169E-01	0.000E+00	FAIL ABUN
SB-125	4.981E-02	9.648E-02	1.753E-01	0.000E+00	FAIL ABUN
TE-125M	6.801E-01	6.842E+00	1.152E+01	0.000E+00	NOT IDENT.
I-126	-5.807E-03	2.592E-01	4.321E-01	0.000E+00	NOT IDENT.
SB-126	1.500E-01	2.038E-01	3.558E-01	0.000E+00	FAIL ABUN
SB-127	-2.496E+00	3.460E+00	5.279E+00	0.000E+00	NOT IDENT.
XE-127	-7.045E-03	4.529E-02	7.884E-02	0.000E+00	NOT IDENT.
I-131	-4.739E-02	1.721E-01	2.782E-01	0.000E+00	NOT IDENT.
TE-132	4.128E-01	1.343E+00	2.371E+00	0.000E+00	NOT IDENT.
BA-133	1.587E-02	4.328E-02	6.685E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.429E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.970E-02	6.096E-02	1.033E-01	0.000E+00	NOT IDENT.
CS-135	2.316E-01	1.568E-01	2.675E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.451E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.654E-02	1.564E-01	2.790E-01	0.000E+00	FAIL ABUN
BA-137M	-6.693E-03	4.358E-02	7.174E-02	0.000E+00	NOT IDENT.
CS-137	-7.075E-03	4.607E-02	7.583E-02	0.000E+00	NOT IDENT.
CE-139	-2.553E-03	2.347E-02	4.167E-02	0.000E+00	NOT IDENT.
BA-140	2.256E-01	3.601E-01	6.382E-01	0.000E+00	NOT IDENT.
LA-140	-4.114E-02	1.399E-01	2.209E-01	0.000E+00	FAIL ABUN
CE-141	-5.374E-02	6.206E-02	9.577E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.274E+03	0.000E+00	0.000E+00	SHORT HLIF

CE-144	-3.746E-02	1.635E-01	2.648E-01	0.000E+00	NOT IDENT.
PM-144	-5.438E-03	4.046E-02	6.627E-02	0.000E+00	NOT IDENT.
PR-144	-3.693E-01	2.747E+00	4.500E+00	0.000E+00	NOT IDENT.
PM-146	2.677E-02	4.285E-02	7.840E-02	0.000E+00	NOT IDENT.
ND-147	-2.942E-01	7.675E-01	1.262E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.015E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	5.844E-02	9.517E-02	1.598E-01	0.000E+00	FAIL ABUN
GD-153	-4.376E-02	5.393E-02	8.704E-02	0.000E+00	FAIL ABUN
EU-154	4.365E-02	1.401E-01	2.411E-01	0.000E+00	NOT IDENT.
EU-155	1.340E-01	7.964E-02	1.434E-01	0.000E+00	FAIL ABUN
TB-160	1.358E-01	1.728E-01	3.211E-01	0.000E+00	FAIL ABUN
HO-166M	4.650E-02	7.159E-02	1.270E-01	0.000E+00	FAIL ABUN
TM-171	7.302E-01	1.230E+01	1.993E+01	0.000E+00	NOT IDENT.
LU-176	1.198E-02	2.573E-02	4.289E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.354E+00	2.997E+00	0.000E+00	FAIL ABUN
LU-177M	-9.996E-02	1.804E-01	2.775E-01	0.000E+00	FAIL ABUN
HF-181	-4.181E-02	5.332E-02	8.610E-02	0.000E+00	NOT IDENT.
W-181	-1.647E-01	1.505E-01	2.288E-01	0.000E+00	NOT IDENT.
TA-182	2.359E-03	2.896E-01	4.785E-01	0.000E+00	FAIL ABUN
RE-183	-1.308E-02	8.856E-02	1.573E-01	0.000E+00	FAIL ABUN
RE-184	-1.170E-01	2.082E-01	3.438E-01	0.000E+00	NOT IDENT.
OS-185	-3.573E-03	5.023E-02	8.357E-02	0.000E+00	NOT IDENT.
RE-188	-5.173E-03	1.433E-01	2.569E-01	0.000E+00	NOT IDENT.
W-188	-4.511E+00	8.742E+00	1.261E+01	0.000E+00	FAIL ABUN
IR-192	1.877E-02	3.632E-02	6.333E-02	0.000E+00	FAIL ABUN
AU-195	2.761E-01	1.591E-01	2.882E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.889E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.616E+00	1.287E+01	2.372E+01	0.000E+00	NOT IDENT.
TL-202	6.106E-03	8.871E-02	1.557E-01	0.000E+00	NOT IDENT.
HG-203	-1.921E-02	4.189E-02	6.907E-02	0.000E+00	NOT IDENT.
BI-207	5.274E-03	6.644E-02	1.125E-01	0.000E+00	FAIL ABUN
TL-207	-3.723E-04	6.934E-01	1.037E+00	0.000E+00	FAIL ABUN
PO-209	-8.807E+00	9.186E+00	1.385E+01	0.000E+00	NOT IDENT.
PB-211	-2.207E-01	1.052E+00	1.676E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.254E-01	8.425E-01	0.000E+00	FAIL ABUN
PO-215	-3.723E-04	6.934E-01	1.037E+00	0.000E+00	FAIL ABUN
RN-219	2.360E-01	4.633E-01	7.904E-01	0.000E+00	FAIL ABUN
RN-220	1.249E+01	2.960E+01	5.243E+01	0.000E+00	NOT IDENT.
RA-223	-3.723E-04	6.934E-01	1.037E+00	0.000E+00	FAIL ABUN
AC-227	5.513E-02	3.437E-01	5.961E-01	0.000E+00	FAIL ABUN
TH-227	5.513E-02	3.437E-01	5.961E-01	0.000E+00	FAIL ABUN
TH-229	-5.090E-01	4.151E-01	6.778E-01	0.000E+00	FAIL ABUN
PA-231	-5.133E-01	1.417E+00	2.341E+00	0.000E+00	FAIL ABUN
TH-231	-3.723E-04	6.934E-01	1.037E+00	0.000E+00	FAIL ABUN
U-231	-1.194E+00	1.377E+00	2.019E+00	0.000E+00	FAIL ABUN
PA-233	6.183E-02	6.587E-02	1.179E-01	0.000E+00	FAIL ABUN
PA-234	7.244E-02	3.896E-01	6.755E-01	0.000E+00	FAIL ABUN
PA-234M	-5.866E-02	5.758E+00	9.714E+00	0.000E+00	NOT IDENT.
U-235	1.178E-01	1.856E-01	3.119E-01	0.000E+00	FAIL ABUN
NP-236	-8.482E-03	6.310E-02	1.123E-01	0.000E+00	NOT IDENT.
NP-239	-2.453E-01	1.498E-01	2.209E-01	0.000E+00	FAIL ABUN
AM-241	1.228E-02	4.695E-02	7.767E-02	0.000E+00	NOT IDENT.
CM-243	-8.405E-02	6.959E-02	1.083E-01	0.000E+00	FAIL ABUN
AM-246	1.244E-01	1.926E-01	3.456E-01	0.000E+00	NOT IDENT.
CM-247	3.097E-02	4.167E-02	7.246E-02	0.000E+00	NOT IDENT.
CF-249	-7.120E-03	4.151E-02	6.722E-02	0.000E+00	NOT IDENT.
CF-251	-5.950E-02	1.038E-01	1.788E-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]G245107006.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:38:56.
Sample ID          : G245107006 Sample quantity : 1.21170E+02 GRAM
Detector name      : GAM21 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:25.15 0.3%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	536	10.67*	7.206E-01	2.159E+01	2.159E+01	12.93
CD-109	88.03	326	3.72*	8.136E+00	3.332E+00	3.429E+00	22.32
SN-126	64.28	153	9.60	8.179E+00	6.017E-01	6.017E-01	50.87
	86.94	326	8.90	8.136E+00	1.393E+00	1.393E+00	46.20
	87.57	326	37.00*	8.136E+00	3.351E-01	3.351E-01	22.32
TL-208	277.35	-----	6.80	3.801E+00	-----	Line Not Found	-----
	510.84	78	21.60	2.040E+00	5.462E-01	5.462E-01	67.30
	583.14	243	84.20*	1.778E+00	5.035E-01	5.035E-01	20.48
	860.37	40	12.46	1.201E+00	8.233E-01	8.233E-01	56.85
BI-210	46.50	50	4.05*	7.375E+00	5.237E-01	5.246E-01	123.13
PB-210	46.50	50	4.05*	7.375E+00	5.237E-01	5.246E-01	123.13
PO-210	46.50	50	4.05*	7.375E+00	5.237E-01	5.246E-01	123.06
BI-211	72.87	-----	1.27	8.278E+00	-----	Line Not Found	-----
	351.07	530	12.94*	2.997E+00	4.235E+00	4.235E+00	15.34
PB-212	74.81	662	10.70	8.275E+00	2.315E+00	2.315E+00	17.10
	77.11	1051	18.00	8.264E+00	2.189E+00	2.189E+00	11.54
	87.30	326	8.00	8.136E+00	1.550E+00	1.550E+00	24.46
	238.63	1114	44.60*	4.388E+00	1.763E+00	1.763E+00	12.01
	300.09	70	3.41	3.519E+00	1.806E+00	1.806E+00	73.28
PO-212	74.81	662	10.70	8.275E+00	2.315E+00	2.315E+00	17.10
	77.11	1051	18.00	8.264E+00	2.189E+00	2.189E+00	11.54
	87.30	326	8.00	8.136E+00	1.550E+00	1.550E+00	24.46
	115.19	-----	0.60	7.423E+00	-----	Line Not Found	-----
	238.63	1114	44.60*	4.388E+00	1.763E+00	1.763E+00	12.01
	300.09	70	3.41	3.519E+00	1.806E+00	1.806E+00	73.28
BI-214	609.31	341	46.30*	1.700E+00	1.341E+00	1.341E+00	17.93
	1120.29	88	15.10	9.298E-01	1.947E+00	1.947E+00	34.92
	1764.49	62	15.80	5.985E-01	2.047E+00	2.047E+00	32.37
PB-214	74.81	662	6.21	8.275E+00	3.989E+00	3.989E+00	16.12
	77.11	1051	10.50	8.264E+00	3.752E+00	3.752E+00	13.83
	87.30	326	4.67	8.136E+00	2.655E+00	2.655E+00	23.61
	241.98	264	7.49	4.340E+00	2.517E+00	2.517E+00	27.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	328	19.20	3.577E+00	1.481E+00	1.481E+00	22.19
	351.92	530	37.20*	2.997E+00	1.473E+00	1.473E+00	16.20
	74.81	662	6.21	8.275E+00	3.989E+00	3.989E+00	16.12
	77.11	1051	10.50	8.264E+00	3.752E+00	3.752E+00	13.83
	87.30	326	4.67	8.136E+00	2.655E+00	2.655E+00	23.61
	241.98	264	7.49	4.340E+00	2.517E+00	2.517E+00	27.02
PO-216	295.21	328	19.20	3.577E+00	1.481E+00	1.481E+00	22.19
	351.92	530	37.20*	2.997E+00	1.473E+00	1.473E+00	16.20
	74.81	662	10.70	8.275E+00	2.315E+00	2.315E+00	17.10
	77.11	1051	18.00	8.264E+00	2.189E+00	2.189E+00	11.54
	87.30	326	8.00	8.136E+00	1.550E+00	1.550E+00	24.46
	238.63	1114	44.60*	4.388E+00	1.763E+00	1.763E+00	12.01
PO-218	300.09	70	3.41	3.519E+00	1.806E+00	1.806E+00	73.28
	74.81	662	6.21	8.275E+00	3.989E+00	3.989E+00	16.12
	77.11	1051	10.50	8.264E+00	3.752E+00	3.752E+00	13.83
	87.30	326	4.67	8.136E+00	2.655E+00	2.655E+00	23.61
	241.98	264	7.49	4.340E+00	2.517E+00	2.517E+00	27.02
	295.21	328	19.20	3.577E+00	1.481E+00	1.481E+00	22.19
RA-224	351.92	530	37.20*	2.997E+00	1.473E+00	1.473E+00	16.20
	240.98	264	3.95*	4.340E+00	4.772E+00	4.772E+00	26.43
	609.31	341	46.30*	1.700E+00	1.341E+00	1.341E+00	17.93
	1120.29	88	15.10	9.298E-01	1.947E+00	1.947E+00	34.92
	1764.49	62	15.80	5.985E-01	2.047E+00	2.047E+00	32.37
	338.32	225	11.40	3.120E+00	1.956E+00	1.956E+00	48.68
AC-228	911.07	160	27.70*	1.136E+00	1.578E+00	1.578E+00	23.90
	969.11	98	16.60	1.070E+00	1.713E+00	1.713E+00	36.36
	338.32	225	11.40	3.120E+00	1.956E+00	1.956E+00	48.68
	911.07	160	27.70*	1.136E+00	1.578E+00	1.578E+00	23.90
	969.11	98	16.60	1.070E+00	1.713E+00	1.713E+00	36.36
	74.81	662	10.70	8.275E+00	2.315E+00	2.360E+00	14.36
TH-228	77.11	1051	18.00	8.264E+00	2.189E+00	2.231E+00	11.54
	87.30	326	8.00	8.136E+00	1.550E+00	1.579E+00	22.32
	238.63	1114	44.60*	4.388E+00	1.763E+00	1.797E+00	12.01
	300.09	70	3.41	3.519E+00	1.806E+00	1.840E+00	93.68
	609.31	341	46.30*	1.700E+00	1.341E+00	1.341E+00	17.93
	1120.29	88	15.10	9.298E-01	1.947E+00	1.947E+00	34.92
TH-230	1764.49	62	15.80	5.985E-01	2.047E+00	2.047E+00	32.37
	338.32	225	11.40	3.120E+00	1.956E+00	1.956E+00	27.23
	911.07	160	27.70*	1.136E+00	1.578E+00	1.578E+00	23.90
	969.11	98	16.60	1.070E+00	1.713E+00	1.713E+00	36.36
	63.29	153	3.80*	8.179E+00	1.520E+00	1.520E+00	51.77
	92.38	298	5.41	8.021E+00	2.128E+00	2.128E+00	30.43
U-234	609.31	341	46.30*	1.700E+00	1.341E+00	1.341E+00	17.93
	1120.29	88	15.10	9.298E-01	1.947E+00	1.947E+00	34.92
	1764.49	62	15.80	5.985E-01	2.047E+00	2.047E+00	32.37
	86.50	326	12.60*	8.136E+00	9.839E-01	9.839E-01	30.40
	95.87	---	2.60	7.953E+00	-----	Line Not Found	-----
	63.29	153	3.80*	8.179E+00	1.520E+00	1.520E+00	51.77
U-238	92.38	298	5.41	8.021E+00	2.128E+00	2.128E+00	25.95

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	662	66.00*	8.275E+00	3.753E-01	3.754E-01	14.32
	86.72	326	0.34	8.136E+00	3.690E+01	3.690E+01	22.32
	117.66	-----	0.55	7.349E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.613E+00	-----	Line Not Found	-----
ANH-511	511.00	78	100.00*	2.040E+00	1.180E-01	1.180E-01	66.78

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 0
Number of lines tentatively identified by NID 33 100.00%

Nuclide Type :

Nuclide	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	2.159E+01	2.159E+01	0.279E+01	12.93	
CD-109	464.00D	1.03	3.332E+00	3.429E+00	0.765E+00	22.32	
SN-126	1.00E+05Y	1.00	3.351E-01	3.351E-01	0.748E-01	22.32	
TL-208	1.41E+10Y	1.00	5.035E-01	5.035E-01	1.031E-01	20.48	
BI-210	22.26Y	1.00	5.237E-01	5.246E-01	6.459E-01	123.13	
PB-210	22.26Y	1.00	5.237E-01	5.246E-01	6.459E-01	123.13	
PO-210	22.26Y	1.00	5.237E-01	5.246E-01	6.455E-01	123.06	
BI-211	7.04E+08Y	1.00	4.235E+00	4.235E+00	0.650E+00	15.34	
PB-212	1.41E+10Y	1.00	1.763E+00	1.763E+00	0.212E+00	12.01	
PO-212	1.41E+10Y	1.00	1.763E+00	1.763E+00	0.212E+00	12.01	
BI-214	1600.00Y	1.00	1.341E+00	1.341E+00	0.240E+00	17.93	
PB-214	1600.00Y	1.00	1.473E+00	1.473E+00	0.239E+00	16.20	
PO-214	1600.00Y	1.00	1.473E+00	1.473E+00	0.239E+00	16.20	
PO-216	1.41E+10Y	1.00	1.763E+00	1.763E+00	0.212E+00	12.01	
PO-218	1600.00Y	1.00	1.473E+00	1.473E+00	0.239E+00	16.20	
RA-224	1.41E+10Y	1.00	4.772E+00	4.772E+00	1.261E+00	26.43	
RA-226	1600.00Y	1.00	1.341E+00	1.341E+00	0.240E+00	17.93	
AC-228	1.41E+10Y	1.00	1.578E+00	1.578E+00	0.377E+00	23.90	
RA-228	1.41E+10Y	1.00	1.578E+00	1.578E+00	0.377E+00	23.90	
TH-228	1.91Y	1.02	1.763E+00	1.797E+00	0.216E+00	12.01	
TH-230	4.47E+09Y	1.00	1.341E+00	1.341E+00	0.240E+00	17.93	
TH-232	1.41E+10Y	1.00	1.578E+00	1.578E+00	0.377E+00	23.90	
TH-234	4.47E+09Y	1.00	1.520E+00	1.520E+00	0.787E+00	51.77	
U-234	4.47E+09Y	1.00	1.341E+00	1.341E+00	0.240E+00	17.93	
NP-237	2.14E+06Y	1.00	9.839E-01	9.839E-01	2.991E-01	30.40	
U-238	4.47E+09Y	1.00	1.520E+00	1.520E+00	0.787E+00	51.77	
AM-243	7380.00Y	1.00	3.753E-01	3.754E-01	0.537E-01	14.32	
ANH-511	1.00E+09Y	1.00	1.180E-01	1.180E-01	0.788E-01	66.78	

Total Activity : 6.242E+01 6.256E+01

Grand Total Activity : 6.242E+01 6.256E+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
5	84.13	123	286	0.86	168.20	163	28	1.71E-02	43.7	8.19E+00	T
5	89.98	231	290	1.06	179.90	163	28	3.21E-02	27.0	8.08E+00	T
0	128.84	98	283	0.68	257.58	254	8	1.36E-02	62.9	7.01E+00	T
0	185.80	177	292	1.05	371.46	367	9	2.45E-02	38.5	5.45E+00	T
0	209.20	115	220	0.71	418.23	414	9	1.60E-02	50.2	4.93E+00	T
0	270.08	96	155	0.92	539.97	536	10	1.34E-02	52.7	3.90E+00	T
0	327.51	61	95	1.06	654.77	651	8	8.48E-03	60.8	3.22E+00	T
0	462.67	66	90	1.28	925.04	918	12	9.23E-03	62.1	2.26E+00	T
0	727.09	64	32	1.42	1453.89	1449	11	8.91E-03	43.6	1.42E+00	T
0	768.26	39	38	1.50	1536.24	1530	11	5.41E-03	69.5	1.34E+00	T
2	964.27	49	18	1.95	1928.35	1920	25	6.74E-03	50.0	1.07E+00	T
0	1377.72	21	23	0.95	2755.68	2746	15	2.85E-03	***	7.62E-01	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]G245107006.CNF;1
* Acquisition date   : 1-FEB-2010 12:38:56.  Detector SN#      :
* Detector ID        : GAM21                      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 02:00:25.15             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107006             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.21170E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51.9MS 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	2.159E+01	2.792E+00	8.795E-01	7.509E-02	24.547
CD-109	3.429E+00	7.653E-01	7.346E-01	6.911E-02	4.668
SN-126	3.351E-01	7.478E-02	7.165E-02	6.716E-03	4.676
TL-208	5.035E-01	1.031E-01	6.539E-02	7.123E-03	7.700
BI-210	5.246E-01	6.459E-01	6.038E-01	5.758E-02	0.869
PB-210	5.246E-01	6.459E-01	6.038E-01	5.758E-02	0.869
PO-210	5.246E-01	6.455E-01	6.038E-01	5.240E-02	0.869
BI-211	4.235E+00	6.497E-01	2.960E-01	2.672E-02	14.306
PB-212	1.763E+00	2.118E-01	8.174E-02	8.128E-03	21.573
PO-212	1.763E+00	2.118E-01	8.174E-02	8.128E-03	21.573
BI-214	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
PB-214	1.473E+00	2.387E-01	1.033E-01	1.076E-02	14.265
PO-214	1.473E+00	2.387E-01	1.033E-01	1.076E-02	14.265
PO-216	1.763E+00	2.118E-01	8.174E-02	8.128E-03	21.573
PO-218	1.473E+00	2.387E-01	1.033E-01	1.076E-02	14.265
RA-224	4.772E+00	1.261E+00	9.328E-01	8.289E-02	5.116
RA-226	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
AC-228	1.578E+00	3.770E-01	2.508E-01	2.846E-02	6.291

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.578E+00	3.770E-01	2.508E-01	2.846E-02	6.291
TH-228	1.797E+00	2.159E-01	8.330E-02	8.283E-03	21.573
TH-230	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
TH-232	1.578E+00	3.770E-01	2.508E-01	2.846E-02	6.291
TH-234	1.520E+00	7.870E-01	7.197E-01	1.271E-01	2.112
U-234	1.341E+00	2.404E-01	1.235E-01	1.460E-02	10.852
NP-237	9.839E-01	2.991E-01	2.096E-01	4.742E-02	4.695
U-238	1.520E+00	7.870E-01	7.197E-01	1.271E-01	2.112
AM-243	3.754E-01	5.374E-02	4.360E-02	3.695E-03	8.609
ANH-511	1.180E-01	7.879E-02	5.328E-02	5.108E-03	2.214

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.673E-01		3.700E-01	6.437E-01	6.307E-02	0.260
NA-22	-2.517E-03		5.366E-02	8.576E-02	7.035E-03	-0.029
NA-24	-5.687E+01		4.431E+01	Half-Life	too short	
AL-26	4.484E-02		4.119E-02	8.416E-02	6.965E-03	0.533
TI-44	4.040E-01	+	4.663E-02	3.812E-02	3.319E-03	10.598
SC-46	-1.885E-02		4.884E-02	7.765E-02	6.905E-03	-0.243
V-48	6.018E-02		1.085E-01	1.909E-01	1.670E-02	0.315
CR-51	-1.262E-01		4.338E-01	6.861E-01	6.379E-02	-0.184
MN-52	2.696E-01		4.779E-01	8.714E-01	7.196E-02	0.309
MN-54	1.332E-03		4.903E-02	8.260E-02	8.006E-03	0.016
CO-56	-6.727E-02		4.919E-02	6.785E-02	6.467E-03	-0.992
CO-57	1.558E-02		1.947E-02	3.214E-02	3.692E-03	0.485
CO-58	2.404E-02		4.696E-02	8.350E-02	8.356E-03	0.288
FE-59	2.393E-02		1.152E-01	1.937E-01	1.788E-02	0.124
CO-60	1.498E-02		5.694E-02	9.866E-02	8.007E-03	0.152
ZN-65	-9.824E-02		1.332E-01	1.610E-01	1.365E-02	-0.610
GE-68	2.236E+00		1.629E+00	3.084E+00	2.647E-01	0.725
AS-73	9.684E-02		1.785E-01	3.059E-01	2.477E-02	0.317
AS-74	-3.810E-02		1.242E-01	1.975E-01	2.073E-02	-0.193
SE-75	-2.979E-02		4.001E-02	6.203E-02	5.569E-03	-0.480
BR-77	-2.635E-05		1.581E-05	Half-Life	too short	
SR-82	-4.053E-01		5.552E-01	8.060E-01	8.344E-02	-0.503
RB-83	-2.796E-02		6.880E-02	1.092E-01	1.059E-02	-0.256
RB-84	2.217E-02		9.553E-02	1.638E-01	1.477E-02	0.135
KR-85	7.783E+00		8.416E+00	1.367E+01	1.315E+00	0.569
SR-85	4.158E-02		4.496E-02	7.301E-02	7.026E-03	0.569
RB-86	1.243E+00		1.262E+00	2.291E+00	1.967E-01	0.543
Y-88	8.164E-03		4.986E-02	8.425E-02	6.956E-03	0.097
ZR-88	-1.248E-02		3.480E-02	5.337E-02	4.252E-03	-0.234
Y-91	-2.735E+00		2.504E+01	3.999E+01	3.295E+00	-0.068
NB-94	3.109E-02		4.155E-02	7.221E-02	7.864E-03	0.431
NB-95	6.713E-02		6.026E-02	9.808E-02	1.025E-02	0.684
NB-95M	-5.269E-02		1.341E-01	1.937E-01	1.951E-02	-0.272

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	1.418E-02		9.959E-02	1.623E-01	1.828E-02	0.087
NB-97	1.684E+00		3.022E+00	Half-Life too short		
ZR-97	1.236E+02		4.827E+01	Half-Life too short		
MO-99	2.072E+01		3.969E+01	6.738E+01	1.107E+01	0.307
TC-99M	1.701E+15		8.738E+14	Half-Life too short		
RH-101	1.111E-03		2.879E-02	4.860E-02	4.151E-03	0.023
RH-102	-3.721E-02		3.240E-02	4.841E-02	4.422E-03	-0.769
RU-103	-2.519E-03		4.699E-02	7.813E-02	1.145E-02	-0.032
RH-106	-2.955E-01		4.086E-01	6.151E-01	9.107E-02	-0.480
RU-106	-2.955E-01		4.075E-01	6.151E-01	6.599E-02	-0.480
AG-108M	-5.880E-03		3.462E-02	5.772E-02	5.147E-03	-0.102
AG-110M	9.390E-03		4.676E-02	7.755E-02	8.699E-03	0.121
IN-111	-1.010E+00		2.692E+00	3.854E+00	3.432E-01	-0.262
IN-113M	3.467E-03		4.828E-02	7.718E-02	6.357E-03	0.045
SN-113	3.467E-03		4.828E-02	7.718E-02	6.357E-03	0.045
IN-114M	1.330E-01		1.697E-01	2.863E-01	2.419E-02	0.465
CD-115	2.983E-06		2.011E-05	Half-Life too short		
SN-117M	4.221E-02		5.428E-02	9.616E-02	8.464E-03	0.439
SB-122	1.537E+00		6.384E+00	1.079E+01	1.098E+00	0.142
I-123	3.076E+02		3.291E+02	Half-Life too short		
TE-123M	1.096E-02		2.346E-02	4.104E-02	3.617E-03	0.267
I-124	-1.448E+00		1.628E+00	2.322E+00	2.452E-01	-0.624
SB-124	-8.994E-04		7.201E-02	1.173E-01	1.021E-02	-0.008
SB-125	4.981E-02		9.845E-02	1.730E-01	1.498E-02	0.288
TE-125M	6.801E-01		6.981E+00	1.119E+01	1.346E+00	0.061
I-126	-5.807E-03		2.645E-01	4.288E-01	4.731E-02	-0.014
SB-126	1.500E-01		2.079E-01	3.534E-01	3.814E-02	0.424
SB-127	-2.496E+00		3.530E+00	5.240E+00	7.500E-01	-0.476
XE-127	-7.045E-03		4.621E-02	7.710E-02	6.626E-03	-0.091
I-131	-4.739E-02		1.756E-01	2.741E-01	2.446E-02	-0.173
TE-132	4.128E-01		1.370E+00	2.322E+00	3.856E-01	0.178
BA-133	1.587E-02		4.416E-02	6.582E-02	8.650E-03	0.241
I-133	2.631E-02		7.290E-02	Half-Life too short		
CS-134	1.970E-02		6.220E-02	1.028E-01	1.049E-02	0.192
CS-135	2.316E-01		1.600E-01	2.625E-01	2.688E-02	0.882
I-135	-9.355E+13		7.406E+13	Half-Life too short		
CS-136	7.654E-02		1.596E-01	2.784E-01	2.512E-02	0.275
BA-137M	-6.693E-03		4.447E-02	7.118E-02	7.861E-03	-0.094
CS-137	-7.075E-03		4.701E-02	7.524E-02	8.319E-03	-0.094
CE-139	-2.553E-03		2.395E-02	4.066E-02	3.305E-03	-0.063
BA-140	2.256E-01		3.674E-01	6.316E-01	2.116E-01	0.357
LA-140	-4.114E-02		1.428E-01	2.216E-01	1.853E-02	-0.186
CE-141	-5.374E-02		6.333E-02	9.329E-02	9.354E-03	-0.576
CE-143	2.277E-03		6.500E-04	Half-Life too short		
CE-144	-3.746E-02		1.668E-01	2.577E-01	4.339E-02	-0.145
PM-144	-5.438E-03		4.128E-02	6.580E-02	7.188E-03	-0.083
PR-144	-3.693E-01		2.803E+00	4.468E+00	4.879E-01	-0.083
PM-146	2.677E-02		4.373E-02	7.743E-02	8.448E-03	0.346

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-2.942E-01		7.832E-01	1.249E+00	1.958E-01	-0.236
PM-149	-2.147E-04		1.539E-04	Half-Life too short		
EU-152	5.844E-02		9.711E-02	1.573E-01	1.443E-02	0.372
GD-153	-4.376E-02		5.503E-02	8.438E-02	8.336E-03	-0.519
EU-154	4.365E-02		1.429E-01	2.411E-01	2.650E-02	0.181
EU-155	1.340E-01		8.126E-02	1.391E-01	1.450E-02	0.963
TB-160	1.358E-01		1.763E-01	3.198E-01	2.894E-02	0.425
HO-166M	4.650E-02		7.306E-02	1.261E-01	1.367E-02	0.369
TM-171	7.302E-01		1.255E+01	1.924E+01	1.550E+00	0.038
LU-176	1.198E-02		2.625E-02	4.215E-02	3.754E-03	0.284
LU-177	4.716E+00	+	2.402E+00	2.932E+00	2.536E-01	1.608
LU-177M	-9.996E-02		1.840E-01	2.737E-01	2.266E-02	-0.365
HF-181	-4.181E-02		5.441E-02	8.510E-02	7.851E-03	-0.491
W-181	-1.647E-01		1.536E-01	2.207E-01	1.764E-02	-0.746
TA-182	2.359E-03		2.955E-01	4.784E-01	3.938E-02	0.005
RE-183	-1.308E-02		9.037E-02	1.534E-01	1.298E-02	-0.085
RE-184	-1.170E-01		2.125E-01	3.371E-01	3.009E-02	-0.347
OS-185	-3.573E-03		5.126E-02	8.289E-02	9.058E-03	-0.043
RE-188	-5.173E-03		1.462E-01	2.504E-01	2.281E-02	-0.021
W-188	-4.511E+00		8.920E+00	1.239E+01	1.106E+00	-0.364
IR-192	1.877E-02		3.707E-02	6.227E-02	5.534E-03	0.301
AU-195	2.761E-01		1.624E-01	2.795E-01	2.783E-02	0.988
TL-200	-1.227E-03		3.005E-03	Half-Life too short		
TL-201	8.616E+00		1.314E+01	2.314E+01	1.885E+00	0.372
TL-202	6.106E-03		9.052E-02	1.538E-01	1.330E-02	0.040
HG-203	-1.921E-02		4.274E-02	6.781E-02	6.207E-03	-0.283
BI-207	5.274E-03		6.779E-02	1.123E-01	9.680E-03	0.047
TL-207	-3.723E-04		7.076E-01	1.020E+00	1.816E-01	0.000
PO-209	-8.807E+00		9.374E+00	1.379E+01	1.210E+00	-0.638
PB-211	-2.207E-01		1.073E+00	1.653E+00	1.035E+00	-0.133
BI-212	1.185E+00	+	5.362E-01	8.369E-01	9.952E-02	1.416
PO-215	-3.723E-04		7.076E-01	1.020E+00	1.816E-01	0.000
RN-219	2.360E-01		4.727E-01	7.795E-01	1.149E-01	0.303
RN-220	1.249E+01		3.020E+01	5.191E+01	5.206E+00	0.241
RA-223	-3.723E-04		7.076E-01	1.020E+00	1.816E-01	0.000
AC-227	5.513E-02		3.507E-01	5.846E-01	9.076E-02	0.094
TH-227	5.513E-02		3.507E-01	5.846E-01	1.065E-01	0.094
TH-229	-5.090E-01		4.235E-01	6.625E-01	5.624E-02	-0.768
PA-231	-5.133E-01		1.446E+00	2.298E+00	3.530E-01	-0.223
TH-231	-3.723E-04		7.076E-01	1.020E+00	1.816E-01	0.000
U-231	-1.194E+00		1.405E+00	1.957E+00	1.917E-01	-0.610
PA-233	6.183E-02		6.722E-02	1.159E-01	1.058E-02	0.534
PA-234	7.244E-02		3.975E-01	6.732E-01	1.268E-01	0.108
PA-234M	-5.866E-02		5.875E+00	9.688E+00	9.747E-01	-0.006
U-235	1.178E-01		1.894E-01	3.037E-01	5.539E-02	0.388
NP-236	-8.482E-03		6.438E-02	1.095E-01	9.465E-03	-0.077
NP-239	-2.453E-01		1.528E-01	2.146E-01	2.385E-02	-1.143
AM-241	1.228E-02		4.791E-02	7.487E-02	6.351E-03	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	-8.405E-02		7.101E-02	1.051E-01	1.077E-02	-0.800
AM-246	1.244E-01		1.965E-01	3.450E-01	2.960E-02	0.361
CM-247	3.097E-02		4.252E-02	7.146E-02	5.797E-03	0.433
CF-249	-7.120E-03		4.236E-02	6.626E-02	5.315E-03	-0.107
CF-251	-5.950E-02		1.059E-01	1.746E-01	1.444E-02	-0.341

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]G245107006             *
* Acquisition date   : 1-FEB-2010 12:38:56 Detector SN# :                     *
* Detector ID        : GAM21          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 02:00:25.15  Half life ratio   : 8.000                *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID             *
* Sample ID          : G245107006      Analyst initials: MXR1                 *
* Batch Number       : 944038          Sample Quantity  : 1.2117E+02 GRAM      *
* Recovery           : 1.00000         Carrier Weight    : 0.00000             *
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 28-JUL-2009 10:09:51 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	2.159E+01	2.737E+00	4.391E-01	1.396E+00
CD-109	3.429E+00	7.500E-01	3.795E-01	3.826E-01
SN-126	3.351E-01	7.329E-02	3.702E-02	3.739E-02
TL-208	5.035E-01	1.011E-01	3.302E-02	5.157E-02
BI-210	5.246E-01	6.329E-01	3.143E-01	3.229E-01
PB-210	5.246E-01	6.329E-01	3.143E-01	3.229E-01
PO-210	5.246E-01	6.326E-01	3.143E-01	3.228E-01
BI-211	4.235E+00	6.367E-01	1.504E-01	3.248E-01
PB-212	1.763E+00	2.076E-01	4.173E-02	1.059E-01
PO-212	1.763E+00	2.076E-01	4.173E-02	1.059E-01
BI-214	1.341E+00	2.356E-01	6.235E-02	1.202E-01
PB-214	1.473E+00	2.339E-01	5.248E-02	1.194E-01
PO-214	1.473E+00	2.339E-01	5.248E-02	1.194E-01
PO-216	1.763E+00	2.076E-01	4.173E-02	1.059E-01
PO-218	1.473E+00	2.339E-01	5.248E-02	1.194E-01
RA-224	4.772E+00	1.236E+00	4.762E-01	6.307E-01
RA-226	1.341E+00	2.356E-01	6.235E-02	1.202E-01
AC-228	1.578E+00	3.695E-01	1.260E-01	1.885E-01
RA-228	1.578E+00	3.695E-01	1.260E-01	1.885E-01
TH-228	1.797E+00	2.116E-01	4.253E-02	1.080E-01
TH-230	1.341E+00	2.356E-01	6.235E-02	1.202E-01
TH-232	1.578E+00	3.695E-01	1.260E-01	1.885E-01
TH-234	1.520E+00	7.713E-01	3.733E-01	3.935E-01
U-234	1.341E+00	2.356E-01	6.235E-02	1.202E-01
NP-237	9.839E-01	2.931E-01	1.083E-01	1.495E-01
U-238	1.520E+00	7.713E-01	3.733E-01	3.935E-01
AM-243	3.754E-01	5.267E-02	2.257E-02	2.687E-02
ANH-511	1.180E-01	7.722E-02	2.695E-02	3.940E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	1.673E-01	3.626E-01	3.259E-01	1.850E-01	NOT IDENT.
NA-22	-2.517E-03	5.258E-02	4.289E-02	2.683E-02	NOT IDENT.
NA-24	-5.687E+07	8.684E+07	0.000E+00	4.431E+07	SHORT HLIF
AL-26	4.484E-02	4.037E-02	4.191E-02	2.060E-02	NOT IDENT.
TI-44	4.040E-01	4.569E-02	1.972E-02	2.331E-02	FAIL ABUN
SC-46	-1.885E-02	4.786E-02	3.901E-02	2.442E-02	FAIL ABUN
V-48	6.018E-02	1.063E-01	9.578E-02	5.425E-02	NOT IDENT.
CR-51	-1.262E-01	4.251E-01	3.491E-01	2.169E-01	NOT IDENT.
MN-52	2.696E-01	4.683E-01	4.352E-01	2.389E-01	NOT IDENT.
MN-54	1.332E-03	4.805E-02	4.153E-02	2.452E-02	NOT IDENT.
CO-56	-6.727E-02	4.820E-02	3.411E-02	2.459E-02	NOT IDENT.
CO-57	1.558E-02	1.908E-02	1.654E-02	9.733E-03	NOT IDENT.
CO-58	2.404E-02	4.602E-02	4.200E-02	2.348E-02	NOT IDENT.
FE-59	2.393E-02	1.129E-01	9.707E-02	5.761E-02	NOT IDENT.
CO-60	1.498E-02	5.580E-02	4.931E-02	2.847E-02	NOT IDENT.
ZN-65	-9.824E-02	1.305E-01	8.068E-02	6.658E-02	NOT IDENT.
GE-68	2.236E+00	1.596E+00	1.545E+00	8.144E-01	NOT IDENT.
AS-73	9.684E-02	1.750E-01	1.590E-01	8.927E-02	NOT IDENT.
AS-74	-3.810E-02	1.217E-01	9.973E-02	6.211E-02	NOT IDENT.
SE-75	-2.979E-02	3.921E-02	3.163E-02	2.000E-02	NOT IDENT.
BR-77	-2.635E+01	3.098E+01	0.000E+00	1.581E+01	SHORT HLIF
SR-82	-4.053E-01	5.441E-01	4.056E-01	2.776E-01	NOT IDENT.
RB-83	-2.796E-02	6.742E-02	5.523E-02	3.440E-02	NOT IDENT.
RB-84	2.217E-02	9.362E-02	8.231E-02	4.776E-02	NOT IDENT.
KR-85	7.783E+00	8.247E+00	6.913E+00	4.208E+00	NOT IDENT.
SR-85	4.158E-02	4.406E-02	3.693E-02	2.248E-02	NOT IDENT.
RB-86	1.243E+00	1.237E+00	1.148E+00	6.310E-01	NOT IDENT.
Y-88	8.164E-03	4.886E-02	4.194E-02	2.493E-02	NOT IDENT.
ZR-88	-1.248E-02	3.410E-02	2.708E-02	1.740E-02	NOT IDENT.
Y-91	-2.735E+00	2.454E+01	2.002E+01	1.252E+01	NOT IDENT.
NB-94	3.109E-02	4.072E-02	3.638E-02	2.078E-02	NOT IDENT.
NB-95	6.713E-02	5.905E-02	4.937E-02	3.013E-02	NOT IDENT.
NB-95M	-5.269E-02	1.314E-01	9.889E-02	6.704E-02	NOT IDENT.
ZR-95	1.418E-02	9.760E-02	8.170E-02	4.980E-02	NOT IDENT.
NB-97	1.684E+06	5.923E+06	0.000E+00	3.022E+06	SHORT HLIF
ZR-97	1.236E+08	9.462E+07	0.000E+00	4.827E+07	SHORT HLIF
MO-99	2.072E+01	3.890E+01	3.393E+01	1.985E+01	NOT IDENT.
TC-99M	1.701E+21	1.713E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.111E-03	2.822E-02	2.487E-02	1.440E-02	NOT IDENT.
RH-102	-3.721E-02	3.176E-02	2.451E-02	1.620E-02	FAIL ABUN
RU-103	-2.519E-03	4.605E-02	3.953E-02	2.350E-02	FAIL ABUN
RH-106	-2.955E-01	4.004E-01	3.104E-01	2.043E-01	NOT IDENT.
RU-106	-2.955E-01	3.993E-01	3.104E-01	2.037E-01	NOT IDENT.
AG-108M	-5.880E-03	3.393E-02	2.926E-02	1.731E-02	NOT IDENT.
AG-110M	9.390E-03	4.582E-02	3.911E-02	2.338E-02	NOT IDENT.
IN-111	-1.010E+00	2.638E+00	1.967E+00	1.346E+00	NOT IDENT.
IN-113M	3.467E-03	4.731E-02	3.917E-02	2.414E-02	NOT IDENT.
SN-113	3.467E-03	4.731E-02	3.917E-02	2.414E-02	NOT IDENT.
IN-114M	1.330E-01	1.663E-01	1.465E-01	8.487E-02	NOT IDENT.
CD-115	2.983E+00	3.942E+01	0.000E+00	2.011E+01	SHORT HLIF
SN-117M	4.221E-02	5.319E-02	4.933E-02	2.714E-02	NOT IDENT.
SB-122	1.537E+00	6.256E+00	5.449E+00	3.192E+00	NOT IDENT.
I-123	3.076E+08	6.450E+08	0.000E+00	3.291E+08	SHORT HLIF
TE-123M	1.096E-02	2.299E-02	2.106E-02	1.173E-02	NOT IDENT.
I-124	-1.448E+00	1.595E+00	1.172E+00	8.138E-01	FAIL ABUN
SB-124	-8.994E-04	7.057E-02	5.847E-02	3.600E-02	FAIL ABUN
SB-125	4.981E-02	9.648E-02	8.772E-02	4.923E-02	FAIL ABUN
TE-125M	6.801E-01	6.842E+00	5.764E+00	3.491E+00	NOT IDENT.
I-126	-5.807E-03	2.592E-01	2.162E-01	1.322E-01	NOT IDENT.
SB-126	1.500E-01	2.038E-01	1.780E-01	1.040E-01	FAIL ABUN
SB-127	-2.496E+00	3.460E+00	2.641E+00	1.765E+00	NOT IDENT.
XE-127	-7.045E-03	4.529E-02	3.944E-02	2.311E-02	NOT IDENT.
I-131	-4.739E-02	1.721E-01	1.392E-01	8.781E-02	NOT IDENT.
TE-132	4.128E-01	1.343E+00	1.186E+00	6.852E-01	NOT IDENT.
BA-133	1.587E-02	4.328E-02	3.344E-02	2.208E-02	NOT IDENT.
I-133	2.631E+04	1.429E+05	0.000E+00	7.290E+04	SHORT HLIF
CS-134	1.970E-02	6.096E-02	5.170E-02	3.110E-02	NOT IDENT.
CS-135	2.316E-01	1.568E-01	1.338E-01	7.998E-02	NOT IDENT.
I-135	-9.355E+19	1.451E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.654E-02	1.564E-01	1.396E-01	7.978E-02	FAIL ABUN
BA-137M	-6.693E-03	4.358E-02	3.589E-02	2.224E-02	NOT IDENT.
CS-137	-7.075E-03	4.607E-02	3.794E-02	2.350E-02	NOT IDENT.
CE-139	-2.553E-03	2.347E-02	2.085E-02	1.197E-02	NOT IDENT.
BA-140	2.256E-01	3.601E-01	3.193E-01	1.837E-01	NOT IDENT.
LA-140	-4.114E-02	1.399E-01	1.105E-01	7.138E-02	FAIL ABUN
CE-141	-5.374E-02	6.206E-02	4.791E-02	3.166E-02	NOT IDENT.
CE-143	2.277E+03	1.274E+03	0.000E+00	6.500E+02	SHORT HLIF

CE-144	-3.746E-02	1.635E-01	1.325E-01	8.341E-02	NOT IDENT.
PM-144	-5.438E-03	4.046E-02	3.316E-02	2.064E-02	NOT IDENT.
PR-144	-3.693E-01	2.747E+00	2.251E+00	1.402E+00	NOT IDENT.
PM-146	2.677E-02	4.285E-02	3.922E-02	2.186E-02	NOT IDENT.
ND-147	-2.942E-01	7.675E-01	6.316E-01	3.916E-01	FAIL ABUN
PM-149	-2.147E+02	3.015E+02	0.000E+00	1.539E+02	SHORT HLIF
EU-152	5.844E-02	9.517E-02	7.995E-02	4.856E-02	FAIL ABUN
GD-153	-4.376E-02	5.393E-02	4.354E-02	2.751E-02	FAIL ABUN
EU-154	4.365E-02	1.401E-01	1.206E-01	7.147E-02	NOT IDENT.
EU-155	1.340E-01	7.964E-02	7.172E-02	4.063E-02	FAIL ABUN
TB-160	1.358E-01	1.728E-01	1.607E-01	8.817E-02	FAIL ABUN
HO-166M	4.650E-02	7.159E-02	6.353E-02	3.653E-02	FAIL ABUN
TM-171	7.302E-01	1.230E+01	9.971E+00	6.276E+00	NOT IDENT.
LU-176	1.198E-02	2.573E-02	2.146E-02	1.313E-02	FAIL ABUN
LU-177	4.716E+00	2.354E+00	1.500E+00	1.201E+00	FAIL ABUN
LU-177M	-9.996E-02	1.804E-01	1.388E-01	9.202E-02	FAIL ABUN
HF-181	-4.181E-02	5.332E-02	4.308E-02	2.720E-02	NOT IDENT.
W-181	-1.647E-01	1.505E-01	1.145E-01	7.681E-02	NOT IDENT.
TA-182	2.359E-03	2.896E-01	2.394E-01	1.478E-01	FAIL ABUN
RE-183	-1.308E-02	8.856E-02	7.868E-02	4.518E-02	FAIL ABUN
RE-184	-1.170E-01	2.082E-01	1.720E-01	1.062E-01	NOT IDENT.
OS-185	-3.573E-03	5.023E-02	4.181E-02	2.563E-02	NOT IDENT.
RE-188	-5.173E-03	1.433E-01	1.285E-01	7.310E-02	NOT IDENT.
W-188	-4.511E+00	8.742E+00	6.310E+00	4.460E+00	FAIL ABUN
IR-192	1.877E-02	3.632E-02	3.169E-02	1.853E-02	FAIL ABUN
AU-195	2.761E-01	1.591E-01	1.442E-01	8.119E-02	FAIL ABUN
TL-200	-1.227E+03	5.889E+03	0.000E+00	3.005E+03	SHORT HLIF
TL-201	8.616E+00	1.287E+01	1.187E+01	6.569E+00	NOT IDENT.
TL-202	6.106E-03	8.871E-02	7.792E-02	4.526E-02	NOT IDENT.
HG-203	-1.921E-02	4.189E-02	3.456E-02	2.137E-02	NOT IDENT.
BI-207	5.274E-03	6.644E-02	5.630E-02	3.390E-02	FAIL ABUN
TL-207	-3.723E-04	6.934E-01	5.187E-01	3.538E-01	FAIL ABUN
PO-209	-8.807E+00	9.186E+00	6.930E+00	4.687E+00	NOT IDENT.
PB-211	-2.207E-01	1.052E+00	8.387E-01	5.366E-01	NOT IDENT.
BI-212	1.185E+00	5.254E-01	4.215E-01	2.681E-01	FAIL ABUN
PO-215	-3.723E-04	6.934E-01	5.187E-01	3.538E-01	FAIL ABUN
RN-219	2.360E-01	4.633E-01	3.954E-01	2.364E-01	FAIL ABUN
RN-220	1.249E+01	2.960E+01	2.623E+01	1.510E+01	NOT IDENT.
RA-223	-3.723E-04	6.934E-01	5.187E-01	3.538E-01	FAIL ABUN
AC-227	5.513E-02	3.437E-01	2.982E-01	1.754E-01	FAIL ABUN
TH-227	5.513E-02	3.437E-01	2.982E-01	1.754E-01	FAIL ABUN
TH-229	-5.090E-01	4.151E-01	3.391E-01	2.118E-01	FAIL ABUN
PA-231	-5.133E-01	1.417E+00	1.171E+00	7.228E-01	FAIL ABUN
TH-231	-3.723E-04	6.934E-01	5.187E-01	3.538E-01	FAIL ABUN
U-231	-1.194E+00	1.377E+00	1.010E+00	7.027E-01	FAIL ABUN
PA-233	6.183E-02	6.587E-02	5.898E-02	3.361E-02	FAIL ABUN
PA-234	7.244E-02	3.896E-01	3.379E-01	1.988E-01	FAIL ABUN
PA-234M	-5.866E-02	5.758E+00	4.860E+00	2.938E+00	NOT IDENT.
U-235	1.178E-01	1.856E-01	1.560E-01	9.468E-02	FAIL ABUN
NP-236	-8.482E-03	6.310E-02	5.616E-02	3.219E-02	NOT IDENT.
NP-239	-2.453E-01	1.498E-01	1.105E-01	7.642E-02	FAIL ABUN
AM-241	1.228E-02	4.695E-02	3.886E-02	2.396E-02	NOT IDENT.
CM-243	-8.405E-02	6.959E-02	5.420E-02	3.551E-02	FAIL ABUN
AM-246	1.244E-01	1.926E-01	1.729E-01	9.826E-02	NOT IDENT.
CM-247	3.097E-02	4.167E-02	3.625E-02	2.126E-02	NOT IDENT.
CF-249	-7.120E-03	4.151E-02	3.363E-02	2.118E-02	NOT IDENT.
CF-251	-5.950E-02	1.038E-01	8.946E-02	5.296E-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	155.0857
46.50	155.0857
46.50	155.0857
48.70	195.7037
49.72	167.3638
51.35	214.2325
52.39	173.5256
52.97	173.0638
53.15	173.2078
53.44	189.2919
54.07	204.8021
56.28	194.5646
56.28	194.5670
57.37	0.0000
57.53	211.7821
57.53	211.7847
57.60	211.8468
57.98	216.9542
57.98	216.9542
59.32	215.6536
59.32	215.6536
59.40	215.7267
59.54	215.8556
59.72	216.0198
60.01	229.0825
61.10	232.7026
61.14	232.7412
61.30	232.8959
63.00	241.0068
63.29	241.2911
63.29	241.2911
63.58	241.5740
64.28	252.6752
65.12	296.6467
65.20	296.7413
65.20	296.7413
66.05	300.3598
66.72	287.9944
66.83	248.6527
66.91	248.7296
67.20	249.0084
67.20	249.0084
67.75	258.4492
67.85	291.2411
68.90	286.4443
68.90	286.4443
69.30	300.8249
69.67	301.2466
70.82	288.5186
70.82	288.5186
70.83	288.5295
72.80	267.7565
72.87	267.8233
72.87	267.8233
74.67	273.2934
74.81	273.4309
74.81	273.4309
74.81	273.4309
74.81	273.4309
74.81	273.4309
74.81	273.4309
74.97	273.5869
75.28	273.8886
75.70	274.2950
77.11	275.6556
77.11	275.6556

77.11	275.6556
77.11	275.6556
77.11	275.6556
77.11	275.6556
77.11	275.6556
78.38	273.0987
79.62	283.2168
79.80	289.5959
79.80	289.5959
80.11	289.9014
80.18	289.9698
80.30	283.8711
80.30	283.8711
80.57	230.2078
81.00	284.5401
81.07	284.6070
81.07	284.6070
81.07	284.6070
81.07	284.6070
82.60	220.2886
83.37	220.8439
83.78	221.1434
83.78	221.1434
83.78	221.1434
83.78	221.1434
84.21	221.4541
84.90	221.9515
85.43	222.3314
86.29	222.9447
86.50	223.0945
86.54	223.1234
86.59	223.1588
86.72	223.2506
86.79	223.2989
86.94	223.4084
87.30	223.6627
87.30	223.6627
87.30	223.6627
87.30	223.6627
87.30	223.6627
87.30	223.6627
87.57	223.8543
87.88	0.0000
88.03	224.1795
88.36	224.4113
88.47	224.4885
89.95	225.5253
91.11	226.3334
92.29	227.1479
92.38	227.2107
92.38	227.2107
93.35	227.8756
94.00	228.3215
94.67	172.0321
94.67	172.0346
94.90	167.8120
94.90	167.8120
94.90	167.8120
94.90	167.8120
95.87	206.0158
95.87	206.0158
96.73	183.2655
97.43	221.8965
98.44	166.6350
98.44	166.6356
98.88	169.0426
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99.55	186.9634
99.86	178.3233
100.00	189.4058
100.10	189.4622
103.18	224.4405
103.76	217.0125
105.00	159.6869
105.31	165.4104
108.00	175.6262
109.28	172.8382

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111.00	191.7818
111.76	178.5188
112.95	193.8985
115.19	183.5449
116.30	169.1086
117.00	213.1991
117.00	213.1991
117.66	181.2306
121.11	175.8011
121.62	163.1973
121.78	169.0916
122.06	142.3675
122.32	163.4750
122.32	163.4750
122.32	163.4750
122.32	163.4750
123.07	176.6409
127.23	166.9815
129.76	182.2331
131.20	173.2996
133.02	171.2264
133.54	169.0318
135.34	168.5144
136.00	169.9677
136.25	170.0623
136.48	170.1505
140.51	169.2302
140.51	0.0000
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142.65	217.7143
143.76	185.1303
144.24	180.4101
144.24	180.4101
144.24	180.4101
144.24	180.4101
145.22	221.3718
145.44	221.4734
147.16	190.1713
152.43	191.0025
152.70	156.1337
153.22	145.0443
154.21	158.6986
154.21	158.6986
154.21	158.6986
154.21	158.6986
155.03	182.3874
156.02	217.1191
158.56	152.4996
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159.00	156.8467
160.31	168.2403
161.27	159.2389
162.32	160.4108
162.64	157.9630
163.35	150.5249
163.89	158.3433
165.85	153.8104
167.43	131.1311
171.28	163.1544
171.86	142.5891
172.10	143.5158
176.55	167.3477
176.60	167.3633
181.06	159.4753
184.41	163.0685
185.71	168.3084
186.00	168.3934
190.27	139.2755
192.34	146.9300
193.63	163.4101
197.04	156.2128
198.01	157.3671
198.60	153.8965
200.40	0.0000
201.83	166.5400
202.84	170.4579
205.31	149.6272

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208.81	140.7963
209.75	141.0049
209.75	141.0049
210.97	116.3434
215.65	135.7893
216.55	135.0436
218.09	124.1585
222.10	116.4581
223.80	104.5130
226.40	123.8186
227.00	114.4677
227.08	114.4813
227.20	114.5010
228.16	116.5575
228.18	116.5612
228.18	116.5612
231.56	0.0000
235.69	162.3737
236.00	143.7576
236.00	143.7576
238.63	123.1302
238.63	123.1302
238.63	123.1302
238.63	123.1302
239.00	0.0000
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241.98	123.7083
241.98	123.7083
241.98	123.7083
244.69	114.9572
245.39	113.6115
247.94	105.2391
248.90	104.4008
249.79	0.0000
252.40	106.8556
252.85	111.8256
252.85	111.8256
254.15	0.0000
256.20	105.4283
256.20	105.4283
260.50	92.1542
260.90	0.0000
262.80	103.3631
264.65	104.6069
268.24	84.0718
268.79	94.6480
269.46	98.2373
269.46	98.2373
269.46	98.2373
269.46	98.2373
271.23	98.4566
273.65	71.0450
276.40	108.1995
277.35	110.3505
277.60	100.2589
277.60	100.2589
278.00	86.1223
278.60	81.1165
279.20	120.7504
279.53	116.7384
280.46	101.6296
281.68	0.0000
283.67	99.9878
284.30	98.0215
285.00	111.3906
285.90	0.0000
286.10	111.5392
286.10	111.5392
287.40	95.3159
288.45	0.0000
290.67	123.4717
290.80	123.4888
291.72	88.0832
293.26	0.0000
293.70	102.2307
295.21	102.4120
295.21	102.4120

295.21	102.4120
295.96	102.5026
296.50	65.2700
297.23	0.0000
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299.80	74.8828
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300.09	84.2712
300.09	84.2712
300.09	84.2712
300.12	84.2745
301.29	84.3882
302.84	100.1953
303.76	0.0000
303.91	108.1557
304.40	103.5117
304.40	103.5117
304.84	98.8566
306.84	88.0725
308.46	107.1423
311.98	84.3685
316.51	85.8549
318.01	91.3068
319.02	94.5969
319.41	92.5101
320.08	100.0280
323.87	80.1407
323.87	80.1407
323.87	80.1407
323.87	80.1407
325.23	80.2582
328.77	101.5137
333.44	82.5871
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334.20	85.8953
334.30	85.9050
338.28	78.1274
338.28	78.1274
338.28	78.1274
338.28	78.1274
338.32	78.1304
338.32	78.1304
338.32	78.1304
340.50	66.8890
340.57	66.8940
344.27	62.8922
345.85	80.0565
350.59	0.0000
351.07	63.7714
351.92	63.8269
351.92	63.8269
351.92	63.8269
355.39	0.0000
356.01	56.3550
364.48	81.3468
366.43	69.2202
367.43	73.7585
367.94	0.0000
369.80	77.2895
374.96	72.0469
383.85	72.6576
387.95	71.7966
388.63	79.8252
391.69	67.4721
391.69	67.4721
392.90	76.7068
398.62	93.2212
400.65	77.2520
401.10	78.4368
401.81	71.5614
402.60	69.3030
404.84	79.8585
410.95	60.5122
411.60	83.8345
413.65	65.3231
414.70	67.4267
415.30	66.5858

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417.63	0.0000
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423.70	67.9578
427.08	61.0741
427.89	61.1162
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433.93	65.8825
439.47	0.0000
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439.89	65.3197
443.98	54.7679
444.90	54.8093
445.03	54.8159
445.03	54.8159
445.03	54.8159
445.03	54.8159
453.90	47.0695
463.38	64.2136
468.07	64.6973
473.00	58.8223
475.06	72.7257
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476.78	71.9015
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477.96	54.4365
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492.35	0.0000
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511.85	56.7934
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513.99	47.0222
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531.02	51.8247
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543.00	46.4561
546.56	0.0000
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555.20	56.6070
563.23	57.8981
563.90	48.1058
568.70	44.3216
569.32	49.2661
569.50	51.2430
569.67	51.2494
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574.00	29.6521
574.64	0.0000
578.91	0.0000
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583.14	46.1380
585.48	0.0000
591.81	41.9987
592.07	37.0045
593.00	40.0293
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602.71	67.8977
603.60	67.7065
604.41	49.9996
604.70	38.7164
609.31	45.5026

609.31	45.5026
609.31	45.5026
609.31	45.5026
610.33	40.4724
612.46	64.8418
614.37	51.9359
618.01	54.8998
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621.84	60.1253
631.29	42.0247
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633.10	43.0972
634.78	49.3052
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646.12	42.4026
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657.75	53.1089
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661.65	51.1429
664.57	0.0000
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666.33	45.0025
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677.61	47.4033
685.20	53.9556
692.80	43.5625
695.00	56.3820
696.49	44.7173
696.49	44.7173
697.00	55.3801
697.49	50.0695
698.33	41.5660
698.50	41.5696
699.00	35.1844
702.63	39.5293
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709.31	37.5304
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713.82	40.8481
717.42	36.6199
720.50	29.5915
721.93	0.0000
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722.78	39.7502
722.78	39.7502
722.89	39.7531
722.95	39.7547
723.30	41.4902
724.18	32.8622
727.18	21.6547
733.00	27.8047
735.90	42.4242
739.58	37.0578
742.81	42.5801
744.21	44.7962
747.13	41.5822
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752.31	41.6947
753.82	40.6291
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763.93	37.0894
765.79	31.8217
766.42	38.9050
766.84	33.6072
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778.00	45.5832
778.57	44.4849
778.89	40.0430
783.80	35.6816
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792.07	42.5482

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819.60	35.4085
826.30	43.7203
828.27	0.0000
831.60	43.8316
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836.80	0.0000
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867.82	34.3632
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875.33	0.0000
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879.36	26.1420
880.27	33.6243
880.51	33.6287
881.50	32.7091
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884.67	38.3714
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896.60	42.3402
898.02	34.8347
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911.07	29.9859
911.07	29.9859
911.07	29.9859
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925.00	35.2503
925.24	35.2539
926.50	32.4129
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969.11	25.2376
969.11	25.2376
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983.50	28.3175
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1001.68	32.4618
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1036.00	36.8952
1037.82	36.9223
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1038.76	0.0000
1045.16	36.0264
1046.59	41.0541
1048.07	24.0457

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1050.47	24.0680
1062.04	33.2401
1063.62	31.2452
1076.63	27.3480
1077.35	20.2627
1078.86	30.4116
1085.78	25.4089
1099.22	25.5371
1112.02	35.9211
1112.84	29.0873
1115.52	39.3927
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1120.51	22.3057
1121.28	22.3120
1124.00	0.0000
1129.67	22.7240
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1147.95	0.0000
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1173.22	34.6178
1175.09	29.3918
1177.93	26.2683
1189.05	43.2462
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1236.41	0.0000
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1246.25	24.7329
1260.41	0.0000
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1274.45	19.5363
1274.54	23.8777
1291.56	19.6436
1298.22	0.0000
1312.09	20.8703
1325.50	22.9808
1325.50	22.9808
1332.49	24.8741
1333.61	19.3525
1360.21	15.7957
1362.66	0.0000
1365.15	13.0276
1368.21	24.8372
1368.53	0.0000
1376.25	21.4745
1384.27	7.0197
1394.10	15.0189
1395.20	18.7801
1407.95	13.1956
1434.06	11.3975
1436.60	14.2578
1457.56	0.0000
1460.81	22.0145
1489.15	19.2977
1509.49	0.9704
1596.49	14.9017
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1678.03	0.0000
1691.02	4.0713
1691.02	4.0713
1706.46	0.0000
1750.46	0.0000
1764.49	8.8825
1764.49	8.8825
1764.49	8.8825
1764.49	8.8825
1770.23	28.0184
1771.40	5.1900
1791.20	0.0000
1808.65	3.1417

1836.01

7.3774

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107006

Total Uranium Activity	4.5768E+00	ug/g
Total Uranium Counting Unc.	2.2961E+00	ug/g
Total Uranium Tpu	1.1715E-06	ug/g
Total Uranium Mda	1.1129E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107006
*  ANALYST       : MXR1                             DETECTOR    : GAM21
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 12:38:56.17          SAMPLE ALQT  : 121.170 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.990E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.267E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.614E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.740E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:50:12.42

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107007.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:39:23.
Sample ID          : G245107007      Sample quantity   : 1.14150E+02 GRAM
Detector name      : GAM22           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:02.10 0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID           : 944038          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	63.18*	157	620	1.04	126.61	123	9	2.19E-02	30.3	
2	3	74.81	432	636	1.10	149.85	146	18	6.00E-02	10.8	2.07E+00
3	3	77.06*	717	545	1.09	154.34	146	18	9.96E-02	6.9	
4	0	83.93*	109	523	1.00	168.07	165	7	1.52E-02	36.7	
5	0	87.19*	234	449	1.25	174.58	172	6	3.24E-02	16.1	
6	3	89.93	230	269	1.07	180.07	178	16	3.19E-02	11.8	7.38E-01
7	3	92.70*	663	544	1.42	185.60	178	16	9.21E-02	8.0	
8	0	129.13	129	398	1.13	258.38	255	8	1.79E-02	28.3	
9	0	185.83*	461	486	1.35	371.68	367	11	6.40E-02	10.8	
10	0	209.78*	113	572	0.94	419.54	414	12	1.57E-02	44.2	
11	3	238.63*	1579	288	1.26	477.18	470	21	2.19E-01	3.2	1.92E+00
12	3	241.80	420	344	1.89	483.51	470	21	5.83E-02	11.9	
13	0	269.88	89	286	1.44	539.63	536	9	1.23E-02	35.9	
14	0	276.57	113	237	1.02	552.99	548	9	1.57E-02	26.3	
15	2	295.19*	518	250	1.45	590.20	585	20	7.20E-02	7.1	4.97E-01
16	2	300.11*	120	268	1.63	600.02	585	20	1.67E-02	27.8	
17	0	328.18	96	279	1.35	656.13	651	11	1.34E-02	35.1	
18	0	338.28*	257	275	1.40	676.31	672	10	3.56E-02	14.0	
19	0	351.82*	967	284	1.43	703.38	695	14	1.34E-01	5.0	
20	0	463.26	102	247	1.35	926.09	920	14	1.41E-02	34.4	
21	0	510.95*	217	273	2.12	1021.41	1012	20	3.02E-02	22.0	
22	0	583.17*	504	194	1.24	1165.76	1159	14	6.99E-02	7.6	
23	0	609.28*	724	141	1.70	1217.95	1212	12	1.01E-01	5.1	
24	0	661.79	632	165	1.84	1322.92	1315	18	8.77E-02	6.3	
25	0	728.72	189	172	2.33	1456.70	1445	25	2.63E-02	20.4	
26	2	768.41	90	102	2.58	1536.04	1529	20	1.25E-02	25.1	2.01E+00
27	2	772.29	55	76	2.11	1543.80	1529	20	7.65E-03	35.0	
28	0	860.83	72	68	2.37	1720.82	1714	13	9.96E-03	26.5	
29	0	911.30*	443	94	1.94	1821.72	1815	16	6.16E-02	7.2	
30	0	969.20*	191	80	1.69	1937.49	1932	14	2.66E-02	12.8	
31	0	1120.58*	177	97	2.01	2240.18	2230	21	2.46E-02	16.4	
32	0	1377.98	52	45	1.53	2754.96	2747	18	7.22E-03	33.3	
33	0	1460.66*	1286	86	2.42	2920.35	2908	25	1.79E-01	3.5	
34	0	1590.05	31	46	1.37	3179.18	3170	15	4.27E-03	52.4	
35	0	1764.22*	139	16	3.49	3527.65	3517	22	1.93E-02	12.4	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:50:15

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107007.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:39:23
Sample ID         : G245107007 Sample quantity : 114.15 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA22 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:02.10 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	*	2.076E+01	2.384E+00	5.647E-01	5.173E-02	36.764
CD-109	+	88.03	*	2.840E+00	9.539E-01	1.175E+00	1.115E-01	2.417
SN-126	+	64.28		1.250E+00	7.787E-01	7.785E-01	1.131E-01	1.605
	+	86.94		1.154E+00	6.067E-01	5.172E-01	2.147E-01	2.231
	+	87.57	*	2.776E-01	9.321E-02	1.173E-01	1.108E-02	2.365
BA-137M	+	661.65	*	6.438E-01	1.059E-01	5.481E-02	5.780E-03	11.747
CS-137	+	661.65	*	6.806E-01	1.120E-01	5.794E-02	6.118E-03	11.747
TL-208	+	277.35		8.848E-01	4.874E-01	6.263E-01	1.033E-01	1.413
	+	510.84		7.690E-01	3.532E-01	2.041E-01	2.659E-02	3.768
	+	583.14	*	5.004E-01	9.336E-02	5.316E-02	5.764E-03	9.413
	+	860.37		6.476E-01	3.518E-01	4.277E-01	4.984E-02	1.514
BI-211		72.87		6.413E+00	3.372E+00	5.255E+00	4.206E-01	1.220
	+	351.07	*	4.548E+00	6.979E-01	3.332E-01	3.887E-02	13.652
PB-212	+	74.81		2.155E+00	5.384E-01	5.308E-01	6.586E-02	4.059
	+	77.11		2.029E+00	3.267E-01	3.022E-01	2.527E-02	6.715
	+	87.30		1.284E+00	4.498E-01	5.440E-01	7.471E-02	2.360
	+	238.63	*	1.735E+00	2.551E-01	9.188E-02	1.214E-02	18.884
	+	300.09		1.960E+00	1.126E+00	1.246E+00	1.818E-01	1.573
PO-212	+	74.81		2.155E+00	5.384E-01	5.308E-01	6.586E-02	4.059
	+	77.11		2.029E+00	3.267E-01	3.022E-01	2.527E-02	6.715
	+	87.30		1.284E+00	4.498E-01	5.440E-01	7.471E-02	2.360
		115.19		-3.108E+00	3.746E+00	5.754E+00	4.767E-01	-0.540
	+	238.63	*	1.735E+00	2.551E-01	9.188E-02	1.214E-02	18.884
	+	300.09		1.960E+00	1.126E+00	1.246E+00	1.818E-01	1.573
BI-214	+	609.31	*	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
	+	1120.29		1.648E+00	5.714E-01	4.393E-01	4.854E-02	3.752
	+	1764.49		1.685E+00	4.393E-01	2.966E-01	2.471E-02	5.680
PB-214	+	74.81		3.712E+00	9.032E-01	9.146E-01	1.008E-01	4.059
	+	77.11		3.479E+00	6.197E-01	5.181E-01	5.861E-02	6.715
	+	87.30		2.199E+00	7.578E-01	9.320E-01	1.134E-01	2.360
	+	241.98		2.765E+00	7.599E-01	5.524E-01	7.597E-02	5.005
	+	295.21		1.487E+00	3.067E-01	2.225E-01	3.313E-02	6.684
	+	351.92	*	1.582E+00	2.564E-01	1.161E-01	1.480E-02	13.627
PO-214	+	74.81		3.712E+00	9.032E-01	9.146E-01	1.008E-01	4.059

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.479E+00	6.197E-01	5.181E-01	5.861E-02	6.715
	+	87.30		2.199E+00	7.578E-01	9.320E-01	1.134E-01	2.360
	+	241.98		2.765E+00	7.599E-01	5.524E-01	7.597E-02	5.005
	+	295.21		1.487E+00	3.067E-01	2.225E-01	3.313E-02	6.684
	+	351.92	*	1.582E+00	2.564E-01	1.161E-01	1.480E-02	13.627
PO-216	+	74.81		2.155E+00	5.384E-01	5.308E-01	6.586E-02	4.059
	+	77.11		2.029E+00	3.267E-01	3.022E-01	2.527E-02	6.715
	+	87.30		1.284E+00	4.498E-01	5.440E-01	7.471E-02	2.360
	+	238.63	*	1.735E+00	2.551E-01	9.188E-02	1.214E-02	18.884
	+	300.09		1.960E+00	1.126E+00	1.246E+00	1.818E-01	1.573
PO-218	+	74.81		3.712E+00	9.032E-01	9.146E-01	1.008E-01	4.059
	+	77.11		3.479E+00	6.197E-01	5.181E-01	5.861E-02	6.715
	+	87.30		2.199E+00	7.578E-01	9.320E-01	1.134E-01	2.360
	+	241.98		2.765E+00	7.599E-01	5.524E-01	7.597E-02	5.005
	+	295.21		1.487E+00	3.067E-01	2.225E-01	3.313E-02	6.684
	+	351.92	*	1.582E+00	2.564E-01	1.161E-01	1.480E-02	13.627
RA-224	+	240.98	*	5.243E+00	1.411E+00	1.044E+00	1.308E-01	5.020
RA-226	+	609.31	*	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
	+	1120.29		1.648E+00	5.714E-01	4.393E-01	4.854E-02	3.752
	+	1764.49		1.685E+00	4.393E-01	2.966E-01	2.471E-02	5.680
AC-228	+	338.32		1.339E+00	6.772E-01	3.716E-01	1.563E-01	3.603
	+	911.07	*	1.888E+00	3.689E-01	2.193E-01	2.905E-02	8.609
	+	969.11		1.430E+00	5.028E-01	4.432E-01	1.070E-01	3.228
RA-228	+	338.32		1.339E+00	6.772E-01	3.716E-01	1.563E-01	3.603
	+	911.07	*	1.888E+00	3.689E-01	2.193E-01	2.905E-02	8.609
	+	969.11		1.430E+00	5.028E-01	4.432E-01	1.070E-01	3.228
TH-228	+	74.81		2.196E+00	5.095E-01	5.409E-01	4.457E-02	4.059
	+	77.11		2.068E+00	3.330E-01	3.080E-01	2.576E-02	6.715
	+	87.30		1.308E+00	4.394E-01	5.545E-01	5.218E-02	2.360
	+	238.63	*	1.768E+00	2.600E-01	9.363E-02	1.237E-02	18.884
	+	300.09		1.998E+00	1.636E+00	1.270E+00	7.640E-01	1.573
TH-230	+	609.31	*	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
	+	1120.29		1.648E+00	5.714E-01	4.393E-01	4.854E-02	3.752
	+	1764.49		1.685E+00	4.393E-01	2.966E-01	2.471E-02	5.680
TH-232	+	338.32		1.339E+00	4.082E-01	3.716E-01	4.419E-02	3.603
	+	911.07	*	1.888E+00	3.689E-01	2.193E-01	2.905E-02	8.609
	+	969.11		1.430E+00	5.028E-01	4.432E-01	1.070E-01	3.228
TH-234	+	63.29	*	3.157E+00	1.991E+00	1.946E+00	3.387E-01	1.622
	+	92.38		5.128E+00	1.246E+00	7.123E-01	1.305E-01	7.199
U-234	+	609.31	*	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
	+	1120.29		1.648E+00	5.714E-01	4.393E-01	4.854E-02	3.752
	+	1764.49		1.685E+00	4.393E-01	2.966E-01	2.471E-02	5.680
NP-237	+	86.50	*	8.151E-01	3.213E-01	3.725E-01	8.435E-02	2.188
		95.87		-7.462E-01	1.044E+00	1.423E+00	3.518E-01	-0.524
U-238	+	63.29	*	3.157E+00	1.991E+00	1.946E+00	3.387E-01	1.622
	+	92.38		5.128E+00	9.428E-01	7.123E-01	6.491E-02	7.199
AM-243	+	74.67	*	3.493E-01	8.095E-02	8.629E-02	7.034E-03	4.048
	+	86.72		3.057E+01	1.026E+01	1.373E+01	1.283E+00	2.226
		117.66		6.438E-01	3.919E+00	6.270E+00	5.179E-01	0.103

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	142.18			-1.570E+01	1.829E+01	2.902E+01	2.562E+00	-0.541
ANH-511	+	511.00	*	1.661E-01	7.502E-02	4.409E-02	4.418E-03	3.767

---- 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	*	-1.696E-01	3.411E-01	5.346E-01	5.580E-02	-0.317
NA-22		1274.54	*	-4.109E-02	3.820E-02	5.719E-02	4.929E-03	-0.718
NA-24		1368.53	*	2.671E+01	3.820E-02	Half-Life too short		
AL-26		1129.67		4.445E-01	1.791E+00	2.535E+00	2.208E-01	0.175
		1808.65	*	-2.050E-03	2.923E-02	4.763E-02	3.895E-03	-0.043
TI-44		67.85		-1.348E-03	4.871E-02	7.185E-02	5.484E-03	-0.019
	+	78.38	*	3.745E-01	6.031E-02	7.329E-02	6.214E-03	5.110
SC-46		889.25	*	-3.943E-02	3.727E-02	5.659E-02	6.334E-03	-0.697
	+	1120.51		2.914E-01	9.917E-02	1.219E-01	1.078E-02	2.390
V-48		944.10		-4.199E-01	9.689E-01	1.545E+00	1.675E-01	-0.272
		983.50	*	-2.876E-03	8.053E-02	1.319E-01	1.384E-02	-0.022
		1312.09		1.589E-02	8.241E-02	1.383E-01	1.219E-02	0.115
CR-51		320.08	*	9.092E-02	4.139E-01	6.986E-01	9.046E-02	0.130
MN-52		744.21		-4.985E-04	3.743E-01	6.076E-01	6.602E-02	-0.001
		848.13		-3.344E+00	9.723E+00	1.580E+01	1.759E+00	-0.212
		935.52		2.869E-01	3.857E-01	6.666E-01	7.278E-02	0.430
		1246.25		-9.740E+00	1.132E+01	1.763E+01	1.491E+00	-0.552
		1333.61		3.154E+00	6.503E+00	1.123E+01	1.001E+00	0.281
		1434.06	*	-4.179E-01	3.380E-01	4.683E-01	4.185E-02	-0.892
MN-54		834.83	*	3.412E-02	3.777E-02	6.590E-02	7.321E-03	0.518
CO-56		846.75	*	-2.522E-02	3.693E-02	5.845E-02	6.506E-03	-0.431
		977.42		8.484E-02	3.335E+00	4.687E+00	4.943E-01	0.018
		1037.82		1.164E-01	2.695E-01	4.557E-01	4.699E-02	0.255
		1175.09		4.833E-01	2.122E+00	3.594E+00	2.894E-01	0.134
		1238.25		1.921E-01	9.109E-02	1.629E-01	1.411E-02	1.180
		1360.21		-9.091E-02	9.715E-01	1.583E+00	1.414E-01	-0.057
		1771.40		2.475E-02	2.468E-01	3.512E-01	2.918E-02	0.070
CO-57		122.06	*	-4.930E-03	2.733E-02	4.301E-02	3.547E-03	-0.115
		136.48		-2.267E-01	2.103E-01	3.409E-01	3.163E-02	-0.665
CO-58		810.76	*	2.584E-03	3.657E-02	6.147E-02	6.807E-03	0.042
FE-59		142.65		-2.166E+00	2.997E+00	4.782E+00	4.232E-01	-0.453
		192.34		-5.991E-01	1.095E+00	1.701E+00	2.527E-01	-0.352
		1099.22	*	-5.719E-02	9.042E-02	1.393E-01	1.366E-02	-0.410
		1291.56		-4.953E-02	1.123E-01	1.783E-01	1.758E-02	-0.278
CO-60		1173.22		-2.206E-02	4.082E-02	6.551E-02	5.269E-03	-0.337
		1332.49	*	-9.551E-04	3.148E-02	5.172E-02	4.612E-03	-0.018
ZN-65		1115.52	*	1.068E-01	1.044E-01	1.578E-01	1.408E-02	0.677
GE-68		1077.35	*	5.330E-01	1.180E+00	1.984E+00	1.870E-01	0.269
AS-73		53.44	*	3.409E-01	8.139E-01	1.332E+00	1.006E-01	0.256
AS-74		595.88	*	-6.032E-03	1.037E-01	1.714E-01	1.777E-02	-0.035
		634.78		-4.046E-01	4.099E-01	6.314E-01	6.617E-02	-0.641
SE-75		66.05		-2.456E+00	5.134E+00	7.431E+00	7.089E-01	-0.331

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-5.686E-01	8.688E-01	1.201E+00	1.654E-01	-0.473
		121.11		-4.381E-02	1.491E-01	2.337E-01	2.555E-02	-0.187
		136.00		-4.358E-02	4.048E-02	6.573E-02	5.704E-03	-0.663
		198.60		1.347E+00	2.042E+00	3.363E+00	3.930E-01	0.401
		264.65	*	1.177E-02	5.174E-02	7.360E-02	9.906E-03	0.160
		279.53		1.419E-01	1.315E-01	1.936E-01	2.747E-02	0.733
		303.91		6.535E-02	2.405E+00	3.524E+00	5.370E-01	0.019
		400.65		-7.564E-02	2.582E-01	4.174E-01	4.885E-02	-0.181
BR-77	+	87.88		1.909E-03	2.582E-01	Half-Life	too short	
		200.40		7.398E-05	2.582E-01	Half-Life	too short	
	+	239.00		8.715E-04	2.582E-01	Half-Life	too short	
		249.79		1.414E-04	2.582E-01	Half-Life	too short	
		281.68		1.232E-04	2.582E-01	Half-Life	too short	
		297.23		1.143E-03	2.582E-01	Half-Life	too short	
		303.76		1.330E-05	2.582E-01	Half-Life	too short	
		439.47		-2.285E-04	2.582E-01	Half-Life	too short	
		484.57		1.521E-04	2.582E-01	Half-Life	too short	
		520.65	*	-2.204E-05	2.582E-01	Half-Life	too short	
		574.64		2.779E-04	2.582E-01	Half-Life	too short	
		578.91		-5.840E-05	2.582E-01	Half-Life	too short	
		585.48		5.962E-03	2.582E-01	Half-Life	too short	
		755.35		2.143E-05	2.582E-01	Half-Life	too short	
		817.79		8.397E-05	2.582E-01	Half-Life	too short	
SR-82		698.33		4.710E+00	3.670E+01	6.040E+01	6.462E+00	0.078
		776.49	*	2.252E-01	4.213E-01	6.153E-01	6.748E-02	0.366
		1395.20		-1.580E+01	1.126E+01	1.551E+01	1.387E+00	-1.019
RB-83		520.41	*	-4.713E-02	7.390E-02	1.100E-01	1.107E-02	-0.428
		529.64		7.590E-02	1.071E-01	1.855E-01	1.875E-02	0.409
		552.65		-5.718E-02	1.981E-01	3.253E-01	3.319E-02	-0.176
RB-84		881.50	*	4.596E-02	6.893E-02	1.194E-01	1.335E-02	0.385
KR-85		513.99	*	3.482E+01	9.169E+00	1.495E+01	1.501E+00	2.328
SR-85		513.99	*	1.860E-01	4.898E-02	7.989E-02	8.017E-03	2.328
RB-86		1076.63	*	4.602E-01	8.674E-01	1.466E+00	1.383E-01	0.314
Y-88		898.02		-3.401E-02	4.059E-02	6.303E-02	7.082E-03	-0.540
		1836.01	*	2.759E-03	2.991E-02	4.977E-02	4.024E-03	0.055
ZR-88		392.90	*	-9.468E-04	3.168E-02	5.202E-02	4.843E-03	-0.018
Y-91		1204.90	*	7.524E+00	1.799E+01	3.074E+01	2.527E+00	0.245
NB-94		702.63	*	9.010E-03	3.200E-02	5.311E-02	5.691E-03	0.170
		871.10		-1.796E-02	3.110E-02	4.944E-02	5.523E-03	-0.363
NB-95		765.79	*	9.094E-02	4.955E-02	7.821E-02	8.552E-03	1.163
NB-95M		235.69	*	2.416E-01	1.587E-01	2.378E-01	3.143E-02	1.016
ZR-95		724.18		1.509E-01	1.140E-01	1.744E-01	1.989E-02	0.865
		756.15	*	7.520E-03	7.024E-02	1.147E-01	1.331E-02	0.066
NB-97		657.90	*	1.709E+01	7.024E-02	Half-Life	too short	
		1024.50		2.498E+01	7.024E-02	Half-Life	too short	
ZR-97		254.15		6.373E+01	7.024E-02	Half-Life	too short	
		355.39		3.226E+01	7.024E-02	Half-Life	too short	
		507.63	*	3.178E+02	7.024E-02	Half-Life	too short	
		602.52		1.186E+02	7.024E-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			-1.738E+02	7.024E-02	Half-Life	too short	
	1147.95			-2.220E+02	7.024E-02	Half-Life	too short	
	1362.66			-3.759E+02	7.024E-02	Half-Life	too short	
	1750.46			2.799E+01	7.024E-02	Half-Life	too short	
MO-99	140.51			-3.364E+01	7.240E+01	1.161E+02	3.220E+01	-0.290
	181.06			2.358E+01	5.183E+01	7.689E+01	1.472E+01	0.307
	366.43			1.267E+02	2.254E+02	3.822E+02	4.054E+01	0.332
	739.58	*		4.069E-02	3.291E+01	4.771E+01	7.898E+00	0.001
	778.00			-3.537E+01	9.907E+01	1.316E+02	1.443E+01	-0.269
TC-99M	140.51	*		-9.001E+14	9.907E+01	Half-Life	too short	
RH-101	127.23			1.513E-02	3.809E-02	5.451E-02	4.557E-03	0.278
	198.01	*		2.845E-02	3.669E-02	6.063E-02	6.614E-03	0.469
	325.23			8.438E-02	2.461E-01	3.649E-01	4.536E-02	0.231
RH-102	418.52			-6.724E-02	2.951E-01	4.769E-01	4.526E-02	-0.141
	475.06	*		1.366E-02	2.901E-02	4.810E-02	4.730E-03	0.284
	631.29			3.494E-02	5.149E-02	8.817E-02	9.233E-03	0.396
	697.49			2.957E-02	7.500E-02	1.253E-01	1.340E-02	0.236
	766.84			2.167E-01	1.237E-01	1.936E-01	2.117E-02	1.120
	1046.59			-1.161E-01	9.524E-02	1.371E-01	1.345E-02	-0.847
	1112.84			-2.707E-02	2.664E-01	3.635E-01	3.253E-02	-0.074
RU-103	497.08	*		-1.632E-02	4.332E-02	6.805E-02	1.021E-02	-0.240
	610.33	+		1.561E+01	3.186E+00	3.014E+00	5.328E-01	5.178
RH-106	511.85	+		8.358E-01	3.775E-01	4.449E-01	4.459E-02	1.879
	621.84	*		1.898E-01	3.162E-01	5.380E-01	7.855E-02	0.353
	1050.47			1.165E-01	2.042E+00	3.347E+00	3.267E-01	0.035
RU-106	511.85	+		8.358E-01	3.775E-01	4.449E-01	4.459E-02	1.879
	621.84	*		1.898E-01	3.156E-01	5.380E-01	5.619E-02	0.353
	1050.47			1.165E-01	2.042E+00	3.347E+00	3.267E-01	0.035
AG-108M	433.93	*		6.250E-03	3.425E-02	5.633E-02	5.577E-03	0.111
	614.37			-1.029E-02	4.254E-02	5.920E-02	6.337E-03	-0.174
	722.95			2.155E-02	4.474E-02	6.507E-02	7.200E-03	0.331
AG-110M	657.75	*		1.013E-01	4.370E-02	7.051E-02	7.578E-03	1.437
	677.61			1.477E-01	3.083E-01	5.188E-01	5.610E-02	0.285
	706.67			5.648E-02	1.972E-01	3.275E-01	3.577E-02	0.172
	763.93			1.573E-01	1.697E-01	2.555E-01	2.842E-02	0.616
	884.67			-1.691E-03	4.466E-02	7.392E-02	8.429E-03	-0.023
	937.48			-4.071E-03	1.038E-01	1.708E-01	1.905E-02	-0.024
	1384.27			9.136E-02	1.692E-01	2.539E-01	2.329E-02	0.360
IN-111	171.28			1.534E-01	2.676E+00	4.462E+00	4.453E-01	0.034
	245.39	*		-5.930E-01	3.291E+00	4.602E+00	5.838E-01	-0.129
IN-113M	391.69	*		-1.054E-02	4.612E-02	7.500E-02	7.162E-03	-0.141
SN-113	391.69	*		-1.054E-02	4.612E-02	7.500E-02	7.162E-03	-0.141
IN-114M	190.27	*		1.222E-02	2.233E-01	3.245E-01	3.450E-02	0.038
CD-115	260.90			-1.801E-04	2.233E-01	Half-Life	too short	
	492.35			8.511E-05	2.233E-01	Half-Life	too short	
	527.90	*		7.468E-06	2.233E-01	Half-Life	too short	
SN-117M	156.02			8.065E-01	2.915E+00	4.924E+00	4.616E-01	0.164
	158.56	*		-1.696E-02	6.960E-02	1.155E-01	1.095E-02	-0.147
SB-122	563.90	*		1.654E+00	5.285E+00	8.952E+00	9.175E-01	0.185

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

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I-123	692.80			4.207E-01	1.154E+02	1.886E+02	2.014E+01	0.002
	159.00	*		-2.654E+02	1.154E+02	Half-Life too short		
	528.96			4.615E+04	1.154E+02	Half-Life too short		
TE-123M	159.00	*		-9.456E-03	3.067E-02	5.076E-02	4.848E-03	-0.186
I-124	602.71	*		8.765E-01	1.438E+00	2.141E+00	2.224E-01	0.409
	722.78			4.629E+00	8.956E+00	1.306E+01	1.410E+00	0.354
	1325.50			-3.140E+01	5.221E+01	8.045E+01	7.145E+00	-0.390
SB-124	1376.25			6.667E+01	6.863E+01	1.063E+02	9.500E+00	0.627
	1509.49			4.822E+00	3.025E+01	4.997E+01	4.442E+00	0.096
	1691.02			3.880E+00	6.737E+00	1.193E+01	1.020E+00	0.325
	602.71			2.786E-02	4.571E-02	6.805E-02	7.070E-03	0.409
	645.85			-2.688E-01	4.960E-01	7.867E-01	8.604E-02	-0.342
	709.31			-1.470E+00	2.808E+00	4.421E+00	4.749E-01	-0.332
	713.82			-5.128E-01	1.682E+00	2.687E+00	3.668E-01	-0.191
	722.78			2.133E-01	4.127E-01	6.020E-01	6.586E-02	0.354
	+	968.20		1.540E+01	4.261E+00	6.670E+00	7.092E-01	2.309
	1045.16			-2.939E+00	2.160E+00	3.061E+00	3.007E-01	-0.960
	1325.50			-1.545E+00	2.569E+00	3.959E+00	3.516E-01	-0.390
	1368.21			1.028E+00	1.793E+00	2.847E+00	3.894E-01	0.361
	1436.60			-1.621E+00	3.418E+00	5.281E+00	4.719E-01	-0.307
SB-125	1691.02	*		4.218E-02	7.323E-02	1.297E-01	1.154E-02	0.325
	427.89	*		-2.154E-02	9.578E-02	1.545E-01	1.499E-02	-0.139
	+	463.38		7.141E-01	4.966E-01	5.536E-01	5.740E-02	1.290
	600.56			-1.784E-01	1.843E-01	2.803E-01	3.059E-02	-0.637
	635.90			-9.065E-02	2.603E-01	4.194E-01	4.640E-02	-0.216
TE-125M	109.28	*		6.766E+00	1.026E+01	1.676E+01	1.699E+00	0.404
I-126	388.63			-1.536E-02	2.575E-01	4.227E-01	4.002E-02	-0.036
	666.33	*		4.989E-02	2.390E-01	3.427E-01	3.621E-02	0.146
	753.82			5.127E-01	1.768E+00	2.920E+00	3.182E-01	0.176
SB-126	223.80			-4.100E+00	5.602E+00	8.846E+00	1.050E+00	-0.463
	278.60			2.646E+00	3.728E+00	5.398E+00	7.545E-01	0.490
	+	296.50		1.842E+01	3.621E+00	4.539E+00	6.115E-01	4.059
	414.70			2.515E-02	9.771E-02	1.619E-01	1.532E-02	0.155
	415.30			2.630E-01	8.155E+00	1.337E+01	1.266E+00	0.020
	555.20			6.996E-01	4.767E+00	8.016E+00	8.188E-01	0.087
	573.80			5.681E-01	1.333E+00	2.219E+00	2.282E-01	0.256
	593.00			9.301E-01	1.139E+00	1.966E+00	2.036E-01	0.473
	656.30			1.079E-02	4.520E+00	6.375E+00	6.715E-01	0.002
	666.33			2.103E-02	1.008E-01	1.445E-01	1.527E-02	0.146
	675.00			1.182E-01	2.392E+00	3.932E+00	4.169E-01	0.030
	695.00			1.410E-02	9.287E-02	1.531E-01	1.636E-02	0.092
	697.00			5.281E-02	3.306E-01	5.451E-01	5.830E-02	0.097
SB-127	720.50	*		-1.133E-01	2.057E-01	2.715E-01	2.928E-02	-0.417
	856.80			-5.066E-02	6.102E-01	8.618E-01	9.609E-02	-0.059
	989.30			-1.878E-01	1.504E+00	2.446E+00	2.551E-01	-0.077
	1034.80			5.651E-01	9.604E+00	1.577E+01	1.568E+00	0.036
	1213.00			3.389E-01	5.184E+00	8.660E+00	7.160E-01	0.039
	61.10			4.597E+01	1.116E+02	1.691E+02	1.936E+01	0.272
	252.40			-1.911E+00	9.664E+00	1.541E+01	6.698E+00	-0.124

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

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		290.80		2.676E+01	4.798E+01	7.249E+01	1.182E+01	0.369
		411.60		2.413E+01	2.624E+01	4.427E+01	7.558E+00	0.545
		444.90		6.121E+00	2.014E+01	3.325E+01	4.764E+00	0.184
		473.00		-1.282E+00	3.472E+00	5.491E+00	8.088E-01	-0.233
		543.00		-1.066E+01	3.168E+01	5.083E+01	8.283E+00	-0.210
		603.60		2.250E+01	2.642E+01	3.978E+01	5.892E+00	0.566
		685.20	*	-7.384E-01	2.593E+00	4.161E+00	5.853E-01	-0.177
		698.50		2.915E+00	2.960E+01	4.863E+01	8.694E+00	0.060
		722.20		2.071E+01	6.431E+01	9.229E+01	1.292E+01	0.224
		783.80		4.304E+00	7.052E+00	1.180E+01	1.789E+00	0.365
XE-127		57.60		-2.587E+00	5.942E+00	9.740E+00	6.996E-01	-0.266
		145.22		1.094E+00	7.461E-01	1.304E+00	1.166E-01	0.839
		172.10		1.518E-02	1.331E-01	2.223E-01	2.225E-02	0.068
		202.84	*	-5.197E-02	5.686E-02	8.651E-02	9.590E-03	-0.601
		374.96		9.176E-02	2.154E-01	3.625E-01	3.691E-02	0.253
I-131		80.18		8.530E+00	7.956E+00	9.813E+00	8.574E-01	0.869
		284.30		-1.555E+00	2.269E+00	3.492E+00	4.944E-01	-0.445
		364.48	*	6.669E-02	1.626E-01	2.739E-01	3.043E-02	0.243
		636.97		-3.206E-01	2.085E+00	3.402E+00	3.713E-01	-0.094
		722.89		5.220E+00	1.056E+01	1.538E+01	1.670E+00	0.339
TE-132		49.72		-3.795E+01	3.937E+01	6.328E+01	7.299E+00	-0.600
		111.76		-7.435E+00	7.192E+01	1.143E+02	1.344E+01	-0.065
		116.30		-1.412E+01	6.555E+01	1.034E+02	1.211E+01	-0.137
		228.16	*	8.627E-01	1.755E+00	2.896E+00	5.362E-01	0.298
BA-133		53.15		2.992E-01	3.408E+00	5.515E+00	4.185E-01	0.054
		79.62		-5.261E-01	1.397E+00	2.002E+00	3.045E-01	-0.263
		81.00		1.086E-01	1.187E-01	1.442E-01	2.298E-02	0.753
	+	276.40		8.750E-01	4.865E-01	6.616E-01	1.197E-01	1.322
		302.84		1.397E-01	1.620E-01	2.466E-01	4.112E-02	0.566
		356.01	*	-9.796E-03	4.986E-02	7.079E-02	1.058E-02	-0.138
		383.85		-1.689E-01	3.062E-01	4.896E-01	6.552E-02	-0.345
I-133	+	510.53		3.856E+01	3.062E-01	Half-Life	too short	
		529.87	*	6.940E-02	3.062E-01	Half-Life	too short	
		706.58		2.031E+00	3.062E-01	Half-Life	too short	
		856.28		-4.545E+00	3.062E-01	Half-Life	too short	
		875.33		-1.890E+00	3.062E-01	Half-Life	too short	
		1236.41		2.945E+01	3.062E-01	Half-Life	too short	
		1298.22		-5.647E-01	3.062E-01	Half-Life	too short	
CS-134		475.35		1.987E-01	1.925E+00	3.130E+00	3.079E-01	0.063
		563.23		2.140E-02	3.473E-01	5.806E-01	5.989E-02	0.037
		569.32		-4.142E-02	1.950E-01	3.208E-01	3.327E-02	-0.129
		604.70		5.558E-02	3.817E-02	5.965E-02	6.210E-03	0.932
		795.84	*	8.549E-02	4.781E-02	8.398E-02	9.296E-03	1.018
		801.93		-1.500E-01	3.824E-01	5.984E-01	6.626E-02	-0.251
		1038.57		2.283E+00	3.287E+00	5.662E+00	5.605E-01	0.403
		1167.94		8.594E-01	2.169E+00	3.720E+00	3.023E-01	0.231
		1365.15		-1.418E+00	1.172E+00	1.680E+00	1.565E-01	-0.844
CS-135		268.24	*	2.220E-01	1.889E-01	2.792E-01	4.039E-02	0.795
I-135		288.45		-2.512E+14	1.889E-01	Half-Life	too short	

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CS-136		417.63		-1.779E+14	1.889E-01	Half-Life	too short	
		546.56		-8.973E+13	1.889E-01	Half-Life	too short	
		836.80		5.568E+14	1.889E-01	Half-Life	too short	
		1038.76		2.018E+14	1.889E-01	Half-Life	too short	
		1124.00		2.244E+15	1.889E-01	Half-Life	too short	
		1131.51		3.969E+13	1.889E-01	Half-Life	too short	
		1260.41	*	-2.063E+12	1.889E-01	Half-Life	too short	
		1457.56		1.529E+16	1.889E-01	Half-Life	too short	
		1678.03		-3.889E+13	1.889E-01	Half-Life	too short	
		1706.46		-4.263E+14	1.889E-01	Half-Life	too short	
		1791.20		1.802E+14	1.889E-01	Half-Life	too short	
	+	66.91		1.042E-01	9.864E-01	1.465E+00	2.179E-01	0.071
		86.29		4.451E+00	1.554E+00	2.423E+00	3.227E-01	1.837
		153.22		9.685E-01	8.606E-01	1.484E+00	1.516E-01	0.652
		163.89		8.815E-01	1.352E+00	2.301E+00	2.451E-01	0.383
		176.55		-9.942E-02	4.591E-01	7.561E-01	8.004E-02	-0.131
		273.65		-6.181E-03	9.120E-01	9.102E-01	1.288E-01	-0.007
		340.57		5.601E-01	2.015E-01	3.169E-01	3.797E-02	1.768
		818.51		2.650E-02	8.382E-02	1.429E-01	1.584E-02	0.185
	*	1048.07		-7.913E-02	1.131E-01	1.731E-01	1.751E-02	-0.457
CE-139		1235.34		1.030E+00	7.110E-01	1.258E+00	1.471E-01	0.819
	*	165.85		-8.795E-03	3.102E-02	5.120E-02	5.021E-03	-0.172
BA-140		162.64		1.590E-01	9.683E-01	1.626E+00	1.644E-01	0.098
		304.84		2.239E-01	1.767E+00	2.602E+00	7.742E-01	0.086
LA-140		423.70		1.111E+00	2.350E+00	3.888E+00	1.270E+00	0.286
	*	537.32		-4.679E-02	2.926E-01	4.844E-01	1.626E-01	-0.097
	+	328.77		7.719E-01	5.499E-01	6.819E-01	8.614E-02	1.132
		432.53		1.151E+00	2.655E+00	4.421E+00	4.403E-01	0.260
		487.03		-1.568E-01	1.680E-01	2.544E-01	2.637E-02	-0.616
		751.79		8.873E-01	2.060E+00	3.431E+00	3.991E-01	0.259
		815.85		8.054E-02	3.623E-01	6.144E-01	7.286E-02	0.131
		867.82		2.897E-01	1.792E+00	2.591E+00	2.986E-01	0.112
		919.63		5.035E-01	3.235E+00	4.654E+00	5.906E-01	0.108
		925.24		1.946E-01	1.181E+00	1.976E+00	2.258E-01	0.098
CE-141	*	1596.49		-1.499E-02	1.091E-01	1.506E-01	1.320E-02	-0.100
	*	145.44		1.046E-01	6.756E-02	1.183E-01	1.077E-02	0.884
CE-143		57.37		-2.439E-03	6.756E-02	Half-Life	too short	
		231.56		-1.277E-02	6.756E-02	Half-Life	too short	
	*	293.26		6.945E-03	6.756E-02	Half-Life	too short	
	+	350.59		2.589E-01	6.756E-02	Half-Life	too short	
		490.36		-1.085E-02	6.756E-02	Half-Life	too short	
		664.57		8.574E-02	6.756E-02	Half-Life	too short	
		721.93		2.394E-03	6.756E-02	Half-Life	too short	
		80.11		2.857E+00	2.640E+00	3.258E+00	2.817E-01	0.877
	*	133.54		2.528E-01	2.320E-01	3.592E-01	5.576E-02	0.704
		476.78		-4.759E-02	6.906E-02	1.069E-01	1.129E-02	-0.445
PM-144		618.01		-8.195E-03	3.196E-02	5.202E-02	5.531E-03	-0.158
	*	696.49		-8.987E-04	3.378E-02	5.510E-02	5.893E-03	-0.016
		778.57		-1.604E+00	2.618E+00	3.380E+00	3.709E-01	-0.475

---- 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	*		-6.102E-02	2.294E+00	3.741E+00	4.000E-01	-0.016
	1489.15			-1.580E+01	1.193E+01	1.632E+01	1.454E+00	-0.968
PM-146	453.90	*		9.045E-03	4.306E-02	7.069E-02	8.215E-03	0.128
	633.02			-4.672E-01	1.340E+00	2.142E+00	8.107E-01	-0.218
	735.90			-8.389E-02	1.662E-01	2.168E-01	6.363E-02	-0.387
	747.13			-3.740E-02	9.108E-02	1.435E-01	2.228E-02	-0.261
ND-147	91.11	+		1.170E+00	3.002E-01	7.478E-01	7.389E-02	1.564
	319.41			1.463E+00	4.263E+00	7.231E+00	9.154E-01	0.202
	439.89			-5.823E+00	7.765E+00	1.204E+01	1.160E+00	-0.483
	531.02	*		2.635E-01	7.121E-01	1.213E+00	1.924E-01	0.217
PM-149	285.90	*		-6.968E-05	7.121E-01	Half-Life too short		
EU-152	121.78			-7.742E-03	7.795E-02	1.231E-01	1.182E-02	-0.063
	244.69			3.575E-01	3.958E-01	5.843E-01	7.398E-02	0.612
	344.27	*		-3.560E-02	1.445E-01	1.602E-01	1.925E-02	-0.222
	443.98			-5.782E-01	9.878E-01	1.554E+00	1.500E-01	-0.372
	778.89			-2.401E-01	2.865E-01	3.779E-01	4.147E-02	-0.635
	867.32			2.454E-01	8.639E-01	1.264E+00	1.412E-01	0.194
	964.01			4.234E-01	3.100E-01	4.903E-01	5.232E-02	0.864
	1085.78			-1.584E-01	3.724E-01	5.851E-01	5.452E-02	-0.271
	1112.02			4.290E-02	3.719E-01	5.189E-01	4.650E-02	0.083
	1407.95			-9.316E-02	1.894E-01	2.965E-01	2.651E-02	-0.314
GD-153	69.67			-1.423E+00	1.668E+00	2.533E+00	1.966E-01	-0.562
	83.37	+		2.395E+01	1.771E+01	2.449E+01	2.198E+00	0.978
	97.43	*		-1.009E-02	8.894E-02	1.259E-01	1.107E-02	-0.080
	103.18			-4.535E-02	1.066E-01	1.680E-01	1.436E-02	-0.270
EU-154	123.07			3.383E-03	5.575E-02	8.853E-02	9.820E-03	0.038
	247.94			-1.737E-02	4.406E-01	6.206E-01	9.223E-02	-0.028
	591.81			4.819E-01	6.339E-01	1.046E+00	1.361E-01	0.460
	723.30			6.776E-02	1.937E-01	2.784E-01	3.210E-02	0.243
	756.87			1.767E-01	7.336E-01	1.208E+00	1.656E-01	0.146
	873.19			-5.199E-02	2.672E-01	4.376E-01	6.196E-02	-0.119
	996.32			-2.709E-01	3.549E-01	5.437E-01	1.015E-01	-0.498
	1004.76			6.705E-02	2.057E-01	3.445E-01	4.448E-02	0.195
	1274.45	*		-1.177E-01	1.066E-01	1.585E-01	1.791E-02	-0.743
EU-155	48.70			-2.188E+00	2.195E+00	3.542E+00	2.885E-01	-0.618
	60.01			2.311E+00	4.815E+00	7.331E+00	5.206E-01	0.315
	86.54	+		3.348E-01	1.125E-01	1.833E-01	1.724E-02	1.827
	105.31	*		7.696E-02	1.089E-01	1.790E-01	1.536E-02	0.430
TB-160	86.79	+		9.271E-01	3.113E-01	5.021E-01	4.696E-02	1.846
	197.04			1.930E-01	6.455E-01	1.053E+00	1.145E-01	0.183
	215.65			1.926E-01	9.229E-01	1.336E+00	1.544E-01	0.144
	298.57			2.101E-01	1.295E-01	2.200E-01	2.948E-02	0.955
	879.36	*		7.035E-02	1.325E-01	2.276E-01	2.545E-02	0.309
	962.29			6.487E-01	5.712E-01	8.959E-01	9.575E-02	0.724
	966.15			1.221E+00	2.994E-01	4.989E-01	5.314E-02	2.448
	1177.93			1.592E-01	3.320E-01	5.714E-01	4.610E-02	0.279
	1271.85			-5.406E-01	6.259E-01	9.560E-01	8.216E-02	-0.566
HO-166M	80.57			2.628E-01	3.317E-01	4.025E-01	3.497E-02	0.653
	184.41	+		2.766E-01	6.643E-02	7.862E-02	8.196E-03	3.518

---- 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		3.864E-02	1.003E-01	1.431E-01	1.998E-02	0.270
		410.95		2.444E-01	2.606E-01	4.434E-01	4.186E-02	0.551
		711.68	*	3.942E-02	5.871E-02	9.944E-02	1.069E-02	0.396
		752.31		1.822E-01	2.657E-01	4.489E-01	4.890E-02	0.406
		810.29		1.607E-02	5.316E-02	9.065E-02	1.002E-02	0.177
		51.35		-8.202E+00	2.728E+01	4.521E+01	3.527E+00	-0.181
		52.39		7.181E+00	1.489E+01	2.443E+01	1.875E+00	0.294
		59.40		2.188E+01	2.588E+01	4.005E+01	2.831E+00	0.546
		66.72	*	9.487E-01	2.924E+01	4.328E+01	3.271E+00	0.022
		88.36		6.583E-01	2.211E-01	3.583E-01	3.389E-02	1.837
LU-176	+	201.83		-4.050E-02	3.163E-02	4.911E-02	5.425E-03	-0.825
		306.84	*	-1.406E-02	2.576E-02	4.100E-02	5.379E-03	-0.343
		401.10		-2.074E+00	6.639E+00	1.072E+01	1.005E+00	-0.193
LU-177		112.95		1.542E-01	2.539E+00	4.058E+00	3.373E-01	0.038
	+	208.36	*	3.371E+00	3.003E+00	3.143E+00	3.547E-01	1.073
LU-177M		52.97		4.817E-01	1.556E+00	2.537E+00	1.930E-01	0.190
		54.07		7.388E-02	8.318E-01	1.346E+00	1.008E-01	0.055
		61.30		8.881E-01	1.459E+00	2.229E+00	1.604E-01	0.398
		121.62		-4.950E-02	4.060E-01	6.406E-01	5.276E-02	-0.077
		147.16		-8.224E-01	6.768E-01	1.086E+00	9.792E-02	-0.757
		171.86		1.359E-02	5.049E-01	8.406E-01	8.406E-02	0.016
		218.09		-5.392E-01	9.396E-01	1.498E+00	1.745E-01	-0.360
	+	268.79		1.485E+00	1.084E+00	1.486E+00	2.020E-01	0.999
		319.02		-3.419E-02	2.652E-01	4.412E-01	5.592E-02	-0.077
		367.43		3.803E-01	9.035E-01	1.523E+00	1.608E-01	0.250
HF-181		413.65	*	-1.523E-01	1.922E-01	3.017E-01	2.853E-02	-0.505
		56.28		-3.348E-01	9.099E-01	1.497E+00	1.090E-01	-0.224
		57.53		-1.587E-01	4.918E-01	8.096E-01	5.819E-02	-0.196
		65.20		-4.676E-01	1.050E+00	1.524E+00	1.136E-01	-0.307
		133.02		4.550E-02	7.860E-02	1.205E-01	1.027E-02	0.378
		136.25		-5.833E-01	4.907E-01	7.927E-01	6.838E-02	-0.736
		345.85		-4.852E-02	2.340E-01	3.332E-01	3.853E-02	-0.146
		482.03	*	1.776E-02	4.601E-02	7.583E-02	7.486E-03	0.234
		56.28		-1.256E-01	3.417E-01	5.621E-01	4.094E-02	-0.223
		57.53		-5.970E-02	1.848E-01	3.042E-01	2.187E-02	-0.196
W-181		65.20	*	-1.743E-01	3.914E-01	5.682E-01	4.236E-02	-0.307
		67.75		-3.274E-03	1.190E-01	1.756E-01	1.339E-02	-0.019
		100.10		7.346E-02	1.803E-01	2.943E-01	2.550E-02	0.250
		152.43		4.047E-01	3.632E-01	6.274E-01	5.788E-02	0.645
		222.10		5.540E-02	3.877E-01	6.356E-01	7.500E-02	0.087
TA-182		1001.68		1.451E+00	2.082E+00	3.514E+00	3.621E-01	0.413
	+	1121.28		7.979E-01	2.715E-01	3.307E-01	2.920E-02	2.413
		1189.05		6.596E-02	2.774E-01	4.697E-01	3.820E-02	0.140
		1221.42	*	-5.777E-02	1.773E-01	2.881E-01	2.396E-02	-0.201
		1230.97		-6.503E-01	4.871E-01	7.379E-01	6.176E-02	-0.881
		57.98		-5.459E-02	1.875E-01	3.090E-01	2.211E-02	-0.177
		59.32		9.675E-02	1.104E-01	1.710E-01	1.210E-02	0.566
		67.20		1.208E-01	2.110E-01	3.192E-01	2.423E-02	0.378
		162.32	*	7.592E-02	1.183E-01	2.015E-01	1.944E-02	0.377
RE-183								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.103E+00	1.874E+00	1.947E+00	2.201E-01	1.080
		291.72		4.332E-01	1.101E+00	1.651E+00	2.250E-01	0.262
		57.98		-1.967E-01	6.755E-01	1.113E+00	7.965E-02	-0.177
		59.32		3.482E-01	3.972E-01	6.156E-01	4.354E-02	0.566
		67.20		4.349E-01	7.599E-01	1.150E+00	8.724E-02	0.378
		161.27		-4.870E-02	3.766E-01	6.266E-01	6.016E-02	-0.078
		216.55		-7.699E-02	2.995E-01	4.673E-01	5.418E-02	-0.165
		252.85	*	-4.395E-02	2.586E-01	4.141E-01	5.374E-02	-0.106
		318.01		2.064E-01	4.587E-01	7.812E-01	9.930E-02	0.264
		792.07		8.370E-01	1.027E+00	1.733E+00	1.908E-01	0.483
		903.28		4.715E-01	1.071E+00	1.634E+00	1.824E-01	0.289
		920.93		-2.099E-01	4.216E-01	6.030E-01	6.653E-02	-0.348
OS-185		59.72		1.417E-01	2.951E-01	4.494E-01	3.181E-02	0.315
		61.14		6.660E-02	1.615E-01	2.448E-01	1.758E-02	0.272
		69.30		-3.489E-01	2.879E-01	4.537E-01	3.509E-02	-0.769
		592.07		2.589E+00	2.582E+00	4.414E+00	4.570E-01	0.587
		646.12	*	-3.323E-03	4.040E-02	6.612E-02	6.949E-03	-0.050
		717.42		4.924E-01	9.172E-01	1.477E+00	1.591E-01	0.333
		874.81		1.552E-02	5.375E-01	8.948E-01	1.000E-01	0.017
		880.27		3.017E-01	7.255E-01	1.238E+00	1.385E-01	0.244
		155.03	*	1.065E-01	1.907E-01	3.247E-01	3.031E-02	0.328
		477.96		-1.044E+00	3.228E+00	5.116E+00	5.039E-01	-0.204
RE-188		633.10		-1.032E+00	2.796E+00	4.503E+00	4.717E-01	-0.229
	+	63.58		1.319E+02	8.054E+01	9.710E+01	7.135E+00	1.359
W-188		227.08		1.797E+01	1.457E+01	2.455E+01	2.943E+00	0.732
	*	290.67		5.198E+00	8.556E+00	1.297E+01	1.771E+00	0.401
IR-192	+	295.96		1.176E+00	2.315E-01	2.938E-01	3.974E-02	4.004
		308.46		1.312E-02	9.991E-02	1.686E-01	2.207E-02	0.078
	*	316.51		6.748E-03	3.604E-02	6.081E-02	7.772E-03	0.111
		468.07		6.829E-03	8.153E-02	1.146E-01	1.186E-02	0.060
		604.41		5.578E-01	5.386E-01	8.182E-01	1.166E-01	0.682
		612.46		5.691E+00	1.195E+00	1.875E+00	2.156E-01	3.035
AU-195		65.12		-1.061E-01	1.823E-01	2.630E-01	1.959E-02	-0.403
		66.83		7.353E-03	9.782E-02	1.451E-01	1.097E-02	0.051
	+	75.70		1.147E+00	2.659E-01	4.503E-01	3.710E-02	2.548
	*	98.88		9.614E-02	2.580E-01	3.737E-01	3.259E-02	0.257
TL-200	+	129.76		6.586E+00	3.763E+00	5.148E+00	4.338E-01	1.279
	*	367.94		-1.389E-03	3.763E+00	Half-Life	too short	
		579.30		2.615E-02	3.763E+00	Half-Life	too short	
		828.27		1.284E-02	3.763E+00	Half-Life	too short	
TL-201		1205.75		2.217E-02	3.763E+00	Half-Life	too short	
		68.90		-1.117E+01	1.086E+01	1.725E+01	1.330E+00	-0.648
		70.82		-6.303E-01	6.892E+00	1.010E+01	7.928E-01	-0.062
		80.30		1.485E+01	1.503E+01	1.845E+01	1.598E+00	0.805
TL-202		135.34		1.046E+01	6.130E+01	1.043E+02	8.964E+00	0.100
	*	167.43		1.800E+00	1.716E+01	2.871E+01	2.830E+00	0.063
		68.90		-5.148E-01	5.006E-01	7.950E-01	6.127E-02	-0.648
		70.82		-2.896E-02	3.167E-01	4.643E-01	3.643E-02	-0.062
		80.30		6.825E-01	6.909E-01	8.482E-01	7.347E-02	0.805

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	-7.276E-02	8.976E-02	1.387E-01	1.335E-02	-0.525
		70.83		-9.605E-02	1.166E+00	1.710E+00	2.245E-01	-0.056
		72.87		1.352E+00	7.236E-01	1.108E+00	1.419E-01	1.220
	+	82.60		1.866E+00	1.394E+00	1.838E+00	2.558E-01	1.015
		279.20	*	6.093E-02	5.126E-02	7.576E-02	1.072E-02	0.804
		72.80		3.252E-01	1.951E-01	3.025E-01	2.419E-02	1.075
BI-207	+	74.97		6.271E-01	1.453E-01	2.204E-01	1.802E-02	2.845
	+	84.90		3.064E-01	2.265E-01	3.195E-01	2.920E-02	0.959
		569.67		3.809E-03	3.000E-02	5.026E-02	5.163E-03	0.076
		1063.62	*	-3.303E-02	5.084E-02	7.556E-02	7.254E-03	-0.437
		1770.23		7.174E-01	5.212E-01	8.944E-01	7.435E-02	0.802
		81.07		2.372E-01	2.597E-01	3.176E-01	2.776E-02	0.747
TL-207	+	83.78		2.020E-01	1.493E-01	2.095E-01	1.889E-02	0.964
		94.90		4.703E-01	2.535E-01	3.904E-01	3.490E-02	1.205
		122.32		-2.545E-01	1.874E+00	2.954E+00	2.629E-01	-0.086
		144.24		5.561E-01	7.071E-01	1.183E+00	1.171E-01	0.470
		154.21		2.410E-01	4.258E-01	7.252E-01	7.325E-02	0.332
	+	269.46		3.418E-01	2.497E-01	3.462E-01	4.755E-02	0.987
	+	323.87	*	8.717E-02	7.329E-01	1.073E+00	2.133E-01	0.081
	+	338.28		5.592E+00	1.774E+00	2.356E+00	3.485E-01	2.373
		445.03		7.675E-01	2.323E+00	3.841E+00	4.935E-01	0.200
PO-209		260.50		-2.675E+00	9.806E+00	1.557E+01	2.067E+00	-0.172
		262.80		-1.066E+01	2.698E+01	4.253E+01	5.683E+00	-0.251
		896.60	*	7.296E-01	6.990E+00	1.167E+01	1.307E+00	0.063
BI-210		46.50	*	3.612E+00	3.291E+00	5.591E+00	5.194E-01	0.646
PB-210		46.50	*	3.612E+00	3.291E+00	5.591E+00	5.194E-01	0.646
PO-210		46.50	*	3.612E+00	3.288E+00	5.591E+00	4.701E-01	0.646
PB-211		404.84	*	-7.235E-01	1.066E+00	1.524E+00	9.566E-01	-0.475
		427.08		-9.261E-01	2.168E+00	3.333E+00	2.076E+00	-0.278
		831.96		4.635E-01	1.223E+00	2.028E+00	1.279E+00	0.229
		727.18	*	9.461E-01	3.428E-01	5.952E-01	7.109E-02	1.590
BI-212		785.46		2.151E+00	1.633E+00	2.843E+00	3.125E-01	0.757
		1620.62		5.728E-01	1.260E+00	2.189E+00	1.908E-01	0.262
		81.07		2.372E-01	2.597E-01	3.176E-01	2.776E-02	0.747
PO-215	+	83.78		2.020E-01	1.493E-01	2.095E-01	1.889E-02	0.964
		94.90		4.703E-01	2.535E-01	3.904E-01	3.490E-02	1.205
		122.32		-2.545E-01	1.874E+00	2.954E+00	2.629E-01	-0.086
		144.24		5.561E-01	7.071E-01	1.183E+00	1.171E-01	0.470
		154.21		2.410E-01	4.258E-01	7.252E-01	7.325E-02	0.332
	+	269.46		3.418E-01	2.497E-01	3.462E-01	4.755E-02	0.987
	+	323.87	*	8.717E-02	7.329E-01	1.073E+00	2.133E-01	0.081
	+	338.28		5.592E+00	1.774E+00	2.356E+00	3.485E-01	2.373
		445.03		7.675E-01	2.323E+00	3.841E+00	4.935E-01	0.200
RN-219	+	271.23		4.385E-01	3.212E-01	4.553E-01	6.745E-02	0.963
		401.81	*	-1.030E-01	4.105E-01	6.648E-01	1.029E-01	-0.155
RN-220		549.76	*	1.334E+01	2.497E+01	4.283E+01	4.366E+00	0.311
RA-223		81.07		2.372E-01	2.597E-01	3.176E-01	2.776E-02	0.747
	+	83.78		2.020E-01	1.493E-01	2.095E-01	1.889E-02	0.964
		94.90		4.703E-01	2.535E-01	3.904E-01	3.490E-02	1.205

---- 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		-2.545E-01	1.874E+00	2.954E+00	2.629E-01	-0.086
		144.24		5.561E-01	7.071E-01	1.183E+00	1.171E-01	0.470
		154.21		2.410E-01	4.258E-01	7.252E-01	7.325E-02	0.332
	+	269.46		3.418E-01	2.497E-01	3.462E-01	4.755E-02	0.987
		323.87	*	8.717E-02	7.329E-01	1.073E+00	2.133E-01	0.081
	+	338.28		5.592E+00	1.774E+00	2.356E+00	3.485E-01	2.373
		445.03		7.675E-01	2.323E+00	3.841E+00	4.935E-01	0.200
		79.80		-9.319E-01	1.772E+00	2.509E+00	5.395E-01	-0.371
		236.00		1.206E+00	3.517E-01	5.017E-01	7.569E-02	2.404
		256.20	*	8.947E-02	4.060E-01	6.601E-01	1.204E-01	0.136
		286.10		1.902E-01	1.608E+00	2.580E+00	4.397E-01	0.074
	+	299.80		3.633E+00	2.148E+00	2.684E+00	5.435E-01	1.354
TH-227		304.40		2.844E-01	2.099E+00	3.095E+00	6.492E-01	0.092
		334.20		-1.092E+00	3.906E+00	3.654E+00	7.735E-01	-0.299
		79.80		-9.319E-01	1.772E+00	2.509E+00	5.464E-01	-0.371
	+	94.00		1.982E+01	5.383E+00	4.250E+00	9.321E-01	4.663
		236.00		1.206E+00	3.460E-01	5.017E-01	7.102E-02	2.404
		256.20	*	8.947E-02	4.061E-01	6.601E-01	1.359E-01	0.136
		286.10		1.902E-01	1.619E+00	2.580E+00	2.605E+00	0.074
	+	299.80		3.633E+00	2.148E+00	2.684E+00	5.435E-01	1.354
		304.40		2.844E-01	2.099E+00	3.095E+00	6.492E-01	0.092
		334.20		-1.092E+00	3.906E+00	3.654E+00	7.735E-01	-0.299
		85.43		3.036E-01	2.634E-01	3.221E-01	2.963E-02	0.943
	+	88.47		3.790E-01	1.273E-01	2.061E-01	1.947E-02	1.839
TH-229		100.00		8.502E-02	1.829E-01	2.991E-01	2.593E-02	0.284
		193.63	*	-4.394E-01	5.345E-01	8.514E-01	9.154E-02	-0.516
	+	210.97		1.585E+00	1.412E+00	1.447E+00	1.648E-01	1.095
		283.67	*	2.894E-01	1.634E+00	2.631E+00	4.913E-01	0.110
	+	301.29		1.453E+00	8.396E-01	1.077E+00	1.713E-01	1.349
		81.07		2.372E-01	2.597E-01	3.176E-01	2.776E-02	0.747
	+	83.78		2.020E-01	1.493E-01	2.095E-01	1.889E-02	0.964
		94.90		4.703E-01	2.535E-01	3.904E-01	3.490E-02	1.205
		122.32		-2.545E-01	1.874E+00	2.954E+00	2.629E-01	-0.086
		144.24		5.561E-01	7.071E-01	1.183E+00	1.171E-01	0.470
		154.21		2.410E-01	4.258E-01	7.252E-01	7.325E-02	0.332
	+	269.46		3.418E-01	2.497E-01	3.462E-01	4.755E-02	0.987
U-231		323.87	*	8.717E-02	7.329E-01	1.073E+00	2.133E-01	0.081
	+	338.28		5.592E+00	1.774E+00	2.356E+00	3.485E-01	2.373
		445.03		7.675E-01	2.323E+00	3.841E+00	4.935E-01	0.200
	+	84.21		1.658E+01	1.226E+01	1.730E+01	1.568E+00	0.959
	+	92.29		3.731E+01	6.860E+00	9.092E+00	8.291E-01	4.104
		95.87	*	-1.612E+00	2.224E+00	3.074E+00	2.730E-01	-0.524
		108.00		-3.496E-01	4.048E+00	6.454E+00	5.425E-01	-0.054
	+	75.28		1.830E+01	4.835E+00	6.721E+00	1.016E+00	2.722
	+	86.59		5.434E+00	2.288E+00	2.974E+00	8.046E-01	1.827
	+	300.12		1.013E+00	5.914E-01	7.434E-01	1.341E-01	1.363
		311.98	*	1.615E-02	6.463E-02	1.094E-01	1.434E-02	0.148
		340.50		2.405E+00	9.688E-01	1.273E+00	3.203E-01	1.890
PA-233		398.62		-4.507E-01	2.066E+00	3.351E+00	9.005E-01	-0.134

---- 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		8.203E-01	1.691E+00	2.818E+00	6.173E-01	0.291
		63.00		3.680E+00	2.296E+00	2.767E+00	4.098E-01	1.330
		94.67		5.731E-01	1.990E-01	3.021E-01	3.817E-02	1.897
		98.44		9.807E-02	1.148E-01	1.506E-01	8.406E-02	0.651
		99.86		1.284E-01	4.737E-01	7.589E-01	6.584E-02	0.169
		111.00		1.475E-01	1.957E-01	3.200E-01	3.806E-02	0.461
		131.20		6.463E-02	1.180E-01	1.808E-01	1.531E-02	0.357
		152.70		2.993E-01	3.477E-01	5.923E-01	1.029E-01	0.505
		186.00		9.956E+00	3.826E+00	3.019E+00	9.594E-01	3.298
		226.40		3.939E-01	4.445E-01	7.404E-01	1.154E-01	0.532
	+	227.20		5.188E-01	4.752E-01	7.981E-01	9.571E-02	0.650
		248.90		-2.830E-01	9.730E-01	1.427E+00	3.472E-01	-0.198
		293.70		7.138E+00	1.765E+00	1.717E+00	3.471E-01	4.158
		369.80		-1.284E+00	9.080E-01	1.318E+00	2.973E-01	-0.974
		568.70		-7.120E-01	9.956E-01	1.590E+00	1.632E-01	-0.448
		569.50		2.616E-02	2.657E-01	4.445E-01	4.566E-02	0.059
		574.00		4.656E-01	1.551E+00	2.565E+00	2.639E-01	0.182
		699.00		9.349E-02	6.864E-01	1.130E+00	2.272E-01	0.083
		706.10		-2.430E-01	9.827E-01	1.568E+00	7.064E-01	-0.155
		733.00		2.543E-01	3.893E-01	5.714E-01	1.322E-01	0.445
	+	742.81		1.022E+00	1.459E+00	2.197E+00	1.484E+00	0.465
		796.30		1.421E+00	1.001E+00	1.622E+00	4.526E-01	0.876
		805.60		-2.799E-02	9.139E-01	1.527E+00	4.797E-01	-0.018
		819.60		3.681E-01	1.113E+00	1.887E+00	7.294E-01	0.195
		826.30		-3.501E-01	7.730E-01	1.225E+00	5.545E-01	-0.286
		831.60		-2.772E-01	6.350E-01	1.023E+00	3.136E-01	-0.271
		876.40		-4.899E-01	8.950E-01	1.167E+00	1.203E+00	-0.420
		880.51		2.050E-01	2.512E-01	4.391E-01	4.911E-02	0.467
		883.24		2.646E-01	3.124E-01	4.555E-01	3.079E-01	0.581
		899.00		-6.213E-01	8.580E-01	1.277E+00	5.655E-01	-0.487
		925.00		1.346E-01	9.902E-01	1.653E+00	1.819E-01	0.081
		926.50		-5.040E-02	1.523E-01	2.442E-01	6.395E-02	-0.206
		946.00	*	6.785E-02	2.809E-01	4.705E-01	9.352E-02	0.144
		949.00		1.580E-01	4.186E-01	7.076E-01	7.645E-02	0.223
		980.50		-5.731E-02	7.064E-01	1.154E+00	1.214E-01	-0.050
	PA-234M	1394.10		-1.285E+00	1.353E+00	1.514E+00	9.860E-01	-0.849
		766.42		2.272E+01	1.712E+01	2.010E+01	1.029E+01	1.131
	U-235	1001.03	*	3.160E+00	4.550E+00	7.677E+00	8.798E-01	0.412
		89.95		3.640E+00	1.421E+00	1.903E+00	5.911E-01	1.912
	+	93.35		6.165E+00	1.997E+00	1.472E+00	4.145E-01	4.188
		105.00		1.076E+00	1.100E+00	1.754E+00	5.227E-01	0.614
		143.76	*	3.325E-02	2.201E-01	3.621E-01	6.388E-02	0.092
		163.35		2.675E-01	4.899E-01	8.280E-01	1.622E-01	0.323
		185.71		3.687E-01	8.857E-02	1.117E-01	1.170E-02	3.300
	NP-236	205.31		1.105E-01	6.412E-01	9.161E-01	1.865E-01	0.121
		94.67		4.398E-01	1.461E-01	2.296E-01	2.056E-02	1.916
		98.44		7.414E-02	7.656E-02	1.139E-01	9.954E-03	0.651
		111.00		1.116E-01	1.478E-01	2.421E-01	2.020E-02	0.461
		160.31	*	-5.286E-02	8.391E-02	1.371E-01	1.310E-02	-0.386

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		7.152E-02	1.648E-01	2.539E-01	2.207E-02	0.282
		117.00	*	4.959E-02	1.973E-01	3.168E-01	2.618E-02	0.157
	+	209.75		1.596E+00	1.422E+00	1.478E+00	1.676E-01	1.080
		228.18		1.210E-01	2.492E-01	4.121E-01	4.958E-02	0.294
	+	277.60		4.267E-01	2.320E-01	3.165E-01	4.412E-02	1.348
AM-241		334.30		-7.923E-01	1.896E+00	2.072E+00	2.499E-01	-0.382
		59.54	*	1.181E-01	1.494E-01	2.306E-01	1.802E-02	0.512
CM-243		99.55		7.362E-02	1.696E-01	2.614E-01	2.271E-02	0.282
		103.76	*	2.291E-02	9.627E-02	1.558E-01	1.329E-02	0.147
		117.00		5.104E-02	2.030E-01	3.260E-01	2.694E-02	0.157
	+	209.75		1.574E+00	1.402E+00	1.458E+00	1.653E-01	1.080
		228.18		1.223E-01	2.519E-01	4.165E-01	5.011E-02	0.294
AM-246	+	277.60		4.303E-01	2.340E-01	3.192E-01	4.449E-02	1.348
		798.80		-1.343E-01	1.456E-01	2.193E-01	2.418E-02	-0.613
		1036.00		-3.786E-02	2.617E-01	4.226E-01	4.196E-02	-0.090
		1062.04		-1.106E-01	2.254E-01	3.406E-01	3.277E-02	-0.325
		1078.86	*	-5.475E-03	1.362E-01	2.211E-01	2.080E-02	-0.025
CM-247	+	278.00		1.770E+00	9.622E-01	1.309E+00	1.827E-01	1.352
		287.40		-7.047E-01	1.320E+00	2.049E+00	2.819E-01	-0.344
		402.60	*	-9.582E-04	3.638E-02	5.962E-02	5.593E-03	-0.016
CF-249		252.85		-1.623E-01	9.549E-01	1.529E+00	1.984E-01	-0.106
		333.44		-7.509E-02	2.890E-01	2.716E-01	3.285E-02	-0.277
		387.95	*	5.924E-03	4.083E-02	6.766E-02	6.431E-03	0.088
CF-251		176.60	*	-3.123E-02	1.287E-01	2.118E-01	2.151E-02	-0.147
		227.00		5.148E-01	4.204E-01	7.080E-01	8.485E-02	0.727
		285.00		-2.047E+00	1.932E+00	2.901E+00	4.013E-01	-0.706

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]G245107007
* Acquisition date   : 1-FEB-2010 12:39:23 Detector SN#      :
* Detector ID        : GAM22                               Sensitivity      : 5.000
* Geometry           : CAN                                 Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00                      Abundance limit : 75.000
* Elapsed real time  : 0 02:00:02.10                      Half life ratio  : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107007                      Analyst initials: MXR1
* Batch Number       : 944038                          Sample Quantity : 1.1415E+02 GRAM
* Recovery           : 1.00000                          Carrier Weight  : 0.00000
*****
*
*                               QC DATA
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope      :
* MSD DPM            : 0.000                             MSD Isotope      :
* LCS DPM            : 0.000                             LCS Isotope      :
* LCSD DPM           : 0.000                             LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.076E+01	2.336E+00	5.623E-01	0.000E+00
CD-109	2.840E+00	9.348E-01	1.200E+00	0.000E+00
SN-126	2.776E-01	9.135E-02	1.199E-01	0.000E+00
BA-137M	6.438E-01	1.037E-01	5.498E-02	0.000E+00
CS-137	6.806E-01	1.097E-01	5.812E-02	0.000E+00
TL-208	5.004E-01	9.150E-02	5.339E-02	0.000E+00
BI-211	4.548E+00	6.839E-01	3.361E-01	0.000E+00
PB-212	1.735E+00	2.500E-01	9.302E-02	0.000E+00
PO-212	1.735E+00	2.500E-01	9.302E-02	0.000E+00
BI-214	1.349E+00	2.046E-01	1.203E-01	0.000E+00
PB-214	1.582E+00	2.513E-01	1.171E-01	0.000E+00
PO-214	1.582E+00	2.513E-01	1.171E-01	0.000E+00
PO-216	1.735E+00	2.500E-01	9.302E-02	0.000E+00
PO-218	1.582E+00	2.513E-01	1.171E-01	0.000E+00
RA-224	5.243E+00	1.382E+00	1.057E+00	0.000E+00
RA-226	1.349E+00	2.046E-01	1.203E-01	0.000E+00
AC-228	1.888E+00	3.615E-01	2.193E-01	0.000E+00
RA-228	1.888E+00	3.615E-01	2.193E-01	0.000E+00
TH-228	1.768E+00	2.548E-01	9.480E-02	0.000E+00
TH-230	1.349E+00	2.046E-01	1.203E-01	0.000E+00
TH-232	1.888E+00	3.615E-01	2.193E-01	0.000E+00
TH-234	3.157E+00	1.951E+00	1.994E+00	0.000E+00
U-234	1.349E+00	2.046E-01	1.203E-01	0.000E+00
NP-237	8.151E-01	3.148E-01	3.806E-01	0.000E+00
U-238	3.157E+00	1.951E+00	1.994E+00	0.000E+00
AM-243	3.493E-01	7.933E-02	8.828E-02	0.000E+00
ANH-511	1.661E-01	7.352E-02	4.433E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-1.696E-01	3.343E-01	5.379E-01	0.000E+00	NOT IDENT.
NA-22	-4.109E-02	3.744E-02	5.702E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.575E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.050E-03	2.865E-02	4.733E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.910E-02	7.495E-02	0.000E+00	FAIL ABUN
SC-46	-3.943E-02	3.653E-02	5.660E-02	0.000E+00	FAIL ABUN
V-48	-2.876E-03	7.892E-02	1.319E-01	0.000E+00	NOT IDENT.
CR-51	9.092E-02	4.056E-01	7.054E-01	0.000E+00	NOT IDENT.
MN-52	-4.179E-01	3.313E-01	4.664E-01	0.000E+00	NOT IDENT.
MN-54	3.412E-02	3.702E-02	6.596E-02	0.000E+00	NOT IDENT.
CO-56	-2.522E-02	3.619E-02	5.850E-02	0.000E+00	NOT IDENT.
CO-57	-4.930E-03	2.679E-02	4.381E-02	0.000E+00	NOT IDENT.
CO-58	2.584E-03	3.584E-02	6.155E-02	0.000E+00	NOT IDENT.
FE-59	-5.719E-02	8.861E-02	1.391E-01	0.000E+00	NOT IDENT.
CO-60	-9.551E-04	3.085E-02	5.154E-02	0.000E+00	NOT IDENT.
ZN-65	1.068E-01	1.024E-01	1.575E-01	0.000E+00	NOT IDENT.
GE-68	5.330E-01	1.156E+00	1.981E+00	0.000E+00	NOT IDENT.
AS-73	3.409E-01	7.976E-01	1.367E+00	0.000E+00	NOT IDENT.
AS-74	-6.032E-03	1.017E-01	1.721E-01	0.000E+00	NOT IDENT.
SE-75	1.177E-02	5.071E-02	7.445E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.319E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	2.252E-01	4.128E-01	6.163E-01	0.000E+00	NOT IDENT.
RB-83	-4.713E-02	7.242E-02	1.106E-01	0.000E+00	NOT IDENT.
RB-84	4.596E-02	6.755E-02	1.194E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.985E+00	1.504E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.800E-02	8.033E-02	0.000E+00	NOT IDENT.
RB-86	4.602E-01	8.501E-01	1.464E+00	0.000E+00	NOT IDENT.
Y-88	2.759E-03	2.931E-02	4.946E-02	0.000E+00	NOT IDENT.
ZR-88	-9.468E-04	3.104E-02	5.242E-02	0.000E+00	NOT IDENT.
Y-91	7.524E+00	1.763E+01	3.066E+01	0.000E+00	NOT IDENT.
NB-94	9.010E-03	3.136E-02	5.325E-02	0.000E+00	NOT IDENT.
NB-95	0.000E+00	4.856E-02	7.834E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.555E-01	2.408E-01	0.000E+00	NOT IDENT.
ZR-95	7.520E-03	6.884E-02	1.149E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.829E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.042E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.069E-02	3.226E+01	4.781E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.909E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.845E-02	3.596E-02	6.149E-02	0.000E+00	NOT IDENT.
RH-102	1.366E-02	2.843E-02	4.839E-02	0.000E+00	NOT IDENT.
RU-103	-1.632E-02	4.246E-02	6.844E-02	0.000E+00	FAIL ABUN
RH-106	1.898E-01	3.099E-01	5.399E-01	0.000E+00	FAIL ABUN
RU-106	1.898E-01	3.093E-01	5.399E-01	0.000E+00	FAIL ABUN
AG-108M	6.250E-03	3.356E-02	5.673E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	4.283E-02	7.073E-02	0.000E+00	NOT IDENT.
IN-111	-5.930E-01	3.226E+00	4.658E+00	0.000E+00	NOT IDENT.
IN-113M	-1.054E-02	4.520E-02	7.559E-02	0.000E+00	NOT IDENT.
SN-113	-1.054E-02	4.520E-02	7.559E-02	0.000E+00	NOT IDENT.
IN-114M	1.222E-02	2.189E-01	3.293E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.552E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.696E-02	6.820E-02	1.173E-01	0.000E+00	NOT IDENT.
SB-122	1.654E+00	5.179E+00	8.993E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.435E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-9.456E-03	3.006E-02	5.158E-02	0.000E+00	NOT IDENT.
I-124	8.765E-01	1.409E+00	2.149E+00	0.000E+00	NOT IDENT.
SB-124	4.218E-02	7.177E-02	1.289E-01	0.000E+00	FAIL ABUN
SB-125	-2.154E-02	9.387E-02	1.556E-01	0.000E+00	FAIL ABUN
TE-125M	6.766E+00	1.005E+01	1.708E+01	0.000E+00	NOT IDENT.
I-126	4.989E-02	2.342E-01	3.437E-01	0.000E+00	NOT IDENT.
SB-126	-1.133E-01	2.016E-01	2.721E-01	0.000E+00	FAIL ABUN
SB-127	-7.384E-01	2.541E+00	4.173E+00	0.000E+00	NOT IDENT.
XE-127	-5.197E-02	5.572E-02	8.772E-02	0.000E+00	NOT IDENT.
I-131	6.669E-02	1.593E-01	2.763E-01	0.000E+00	NOT IDENT.
TE-132	8.627E-01	1.720E+00	2.934E+00	0.000E+00	NOT IDENT.
BA-133	-9.796E-03	4.886E-02	7.141E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.343E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.685E-02	8.410E-02	0.000E+00	NOT IDENT.
CS-135	2.220E-01	1.851E-01	2.824E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.227E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.913E-02	1.108E-01	1.729E-01	0.000E+00	FAIL ABUN
CE-139	-8.795E-03	3.040E-02	5.201E-02	0.000E+00	NOT IDENT.
BA-140	-4.679E-02	2.867E-01	4.868E-01	0.000E+00	NOT IDENT.
LA-140	-1.499E-02	1.070E-01	1.499E-01	0.000E+00	FAIL ABUN
CE-141	1.046E-01	6.621E-02	1.203E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.169E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.528E-01	2.274E-01	3.656E-01	0.000E+00	NOT IDENT.
PM-144	-8.987E-04	3.310E-02	5.524E-02	0.000E+00	NOT IDENT.
PR-144	-6.102E-02	2.248E+00	3.751E+00	0.000E+00	NOT IDENT.

PM-146	9.045E-03	4.220E-02	7.115E-02	0.000E+00	NOT IDENT.
ND-147	2.635E-01	6.979E-01	1.220E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.246E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.560E-02	1.417E-01	1.616E-01	0.000E+00	NOT IDENT.
GD-153	-1.009E-02	8.716E-02	1.285E-01	0.000E+00	FAIL ABUN
EU-154	-1.177E-01	1.045E-01	1.580E-01	0.000E+00	NOT IDENT.
EU-155	7.696E-02	1.067E-01	1.825E-01	0.000E+00	FAIL ABUN
TB-160	7.035E-02	1.298E-01	2.277E-01	0.000E+00	FAIL ABUN
HO-166M	3.942E-02	5.753E-02	9.968E-02	0.000E+00	FAIL ABUN
TM-171	9.487E-01	2.865E+01	4.433E+01	0.000E+00	NOT IDENT.
LU-176	-1.406E-02	2.525E-02	4.141E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.943E+00	3.186E+00	0.000E+00	FAIL ABUN
LU-177M	-1.523E-01	1.883E-01	3.039E-01	0.000E+00	FAIL ABUN
HF-181	1.776E-02	4.509E-02	7.628E-02	0.000E+00	NOT IDENT.
W-181	-1.743E-01	3.836E-01	5.820E-01	0.000E+00	NOT IDENT.
TA-182	-5.777E-02	1.738E-01	2.874E-01	0.000E+00	FAIL ABUN
RE-183	7.592E-02	1.160E-01	2.047E-01	0.000E+00	FAIL ABUN
RE-184	-4.395E-02	2.534E-01	4.191E-01	0.000E+00	NOT IDENT.
OS-185	-3.323E-03	3.959E-02	6.634E-02	0.000E+00	NOT IDENT.
RE-188	1.065E-01	1.869E-01	3.300E-01	0.000E+00	NOT IDENT.
W-188	5.198E+00	8.385E+00	1.311E+01	0.000E+00	FAIL ABUN
IR-192	6.748E-03	3.532E-02	6.141E-02	0.000E+00	FAIL ABUN
AU-195	9.614E-02	2.528E-01	3.813E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.373E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.800E+00	1.682E+01	2.916E+01	0.000E+00	NOT IDENT.
TL-202	-7.276E-02	8.797E-02	1.396E-01	0.000E+00	NOT IDENT.
HG-203	6.093E-02	5.024E-02	7.660E-02	0.000E+00	FAIL ABUN
BI-207	-3.303E-02	4.983E-02	7.546E-02	0.000E+00	FAIL ABUN
TL-207	8.717E-02	7.182E-01	1.083E+00	0.000E+00	FAIL ABUN
PO-209	7.296E-01	6.851E+00	1.167E+01	0.000E+00	NOT IDENT.
BI-210	3.612E+00	3.226E+00	5.743E+00	0.000E+00	NOT IDENT.
PB-210	3.612E+00	3.226E+00	5.743E+00	0.000E+00	NOT IDENT.
PO-210	3.612E+00	3.223E+00	5.743E+00	0.000E+00	NOT IDENT.
PB-211	-7.235E-01	1.045E+00	1.535E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.359E-01	5.965E-01	0.000E+00	NOT IDENT.
PO-215	8.717E-02	7.182E-01	1.083E+00	0.000E+00	FAIL ABUN
RN-219	-1.030E-01	4.023E-01	6.699E-01	0.000E+00	FAIL ABUN
RN-220	1.334E+01	2.447E+01	4.304E+01	0.000E+00	NOT IDENT.
RA-223	8.717E-02	7.182E-01	1.083E+00	0.000E+00	FAIL ABUN
AC-227	8.947E-02	3.979E-01	6.678E-01	0.000E+00	FAIL ABUN
TH-227	8.947E-02	3.980E-01	6.678E-01	0.000E+00	FAIL ABUN
TH-229	-4.394E-01	5.238E-01	8.636E-01	0.000E+00	FAIL ABUN
PA-231	2.894E-01	1.602E+00	2.660E+00	0.000E+00	FAIL ABUN
TH-231	8.717E-02	7.182E-01	1.083E+00	0.000E+00	FAIL ABUN
U-231	-1.612E+00	2.180E+00	3.138E+00	0.000E+00	FAIL ABUN
PA-233	1.615E-02	6.334E-02	1.105E-01	0.000E+00	FAIL ABUN
PA-234	6.785E-02	2.753E-01	4.704E-01	0.000E+00	FAIL ABUN
PA-234M	3.160E+00	4.459E+00	7.672E+00	0.000E+00	NOT IDENT.
U-235	3.325E-02	2.157E-01	3.683E-01	0.000E+00	FAIL ABUN
NP-236	-5.286E-02	8.223E-02	1.393E-01	0.000E+00	NOT IDENT.
NP-239	4.959E-02	1.933E-01	3.228E-01	0.000E+00	FAIL ABUN
AM-241	1.181E-01	1.464E-01	2.363E-01	0.000E+00	NOT IDENT.
CM-243	2.291E-02	9.434E-02	1.590E-01	0.000E+00	FAIL ABUN
AM-246	-5.475E-03	1.335E-01	2.207E-01	0.000E+00	NOT IDENT.
CM-247	-9.582E-04	3.565E-02	6.007E-02	0.000E+00	FAIL ABUN
CF-249	5.924E-03	4.001E-02	6.821E-02	0.000E+00	NOT IDENT.
CF-251	-3.123E-02	1.262E-01	2.150E-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]G245107007.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:39:23.
Sample ID          : G245107007 Sample quantity : 1.14150E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.10 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	1286	10.67*	1.909E+00	2.076E+01	2.076E+01	11.48
CD-109	88.03	234	3.72*	7.478E+00	2.761E+00	2.840E+00	33.58
SN-126	64.28	157	9.60	4.314E+00	1.250E+00	1.250E+00	62.32
	86.94	234	8.90	7.478E+00	1.154E+00	1.154E+00	52.57
	87.57	234	37.00*	7.478E+00	2.776E-01	2.776E-01	33.58
BA-137M	661.65	632	89.98*	3.589E+00	6.430E-01	6.438E-01	16.44
CS-137	661.65	632	85.12*	3.589E+00	6.798E-01	6.806E-01	16.45
TL-208	277.35	113	6.80	6.192E+00	8.848E-01	8.848E-01	55.09
	510.84	217	21.60	4.298E+00	7.690E-01	7.690E-01	45.93
	583.14	504	84.20*	3.931E+00	5.004E-01	5.004E-01	18.66
	860.37	72	12.46	2.922E+00	6.476E-01	6.476E-01	54.32
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	967	12.94*	5.402E+00	4.548E+00	4.548E+00	15.34
PB-212	74.81	432	10.70	6.166E+00	2.155E+00	2.155E+00	24.99
	77.11	717	18.00	6.455E+00	2.029E+00	2.029E+00	16.10
	87.30	234	8.00	7.478E+00	1.284E+00	1.284E+00	35.04
	238.63	1579	44.60*	6.710E+00	1.735E+00	1.735E+00	14.70
	300.09	120	3.41	5.916E+00	1.960E+00	1.960E+00	57.42
PO-212	74.81	432	10.70	6.166E+00	2.155E+00	2.155E+00	24.99
	77.11	717	18.00	6.455E+00	2.029E+00	2.029E+00	16.10
	87.30	234	8.00	7.478E+00	1.284E+00	1.284E+00	35.04
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	1579	44.60*	6.710E+00	1.735E+00	1.735E+00	14.70
	300.09	120	3.41	5.916E+00	1.960E+00	1.960E+00	57.42
BI-214	609.31	724	46.30*	3.811E+00	1.349E+00	1.349E+00	15.47
	1120.29	177	15.10	2.345E+00	1.648E+00	1.648E+00	34.67
	1764.49	139	15.80	1.716E+00	1.685E+00	1.685E+00	26.08
PB-214	74.81	432	6.21	6.166E+00	3.712E+00	3.712E+00	24.33
	77.11	717	10.50	6.455E+00	3.479E+00	3.479E+00	17.81
	87.30	234	4.67	7.478E+00	2.199E+00	2.199E+00	34.46
	241.98	420	7.49	6.663E+00	2.765E+00	2.765E+00	27.48
	295.21	518	19.20	5.971E+00	1.487E+00	1.487E+00	20.62

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	967	37.20*	5.402E+00	1.582E+00	1.582E+00	16.21
	74.81	432	6.21	6.166E+00	3.712E+00	3.712E+00	24.33
	77.11	717	10.50	6.455E+00	3.479E+00	3.479E+00	17.81
	87.30	234	4.67	7.478E+00	2.199E+00	2.199E+00	34.46
	241.98	420	7.49	6.663E+00	2.765E+00	2.765E+00	27.48
PO-216	295.21	518	19.20	5.971E+00	1.487E+00	1.487E+00	20.62
	351.92	967	37.20*	5.402E+00	1.582E+00	1.582E+00	16.21
	74.81	432	10.70	6.166E+00	2.155E+00	2.155E+00	24.99
	77.11	717	18.00	6.455E+00	2.029E+00	2.029E+00	16.10
	87.30	234	8.00	7.478E+00	1.284E+00	1.284E+00	35.04
PO-218	238.63	1579	44.60*	6.710E+00	1.735E+00	1.735E+00	14.70
	300.09	120	3.41	5.916E+00	1.960E+00	1.960E+00	57.42
	74.81	432	6.21	6.166E+00	3.712E+00	3.712E+00	24.33
	77.11	717	10.50	6.455E+00	3.479E+00	3.479E+00	17.81
	87.30	234	4.67	7.478E+00	2.199E+00	2.199E+00	34.46
RA-224	241.98	420	7.49	6.663E+00	2.765E+00	2.765E+00	27.48
	295.21	518	19.20	5.971E+00	1.487E+00	1.487E+00	20.62
	351.92	967	37.20*	5.402E+00	1.582E+00	1.582E+00	16.21
	240.98	420	3.95*	6.663E+00	5.243E+00	5.243E+00	26.91
	609.31	724	46.30*	3.811E+00	1.349E+00	1.349E+00	15.47
AC-228	1120.29	177	15.10	2.345E+00	1.648E+00	1.648E+00	34.67
	1764.49	139	15.80	1.716E+00	1.685E+00	1.685E+00	26.08
	338.32	257	11.40	5.526E+00	1.339E+00	1.339E+00	50.57
	911.07	443	27.70*	2.788E+00	1.888E+00	1.888E+00	19.54
	969.11	191	16.60	2.648E+00	1.430E+00	1.430E+00	35.15
RA-228	338.32	257	11.40	5.526E+00	1.339E+00	1.339E+00	50.57
	911.07	443	27.70*	2.788E+00	1.888E+00	1.888E+00	19.54
	969.11	191	16.60	2.648E+00	1.430E+00	1.430E+00	35.15
	74.81	432	10.70	6.166E+00	2.155E+00	2.155E+00	23.20
	77.11	717	18.00	6.455E+00	2.029E+00	2.029E+00	16.10
TH-228	87.30	234	8.00	7.478E+00	1.284E+00	1.308E+00	33.58
	238.63	1579	44.60*	6.710E+00	1.735E+00	1.768E+00	14.70
	300.09	120	3.41	5.916E+00	1.960E+00	1.998E+00	81.87
	609.31	724	46.30*	3.811E+00	1.349E+00	1.349E+00	15.47
	1120.29	177	15.10	2.345E+00	1.648E+00	1.648E+00	34.67
TH-230	1764.49	139	15.80	1.716E+00	1.685E+00	1.685E+00	26.08
	338.32	257	11.40	5.526E+00	1.339E+00	1.339E+00	30.48
	911.07	443	27.70*	2.788E+00	1.888E+00	1.888E+00	19.54
	969.11	191	16.60	2.648E+00	1.430E+00	1.430E+00	35.15
	63.29	157	3.80*	4.314E+00	3.157E+00	3.157E+00	63.06
TH-234	92.38	663	5.41	7.860E+00	5.128E+00	5.128E+00	24.30
	609.31	724	46.30*	3.811E+00	1.349E+00	1.349E+00	15.47
	1120.29	177	15.10	2.345E+00	1.648E+00	1.648E+00	34.67
	1764.49	139	15.80	1.716E+00	1.685E+00	1.685E+00	26.08
	86.50	234	12.60*	7.478E+00	8.151E-01	8.151E-01	39.42
NP-237	95.87	-----	2.60	8.032E+00	-----	Line Not Found	-----
	63.29	157	3.80*	4.314E+00	3.157E+00	3.157E+00	63.06
	92.38	663	5.41	7.860E+00	5.128E+00	5.128E+00	18.38
	AM-243	74.67	432	66.00*	6.166E+00	3.493E-01	23.18

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	234	0.34	7.478E+00	3.056E+01	3.057E+01	33.58
	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
ANH-511	511.00	217	100.00*	4.298E+00	1.661E-01	1.661E-01	45.16

Flag: "*" = Keyline

Total number of lines in spectrum 35
Number of unidentified lines 5
Number of lines tentatively identified by NID 30 85.71%

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	2.076E+01	2.076E+01	0.238E+01	11.48	
CD-109	464.00D	1.03	2.761E+00	2.840E+00	0.954E+00	33.58	
SN-126	1.00E+05Y	1.00	2.776E-01	2.776E-01	0.932E-01	33.58	
BA-137M	30.17Y	1.00	6.430E-01	6.438E-01	1.059E-01	16.44	
CS-137	30.17Y	1.00	6.798E-01	6.806E-01	1.120E-01	16.45	
TL-208	1.41E+10Y	1.00	5.004E-01	5.004E-01	0.934E-01	18.66	
BI-211	7.04E+08Y	1.00	4.548E+00	4.548E+00	0.698E+00	15.34	
PB-212	1.41E+10Y	1.00	1.735E+00	1.735E+00	0.255E+00	14.70	
PO-212	1.41E+10Y	1.00	1.735E+00	1.735E+00	0.255E+00	14.70	
BI-214	1600.00Y	1.00	1.349E+00	1.349E+00	0.209E+00	15.47	
PB-214	1600.00Y	1.00	1.582E+00	1.582E+00	0.256E+00	16.21	
PO-214	1600.00Y	1.00	1.582E+00	1.582E+00	0.256E+00	16.21	
PO-216	1.41E+10Y	1.00	1.735E+00	1.735E+00	0.255E+00	14.70	
PO-218	1600.00Y	1.00	1.582E+00	1.582E+00	0.256E+00	16.21	
RA-224	1.41E+10Y	1.00	5.243E+00	5.243E+00	1.411E+00	26.91	
RA-226	1600.00Y	1.00	1.349E+00	1.349E+00	0.209E+00	15.47	
AC-228	1.41E+10Y	1.00	1.888E+00	1.888E+00	0.369E+00	19.54	
RA-228	1.41E+10Y	1.00	1.888E+00	1.888E+00	0.369E+00	19.54	
TH-228	1.91Y	1.02	1.735E+00	1.768E+00	0.260E+00	14.70	
TH-230	4.47E+09Y	1.00	1.349E+00	1.349E+00	0.209E+00	15.47	
TH-232	1.41E+10Y	1.00	1.888E+00	1.888E+00	0.369E+00	19.54	
TH-234	4.47E+09Y	1.00	3.157E+00	3.157E+00	1.991E+00	63.06	
U-234	4.47E+09Y	1.00	1.349E+00	1.349E+00	0.209E+00	15.47	
NP-237	2.14E+06Y	1.00	8.151E-01	8.151E-01	3.213E-01	39.42	
U-238	4.47E+09Y	1.00	3.157E+00	3.157E+00	1.991E+00	63.06	
AM-243	7380.00Y	1.00	3.493E-01	3.493E-01	0.810E-01	23.18	
ANH-511	1.00E+09Y	1.00	1.661E-01	1.661E-01	0.750E-01	45.16	
Total Activity :			6.580E+01	6.592E+01			

Grand Total Activity : 6.580E+01 6.592E+01

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

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

Unidentified Energy Lines
Sample ID : G245107007

Page : 5
Acquisition date : 1-FEB-2010 12:39:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	83.93	109	523	1.00	168.07	165	7	1.52E-02	73.4	7.20E+00	T
3	89.93	230	269	1.07	180.07	178	16	3.19E-02	23.7	7.68E+00	T
0	129.13	129	398	1.13	258.38	255	8	1.79E-02	56.5	8.53E+00	T
0	185.83	461	486	1.35	371.68	367	11	6.40E-02	21.6	7.61E+00	T
0	209.78	113	572	0.94	419.54	414	12	1.57E-02	88.4	7.18E+00	T
0	269.88	89	286	1.44	539.63	536	9	1.23E-02	71.8	6.28E+00	T
0	328.18	96	279	1.35	656.13	651	11	1.34E-02	70.1	5.62E+00	T
0	463.26	102	247	1.35	926.09	920	14	1.41E-02	68.8	4.58E+00	T
0	728.72	189	172	2.33	1456.70	1445	25	2.63E-02	40.8	3.34E+00	
2	768.41	90	102	2.58	1536.04	1529	20	1.25E-02	50.2	3.20E+00	
2	772.29	55	76	2.11	1543.80	1529	20	7.65E-03	70.1	3.19E+00	
0	1377.98	52	45	1.53	2754.96	2747	18	7.22E-03	66.6	1.99E+00	
0	1590.05	31	46	1.37	3179.18	3170	15	4.27E-03	****	1.81E+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]G245107007.CNF;1
* Acquisition date   : 1-FEB-2010 12:39:23.  Detector SN#      :
* Detector ID        : GAM22                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:02.10             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107007             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.14150E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28.08MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.076E+01	2.384E+00	5.647E-01	5.173E-02	36.764
CD-109	2.840E+00	9.539E-01	1.175E+00	1.115E-01	2.417
SN-126	2.776E-01	9.321E-02	1.173E-01	1.108E-02	2.365
BA-137M	6.438E-01	1.059E-01	5.481E-02	5.780E-03	11.747
CS-137	6.806E-01	1.120E-01	5.794E-02	6.118E-03	11.747
TL-208	5.004E-01	9.336E-02	5.316E-02	5.764E-03	9.413
BI-211	4.548E+00	6.979E-01	3.332E-01	3.887E-02	13.652
PB-212	1.735E+00	2.551E-01	9.188E-02	1.214E-02	18.884
PO-212	1.735E+00	2.551E-01	9.188E-02	1.214E-02	18.884
BI-214	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
PB-214	1.582E+00	2.564E-01	1.161E-01	1.480E-02	13.627
PO-214	1.582E+00	2.564E-01	1.161E-01	1.480E-02	13.627
PO-216	1.735E+00	2.551E-01	9.188E-02	1.214E-02	18.884
PO-218	1.582E+00	2.564E-01	1.161E-01	1.480E-02	13.627
RA-224	5.243E+00	1.411E+00	1.044E+00	1.308E-01	5.020
RA-226	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
AC-228	1.888E+00	3.689E-01	2.193E-01	2.905E-02	8.609
RA-228	1.888E+00	3.689E-01	2.193E-01	2.905E-02	8.609

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.768E+00	2.600E-01	9.363E-02	1.237E-02	18.884
TH-230	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
TH-232	1.888E+00	3.689E-01	2.193E-01	2.905E-02	8.609
TH-234	3.157E+00	1.991E+00	1.946E+00	3.387E-01	1.622
U-234	1.349E+00	2.088E-01	1.198E-01	1.393E-02	11.262
NP-237	8.151E-01	3.213E-01	3.725E-01	8.435E-02	2.188
U-238	3.157E+00	1.991E+00	1.946E+00	3.387E-01	1.622
AM-243	3.493E-01	8.095E-02	8.629E-02	7.034E-03	4.048
ANH-511	1.661E-01	7.502E-02	4.409E-02	4.418E-03	3.767

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.696E-01		3.411E-01	5.346E-01	5.580E-02	-0.317
NA-22	-4.109E-02		3.820E-02	5.719E-02	4.929E-03	-0.718
NA-24	2.671E+01		2.844E+01	Half-Life	too short	
AL-26	-2.050E-03		2.923E-02	4.763E-02	3.895E-03	-0.043
TI-44	3.745E-01	+	6.031E-02	7.329E-02	6.214E-03	5.110
SC-46	-3.943E-02		3.727E-02	5.659E-02	6.334E-03	-0.697
V-48	-2.876E-03		8.053E-02	1.319E-01	1.384E-02	-0.022
CR-51	9.092E-02		4.139E-01	6.986E-01	9.046E-02	0.130
MN-52	-4.179E-01		3.380E-01	4.683E-01	4.185E-02	-0.892
MN-54	3.412E-02		3.777E-02	6.590E-02	7.321E-03	0.518
CO-56	-2.522E-02		3.693E-02	5.845E-02	6.506E-03	-0.431
CO-57	-4.930E-03		2.733E-02	4.301E-02	3.547E-03	-0.115
CO-58	2.584E-03		3.657E-02	6.147E-02	6.807E-03	0.042
FE-59	-5.719E-02		9.042E-02	1.393E-01	1.366E-02	-0.410
CO-60	-9.551E-04		3.148E-02	5.172E-02	4.612E-03	-0.018
ZN-65	1.068E-01		1.044E-01	1.578E-01	1.408E-02	0.677
GE-68	5.330E-01		1.180E+00	1.984E+00	1.870E-01	0.269
AS-73	3.409E-01		8.139E-01	1.332E+00	1.006E-01	0.256
AS-74	-6.032E-03		1.037E-01	1.714E-01	1.777E-02	-0.035
SE-75	1.177E-02		5.174E-02	7.360E-02	9.906E-03	0.160
BR-77	-2.204E-05		1.693E-05	Half-Life	too short	
SR-82	2.252E-01		4.213E-01	6.153E-01	6.748E-02	0.366
RB-83	-4.713E-02		7.390E-02	1.100E-01	1.107E-02	-0.428
RB-84	4.596E-02		6.893E-02	1.194E-01	1.335E-02	0.385
KR-85	3.482E+01		9.169E+00	1.495E+01	1.501E+00	2.328
SR-85	1.860E-01		4.898E-02	7.989E-02	8.017E-03	2.328
RB-86	4.602E-01		8.674E-01	1.466E+00	1.383E-01	0.314
Y-88	2.759E-03		2.991E-02	4.977E-02	4.024E-03	0.055
ZR-88	-9.468E-04		3.168E-02	5.202E-02	4.843E-03	-0.018
Y-91	7.524E+00		1.799E+01	3.074E+01	2.527E+00	0.245
NB-94	9.010E-03		3.200E-02	5.311E-02	5.691E-03	0.170
NB-95	9.094E-02		4.955E-02	7.821E-02	8.552E-03	1.163
NB-95M	2.416E-01		1.587E-01	2.378E-01	3.143E-02	1.016
ZR-95	7.520E-03		7.024E-02	1.147E-01	1.331E-02	0.066

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.709E+01		2.974E+00	Half-Life too short		
ZR-97	3.178E+02		5.318E+01	Half-Life too short		
MO-99	4.069E-02		3.291E+01	4.771E+01	7.898E+00	0.001
TC-99M	-9.001E+14		9.742E+14	Half-Life too short		
RH-101	2.845E-02		3.669E-02	6.063E-02	6.614E-03	0.469
RH-102	1.366E-02		2.901E-02	4.810E-02	4.730E-03	0.284
RU-103	-1.632E-02		4.332E-02	6.805E-02	1.021E-02	-0.240
RH-106	1.898E-01		3.162E-01	5.380E-01	7.855E-02	0.353
RU-106	1.898E-01		3.156E-01	5.380E-01	5.619E-02	0.353
AG-108M	6.250E-03		3.425E-02	5.633E-02	5.577E-03	0.111
AG-110M	1.013E-01		4.370E-02	7.051E-02	7.578E-03	1.437
IN-111	-5.930E-01		3.291E+00	4.602E+00	5.838E-01	-0.129
IN-113M	-1.054E-02		4.612E-02	7.500E-02	7.162E-03	-0.141
SN-113	-1.054E-02		4.612E-02	7.500E-02	7.162E-03	-0.141
IN-114M	1.222E-02		2.233E-01	3.245E-01	3.450E-02	0.038
CD-115	7.468E-06		1.812E-05	Half-Life too short		
SN-117M	-1.696E-02		6.960E-02	1.155E-01	1.095E-02	-0.147
SB-122	1.654E+00		5.285E+00	8.952E+00	9.175E-01	0.185
I-123	-2.654E+02		4.303E+02	Half-Life too short		
TE-123M	-9.456E-03		3.067E-02	5.076E-02	4.848E-03	-0.186
I-124	8.765E-01		1.438E+00	2.141E+00	2.224E-01	0.409
SB-124	4.218E-02		7.323E-02	1.297E-01	1.154E-02	0.325
SB-125	-2.154E-02		9.578E-02	1.545E-01	1.499E-02	-0.139
TE-125M	6.766E+00		1.026E+01	1.676E+01	1.699E+00	0.404
I-126	4.989E-02		2.390E-01	3.427E-01	3.621E-02	0.146
SB-126	-1.133E-01		2.057E-01	2.715E-01	2.928E-02	-0.417
SB-127	-7.384E-01		2.593E+00	4.161E+00	5.853E-01	-0.177
XE-127	-5.197E-02		5.686E-02	8.651E-02	9.590E-03	-0.601
I-131	6.669E-02		1.626E-01	2.739E-01	3.043E-02	0.243
TE-132	8.627E-01		1.755E+00	2.896E+00	5.362E-01	0.298
BA-133	-9.796E-03		4.986E-02	7.079E-02	1.058E-02	-0.138
I-133	6.940E-02		6.851E-02	Half-Life too short		
CS-134	8.549E-02		4.781E-02	8.398E-02	9.296E-03	1.018
CS-135	2.220E-01		1.889E-01	2.792E-01	4.039E-02	0.795
I-135	-2.063E+12		4.708E+13	Half-Life too short		
CS-136	-7.913E-02		1.131E-01	1.731E-01	1.751E-02	-0.457
CE-139	-8.795E-03		3.102E-02	5.120E-02	5.021E-03	-0.172
BA-140	-4.679E-02		2.926E-01	4.844E-01	1.626E-01	-0.097
LA-140	-1.499E-02		1.091E-01	1.506E-01	1.320E-02	-0.100
CE-141	1.046E-01		6.756E-02	1.183E-01	1.077E-02	0.884
CE-143	6.945E-03		1.107E-03	Half-Life too short		
CE-144	2.528E-01		2.320E-01	3.592E-01	5.576E-02	0.704
PM-144	-8.987E-04		3.378E-02	5.510E-02	5.893E-03	-0.016
PR-144	-6.102E-02		2.294E+00	3.741E+00	4.000E-01	-0.016
PM-146	9.045E-03		4.306E-02	7.069E-02	8.215E-03	0.128
ND-147	2.635E-01		7.121E-01	1.213E+00	1.924E-01	0.217
PM-149	-6.968E-05		1.656E-04	Half-Life too short		
EU-152	-3.560E-02		1.445E-01	1.602E-01	1.925E-02	-0.222

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.009E-02		8.894E-02	1.259E-01	1.107E-02	-0.080
EU-154	-1.177E-01		1.066E-01	1.585E-01	1.791E-02	-0.743
EU-155	7.696E-02		1.089E-01	1.790E-01	1.536E-02	0.430
TB-160	7.035E-02		1.325E-01	2.276E-01	2.545E-02	0.309
HO-166M	3.942E-02		5.871E-02	9.944E-02	1.069E-02	0.396
TM-171	9.487E-01		2.924E+01	4.328E+01	3.271E+00	0.022
LU-176	-1.406E-02		2.576E-02	4.100E-02	5.379E-03	-0.343
LU-177	3.371E+00	+	3.003E+00	3.143E+00	3.547E-01	1.073
LU-177M	-1.523E-01		1.922E-01	3.017E-01	2.853E-02	-0.505
HF-181	1.776E-02		4.601E-02	7.583E-02	7.486E-03	0.234
W-181	-1.743E-01		3.914E-01	5.682E-01	4.236E-02	-0.307
TA-182	-5.777E-02		1.773E-01	2.881E-01	2.396E-02	-0.201
RE-183	7.592E-02		1.183E-01	2.015E-01	1.944E-02	0.377
RE-184	-4.395E-02		2.586E-01	4.141E-01	5.374E-02	-0.106
OS-185	-3.323E-03		4.040E-02	6.612E-02	6.949E-03	-0.050
RE-188	1.065E-01		1.907E-01	3.247E-01	3.031E-02	0.328
W-188	5.198E+00		8.556E+00	1.297E+01	1.771E+00	0.401
IR-192	6.748E-03		3.604E-02	6.081E-02	7.772E-03	0.111
AU-195	9.614E-02		2.580E-01	3.737E-01	3.259E-02	0.257
TL-200	-1.389E-03		2.741E-03	Half-Life too short		
TL-201	1.800E+00		1.716E+01	2.871E+01	2.830E+00	0.063
TL-202	-7.276E-02		8.976E-02	1.387E-01	1.335E-02	-0.525
HG-203	6.093E-02		5.126E-02	7.576E-02	1.072E-02	0.804
BI-207	-3.303E-02		5.084E-02	7.556E-02	7.254E-03	-0.437
TL-207	8.717E-02		7.329E-01	1.073E+00	2.133E-01	0.081
PO-209	7.296E-01		6.990E+00	1.167E+01	1.307E+00	0.063
BI-210	3.612E+00		3.291E+00	5.591E+00	5.194E-01	0.646
PB-210	3.612E+00		3.291E+00	5.591E+00	5.194E-01	0.646
PO-210	3.612E+00		3.288E+00	5.591E+00	4.701E-01	0.646
PB-211	-7.235E-01		1.066E+00	1.524E+00	9.566E-01	-0.475
BI-212	9.461E-01		3.428E-01	5.952E-01	7.109E-02	1.590
PO-215	8.717E-02		7.329E-01	1.073E+00	2.133E-01	0.081
RN-219	-1.030E-01		4.105E-01	6.648E-01	1.029E-01	-0.155
RN-220	1.334E+01		2.497E+01	4.283E+01	4.366E+00	0.311
RA-223	8.717E-02		7.329E-01	1.073E+00	2.133E-01	0.081
AC-227	8.947E-02		4.060E-01	6.601E-01	1.204E-01	0.136
TH-227	8.947E-02		4.061E-01	6.601E-01	1.359E-01	0.136
TH-229	-4.394E-01		5.345E-01	8.514E-01	9.154E-02	-0.516
PA-231	2.894E-01		1.634E+00	2.631E+00	4.913E-01	0.110
TH-231	8.717E-02		7.329E-01	1.073E+00	2.133E-01	0.081
U-231	-1.612E+00		2.224E+00	3.074E+00	2.730E-01	-0.524
PA-233	1.615E-02		6.463E-02	1.094E-01	1.434E-02	0.148
PA-234	6.785E-02		2.809E-01	4.705E-01	9.352E-02	0.144
PA-234M	3.160E+00		4.550E+00	7.677E+00	8.798E-01	0.412
U-235	3.325E-02		2.201E-01	3.621E-01	6.388E-02	0.092
NP-236	-5.286E-02		8.391E-02	1.371E-01	1.310E-02	-0.386
NP-239	4.959E-02		1.973E-01	3.168E-01	2.618E-02	0.157
AM-241	1.181E-01		1.494E-01	2.306E-01	1.802E-02	0.512

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.291E-02		9.627E-02	1.558E-01	1.329E-02	0.147
AM-246	-5.475E-03		1.362E-01	2.211E-01	2.080E-02	-0.025
CM-247	-9.582E-04		3.638E-02	5.962E-02	5.593E-03	-0.016
CF-249	5.924E-03		4.083E-02	6.766E-02	6.431E-03	0.088
CF-251	-3.123E-02		1.287E-01	2.118E-01	2.151E-02	-0.147

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]G245107007      *
* Acquisition date   : 1-FEB-2010 12:39:23 Detector SN#               *
* Detector ID        : GAM22                                           *
* Geometry           : CAN                                             *
* Elapsed live time  : 0 02:00:00.00 Sensitivity : 5.000              *
* Elapsed real time  : 0 02:00:02.10 Energy tolerance: 1.500         *
*                               Abundance limit : 75.000               *
*                               Half life ratio : 8.000                *
*****
*                               SAMPLE DATA                             *
*                               *                                         *
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID    *
* Sample ID          : G245107007 Analyst initials: MXR1             *
* Batch Number       : 944038 Sample Quantity : 1.1415E+02 GRAM      *
* Recovery           : 1.00000 Carrier Weight : 0.00000             *
*****
*                               QC DATA                                 *
*                               *                                         *
* CALIB. DATE/TIME   : 2-DEC-2009 16:47:28 MS Isotope :              *
* MSD DPM             : 0.000 MSD Isotope :                          *
* LCS DPM             : 0.000 LCS Isotope :                          *
* LCSD DPM            : 0.000 LCSD Isotope :                         *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.076E+01	2.336E+00	2.813E-01	1.192E+00
CD-109	2.840E+00	9.348E-01	6.006E-01	4.770E-01
SN-126	2.776E-01	9.135E-02	5.997E-02	4.661E-02
BA-137M	6.438E-01	1.037E-01	2.750E-02	5.293E-02
CS-137	6.806E-01	1.097E-01	2.908E-02	5.598E-02
TL-208	5.004E-01	9.150E-02	2.671E-02	4.668E-02
BI-211	4.548E+00	6.839E-01	1.682E-01	3.489E-01
PB-212	1.735E+00	2.500E-01	4.654E-02	1.276E-01
PO-212	1.735E+00	2.500E-01	4.654E-02	1.276E-01
BI-214	1.349E+00	2.046E-01	6.017E-02	1.044E-01
PB-214	1.582E+00	2.513E-01	5.860E-02	1.282E-01
PO-214	1.582E+00	2.513E-01	5.860E-02	1.282E-01
PO-216	1.735E+00	2.500E-01	4.654E-02	1.276E-01
PO-218	1.582E+00	2.513E-01	5.860E-02	1.282E-01
RA-224	5.243E+00	1.382E+00	5.290E-01	7.053E-01
RA-226	1.349E+00	2.046E-01	6.017E-02	1.044E-01
AC-228	1.888E+00	3.615E-01	1.097E-01	1.844E-01
RA-228	1.888E+00	3.615E-01	1.097E-01	1.844E-01
TH-228	1.768E+00	2.548E-01	4.743E-02	1.300E-01
TH-230	1.349E+00	2.046E-01	6.017E-02	1.044E-01
TH-232	1.888E+00	3.615E-01	1.097E-01	1.844E-01
TH-234	3.157E+00	1.951E+00	9.974E-01	9.953E-01
U-234	1.349E+00	2.046E-01	6.017E-02	1.044E-01
NP-237	8.151E-01	3.148E-01	1.904E-01	1.606E-01
U-238	3.157E+00	1.951E+00	9.974E-01	9.953E-01
AM-243	3.493E-01	7.933E-02	4.417E-02	4.048E-02
ANH-511	1.661E-01	7.352E-02	2.218E-02	3.751E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-1.696E-01	3.343E-01	2.691E-01	1.705E-01	NOT IDENT.
NA-22	-4.109E-02	3.744E-02	2.853E-02	1.910E-02	NOT IDENT.
NA-24	2.671E+07	5.575E+07	0.000E+00	2.844E+07	SHORT HLIF
AL-26	-2.050E-03	2.865E-02	2.368E-02	1.462E-02	NOT IDENT.
TI-44	3.745E-01	5.910E-02	3.750E-02	3.015E-02	FAIL ABUN
SC-46	-3.943E-02	3.653E-02	2.832E-02	1.864E-02	FAIL ABUN
V-48	-2.876E-03	7.892E-02	6.597E-02	4.026E-02	NOT IDENT.
CR-51	9.092E-02	4.056E-01	3.529E-01	2.069E-01	NOT IDENT.
MN-52	-4.179E-01	3.313E-01	2.333E-01	1.690E-01	NOT IDENT.
MN-54	3.412E-02	3.702E-02	3.300E-02	1.889E-02	NOT IDENT.
CO-56	-2.522E-02	3.619E-02	2.927E-02	1.846E-02	NOT IDENT.
CO-57	-4.930E-03	2.679E-02	2.192E-02	1.367E-02	NOT IDENT.
CO-58	2.584E-03	3.584E-02	3.079E-02	1.829E-02	NOT IDENT.
FE-59	-5.719E-02	8.861E-02	6.960E-02	4.521E-02	NOT IDENT.
CO-60	-9.551E-04	3.085E-02	2.579E-02	1.574E-02	NOT IDENT.
ZN-65	1.068E-01	1.024E-01	7.881E-02	5.222E-02	NOT IDENT.
GE-68	5.330E-01	1.156E+00	9.912E-01	5.900E-01	NOT IDENT.
AS-73	3.409E-01	7.976E-01	6.837E-01	4.069E-01	NOT IDENT.
AS-74	-6.032E-03	1.017E-01	8.611E-02	5.187E-02	NOT IDENT.
SE-75	1.177E-02	5.071E-02	3.725E-02	2.587E-02	NOT IDENT.
BR-77	-2.204E+01	3.319E+01	0.000E+00	1.693E+01	SHORT HLIF
SR-82	2.252E-01	4.128E-01	3.083E-01	2.106E-01	NOT IDENT.
RB-83	-4.713E-02	7.242E-02	5.532E-02	3.695E-02	NOT IDENT.
RB-84	4.596E-02	6.755E-02	5.976E-02	3.446E-02	NOT IDENT.
KR-85	3.482E+01	8.985E+00	7.522E+00	4.584E+00	NOT IDENT.
SR-85	1.860E-01	4.800E-02	4.019E-02	2.449E-02	NOT IDENT.
RB-86	4.602E-01	8.501E-01	7.322E-01	4.337E-01	NOT IDENT.
Y-88	2.759E-03	2.931E-02	2.474E-02	1.495E-02	NOT IDENT.
ZR-88	-9.468E-04	3.104E-02	2.623E-02	1.584E-02	NOT IDENT.
Y-91	7.524E+00	1.763E+01	1.534E+01	8.996E+00	NOT IDENT.
NB-94	9.010E-03	3.136E-02	2.664E-02	1.600E-02	NOT IDENT.
NB-95	9.094E-02	4.856E-02	3.920E-02	2.478E-02	NOT IDENT.
NB-95M	2.416E-01	1.555E-01	1.205E-01	7.936E-02	NOT IDENT.
ZR-95	7.520E-03	6.884E-02	5.748E-02	3.512E-02	NOT IDENT.
NB-97	1.709E+07	5.829E+06	0.000E+00	2.974E+06	SHORT HLIF
ZR-97	3.178E+08	1.042E+08	0.000E+00	5.318E+07	SHORT HLIF
MO-99	4.069E-02	3.226E+01	2.392E+01	1.646E+01	NOT IDENT.
TC-99M	-9.001E+20	1.909E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.845E-02	3.596E-02	3.076E-02	1.835E-02	NOT IDENT.
RH-102	1.366E-02	2.843E-02	2.421E-02	1.451E-02	NOT IDENT.
RU-103	-1.632E-02	4.246E-02	3.424E-02	2.166E-02	FAIL ABUN
RH-106	1.898E-01	3.099E-01	2.701E-01	1.581E-01	FAIL ABUN
RU-106	1.898E-01	3.093E-01	2.701E-01	1.578E-01	FAIL ABUN
AG-108M	6.250E-03	3.356E-02	2.838E-02	1.712E-02	NOT IDENT.
AG-110M	1.013E-01	4.283E-02	3.539E-02	2.185E-02	NOT IDENT.
IN-111	-5.930E-01	3.226E+00	2.330E+00	1.646E+00	NOT IDENT.
IN-113M	-1.054E-02	4.520E-02	3.782E-02	2.306E-02	NOT IDENT.
SN-113	-1.054E-02	4.520E-02	3.782E-02	2.306E-02	NOT IDENT.
IN-114M	1.222E-02	2.189E-01	1.647E-01	1.117E-01	NOT IDENT.
CD-115	7.468E+00	3.552E+01	0.000E+00	1.812E+01	SHORT HLIF
SN-117M	-1.696E-02	6.820E-02	5.870E-02	3.480E-02	NOT IDENT.
SB-122	1.654E+00	5.179E+00	4.499E+00	2.642E+00	NOT IDENT.
I-123	-2.654E+08	8.435E+08	0.000E+00	4.303E+08	SHORT HLIF
TE-123M	-9.456E-03	3.006E-02	2.581E-02	1.534E-02	NOT IDENT.
I-124	8.765E-01	1.409E+00	1.075E+00	7.190E-01	NOT IDENT.
SB-124	4.218E-02	7.177E-02	6.451E-02	3.662E-02	FAIL ABUN
SB-125	-2.154E-02	9.387E-02	7.784E-02	4.789E-02	FAIL ABUN
TE-125M	6.766E+00	1.005E+01	8.547E+00	5.128E+00	NOT IDENT.
I-126	4.989E-02	2.342E-01	1.720E-01	1.195E-01	NOT IDENT.
SB-126	-1.133E-01	2.016E-01	1.362E-01	1.029E-01	FAIL ABUN
SB-127	-7.384E-01	2.541E+00	2.088E+00	1.296E+00	NOT IDENT.
XE-127	-5.197E-02	5.572E-02	4.388E-02	2.843E-02	NOT IDENT.
I-131	6.669E-02	1.593E-01	1.382E-01	8.128E-02	NOT IDENT.
TE-132	8.627E-01	1.720E+00	1.468E+00	8.776E-01	NOT IDENT.
BA-133	-9.796E-03	4.886E-02	3.573E-02	2.493E-02	FAIL ABUN
I-133	6.940E+04	1.343E+05	0.000E+00	6.851E+04	SHORT HLIF
CS-134	8.549E-02	4.685E-02	4.207E-02	2.390E-02	NOT IDENT.
CS-135	2.220E-01	1.851E-01	1.413E-01	9.445E-02	NOT IDENT.
I-135	-2.063E+18	9.227E+19	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-7.913E-02	1.108E-01	8.648E-02	5.654E-02	FAIL ABUN
CE-139	-8.795E-03	3.040E-02	2.602E-02	1.551E-02	NOT IDENT.
BA-140	-4.679E-02	2.867E-01	2.435E-01	1.463E-01	NOT IDENT.
LA-140	-1.499E-02	1.070E-01	7.497E-02	5.457E-02	FAIL ABUN
CE-141	1.046E-01	6.621E-02	6.019E-02	3.378E-02	NOT IDENT.
CE-143	6.945E+03	2.169E+03	0.000E+00	1.107E+03	SHORT HLIF
CE-144	2.528E-01	2.274E-01	1.829E-01	1.160E-01	NOT IDENT.
PM-144	-8.987E-04	3.310E-02	2.764E-02	1.689E-02	NOT IDENT.
PR-144	-6.102E-02	2.248E+00	1.877E+00	1.147E+00	NOT IDENT.

PM-146	9.045E-03	4.220E-02	3.560E-02	2.153E-02	NOT IDENT.
ND-147	2.635E-01	6.979E-01	6.102E-01	3.560E-01	FAIL ABUN
PM-149	-6.968E+01	3.246E+02	0.000E+00	1.656E+02	SHORT HLIF
EU-152	-3.560E-02	1.417E-01	8.086E-02	7.227E-02	NOT IDENT.
GD-153	-1.009E-02	8.716E-02	6.429E-02	4.447E-02	FAIL ABUN
EU-154	-1.177E-01	1.045E-01	7.905E-02	5.330E-02	NOT IDENT.
EU-155	7.696E-02	1.067E-01	9.132E-02	5.446E-02	FAIL ABUN
TB-160	7.035E-02	1.298E-01	1.139E-01	6.623E-02	FAIL ABUN
HO-166M	3.942E-02	5.753E-02	4.987E-02	2.935E-02	FAIL ABUN
TM-171	9.487E-01	2.865E+01	2.218E+01	1.462E+01	NOT IDENT.
LU-176	-1.406E-02	2.525E-02	2.072E-02	1.288E-02	FAIL ABUN
LU-177	3.371E+00	2.943E+00	1.594E+00	1.502E+00	FAIL ABUN
LU-177M	-1.523E-01	1.883E-01	1.521E-01	9.608E-02	FAIL ABUN
HF-181	1.776E-02	4.509E-02	3.816E-02	2.300E-02	NOT IDENT.
W-181	-1.743E-01	3.836E-01	2.912E-01	1.957E-01	NOT IDENT.
TA-182	-5.777E-02	1.738E-01	1.438E-01	8.867E-02	FAIL ABUN
RE-183	7.592E-02	1.160E-01	1.024E-01	5.917E-02	FAIL ABUN
RE-184	-4.395E-02	2.534E-01	2.097E-01	1.293E-01	NOT IDENT.
OS-185	-3.323E-03	3.959E-02	3.319E-02	2.020E-02	NOT IDENT.
RE-188	1.065E-01	1.869E-01	1.651E-01	9.534E-02	NOT IDENT.
W-188	5.198E+00	8.385E+00	6.558E+00	4.278E+00	FAIL ABUN
IR-192	6.748E-03	3.532E-02	3.072E-02	1.802E-02	FAIL ABUN
AU-195	9.614E-02	2.528E-01	1.908E-01	1.290E-01	FAIL ABUN
TL-200	-1.389E+03	5.373E+03	0.000E+00	2.741E+03	SHORT HLIF
TL-201	1.800E+00	1.682E+01	1.459E+01	8.582E+00	NOT IDENT.
TL-202	-7.276E-02	8.797E-02	6.985E-02	4.488E-02	NOT IDENT.
HG-203	6.093E-02	5.024E-02	3.832E-02	2.563E-02	FAIL ABUN
BI-207	-3.303E-02	4.983E-02	3.775E-02	2.542E-02	FAIL ABUN
TL-207	8.717E-02	7.182E-01	5.421E-01	3.665E-01	FAIL ABUN
PO-209	7.296E-01	6.851E+00	5.839E+00	3.495E+00	NOT IDENT.
BI-210	3.612E+00	3.226E+00	2.873E+00	1.646E+00	NOT IDENT.
PB-210	3.612E+00	3.226E+00	2.873E+00	1.646E+00	NOT IDENT.
PO-210	3.612E+00	3.223E+00	2.873E+00	1.644E+00	NOT IDENT.
PB-211	-7.235E-01	1.045E+00	7.682E-01	5.329E-01	NOT IDENT.
BI-212	9.461E-01	3.359E-01	2.984E-01	1.714E-01	NOT IDENT.
PO-215	8.717E-02	7.182E-01	5.421E-01	3.665E-01	FAIL ABUN
RN-219	-1.030E-01	4.023E-01	3.351E-01	2.053E-01	FAIL ABUN
RN-220	1.334E+01	2.447E+01	2.153E+01	1.248E+01	NOT IDENT.
RA-223	8.717E-02	7.182E-01	5.421E-01	3.665E-01	FAIL ABUN
AC-227	8.947E-02	3.979E-01	3.341E-01	2.030E-01	FAIL ABUN
TH-227	8.947E-02	3.980E-01	3.341E-01	2.031E-01	FAIL ABUN
TH-229	-4.394E-01	5.238E-01	4.321E-01	2.672E-01	FAIL ABUN
PA-231	2.894E-01	1.602E+00	1.331E+00	8.172E-01	FAIL ABUN
TH-231	8.717E-02	7.182E-01	5.421E-01	3.665E-01	FAIL ABUN
U-231	-1.612E+00	2.180E+00	1.570E+00	1.112E+00	FAIL ABUN
PA-233	1.615E-02	6.334E-02	5.530E-02	3.232E-02	FAIL ABUN
PA-234	6.785E-02	2.753E-01	2.353E-01	1.404E-01	FAIL ABUN
PA-234M	3.160E+00	4.459E+00	3.838E+00	2.275E+00	NOT IDENT.
U-235	3.325E-02	2.157E-01	1.843E-01	1.100E-01	FAIL ABUN
NP-236	-5.286E-02	8.223E-02	6.969E-02	4.196E-02	NOT IDENT.
NP-239	4.959E-02	1.933E-01	1.615E-01	9.863E-02	FAIL ABUN
AM-241	1.181E-01	1.464E-01	1.182E-01	7.469E-02	NOT IDENT.
CM-243	2.291E-02	9.434E-02	7.953E-02	4.813E-02	FAIL ABUN
AM-246	-5.475E-03	1.335E-01	1.104E-01	6.812E-02	NOT IDENT.
CM-247	-9.582E-04	3.565E-02	3.006E-02	1.819E-02	FAIL ABUN
CF-249	5.924E-03	4.001E-02	3.412E-02	2.041E-02	NOT IDENT.
CF-251	-3.123E-02	1.262E-01	1.076E-01	6.437E-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	304.3692
46.50	304.3692
46.50	304.3692
48.70	354.0563
49.72	339.2081
51.35	328.7651
52.39	313.5716
52.97	322.7339
53.15	335.0858
53.44	325.2527
54.07	345.7553
56.28	365.9543
56.28	365.9583
57.37	0.0000
57.53	376.3744
57.53	376.3774
57.60	384.0690
57.98	381.8129
57.98	381.8129
59.32	340.9030
59.32	340.9030
59.40	341.0110
59.54	341.2008
59.72	358.6607
60.01	359.0727
61.10	372.1515
61.14	372.2091
61.30	372.4409
63.00	438.8201
63.29	439.3051
63.29	439.3051
63.58	439.7878
64.28	486.2127
65.12	484.8121
65.20	468.8403
65.20	468.8403
66.05	467.3755
66.72	443.4762
66.83	443.6553
66.91	443.7862
67.20	419.1639
67.20	419.1639
67.75	467.3218
67.85	467.4918
68.90	517.7649
68.90	517.7649
69.30	534.3641
69.67	533.6789
70.82	506.8318
70.82	506.8318
70.83	506.8499
72.80	516.3344
72.87	516.4600
72.87	516.4600
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74.81	524.4089
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75.28	525.2352
75.70	525.9690
77.11	528.4213
77.11	528.4213

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77.11	528.4213
77.11	528.4213
77.11	528.4213
77.11	528.4213
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79.62	532.7347
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79.80	533.0410
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80.57	401.5329
81.00	383.5228
81.07	383.6080
81.07	383.6080
81.07	383.6080
81.07	383.6080
82.60	385.4509
83.37	386.3685
83.78	446.1375
83.78	446.1375
83.78	446.1375
83.78	446.1375
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84.90	516.5439
85.43	517.3773
86.29	518.7218
86.50	519.0491
86.54	519.1120
86.59	503.4570
86.72	503.6548
86.79	503.7573
86.94	503.9868
87.30	454.0759
87.30	454.0759
87.30	454.0759
87.30	454.0759
87.30	454.0759
87.30	454.0759
87.57	454.4407
87.88	0.0000
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88.36	439.6902
88.47	439.8344
89.95	565.6910
91.11	389.0295
92.29	390.3512
92.38	390.4518
92.38	390.4518
93.35	391.5296
94.00	392.2500
94.67	392.9854
94.67	392.9909
94.90	393.2441
94.90	393.2441
94.90	393.2441
94.90	393.2441
95.87	425.0133
95.87	425.0133
96.73	417.9292
97.43	386.2725
98.44	341.7691
98.44	341.7707
98.88	373.1383
99.55	361.7366
99.55	361.7366
99.86	370.3152
100.00	370.4552
100.10	371.6489
103.18	393.3761
103.76	367.5634
105.00	348.8781
105.31	365.7317
108.00	407.1985
109.28	397.3530

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111.00	394.5785
111.76	420.0290
112.95	403.2380
115.19	422.4252
116.30	388.3525
117.00	371.9399
117.00	371.9399
117.66	367.9668
121.11	399.6669
121.62	386.3416
121.78	386.4834
122.06	394.7899
122.32	395.0254
122.32	395.0254
122.32	395.0254
122.32	395.0254
123.07	395.7075
127.23	393.0385
129.76	403.3275
131.20	387.6822
133.02	382.1364
133.54	355.6436
135.34	387.5940
136.00	431.7570
136.25	431.9864
136.48	421.5038
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140.51	0.0000
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142.65	427.8339
143.76	406.1834
144.24	375.7898
144.24	375.7898
144.24	375.7898
144.24	375.7898
145.22	358.3876
145.44	346.7471
147.16	451.7743
152.43	400.3286
152.70	418.0325
153.22	408.3129
154.21	436.7939
154.21	436.7939
154.21	436.7939
154.21	436.7939
155.03	431.0052
156.02	424.4062
158.56	415.2735
159.00	0.0000
159.00	428.6600
160.31	436.2484
161.27	414.5656
162.32	386.3003
162.64	406.2315
163.35	387.0327
163.89	378.9501
165.85	396.3455
167.43	371.9246
171.28	374.4792
171.86	379.6292
172.10	379.7901
176.55	376.9686
176.60	377.0015
181.06	358.1656
184.41	383.5672
185.71	392.5965
186.00	392.7867
190.27	374.6757
192.34	402.7798
193.63	409.5496
197.04	388.8940
198.01	374.5427
198.60	377.8781
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201.83	457.9449
202.84	437.0065
205.31	393.2981

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208.81	407.1342
209.75	407.7077
209.75	407.7077
210.97	365.7761
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216.55	381.6731
218.09	394.2627
222.10	376.9242
223.80	410.9631
226.40	352.2137
227.00	335.8735
227.08	335.9104
227.20	344.2883
228.16	365.5813
228.18	365.5920
228.18	365.5920
231.56	0.0000
235.69	355.2924
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236.00	363.8672
238.63	323.3204
238.63	323.3204
238.63	323.3204
238.63	323.3204
239.00	0.0000
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241.98	324.7748
241.98	324.7748
241.98	324.7748
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245.39	317.2876
247.94	309.7924
248.90	331.3146
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252.40	326.0038
252.85	324.0380
252.85	324.0380
254.15	0.0000
256.20	297.3184
256.20	297.3184
260.50	278.2813
260.90	0.0000
262.80	272.5410
264.65	255.2469
268.24	270.4211
268.79	279.3913
269.46	281.3789
269.46	281.3789
269.46	281.3789
269.46	281.3789
271.23	334.8564
273.65	296.0652
276.40	293.8758
277.35	296.4902
277.60	296.5759
277.60	296.5759
278.00	307.3791
278.60	282.7063
279.20	249.1016
279.53	249.1973
280.46	263.7262
281.68	0.0000
283.67	273.8867
284.30	298.7006
285.00	314.6200
285.90	0.0000
286.10	263.4535
286.10	263.4535
287.40	289.6713
288.45	0.0000
290.67	252.4443
290.80	252.4819
291.72	269.2975
293.26	0.0000
293.70	278.9491
295.21	278.2188
295.21	278.2188

295.21	278.2188
295.96	278.4549
296.50	278.6235
297.23	0.0000
298.57	279.2718
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299.80	279.6541
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300.09	270.3317
300.09	270.3317
300.09	270.3317
300.12	270.3389
301.29	252.4414
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303.76	0.0000
303.91	254.6995
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304.40	250.2608
304.84	248.8542
306.84	270.3124
308.46	248.3097
311.98	244.6398
316.51	242.1196
318.01	235.0750
319.02	250.2074
319.41	237.2851
320.08	243.0371
323.87	232.1668
323.87	232.1668
323.87	232.1668
323.87	232.1668
325.23	230.9338
328.77	228.6508
333.44	254.9279
334.20	255.1256
334.20	255.1256
334.30	261.4520
338.28	234.3575
338.28	234.3575
338.28	234.3575
338.28	234.3575
338.32	234.3696
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338.32	234.3696
340.50	244.0746
340.57	244.0902
344.27	244.9926
345.85	234.2244
350.59	0.0000
351.07	232.5469
351.92	232.7389
351.92	232.7389
351.92	232.7389
355.39	0.0000
356.01	230.1232
364.48	204.4142
366.43	196.0143
367.43	193.2699
367.94	0.0000
369.80	245.5461
374.96	205.4435
383.85	225.9488
387.95	215.8424
388.63	219.9560
391.69	216.5656
391.69	216.5656
392.90	205.8089
398.62	203.8376
400.65	206.2112
401.10	209.3127
401.81	209.4422
402.60	200.5182
404.84	238.2615
410.95	215.1598
411.60	209.1861
413.65	248.2057
414.70	210.7574
415.30	215.9569

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423.70	177.4770
427.08	203.6944
427.89	206.9181
432.53	191.1742
433.93	197.6006
439.47	0.0000
439.56	201.6231
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443.98	202.3407
444.90	180.5708
445.03	180.5899
445.03	180.5899
445.03	180.5899
445.03	180.5899
453.90	170.2978
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468.07	184.2238
473.00	185.6269
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475.35	170.9961
476.78	188.2977
477.59	181.9884
477.96	178.8278
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490.36	0.0000
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510.53	0.0000
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511.00	153.5728
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511.85	153.6642
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513.99	131.9121
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569.67	159.7866
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578.91	0.0000
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591.81	136.5844
592.07	130.5005
593.00	138.0367
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602.71	154.8227
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604.41	153.3184
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609.31	191.1072

609.31	191.1072
609.31	191.1072
609.31	191.1072
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621.84	135.5770
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661.65	133.7252
664.57	0.0000
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666.33	126.1587
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692.80	140.1496
695.00	136.2200
696.49	143.5063
696.49	143.5063
697.00	145.5968
697.49	137.4296
698.33	140.5705
698.50	140.5844
699.00	138.5678
702.63	132.6691
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720.50	144.1711
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722.78	119.3952
722.78	119.3952
722.89	119.4022
722.95	119.4045
723.30	130.1229
724.18	130.1815
727.18	114.6080
733.00	96.7412
735.90	123.8015
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744.21	121.9260
747.13	134.7396
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766.42	111.1518
766.84	114.8203
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778.89	128.3398
783.80	113.6407
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792.07	124.8619

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826.30	111.5916
828.27	0.0000
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836.80	0.0000
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867.82	91.9817
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896.60	99.6861
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911.07	122.7063
911.07	122.7063
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925.00	76.4113
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949.00	93.0115
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969.11	162.3669
969.11	162.3669
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989.30	98.5623
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1001.68	92.9819
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1038.76	0.0000
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1046.59	85.3477
1048.07	84.3680

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1050.47	80.3232
1062.04	95.1510
1063.62	94.1738
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1078.86	95.7478
1085.78	95.9884
1099.22	100.6540
1112.02	108.7524
1112.84	114.3163
1115.52	99.6614
1120.29	103.5269
1120.29	103.5269
1120.29	103.5269
1120.29	103.5269
1120.51	103.5371
1121.28	103.5645
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1129.67	85.3235
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1147.95	0.0000
1167.94	84.5865
1173.22	107.3342
1175.09	97.9824
1177.93	88.6471
1189.05	92.7662
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1205.75	0.0000
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1236.41	0.0000
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1260.41	0.0000
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1274.54	86.6289
1291.56	71.4361
1298.22	0.0000
1312.09	59.0900
1325.50	52.4113
1325.50	52.4113
1332.49	47.5679
1333.61	41.6360
1360.21	58.9586
1362.66	0.0000
1365.15	69.0526
1368.21	43.7096
1368.53	0.0000
1376.25	62.4748
1384.27	44.7306
1394.10	60.5603
1395.20	64.6172
1407.95	72.9646
1434.06	54.1128
1436.60	45.9792
1457.56	0.0000
1460.81	56.5811
1489.15	59.0996
1509.49	53.1727
1596.49	39.2606
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1678.03	0.0000
1691.02	25.2489
1691.02	25.2489
1706.46	0.0000
1750.46	0.0000
1764.49	27.6742
1764.49	27.6742
1764.49	27.6742
1764.49	27.6742
1770.23	21.3773
1771.40	24.9471
1791.20	0.0000
1808.65	28.9583

1836.01

22.1062

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107007

Total Uranium Activity	9.4065E+00	ug/g
Total Uranium Counting Unc.	5.8044E+00	ug/g
Total Uranium Tpu	2.9614E-06	ug/g
Total Uranium Mda	2.9686E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107007
*  ANALYST       : MXR1                             DETECTOR    : GAM22
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 12:39:23.99          SAMPLE ALQT  : 114.150 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.695E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.326E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 2.692E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 1.307E+00

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VAX/VMS Nuclide Identification Report Generated 1-FEB-2010 14:42:41.26

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107008.CNF;1
Sample date   : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:39:46.
Sample ID     : G245107008 Sample quantity : 1.07970E+02 GRAM
Detector name : GAM23 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.56 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID       : 944038 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	62.96*	54	382	1.20	125.93	122	9	7.48E-03	68.7	
2	1	74.63*	394	326	1.38	149.25	142	23	5.47E-02	9.5	3.31E+00
3	1	76.95	609	289	1.34	153.90	142	23	8.47E-02	6.6	
4	0	83.31*	48	304	1.05	166.61	165	7	6.65E-03	62.7	
5	0	86.92	211	357	1.53	173.85	171	7	2.93E-02	16.3	
6	0	93.30*	114	687	1.37	186.60	180	12	1.58E-02	49.2	
7	0	185.56*	237	357	1.42	371.11	365	14	3.29E-02	18.4	
8	0	209.01	96	211	1.01	418.03	414	9	1.33E-02	29.3	
9	3	238.35*	965	139	1.10	476.70	469	20	1.34E-01	3.9	1.28E+00
10	3	241.41	284	191	1.86	482.81	469	20	3.95E-02	14.2	
11	0	269.94	127	150	1.53	539.87	535	11	1.76E-02	20.8	
12	0	294.73	352	135	1.28	589.47	584	11	4.89E-02	8.3	
13	0	300.26	90	193	0.76	600.52	595	14	1.25E-02	34.3	
14	0	338.05	222	135	1.43	676.09	669	11	3.09E-02	12.1	
15	0	351.47	518	160	1.13	702.95	697	13	7.20E-02	6.7	
16	0	462.61	74	44	2.03	925.22	921	8	1.03E-02	19.4	
17	0	510.45*	80	135	1.41	1020.91	1015	14	1.11E-02	37.2	
18	0	582.59*	308	69	1.55	1165.18	1157	14	4.28E-02	8.2	
19	0	608.70*	401	83	1.37	1217.41	1209	15	5.57E-02	7.1	
20	0	661.00	71	58	1.21	1321.99	1317	10	9.84E-03	23.3	
21	0	726.17	83	59	1.83	1452.33	1443	17	1.15E-02	24.1	
22	0	861.09	58	46	1.06	1722.19	1715	17	8.03E-03	30.1	
23	0	910.04	220	47	1.80	1820.09	1811	16	3.05E-02	9.7	
24	1	963.88	47	43	2.12	1927.76	1919	23	6.53E-03	34.6	1.74E+00
25	1	968.11*	66	58	2.02	1936.23	1919	23	9.13E-03	26.2	
26	0	1119.46*	69	50	1.55	2238.92	2232	16	9.63E-03	25.7	
27	0	1459.59	652	17	2.30	2919.19	2908	18	9.06E-02	4.1	
28	0	1632.04	11	16	2.19	3264.08	3252	14	1.58E-03	82.8	
29	0	1763.06*	65	3	2.24	3526.12	3519	14	8.97E-03	14.6	

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

VMS Nuclide Identification Report V3.1 Generated 1-FEB-2010 14:42:44

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107008.CNF;1
 Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
 Sample title : MXR1
 Sample date : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:39:46
 Sample ID : G245107008 Sample quantity : 107.97 GRAM
 Sample type : SOLID Sample geometry :
 Detector name : GAMMA23 Detector geometry: CAN
 Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.56 0.0%
 Peak Width (FWHM): 3.00 Confidence level : 5.00 %
 Energy tolerance : 1.50 keV Half life ratio : 8.00
 Errors propagated: Yes Systematic Error : 0.00 %
 Efficiency type : Empirical Efficiencies at : Peak Energy
 Abundance limit : 75.00 WTM error limit : 3.00

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	*	2.132E+01	2.379E+00	5.832E-01	4.363E-02	36.547
CD-109	+	88.03	*	3.892E+00	1.324E+00	2.092E+00	2.042E-01	1.861
SN-126	+	64.28		7.664E-01	1.060E+00	1.134E+00	1.726E-01	0.676
	+	86.94		1.581E+00	8.358E-01	8.730E-01	3.631E-01	1.811
	+	87.57	*	3.804E-01	1.294E-01	1.831E-01	1.781E-02	2.078
BA-137M	+	661.65	*	1.342E-01	6.295E-02	6.843E-02	3.496E-03	1.960
CS-137	+	661.65	*	1.418E-01	6.655E-02	7.234E-02	3.715E-03	1.960
TL-208		277.35		3.328E-01	4.862E-01	8.033E-01	8.488E-02	0.414
	+	510.84		5.042E-01	3.788E-01	2.624E-01	2.665E-02	1.922
	+	583.14	*	5.592E-01	9.896E-02	7.513E-02	4.878E-03	7.443
	+	860.37		1.003E+00	6.106E-01	5.416E-01	4.896E-02	1.852
BI-211		72.87		1.620E+01	5.015E+00	8.010E+00	7.066E-01	2.023
	+	351.07	*	4.045E+00	6.029E-01	3.649E-01	2.378E-02	11.084
PB-212	+	74.81		3.171E+00	7.298E-01	6.976E-01	8.999E-02	4.546
	+	77.11		2.743E+00	4.397E-01	3.909E-01	3.517E-02	7.017
	+	87.30		1.759E+00	6.239E-01	8.730E-01	1.217E-01	2.015
	+	238.63	*	1.622E+00	1.712E-01	1.075E-01	7.727E-03	15.089
	+	300.09		2.359E+00	1.632E+00	1.478E+00	1.227E-01	1.597
PO-212	+	74.81		3.171E+00	7.298E-01	6.976E-01	8.999E-02	4.546
	+	77.11		2.743E+00	4.397E-01	3.909E-01	3.517E-02	7.017
	+	87.30		1.759E+00	6.239E-01	8.730E-01	1.217E-01	2.015
		115.19		1.062E-01	4.343E+00	7.163E+00	4.570E-01	0.015
	+	238.63	*	1.622E+00	1.712E-01	1.075E-01	7.727E-03	15.089
	+	300.09		2.359E+00	1.632E+00	1.478E+00	1.227E-01	1.597
BI-214	+	609.31	*	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
	+	1120.29		1.269E+00	6.619E-01	5.965E-01	5.543E-02	2.127
	+	1764.49		1.626E+00	4.848E-01	3.408E-01	2.119E-02	4.770
PB-214	+	74.81		5.464E+00	1.218E+00	1.202E+00	1.391E-01	4.546
	+	77.11		4.702E+00	8.345E-01	6.701E-01	7.900E-02	7.017
	+	87.30		3.014E+00	1.051E+00	1.496E+00	1.854E-01	2.015
	+	241.98		2.871E+00	8.457E-01	6.473E-01	5.148E-02	4.436
	+	295.21		1.614E+00	3.020E-01	2.365E-01	2.027E-02	6.824
	+	351.92	*	1.407E+00	2.222E-01	1.272E-01	1.062E-02	11.061
PO-214	+	74.81		5.464E+00	1.218E+00	1.202E+00	1.391E-01	4.546

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		4.702E+00	8.345E-01	6.701E-01	7.900E-02	7.017
	+	87.30		3.014E+00	1.051E+00	1.496E+00	1.854E-01	2.015
	+	241.98		2.871E+00	8.457E-01	6.473E-01	5.148E-02	4.436
	+	295.21		1.614E+00	3.020E-01	2.365E-01	2.027E-02	6.824
	+	351.92	*	1.407E+00	2.222E-01	1.272E-01	1.062E-02	11.061
PO-216	+	74.81		3.171E+00	7.298E-01	6.976E-01	8.999E-02	4.546
	+	77.11		2.743E+00	4.397E-01	3.909E-01	3.517E-02	7.017
	+	87.30		1.759E+00	6.239E-01	8.730E-01	1.217E-01	2.015
	+	238.63	*	1.622E+00	1.712E-01	1.075E-01	7.727E-03	15.089
	+	300.09		2.359E+00	1.632E+00	1.478E+00	1.227E-01	1.597
PO-218	+	74.81		5.464E+00	1.218E+00	1.202E+00	1.391E-01	4.546
	+	77.11		4.702E+00	8.345E-01	6.701E-01	7.900E-02	7.017
	+	87.30		3.014E+00	1.051E+00	1.496E+00	1.854E-01	2.015
	+	241.98		2.871E+00	8.457E-01	6.473E-01	5.148E-02	4.436
	+	295.21		1.614E+00	3.020E-01	2.365E-01	2.027E-02	6.824
	+	351.92	*	1.407E+00	2.222E-01	1.272E-01	1.062E-02	11.061
RA-224	+	240.98	*	5.445E+00	1.574E+00	1.223E+00	6.892E-02	4.451
RA-226	+	609.31	*	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
	+	1120.29		1.269E+00	6.619E-01	5.965E-01	5.543E-02	2.127
	+	1764.49		1.626E+00	4.848E-01	3.408E-01	2.119E-02	4.770
AC-228	+	338.32		1.909E+00	9.049E-01	4.646E-01	1.895E-01	4.110
	+	911.07	*	1.807E+00	4.093E-01	2.493E-01	2.876E-02	7.249
	+	969.11		9.552E-01	5.475E-01	4.084E-01	9.508E-02	2.339
RA-228	+	338.32		1.909E+00	9.049E-01	4.646E-01	1.895E-01	4.110
	+	911.07	*	1.807E+00	4.093E-01	2.493E-01	2.876E-02	7.249
	+	969.11		9.552E-01	5.475E-01	4.084E-01	9.508E-02	2.339
TH-228	+	74.81		3.232E+00	6.807E-01	7.110E-01	6.372E-02	4.546
	+	77.11		2.795E+00	4.481E-01	3.983E-01	3.584E-02	7.017
	+	87.30		1.793E+00	6.100E-01	8.897E-01	8.636E-02	2.015
	+	238.63	*	1.653E+00	1.744E-01	1.095E-01	7.875E-03	15.089
	+	300.09		2.405E+00	2.176E+00	1.506E+00	8.876E-01	1.597
TH-230	+	609.31	*	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
	+	1120.29		1.269E+00	6.619E-01	5.965E-01	5.543E-02	2.127
	+	1764.49		1.626E+00	4.848E-01	3.408E-01	2.119E-02	4.770
TH-232	+	338.32		1.909E+00	4.747E-01	4.646E-01	2.744E-02	4.110
	+	911.07	*	1.807E+00	4.093E-01	2.493E-01	2.876E-02	7.249
	+	969.11		9.552E-01	5.475E-01	4.084E-01	9.508E-02	2.339
TH-234	+	63.29	*	1.936E+00	2.683E+00	2.950E+00	5.316E-01	0.656
	+	92.38		1.301E+00	1.301E+00	1.074E+00	1.959E-01	1.211
U-234	+	609.31	*	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
	+	1120.29		1.269E+00	6.619E-01	5.965E-01	5.543E-02	2.127
	+	1764.49		1.626E+00	4.848E-01	3.408E-01	2.119E-02	4.770
NP-237	+	86.50	*	1.117E+00	4.445E-01	5.952E-01	1.356E-01	1.877
	+	95.87		-1.743E-01	1.296E+00	1.870E+00	4.592E-01	-0.093
U-238	+	63.29	*	1.936E+00	2.683E+00	2.950E+00	5.316E-01	0.656
	+	92.38		1.301E+00	1.284E+00	1.074E+00	9.597E-02	1.211
AM-243	+	74.67	*	5.141E-01	1.081E-01	1.135E-01	1.009E-02	4.528
	+	86.72		4.188E+01	1.425E+01	2.225E+01	2.149E+00	1.882
	+	117.66		-2.443E+00	4.631E+00	7.448E+00	4.612E-01	-0.328

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		1.582E+01	2.322E+01	3.810E+01	2.074E+00	0.415
ANH-511	+	511.00	*	1.089E-01	8.132E-02	5.669E-02	3.293E-03	1.921

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-6.038E-02	4.149E-01	6.755E-01	4.591E-02	-0.089
NA-22		1274.54	*	-2.400E-02	5.133E-02	7.846E-02	5.269E-03	-0.306
NA-24		1368.53	*	6.227E+01	5.133E-02	Half-Life too short		
AL-26		1129.67		-3.051E-01	2.048E+00	3.231E+00	2.058E-01	-0.094
		1808.65	*	-5.945E-03	3.411E-02	5.409E-02	3.251E-03	-0.110
TI-44		67.85		3.665E-02	8.049E-02	1.033E-01	8.997E-03	0.355
	+	78.38	*	5.062E-01	8.115E-02	1.012E-01	9.172E-03	5.003
SC-46		889.25	*	-2.664E-02	5.283E-02	8.367E-02	7.476E-03	-0.318
	+	1120.51		2.243E-01	1.161E-01	1.565E-01	1.020E-02	1.434
V-48		944.10		-2.651E-02	1.125E+00	1.862E+00	1.623E-01	-0.014
		983.50	*	-1.225E-01	9.672E-02	1.344E-01	1.118E-02	-0.911
		1312.09		5.205E-02	1.261E-01	2.152E-01	1.531E-02	0.242
CR-51		320.08	*	8.105E-02	4.881E-01	8.264E-01	5.419E-02	0.098
MN-52		744.21		-3.468E-01	5.201E-01	7.814E-01	4.975E-02	-0.444
		848.13		3.382E+00	1.189E+01	2.046E+01	1.669E+00	0.165
		935.52		2.750E-01	5.078E-01	8.869E-01	7.798E-02	0.310
		1246.25		-1.948E+00	1.421E+01	2.283E+01	1.461E+00	-0.085
		1333.61		-6.776E+00	1.059E+01	1.564E+01	1.148E+00	-0.433
		1434.06	*	3.137E-01	4.727E-01	8.430E-01	6.099E-02	0.372
MN-54		834.83	*	6.519E-03	4.810E-02	8.134E-02	6.440E-03	0.080
CO-56		846.75	*	2.519E-03	4.426E-02	7.439E-02	6.052E-03	0.034
		977.42		1.244E+00	3.463E+00	5.965E+00	5.001E-01	0.208
		1037.82		1.843E-01	3.657E-01	6.378E-01	5.228E-02	0.289
		1175.09		-1.658E+00	2.987E+00	4.606E+00	2.607E-01	-0.360
		1238.25		2.554E-02	1.179E-01	1.963E-01	1.306E-02	0.130
		1360.21		1.086E-01	1.238E+00	2.036E+00	1.491E-01	0.053
		1771.40		-1.990E-01	2.861E-01	3.998E-01	2.474E-02	-0.498
CO-57		122.06	*	-3.890E-02	3.167E-02	4.914E-02	2.897E-03	-0.792
		136.48		1.410E-01	2.529E-01	4.241E-01	2.758E-02	0.332
CO-58		810.76	*	-1.821E-02	5.176E-02	8.390E-02	6.303E-03	-0.217
FE-59		142.65		3.755E+00	3.825E+00	6.343E+00	3.450E-01	0.592
		192.34		-3.013E-02	1.386E+00	1.958E+00	2.266E-01	-0.015
		1099.22	*	-1.823E-02	1.218E-01	1.972E-01	1.519E-02	-0.092
		1291.56		-3.275E-02	1.437E-01	2.262E-01	1.878E-02	-0.145
CO-60		1173.22		-3.293E-02	5.659E-02	8.686E-02	4.900E-03	-0.379
		1332.49	*	-3.866E-02	5.068E-02	7.345E-02	5.392E-03	-0.526
ZN-65		1115.52	*	5.364E-02	1.355E-01	2.018E-01	1.333E-02	0.266
GE-68		1077.35	*	-2.212E-01	1.384E+00	2.236E+00	1.600E-01	-0.099
AS-73		53.44	*	2.134E-01	1.372E+00	2.321E+00	2.049E-01	0.092
AS-74		595.88	*	4.562E-02	1.273E-01	2.137E-01	1.179E-02	0.213
		634.78		7.256E-01	5.533E-01	9.779E-01	5.177E-02	0.742
SE-75		66.05		-2.056E+00	7.604E+00	1.101E+01	1.156E+00	-0.187

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		2.820E-01	1.058E+00	1.562E+00	2.094E-01	0.181
		121.11		-7.804E-02	1.681E-01	2.705E-01	2.523E-02	-0.288
		136.00		9.501E-03	4.861E-02	8.034E-02	4.536E-03	0.118
		198.60		-8.230E-01	2.373E+00	3.650E+00	2.465E-01	-0.225
		264.65	*	1.448E-02	6.221E-02	8.839E-02	5.145E-03	0.164
		279.53		-1.836E-02	1.348E-01	2.257E-01	1.419E-02	-0.081
		303.91		-7.143E-02	3.030E+00	4.427E+00	4.247E-01	-0.016
		400.65		3.684E-01	3.204E-01	5.682E-01	5.170E-02	0.648
BR-77	+	87.88		2.616E-03	3.204E-01	Half-Life	too short	
		200.40		-4.823E-05	3.204E-01	Half-Life	too short	
	+	239.00		8.147E-04	3.204E-01	Half-Life	too short	
		249.79		-9.226E-06	3.204E-01	Half-Life	too short	
		281.68		-1.686E-04	3.204E-01	Half-Life	too short	
		297.23		9.357E-04	3.204E-01	Half-Life	too short	
		303.76		-1.857E-05	3.204E-01	Half-Life	too short	
		439.47		-3.573E-04	3.204E-01	Half-Life	too short	
		484.57		-8.190E-05	3.204E-01	Half-Life	too short	
		520.65	*	-1.484E-05	3.204E-01	Half-Life	too short	
		574.64		-1.786E-04	3.204E-01	Half-Life	too short	
		578.91		2.560E-04	3.204E-01	Half-Life	too short	
		585.48		2.968E-03	3.204E-01	Half-Life	too short	
		755.35		5.630E-04	3.204E-01	Half-Life	too short	
		817.79		-1.975E-04	3.204E-01	Half-Life	too short	
SR-82		698.33		5.841E+01	4.650E+01	8.322E+01	4.701E+00	0.702
		776.49	*	-7.236E-01	5.245E-01	7.637E-01	5.268E-02	-0.948
		1395.20		-1.297E+00	1.420E+01	2.265E+01	1.651E+00	-0.057
RB-83		520.41	*	-3.236E-02	8.655E-02	1.374E-01	7.957E-03	-0.235
		529.64		-6.667E-02	1.359E-01	2.136E-01	1.232E-02	-0.312
		552.65		-1.338E-01	2.366E-01	3.665E-01	2.088E-02	-0.365
RB-84		881.50	*	-6.479E-02	9.445E-02	1.462E-01	1.285E-02	-0.443
KR-85		513.99	*	1.053E+01	8.896E+00	1.429E+01	8.292E-01	0.737
SR-85		513.99	*	5.627E-02	4.753E-02	7.634E-02	4.430E-03	0.737
RB-86		1076.63	*	-5.846E-01	1.029E+00	1.574E+00	1.128E-01	-0.371
Y-88		898.02		-3.980E-02	5.261E-02	8.060E-02	7.370E-03	-0.494
		1836.01	*	-1.062E-02	4.962E-02	7.872E-02	4.635E-03	-0.135
ZR-88		392.90	*	8.932E-03	3.944E-02	6.650E-02	3.839E-03	0.134
Y-91		1204.90	*	1.792E+01	2.409E+01	4.232E+01	2.524E+00	0.423
NB-94		702.63	*	-1.326E-02	4.258E-02	6.670E-02	3.811E-03	-0.199
		871.10		-1.003E-03	4.129E-02	6.723E-02	5.774E-03	-0.015
NB-95		765.79	*	6.083E-02	6.003E-02	1.043E-01	7.011E-03	0.583
NB-95M		235.69	*	5.223E-01	2.090E-01	3.304E-01	2.437E-02	1.581
ZR-95		724.18		2.119E-01	1.316E-01	2.381E-01	1.683E-02	0.890
		756.15	*	5.747E-02	8.670E-02	1.487E-01	1.141E-02	0.386
NB-97		657.90	*	1.694E+00	8.670E-02	Half-Life	too short	
		1024.50		9.683E+01	8.670E-02	Half-Life	too short	
ZR-97		254.15		3.736E+01	8.670E-02	Half-Life	too short	
		355.39		-1.203E+02	8.670E-02	Half-Life	too short	
		507.63	*	3.164E+02	8.670E-02	Half-Life	too short	
		602.52		1.075E+02	8.670E-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			2.677E+02	8.670E-02	Half-Life	too short	
	1147.95			-9.117E+01	8.670E-02	Half-Life	too short	
	1362.66			-2.986E+02	8.670E-02	Half-Life	too short	
	1750.46			-1.340E+02	8.670E-02	Half-Life	too short	
MO-99	140.51			-8.506E+01	9.099E+01	1.383E+02	3.717E+01	-0.615
	181.06			-2.104E+01	6.286E+01	8.706E+01	1.475E+01	-0.242
	366.43			-6.726E+01	2.741E+02	4.498E+02	2.636E+01	-0.150
	739.58	*		1.493E+01	3.973E+01	6.614E+01	9.257E+00	0.226
	778.00			-1.574E+02	1.125E+02	1.632E+02	1.130E+01	-0.964
TC-99M	140.51	*		-2.277E+15	1.125E+02	Half-Life	too short	
RH-101	127.23			2.432E-02	4.144E-02	6.959E-02	3.996E-03	0.349
	198.01	*		5.876E-03	4.208E-02	6.626E-02	3.532E-03	0.089
	325.23			-6.103E-02	2.797E-01	4.632E-01	2.737E-02	-0.132
RH-102	418.52			-2.569E-01	3.443E-01	5.393E-01	3.142E-02	-0.476
	475.06	*		7.507E-03	3.489E-02	5.842E-02	3.420E-03	0.129
	631.29			1.704E-02	7.307E-02	1.209E-01	6.428E-03	0.141
	697.49			6.334E-02	9.666E-02	1.650E-01	9.298E-03	0.384
	766.84			7.281E-02	1.497E-01	2.499E-01	1.684E-02	0.291
	1046.59			3.375E-02	1.438E-01	2.430E-01	1.840E-02	0.139
	1112.84			-1.006E-01	3.434E-01	4.632E-01	3.073E-02	-0.217
RU-103	497.08	*		1.542E-04	5.151E-02	8.468E-02	1.072E-02	0.002
	610.33			1.372E+01	2.851E+00	3.860E+00	5.901E-01	3.554
RH-106	511.85	+		5.480E-01	4.092E-01	5.320E-01	3.089E-02	1.030
	621.84	*		2.050E-01	3.904E-01	6.628E-01	7.644E-02	0.309
	1050.47			-1.664E+00	2.851E+00	4.392E+00	3.304E-01	-0.379
RU-106	511.85	+		5.480E-01	4.092E-01	5.320E-01	3.089E-02	1.030
	621.84	*		2.050E-01	3.898E-01	6.628E-01	3.562E-02	0.309
	1050.47			-1.664E+00	2.851E+00	4.392E+00	3.304E-01	-0.379
AG-108M	433.93	*		2.729E-02	4.108E-02	7.097E-02	4.500E-03	0.385
	614.37			3.583E-02	5.453E-02	8.251E-02	4.902E-03	0.434
	722.95			1.644E-02	5.939E-02	8.547E-02	5.557E-03	0.192
AG-110M	657.75	*		5.689E-03	5.141E-02	7.285E-02	4.048E-03	0.078
	677.61			2.504E-01	3.707E-01	6.377E-01	3.650E-02	0.393
	706.67			-4.935E-03	2.531E-01	4.074E-01	2.495E-02	-0.012
	763.93			3.170E-02	2.217E-01	3.605E-01	2.524E-02	0.088
	884.67			5.273E-02	6.313E-02	1.131E-01	1.031E-02	0.466
	937.48			-1.587E-01	1.354E-01	1.946E-01	1.767E-02	-0.816
	1384.27			5.887E-02	2.135E-01	3.594E-01	2.726E-02	0.164
IN-111	171.28			3.181E-01	3.097E+00	5.061E+00	2.596E-01	0.063
	245.39	*		-5.899E-01	3.677E+00	5.072E+00	2.871E-01	-0.116
IN-113M	391.69	*		-2.161E-02	5.726E-02	9.284E-02	5.720E-03	-0.233
SN-113	391.69	*		-2.161E-02	5.726E-02	9.284E-02	5.720E-03	-0.233
IN-114M	190.27	*		2.291E-01	2.583E-01	3.871E-01	2.041E-02	0.592
CD-115	260.90			1.145E-04	2.583E-01	Half-Life	too short	
	492.35			2.707E-05	2.583E-01	Half-Life	too short	
	527.90	*		1.761E-05	2.583E-01	Half-Life	too short	
SN-117M	156.02			1.381E+00	3.480E+00	5.772E+00	3.020E-01	0.239
	158.56	*		-8.667E-03	8.310E-02	1.349E-01	7.009E-03	-0.064
SB-122	563.90	*		-8.148E-01	7.149E+00	1.156E+01	6.541E-01	-0.070

----- 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			-8.567E+01	1.483E+02	2.261E+02	1.258E+01	-0.379
	159.00	*		-3.477E+02	1.483E+02	Half-Life	too short	
	528.96			-2.277E+04	1.483E+02	Half-Life	too short	
TE-123M	159.00	*		-1.238E-02	3.611E-02	5.796E-02	3.059E-03	-0.214
I-124	602.71	*		4.618E-01	1.747E+00	2.535E+00	1.389E-01	0.182
	722.78			2.216E+00	1.178E+01	1.677E+01	1.010E+00	0.132
	1325.50			2.821E+01	7.851E+01	1.340E+02	9.736E+00	0.210
SB-124	1376.25			4.269E+01	7.963E+01	1.376E+02	1.006E+01	0.310
	1509.49			3.551E+01	3.436E+01	6.486E+01	4.599E+00	0.547
	1691.02			8.578E+00	8.635E+00	1.695E+01	1.107E+00	0.506
	602.71			1.468E-02	5.552E-02	8.057E-02	4.417E-03	0.182
	645.85			-4.208E-01	6.223E-01	9.069E-01	5.474E-02	-0.464
	709.31			6.359E-02	3.538E+00	5.715E+00	3.324E-01	0.011
	713.82			-1.055E+00	2.164E+00	3.318E+00	3.404E-01	-0.318
	722.78			1.021E-01	5.429E-01	7.726E-01	4.859E-02	0.132
	968.20	+		1.029E+01	5.458E+00	8.591E+00	7.284E-01	1.197
	1045.16			2.186E+00	3.275E+00	5.762E+00	4.375E-01	0.379
	1325.50			1.389E+00	3.864E+00	6.597E+00	4.791E-01	0.210
	1368.21			1.473E+00	2.523E+00	4.397E+00	5.576E-01	0.335
SB-125	1436.60			1.384E+00	4.831E+00	8.172E+00	5.910E-01	0.169
	1691.02	*		9.324E-02	9.388E-02	1.842E-01	1.285E-02	0.506
	427.89	*		-5.086E-02	1.168E-01	1.874E-01	1.140E-02	-0.271
	463.38	+		9.143E-01	3.593E-01	6.808E-01	4.639E-02	1.343
	600.56			1.971E-01	2.329E-01	3.745E-01	2.413E-02	0.526
TE-125M	635.90			3.826E-01	3.583E-01	6.315E-01	4.016E-02	0.606
	109.28	*		-1.121E+01	1.201E+01	1.897E+01	1.695E+00	-0.591
	388.63			-2.420E-02	3.151E-01	5.214E-01	3.016E-02	-0.046
I-126	666.33	*		1.492E-01	2.812E-01	4.224E-01	2.186E-02	0.353
	753.82			4.075E-01	2.293E+00	3.748E+00	2.445E-01	0.109
	223.80			1.353E+00	6.515E+00	1.059E+01	5.850E-01	0.128
	278.60			2.589E+00	3.839E+00	6.676E+00	3.884E-01	0.388
	296.50			1.755E+01	3.734E+00	5.504E+00	3.231E-01	3.189
	414.70			1.468E-03	1.136E-01	1.885E-01	1.097E-02	0.008
	415.30			-5.698E-01	9.338E+00	1.541E+01	8.973E-01	-0.037
	555.20			9.582E-01	5.882E+00	9.748E+00	5.545E-01	0.098
	573.80			-7.394E-01	1.682E+00	2.467E+00	1.386E-01	-0.300
	593.00			-3.435E-01	1.400E+00	2.229E+00	1.232E-01	-0.154
SB-126	656.30			-2.993E+00	5.814E+00	7.529E+00	3.876E-01	-0.397
	666.33			6.289E-02	1.186E-01	1.781E-01	9.217E-03	0.353
	675.00			1.600E+00	2.899E+00	4.937E+00	2.617E-01	0.324
	695.00			-6.442E-02	1.234E-01	1.895E-01	1.061E-02	-0.340
	697.00			2.250E-01	4.226E-01	7.140E-01	4.019E-02	0.315
	720.50	*		-2.699E-02	2.696E-01	3.692E-01	2.211E-02	-0.073
	856.80			3.119E-01	7.440E-01	1.137E+00	9.461E-02	0.274
	989.30			1.410E+00	1.867E+00	3.331E+00	2.750E-01	0.423
	1034.80			-7.965E+00	1.259E+01	1.917E+01	1.480E+00	-0.416
	1213.00			1.181E+00	6.369E+00	1.063E+01	6.433E-01	0.111
	61.10			1.517E+02	1.885E+02	2.883E+02	3.589E+01	0.526
	252.40			2.731E+00	1.104E+01	1.785E+01	7.475E+00	0.153

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	290.80			4.082E+00	5.623E+01	8.296E+01	8.851E+00	0.049
	411.60			1.110E+01	3.135E+01	5.308E+01	8.155E+00	0.209
	444.90			9.309E+00	2.418E+01	4.102E+01	4.961E+00	0.227
	473.00			4.997E-01	3.959E+00	6.588E+00	8.195E-01	0.076
	543.00			1.359E+00	4.062E+01	6.665E+01	9.307E+00	0.020
	603.60			7.445E+00	3.256E+01	4.701E+01	5.589E+00	0.158
	685.20	*		3.226E-01	3.368E+00	5.490E+00	5.869E-01	0.059
	698.50			4.499E+01	3.855E+01	6.759E+01	1.041E+01	0.666
	722.20			-2.954E+00	8.536E+01	1.179E+02	1.268E+01	-0.025
	783.80			1.270E+01	9.245E+00	1.698E+01	2.138E+00	0.748
XE-127	57.60			6.875E+00	1.048E+01	1.681E+01	1.473E+00	0.409
	145.22			7.564E-01	9.863E-01	1.660E+00	8.954E-02	0.456
	172.10			7.048E-02	1.550E-01	2.573E-01	1.321E-02	0.274
	202.84	*		9.189E-03	6.585E-02	1.034E-01	5.552E-03	0.089
	374.96			-5.982E-02	2.577E-01	4.227E-01	2.466E-02	-0.142
I-131	80.18			-7.812E+00	8.634E+00	1.198E+01	1.108E+00	-0.652
	284.30			-1.396E+00	2.491E+00	4.067E+00	2.654E-01	-0.343
	364.48	*		-5.945E-02	1.976E-01	3.231E-01	2.125E-02	-0.184
	636.97			2.080E+00	2.859E+00	4.917E+00	2.989E-01	0.423
	722.89			3.434E+00	1.398E+01	2.004E+01	1.232E+00	0.171
TE-132	49.72			-6.361E+01	7.685E+01	1.242E+02	1.467E+01	-0.512
	111.76			1.871E+01	8.303E+01	1.381E+02	1.470E+01	0.135
	116.30			-2.655E+01	7.762E+01	1.259E+02	1.312E+01	-0.211
	228.16	*		-1.607E+00	1.979E+00	3.019E+00	4.567E-01	-0.532
BA-133	53.15			2.575E+00	5.721E+00	9.784E+00	8.630E-01	0.263
	79.62			-4.493E-01	1.773E+00	2.560E+00	3.974E-01	-0.176
	81.00			9.244E-02	1.562E-01	1.753E-01	2.842E-02	0.527
	276.40			3.483E-01	5.262E-01	8.060E-01	1.045E-01	0.432
	302.84			-4.131E-02	2.014E-01	2.902E-01	3.395E-02	-0.142
	356.01	*		-2.952E-02	5.682E-02	7.817E-02	9.070E-03	-0.378
	383.85			-2.308E-02	3.781E-01	6.266E-01	6.813E-02	-0.037
I-133	510.53	+		2.528E+01	3.781E-01	Half-Life	too short	
	529.87	*		-1.794E-01	3.781E-01	Half-Life	too short	
	706.58			3.298E-01	3.781E-01	Half-Life	too short	
	856.28			3.705E+00	3.781E-01	Half-Life	too short	
	875.33			3.421E-01	3.781E-01	Half-Life	too short	
	1236.41			1.143E+01	3.781E-01	Half-Life	too short	
	1298.22			6.670E+00	3.781E-01	Half-Life	too short	
CS-134	475.35			9.772E-01	2.266E+00	3.855E+00	2.257E-01	0.253
	563.23			-7.786E-03	4.496E-01	7.331E-01	4.240E-02	-0.011
	569.32			5.845E-03	2.520E-01	4.122E-01	2.396E-02	0.014
	604.70			9.857E-03	4.928E-02	7.083E-02	3.899E-03	0.139
	795.84	*		3.667E-02	5.717E-02	1.009E-01	7.368E-03	0.363
	801.93			-1.085E-01	5.120E-01	8.243E-01	6.092E-02	-0.132
	1038.57			2.717E+00	4.596E+00	8.068E+00	6.193E-01	0.337
	1167.94			1.690E+00	3.116E+00	5.388E+00	3.089E-01	0.314
	1365.15			5.279E-01	1.632E+00	2.767E+00	2.152E-01	0.191
CS-135	268.24	*		4.616E-01	2.280E-01	3.621E-01	2.766E-02	1.275
I-135	288.45			3.238E+14	2.280E-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			-3.126E+14	2.280E-01	Half-Life	too short	
	546.56			1.128E+14	2.280E-01	Half-Life	too short	
	836.80			2.827E+14	2.280E-01	Half-Life	too short	
	1038.76			2.713E+14	2.280E-01	Half-Life	too short	
	1124.00			-1.450E+14	2.280E-01	Half-Life	too short	
	1131.51			1.802E+13	2.280E-01	Half-Life	too short	
	1260.41	*		-1.050E+14	2.280E-01	Half-Life	too short	
	1457.56			1.613E+16	2.280E-01	Half-Life	too short	
	1678.03			2.311E+14	2.280E-01	Half-Life	too short	
	1706.46			3.179E+14	2.280E-01	Half-Life	too short	
	1791.20			1.507E+14	2.280E-01	Half-Life	too short	
CS-136	66.91			-3.897E-01	1.559E+00	2.107E+00	3.262E-01	-0.185
	86.29	+		6.099E+00	2.155E+00	3.359E+00	4.550E-01	1.816
	153.22			-7.234E-02	1.024E+00	1.667E+00	1.135E-01	-0.043
	163.89			-2.310E-02	1.588E+00	2.584E+00	1.739E-01	-0.009
	176.55			-1.997E-02	5.615E-01	9.106E-01	5.434E-02	-0.022
	273.65			-2.352E-01	8.050E-01	1.093E+00	7.233E-02	-0.215
	340.57			4.416E-01	2.195E-01	3.641E-01	2.283E-02	1.213
	818.51			-2.941E-02	1.144E-01	1.868E-01	1.427E-02	-0.157
	1048.07	*		-3.988E-02	1.649E-01	2.649E-01	2.112E-02	-0.151
	1235.34			1.231E+00	9.535E-01	1.717E+00	1.765E-01	0.717
CE-139	165.85	*		-8.743E-04	3.643E-02	5.925E-02	3.021E-03	-0.015
BA-140	162.64			-3.907E-01	1.131E+00	1.813E+00	1.078E-01	-0.216
	304.84			6.329E-01	2.174E+00	3.245E+00	8.862E-01	0.195
	423.70			3.388E+00	3.035E+00	5.080E+00	1.615E+00	0.667
	537.32	*		-9.605E-02	3.883E-01	6.203E-01	2.017E-01	-0.155
LA-140	328.77			7.150E-01	4.527E-01	8.165E-01	5.384E-02	0.876
	432.53			2.423E+00	3.151E+00	5.483E+00	3.535E-01	0.442
	487.03			7.583E-02	2.158E-01	3.641E-01	2.405E-02	0.208
	751.79			-4.029E-01	2.727E+00	4.317E+00	3.312E-01	-0.093
	815.85			-1.173E-01	5.074E-01	8.314E-01	7.226E-02	-0.141
	867.82			3.107E+00	2.196E+00	3.784E+00	3.401E-01	0.821
	919.63			3.698E-01	3.920E+00	6.585E+00	7.177E-01	0.056
	925.24			5.073E-01	1.682E+00	2.881E+00	2.711E-01	0.176
	1596.49	*		-2.420E-01	1.270E-01	1.275E-01	8.744E-03	-1.898
CE-141	145.44	*		6.046E-02	8.981E-02	1.507E-01	8.497E-03	0.401
CE-143	57.37			-1.154E-03	8.981E-02	Half-Life	too short	
	231.56			1.647E-02	8.981E-02	Half-Life	too short	
	293.26	*		1.103E-02	8.981E-02	Half-Life	too short	
	350.59	+		2.302E-01	8.981E-02	Half-Life	too short	
	490.36	+		-4.554E-03	8.981E-02	Half-Life	too short	
	664.57			5.163E-03	8.981E-02	Half-Life	too short	
	721.93			-6.550E-04	8.981E-02	Half-Life	too short	
CE-144	80.11			-2.372E+00	2.871E+00	4.005E+00	3.671E-01	-0.592
	133.54	*		-1.377E-01	2.590E-01	4.140E-01	5.846E-02	-0.333
PM-144	476.78			-2.244E-02	8.243E-02	1.329E-01	9.285E-03	-0.169
	618.01			-4.763E-03	4.159E-02	6.691E-02	3.862E-03	-0.071
	696.49	*		1.892E-02	4.428E-02	7.415E-02	4.173E-03	0.255
	778.57			-3.142E+00	2.880E+00	4.340E+00	3.011E-01	-0.724

---- 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	*	1.285E+00	3.007E+00	5.035E+00	2.830E-01	0.255
		1489.15		-1.084E+01	1.533E+01	2.143E+01	1.530E+00	-0.506
PM-146		453.90	*	2.630E-04	5.218E-02	8.618E-02	7.464E-03	0.003
		633.02		-6.147E-01	1.987E+00	3.075E+00	1.130E+00	-0.200
		735.90		-8.905E-02	1.940E-01	2.953E-01	8.261E-02	-0.302
		747.13		9.672E-02	1.127E-01	1.955E-01	2.503E-02	0.495
ND-147		91.11		4.962E-01	7.974E-01	9.093E-01	8.940E-02	0.546
		319.41		2.313E+00	5.023E+00	8.645E+00	5.109E-01	0.268
		439.89		-6.139E+00	9.414E+00	1.483E+01	8.682E-01	-0.414
		531.02	*	-5.020E-01	9.104E-01	1.419E+00	1.917E-01	-0.354
PM-149		285.90	*	7.834E-05	9.104E-01	Half-Life	too short	
EU-152		121.78		-1.054E-01	9.144E-02	1.422E-01	1.094E-02	-0.741
		244.69		-1.616E-01	4.489E-01	6.093E-01	3.447E-02	-0.265
		344.27	*	-3.125E-02	1.282E-01	1.914E-01	1.268E-02	-0.163
		443.98		4.824E-01	1.190E+00	2.023E+00	1.184E-01	0.238
		778.89		-3.304E-01	3.328E-01	5.074E-01	3.521E-02	-0.651
		867.32		1.413E+00	1.071E+00	1.826E+00	1.555E-01	0.774
	+	964.01		7.862E-01	5.482E-01	7.085E-01	6.037E-02	1.110
		1085.78		-1.320E-01	4.887E-01	7.802E-01	5.490E-02	-0.169
		1112.02		2.343E-01	4.594E-01	6.971E-01	4.633E-02	0.336
		1407.95		1.598E-01	2.144E-01	3.864E-01	2.810E-02	0.413
GD-153		69.67		-1.717E-01	2.454E+00	3.596E+00	3.142E-01	-0.048
	+	83.37		1.627E+01	2.045E+01	3.024E+01	2.839E+00	0.538
		97.43	*	1.075E-01	1.066E-01	1.630E-01	1.331E-02	0.660
		103.18		4.605E-02	1.315E-01	2.204E-01	1.647E-02	0.209
EU-154		123.07		-3.397E-02	6.405E-02	1.028E-01	9.702E-03	-0.331
		247.94		-1.853E-01	4.780E-01	6.862E-01	6.495E-02	-0.270
		591.81		-4.697E-01	7.789E-01	1.199E+00	1.153E-01	-0.392
		723.30		1.635E-01	2.487E-01	3.745E-01	2.724E-02	0.437
		756.87		-1.189E-01	9.434E-01	1.495E+00	1.585E-01	-0.080
		873.19		-4.440E-01	3.567E-01	5.065E-01	6.205E-02	-0.877
		996.32		-3.888E-01	4.718E-01	7.049E-01	1.238E-01	-0.552
		1004.76		-3.519E-01	2.695E-01	3.765E-01	4.235E-02	-0.934
		1274.45	*	-6.530E-02	1.433E-01	2.194E-01	2.178E-02	-0.298
EU-155		48.70		-1.968E+00	4.225E+00	6.969E+00	5.621E-01	-0.282
		60.01		4.119E+00	7.991E+00	1.212E+01	1.052E+00	0.340
	+	86.54		4.588E-01	1.562E-01	2.497E-01	2.427E-02	1.837
		105.31	*	4.130E-02	1.341E-01	2.242E-01	1.653E-02	0.184
TB-160	+	86.79		1.270E+00	4.323E-01	6.863E-01	6.631E-02	1.851
		197.04		4.916E-01	6.992E-01	1.169E+00	6.221E-02	0.421
		215.65		4.836E-01	9.401E-01	1.555E+00	8.495E-02	0.311
		298.57		2.679E-01	2.165E-01	2.531E-01	1.487E-02	1.059
		879.36	*	-3.159E-02	1.729E-01	2.829E-01	2.474E-02	-0.112
		962.29		4.578E-01	7.254E-01	1.264E+00	1.080E-01	0.362
		966.15		1.130E+00	3.581E-01	6.859E-01	5.830E-02	1.647
		1177.93		3.433E-01	4.422E-01	7.834E-01	4.457E-02	0.438
		1271.85		1.122E-01	8.317E-01	1.379E+00	9.207E-02	0.081
HO-166M		80.57		2.955E-01	4.328E-01	4.912E-01	4.517E-02	0.602
	+	184.41		2.086E-01	7.773E-02	8.708E-02	4.551E-03	2.395

---- 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		-3.562E-02	1.035E-01	1.715E-01	9.989E-03	-0.208
		410.95		3.622E-01	3.085E-01	5.477E-01	3.184E-02	0.661
		711.68	*	-2.857E-02	7.688E-02	1.195E-01	6.992E-03	-0.239
		752.31		2.113E-02	3.466E-01	5.602E-01	3.640E-02	0.038
		810.29		-2.775E-02	7.484E-02	1.211E-01	9.058E-03	-0.229
		51.35		-1.907E+01	5.026E+01	8.313E+01	7.226E+00	-0.229
		52.39		1.676E+01	2.549E+01	4.393E+01	3.859E+00	0.382
		59.40		3.868E+01	4.303E+01	6.647E+01	5.774E+00	0.582
		66.72	*	-1.377E+01	4.355E+01	6.289E+01	5.469E+00	-0.219
		88.36		9.021E-01	3.070E-01	5.053E-01	4.898E-02	1.785
LU-176	+	201.83		-2.293E-02	3.642E-02	5.706E-02	3.058E-03	-0.402
		306.84	*	5.904E-03	3.541E-02	5.248E-02	3.092E-03	0.113
		401.10		1.005E+01	8.206E+00	1.465E+01	8.487E-01	0.686
LU-177		112.95		2.947E+00	2.961E+00	5.069E+00	3.324E-01	0.581
	+	208.36	*	4.272E+00	2.511E+00	3.552E+00	1.922E-01	1.203
LU-177M		52.97		1.076E+00	2.660E+00	4.541E+00	4.003E-01	0.237
		54.07		-6.050E-02	1.373E+00	2.302E+00	2.034E-01	-0.026
		61.30		6.604E-01	2.538E+00	3.783E+00	3.286E-01	0.175
		121.62		-4.661E-01	4.723E-01	7.420E-01	4.386E-02	-0.628
		147.16		-1.191E-01	8.713E-01	1.416E+00	7.598E-02	-0.084
		171.86		2.616E-01	5.893E-01	9.780E-01	5.021E-02	0.268
		218.09		-7.043E-01	1.084E+00	1.687E+00	9.246E-02	-0.418
	+	268.79		3.329E+00	1.397E+00	1.870E+00	1.081E-01	1.780
		319.02		1.817E-01	3.081E-01	5.341E-01	3.154E-02	0.340
		367.43		8.161E-02	1.145E+00	1.917E+00	1.123E-01	0.043
HF-181		413.65	*	-1.142E-01	2.302E-01	3.692E-01	2.148E-02	-0.309
		56.28		-1.208E+00	1.560E+00	2.530E+00	2.228E-01	-0.478
		57.53		1.470E-01	8.892E-01	1.396E+00	1.223E-01	0.105
		65.20		-1.870E-01	1.569E+00	2.291E+00	1.990E-01	-0.082
		133.02		-1.165E-01	8.990E-02	1.391E-01	7.807E-03	-0.838
		136.25		2.949E-01	5.832E-01	9.765E-01	5.420E-02	0.302
W-181		345.85		-2.808E-01	2.939E-01	3.907E-01	2.305E-02	-0.719
		482.03	*	-2.877E-02	5.724E-02	9.056E-02	5.297E-03	-0.318
		56.28		-4.529E-01	5.856E-01	9.501E-01	8.366E-02	-0.477
		57.53		5.479E-02	3.342E-01	5.246E-01	4.597E-02	0.104
		65.20	*	-6.974E-02	5.848E-01	8.542E-01	7.421E-02	-0.082
		67.75		5.413E-02	1.984E-01	2.522E-01	2.196E-02	0.215
TA-182		100.10		1.324E-02	2.191E-01	3.634E-01	2.844E-02	0.036
		152.43		1.495E-01	4.350E-01	7.204E-01	3.807E-02	0.208
		222.10		4.499E-01	4.482E-01	7.566E-01	4.169E-02	0.595
		1001.68		2.405E+00	2.533E+00	4.571E+00	3.711E-01	0.526
		1121.28		5.013E-01	2.423E-01	4.177E-01	2.717E-02	1.200
		1189.05		3.356E-01	3.562E-01	6.422E-01	3.726E-02	0.523
RE-183		1221.42	*	1.611E-02	2.410E-01	3.965E-01	2.434E-02	0.041
		1230.97		6.376E-02	6.679E-01	1.100E+00	6.863E-02	0.058
		57.98		3.089E-01	3.444E-01	5.326E-01	4.658E-02	0.580
		59.32		1.661E-01	1.836E-01	2.836E-01	2.465E-02	0.586
		67.20		-1.538E-01	3.417E-01	4.562E-01	3.969E-02	-0.337
		162.32	*	1.952E-02	1.380E-01	2.263E-01	1.164E-02	0.086

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.666E+00	1.566E+00	2.222E+00	1.203E-01	1.199
		291.72		3.844E-01	1.291E+00	1.937E+00	1.135E-01	0.198
		57.98		1.113E+00	1.241E+00	1.919E+00	1.678E-01	0.580
		59.32		5.978E-01	6.607E-01	1.021E+00	8.872E-02	0.586
		67.20		-5.537E-01	1.231E+00	1.643E+00	1.429E-01	-0.337
		161.27		4.915E-02	4.350E-01	7.124E-01	3.675E-02	0.069
		216.55		8.252E-02	3.326E-01	5.427E-01	2.969E-02	0.152
		252.85	*	1.853E-01	2.892E-01	4.802E-01	2.738E-02	0.386
		318.01		-2.791E-01	5.442E-01	8.850E-01	5.226E-02	-0.315
		792.07		9.070E-01	1.185E+00	2.117E+00	1.516E-01	0.429
		903.28		1.847E-02	1.300E+00	1.900E+00	1.722E-01	0.010
		920.93		1.147E-02	5.325E-01	8.874E-01	7.915E-02	0.013
OS-185		59.72		2.599E-01	4.920E-01	7.464E-01	6.482E-02	0.348
		61.14		1.787E-01	2.748E-01	4.183E-01	3.634E-02	0.427
		69.30		2.146E-01	4.419E-01	6.654E-01	5.809E-02	0.322
		592.07		-1.496E+00	3.162E+00	4.927E+00	2.726E-01	-0.304
		646.12	*	-4.209E-02	5.386E-02	7.790E-02	4.066E-03	-0.540
		717.42		7.799E-01	1.245E+00	1.954E+00	1.161E-01	0.399
		874.81		-2.448E-01	6.910E-01	1.108E+00	9.592E-02	-0.221
		880.27		-6.901E-02	9.674E-01	1.601E+00	1.403E-01	-0.043
		155.03	*	2.216E-01	2.251E-01	3.819E-01	2.004E-02	0.580
		477.96		-4.098E-01	3.942E+00	6.440E+00	3.768E-01	-0.064
RE-188		633.10		-1.240E+00	4.147E+00	6.467E+00	3.430E-01	-0.192
	+	63.58		8.092E+01	1.114E+02	1.352E+02	1.174E+01	0.598
		227.08		-9.534E+00	1.641E+01	2.555E+01	1.417E+00	-0.373
W-188	+	290.67	*	8.654E-01	1.002E+01	1.480E+01	8.667E-01	0.058
		295.96		1.276E+00	2.256E-01	3.588E-01	2.139E-02	3.557
IR-192	+	308.46		4.556E-02	1.303E-01	2.114E-01	1.260E-02	0.215
		316.51	*	-1.703E-02	4.266E-02	6.989E-02	4.146E-03	-0.244
		468.07		-1.706E-02	8.533E-02	1.250E-01	8.420E-03	-0.137
		604.41		3.397E-02	6.817E-01	9.635E-01	1.078E-01	0.035
		612.46		4.167E-01	1.097E+00	1.604E+00	1.170E-01	0.260
AU-195		65.12		-1.325E-02	2.698E-01	3.955E-01	3.436E-02	-0.033
		66.83		-4.924E-02	1.452E-01	2.095E-01	1.822E-02	-0.235
	+	75.70		1.688E+00	3.551E-01	6.534E-01	5.835E-02	2.584
		98.88	*	-5.958E-02	3.043E-01	4.594E-01	3.666E-02	-0.130
		129.76		5.527E+00	3.727E+00	6.445E+00	3.663E-01	0.858
TL-200		367.94	*	3.219E-03	3.727E+00	Half-Life too short		
		579.30		9.488E-02	3.727E+00	Half-Life too short		
		828.27		-1.949E-02	3.727E+00	Half-Life too short		
		1205.75		2.649E-02	3.727E+00	Half-Life too short		
TL-201		68.90		9.528E+00	1.812E+01	2.561E+01	2.234E+00	0.372
		70.82		4.535E+00	9.566E+00	1.438E+01	1.260E+00	0.315
		80.30		-1.661E+01	1.630E+01	2.243E+01	2.059E+00	-0.741
		135.34		1.727E+01	7.490E+01	1.240E+02	6.903E+00	0.139
TL-202		167.43	*	-1.816E+00	2.054E+01	3.329E+01	1.699E+00	-0.055
		68.90		4.390E-01	8.350E-01	1.180E+00	1.029E-01	0.372
		70.82		2.084E-01	4.396E-01	6.607E-01	5.789E-02	0.315
		80.30		-7.637E-01	7.491E-01	1.031E+00	9.463E-02	-0.741

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	-6.761E-02	1.072E-01	1.690E-01	9.885E-03	-0.400
		70.83		7.684E-01	1.620E+00	2.431E+00	3.330E-01	0.316
		72.87		3.415E+00	1.111E+00	1.689E+00	2.252E-01	2.023
	+	82.60		1.268E+00	1.599E+00	2.333E+00	3.313E-01	0.543
		279.20	*	1.046E-02	5.344E-02	9.096E-02	5.619E-03	0.115
		72.80		8.663E-01	2.888E-01	4.603E-01	4.059E-02	1.882
BI-207	+	74.97		9.230E-01	1.941E-01	3.286E-01	2.924E-02	2.809
		84.90		7.524E-01	3.517E-01	4.330E-01	4.116E-02	1.738
		569.67		1.672E-02	3.718E-02	6.293E-02	3.545E-03	0.266
		1063.62	*	2.038E-02	6.244E-02	1.066E-01	7.830E-03	0.191
		1770.23		-1.592E+00	7.744E-01	7.941E-01	4.917E-02	-2.005
		81.07		2.010E-01	3.432E-01	3.861E-01	3.562E-02	0.521
TL-207	+	83.78		1.372E-01	1.725E-01	2.550E-01	2.402E-02	0.538
		94.90		4.173E-01	3.260E-01	5.023E-01	4.286E-02	0.831
		122.32		-2.546E+00	2.162E+00	3.360E+00	2.273E-01	-0.758
		144.24		1.066E+00	9.219E-01	1.536E+00	1.063E-01	0.694
		154.21		3.051E-01	4.970E-01	8.315E-01	5.465E-02	0.367
	+	269.46		7.663E-01	3.218E-01	4.393E-01	2.655E-02	1.744
		323.87	*	-9.342E-01	8.415E-01	1.298E+00	2.149E-01	-0.720
	+	338.28		7.973E+00	2.103E+00	3.083E+00	3.265E-01	2.586
		445.03		1.045E+00	2.783E+00	4.719E+00	4.861E-01	0.221
PO-209		260.50		1.035E+01	1.168E+01	1.964E+01	1.127E+00	0.527
		262.80		-1.827E+01	3.330E+01	5.144E+01	2.959E+00	-0.355
		896.60	*	3.236E+00	8.979E+00	1.548E+01	1.405E+00	0.209
BI-210		46.50	*	-1.145E+00	6.681E+00	1.095E+01	8.529E-01	-0.105
PB-210		46.50	*	-1.145E+00	6.681E+00	1.095E+01	8.529E-01	-0.105
PO-210		46.50	*	-1.145E+00	6.680E+00	1.095E+01	7.349E-01	-0.105
PB-211		404.84	*	-2.480E+00	1.975E+00	1.707E+00	1.064E+00	-1.453
		427.08		-1.508E+00	2.743E+00	4.097E+00	2.533E+00	-0.368
		831.96		2.206E-01	1.492E+00	2.518E+00	1.576E+00	0.088
	+	727.18	*	1.295E+00	6.317E-01	7.502E-01	5.955E-02	1.726
BI-212		785.46		1.355E+00	2.207E+00	3.886E+00	2.740E-01	0.349
		1620.62		-4.486E-01	1.921E+00	2.796E+00	1.896E-01	-0.160
		81.07		2.010E-01	3.432E-01	3.861E-01	3.562E-02	0.521
PO-215	+	83.78		1.372E-01	1.725E-01	2.550E-01	2.402E-02	0.538
		94.90		4.173E-01	3.260E-01	5.023E-01	4.286E-02	0.831
		122.32		-2.546E+00	2.162E+00	3.360E+00	2.273E-01	-0.758
		144.24		1.066E+00	9.219E-01	1.536E+00	1.063E-01	0.694
		154.21		3.051E-01	4.970E-01	8.315E-01	5.465E-02	0.367
	+	269.46		7.663E-01	3.218E-01	4.393E-01	2.655E-02	1.744
		323.87	*	-9.342E-01	8.415E-01	1.298E+00	2.149E-01	-0.720
	+	338.28		7.973E+00	2.103E+00	3.083E+00	3.265E-01	2.586
		445.03		1.045E+00	2.783E+00	4.719E+00	4.861E-01	0.221
RN-219	+	271.23		9.832E-01	4.163E-01	5.456E-01	4.417E-02	1.802
		401.81	*	3.030E-01	4.911E-01	8.459E-01	1.151E-01	0.358
		549.76	*	-2.482E+01	3.063E+01	4.631E+01	2.643E+00	-0.536
RN-220		81.07		2.010E-01	3.432E-01	3.861E-01	3.562E-02	0.521
RA-223	+	83.78		1.372E-01	1.725E-01	2.550E-01	2.402E-02	0.538
		94.90		4.173E-01	3.260E-01	5.023E-01	4.286E-02	0.831

----- 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		-2.546E+00	2.162E+00	3.360E+00	2.273E-01	-0.758
		144.24		1.066E+00	9.219E-01	1.536E+00	1.063E-01	0.694
		154.21		3.051E-01	4.970E-01	8.315E-01	5.465E-02	0.367
	+	269.46		7.663E-01	3.218E-01	4.393E-01	2.655E-02	1.744
		323.87	*	-9.342E-01	8.415E-01	1.298E+00	2.149E-01	-0.720
	+	338.28		7.973E+00	2.103E+00	3.083E+00	3.265E-01	2.586
		445.03		1.045E+00	2.783E+00	4.719E+00	4.861E-01	0.221
		79.80		-1.051E+00	2.238E+00	3.179E+00	6.905E-01	-0.331
		236.00		2.215E+00	4.654E-01	7.208E-01	7.457E-02	3.074
		256.20	*	-2.885E-01	4.819E-01	7.414E-01	1.032E-01	-0.389
		286.10		1.369E-01	1.804E+00	3.052E+00	3.535E-01	0.045
	+	299.80		4.373E+00	3.085E+00	3.201E+00	5.222E-01	1.366
TH-227		304.40		5.546E-01	2.586E+00	3.845E+00	6.662E-01	0.144
		334.20		-3.381E+00	3.257E+00	4.234E+00	7.777E-01	-0.799
		79.80		-1.051E+00	2.238E+00	3.179E+00	6.992E-01	-0.331
	+	94.00		5.026E+00	5.064E+00	4.888E+00	1.066E+00	1.028
		236.00		2.215E+00	4.508E-01	7.208E-01	6.439E-02	3.074
		256.20	*	-2.885E-01	4.827E-01	7.414E-01	1.251E-01	-0.389
		286.10		1.369E-01	1.809E+00	3.052E+00	3.057E+00	0.045
	+	299.80		4.373E+00	3.085E+00	3.201E+00	5.222E-01	1.366
		304.40		5.546E-01	2.586E+00	3.845E+00	6.662E-01	0.144
		334.20		-3.381E+00	3.257E+00	4.234E+00	7.777E-01	-0.799
	+	85.43		8.529E-01	2.902E-01	4.572E-01	4.365E-02	1.866
		88.47		1.186E-01	2.652E-01	2.884E-01	2.789E-02	0.411
TH-229		100.00		1.653E-03	2.217E-01	3.669E-01	2.876E-02	0.005
		193.63	*	-2.242E-01	6.118E-01	9.720E-01	5.149E-02	-0.231
		210.97		7.359E-01	1.069E+00	1.566E+00	8.505E-02	0.470
		283.67	*	-1.798E+00	1.855E+00	2.936E+00	4.050E-01	-0.612
	+	301.29		1.749E+00	1.215E+00	1.276E+00	1.340E-01	1.371
		81.07		2.010E-01	3.432E-01	3.861E-01	3.562E-02	0.521
	+	83.78		1.372E-01	1.725E-01	2.550E-01	2.402E-02	0.538
		94.90		4.173E-01	3.260E-01	5.023E-01	4.286E-02	0.831
		122.32		-2.546E+00	2.162E+00	3.360E+00	2.273E-01	-0.758
		144.24		1.066E+00	9.219E-01	1.536E+00	1.063E-01	0.694
		154.21		3.051E-01	4.970E-01	8.315E-01	5.465E-02	0.367
	+	269.46		7.663E-01	3.218E-01	4.393E-01	2.655E-02	1.744
U-231		323.87	*	-9.342E-01	8.415E-01	1.298E+00	2.149E-01	-0.720
	+	338.28		7.973E+00	2.103E+00	3.083E+00	3.265E-01	2.586
		445.03		1.045E+00	2.783E+00	4.719E+00	4.861E-01	0.221
	+	84.21		1.126E+01	1.416E+01	2.167E+01	2.048E+00	0.520
	+	92.29		9.464E+00	9.346E+00	1.003E+01	8.975E-01	0.944
		95.87	*	-3.765E-01	2.798E+00	4.041E+00	3.390E-01	-0.093
		108.00		-1.828E+00	4.803E+00	7.802E+00	5.452E-01	-0.234
	+	75.28		2.693E+01	6.616E+00	1.016E+01	1.576E+00	2.651
	+	86.59		7.446E+00	3.162E+00	4.042E+00	1.098E+00	1.842
	+	300.12		1.219E+00	8.529E-01	9.038E-01	1.218E-01	1.349
		311.98	*	2.296E-03	7.682E-02	1.292E-01	8.077E-03	0.018
		340.50		1.988E+00	9.842E-01	1.477E+00	3.396E-01	1.346
		398.62		-6.053E-01	2.560E+00	4.177E+00	1.080E+00	-0.145

----- 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		3.761E-01	1.976E+00	3.316E+00	6.829E-01	0.113
	+	63.00		2.257E+00	3.121E+00	3.874E+00	6.018E-01	0.583
	+	94.67		4.482E-01	4.444E-01	3.790E-01	4.687E-02	1.182
		98.44		2.050E-02	1.274E-01	1.855E-01	1.033E-01	0.110
		99.86		-1.608E-01	5.707E-01	9.235E-01	7.255E-02	-0.174
		111.00		-3.994E-02	2.249E-01	3.681E-01	3.981E-02	-0.108
		131.20		5.725E-02	1.330E-01	2.219E-01	1.254E-02	0.258
		152.70		1.818E-02	4.134E-01	6.762E-01	1.057E-01	0.027
	+	186.00		7.508E+00	3.592E+00	3.230E+00	9.838E-01	2.324
		226.40		-1.114E-01	5.057E-01	8.040E-01	9.191E-02	-0.139
		227.20		-3.219E-01	5.324E-01	8.281E-01	4.592E-02	-0.389
		248.90		-1.595E-01	1.019E+00	1.617E+00	3.469E-01	-0.099
	+	293.70		7.745E+00	1.794E+00	2.178E+00	3.507E-01	3.557
		369.80		9.905E-01	1.064E+00	1.841E+00	3.837E-01	0.538
		568.70		-3.770E-02	1.259E+00	2.050E+00	1.156E-01	-0.018
		569.50		1.669E-01	3.314E-01	5.631E-01	3.173E-02	0.296
		574.00		-2.643E-01	1.864E+00	2.821E+00	1.584E-01	-0.094
		699.00		8.438E-01	9.150E-01	1.575E+00	2.825E-01	0.536
		706.10		-4.049E-02	1.283E+00	2.062E+00	9.101E-01	-0.020
		733.00		4.031E-03	5.248E-01	7.285E-01	1.557E-01	0.006
		742.81		9.185E-01	1.884E+00	3.002E+00	2.010E+00	0.306
		796.30		3.671E-01	1.113E+00	1.911E+00	5.091E-01	0.192
		805.60		-3.171E-01	1.251E+00	2.043E+00	6.195E-01	-0.155
		819.60		-9.494E-02	1.497E+00	2.489E+00	9.414E-01	-0.038
		826.30		-1.912E-02	9.799E-01	1.636E+00	7.295E-01	-0.012
		831.60		-7.964E-02	7.960E-01	1.319E+00	3.908E-01	-0.060
		876.40		3.948E-01	1.004E+00	1.603E+00	1.648E+00	0.246
		880.51		-1.507E-01	3.476E-01	5.539E-01	4.856E-02	-0.272
		883.24		6.646E-02	3.704E-01	6.233E-01	4.191E-01	0.107
		899.00		-1.216E+00	1.158E+00	1.499E+00	6.568E-01	-0.811
		925.00		7.218E-01	1.399E+00	2.447E+00	2.174E-01	0.295
		926.50		-6.678E-02	2.176E-01	3.492E-01	8.858E-02	-0.191
		946.00	*	-3.806E-01	3.870E-01	5.244E-01	9.859E-02	-0.726
		949.00		2.389E-01	5.006E-01	8.733E-01	7.569E-02	0.274
		980.50		3.033E-01	7.901E-01	1.367E+00	1.142E-01	0.222
		1394.10		-2.319E-01	1.404E+00	2.199E+00	1.428E+00	-0.105
PA-234M		766.42		1.130E+01	1.666E+01	2.662E+01	1.343E+01	0.424
		1001.03	*	6.286E+00	5.548E+00	1.016E+01	9.691E-01	0.619
U-235		89.95		-2.376E+00	2.653E+00	2.503E+00	7.778E-01	-0.949
	+	93.35		1.564E+00	1.599E+00	1.602E+00	4.498E-01	0.976
		105.00		7.912E-01	1.326E+00	2.209E+00	6.512E-01	0.358
		143.76	*	4.273E-01	2.862E-01	4.707E-01	7.613E-02	0.908
		163.35		-1.211E-01	5.671E-01	9.138E-01	1.625E-01	-0.133
	+	185.71		2.781E-01	1.036E-01	1.195E-01	6.256E-03	2.327
		205.31		-7.896E-02	7.438E-01	1.042E+00	1.860E-01	-0.076
NP-236	+	94.67		3.399E-01	3.357E-01	2.879E-01	2.466E-02	1.181
		98.44		1.550E-02	9.593E-02	1.403E-01	1.127E-02	0.111
		111.00		-3.021E-02	1.701E-01	2.784E-01	1.871E-02	-0.108
		160.31	*	-8.022E-02	9.899E-02	1.553E-01	8.031E-03	-0.517

----- 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		-8.269E-02	1.977E-01	3.073E-01	2.426E-02	-0.269
		117.00	*	-1.622E-01	2.317E-01	3.696E-01	2.307E-02	-0.439
	+	209.75		2.023E+00	1.189E+00	1.663E+00	9.014E-02	1.216
		228.18		-2.269E-01	2.800E-01	4.301E-01	2.388E-02	-0.528
		277.60		9.969E-02	2.375E-01	3.876E-01	2.254E-02	0.257
		334.30		-1.858E+00	1.818E+00	2.412E+00	1.425E-01	-0.771
AM-241		59.54	*	2.270E-01	2.486E-01	3.841E-01	3.574E-02	0.591
CM-243		99.55		-8.511E-02	2.035E-01	3.163E-01	2.497E-02	-0.269
		103.76	*	1.269E-01	1.177E-01	2.024E-01	1.500E-02	0.627
		117.00		-1.669E-01	2.384E-01	3.804E-01	2.374E-02	-0.439
	+	209.75		1.995E+00	1.172E+00	1.640E+00	8.889E-02	1.216
		228.18		-2.294E-01	2.830E-01	4.347E-01	2.413E-02	-0.528
		277.60		1.005E-01	2.395E-01	3.909E-01	2.273E-02	0.257
AM-246		798.80		-1.168E-01	1.737E-01	2.733E-01	1.989E-02	-0.427
		1036.00		-1.089E-01	3.307E-01	5.238E-01	4.037E-02	-0.208
		1062.04		8.143E-02	2.684E-01	4.574E-01	3.370E-02	0.178
		1078.86	*	-9.868E-04	1.574E-01	2.590E-01	1.848E-02	-0.004
CM-247		278.00		1.015E+00	9.034E-01	1.603E+00	9.321E-02	0.633
		287.40		1.177E+00	1.480E+00	2.539E+00	1.484E-01	0.464
		402.60	*	4.104E-02	4.638E-02	7.898E-02	4.578E-03	0.520
CF-249		252.85		6.842E-01	1.068E+00	1.773E+00	1.011E-01	0.386
		333.44		-1.391E-01	2.336E-01	3.228E-01	1.907E-02	-0.431
		387.95	*	1.057E-02	5.005E-02	8.433E-02	4.879E-03	0.125
CF-251		176.60	*	-8.034E-03	1.575E-01	2.552E-01	1.319E-02	-0.031
		227.00		-2.034E-01	4.704E-01	7.389E-01	4.097E-02	-0.275
		285.00		-8.895E-01	2.081E+00	3.425E+00	2.000E-01	-0.260

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]G245107008
* Acquisition date   : 1-FEB-2010 12:39:46 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 02:00:01.56 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107008 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.0797E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                  :
* LCS DPM              : 0.000 LCS Isotope                  :
* LCSD DPM            : 0.000 LCSD Isotope                  :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.132E+01	2.331E+00	5.796E-01	0.000E+00
CD-109	3.892E+00	1.298E+00	2.116E+00	0.000E+00
SN-126	3.804E-01	1.268E-01	1.852E-01	0.000E+00
BA-137M	1.342E-01	6.169E-02	6.835E-02	0.000E+00
CS-137	1.418E-01	6.522E-02	7.225E-02	0.000E+00
TL-208	5.592E-01	9.698E-02	7.511E-02	0.000E+00
BI-211	4.045E+00	5.908E-01	3.659E-01	0.000E+00
PB-212	1.622E+00	1.677E-01	1.080E-01	0.000E+00
PO-212	1.622E+00	1.677E-01	1.080E-01	0.000E+00
BI-214	1.372E+00	2.171E-01	1.425E-01	0.000E+00
PB-214	1.407E+00	2.178E-01	1.276E-01	0.000E+00
PO-214	1.407E+00	2.178E-01	1.276E-01	0.000E+00
PO-216	1.622E+00	1.677E-01	1.080E-01	0.000E+00
PO-218	1.407E+00	2.178E-01	1.276E-01	0.000E+00
RA-224	5.445E+00	1.543E+00	1.230E+00	0.000E+00
RA-226	1.372E+00	2.171E-01	1.425E-01	0.000E+00
AC-228	1.807E+00	4.011E-01	2.485E-01	0.000E+00
RA-228	1.807E+00	4.011E-01	2.485E-01	0.000E+00
TH-228	1.653E+00	1.710E-01	1.101E-01	0.000E+00
TH-230	1.372E+00	2.171E-01	1.424E-01	0.000E+00
TH-232	1.807E+00	4.011E-01	2.485E-01	0.000E+00
TH-234	1.936E+00	2.630E+00	2.990E+00	0.000E+00
U-234	1.372E+00	2.171E-01	1.424E-01	0.000E+00
NP-237	1.117E+00	4.356E-01	6.021E-01	0.000E+00
U-238	1.936E+00	2.630E+00	2.990E+00	0.000E+00
AM-243	5.141E-01	1.060E-01	1.150E-01	0.000E+00
ANH-511	1.089E-01	7.969E-02	5.672E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-6.038E-02	4.066E-01	6.761E-01	0.000E+00	NOT IDENT.
NA-22	-2.400E-02	5.030E-02	7.805E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	7.720E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-5.945E-03	3.342E-02	5.368E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.952E-02	1.024E-01	0.000E+00	FAIL ABUN
SC-46	-2.664E-02	5.177E-02	8.342E-02	0.000E+00	FAIL ABUN
V-48	-1.225E-01	9.478E-02	1.339E-01	0.000E+00	NOT IDENT.
CR-51	8.105E-02	4.783E-01	8.292E-01	0.000E+00	NOT IDENT.
MN-52	3.137E-01	4.632E-01	8.379E-01	0.000E+00	NOT IDENT.
MN-54	6.519E-03	4.714E-02	8.113E-02	0.000E+00	NOT IDENT.
CO-56	2.519E-03	4.337E-02	7.419E-02	0.000E+00	NOT IDENT.
CO-57	-3.890E-02	3.103E-02	4.961E-02	0.000E+00	NOT IDENT.
CO-58	-1.821E-02	5.072E-02	8.369E-02	0.000E+00	NOT IDENT.
FE-59	-1.823E-02	1.194E-01	1.964E-01	0.000E+00	NOT IDENT.
CO-60	-3.866E-02	4.967E-02	7.304E-02	0.000E+00	NOT IDENT.
ZN-65	5.364E-02	1.328E-01	2.009E-01	0.000E+00	NOT IDENT.
GE-68	-2.212E-01	1.357E+00	2.226E+00	0.000E+00	NOT IDENT.
AS-73	2.134E-01	1.345E+00	2.355E+00	0.000E+00	NOT IDENT.
AS-74	4.562E-02	1.247E-01	2.136E-01	0.000E+00	NOT IDENT.
SE-75	1.448E-02	6.097E-02	8.880E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.890E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-7.236E-01	5.140E-01	7.620E-01	0.000E+00	NOT IDENT.
RB-83	-3.236E-02	8.482E-02	1.375E-01	0.000E+00	NOT IDENT.
RB-84	-6.479E-02	9.256E-02	1.458E-01	0.000E+00	NOT IDENT.
KR-85	1.053E+01	8.718E+00	1.430E+01	0.000E+00	NOT IDENT.
SR-85	5.627E-02	4.658E-02	7.638E-02	0.000E+00	NOT IDENT.
RB-86	-5.846E-01	1.008E+00	1.568E+00	0.000E+00	NOT IDENT.
Y-88	-1.062E-02	4.863E-02	7.812E-02	0.000E+00	NOT IDENT.
ZR-88	8.932E-03	3.865E-02	6.664E-02	0.000E+00	NOT IDENT.
Y-91	1.792E+01	2.360E+01	4.211E+01	0.000E+00	NOT IDENT.
NB-94	-1.326E-02	4.172E-02	6.660E-02	0.000E+00	NOT IDENT.
NB-95	6.083E-02	5.882E-02	1.041E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.048E-01	3.322E-01	0.000E+00	NOT IDENT.
ZR-95	5.747E-02	8.496E-02	1.484E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.596E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.375E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.493E+01	3.894E+01	6.602E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.442E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.876E-03	4.124E-02	6.669E-02	0.000E+00	NOT IDENT.
RH-102	7.507E-03	3.419E-02	5.847E-02	0.000E+00	NOT IDENT.
RU-103	1.542E-04	5.048E-02	8.473E-02	0.000E+00	NOT IDENT.
RH-106	2.050E-01	3.826E-01	6.623E-01	0.000E+00	FAIL ABUN
RU-106	2.050E-01	3.820E-01	6.623E-01	0.000E+00	FAIL ABUN
AG-108M	2.729E-02	4.025E-02	7.108E-02	0.000E+00	NOT IDENT.
AG-110M	5.689E-03	5.038E-02	7.277E-02	0.000E+00	NOT IDENT.
IN-111	-5.899E-01	3.603E+00	5.098E+00	0.000E+00	NOT IDENT.
IN-113M	-2.161E-02	5.611E-02	9.304E-02	0.000E+00	NOT IDENT.
SN-113	-2.161E-02	5.611E-02	9.304E-02	0.000E+00	NOT IDENT.
IN-114M	2.291E-01	2.531E-01	3.897E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.500E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-8.667E-03	8.144E-02	1.359E-01	0.000E+00	NOT IDENT.
SB-122	-8.148E-01	7.006E+00	1.156E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.935E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.238E-02	3.539E-02	5.842E-02	0.000E+00	NOT IDENT.
I-124	4.618E-01	1.712E+00	2.533E+00	0.000E+00	NOT IDENT.
SB-124	9.324E-02	9.201E-02	1.829E-01	0.000E+00	FAIL ABUN
SB-125	-5.086E-02	1.144E-01	1.877E-01	0.000E+00	FAIL ABUN
TE-125M	-1.121E+01	1.177E+01	1.917E+01	0.000E+00	NOT IDENT.
I-126	1.492E-01	2.756E-01	4.219E-01	0.000E+00	NOT IDENT.
SB-126	-2.699E-02	2.642E-01	3.686E-01	0.000E+00	NOT IDENT.
SB-127	3.226E-01	3.300E+00	5.483E+00	0.000E+00	NOT IDENT.
XE-127	9.189E-03	6.453E-02	1.041E-01	0.000E+00	NOT IDENT.
I-131	-5.945E-02	1.936E-01	3.239E-01	0.000E+00	NOT IDENT.
TE-132	-1.607E+00	1.939E+00	3.036E+00	0.000E+00	NOT IDENT.
BA-133	-2.952E-02	5.568E-02	7.839E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.765E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.667E-02	5.602E-02	1.007E-01	0.000E+00	NOT IDENT.
CS-135	0.000E+00	2.235E-01	3.638E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.325E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.988E-02	1.616E-01	2.638E-01	0.000E+00	FAIL ABUN
CE-139	-8.743E-04	3.571E-02	5.970E-02	0.000E+00	NOT IDENT.
BA-140	-9.605E-02	3.806E-01	6.204E-01	0.000E+00	NOT IDENT.
LA-140	-2.420E-01	1.245E-01	1.266E-01	0.000E+00	NOT IDENT.
CE-141	6.046E-02	8.802E-02	1.519E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.077E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.377E-01	2.538E-01	4.177E-01	0.000E+00	NOT IDENT.
PM-144	1.892E-02	4.339E-02	7.404E-02	0.000E+00	NOT IDENT.
PR-144	1.285E+00	2.947E+00	5.028E+00	0.000E+00	NOT IDENT.

PM-146	2.630E-04	5.114E-02	8.629E-02	0.000E+00	NOT IDENT.
ND-147	-5.020E-01	8.922E-01	1.420E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	3.558E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.125E-02	1.257E-01	1.919E-01	0.000E+00	FAIL ABUN
GD-153	1.075E-01	1.045E-01	1.648E-01	0.000E+00	FAIL ABUN
EU-154	-6.530E-02	1.405E-01	2.182E-01	0.000E+00	NOT IDENT.
EU-155	4.130E-02	1.314E-01	2.265E-01	0.000E+00	FAIL ABUN
TB-160	-3.159E-02	1.695E-01	2.820E-01	0.000E+00	FAIL ABUN
HO-166M	-2.857E-02	7.534E-02	1.193E-01	0.000E+00	FAIL ABUN
TM-171	-1.377E+01	4.268E+01	6.373E+01	0.000E+00	NOT IDENT.
LU-176	5.904E-03	3.471E-02	5.267E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.460E+00	3.574E+00	0.000E+00	FAIL ABUN
LU-177M	-1.142E-01	2.256E-01	3.699E-01	0.000E+00	FAIL ABUN
HF-181	-2.877E-02	5.609E-02	9.064E-02	0.000E+00	NOT IDENT.
W-181	-6.974E-02	5.731E-01	8.657E-01	0.000E+00	NOT IDENT.
TA-182	1.611E-02	2.362E-01	3.945E-01	0.000E+00	NOT IDENT.
RE-183	1.952E-02	1.352E-01	2.280E-01	0.000E+00	FAIL ABUN
RE-184	1.853E-01	2.835E-01	4.826E-01	0.000E+00	NOT IDENT.
OS-185	-4.209E-02	5.278E-02	7.782E-02	0.000E+00	NOT IDENT.
RE-188	2.216E-01	2.206E-01	3.849E-01	0.000E+00	NOT IDENT.
W-188	8.654E-01	9.820E+00	1.486E+01	0.000E+00	FAIL ABUN
IR-192	-1.703E-02	4.181E-02	7.013E-02	0.000E+00	FAIL ABUN
AU-195	-5.958E-02	2.983E-01	4.644E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.710E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.816E+00	2.013E+01	3.354E+01	0.000E+00	NOT IDENT.
TL-202	-6.761E-02	1.050E-01	1.692E-01	0.000E+00	NOT IDENT.
HG-203	1.046E-02	5.237E-02	9.136E-02	0.000E+00	FAIL ABUN
BI-207	2.038E-02	6.119E-02	1.061E-01	0.000E+00	FAIL ABUN
TL-207	-9.342E-01	8.247E-01	1.303E+00	0.000E+00	FAIL ABUN
PO-209	3.236E+00	8.799E+00	1.543E+01	0.000E+00	NOT IDENT.
BI-210	-1.145E+00	6.547E+00	1.112E+01	0.000E+00	NOT IDENT.
PB-210	-1.145E+00	6.547E+00	1.112E+01	0.000E+00	NOT IDENT.
PO-210	-1.145E+00	6.547E+00	1.112E+01	0.000E+00	NOT IDENT.
PB-211	-2.480E+00	1.936E+00	1.711E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.191E-01	7.489E-01	0.000E+00	FAIL ABUN
PO-215	-9.342E-01	8.247E-01	1.303E+00	0.000E+00	FAIL ABUN
RN-219	3.030E-01	4.812E-01	8.476E-01	0.000E+00	FAIL ABUN
RN-220	-2.482E+01	3.002E+01	4.631E+01	0.000E+00	NOT IDENT.
RA-223	-9.342E-01	8.247E-01	1.303E+00	0.000E+00	FAIL ABUN
AC-227	-2.885E-01	4.723E-01	7.449E-01	0.000E+00	FAIL ABUN
TH-227	-2.885E-01	4.730E-01	7.449E-01	0.000E+00	FAIL ABUN
TH-229	-2.242E-01	5.995E-01	9.785E-01	0.000E+00	FAIL ABUN
PA-231	-1.798E+00	1.818E+00	2.948E+00	0.000E+00	FAIL ABUN
TH-231	-9.342E-01	8.247E-01	1.303E+00	0.000E+00	FAIL ABUN
U-231	-3.765E-01	2.742E+00	4.086E+00	0.000E+00	FAIL ABUN
PA-233	2.296E-03	7.528E-02	1.296E-01	0.000E+00	FAIL ABUN
PA-234	-3.806E-01	3.793E-01	5.226E-01	0.000E+00	FAIL ABUN
PA-234M	6.286E+00	5.437E+00	1.012E+01	0.000E+00	NOT IDENT.
U-235	4.273E-01	2.805E-01	4.747E-01	0.000E+00	FAIL ABUN
NP-236	-8.022E-02	9.701E-02	1.565E-01	0.000E+00	FAIL ABUN
NP-239	-1.622E-01	2.271E-01	3.732E-01	0.000E+00	FAIL ABUN
AM-241	2.270E-01	2.436E-01	3.894E-01	0.000E+00	NOT IDENT.
CM-243	1.269E-01	1.153E-01	2.045E-01	0.000E+00	FAIL ABUN
AM-246	-9.868E-04	1.542E-01	2.579E-01	0.000E+00	NOT IDENT.
CM-247	4.104E-02	4.546E-02	7.913E-02	0.000E+00	NOT IDENT.
CF-249	1.057E-02	4.905E-02	8.451E-02	0.000E+00	NOT IDENT.
CF-251	-8.034E-03	1.543E-01	2.570E-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]G245107008.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 12:39:46.
Sample ID          : G245107008 Sample quantity : 1.07970E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.56 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	652	10.67*	9.973E-01	2.132E+01	2.132E+01	11.16
CD-109	88.03	211	3.72*	5.204E+00	3.783E+00	3.892E+00	34.03
SN-126	64.28	54	9.60	2.545E+00	7.664E-01	7.664E-01	138.25
	86.94	211	8.90	5.204E+00	1.581E+00	1.581E+00	52.86
	87.57	211	37.00*	5.204E+00	3.804E-01	3.804E-01	34.03
BA-137M	661.65	71	89.98*	2.042E+00	1.340E-01	1.342E-01	46.92
CS-137	661.65	71	85.12*	2.042E+00	1.416E-01	1.418E-01	46.93
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	80	21.60	2.546E+00	5.042E-01	5.042E-01	75.13
	583.14	308	84.20*	2.278E+00	5.592E-01	5.592E-01	17.70
	860.37	58	12.46	1.608E+00	1.003E+00	1.003E+00	60.89
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	518	12.94*	3.442E+00	4.045E+00	4.045E+00	14.91
PB-212	74.81	394	10.70	4.035E+00	3.171E+00	3.171E+00	23.02
	77.11	609	18.00	4.292E+00	2.743E+00	2.743E+00	16.03
	87.30	211	8.00	5.204E+00	1.759E+00	1.759E+00	35.46
	238.63	965	44.60*	4.638E+00	1.622E+00	1.622E+00	10.56
	300.09	90	3.41	3.894E+00	2.359E+00	2.359E+00	69.15
PO-212	74.81	394	10.70	4.035E+00	3.171E+00	3.171E+00	23.02
	77.11	609	18.00	4.292E+00	2.743E+00	2.743E+00	16.03
	87.30	211	8.00	5.204E+00	1.759E+00	1.759E+00	35.46
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	965	44.60*	4.638E+00	1.622E+00	1.622E+00	10.56
	300.09	90	3.41	3.894E+00	2.359E+00	2.359E+00	69.15
BI-214	609.31	401	46.30*	2.194E+00	1.372E+00	1.372E+00	16.15
	1120.29	69	15.10	1.259E+00	1.269E+00	1.269E+00	52.17
	1764.49	65	15.80	8.744E-01	1.626E+00	1.626E+00	29.81
PB-214	74.81	394	6.21	4.035E+00	5.464E+00	5.464E+00	22.30
	77.11	609	10.50	4.292E+00	4.702E+00	4.702E+00	17.75
	87.30	211	4.67	5.204E+00	3.014E+00	3.014E+00	34.89
	241.98	284	7.49	4.595E+00	2.871E+00	2.871E+00	29.45
	295.21	352	19.20	3.950E+00	1.614E+00	1.614E+00	18.72

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	518	37.20*	3.442E+00	1.407E+00	1.407E+00	15.79
	74.81	394	6.21	4.035E+00	5.464E+00	5.464E+00	22.30
	77.11	609	10.50	4.292E+00	4.702E+00	4.702E+00	17.75
	87.30	211	4.67	5.204E+00	3.014E+00	3.014E+00	34.89
	241.98	284	7.49	4.595E+00	2.871E+00	2.871E+00	29.45
PO-216	295.21	352	19.20	3.950E+00	1.614E+00	1.614E+00	18.72
	351.92	518	37.20*	3.442E+00	1.407E+00	1.407E+00	15.79
	74.81	394	10.70	4.035E+00	3.171E+00	3.171E+00	23.02
	77.11	609	18.00	4.292E+00	2.743E+00	2.743E+00	16.03
	87.30	211	8.00	5.204E+00	1.759E+00	1.759E+00	35.46
PO-218	238.63	965	44.60*	4.638E+00	1.622E+00	1.622E+00	10.56
	300.09	90	3.41	3.894E+00	2.359E+00	2.359E+00	69.15
	74.81	394	6.21	4.035E+00	5.464E+00	5.464E+00	22.30
	77.11	609	10.50	4.292E+00	4.702E+00	4.702E+00	17.75
	87.30	211	4.67	5.204E+00	3.014E+00	3.014E+00	34.89
RA-224	241.98	284	7.49	4.595E+00	2.871E+00	2.871E+00	29.45
	295.21	352	19.20	3.950E+00	1.614E+00	1.614E+00	18.72
	351.92	518	37.20*	3.442E+00	1.407E+00	1.407E+00	15.79
	240.98	284	3.95*	4.595E+00	5.445E+00	5.445E+00	28.92
	609.31	401	46.30*	2.194E+00	1.372E+00	1.372E+00	16.15
AC-228	1120.29	69	15.10	1.259E+00	1.269E+00	1.269E+00	52.17
	1764.49	65	15.80	8.744E-01	1.626E+00	1.626E+00	29.81
	338.32	222	11.40	3.549E+00	1.909E+00	1.909E+00	47.40
	911.07	220	27.70*	1.527E+00	1.807E+00	1.807E+00	22.65
	969.11	66	16.60	1.441E+00	9.552E-01	9.552E-01	57.32
RA-228	338.32	222	11.40	3.549E+00	1.909E+00	1.909E+00	47.40
	911.07	220	27.70*	1.527E+00	1.807E+00	1.807E+00	22.65
	969.11	66	16.60	1.441E+00	9.552E-01	9.552E-01	57.32
	74.81	394	10.70	4.035E+00	3.171E+00	3.232E+00	21.06
	77.11	609	18.00	4.292E+00	2.743E+00	2.795E+00	16.03
TH-228	87.30	211	8.00	5.204E+00	1.759E+00	1.793E+00	34.03
	238.63	965	44.60*	4.638E+00	1.622E+00	1.653E+00	10.56
	300.09	90	3.41	3.894E+00	2.359E+00	2.405E+00	90.49
	609.31	401	46.30*	2.194E+00	1.372E+00	1.372E+00	16.15
	1120.29	69	15.10	1.259E+00	1.269E+00	1.269E+00	52.17
TH-230	1764.49	65	15.80	8.744E-01	1.626E+00	1.626E+00	29.81
	338.32	222	11.40	3.549E+00	1.909E+00	1.909E+00	24.86
	911.07	220	27.70*	1.527E+00	1.807E+00	1.807E+00	22.65
	969.11	66	16.60	1.441E+00	9.552E-01	9.552E-01	57.32
	63.29	54	3.80*	2.545E+00	1.936E+00	1.936E+00	138.59
TH-234	92.38	114	5.41	5.622E+00	1.301E+00	1.301E+00	100.03
	609.31	401	46.30*	2.194E+00	1.372E+00	1.372E+00	16.15
	1120.29	69	15.10	1.259E+00	1.269E+00	1.269E+00	52.17
	1764.49	65	15.80	8.744E-01	1.626E+00	1.626E+00	29.81
	86.50	211	12.60*	5.204E+00	1.117E+00	1.117E+00	39.79
NP-237	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
	63.29	54	3.80*	2.545E+00	1.936E+00	1.936E+00	138.59
	92.38	114	5.41	5.622E+00	1.301E+00	1.301E+00	98.75
	74.67	394	66.00*	4.035E+00	5.141E-01	5.141E-01	21.03

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	211	0.34	5.204E+00	4.188E+01	4.188E+01	34.03
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.209E+00	-----	Line Not Found	-----
ANH-511	511.00	80	100.00*	2.546E+00	1.089E-01	1.089E-01	74.67

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	2.132E+01	2.132E+01	0.238E+01	11.16	
CD-109	464.00D	1.03	3.783E+00	3.892E+00	1.324E+00	34.03	
SN-126	1.00E+05Y	1.00	3.804E-01	3.804E-01	1.294E-01	34.03	
BA-137M	30.17Y	1.00	1.340E-01	1.342E-01	0.629E-01	46.92	
CS-137	30.17Y	1.00	1.416E-01	1.418E-01	0.665E-01	46.93	
TL-208	1.41E+10Y	1.00	5.592E-01	5.592E-01	0.990E-01	17.70	
BI-211	7.04E+08Y	1.00	4.045E+00	4.045E+00	0.603E+00	14.91	
PB-212	1.41E+10Y	1.00	1.622E+00	1.622E+00	0.171E+00	10.56	
PO-212	1.41E+10Y	1.00	1.622E+00	1.622E+00	0.171E+00	10.56	
BI-214	1600.00Y	1.00	1.372E+00	1.372E+00	0.222E+00	16.15	
PB-214	1600.00Y	1.00	1.407E+00	1.407E+00	0.222E+00	15.79	
PO-214	1600.00Y	1.00	1.407E+00	1.407E+00	0.222E+00	15.79	
PO-216	1.41E+10Y	1.00	1.622E+00	1.622E+00	0.171E+00	10.56	
PO-218	1600.00Y	1.00	1.407E+00	1.407E+00	0.222E+00	15.79	
RA-224	1.41E+10Y	1.00	5.445E+00	5.445E+00	1.574E+00	28.92	
RA-226	1600.00Y	1.00	1.372E+00	1.372E+00	0.222E+00	16.15	
AC-228	1.41E+10Y	1.00	1.807E+00	1.807E+00	0.409E+00	22.65	
RA-228	1.41E+10Y	1.00	1.807E+00	1.807E+00	0.409E+00	22.65	
TH-228	1.91Y	1.02	1.622E+00	1.653E+00	0.174E+00	10.56	
TH-230	4.47E+09Y	1.00	1.372E+00	1.372E+00	0.222E+00	16.15	
TH-232	1.41E+10Y	1.00	1.807E+00	1.807E+00	0.409E+00	22.65	
TH-234	4.47E+09Y	1.00	1.936E+00	1.936E+00	2.683E+00	138.59	
U-234	4.47E+09Y	1.00	1.372E+00	1.372E+00	0.222E+00	16.15	
NP-237	2.14E+06Y	1.00	1.117E+00	1.117E+00	0.444E+00	39.79	
U-238	4.47E+09Y	1.00	1.936E+00	1.936E+00	2.683E+00	138.59	
AM-243	7380.00Y	1.00	5.141E-01	5.141E-01	1.081E-01	21.03	
ANH-511	1.00E+09Y	1.00	1.089E-01	1.089E-01	0.813E-01	74.67	
Total Activity :			6.303E+01	6.317E+01			

Grand Total Activity : 6.303E+01 6.317E+01

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

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

Unidentified Energy Lines
Sample ID : G245107008

Page : 5
Acquisition date : 1-FEB-2010 12:39:46

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	83.31	48	304	1.05	166.61	165	7	6.65E-03	****	4.91E+00	T
0	185.56	237	357	1.42	371.11	365	14	3.29E-02	36.9	5.49E+00	T
0	209.01	96	211	1.01	418.03	414	9	1.33E-02	58.5	5.09E+00	T
0	269.94	127	150	1.53	539.87	535	11	1.76E-02	41.6	4.23E+00	T
0	462.61	74	44	2.03	925.22	921	8	1.03E-02	38.7	2.76E+00	T
0	726.17	83	59	1.83	1452.33	1443	17	1.15E-02	48.1	1.88E+00	T
1	963.88	47	43	2.12	1927.76	1919	23	6.53E-03	69.2	1.45E+00	T
0	1632.04	11	16	2.19	3264.08	3252	14	1.58E-03	****	9.18E-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]G245107008.CNF;1
* Acquisition date   : 1-FEB-2010 12:39:46.  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 02:00:01.56             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107008             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.07970E+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	2.132E+01	2.379E+00	5.832E-01	4.363E-02	36.547
CD-109	3.892E+00	1.324E+00	2.092E+00	2.042E-01	1.861
SN-126	3.804E-01	1.294E-01	1.831E-01	1.781E-02	2.078
BA-137M	1.342E-01	6.295E-02	6.843E-02	3.496E-03	1.960
CS-137	1.418E-01	6.655E-02	7.234E-02	3.715E-03	1.960
TL-208	5.592E-01	9.896E-02	7.513E-02	4.878E-03	7.443
BI-211	4.045E+00	6.029E-01	3.649E-01	2.378E-02	11.084
PB-212	1.622E+00	1.712E-01	1.075E-01	7.727E-03	15.089
PO-212	1.622E+00	1.712E-01	1.075E-01	7.727E-03	15.089
BI-214	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
PB-214	1.407E+00	2.222E-01	1.272E-01	1.062E-02	11.061
PO-214	1.407E+00	2.222E-01	1.272E-01	1.062E-02	11.061
PO-216	1.622E+00	1.712E-01	1.075E-01	7.727E-03	15.089
PO-218	1.407E+00	2.222E-01	1.272E-01	1.062E-02	11.061
RA-224	5.445E+00	1.574E+00	1.223E+00	6.892E-02	4.451
RA-226	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
AC-228	1.807E+00	4.093E-01	2.493E-01	2.876E-02	7.249
RA-228	1.807E+00	4.093E-01	2.493E-01	2.876E-02	7.249

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.653E+00	1.744E-01	1.095E-01	7.875E-03	15.089
TH-230	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
TH-232	1.807E+00	4.093E-01	2.493E-01	2.876E-02	7.249
TH-234	1.936E+00	2.683E+00	2.950E+00	5.316E-01	0.656
U-234	1.372E+00	2.215E-01	1.425E-01	1.072E-02	9.624
NP-237	1.117E+00	4.445E-01	5.952E-01	1.356E-01	1.877
U-238	1.936E+00	2.683E+00	2.950E+00	5.316E-01	0.656
AM-243	5.141E-01	1.081E-01	1.135E-01	1.009E-02	4.528
ANH-511	1.089E-01	8.132E-02	5.669E-02	3.293E-03	1.921

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.038E-02		4.149E-01	6.755E-01	4.591E-02	-0.089
NA-22	-2.400E-02		5.133E-02	7.846E-02	5.269E-03	-0.306
NA-24	6.227E+01		3.939E+01	Half-Life too short		
AL-26	-5.945E-03		3.411E-02	5.409E-02	3.251E-03	-0.110
TI-44	5.062E-01	+	8.115E-02	1.012E-01	9.172E-03	5.003
SC-46	-2.664E-02		5.283E-02	8.367E-02	7.476E-03	-0.318
V-48	-1.225E-01		9.672E-02	1.344E-01	1.118E-02	-0.911
CR-51	8.105E-02		4.881E-01	8.264E-01	5.419E-02	0.098
MN-52	3.137E-01		4.727E-01	8.430E-01	6.099E-02	0.372
MN-54	6.519E-03		4.810E-02	8.134E-02	6.440E-03	0.080
CO-56	2.519E-03		4.426E-02	7.439E-02	6.052E-03	0.034
CO-57	-3.890E-02		3.167E-02	4.914E-02	2.897E-03	-0.792
CO-58	-1.821E-02		5.176E-02	8.390E-02	6.303E-03	-0.217
FE-59	-1.823E-02		1.218E-01	1.972E-01	1.519E-02	-0.092
CO-60	-3.866E-02		5.068E-02	7.345E-02	5.392E-03	-0.526
ZN-65	5.364E-02		1.355E-01	2.018E-01	1.333E-02	0.266
GE-68	-2.212E-01		1.384E+00	2.236E+00	1.600E-01	-0.099
AS-73	2.134E-01		1.372E+00	2.321E+00	2.049E-01	0.092
AS-74	4.562E-02		1.273E-01	2.137E-01	1.179E-02	0.213
SE-75	1.448E-02		6.221E-02	8.839E-02	5.145E-03	0.164
BR-77	-1.484E-05		1.984E-05	Half-Life too short		
SR-82	-7.236E-01		5.245E-01	7.637E-01	5.268E-02	-0.948
RB-83	-3.236E-02		8.655E-02	1.374E-01	7.957E-03	-0.235
RB-84	-6.479E-02		9.445E-02	1.462E-01	1.285E-02	-0.443
KR-85	1.053E+01		8.896E+00	1.429E+01	8.292E-01	0.737
SR-85	5.627E-02		4.753E-02	7.634E-02	4.430E-03	0.737
RB-86	-5.846E-01		1.029E+00	1.574E+00	1.128E-01	-0.371
Y-88	-1.062E-02		4.962E-02	7.872E-02	4.635E-03	-0.135
ZR-88	8.932E-03		3.944E-02	6.650E-02	3.839E-03	0.134
Y-91	1.792E+01		2.409E+01	4.232E+01	2.524E+00	0.423
NB-94	-1.326E-02		4.258E-02	6.670E-02	3.811E-03	-0.199
NB-95	6.083E-02		6.003E-02	1.043E-01	7.011E-03	0.583
NB-95M	5.223E-01		2.090E-01	3.304E-01	2.437E-02	1.581
ZR-95	5.747E-02		8.670E-02	1.487E-01	1.141E-02	0.386

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	1.694E+00		3.365E+00	Half-Life too short		
ZR-97	3.164E+02		7.014E+01	Half-Life too short		
MO-99	1.493E+01		3.973E+01	6.614E+01	9.257E+00	0.226
TC-99M	-2.277E+15		1.246E+15	Half-Life too short		
RH-101	5.876E-03		4.208E-02	6.626E-02	3.532E-03	0.089
RH-102	7.507E-03		3.489E-02	5.842E-02	3.420E-03	0.129
RU-103	1.542E-04		5.151E-02	8.468E-02	1.072E-02	0.002
RH-106	2.050E-01		3.904E-01	6.628E-01	7.644E-02	0.309
RU-106	2.050E-01		3.898E-01	6.628E-01	3.562E-02	0.309
AG-108M	2.729E-02		4.108E-02	7.097E-02	4.500E-03	0.385
AG-110M	5.689E-03		5.141E-02	7.285E-02	4.048E-03	0.078
IN-111	-5.899E-01		3.677E+00	5.072E+00	2.871E-01	-0.116
IN-113M	-2.161E-02		5.726E-02	9.284E-02	5.720E-03	-0.233
SN-113	-2.161E-02		5.726E-02	9.284E-02	5.720E-03	-0.233
IN-114M	2.291E-01		2.583E-01	3.871E-01	2.041E-02	0.592
CD-115	1.761E-05		2.296E-05	Half-Life too short		
SN-117M	-8.667E-03		8.310E-02	1.349E-01	7.009E-03	-0.064
SB-122	-8.148E-01		7.149E+00	1.156E+01	6.541E-01	-0.070
I-123	-3.477E+02		5.069E+02	Half-Life too short		
TE-123M	-1.238E-02		3.611E-02	5.796E-02	3.059E-03	-0.214
I-124	4.618E-01		1.747E+00	2.535E+00	1.389E-01	0.182
SB-124	9.324E-02		9.388E-02	1.842E-01	1.285E-02	0.506
SB-125	-5.086E-02		1.168E-01	1.874E-01	1.140E-02	-0.271
TE-125M	-1.121E+01		1.201E+01	1.897E+01	1.695E+00	-0.591
I-126	1.492E-01		2.812E-01	4.224E-01	2.186E-02	0.353
SB-126	-2.699E-02		2.696E-01	3.692E-01	2.211E-02	-0.073
SB-127	3.226E-01		3.368E+00	5.490E+00	5.869E-01	0.059
XE-127	9.189E-03		6.585E-02	1.034E-01	5.552E-03	0.089
I-131	-5.945E-02		1.976E-01	3.231E-01	2.125E-02	-0.184
TE-132	-1.607E+00		1.979E+00	3.019E+00	4.567E-01	-0.532
BA-133	-2.952E-02		5.682E-02	7.817E-02	9.070E-03	-0.378
I-133	-1.794E-01		9.003E-02	Half-Life too short		
CS-134	3.667E-02		5.717E-02	1.009E-01	7.368E-03	0.363
CS-135	4.616E-01		2.280E-01	3.621E-01	2.766E-02	1.275
I-135	-1.050E+14		6.758E+13	Half-Life too short		
CS-136	-3.988E-02		1.649E-01	2.649E-01	2.112E-02	-0.151
CE-139	-8.743E-04		3.643E-02	5.925E-02	3.021E-03	-0.015
BA-140	-9.605E-02		3.883E-01	6.203E-01	2.017E-01	-0.155
LA-140	-2.420E-01		1.270E-01	1.275E-01	8.744E-03	-1.898
CE-141	6.046E-02		8.981E-02	1.507E-01	8.497E-03	0.401
CE-143	1.103E-02	+	1.570E-03	Half-Life too short		
CE-144	-1.377E-01		2.590E-01	4.140E-01	5.846E-02	-0.333
PM-144	1.892E-02		4.428E-02	7.415E-02	4.173E-03	0.255
PR-144	1.285E+00		3.007E+00	5.035E+00	2.830E-01	0.255
PM-146	2.630E-04		5.218E-02	8.618E-02	7.464E-03	0.003
ND-147	-5.020E-01		9.104E-01	1.419E+00	1.917E-01	-0.354
PM-149	7.834E-05		1.816E-04	Half-Life too short		
EU-152	-3.125E-02		1.282E-01	1.914E-01	1.268E-02	-0.163

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.075E-01		1.066E-01	1.630E-01	1.331E-02	0.660
EU-154	-6.530E-02		1.433E-01	2.194E-01	2.178E-02	-0.298
EU-155	4.130E-02		1.341E-01	2.242E-01	1.653E-02	0.184
TB-160	-3.159E-02		1.729E-01	2.829E-01	2.474E-02	-0.112
HO-166M	-2.857E-02		7.688E-02	1.195E-01	6.992E-03	-0.239
TM-171	-1.377E+01		4.355E+01	6.289E+01	5.469E+00	-0.219
LU-176	5.904E-03		3.541E-02	5.248E-02	3.092E-03	0.113
LU-177	4.272E+00	+	2.511E+00	3.552E+00	1.922E-01	1.203
LU-177M	-1.142E-01		2.302E-01	3.692E-01	2.148E-02	-0.309
HF-181	-2.877E-02		5.724E-02	9.056E-02	5.297E-03	-0.318
W-181	-6.974E-02		5.848E-01	8.542E-01	7.421E-02	-0.082
TA-182	1.611E-02		2.410E-01	3.965E-01	2.434E-02	0.041
RE-183	1.952E-02		1.380E-01	2.263E-01	1.164E-02	0.086
RE-184	1.853E-01		2.892E-01	4.802E-01	2.738E-02	0.386
OS-185	-4.209E-02		5.386E-02	7.790E-02	4.066E-03	-0.540
RE-188	2.216E-01		2.251E-01	3.819E-01	2.004E-02	0.580
W-188	8.654E-01		1.002E+01	1.480E+01	8.667E-01	0.058
IR-192	-1.703E-02		4.266E-02	6.989E-02	4.146E-03	-0.244
AU-195	-5.958E-02		3.043E-01	4.594E-01	3.666E-02	-0.130
TL-200	3.219E-03		3.424E-03	Half-Life too short		
TL-201	-1.816E+00		2.054E+01	3.329E+01	1.699E+00	-0.055
TL-202	-6.761E-02		1.072E-01	1.690E-01	9.885E-03	-0.400
HG-203	1.046E-02		5.344E-02	9.096E-02	5.619E-03	0.115
BI-207	2.038E-02		6.244E-02	1.066E-01	7.830E-03	0.191
TL-207	-9.342E-01		8.415E-01	1.298E+00	2.149E-01	-0.720
PO-209	3.236E+00		8.979E+00	1.548E+01	1.405E+00	0.209
BI-210	-1.145E+00		6.681E+00	1.095E+01	8.529E-01	-0.105
PB-210	-1.145E+00		6.681E+00	1.095E+01	8.529E-01	-0.105
PO-210	-1.145E+00		6.680E+00	1.095E+01	7.349E-01	-0.105
PB-211	-2.480E+00		1.975E+00	1.707E+00	1.064E+00	-1.453
BI-212	1.295E+00	+	6.317E-01	7.502E-01	5.955E-02	1.726
PO-215	-9.342E-01		8.415E-01	1.298E+00	2.149E-01	-0.720
RN-219	3.030E-01		4.911E-01	8.459E-01	1.151E-01	0.358
RN-220	-2.482E+01		3.063E+01	4.631E+01	2.643E+00	-0.536
RA-223	-9.342E-01		8.415E-01	1.298E+00	2.149E-01	-0.720
AC-227	-2.885E-01		4.819E-01	7.414E-01	1.032E-01	-0.389
TH-227	-2.885E-01		4.827E-01	7.414E-01	1.251E-01	-0.389
TH-229	-2.242E-01		6.118E-01	9.720E-01	5.149E-02	-0.231
PA-231	-1.798E+00		1.855E+00	2.936E+00	4.050E-01	-0.612
TH-231	-9.342E-01		8.415E-01	1.298E+00	2.149E-01	-0.720
U-231	-3.765E-01		2.798E+00	4.041E+00	3.390E-01	-0.093
PA-233	2.296E-03		7.682E-02	1.292E-01	8.077E-03	0.018
PA-234	-3.806E-01		3.870E-01	5.244E-01	9.859E-02	-0.726
PA-234M	6.286E+00		5.548E+00	1.016E+01	9.691E-01	0.619
U-235	4.273E-01		2.862E-01	4.707E-01	7.613E-02	0.908
NP-236	-8.022E-02		9.899E-02	1.553E-01	8.031E-03	-0.517
NP-239	-1.622E-01		2.317E-01	3.696E-01	2.307E-02	-0.439
AM-241	2.270E-01		2.486E-01	3.841E-01	3.574E-02	0.591

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.269E-01		1.177E-01	2.024E-01	1.500E-02	0.627
AM-246	-9.868E-04		1.574E-01	2.590E-01	1.848E-02	-0.004
CM-247	4.104E-02		4.638E-02	7.898E-02	4.578E-03	0.520
CF-249	1.057E-02		5.005E-02	8.433E-02	4.879E-03	0.125
CF-251	-8.034E-03		1.575E-01	2.552E-01	1.319E-02	-0.031

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]G245107008          *
* Acquisition date   : 1-FEB-2010 12:39:46 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 02:00:01.56 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107008 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.0797E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                 *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 2-JUN-2009 11:17:00 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                  *
* LCS DPM             : 0.000 LCS Isotope :                  *
* LCSD DPM            : 0.000 LCSD Isotope :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.132E+01	2.331E+00	2.900E-01	1.189E+00
CD-109	3.892E+00	1.298E+00	1.059E+00	6.622E-01
SN-126	3.804E-01	1.268E-01	9.264E-02	6.471E-02
BA-137M	1.342E-01	6.169E-02	3.420E-02	3.147E-02
CS-137	1.418E-01	6.522E-02	3.615E-02	3.327E-02
TL-208	5.592E-01	9.698E-02	3.758E-02	4.948E-02
BI-211	4.045E+00	5.908E-01	1.831E-01	3.014E-01
PB-212	1.622E+00	1.677E-01	5.406E-02	8.558E-02
PO-212	1.622E+00	1.677E-01	5.406E-02	8.558E-02
BI-214	1.372E+00	2.171E-01	7.127E-02	1.108E-01
PB-214	1.407E+00	2.178E-01	6.382E-02	1.111E-01
PO-214	1.407E+00	2.178E-01	6.382E-02	1.111E-01
PO-216	1.622E+00	1.677E-01	5.406E-02	8.558E-02
PO-218	1.407E+00	2.178E-01	6.382E-02	1.111E-01
RA-224	5.445E+00	1.543E+00	6.152E-01	7.871E-01
RA-226	1.372E+00	2.171E-01	7.127E-02	1.108E-01
AC-228	1.807E+00	4.011E-01	1.243E-01	2.046E-01
RA-228	1.807E+00	4.011E-01	1.243E-01	2.046E-01
TH-228	1.653E+00	1.710E-01	5.509E-02	8.722E-02
TH-230	1.372E+00	2.171E-01	7.127E-02	1.108E-01
TH-232	1.807E+00	4.011E-01	1.243E-01	2.046E-01
TH-234	1.936E+00	2.630E+00	1.496E+00	1.342E+00
U-234	1.372E+00	2.171E-01	7.127E-02	1.108E-01
NP-237	1.117E+00	4.356E-01	3.013E-01	2.222E-01
U-238	1.936E+00	2.630E+00	1.496E+00	1.342E+00
AM-243	5.141E-01	1.060E-01	5.752E-02	5.406E-02
ANH-511	1.089E-01	7.969E-02	2.837E-02	4.066E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-6.038E-02	4.066E-01	3.383E-01	2.074E-01	NOT IDENT.
NA-22	-2.400E-02	5.030E-02	3.905E-02	2.566E-02	NOT IDENT.
NA-24	6.227E+07	7.720E+07	0.000E+00	3.939E+07	SHORT HLIF
AL-26	-5.945E-03	3.342E-02	2.686E-02	1.705E-02	NOT IDENT.
TI-44	5.062E-01	7.952E-02	5.125E-02	4.057E-02	FAIL ABUN
SC-46	-2.664E-02	5.177E-02	4.173E-02	2.642E-02	FAIL ABUN
V-48	-1.225E-01	9.478E-02	6.701E-02	4.836E-02	NOT IDENT.
CR-51	8.105E-02	4.783E-01	4.149E-01	2.441E-01	NOT IDENT.
MN-52	3.137E-01	4.632E-01	4.192E-01	2.363E-01	NOT IDENT.
MN-54	6.519E-03	4.714E-02	4.059E-02	2.405E-02	NOT IDENT.
CO-56	2.519E-03	4.337E-02	3.712E-02	2.213E-02	NOT IDENT.
CO-57	-3.890E-02	3.103E-02	2.482E-02	1.583E-02	NOT IDENT.
CO-58	-1.821E-02	5.072E-02	4.187E-02	2.588E-02	NOT IDENT.
FE-59	-1.823E-02	1.194E-01	9.824E-02	6.092E-02	NOT IDENT.
CO-60	-3.866E-02	4.967E-02	3.654E-02	2.534E-02	NOT IDENT.
ZN-65	5.364E-02	1.328E-01	1.005E-01	6.775E-02	NOT IDENT.
GE-68	-2.212E-01	1.357E+00	1.114E+00	6.922E-01	NOT IDENT.
AS-73	2.134E-01	1.345E+00	1.178E+00	6.862E-01	NOT IDENT.
AS-74	4.562E-02	1.247E-01	1.069E-01	6.364E-02	NOT IDENT.
SE-75	1.448E-02	6.097E-02	4.443E-02	3.111E-02	NOT IDENT.
BR-77	-1.484E+01	3.890E+01	0.000E+00	1.984E+01	SHORT HLIF
SR-82	-7.236E-01	5.140E-01	3.812E-01	2.622E-01	NOT IDENT.
RB-83	-3.236E-02	8.482E-02	6.879E-02	4.327E-02	NOT IDENT.
RB-84	-6.479E-02	9.256E-02	7.293E-02	4.723E-02	NOT IDENT.
KR-85	1.053E+01	8.718E+00	7.152E+00	4.448E+00	NOT IDENT.
SR-85	5.627E-02	4.658E-02	3.821E-02	2.376E-02	NOT IDENT.
RB-86	-5.846E-01	1.008E+00	7.843E-01	5.143E-01	NOT IDENT.
Y-88	-1.062E-02	4.863E-02	3.908E-02	2.481E-02	NOT IDENT.
ZR-88	8.932E-03	3.865E-02	3.334E-02	1.972E-02	NOT IDENT.
Y-91	1.792E+01	2.360E+01	2.107E+01	1.204E+01	NOT IDENT.
NB-94	-1.326E-02	4.172E-02	3.332E-02	2.129E-02	NOT IDENT.
NB-95	6.083E-02	5.882E-02	5.209E-02	3.001E-02	NOT IDENT.
NB-95M	5.223E-01	2.048E-01	1.662E-01	1.045E-01	NOT IDENT.
ZR-95	5.747E-02	8.496E-02	7.425E-02	4.335E-02	NOT IDENT.
NB-97	1.694E+06	6.596E+06	0.000E+00	3.365E+06	SHORT HLIF
ZR-97	3.164E+08	1.375E+08	0.000E+00	7.014E+07	SHORT HLIF
MO-99	1.493E+01	3.894E+01	3.303E+01	1.987E+01	NOT IDENT.
TC-99M	-2.277E+21	2.442E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	5.876E-03	4.124E-02	3.337E-02	2.104E-02	NOT IDENT.
RH-102	7.507E-03	3.419E-02	2.925E-02	1.744E-02	NOT IDENT.
RU-103	1.542E-04	5.048E-02	4.239E-02	2.576E-02	NOT IDENT.
RH-106	2.050E-01	3.826E-01	3.314E-01	1.952E-01	FAIL ABUN
RU-106	2.050E-01	3.820E-01	3.314E-01	1.949E-01	FAIL ABUN
AG-108M	2.729E-02	4.025E-02	3.556E-02	2.054E-02	NOT IDENT.
AG-110M	5.689E-03	5.038E-02	3.641E-02	2.570E-02	NOT IDENT.
IN-111	-5.899E-01	3.603E+00	2.551E+00	1.838E+00	NOT IDENT.
IN-113M	-2.161E-02	5.611E-02	4.655E-02	2.863E-02	NOT IDENT.
SN-113	-2.161E-02	5.611E-02	4.655E-02	2.863E-02	NOT IDENT.
IN-114M	2.291E-01	2.531E-01	1.950E-01	1.291E-01	NOT IDENT.
CD-115	1.761E+01	4.500E+01	0.000E+00	2.296E+01	SHORT HLIF
SN-117M	-8.667E-03	8.144E-02	6.800E-02	4.155E-02	NOT IDENT.
SB-122	-8.148E-01	7.006E+00	5.785E+00	3.574E+00	NOT IDENT.
I-123	-3.477E+08	9.935E+08	0.000E+00	5.069E+08	SHORT HLIF
TE-123M	-1.238E-02	3.539E-02	2.923E-02	1.806E-02	NOT IDENT.
I-124	4.618E-01	1.712E+00	1.267E+00	8.733E-01	NOT IDENT.
SB-124	9.324E-02	9.201E-02	9.152E-02	4.694E-02	FAIL ABUN
SB-125	-5.086E-02	1.144E-01	9.391E-02	5.838E-02	FAIL ABUN
TE-125M	-1.121E+01	1.177E+01	9.588E+00	6.003E+00	NOT IDENT.
I-126	1.492E-01	2.756E-01	2.111E-01	1.406E-01	NOT IDENT.
SB-126	-2.699E-02	2.642E-01	1.844E-01	1.348E-01	NOT IDENT.
SB-127	3.226E-01	3.300E+00	2.743E+00	1.684E+00	NOT IDENT.
XE-127	9.189E-03	6.453E-02	5.207E-02	3.292E-02	NOT IDENT.
I-131	-5.945E-02	1.936E-01	1.621E-01	9.879E-02	NOT IDENT.
TE-132	-1.607E+00	1.939E+00	1.519E+00	9.895E-01	NOT IDENT.
BA-133	-2.952E-02	5.568E-02	3.922E-02	2.841E-02	NOT IDENT.
I-133	-1.794E+05	1.765E+05	0.000E+00	9.003E+04	SHORT HLIF
CS-134	3.667E-02	5.602E-02	5.036E-02	2.858E-02	NOT IDENT.
CS-135	4.616E-01	2.235E-01	1.820E-01	1.140E-01	NOT IDENT.
I-135	-1.050E+20	1.325E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.988E-02	1.616E-01	1.320E-01	8.243E-02	FAIL ABUN
CE-139	-8.743E-04	3.571E-02	2.987E-02	1.822E-02	NOT IDENT.
BA-140	-9.605E-02	3.806E-01	3.104E-01	1.942E-01	NOT IDENT.
LA-140	-2.420E-01	1.245E-01	6.334E-02	6.350E-02	NOT IDENT.
CE-141	6.046E-02	8.802E-02	7.601E-02	4.491E-02	NOT IDENT.
CE-143	1.103E+04	3.077E+03	0.000E+00	1.570E+03	SHORT HLIF
CE-144	-1.377E-01	2.538E-01	2.090E-01	1.295E-01	NOT IDENT.
PM-144	1.892E-02	4.339E-02	3.704E-02	2.214E-02	NOT IDENT.
PR-144	1.285E+00	2.947E+00	2.515E+00	1.503E+00	NOT IDENT.

PM-146	2.630E-04	5.114E-02	4.317E-02	2.609E-02	NOT IDENT.
ND-147	-5.020E-01	8.922E-01	7.103E-01	4.552E-01	NOT IDENT.
PM-149	7.834E+01	3.558E+02	0.000E+00	1.816E+02	SHORT HLIF
EU-152	-3.125E-02	1.257E-01	9.602E-02	6.412E-02	FAIL ABUN
GD-153	1.075E-01	1.045E-01	8.243E-02	5.332E-02	FAIL ABUN
EU-154	-6.530E-02	1.405E-01	1.092E-01	7.167E-02	NOT IDENT.
EU-155	4.130E-02	1.314E-01	1.133E-01	6.703E-02	FAIL ABUN
TB-160	-3.159E-02	1.695E-01	1.411E-01	8.646E-02	FAIL ABUN
HO-166M	-2.857E-02	7.534E-02	5.967E-02	3.844E-02	FAIL ABUN
TM-171	-1.377E+01	4.268E+01	3.188E+01	2.177E+01	NOT IDENT.
LU-176	5.904E-03	3.471E-02	2.635E-02	1.771E-02	FAIL ABUN
LU-177	4.272E+00	2.460E+00	1.788E+00	1.255E+00	FAIL ABUN
LU-177M	-1.142E-01	2.256E-01	1.851E-01	1.151E-01	FAIL ABUN
HF-181	-2.877E-02	5.609E-02	4.535E-02	2.862E-02	NOT IDENT.
W-181	-6.974E-02	5.731E-01	4.331E-01	2.924E-01	NOT IDENT.
TA-182	1.611E-02	2.362E-01	1.974E-01	1.205E-01	NOT IDENT.
RE-183	1.952E-02	1.352E-01	1.141E-01	6.900E-02	FAIL ABUN
RE-184	1.853E-01	2.835E-01	2.414E-01	1.446E-01	NOT IDENT.
OS-185	-4.209E-02	5.278E-02	3.894E-02	2.693E-02	NOT IDENT.
RE-188	2.216E-01	2.206E-01	1.926E-01	1.125E-01	NOT IDENT.
W-188	8.654E-01	9.820E+00	7.435E+00	5.010E+00	FAIL ABUN
IR-192	-1.703E-02	4.181E-02	3.509E-02	2.133E-02	FAIL ABUN
AU-195	-5.958E-02	2.983E-01	2.323E-01	1.522E-01	FAIL ABUN
TL-200	3.219E+03	6.710E+03	0.000E+00	3.424E+03	SHORT HLIF
TL-201	-1.816E+00	2.013E+01	1.678E+01	1.027E+01	NOT IDENT.
TL-202	-6.761E-02	1.050E-01	8.465E-02	5.359E-02	NOT IDENT.
HG-203	1.046E-02	5.237E-02	4.571E-02	2.672E-02	FAIL ABUN
BI-207	2.038E-02	6.119E-02	5.310E-02	3.122E-02	FAIL ABUN
TL-207	-9.342E-01	8.247E-01	6.517E-01	4.208E-01	FAIL ABUN
PO-209	3.236E+00	8.799E+00	7.721E+00	4.489E+00	NOT IDENT.
BI-210	-1.145E+00	6.547E+00	5.565E+00	3.340E+00	NOT IDENT.
PB-210	-1.145E+00	6.547E+00	5.565E+00	3.340E+00	NOT IDENT.
PO-210	-1.145E+00	6.547E+00	5.565E+00	3.340E+00	NOT IDENT.
PB-211	-2.480E+00	1.936E+00	8.559E-01	9.877E-01	NOT IDENT.
BI-212	1.295E+00	6.191E-01	3.747E-01	3.159E-01	FAIL ABUN
PO-215	-9.342E-01	8.247E-01	6.517E-01	4.208E-01	FAIL ABUN
RN-219	3.030E-01	4.812E-01	4.241E-01	2.455E-01	FAIL ABUN
RN-220	-2.482E+01	3.002E+01	2.317E+01	1.532E+01	NOT IDENT.
RA-223	-9.342E-01	8.247E-01	6.517E-01	4.208E-01	FAIL ABUN
AC-227	-2.885E-01	4.723E-01	3.727E-01	2.410E-01	FAIL ABUN
TH-227	-2.885E-01	4.730E-01	3.727E-01	2.413E-01	FAIL ABUN
TH-229	-2.242E-01	5.995E-01	4.895E-01	3.059E-01	FAIL ABUN
PA-231	-1.798E+00	1.818E+00	1.475E+00	9.277E-01	FAIL ABUN
TH-231	-9.342E-01	8.247E-01	6.517E-01	4.208E-01	FAIL ABUN
U-231	-3.765E-01	2.742E+00	2.044E+00	1.399E+00	FAIL ABUN
PA-233	2.296E-03	7.528E-02	6.486E-02	3.841E-02	FAIL ABUN
PA-234	-3.806E-01	3.793E-01	2.615E-01	1.935E-01	FAIL ABUN
PA-234M	6.286E+00	5.437E+00	5.062E+00	2.774E+00	NOT IDENT.
U-235	4.273E-01	2.805E-01	2.375E-01	1.431E-01	FAIL ABUN
NP-236	-8.022E-02	9.701E-02	7.829E-02	4.949E-02	FAIL ABUN
NP-239	-1.622E-01	2.271E-01	1.867E-01	1.158E-01	FAIL ABUN
AM-241	2.270E-01	2.436E-01	1.948E-01	1.243E-01	NOT IDENT.
CM-243	1.269E-01	1.153E-01	1.023E-01	5.883E-02	FAIL ABUN
AM-246	-9.868E-04	1.542E-01	1.290E-01	7.868E-02	NOT IDENT.
CM-247	4.104E-02	4.546E-02	3.959E-02	2.319E-02	NOT IDENT.
CF-249	1.057E-02	4.905E-02	4.228E-02	2.502E-02	NOT IDENT.
CF-251	-8.034E-03	1.543E-01	1.286E-01	7.875E-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	253.8636
46.50	253.8636
46.50	253.8636
48.70	258.4998
49.72	274.4133
51.35	256.0562
52.39	236.4300
52.97	250.3690
53.15	245.8751
53.44	257.8834
54.07	264.5642
56.28	300.4446
56.28	300.4458
57.37	0.0000
57.53	287.2459
57.53	287.2465
57.60	265.1797
57.98	257.9712
57.98	257.9712
59.32	265.9087
59.32	265.9087
59.40	265.9422
59.54	266.0010
59.72	285.2934
60.01	285.4236
61.10	305.1683
61.14	315.5576
61.30	315.6362
63.00	322.2203
63.29	322.3623
63.29	322.3623
63.58	342.0225
64.28	336.4302
65.12	342.8171
65.20	342.8578
65.20	342.8578
66.05	344.7856
66.72	346.6194
66.83	346.6775
66.91	341.8615
67.20	356.9578
67.20	356.9578
67.75	321.7074
67.85	321.7546
68.90	322.2467
68.90	322.2467
69.30	323.9328
69.67	349.6152
70.82	342.6735
70.82	342.6735
70.83	342.6791
72.80	349.6624
72.87	349.6964
72.87	349.6964
74.67	350.5715
74.81	350.6395
74.81	350.6395
74.81	350.6395
74.81	350.6395
74.81	350.6395
74.81	350.6395
74.81	350.6395
74.97	350.7159
75.28	350.8660
75.70	351.0671
77.11	351.7411
77.11	351.7411

77.11	351.7411
77.11	351.7411
77.11	351.7411
77.11	351.7411
77.11	351.7411
78.38	352.3429
79.62	352.9249
79.80	353.0085
79.80	353.0085
80.11	353.1543
80.18	353.1869
80.30	353.2421
80.30	353.2421
80.57	239.8943
81.00	240.0298
81.07	240.0520
81.07	240.0520
81.07	240.0520
81.07	240.0520
82.60	240.5316
83.37	328.6702
83.78	305.9021
83.78	305.9021
83.78	305.9021
83.78	305.9021
84.21	252.5092
84.90	298.6830
85.43	298.8842
86.29	299.2103
86.50	575.5577
86.54	575.5852
86.59	575.6218
86.72	575.7180
86.79	575.7660
86.94	625.7851
87.30	510.8413
87.30	510.8413
87.30	510.8413
87.30	510.8413
87.30	510.8413
87.30	510.8413
87.57	484.1183
87.88	0.0000
88.03	611.2630
88.36	611.5129
88.47	611.5978
89.95	612.7187
91.11	536.4107
92.29	400.6311
92.38	400.6754
92.38	400.6754
93.35	401.1452
94.00	278.8264
94.67	306.9525
94.67	306.9544
94.90	317.8939
94.90	317.8939
94.90	317.8939
94.90	317.8939
95.87	307.3931
95.87	307.3931
96.73	278.1787
97.43	239.5234
98.44	274.0633
98.44	274.0644
98.88	288.2258
99.55	283.9957
99.55	283.9957
99.86	278.8048
100.00	278.8496
100.10	278.8834
103.18	283.7795
103.76	253.6104
105.00	277.4975
105.31	288.3834
108.00	300.0668
109.28	314.2809

111.00	289.2065
111.00	289.2065
111.76	281.5406
112.95	260.1397
115.19	280.5904
116.30	287.8671
117.00	289.0718
117.00	289.0718
117.66	284.3013
121.11	272.3481
121.62	295.4478
121.78	303.4816
122.06	303.5686
122.32	300.6521
122.32	300.6521
122.32	300.6521
122.32	300.6521
123.07	288.8864
127.23	306.1559
129.76	284.7834
131.20	291.2314
133.02	338.1820
133.54	301.9929
135.34	265.0803
136.00	264.2338
136.25	250.1207
136.48	250.1753
140.51	322.2966
140.51	0.0000
142.18	292.2486
142.65	289.3194
143.76	271.2603
144.24	293.8250
144.24	293.8250
144.24	293.8250
144.24	293.8250
145.22	309.4057
145.44	308.4468
147.16	325.2979
152.43	281.6155
152.70	295.0469
153.22	294.1542
154.21	270.7332
154.21	270.7332
154.21	270.7332
154.21	270.7332
155.03	263.7188
156.02	274.2577
158.56	269.6979
159.00	0.0000
159.00	274.9680
160.31	285.6273
161.27	248.5767
162.32	249.8349
162.64	264.4201
163.35	254.2039
163.89	252.2447
165.85	245.3844
167.43	246.7496
171.28	226.6487
171.86	225.7130
172.10	225.7575
176.55	251.7517
176.60	251.7609
181.06	249.2929
184.41	234.3303
185.71	234.5691
186.00	234.6233
190.27	205.2864
192.34	227.7018
193.63	233.8792
197.04	213.1668
198.01	227.1884
198.60	244.3608
200.40	0.0000
201.83	263.1336
202.84	241.0041
205.31	248.7957

208.36	249.3497
208.81	229.0036
209.75	194.5153
209.75	194.5153
210.97	211.9153
215.65	197.7157
216.55	208.6524
218.09	230.5247
222.10	196.4428
223.80	222.7533
226.40	215.5323
227.00	209.0874
227.08	214.5444
227.20	214.5625
228.16	219.0617
228.18	219.0647
228.18	219.0647
231.56	0.0000
235.69	234.8582
236.00	231.4012
236.00	231.4012
238.63	188.7824
238.63	188.7824
238.63	188.7824
238.63	188.7824
239.00	0.0000
240.98	189.0764
241.98	189.2010
241.98	189.2010
241.98	189.2010
244.69	179.8397
245.39	164.0465
247.94	173.7410
248.90	175.6907
249.79	0.0000
252.40	167.2265
252.85	152.8737
252.85	152.8737
254.15	0.0000
256.20	184.2829
256.20	184.2829
260.50	141.3693
260.90	0.0000
262.80	172.7856
264.65	148.2085
268.24	141.3784
268.79	148.5874
269.46	159.3939
269.46	159.3939
269.46	159.3939
269.46	159.3939
271.23	190.0469
273.65	184.9398
276.40	173.8560
277.35	168.7065
277.60	178.8556
277.60	178.8556
278.00	153.0208
278.60	172.8844
279.20	174.7492
279.53	172.9805
280.46	175.7809
281.68	0.0000
283.67	173.4070
284.30	161.7271
285.00	159.0811
285.90	0.0000
286.10	146.5218
286.10	146.5218
287.40	132.7555
288.45	0.0000
290.67	142.0786
290.80	142.0882
291.72	145.1895
293.26	0.0000
293.70	145.3574
295.21	122.7508
295.21	122.7508

295.21	122.7508
295.96	122.8052
296.50	122.8431
297.23	0.0000
298.57	122.9881
299.80	147.3866
299.80	147.3866
300.09	147.4103
300.09	147.4103
300.09	147.4103
300.09	147.4103
300.12	147.4123
301.29	147.5110
302.84	159.8178
303.76	0.0000
303.91	156.8680
304.40	144.7246
304.40	144.7246
304.84	141.7119
306.84	147.9747
308.46	140.8562
311.98	134.9360
316.51	138.0341
318.01	139.9914
319.02	117.0301
319.41	121.6633
320.08	128.1627
323.87	169.0806
323.87	169.0806
323.87	169.0806
323.87	169.0806
325.23	157.1836
328.77	124.1348
333.44	145.4942
334.20	156.3926
334.20	156.3926
334.30	156.4008
338.28	135.0047
338.28	135.0047
338.28	135.0047
338.28	135.0047
338.32	135.0065
338.32	135.0065
338.32	135.0065
340.50	119.6263
340.57	119.6295
344.27	128.0893
345.85	148.0007
350.59	0.0000
351.07	101.2250
351.92	101.2685
351.92	101.2685
351.92	101.2685
355.39	0.0000
356.01	114.3209
364.48	118.8987
366.43	115.2373
367.43	116.2389
367.94	0.0000
369.80	99.3450
374.96	113.8257
383.85	118.1300
387.95	113.5904
388.63	117.4461
391.69	121.4422
391.69	121.4422
392.90	109.0737
398.62	111.2875
400.65	90.2673
401.10	90.2868
401.81	93.1991
402.60	90.3499
404.84	149.1364
410.95	97.4542
411.60	110.9963
413.65	123.6594
414.70	101.4880
415.30	99.5826

415.76	94.7688
417.63	0.0000
418.52	106.5061
423.70	79.5816
427.08	110.8063
427.89	109.8743
432.53	85.7431
433.93	89.6955
439.47	0.0000
439.56	104.5797
439.89	108.5055
443.98	89.1138
444.90	86.2104
445.03	86.2157
445.03	86.2157
445.03	86.2157
445.03	86.2157
453.90	86.5466
463.38	77.3523
468.07	77.7408
473.00	76.3439
475.06	78.3934
475.35	74.4333
476.78	87.3866
477.59	87.4167
477.96	87.4296
482.03	95.5383
484.57	0.0000
487.03	83.7683
490.36	0.0000
492.35	0.0000
497.08	75.0989
507.63	0.0000
510.53	0.0000
510.84	79.5396
511.00	79.5444
511.85	65.4705
511.85	65.4705
513.99	60.4849
513.99	60.4849
520.41	79.8390
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	84.1834
529.87	0.0000
531.02	86.2576
537.32	75.2755
543.00	71.3604
546.56	0.0000
549.76	75.6314
552.65	70.5970
555.20	65.5438
563.23	77.0380
563.90	81.1679
568.70	69.9889
569.32	71.0350
569.50	66.9218
569.67	66.9249
573.80	77.3383
574.00	68.3203
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	79.3245
585.48	0.0000
591.81	78.8797
592.07	72.6592
593.00	69.5681
595.88	62.3628
600.56	59.4922
602.52	0.0000
602.71	67.7231
602.71	67.7231
603.60	71.2195
604.41	79.9272
604.70	79.9347
609.31	80.0639

609.31	80.0639
609.31	80.0639
609.31	80.0639
610.33	80.0920
612.46	81.8943
614.37	64.5136
618.01	75.4189
621.84	57.6869
621.84	57.6869
631.29	71.5544
633.02	82.1247
633.10	82.1266
634.78	51.6223
635.90	59.0187
636.97	63.2578
645.85	59.2170
646.12	64.5102
656.30	65.4365
657.75	65.4681
657.90	0.0000
661.65	60.2374
661.65	60.2374
664.57	0.0000
666.33	46.1348
666.33	46.1348
675.00	49.1120
677.61	49.1535
685.20	57.8430
692.80	70.8694
695.00	74.1430
696.49	63.4279
696.49	63.4279
697.00	61.2875
697.49	59.1465
698.33	49.4803
698.50	51.6352
699.00	57.0229
702.63	71.0902
706.10	62.5412
706.58	0.0000
706.67	59.3170
709.31	59.3667
711.68	66.9724
713.82	67.0163
717.42	51.0146
720.50	66.7945
721.93	0.0000
722.20	61.4113
722.78	59.6151
722.78	59.6151
722.89	59.6178
722.95	59.6191
723.30	56.0122
724.18	56.3888
727.18	52.4610
733.00	54.3665
735.90	65.2983
739.58	54.4751
742.81	55.6194
744.21	72.0086
747.13	44.7727
751.79	61.2377
752.31	56.8725
753.82	55.8049
755.35	0.0000
756.15	42.7039
756.87	54.7607
763.93	68.0456
765.79	62.5928
766.42	70.2922
766.84	73.5969
776.49	73.4391
778.00	72.5533
778.57	70.7275
778.89	70.7337
783.80	45.9971
785.46	55.2234
792.07	47.0302

795.84	52.6199
796.30	56.3200
798.80	66.5244
801.93	57.3366
805.60	59.2474
810.29	60.2538
810.76	60.2617
815.85	57.5637
817.79	0.0000
818.51	55.7483
819.60	50.1888
826.30	48.4210
828.27	0.0000
831.60	59.6836
831.96	53.1615
834.83	60.6717
836.80	0.0000
846.75	39.3323
848.13	36.5371
856.28	0.0000
856.80	38.6359
860.37	45.1191
867.32	29.0598
867.82	27.4489
871.10	44.2216
873.19	55.6510
874.81	44.3522
875.33	0.0000
876.40	33.9858
879.36	46.2954
880.27	46.3074
880.51	51.9810
881.50	54.8305
883.24	49.1806
884.67	40.6843
889.25	57.7857
896.60	41.7629
898.02	55.0712
899.00	58.8844
903.28	35.8597
911.07	42.4658
911.07	42.4658
911.07	42.4658
919.63	38.1950
920.93	40.1184
925.00	37.2917
925.24	40.1628
926.50	48.7858
935.52	42.1873
937.48	55.6376
944.10	33.6314
946.00	47.1069
949.00	33.6734
962.29	57.9187
964.01	57.9431
966.15	57.9749
968.20	44.7461
969.11	36.4682
969.11	36.4682
969.11	36.4682
977.42	33.9134
980.50	30.0603
983.50	48.5209
989.30	33.0413
996.32	55.4878
1001.03	33.1360
1001.68	36.0651
1004.76	58.5278
1021.30	0.0000
1024.50	0.0000
1034.80	41.2668
1036.00	36.3632
1037.82	31.4635
1038.57	33.4355
1038.76	0.0000
1045.16	38.4128
1046.59	41.3813
1048.07	45.3374

1050.47	47.3359
1050.47	47.3359
1062.04	35.5986
1063.62	36.6010
1076.63	39.6875
1077.35	34.7323
1078.86	33.7510
1085.78	43.7476
1099.22	45.8765
1112.02	41.1512
1112.84	53.1645
1115.52	48.0469
1120.29	49.1017
1120.29	49.1017
1120.29	49.1017
1120.29	49.1017
1120.51	49.1037
1121.28	44.6730
1124.00	0.0000
1129.67	41.6266
1131.51	0.0000
1147.95	0.0000
1167.94	40.5046
1173.22	52.7173
1175.09	54.7668
1177.93	34.5036
1189.05	30.5176
1204.90	39.8062
1205.75	0.0000
1213.00	36.8071
1221.42	46.0913
1230.97	62.6034
1235.34	48.2794
1236.41	0.0000
1238.25	57.5586
1246.25	43.2407
1260.41	0.0000
1271.85	28.9787
1274.45	36.2419
1274.54	36.2433
1291.56	28.0547
1298.22	0.0000
1312.09	31.3000
1325.50	23.0142
1325.50	23.0142
1332.49	32.4746
1333.61	34.5764
1360.21	22.1177
1362.66	0.0000
1365.15	24.2466
1368.21	24.2616
1368.53	0.0000
1376.25	28.5249
1384.27	24.3364
1394.10	21.2012
1395.20	20.1458
1407.95	15.9424
1434.06	16.0205
1436.60	18.1649
1457.56	0.0000
1460.81	14.7199
1489.15	22.6560
1509.49	10.8276
1596.49	28.2683
1620.62	22.5184
1678.03	0.0000
1691.02	6.7009
1691.02	6.7009
1706.46	0.0000
1750.46	0.0000
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1764.49	8.4756
1770.23	35.8721
1771.40	14.5454
1791.20	0.0000
1808.65	9.7538

1836.01

15.6719

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107008

Total Uranium Activity	5.9577E+00	ug/g
Total Uranium Counting Unc.	7.8240E+00	ug/g
Total Uranium Tpu	3.9919E-06	ug/g
Total Uranium Mda	4.4522E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107008
*  ANALYST       : MXR1                             DETECTOR    : GAM23
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 12:39:46.31          SAMPLE ALQT  : 107.970 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.786E+00
GROSS GAMMA ERROR  (pCi/GRAM ) : 1.499E+00
GROSS GAMMA MDA    (pCi/GRAM ) : 3.565E+00
GROSS GAMMA DLC    (pCi/GRAM ) : 1.723E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:51:11.24

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107009.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:28:08.
Sample ID          : G245107009 Sample quantity : 1.18810E+02 GRAM
Detector name      : GAM01 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.15 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit   : 75.00000 Sensitivity : 5.00000
Batch ID          : 944038 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	63.14*	127	526	1.39	127.00	121	12	1.77E-02	37.9	
2	3	74.83*	325	448	1.17	150.37	146	14	4.52E-02	12.4	1.43E+00
3	3	77.14*	582	439	1.20	154.98	146	14	8.08E-02	7.7	
4	0	87.36	161	423	1.16	175.42	172	7	2.24E-02	22.6	
5	2	90.05	114	219	1.05	180.80	179	15	1.59E-02	20.1	1.19E+00
6	2	92.88*	215	378	1.34	186.46	179	15	2.99E-02	18.7	
7	2	94.42	69	330	1.34	189.54	179	15	9.61E-03	54.9	
8	0	186.32*	122	520	1.39	373.23	366	13	1.69E-02	40.8	
9	0	209.80	162	273	0.97	420.16	416	10	2.25E-02	20.7	
10	2	238.98*	1032	214	1.23	478.49	473	18	1.43E-01	3.9	1.48E+00
11	2	241.97*	243	195	1.55	484.46	473	18	3.38E-02	14.5	
12	0	271.00	71	188	1.09	542.49	538	9	9.91E-03	36.8	
13	0	295.58*	311	147	1.27	591.64	588	8	4.32E-02	8.9	
14	0	338.64*	263	172	1.35	677.70	672	13	3.65E-02	12.2	
15	0	352.16*	703	127	1.24	704.73	699	11	9.77E-02	4.9	
16	0	464.46	42	151	1.72	929.19	920	14	5.76E-03	65.2	
17	0	511.03*	88	146	1.57	1022.27	1016	15	1.23E-02	35.1	
18	0	583.22*	305	145	1.46	1166.56	1159	16	4.24E-02	10.7	
19	0	609.61*	381	113	1.53	1219.30	1213	13	5.29E-02	7.9	
20	0	661.89	175	100	1.44	1323.80	1317	14	2.44E-02	14.2	
21	0	727.69	107	77	1.86	1455.32	1450	16	1.49E-02	20.6	
22	0	796.09	32	62	1.30	1592.02	1586	12	4.51E-03	53.4	
23	0	911.71*	194	86	1.62	1823.10	1816	15	2.70E-02	12.5	
24	0	934.18	28	35	1.52	1868.02	1863	10	3.89E-03	43.8	
25	1	965.21*	44	44	1.92	1930.04	1923	27	6.12E-03	30.8	1.37E+00
26	1	969.22*	142	28	1.77	1938.06	1923	27	1.97E-02	11.8	
27	0	1120.38*	109	52	2.22	2240.16	2232	16	1.52E-02	17.8	
28	0	1238.56	34	59	0.68	2476.35	2467	17	4.75E-03	54.4	
29	0	1461.04*	815	24	2.00	2920.97	2911	18	1.13E-01	3.8	
30	0	1765.05*	50	8	2.41	3528.50	3520	16	6.91E-03	20.7	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:51:14

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107009.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:28:08
Sample ID        : G245107009 Sample quantity : 118.81 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA1 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.15 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	*	2.551E+01	2.984E+00	6.902E-01	6.136E-02	36.961
CD-109	+	88.03	*	2.709E+00	1.252E+00	1.517E+00	1.436E-01	1.786
SN-126	+	64.28		1.521E+00	1.173E+00	8.823E-01	1.298E-01	1.723
	+	86.94		1.100E+00	6.758E-01	6.794E-01	2.821E-01	1.620
	+	87.57	*	2.647E-01	1.223E-01	1.490E-01	1.404E-02	1.776
BA-137M	+	661.65	*	3.206E-01	9.459E-02	7.314E-02	5.991E-03	4.383
CS-137	+	661.65	*	3.389E-01	1.000E-01	7.732E-02	6.347E-03	4.383
TL-208		277.35		3.906E-01	4.527E-01	7.754E-01	9.854E-02	0.504
	+	510.84		5.400E-01	3.843E-01	2.478E-01	2.946E-02	2.179
	+	583.14	*	5.342E-01	1.245E-01	6.948E-02	6.310E-03	7.688
		860.37		6.527E-01	3.777E-01	7.005E-01	6.713E-02	0.932
BI-211		72.87		8.658E+00	4.301E+00	6.674E+00	5.474E-01	1.297
	+	351.07	*	5.324E+00	7.087E-01	4.061E-01	3.694E-02	13.110
PB-212	+	74.81		2.313E+00	6.427E-01	6.748E-01	8.445E-02	3.428
	+	77.11		2.329E+00	4.086E-01	3.808E-01	3.231E-02	6.118
	+	87.30		1.224E+00	5.788E-01	7.769E-01	1.066E-01	1.576
	+	238.63	*	1.683E+00	2.158E-01	1.100E-01	1.114E-02	15.295
		300.09		1.755E+00	1.070E+00	1.702E+00	1.840E-01	1.031
PO-212	+	74.81		2.313E+00	6.427E-01	6.748E-01	8.445E-02	3.428
	+	77.11		2.329E+00	4.086E-01	3.808E-01	3.231E-02	6.118
	+	87.30		1.224E+00	5.788E-01	7.769E-01	1.066E-01	1.576
		115.19		4.276E-01	4.481E+00	7.153E+00	6.215E-01	0.060
	+	238.63	*	1.683E+00	2.158E-01	1.100E-01	1.114E-02	15.295
		300.09		1.755E+00	1.070E+00	1.702E+00	1.840E-01	1.031
BI-214	+	609.31	*	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
	+	1120.29		1.917E+00	7.132E-01	5.641E-01	6.035E-02	3.398
	+	1764.49		1.204E+00	5.085E-01	3.796E-01	3.184E-02	3.173
PB-214	+	74.81		3.986E+00	1.084E+00	1.163E+00	1.296E-01	3.428
	+	77.11		3.993E+00	7.636E-01	6.527E-01	7.444E-02	6.118
	+	87.30		2.097E+00	9.825E-01	1.331E+00	1.617E-01	1.576
	+	241.98		2.381E+00	7.343E-01	6.627E-01	7.078E-02	3.593
	+	295.21		1.383E+00	2.903E-01	2.668E-01	2.946E-02	5.185
	+	351.92	*	1.852E+00	2.648E-01	1.434E-01	1.503E-02	12.914
PO-214	+	74.81		3.986E+00	1.084E+00	1.163E+00	1.296E-01	3.428

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.993E+00	7.636E-01	6.527E-01	7.444E-02	6.118
	+	87.30		2.097E+00	9.825E-01	1.331E+00	1.617E-01	1.576
	+	241.98		2.381E+00	7.343E-01	6.627E-01	7.078E-02	3.593
	+	295.21		1.383E+00	2.903E-01	2.668E-01	2.946E-02	5.185
	+	351.92	*	1.852E+00	2.648E-01	1.434E-01	1.503E-02	12.914
PO-216	+	74.81		2.313E+00	6.427E-01	6.748E-01	8.445E-02	3.428
	+	77.11		2.329E+00	4.086E-01	3.808E-01	3.231E-02	6.118
	+	87.30		1.224E+00	5.788E-01	7.769E-01	1.066E-01	1.576
	+	238.63	*	1.683E+00	2.158E-01	1.100E-01	1.114E-02	15.295
		300.09		1.755E+00	1.070E+00	1.702E+00	1.840E-01	1.031
PO-218	+	74.81		3.986E+00	1.084E+00	1.163E+00	1.296E-01	3.428
	+	77.11		3.993E+00	7.636E-01	6.527E-01	7.444E-02	6.118
	+	87.30		2.097E+00	9.825E-01	1.331E+00	1.617E-01	1.576
	+	241.98		2.381E+00	7.343E-01	6.627E-01	7.078E-02	3.593
	+	295.21		1.383E+00	2.903E-01	2.668E-01	2.946E-02	5.185
	+	351.92	*	1.852E+00	2.648E-01	1.434E-01	1.503E-02	12.914
RA-224	+	240.98	*	4.515E+00	1.369E+00	1.252E+00	1.138E-01	3.606
RA-226	+	609.31	*	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
	+	1120.29		1.917E+00	7.132E-01	5.641E-01	6.035E-02	3.398
	+	1764.49		1.204E+00	5.085E-01	3.796E-01	3.184E-02	3.173
AC-228	+	338.32		2.188E+00	1.050E+00	4.128E-01	1.705E-01	5.300
	+	911.07	*	1.534E+00	4.230E-01	2.499E-01	2.893E-02	6.138
	+	969.11		1.977E+00	6.592E-01	4.351E-01	1.021E-01	4.544
RA-228	+	338.32		2.188E+00	1.050E+00	4.128E-01	1.705E-01	5.300
	+	911.07	*	1.534E+00	4.230E-01	2.499E-01	2.893E-02	6.138
	+	969.11		1.977E+00	6.592E-01	4.351E-01	1.021E-01	4.544
TH-228	+	74.81		2.358E+00	6.174E-01	6.877E-01	5.777E-02	3.428
	+	77.11		2.374E+00	4.164E-01	3.881E-01	3.293E-02	6.118
	+	87.30		1.248E+00	5.765E-01	7.918E-01	7.436E-02	1.576
	+	238.63	*	1.715E+00	2.199E-01	1.121E-01	1.135E-02	15.295
		300.09		1.789E+00	1.510E+00	1.735E+00	1.030E+00	1.031
TH-230	+	609.31	*	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
	+	1120.29		1.917E+00	7.132E-01	5.641E-01	6.035E-02	3.398
	+	1764.49		1.204E+00	5.085E-01	3.796E-01	3.184E-02	3.173
TH-232	+	338.32		2.188E+00	5.679E-01	4.128E-01	3.634E-02	5.300
	+	911.07	*	1.534E+00	4.230E-01	2.499E-01	2.893E-02	6.138
	+	969.11		1.977E+00	6.592E-01	4.351E-01	1.021E-01	4.544
TH-234	+	63.29	*	3.842E+00	2.987E+00	2.331E+00	4.097E-01	1.648
	+	92.38		2.281E+00	9.492E-01	8.612E-01	1.579E-01	2.649
U-234	+	609.31	*	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
	+	1120.29		1.917E+00	7.132E-01	5.641E-01	6.035E-02	3.398
	+	1764.49		1.204E+00	5.085E-01	3.796E-01	3.184E-02	3.173
NP-237	+	86.50	*	7.773E-01	3.934E-01	4.842E-01	1.096E-01	1.605
	+	95.87		1.508E+00	1.698E+00	1.808E+00	4.474E-01	0.834
U-238	+	63.29	*	3.842E+00	2.987E+00	2.331E+00	4.097E-01	1.648
	+	92.38		2.281E+00	8.772E-01	8.612E-01	7.864E-02	2.649
AM-243	+	74.67	*	3.751E-01	9.811E-02	1.098E-01	9.128E-03	3.417
	+	86.72		2.915E+01	1.347E+01	1.808E+01	1.687E+00	1.613
		117.66		-3.193E+00	4.635E+00	7.108E+00	6.197E-01	-0.449

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		2.809E+00	2.048E+01	3.488E+01	2.983E+00	0.081
ANH-511	+	511.00	*	1.166E-01	8.244E-02	5.355E-02	4.538E-03	2.178

---- 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	*	-2.685E-01	4.329E-01	6.585E-01	5.991E-02	-0.408
NA-22		1274.54	*	1.242E-02	5.042E-02	8.646E-02	7.260E-03	0.144
NA-24		1368.53	*	-2.167E+01	5.042E-02	Half-Life too short		
AL-26		1129.67		-1.300E+00	2.227E+00	3.351E+00	2.799E-01	-0.388
		1808.65	*	-2.269E-02	3.810E-02	5.350E-02	4.433E-03	-0.424
TI-44		67.85		-4.939E-02	6.390E-02	8.826E-02	6.999E-03	-0.560
	+	78.38	*	4.299E-01	7.541E-02	9.644E-02	8.277E-03	4.458
SC-46		889.25	*	3.722E-03	4.657E-02	7.678E-02	6.941E-03	0.048
	+	1120.51		3.390E-01	1.241E-01	1.782E-01	1.497E-02	1.902
V-48		944.10		-2.841E-01	1.214E+00	1.922E+00	1.731E-01	-0.148
		983.50	*	-5.483E-02	1.028E-01	1.565E-01	1.398E-02	-0.350
		1312.09		-5.586E-02	1.198E-01	1.887E-01	1.600E-02	-0.296
CR-51		320.08	*	1.528E-01	5.306E-01	8.832E-01	8.307E-02	0.173
MN-52		744.21		-6.568E-03	4.986E-01	8.234E-01	7.064E-02	-0.008
		848.13		1.664E+01	1.316E+01	2.406E+01	2.150E+00	0.692
	+	935.52		7.083E-01	6.239E-01	9.492E-01	8.561E-02	0.746
		1246.25		6.619E+00	1.551E+01	2.456E+01	2.041E+00	0.270
		1333.61		6.042E+00	8.350E+00	1.529E+01	1.304E+00	0.395
		1434.06	*	4.663E-01	5.065E-01	9.346E-01	8.068E-02	0.499
MN-54		834.83	*	-6.976E-05	4.521E-02	7.420E-02	6.604E-03	-0.001
CO-56		846.75	*	5.094E-03	4.977E-02	8.244E-02	7.366E-03	0.062
		977.42		-1.160E-01	4.251E+00	5.936E+00	5.308E-01	-0.020
		1037.82		0.000E+00	3.381E-01	5.470E-01	5.043E-02	0.000
		1175.09		5.059E-02	2.753E+00	4.629E+00	3.749E-01	0.011
	+	1238.25		1.752E-01	1.911E-01	1.967E-01	1.682E-02	0.891
		1360.21		1.469E+00	1.196E+00	2.292E+00	1.963E-01	0.641
		1771.40		-7.366E-02	3.305E-01	4.279E-01	3.582E-02	-0.172
CO-57		122.06	*	-1.272E-02	3.114E-02	4.840E-02	4.260E-03	-0.263
		136.48		-1.794E-01	2.464E-01	4.058E-01	3.749E-02	-0.442
CO-58		810.76	*	3.099E-02	4.654E-02	8.146E-02	7.207E-03	0.380
FE-59		142.65		5.956E-01	3.344E+00	5.705E+00	4.878E-01	0.104
		192.34		-8.528E-01	1.285E+00	2.011E+00	2.717E-01	-0.424
		1099.22	*	6.721E-03	1.183E-01	1.919E-01	1.769E-02	0.035
		1291.56		-5.133E-02	1.481E-01	2.364E-01	2.274E-02	-0.217
CO-60		1173.22		-2.416E-02	5.530E-02	8.895E-02	7.199E-03	-0.272
		1332.49	*	-1.382E-02	4.212E-02	6.677E-02	5.691E-03	-0.207
ZN-65		1115.52	*	-4.401E-02	1.366E-01	1.802E-01	1.521E-02	-0.244
GE-68		1077.35	*	-6.482E-01	1.621E+00	2.498E+00	2.151E-01	-0.259
AS-73		53.44	*	-1.441E-01	1.113E+00	1.802E+00	1.459E-01	-0.080
AS-74		595.88	*	-2.679E-02	1.318E-01	2.173E-01	1.831E-02	-0.123
		634.78		-1.643E-01	4.791E-01	7.756E-01	6.443E-02	-0.212
SE-75		66.05		-1.665E+00	6.373E+00	9.064E+00	8.887E-01	-0.184

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		2.272E-02	1.035E+00	1.474E+00	2.036E-01	0.015
		121.11		-9.216E-02	1.669E-01	2.571E-01	2.916E-02	-0.358
		136.00		-1.914E-02	4.652E-02	7.770E-02	6.724E-03	-0.246
		198.60		-3.249E+00	2.331E+00	3.483E+00	3.388E-01	-0.933
		264.65	*	2.320E-02	5.575E-02	9.117E-02	8.375E-03	0.255
		279.53		1.001E-02	1.365E-01	2.259E-01	2.135E-02	0.044
		303.91		-3.923E+00	2.726E+00	4.042E+00	4.775E-01	-0.971
		400.65		2.313E-03	3.430E-01	5.557E-01	5.955E-02	0.004
BR-77	+	87.88		1.838E-03	3.430E-01	Half-Life	too short	
		200.40		1.889E-04	3.430E-01	Half-Life	too short	
	+	239.00		8.536E-04	3.430E-01	Half-Life	too short	
		249.79		-2.081E-04	3.430E-01	Half-Life	too short	
		281.68		-1.974E-04	3.430E-01	Half-Life	too short	
		297.23		9.050E-04	3.430E-01	Half-Life	too short	
		303.76		-9.271E-04	3.430E-01	Half-Life	too short	
		439.47		1.104E-04	3.430E-01	Half-Life	too short	
		484.57		4.331E-05	3.430E-01	Half-Life	too short	
		520.65	*	1.873E-05	3.430E-01	Half-Life	too short	
		574.64		2.406E-04	3.430E-01	Half-Life	too short	
		578.91		-5.515E-06	3.430E-01	Half-Life	too short	
		585.48		5.194E-03	3.430E-01	Half-Life	too short	
		755.35		6.006E-04	3.430E-01	Half-Life	too short	
		817.79		4.024E-04	3.430E-01	Half-Life	too short	
SR-82		698.33		-1.947E+01	4.540E+01	7.257E+01	6.077E+00	-0.268
		776.49	*	-4.359E-01	5.124E-01	7.735E-01	6.734E-02	-0.563
		1395.20		-1.607E+01	1.483E+01	2.042E+01	1.757E+00	-0.787
RB-83		520.41	*	4.862E-02	9.097E-02	1.514E-01	1.284E-02	0.321
		529.64		-2.436E-02	1.339E-01	2.161E-01	1.834E-02	-0.113
		552.65		7.885E-02	2.488E-01	4.279E-01	3.631E-02	0.184
RB-84		881.50	*	4.298E-02	8.781E-02	1.510E-01	1.362E-02	0.285
KR-85		513.99	*	1.568E+01	1.073E+01	1.692E+01	1.435E+00	0.927
SR-85		513.99	*	8.382E-02	5.735E-02	9.043E-02	7.667E-03	0.927
RB-86		1076.63	*	-3.555E-01	1.177E+00	1.835E+00	1.580E-01	-0.194
Y-88		898.02		1.193E-02	4.843E-02	8.122E-02	7.390E-03	0.147
		1836.01	*	-1.185E-02	5.013E-02	7.781E-02	6.400E-03	-0.152
ZR-88		392.90	*	-6.439E-03	3.899E-02	6.247E-02	5.030E-03	-0.103
Y-91		1204.90	*	9.455E-01	2.128E+01	3.582E+01	2.934E+00	0.026
NB-94		702.63	*	-2.496E-03	4.048E-02	6.682E-02	5.609E-03	-0.037
		871.10		9.031E-03	4.384E-02	7.317E-02	6.584E-03	0.123
NB-95		765.79	*	-2.183E-02	5.692E-02	9.097E-02	7.883E-03	-0.240
NB-95M		235.69	*	1.894E-01	1.689E-01	2.624E-01	2.692E-02	0.722
ZR-95		724.18		1.299E-01	1.277E-01	2.051E-01	1.897E-02	0.633
		756.15	*	4.580E-02	9.012E-02	1.553E-01	1.475E-02	0.295
NB-97		657.90	*	8.424E-01	9.012E-02	Half-Life	too short	
		1024.50		7.566E+02	9.012E-02	Half-Life	too short	
ZR-97		254.15		1.852E+02	9.012E-02	Half-Life	too short	
		355.39		2.273E+02	9.012E-02	Half-Life	too short	
		507.63	*	7.994E+01	9.012E-02	Half-Life	too short	
		602.52		6.041E+02	9.012E-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			-4.644E+02	9.012E-02	Half-Life	too short	
	1147.95			-2.322E+02	9.012E-02	Half-Life	too short	
	1362.66			-5.447E+01	9.012E-02	Half-Life	too short	
	1750.46			7.346E+01	9.012E-02	Half-Life	too short	
MO-99	140.51			-1.223E+01	8.469E+01	1.400E+02	3.876E+01	-0.087
	181.06			1.308E+01	6.153E+01	9.216E+01	1.687E+01	0.142
	366.43			-7.396E+01	2.502E+02	3.979E+02	3.365E+01	-0.186
	739.58	*		-3.619E+01	3.918E+01	5.867E+01	8.889E+00	-0.617
	778.00			8.379E+00	1.077E+02	1.788E+02	1.558E+01	0.047
TC-99M	140.51	*		-3.562E+14	1.077E+02	Half-Life	too short	
RH-101	127.23			-1.130E-02	4.047E-02	6.326E-02	5.503E-03	-0.179
	198.01	*		-5.197E-02	4.176E-02	6.307E-02	5.550E-03	-0.824
	325.23			-4.703E-01	2.895E-01	4.236E-01	3.780E-02	-1.110
RH-102	418.52			-1.156E-01	3.792E-01	5.996E-01	4.914E-02	-0.193
	475.06	*		4.419E-02	3.590E-02	6.280E-02	5.281E-03	0.704
	631.29			4.684E-03	6.202E-02	1.042E-01	8.670E-03	0.045
	697.49			-2.273E-02	9.228E-02	1.500E-01	1.255E-02	-0.152
	766.84			1.324E-01	1.417E-01	2.494E-01	2.162E-02	0.531
	1046.59			1.844E-02	1.394E-01	2.288E-01	1.998E-02	0.081
	1112.84			3.534E-01	2.911E-01	4.799E-01	4.051E-02	0.736
RU-103	497.08	*		-1.082E-02	5.452E-02	8.575E-02	1.206E-02	-0.126
	610.33	+		1.457E+01	3.337E+00	3.914E+00	6.484E-01	3.721
RH-106	511.85	+		5.869E-01	4.148E-01	5.397E-01	4.575E-02	1.087
	621.84	*		2.445E-01	3.729E-01	6.537E-01	8.621E-02	0.374
	1050.47			5.434E-01	2.835E+00	4.680E+00	4.082E-01	0.116
RU-106	511.85	+		5.869E-01	4.148E-01	5.397E-01	4.575E-02	1.087
	621.84	*		2.445E-01	3.720E-01	6.537E-01	5.461E-02	0.374
	1050.47			5.434E-01	2.835E+00	4.680E+00	4.082E-01	0.116
AG-108M	433.93	*		-2.935E-04	3.822E-02	6.158E-02	5.311E-03	-0.005
	614.37			2.917E-02	4.974E-02	7.707E-02	6.724E-03	0.379
	722.95			6.116E-03	5.242E-02	7.649E-02	6.754E-03	0.080
AG-110M	657.75	*		4.809E-03	4.759E-02	6.970E-02	5.910E-03	0.069
	677.61			1.072E-01	3.663E-01	6.240E-01	5.319E-02	0.172
	706.67			4.998E-02	2.531E-01	4.119E-01	3.565E-02	0.121
	763.93			-2.446E-01	2.158E-01	3.200E-01	2.848E-02	-0.764
	884.67			6.384E-03	5.829E-02	9.643E-02	8.963E-03	0.066
	937.48			2.571E-02	1.557E-01	2.246E-01	2.092E-02	0.114
	1384.27			-1.649E-01	2.120E-01	3.146E-01	2.779E-02	-0.524
IN-111	171.28			-3.959E-01	3.253E+00	5.451E+00	4.666E-01	-0.073
	245.39	*		-9.539E-01	3.641E+00	5.206E+00	4.740E-01	-0.183
IN-113M	391.69	*		3.960E-02	5.594E-02	9.492E-02	7.907E-03	0.417
SN-113	391.69	*		3.960E-02	5.594E-02	9.492E-02	7.907E-03	0.417
IN-114M	190.27	*		-1.400E-01	2.660E-01	3.807E-01	3.324E-02	-0.368
CD-115	260.90			-8.511E-05	2.660E-01	Half-Life	too short	
	492.35			-3.730E-05	2.660E-01	Half-Life	too short	
	527.90	*		4.506E-05	2.660E-01	Half-Life	too short	
SN-117M	156.02			6.220E-01	3.257E+00	5.542E+00	4.719E-01	0.112
	158.56	*		4.666E-02	7.983E-02	1.376E-01	1.172E-02	0.339
SB-122	563.90	*		2.906E+00	7.032E+00	1.215E+01	1.030E+00	0.239

---- 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			8.204E+01	1.624E+02	2.700E+02	2.254E+01	0.304
	159.00	*		5.168E+02	1.624E+02	Half-Life	too short	
	528.96			3.448E+04	1.624E+02	Half-Life	too short	
TE-123M	159.00	*		1.765E-02	3.448E-02	5.930E-02	5.080E-03	0.298
I-124	602.71	*		1.799E+00	1.757E+00	2.910E+00	2.447E-01	0.618
	722.78			1.096E+00	1.052E+01	1.532E+01	1.301E+00	0.071
	1325.50			7.525E+01	7.248E+01	1.364E+02	1.160E+01	0.552
SB-124	1376.25			5.383E+01	7.810E+01	1.394E+02	1.196E+01	0.386
	1509.49			1.835E+01	3.948E+01	6.919E+01	5.990E+00	0.265
	1691.02			-9.456E-01	8.882E+00	1.421E+01	1.211E+00	-0.067
	602.71			5.688E-02	5.555E-02	9.201E-02	7.739E-03	0.618
	645.85			-4.330E-01	6.019E-01	9.367E-01	8.244E-02	-0.462
	709.31			-2.486E+00	3.316E+00	5.105E+00	4.301E-01	-0.487
	713.82			-2.287E-01	1.943E+00	3.185E+00	3.795E-01	-0.072
	722.78			5.023E-02	4.822E-01	7.025E-01	6.095E-02	0.071
	+	968.20		2.130E+01	5.394E+00	9.619E+00	8.621E-01	2.214
	1045.16			2.050E+00	3.154E+00	5.453E+00	4.766E-01	0.376
	1325.50			3.684E+00	3.549E+00	6.676E+00	5.680E-01	0.552
	1368.21			-1.187E+00	2.200E+00	3.363E+00	4.522E-01	-0.353
	1436.60			-2.552E+00	5.122E+00	7.872E+00	6.797E-01	-0.324
SB-125	1691.02	*		-1.022E-02	9.604E-02	1.537E-01	1.362E-02	-0.067
	427.89	*		2.690E-02	1.175E-01	1.927E-01	1.621E-02	0.140
	+	463.38		4.963E-01	6.485E-01	6.669E-01	6.049E-02	0.744
	600.56			2.646E-02	2.276E-01	3.841E-01	3.482E-02	0.069
TE-125M	635.90			6.363E-02	3.035E-01	5.156E-01	4.653E-02	0.123
I-126	109.28	*		2.799E+00	1.180E+01	1.899E+01	1.971E+00	0.147
	388.63			3.420E-01	3.259E-01	5.620E-01	4.552E-02	0.609
	666.33	*		-3.230E-03	3.142E-01	4.537E-01	3.727E-02	-0.007
SB-126	753.82			8.978E-01	2.289E+00	3.905E+00	3.365E-01	0.230
	223.80			-1.384E+00	6.212E+00	1.024E+01	9.213E-01	-0.135
	278.60			3.653E+00	3.710E+00	6.404E+00	5.857E-01	0.570
	+	296.50		1.717E+01	3.440E+00	5.671E+00	5.160E-01	3.027
	414.70			5.873E-02	1.242E-01	2.068E-01	1.691E-02	0.284
	415.30			1.203E+01	1.007E+01	1.750E+01	1.431E+00	0.687
	555.20			4.109E-01	5.996E+00	1.013E+01	8.597E-01	0.041
	573.80			1.873E-02	1.529E+00	2.569E+00	2.174E-01	0.007
	593.00			-2.260E-02	1.392E+00	2.329E+00	1.964E-01	-0.010
	656.30			-1.062E+00	5.589E+00	7.897E+00	6.489E-01	-0.134
	666.33			-1.362E-03	1.325E-01	1.913E-01	1.572E-02	-0.007
	675.00			9.537E-01	2.937E+00	5.015E+00	4.142E-01	0.190
	695.00			3.156E-02	1.202E-01	2.036E-01	1.702E-02	0.155
	697.00			1.440E-02	4.032E-01	6.712E-01	5.616E-02	0.021
	720.50	*		-8.488E-02	2.211E-01	3.311E-01	2.807E-02	-0.256
	856.80			-9.379E-01	7.642E-01	1.096E+00	9.819E-02	-0.856
	989.30			1.248E+00	1.826E+00	3.185E+00	2.839E-01	0.392
	1034.80			-3.512E+00	1.197E+01	1.862E+01	1.634E+00	-0.189
	1213.00			-3.940E-01	6.505E+00	1.083E+01	8.900E-01	-0.036
SB-127	61.10			5.863E+01	1.542E+02	2.277E+02	2.674E+01	0.257
	252.40			4.541E+00	1.101E+01	1.833E+01	7.787E+00	0.248

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

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	290.80			-2.074E+01	5.947E+01	8.344E+01	1.065E+01	-0.249
	411.60			-2.779E+01	3.341E+01	5.052E+01	8.288E+00	-0.550
	444.90			1.683E+01	2.523E+01	4.245E+01	5.718E+00	0.397
	473.00			-4.562E-01	4.322E+00	6.877E+00	9.513E-01	-0.066
	543.00			-1.630E+01	3.989E+01	6.494E+01	9.945E+00	-0.251
	603.60			1.432E+01	3.411E+01	5.165E+01	6.975E+00	0.277
	685.20	*		2.044E+00	3.182E+00	5.564E+00	6.903E-01	0.367
	698.50			-1.445E+01	3.704E+01	5.933E+01	9.850E+00	-0.244
	722.20			-4.151E+00	7.871E+01	1.123E+02	1.384E+01	-0.037
	783.80			2.225E+00	9.825E+00	1.648E+01	2.246E+00	0.135
XE-127	57.60			1.252E+00	8.877E+00	1.298E+01	9.971E-01	0.096
	145.22			-5.250E-01	9.036E-01	1.462E+00	1.249E-01	-0.359
	172.10			-4.181E-02	1.589E-01	2.646E-01	2.267E-02	-0.158
	202.84	*		-1.049E-02	6.165E-02	1.024E-01	9.050E-03	-0.102
	374.96			-2.001E-01	2.815E-01	4.283E-01	3.567E-02	-0.467
I-131	80.18			-1.009E-01	8.470E+00	1.213E+01	1.069E+00	-0.008
	284.30			-2.224E-01	2.653E+00	4.352E+00	4.174E-01	-0.051
	364.48	*		1.543E-01	1.864E-01	3.201E-01	2.878E-02	0.482
	636.97			-7.104E-01	2.545E+00	4.145E+00	3.660E-01	-0.171
	722.89			1.263E+00	1.239E+01	1.804E+01	1.547E+00	0.070
TE-132	49.72			2.491E+01	6.290E+01	1.043E+02	1.239E+01	0.239
	111.76			4.030E+00	8.862E+01	1.413E+02	1.697E+01	0.029
	116.30			-2.125E+01	7.954E+01	1.248E+02	1.502E+01	-0.170
	228.16	*		2.063E+00	1.968E+00	3.378E+00	5.649E-01	0.611
BA-133	53.15			-2.992E+00	4.741E+00	7.490E+00	6.086E-01	-0.399
	79.62			1.372E+00	1.690E+00	2.506E+00	3.823E-01	0.547
	81.00			-1.640E-01	1.370E-01	1.808E-01	2.888E-02	-0.907
	276.40			3.273E-01	4.771E-01	7.574E-01	1.119E-01	0.432
	302.84			-2.016E-02	1.765E-01	2.880E-01	3.912E-02	-0.070
	356.01	*		1.874E-02	5.910E-02	8.667E-02	1.143E-02	0.216
	383.85			-1.539E-01	3.681E-01	5.791E-01	7.128E-02	-0.266
I-133	510.53	+		2.782E+01	3.681E-01	Half-Life	too short	
	529.87	*		-4.732E-02	3.681E-01	Half-Life	too short	
	706.58			2.290E+00	3.681E-01	Half-Life	too short	
	856.28			-1.237E+01	3.681E-01	Half-Life	too short	
	875.33			1.980E+00	3.681E-01	Half-Life	too short	
	1236.41			1.553E+01	3.681E-01	Half-Life	too short	
	1298.22			4.955E+00	3.681E-01	Half-Life	too short	
CS-134	475.35			2.351E+00	2.379E+00	4.095E+00	3.444E-01	0.574
	563.23			3.436E-01	4.285E-01	7.600E-01	6.507E-02	0.452
	569.32			-7.136E-02	2.419E-01	3.953E-01	3.396E-02	-0.181
	604.70			5.945E-03	4.961E-02	7.308E-02	6.158E-03	0.081
	795.84	+	*	8.321E-02	8.917E-02	1.121E-01	9.908E-03	0.742
	801.93			-2.250E-01	4.981E-01	6.665E-01	5.895E-02	-0.338
	1038.57			-2.436E+00	4.328E+00	6.485E+00	5.684E-01	-0.376
	1167.94			1.756E+00	3.017E+00	5.333E+00	4.334E-01	0.329
	1365.15			2.942E-01	1.374E+00	2.353E+00	2.109E-01	0.125
CS-135	268.24	*		-6.959E-02	2.202E-01	3.121E-01	3.255E-02	-0.223
I-135	288.45			-4.101E+14	2.202E-01	Half-Life	too short	

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

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		417.63		1.326E+14	2.202E-01	Half-Life too short		
		546.56		-3.835E+14	2.202E-01	Half-Life too short		
		836.80		1.234E+14	2.202E-01	Half-Life too short		
		1038.76		-2.633E+14	2.202E-01	Half-Life too short		
		1124.00		8.668E+14	2.202E-01	Half-Life too short		
		1131.51		1.924E+14	2.202E-01	Half-Life too short		
		1260.41	*	2.552E+13	2.202E-01	Half-Life too short		
		1457.56		6.545E+15	2.202E-01	Half-Life too short		
		1678.03		-8.912E+13	2.202E-01	Half-Life too short		
		1706.46		-4.373E+14	2.202E-01	Half-Life too short		
		1791.20		-5.937E+13	2.202E-01	Half-Life too short		
CS-136		66.91		4.051E-01	1.234E+00	1.811E+00	2.723E-01	0.224
	+	86.29		4.252E+00	2.006E+00	2.945E+00	3.920E-01	1.444
		153.22		1.896E-01	9.528E-01	1.623E+00	1.549E-01	0.117
		163.89		-5.036E-01	1.571E+00	2.571E+00	2.459E-01	-0.196
		176.55		4.902E-01	5.394E-01	9.368E-01	8.534E-02	0.523
		273.65		-4.709E-01	7.531E-01	1.039E+00	1.006E-01	-0.453
		340.57		6.403E-01	2.425E-01	3.997E-01	3.609E-02	1.602
		818.51		1.127E-01	1.140E-01	2.036E-01	1.805E-02	0.553
		1048.07	*	-1.234E-01	1.700E-01	2.518E-01	2.290E-02	-0.490
		1235.34		4.415E-01	9.782E-01	1.491E+00	1.731E-01	0.296
CE-139		165.85	*	-1.685E-02	3.529E-02	5.829E-02	4.964E-03	-0.289
BA-140		162.64		-2.431E-01	1.116E+00	1.835E+00	1.655E-01	-0.132
		304.84		-2.690E+00	2.074E+00	2.909E+00	8.192E-01	-0.925
		423.70		-1.221E+00	3.056E+00	4.751E+00	1.535E+00	-0.257
		537.32	*	1.574E-01	3.916E-01	6.727E-01	2.227E-01	0.234
LA-140		328.77		8.366E-01	4.661E-01	8.255E-01	7.730E-02	1.013
		432.53		-1.158E+00	3.056E+00	4.778E+00	4.156E-01	-0.242
		487.03		8.691E-02	2.062E-01	3.416E-01	3.067E-02	0.254
		751.79		-1.512E+00	2.811E+00	4.428E+00	4.220E-01	-0.341
		815.85		-4.719E-01	4.997E-01	7.402E-01	7.264E-02	-0.637
		867.82		6.641E-02	2.167E+00	3.558E+00	3.355E-01	0.019
		919.63		2.153E+00	4.026E+00	6.617E+00	7.272E-01	0.325
		925.24		-4.089E-01	1.632E+00	2.585E+00	2.469E-01	-0.158
		1596.49	*	-8.146E-02	1.377E-01	2.043E-01	1.763E-02	-0.399
CE-141		145.44	*	-5.768E-02	8.241E-02	1.326E-01	1.153E-02	-0.435
CE-143		57.37		8.308E-04	8.241E-02	Half-Life too short		
		231.56		-2.125E-02	8.241E-02	Half-Life too short		
		293.26	*	2.750E-03	8.241E-02	Half-Life too short		
		350.59		2.266E-01	8.241E-02	Half-Life too short		
		490.36		-1.968E-02	8.241E-02	Half-Life too short		
		664.57		3.104E-02	8.241E-02	Half-Life too short		
		721.93		-4.094E-04	8.241E-02	Half-Life too short		
CE-144		80.11		4.758E-02	2.805E+00	4.025E+00	3.510E-01	0.012
		133.54	*	2.610E-02	2.605E-01	4.136E-01	6.438E-02	0.063
PM-144		476.78		3.753E-02	8.457E-02	1.403E-01	1.296E-02	0.268
		618.01		-2.582E-02	3.882E-02	6.129E-02	5.278E-03	-0.421
		696.49	*	8.695E-03	4.220E-02	7.120E-02	5.960E-03	0.122
		778.57		7.121E-01	2.729E+00	4.607E+00	4.016E-01	0.155

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PR-144	696.49	*		5.904E-01	2.866E+00	4.835E+00	4.045E-01	0.122
	1489.15			-5.210E+00	1.394E+01	2.152E+01	1.862E+00	-0.242
PM-146	453.90	*		-6.631E-05	5.865E-02	9.433E-02	9.909E-03	-0.001
	633.02			-1.113E-01	1.577E+00	2.616E+00	9.758E-01	-0.043
	735.90			3.633E-02	2.020E-01	2.963E-01	8.467E-02	0.123
	747.13			4.532E-02	1.176E-01	2.004E-01	2.809E-02	0.226
ND-147	+ 91.11			8.033E-01	3.330E-01	7.849E-01	7.759E-02	1.023
	319.41			2.282E+00	5.452E+00	9.140E+00	8.201E-01	0.250
	439.89			5.228E+00	9.537E+00	1.596E+01	1.324E+00	0.328
	531.02	*		-1.324E+00	9.175E-01	1.296E+00	1.928E-01	-1.022
PM-149	285.90	*		5.116E-05	9.175E-01	Half-Life	too short	
EU-152	121.78			-3.243E-02	8.967E-02	1.397E-01	1.407E-02	-0.232
	244.69			1.040E-01	4.397E-01	6.516E-01	5.931E-02	0.160
	344.27	*		-3.131E-02	1.359E-01	1.902E-01	1.759E-02	-0.165
	443.98			6.298E-01	1.230E+00	2.053E+00	1.706E-01	0.307
	778.89			7.630E-02	3.123E-01	5.264E-01	4.588E-02	0.145
	867.32			3.241E-01	1.022E+00	1.725E+00	1.551E-01	0.188
	+ 964.01			7.080E-01	4.408E-01	6.863E-01	6.157E-02	1.032
	1085.78			-2.097E-01	5.031E-01	7.725E-01	6.623E-02	-0.271
	1112.02			2.195E-01	4.309E-01	6.708E-01	5.665E-02	0.327
	1407.95			3.135E-01	2.327E-01	4.463E-01	3.844E-02	0.702
GD-153	69.67			-3.033E-01	2.130E+00	3.257E+00	2.613E-01	-0.093
	83.37			2.269E+00	2.016E+01	2.888E+01	2.600E+00	0.079
	97.43	*		6.653E-02	1.040E-01	1.522E-01	1.351E-02	0.437
	103.18			1.911E-02	1.275E-01	2.048E-01	1.787E-02	0.093
EU-154	123.07			5.584E-03	6.142E-02	9.781E-02	1.123E-02	0.057
	247.94			-6.701E-02	4.700E-01	7.159E-01	8.484E-02	-0.094
	591.81			-1.197E-01	7.974E-01	1.286E+00	1.483E-01	-0.093
	723.30			2.039E-02	2.252E-01	3.273E-01	3.080E-02	0.062
	756.87			3.557E-01	9.371E-01	1.598E+00	1.915E-01	0.223
	873.19			-2.054E-02	3.814E-01	6.209E-01	7.772E-02	-0.033
	996.32			-4.041E-01	4.725E-01	6.856E-01	1.227E-01	-0.589
	1004.76			-6.186E-02	2.628E-01	4.085E-01	4.832E-02	-0.151
	1274.45	*		3.366E-02	1.405E-01	2.406E-01	2.680E-02	0.140
EU-155	48.70			9.595E-01	3.436E+00	5.676E+00	4.857E-01	0.169
	60.01			2.261E+00	6.485E+00	9.583E+00	7.244E-01	0.236
	+ 86.54			3.193E-01	1.476E-01	2.221E-01	2.086E-02	1.438
	105.31	*		5.775E-02	1.312E-01	2.132E-01	1.875E-02	0.271
TB-160	+ 86.79			8.844E-01	4.087E-01	6.156E-01	5.749E-02	1.437
	197.04			-1.089E-01	7.258E-01	1.159E+00	1.019E-01	-0.094
	215.65			-1.694E-01	1.010E+00	1.549E+00	1.385E-01	-0.109
	298.57			6.541E-02	1.678E-01	2.486E-01	2.260E-02	0.263
	879.36	*		-8.388E-02	1.728E-01	2.676E-01	2.413E-02	-0.313
	962.29			6.642E-01	7.188E-01	1.137E+00	1.020E-01	0.584
	+ 966.15			5.046E-01	3.142E-01	5.914E-01	5.303E-02	0.853
	1177.93			-3.744E-01	4.759E-01	7.387E-01	5.990E-02	-0.507
	1271.85			-4.169E-01	8.758E-01	1.383E+00	1.159E-01	-0.301
HO-166M	80.57			-1.796E-01	3.617E-01	5.048E-01	4.421E-02	-0.356
	184.41			9.251E-02	4.386E-02	7.778E-02	6.750E-03	1.189

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		280.46		-5.108E-02	1.039E-01	1.666E-01	1.524E-02	-0.306
		410.95		1.592E-02	3.157E-01	5.123E-01	4.178E-02	0.031
		711.68	*	-1.613E-02	6.762E-02	1.096E-01	9.243E-03	-0.147
		752.31		-7.679E-02	3.503E-01	5.677E-01	4.889E-02	-0.135
		810.29		5.090E-02	6.663E-02	1.177E-01	1.039E-02	0.432
TM-171		51.35		1.051E+00	4.194E+01	6.845E+01	5.697E+00	0.015
		52.39		-7.177E+00	2.059E+01	3.300E+01	2.709E+00	-0.218
		59.40		1.580E+01	3.512E+01	5.221E+01	3.935E+00	0.303
		66.72	*	4.638E+00	3.680E+01	5.347E+01	4.211E+00	0.087
LU-176	+	88.36		6.278E-01	2.901E-01	4.340E-01	4.093E-02	1.447
		201.83		-2.651E-02	3.505E-02	5.663E-02	5.002E-03	-0.468
		306.84	*	-2.730E-03	2.938E-02	4.797E-02	4.341E-03	-0.057
		401.10		-1.334E+00	8.675E+00	1.390E+01	1.126E+00	-0.096
LU-177		112.95		2.120E-01	3.186E+00	5.032E+00	4.364E-01	0.042
	+	208.36	*	7.022E+00	2.970E+00	3.678E+00	3.269E-01	1.909
LU-177M		52.97		-1.498E+00	2.182E+00	3.437E+00	2.799E-01	-0.436
		54.07		2.917E-01	1.096E+00	1.806E+00	1.449E-01	0.161
		61.30		1.231E+00	2.005E+00	2.998E+00	2.286E-01	0.411
		121.62		-3.166E-02	4.602E-01	7.275E-01	6.391E-02	-0.044
		147.16		-5.637E-01	7.515E-01	1.232E+00	1.051E-01	-0.457
		171.86		-1.651E-01	6.038E-01	1.005E+00	8.610E-02	-0.164
		218.09		1.602E-01	1.040E+00	1.746E+00	1.564E-01	0.092
		268.79		8.218E-01	1.132E+00	1.721E+00	1.574E-01	0.478
		319.02		1.337E-01	3.321E-01	5.566E-01	4.994E-02	0.240
		367.43		-1.521E+00	1.042E+00	1.489E+00	1.257E-01	-1.021
		413.65	*	-1.818E-01	2.413E-01	3.696E-01	3.020E-02	-0.492
HF-181		56.28		-5.364E-01	1.257E+00	2.004E+00	1.563E-01	-0.268
		57.53		9.064E-02	7.392E-01	1.080E+00	8.300E-02	0.084
		65.20		-1.072E-01	1.361E+00	1.958E+00	1.529E-01	-0.055
		133.02		4.027E-02	8.834E-02	1.424E-01	1.228E-02	0.283
		136.25		-4.207E-01	5.696E-01	9.380E-01	8.060E-02	-0.448
		345.85		3.777E-01	2.687E-01	4.292E-01	3.743E-02	0.880
		482.03	*	-3.804E-02	5.498E-02	8.273E-02	6.971E-03	-0.460
W-181		56.28		-2.017E-01	4.720E-01	7.522E-01	5.867E-02	-0.268
		57.53		3.390E-02	2.777E-01	4.057E-01	3.118E-02	0.084
		65.20	*	-3.995E-02	5.074E-01	7.298E-01	5.697E-02	-0.055
TA-182		67.75		-3.219E-02	1.511E-01	2.154E-01	1.707E-02	-0.149
		100.10		-1.497E-01	2.179E-01	3.366E-01	2.960E-02	-0.445
		152.43		7.929E-02	4.031E-01	6.866E-01	5.850E-02	0.115
		222.10		-1.520E-01	4.322E-01	7.082E-01	6.364E-02	-0.215
		1001.68		2.488E+00	2.458E+00	4.463E+00	3.963E-01	0.557
	+	1121.28		9.280E-01	3.398E-01	4.720E-01	3.964E-02	1.966
		1189.05		3.627E-02	3.937E-01	6.658E-01	5.422E-02	0.054
		1221.42	*	1.592E-02	2.327E-01	3.922E-01	3.232E-02	0.041
		1230.97		-2.310E-01	6.683E-01	9.183E-01	7.594E-02	-0.252
RE-183		57.98		2.820E-02	2.809E-01	4.097E-01	3.133E-02	0.069
		59.32		6.054E-02	1.495E-01	2.217E-01	1.672E-02	0.273
		67.20		1.102E-01	2.671E-01	3.938E-01	3.111E-02	0.280
		162.32	*	-6.167E-02	1.356E-01	2.207E-01	1.879E-02	-0.279

---- 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		4.368E+00	1.847E+00	2.327E+00	2.069E-01	1.877
		291.72		-3.977E-01	1.336E+00	1.884E+00	1.718E-01	-0.211
		57.98		1.016E-01	1.012E+00	1.476E+00	1.129E-01	0.069
		59.32		2.179E-01	5.378E-01	7.977E-01	6.017E-02	0.273
		67.20		3.968E-01	9.616E-01	1.418E+00	1.120E-01	0.280
		161.27		7.914E-02	4.239E-01	7.205E-01	6.133E-02	0.110
		216.55		-1.110E-01	3.248E-01	5.333E-01	4.771E-02	-0.208
		252.85	*	1.098E-01	2.932E-01	4.944E-01	4.513E-02	0.222
		318.01		-3.365E-01	5.879E-01	9.302E-01	8.353E-02	-0.362
		792.07		-4.396E-01	1.540E+00	2.121E+00	1.858E-01	-0.207
OS-185		903.28		6.162E-01	1.248E+00	2.088E+00	1.890E-01	0.295
		920.93		2.230E-01	5.124E-01	8.762E-01	7.919E-02	0.254
		59.72		2.666E-01	3.897E-01	5.868E-01	4.426E-02	0.454
		61.14		9.497E-02	2.221E-01	3.291E-01	2.508E-02	0.289
		69.30		1.135E-01	3.776E-01	5.888E-01	4.711E-02	0.193
		592.07		-6.245E-01	3.269E+00	5.400E+00	4.554E-01	-0.116
		646.12	*	-1.514E-02	4.951E-02	8.026E-02	6.631E-03	-0.189
		717.42		1.118E-01	1.058E+00	1.769E+00	1.497E-01	0.063
		874.81		2.489E-01	7.166E-01	1.214E+00	1.094E-01	0.205
		880.27		-3.004E-01	8.967E-01	1.410E+00	1.272E-01	-0.213
RE-188		155.03	*	8.798E-02	2.092E-01	3.590E-01	3.057E-02	0.245
		477.96		-1.983E+00	4.040E+00	6.216E+00	5.232E-01	-0.319
W-188	+	633.10		-2.492E-01	3.309E+00	5.488E+00	4.562E-01	-0.045
		63.58		1.606E+02	1.223E+02	1.194E+02	9.236E+00	1.345
IR-192	+	227.08		1.037E+01	1.631E+01	2.786E+01	2.512E+00	0.372
		290.67	*	-3.338E+00	1.054E+01	1.484E+01	1.353E+00	-0.225
AU-195		295.96		1.094E+00	2.196E-01	3.572E-01	3.272E-02	3.064
		308.46		5.431E-02	1.195E-01	2.013E-01	1.829E-02	0.270
		316.51	*	-1.545E-02	4.409E-02	7.071E-02	6.371E-03	-0.218
		468.07		9.937E-02	8.727E-02	1.377E-01	1.243E-02	0.722
		604.41		-1.165E-02	6.985E-01	1.015E+00	1.308E-01	-0.011
		612.46		3.088E+00	1.100E+00	1.942E+00	1.882E-01	1.590
TL-200		65.12		1.759E-02	2.346E-01	3.402E-01	2.655E-02	0.052
		66.83		3.679E-02	1.221E-01	1.791E-01	1.412E-02	0.205
	+	75.70		1.232E+00	3.223E-01	5.674E-01	4.758E-02	2.171
		98.88	*	1.522E-01	3.017E-01	4.381E-01	3.868E-02	0.347
TL-201		129.76		2.207E+00	3.723E+00	6.033E+00	5.226E-01	0.366
		367.94	*	-9.580E-03	3.723E+00	Half-Life	too short	
		579.30		-1.198E-02	3.723E+00	Half-Life	too short	
		828.27		-1.246E-02	3.723E+00	Half-Life	too short	
TL-202		1205.75		-1.107E-02	3.723E+00	Half-Life	too short	
		68.90		-4.957E+00	1.493E+01	2.264E+01	1.807E+00	-0.219
		70.82		9.961E-01	9.147E+00	1.324E+01	1.070E+00	0.075
		80.30		-7.513E+00	1.645E+01	2.301E+01	2.010E+00	-0.326
TL-202		135.34		-2.962E+01	7.863E+01	1.220E+02	1.049E+01	-0.243
		167.43	*	-3.704E+00	2.022E+01	3.381E+01	2.883E+00	-0.110
		68.90		-2.271E-01	6.840E-01	1.037E+00	8.277E-02	-0.219
		70.82		4.551E-02	4.179E-01	6.051E-01	4.891E-02	0.075
		80.30		-3.434E-01	7.519E-01	1.052E+00	9.187E-02	-0.326

---- 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	*	2.589E-02	1.121E-01	1.836E-01	1.522E-02	0.141
		70.83		1.762E-01	1.536E+00	2.224E+00	2.952E-01	0.079
		72.87		1.826E+00	9.255E-01	1.408E+00	1.821E-01	1.297
		82.60		-3.945E-01	1.475E+00	2.229E+00	3.109E-01	-0.177
BI-207		279.20	*	1.625E-02	5.296E-02	8.871E-02	8.317E-03	0.183
		72.80		4.526E-01	2.491E-01	3.845E-01	3.152E-02	1.177
	+	74.97		6.734E-01	1.762E-01	2.774E-01	2.312E-02	2.428
		84.90		2.597E-01	2.526E-01	3.762E-01	3.442E-02	0.690
TL-207		569.67		-1.283E-02	3.767E-02	6.134E-02	5.196E-03	-0.209
		1063.62	*	2.435E-02	6.844E-02	1.146E-01	9.931E-03	0.213
		1770.23		-9.532E-02	6.419E-01	8.539E-01	7.150E-02	-0.112
		81.07		-3.200E-01	2.951E-01	3.974E-01	3.498E-02	-0.805
		83.78		2.734E-02	1.713E-01	2.459E-01	2.224E-02	0.111
	+	94.90		3.501E-01	3.858E-01	4.860E-01	4.370E-02	0.720
		122.32		-5.012E-01	2.110E+00	3.308E+00	3.112E-01	-0.152
		144.24		-1.946E-01	8.177E-01	1.343E+00	1.285E-01	-0.145
		154.21		8.050E-03	4.658E-01	7.878E-01	7.394E-02	0.010
		269.46		2.380E-01	2.740E-01	4.186E-01	3.901E-02	0.569
		323.87	*	-7.599E-01	8.540E-01	1.308E+00	2.336E-01	-0.581
	+	338.28		9.137E+00	2.504E+00	3.096E+00	3.852E-01	2.951
PO-209		445.03		1.236E+00	2.912E+00	4.828E+00	5.732E-01	0.256
		260.50		-5.877E+00	1.179E+01	1.898E+01	1.735E+00	-0.310
		262.80		-7.071E+00	3.277E+01	5.358E+01	4.900E+00	-0.132
		896.60	*	-2.039E+00	8.657E+00	1.377E+01	1.247E+00	-0.148
BI-210		46.50	*	-3.315E-01	5.175E+00	8.354E+00	7.886E-01	-0.040
PB-210		46.50	*	-3.315E-01	5.175E+00	8.354E+00	7.886E-01	-0.040
PO-210		46.50	*	-3.315E-01	5.175E+00	8.354E+00	7.162E-01	-0.040
PB-211		404.84	*	-7.691E-01	1.290E+00	1.851E+00	1.159E+00	-0.415
		427.08		1.494E+00	2.728E+00	4.314E+00	2.679E+00	0.346
		831.96		-9.905E-01	1.612E+00	2.284E+00	1.432E+00	-0.434
	+	727.18	*	1.619E+00	6.873E-01	8.482E-01	8.405E-02	1.909
		785.46		2.792E+00	2.335E+00	4.189E+00	3.661E-01	0.666
PO-215		1620.62		2.083E-01	1.871E+00	3.083E+00	2.654E-01	0.068
		81.07		-3.200E-01	2.951E-01	3.974E-01	3.498E-02	-0.805
		83.78		2.734E-02	1.713E-01	2.459E-01	2.224E-02	0.111
	+	94.90		3.501E-01	3.858E-01	4.860E-01	4.370E-02	0.720
		122.32		-5.012E-01	2.110E+00	3.308E+00	3.112E-01	-0.152
		144.24		-1.946E-01	8.177E-01	1.343E+00	1.285E-01	-0.145
		154.21		8.050E-03	4.658E-01	7.878E-01	7.394E-02	0.010
		269.46		2.380E-01	2.740E-01	4.186E-01	3.901E-02	0.569
		323.87	*	-7.599E-01	8.540E-01	1.308E+00	2.336E-01	-0.581
	+	338.28		9.137E+00	2.504E+00	3.096E+00	3.852E-01	2.951
		445.03		1.236E+00	2.912E+00	4.828E+00	5.732E-01	0.256
	+	271.23		5.380E-01	4.000E-01	5.424E-01	5.836E-02	0.992
RN-219		401.81	*	-4.197E-01	5.423E-01	8.264E-01	1.218E-01	-0.508
RN-220		549.76	*	4.987E+00	3.215E+01	5.433E+01	4.612E+00	0.092
RA-223		81.07		-3.200E-01	2.951E-01	3.974E-01	3.498E-02	-0.805
		83.78		2.734E-02	1.713E-01	2.459E-01	2.224E-02	0.111
	+	94.90		3.501E-01	3.858E-01	4.860E-01	4.370E-02	0.720

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		-5.012E-01	2.110E+00	3.308E+00	3.112E-01	-0.152
		144.24		-1.946E-01	8.177E-01	1.343E+00	1.285E-01	-0.145
		154.21		8.050E-03	4.658E-01	7.878E-01	7.394E-02	0.010
		269.46		2.380E-01	2.740E-01	4.186E-01	3.901E-02	0.569
		323.87	*	-7.599E-01	8.540E-01	1.308E+00	2.336E-01	-0.581
	+	338.28		9.137E+00	2.504E+00	3.096E+00	3.852E-01	2.951
		445.03		1.236E+00	2.912E+00	4.828E+00	5.732E-01	0.256
		79.80		5.418E-01	2.173E+00	3.150E+00	6.784E-01	0.172
		236.00		2.982E-01	3.137E-01	4.811E-01	6.043E-02	0.620
		256.20	*	-6.580E-02	4.774E-01	7.848E-01	1.228E-01	-0.084
TH-227		286.10		8.030E-01	1.865E+00	3.139E+00	4.251E-01	0.256
		299.80		3.949E+00	2.014E+00	3.143E+00	5.571E-01	1.256
		304.40		-3.767E+00	2.427E+00	3.452E+00	6.436E-01	-1.091
		334.20		-1.723E+00	3.204E+00	4.350E+00	8.488E-01	-0.396
		79.80		5.418E-01	2.173E+00	3.150E+00	6.871E-01	0.172
	+	94.00		2.801E+00	3.137E+00	4.736E+00	1.039E+00	0.591
		236.00		2.982E-01	3.133E-01	4.811E-01	5.497E-02	0.620
		256.20	*	-6.580E-02	4.774E-01	7.848E-01	1.437E-01	-0.084
		286.10		8.030E-01	2.029E+00	3.139E+00	3.152E+00	0.256
		299.80		3.949E+00	2.014E+00	3.143E+00	5.571E-01	1.256
TH-229		304.40		-3.767E+00	2.427E+00	3.452E+00	6.436E-01	-1.091
		334.20		-1.723E+00	3.204E+00	4.350E+00	8.488E-01	-0.396
		85.43		2.596E-01	2.566E-01	3.813E-01	3.509E-02	0.681
	+	88.47		3.614E-01	1.670E-01	2.503E-01	2.358E-02	1.444
		100.00		-1.006E-01	2.222E-01	3.431E-01	3.018E-02	-0.293
		193.63	*	6.670E-01	6.066E-01	1.058E+00	9.265E-02	0.631
	+	210.97		3.289E+00	1.391E+00	1.741E+00	1.550E-01	1.890
		283.67	*	9.818E-01	1.897E+00	3.203E+00	4.960E-01	0.307
		301.29		7.652E-01	7.452E-01	1.242E+00	1.561E-01	0.616
		81.07		-3.200E-01	2.951E-01	3.974E-01	3.498E-02	-0.805
PA-231		83.78		2.734E-02	1.713E-01	2.459E-01	2.224E-02	0.111
	+	94.90		3.501E-01	3.858E-01	4.860E-01	4.370E-02	0.720
		122.32		-5.012E-01	2.110E+00	3.308E+00	3.112E-01	-0.152
		144.24		-1.946E-01	8.177E-01	1.343E+00	1.285E-01	-0.145
		154.21		8.050E-03	4.658E-01	7.878E-01	7.394E-02	0.010
		269.46		2.380E-01	2.740E-01	4.186E-01	3.901E-02	0.569
		323.87	*	-7.599E-01	8.540E-01	1.308E+00	2.336E-01	-0.581
	+	338.28		9.137E+00	2.504E+00	3.096E+00	3.852E-01	2.951
		445.03		1.236E+00	2.912E+00	4.828E+00	5.732E-01	0.256
		84.21		5.988E+00	1.399E+01	2.033E+01	1.846E+00	0.295
U-231	+	92.29		1.669E+01	6.418E+00	9.421E+00	8.609E-01	1.771
	+	95.87	*	3.276E+00	3.611E+00	3.931E+00	3.516E-01	0.834
		108.00		-5.730E+00	4.923E+00	7.394E+00	6.410E-01	-0.775
	+	75.28		1.965E+01	5.713E+00	8.438E+00	1.283E+00	2.328
	+	86.59		5.182E+00	2.732E+00	3.607E+00	9.757E-01	1.437
		300.12		9.039E-01	5.610E-01	8.790E-01	1.331E-01	1.028
		311.98	*	5.518E-03	7.721E-02	1.272E-01	1.177E-02	0.043
		340.50		2.777E+00	1.150E+00	1.611E+00	3.850E-01	1.724
		398.62		2.715E+00	2.751E+00	4.591E+00	1.215E+00	0.591
PA-233								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234		415.76		2.010E+00	2.215E+00	3.726E+00	7.966E-01	0.539
	+	63.00		4.478E+00	3.457E+00	3.449E+00	5.178E-01	1.298
	+	94.67		2.497E-01	2.761E-01	3.677E-01	4.660E-02	0.679
		98.44		1.079E-01	1.338E-01	1.777E-01	9.919E-02	0.607
		99.86		-2.049E-01	5.646E-01	8.758E-01	7.707E-02	-0.234
		111.00		1.945E-03	2.329E-01	3.708E-01	4.494E-02	0.005
		131.20		-5.959E-02	1.389E-01	2.154E-01	1.862E-02	-0.277
		152.70		1.289E-01	3.761E-01	6.432E-01	1.093E-01	0.200
	+	186.00		3.724E+00	3.255E+00	3.205E+00	1.001E+00	1.162
		226.40		-1.348E-01	5.027E-01	8.264E-01	1.112E-01	-0.163
		227.20		3.160E-01	5.285E-01	9.018E-01	8.132E-02	0.350
		248.90		-4.248E-01	1.050E+00	1.637E+00	3.702E-01	-0.259
		293.70		3.573E+00	1.211E+00	1.801E+00	3.161E-01	1.983
		369.80		-1.749E-01	9.281E-01	1.486E+00	3.225E-01	-0.118
		568.70		-7.517E-01	1.212E+00	1.927E+00	1.633E-01	-0.390
		569.50		-1.004E-01	3.352E-01	5.476E-01	4.639E-02	-0.183
		574.00		5.428E-01	1.720E+00	2.955E+00	2.502E-01	0.184
		699.00		-4.157E-01	8.588E-01	1.361E+00	2.582E-01	-0.305
		706.10		8.625E-02	1.281E+00	2.063E+00	9.193E-01	0.042
		733.00		2.290E-01	4.985E-01	7.545E-01	1.672E-01	0.304
		742.81		-2.118E-01	1.737E+00	2.832E+00	1.903E+00	-0.075
	+	796.30		1.611E+00	1.775E+00	2.115E+00	5.732E-01	0.762
		805.60		-1.092E+00	1.122E+00	1.556E+00	4.778E-01	-0.702
		819.60		8.792E-01	1.661E+00	2.800E+00	1.066E+00	0.314
		826.30		2.975E-01	1.054E+00	1.762E+00	7.892E-01	0.169
		831.60		-3.997E-01	7.829E-01	1.207E+00	3.613E-01	-0.331
		876.40		-2.732E-01	1.045E+00	1.599E+00	1.645E+00	-0.171
		880.51		-1.178E-01	3.175E-01	4.971E-01	4.484E-02	-0.237
		883.24		1.045E-01	3.210E-01	5.316E-01	3.576E-01	0.197
		899.00		-5.076E-02	1.001E+00	1.626E+00	7.123E-01	-0.031
		925.00		-4.496E-01	1.358E+00	2.130E+00	1.924E-01	-0.211
		926.50		3.089E-02	2.079E-01	3.354E-01	8.527E-02	0.092
		946.00	*	-1.051E-01	3.498E-01	5.490E-01	1.040E-01	-0.192
		949.00		1.571E-01	5.223E-01	8.825E-01	7.941E-02	0.178
		980.50		7.961E-01	8.812E-01	1.564E+00	1.398E-01	0.509
		1394.10		-5.430E-01	1.476E+00	2.249E+00	1.464E+00	-0.241
PA-234M		766.42		8.496E+00	1.492E+01	2.467E+01	1.252E+01	0.344
		1001.03	*	5.879E-01	5.676E+00	9.466E+00	9.649E-01	0.062
U-235	+	89.95		2.494E+00	1.268E+00	2.228E+00	6.920E-01	1.119
	+	93.35		2.742E+00	1.283E+00	1.541E+00	4.342E-01	1.779
		105.00		1.479E+00	1.326E+00	2.099E+00	6.269E-01	0.705
		143.76	*	3.113E-02	2.536E-01	4.222E-01	7.376E-02	0.074
		163.35		-1.323E-01	5.637E-01	9.254E-01	1.761E-01	-0.143
	+	185.71		1.379E-01	1.132E-01	1.179E-01	1.025E-02	1.170
		205.31		1.676E-01	7.375E-01	1.090E+00	2.091E-01	0.154
NP-236	+	94.67		1.894E-01	2.088E-01	2.793E-01	2.514E-02	0.678
		98.44		8.162E-02	9.061E-02	1.343E-01	1.188E-02	0.608
		111.00		1.471E-03	1.761E-01	2.805E-01	2.430E-02	0.005
		160.31	*	-2.076E-02	9.491E-02	1.588E-01	1.352E-02	-0.131

---- 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		3.954E-02	1.960E-01	2.978E-01	2.623E-02	0.133
		117.00	*	-7.514E-02	2.325E-01	3.636E-01	3.167E-02	-0.207
	+	209.75		3.314E+00	1.401E+00	1.803E+00	1.604E-01	1.838
		228.18		2.913E-01	2.751E-01	4.774E-01	4.308E-02	0.610
		277.60		9.516E-02	2.196E-01	3.700E-01	3.384E-02	0.257
		334.30		-9.577E-01	1.808E+00	2.469E+00	2.183E-01	-0.388
AM-241		59.54	*	1.437E-01	2.003E-01	3.021E-01	2.489E-02	0.476
CM-243		99.55		4.070E-02	2.017E-01	3.065E-01	2.700E-02	0.133
		103.76	*	9.922E-02	1.160E-01	1.916E-01	1.670E-02	0.518
		117.00		-7.733E-02	2.392E-01	3.742E-01	3.259E-02	-0.207
	+	209.75		3.267E+00	1.382E+00	1.778E+00	1.582E-01	1.838
		228.18		2.944E-01	2.781E-01	4.825E-01	4.354E-02	0.610
		277.60		9.596E-02	2.214E-01	3.731E-01	3.413E-02	0.257
AM-246		798.80		6.249E-02	1.670E-01	2.515E-01	2.210E-02	0.248
		1036.00		-1.282E-01	3.205E-01	4.907E-01	4.305E-02	-0.261
		1062.04		-1.491E-02	2.965E-01	4.764E-01	4.133E-02	-0.031
		1078.86	*	1.713E-02	1.779E-01	2.901E-01	2.496E-02	0.059
CM-247		278.00		-2.361E-03	9.075E-01	1.497E+00	1.369E-01	-0.002
		287.40		-5.548E-01	1.530E+00	2.469E+00	2.254E-01	-0.225
		402.60	*	-1.172E-02	4.645E-02	7.387E-02	5.991E-03	-0.159
CF-249		252.85		4.054E-01	1.082E+00	1.825E+00	1.666E-01	0.222
		333.44		-9.351E-02	2.378E-01	3.290E-01	2.912E-02	-0.284
CF-251		387.95	*	3.151E-02	5.172E-02	8.708E-02	7.064E-03	0.362
		176.60	*	1.320E-01	1.508E-01	2.617E-01	2.253E-02	0.504
		227.00		2.122E-01	4.737E-01	8.035E-01	7.245E-02	0.264
		285.00		4.273E-01	2.197E+00	3.656E+00	3.340E-01	0.117

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]G245107009
* Acquisition date   : 1-FEB-2010 13:28:08 Detector SN#      :
* Detector ID        : GAM01                      Sensitivity   : 5.000
* Geometry           : CAN                        Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.15             Half life ratio : 8.000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107009              Analyst initials: MXR1
* Batch Number       : 944038                  Sample Quantity : 1.1881E+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	2.551E+01	2.924E+00	6.882E-01	0.000E+00
CD-109	2.709E+00	1.227E+00	1.561E+00	0.000E+00
SN-126	2.647E-01	1.199E-01	1.533E-01	0.000E+00
BA-137M	3.206E-01	9.270E-02	7.360E-02	0.000E+00
CS-137	3.389E-01	9.801E-02	7.780E-02	0.000E+00
TL-208	5.342E-01	1.220E-01	7.001E-02	0.000E+00
BI-211	5.324E+00	6.945E-01	4.116E-01	0.000E+00
PB-212	1.683E+00	2.115E-01	1.120E-01	0.000E+00
PO-212	1.683E+00	2.115E-01	1.120E-01	0.000E+00
BI-214	1.258E+00	2.299E-01	1.486E-01	0.000E+00
PB-214	1.852E+00	2.595E-01	1.453E-01	0.000E+00
PO-214	1.852E+00	2.595E-01	1.453E-01	0.000E+00
PO-216	1.683E+00	2.115E-01	1.120E-01	0.000E+00
PO-218	1.852E+00	2.595E-01	1.453E-01	0.000E+00
RA-224	4.515E+00	1.342E+00	1.274E+00	0.000E+00
RA-226	1.258E+00	2.299E-01	1.486E-01	0.000E+00
AC-228	1.534E+00	4.145E-01	2.506E-01	0.000E+00
RA-228	1.534E+00	4.145E-01	2.506E-01	0.000E+00
TH-228	1.715E+00	2.156E-01	1.141E-01	0.000E+00
TH-230	1.258E+00	2.299E-01	1.486E-01	0.000E+00
TH-232	1.534E+00	4.145E-01	2.506E-01	0.000E+00
TH-234	3.842E+00	2.927E+00	2.407E+00	0.000E+00
U-234	1.258E+00	2.299E-01	1.486E-01	0.000E+00
NP-237	7.773E-01	3.855E-01	4.983E-01	0.000E+00
U-238	3.842E+00	2.927E+00	2.407E+00	0.000E+00
AM-243	3.751E-01	9.615E-02	1.131E-01	0.000E+00
ANH-511	1.166E-01	8.079E-02	5.404E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	-2.685E-01	4.242E-01	6.651E-01	0.000E+00	NOT IDENT.
NA-22	1.242E-02	4.941E-02	8.635E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.848E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.269E-02	3.734E-02	5.322E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.390E-02	9.936E-02	0.000E+00	FAIL ABUN
SC-46	3.722E-03	4.563E-02	7.700E-02	0.000E+00	FAIL ABUN
V-48	-5.483E-02	1.007E-01	1.568E-01	0.000E+00	NOT IDENT.
CR-51	1.528E-01	5.200E-01	8.960E-01	0.000E+00	NOT IDENT.
MN-52	4.663E-01	4.963E-01	9.321E-01	0.000E+00	FAIL ABUN
MN-54	-6.976E-05	4.431E-02	7.446E-02	0.000E+00	NOT IDENT.
CO-56	5.094E-03	4.878E-02	8.272E-02	0.000E+00	FAIL ABUN
CO-57	-1.272E-02	3.052E-02	4.962E-02	0.000E+00	NOT IDENT.
CO-58	3.099E-02	4.561E-02	8.178E-02	0.000E+00	NOT IDENT.
FE-59	6.721E-03	1.160E-01	1.920E-01	0.000E+00	NOT IDENT.
CO-60	-1.382E-02	4.128E-02	6.665E-02	0.000E+00	NOT IDENT.
ZN-65	-4.401E-02	1.339E-01	1.803E-01	0.000E+00	NOT IDENT.
GE-68	-6.482E-01	1.588E+00	2.500E+00	0.000E+00	NOT IDENT.
AS-73	-1.441E-01	1.091E+00	1.864E+00	0.000E+00	NOT IDENT.
AS-74	-2.679E-02	1.291E-01	2.189E-01	0.000E+00	NOT IDENT.
SE-75	2.320E-02	5.464E-02	9.268E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	4.098E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-4.359E-01	5.021E-01	7.770E-01	0.000E+00	NOT IDENT.
RB-83	4.862E-02	8.915E-02	1.527E-01	0.000E+00	NOT IDENT.
RB-84	4.298E-02	8.605E-02	1.514E-01	0.000E+00	NOT IDENT.
KR-85	1.568E+01	1.052E+01	1.708E+01	0.000E+00	NOT IDENT.
SR-85	8.382E-02	5.620E-02	9.125E-02	0.000E+00	NOT IDENT.
RB-86	-3.555E-01	1.153E+00	1.836E+00	0.000E+00	NOT IDENT.
Y-88	-1.185E-02	4.913E-02	7.739E-02	0.000E+00	NOT IDENT.
ZR-88	-6.439E-03	3.821E-02	6.323E-02	0.000E+00	NOT IDENT.
Y-91	9.455E-01	2.085E+01	3.579E+01	0.000E+00	NOT IDENT.
NB-94	-2.496E-03	3.967E-02	6.719E-02	0.000E+00	NOT IDENT.
NB-95	-2.183E-02	5.578E-02	9.139E-02	0.000E+00	NOT IDENT.
NB-95M	1.894E-01	1.655E-01	2.671E-01	0.000E+00	NOT IDENT.
ZR-95	4.580E-02	8.832E-02	1.560E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.259E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.061E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-3.619E+01	3.840E+01	5.897E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.419E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.197E-02	4.092E-02	6.433E-02	0.000E+00	NOT IDENT.
RH-102	4.419E-02	3.518E-02	6.343E-02	0.000E+00	NOT IDENT.
RU-103	-1.082E-02	5.343E-02	8.657E-02	0.000E+00	FAIL ABUN
RH-106	2.445E-01	3.654E-01	6.583E-01	0.000E+00	FAIL ABUN
RU-106	2.445E-01	3.646E-01	6.583E-01	0.000E+00	FAIL ABUN
AG-108M	-2.935E-04	3.745E-02	6.226E-02	0.000E+00	NOT IDENT.
AG-110M	4.809E-03	4.664E-02	7.014E-02	0.000E+00	NOT IDENT.
IN-111	-9.539E-01	3.568E+00	5.297E+00	0.000E+00	NOT IDENT.
IN-113M	3.960E-02	5.483E-02	9.608E-02	0.000E+00	NOT IDENT.
SN-113	3.960E-02	5.483E-02	9.608E-02	0.000E+00	NOT IDENT.
IN-114M	-1.400E-01	2.607E-01	3.885E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.292E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	4.666E-02	7.823E-02	1.407E-01	0.000E+00	NOT IDENT.
SB-122	2.906E+00	6.891E+00	1.225E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.895E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.765E-02	3.379E-02	6.063E-02	0.000E+00	NOT IDENT.
I-124	1.799E+00	1.721E+00	2.931E+00	0.000E+00	NOT IDENT.
SB-124	-1.022E-02	9.411E-02	1.530E-01	0.000E+00	FAIL ABUN
SB-125	2.690E-02	1.151E-01	1.948E-01	0.000E+00	FAIL ABUN
TE-125M	2.799E+00	1.157E+01	1.950E+01	0.000E+00	NOT IDENT.
I-126	-3.230E-03	3.079E-01	4.565E-01	0.000E+00	NOT IDENT.
SB-126	-8.488E-02	2.166E-01	3.329E-01	0.000E+00	FAIL ABUN
SB-127	2.044E+00	3.118E+00	5.597E+00	0.000E+00	NOT IDENT.
XE-127	-1.049E-02	6.042E-02	1.044E-01	0.000E+00	NOT IDENT.
I-131	1.543E-01	1.826E-01	3.242E-01	0.000E+00	NOT IDENT.
TE-132	2.063E+00	1.929E+00	3.440E+00	0.000E+00	NOT IDENT.
BA-133	1.874E-02	5.792E-02	8.782E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.696E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	8.321E-02	8.739E-02	1.126E-01	0.000E+00	FAIL ABUN
CS-135	-6.959E-02	2.158E-01	3.173E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.392E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.234E-01	1.666E-01	2.520E-01	0.000E+00	FAIL ABUN
CE-139	-1.685E-02	3.459E-02	5.956E-02	0.000E+00	NOT IDENT.
BA-140	1.574E-01	3.838E-01	6.785E-01	0.000E+00	NOT IDENT.
LA-140	-8.146E-02	1.350E-01	2.035E-01	0.000E+00	NOT IDENT.
CE-141	-5.768E-02	8.076E-02	1.357E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.470E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.610E-02	2.553E-01	4.236E-01	0.000E+00	NOT IDENT.
PM-144	8.695E-03	4.136E-02	7.161E-02	0.000E+00	NOT IDENT.
PR-144	5.904E-01	2.808E+00	4.863E+00	0.000E+00	NOT IDENT.

PM-146	-6.631E-05	5.748E-02	9.533E-02	0.000E+00	NOT IDENT.
ND-147	-1.324E+00	8.992E-01	1.308E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.801E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-3.131E-02	1.332E-01	1.928E-01	0.000E+00	FAIL ABUN
GD-153	6.653E-02	1.019E-01	1.564E-01	0.000E+00	NOT IDENT.
EU-154	3.366E-02	1.376E-01	2.403E-01	0.000E+00	NOT IDENT.
EU-155	5.775E-02	1.286E-01	2.189E-01	0.000E+00	FAIL ABUN
TB-160	-8.388E-02	1.694E-01	2.684E-01	0.000E+00	FAIL ABUN
HO-166M	-1.613E-02	6.627E-02	1.102E-01	0.000E+00	NOT IDENT.
TM-171	4.638E+00	3.606E+01	5.518E+01	0.000E+00	NOT IDENT.
LU-176	-2.730E-03	2.879E-02	4.868E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.910E+00	3.749E+00	0.000E+00	FAIL ABUN
LU-177M	-1.818E-01	2.364E-01	3.739E-01	0.000E+00	NOT IDENT.
HF-181	-3.804E-02	5.388E-02	8.355E-02	0.000E+00	NOT IDENT.
W-181	-3.995E-02	4.973E-01	7.534E-01	0.000E+00	NOT IDENT.
TA-182	1.592E-02	2.281E-01	3.919E-01	0.000E+00	FAIL ABUN
RE-183	-6.167E-02	1.329E-01	2.255E-01	0.000E+00	FAIL ABUN
RE-184	1.098E-01	2.873E-01	5.029E-01	0.000E+00	NOT IDENT.
OS-185	-1.514E-02	4.852E-02	8.079E-02	0.000E+00	NOT IDENT.
RE-188	8.798E-02	2.050E-01	3.671E-01	0.000E+00	NOT IDENT.
W-188	-3.338E+00	1.033E+01	1.507E+01	0.000E+00	FAIL ABUN
IR-192	-1.545E-02	4.321E-02	7.175E-02	0.000E+00	FAIL ABUN
AU-195	1.522E-01	2.957E-01	4.502E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.297E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-3.704E+00	1.981E+01	3.455E+01	0.000E+00	NOT IDENT.
TL-202	2.589E-02	1.098E-01	1.856E-01	0.000E+00	NOT IDENT.
HG-203	1.625E-02	5.190E-02	9.013E-02	0.000E+00	NOT IDENT.
BI-207	2.435E-02	6.707E-02	1.147E-01	0.000E+00	FAIL ABUN
TL-207	-7.599E-01	8.369E-01	1.327E+00	0.000E+00	FAIL ABUN
PO-209	-2.039E+00	8.484E+00	1.381E+01	0.000E+00	NOT IDENT.
BI-210	-3.315E-01	5.072E+00	8.655E+00	0.000E+00	NOT IDENT.
PB-210	-3.315E-01	5.072E+00	8.655E+00	0.000E+00	NOT IDENT.
PO-210	-3.315E-01	5.072E+00	8.655E+00	0.000E+00	NOT IDENT.
PB-211	-7.691E-01	1.264E+00	1.873E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.736E-01	8.526E-01	0.000E+00	FAIL ABUN
PO-215	-7.599E-01	8.369E-01	1.327E+00	0.000E+00	FAIL ABUN
RN-219	-4.197E-01	5.315E-01	8.363E-01	0.000E+00	FAIL ABUN
RN-220	4.987E+00	3.150E+01	5.479E+01	0.000E+00	NOT IDENT.
RA-223	-7.599E-01	8.369E-01	1.327E+00	0.000E+00	FAIL ABUN
AC-227	-6.580E-02	4.678E-01	7.982E-01	0.000E+00	NOT IDENT.
TH-227	-6.580E-02	4.679E-01	7.982E-01	0.000E+00	FAIL ABUN
TH-229	6.670E-01	5.945E-01	1.079E+00	0.000E+00	FAIL ABUN
PA-231	9.818E-01	1.859E+00	3.254E+00	0.000E+00	NOT IDENT.
TH-231	-7.599E-01	8.369E-01	1.327E+00	0.000E+00	FAIL ABUN
U-231	3.276E+00	3.539E+00	4.041E+00	0.000E+00	FAIL ABUN
PA-233	5.518E-03	7.567E-02	1.291E-01	0.000E+00	FAIL ABUN
PA-234	-1.051E-01	3.428E-01	5.502E-01	0.000E+00	FAIL ABUN
PA-234M	5.879E-01	5.563E+00	9.481E+00	0.000E+00	NOT IDENT.
U-235	3.113E-02	2.485E-01	4.321E-01	0.000E+00	FAIL ABUN
NP-236	-2.076E-02	9.301E-02	1.623E-01	0.000E+00	FAIL ABUN
NP-239	-7.514E-02	2.278E-01	3.730E-01	0.000E+00	FAIL ABUN
AM-241	1.437E-01	1.963E-01	3.121E-01	0.000E+00	NOT IDENT.
CM-243	9.922E-02	1.137E-01	1.968E-01	0.000E+00	FAIL ABUN
AM-246	1.713E-02	1.744E-01	2.903E-01	0.000E+00	NOT IDENT.
CM-247	-1.172E-02	4.552E-02	7.475E-02	0.000E+00	NOT IDENT.
CF-249	3.151E-02	5.068E-02	8.815E-02	0.000E+00	NOT IDENT.
CF-251	1.320E-01	1.478E-01	2.673E-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]G245107009.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:28:08.
Sample ID          : G245107009           Sample quantity  : 1.18810E+02 GRAM
Detector name      : GAM01                Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00        Elapsed real time: 0 02:00:01.15  0.0%
Energy tolerance    : 1.50000 keV          Analyst Initials : MXR1
Abundance limit     : 75.00000             Sensitivity        : 5.00000
Batch ID           : 944038                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	815	10.67*	9.455E-01	2.551E+01	2.551E+01	11.70
CD-109	88.03	161	3.72*	5.197E+00	2.633E+00	2.709E+00	46.21
SN-126	64.28	127	9.60	2.756E+00	1.521E+00	1.521E+00	77.14
	86.94	161	8.90	5.197E+00	1.100E+00	1.100E+00	61.41
	87.57	161	37.00*	5.197E+00	2.647E-01	2.647E-01	46.21
BA-137M	661.65	175	89.98*	1.923E+00	3.202E-01	3.206E-01	29.51
CS-137	661.65	175	85.12*	1.923E+00	3.385E-01	3.389E-01	29.51
TL-208	277.35	-----	6.80	3.885E+00	-----	Line Not Found	-----
	510.84	88	21.60	2.393E+00	5.400E-01	5.400E-01	71.17
	583.14	305	84.20*	2.143E+00	5.342E-01	5.342E-01	23.31
	860.37	-----	12.46	1.522E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.944E+00	-----	Line Not Found	-----
	351.07	703	12.94*	3.226E+00	5.324E+00	5.324E+00	13.31
PB-212	74.81	325	10.70	4.152E+00	2.313E+00	2.313E+00	27.78
	77.11	582	18.00	4.383E+00	2.329E+00	2.329E+00	17.54
	87.30	161	8.00	5.197E+00	1.224E+00	1.224E+00	47.28
	238.63	1032	44.60*	4.346E+00	1.683E+00	1.683E+00	12.83
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
PO-212	74.81	325	10.70	4.152E+00	2.313E+00	2.313E+00	27.78
	77.11	582	18.00	4.383E+00	2.329E+00	2.329E+00	17.54
	87.30	161	8.00	5.197E+00	1.224E+00	1.224E+00	47.28
	115.19	-----	0.60	6.043E+00	-----	Line Not Found	-----
	238.63	1032	44.60*	4.346E+00	1.683E+00	1.683E+00	12.83
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
BI-214	609.31	381	46.30*	2.064E+00	1.258E+00	1.258E+00	18.64
	1120.29	109	15.10	1.193E+00	1.917E+00	1.917E+00	37.21
	1764.49	50	15.80	8.255E-01	1.204E+00	1.204E+00	42.22
PB-214	74.81	325	6.21	4.152E+00	3.986E+00	3.986E+00	27.19
	77.11	582	10.50	4.383E+00	3.993E+00	3.993E+00	19.12
	87.30	161	4.67	5.197E+00	2.097E+00	2.097E+00	46.85
	241.98	243	7.49	4.306E+00	2.381E+00	2.381E+00	30.84
	295.21	311	19.20	3.699E+00	1.383E+00	1.383E+00	20.99

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	703	37.20*	3.226E+00	1.852E+00	1.852E+00	14.30
	74.81	325	6.21	4.152E+00	3.986E+00	3.986E+00	27.19
	77.11	582	10.50	4.383E+00	3.993E+00	3.993E+00	19.12
	87.30	161	4.67	5.197E+00	2.097E+00	2.097E+00	46.85
	241.98	243	7.49	4.306E+00	2.381E+00	2.381E+00	30.84
PO-216	295.21	311	19.20	3.699E+00	1.383E+00	1.383E+00	20.99
	351.92	703	37.20*	3.226E+00	1.852E+00	1.852E+00	14.30
	74.81	325	10.70	4.152E+00	2.313E+00	2.313E+00	27.78
	77.11	582	18.00	4.383E+00	2.329E+00	2.329E+00	17.54
	87.30	161	8.00	5.197E+00	1.224E+00	1.224E+00	47.28
PO-218	238.63	1032	44.60*	4.346E+00	1.683E+00	1.683E+00	12.83
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
	74.81	325	6.21	4.152E+00	3.986E+00	3.986E+00	27.19
	77.11	582	10.50	4.383E+00	3.993E+00	3.993E+00	19.12
	87.30	161	4.67	5.197E+00	2.097E+00	2.097E+00	46.85
RA-224	241.98	243	7.49	4.306E+00	2.381E+00	2.381E+00	30.84
	295.21	311	19.20	3.699E+00	1.383E+00	1.383E+00	20.99
	351.92	703	37.20*	3.226E+00	1.852E+00	1.852E+00	14.30
	240.98	243	3.95*	4.306E+00	4.515E+00	4.515E+00	30.32
	609.31	381	46.30*	2.064E+00	1.258E+00	1.258E+00	18.64
AC-228	1120.29	109	15.10	1.193E+00	1.917E+00	1.917E+00	37.21
	1764.49	50	15.80	8.255E-01	1.204E+00	1.204E+00	42.22
	338.32	263	11.40	3.327E+00	2.188E+00	2.188E+00	47.98
	911.07	194	27.70*	1.443E+00	1.534E+00	1.534E+00	27.57
	969.11	142	16.60	1.364E+00	1.977E+00	1.977E+00	33.34
RA-228	338.32	263	11.40	3.327E+00	2.188E+00	2.188E+00	47.98
	911.07	194	27.70*	1.443E+00	1.534E+00	1.534E+00	27.57
	969.11	142	16.60	1.364E+00	1.977E+00	1.977E+00	33.34
	74.81	325	10.70	4.152E+00	2.313E+00	2.313E+00	26.18
	77.11	582	18.00	4.383E+00	2.329E+00	2.374E+00	17.54
TH-228	87.30	161	8.00	5.197E+00	1.224E+00	1.248E+00	46.21
	238.63	1032	44.60*	4.346E+00	1.683E+00	1.715E+00	12.83
	300.09	-----	3.41	3.656E+00	-----	Line Not Found	-----
	609.31	381	46.30*	2.064E+00	1.258E+00	1.258E+00	18.64
	1120.29	109	15.10	1.193E+00	1.917E+00	1.917E+00	37.21
TH-230	1764.49	50	15.80	8.255E-01	1.204E+00	1.204E+00	42.22
	338.32	263	11.40	3.327E+00	2.188E+00	2.188E+00	25.95
	911.07	194	27.70*	1.443E+00	1.534E+00	1.534E+00	27.57
	969.11	142	16.60	1.364E+00	1.977E+00	1.977E+00	33.34
	63.29	127	3.80*	2.756E+00	3.842E+00	3.842E+00	77.74
TH-232	92.38	215	5.41	5.505E+00	2.281E+00	2.281E+00	41.61
	609.31	381	46.30*	2.064E+00	1.258E+00	1.258E+00	18.64
	1120.29	109	15.10	1.193E+00	1.917E+00	1.917E+00	37.21
	1764.49	50	15.80	8.255E-01	1.204E+00	1.204E+00	42.22
	86.50	161	12.60*	5.197E+00	7.773E-01	7.773E-01	50.61
NP-237	95.87	69	2.60	5.575E+00	1.508E+00	1.508E+00	112.60
	63.29	127	3.80*	2.756E+00	3.842E+00	3.842E+00	77.74
	92.38	215	5.41	5.505E+00	2.281E+00	2.281E+00	38.46
	74.67	325	66.00*	4.152E+00	3.751E-01	3.751E-01	26.16

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	161	0.34	5.197E+00	2.915E+01	2.915E+01	46.21
	117.66	-----	0.55	6.054E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
ANH-511	511.00	88	100.00*	2.393E+00	1.166E-01	1.166E-01	70.68

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 0
Number of lines tentatively identified by NID 30 100.00%

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	2.551E+01	2.551E+01	0.298E+01	11.70	
CD-109	464.00D	1.03	2.633E+00	2.709E+00	1.252E+00	46.21	
SN-126	1.00E+05Y	1.00	2.647E-01	2.647E-01	1.223E-01	46.21	
BA-137M	30.17Y	1.00	3.202E-01	3.206E-01	0.946E-01	29.51	
CS-137	30.17Y	1.00	3.385E-01	3.389E-01	1.000E-01	29.51	
TL-208	1.41E+10Y	1.00	5.342E-01	5.342E-01	1.245E-01	23.31	
BI-211	7.04E+08Y	1.00	5.324E+00	5.324E+00	0.709E+00	13.31	
PB-212	1.41E+10Y	1.00	1.683E+00	1.683E+00	0.216E+00	12.83	
PO-212	1.41E+10Y	1.00	1.683E+00	1.683E+00	0.216E+00	12.83	
BI-214	1600.00Y	1.00	1.258E+00	1.258E+00	0.235E+00	18.64	
PB-214	1600.00Y	1.00	1.852E+00	1.852E+00	0.265E+00	14.30	
PO-214	1600.00Y	1.00	1.852E+00	1.852E+00	0.265E+00	14.30	
PO-216	1.41E+10Y	1.00	1.683E+00	1.683E+00	0.216E+00	12.83	
PO-218	1600.00Y	1.00	1.852E+00	1.852E+00	0.265E+00	14.30	
RA-224	1.41E+10Y	1.00	4.515E+00	4.515E+00	1.369E+00	30.32	
RA-226	1600.00Y	1.00	1.258E+00	1.258E+00	0.235E+00	18.64	
AC-228	1.41E+10Y	1.00	1.534E+00	1.534E+00	0.423E+00	27.57	
RA-228	1.41E+10Y	1.00	1.534E+00	1.534E+00	0.423E+00	27.57	
TH-228	1.91Y	1.02	1.683E+00	1.715E+00	0.220E+00	12.83	
TH-230	4.47E+09Y	1.00	1.258E+00	1.258E+00	0.235E+00	18.64	
TH-232	1.41E+10Y	1.00	1.534E+00	1.534E+00	0.423E+00	27.57	
TH-234	4.47E+09Y	1.00	3.842E+00	3.842E+00	2.987E+00	77.74	
U-234	4.47E+09Y	1.00	1.258E+00	1.258E+00	0.235E+00	18.64	
NP-237	2.14E+06Y	1.00	7.773E-01	7.773E-01	3.934E-01	50.61	
U-238	4.47E+09Y	1.00	3.842E+00	3.842E+00	2.987E+00	77.74	
AM-243	7380.00Y	1.00	3.751E-01	3.751E-01	0.981E-01	26.16	
ANH-511	1.00E+09Y	1.00	1.166E-01	1.166E-01	0.824E-01	70.68	
Total Activity :			7.031E+01	7.042E+01			

Grand Total Activity : 7.031E+01 7.042E+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
2	90.05	114	219	1.05	180.80	179	15	1.59E-02	40.2	5.36E+00	T
0	186.32	122	520	1.39	373.23	366	13	1.69E-02	81.6	5.16E+00	T
0	209.80	162	273	0.97	420.16	416	10	2.25E-02	41.3	4.77E+00	T
0	271.00	71	188	1.09	542.49	538	9	9.91E-03	73.6	3.95E+00	T
0	464.46	42	151	1.72	929.19	920	14	5.76E-03	****	2.59E+00	T
0	727.69	107	77	1.86	1455.32	1450	16	1.49E-02	41.3	1.77E+00	T
0	796.09	32	62	1.30	1592.02	1586	12	4.51E-03	****	1.63E+00	T
0	934.18	28	35	1.52	1868.02	1863	10	3.89E-03	87.6	1.41E+00	T
1	965.21	44	44	1.92	1930.04	1923	27	6.12E-03	61.6	1.37E+00	T
0	1238.56	34	59	0.68	2476.35	2467	17	4.75E-03	****	1.09E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107009.CNF;1
* Acquisition date   : 1-FEB-2010 13:28:08. Detector SN#      :
* Detector ID        : GAM01          Sensitivity             : 5.00000
* Geometry           : CAN            Energy tolerance:       : 1.50000
* Elapsed live time  : 0 02:00:00.00  Abundance limit  :    : 75.00000
* Elapsed real time  : 0 02:00:01.15  Half life ratio  :    : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107009          Analyst initials: MXR1
* Batch Number       : 944038              Sample Quantity : 1.18810E+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	2.551E+01	2.984E+00	6.902E-01	6.136E-02	36.961
CD-109	2.709E+00	1.252E+00	1.517E+00	1.436E-01	1.786
SN-126	2.647E-01	1.223E-01	1.490E-01	1.404E-02	1.776
BA-137M	3.206E-01	9.459E-02	7.314E-02	5.991E-03	4.383
CS-137	3.389E-01	1.000E-01	7.732E-02	6.347E-03	4.383
TL-208	5.342E-01	1.245E-01	6.948E-02	6.310E-03	7.688
BI-211	5.324E+00	7.087E-01	4.061E-01	3.694E-02	13.110
PB-212	1.683E+00	2.158E-01	1.100E-01	1.114E-02	15.295
PO-212	1.683E+00	2.158E-01	1.100E-01	1.114E-02	15.295
BI-214	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
PB-214	1.852E+00	2.648E-01	1.434E-01	1.503E-02	12.914
PO-214	1.852E+00	2.648E-01	1.434E-01	1.503E-02	12.914
PO-216	1.683E+00	2.158E-01	1.100E-01	1.114E-02	15.295
PO-218	1.852E+00	2.648E-01	1.434E-01	1.503E-02	12.914
RA-224	4.515E+00	1.369E+00	1.252E+00	1.138E-01	3.606
RA-226	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
AC-228	1.534E+00	4.230E-01	2.499E-01	2.893E-02	6.138
RA-228	1.534E+00	4.230E-01	2.499E-01	2.893E-02	6.138

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.715E+00	2.199E-01	1.121E-01	1.135E-02	15.295
TH-230	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
TH-232	1.534E+00	4.230E-01	2.499E-01	2.893E-02	6.138
TH-234	3.842E+00	2.987E+00	2.331E+00	4.097E-01	1.648
U-234	1.258E+00	2.346E-01	1.476E-01	1.455E-02	8.527
NP-237	7.773E-01	3.934E-01	4.842E-01	1.096E-01	1.605
U-238	3.842E+00	2.987E+00	2.331E+00	4.097E-01	1.648
AM-243	3.751E-01	9.811E-02	1.098E-01	9.128E-03	3.417
ANH-511	1.166E-01	8.244E-02	5.355E-02	4.538E-03	2.178

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.685E-01		4.329E-01	6.585E-01	5.991E-02	-0.408
NA-22	1.242E-02		5.042E-02	8.646E-02	7.260E-03	0.144
NA-24	-2.167E+01		3.494E+01	Half-Life too short		
AL-26	-2.269E-02		3.810E-02	5.350E-02	4.433E-03	-0.424
TI-44	4.299E-01	+	7.541E-02	9.644E-02	8.277E-03	4.458
SC-46	3.722E-03		4.657E-02	7.678E-02	6.941E-03	0.048
V-48	-5.483E-02		1.028E-01	1.565E-01	1.398E-02	-0.350
CR-51	1.528E-01		5.306E-01	8.832E-01	8.307E-02	0.173
MN-52	4.663E-01		5.065E-01	9.346E-01	8.068E-02	0.499
MN-54	-6.976E-05		4.521E-02	7.420E-02	6.604E-03	-0.001
CO-56	5.094E-03		4.977E-02	8.244E-02	7.366E-03	0.062
CO-57	-1.272E-02		3.114E-02	4.840E-02	4.260E-03	-0.263
CO-58	3.099E-02		4.654E-02	8.146E-02	7.207E-03	0.380
FE-59	6.721E-03		1.183E-01	1.919E-01	1.769E-02	0.035
CO-60	-1.382E-02		4.212E-02	6.677E-02	5.691E-03	-0.207
ZN-65	-4.401E-02		1.366E-01	1.802E-01	1.521E-02	-0.244
GE-68	-6.482E-01		1.621E+00	2.498E+00	2.151E-01	-0.259
AS-73	-1.441E-01		1.113E+00	1.802E+00	1.459E-01	-0.080
AS-74	-2.679E-02		1.318E-01	2.173E-01	1.831E-02	-0.123
SE-75	2.320E-02		5.575E-02	9.117E-02	8.375E-03	0.255
BR-77	1.873E-05		2.091E-05	Half-Life too short		
SR-82	-4.359E-01		5.124E-01	7.735E-01	6.734E-02	-0.563
RB-83	4.862E-02		9.097E-02	1.514E-01	1.284E-02	0.321
RB-84	4.298E-02		8.781E-02	1.510E-01	1.362E-02	0.285
KR-85	1.568E+01		1.073E+01	1.692E+01	1.435E+00	0.927
SR-85	8.382E-02		5.735E-02	9.043E-02	7.667E-03	0.927
RB-86	-3.555E-01		1.177E+00	1.835E+00	1.580E-01	-0.194
Y-88	-1.185E-02		5.013E-02	7.781E-02	6.400E-03	-0.152
ZR-88	-6.439E-03		3.899E-02	6.247E-02	5.030E-03	-0.103
Y-91	9.455E-01		2.128E+01	3.582E+01	2.934E+00	0.026
NB-94	-2.496E-03		4.048E-02	6.682E-02	5.609E-03	-0.037
NB-95	-2.183E-02		5.692E-02	9.097E-02	7.883E-03	-0.240
NB-95M	1.894E-01		1.689E-01	2.624E-01	2.692E-02	0.722
ZR-95	4.580E-02		9.012E-02	1.553E-01	1.475E-02	0.295

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	8.424E-01		3.194E+00	Half-Life too short		
ZR-97	7.994E+01		5.415E+01	Half-Life too short		
MO-99	-3.619E+01		3.918E+01	5.867E+01	8.889E+00	-0.617
TC-99M	-3.562E+14		1.234E+15	Half-Life too short		
RH-101	-5.197E-02		4.176E-02	6.307E-02	5.550E-03	-0.824
RH-102	4.419E-02		3.590E-02	6.280E-02	5.281E-03	0.704
RU-103	-1.082E-02		5.452E-02	8.575E-02	1.206E-02	-0.126
RH-106	2.445E-01		3.729E-01	6.537E-01	8.621E-02	0.374
RU-106	2.445E-01		3.720E-01	6.537E-01	5.461E-02	0.374
AG-108M	-2.935E-04		3.822E-02	6.158E-02	5.311E-03	-0.005
AG-110M	4.809E-03		4.759E-02	6.970E-02	5.910E-03	0.069
IN-111	-9.539E-01		3.641E+00	5.206E+00	4.740E-01	-0.183
IN-113M	3.960E-02		5.594E-02	9.492E-02	7.907E-03	0.417
SN-113	3.960E-02		5.594E-02	9.492E-02	7.907E-03	0.417
IN-114M	-1.400E-01		2.660E-01	3.807E-01	3.324E-02	-0.368
CD-115	4.506E-05		2.190E-05	Half-Life too short		
SN-117M	4.666E-02		7.983E-02	1.376E-01	1.172E-02	0.339
SB-122	2.906E+00		7.032E+00	1.215E+01	1.030E+00	0.239
I-123	5.168E+02		5.049E+02	Half-Life too short		
TE-123M	1.765E-02		3.448E-02	5.930E-02	5.080E-03	0.298
I-124	1.799E+00		1.757E+00	2.910E+00	2.447E-01	0.618
SB-124	-1.022E-02		9.604E-02	1.537E-01	1.362E-02	-0.067
SB-125	2.690E-02		1.175E-01	1.927E-01	1.621E-02	0.140
TE-125M	2.799E+00		1.180E+01	1.899E+01	1.971E+00	0.147
I-126	-3.230E-03		3.142E-01	4.537E-01	3.727E-02	-0.007
SB-126	-8.488E-02		2.211E-01	3.311E-01	2.807E-02	-0.256
SB-127	2.044E+00		3.182E+00	5.564E+00	6.903E-01	0.367
XE-127	-1.049E-02		6.165E-02	1.024E-01	9.050E-03	-0.102
I-131	1.543E-01		1.864E-01	3.201E-01	2.878E-02	0.482
TE-132	2.063E+00		1.968E+00	3.378E+00	5.649E-01	0.611
BA-133	1.874E-02		5.910E-02	8.667E-02	1.143E-02	0.216
I-133	-4.732E-02		8.651E-02	Half-Life too short		
CS-134	8.321E-02	+	8.917E-02	1.121E-01	9.908E-03	0.742
CS-135	-6.959E-02		2.202E-01	3.121E-01	3.255E-02	-0.223
I-135	2.552E+13		7.103E+13	Half-Life too short		
CS-136	-1.234E-01		1.700E-01	2.518E-01	2.290E-02	-0.490
CE-139	-1.685E-02		3.529E-02	5.829E-02	4.964E-03	-0.289
BA-140	1.574E-01		3.916E-01	6.727E-01	2.227E-01	0.234
LA-140	-8.146E-02		1.377E-01	2.043E-01	1.763E-02	-0.399
CE-141	-5.768E-02		8.241E-02	1.326E-01	1.153E-02	-0.435
CE-143	2.750E-03		7.498E-04	Half-Life too short		
CE-144	2.610E-02		2.605E-01	4.136E-01	6.438E-02	0.063
PM-144	8.695E-03		4.220E-02	7.120E-02	5.960E-03	0.122
PR-144	5.904E-01		2.866E+00	4.835E+00	4.045E-01	0.122
PM-146	-6.631E-05		5.865E-02	9.433E-02	9.909E-03	-0.001
ND-147	-1.324E+00		9.175E-01	1.296E+00	1.928E-01	-1.022
PM-149	5.116E-05		1.939E-04	Half-Life too short		
EU-152	-3.131E-02		1.359E-01	1.902E-01	1.759E-02	-0.165

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	6.653E-02		1.040E-01	1.522E-01	1.351E-02	0.437
EU-154	3.366E-02		1.405E-01	2.406E-01	2.680E-02	0.140
EU-155	5.775E-02		1.312E-01	2.132E-01	1.875E-02	0.271
TB-160	-8.388E-02		1.728E-01	2.676E-01	2.413E-02	-0.313
HO-166M	-1.613E-02		6.762E-02	1.096E-01	9.243E-03	-0.147
TM-171	4.638E+00		3.680E+01	5.347E+01	4.211E+00	0.087
LU-176	-2.730E-03		2.938E-02	4.797E-02	4.341E-03	-0.057
LU-177	7.022E+00	+	2.970E+00	3.678E+00	3.269E-01	1.909
LU-177M	-1.818E-01		2.413E-01	3.696E-01	3.020E-02	-0.492
HF-181	-3.804E-02		5.498E-02	8.273E-02	6.971E-03	-0.460
W-181	-3.995E-02		5.074E-01	7.298E-01	5.697E-02	-0.055
TA-182	1.592E-02		2.327E-01	3.922E-01	3.232E-02	0.041
RE-183	-6.167E-02		1.356E-01	2.207E-01	1.879E-02	-0.279
RE-184	1.098E-01		2.932E-01	4.944E-01	4.513E-02	0.222
OS-185	-1.514E-02		4.951E-02	8.026E-02	6.631E-03	-0.189
RE-188	8.798E-02		2.092E-01	3.590E-01	3.057E-02	0.245
W-188	-3.338E+00		1.054E+01	1.484E+01	1.353E+00	-0.225
IR-192	-1.545E-02		4.409E-02	7.071E-02	6.371E-03	-0.218
AU-195	1.522E-01		3.017E-01	4.381E-01	3.868E-02	0.347
TL-200	-9.580E-03		3.213E-03	Half-Life	too short	
TL-201	-3.704E+00		2.022E+01	3.381E+01	2.883E+00	-0.110
TL-202	2.589E-02		1.121E-01	1.836E-01	1.522E-02	0.141
HG-203	1.625E-02		5.296E-02	8.871E-02	8.317E-03	0.183
BI-207	2.435E-02		6.844E-02	1.146E-01	9.931E-03	0.213
TL-207	-7.599E-01		8.540E-01	1.308E+00	2.336E-01	-0.581
PO-209	-2.039E+00		8.657E+00	1.377E+01	1.247E+00	-0.148
BI-210	-3.315E-01		5.175E+00	8.354E+00	7.886E-01	-0.040
PB-210	-3.315E-01		5.175E+00	8.354E+00	7.886E-01	-0.040
PO-210	-3.315E-01		5.175E+00	8.354E+00	7.162E-01	-0.040
PB-211	-7.691E-01		1.290E+00	1.851E+00	1.159E+00	-0.415
BI-212	1.619E+00	+	6.873E-01	8.482E-01	8.405E-02	1.909
PO-215	-7.599E-01		8.540E-01	1.308E+00	2.336E-01	-0.581
RN-219	-4.197E-01		5.423E-01	8.264E-01	1.218E-01	-0.508
RN-220	4.987E+00		3.215E+01	5.433E+01	4.612E+00	0.092
RA-223	-7.599E-01		8.540E-01	1.308E+00	2.336E-01	-0.581
AC-227	-6.580E-02		4.774E-01	7.848E-01	1.228E-01	-0.084
TH-227	-6.580E-02		4.774E-01	7.848E-01	1.437E-01	-0.084
TH-229	6.670E-01		6.066E-01	1.058E+00	9.265E-02	0.631
PA-231	9.818E-01		1.897E+00	3.203E+00	4.960E-01	0.307
TH-231	-7.599E-01		8.540E-01	1.308E+00	2.336E-01	-0.581
U-231	3.276E+00	+	3.611E+00	3.931E+00	3.516E-01	0.834
PA-233	5.518E-03		7.721E-02	1.272E-01	1.177E-02	0.043
PA-234	-1.051E-01		3.498E-01	5.490E-01	1.040E-01	-0.192
PA-234M	5.879E-01		5.676E+00	9.466E+00	9.649E-01	0.062
U-235	3.113E-02		2.536E-01	4.222E-01	7.376E-02	0.074
NP-236	-2.076E-02		9.491E-02	1.588E-01	1.352E-02	-0.131
NP-239	-7.514E-02		2.325E-01	3.636E-01	3.167E-02	-0.207
AM-241	1.437E-01		2.003E-01	3.021E-01	2.489E-02	0.476

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.922E-02		1.160E-01	1.916E-01	1.670E-02	0.518
AM-246	1.713E-02		1.779E-01	2.901E-01	2.496E-02	0.059
CM-247	-1.172E-02		4.645E-02	7.387E-02	5.991E-03	-0.159
CF-249	3.151E-02		5.172E-02	8.708E-02	7.064E-03	0.362
CF-251	1.320E-01		1.508E-01	2.617E-01	2.253E-02	0.504

VAX/VMS Nuclide Identification Report Generated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245107009
* Acquisition date   : 1-FEB-2010 13:28:08 Detector SN# :
* Detector ID        : GAM01 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.15 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107009 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.1881E+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	2.551E+01	2.924E+00	3.443E-01	1.492E+00
CD-109	2.709E+00	1.227E+00	7.810E-01	6.259E-01
SN-126	2.647E-01	1.199E-01	7.672E-02	6.116E-02
BA-137M	3.206E-01	9.270E-02	3.682E-02	4.730E-02
CS-137	3.389E-01	9.801E-02	3.893E-02	5.000E-02
TL-208	5.342E-01	1.220E-01	3.503E-02	6.225E-02
BI-211	5.324E+00	6.945E-01	2.059E-01	3.543E-01
PB-212	1.683E+00	2.115E-01	5.602E-02	1.079E-01
PO-212	1.683E+00	2.115E-01	5.602E-02	1.079E-01
BI-214	1.258E+00	2.299E-01	7.436E-02	1.173E-01
PB-214	1.852E+00	2.595E-01	7.271E-02	1.324E-01
PO-214	1.852E+00	2.595E-01	7.271E-02	1.324E-01
PO-216	1.683E+00	2.115E-01	5.602E-02	1.079E-01
PO-218	1.852E+00	2.595E-01	7.271E-02	1.324E-01
RA-224	4.515E+00	1.342E+00	6.376E-01	6.846E-01
RA-226	1.258E+00	2.299E-01	7.436E-02	1.173E-01
AC-228	1.534E+00	4.145E-01	1.254E-01	2.115E-01
RA-228	1.534E+00	4.145E-01	1.254E-01	2.115E-01
TH-228	1.715E+00	2.156E-01	5.709E-02	1.100E-01
TH-230	1.258E+00	2.299E-01	7.436E-02	1.173E-01
TH-232	1.534E+00	4.145E-01	1.254E-01	2.115E-01
TH-234	3.842E+00	2.927E+00	1.204E+00	1.493E+00
U-234	1.258E+00	2.299E-01	7.436E-02	1.173E-01
NP-237	7.773E-01	3.855E-01	2.493E-01	1.967E-01
U-238	3.842E+00	2.927E+00	1.204E+00	1.493E+00
AM-243	3.751E-01	9.615E-02	5.661E-02	4.906E-02
ANH-511	1.166E-01	8.079E-02	2.704E-02	4.122E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-2.685E-01	4.242E-01	3.327E-01	2.164E-01	NOT IDENT.
NA-22	1.242E-02	4.941E-02	4.320E-02	2.521E-02	NOT IDENT.
NA-24	-2.167E+07	6.848E+07	0.000E+00	3.494E+07	SHORT HLIF
AL-26	-2.269E-02	3.734E-02	2.663E-02	1.905E-02	NOT IDENT.
TI-44	4.299E-01	7.390E-02	4.971E-02	3.770E-02	FAIL ABUN
SC-46	3.722E-03	4.563E-02	3.853E-02	2.328E-02	FAIL ABUN
V-48	-5.483E-02	1.007E-01	7.846E-02	5.138E-02	NOT IDENT.
CR-51	1.528E-01	5.200E-01	4.483E-01	2.653E-01	NOT IDENT.
MN-52	4.663E-01	4.963E-01	4.663E-01	2.532E-01	FAIL ABUN
MN-54	-6.976E-05	4.431E-02	3.725E-02	2.261E-02	NOT IDENT.
CO-56	5.094E-03	4.878E-02	4.138E-02	2.489E-02	FAIL ABUN
CO-57	-1.272E-02	3.052E-02	2.483E-02	1.557E-02	NOT IDENT.
CO-58	3.099E-02	4.561E-02	4.092E-02	2.327E-02	NOT IDENT.
FE-59	6.721E-03	1.160E-01	9.605E-02	5.917E-02	NOT IDENT.
CO-60	-1.382E-02	4.128E-02	3.334E-02	2.106E-02	NOT IDENT.
ZN-65	-4.401E-02	1.339E-01	9.020E-02	6.830E-02	NOT IDENT.
GE-68	-6.482E-01	1.588E+00	1.251E+00	8.105E-01	NOT IDENT.
AS-73	-1.441E-01	1.091E+00	9.327E-01	5.566E-01	NOT IDENT.
AS-74	-2.679E-02	1.291E-01	1.095E-01	6.588E-02	NOT IDENT.
SE-75	2.320E-02	5.464E-02	4.637E-02	2.788E-02	NOT IDENT.
BR-77	1.873E+01	4.098E+01	0.000E+00	2.091E+01	SHORT HLIF
SR-82	-4.359E-01	5.021E-01	3.887E-01	2.562E-01	NOT IDENT.
RB-83	4.862E-02	8.915E-02	7.642E-02	4.548E-02	NOT IDENT.
RB-84	4.298E-02	8.605E-02	7.575E-02	4.390E-02	NOT IDENT.
KR-85	1.568E+01	1.052E+01	8.543E+00	5.366E+00	NOT IDENT.
SR-85	8.382E-02	5.620E-02	4.565E-02	2.868E-02	NOT IDENT.
RB-86	-3.555E-01	1.153E+00	9.186E-01	5.883E-01	NOT IDENT.
Y-88	-1.185E-02	4.913E-02	3.872E-02	2.506E-02	NOT IDENT.
ZR-88	-6.439E-03	3.821E-02	3.163E-02	1.949E-02	NOT IDENT.
Y-91	9.455E-01	2.085E+01	1.791E+01	1.064E+01	NOT IDENT.
NB-94	-2.496E-03	3.967E-02	3.361E-02	2.024E-02	NOT IDENT.
NB-95	-2.183E-02	5.578E-02	4.572E-02	2.846E-02	NOT IDENT.
NB-95M	1.894E-01	1.655E-01	1.336E-01	8.445E-02	NOT IDENT.
ZR-95	4.580E-02	8.832E-02	7.806E-02	4.506E-02	NOT IDENT.
NB-97	8.424E+05	6.259E+06	0.000E+00	3.194E+06	SHORT HLIF
ZR-97	7.994E+07	1.061E+08	0.000E+00	5.415E+07	SHORT HLIF
MO-99	-3.619E+01	3.840E+01	2.950E+01	1.959E+01	NOT IDENT.
TC-99M	-3.562E+20	2.419E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.197E-02	4.092E-02	3.218E-02	2.088E-02	NOT IDENT.
RH-102	4.419E-02	3.518E-02	3.174E-02	1.795E-02	NOT IDENT.
RU-103	-1.082E-02	5.343E-02	4.331E-02	2.726E-02	FAIL ABUN
RH-106	2.445E-01	3.654E-01	3.293E-01	1.864E-01	FAIL ABUN
RU-106	2.445E-01	3.646E-01	3.293E-01	1.860E-01	FAIL ABUN
AG-108M	-2.935E-04	3.745E-02	3.115E-02	1.911E-02	NOT IDENT.
AG-110M	4.809E-03	4.664E-02	3.509E-02	2.379E-02	NOT IDENT.
IN-111	-9.539E-01	3.568E+00	2.650E+00	1.821E+00	NOT IDENT.
IN-113M	3.960E-02	5.483E-02	4.807E-02	2.797E-02	NOT IDENT.
SN-113	3.960E-02	5.483E-02	4.807E-02	2.797E-02	NOT IDENT.
IN-114M	-1.400E-01	2.607E-01	1.944E-01	1.330E-01	NOT IDENT.
CD-115	4.506E+01	4.292E+01	0.000E+00	2.190E+01	SHORT HLIF
SN-117M	4.666E-02	7.823E-02	7.040E-02	3.991E-02	NOT IDENT.
SB-122	2.906E+00	6.891E+00	6.127E+00	3.516E+00	NOT IDENT.
I-123	5.168E+08	9.895E+08	0.000E+00	5.049E+08	SHORT HLIF
TE-123M	1.765E-02	3.379E-02	3.033E-02	1.724E-02	NOT IDENT.
I-124	1.799E+00	1.721E+00	1.466E+00	8.783E-01	NOT IDENT.
SB-124	-1.022E-02	9.411E-02	7.655E-02	4.802E-02	FAIL ABUN
SB-125	2.690E-02	1.151E-01	9.748E-02	5.875E-02	FAIL ABUN
TE-125M	2.799E+00	1.157E+01	9.754E+00	5.902E+00	NOT IDENT.
I-126	-3.230E-03	3.079E-01	2.284E-01	1.571E-01	NOT IDENT.
SB-126	-8.488E-02	2.166E-01	1.665E-01	1.105E-01	FAIL ABUN
SB-127	2.044E+00	3.118E+00	2.800E+00	1.591E+00	NOT IDENT.
XE-127	-1.049E-02	6.042E-02	5.222E-02	3.083E-02	NOT IDENT.
I-131	1.543E-01	1.826E-01	1.622E-01	9.318E-02	NOT IDENT.
TE-132	2.063E+00	1.929E+00	1.721E+00	9.841E-01	NOT IDENT.
BA-133	1.874E-02	5.792E-02	4.394E-02	2.955E-02	NOT IDENT.
I-133	-4.732E+04	1.696E+05	0.000E+00	8.651E+04	SHORT HLIF
CS-134	8.321E-02	8.739E-02	5.632E-02	4.459E-02	FAIL ABUN
CS-135	-6.959E-02	2.158E-01	1.587E-01	1.101E-01	NOT IDENT.
I-135	2.552E+19	1.392E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.234E-01	1.666E-01	1.261E-01	8.499E-02	FAIL ABUN
CE-139	-1.685E-02	3.459E-02	2.980E-02	1.765E-02	NOT IDENT.
BA-140	1.574E-01	3.838E-01	3.394E-01	1.958E-01	NOT IDENT.
LA-140	-8.146E-02	1.350E-01	1.018E-01	6.885E-02	NOT IDENT.
CE-141	-5.768E-02	8.076E-02	6.789E-02	4.120E-02	NOT IDENT.
CE-143	2.750E+03	1.470E+03	0.000E+00	7.498E+02	SHORT HLIF
CE-144	2.610E-02	2.553E-01	2.119E-01	1.303E-01	NOT IDENT.
PM-144	8.695E-03	4.136E-02	3.582E-02	2.110E-02	NOT IDENT.
PR-144	5.904E-01	2.808E+00	2.433E+00	1.433E+00	NOT IDENT.

PM-146	-6.631E-05	5.748E-02	4.769E-02	2.933E-02	NOT IDENT.
ND-147	-1.324E+00	8.992E-01	6.542E-01	4.588E-01	FAIL ABUN
PM-149	5.116E+01	3.801E+02	0.000E+00	1.939E+02	SHORT HLIF
EU-152	-3.131E-02	1.332E-01	9.648E-02	6.795E-02	FAIL ABUN
GD-153	6.653E-02	1.019E-01	7.824E-02	5.199E-02	NOT IDENT.
EU-154	3.366E-02	1.376E-01	1.202E-01	7.023E-02	NOT IDENT.
EU-155	5.775E-02	1.286E-01	1.095E-01	6.562E-02	FAIL ABUN
TB-160	-8.388E-02	1.694E-01	1.343E-01	8.642E-02	FAIL ABUN
HO-166M	-1.613E-02	6.627E-02	5.511E-02	3.381E-02	NOT IDENT.
TM-171	4.638E+00	3.606E+01	2.761E+01	1.840E+01	NOT IDENT.
LU-176	-2.730E-03	2.879E-02	2.436E-02	1.469E-02	FAIL ABUN
LU-177	7.022E+00	2.910E+00	1.876E+00	1.485E+00	FAIL ABUN
LU-177M	-1.818E-01	2.364E-01	1.870E-01	1.206E-01	NOT IDENT.
HF-181	-3.804E-02	5.388E-02	4.180E-02	2.749E-02	NOT IDENT.
W-181	-3.995E-02	4.973E-01	3.769E-01	2.537E-01	NOT IDENT.
TA-182	1.592E-02	2.281E-01	1.960E-01	1.164E-01	FAIL ABUN
RE-183	-6.167E-02	1.329E-01	1.128E-01	6.780E-02	FAIL ABUN
RE-184	1.098E-01	2.873E-01	2.516E-01	1.466E-01	NOT IDENT.
OS-185	-1.514E-02	4.852E-02	4.042E-02	2.476E-02	NOT IDENT.
RE-188	8.798E-02	2.050E-01	1.837E-01	1.046E-01	NOT IDENT.
W-188	-3.338E+00	1.033E+01	7.539E+00	5.270E+00	FAIL ABUN
IR-192	-1.545E-02	4.321E-02	3.589E-02	2.204E-02	FAIL ABUN
AU-195	1.522E-01	2.957E-01	2.253E-01	1.509E-01	FAIL ABUN
TL-200	-9.580E+03	6.297E+03	0.000E+00	3.213E+03	SHORT HLIF
TL-201	-3.704E+00	1.981E+01	1.728E+01	1.011E+01	NOT IDENT.
TL-202	2.589E-02	1.098E-01	9.284E-02	5.604E-02	NOT IDENT.
HG-203	1.625E-02	5.190E-02	4.509E-02	2.648E-02	NOT IDENT.
BI-207	2.435E-02	6.707E-02	5.736E-02	3.422E-02	FAIL ABUN
TL-207	-7.599E-01	8.369E-01	6.637E-01	4.270E-01	FAIL ABUN
PO-209	-2.039E+00	8.484E+00	6.910E+00	4.329E+00	NOT IDENT.
BI-210	-3.315E-01	5.072E+00	4.330E+00	2.588E+00	NOT IDENT.
PB-210	-3.315E-01	5.072E+00	4.330E+00	2.588E+00	NOT IDENT.
PO-210	-3.315E-01	5.072E+00	4.330E+00	2.588E+00	NOT IDENT.
PB-211	-7.691E-01	1.264E+00	9.372E-01	6.449E-01	NOT IDENT.
BI-212	1.619E+00	6.736E-01	4.265E-01	3.437E-01	FAIL ABUN
PO-215	-7.599E-01	8.369E-01	6.637E-01	4.270E-01	FAIL ABUN
RN-219	-4.197E-01	5.315E-01	4.184E-01	2.712E-01	FAIL ABUN
RN-220	4.987E+00	3.150E+01	2.741E+01	1.607E+01	NOT IDENT.
RA-223	-7.599E-01	8.369E-01	6.637E-01	4.270E-01	FAIL ABUN
AC-227	-6.580E-02	4.678E-01	3.993E-01	2.387E-01	NOT IDENT.
TH-227	-6.580E-02	4.679E-01	3.993E-01	2.387E-01	FAIL ABUN
TH-229	6.670E-01	5.945E-01	5.398E-01	3.033E-01	FAIL ABUN
PA-231	9.818E-01	1.859E+00	1.628E+00	9.487E-01	NOT IDENT.
TH-231	-7.599E-01	8.369E-01	6.637E-01	4.270E-01	FAIL ABUN
U-231	3.276E+00	3.539E+00	2.022E+00	1.805E+00	FAIL ABUN
PA-233	5.518E-03	7.567E-02	6.458E-02	3.861E-02	FAIL ABUN
PA-234	-1.051E-01	3.428E-01	2.752E-01	1.749E-01	FAIL ABUN
PA-234M	5.879E-01	5.563E+00	4.743E+00	2.838E+00	NOT IDENT.
U-235	3.113E-02	2.485E-01	2.162E-01	1.268E-01	FAIL ABUN
NP-236	-2.076E-02	9.301E-02	8.122E-02	4.746E-02	FAIL ABUN
NP-239	-7.514E-02	2.278E-01	1.866E-01	1.162E-01	FAIL ABUN
AM-241	1.437E-01	1.963E-01	1.561E-01	1.001E-01	NOT IDENT.
CM-243	9.922E-02	1.137E-01	9.848E-02	5.801E-02	FAIL ABUN
AM-246	1.713E-02	1.744E-01	1.453E-01	8.897E-02	NOT IDENT.
CM-247	-1.172E-02	4.552E-02	3.740E-02	2.322E-02	NOT IDENT.
CF-249	3.151E-02	5.068E-02	4.410E-02	2.586E-02	NOT IDENT.
CF-251	1.320E-01	1.478E-01	1.337E-01	7.539E-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	269.2142
46.50	269.2142
46.50	269.2142
48.70	262.2301
49.72	262.7787
51.35	266.7469
52.39	257.9743
52.97	277.9767
53.15	278.0741
53.44	259.5450
54.07	242.1922
56.28	271.4020
56.28	271.4033
57.37	0.0000
57.53	257.3933
57.53	257.3943
57.60	257.4268
57.98	262.3212
57.98	262.3212
59.32	258.2469
59.32	258.2469
59.40	258.2845
59.54	245.7483
59.72	245.8293
60.01	264.8789
61.10	287.5187
61.14	287.5392
61.30	287.6221
63.00	280.0398
63.29	280.1830
63.29	280.1830
63.58	280.3262
64.28	280.6699
65.12	350.0237
65.20	350.0724
65.20	350.0724
66.05	326.6812
66.72	322.2689
66.83	314.3520
66.91	314.3941
67.20	314.5489
67.20	314.5489
67.75	354.7966
67.85	391.6220
68.90	380.4642
68.90	380.4642
69.30	346.1072
69.67	380.9536
70.82	396.7769
70.82	396.7769
70.83	396.7826
72.80	380.3311
72.87	380.3743
72.87	380.3743
74.67	415.9560
74.81	416.0503
74.81	416.0503
74.81	416.0503
74.81	416.0503
74.81	416.0503
74.81	416.0503
74.81	416.0503
74.97	416.1543
75.28	416.3604
75.70	416.6353
77.11	417.5581
77.11	417.5581

77.11	417.5581
77.11	417.5581
77.11	417.5581
77.11	417.5581
77.11	417.5581
78.38	383.6981
79.62	348.5925
79.80	378.0178
79.80	378.0178
80.11	378.1965
80.18	378.2355
80.30	404.3945
80.30	404.3945
80.57	404.5610
81.00	447.2652
81.07	435.8856
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81.07	435.8856
81.07	435.8856
82.60	404.4903
83.37	381.6914
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83.78	391.7593
83.78	391.7593
83.78	391.7593
84.21	380.5276
84.90	356.2855
85.43	386.1403
86.29	455.7232
86.50	455.8627
86.54	455.8881
86.59	454.2760
86.72	454.3623
86.79	452.7601
86.94	452.8587
87.30	482.7530
87.30	482.7530
87.30	482.7530
87.30	482.7530
87.30	482.7530
87.30	482.7530
87.57	382.3968
87.88	0.0000
88.03	382.6499
88.36	382.8304
88.47	382.8906
89.95	383.6995
91.11	301.4986
92.29	301.9957
92.38	302.0346
92.38	302.0346
93.35	302.4414
94.00	302.7122
94.67	302.9899
94.67	302.9913
94.90	311.4137
94.90	311.4137
94.90	311.4137
94.90	311.4137
95.87	325.1661
95.87	325.1661
96.73	300.5049
97.43	264.0249
98.44	254.3430
98.44	254.3442
98.88	267.8882
99.55	278.8525
99.55	278.8525
99.86	297.2963
100.00	297.3518
100.10	311.9266
103.18	288.4910
103.76	268.4884
105.00	256.5406
105.31	289.2858
108.00	343.3638
109.28	291.8759

111.00	319.7127
111.00	319.7127
111.76	335.8997
112.95	326.1638
115.19	308.8227
116.30	306.9554
117.00	292.3659
117.00	292.3659
117.66	297.1695
121.11	277.7274
121.62	268.7070
121.78	283.6886
122.06	283.7809
122.32	274.6735
122.32	274.6735
122.32	274.6735
122.32	274.6735
123.07	259.9596
127.23	320.1495
129.76	315.2692
131.20	345.9630
133.02	290.8224
133.54	296.8100
135.34	306.7263
136.00	298.4843
136.25	309.9485
136.48	310.0255
140.51	301.6978
140.51	0.0000
142.18	298.7070
142.65	297.0939
143.76	278.9061
144.24	284.3442
144.24	284.3442
144.24	284.3442
144.24	284.3442
145.22	294.3602
145.44	294.4262
147.16	295.8379
152.43	284.0777
152.70	275.2479
153.22	287.8690
154.21	290.8337
154.21	290.8337
154.21	290.8337
154.21	290.8337
155.03	277.6796
156.02	282.4211
158.56	269.6925
159.00	0.0000
159.00	268.9133
160.31	289.9021
161.27	271.3074
162.32	271.5839
162.64	271.6691
163.35	269.1552
163.89	270.1950
165.85	276.1195
167.43	273.8239
171.28	289.3323
171.86	291.3030
172.10	291.3691
176.55	242.4425
176.60	242.4527
181.06	263.5730
184.41	281.8070
185.71	282.1326
186.00	282.2052
190.27	284.9271
192.34	287.3422
193.63	227.6446
197.04	241.3042
198.01	273.0859
198.60	276.0107
200.40	0.0000
201.83	281.4223
202.84	266.7394
205.31	263.1772

208.36	287.8242
208.81	287.9320
209.75	250.4449
209.75	250.4449
210.97	228.3488
215.65	240.0207
216.55	240.5099
218.09	225.6963
222.10	238.7302
223.80	239.9960
226.40	244.2845
227.00	222.5260
227.08	214.9321
227.20	214.9528
228.16	199.8823
228.18	199.8855
228.18	199.8855
231.56	0.0000
235.69	200.6529
236.00	225.2140
236.00	225.2140
238.63	211.0756
238.63	211.0756
238.63	211.0756
238.63	211.0756
239.00	0.0000
240.98	211.4465
241.98	211.6043
241.98	211.6043
241.98	211.6043
244.69	189.6695
245.39	185.1387
247.94	189.3501
248.90	202.1875
249.79	0.0000
252.40	180.2712
252.85	185.1770
252.85	185.1770
254.15	0.0000
256.20	198.2569
256.20	198.2569
260.50	192.0401
260.90	0.0000
262.80	184.5386
264.65	163.1297
268.24	197.5887
268.79	180.4091
269.46	196.1884
269.46	196.1884
269.46	196.1884
269.46	196.1884
271.23	161.8553
273.65	192.0309
276.40	162.9518
277.35	161.7428
277.60	173.6072
277.60	173.6072
278.00	180.5595
278.60	156.9451
279.20	172.8077
279.53	176.7958
280.46	182.8377
281.68	0.0000
283.67	158.4692
284.30	176.3704
285.00	168.5214
285.90	0.0000
286.10	152.7734
286.10	152.7734
287.40	174.7458
288.45	0.0000
290.67	168.7538
290.80	168.7693
291.72	170.4633
293.26	0.0000
293.70	164.3046
295.21	166.6611
295.21	166.6611

295.21	166.6611
295.96	164.7432
296.50	199.7589
297.23	0.0000
298.57	179.2246
299.80	123.3128
299.80	123.3128
300.09	139.3551
300.09	139.3551
300.09	139.3551
300.09	139.3551
300.12	139.3572
301.29	160.3003
302.84	163.4676
303.76	0.0000
303.91	191.6791
304.40	189.7296
304.40	189.7296
304.84	179.7402
306.84	140.7584
308.46	132.8500
311.98	138.1853
316.51	148.6913
318.01	166.0395
319.02	142.8417
319.41	146.9293
320.08	152.0576
323.87	173.7475
323.87	173.7475
323.87	173.7475
323.87	173.7475
325.23	193.2123
328.77	128.4033
333.44	152.0627
334.20	152.1331
334.20	152.1331
334.30	152.1422
338.28	113.7608
338.28	113.7608
338.28	113.7608
338.28	113.7608
338.32	113.7625
338.32	113.7625
338.32	113.7625
340.50	136.2793
340.57	136.2854
344.27	134.9356
345.85	95.5301
350.59	0.0000
351.07	133.8141
351.92	137.3917
351.92	137.3917
351.92	137.3917
355.39	0.0000
356.01	115.9683
364.48	90.5139
366.43	96.8627
367.43	117.7589
367.94	0.0000
369.80	93.9139
374.96	136.0382
383.85	118.8228
387.95	116.9755
388.63	108.5857
391.69	101.3701
391.69	101.3701
392.90	114.1155
398.62	102.8020
400.65	126.2523
401.10	126.2832
401.81	138.0060
402.60	120.0090
404.84	131.8446
410.95	122.6613
411.60	144.0431
413.65	140.9892
414.70	115.4174
415.30	97.2790

415.76	105.8567
417.63	0.0000
418.52	123.1368
423.70	117.0183
427.08	94.6333
427.89	103.2788
432.53	97.0477
433.93	87.4023
439.47	0.0000
439.56	102.7944
439.89	95.2349
443.98	95.4255
444.90	90.0442
445.03	95.4739
445.03	95.4739
445.03	95.4739
445.03	95.4739
453.90	111.1376
463.38	94.1268
468.07	61.4269
473.00	94.5520
475.06	70.4316
475.35	75.9436
476.78	83.7037
477.59	102.4652
477.96	98.0744
482.03	91.6336
484.57	0.0000
487.03	76.3521
490.36	0.0000
492.35	0.0000
497.08	87.8154
507.63	0.0000
510.53	0.0000
510.84	76.0512
511.00	76.0564
511.85	76.0844
511.85	76.0844
513.99	89.5947
513.99	89.5947
520.41	77.4923
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	77.5764
529.87	0.0000
531.02	96.5743
537.32	76.9254
543.00	82.5532
546.56	0.0000
549.76	72.7793
552.65	76.5105
555.20	78.4141
563.23	68.6115
563.90	80.5256
568.70	85.2667
569.32	82.5381
569.50	83.4618
569.67	83.4663
573.80	76.2562
574.00	68.9117
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	72.8532
585.48	0.0000
591.81	83.2852
592.07	84.2194
593.00	74.9903
595.88	83.4170
600.56	89.1422
602.52	0.0000
602.71	75.6753
602.71	75.6753
603.60	86.7686
604.41	97.6454
604.70	94.5579
609.31	92.2421

609.31	92.2421
609.31	92.2421
609.31	92.2421
610.33	92.2783
612.46	57.5264
614.37	62.2363
618.01	81.3331
621.84	58.0455
621.84	58.0455
631.29	60.1328
633.02	62.0522
633.10	62.0539
634.78	66.7965
635.90	56.4727
636.97	67.7936
645.85	68.9633
646.12	62.3568
656.30	66.3838
657.75	64.8366
657.90	0.0000
661.65	74.1152
661.65	74.1152
664.57	0.0000
666.33	72.9718
666.33	72.9718
675.00	60.1515
677.61	59.2512
685.20	51.7456
692.80	67.2571
695.00	70.1948
696.49	68.3063
696.49	68.3063
697.00	69.2807
697.49	72.1802
698.33	74.1275
698.50	74.1313
699.00	75.1074
702.63	70.3819
706.10	61.7781
706.58	0.0000
706.67	56.9632
709.31	67.6450
711.68	58.0298
713.82	58.0723
717.42	56.2059
720.50	64.2686
721.93	0.0000
722.20	59.8570
722.78	55.0148
722.78	55.0148
722.89	55.0162
722.95	55.0176
723.30	58.2612
724.18	51.8034
727.18	66.4398
733.00	51.9583
735.90	55.2597
739.58	73.2275
742.81	67.4418
744.21	67.4738
747.13	62.6453
751.79	78.4277
752.31	69.6167
753.82	60.8224
755.35	0.0000
756.15	54.9773
756.87	55.9730
763.93	88.5828
765.79	81.7437
766.42	67.9690
766.84	68.9626
776.49	67.2031
778.00	53.3936
778.57	52.4138
778.89	52.4190
783.80	71.3232
785.46	57.4860
792.07	76.1463

795.84	55.6869
796.30	55.6951
798.80	39.8135
801.93	44.8352
805.60	52.8667
810.29	38.9591
810.76	40.9630
815.85	65.0444
817.79	0.0000
818.51	44.0666
819.60	55.1007
826.30	54.2109
828.27	0.0000
831.60	63.3499
831.96	64.3625
834.83	57.3729
836.80	0.0000
846.75	51.5205
848.13	36.3823
856.28	0.0000
856.80	74.9810
860.37	42.6029
867.32	47.7734
867.82	52.8633
871.10	51.8965
873.19	53.9653
874.81	42.7854
875.33	0.0000
876.40	49.9403
879.36	51.0034
880.27	43.8745
880.51	44.8980
881.50	38.7867
883.24	35.7434
884.67	42.9095
889.25	41.9439
896.60	46.1349
898.02	39.9998
899.00	47.1927
903.28	43.3706
911.07	46.3271
911.07	46.3271
911.07	46.3271
919.63	33.5402
920.93	35.1007
925.00	44.4435
925.24	44.4466
926.50	40.2115
935.52	48.3768
937.48	44.9456
944.10	42.6046
946.00	44.7059
949.00	36.4193
962.29	41.7744
964.01	52.2424
966.15	44.9547
968.20	44.9799
969.11	44.9915
969.11	44.9915
969.11	44.9915
977.42	43.6951
980.50	34.6355
983.50	49.3695
989.30	33.6656
996.32	57.9716
1001.03	43.2692
1001.68	30.6107
1004.76	42.2559
1021.30	0.0000
1024.50	0.0000
1034.80	36.2014
1036.00	36.2130
1037.82	31.9673
1038.57	40.5012
1038.76	0.0000
1045.16	37.3669
1046.59	41.6527
1048.07	54.4888

1050.47	41.6946
1050.47	41.6946
1062.04	49.3220
1063.62	46.1242
1076.63	50.5824
1077.35	51.6680
1078.86	44.1491
1085.78	49.6185
1099.22	43.2910
1112.02	41.8767
1112.84	28.9583
1115.52	57.9531
1120.29	47.8672
1120.29	47.8672
1120.29	47.8672
1120.29	47.8672
1120.51	47.8715
1121.28	47.8801
1124.00	0.0000
1129.67	57.7902
1131.51	0.0000
1147.95	0.0000
1167.94	43.1005
1173.22	56.0085
1175.09	47.7661
1177.93	63.4241
1189.05	53.4522
1204.90	41.6235
1205.75	0.0000
1213.00	46.3359
1221.42	49.2087
1230.97	57.4252
1235.34	52.6927
1236.41	0.0000
1238.25	50.3306
1246.25	42.0172
1260.41	0.0000
1271.85	42.2571
1274.45	33.8262
1274.54	33.8262
1291.56	34.8968
1298.22	0.0000
1312.09	39.7886
1325.50	17.1013
1325.50	17.1013
1332.49	25.6904
1333.61	16.1796
1360.21	15.3138
1362.66	0.0000
1365.15	20.1199
1368.21	28.7610
1368.53	0.0000
1376.25	29.7701
1384.27	35.5908
1394.10	26.9883
1395.20	31.8143
1407.95	17.3987
1434.06	19.4352
1436.60	29.1675
1457.56	0.0000
1460.81	22.4694
1489.15	19.6484
1509.49	21.6983
1596.49	25.0661
1620.62	21.1495
1678.03	0.0000
1691.02	13.2592
1691.02	13.2592
1706.46	0.0000
1750.46	0.0000
1764.49	11.3630
1764.49	11.3630
1764.49	11.3630
1764.49	11.3630
1770.23	12.4082
1771.40	12.4106
1791.20	0.0000
1808.65	14.5708

1836.01

16.7279

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107009

Total Uranium Activity	1.1444E+01	ug/g
Total Uranium Counting Unc.	8.7080E+00	ug/g
Total Uranium Tpu	4.4428E-06	ug/g
Total Uranium Mda	3.5838E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038          SAMPLE ID   : G245107009
*  ANALYST       : MXR1            DETECTOR    : GAM01
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 1-FEB-2010 13:28:08.11  SAMPLE ALQT: 118.810 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.472E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.607E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.394E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.638E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:52:06.72

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                          *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107010.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:28:42.
Sample ID          : G245107010 Sample quantity : 1.14830E+02 GRAM
Detector name      : GAM02 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.69 0.0%
Energy tolerance  : 1.50000 keV Analyst Initials : MXR1
Abundance limit   : 75.00000 Sensitivity : 5.00000
Batch ID          : 944038 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	62.97*	63	368	0.89	125.14	120	9	8.81E-03	60.2	
2	2	74.71	284	377	1.08	148.62	142	15	3.95E-02	12.8	1.28E+00
3	2	76.95	431	291	0.92	153.10	142	15	5.99E-02	8.2	
4	0	86.99	138	321	0.91	173.20	170	6	1.92E-02	22.2	
5	0	92.68*	111	486	1.39	184.58	181	10	1.53E-02	41.6	
6	0	185.54*	181	261	1.30	370.41	366	9	2.52E-02	19.5	
7	0	209.26	90	266	1.42	417.86	412	10	1.25E-02	35.5	
8	5	238.37*	950	140	1.18	476.11	469	20	1.32E-01	4.0	1.66E+00
9	5	241.40	254	176	1.89	482.17	469	20	3.53E-02	16.6	
10	0	269.57	87	248	1.73	538.56	532	13	1.21E-02	38.6	
11	0	277.49	69	140	0.86	554.39	551	8	9.65E-03	31.7	
12	0	294.81	336	169	1.35	589.05	585	10	4.67E-02	9.0	
13	0	337.95	142	154	1.06	675.37	671	9	1.97E-02	17.8	
14	0	351.72*	561	116	1.25	702.93	698	12	7.79E-02	5.8	
15	0	462.64	48	132	1.14	924.91	918	12	6.66E-03	50.1	
16	0	510.46*	55	149	1.94	1020.60	1015	13	7.62E-03	54.4	
17	0	582.87*	267	87	1.24	1165.51	1159	12	3.71E-02	9.6	
18	0	608.93*	413	109	1.43	1217.66	1210	16	5.73E-02	7.6	
19	0	727.93	80	76	2.19	1455.80	1449	18	1.11E-02	27.4	
20	0	772.12	46	33	1.00	1544.24	1540	10	6.39E-03	28.0	
21	0	910.93*	166	78	1.67	1822.04	1815	16	2.31E-02	14.3	
22	1	964.19	56	39	1.99	1928.64	1920	23	7.80E-03	25.0	1.79E+00
23	1	968.69	107	28	1.99	1937.64	1920	23	1.49E-02	13.8	
24	0	1119.90	82	60	1.52	2240.27	2233	15	1.13E-02	23.5	
25	0	1154.16	45	28	2.77	2308.86	2303	10	6.31E-03	26.2	
26	0	1377.33	35	11	2.23	2755.54	2748	14	4.79E-03	26.2	
27	0	1460.24*	780	20	2.10	2921.48	2914	18	1.08E-01	3.9	
28	0	1586.62*	35	4	2.09	3174.46	3166	16	4.91E-03	22.4	
29	0	1764.03*	82	3	2.37	3529.58	3524	15	1.14E-02	13.3	
30	0	1847.34	11	7	0.64	3696.34	3692	9	1.53E-03	52.4	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107010.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:28:42
Sample ID        : G245107010 Sample quantity : 114.83 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA2 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:02.69 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	*	2.323E+01	2.858E+00	7.647E-01	7.269E-02	30.379
CD-109	+	88.03	*	2.385E+00	1.085E+00	1.476E+00	1.482E-01	1.616
SN-126	+	64.28		8.524E-01	1.034E+00	9.472E-01	1.405E-01	0.900
	+	86.94		9.688E-01	5.899E-01	6.516E-01	2.714E-01	1.487
	+	87.57	*	2.330E-01	1.061E-01	1.539E-01	1.539E-02	1.514
CS-135	+	268.24	*	4.381E-01	3.432E-01	2.920E-01	3.863E-02	1.500
TL-208	+	277.35		8.370E-01	5.458E-01	6.847E-01	1.041E-01	1.222
	+	510.84		3.268E-01	3.581E-01	2.499E-01	3.236E-02	1.308
	+	583.14	*	4.519E-01	9.799E-02	6.158E-02	6.168E-03	7.339
		860.37		9.785E-02	3.467E-01	5.788E-01	6.101E-02	0.169
BI-211		72.87		5.490E+00	3.335E+00	5.906E+00	5.083E-01	0.930
	+	351.07	*	4.230E+00	6.943E-01	3.749E-01	4.325E-02	11.282
PB-212	+	74.81		2.136E+00	6.115E-01	5.828E-01	7.463E-02	3.665
	+	77.11		1.814E+00	3.373E-01	3.269E-01	2.923E-02	5.550
	+	87.30		1.078E+00	5.022E-01	7.144E-01	1.009E-01	1.509
	+	238.63	*	1.562E+00	2.320E-01	9.868E-02	1.242E-02	15.828
		300.09		2.553E-01	9.992E-01	1.497E+00	2.023E-01	0.171
PO-212	+	74.81		2.136E+00	6.115E-01	5.828E-01	7.463E-02	3.665
	+	77.11		1.814E+00	3.373E-01	3.269E-01	2.923E-02	5.550
	+	87.30		1.078E+00	5.022E-01	7.144E-01	1.009E-01	1.509
		115.19		-2.693E-01	3.776E+00	6.216E+00	5.227E-01	-0.043
	+	238.63	*	1.562E+00	2.320E-01	9.868E-02	1.242E-02	15.828
		300.09		2.553E-01	9.992E-01	1.497E+00	2.023E-01	0.171
BI-214	+	609.31	*	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
	+	1120.29		1.360E+00	6.559E-01	5.460E-01	5.945E-02	2.492
	+	1764.49		1.885E+00	5.247E-01	4.066E-01	3.446E-02	4.635
PB-214	+	74.81		3.680E+00	1.033E+00	1.004E+00	1.152E-01	3.665
	+	77.11		3.110E+00	6.249E-01	5.604E-01	6.584E-02	5.550
	+	87.30		1.846E+00	8.523E-01	1.224E+00	1.542E-01	1.509
	+	241.98		2.508E+00	8.946E-01	5.947E-01	7.780E-02	4.218
	+	295.21		1.499E+00	3.399E-01	2.545E-01	3.498E-02	5.890
	+	351.92	*	1.471E+00	2.534E-01	1.307E-01	1.652E-02	11.258
PO-214	+	74.81		3.680E+00	1.033E+00	1.004E+00	1.152E-01	3.665
	+	77.11		3.110E+00	6.249E-01	5.604E-01	6.584E-02	5.550

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	87.30		1.846E+00	8.523E-01	1.224E+00	1.542E-01	1.509
	+	241.98		2.508E+00	8.946E-01	5.947E-01	7.780E-02	4.218
	+	295.21		1.499E+00	3.399E-01	2.545E-01	3.498E-02	5.890
	+	351.92	*	1.471E+00	2.534E-01	1.307E-01	1.652E-02	11.258
PO-216	+	74.81		2.136E+00	6.115E-01	5.828E-01	7.463E-02	3.665
	+	77.11		1.814E+00	3.373E-01	3.269E-01	2.923E-02	5.550
	+	87.30		1.078E+00	5.022E-01	7.144E-01	1.009E-01	1.509
	+	238.63	*	1.562E+00	2.320E-01	9.868E-02	1.242E-02	15.828
	+	300.09		2.553E-01	9.992E-01	1.497E+00	2.023E-01	0.171
PO-218	+	74.81		3.680E+00	1.033E+00	1.004E+00	1.152E-01	3.665
	+	77.11		3.110E+00	6.249E-01	5.604E-01	6.584E-02	5.550
	+	87.30		1.846E+00	8.523E-01	1.224E+00	1.542E-01	1.509
	+	241.98		2.508E+00	8.946E-01	5.947E-01	7.780E-02	4.218
	+	295.21		1.499E+00	3.399E-01	2.545E-01	3.498E-02	5.890
	+	351.92	*	1.471E+00	2.534E-01	1.307E-01	1.652E-02	11.258
RA-224	+	240.98	*	4.756E+00	1.675E+00	1.124E+00	1.326E-01	4.233
RA-226	+	609.31	*	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
	+	1120.29		1.360E+00	6.559E-01	5.460E-01	5.945E-02	2.492
	+	1764.49		1.885E+00	5.247E-01	4.066E-01	3.446E-02	4.635
AC-228	+	338.32		1.181E+00	6.499E-01	4.335E-01	1.819E-01	2.724
	+	911.07	*	1.252E+00	3.913E-01	2.134E-01	2.661E-02	5.866
	+	969.11		1.424E+00	5.184E-01	3.897E-01	9.286E-02	3.654
RA-228	+	338.32		1.181E+00	6.499E-01	4.335E-01	1.819E-01	2.724
	+	911.07	*	1.252E+00	3.913E-01	2.134E-01	2.661E-02	5.866
	+	969.11		1.424E+00	5.184E-01	3.897E-01	9.286E-02	3.654
TH-228	+	74.81		2.177E+00	5.896E-01	5.940E-01	5.243E-02	3.665
	+	77.11		1.849E+00	3.437E-01	3.332E-01	2.979E-02	5.550
	+	87.30		1.098E+00	4.999E-01	7.281E-01	7.255E-02	1.509
	+	238.63	*	1.592E+00	2.365E-01	1.006E-01	1.266E-02	15.828
	+	300.09		2.602E-01	1.030E+00	1.526E+00	9.139E-01	0.171
TH-230	+	609.31	*	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
	+	1120.29		1.360E+00	6.559E-01	5.460E-01	5.945E-02	2.492
	+	1764.49		1.885E+00	5.247E-01	4.066E-01	3.446E-02	4.635
TH-232	+	338.32		1.181E+00	4.419E-01	4.335E-01	4.984E-02	2.724
	+	911.07	*	1.252E+00	3.913E-01	2.134E-01	2.661E-02	5.866
	+	969.11		1.424E+00	5.184E-01	3.897E-01	9.286E-02	3.654
TH-234	+	63.29	*	2.154E+00	2.621E+00	2.437E+00	4.303E-01	0.884
	+	92.38		1.194E+00	1.017E+00	9.118E-01	1.690E-01	1.309
U-234	+	609.31	*	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
	+	1120.29		1.360E+00	6.559E-01	5.460E-01	5.945E-02	2.492
	+	1764.49		1.885E+00	5.247E-01	4.066E-01	3.446E-02	4.635
NP-237	+	86.50	*	6.843E-01	3.420E-01	4.564E-01	1.044E-01	1.499
	+	95.87		-5.901E-01	1.108E+00	1.593E+00	3.959E-01	-0.370
U-238	+	63.29	*	2.154E+00	2.621E+00	2.437E+00	4.303E-01	0.884
	+	92.38		1.194E+00	9.993E-01	9.118E-01	8.681E-02	1.309
AM-243	+	74.67	*	3.462E-01	9.372E-02	9.484E-02	8.293E-03	3.651
	+	86.72		2.566E+01	1.168E+01	1.672E+01	1.654E+00	1.535
	+	117.66		-1.200E+00	4.034E+00	6.560E+00	5.496E-01	-0.183
	+	142.18		5.133E+00	2.066E+01	3.333E+01	3.016E+00	0.154

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	7.058E-02	7.712E-02	5.398E-02	5.351E-03	1.308

---- 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	*	-4.193E-02	3.781E-01	6.043E-01	6.409E-02	-0.069
NA-22		1274.54	*	1.597E-02	5.310E-02	9.010E-02	7.989E-03	0.177
NA-24		1368.53	*	3.009E+01	5.310E-02	Half-Life too short		
AL-26		1129.67		-9.993E-01	2.037E+00	3.221E+00	2.752E-01	-0.310
		1808.65	*	4.737E-02	3.519E-02	7.220E-02	5.976E-03	0.656
TI-44		67.85		-9.293E-03	4.990E-02	8.399E-02	6.929E-03	-0.111
	+	78.38	*	3.349E-01	6.225E-02	7.189E-02	6.508E-03	4.658
SC-46		889.25	*	-4.350E-03	4.510E-02	7.236E-02	7.356E-03	-0.060
	+	1120.51		2.406E-01	1.149E-01	1.559E-01	1.347E-02	1.544
V-48		944.10		9.256E-02	1.284E+00	2.088E+00	2.089E-01	0.044
		983.50	*	-5.920E-03	9.602E-02	1.532E-01	1.499E-02	-0.039
		1312.09		3.294E-02	1.018E-01	1.740E-01	1.593E-02	0.189
CR-51		320.08	*	-3.318E-02	4.648E-01	7.695E-01	9.389E-02	-0.043
MN-52		744.21		1.364E-01	4.558E-01	7.704E-01	7.097E-02	0.177
		848.13		4.190E+00	1.269E+01	2.135E+01	2.115E+00	0.196
		935.52		1.231E-01	4.791E-01	7.945E-01	7.987E-02	0.155
		1246.25		-6.819E+00	1.481E+01	2.331E+01	2.013E+00	-0.292
		1333.61		-2.333E+00	8.546E+00	1.342E+01	1.250E+00	-0.174
		1434.06	*	8.808E-02	4.605E-01	7.705E-01	7.168E-02	0.114
MN-54		834.83	*	-2.015E-02	4.560E-02	7.125E-02	7.000E-03	-0.283
CO-56		846.75	*	-4.474E-02	4.852E-02	7.113E-02	7.042E-03	-0.629
		977.42		4.172E-01	3.577E+00	5.827E+00	5.722E-01	0.072
		1037.82		1.021E-01	3.427E-01	5.917E-01	5.809E-02	0.173
		1175.09		1.641E+00	2.933E+00	5.094E+00	4.110E-01	0.322
		1238.25		8.801E-02	1.080E-01	1.901E-01	1.677E-02	0.463
		1360.21		1.878E-01	1.117E+00	1.873E+00	1.746E-01	0.100
		1771.40		-3.464E-02	3.073E-01	4.201E-01	3.548E-02	-0.082
CO-57		122.06	*	-3.630E-03	2.792E-02	4.569E-02	3.819E-03	-0.079
		136.48		2.242E-01	2.333E-01	3.967E-01	3.746E-02	0.565
CO-58		810.76	*	-1.848E-02	4.772E-02	7.497E-02	7.261E-03	-0.246
FE-59		142.65		1.994E+00	3.401E+00	5.560E+00	5.043E-01	0.359
		192.34		-7.268E-02	1.168E+00	1.863E+00	2.782E-01	-0.039
		1099.22	*	-7.420E-03	1.124E-01	1.860E-01	1.774E-02	-0.040
		1291.56		2.375E-02	1.400E-01	2.291E-01	2.317E-02	0.104
CO-60		1173.22		1.439E-02	5.512E-02	9.350E-02	7.530E-03	0.154
		1332.49	*	-1.561E-02	3.926E-02	6.023E-02	5.611E-03	-0.259
ZN-65		1115.52	*	9.491E-02	1.046E-01	1.702E-01	1.481E-02	0.558
GE-68		1077.35	*	7.677E-01	1.409E+00	2.479E+00	2.245E-01	0.310
AS-73		53.44	*	6.371E-01	1.248E+00	2.116E+00	1.752E-01	0.301
AS-74		595.88	*	4.265E-02	1.199E-01	2.065E-01	1.928E-02	0.207
		634.78		8.881E-02	4.566E-01	7.745E-01	6.924E-02	0.115
SE-75		66.05		4.631E+00	5.746E+00	9.139E+00	9.164E-01	0.507
		96.73		-1.025E+00	9.559E-01	1.325E+00	1.851E-01	-0.774

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		-6.262E-02	1.503E-01	2.425E-01	2.672E-02	-0.258
		136.00		7.667E-03	4.457E-02	7.349E-02	6.504E-03	0.104
		198.60		4.807E-01	2.173E+00	3.427E+00	4.012E-01	0.140
		264.65	*	-6.311E-03	5.362E-02	7.891E-02	9.646E-03	-0.080
		279.53		1.565E-01	1.326E-01	2.121E-01	2.678E-02	0.738
		303.91		2.531E+00	2.386E+00	4.179E+00	5.974E-01	0.606
		400.65		1.277E-01	3.095E-01	5.200E-01	6.365E-02	0.246
BR-77	+	87.88		1.619E-03	3.095E-01	Half-Life	too short	
		200.40		-2.915E-04	3.095E-01	Half-Life	too short	
	+	239.00		7.925E-04	3.095E-01	Half-Life	too short	
		249.79		2.262E-04	3.095E-01	Half-Life	too short	
		281.68		-1.500E-04	3.095E-01	Half-Life	too short	
		297.23		2.343E-04	3.095E-01	Half-Life	too short	
		303.76		3.376E-04	3.095E-01	Half-Life	too short	
		439.47		-1.687E-04	3.095E-01	Half-Life	too short	
		484.57		5.907E-04	3.095E-01	Half-Life	too short	
		520.65	*	3.760E-05	3.095E-01	Half-Life	too short	
		574.64		-5.256E-04	3.095E-01	Half-Life	too short	
		578.91		2.989E-04	3.095E-01	Half-Life	too short	
		585.48		2.356E-03	3.095E-01	Half-Life	too short	
		755.35		5.864E-04	3.095E-01	Half-Life	too short	
		817.79		1.414E-04	3.095E-01	Half-Life	too short	
SR-82		698.33		-4.297E+01	4.062E+01	6.022E+01	5.351E+00	-0.714
		776.49	*	2.670E-01	4.693E-01	7.250E-01	6.840E-02	0.368
		1395.20		-1.170E+01	1.374E+01	1.919E+01	1.789E+00	-0.610
RB-83		520.41	*	4.066E-02	8.709E-02	1.448E-01	1.429E-02	0.281
		529.64		-1.433E-02	1.226E-01	1.941E-01	1.906E-02	-0.074
		552.65		1.625E-02	2.098E-01	3.561E-01	3.448E-02	0.046
RB-84		881.50	*	-5.568E-02	7.584E-02	1.110E-01	1.123E-02	-0.502
KR-85		513.99	*	1.180E+01	9.406E+00	1.481E+01	1.466E+00	0.797
SR-85		513.99	*	6.304E-02	5.027E-02	7.913E-02	7.834E-03	0.797
RB-86		1076.63	*	4.943E-01	1.017E+00	1.781E+00	1.614E-01	0.278
Y-88		898.02		-3.497E-04	5.041E-02	8.164E-02	8.373E-03	-0.004
		1836.01	*	3.456E-02	4.289E-02	8.101E-02	6.608E-03	0.427
ZR-88		392.90	*	-3.135E-02	3.813E-02	5.868E-02	5.871E-03	-0.534
Y-91		1204.90	*	9.628E+00	2.647E+01	4.504E+01	3.740E+00	0.214
NB-94		702.63	*	1.039E-03	3.515E-02	5.834E-02	5.201E-03	0.018
		871.10		-2.131E-02	3.849E-02	5.856E-02	5.888E-03	-0.364
NB-95		765.79	*	4.664E-02	6.112E-02	9.782E-02	9.158E-03	0.477
NB-95M		235.69	*	8.791E-02	1.631E-01	2.520E-01	3.188E-02	0.349
ZR-95		724.18		-2.956E-02	1.331E-01	1.854E-01	1.814E-02	-0.159
		756.15	*	3.421E-02	8.700E-02	1.480E-01	1.496E-02	0.231
NB-97		657.90	*	-2.540E-01	8.700E-02	Half-Life	too short	
		1024.50		-5.096E+01	8.700E-02	Half-Life	too short	
ZR-97		254.15		-2.251E+01	8.700E-02	Half-Life	too short	
		355.39		6.654E+01	8.700E-02	Half-Life	too short	
		507.63	*	1.643E+02	8.700E-02	Half-Life	too short	
		602.52		3.718E+02	8.700E-02	Half-Life	too short	
		1021.30		2.082E+02	8.700E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1147.95			3.053E+02	8.700E-02	Half-Life too short		
	1362.66			-7.813E+01	8.700E-02	Half-Life too short		
	1750.46			1.020E+02	8.700E-02	Half-Life too short		
MO-99	140.51			-5.063E+01	8.143E+01	1.272E+02	3.537E+01	-0.398
	181.06			1.422E+01	5.731E+01	8.334E+01	1.607E+01	0.171
	366.43			1.370E+01	2.676E+02	4.422E+02	4.770E+01	0.031
	739.58	*		1.782E+01	3.682E+01	6.310E+01	9.786E+00	0.282
	778.00			-2.122E+01	1.153E+02	1.593E+02	1.505E+01	-0.133
TC-99M	140.51	*		-1.476E+15	1.153E+02	Half-Life too short		
RH-101	127.23			-5.913E-03	3.424E-02	5.578E-02	4.734E-03	-0.106
	198.01	*		6.643E-03	3.917E-02	6.163E-02	6.741E-03	0.108
	325.23			-1.296E-01	2.655E-01	4.279E-01	5.036E-02	-0.303
RH-102	418.52			-3.813E-01	3.284E-01	4.825E-01	4.855E-02	-0.790
	475.06	*		-6.699E-03	3.305E-02	5.243E-02	5.260E-03	-0.128
	631.29			-1.932E-02	6.175E-02	1.003E-01	9.006E-03	-0.193
	697.49			-4.235E-02	8.427E-02	1.331E-01	1.182E-02	-0.318
	766.84			1.391E-01	1.530E-01	2.388E-01	2.237E-02	0.582
	1046.59			-5.564E-02	1.204E-01	1.909E-01	1.780E-02	-0.291
	1112.84			1.190E-01	2.538E-01	3.918E-01	3.416E-02	0.304
RU-103	497.08	*		-1.220E-02	5.160E-02	8.130E-02	1.221E-02	-0.150
+	610.33			1.524E+01	3.472E+00	3.632E+00	6.171E-01	4.197
RH-106	+	511.85		3.552E-01	3.881E-01	5.056E-01	5.010E-02	0.703
	621.84	*		1.195E-01	3.507E-01	6.021E-01	8.225E-02	0.199
	1050.47			1.571E+00	2.596E+00	4.597E+00	4.271E-01	0.342
RU-106	+	511.85		3.552E-01	3.881E-01	5.056E-01	5.010E-02	0.703
	621.84	*		1.195E-01	3.504E-01	6.021E-01	5.468E-02	0.199
	1050.47			1.571E+00	2.596E+00	4.597E+00	4.271E-01	0.342
AG-108M	433.93	*		1.296E-02	3.818E-02	6.363E-02	6.597E-03	0.204
	614.37			-6.600E-03	4.517E-02	6.452E-02	6.115E-03	-0.102
	722.95			3.395E-03	5.126E-02	7.401E-02	6.945E-03	0.046
AG-110M	657.75	*		-2.424E-03	3.986E-02	6.597E-02	5.885E-03	-0.037
	677.61			-3.302E-01	3.398E-01	5.099E-01	4.575E-02	-0.647
	706.67			-3.897E-02	2.344E-01	3.820E-01	3.505E-02	-0.102
	763.93			-1.514E-01	2.115E-01	3.263E-01	3.124E-02	-0.464
	884.67			-3.842E-02	4.990E-02	7.253E-02	7.526E-03	-0.530
	937.48			-6.106E-02	1.334E-01	2.044E-01	2.107E-02	-0.299
	1384.27			5.281E-02	1.921E-01	2.860E-01	2.731E-02	0.185
IN-111	171.28			5.006E-01	2.960E+00	4.816E+00	4.993E-01	0.104
	245.39	*		-2.461E+00	3.169E+00	4.425E+00	5.257E-01	-0.556
IN-113M	391.69	*		-1.882E-02	5.264E-02	8.403E-02	8.599E-03	-0.224
SN-113	391.69	*		-1.882E-02	5.264E-02	8.403E-02	8.599E-03	-0.224
IN-114M	190.27	*		-1.081E-01	2.326E-01	3.443E-01	3.708E-02	-0.314
CD-115	260.90			5.151E-05	2.326E-01	Half-Life too short		
	492.35			7.515E-05	2.326E-01	Half-Life too short		
	527.90	*		-3.147E-05	2.326E-01	Half-Life too short		
SN-117M	156.02			-5.912E-01	3.078E+00	4.947E+00	4.807E-01	-0.120
	158.56	*		6.027E-03	7.253E-02	1.181E-01	1.163E-02	0.051
SB-122	563.90	*		7.034E+00	6.329E+00	1.147E+01	1.101E+00	0.613
	692.80			-8.267E+01	1.342E+02	2.098E+02	1.856E+01	-0.394

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-123	159.00		*	1.823E+02	1.342E+02	Half-Life	too short	
	528.96			-1.594E+04	1.342E+02	Half-Life	too short	
TE-123M	159.00		*	6.222E-03	3.136E-02	5.133E-02	5.092E-03	0.121
I-124	602.71		*	1.726E+00	1.531E+00	2.502E+00	2.321E-01	0.690
	722.78			6.457E-01	1.029E+01	1.486E+01	1.346E+00	0.043
	1325.50			5.659E+01	7.609E+01	1.362E+02	1.261E+01	0.416
+	1376.25			1.533E+02	8.159E+01	1.313E+02	1.224E+01	1.168
	1509.49			2.813E+01	3.432E+01	6.248E+01	5.760E+00	0.450
	1691.02			-6.425E-01	8.037E+00	1.317E+01	1.154E+00	-0.049
SB-124	602.71			5.458E-02	4.840E-02	7.913E-02	7.339E-03	0.690
	645.85			-4.264E-01	5.890E-01	9.164E-01	8.538E-02	-0.465
	709.31			-1.019E+00	3.302E+00	5.309E+00	4.759E-01	-0.192
	713.82			2.152E+00	2.004E+00	3.578E+00	4.405E-01	0.601
	722.78			2.960E-02	4.719E-01	6.811E-01	6.292E-02	0.043
+	968.20			1.534E+01	4.486E+00	8.042E+00	7.941E-01	1.908
	1045.16			-6.025E-01	2.678E+00	4.369E+00	4.079E-01	-0.138
	1325.50			2.770E+00	3.725E+00	6.666E+00	6.174E-01	0.416
	1368.21			1.549E+00	1.978E+00	3.484E+00	4.856E-01	0.444
	1436.60			-3.166E-01	4.861E+00	7.830E+00	7.283E-01	-0.040
	1691.02		*	-6.946E-03	8.690E-02	1.424E-01	1.295E-02	-0.049
SB-125	427.89		*	1.381E-03	1.053E-01	1.715E-01	1.752E-02	0.008
+	463.38			5.608E-01	5.645E-01	6.643E-01	7.067E-02	0.844
	600.56			6.888E-02	2.155E-01	3.506E-01	3.466E-02	0.196
	635.90			7.431E-02	3.008E-01	5.122E-01	4.918E-02	0.145
TE-125M	109.28		*	-6.501E-01	1.001E+01	1.653E+01	1.697E+00	-0.039
I-126	388.63			5.595E-02	2.916E-01	4.845E-01	4.896E-02	0.115
	666.33		*	2.427E-01	2.451E-01	4.393E-01	3.800E-02	0.552
	753.82			8.826E-01	2.044E+00	3.495E+00	3.243E-01	0.253
SB-126	223.80			2.563E+00	5.634E+00	9.155E+00	1.051E+00	0.280
+	278.60			6.899E+00	4.457E+00	6.370E+00	7.894E-01	1.083
	296.50			9.779E+00	3.098E+00	4.975E+00	6.081E-01	1.966
	414.70			3.948E-02	1.026E-01	1.722E-01	1.731E-02	0.229
	415.30			5.420E+00	8.372E+00	1.431E+01	1.439E+00	0.379
	555.20			1.007E+00	5.198E+00	8.899E+00	8.600E-01	0.113
	573.80			-9.533E-01	1.492E+00	2.381E+00	2.268E-01	-0.400
	593.00			3.413E-02	1.206E+00	2.028E+00	1.899E-01	0.017
	656.30			-1.300E+00	4.777E+00	7.766E+00	6.743E-01	-0.167
	666.33			1.023E-01	1.034E-01	1.853E-01	1.602E-02	0.552
	675.00			-5.969E-01	2.628E+00	4.271E+00	3.721E-01	-0.140
	695.00			7.853E-02	1.019E-01	1.799E-01	1.594E-02	0.436
	697.00			2.566E-02	3.510E-01	5.852E-01	5.194E-02	0.044
	720.50		*	1.560E-02	2.296E-01	3.470E-01	3.138E-02	0.045
	856.80			-1.349E-01	7.241E-01	1.157E+00	1.153E-01	-0.117
	989.30			3.809E-01	1.902E+00	3.123E+00	3.043E-01	0.122
	1034.80			-4.097E-01	1.189E+01	1.984E+01	1.868E+00	-0.021
	1213.00			-3.595E+00	7.769E+00	1.232E+01	1.031E+00	-0.292
SB-127	61.10			1.154E+01	1.521E+02	2.344E+02	2.761E+01	0.049
	252.40			-6.747E+00	1.009E+01	1.571E+01	6.785E+00	-0.430
	290.80			2.086E+01	5.214E+01	7.925E+01	1.204E+01	0.263

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		411.60		-6.890E+00	3.052E+01	4.903E+01	8.543E+00	-0.141
		444.90		5.865E-01	2.205E+01	3.587E+01	5.244E+00	0.016
		473.00		3.828E-01	3.990E+00	6.495E+00	9.666E-01	0.059
		543.00		-1.277E+01	3.888E+01	6.011E+01	9.644E+00	-0.212
		603.60		-8.835E+00	2.890E+01	4.059E+01	5.704E+00	-0.218
		685.20	*	-1.286E+00	3.304E+00	5.293E+00	6.739E-01	-0.243
		698.50		-3.309E+01	3.295E+01	4.853E+01	8.184E+00	-0.682
		722.20		-3.066E-01	7.332E+01	1.049E+02	1.334E+01	-0.003
		783.80		1.148E+01	8.727E+00	1.568E+01	2.215E+00	0.732
XE-127		57.60		-3.158E+00	8.518E+00	1.366E+01	1.051E+00	-0.231
		145.22		-5.018E-02	8.349E-01	1.357E+00	1.246E-01	-0.037
		172.10		7.984E-02	1.467E-01	2.427E-01	2.520E-02	0.329
		202.84	*	-4.991E-02	6.039E-02	9.173E-02	1.013E-02	-0.544
		374.96		-1.168E-01	2.495E-01	3.893E-01	4.102E-02	-0.300
I-131		80.18		-3.421E-01	7.133E+00	1.076E+01	1.000E+00	-0.032
		284.30		-6.661E-01	2.264E+00	3.728E+00	4.732E-01	-0.179
		364.48	*	1.194E-02	1.920E-01	3.176E-01	3.571E-02	0.038
		636.97		-3.295E-01	2.468E+00	4.070E+00	3.831E-01	-0.081
		722.89		8.034E-01	1.213E+01	1.751E+01	1.601E+00	0.046
TE-132		49.72		3.523E+01	7.303E+01	1.162E+02	1.406E+01	0.303
		111.76		1.710E+01	7.526E+01	1.217E+02	1.445E+01	0.140
		116.30		-3.181E+01	6.850E+01	1.105E+02	1.306E+01	-0.288
		228.16	*	2.575E-01	1.799E+00	2.870E+00	5.228E-01	0.090
BA-133		53.15		1.636E+00	5.330E+00	8.978E+00	7.471E-01	0.182
		79.62		-5.147E-01	1.424E+00	2.108E+00	3.276E-01	-0.244
		81.00		-1.406E-01	1.185E-01	1.649E-01	2.680E-02	-0.853
	+	276.40		8.277E-01	5.433E-01	7.492E-01	1.270E-01	1.105
		302.84		-1.644E-01	1.669E-01	2.594E-01	4.098E-02	-0.634
		356.01	*	1.650E-02	5.161E-02	7.706E-02	1.150E-02	0.214
		383.85		-1.481E-01	3.515E-01	5.589E-01	7.701E-02	-0.265
I-133	+	510.53		1.684E+01	3.515E-01	Half-Life	too short	
		529.87	*	-1.736E-02	3.515E-01	Half-Life	too short	
		706.58		-2.221E+00	3.515E-01	Half-Life	too short	
		856.28		-4.216E+00	3.515E-01	Half-Life	too short	
		875.33		1.555E+00	3.515E-01	Half-Life	too short	
		1236.41		1.520E+01	3.515E-01	Half-Life	too short	
		1298.22		-3.200E+00	3.515E-01	Half-Life	too short	
CS-134		475.35		-8.475E-01	2.220E+00	3.468E+00	3.479E-01	-0.244
		563.23		4.140E-01	4.038E-01	7.278E-01	7.045E-02	0.569
		569.32		-6.078E-02	2.319E-01	3.747E-01	3.622E-02	-0.162
		604.70		-3.799E-02	4.545E-02	5.999E-02	5.564E-03	-0.633
		795.84	*	6.738E-02	5.298E-02	9.598E-02	9.236E-03	0.702
		801.93		-2.594E-01	4.890E-01	7.214E-01	6.962E-02	-0.360
		1038.57		-2.208E-01	4.168E+00	6.940E+00	6.515E-01	-0.032
		1167.94		7.070E-01	3.042E+00	5.151E+00	4.180E-01	0.137
		1365.15		4.711E-01	1.398E+00	2.395E+00	2.320E-01	0.197
I-135		288.45		7.985E+13	1.398E+00	Half-Life	too short	
		417.63		-5.358E+14	1.398E+00	Half-Life	too short	
		546.56		-1.992E+14	1.398E+00	Half-Life	too short	

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136		836.80		2.241E+14	1.398E+00	Half-Life	too short	
		1038.76		-1.223E+13	1.398E+00	Half-Life	too short	
		1124.00		7.995E+14	1.398E+00	Half-Life	too short	
		1131.51		1.337E+14	1.398E+00	Half-Life	too short	
		1260.41	*	-4.391E+13	1.398E+00	Half-Life	too short	
		1457.56		1.564E+16	1.398E+00	Half-Life	too short	
		1678.03		6.521E+12	1.398E+00	Half-Life	too short	
		1706.46		-1.012E+13	1.398E+00	Half-Life	too short	
		1791.20		2.563E+13	1.398E+00	Half-Life	too short	
		66.91		2.382E-01	1.141E+00	1.761E+00	2.677E-01	0.135
	+	86.29		3.743E+00	1.741E+00	2.630E+00	3.605E-01	1.423
		153.22		1.675E-02	9.209E-01	1.497E+00	1.572E-01	0.011
		163.89		7.866E-02	1.536E+00	2.447E+00	2.702E-01	0.032
		176.55		-2.291E-02	5.120E-01	8.224E-01	8.959E-02	-0.028
		273.65		2.609E-01	9.130E-01	1.022E+00	1.301E-01	0.255
		340.57		2.802E-02	1.966E-01	2.895E-01	3.369E-02	0.097
		818.51		-6.099E-03	1.124E-01	1.827E-01	1.778E-02	-0.033
		1048.07	*	-5.453E-02	1.469E-01	2.361E-01	2.279E-02	-0.231
		1235.34		3.082E-02	8.594E-01	1.422E+00	1.678E-01	0.022
		661.65	*	-2.201E-02	4.058E-02	6.431E-02	5.541E-03	-0.342
BA-137M		661.65	*	-2.327E-02	4.290E-02	6.798E-02	5.868E-03	-0.342
CS-137		661.65	*	-2.327E-02	4.290E-02	6.798E-02	5.868E-03	-0.342
CE-139		165.85	*	-1.511E-04	3.423E-02	5.532E-02	5.675E-03	-0.003
BA-140		162.64		-1.729E-01	1.091E+00	1.721E+00	1.809E-01	-0.100
		304.84		1.709E+00	1.779E+00	3.016E+00	8.833E-01	0.567
		423.70		1.792E-01	2.758E+00	4.514E+00	1.482E+00	0.040
LA-140		537.32	*	-1.611E-01	3.730E-01	5.659E-01	1.894E-01	-0.285
		328.77		6.547E-01	4.393E-01	7.766E-01	9.365E-02	0.843
		432.53		-9.802E-01	3.045E+00	4.831E+00	5.040E-01	-0.203
		487.03		-1.295E-01	1.858E-01	2.792E-01	2.921E-02	-0.464
		751.79		-1.329E+00	2.337E+00	3.623E+00	3.670E-01	-0.367
		815.85		2.942E-01	4.628E-01	8.015E-01	8.490E-02	0.367
		867.82		1.067E+00	1.849E+00	3.190E+00	3.327E-01	0.334
		919.63		1.927E+00	4.043E+00	6.530E+00	7.772E-01	0.295
		925.24		-2.164E-01	1.615E+00	2.571E+00	2.717E-01	-0.084
		1596.49	*	-5.032E-02	1.318E-01	2.035E-01	1.841E-02	-0.247
CE-141		145.44	*	-1.499E-02	7.602E-02	1.227E-01	1.147E-02	-0.122
CE-143		57.37		-2.938E-03	7.602E-02	Half-Life	too short	
		231.56		8.036E-03	7.602E-02	Half-Life	too short	
		293.26	*	5.894E-03	7.602E-02	Half-Life	too short	
	+	350.59		2.449E-01	7.602E-02	Half-Life	too short	
		490.36		8.620E-03	7.602E-02	Half-Life	too short	
		664.57		-4.657E-04	7.602E-02	Half-Life	too short	
		721.93		2.686E-03	7.602E-02	Half-Life	too short	
CE-144		80.11		-1.132E-01	2.360E+00	3.560E+00	3.279E-01	-0.032
		133.54	*	-3.582E-02	2.231E-01	3.625E-01	5.660E-02	-0.099
PM-144		476.78		-3.333E-02	7.710E-02	1.197E-01	1.285E-02	-0.278
		618.01		9.945E-03	3.497E-02	5.983E-02	5.593E-03	0.166
		696.49	*	8.030E-03	3.665E-02	6.189E-02	5.493E-03	0.130
		778.57		-7.883E-01	2.769E+00	3.965E+00	3.749E-01	-0.199

----- 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	*		5.453E-01	2.489E+00	4.203E+00	3.728E-01	0.130
	1489.15			3.894E+00	1.271E+01	2.175E+01	2.011E+00	0.179
PM-146	453.90	*		-1.197E-02	4.966E-02	7.887E-02	9.399E-03	-0.152
	633.02			3.522E-01	1.545E+00	2.618E+00	9.806E-01	0.134
	735.90			-6.135E-02	2.021E-01	2.761E-01	7.943E-02	-0.222
	747.13			-7.858E-03	1.001E-01	1.636E-01	2.360E-02	-0.048
ND-147	91.11			-8.450E-01	4.610E-01	7.084E-01	7.296E-02	-1.193
	319.41			-1.870E+00	4.723E+00	7.651E+00	9.087E-01	-0.244
	439.89			1.418E+00	8.657E+00	1.424E+01	1.435E+00	0.100
	531.02	*		-2.922E-01	8.513E-01	1.318E+00	2.065E-01	-0.222
PM-149	285.90	*		1.656E-05	8.513E-01	Half-Life too short		
EU-152	121.78			-2.290E-02	7.969E-02	1.294E-01	1.255E-02	-0.177
	244.69			-2.144E-02	3.655E-01	5.441E-01	6.457E-02	-0.039
	344.27	*		-1.466E-01	1.104E-01	1.639E-01	1.927E-02	-0.894
	443.98			5.060E-01	1.050E+00	1.770E+00	1.783E-01	0.286
	778.89			-1.002E-01	3.067E-01	4.556E-01	4.306E-02	-0.220
	867.32			3.023E-01	8.774E-01	1.481E+00	1.485E-01	0.204
	964.01	+		8.585E-01	4.372E-01	6.368E-01	6.304E-02	1.348
	1085.78			-2.336E-01	4.141E-01	6.449E-01	5.792E-02	-0.362
	1112.02			6.921E-02	3.649E-01	5.598E-01	4.885E-02	0.124
	1407.95			1.680E-02	2.481E-01	4.072E-01	3.794E-02	0.041
GD-153	69.67			7.246E-01	1.978E+00	3.070E+00	2.572E-01	0.236
	83.37			1.877E+01	1.813E+01	2.833E+01	2.700E+00	0.663
	97.43	*		-1.212E-01	1.008E-01	1.389E-01	1.262E-02	-0.872
	103.18			-4.675E-02	1.086E-01	1.768E-01	1.547E-02	-0.264
EU-154	123.07			4.053E-03	5.640E-02	9.311E-02	1.041E-02	0.044
	247.94			-1.256E-01	3.970E-01	6.372E-01	9.002E-02	-0.197
	591.81			-4.075E-01	6.217E-01	9.769E-01	1.196E-01	-0.417
	723.30			5.621E-03	2.138E-01	3.071E-01	3.050E-02	0.018
	756.87			4.108E-01	9.210E-01	1.572E+00	1.961E-01	0.261
	873.19			-2.839E-02	3.335E-01	5.366E-01	7.139E-02	-0.053
	996.32			-5.632E-01	5.060E-01	7.016E-01	1.285E-01	-0.803
	1004.76			-1.353E-01	2.695E-01	4.314E-01	5.355E-02	-0.314
	1274.45	*		5.174E-02	1.489E-01	2.536E-01	2.915E-02	0.204
EU-155	48.70			-5.155E+00	4.330E+00	6.219E+00	5.506E-01	-0.829
	60.01			3.401E+00	6.551E+00	1.034E+01	7.802E-01	0.329
	86.54	+		2.811E-01	1.280E-01	1.978E-01	1.969E-02	1.421
	105.31	*		6.911E-02	1.132E-01	1.927E-01	1.690E-02	0.359
TB-160	86.79	+		7.786E-01	3.544E-01	5.517E-01	5.465E-02	1.411
	197.04			-1.108E-01	6.986E-01	1.081E+00	1.180E-01	-0.102
	215.65			4.740E-01	9.054E-01	1.477E+00	1.671E-01	0.321
	298.57			1.239E-01	1.487E-01	2.314E-01	2.822E-02	0.535
	879.36	*		1.511E-02	1.535E-01	2.521E-01	2.548E-02	0.060
	962.29			7.760E-01	7.959E-01	1.235E+00	1.223E-01	0.629
	966.15			9.524E-01	3.145E-01	5.919E-01	5.851E-02	1.609
	1177.93			2.041E-01	4.747E-01	8.158E-01	6.600E-02	0.250
	1271.85			1.049E+00	8.799E-01	1.619E+00	1.431E-01	0.648
HO-166M	80.57			-2.839E-01	3.138E-01	4.503E-01	4.167E-02	-0.630
	184.41	+		1.554E-01	6.278E-02	8.388E-02	8.929E-03	1.853

---- 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		7.773E-02	9.738E-02	1.528E-01	1.893E-02	0.509
		410.95		2.065E-01	2.952E-01	5.034E-01	5.059E-02	0.410
		711.68	*	1.099E-02	7.054E-02	1.182E-01	1.061E-02	0.093
		752.31		-9.524E-02	3.007E-01	4.792E-01	4.442E-02	-0.199
		810.29		-3.809E-02	6.871E-02	1.059E-01	1.023E-02	-0.360
		51.35		-6.072E+00	4.485E+01	7.651E+01	6.567E+00	-0.079
		52.39		-1.230E+01	2.354E+01	3.820E+01	3.222E+00	-0.322
		59.40		2.688E+01	3.532E+01	5.648E+01	4.227E+00	0.476
		66.72	*	6.547E+00	3.396E+01	5.241E+01	1.279E+00	0.125
		88.36		5.527E-01	2.516E-01	3.686E-01	3.685E-02	1.500
LU-176	+	201.83		-3.790E-03	3.299E-02	5.232E-02	5.765E-03	-0.072
		306.84	*	-1.095E-02	2.687E-02	4.361E-02	5.269E-03	-0.251
		401.10		8.692E-01	7.732E+00	1.275E+01	1.279E+00	0.068
LU-177		112.95		-1.201E-01	2.730E+00	4.367E+00	3.688E-01	-0.028
	+	208.36	*	3.944E+00	2.835E+00	3.365E+00	3.755E-01	1.172
LU-177M		52.97		9.034E-01	2.471E+00	4.172E+00	3.483E-01	0.217
		54.07		6.143E-01	1.229E+00	2.082E+00	1.704E-01	0.295
		61.30		8.325E-02	1.955E+00	3.007E+00	2.316E-01	0.028
		121.62		-2.004E-01	4.163E-01	6.696E-01	5.591E-02	-0.299
		147.16		-3.453E-01	7.369E-01	1.172E+00	1.087E-01	-0.295
		171.86		2.753E-01	5.564E-01	9.184E-01	9.531E-02	0.300
		218.09		-1.710E-01	1.017E+00	1.598E+00	1.816E-01	-0.107
	+	268.79		2.239E+00	1.751E+00	1.707E+00	2.092E-01	1.312
		319.02		-5.588E-02	2.850E-01	4.680E-01	5.561E-02	-0.119
		367.43		4.804E-01	1.026E+00	1.743E+00	1.875E-01	0.276
HF-181		413.65	*	-2.348E-01	2.092E-01	3.104E-01	3.120E-02	-0.756
		56.28		-8.309E-01	1.294E+00	2.149E+00	1.690E-01	-0.387
		57.53		-2.634E-01	7.102E-01	1.139E+00	8.773E-02	-0.231
		65.20		-2.602E-01	1.179E+00	1.781E+00	1.435E-01	-0.146
		133.02		-1.282E-02	7.471E-02	1.214E-01	1.054E-02	-0.106
		136.25		4.453E-01	5.355E-01	9.071E-01	7.984E-02	0.491
		345.85		3.437E-02	2.363E-01	3.665E-01	4.150E-02	0.094
W-181		482.03	*	-5.733E-03	5.049E-02	8.061E-02	8.073E-03	-0.071
		56.28		-3.122E-01	4.858E-01	8.064E-01	6.343E-02	-0.387
		57.53		-9.896E-02	2.668E-01	4.279E-01	3.296E-02	-0.231
TA-182		65.20	*	-9.696E-02	4.394E-01	6.638E-01	5.348E-02	-0.146
		67.75		9.368E-03	1.213E-01	2.063E-01	1.701E-02	0.045
		100.10		1.200E-01	1.943E-01	3.314E-01	2.954E-02	0.362
		152.43		5.404E-02	3.865E-01	6.322E-01	6.026E-02	0.085
		222.10		3.207E-02	4.051E-01	6.451E-01	7.381E-02	0.050
RE-183		1001.68		3.513E+00	2.757E+00	4.912E+00	4.745E-01	0.715
	+	1121.28		6.587E-01	3.146E-01	4.269E-01	3.685E-02	1.543
		1189.05		1.248E-01	3.751E-01	6.399E-01	5.234E-02	0.195
		1221.42	*	4.631E-02	2.601E-01	4.359E-01	3.677E-02	0.106
		1230.97		-7.501E-02	5.834E-01	9.512E-01	8.096E-02	-0.079
		57.98		-7.814E-02	2.836E-01	4.295E-01	3.284E-02	-0.182
		59.32		1.119E-01	1.506E-01	2.406E-01	1.803E-02	0.465
		67.20		6.735E-02	2.328E-01	3.824E-01	3.137E-02	0.176
		162.32	*	-3.229E-02	1.325E-01	2.081E-01	2.093E-02	-0.155

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.453E+00	1.764E+00	2.110E+00	2.356E-01	1.163
		291.72		4.758E-01	1.190E+00	1.809E+00	2.221E-01	0.263
		57.98		-2.814E-01	1.021E+00	1.547E+00	1.183E-01	-0.182
		59.32		4.025E-01	5.418E-01	8.657E-01	6.487E-02	0.465
		67.20		2.425E-01	8.380E-01	1.377E+00	1.129E-01	0.176
		161.27		-1.321E-01	4.012E-01	6.386E-01	6.386E-02	-0.207
		216.55		3.245E-01	3.117E-01	5.201E-01	5.893E-02	0.624
		252.85	*	-1.393E-01	2.606E-01	4.269E-01	5.125E-02	-0.326
		318.01		-3.551E-01	5.112E-01	8.101E-01	9.640E-02	-0.438
		792.07		-5.642E-01	1.137E+00	1.772E+00	1.691E-01	-0.318
OS-185		903.28		2.099E-01	1.291E+00	1.935E+00	1.973E-01	0.108
		920.93		1.961E-01	5.234E-01	8.806E-01	8.913E-02	0.223
		59.72		3.540E-01	3.959E-01	6.368E-01	4.780E-02	0.556
		61.14		1.514E-02	2.187E-01	3.369E-01	2.589E-02	0.045
		69.30		-1.453E-01	3.705E-01	5.531E-01	4.619E-02	-0.263
		592.07		-1.685E+00	2.653E+00	4.187E+00	3.924E-01	-0.402
		646.12	*	-3.690E-02	4.920E-02	7.635E-02	6.724E-03	-0.483
		717.42		-1.641E-01	1.122E+00	1.831E+00	1.652E-01	-0.090
		874.81		-2.027E-01	6.751E-01	1.059E+00	1.068E-01	-0.191
		880.27		-1.431E-02	8.265E-01	1.339E+00	1.354E-01	-0.011
RE-188		155.03	*	2.923E-01	1.986E-01	3.412E-01	3.298E-02	0.857
		477.96		1.120E+00	3.627E+00	6.001E+00	6.016E-01	0.187
		633.10		7.395E-01	3.232E+00	5.498E+00	4.925E-01	0.135
W-188	+	63.58		9.003E+01	1.086E+02	1.182E+02	9.365E+00	0.762
		227.08		-1.189E+01	1.504E+01	2.254E+01	2.601E+00	-0.528
IR-192		290.67	*	4.476E+00	9.221E+00	1.411E+01	1.734E+00	0.317
	+	295.96		1.186E+00	2.588E-01	3.476E-01	4.266E-02	3.412
		308.46		-7.904E-02	1.085E-01	1.719E-01	2.077E-02	-0.460
		316.51	*	-1.805E-03	3.894E-02	6.461E-02	7.715E-03	-0.028
		468.07		2.859E-02	9.662E-02	1.406E-01	1.488E-02	0.203
AU-195		604.41		-3.994E-01	6.217E-01	8.384E-01	1.128E-01	-0.476
		612.46		-3.496E-01	9.006E-01	1.250E+00	1.299E-01	-0.280
		65.12		-4.675E-02	2.021E-01	3.052E-01	2.457E-02	-0.153
		66.83		1.926E-02	1.132E-01	1.745E-01	1.427E-02	0.110
	+	75.70		1.137E+00	3.078E-01	4.989E-01	4.404E-02	2.280
		98.88	*	3.241E-01	2.526E-01	4.334E-01	3.896E-02	0.748
		129.76		1.089E+00	3.131E+00	5.214E+00	4.467E-01	0.209
TL-200		367.94	*	3.121E-03	3.131E+00	Half-Life	too short	
		579.30		6.096E-02	3.131E+00	Half-Life	too short	
		828.27		-2.646E-02	3.131E+00	Half-Life	too short	
		1205.75		4.126E-02	3.131E+00	Half-Life	too short	
TL-201		68.90		-8.033E+00	1.415E+01	2.091E+01	1.741E+00	-0.384
		70.82		3.604E+00	7.847E+00	1.222E+01	1.034E+00	0.295
		80.30		-9.340E+00	1.405E+01	2.047E+01	1.889E+00	-0.456
		135.34		-2.083E+01	6.904E+01	1.114E+02	9.763E+00	-0.187
TL-202		167.43	*	8.315E+00	1.872E+01	3.090E+01	3.179E+00	0.269
		68.90		-3.680E-01	6.482E-01	9.580E-01	7.974E-02	-0.384
		70.82		1.646E-01	3.585E-01	5.582E-01	4.722E-02	0.295
		80.30		-4.268E-01	6.422E-01	9.353E-01	8.631E-02	-0.456

----- 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	*		-1.087E-02	1.012E-01	1.631E-01	1.643E-02	-0.067
	70.83			6.136E-01	1.319E+00	2.052E+00	2.771E-01	0.299
	72.87			1.158E+00	7.129E-01	1.246E+00	1.643E-01	0.930
	82.60			-3.979E-01	1.355E+00	2.116E+00	3.022E-01	-0.188
BI-207	279.20	*		8.270E-02	5.276E-02	8.581E-02	1.079E-02	0.964
	72.80			2.705E-01	1.923E-01	3.389E-01	2.915E-02	0.798
	74.97			6.217E-01	1.683E-01	2.466E-01	2.162E-02	2.521
	84.90			1.113E-01	2.269E-01	3.468E-01	3.362E-02	0.321
	569.67			2.084E-03	3.595E-02	5.955E-02	5.692E-03	0.035
	1063.62	*		-6.347E-03	5.916E-02	9.778E-02	8.976E-03	-0.065
TL-207	1770.23			1.966E-01	5.932E-01	9.210E-01	7.783E-02	0.213
	81.07			-1.995E-01	2.363E-01	3.645E-01	3.390E-02	-0.547
	83.78			1.093E-01	1.541E-01	2.377E-01	2.276E-02	0.460
	94.90			2.591E-01	2.570E-01	4.043E-01	3.754E-02	0.641
	122.32			-1.284E-02	1.910E+00	3.144E+00	2.831E-01	-0.004
	144.24			2.521E-01	8.097E-01	1.309E+00	1.323E-01	0.193
	154.21			3.370E-01	4.459E-01	7.473E-01	7.771E-02	0.451
	269.46			5.154E-01	4.030E-01	4.077E-01	5.052E-02	1.264
	323.87	*		-5.048E-01	7.907E-01	1.254E+00	2.439E-01	-0.402
	338.28			4.932E+00	1.896E+00	2.749E+00	3.979E-01	1.794
PO-209	445.03			4.129E-02	2.523E+00	4.100E+00	5.397E-01	0.010
	260.50			-1.353E+00	1.070E+01	1.792E+01	2.174E+00	-0.076
	262.80			-1.300E+01	3.172E+01	4.823E+01	5.868E+00	-0.269
	896.60	*		-6.387E+00	9.076E+00	1.358E+01	1.386E+00	-0.470
BI-210	46.50	*		3.841E+00	6.648E+00	1.042E+01	9.986E-01	0.369
PB-210	46.50	*		3.841E+00	6.648E+00	1.042E+01	9.986E-01	0.369
PO-210	46.50	*		3.841E+00	6.647E+00	1.042E+01	9.097E-01	0.369
PB-211	404.84	*		-1.390E+00	1.412E+00	1.651E+00	1.038E+00	-0.842
	427.08			6.560E-01	2.340E+00	3.834E+00	2.391E+00	0.171
	831.96			-4.981E-01	1.435E+00	2.204E+00	1.385E+00	-0.226
BI-212	727.18	*		1.161E+00	6.467E-01	6.941E-01	7.231E-02	1.673
	785.46			2.563E+00	2.038E+00	3.686E+00	3.501E-01	0.695
	1620.62			-1.230E-01	1.234E+00	2.024E+00	1.817E-01	-0.061
PO-215	81.07			-1.995E-01	2.363E-01	3.645E-01	3.390E-02	-0.547
	83.78			1.093E-01	1.541E-01	2.377E-01	2.276E-02	0.460
	94.90			2.591E-01	2.570E-01	4.043E-01	3.754E-02	0.641
	122.32			-1.284E-02	1.910E+00	3.144E+00	2.831E-01	-0.004
	144.24			2.521E-01	8.097E-01	1.309E+00	1.323E-01	0.193
	154.21			3.370E-01	4.459E-01	7.473E-01	7.771E-02	0.451
	269.46			5.154E-01	4.030E-01	4.077E-01	5.052E-02	1.264
	323.87	*		-5.048E-01	7.907E-01	1.254E+00	2.439E-01	-0.402
	338.28			4.932E+00	1.896E+00	2.749E+00	3.979E-01	1.794
	445.03			4.129E-02	2.523E+00	4.100E+00	5.397E-01	0.010
RN-219	271.23			4.226E-01	3.236E-01	5.141E-01	6.957E-02	0.822
	401.81	*		-4.877E-02	4.767E-01	7.740E-01	1.229E-01	-0.063
RN-220	549.76	*		-2.057E+01	2.972E+01	4.412E+01	4.279E+00	-0.466
RA-223	81.07			-1.995E-01	2.363E-01	3.645E-01	3.390E-02	-0.547
	83.78			1.093E-01	1.541E-01	2.377E-01	2.276E-02	0.460
	94.90			2.591E-01	2.570E-01	4.043E-01	3.754E-02	0.641

---- 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		-1.284E-02	1.910E+00	3.144E+00	2.831E-01	-0.004
		144.24		2.521E-01	8.097E-01	1.309E+00	1.323E-01	0.193
		154.21		3.370E-01	4.459E-01	7.473E-01	7.771E-02	0.451
	+	269.46		5.154E-01	4.030E-01	4.077E-01	5.052E-02	1.264
		323.87	*	-5.048E-01	7.907E-01	1.254E+00	2.439E-01	-0.402
	+	338.28		4.932E+00	1.896E+00	2.749E+00	3.979E-01	1.794
		445.03		4.129E-02	2.523E+00	4.100E+00	5.397E-01	0.010
		79.80		-7.159E-01	1.840E+00	2.715E+00	5.901E-01	-0.264
		236.00		7.069E-01	3.263E-01	5.215E-01	7.607E-02	1.356
		256.20	*	2.379E-02	4.259E-01	7.211E-01	1.263E-01	0.033
		286.10		1.013E-01	1.660E+00	2.792E+00	4.434E-01	0.036
		299.80		1.418E+00	1.819E+00	2.803E+00	5.463E-01	0.506
		304.40		1.612E+00	2.086E+00	3.594E+00	7.298E-01	0.449
		334.20		-6.521E-01	2.974E+00	4.247E+00	8.875E-01	-0.154
TH-227		79.80		-7.159E-01	1.840E+00	2.715E+00	5.975E-01	-0.264
	+	94.00		4.613E+00	3.970E+00	4.017E+00	8.871E-01	1.148
		236.00		7.069E-01	3.242E-01	5.215E-01	7.103E-02	1.356
		256.20	*	2.379E-02	4.259E-01	7.211E-01	1.438E-01	0.033
		286.10		1.013E-01	1.663E+00	2.792E+00	2.813E+00	0.036
		299.80		1.418E+00	1.819E+00	2.803E+00	5.463E-01	0.506
		304.40		1.612E+00	2.086E+00	3.594E+00	7.298E-01	0.449
		334.20		-6.521E-01	2.974E+00	4.247E+00	8.875E-01	-0.154
		85.43		4.181E-02	2.302E-01	3.471E-01	3.385E-02	0.120
	+	88.47		3.182E-01	1.448E-01	2.094E-01	2.090E-02	1.520
TH-229		100.00		2.046E-01	1.956E-01	3.387E-01	3.021E-02	0.604
		193.63	*	4.774E-01	5.827E-01	9.684E-01	1.050E-01	0.493
		210.97		7.055E-01	9.401E-01	1.388E+00	1.557E-01	0.508
		283.67	*	-3.791E-01	1.623E+00	2.682E+00	4.715E-01	-0.141
PA-231		301.29		-2.703E-02	6.684E-01	1.077E+00	1.610E-01	-0.025
TH-231		81.07		-1.995E-01	2.363E-01	3.645E-01	3.390E-02	-0.547
		83.78		1.093E-01	1.541E-01	2.377E-01	2.276E-02	0.460
		94.90		2.591E-01	2.570E-01	4.043E-01	3.754E-02	0.641
U-231		122.32		-1.284E-02	1.910E+00	3.144E+00	2.831E-01	-0.004
		144.24		2.521E-01	8.097E-01	1.309E+00	1.323E-01	0.193
		154.21		3.370E-01	4.459E-01	7.473E-01	7.771E-02	0.451
	+	269.46		5.154E-01	4.030E-01	4.077E-01	5.052E-02	1.264
		323.87	*	-5.048E-01	7.907E-01	1.254E+00	2.439E-01	-0.402
	+	338.28		4.932E+00	1.896E+00	2.749E+00	3.979E-01	1.794
		445.03		4.129E-02	2.523E+00	4.100E+00	5.397E-01	0.010
		84.21		9.431E+00	1.241E+01	1.918E+01	1.846E+00	0.492
	+	92.29		8.735E+00	7.312E+00	9.094E+00	8.667E-01	0.961
		95.87	*	-1.282E+00	2.390E+00	3.462E+00	3.187E-01	-0.370
		108.00		-1.898E+00	4.078E+00	6.611E+00	5.665E-01	-0.287
	+	75.28		1.814E+01	5.422E+00	7.333E+00	1.133E+00	2.473
	+	86.59		4.562E+00	2.378E+00	3.216E+00	8.764E-01	1.419
		300.12		1.288E-01	5.163E-01	7.729E-01	1.328E-01	0.167
PA-233		311.98	*	-8.331E-03	6.945E-02	1.148E-01	1.398E-02	-0.073
		340.50		2.994E-01	7.702E-01	1.152E+00	2.879E-01	0.260
		398.62		-1.610E-01	2.486E+00	4.051E+00	1.098E+00	-0.040

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		6.508E-01	1.764E+00	2.952E+00	6.543E-01	0.220
		63.00		2.510E+00	3.046E+00	3.518E+00	5.312E-01	0.714
		94.67		2.993E-01	1.889E-01	3.008E-01	3.876E-02	0.995
		98.44		1.203E-01	1.247E-01	1.741E-01	9.725E-02	0.691
		99.86		5.845E-01	4.990E-01	8.670E-01	7.742E-02	0.674
		111.00		-1.393E-01	2.066E-01	3.201E-01	3.839E-02	-0.435
		131.20		-9.060E-02	1.139E-01	1.794E-01	1.546E-02	-0.505
		152.70		1.520E-01	3.627E-01	5.994E-01	1.051E-01	0.254
		186.00		5.595E+00	2.815E+00	3.235E+00	1.030E+00	1.730
		226.40		-2.060E-01	4.553E-01	6.993E-01	1.067E-01	-0.295
		227.20		-3.922E-01	4.881E-01	7.308E-01	8.435E-02	-0.537
		248.90		5.691E-01	8.902E-01	1.538E+00	3.674E-01	0.370
		293.70		7.195E+00	1.904E+00	2.038E+00	3.948E-01	3.530
		369.80		-8.440E-01	9.530E-01	1.433E+00	3.250E-01	-0.589
		568.70		-5.879E-01	1.162E+00	1.839E+00	1.759E-01	-0.320
		569.50		-5.627E-02	3.218E-01	5.239E-01	5.008E-02	-0.107
		574.00		-1.324E+00	1.701E+00	2.679E+00	2.552E-01	-0.494
		699.00		-7.981E-01	7.646E-01	1.113E+00	2.137E-01	-0.717
		706.10		-4.868E-01	1.161E+00	1.813E+00	8.095E-01	-0.269
		733.00		-4.415E-02	5.063E-01	7.155E-01	1.603E-01	-0.062
		742.81		4.954E-01	1.658E+00	2.747E+00	1.848E+00	0.180
		796.30		1.095E+00	1.060E+00	1.828E+00	5.002E-01	0.599
		805.60		-3.237E-01	1.185E+00	1.881E+00	5.821E-01	-0.172
		819.60		-1.180E-01	1.504E+00	2.437E+00	9.333E-01	-0.048
		826.30		-8.643E-01	1.046E+00	1.439E+00	6.472E-01	-0.601
		831.60		-8.808E-02	7.073E-01	1.139E+00	3.440E-01	-0.077
		876.40		4.763E-01	1.039E+00	1.572E+00	1.618E+00	0.303
		880.51		5.833E-02	2.727E-01	4.545E-01	4.596E-02	0.128
		883.24		-3.110E-01	3.589E-01	4.066E-01	2.742E-01	-0.765
		899.00		6.260E-01	1.038E+00	1.724E+00	7.597E-01	0.363
		925.00		-1.139E-01	1.362E+00	2.181E+00	2.203E-01	-0.052
		926.50		-4.947E-02	1.972E-01	3.088E-01	7.972E-02	-0.160
		946.00	*	-1.590E-01	3.739E-01	5.738E-01	1.115E-01	-0.277
		949.00		5.207E-01	5.215E-01	9.248E-01	9.231E-02	0.563
		980.50		2.431E-01	8.343E-01	1.386E+00	1.358E-01	0.175
		1394.10		-2.299E-01	1.283E+00	2.018E+00	1.316E+00	-0.114
PA-234M		766.42		1.754E+01	1.803E+01	2.508E+01	1.276E+01	0.699
U-235	+	1001.03	*	4.162E+00	6.370E+00	1.070E+01	1.164E+00	0.389
		89.95		-5.849E-03	1.615E+00	1.928E+00	6.016E-01	-0.003
		93.35		1.435E+00	1.261E+00	1.447E+00	4.092E-01	0.992
		105.00		1.037E+00	1.136E+00	1.890E+00	5.642E-01	0.549
		143.76	*	-2.291E-02	2.528E-01	4.019E-01	7.137E-02	-0.057
NP-236	+	163.35		1.363E-01	5.466E-01	8.781E-01	1.739E-01	0.155
		185.71		2.072E-01	8.371E-02	1.198E-01	1.278E-02	1.730
		205.31		-2.383E-01	7.099E-01	9.718E-01	1.975E-01	-0.245
		94.67		2.282E-01	1.419E-01	2.283E-01	2.124E-02	1.000
		98.44		9.097E-02	7.983E-02	1.316E-01	1.187E-02	0.691
		111.00		-1.054E-01	1.561E-01	2.421E-01	2.055E-02	-0.435
		160.31	*	-5.452E-02	8.790E-02	1.377E-01	1.369E-02	-0.396

---- 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		2.055E-01	1.733E-01	2.964E-01	2.652E-02	0.693
		117.00	*	-4.475E-02	2.032E-01	3.319E-01	2.783E-02	-0.135
	+	209.75		1.861E+00	1.338E+00	1.591E+00	1.780E-01	1.170
		228.18		3.905E-02	2.543E-01	4.060E-01	4.694E-02	0.096
	+	277.60		4.037E-01	2.608E-01	3.788E-01	4.690E-02	1.066
AM-241		334.30		-3.511E-01	1.685E+00	2.410E+00	2.792E-01	-0.146
		59.54	*	1.771E-01	2.032E-01	3.265E-01	2.675E-02	0.542
		99.55		2.115E-01	1.784E-01	3.051E-01	2.730E-02	0.693
		103.76	*	1.546E-03	9.786E-02	1.627E-01	1.420E-02	0.010
		117.00		-4.605E-02	2.091E-01	3.415E-01	2.864E-02	-0.135
CM-243	+	209.75		1.835E+00	1.319E+00	1.569E+00	1.755E-01	1.170
		228.18		3.947E-02	2.570E-01	4.104E-01	4.745E-02	0.096
	+	277.60		4.071E-01	2.630E-01	3.820E-01	4.729E-02	1.066
		798.80		-1.690E-01	1.651E-01	2.421E-01	2.321E-02	-0.698
		1036.00		7.749E-02	3.173E-01	5.451E-01	5.128E-02	0.142
AM-246		1062.04		1.684E-01	2.439E-01	4.361E-01	4.010E-02	0.386
		1078.86	*	9.052E-02	1.546E-01	2.734E-01	2.473E-02	0.331
	+	278.00		1.674E+00	1.082E+00	1.567E+00	1.940E-01	1.068
		287.40		-5.689E-01	1.379E+00	2.252E+00	2.776E-01	-0.253
		402.60	*	1.035E-02	4.251E-02	7.071E-02	7.093E-03	0.146
CF-249		252.85		-5.144E-01	9.621E-01	1.576E+00	1.892E-01	-0.326
		333.44		8.663E-02	2.131E-01	3.211E-01	3.726E-02	0.270
		387.95	*	5.241E-02	4.495E-02	7.914E-02	8.015E-03	0.662
CF-251		176.60	*	-6.075E-03	1.435E-01	2.305E-01	2.415E-02	-0.026
		227.00		-3.394E-01	4.339E-01	6.508E-01	7.509E-02	-0.521
		285.00		4.224E-01	1.870E+00	3.175E+00	3.921E-01	0.133

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]G245107010
* Acquisition date   : 1-FEB-2010 13:28:42 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 02:00:02.69 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107010 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.1483E+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	2.323E+01	2.801E+00	7.616E-01	0.000E+00
CD-109	2.385E+00	1.064E+00	1.509E+00	0.000E+00
SN-126	2.330E-01	1.039E-01	1.574E-01	0.000E+00
CS-135	4.381E-01	3.363E-01	2.956E-01	0.000E+00
TL-208	4.519E-01	9.603E-02	6.187E-02	0.000E+00
BI-211	4.230E+00	6.804E-01	3.785E-01	0.000E+00
PB-212	1.562E+00	2.274E-01	9.999E-02	0.000E+00
PO-212	1.562E+00	2.274E-01	9.999E-02	0.000E+00
BI-214	1.317E+00	2.385E-01	1.094E-01	0.000E+00
PB-214	1.471E+00	2.484E-01	1.319E-01	0.000E+00
PO-214	1.471E+00	2.484E-01	1.319E-01	0.000E+00
PO-216	1.562E+00	2.274E-01	9.999E-02	0.000E+00
PO-218	1.471E+00	2.484E-01	1.319E-01	0.000E+00
RA-224	4.756E+00	1.642E+00	1.138E+00	0.000E+00
RA-226	1.317E+00	2.385E-01	1.094E-01	0.000E+00
AC-228	1.252E+00	3.835E-01	2.135E-01	0.000E+00
RA-228	1.252E+00	3.835E-01	2.135E-01	0.000E+00
TH-228	1.592E+00	2.318E-01	1.019E-01	0.000E+00
TH-230	1.317E+00	2.385E-01	1.094E-01	0.000E+00
TH-232	1.252E+00	3.835E-01	2.135E-01	0.000E+00
TH-234	2.154E+00	2.568E+00	2.500E+00	0.000E+00
U-234	1.317E+00	2.385E-01	1.094E-01	0.000E+00
NP-237	6.843E-01	3.351E-01	4.668E-01	0.000E+00
U-238	2.154E+00	2.568E+00	2.500E+00	0.000E+00
AM-243	3.462E-01	9.184E-02	9.713E-02	0.000E+00
ANH-511	7.058E-02	7.558E-02	5.431E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-4.193E-02	3.705E-01	6.083E-01	0.000E+00 NOT IDENT.

NA-22	1.597E-02	5.204E-02	8.986E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.533E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	4.737E-02	3.448E-02	7.176E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.101E-02	7.359E-02	0.000E+00	FAIL ABUN
SC-46	-4.350E-03	4.419E-02	7.241E-02	0.000E+00	FAIL ABUN
V-48	-5.920E-03	9.410E-02	1.532E-01	0.000E+00	NOT IDENT.
CR-51	-3.318E-02	4.555E-01	7.776E-01	0.000E+00	NOT IDENT.
MN-52	8.808E-02	4.513E-01	7.675E-01	0.000E+00	NOT IDENT.
MN-54	-2.015E-02	4.469E-02	7.135E-02	0.000E+00	NOT IDENT.
CO-56	-4.474E-02	4.755E-02	7.121E-02	0.000E+00	NOT IDENT.
CO-57	-3.630E-03	2.736E-02	4.659E-02	0.000E+00	NOT IDENT.
CO-58	-1.848E-02	4.676E-02	7.509E-02	0.000E+00	NOT IDENT.
FE-59	-7.420E-03	1.101E-01	1.858E-01	0.000E+00	NOT IDENT.
CO-60	-1.561E-02	3.848E-02	6.004E-02	0.000E+00	NOT IDENT.
ZN-65	9.491E-02	1.025E-01	1.699E-01	0.000E+00	NOT IDENT.
GE-68	7.677E-01	1.381E+00	2.476E+00	0.000E+00	NOT IDENT.
AS-73	6.371E-01	1.223E+00	2.174E+00	0.000E+00	NOT IDENT.
AS-74	4.265E-02	1.175E-01	2.075E-01	0.000E+00	NOT IDENT.
SE-75	-6.311E-03	5.254E-02	7.988E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.971E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	2.670E-01	4.599E-01	7.264E-01	0.000E+00	NOT IDENT.
RB-83	4.066E-02	8.534E-02	1.456E-01	0.000E+00	NOT IDENT.
RB-84	-5.568E-02	7.433E-02	1.111E-01	0.000E+00	NOT IDENT.
KR-85	1.180E+01	9.218E+00	1.490E+01	0.000E+00	NOT IDENT.
SR-85	6.304E-02	4.927E-02	7.961E-02	0.000E+00	NOT IDENT.
RB-86	4.943E-01	9.971E-01	1.779E+00	0.000E+00	NOT IDENT.
Y-88	3.456E-02	4.203E-02	8.050E-02	0.000E+00	NOT IDENT.
ZR-88	-3.135E-02	3.737E-02	5.918E-02	0.000E+00	NOT IDENT.
Y-91	9.628E+00	2.594E+01	4.494E+01	0.000E+00	NOT IDENT.
NB-94	1.039E-03	3.445E-02	5.851E-02	0.000E+00	NOT IDENT.
NB-95	4.664E-02	5.989E-02	9.803E-02	0.000E+00	NOT IDENT.
NB-95M	8.791E-02	1.598E-01	2.554E-01	0.000E+00	NOT IDENT.
ZR-95	3.421E-02	8.526E-02	1.483E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.238E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.077E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.782E+01	3.609E+01	6.325E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.351E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	6.643E-03	3.839E-02	6.256E-02	0.000E+00	NOT IDENT.
RH-102	-6.699E-03	3.239E-02	5.278E-02	0.000E+00	NOT IDENT.
RU-103	-1.220E-02	5.057E-02	8.181E-02	0.000E+00	FAIL ABUN
RH-106	1.195E-01	3.436E-01	6.046E-01	0.000E+00	FAIL ABUN
RU-106	1.195E-01	3.434E-01	6.046E-01	0.000E+00	FAIL ABUN
AG-108M	1.296E-02	3.741E-02	6.412E-02	0.000E+00	NOT IDENT.
AG-110M	-2.424E-03	3.906E-02	6.621E-02	0.000E+00	NOT IDENT.
IN-111	-2.461E+00	3.106E+00	4.482E+00	0.000E+00	NOT IDENT.
IN-113M	-1.882E-02	5.159E-02	8.475E-02	0.000E+00	NOT IDENT.
SN-113	-1.882E-02	5.159E-02	8.475E-02	0.000E+00	NOT IDENT.
IN-114M	-1.081E-01	2.280E-01	3.495E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.331E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	6.027E-03	7.108E-02	1.201E-01	0.000E+00	NOT IDENT.
SB-122	7.034E+00	6.203E+00	1.153E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.005E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	6.222E-03	3.073E-02	5.220E-02	0.000E+00	NOT IDENT.
I-124	1.726E+00	1.500E+00	2.513E+00	0.000E+00	FAIL ABUN
SB-124	-6.946E-03	8.516E-02	1.416E-01	0.000E+00	FAIL ABUN
SB-125	1.381E-03	1.032E-01	1.729E-01	0.000E+00	FAIL ABUN
TE-125M	-6.501E-01	9.808E+00	1.687E+01	0.000E+00	NOT IDENT.
I-126	2.427E-01	2.402E-01	4.409E-01	0.000E+00	NOT IDENT.
SB-126	1.560E-02	2.250E-01	3.479E-01	0.000E+00	FAIL ABUN
SB-127	-1.286E+00	3.238E+00	5.310E+00	0.000E+00	NOT IDENT.
XE-127	-4.991E-02	5.919E-02	9.309E-02	0.000E+00	NOT IDENT.
I-131	1.194E-02	1.881E-01	3.206E-01	0.000E+00	NOT IDENT.
TE-132	2.575E-01	1.763E+00	2.909E+00	0.000E+00	NOT IDENT.
BA-133	1.650E-02	5.058E-02	7.779E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.577E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.738E-02	5.192E-02	9.615E-02	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.143E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.453E-02	1.440E-01	2.359E-01	0.000E+00	FAIL ABUN
BA-137M	-2.201E-02	3.977E-02	6.454E-02	0.000E+00	NOT IDENT.
CS-137	-2.327E-02	4.204E-02	6.822E-02	0.000E+00	NOT IDENT.
CE-139	-1.511E-04	3.355E-02	5.624E-02	0.000E+00	NOT IDENT.
BA-140	-1.611E-01	3.655E-01	5.691E-01	0.000E+00	NOT IDENT.
LA-140	-5.032E-02	1.292E-01	2.025E-01	0.000E+00	NOT IDENT.
CE-141	-1.499E-02	7.450E-02	1.249E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.040E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.582E-02	2.186E-01	3.693E-01	0.000E+00	NOT IDENT.
PM-144	8.030E-03	3.592E-02	6.208E-02	0.000E+00	NOT IDENT.
PR-144	5.453E-01	2.439E+00	4.216E+00	0.000E+00	NOT IDENT.

PM-146	-1.197E-02	4.867E-02	7.943E-02	0.000E+00	NOT IDENT.
ND-147	-2.922E-01	8.343E-01	1.326E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	3.339E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.466E-01	1.082E-01	1.655E-01	0.000E+00	FAIL ABUN
GD-153	-1.212E-01	9.877E-02	1.419E-01	0.000E+00	NOT IDENT.
EU-154	5.174E-02	1.459E-01	2.529E-01	0.000E+00	NOT IDENT.
EU-155	6.911E-02	1.110E-01	1.967E-01	0.000E+00	FAIL ABUN
TB-160	1.511E-02	1.505E-01	2.523E-01	0.000E+00	FAIL ABUN
HO-166M	1.099E-02	6.913E-02	1.185E-01	0.000E+00	FAIL ABUN
TM-171	6.547E+00	3.328E+01	5.373E+01	0.000E+00	NOT IDENT.
LU-176	-1.095E-02	2.633E-02	4.409E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.779E+00	3.414E+00	0.000E+00	FAIL ABUN
LU-177M	-2.348E-01	2.050E-01	3.129E-01	0.000E+00	FAIL ABUN
HF-181	-5.733E-03	4.948E-02	8.114E-02	0.000E+00	NOT IDENT.
W-181	-9.696E-02	4.306E-01	6.807E-01	0.000E+00	NOT IDENT.
TA-182	4.631E-02	2.549E-01	4.349E-01	0.000E+00	FAIL ABUN
RE-183	-3.229E-02	1.299E-01	2.116E-01	0.000E+00	FAIL ABUN
RE-184	-1.393E-01	2.554E-01	4.323E-01	0.000E+00	NOT IDENT.
OS-185	-3.690E-02	4.822E-02	7.663E-02	0.000E+00	NOT IDENT.
RE-188	2.923E-01	1.946E-01	3.471E-01	0.000E+00	NOT IDENT.
W-188	4.476E+00	9.037E+00	1.427E+01	0.000E+00	FAIL ABUN
IR-192	-1.805E-03	3.816E-02	6.530E-02	0.000E+00	FAIL ABUN
AU-195	3.241E-01	2.475E-01	4.427E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.163E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	8.315E+00	1.835E+01	3.141E+01	0.000E+00	NOT IDENT.
TL-202	-1.087E-02	9.919E-02	1.643E-01	0.000E+00	NOT IDENT.
HG-203	8.270E-02	5.171E-02	8.681E-02	0.000E+00	NOT IDENT.
BI-207	-6.347E-03	5.797E-02	9.768E-02	0.000E+00	FAIL ABUN
TL-207	-5.048E-01	7.749E-01	1.267E+00	0.000E+00	FAIL ABUN
PO-209	-6.387E+00	8.895E+00	1.358E+01	0.000E+00	NOT IDENT.
BI-210	3.841E+00	6.515E+00	1.072E+01	0.000E+00	NOT IDENT.
PB-210	3.841E+00	6.515E+00	1.072E+01	0.000E+00	NOT IDENT.
PO-210	3.841E+00	6.514E+00	1.072E+01	0.000E+00	NOT IDENT.
PB-211	-1.390E+00	1.384E+00	1.664E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.337E-01	6.960E-01	0.000E+00	FAIL ABUN
PO-215	-5.048E-01	7.749E-01	1.267E+00	0.000E+00	FAIL ABUN
RN-219	-4.877E-02	4.671E-01	7.804E-01	0.000E+00	NOT IDENT.
RN-220	-2.057E+01	2.912E+01	4.435E+01	0.000E+00	NOT IDENT.
RA-223	-5.048E-01	7.749E-01	1.267E+00	0.000E+00	FAIL ABUN
AC-227	2.379E-02	4.174E-01	7.301E-01	0.000E+00	NOT IDENT.
TH-227	2.379E-02	4.174E-01	7.301E-01	0.000E+00	FAIL ABUN
TH-229	4.774E-01	5.710E-01	9.831E-01	0.000E+00	FAIL ABUN
PA-231	-3.791E-01	1.591E+00	2.713E+00	0.000E+00	NOT IDENT.
TH-231	-5.048E-01	7.749E-01	1.267E+00	0.000E+00	FAIL ABUN
U-231	-1.282E+00	2.342E+00	3.538E+00	0.000E+00	FAIL ABUN
PA-233	-8.331E-03	6.806E-02	1.161E-01	0.000E+00	FAIL ABUN
PA-234	-1.590E-01	3.664E-01	5.739E-01	0.000E+00	FAIL ABUN
PA-234M	4.162E+00	6.243E+00	1.069E+01	0.000E+00	NOT IDENT.
U-235	-2.291E-02	2.477E-01	4.092E-01	0.000E+00	FAIL ABUN
NP-236	-5.452E-02	8.614E-02	1.400E-01	0.000E+00	NOT IDENT.
NP-239	-4.475E-02	1.991E-01	3.385E-01	0.000E+00	FAIL ABUN
AM-241	1.771E-01	1.992E-01	3.351E-01	0.000E+00	NOT IDENT.
CM-243	1.546E-03	9.591E-02	1.661E-01	0.000E+00	FAIL ABUN
AM-246	9.052E-02	1.515E-01	2.731E-01	0.000E+00	NOT IDENT.
CM-247	1.035E-02	4.166E-02	7.129E-02	0.000E+00	FAIL ABUN
CF-249	5.241E-02	4.405E-02	7.982E-02	0.000E+00	NOT IDENT.
CF-251	-6.075E-03	1.406E-01	2.342E-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]G245107010.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:28:42.
Sample ID          : G245107010 Sample quantity : 1.14830E+02 GRAM
Detector name      : GAM02 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:02.69 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	780	10.67*	1.028E+00	2.323E+01	2.323E+01	12.30
CD-109	88.03	138	3.72*	5.229E+00	2.318E+00	2.385E+00	45.51
SN-126	64.28	63	9.60	2.534E+00	8.524E-01	8.524E-01	121.31
	86.94	138	8.90	5.229E+00	9.688E-01	9.688E-01	60.89
	87.57	138	37.00*	5.229E+00	2.330E-01	2.330E-01	45.51
CS-135	268.24	87	16.00*	4.075E+00	4.381E-01	4.381E-01	78.33
TL-208	277.35	69	6.80	3.989E+00	8.370E-01	8.370E-01	65.21
	510.84	55	21.60	2.540E+00	3.268E-01	3.268E-01	109.58
	583.14	267	84.20*	2.292E+00	4.519E-01	4.519E-01	21.68
	860.37	-----	12.46	1.652E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	3.848E+00	-----	Line Not Found	-----
	351.07	561	12.94*	3.351E+00	4.230E+00	4.230E+00	16.42
PB-212	74.81	284	10.70	4.066E+00	2.136E+00	2.136E+00	28.63
	77.11	431	18.00	4.317E+00	1.814E+00	1.814E+00	18.59
	87.30	138	8.00	5.229E+00	1.078E+00	1.078E+00	46.60
	238.63	950	44.60*	4.457E+00	1.562E+00	1.562E+00	14.86
	300.09	-----	3.41	3.766E+00	-----	Line Not Found	-----
PO-212	74.81	284	10.70	4.066E+00	2.136E+00	2.136E+00	28.63
	77.11	431	18.00	4.317E+00	1.814E+00	1.814E+00	18.59
	87.30	138	8.00	5.229E+00	1.078E+00	1.078E+00	46.60
	115.19	-----	0.60	6.220E+00	-----	Line Not Found	-----
	238.63	950	44.60*	4.457E+00	1.562E+00	1.562E+00	14.86
	300.09	-----	3.41	3.766E+00	-----	Line Not Found	-----
BI-214	609.31	413	46.30*	2.214E+00	1.317E+00	1.317E+00	18.48
	1120.29	82	15.10	1.298E+00	1.360E+00	1.360E+00	48.21
	1764.49	82	15.80	9.005E-01	1.885E+00	1.885E+00	27.84
PB-214	74.81	284	6.21	4.066E+00	3.680E+00	3.680E+00	28.06
	77.11	431	10.50	4.317E+00	3.110E+00	3.110E+00	20.09
	87.30	138	4.67	5.229E+00	1.846E+00	1.846E+00	46.16
	241.98	254	7.49	4.417E+00	2.508E+00	2.508E+00	35.67
	295.21	336	19.20	3.816E+00	1.499E+00	1.499E+00	22.67
	351.92	561	37.20*	3.351E+00	1.471E+00	1.471E+00	17.23

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	74.81	284	6.21	4.066E+00	3.680E+00	3.680E+00	28.06
	77.11	431	10.50	4.317E+00	3.110E+00	3.110E+00	20.09
	87.30	138	4.67	5.229E+00	1.846E+00	1.846E+00	46.16
	241.98	254	7.49	4.417E+00	2.508E+00	2.508E+00	35.67
	295.21	336	19.20	3.816E+00	1.499E+00	1.499E+00	22.67
	351.92	561	37.20*	3.351E+00	1.471E+00	1.471E+00	17.23
PO-216	74.81	284	10.70	4.066E+00	2.136E+00	2.136E+00	28.63
	77.11	431	18.00	4.317E+00	1.814E+00	1.814E+00	18.59
	87.30	138	8.00	5.229E+00	1.078E+00	1.078E+00	46.60
	238.63	950	44.60*	4.457E+00	1.562E+00	1.562E+00	14.86
	300.09	-----	3.41	3.766E+00	-----	Line Not Found	-----
	74.81	284	6.21	4.066E+00	3.680E+00	3.680E+00	28.06
PO-218	77.11	431	10.50	4.317E+00	3.110E+00	3.110E+00	20.09
	87.30	138	4.67	5.229E+00	1.846E+00	1.846E+00	46.16
	241.98	254	7.49	4.417E+00	2.508E+00	2.508E+00	35.67
	295.21	336	19.20	3.816E+00	1.499E+00	1.499E+00	22.67
	351.92	561	37.20*	3.351E+00	1.471E+00	1.471E+00	17.23
	240.98	254	3.95*	4.417E+00	4.756E+00	4.756E+00	35.22
RA-224	609.31	413	46.30*	2.214E+00	1.317E+00	1.317E+00	18.48
RA-226	1120.29	82	15.10	1.298E+00	1.360E+00	1.360E+00	48.21
	1764.49	82	15.80	9.005E-01	1.885E+00	1.885E+00	27.84
AC-228	338.32	142	11.40	3.451E+00	1.181E+00	1.181E+00	55.03
	911.07	166	27.70*	1.569E+00	1.252E+00	1.252E+00	31.26
	969.11	107	16.60	1.484E+00	1.424E+00	1.424E+00	36.41
RA-228	338.32	142	11.40	3.451E+00	1.181E+00	1.181E+00	55.03
	911.07	166	27.70*	1.569E+00	1.252E+00	1.252E+00	31.26
	969.11	107	16.60	1.484E+00	1.424E+00	1.424E+00	36.41
TH-228	74.81	284	10.70	4.066E+00	2.136E+00	2.177E+00	27.09
	77.11	431	18.00	4.317E+00	1.814E+00	1.849E+00	18.59
	87.30	138	8.00	5.229E+00	1.078E+00	1.098E+00	45.51
	238.63	950	44.60*	4.457E+00	1.562E+00	1.592E+00	14.86
TH-230	300.09	-----	3.41	3.766E+00	-----	Line Not Found	-----
	609.31	413	46.30*	2.214E+00	1.317E+00	1.317E+00	18.48
	1120.29	82	15.10	1.298E+00	1.360E+00	1.360E+00	48.21
	1764.49	82	15.80	9.005E-01	1.885E+00	1.885E+00	27.84
TH-232	338.32	142	11.40	3.451E+00	1.181E+00	1.181E+00	37.42
	911.07	166	27.70*	1.569E+00	1.252E+00	1.252E+00	31.26
	969.11	107	16.60	1.484E+00	1.424E+00	1.424E+00	36.41
TH-234	63.29	63	3.80*	2.534E+00	2.154E+00	2.154E+00	121.69
	92.38	111	5.41	5.594E+00	1.194E+00	1.194E+00	85.21
U-234	609.31	413	46.30*	2.214E+00	1.317E+00	1.317E+00	18.48
	1120.29	82	15.10	1.298E+00	1.360E+00	1.360E+00	48.21
	1764.49	82	15.80	9.005E-01	1.885E+00	1.885E+00	27.84
NP-237	86.50	138	12.60*	5.229E+00	6.843E-01	6.843E-01	49.97
	95.87	-----	2.60	5.755E+00	-----	Line Not Found	-----
U-238	63.29	63	3.80*	2.534E+00	2.154E+00	2.154E+00	121.69
	92.38	111	5.41	5.594E+00	1.194E+00	1.194E+00	83.71
AM-243	74.67	284	66.00*	4.066E+00	3.462E-01	3.462E-01	27.07
	86.72	138	0.34	5.229E+00	2.566E+01	2.566E+01	45.51

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.232E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.053E+00	-----	Line Not Found	-----
ANH-511	511.00	55	100.00*	2.540E+00	7.058E-02	7.058E-02	109.26

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 4
Number of lines tentatively identified by NID 26 86.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.323E+01	2.323E+01	0.286E+01	12.30	
CD-109	464.00D	1.03	2.318E+00	2.385E+00	1.085E+00	45.51	
SN-126	1.00E+05Y	1.00	2.330E-01	2.330E-01	1.061E-01	45.51	
CS-135	2.30E+06Y	1.00	4.381E-01	4.381E-01	3.432E-01	78.33	
TL-208	1.41E+10Y	1.00	4.519E-01	4.519E-01	0.980E-01	21.68	
BI-211	7.04E+08Y	1.00	4.230E+00	4.230E+00	0.694E+00	16.42	
PB-212	1.41E+10Y	1.00	1.562E+00	1.562E+00	0.232E+00	14.86	
PO-212	1.41E+10Y	1.00	1.562E+00	1.562E+00	0.232E+00	14.86	
BI-214	1600.00Y	1.00	1.317E+00	1.317E+00	0.243E+00	18.48	
PB-214	1600.00Y	1.00	1.471E+00	1.471E+00	0.253E+00	17.23	
PO-214	1600.00Y	1.00	1.471E+00	1.471E+00	0.253E+00	17.23	
PO-216	1.41E+10Y	1.00	1.562E+00	1.562E+00	0.232E+00	14.86	
PO-218	1600.00Y	1.00	1.471E+00	1.471E+00	0.253E+00	17.23	
RA-224	1.41E+10Y	1.00	4.756E+00	4.756E+00	1.675E+00	35.22	
RA-226	1600.00Y	1.00	1.317E+00	1.317E+00	0.243E+00	18.48	
AC-228	1.41E+10Y	1.00	1.252E+00	1.252E+00	0.391E+00	31.26	
RA-228	1.41E+10Y	1.00	1.252E+00	1.252E+00	0.391E+00	31.26	
TH-228	1.91Y	1.02	1.562E+00	1.592E+00	0.236E+00	14.86	
TH-230	4.47E+09Y	1.00	1.317E+00	1.317E+00	0.243E+00	18.48	
TH-232	1.41E+10Y	1.00	1.252E+00	1.252E+00	0.391E+00	31.26	
TH-234	4.47E+09Y	1.00	2.154E+00	2.154E+00	2.621E+00	121.69	
U-234	4.47E+09Y	1.00	1.317E+00	1.317E+00	0.243E+00	18.48	
NP-237	2.14E+06Y	1.00	6.843E-01	6.843E-01	3.420E-01	49.97	
U-238	4.47E+09Y	1.00	2.154E+00	2.154E+00	2.621E+00	121.69	
AM-243	7380.00Y	1.00	3.462E-01	3.462E-01	0.937E-01	27.07	
ANH-511	1.00E+09Y	1.00	7.058E-02	7.058E-02	7.712E-02	109.26	

Total Activity : 6.075E+01 6.085E+01

Grand Total Activity : 6.075E+01 6.085E+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	185.54	181	261	1.30	370.41	366	9	2.52E-02	39.0	5.29E+00	T
0	209.26	90	266	1.42	417.86	412	10	1.25E-02	71.0	4.89E+00	T
0	462.64	48	132	1.14	924.91	918	12	6.66E-03	****	2.74E+00	T
0	727.93	80	76	2.19	1455.80	1449	18	1.11E-02	54.7	1.91E+00	T
0	772.12	46	33	1.00	1544.24	1540	10	6.39E-03	56.1	1.82E+00	
1	964.19	56	39	1.99	1928.64	1920	23	7.80E-03	50.0	1.49E+00	T
0	1154.16	45	28	2.77	2308.86	2303	10	6.31E-03	52.5	1.26E+00	
0	1377.33	35	11	2.23	2755.54	2748	14	4.79E-03	52.4	1.08E+00	T
0	1586.62	35	4	2.09	3174.46	3166	16	4.91E-03	44.8	9.65E-01	
0	1847.34	11	7	0.64	3696.34	3692	9	1.53E-03	****	8.79E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107010.CNF;1
* Acquisition date   : 1-FEB-2010 13:28:42.  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 02:00:02.69             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107010           Analyst initials: MXR1
* Batch Number       : 944038               Sample Quantity : 1.14830E+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	2.323E+01	2.858E+00	7.647E-01	7.269E-02	30.379
CD-109	2.385E+00	1.085E+00	1.476E+00	1.482E-01	1.616
SN-126	2.330E-01	1.061E-01	1.539E-01	1.539E-02	1.514
CS-135	4.381E-01	3.432E-01	2.920E-01	3.863E-02	1.500
TL-208	4.519E-01	9.799E-02	6.158E-02	6.168E-03	7.339
BI-211	4.230E+00	6.943E-01	3.749E-01	4.325E-02	11.282
PB-212	1.562E+00	2.320E-01	9.868E-02	1.242E-02	15.828
PO-212	1.562E+00	2.320E-01	9.868E-02	1.242E-02	15.828
BI-214	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
PB-214	1.471E+00	2.534E-01	1.307E-01	1.652E-02	11.258
PO-214	1.471E+00	2.534E-01	1.307E-01	1.652E-02	11.258
PO-216	1.562E+00	2.320E-01	9.868E-02	1.242E-02	15.828
PO-218	1.471E+00	2.534E-01	1.307E-01	1.652E-02	11.258
RA-224	4.756E+00	1.675E+00	1.124E+00	1.326E-01	4.233
RA-226	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
AC-228	1.252E+00	3.913E-01	2.134E-01	2.661E-02	5.866
RA-228	1.252E+00	3.913E-01	2.134E-01	2.661E-02	5.866
TH-228	1.592E+00	2.365E-01	1.006E-01	1.266E-02	15.828

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
TH-232	1.252E+00	3.913E-01	2.134E-01	2.661E-02	5.866
TH-234	2.154E+00	2.621E+00	2.437E+00	4.303E-01	0.884
U-234	1.317E+00	2.434E-01	1.089E-01	1.151E-02	12.088
NP-237	6.843E-01	3.420E-01	4.564E-01	1.044E-01	1.499
U-238	2.154E+00	2.621E+00	2.437E+00	4.303E-01	0.884
AM-243	3.462E-01	9.372E-02	9.484E-02	8.293E-03	3.651
ANH-511	7.058E-02	7.712E-02	5.398E-02	5.351E-03	1.308

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-4.193E-02		3.781E-01	6.043E-01	6.409E-02	-0.069
NA-22	1.597E-02		5.310E-02	9.010E-02	7.989E-03	0.177
NA-24	3.009E+01		3.333E+01	Half-Life	too short	
AL-26	4.737E-02		3.519E-02	7.220E-02	5.976E-03	0.656
TI-44	3.349E-01	+	6.225E-02	7.189E-02	6.508E-03	4.658
SC-46	-4.350E-03		4.510E-02	7.236E-02	7.356E-03	-0.060
V-48	-5.920E-03		9.602E-02	1.532E-01	1.499E-02	-0.039
CR-51	-3.318E-02		4.648E-01	7.695E-01	9.389E-02	-0.043
MN-52	8.808E-02		4.605E-01	7.705E-01	7.168E-02	0.114
MN-54	-2.015E-02		4.560E-02	7.125E-02	7.000E-03	-0.283
CO-56	-4.474E-02		4.852E-02	7.113E-02	7.042E-03	-0.629
CO-57	-3.630E-03		2.792E-02	4.569E-02	3.819E-03	-0.079
CO-58	-1.848E-02		4.772E-02	7.497E-02	7.261E-03	-0.246
FE-59	-7.420E-03		1.124E-01	1.860E-01	1.774E-02	-0.040
CO-60	-1.561E-02		3.926E-02	6.023E-02	5.611E-03	-0.259
ZN-65	9.491E-02		1.046E-01	1.702E-01	1.481E-02	0.558
GE-68	7.677E-01		1.409E+00	2.479E+00	2.245E-01	0.310
AS-73	6.371E-01		1.248E+00	2.116E+00	1.752E-01	0.301
AS-74	4.265E-02		1.199E-01	2.065E-01	1.928E-02	0.207
SE-75	-6.311E-03		5.362E-02	7.891E-02	9.646E-03	-0.080
BR-77	3.760E-05		2.026E-05	Half-Life	too short	
SR-82	2.670E-01		4.693E-01	7.250E-01	6.840E-02	0.368
RB-83	4.066E-02		8.709E-02	1.448E-01	1.429E-02	0.281
RB-84	-5.568E-02		7.584E-02	1.110E-01	1.123E-02	-0.502
KR-85	1.180E+01		9.406E+00	1.481E+01	1.466E+00	0.797
SR-85	6.304E-02		5.027E-02	7.913E-02	7.834E-03	0.797
RB-86	4.943E-01		1.017E+00	1.781E+00	1.614E-01	0.278
Y-88	3.456E-02		4.289E-02	8.101E-02	6.608E-03	0.427
ZR-88	-3.135E-02		3.813E-02	5.868E-02	5.871E-03	-0.534
Y-91	9.628E+00		2.647E+01	4.504E+01	3.740E+00	0.214
NB-94	1.039E-03		3.515E-02	5.834E-02	5.201E-03	0.018
NB-95	4.664E-02		6.112E-02	9.782E-02	9.158E-03	0.477
NB-95M	8.791E-02		1.631E-01	2.520E-01	3.188E-02	0.349
ZR-95	3.421E-02		8.700E-02	1.480E-01	1.496E-02	0.231
NB-97	-2.540E-01		2.672E+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
ZR-97	1.643E+02		5.494E+01	Half-Life too short		
MO-99	1.782E+01		3.682E+01	6.310E+01	9.786E+00	0.282
TC-99M	-1.476E+15		1.200E+15	Half-Life too short		
RH-101	6.643E-03		3.917E-02	6.163E-02	6.741E-03	0.108
RH-102	-6.699E-03		3.305E-02	5.243E-02	5.260E-03	-0.128
RU-103	-1.220E-02		5.160E-02	8.130E-02	1.221E-02	-0.150
RH-106	1.195E-01		3.507E-01	6.021E-01	8.225E-02	0.199
RU-106	1.195E-01		3.504E-01	6.021E-01	5.468E-02	0.199
AG-108M	1.296E-02		3.818E-02	6.363E-02	6.597E-03	0.204
AG-110M	-2.424E-03		3.986E-02	6.597E-02	5.885E-03	-0.037
IN-111	-2.461E+00		3.169E+00	4.425E+00	5.257E-01	-0.556
IN-113M	-1.882E-02		5.264E-02	8.403E-02	8.599E-03	-0.224
SN-113	-1.882E-02		5.264E-02	8.403E-02	8.599E-03	-0.224
IN-114M	-1.081E-01		2.326E-01	3.443E-01	3.708E-02	-0.314
CD-115	-3.147E-05		2.210E-05	Half-Life too short		
SN-117M	6.027E-03		7.253E-02	1.181E-01	1.163E-02	0.051
SB-122	7.034E+00		6.329E+00	1.147E+01	1.101E+00	0.613
I-123	1.823E+02		4.594E+02	Half-Life too short		
TE-123M	6.222E-03		3.136E-02	5.133E-02	5.092E-03	0.121
I-124	1.726E+00		1.531E+00	2.502E+00	2.321E-01	0.690
SB-124	-6.946E-03		8.690E-02	1.424E-01	1.295E-02	-0.049
SB-125	1.381E-03		1.053E-01	1.715E-01	1.752E-02	0.008
TE-125M	-6.501E-01		1.001E+01	1.653E+01	1.697E+00	-0.039
I-126	2.427E-01		2.451E-01	4.393E-01	3.800E-02	0.552
SB-126	1.560E-02		2.296E-01	3.470E-01	3.138E-02	0.045
SB-127	-1.286E+00		3.304E+00	5.293E+00	6.739E-01	-0.243
XE-127	-4.991E-02		6.039E-02	9.173E-02	1.013E-02	-0.544
I-131	1.194E-02		1.920E-01	3.176E-01	3.571E-02	0.038
TE-132	2.575E-01		1.799E+00	2.870E+00	5.228E-01	0.090
BA-133	1.650E-02		5.161E-02	7.706E-02	1.150E-02	0.214
I-133	-1.736E-02		8.046E-02	Half-Life too short		
CS-134	6.738E-02		5.298E-02	9.598E-02	9.236E-03	0.702
I-135	-4.391E+13		5.831E+13	Half-Life too short		
CS-136	-5.453E-02		1.469E-01	2.361E-01	2.279E-02	-0.231
BA-137M	-2.201E-02		4.058E-02	6.431E-02	5.541E-03	-0.342
CS-137	-2.327E-02		4.290E-02	6.798E-02	5.868E-03	-0.342
CE-139	-1.511E-04		3.423E-02	5.532E-02	5.675E-03	-0.003
BA-140	-1.611E-01		3.730E-01	5.659E-01	1.894E-01	-0.285
LA-140	-5.032E-02		1.318E-01	2.035E-01	1.841E-02	-0.247
CE-141	-1.499E-02		7.602E-02	1.227E-01	1.147E-02	-0.122
CE-143	5.894E-03		1.041E-03	Half-Life too short		
CE-144	-3.582E-02		2.231E-01	3.625E-01	5.660E-02	-0.099
PM-144	8.030E-03		3.665E-02	6.189E-02	5.493E-03	0.130
PR-144	5.453E-01		2.489E+00	4.203E+00	3.728E-01	0.130
PM-146	-1.197E-02		4.966E-02	7.887E-02	9.399E-03	-0.152
ND-147	-2.922E-01		8.513E-01	1.318E+00	2.065E-01	-0.222
PM-149	1.656E-05		1.703E-04	Half-Life too short		
EU-152	-1.466E-01		1.104E-01	1.639E-01	1.927E-02	-0.894

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	-1.212E-01		1.008E-01	1.389E-01	1.262E-02	-0.872
EU-154	5.174E-02		1.489E-01	2.536E-01	2.915E-02	0.204
EU-155	6.911E-02		1.132E-01	1.927E-01	1.690E-02	0.359
TB-160	1.511E-02		1.535E-01	2.521E-01	2.548E-02	0.060
HO-166M	1.099E-02		7.054E-02	1.182E-01	1.061E-02	0.093
TM-171	6.547E+00		3.396E+01	5.241E+01	4.281E+00	0.125
LU-176	-1.095E-02		2.687E-02	4.361E-02	5.269E-03	-0.251
LU-177	3.944E+00	+	2.835E+00	3.365E+00	3.755E-01	1.172
LU-177M	-2.348E-01		2.092E-01	3.104E-01	3.120E-02	-0.756
HF-181	-5.733E-03		5.049E-02	8.061E-02	8.073E-03	-0.071
W-181	-9.696E-02		4.394E-01	6.638E-01	5.348E-02	-0.146
TA-182	4.631E-02		2.601E-01	4.359E-01	3.677E-02	0.106
RE-183	-3.229E-02		1.325E-01	2.081E-01	2.093E-02	-0.155
RE-184	-1.393E-01		2.606E-01	4.269E-01	5.125E-02	-0.326
OS-185	-3.690E-02		4.920E-02	7.635E-02	6.724E-03	-0.483
RE-188	2.923E-01		1.986E-01	3.412E-01	3.298E-02	0.857
W-188	4.476E+00		9.221E+00	1.411E+01	1.734E+00	0.317
IR-192	-1.805E-03		3.894E-02	6.461E-02	7.715E-03	-0.028
AU-195	3.241E-01		2.526E-01	4.334E-01	3.896E-02	0.748
TL-200	3.121E-03		3.144E-03	Half-Life too short		
TL-201	8.315E+00		1.872E+01	3.090E+01	3.179E+00	0.269
TL-202	-1.087E-02		1.012E-01	1.631E-01	1.643E-02	-0.067
HG-203	8.270E-02		5.276E-02	8.581E-02	1.079E-02	0.964
BI-207	-6.347E-03		5.916E-02	9.778E-02	8.976E-03	-0.065
TL-207	-5.048E-01		7.907E-01	1.254E+00	2.439E-01	-0.402
PO-209	-6.387E+00		9.076E+00	1.358E+01	1.386E+00	-0.470
BI-210	3.841E+00		6.648E+00	1.042E+01	9.986E-01	0.369
PB-210	3.841E+00		6.648E+00	1.042E+01	9.986E-01	0.369
PO-210	3.841E+00		6.647E+00	1.042E+01	9.097E-01	0.369
PB-211	-1.390E+00		1.412E+00	1.651E+00	1.038E+00	-0.842
BI-212	1.161E+00	+	6.467E-01	6.941E-01	7.231E-02	1.673
PO-215	-5.048E-01		7.907E-01	1.254E+00	2.439E-01	-0.402
RN-219	-4.877E-02		4.767E-01	7.740E-01	1.229E-01	-0.063
RN-220	-2.057E+01		2.972E+01	4.412E+01	4.279E+00	-0.466
RA-223	-5.048E-01		7.907E-01	1.254E+00	2.439E-01	-0.402
AC-227	2.379E-02		4.259E-01	7.211E-01	1.263E-01	0.033
TH-227	2.379E-02		4.259E-01	7.211E-01	1.438E-01	0.033
TH-229	4.774E-01		5.827E-01	9.684E-01	1.050E-01	0.493
PA-231	-3.791E-01		1.623E+00	2.682E+00	4.715E-01	-0.141
TH-231	-5.048E-01		7.907E-01	1.254E+00	2.439E-01	-0.402
U-231	-1.282E+00		2.390E+00	3.462E+00	3.187E-01	-0.370
PA-233	-8.331E-03		6.945E-02	1.148E-01	1.398E-02	-0.073
PA-234	-1.590E-01		3.739E-01	5.738E-01	1.115E-01	-0.277
PA-234M	4.162E+00		6.370E+00	1.070E+01	1.164E+00	0.389
U-235	-2.291E-02		2.528E-01	4.019E-01	7.137E-02	-0.057
NP-236	-5.452E-02		8.790E-02	1.377E-01	1.369E-02	-0.396
NP-239	-4.475E-02		2.032E-01	3.319E-01	2.783E-02	-0.135
AM-241	1.771E-01		2.032E-01	3.265E-01	2.675E-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	1.546E-03		9.786E-02	1.627E-01	1.420E-02	0.010
AM-246	9.052E-02		1.546E-01	2.734E-01	2.473E-02	0.331
CM-247	1.035E-02		4.251E-02	7.071E-02	7.093E-03	0.146
CF-249	5.241E-02		4.495E-02	7.914E-02	8.015E-03	0.662
CF-251	-6.075E-03		1.435E-01	2.305E-01	2.415E-02	-0.026

VAX/VMS Nuclide Identification Report Generated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245107010          *
* Acquisition date   : 1-FEB-2010 13:28:42 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 02:00:02.69 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107010 Analyst initials: MXR1                  *
* Batch Number       : 944038 Sample Quantity : 1.1483E+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	2.323E+01	2.801E+00	3.810E-01	1.429E+00
CD-109	2.385E+00	1.064E+00	7.550E-01	5.427E-01
SN-126	2.330E-01	1.039E-01	7.877E-02	5.303E-02
CS-135	4.381E-01	3.363E-01	1.479E-01	1.716E-01
TL-208	4.519E-01	9.603E-02	3.095E-02	4.899E-02
BI-211	4.230E+00	6.804E-01	1.894E-01	3.472E-01
PB-212	1.562E+00	2.274E-01	5.002E-02	1.160E-01
PO-212	1.562E+00	2.274E-01	5.002E-02	1.160E-01
BI-214	1.317E+00	2.385E-01	5.473E-02	1.217E-01
PB-214	1.471E+00	2.484E-01	6.601E-02	1.267E-01
PO-214	1.471E+00	2.484E-01	6.601E-02	1.267E-01
PO-216	1.562E+00	2.274E-01	5.002E-02	1.160E-01
PO-218	1.471E+00	2.484E-01	6.601E-02	1.267E-01
RA-224	4.756E+00	1.642E+00	5.695E-01	8.376E-01
RA-226	1.317E+00	2.385E-01	5.473E-02	1.217E-01
AC-228	1.252E+00	3.835E-01	1.068E-01	1.957E-01
RA-228	1.252E+00	3.835E-01	1.068E-01	1.957E-01
TH-228	1.592E+00	2.318E-01	5.098E-02	1.182E-01
TH-230	1.317E+00	2.385E-01	5.473E-02	1.217E-01
TH-232	1.252E+00	3.835E-01	1.068E-01	1.957E-01
TH-234	2.154E+00	2.568E+00	1.251E+00	1.310E+00
U-234	1.317E+00	2.385E-01	5.473E-02	1.217E-01
NP-237	6.843E-01	3.351E-01	2.335E-01	1.710E-01
U-238	2.154E+00	2.568E+00	1.251E+00	1.310E+00
AM-243	3.462E-01	9.184E-02	4.860E-02	4.686E-02
ANH-511	7.058E-02	7.558E-02	2.717E-02	3.856E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-4.193E-02	3.705E-01	3.043E-01	1.890E-01 NOT IDENT.

NA-22	1.597E-02	5.204E-02	4.496E-02	2.655E-02	NOT IDENT.
NA-24	3.009E+07	6.533E+07	0.000E+00	3.333E+07	SHORT HLIF
AL-26	4.737E-02	3.448E-02	3.590E-02	1.759E-02	NOT IDENT.
TI-44	3.349E-01	6.101E-02	3.682E-02	3.113E-02	FAIL ABUN
SC-46	-4.350E-03	4.419E-02	3.623E-02	2.255E-02	FAIL ABUN
V-48	-5.920E-03	9.410E-02	7.664E-02	4.801E-02	NOT IDENT.
CR-51	-3.318E-02	4.555E-01	3.890E-01	2.324E-01	NOT IDENT.
MN-52	8.808E-02	4.513E-01	3.840E-01	2.302E-01	NOT IDENT.
MN-54	-2.015E-02	4.469E-02	3.570E-02	2.280E-02	NOT IDENT.
CO-56	-4.474E-02	4.755E-02	3.563E-02	2.426E-02	NOT IDENT.
CO-57	-3.630E-03	2.736E-02	2.331E-02	1.396E-02	NOT IDENT.
CO-58	-1.848E-02	4.676E-02	3.757E-02	2.386E-02	NOT IDENT.
FE-59	-7.420E-03	1.101E-01	9.294E-02	5.618E-02	NOT IDENT.
CO-60	-1.561E-02	3.848E-02	3.004E-02	1.963E-02	NOT IDENT.
ZN-65	9.491E-02	1.025E-01	8.502E-02	5.228E-02	NOT IDENT.
GE-68	7.677E-01	1.381E+00	1.239E+00	7.047E-01	NOT IDENT.
AS-73	6.371E-01	1.223E+00	1.088E+00	6.239E-01	NOT IDENT.
AS-74	4.265E-02	1.175E-01	1.038E-01	5.996E-02	NOT IDENT.
SE-75	-6.311E-03	5.254E-02	3.996E-02	2.681E-02	NOT IDENT.
BR-77	3.760E+01	3.971E+01	0.000E+00	2.026E+01	SHORT HLIF
SR-82	2.670E-01	4.599E-01	3.634E-01	2.346E-01	NOT IDENT.
RB-83	4.066E-02	8.534E-02	7.287E-02	4.354E-02	NOT IDENT.
RB-84	-5.568E-02	7.433E-02	5.557E-02	3.792E-02	NOT IDENT.
KR-85	1.180E+01	9.218E+00	7.452E+00	4.703E+00	NOT IDENT.
SR-85	6.304E-02	4.927E-02	3.983E-02	2.514E-02	NOT IDENT.
RB-86	4.943E-01	9.971E-01	8.898E-01	5.087E-01	NOT IDENT.
Y-88	3.456E-02	4.203E-02	4.028E-02	2.144E-02	NOT IDENT.
SR-88	-3.135E-02	3.737E-02	2.961E-02	1.907E-02	NOT IDENT.
Y-91	9.628E+00	2.594E+01	2.248E+01	1.323E+01	NOT IDENT.
NB-94	1.039E-03	3.445E-02	2.927E-02	1.758E-02	NOT IDENT.
NB-95	4.664E-02	5.989E-02	4.904E-02	3.056E-02	NOT IDENT.
NB-95M	8.791E-02	1.598E-01	1.278E-01	8.154E-02	NOT IDENT.
ZR-95	3.421E-02	8.526E-02	7.420E-02	4.350E-02	NOT IDENT.
NB-97	-2.540E+05	5.238E+06	0.000E+00	2.672E+06	SHORT HLIF
ZR-97	1.643E+08	1.077E+08	0.000E+00	5.494E+07	SHORT HLIF
MO-99	1.782E+01	3.609E+01	3.165E+01	1.841E+01	NOT IDENT.
TC-99M	-1.476E+21	2.351E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	6.643E-03	3.839E-02	3.130E-02	1.959E-02	NOT IDENT.
RH-102	-6.699E-03	3.239E-02	2.641E-02	1.652E-02	NOT IDENT.
RU-103	-1.220E-02	5.057E-02	4.093E-02	2.580E-02	FAIL ABUN
RH-106	1.195E-01	3.436E-01	3.025E-01	1.753E-01	FAIL ABUN
RU-106	1.195E-01	3.434E-01	3.025E-01	1.752E-01	FAIL ABUN
AG-108M	1.296E-02	3.741E-02	3.208E-02	1.909E-02	NOT IDENT.
AG-110M	-2.424E-03	3.906E-02	3.313E-02	1.993E-02	NOT IDENT.
IN-111	-2.461E+00	3.106E+00	2.242E+00	1.584E+00	NOT IDENT.
IN-113M	-1.882E-02	5.159E-02	4.240E-02	2.632E-02	NOT IDENT.
SN-113	-1.882E-02	5.159E-02	4.240E-02	2.632E-02	NOT IDENT.
IN-114M	-1.081E-01	2.280E-01	1.749E-01	1.163E-01	NOT IDENT.
CD-115	-3.147E+01	4.331E+01	0.000E+00	2.210E+01	SHORT HLIF
SN-117M	6.027E-03	7.108E-02	6.008E-02	3.627E-02	NOT IDENT.
SB-122	7.034E+00	6.203E+00	5.766E+00	3.165E+00	NOT IDENT.
I-123	1.823E+08	9.005E+08	0.000E+00	4.594E+08	SHORT HLIF
TE-123M	6.222E-03	3.073E-02	2.612E-02	1.568E-02	NOT IDENT.
I-124	1.726E+00	1.500E+00	1.257E+00	7.654E-01	FAIL ABUN
SB-124	-6.946E-03	8.516E-02	7.085E-02	4.345E-02	FAIL ABUN
SB-125	1.381E-03	1.032E-01	8.648E-02	5.263E-02	FAIL ABUN
TE-125M	-6.501E-01	9.808E+00	8.439E+00	5.004E+00	NOT IDENT.
I-126	2.427E-01	2.402E-01	2.206E-01	1.226E-01	NOT IDENT.
SB-126	1.560E-02	2.250E-01	1.741E-01	1.148E-01	FAIL ABUN
SB-127	-1.286E+00	3.238E+00	2.657E+00	1.652E+00	NOT IDENT.
XE-127	-4.991E-02	5.919E-02	4.657E-02	3.020E-02	NOT IDENT.
I-131	1.194E-02	1.881E-01	1.604E-01	9.599E-02	NOT IDENT.
TE-132	2.575E-01	1.763E+00	1.455E+00	8.994E-01	NOT IDENT.
BA-133	1.650E-02	5.058E-02	3.892E-02	2.580E-02	FAIL ABUN
I-133	-1.736E+04	1.577E+05	0.000E+00	8.046E+04	SHORT HLIF
CS-134	6.738E-02	5.192E-02	4.810E-02	2.649E-02	NOT IDENT.
I-135	-4.391E+19	1.143E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-5.453E-02	1.440E-01	1.180E-01	7.346E-02	FAIL ABUN
BA-137M	-2.201E-02	3.977E-02	3.229E-02	2.029E-02	NOT IDENT.
CS-137	-2.327E-02	4.204E-02	3.413E-02	2.145E-02	NOT IDENT.
CE-139	-1.511E-04	3.355E-02	2.814E-02	1.712E-02	NOT IDENT.
BA-140	-1.611E-01	3.655E-01	2.847E-01	1.865E-01	NOT IDENT.
LA-140	-5.032E-02	1.292E-01	1.013E-01	6.591E-02	NOT IDENT.
CE-141	-1.499E-02	7.450E-02	6.251E-02	3.801E-02	NOT IDENT.
CE-143	5.894E+03	2.040E+03	0.000E+00	1.041E+03	SHORT HLIF
CE-144	-3.582E-02	2.186E-01	1.848E-01	1.115E-01	NOT IDENT.
PM-144	8.030E-03	3.592E-02	3.106E-02	1.833E-02	NOT IDENT.
PR-144	5.453E-01	2.439E+00	2.109E+00	1.244E+00	NOT IDENT.

PM-146	-1.197E-02	4.867E-02	3.974E-02	2.483E-02	NOT IDENT.
ND-147	-2.922E-01	8.343E-01	6.632E-01	4.257E-01	NOT IDENT.
PM-149	1.656E+01	3.339E+02	0.000E+00	1.703E+02	SHORT HLIF
EU-152	-1.466E-01	1.082E-01	8.282E-02	5.521E-02	FAIL ABUN
GD-153	-1.212E-01	9.877E-02	7.099E-02	5.039E-02	NOT IDENT.
EU-154	5.174E-02	1.459E-01	1.265E-01	7.443E-02	NOT IDENT.
EU-155	6.911E-02	1.110E-01	9.843E-02	5.662E-02	FAIL ABUN
TB-160	1.511E-02	1.505E-01	1.262E-01	7.676E-02	FAIL ABUN
HO-166M	1.099E-02	6.913E-02	5.929E-02	3.527E-02	FAIL ABUN
TM-171	6.547E+00	3.328E+01	2.688E+01	1.698E+01	NOT IDENT.
LU-176	-1.095E-02	2.633E-02	2.206E-02	1.343E-02	FAIL ABUN
LU-177	3.944E+00	2.779E+00	1.708E+00	1.418E+00	FAIL ABUN
LU-177M	-2.348E-01	2.050E-01	1.565E-01	1.046E-01	FAIL ABUN
HF-181	-5.733E-03	4.948E-02	4.059E-02	2.524E-02	NOT IDENT.
W-181	-9.696E-02	4.306E-01	3.405E-01	2.197E-01	NOT IDENT.
TA-182	4.631E-02	2.549E-01	2.176E-01	1.301E-01	FAIL ABUN
RE-183	-3.229E-02	1.299E-01	1.059E-01	6.626E-02	FAIL ABUN
RE-184	-1.393E-01	2.554E-01	2.163E-01	1.303E-01	NOT IDENT.
OS-185	-3.690E-02	4.822E-02	3.834E-02	2.460E-02	NOT IDENT.
RE-188	2.923E-01	1.946E-01	1.737E-01	9.930E-02	NOT IDENT.
W-188	4.476E+00	9.037E+00	7.140E+00	4.611E+00	FAIL ABUN
IR-192	-1.805E-03	3.816E-02	3.267E-02	1.947E-02	FAIL ABUN
AU-195	3.241E-01	2.475E-01	2.215E-01	1.263E-01	FAIL ABUN
TL-200	3.121E+03	6.163E+03	0.000E+00	3.144E+03	SHORT HLIF
TL-201	8.315E+00	1.835E+01	1.572E+01	9.361E+00	NOT IDENT.
TL-202	-1.087E-02	9.919E-02	8.219E-02	5.061E-02	NOT IDENT.
HG-203	8.270E-02	5.171E-02	4.343E-02	2.638E-02	NOT IDENT.
BI-207	-6.347E-03	5.797E-02	4.887E-02	2.958E-02	FAIL ABUN
TL-207	-5.048E-01	7.749E-01	6.341E-01	3.954E-01	FAIL ABUN
PO-209	-6.387E+00	8.895E+00	6.796E+00	4.538E+00	NOT IDENT.
BI-210	3.841E+00	6.515E+00	5.363E+00	3.324E+00	NOT IDENT.
PB-210	3.841E+00	6.515E+00	5.363E+00	3.324E+00	NOT IDENT.
PO-210	3.841E+00	6.514E+00	5.363E+00	3.323E+00	NOT IDENT.
PB-211	-1.390E+00	1.384E+00	8.327E-01	7.062E-01	NOT IDENT.
BI-212	1.161E+00	6.337E-01	3.482E-01	3.233E-01	FAIL ABUN
PO-215	-5.048E-01	7.749E-01	6.341E-01	3.954E-01	FAIL ABUN
RN-219	-4.877E-02	4.671E-01	3.904E-01	2.383E-01	NOT IDENT.
RN-220	-2.057E+01	2.912E+01	2.219E+01	1.486E+01	NOT IDENT.
RA-223	-5.048E-01	7.749E-01	6.341E-01	3.954E-01	FAIL ABUN
AC-227	2.379E-02	4.174E-01	3.653E-01	2.130E-01	NOT IDENT.
TH-227	2.379E-02	4.174E-01	3.653E-01	2.130E-01	FAIL ABUN
TH-229	4.774E-01	5.710E-01	4.918E-01	2.914E-01	FAIL ABUN
PA-231	-3.791E-01	1.591E+00	1.357E+00	8.116E-01	NOT IDENT.
TH-231	-5.048E-01	7.749E-01	6.341E-01	3.954E-01	FAIL ABUN
U-231	-1.282E+00	2.342E+00	1.770E+00	1.195E+00	FAIL ABUN
PA-233	-8.331E-03	6.806E-02	5.806E-02	3.473E-02	FAIL ABUN
PA-234	-1.590E-01	3.664E-01	2.871E-01	1.870E-01	FAIL ABUN
PA-234M	4.162E+00	6.243E+00	5.350E+00	3.185E+00	NOT IDENT.
U-235	-2.291E-02	2.477E-01	2.047E-01	1.264E-01	FAIL ABUN
NP-236	-5.452E-02	8.614E-02	7.004E-02	4.395E-02	NOT IDENT.
NP-239	-4.475E-02	1.991E-01	1.693E-01	1.016E-01	FAIL ABUN
AM-241	1.771E-01	1.992E-01	1.677E-01	1.016E-01	NOT IDENT.
CM-243	1.546E-03	9.591E-02	8.310E-02	4.893E-02	FAIL ABUN
AM-246	9.052E-02	1.515E-01	1.366E-01	7.732E-02	NOT IDENT.
CM-247	1.035E-02	4.166E-02	3.567E-02	2.126E-02	FAIL ABUN
CF-249	5.241E-02	4.405E-02	3.994E-02	2.247E-02	NOT IDENT.
CF-251	-6.075E-03	1.406E-01	1.172E-01	7.173E-02	NOT IDENT.

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

ENERGY MDA COUNTS

46.50	194.9258
46.50	194.9258
46.50	194.9258
48.70	243.7117
49.72	188.4268
51.35	215.8339
52.39	219.1096
52.97	210.2814
53.15	210.4066
53.44	198.8147
54.07	195.0055
56.28	232.1100
56.28	232.1121
57.37	0.0000
57.53	230.4705
57.53	230.4719
57.60	230.5213
57.98	229.5131
57.98	229.5131
59.32	215.0180
59.32	215.0180
59.40	215.0709
59.54	211.2980
59.72	211.4144
60.01	228.3747
61.10	251.1379
61.14	251.1682
61.30	251.2888
63.00	246.4885
63.29	246.6991
63.29	246.6991
63.58	256.9073
64.28	263.9672
65.12	246.2709
65.20	246.3280
65.20	246.3280
66.05	225.9140
66.72	256.6100
66.83	256.6918
66.91	255.4331
67.20	256.1704
67.20	256.1704
67.75	263.0774
67.85	272.8331
68.90	293.9342
68.90	293.9342
69.30	296.9104
69.67	268.0254
70.82	276.8546
70.82	276.8546
70.83	276.8625
72.80	278.3368
72.87	278.3876
72.87	278.3876
74.67	279.7174
74.81	279.8190
74.81	279.8190
74.81	279.8190
74.81	279.8190
74.81	279.8190
74.81	279.8190
74.81	279.8190
74.97	279.9364
75.28	280.1633
75.70	280.4696
77.11	281.4932
77.11	281.4932

77.11	281.4932
77.11	281.4932
77.11	281.4932
77.11	281.4932
77.11	281.4932
78.38	290.5520
79.62	280.5672
79.80	291.5936
79.80	291.5936
80.11	278.1841
80.18	278.2323
80.30	311.0595
80.30	311.0595
80.57	324.9203
81.00	351.2339
81.07	329.1508
81.07	329.1508
81.07	329.1508
81.07	329.1508
82.60	321.6115
83.37	285.9222
83.78	305.4736
83.78	305.4736
83.78	305.4736
83.78	305.4736
84.21	292.0160
84.90	303.5390
85.43	337.0805
86.29	385.7583
86.50	385.9518
86.54	370.2899
86.59	370.3327
86.72	370.4469
86.79	397.3008
86.94	397.4429
87.30	389.9188
87.30	389.9188
87.30	389.9188
87.30	389.9188
87.30	389.9188
87.30	389.9188
87.57	390.1653
87.88	0.0000
88.03	346.5694
88.36	303.2494
88.47	303.3276
89.95	346.2543
91.11	351.3755
92.29	327.5215
92.38	327.5874
92.38	327.5874
93.35	328.3030
94.00	328.7819
94.67	231.4283
94.67	231.4308
94.90	238.6091
94.90	238.6091
94.90	238.6091
94.90	238.6091
95.87	273.0790
95.87	273.0790
96.73	293.4421
97.43	292.4685
98.44	216.2746
98.44	216.2746
98.88	209.8335
99.55	212.0376
99.55	212.0376
99.86	221.6930
100.00	221.7593
100.10	236.0887
103.18	234.7505
103.76	219.6866
105.00	210.6324
105.31	224.2409
108.00	242.8932
109.28	229.9373

111.00	253.1168
111.00	253.1168
111.76	224.2479
112.95	239.4323
115.19	237.5319
116.30	247.8754
117.00	237.3729
117.00	237.3729
117.66	234.7122
121.11	239.2177
121.62	243.4187
121.78	238.5217
122.06	238.6450
122.32	235.7753
122.32	235.7753
122.32	235.7753
122.32	235.7753
123.07	234.1095
127.23	242.9121
129.76	240.9839
131.20	256.7595
133.02	233.2381
133.54	236.4937
135.34	250.4644
136.00	239.5373
136.25	218.2243
136.48	218.3103
140.51	275.2627
140.51	0.0000
142.18	231.7406
142.65	226.7654
143.76	252.9977
144.24	235.6260
144.24	235.6260
144.24	235.6260
144.24	235.6260
145.22	252.5657
145.44	252.6576
147.16	254.4008
152.43	238.7432
152.70	230.4647
153.22	248.4758
154.21	224.7083
154.21	224.7083
154.21	224.7083
154.21	224.7083
155.03	199.7625
156.02	236.9247
158.56	211.4217
159.00	0.0000
159.00	207.3329
160.31	233.1838
161.27	230.3374
162.32	219.0070
162.64	222.3027
163.35	206.5670
163.89	214.1943
165.85	225.5054
167.43	199.2484
171.28	210.0618
171.86	207.0039
172.10	207.0742
176.55	215.9882
176.60	216.0024
181.06	208.0668
184.41	215.6115
185.71	213.2433
186.00	207.8300
190.27	226.9424
192.34	217.3637
193.63	192.1823
197.04	213.1263
198.01	201.1047
198.60	197.9024
200.40	0.0000
201.83	211.0735
202.84	239.4495
205.31	223.2838

208.36	235.4557
208.81	235.5890
209.75	185.4011
209.75	185.4011
210.97	165.2386
215.65	185.0334
216.55	168.0831
218.09	197.0343
222.10	178.4115
223.80	162.6225
226.40	180.4718
227.00	185.2295
227.08	185.2474
227.20	185.2718
228.16	166.9307
228.18	166.9351
228.18	166.9351
231.56	0.0000
235.69	204.8598
236.00	202.1256
236.00	202.1256
238.63	166.2979
238.63	166.2979
238.63	166.2979
238.63	166.2979
239.00	0.0000
240.98	166.7348
241.98	166.9193
241.98	166.9193
241.98	166.9193
244.69	138.8963
245.39	151.7697
247.94	153.4120
248.90	138.8256
249.79	0.0000
252.40	165.2554
252.85	164.4421
252.85	164.4421
254.15	0.0000
256.20	157.8564
256.20	157.8564
260.50	155.8705
260.90	0.0000
262.80	155.3422
264.65	136.0957
268.24	158.0353
268.79	158.1229
269.46	158.2318
269.46	158.2318
269.46	158.2318
269.46	158.2318
271.23	155.9650
273.65	142.4676
276.40	161.1758
277.35	149.4125
277.60	141.1980
277.60	141.1980
278.00	132.0820
278.60	118.9450
279.20	111.6695
279.53	113.1765
280.46	108.8664
281.68	0.0000
283.67	130.0575
284.30	134.7542
285.00	123.7623
285.90	0.0000
286.10	129.4427
286.10	129.4427
287.40	146.2710
288.45	0.0000
290.67	121.8449
290.80	123.3470
291.72	129.4040
293.26	0.0000
293.70	150.5137
295.21	150.1710
295.21	150.1710

295.21	150.1710
295.96	185.1887
296.50	194.2478
297.23	0.0000
298.57	136.2401
299.80	133.4000
299.80	133.4000
300.09	149.9292
300.09	149.9292
300.09	149.9292
300.09	149.9292
300.12	149.9316
301.29	151.1698
302.84	161.5886
303.76	0.0000
303.91	112.8479
304.40	116.6625
304.40	116.6625
304.84	108.2389
306.84	125.4140
308.46	129.3782
311.98	117.4780
316.51	115.1084
318.01	131.4576
319.02	116.3203
319.41	124.9453
320.08	125.0193
323.87	151.2977
323.87	151.2977
323.87	151.2977
323.87	151.2977
325.23	152.4373
328.77	120.2145
333.44	115.8746
334.20	132.9557
334.20	132.9557
334.30	132.9683
338.28	125.6667
338.28	125.6667
338.28	125.6667
338.28	125.6667
338.32	125.6706
338.32	125.6706
338.32	125.6706
340.50	122.7952
340.57	129.0208
344.27	134.4940
345.85	101.4927
350.59	0.0000
351.07	114.6774
351.92	114.7577
351.92	114.7577
351.92	114.7577
355.39	0.0000
356.01	91.3288
364.48	111.9775
366.43	109.1759
367.43	92.3770
367.94	0.0000
369.80	108.4744
374.96	105.9207
383.85	112.6956
387.95	81.7614
388.63	102.0025
391.69	108.3143
391.69	108.3143
392.90	122.5989
398.62	108.8825
400.65	100.8958
401.10	100.9291
401.81	104.0435
402.60	97.9805
404.84	127.7905
410.95	101.6670
411.60	119.1825
413.65	116.2726
414.70	82.3804
415.30	75.2044

415.76	77.2911
417.63	0.0000
418.52	107.3912
423.70	95.3537
427.08	83.1165
427.89	89.4014
432.53	100.1235
433.93	86.6500
439.47	0.0000
439.56	92.2318
439.89	87.0109
443.98	72.5397
444.90	79.9487
445.03	79.9556
445.03	79.9556
445.03	79.9556
445.03	79.9556
453.90	86.7909
463.38	98.8478
468.07	92.3168
473.00	82.5404
475.06	80.5046
475.35	86.9610
476.78	83.8188
477.59	77.4119
477.96	74.2043
482.03	75.4773
484.57	0.0000
487.03	77.8832
490.36	0.0000
492.35	0.0000
497.08	83.8240
507.63	0.0000
510.53	0.0000
510.84	81.2497
511.00	81.2570
511.85	93.1654
511.85	93.1654
513.99	73.9250
513.99	73.9250
520.41	76.2015
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	69.9637
529.87	0.0000
531.02	78.9130
537.32	75.8608
543.00	73.8754
546.56	0.0000
549.76	75.2891
552.65	60.3327
555.20	61.3229
563.23	61.6034
563.90	59.8157
568.70	79.9691
569.32	78.1790
569.50	78.1874
569.67	73.6495
573.80	85.6671
574.00	85.6763
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	61.0726
585.48	0.0000
591.81	62.5896
592.07	64.4407
593.00	59.8679
595.88	67.3414
600.56	73.9844
602.52	0.0000
602.71	54.0096
602.71	54.0096
603.60	74.1055
604.41	89.5842
604.70	95.7776
609.31	53.8907

609.31	53.8907
609.31	53.8907
609.31	53.8907
610.33	53.9205
612.46	76.0082
614.37	62.1094
618.01	60.6733
621.84	58.9241
621.84	58.9241
631.29	68.6139
633.02	60.2078
633.10	60.2109
634.78	59.3209
635.90	59.3547
636.97	66.9300
645.85	71.0211
646.12	71.0303
656.30	70.4427
657.75	66.6829
657.90	0.0000
661.65	74.4485
661.65	74.4485
664.57	0.0000
666.33	51.6612
666.33	51.6612
675.00	57.6460
677.61	68.3011
685.20	73.3819
692.80	70.7419
695.00	48.5046
696.49	55.3343
696.49	55.3343
697.00	56.3192
697.49	67.9868
698.33	70.9291
698.50	68.9910
699.00	69.0083
702.63	56.4693
706.10	65.3381
706.58	0.0000
706.67	64.3806
709.31	67.3912
711.68	63.5543
713.82	51.8730
717.42	71.5671
720.50	64.5174
721.93	0.0000
722.20	55.6775
722.78	57.3307
722.78	57.3307
722.89	57.3336
722.95	57.3350
723.30	57.3450
724.18	75.3976
727.18	54.1648
733.00	64.1827
735.90	64.2684
739.58	55.4613
742.81	59.5107
744.21	57.5625
747.13	53.6638
751.79	59.7510
752.31	56.7760
753.82	51.8312
755.35	0.0000
756.15	56.8734
756.87	57.8896
763.93	87.1062
765.79	70.1418
766.42	61.8097
766.84	66.8327
776.49	35.2358
778.00	52.0489
778.57	53.2611
778.89	54.1686
783.80	46.4571
785.46	45.4790
792.07	62.8386

795.84	43.6519
796.30	45.6910
798.80	71.1501
801.93	63.1020
805.60	60.1423
810.29	59.2390
810.76	58.2288
815.85	45.0452
817.79	0.0000
818.51	58.4180
819.60	57.4191
826.30	62.7201
828.27	0.0000
831.60	53.5831
831.96	58.7437
834.83	68.0996
836.80	0.0000
846.75	63.2458
848.13	46.6831
856.28	0.0000
856.80	62.4609
860.37	55.2528
867.32	37.6339
867.82	36.5953
871.10	50.2535
873.19	45.0555
874.81	47.1819
875.33	0.0000
876.40	37.7684
879.36	38.8626
880.27	37.8264
880.51	31.5249
881.50	40.9976
883.24	45.2340
884.67	41.0490
889.25	44.2846
896.60	59.2143
898.02	49.7252
899.00	44.4517
903.28	46.9476
911.07	37.2148
911.07	37.2148
911.07	37.2148
919.63	37.3353
920.93	40.5550
925.00	45.9615
925.24	45.9657
926.50	44.9183
935.52	45.0700
937.48	53.6938
944.10	48.4420
946.00	56.0168
949.00	36.6670
962.29	55.9907
964.01	48.7958
966.15	48.8342
968.20	48.8705
969.11	39.8329
969.11	39.8329
969.11	39.8329
977.42	43.5840
980.50	39.2687
983.50	42.5867
989.30	44.8628
996.32	72.3986
1001.03	50.5427
1001.68	46.1580
1004.76	63.2612
1021.30	0.0000
1024.50	0.0000
1034.80	39.8348
1036.00	36.1436
1037.82	36.1658
1038.57	39.8856
1038.76	0.0000
1045.16	39.0452
1046.59	41.8542
1048.07	45.5986

1050.47	37.2526
1050.47	37.2526
1062.04	32.7228
1063.62	44.9004
1076.63	37.5781
1077.35	37.5879
1078.86	34.7854
1085.78	41.4613
1099.22	47.3206
1112.02	37.0640
1112.84	30.9625
1115.52	30.9890
1120.29	49.5477
1120.29	49.5477
1120.29	49.5477
1120.29	49.5477
1120.51	49.5519
1121.28	39.2160
1124.00	0.0000
1129.67	56.3856
1131.51	0.0000
1147.95	0.0000
1167.94	51.2596
1173.22	52.3125
1175.09	52.3411
1177.93	54.3275
1189.05	49.6449
1204.90	65.5306
1205.75	0.0000
1213.00	75.4930
1221.42	64.8721
1230.97	61.1120
1235.34	63.1641
1236.41	0.0000
1238.25	52.3509
1246.25	60.3944
1260.41	0.0000
1271.85	29.9219
1274.45	39.9251
1274.54	39.9268
1291.56	26.0783
1298.22	0.0000
1312.09	25.2197
1325.50	23.2882
1325.50	23.2882
1332.49	24.3477
1333.61	25.3703
1360.21	21.4657
1362.66	0.0000
1365.15	21.4939
1368.21	14.7510
1368.53	0.0000
1376.25	14.0787
1384.27	17.6360
1394.10	21.6605
1395.20	27.8569
1407.95	31.0559
1434.06	21.8870
1436.60	25.0303
1457.56	0.0000
1460.81	30.4325
1489.15	13.7395
1509.49	14.8710
1596.49	24.0288
1620.62	13.0894
1678.03	0.0000
1691.02	12.3503
1691.02	12.3503
1706.46	0.0000
1750.46	0.0000
1764.49	14.4810
1764.49	14.4810
1764.49	14.4810
1764.49	14.4810
1770.23	10.1492
1771.40	11.8437
1791.20	0.0000
1808.65	4.8725

1836.01

8.8208

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107010

Total Uranium Activity	6.3962E+00	ug/g
Total Uranium Counting Unc.	7.6414E+00	ug/g
Total Uranium Tpu	3.8987E-06	ug/g
Total Uranium Mda	3.7216E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 944038                SAMPLE ID   : G245107010                *
*  ANALYST       : MXR1                  DETECTOR    : GAM02                  *
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00        *
*  ANALYSIS DATE : 1-FEB-2010 13:28:42.86  SAMPLE ALQT: 114.830 GRAM          *
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.350E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.451E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.481E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.675E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:53:04.05

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107011.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:29:10.
Sample ID          : G245107011      Sample quantity   : 1.25930E+02 GRAM
Detector name      : GAM06            Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00    Elapsed real time: 0 02:00:01.19  0.0%
Energy tolerance   : 1.50000 keV      Analyst Initials : MXR1
Abundance limit    : 75.00000         Sensitivity      : 5.00000
Batch ID           : 944038            Detector SN#     :
Matrix Spike ID    :                   LCS ID          : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.47*	56	448	1.13	126.94	123	8	7.71E-03	68.8	
2	1	74.59	346	424	1.38	149.18	143	17	4.81E-02	11.6	3.05E+00
3	1	76.87	532	351	1.19	153.75	143	17	7.38E-02	7.5	
4	0	87.38	102	580	1.38	174.76	169	9	1.42E-02	43.9	
5	3	89.75	141	208	1.03	179.51	177	13	1.96E-02	16.2	1.22E+00
6	3	92.53*	358	376	1.25	185.07	177	13	4.97E-02	11.3	
7	0	185.77*	197	388	1.10	371.54	366	12	2.74E-02	21.8	
8	0	209.07	127	197	1.34	418.15	414	8	1.77E-02	21.1	
9	3	238.43*	1020	152	1.17	476.86	469	20	1.42E-01	3.8	9.75E-01
10	3	241.30	282	209	1.79	482.61	469	20	3.92E-02	15.1	
11	0	270.09	111	189	1.89	540.18	535	11	1.54E-02	26.0	
12	0	295.07*	336	190	1.24	590.15	585	12	4.67E-02	10.0	
13	0	338.07*	173	173	1.28	676.14	672	11	2.41E-02	16.9	
14	0	351.61*	563	175	1.32	703.21	697	14	7.82E-02	6.6	
15	0	462.56	64	117	1.49	925.12	919	12	8.92E-03	35.9	
16	0	510.53*	111	123	1.80	1021.07	1012	19	1.54E-02	28.7	
17	0	582.76*	311	82	1.32	1165.52	1158	13	4.32E-02	8.4	
18	0	609.06*	402	82	1.40	1218.11	1211	15	5.58E-02	7.2	
19	4	661.45	332	40	1.53	1322.90	1314	25	4.61E-02	6.4	1.21E+00
20	4	665.45	42	27	2.60	1330.89	1314	25	5.85E-03	55.7	
21	0	726.70	78	68	1.47	1453.41	1445	16	1.08E-02	26.2	
22	0	861.07*	31	60	2.26	1722.14	1714	14	4.25E-03	58.6	
23	0	911.01*	199	62	1.71	1822.03	1813	19	2.76E-02	12.1	
24	0	968.86*	116	43	1.77	1937.72	1932	12	1.61E-02	15.1	
25	0	1001.39	40	32	3.85	2002.79	1995	15	5.53E-03	35.4	
26	3	1119.91	86	28	2.27	2239.82	2233	26	1.19E-02	17.2	3.42E+00
27	3	1123.30	34	14	2.21	2246.60	2233	26	4.70E-03	38.0	
28	0	1460.54*	730	11	2.20	2921.08	2913	15	1.01E-01	3.9	
29	0	1495.00	13	3	0.73	2990.00	2982	13	1.75E-03	40.8	
30	0	1764.86*	71	14	2.16	3529.71	3524	11	9.84E-03	16.1	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:53:07

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107011.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:29:10
Sample ID         : G245107011 Sample quantity : 125.93 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA6 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.19 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	*	2.118E+01	2.155E+00	6.602E-01	4.367E-02	32.088
CD-109	+	88.03	*	1.625E+00	1.435E+00	1.486E+00	1.467E-01	1.094
SN-126	+	64.28		6.211E-01	8.603E-01	1.018E+00	1.567E-01	0.610
	+	86.94		6.602E-01	6.412E-01	7.830E-01	3.259E-01	0.843
	+	87.57	*	1.588E-01	1.402E-01	1.459E-01	1.436E-02	1.088
BA-137M	+	661.65	*	5.679E-01	7.757E-02	5.857E-02	2.893E-03	9.696
CS-137	+	661.65	*	6.004E-01	8.206E-02	6.192E-02	3.076E-03	9.696
TL-208		277.35		4.059E-01	4.461E-01	7.441E-01	7.925E-02	0.545
	+	510.84		6.353E-01	3.706E-01	2.393E-01	2.402E-02	2.654
	+	583.14	*	5.097E-01	9.130E-02	6.647E-02	4.201E-03	7.669
	+	860.37		4.761E-01	5.589E-01	5.563E-01	4.254E-02	0.856
BI-211		72.87		1.272E+01	4.394E+00	6.981E+00	6.268E-01	1.821
	+	351.07	*	3.997E+00	5.882E-01	3.542E-01	2.286E-02	11.284
PB-212	+	74.81		2.355E+00	6.251E-01	6.352E-01	8.258E-02	3.707
	+	77.11		2.035E+00	3.572E-01	3.583E-01	3.271E-02	5.681
	+	87.30		7.345E-01	6.526E-01	8.674E-01	1.216E-01	0.847
	+	238.63	*	1.560E+00	1.651E-01	1.009E-01	7.440E-03	15.461
		300.09		7.577E-01	1.012E+00	1.557E+00	1.303E-01	0.487
PO-212	+	74.81		2.355E+00	6.251E-01	6.352E-01	8.258E-02	3.707
	+	77.11		2.035E+00	3.572E-01	3.583E-01	3.271E-02	5.681
	+	87.30		7.345E-01	6.526E-01	8.674E-01	1.216E-01	0.847
		115.19		2.369E+00	4.037E+00	6.802E+00	4.489E-01	0.348
	+	238.63	*	1.560E+00	1.651E-01	1.009E-01	7.440E-03	15.461
		300.09		7.577E-01	1.012E+00	1.557E+00	1.303E-01	0.487
BI-214	+	609.31	*	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
	+	1120.29		1.398E+00	4.966E-01	4.739E-01	4.329E-02	2.951
	+	1764.49		1.591E+00	5.205E-01	3.559E-01	2.084E-02	4.469
PB-214	+	74.81		4.057E+00	1.052E+00	1.095E+00	1.279E-01	3.707
	+	77.11		3.489E+00	6.675E-01	6.142E-01	7.303E-02	5.681
	+	87.30		1.258E+00	1.115E+00	1.486E+00	1.855E-01	0.847
	+	241.98		2.593E+00	8.092E-01	6.079E-01	4.932E-02	4.267
	+	295.21		1.403E+00	3.062E-01	2.593E-01	2.242E-02	5.410
	+	351.92	*	1.390E+00	2.171E-01	1.235E-01	1.025E-02	11.260
PO-214	+	74.81		4.057E+00	1.052E+00	1.095E+00	1.279E-01	3.707

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	77.11		3.489E+00	6.675E-01	6.142E-01	7.303E-02	5.681
	+	87.30		1.258E+00	1.115E+00	1.486E+00	1.855E-01	0.847
	+	241.98		2.593E+00	8.092E-01	6.079E-01	4.932E-02	4.267
	+	295.21		1.403E+00	3.062E-01	2.593E-01	2.242E-02	5.410
	+	351.92	*	1.390E+00	2.171E-01	1.235E-01	1.025E-02	11.260
	+	74.81		2.355E+00	6.251E-01	6.352E-01	8.258E-02	3.707
	+	77.11		2.035E+00	3.572E-01	3.583E-01	3.271E-02	5.681
	+	87.30		7.345E-01	6.526E-01	8.674E-01	1.216E-01	0.847
PO-218	+	238.63	*	1.560E+00	1.651E-01	1.009E-01	7.440E-03	15.461
	+	300.09		7.577E-01	1.012E+00	1.557E+00	1.303E-01	0.487
	+	74.81		4.057E+00	1.052E+00	1.095E+00	1.279E-01	3.707
	+	77.11		3.489E+00	6.675E-01	6.142E-01	7.303E-02	5.681
	+	87.30		1.258E+00	1.115E+00	1.486E+00	1.855E-01	0.847
	+	241.98		2.593E+00	8.092E-01	6.079E-01	4.932E-02	4.267
	+	295.21		1.403E+00	3.062E-01	2.593E-01	2.242E-02	5.410
	+	351.92	*	1.390E+00	2.171E-01	1.235E-01	1.025E-02	11.260
RA-224	+	240.98	*	4.918E+00	1.509E+00	1.149E+00	6.732E-02	4.281
RA-226	+	609.31	*	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
AC-228	+	1120.29		1.398E+00	4.966E-01	4.739E-01	4.329E-02	2.951
	+	1764.49		1.591E+00	5.205E-01	3.559E-01	2.084E-02	4.469
	+	338.32		1.356E+00	7.177E-01	4.735E-01	1.931E-01	2.864
	+	911.07	*	1.462E+00	3.834E-01	2.242E-01	2.291E-02	6.520
RA-228	+	969.11		1.509E+00	5.709E-01	4.972E-01	1.134E-01	3.035
	+	338.32		1.356E+00	7.177E-01	4.735E-01	1.931E-01	2.864
	+	911.07	*	1.462E+00	3.834E-01	2.242E-01	2.291E-02	6.520
	+	969.11		1.509E+00	5.709E-01	4.972E-01	1.134E-01	3.035
TH-228	+	74.81		2.400E+00	5.969E-01	6.474E-01	5.895E-02	3.707
	+	77.11		2.074E+00	3.640E-01	3.651E-01	3.334E-02	5.681
	+	87.30		7.486E-01	6.609E-01	8.840E-01	8.679E-02	0.847
	+	238.63	*	1.590E+00	1.683E-01	1.029E-01	7.582E-03	15.461
TH-230	+	300.09		7.722E-01	1.125E+00	1.586E+00	9.353E-01	0.487
	+	609.31	*	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
	+	1120.29		1.398E+00	4.966E-01	4.739E-01	4.328E-02	2.951
	+	1764.49		1.591E+00	5.204E-01	3.559E-01	2.084E-02	4.469
TH-232	+	338.32		1.356E+00	4.642E-01	4.735E-01	2.785E-02	2.864
	+	911.07	*	1.462E+00	3.834E-01	2.242E-01	2.291E-02	6.520
	+	969.11		1.509E+00	5.709E-01	4.972E-01	1.134E-01	3.035
	+	63.29	*	1.569E+00	2.179E+00	2.664E+00	4.843E-01	0.589
U-234	+	92.38		3.614E+00	1.052E+00	8.822E-01	1.615E-01	4.096
	+	609.31	*	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
	+	1120.29		1.398E+00	4.966E-01	4.739E-01	4.328E-02	2.951
	+	1764.49		1.591E+00	5.204E-01	3.559E-01	2.084E-02	4.469
NP-237	+	86.50	*	4.664E-01	4.228E-01	4.792E-01	1.094E-01	0.973
	+	95.87		-1.085E-01	1.214E+00	1.758E+00	4.328E-01	-0.062
U-238	+	63.29	*	1.569E+00	2.179E+00	2.664E+00	4.843E-01	0.589
	+	92.38		3.614E+00	8.818E-01	8.822E-01	8.020E-02	4.096
AM-243	+	74.67	*	3.817E-01	9.485E-02	1.033E-01	9.333E-03	3.694
	+	86.72		1.749E+01	1.544E+01	1.792E+01	1.750E+00	0.976
	+	117.66		-3.077E+00	4.257E+00	6.787E+00	4.351E-01	-0.453

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		142.18		-2.500E+00	2.060E+01	3.303E+01	1.886E+00	-0.076
ANH-511	+	511.00	*	1.372E-01	7.922E-02	5.171E-02	2.891E-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	*	2.486E-01	3.676E-01	6.212E-01	4.103E-02	0.400
NA-22		1274.54	*	-2.162E-02	4.906E-02	7.564E-02	4.671E-03	-0.286
NA-24		1368.53	*	-3.080E-01	4.906E-02	Half-Life too short		
AL-26		1129.67		-4.541E-01	2.015E+00	2.730E+00	1.700E-01	-0.166
		1808.65	*	-6.584E-03	2.252E-02	3.367E-02	1.934E-03	-0.196
TI-44		67.85		-2.502E-02	6.751E-02	9.072E-02	8.096E-03	-0.276
		78.38	*	2.563E-01	5.590E-02	8.832E-02	8.119E-03	2.902
SC-46		889.25	*	-2.190E-02	4.163E-02	6.530E-02	4.681E-03	-0.335
	+	1120.51		2.473E-01	8.628E-02	1.507E-01	9.477E-03	1.641
V-48		944.10		-1.414E+00	1.124E+00	1.588E+00	1.133E-01	-0.890
		983.50	*	5.054E-03	8.259E-02	1.378E-01	9.647E-03	0.037
		1312.09		-1.822E-02	1.095E-01	1.742E-01	1.087E-02	-0.105
CR-51		320.08	*	8.748E-02	4.713E-01	7.983E-01	5.259E-02	0.110
MN-52		744.21		-3.972E-01	4.423E-01	6.433E-01	3.669E-02	-0.617
		848.13		-1.238E+01	1.208E+01	1.805E+01	1.216E+00	-0.686
		935.52		7.620E-01	4.572E-01	8.712E-01	6.242E-02	0.875
		1246.25		-2.029E-01	1.345E+01	2.191E+01	1.336E+00	-0.009
		1333.61		-2.755E+00	8.291E+00	1.277E+01	8.020E-01	-0.216
		1434.06	*	2.425E-01	4.040E-01	7.171E-01	4.513E-02	0.338
MN-54		834.83	*	2.179E-03	4.346E-02	7.298E-02	4.817E-03	0.030
CO-56		846.75	*	-2.934E-02	4.344E-02	6.756E-02	4.542E-03	-0.434
		977.42		8.812E-02	3.079E+00	5.010E+00	3.519E-01	0.018
		1037.82		-3.667E-02	3.379E-01	5.509E-01	4.044E-02	-0.067
		1175.09		2.075E+00	2.715E+00	4.770E+00	2.824E-01	0.435
		1238.25		1.117E-01	1.005E-01	1.805E-01	1.160E-02	0.619
		1360.21		-2.146E-01	1.026E+00	1.606E+00	1.011E-01	-0.134
		1771.40		-1.611E+00	4.769E-01	3.674E-01	2.145E-02	-4.384
CO-57		122.06	*	2.837E-03	2.833E-02	4.679E-02	2.858E-03	0.061
		136.48		-4.656E-03	2.546E-01	4.127E-01	2.773E-02	-0.011
CO-58		810.76	*	-2.938E-02	4.405E-02	6.894E-02	4.401E-03	-0.426
FE-59		142.65		-5.416E-01	3.378E+00	5.409E+00	3.085E-01	-0.100
		192.34		1.348E-01	1.262E+00	1.899E+00	2.223E-01	0.071
		1099.22	*	-9.290E-02	1.067E-01	1.579E-01	1.158E-02	-0.588
		1291.56		-5.501E-02	1.456E-01	2.256E-01	1.745E-02	-0.244
CO-60		1173.22		-6.155E-03	5.418E-02	8.778E-02	5.193E-03	-0.070
		1332.49	*	-1.183E-02	4.155E-02	6.464E-02	4.060E-03	-0.183
ZN-65		1115.52	*	1.804E-03	1.146E-01	1.621E-01	1.026E-02	0.011
GE-68		1077.35	*	4.200E-01	1.424E+00	2.416E+00	1.584E-01	0.174
AS-73		53.44	*	-2.094E-01	1.177E+00	1.965E+00	1.797E-01	-0.107
AS-74		595.88	*	-8.846E-03	1.282E-01	2.076E-01	1.104E-02	-0.043
		634.78		3.172E-01	4.826E-01	8.270E-01	4.227E-02	0.384
SE-75		66.05		-1.510E+00	6.651E+00	9.687E+00	1.037E+00	-0.156

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		96.73		-5.170E-01	1.037E+00	1.466E+00	1.982E-01	-0.353
		121.11		-2.905E-02	1.531E-01	2.498E-01	2.364E-02	-0.116
		136.00		-1.695E-02	4.909E-02	7.854E-02	4.629E-03	-0.216
		198.60		-1.051E+00	2.273E+00	3.533E+00	2.466E-01	-0.298
		264.65	*	2.566E-02	6.172E-02	8.875E-02	5.324E-03	0.289
		279.53		4.699E-02	1.256E-01	2.156E-01	1.385E-02	0.218
		303.91		-5.818E-01	2.519E+00	4.183E+00	4.034E-01	-0.139
		400.65		2.811E-01	3.216E-01	5.596E-01	5.013E-02	0.502
BR-77	+	87.88		1.103E-03	3.216E-01	Half-Life	too short	
		200.40		-1.138E-04	3.216E-01	Half-Life	too short	
	+	239.00		7.918E-04	3.216E-01	Half-Life	too short	
		249.79		-2.537E-05	3.216E-01	Half-Life	too short	
		281.68		-4.041E-04	3.216E-01	Half-Life	too short	
		297.23		6.180E-04	3.216E-01	Half-Life	too short	
		303.76		-1.421E-04	3.216E-01	Half-Life	too short	
		439.47		-7.703E-05	3.216E-01	Half-Life	too short	
		484.57		-7.325E-05	3.216E-01	Half-Life	too short	
		520.65	*	-2.632E-05	3.216E-01	Half-Life	too short	
		574.64		-2.967E-04	3.216E-01	Half-Life	too short	
		578.91		2.573E-04	3.216E-01	Half-Life	too short	
		585.48		2.813E-03	3.216E-01	Half-Life	too short	
		755.35		6.332E-04	3.216E-01	Half-Life	too short	
		817.79		5.225E-04	3.216E-01	Half-Life	too short	
SR-82		698.33		-2.034E-01	4.289E+01	6.919E+01	3.648E+00	-0.003
		776.49	*	-1.215E-01	4.251E-01	6.938E-01	4.173E-02	-0.175
		1395.20		-1.401E+01	1.334E+01	1.761E+01	1.109E+00	-0.796
RB-83		520.41	*	-5.684E-02	8.396E-02	1.302E-01	7.256E-03	-0.436
		529.64		-5.819E-02	1.288E-01	2.035E-01	1.130E-02	-0.286
		552.65		4.097E-02	2.359E-01	3.909E-01	2.145E-02	0.105
RB-84		881.50	*	-5.091E-02	8.024E-02	1.246E-01	8.825E-03	-0.409
KR-85		513.99	*	5.321E-01	9.415E+00	1.345E+01	7.511E-01	0.040
SR-85		513.99	*	2.844E-03	5.032E-02	7.187E-02	4.014E-03	0.040
RB-86		1076.63	*	-2.241E-01	1.082E+00	1.744E+00	1.144E-01	-0.129
Y-88		898.02		6.580E-03	5.194E-02	8.633E-02	6.312E-03	0.076
		1836.01	*	-2.743E-02	4.401E-02	6.379E-02	3.625E-03	-0.430
ZR-88		392.90	*	1.012E-02	3.660E-02	6.188E-02	3.434E-03	0.164
Y-91		1204.90	*	8.272E+00	2.178E+01	3.699E+01	2.219E+00	0.224
NB-94		702.63	*	-4.544E-02	4.073E-02	5.897E-02	3.132E-03	-0.771
		871.10		-3.226E-02	3.793E-02	5.767E-02	4.023E-03	-0.559
NB-95		765.79	*	6.319E-02	5.583E-02	9.763E-02	5.771E-03	0.647
NB-95M		235.69	*	4.889E-01	1.939E-01	3.059E-01	2.312E-02	1.598
ZR-95		724.18		3.948E-02	1.455E-01	2.082E-01	1.378E-02	0.190
		756.15	*	4.442E-02	8.151E-02	1.380E-01	9.726E-03	0.322
NB-97		657.90	*	8.240E+00	8.151E-02	Half-Life	too short	
		1024.50		-2.912E+02	8.151E-02	Half-Life	too short	
ZR-97		254.15		-4.125E+01	8.151E-02	Half-Life	too short	
		355.39		2.032E+01	8.151E-02	Half-Life	too short	
		507.63	*	3.427E+02	8.151E-02	Half-Life	too short	
		602.52		4.125E+01	8.151E-02	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1021.30			-1.819E+02	8.151E-02	Half-Life	too short	
	1147.95			8.499E+01	8.151E-02	Half-Life	too short	
	1362.66			-1.873E+01	8.151E-02	Half-Life	too short	
	1750.46			6.192E+01	8.151E-02	Half-Life	too short	
MO-99	140.51			-2.736E+01	8.361E+01	1.334E+02	3.594E+01	-0.205
	181.06			-6.208E+00	6.207E+01	8.752E+01	1.492E+01	-0.071
	366.43			-1.492E+02	2.552E+02	4.092E+02	2.348E+01	-0.365
	739.58	*		4.785E+01	3.431E+01	6.175E+01	8.473E+00	0.775
	778.00			-2.414E+01	9.814E+01	1.610E+02	9.712E+00	-0.150
TC-99M	140.51	*		-7.984E+14	9.814E+01	Half-Life	too short	
RH-101	127.23			-1.814E-02	3.810E-02	6.138E-02	3.665E-03	-0.296
	198.01	*		-1.984E-02	4.103E-02	6.375E-02	3.581E-03	-0.311
	325.23			-9.321E-02	2.681E-01	4.412E-01	2.615E-02	-0.211
RH-102	418.52			1.739E-01	3.366E-01	5.762E-01	3.228E-02	0.302
	475.06	*		-4.440E-02	3.420E-02	5.061E-02	2.850E-03	-0.877
	631.29			3.927E-02	6.419E-02	1.096E-01	5.623E-03	0.358
	697.49			6.137E-02	8.463E-02	1.455E-01	7.659E-03	0.422
	766.84			2.060E-01	1.376E-01	2.460E-01	1.457E-02	0.837
	1046.59			-5.086E-02	1.238E-01	1.948E-01	1.309E-02	-0.261
	1112.84			6.331E-02	2.816E-01	4.113E-01	2.607E-02	0.154
RU-103	497.08	*		1.820E-03	4.656E-02	7.677E-02	9.642E-03	0.024
	610.33	+		1.440E+01	3.008E+00	3.567E+00	5.429E-01	4.036
RH-106	511.85	+		6.905E-01	3.986E-01	4.889E-01	2.732E-02	1.412
	621.84	*		-1.463E-01	3.582E-01	5.593E-01	6.401E-02	-0.262
	1050.47			-1.558E-01	2.682E+00	4.398E+00	2.947E-01	-0.035
RU-106	511.85	+		6.905E-01	3.986E-01	4.889E-01	2.732E-02	1.412
	621.84	*		-1.463E-01	3.579E-01	5.593E-01	2.900E-02	-0.262
	1050.47			-1.558E-01	2.682E+00	4.398E+00	2.947E-01	-0.035
AG-108M	433.93	*		3.099E-02	4.139E-02	7.155E-02	4.388E-03	0.433
	614.37			-9.677E-03	5.160E-02	7.079E-02	4.082E-03	-0.137
	722.95			-9.252E-03	5.549E-02	7.530E-02	4.530E-03	-0.123
AG-110M	657.75	*		4.405E-02	4.806E-02	7.441E-02	4.017E-03	0.592
	677.61			-2.561E-01	3.570E-01	5.244E-01	2.876E-02	-0.488
	706.67			4.510E-02	2.539E-01	4.158E-01	2.380E-02	0.108
	763.93			-1.244E-01	2.116E-01	3.220E-01	2.010E-02	-0.386
	884.67			7.217E-03	5.035E-02	8.520E-02	6.349E-03	0.085
	937.48			-8.123E-02	1.257E-01	1.947E-01	1.466E-02	-0.417
	1384.27			-8.501E-02	1.938E-01	2.940E-01	1.948E-02	-0.289
IN-111	171.28			-5.578E-01	3.078E+00	4.965E+00	2.699E-01	-0.112
	245.39	*		-4.388E-01	3.524E+00	4.879E+00	2.869E-01	-0.090
IN-113M	391.69	*		-1.639E-02	5.075E-02	8.255E-02	4.912E-03	-0.199
SN-113	391.69	*		-1.639E-02	5.075E-02	8.255E-02	4.912E-03	-0.199
IN-114M	190.27	*		-1.104E-01	2.591E-01	3.568E-01	1.986E-02	-0.309
CD-115	260.90			-4.392E-04	2.591E-01	Half-Life	too short	
	492.35			-1.830E-05	2.591E-01	Half-Life	too short	
	527.90	*		2.398E-05	2.591E-01	Half-Life	too short	
SN-117M	156.02			8.135E-01	3.059E+00	5.049E+00	2.790E-01	0.161
	158.56	*		2.822E-02	7.428E-02	1.231E-01	6.764E-03	0.229
SB-122	563.90	*		4.302E-01	6.408E+00	1.052E+01	5.733E-01	0.041

---- 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		-5.967E+01	1.446E+02	2.162E+02	1.128E+01	-0.276
		159.00	*	-7.297E+00	1.446E+02	Half-Life	too short	
		528.96		-2.689E+04	1.446E+02	Half-Life	too short	
TE-123M		159.00	*	-2.489E-04	3.278E-02	5.343E-02	2.976E-03	-0.005
I-124		602.71	*	-1.864E-01	1.622E+00	2.247E+00	1.188E-01	-0.083
		722.78		-1.583E+00	1.117E+01	1.521E+01	8.364E-01	-0.104
		1325.50		3.512E+01	7.008E+01	1.218E+02	7.637E+00	0.288
SB-124		1376.25		3.533E+01	6.348E+01	1.108E+02	6.976E+00	0.319
		1509.49		3.871E+01	3.460E+01	6.498E+01	4.066E+00	0.596
		1691.02		4.509E-01	8.105E+00	1.361E+01	8.186E-01	0.033
		602.71		-5.894E-03	5.129E-02	7.106E-02	3.758E-03	-0.083
		645.85		5.087E-02	6.237E-01	1.018E+00	5.990E-02	0.050
		709.31		1.622E+00	3.436E+00	5.769E+00	3.100E-01	0.281
		713.82		-7.073E-01	1.919E+00	2.978E+00	2.978E-01	-0.237
		722.78		-7.254E-02	5.119E-01	6.971E-01	4.034E-02	-0.104
	+	968.20		1.626E+01	5.039E+00	8.457E+00	5.969E-01	1.923
		1045.16		-1.738E+00	2.715E+00	4.142E+00	2.786E-01	-0.420
		1325.50		1.719E+00	3.431E+00	5.964E+00	3.739E-01	0.288
		1368.21		-1.297E-01	1.993E+00	3.201E+00	3.879E-01	-0.041
SB-125		1436.60		2.247E+00	4.336E+00	7.581E+00	4.771E-01	0.296
		1691.02	*	4.875E-03	8.762E-02	1.472E-01	9.556E-03	0.033
		427.89	*	-1.816E-02	1.080E-01	1.767E-01	1.037E-02	-0.103
	+	463.38		7.184E-01	5.183E-01	6.496E-01	4.301E-02	1.106
		600.56		9.095E-02	2.093E-01	3.439E-01	2.159E-02	0.265
TE-125M		635.90		2.127E-02	3.245E-01	5.295E-01	3.287E-02	0.040
		109.28	*	-1.932E+00	1.124E+01	1.812E+01	1.649E+00	-0.107
		388.63		-1.517E-02	2.742E-01	4.543E-01	2.531E-02	-0.033
I-126	+	666.33	*	4.509E-01	5.029E-01	4.361E-01	2.172E-02	1.034
		753.82		5.014E-01	2.059E+00	3.387E+00	1.963E-01	0.148
		223.80		-1.448E+00	5.876E+00	9.338E+00	5.394E-01	-0.155
		278.60		4.548E+00	3.482E+00	6.214E+00	3.707E-01	0.732
	+	296.50		1.742E+01	3.641E+00	5.158E+00	3.081E-01	3.376
		414.70		-7.155E-02	1.099E-01	1.744E-01	9.756E-03	-0.410
		415.30		-2.541E+00	9.046E+00	1.472E+01	8.237E-01	-0.173
		555.20		2.592E+00	5.638E+00	9.555E+00	5.235E-01	0.271
		573.80		1.353E-02	1.439E+00	2.286E+00	1.237E-01	0.006
		593.00		-1.143E+00	1.407E+00	2.135E+00	1.138E-01	-0.535
SB-126		656.30		2.486E+00	5.274E+00	7.826E+00	3.893E-01	0.318
	+	666.33		1.901E-01	2.121E-01	1.839E-01	9.158E-03	1.034
		675.00		6.861E-01	2.674E+00	4.431E+00	2.241E-01	0.155
		695.00		-1.265E-01	1.201E-01	1.684E-01	8.824E-03	-0.752
		697.00		1.572E-01	3.714E-01	6.225E-01	3.274E-02	0.253
		720.50	*	1.506E-01	2.327E-01	3.506E-01	1.921E-02	0.430
		856.80		4.736E-01	7.691E-01	1.194E+00	8.148E-02	0.397
		989.30		-1.375E+00	1.637E+00	2.437E+00	1.701E-01	-0.564
		1034.80		-1.746E+00	1.243E+01	2.022E+01	1.370E+00	-0.086
		1213.00		2.352E-01	6.435E+00	1.056E+01	6.355E-01	0.022
SB-127		61.10		1.377E+02	1.688E+02	2.571E+02	3.280E+01	0.536
		252.40		-3.910E+00	1.071E+01	1.661E+01	6.961E+00	-0.235

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	290.80			-2.824E+00	5.459E+01	7.978E+01	8.573E+00	-0.035
	411.60			2.853E+00	2.826E+01	4.716E+01	7.212E+00	0.060
	444.90			-7.394E-01	2.335E+01	3.851E+01	4.621E+00	-0.019
	473.00			4.979E-01	3.841E+00	6.389E+00	7.889E-01	0.078
	543.00			2.896E+00	3.870E+01	6.369E+01	8.845E+00	0.045
	603.60			-2.716E+01	3.119E+01	3.889E+01	4.594E+00	-0.698
	685.20	*		-1.306E-01	3.181E+00	5.118E+00	5.401E-01	-0.026
	698.50			-8.661E+00	3.526E+01	5.559E+01	8.490E+00	-0.156
	722.20			1.524E+01	7.872E+01	1.121E+02	1.175E+01	0.136
	783.80			5.985E+00	8.432E+00	1.490E+01	1.804E+00	0.402
XE-127	57.60			-5.367E+00	8.916E+00	1.411E+01	1.298E+00	-0.380
	145.22			2.705E-01	8.445E-01	1.399E+00	7.928E-02	0.193
	172.10			-1.154E-01	1.523E-01	2.390E-01	1.301E-02	-0.483
	202.84	*		5.232E-03	6.446E-02	1.009E-01	5.700E-03	0.052
	374.96			2.031E-01	2.572E-01	4.475E-01	2.541E-02	0.454
I-131	80.18			-9.845E+00	8.549E+00	1.177E+01	1.103E+00	-0.837
	284.30			-2.919E-01	2.395E+00	4.010E+00	2.665E-01	-0.073
	364.48	*		8.037E-02	1.826E-01	3.126E-01	2.023E-02	0.257
	636.97			-1.557E+00	2.551E+00	3.907E+00	2.314E-01	-0.399
TE-132	722.89			-2.074E+00	1.314E+01	1.785E+01	1.006E+00	-0.116
	49.72			-2.693E+01	6.499E+01	1.076E+02	1.293E+01	-0.250
	111.76			-2.287E+01	7.894E+01	1.286E+02	1.388E+01	-0.178
	116.30			4.156E+01	7.112E+01	1.197E+02	1.265E+01	0.347
	228.16	*		5.799E-01	1.932E+00	3.150E+00	4.796E-01	0.184
BA-133	53.15			-8.492E-01	4.932E+00	8.236E+00	7.518E-01	-0.103
	79.62			-1.213E+00	1.703E+00	2.395E+00	3.735E-01	-0.506
	81.00			-2.769E-01	1.669E-01	1.765E-01	2.874E-02	-1.568
	276.40			3.382E-01	4.745E-01	7.290E-01	9.505E-02	0.464
	302.84			6.583E-02	1.726E-01	2.883E-01	3.385E-02	0.228
	356.01	*		1.720E-02	5.421E-02	8.083E-02	9.343E-03	0.213
	383.85			-1.112E-01	3.435E-01	5.594E-01	6.026E-02	-0.199
I-133	510.53	+		3.274E+01	3.435E-01	Half-Life	too short	
	529.87	*		-9.341E-02	3.435E-01	Half-Life	too short	
	706.58			2.408E+00	3.435E-01	Half-Life	too short	
	856.28			7.811E+00	3.435E-01	Half-Life	too short	
	875.33			4.803E-01	3.435E-01	Half-Life	too short	
	1236.41			2.420E+01	3.435E-01	Half-Life	too short	
	1298.22			-3.942E+00	3.435E-01	Half-Life	too short	
CS-134	475.35			-2.013E+00	2.182E+00	3.334E+00	1.877E-01	-0.604
	563.23			3.520E-03	4.077E-01	6.663E-01	3.718E-02	0.005
	569.32			1.216E-01	2.170E-01	3.704E-01	2.079E-02	0.328
	604.70			-4.027E-02	4.555E-02	5.715E-02	3.035E-03	-0.705
	795.84	*		1.413E-01	5.850E-02	1.136E-01	7.149E-03	1.244
	801.93			-3.118E-01	4.414E-01	6.909E-01	4.376E-02	-0.451
	1038.57			5.409E-01	4.089E+00	6.850E+00	4.631E-01	0.079
	1167.94			-6.023E-02	2.911E+00	4.762E+00	2.836E-01	-0.013
	1365.15			7.859E-01	1.249E+00	2.226E+00	1.518E-01	0.353
CS-135	268.24	*		2.492E-01	2.286E-01	3.415E-01	2.654E-02	0.730
I-135	288.45			-7.651E+13	2.286E-01	Half-Life	too short	

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CS-136		417.63		3.341E+14	2.286E-01	Half-Life	too short	
		546.56		-1.208E+14	2.286E-01	Half-Life	too short	
		836.80		2.438E+14	2.286E-01	Half-Life	too short	
		1038.76		1.492E+14	2.286E-01	Half-Life	too short	
	+	1124.00		1.757E+15	2.286E-01	Half-Life	too short	
		1131.51		-8.854E+13	2.286E-01	Half-Life	too short	
		1260.41	*	-6.536E+12	2.286E-01	Half-Life	too short	
		1457.56		1.165E+16	2.286E-01	Half-Life	too short	
		1678.03		-1.412E+14	2.286E-01	Half-Life	too short	
		1706.46		1.763E+14	2.286E-01	Half-Life	too short	
		1791.20		-1.719E+14	2.286E-01	Half-Life	too short	
		66.91		-5.849E-01	1.315E+00	1.891E+00	2.953E-01	-0.309
	+	86.29		2.551E+00	2.265E+00	2.909E+00	3.963E-01	0.877
		153.22		2.204E-01	8.984E-01	1.482E+00	1.043E-01	0.149
		163.89		1.280E+00	1.517E+00	2.555E+00	1.779E-01	0.501
		176.55		1.498E-01	5.331E-01	8.765E-01	5.463E-02	0.171
		273.65		-9.539E-01	7.759E-01	9.692E-01	6.552E-02	-0.984
		340.57		2.829E-01	2.053E-01	3.276E-01	2.045E-02	0.863
		818.51		9.862E-02	9.721E-02	1.777E-01	1.146E-01	0.555
		1048.07	*	3.660E-02	1.433E-01	2.429E-01	1.744E-02	0.151
CE-139		1235.34		5.122E-01	7.899E-01	1.366E+00	1.387E-01	0.375
BA-140		165.85	*	5.560E-03	3.604E-02	5.905E-02	3.193E-03	0.094
		162.64		-4.052E-01	1.065E+00	1.705E+00	1.059E-01	-0.238
		304.84		-1.784E+00	1.940E+00	3.001E+00	8.201E-01	-0.595
		423.70		7.439E-02	2.761E+00	4.582E+00	1.455E+00	0.016
		537.32	*	5.134E-02	3.793E-01	6.268E-01	2.036E-01	0.082
LA-140		328.77		2.973E-01	4.461E-01	7.710E-01	5.089E-02	0.386
		432.53		1.818E+00	3.169E+00	5.428E+00	3.389E-01	0.335
		487.03		-3.580E-03	1.927E-01	3.167E-01	2.030E-02	-0.011
		751.79		-4.534E-01	2.334E+00	3.674E+00	2.600E-01	-0.123
		815.85		3.341E-01	4.417E-01	7.887E-01	6.066E-02	0.424
		867.82		2.034E+00	2.080E+00	3.487E+00	2.615E-01	0.583
		919.63		-1.504E+00	3.432E+00	4.720E+00	4.503E-01	-0.319
		925.24		1.164E+00	1.325E+00	2.416E+00	1.893E-01	0.482
		1596.49	*	3.426E-02	1.120E-01	1.960E-01	1.209E-02	0.175
CE-141		145.44	*	2.685E-02	7.729E-02	1.282E-01	7.564E-03	0.209
CE-143		57.37		-7.810E-03	7.729E-02	Half-Life	too short	
		231.56		1.765E-03	7.729E-02	Half-Life	too short	
		293.26	*	7.294E-03	7.729E-02	Half-Life	too short	
	+	350.59		2.315E-01	7.729E-02	Half-Life	too short	
		490.36		8.762E-03	7.729E-02	Half-Life	too short	
	+	664.57		1.905E-02	7.729E-02	Half-Life	too short	
		721.93		8.827E-03	7.729E-02	Half-Life	too short	
CE-144		80.11		-3.277E+00	2.828E+00	3.891E+00	3.614E-01	-0.842
		133.54	*	-2.229E-01	2.511E-01	3.939E-01	5.602E-02	-0.566
PM-144		476.78		2.880E-02	7.380E-02	1.221E-01	8.310E-03	0.236
		618.01		-2.268E-02	3.823E-02	5.892E-02	3.296E-03	-0.385
		696.49	*	2.644E-02	3.816E-02	6.546E-02	3.444E-03	0.404
		778.57		1.048E-01	2.363E+00	3.983E+00	2.407E-01	0.026

---- 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	*		1.795E+00	2.591E+00	4.445E+00	2.336E-01	0.404
	1489.15			7.389E+00	1.452E+01	2.265E+01	1.421E+00	0.326
PM-146	453.90	*		6.390E-03	5.193E-02	8.644E-02	7.357E-03	0.074
	633.02			7.140E-01	1.686E+00	2.799E+00	1.028E+00	0.255
	735.90			-8.649E-02	1.679E-01	2.529E-01	7.043E-02	-0.342
	747.13			9.772E-03	9.649E-02	1.568E-01	1.956E-02	0.062
ND-147	91.11	+		9.447E-01	3.204E-01	8.941E-01	8.911E-02	1.057
	319.41			-5.047E-01	4.938E+00	8.236E+00	4.898E-01	-0.061
	439.89			9.533E-01	9.369E+00	1.559E+01	8.778E-01	0.061
	531.02	*		-4.190E-01	8.548E-01	1.343E+00	1.802E-01	-0.312
PM-149	285.90	*		8.664E-05	8.548E-01	Half-Life too short		
EU-152	121.78			2.295E-03	8.117E-02	1.337E-01	1.050E-02	0.017
	244.69			-1.888E-01	4.251E-01	5.737E-01	3.371E-02	-0.329
	344.27	*		7.009E-02	1.386E-01	1.863E-01	1.228E-02	0.376
	443.98			2.616E-01	1.149E+00	1.928E+00	1.085E-01	0.136
	778.89			3.881E-02	2.736E-01	4.653E-01	2.810E-02	0.083
	867.32			6.823E-01	1.049E+00	1.643E+00	1.140E-01	0.415
	964.01			2.951E-01	3.995E-01	6.192E-01	4.380E-02	0.477
	1085.78			-1.686E-01	4.245E-01	6.668E-01	4.338E-02	-0.253
	1112.02			8.226E-02	3.858E-01	5.843E-01	3.707E-02	0.141
	1407.95			2.129E-01	2.146E-01	3.934E-01	2.477E-02	0.541
GD-153	69.67			2.229E-01	2.208E+00	3.262E+00	2.912E-01	0.068
	83.37			6.297E+00	2.132E+01	2.946E+01	2.800E+00	0.214
	97.43	*		8.383E-02	1.005E-01	1.523E-01	1.273E-02	0.550
	103.18			-7.900E-02	1.209E-01	1.944E-01	1.493E-02	-0.406
EU-154	123.07			3.553E-02	5.758E-02	9.696E-02	9.284E-03	0.366
	247.94			2.278E-01	4.434E-01	6.783E-01	6.509E-02	0.336
	591.81			-1.020E-01	7.343E-01	1.182E+00	1.124E-01	-0.086
	723.30			-9.691E-02	2.464E-01	3.247E-01	2.221E-02	-0.298
	756.87			-3.495E-02	8.552E-01	1.368E+00	1.389E-01	-0.026
	873.19			-1.316E-01	3.075E-01	4.887E-01	5.454E-02	-0.269
	996.32			1.139E-01	4.573E-01	6.753E-01	1.149E-01	0.169
	1004.76			4.079E-02	2.408E-01	3.524E-01	3.679E-02	0.116
	1274.45	*		-6.027E-02	1.368E-01	2.109E-01	2.018E-02	-0.286
EU-155	48.70			-2.663E+00	3.625E+00	5.933E+00	4.968E-01	-0.449
	60.01			2.771E+00	7.138E+00	1.073E+01	9.829E-01	0.258
	86.54	+		1.916E-01	1.691E-01	2.161E-01	2.124E-02	0.886
	105.31	*		-1.361E-02	1.225E-01	1.994E-01	1.513E-02	-0.068
TB-160	86.79	+		5.306E-01	4.685E-01	5.950E-01	5.815E-02	0.892
	197.04			-4.814E-01	7.183E-01	1.105E+00	6.202E-02	-0.435
	215.65			1.910E-01	9.271E-01	1.485E+00	8.506E-02	0.129
	298.57			7.210E-02	1.513E-01	2.290E-01	1.368E-02	0.315
	879.36	*		4.214E-02	1.459E-01	2.506E-01	1.770E-02	0.168
	962.29			6.532E-01	7.328E-01	1.158E+00	8.198E-02	0.564
	966.15			1.045E+00	3.410E-01	6.132E-01	4.333E-02	1.704
	1177.93			-1.551E-01	4.492E-01	7.106E-01	4.213E-02	-0.218
	1271.85			2.031E-01	8.126E-01	1.364E+00	8.395E-02	0.149
HO-166M	80.57			-5.396E-01	3.945E-01	4.942E-01	4.604E-02	-1.092
	184.41	+		1.579E-01	6.944E-02	8.260E-02	4.563E-03	1.911

---- 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		-6.195E-02	9.739E-02	1.589E-01	9.484E-03	-0.390
		410.95		2.086E-01	2.824E-01	4.895E-01	2.736E-02	0.426
		711.68	*	-1.398E-02	7.026E-02	1.111E-01	5.996E-03	-0.126
		752.31		1.409E-03	3.011E-01	4.840E-01	2.798E-02	0.003
		810.29		-3.796E-02	6.307E-02	9.934E-02	6.309E-03	-0.382
		51.35		-6.711E+00	4.305E+01	7.198E+01	6.455E+00	-0.093
		52.39		-1.147E+00	2.210E+01	3.707E+01	3.365E+00	-0.031
		59.40		1.627E+01	3.846E+01	5.793E+01	5.324E+00	0.281
		66.72	*	8.600E-01	3.804E+01	5.607E+01	5.008E+00	0.015
		88.36		3.767E-01	3.326E-01	4.407E-01	4.322E-02	0.855
LU-176	+	201.83		-1.461E-03	3.519E-02	5.676E-02	3.203E-03	-0.026
		306.84	*	-1.607E-02	2.863E-02	4.662E-02	2.781E-03	-0.345
		401.10		3.437E+00	8.404E+00	1.428E+01	7.952E-01	0.241
LU-177		112.95		1.255E+00	2.778E+00	4.659E+00	3.158E-01	0.269
	+	208.36	*	5.169E+00	2.203E+00	3.504E+00	1.992E-01	1.475
LU-177M		52.97		7.425E-02	2.268E+00	3.816E+00	3.479E-01	0.019
		54.07		3.830E-02	1.181E+00	1.986E+00	1.821E-01	0.019
		61.30		2.850E+00	2.177E+00	3.382E+00	3.075E-01	0.843
		121.62		5.371E-02	4.204E-01	6.952E-01	4.258E-02	0.077
		147.16		-1.367E-02	7.580E-01	1.238E+00	6.983E-02	-0.011
		171.86		-4.095E-01	5.803E-01	9.131E-01	4.968E-02	-0.448
		218.09		-4.892E-02	1.037E+00	1.639E+00	9.413E-02	-0.030
	+	268.79		2.648E+00	1.388E+00	1.789E+00	1.065E-01	1.480
		319.02		-7.400E-02	3.056E-01	5.057E-01	3.006E-02	-0.146
		367.43		-7.407E-01	1.034E+00	1.643E+00	9.411E-02	-0.451
HF-181		413.65	*	-2.163E-01	2.133E-01	3.298E-01	1.845E-02	-0.656
		56.28		-5.646E-01	1.344E+00	2.221E+00	2.044E-01	-0.254
		57.53		-4.909E-01	7.437E-01	1.174E+00	1.080E-01	-0.418
		65.20		8.808E-01	1.385E+00	2.097E+00	1.878E-01	0.420
		133.02		-1.344E-01	8.558E-02	1.310E-01	7.673E-03	-1.026
		136.25		-8.693E-02	5.916E-01	9.541E-01	5.535E-02	-0.091
W-181		345.85		2.498E-02	2.767E-01	3.831E-01	2.241E-02	0.065
		482.03	*	-4.564E-02	4.899E-02	7.432E-02	4.182E-03	-0.614
		56.28		-2.120E-01	5.046E-01	8.336E-01	7.674E-02	-0.254
		57.53		-1.846E-01	2.794E-01	4.409E-01	4.058E-02	-0.419
		65.20	*	3.283E-01	5.163E-01	7.815E-01	7.000E-02	0.420
		67.75		-6.840E-02	1.649E-01	2.211E-01	1.973E-02	-0.309
TA-182		100.10		1.497E-01	2.038E-01	3.461E-01	2.778E-02	0.432
		152.43		2.578E-02	3.860E-01	6.321E-01	3.521E-02	0.041
		222.10		-1.651E-01	4.221E-01	6.661E-01	3.841E-02	-0.248
	+	1001.68		4.755E+00	3.380E+00	4.403E+00	3.051E-01	1.080
RE-183	+	1121.28		6.770E-01	2.362E-01	4.168E-01	2.619E-02	1.624
		1189.05		1.336E-01	3.500E-01	5.951E-01	3.545E-02	0.225
		1221.42	*	4.726E-02	2.289E-01	3.816E-01	2.305E-02	0.124
		1230.97		-4.191E-01	5.606E-01	8.477E-01	5.139E-02	-0.494
		57.98		-5.294E-02	2.901E-01	4.482E-01	4.124E-02	-0.118
		59.32		6.240E-02	1.637E-01	2.462E-01	2.263E-02	0.253
RE-183		67.20		-1.259E-01	2.814E-01	4.052E-01	3.618E-02	-0.311
		162.32	*	-9.292E-02	1.318E-01	2.080E-01	1.133E-02	-0.447

---- 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		3.215E+00	1.370E+00	2.166E+00	1.232E-01	1.484
		291.72		1.232E-01	1.233E+00	1.823E+00	1.089E-01	0.068
		57.98		-1.907E-01	1.045E+00	1.614E+00	1.485E-01	-0.118
		59.32		2.246E-01	5.892E-01	8.859E-01	8.143E-02	0.253
		67.20		-4.533E-01	1.013E+00	1.459E+00	1.302E-01	-0.311
		161.27		-4.248E-01	4.178E-01	6.491E-01	3.544E-02	-0.654
		216.55		4.496E-02	3.235E-01	5.162E-01	2.960E-02	0.087
		252.85	*	-1.178E-03	2.785E-01	4.459E-01	2.633E-02	-0.003
		318.01		-3.219E-01	5.217E-01	8.444E-01	5.020E-02	-0.381
		792.07		8.146E-02	1.243E+00	2.096E+00	1.293E-01	0.039
OS-185		903.28		-7.584E-01	1.435E+00	1.919E+00	1.391E-01	-0.395
		920.93		-3.254E-01	4.546E-01	6.467E-01	4.659E-02	-0.503
		59.72		1.551E-01	4.380E-01	6.575E-01	6.034E-02	0.236
		61.14		2.630E-01	2.408E-01	3.715E-01	3.381E-02	0.708
		69.30		1.905E-01	3.988E-01	5.991E-01	5.346E-02	0.318
		592.07		-8.085E-01	3.115E+00	4.964E+00	2.648E-01	-0.163
		646.12	*	1.770E-03	5.201E-02	8.456E-02	4.263E-03	0.021
		717.42		2.007E-01	1.089E+00	1.738E+00	9.468E-02	0.115
		874.81		-1.222E-01	6.086E-01	9.927E-01	6.963E-02	-0.123
		880.27		-7.061E-02	8.292E-01	1.370E+00	9.689E-02	-0.052
RE-188		155.03	*	-5.405E-02	2.005E-01	3.234E-01	1.790E-02	-0.167
		477.96		2.041E+00	3.539E+00	5.940E+00	3.344E-01	0.344
		633.10		1.522E+00	3.498E+00	5.883E+00	3.013E-01	0.259
W-188	+	63.58		6.560E+01	9.049E+01	1.217E+02	1.096E+01	0.539
		227.08		1.172E+01	1.579E+01	2.631E+01	1.524E+00	0.445
IR-192		290.67	*	-6.265E-01	9.659E+00	1.410E+01	8.424E-01	-0.044
	+	295.96		1.110E+00	2.324E-01	3.372E-01	2.045E-02	3.292
		308.46		3.478E-02	1.145E-01	1.954E-01	1.178E-02	0.178
		316.51	*	-2.409E-02	4.071E-02	6.600E-02	3.945E-03	-0.365
		468.07		-2.953E-03	9.193E-02	1.309E-01	8.564E-03	-0.023
		604.41		-6.205E-01	6.359E-01	7.825E-01	8.680E-02	-0.793
		612.46		1.800E+00	1.012E+00	1.668E+00	1.193E-01	1.079
AU-195		65.12		1.800E-01	2.386E-01	3.628E-01	3.250E-02	0.496
		66.83		5.125E-03	1.271E-01	1.875E-01	1.675E-02	0.027
	+	75.70		1.254E+00	3.116E-01	5.517E-01	5.004E-02	2.273
		98.88	*	1.202E-01	2.621E-01	4.410E-01	3.605E-02	0.273
TL-200		129.76		5.805E+00	3.406E+00	5.923E+00	3.506E-01	0.980
		367.94	*	-3.109E-03	3.406E+00	Half-Life	too short	
		579.30		6.524E-02	3.406E+00	Half-Life	too short	
		828.27		3.941E-02	3.406E+00	Half-Life	too short	
TL-201		1205.75		1.872E-02	3.406E+00	Half-Life	too short	
		68.90		2.246E+00	1.650E+01	2.280E+01	2.034E+00	0.099
		70.82		1.338E+00	8.762E+00	1.297E+01	1.159E+00	0.103
		80.30		-1.815E+01	1.628E+01	2.246E+01	2.089E+00	-0.808
TL-202		135.34		7.415E+00	7.504E+01	1.222E+02	7.111E+00	0.061
		167.43	*	4.882E+00	2.027E+01	3.333E+01	1.804E+00	0.146
		68.90		1.029E-01	7.557E-01	1.044E+00	9.317E-02	0.099
		70.82		6.113E-02	4.003E-01	5.923E-01	5.294E-02	0.103
		80.30		-8.295E-01	7.439E-01	1.026E+00	9.544E-02	-0.808

---- 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	*		-1.539E-02	1.099E-01	1.802E-01	1.014E-02	-0.085
	70.83			2.373E-01	1.471E+00	2.178E+00	3.007E-01	0.109
	72.87			2.682E+00	9.649E-01	1.472E+00	1.979E-01	1.821
	82.60			-3.673E-02	2.188E+00	2.315E+00	3.305E-01	-0.016
BI-207	279.20	*		5.387E-02	4.861E-02	8.612E-02	5.439E-03	0.626
	72.80			6.901E-01	2.541E-01	4.030E-01	3.617E-02	1.712
	74.97			6.854E-01	1.703E-01	2.800E-01	2.532E-02	2.448
	84.90			4.120E-01	2.624E-01	4.031E-01	3.877E-02	1.022
	569.67			5.950E-03	3.383E-02	5.602E-02	3.041E-03	0.106
	1063.62	*		1.194E-02	5.837E-02	9.828E-02	6.517E-03	0.121
TL-207	1770.23			2.580E-01	5.020E-01	8.290E-01	4.842E-02	0.311
	81.07			-6.163E-01	3.589E-01	3.885E-01	3.631E-02	-1.586
	83.78			9.320E-02	1.653E-01	2.466E-01	2.351E-02	0.378
	94.90			4.895E-01	2.993E-01	4.655E-01	4.053E-02	1.051
	122.32			3.302E-01	1.948E+00	3.227E+00	2.243E-01	0.102
	144.24			-2.266E-01	8.046E-01	1.281E+00	9.143E-02	-0.177
	154.21			-4.528E-02	4.448E-01	7.227E-01	4.919E-02	-0.063
	269.46			6.094E-01	3.196E-01	4.131E-01	2.564E-02	1.475
	323.87	*		-1.105E+00	8.284E-01	1.257E+00	2.081E-01	-0.880
	338.28			5.664E+00	2.001E+00	2.743E+00	2.901E-01	2.065
	445.03			-2.322E-01	2.664E+00	4.375E+00	4.451E-01	-0.053
PO-209	260.50			-3.810E+00	1.216E+01	1.911E+01	1.133E+00	-0.199
	262.80			-1.213E+01	3.349E+01	5.247E+01	3.115E+00	-0.231
	896.60	*		-2.296E+00	8.851E+00	1.417E+01	1.027E+00	-0.162
	46.50	*		2.810E+00	5.389E+00	9.144E+00	7.529E-01	0.307
BI-210	46.50	*		2.810E+00	5.389E+00	9.144E+00	7.529E-01	0.307
PB-210	46.50	*		2.810E+00	5.387E+00	9.144E+00	6.605E-01	0.307
PO-210	46.50	*		2.810E+00	5.387E+00	9.144E+00	6.605E-01	0.307
PB-211	404.84	*		-2.929E-01	1.173E+00	1.894E+00	1.180E+00	-0.155
	427.08			-6.914E-01	2.429E+00	3.881E+00	2.398E+00	-0.178
	831.96			-1.183E+00	1.565E+00	2.127E+00	1.328E+00	-0.556
BI-212	727.18	*		1.103E+00	5.837E-01	7.171E-01	5.393E-02	1.538
	785.46			3.146E+00	1.962E+00	3.699E+00	2.258E-01	0.850
	1620.62			4.510E-01	1.282E+00	2.267E+00	1.391E-01	0.199
PO-215	81.07			-6.163E-01	3.589E-01	3.885E-01	3.631E-02	-1.586
	83.78			9.320E-02	1.653E-01	2.466E-01	2.351E-02	0.378
	94.90			4.895E-01	2.993E-01	4.655E-01	4.053E-02	1.051
	122.32			3.302E-01	1.948E+00	3.227E+00	2.243E-01	0.102
	144.24			-2.266E-01	8.046E-01	1.281E+00	9.143E-02	-0.177
	154.21			-4.528E-02	4.448E-01	7.227E-01	4.919E-02	-0.063
	269.46			6.094E-01	3.196E-01	4.131E-01	2.564E-02	1.475
	323.87	*		-1.105E+00	8.284E-01	1.257E+00	2.081E-01	-0.880
	338.28			5.664E+00	2.001E+00	2.743E+00	2.901E-01	2.065
	445.03			-2.322E-01	2.664E+00	4.375E+00	4.451E-01	-0.053
RN-219	271.23			7.818E-01	4.122E-01	5.187E-01	4.261E-02	1.507
	401.81	*		2.128E-01	5.241E-01	8.890E-01	1.201E-01	0.239
RN-220	549.76	*		-7.759E+00	2.895E+01	4.625E+01	2.542E+00	-0.168
RA-223	81.07			-6.163E-01	3.589E-01	3.885E-01	3.631E-02	-1.586
	83.78			9.320E-02	1.653E-01	2.466E-01	2.351E-02	0.378
	94.90			4.895E-01	2.993E-01	4.655E-01	4.053E-02	1.051

---- 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		3.302E-01	1.948E+00	3.227E+00	2.243E-01	0.102
		144.24		-2.266E-01	8.046E-01	1.281E+00	9.143E-02	-0.177
		154.21		-4.528E-02	4.448E-01	7.227E-01	4.919E-02	-0.063
	+	269.46		6.094E-01	3.196E-01	4.131E-01	2.564E-02	1.475
		323.87	*	-1.105E+00	8.284E-01	1.257E+00	2.081E-01	-0.880
	+	338.28		5.664E+00	2.001E+00	2.743E+00	2.901E-01	2.065
		445.03		-2.322E-01	2.664E+00	4.375E+00	4.451E-01	-0.053
		79.80		-1.858E+00	2.172E+00	2.995E+00	6.522E-01	-0.620
		236.00		1.834E+00	4.154E-01	6.443E-01	6.748E-02	2.846
		256.20	*	1.320E-01	4.709E-01	7.645E-01	1.071E-01	0.173
		286.10		9.752E-01	1.730E+00	2.991E+00	3.484E-01	0.326
		299.80		2.063E+00	1.843E+00	2.870E+00	4.691E-01	0.719
		304.40		-1.797E+00	2.241E+00	3.575E+00	6.204E-01	-0.503
		334.20		2.767E-01	3.257E+00	4.773E+00	8.765E-01	0.058
TH-227		79.80		-1.858E+00	2.173E+00	2.995E+00	6.603E-01	-0.620
	+	94.00		1.396E+01	4.406E+00	4.699E+00	1.027E+00	2.972
		236.00		1.834E+00	4.042E-01	6.443E-01	5.852E-02	2.846
		256.20	*	1.320E-01	4.711E-01	7.645E-01	1.295E-01	0.173
		286.10		9.752E-01	1.983E+00	2.991E+00	2.996E+00	0.326
		299.80		2.063E+00	1.843E+00	2.870E+00	4.691E-01	0.719
		304.40		-1.797E+00	2.241E+00	3.575E+00	6.204E-01	-0.503
		334.20		2.767E-01	3.257E+00	4.773E+00	8.765E-01	0.058
TH-229		85.43		6.078E-01	2.642E-01	4.114E-01	3.975E-02	1.477
	+	88.47		2.168E-01	1.914E-01	2.516E-01	2.462E-02	0.862
		100.00		1.630E-01	2.070E-01	3.523E-01	2.832E-02	0.463
		193.63	*	-2.947E-03	5.968E-01	9.659E-01	5.397E-02	-0.003
		210.97		1.424E+00	1.040E+00	1.583E+00	9.026E-02	0.899
		283.67	*	-8.147E-02	1.734E+00	2.915E+00	4.039E-01	-0.028
PA-231		301.29		1.118E+00	7.450E-01	1.191E+00	1.256E-01	0.938
TH-231		81.07		-6.163E-01	3.589E-01	3.885E-01	3.631E-02	-1.586
		83.78		9.320E-02	1.653E-01	2.466E-01	2.351E-02	0.378
		94.90		4.895E-01	2.993E-01	4.655E-01	4.053E-02	1.051
U-231		122.32		3.302E-01	1.948E+00	3.227E+00	2.243E-01	0.102
		144.24		-2.266E-01	8.046E-01	1.281E+00	9.143E-02	-0.177
		154.21		-4.528E-02	4.448E-01	7.227E-01	4.919E-02	-0.063
	+	269.46		6.094E-01	3.196E-01	4.131E-01	2.564E-02	1.475
		323.87	*	-1.105E+00	8.284E-01	1.257E+00	2.081E-01	-0.880
	+	338.28		5.664E+00	2.001E+00	2.743E+00	2.901E-01	2.065
		445.03		-2.322E-01	2.664E+00	4.375E+00	4.451E-01	-0.053
		84.21		7.070E+00	1.378E+01	2.050E+01	1.961E+00	0.345
	+	92.29		2.644E+01	6.453E+00	9.732E+00	8.862E-01	2.717
		95.87	*	-2.357E-01	2.638E+00	3.821E+00	3.274E-01	-0.062
		108.00		-3.923E+00	4.493E+00	7.143E+00	5.148E-01	-0.549
	+	75.28		2.000E+01	5.579E+00	8.610E+00	1.343E+00	2.322
	+	86.59		3.109E+00	2.856E+00	3.500E+00	9.523E-01	0.888
		300.12		3.863E-01	5.241E-01	8.034E-01	1.086E-01	0.481
PA-233		311.98	*	2.271E-02	7.235E-02	1.235E-01	7.791E-03	0.184
		340.50		1.307E+00	8.687E-01	1.322E+00	3.040E-01	0.988
		398.62		-1.631E+00	2.655E+00	4.193E+00	1.082E+00	-0.389

---- 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		-7.325E-01	1.922E+00	3.097E+00	6.358E-01	-0.237
		63.00		1.829E+00	2.534E+00	3.511E+00	5.522E-01	0.521
		94.67		5.622E-01	2.241E-01	3.482E-01	4.348E-02	1.614
		98.44		8.321E-02	1.178E-01	1.788E-01	9.962E-02	0.465
		99.86		4.511E-01	5.261E-01	8.971E-01	7.227E-02	0.503
		111.00		-9.823E-02	2.183E-01	3.477E-01	3.809E-02	-0.283
		131.20		5.996E-02	1.245E-01	2.081E-01	1.226E-02	0.288
		152.70		9.923E-02	3.584E-01	5.917E-01	9.304E-02	0.168
		186.00		5.684E+00	3.026E+00	3.043E+00	9.284E-01	1.868
		226.40		2.260E-01	4.728E-01	7.776E-01	8.986E-02	0.291
		227.20		4.277E-01	5.152E-01	8.613E-01	4.991E-02	0.497
		248.90		3.857E-01	9.522E-01	1.555E+00	3.345E-01	0.248
		293.70		6.735E+00	1.733E+00	1.996E+00	3.222E-01	3.375
		369.80		-7.737E-01	9.837E-01	1.535E+00	3.193E-01	-0.504
		568.70		7.343E-01	1.090E+00	1.877E+00	1.020E-01	0.391
		569.50		7.790E-02	3.022E-01	5.037E-01	2.734E-02	0.155
		574.00		-5.973E-01	1.717E+00	2.636E+00	1.427E-01	-0.227
		699.00		-3.759E-01	8.234E-01	1.269E+00	2.261E-01	-0.296
		706.10		1.068E+00	1.300E+00	2.104E+00	9.272E-01	0.508
		733.00		4.894E-02	4.522E-01	6.370E-01	1.351E-01	0.077
		742.81		1.068E-01	1.463E+00	2.367E+00	1.584E+00	0.045
		796.30		2.232E+00	1.277E+00	2.164E+00	5.708E-01	1.032
		805.60		4.630E-01	1.062E+00	1.835E+00	5.520E-01	0.252
		819.60		5.370E-01	1.371E+00	2.353E+00	8.846E-01	0.228
		826.30		5.108E-01	8.952E-01	1.530E+00	6.792E-01	0.334
		831.60		-6.380E-01	7.360E-01	1.093E+00	3.203E-01	-0.584
		876.40		-2.126E-01	8.769E-01	1.378E+00	1.415E+00	-0.154
		880.51		-6.617E-02	2.932E-01	4.771E-01	3.376E-02	-0.139
		883.24		2.048E-02	2.898E-01	4.862E-01	3.259E-01	0.042
		899.00		3.597E-01	1.038E+00	1.740E+00	7.561E-01	0.207
		925.00		7.963E-01	1.136E+00	2.033E+00	1.463E-01	0.392
		926.50		1.364E-01	1.765E-01	3.125E-01	7.758E-02	0.437
		946.00	*	-7.711E-02	3.159E-01	5.099E-01	9.245E-02	-0.151
		949.00		1.543E-01	5.149E-01	8.789E-01	6.260E-02	0.176
		980.50		-1.421E-01	7.263E-01	1.175E+00	8.243E-02	-0.121
		1394.10		-5.655E-01	1.270E+00	1.810E+00	1.173E+00	-0.312
PA-234M		766.42		1.810E+01	1.696E+01	2.527E+01	1.272E+01	0.716
U-235	+	1001.03	*	1.054E+01	7.512E+00	1.000E+01	8.546E-01	1.054
		89.95		2.933E+00	1.317E+00	2.327E+00	7.241E-01	1.261
		93.35		4.344E+00	1.570E+00	1.547E+00	4.350E-01	2.809
		105.00		-3.607E-01	1.204E+00	1.939E+00	5.727E-01	-0.186
		143.76	*	-1.121E-01	2.481E-01	3.912E-01	6.362E-02	-0.287
NP-236	+	163.35		3.195E-01	5.360E-01	8.908E-01	1.592E-01	0.359
		185.71		2.105E-01	9.259E-02	1.125E-01	6.225E-03	1.871
		205.31		2.363E-01	7.147E-01	1.027E+00	1.843E-01	0.230
		94.67		4.308E-01	1.659E-01	2.646E-01	2.312E-02	1.628
		98.44		6.295E-02	8.203E-02	1.351E-01	1.112E-02	0.466
		111.00		-7.430E-02	1.650E-01	2.630E-01	1.825E-02	-0.283
		160.31	*	-6.590E-02	8.991E-02	1.416E-01	7.747E-03	-0.465

---- 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		1.018E-01	1.778E-01	3.003E-01	2.430E-02	0.339
		117.00	*	-2.875E-02	2.115E-01	3.464E-01	2.238E-02	-0.083
	+	209.75		2.439E+00	1.039E+00	1.657E+00	9.436E-02	1.472
		228.18		7.874E-02	2.726E-01	4.446E-01	2.579E-02	0.177
		277.60		2.194E-01	2.152E-01	3.620E-01	2.159E-02	0.606
		334.30		9.589E-02	1.843E+00	2.694E+00	1.589E-01	0.036
AM-241		59.54	*	7.180E-02	2.240E-01	3.358E-01	3.283E-02	0.214
CM-243		99.55		1.048E-01	1.830E-01	3.091E-01	2.501E-02	0.339
		103.76	*	5.064E-02	1.071E-01	1.802E-01	1.374E-02	0.281
		117.00		-2.959E-02	2.177E-01	3.564E-01	2.303E-02	-0.083
	+	209.75		2.405E+00	1.025E+00	1.634E+00	9.304E-02	1.472
		228.18		7.958E-02	2.756E-01	4.494E-01	2.606E-02	0.177
		277.60		2.212E-01	2.170E-01	3.650E-01	2.177E-02	0.606
AM-246		798.80		-3.332E-01	1.726E-01	2.393E-01	1.492E-02	-1.393
		1036.00		-7.749E-02	3.220E-01	5.172E-01	3.503E-02	-0.150
		1062.04		-3.069E-02	2.429E-01	3.947E-01	2.620E-02	-0.078
		1078.86	*	-8.496E-03	1.676E-01	2.747E-01	1.798E-02	-0.031
CM-247		278.00		1.160E+00	8.467E-01	1.515E+00	9.034E-02	0.766
		287.40		7.591E-01	1.363E+00	2.360E+00	1.409E-01	0.322
		402.60	*	2.835E-02	4.704E-02	8.072E-02	4.498E-03	0.351
CF-249		252.85		-4.350E-03	1.028E+00	1.646E+00	9.723E-02	-0.003
		333.44		2.125E-01	2.367E-01	3.667E-01	2.164E-02	0.580
		387.95	*	-5.404E-03	4.487E-02	7.404E-02	4.129E-03	-0.073
CF-251		176.60	*	4.040E-02	1.493E-01	2.453E-01	1.342E-02	0.165
		227.00		3.104E-01	4.542E-01	7.548E-01	4.373E-02	0.411
		285.00		2.895E-01	2.001E+00	3.396E+00	2.028E-01	0.085

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]G245107011
* Acquisition date   : 1-FEB-2010 13:29:10 Detector SN#      :
* Detector ID        : GAM06 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.19 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107011 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.2593E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.118E+01	2.112E+00	6.598E-01	0.000E+00
CD-109	1.625E+00	1.406E+00	1.545E+00	0.000E+00
SN-126	1.588E-01	1.374E-01	1.518E-01	0.000E+00
BA-137M	5.679E-01	7.602E-02	5.922E-02	0.000E+00
CS-137	6.004E-01	8.042E-02	6.260E-02	0.000E+00
TL-208	5.097E-01	8.947E-02	6.733E-02	0.000E+00
BI-211	3.997E+00	5.765E-01	3.614E-01	0.000E+00
PB-212	1.560E+00	1.618E-01	1.035E-01	0.000E+00
PO-212	1.560E+00	1.618E-01	1.035E-01	0.000E+00
BI-214	1.244E+00	1.963E-01	1.246E-01	0.000E+00
PB-214	1.390E+00	2.128E-01	1.260E-01	0.000E+00
PO-214	1.390E+00	2.128E-01	1.260E-01	0.000E+00
PO-216	1.560E+00	1.618E-01	1.035E-01	0.000E+00
PO-218	1.390E+00	2.128E-01	1.260E-01	0.000E+00
RA-224	4.918E+00	1.479E+00	1.178E+00	0.000E+00
RA-226	1.244E+00	1.963E-01	1.246E-01	0.000E+00
AC-228	1.462E+00	3.757E-01	2.256E-01	0.000E+00
RA-228	1.462E+00	3.757E-01	2.256E-01	0.000E+00
TH-228	1.590E+00	1.649E-01	1.055E-01	0.000E+00
TH-230	1.244E+00	1.963E-01	1.246E-01	0.000E+00
TH-232	1.462E+00	3.757E-01	2.256E-01	0.000E+00
TH-234	1.569E+00	2.135E+00	2.784E+00	0.000E+00
U-234	1.244E+00	1.963E-01	1.246E-01	0.000E+00
NP-237	4.664E-01	4.144E-01	4.986E-01	0.000E+00
U-238	1.569E+00	2.135E+00	2.784E+00	0.000E+00
AM-243	3.817E-01	9.295E-02	1.077E-01	0.000E+00
ANH-511	1.372E-01	7.764E-02	5.248E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	2.486E-01	3.602E-01	6.310E-01	0.000E+00	NOT IDENT.
NA-22	-2.162E-02	4.808E-02	7.575E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.163E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-6.584E-03	2.207E-02	3.355E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.478E-02	9.202E-02	0.000E+00	NOT IDENT.
SC-46	-2.190E-02	4.079E-02	6.574E-02	0.000E+00	FAIL ABUN
V-48	5.054E-03	8.094E-02	1.385E-01	0.000E+00	NOT IDENT.
CR-51	8.748E-02	4.618E-01	8.156E-01	0.000E+00	NOT IDENT.
MN-52	2.425E-01	3.959E-01	7.169E-01	0.000E+00	NOT IDENT.
MN-54	2.179E-03	4.259E-02	7.354E-02	0.000E+00	NOT IDENT.
CO-56	-2.934E-02	4.257E-02	6.806E-02	0.000E+00	NOT IDENT.
CO-57	2.837E-03	2.776E-02	4.845E-02	0.000E+00	NOT IDENT.
CO-58	-2.938E-02	4.317E-02	6.950E-02	0.000E+00	NOT IDENT.
FE-59	-9.290E-02	1.046E-01	1.585E-01	0.000E+00	NOT IDENT.
CO-60	-1.183E-02	4.072E-02	6.469E-02	0.000E+00	NOT IDENT.
ZN-65	1.804E-03	1.123E-01	1.626E-01	0.000E+00	NOT IDENT.
GE-68	4.200E-01	1.395E+00	2.426E+00	0.000E+00	NOT IDENT.
AS-73	-2.094E-01	1.153E+00	2.058E+00	0.000E+00	NOT IDENT.
AS-74	-8.846E-03	1.256E-01	2.102E-01	0.000E+00	NOT IDENT.
SE-75	2.566E-02	6.048E-02	9.092E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.810E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-1.215E-01	4.166E-01	6.998E-01	0.000E+00	NOT IDENT.
RB-83	-5.684E-02	8.228E-02	1.321E-01	0.000E+00	NOT IDENT.
RB-84	-5.091E-02	7.864E-02	1.254E-01	0.000E+00	NOT IDENT.
KR-85	5.321E-01	9.227E+00	1.365E+01	0.000E+00	NOT IDENT.
SR-85	2.844E-03	4.931E-02	7.294E-02	0.000E+00	NOT IDENT.
RB-86	-2.241E-01	1.060E+00	1.751E+00	0.000E+00	NOT IDENT.
Y-88	-2.743E-02	4.313E-02	6.353E-02	0.000E+00	NOT IDENT.
ZR-88	1.012E-02	3.587E-02	6.303E-02	0.000E+00	NOT IDENT.
Y-91	8.272E+00	2.135E+01	3.707E+01	0.000E+00	NOT IDENT.
NB-94	-4.544E-02	3.992E-02	5.957E-02	0.000E+00	NOT IDENT.
NB-95	6.319E-02	5.471E-02	9.850E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.901E-01	3.139E-01	0.000E+00	NOT IDENT.
ZR-95	4.442E-02	7.988E-02	1.393E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.476E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.080E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	4.785E+01	3.362E+01	6.233E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.398E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.984E-02	4.021E-02	6.557E-02	0.000E+00	NOT IDENT.
RH-102	-4.440E-02	3.352E-02	5.142E-02	0.000E+00	NOT IDENT.
RU-103	1.820E-03	4.563E-02	7.794E-02	0.000E+00	FAIL ABUN
RH-106	-1.463E-01	3.510E-01	5.660E-01	0.000E+00	FAIL ABUN
RU-106	-1.463E-01	3.507E-01	5.660E-01	0.000E+00	FAIL ABUN
AG-108M	3.099E-02	4.056E-02	7.278E-02	0.000E+00	NOT IDENT.
AG-110M	4.405E-02	4.710E-02	7.524E-02	0.000E+00	NOT IDENT.
IN-111	-4.388E-01	3.454E+00	5.004E+00	0.000E+00	NOT IDENT.
IN-113M	-1.639E-02	4.973E-02	8.409E-02	0.000E+00	NOT IDENT.
SN-113	-1.639E-02	4.973E-02	8.409E-02	0.000E+00	NOT IDENT.
IN-114M	-1.104E-01	2.540E-01	3.672E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.362E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.822E-02	7.279E-02	1.271E-01	0.000E+00	NOT IDENT.
SB-122	4.302E-01	6.280E+00	1.066E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.417E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-2.489E-04	3.213E-02	5.513E-02	0.000E+00	NOT IDENT.
I-124	-1.864E-01	1.590E+00	2.275E+00	0.000E+00	NOT IDENT.
SB-124	4.875E-03	8.587E-02	1.468E-01	0.000E+00	FAIL ABUN
SB-125	-1.816E-02	1.058E-01	1.798E-01	0.000E+00	FAIL ABUN
TE-125M	-1.932E+00	1.102E+01	1.879E+01	0.000E+00	NOT IDENT.
I-126	0.000E+00	4.929E-01	4.409E-01	0.000E+00	FAIL ABUN
SB-126	1.506E-01	2.280E-01	3.541E-01	0.000E+00	FAIL ABUN
SB-127	-1.306E-01	3.117E+00	5.173E+00	0.000E+00	NOT IDENT.
XE-127	5.232E-03	6.317E-02	1.038E-01	0.000E+00	NOT IDENT.
I-131	8.037E-02	1.789E-01	3.188E-01	0.000E+00	NOT IDENT.
TE-132	5.799E-01	1.893E+00	3.233E+00	0.000E+00	NOT IDENT.
BA-133	1.720E-02	5.312E-02	8.246E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.645E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.733E-02	1.146E-01	0.000E+00	NOT IDENT.
CS-135	2.492E-01	2.240E-01	3.498E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.174E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.660E-02	1.404E-01	2.439E-01	0.000E+00	FAIL ABUN
CE-139	5.560E-03	3.532E-02	6.090E-02	0.000E+00	NOT IDENT.
BA-140	5.134E-02	3.717E-01	6.357E-01	0.000E+00	NOT IDENT.
LA-140	3.426E-02	1.098E-01	1.956E-01	0.000E+00	NOT IDENT.
CE-141	2.685E-02	7.575E-02	1.324E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.213E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-2.229E-01	2.461E-01	4.074E-01	0.000E+00	NOT IDENT.
PM-144	2.644E-02	3.740E-02	6.613E-02	0.000E+00	NOT IDENT.
PR-144	1.795E+00	2.539E+00	4.491E+00	0.000E+00	NOT IDENT.

PM-146	6.390E-03	5.089E-02	8.788E-02	0.000E+00	NOT IDENT.
ND-147	-4.190E-01	8.377E-01	1.362E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.510E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	7.009E-02	1.358E-01	1.902E-01	0.000E+00	NOT IDENT.
GD-153	8.383E-02	9.847E-02	1.583E-01	0.000E+00	NOT IDENT.
EU-154	-6.027E-02	1.341E-01	2.112E-01	0.000E+00	NOT IDENT.
EU-155	-1.361E-02	1.200E-01	2.070E-01	0.000E+00	FAIL ABUN
TB-160	4.214E-02	1.429E-01	2.523E-01	0.000E+00	FAIL ABUN
HO-166M	-1.398E-02	6.885E-02	1.122E-01	0.000E+00	FAIL ABUN
TM-171	8.600E-01	3.728E+01	5.854E+01	0.000E+00	NOT IDENT.
LU-176	-1.607E-02	2.805E-02	4.766E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.158E+00	3.602E+00	0.000E+00	FAIL ABUN
LU-177M	-2.163E-01	2.090E-01	3.357E-01	0.000E+00	FAIL ABUN
HF-181	-4.564E-02	4.801E-02	7.549E-02	0.000E+00	NOT IDENT.
W-181	3.283E-01	5.060E-01	8.163E-01	0.000E+00	NOT IDENT.
TA-182	4.726E-02	2.244E-01	3.824E-01	0.000E+00	FAIL ABUN
RE-183	-9.292E-02	1.292E-01	2.145E-01	0.000E+00	FAIL ABUN
RE-184	-1.178E-03	2.729E-01	4.570E-01	0.000E+00	NOT IDENT.
OS-185	1.770E-03	5.097E-02	8.553E-02	0.000E+00	NOT IDENT.
RE-188	-5.405E-02	1.965E-01	3.337E-01	0.000E+00	NOT IDENT.
W-188	-6.265E-01	9.466E+00	1.443E+01	0.000E+00	FAIL ABUN
IR-192	-2.409E-02	3.990E-02	6.744E-02	0.000E+00	FAIL ABUN
AU-195	1.202E-01	2.568E-01	4.580E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.195E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.882E+00	1.987E+01	3.436E+01	0.000E+00	NOT IDENT.
TL-202	-1.539E-02	1.077E-01	1.832E-01	0.000E+00	NOT IDENT.
HG-203	5.387E-02	4.764E-02	8.816E-02	0.000E+00	NOT IDENT.
BI-207	1.194E-02	5.720E-02	9.869E-02	0.000E+00	FAIL ABUN
TL-207	-1.105E+00	8.118E-01	1.284E+00	0.000E+00	FAIL ABUN
PO-209	-2.296E+00	8.674E+00	1.427E+01	0.000E+00	NOT IDENT.
BI-210	2.810E+00	5.281E+00	9.595E+00	0.000E+00	NOT IDENT.
PB-210	2.810E+00	5.281E+00	9.595E+00	0.000E+00	NOT IDENT.
PO-210	2.810E+00	5.280E+00	9.595E+00	0.000E+00	NOT IDENT.
PB-211	-2.929E-01	1.149E+00	1.929E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.720E-01	7.241E-01	0.000E+00	FAIL ABUN
PO-215	-1.105E+00	8.118E-01	1.284E+00	0.000E+00	FAIL ABUN
RN-219	2.128E-01	5.136E-01	9.053E-01	0.000E+00	FAIL ABUN
RN-220	-7.759E+00	2.837E+01	4.689E+01	0.000E+00	NOT IDENT.
RA-223	-1.105E+00	8.118E-01	1.284E+00	0.000E+00	FAIL ABUN
AC-227	1.320E-01	4.615E-01	7.835E-01	0.000E+00	NOT IDENT.
TH-227	1.320E-01	4.617E-01	7.835E-01	0.000E+00	FAIL ABUN
TH-229	-2.947E-03	5.849E-01	9.938E-01	0.000E+00	FAIL ABUN
PA-231	-8.147E-02	1.699E+00	2.984E+00	0.000E+00	NOT IDENT.
TH-231	-1.105E+00	8.118E-01	1.284E+00	0.000E+00	FAIL ABUN
U-231	-2.357E-01	2.585E+00	3.970E+00	0.000E+00	FAIL ABUN
PA-233	2.271E-02	7.090E-02	1.262E-01	0.000E+00	FAIL ABUN
PA-234	-7.711E-02	3.095E-01	5.129E-01	0.000E+00	FAIL ABUN
PA-234M	0.000E+00	7.362E+00	1.005E+01	0.000E+00	FAIL ABUN
U-235	-1.121E-01	2.431E-01	4.041E-01	0.000E+00	FAIL ABUN
NP-236	-6.590E-02	8.811E-02	1.461E-01	0.000E+00	NOT IDENT.
NP-239	-2.875E-02	2.073E-01	3.589E-01	0.000E+00	FAIL ABUN
AM-241	7.180E-02	2.195E-01	3.512E-01	0.000E+00	NOT IDENT.
CM-243	5.064E-02	1.050E-01	1.871E-01	0.000E+00	FAIL ABUN
AM-246	-8.496E-03	1.643E-01	2.757E-01	0.000E+00	NOT IDENT.
CM-247	2.835E-02	4.610E-02	8.220E-02	0.000E+00	NOT IDENT.
CF-249	-5.404E-03	4.397E-02	7.544E-02	0.000E+00	NOT IDENT.
CF-251	4.040E-02	1.463E-01	2.528E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107011.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:29:10.
Sample ID          : G245107011 Sample quantity : 1.25930E+02 GRAM
Detector name      : GAM06 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.19 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	730	10.67*	9.625E-01	2.118E+01	2.118E+01	10.17
CD-109	88.03	102	3.72*	5.169E+00	1.580E+00	1.625E+00	88.29
SN-126	64.28	56	9.60	2.776E+00	6.211E-01	6.211E-01	138.50
	86.94	102	8.90	5.169E+00	6.602E-01	6.602E-01	97.11
	87.57	102	37.00*	5.169E+00	1.588E-01	1.588E-01	88.29
BA-137M	661.65	332	89.98*	1.939E+00	5.672E-01	5.679E-01	13.66
CS-137	661.65	332	85.12*	1.939E+00	5.996E-01	6.004E-01	13.67
TL-208	277.35	-----	6.80	3.899E+00	-----	Line Not Found	-----
	510.84	111	21.60	2.408E+00	6.353E-01	6.353E-01	58.33
	583.14	311	84.20*	2.159E+00	5.097E-01	5.097E-01	17.91
	860.37	31	12.46	1.538E+00	4.761E-01	4.761E-01	117.39
BI-211	72.87	-----	1.27	3.913E+00	-----	Line Not Found	-----
	351.07	563	12.94*	3.243E+00	3.997E+00	3.997E+00	14.72
PB-212	74.81	346	10.70	4.097E+00	2.355E+00	2.355E+00	26.55
	77.11	532	18.00	4.326E+00	2.035E+00	2.035E+00	17.55
	87.30	102	8.00	5.169E+00	7.345E-01	7.345E-01	88.85
	238.63	1020	44.60*	4.367E+00	1.560E+00	1.560E+00	10.58
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
PO-212	74.81	346	10.70	4.097E+00	2.355E+00	2.355E+00	26.55
	77.11	532	18.00	4.326E+00	2.035E+00	2.035E+00	17.55
	87.30	102	8.00	5.169E+00	7.345E-01	7.345E-01	88.85
	115.19	-----	0.60	6.030E+00	-----	Line Not Found	-----
	238.63	1020	44.60*	4.367E+00	1.560E+00	1.560E+00	10.58
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
BI-214	609.31	402	46.30*	2.080E+00	1.244E+00	1.244E+00	16.10
	1120.29	86	15.10	1.211E+00	1.398E+00	1.398E+00	35.51
	1764.49	71	15.80	8.403E-01	1.591E+00	1.591E+00	32.72
PB-214	74.81	346	6.21	4.097E+00	4.057E+00	4.057E+00	25.93
	77.11	532	10.50	4.326E+00	3.489E+00	3.489E+00	19.13
	87.30	102	4.67	5.169E+00	1.258E+00	1.258E+00	88.62
	241.98	282	7.49	4.328E+00	2.593E+00	2.593E+00	31.20
	295.21	336	19.20	3.717E+00	1.403E+00	1.403E+00	21.82

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	563	37.20*	3.243E+00	1.390E+00	1.390E+00	15.61
	74.81	346	6.21	4.097E+00	4.057E+00	4.057E+00	25.93
	77.11	532	10.50	4.326E+00	3.489E+00	3.489E+00	19.13
	87.30	102	4.67	5.169E+00	1.258E+00	1.258E+00	88.62
	241.98	282	7.49	4.328E+00	2.593E+00	2.593E+00	31.20
PO-216	295.21	336	19.20	3.717E+00	1.403E+00	1.403E+00	21.82
	351.92	563	37.20*	3.243E+00	1.390E+00	1.390E+00	15.61
	74.81	346	10.70	4.097E+00	2.355E+00	2.355E+00	26.55
	77.11	532	18.00	4.326E+00	2.035E+00	2.035E+00	17.55
	87.30	102	8.00	5.169E+00	7.345E-01	7.345E-01	88.85
PO-218	238.63	1020	44.60*	4.367E+00	1.560E+00	1.560E+00	10.58
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
	74.81	346	6.21	4.097E+00	4.057E+00	4.057E+00	25.93
	77.11	532	10.50	4.326E+00	3.489E+00	3.489E+00	19.13
	87.30	102	4.67	5.169E+00	1.258E+00	1.258E+00	88.62
RA-224	241.98	282	7.49	4.328E+00	2.593E+00	2.593E+00	31.20
	295.21	336	19.20	3.717E+00	1.403E+00	1.403E+00	21.82
	351.92	563	37.20*	3.243E+00	1.390E+00	1.390E+00	15.61
	240.98	282	3.95*	4.328E+00	4.918E+00	4.918E+00	30.69
	609.31	402	46.30*	2.080E+00	1.244E+00	1.244E+00	16.10
AC-228	1120.29	86	15.10	1.211E+00	1.398E+00	1.398E+00	35.51
	1764.49	71	15.80	8.403E-01	1.591E+00	1.591E+00	32.72
	338.32	173	11.40	3.344E+00	1.356E+00	1.356E+00	52.91
	911.07	199	27.70*	1.461E+00	1.462E+00	1.462E+00	26.22
	969.11	116	16.60	1.382E+00	1.509E+00	1.509E+00	37.83
RA-228	338.32	173	11.40	3.344E+00	1.356E+00	1.356E+00	52.91
	911.07	199	27.70*	1.461E+00	1.462E+00	1.462E+00	26.22
	969.11	116	16.60	1.382E+00	1.509E+00	1.509E+00	37.83
	74.81	346	10.70	4.097E+00	2.355E+00	2.400E+00	24.87
	77.11	532	18.00	4.326E+00	2.035E+00	2.074E+00	17.55
TH-228	87.30	102	8.00	5.169E+00	7.345E-01	7.486E-01	88.29
	238.63	1020	44.60*	4.367E+00	1.560E+00	1.590E+00	10.58
	300.09	-----	3.41	3.669E+00	-----	Line Not Found	-----
	609.31	402	46.30*	2.080E+00	1.244E+00	1.244E+00	16.10
	1120.29	86	15.10	1.211E+00	1.398E+00	1.398E+00	35.51
TH-230	1764.49	71	15.80	8.403E-01	1.591E+00	1.591E+00	32.72
	338.32	173	11.40	3.344E+00	1.356E+00	1.356E+00	34.23
	911.07	199	27.70*	1.461E+00	1.462E+00	1.462E+00	26.22
	969.11	116	16.60	1.382E+00	1.509E+00	1.509E+00	37.83
	63.29	56	3.80*	2.776E+00	1.569E+00	1.569E+00	138.84
TH-234	92.38	358	5.41	5.460E+00	3.614E+00	3.614E+00	29.12
	609.31	402	46.30*	2.080E+00	1.244E+00	1.244E+00	16.10
	1120.29	86	15.10	1.211E+00	1.398E+00	1.398E+00	35.51
	1764.49	71	15.80	8.403E-01	1.591E+00	1.591E+00	32.72
	86.50	102	12.60*	5.169E+00	4.664E-01	4.664E-01	90.67
NP-237	95.87	-----	2.60	5.611E+00	-----	Line Not Found	-----
	63.29	56	3.80*	2.776E+00	1.569E+00	1.569E+00	138.84
	92.38	358	5.41	5.460E+00	3.614E+00	3.614E+00	24.40
	74.67	346	66.00*	4.097E+00	3.817E-01	3.817E-01	24.85

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	86.72	102	0.34	5.169E+00	1.749E+01	1.749E+01	88.29
	117.66	-----	0.55	6.042E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.887E+00	-----	Line Not Found	-----
ANH-511	511.00	111	100.00*	2.408E+00	1.372E-01	1.372E-01	57.73

Flag: "*" = Keyline

Total number of lines in spectrum 30
Number of unidentified lines 1
Number of lines tentatively identified by NID 29 96.67%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.118E+01	2.118E+01	0.216E+01	10.17	
CD-109	464.00D	1.03	1.580E+00	1.625E+00	1.435E+00	88.29	
SN-126	1.00E+05Y	1.00	1.588E-01	1.588E-01	1.402E-01	88.29	
BA-137M	30.17Y	1.00	5.672E-01	5.679E-01	0.776E-01	13.66	
CS-137	30.17Y	1.00	5.996E-01	6.004E-01	0.821E-01	13.67	
TL-208	1.41E+10Y	1.00	5.097E-01	5.097E-01	0.913E-01	17.91	
BI-211	7.04E+08Y	1.00	3.997E+00	3.997E+00	0.588E+00	14.72	
PB-212	1.41E+10Y	1.00	1.560E+00	1.560E+00	0.165E+00	10.58	
PO-212	1.41E+10Y	1.00	1.560E+00	1.560E+00	0.165E+00	10.58	
BI-214	1600.00Y	1.00	1.244E+00	1.244E+00	0.200E+00	16.10	
PB-214	1600.00Y	1.00	1.390E+00	1.390E+00	0.217E+00	15.61	
PO-214	1600.00Y	1.00	1.390E+00	1.390E+00	0.217E+00	15.61	
PO-216	1.41E+10Y	1.00	1.560E+00	1.560E+00	0.165E+00	10.58	
PO-218	1600.00Y	1.00	1.390E+00	1.390E+00	0.217E+00	15.61	
RA-224	1.41E+10Y	1.00	4.918E+00	4.918E+00	1.509E+00	30.69	
RA-226	1600.00Y	1.00	1.244E+00	1.244E+00	0.200E+00	16.10	
AC-228	1.41E+10Y	1.00	1.462E+00	1.462E+00	0.383E+00	26.22	
RA-228	1.41E+10Y	1.00	1.462E+00	1.462E+00	0.383E+00	26.22	
TH-228	1.91Y	1.02	1.560E+00	1.590E+00	0.168E+00	10.58	
TH-230	4.47E+09Y	1.00	1.244E+00	1.244E+00	0.200E+00	16.10	
TH-232	1.41E+10Y	1.00	1.462E+00	1.462E+00	0.383E+00	26.22	
TH-234	4.47E+09Y	1.00	1.569E+00	1.569E+00	2.179E+00	138.84	
U-234	4.47E+09Y	1.00	1.244E+00	1.244E+00	0.200E+00	16.10	
NP-237	2.14E+06Y	1.00	4.664E-01	4.664E-01	4.228E-01	90.67	
U-238	4.47E+09Y	1.00	1.569E+00	1.569E+00	2.179E+00	138.84	
AM-243	7380.00Y	1.00	3.817E-01	3.817E-01	0.948E-01	24.85	
ANH-511	1.00E+09Y	1.00	1.372E-01	1.372E-01	0.792E-01	57.73	
Total Activity :			5.741E+01	5.749E+01			

Grand Total Activity : 5.741E+01 5.749E+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	89.75	141	208	1.03	179.51	177	13	1.96E-02	32.3	5.31E+00	T
0	185.77	197	388	1.10	371.54	366	12	2.74E-02	43.6	5.18E+00	T
0	209.07	127	197	1.34	418.15	414	8	1.77E-02	42.2	4.79E+00	T
0	270.09	111	189	1.89	540.18	535	11	1.54E-02	52.1	3.98E+00	T
0	462.56	64	117	1.49	925.12	919	12	8.92E-03	71.8	2.61E+00	T
4	665.45	42	27	2.60	1330.89	1314	25	5.85E-03	****	1.93E+00	T
0	726.70	78	68	1.47	1453.41	1445	16	1.08E-02	52.4	1.79E+00	T
0	1001.39	40	32	3.85	2002.79	1995	15	5.53E-03	70.8	1.34E+00	T
3	1123.30	34	14	2.21	2246.60	2233	26	4.70E-03	75.9	1.21E+00	T
0	1495.00	13	3	0.73	2990.00	2982	13	1.75E-03	81.6	9.45E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107011.CNF;1  *
* Acquisition date   : 1-FEB-2010 13:29:10.  Detector SN#      :             *
* Detector ID        : GAM06                      Sensitivity    : 5.00000      *
* Geometry           : CAN                      Energy tolerance: 1.50000      *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000      *
* Elapsed real time  : 0 02:00:01.19             Half life ratio : 8.00000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID          *
* Sample ID          : G245107011             Analyst initials: MXR1          *
* Batch Number       : 944038                 Sample Quantity : 1.25930E+02 GRAM *
*****
*
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54.47MS Isotope        :             *
* MSD ID              :                               MSD Isotope :             *
* LCS ID              : 1032-A                       LCS Isotope  :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.118E+01	2.155E+00	6.602E-01	4.367E-02	32.088
CD-109	1.625E+00	1.435E+00	1.486E+00	1.467E-01	1.094
SN-126	1.588E-01	1.402E-01	1.459E-01	1.436E-02	1.088
BA-137M	5.679E-01	7.757E-02	5.857E-02	2.893E-03	9.696
CS-137	6.004E-01	8.206E-02	6.192E-02	3.076E-03	9.696
TL-208	5.097E-01	9.130E-02	6.647E-02	4.201E-03	7.669
BI-211	3.997E+00	5.882E-01	3.542E-01	2.286E-02	11.284
PB-212	1.560E+00	1.651E-01	1.009E-01	7.440E-03	15.461
PO-212	1.560E+00	1.651E-01	1.009E-01	7.440E-03	15.461
BI-214	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
PB-214	1.390E+00	2.171E-01	1.235E-01	1.025E-02	11.260
PO-214	1.390E+00	2.171E-01	1.235E-01	1.025E-02	11.260
PO-216	1.560E+00	1.651E-01	1.009E-01	7.440E-03	15.461
PO-218	1.390E+00	2.171E-01	1.235E-01	1.025E-02	11.260
RA-224	4.918E+00	1.509E+00	1.149E+00	6.732E-02	4.281
RA-226	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
AC-228	1.462E+00	3.834E-01	2.242E-01	2.291E-02	6.520
RA-228	1.462E+00	3.834E-01	2.242E-01	2.291E-02	6.520

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.590E+00	1.683E-01	1.029E-01	7.582E-03	15.461
TH-230	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
TH-232	1.462E+00	3.834E-01	2.242E-01	2.291E-02	6.520
TH-234	1.569E+00	2.179E+00	2.664E+00	4.843E-01	0.589
U-234	1.244E+00	2.003E-01	1.231E-01	9.084E-03	10.105
NP-237	4.664E-01	4.228E-01	4.792E-01	1.094E-01	0.973
U-238	1.569E+00	2.179E+00	2.664E+00	4.843E-01	0.589
AM-243	3.817E-01	9.485E-02	1.033E-01	9.333E-03	3.694
ANH-511	1.372E-01	7.922E-02	5.171E-02	2.891E-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	2.486E-01		3.676E-01	6.212E-01	4.103E-02	0.400
NA-22	-2.162E-02		4.906E-02	7.564E-02	4.671E-03	-0.286
NA-24	-3.080E-01		3.144E+01	Half-Life	too short	
AL-26	-6.584E-03		2.252E-02	3.367E-02	1.934E-03	-0.196
TI-44	2.563E-01		5.590E-02	8.832E-02	8.119E-03	2.902
SC-46	-2.190E-02		4.163E-02	6.530E-02	4.681E-03	-0.335
V-48	5.054E-03		8.259E-02	1.378E-01	9.647E-03	0.037
CR-51	8.748E-02		4.713E-01	7.983E-01	5.259E-02	0.110
MN-52	2.425E-01		4.040E-01	7.171E-01	4.513E-02	0.338
MN-54	2.179E-03		4.346E-02	7.298E-02	4.817E-03	0.030
CO-56	-2.934E-02		4.344E-02	6.756E-02	4.542E-03	-0.434
CO-57	2.837E-03		2.833E-02	4.679E-02	2.858E-03	0.061
CO-58	-2.938E-02		4.405E-02	6.894E-02	4.401E-03	-0.426
FE-59	-9.290E-02		1.067E-01	1.579E-01	1.158E-02	-0.588
CO-60	-1.183E-02		4.155E-02	6.464E-02	4.060E-03	-0.183
ZN-65	1.804E-03		1.146E-01	1.621E-01	1.026E-02	0.011
GE-68	4.200E-01		1.424E+00	2.416E+00	1.584E-01	0.174
AS-73	-2.094E-01		1.177E+00	1.965E+00	1.797E-01	-0.107
AS-74	-8.846E-03		1.282E-01	2.076E-01	1.104E-02	-0.043
SE-75	2.566E-02		6.172E-02	8.875E-02	5.324E-03	0.289
BR-77	-2.632E-05		1.944E-05	Half-Life	too short	
SR-82	-1.215E-01		4.251E-01	6.938E-01	4.173E-02	-0.175
RB-83	-5.684E-02		8.396E-02	1.302E-01	7.256E-03	-0.436
RB-84	-5.091E-02		8.024E-02	1.246E-01	8.825E-03	-0.409
KR-85	5.321E-01		9.415E+00	1.345E+01	7.511E-01	0.040
SR-85	2.844E-03		5.032E-02	7.187E-02	4.014E-03	0.040
RB-86	-2.241E-01		1.082E+00	1.744E+00	1.144E-01	-0.129
Y-88	-2.743E-02		4.401E-02	6.379E-02	3.625E-03	-0.430
ZR-88	1.012E-02		3.660E-02	6.188E-02	3.434E-03	0.164
Y-91	8.272E+00		2.178E+01	3.699E+01	2.219E+00	0.224
NB-94	-4.544E-02		4.073E-02	5.897E-02	3.132E-03	-0.771
NB-95	6.319E-02		5.583E-02	9.763E-02	5.771E-03	0.647
NB-95M	4.889E-01		1.939E-01	3.059E-01	2.312E-02	1.598
ZR-95	4.442E-02		8.151E-02	1.380E-01	9.726E-03	0.322

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-97	8.240E+00		3.304E+00	Half-Life too short		
ZR-97	3.427E+02		5.511E+01	Half-Life too short		
MO-99	4.785E+01		3.431E+01	6.175E+01	8.473E+00	0.775
TC-99M	-7.984E+14		1.224E+15	Half-Life too short		
RH-101	-1.984E-02		4.103E-02	6.375E-02	3.581E-03	-0.311
RH-102	-4.440E-02		3.420E-02	5.061E-02	2.850E-03	-0.877
RU-103	1.820E-03		4.656E-02	7.677E-02	9.642E-03	0.024
RH-106	-1.463E-01		3.582E-01	5.593E-01	6.401E-02	-0.262
RU-106	-1.463E-01		3.579E-01	5.593E-01	2.900E-02	-0.262
AG-108M	3.099E-02		4.139E-02	7.155E-02	4.388E-03	0.433
AG-110M	4.405E-02		4.806E-02	7.441E-02	4.017E-03	0.592
IN-111	-4.388E-01		3.524E+00	4.879E+00	2.869E-01	-0.090
IN-113M	-1.639E-02		5.075E-02	8.255E-02	4.912E-03	-0.199
SN-113	-1.639E-02		5.075E-02	8.255E-02	4.912E-03	-0.199
IN-114M	-1.104E-01		2.591E-01	3.568E-01	1.986E-02	-0.309
CD-115	2.398E-05		2.225E-05	Half-Life too short		
SN-117M	2.822E-02		7.428E-02	1.231E-01	6.764E-03	0.229
SB-122	4.302E-01		6.408E+00	1.052E+01	5.733E-01	0.041
I-123	-7.297E+00		4.805E+02	Half-Life too short		
TE-123M	-2.489E-04		3.278E-02	5.343E-02	2.976E-03	-0.005
I-124	-1.864E-01		1.622E+00	2.247E+00	1.188E-01	-0.083
SB-124	4.875E-03		8.762E-02	1.472E-01	9.556E-03	0.033
SB-125	-1.816E-02		1.080E-01	1.767E-01	1.037E-02	-0.103
TE-125M	-1.932E+00		1.124E+01	1.812E+01	1.649E+00	-0.107
I-126	4.509E-01	+	5.029E-01	4.361E-01	2.172E-02	1.034
SB-126	1.506E-01		2.327E-01	3.506E-01	1.921E-02	0.430
SB-127	-1.306E-01		3.181E+00	5.118E+00	5.401E-01	-0.026
XE-127	5.232E-03		6.446E-02	1.009E-01	5.700E-03	0.052
I-131	8.037E-02		1.826E-01	3.126E-01	2.023E-02	0.257
TE-132	5.799E-01		1.932E+00	3.150E+00	4.796E-01	0.184
BA-133	1.720E-02		5.421E-02	8.083E-02	9.343E-03	0.213
I-133	-9.341E-02		8.393E-02	Half-Life too short		
CS-134	1.413E-01		5.850E-02	1.136E-01	7.149E-03	1.244
CS-135	2.492E-01		2.286E-01	3.415E-01	2.654E-02	0.730
I-135	-6.536E+12		5.989E+13	Half-Life too short		
CS-136	3.660E-02		1.433E-01	2.429E-01	1.744E-02	0.151
CE-139	5.560E-03		3.604E-02	5.905E-02	3.193E-03	0.094
BA-140	5.134E-02		3.793E-01	6.268E-01	2.036E-01	0.082
LA-140	3.426E-02		1.120E-01	1.960E-01	1.209E-02	0.175
CE-141	2.685E-02		7.729E-02	1.282E-01	7.564E-03	0.209
CE-143	7.294E-03		1.129E-03	Half-Life too short		
CE-144	-2.229E-01		2.511E-01	3.939E-01	5.602E-02	-0.566
PM-144	2.644E-02		3.816E-02	6.546E-02	3.444E-03	0.404
PR-144	1.795E+00		2.591E+00	4.445E+00	2.336E-01	0.404
PM-146	6.390E-03		5.193E-02	8.644E-02	7.357E-03	0.074
ND-147	-4.190E-01		8.548E-01	1.343E+00	1.802E-01	-0.312
PM-149	8.664E-05		1.791E-04	Half-Life too short		
EU-152	7.009E-02		1.386E-01	1.863E-01	1.228E-02	0.376

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	8.383E-02		1.005E-01	1.523E-01	1.273E-02	0.550
EU-154	-6.027E-02		1.368E-01	2.109E-01	2.018E-02	-0.286
EU-155	-1.361E-02		1.225E-01	1.994E-01	1.513E-02	-0.068
TB-160	4.214E-02		1.459E-01	2.506E-01	1.770E-02	0.168
HO-166M	-1.398E-02		7.026E-02	1.111E-01	5.996E-03	-0.126
TM-171	8.600E-01		3.804E+01	5.607E+01	5.008E+00	0.015
LU-176	-1.607E-02		2.863E-02	4.662E-02	2.781E-03	-0.345
LU-177	5.169E+00	+	2.203E+00	3.504E+00	1.992E-01	1.475
LU-177M	-2.163E-01		2.133E-01	3.298E-01	1.845E-02	-0.656
HF-181	-4.564E-02		4.899E-02	7.432E-02	4.182E-03	-0.614
W-181	3.283E-01		5.163E-01	7.815E-01	7.000E-02	0.420
TA-182	4.726E-02		2.289E-01	3.816E-01	2.305E-02	0.124
RE-183	-9.292E-02		1.318E-01	2.080E-01	1.133E-02	-0.447
RE-184	-1.178E-03		2.785E-01	4.459E-01	2.633E-02	-0.003
OS-185	1.770E-03		5.201E-02	8.456E-02	4.263E-03	0.021
RE-188	-5.405E-02		2.005E-01	3.234E-01	1.790E-02	-0.167
W-188	-6.265E-01		9.659E+00	1.410E+01	8.424E-01	-0.044
IR-192	-2.409E-02		4.071E-02	6.600E-02	3.945E-03	-0.365
AU-195	1.202E-01		2.621E-01	4.410E-01	3.605E-02	0.273
TL-200	-3.109E-03		3.160E-03	Half-Life too short		
TL-201	4.882E+00		2.027E+01	3.333E+01	1.804E+00	0.146
TL-202	-1.539E-02		1.099E-01	1.802E-01	1.014E-02	-0.085
HG-203	5.387E-02		4.861E-02	8.612E-02	5.439E-03	0.626
BI-207	1.194E-02		5.837E-02	9.828E-02	6.517E-03	0.121
TL-207	-1.105E+00		8.284E-01	1.257E+00	2.081E-01	-0.880
PO-209	-2.296E+00		8.851E+00	1.417E+01	1.027E+00	-0.162
BI-210	2.810E+00		5.389E+00	9.144E+00	7.529E-01	0.307
PB-210	2.810E+00		5.389E+00	9.144E+00	7.529E-01	0.307
PO-210	2.810E+00		5.387E+00	9.144E+00	6.605E-01	0.307
PB-211	-2.929E-01		1.173E+00	1.894E+00	1.180E+00	-0.155
BI-212	1.103E+00	+	5.837E-01	7.171E-01	5.393E-02	1.538
PO-215	-1.105E+00		8.284E-01	1.257E+00	2.081E-01	-0.880
RN-219	2.128E-01		5.241E-01	8.890E-01	1.201E-01	0.239
RN-220	-7.759E+00		2.895E+01	4.625E+01	2.542E+00	-0.168
RA-223	-1.105E+00		8.284E-01	1.257E+00	2.081E-01	-0.880
AC-227	1.320E-01		4.709E-01	7.645E-01	1.071E-01	0.173
TH-227	1.320E-01		4.711E-01	7.645E-01	1.295E-01	0.173
TH-229	-2.947E-03		5.968E-01	9.659E-01	5.397E-02	-0.003
PA-231	-8.147E-02		1.734E+00	2.915E+00	4.039E-01	-0.028
TH-231	-1.105E+00		8.284E-01	1.257E+00	2.081E-01	-0.880
U-231	-2.357E-01		2.638E+00	3.821E+00	3.274E-01	-0.062
PA-233	2.271E-02		7.235E-02	1.235E-01	7.791E-03	0.184
PA-234	-7.711E-02		3.159E-01	5.099E-01	9.245E-02	-0.151
PA-234M	1.054E+01	+	7.512E+00	1.000E+01	8.546E-01	1.054
U-235	-1.121E-01		2.481E-01	3.912E-01	6.362E-02	-0.287
NP-236	-6.590E-02		8.991E-02	1.416E-01	7.747E-03	-0.465
NP-239	-2.875E-02		2.115E-01	3.464E-01	2.238E-02	-0.083
AM-241	7.180E-02		2.240E-01	3.358E-01	3.283E-02	0.214

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	5.064E-02		1.071E-01	1.802E-01	1.374E-02	0.281
AM-246	-8.496E-03		1.676E-01	2.747E-01	1.798E-02	-0.031
CM-247	2.835E-02		4.704E-02	8.072E-02	4.498E-03	0.351
CF-249	-5.404E-03		4.487E-02	7.404E-02	4.129E-03	-0.073
CF-251	4.040E-02		1.493E-01	2.453E-01	1.342E-02	0.165

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]G245107011
* Acquisition date   : 1-FEB-2010 13:29:10 Detector SN#      :
* Detector ID        : GAM06 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.19 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107011 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.2593E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 4-FEB-2009 13:05:54 MS Isotope      :
* MSD DPM             : 0.000 MSD Isotope                  :
* LCS DPM              : 0.000 LCS Isotope                  :
* LCSD DPM             : 0.000 LCSD Isotope                 :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.118E+01	2.112E+00	3.301E-01	1.078E+00
CD-109	1.625E+00	1.406E+00	7.731E-01	7.175E-01
SN-126	1.588E-01	1.374E-01	7.595E-02	7.011E-02
BA-137M	5.679E-01	7.602E-02	2.963E-02	3.879E-02
CS-137	6.004E-01	8.042E-02	3.132E-02	4.103E-02
TL-208	5.097E-01	8.947E-02	3.368E-02	4.565E-02
BI-211	3.997E+00	5.765E-01	1.808E-01	2.941E-01
PB-212	1.560E+00	1.618E-01	5.180E-02	8.256E-02
PO-212	1.560E+00	1.618E-01	5.180E-02	8.256E-02
BI-214	1.244E+00	1.963E-01	6.234E-02	1.002E-01
PB-214	1.390E+00	2.128E-01	6.303E-02	1.086E-01
PO-214	1.390E+00	2.128E-01	6.303E-02	1.086E-01
PO-216	1.560E+00	1.618E-01	5.180E-02	8.256E-02
PO-218	1.390E+00	2.128E-01	6.303E-02	1.086E-01
RA-224	4.918E+00	1.479E+00	5.895E-01	7.546E-01
RA-226	1.244E+00	1.963E-01	6.234E-02	1.002E-01
AC-228	1.462E+00	3.757E-01	1.129E-01	1.917E-01
RA-228	1.462E+00	3.757E-01	1.129E-01	1.917E-01
TH-228	1.590E+00	1.649E-01	5.280E-02	8.415E-02
TH-230	1.244E+00	1.963E-01	6.234E-02	1.002E-01
TH-232	1.462E+00	3.757E-01	1.129E-01	1.917E-01
TH-234	1.569E+00	2.135E+00	1.393E+00	1.089E+00
U-234	1.244E+00	1.963E-01	6.234E-02	1.002E-01
NP-237	4.664E-01	4.144E-01	2.494E-01	2.114E-01
U-238	1.569E+00	2.135E+00	1.393E+00	1.089E+00
AM-243	3.817E-01	9.295E-02	5.390E-02	4.742E-02
ANH-511	1.372E-01	7.764E-02	2.625E-02	3.961E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	2.486E-01	3.602E-01	3.157E-01	1.838E-01	NOT IDENT.
NA-22	-2.162E-02	4.808E-02	3.790E-02	2.453E-02	NOT IDENT.
NA-24	-3.080E+05	6.163E+07	0.000E+00	3.144E+07	SHORT HLIF
AL-26	-6.584E-03	2.207E-02	1.678E-02	1.126E-02	NOT IDENT.
TI-44	2.563E-01	5.478E-02	4.604E-02	2.795E-02	NOT IDENT.
SC-46	-2.190E-02	4.079E-02	3.289E-02	2.081E-02	FAIL ABUN
V-48	5.054E-03	8.094E-02	6.929E-02	4.130E-02	NOT IDENT.
CR-51	8.748E-02	4.618E-01	4.080E-01	2.356E-01	NOT IDENT.
MN-52	2.425E-01	3.959E-01	3.587E-01	2.020E-01	NOT IDENT.
MN-54	2.179E-03	4.259E-02	3.679E-02	2.173E-02	NOT IDENT.
CO-56	-2.934E-02	4.257E-02	3.405E-02	2.172E-02	NOT IDENT.
CO-57	2.837E-03	2.776E-02	2.424E-02	1.416E-02	NOT IDENT.
CO-58	-2.938E-02	4.317E-02	3.477E-02	2.203E-02	NOT IDENT.
FE-59	-9.290E-02	1.046E-01	7.929E-02	5.337E-02	NOT IDENT.
CO-60	-1.183E-02	4.072E-02	3.236E-02	2.078E-02	NOT IDENT.
ZN-65	1.804E-03	1.123E-01	8.135E-02	5.730E-02	NOT IDENT.
GE-68	4.200E-01	1.395E+00	1.214E+00	7.118E-01	NOT IDENT.
AS-73	-2.094E-01	1.153E+00	1.030E+00	5.885E-01	NOT IDENT.
AS-74	-8.846E-03	1.256E-01	1.051E-01	6.410E-02	NOT IDENT.
SE-75	2.566E-02	6.048E-02	4.549E-02	3.086E-02	NOT IDENT.
BR-77	-2.632E+01	3.810E+01	0.000E+00	1.944E+01	SHORT HLIF
SR-82	-1.215E-01	4.166E-01	3.501E-01	2.126E-01	NOT IDENT.
RB-83	-5.684E-02	8.228E-02	6.610E-02	4.198E-02	NOT IDENT.
RB-84	-5.091E-02	7.864E-02	6.275E-02	4.012E-02	NOT IDENT.
KR-85	5.321E-01	9.227E+00	6.828E+00	4.708E+00	NOT IDENT.
SR-85	2.844E-03	4.931E-02	3.649E-02	2.516E-02	NOT IDENT.
RB-86	-2.241E-01	1.060E+00	8.759E-01	5.408E-01	NOT IDENT.
Y-88	-2.743E-02	4.313E-02	3.179E-02	2.201E-02	NOT IDENT.
ZR-88	1.012E-02	3.587E-02	3.154E-02	1.830E-02	NOT IDENT.
Y-91	8.272E+00	2.135E+01	1.855E+01	1.089E+01	NOT IDENT.
NB-94	-4.544E-02	3.992E-02	2.980E-02	2.037E-02	NOT IDENT.
NB-95	6.319E-02	5.471E-02	4.928E-02	2.791E-02	NOT IDENT.
NB-95M	4.889E-01	1.901E-01	1.571E-01	9.697E-02	NOT IDENT.
ZR-95	4.442E-02	7.988E-02	6.967E-02	4.075E-02	NOT IDENT.
NB-97	8.240E+06	6.476E+06	0.000E+00	3.304E+06	SHORT HLIF
ZR-97	3.427E+08	1.080E+08	0.000E+00	5.511E+07	SHORT HLIF
MO-99	4.785E+01	3.362E+01	3.118E+01	1.715E+01	NOT IDENT.
TC-99M	-7.984E+20	2.398E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.984E-02	4.021E-02	3.281E-02	2.052E-02	NOT IDENT.
RH-102	-4.440E-02	3.352E-02	2.572E-02	1.710E-02	NOT IDENT.
RU-103	1.820E-03	4.563E-02	3.899E-02	2.328E-02	FAIL ABUN
RH-106	-1.463E-01	3.510E-01	2.832E-01	1.791E-01	FAIL ABUN
RU-106	-1.463E-01	3.507E-01	2.832E-01	1.789E-01	FAIL ABUN
AG-108M	3.099E-02	4.056E-02	3.641E-02	2.069E-02	NOT IDENT.
AG-110M	4.405E-02	4.710E-02	3.764E-02	2.403E-02	NOT IDENT.
IN-111	-4.388E-01	3.454E+00	2.504E+00	1.762E+00	NOT IDENT.
IN-113M	-1.639E-02	4.973E-02	4.207E-02	2.537E-02	NOT IDENT.
SN-113	-1.639E-02	4.973E-02	4.207E-02	2.537E-02	NOT IDENT.
IN-114M	-1.104E-01	2.540E-01	1.837E-01	1.296E-01	NOT IDENT.
CD-115	2.398E+01	4.362E+01	0.000E+00	2.225E+01	SHORT HLIF
SN-117M	2.822E-02	7.279E-02	6.357E-02	3.714E-02	NOT IDENT.
SB-122	4.302E-01	6.280E+00	5.334E+00	3.204E+00	NOT IDENT.
I-123	-7.297E+06	9.417E+08	0.000E+00	4.805E+08	SHORT HLIF
TE-123M	-2.489E-04	3.213E-02	2.758E-02	1.639E-02	NOT IDENT.
I-124	-1.864E-01	1.590E+00	1.138E+00	8.110E-01	NOT IDENT.
SB-124	4.875E-03	8.587E-02	7.342E-02	4.381E-02	FAIL ABUN
SB-125	-1.816E-02	1.058E-01	8.995E-02	5.398E-02	FAIL ABUN
TE-125M	-1.932E+00	1.102E+01	9.401E+00	5.620E+00	NOT IDENT.
I-126	4.509E-01	4.929E-01	2.206E-01	2.515E-01	FAIL ABUN
SB-126	1.506E-01	2.280E-01	1.771E-01	1.163E-01	FAIL ABUN
SB-127	-1.306E-01	3.117E+00	2.588E+00	1.590E+00	NOT IDENT.
XE-127	5.232E-03	6.317E-02	5.191E-02	3.223E-02	NOT IDENT.
I-131	8.037E-02	1.789E-01	1.595E-01	9.129E-02	NOT IDENT.
TE-132	5.799E-01	1.893E+00	1.618E+00	9.660E-01	NOT IDENT.
BA-133	1.720E-02	5.312E-02	4.125E-02	2.710E-02	NOT IDENT.
I-133	-9.341E+04	1.645E+05	0.000E+00	8.393E+04	SHORT HLIF
CS-134	1.413E-01	5.733E-02	5.731E-02	2.925E-02	NOT IDENT.
CS-135	2.492E-01	2.240E-01	1.750E-01	1.143E-01	NOT IDENT.
I-135	-6.536E+18	1.174E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.660E-02	1.404E-01	1.220E-01	7.163E-02	FAIL ABUN
CE-139	5.560E-03	3.532E-02	3.047E-02	1.802E-02	NOT IDENT.
BA-140	5.134E-02	3.717E-01	3.180E-01	1.896E-01	NOT IDENT.
LA-140	3.426E-02	1.098E-01	9.787E-02	5.600E-02	NOT IDENT.
CE-141	2.685E-02	7.575E-02	6.626E-02	3.865E-02	NOT IDENT.
CE-143	7.294E+03	2.213E+03	0.000E+00	1.129E+03	SHORT HLIF
CE-144	-2.229E-01	2.461E-01	2.038E-01	1.256E-01	NOT IDENT.
PM-144	2.644E-02	3.740E-02	3.309E-02	1.908E-02	NOT IDENT.
PR-144	1.795E+00	2.539E+00	2.247E+00	1.296E+00	NOT IDENT.

PM-146	6.390E-03	5.089E-02	4.396E-02	2.596E-02	NOT IDENT.
ND-147	-4.190E-01	8.377E-01	6.815E-01	4.274E-01	FAIL ABUN
PM-149	8.664E+01	3.510E+02	0.000E+00	1.791E+02	SHORT HLIF
EU-152	7.009E-02	1.358E-01	9.515E-02	6.929E-02	NOT IDENT.
GD-153	8.383E-02	9.847E-02	7.918E-02	5.024E-02	NOT IDENT.
EU-154	-6.027E-02	1.341E-01	1.056E-01	6.842E-02	NOT IDENT.
EU-155	-1.361E-02	1.200E-01	1.035E-01	6.123E-02	FAIL ABUN
TB-160	4.214E-02	1.429E-01	1.262E-01	7.293E-02	FAIL ABUN
HO-166M	-1.398E-02	6.885E-02	5.616E-02	3.513E-02	FAIL ABUN
TM-171	8.600E-01	3.728E+01	2.929E+01	1.902E+01	NOT IDENT.
LU-176	-1.607E-02	2.805E-02	2.384E-02	1.431E-02	FAIL ABUN
LU-177	5.169E+00	2.158E+00	1.802E+00	1.101E+00	FAIL ABUN
LU-177M	-2.163E-01	2.090E-01	1.680E-01	1.066E-01	FAIL ABUN
HF-181	-4.564E-02	4.801E-02	3.777E-02	2.449E-02	NOT IDENT.
W-181	3.283E-01	5.060E-01	4.084E-01	2.581E-01	NOT IDENT.
TA-182	4.726E-02	2.244E-01	1.913E-01	1.145E-01	FAIL ABUN
RE-183	-9.292E-02	1.292E-01	1.073E-01	6.592E-02	FAIL ABUN
RE-184	-1.178E-03	2.729E-01	2.287E-01	1.392E-01	NOT IDENT.
OS-185	1.770E-03	5.097E-02	4.279E-02	2.601E-02	NOT IDENT.
RE-188	-5.405E-02	1.965E-01	1.670E-01	1.003E-01	NOT IDENT.
W-188	-6.265E-01	9.466E+00	7.218E+00	4.830E+00	FAIL ABUN
IR-192	-2.409E-02	3.990E-02	3.374E-02	2.036E-02	FAIL ABUN
AU-195	1.202E-01	2.568E-01	2.291E-01	1.310E-01	FAIL ABUN
TL-200	-3.109E+03	6.195E+03	0.000E+00	3.160E+03	SHORT HLIF
TL-201	4.882E+00	1.987E+01	1.719E+01	1.014E+01	NOT IDENT.
TL-202	-1.539E-02	1.077E-01	9.167E-02	5.497E-02	NOT IDENT.
HG-203	5.387E-02	4.764E-02	4.411E-02	2.431E-02	NOT IDENT.
BI-207	1.194E-02	5.720E-02	4.937E-02	2.918E-02	FAIL ABUN
TL-207	-1.105E+00	8.118E-01	6.422E-01	4.142E-01	FAIL ABUN
PO-209	-2.296E+00	8.674E+00	7.138E+00	4.426E+00	NOT IDENT.
BI-210	2.810E+00	5.281E+00	4.800E+00	2.694E+00	NOT IDENT.
PB-210	2.810E+00	5.281E+00	4.800E+00	2.694E+00	NOT IDENT.
PO-210	2.810E+00	5.280E+00	4.800E+00	2.694E+00	NOT IDENT.
PB-211	-2.929E-01	1.149E+00	9.650E-01	5.864E-01	NOT IDENT.
BI-212	1.103E+00	5.720E-01	3.623E-01	2.919E-01	FAIL ABUN
PO-215	-1.105E+00	8.118E-01	6.422E-01	4.142E-01	FAIL ABUN
RN-219	2.128E-01	5.136E-01	4.529E-01	2.620E-01	FAIL ABUN
RN-220	-7.759E+00	2.837E+01	2.346E+01	1.448E+01	NOT IDENT.
RA-223	-1.105E+00	8.118E-01	6.422E-01	4.142E-01	FAIL ABUN
AC-227	1.320E-01	4.615E-01	3.920E-01	2.355E-01	NOT IDENT.
TH-227	1.320E-01	4.617E-01	3.920E-01	2.356E-01	FAIL ABUN
TH-229	-2.947E-03	5.849E-01	4.972E-01	2.984E-01	FAIL ABUN
PA-231	-8.147E-02	1.699E+00	1.493E+00	8.670E-01	NOT IDENT.
TH-231	-1.105E+00	8.118E-01	6.422E-01	4.142E-01	FAIL ABUN
U-231	-2.357E-01	2.585E+00	1.986E+00	1.319E+00	FAIL ABUN
PA-233	2.271E-02	7.090E-02	6.316E-02	3.617E-02	FAIL ABUN
PA-234	-7.711E-02	3.095E-01	2.566E-01	1.579E-01	FAIL ABUN
PA-234M	1.054E+01	7.362E+00	5.028E+00	3.756E+00	FAIL ABUN
U-235	-1.121E-01	2.431E-01	2.022E-01	1.240E-01	FAIL ABUN
NP-236	-6.590E-02	8.811E-02	7.307E-02	4.495E-02	NOT IDENT.
NP-239	-2.875E-02	2.073E-01	1.796E-01	1.058E-01	FAIL ABUN
AM-241	7.180E-02	2.195E-01	1.757E-01	1.120E-01	NOT IDENT.
CM-243	5.064E-02	1.050E-01	9.359E-02	5.355E-02	FAIL ABUN
AM-246	-8.496E-03	1.643E-01	1.379E-01	8.381E-02	NOT IDENT.
CM-247	2.835E-02	4.610E-02	4.112E-02	2.352E-02	NOT IDENT.
CF-249	-5.404E-03	4.397E-02	3.774E-02	2.243E-02	NOT IDENT.
CF-251	4.040E-02	1.463E-01	1.265E-01	7.464E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	326.1379
46.50	326.1379
46.50	326.1379
48.70	370.9698
49.72	352.5575
51.35	335.3334
52.39	340.4957
52.97	333.5207
53.15	340.9346
53.44	342.0156
54.07	337.8000
56.28	362.9224
56.28	362.9239
57.37	0.0000
57.53	379.8380
57.53	379.8388
57.60	377.7759
57.98	363.6165
57.98	363.6165
59.32	357.4995
59.32	357.4995
59.40	357.5445
59.54	366.4902
59.72	368.0729
60.01	368.2408
61.10	382.2011
61.14	368.8913
61.30	368.9832
63.00	386.2930
63.29	404.1141
63.29	404.1141
63.58	403.3635
64.28	412.3503
65.12	396.4754
65.20	396.5225
65.20	396.5225
66.05	407.4738
66.72	398.9111
66.83	398.9779
66.91	430.4092
67.20	424.6115
67.20	424.6115
67.75	426.4493
67.85	426.5120
68.90	395.3143
68.90	395.3143
69.30	385.4200
69.67	406.6340
70.82	417.8212
70.82	417.8212
70.83	417.8280
72.80	414.4705
72.87	414.5108
72.87	414.5108
74.67	407.9927
74.81	408.0718
74.81	408.0718
74.81	408.0718
74.81	408.0718
74.81	408.0718
74.81	408.0718
74.81	408.0718
74.97	408.1608
75.28	408.3354
75.70	408.5695
77.11	409.3539
77.11	409.3539

77.11	409.3539
77.11	409.3539
77.11	409.3539
77.11	409.3539
77.11	409.3539
78.38	396.3858
79.62	451.8047
79.80	451.9117
79.80	451.9117
80.11	470.3650
80.18	470.4084
80.30	470.4819
80.30	470.4819
80.57	496.9239
81.00	530.8596
81.07	530.9086
81.07	530.9086
81.07	530.9086
81.07	530.9086
82.60	465.7914
83.37	431.8574
83.78	414.4973
83.78	414.4973
83.78	414.4973
83.78	414.4973
84.21	430.0309
84.90	433.4733
85.43	424.5688
86.29	495.6149
86.50	495.7470
86.54	495.7707
86.59	495.8022
86.72	495.8850
86.79	495.9264
86.94	668.0160
87.30	668.3187
87.30	668.3187
87.30	668.3187
87.30	668.3187
87.30	668.3187
87.30	668.3187
87.30	668.3187
87.57	407.2741
87.88	0.0000
88.03	407.5087
88.36	407.6753
88.47	407.7319
89.95	585.7437
91.11	351.9471
92.29	352.4523
92.38	352.4913
92.38	352.4913
93.35	303.3741
94.00	331.4936
94.67	316.2542
94.67	316.2560
94.90	336.5023
94.90	336.5023
94.90	336.5023
94.90	336.5023
95.87	347.7578
95.87	347.7578
96.73	362.0985
97.43	293.9605
98.44	309.2110
98.44	309.2122
98.88	317.4379
99.55	305.9914
99.55	305.9914
99.86	290.5029
100.00	290.5496
100.10	290.5848
103.18	329.7713
103.76	283.9653
105.00	304.9531
105.31	300.1542
108.00	338.4360
109.28	302.4584

111.00	322.7663
111.00	322.7663
111.76	327.9701
112.95	300.6938
115.19	288.5223
116.30	273.9701
117.00	287.0851
117.00	287.0851
117.66	303.1884
121.11	274.3433
121.62	265.5038
121.78	271.5362
122.06	271.6140
122.32	272.6844
122.32	272.6844
122.32	272.6844
122.32	272.6844
123.07	261.8971
127.23	347.3113
129.76	286.7961
131.20	313.4012
133.02	380.5810
133.54	353.5034
135.34	303.5271
136.00	322.9525
136.25	311.8914
136.48	305.8824
140.51	316.1963
140.51	0.0000
142.18	301.4131
142.65	304.6003
143.76	313.0710
144.24	310.1486
144.24	310.1486
144.24	310.1486
144.24	310.1486
145.22	286.9406
145.44	285.9772
147.16	297.6782
152.43	276.4766
152.70	264.2058
153.22	267.4129
154.21	281.0272
154.21	281.0272
154.21	281.0272
154.21	281.0272
155.03	284.3218
156.02	259.8231
158.56	250.0647
159.00	0.0000
159.00	267.7320
160.31	284.5924
161.27	304.5064
162.32	296.4846
162.64	284.1220
163.35	254.2039
163.89	257.4349
165.85	286.9750
167.43	279.0249
171.28	273.6496
171.86	292.5909
172.10	292.6486
176.55	266.4372
176.60	266.4469
181.06	284.6656
184.41	290.4852
185.71	274.7206
186.00	274.7841
190.27	278.2394
192.34	252.0580
193.63	260.4564
197.04	276.0510
198.01	276.2526
198.60	272.1048
200.40	0.0000
201.83	282.3873
202.84	280.1520
205.31	267.6699

208.36	296.6402
208.81	278.4598
209.75	227.2214
209.75	227.2214
210.97	241.2043
215.65	227.9673
216.55	229.1933
218.09	229.4424
222.10	240.9409
223.80	227.0997
226.40	212.2666
227.00	211.2654
227.08	211.2772
227.20	211.2950
228.16	226.6907
228.18	226.6938
228.18	226.6938
231.56	0.0000
235.69	243.6216
236.00	241.9195
236.00	241.9195
238.63	200.8557
238.63	200.8557
238.63	200.8557
238.63	200.8557
239.00	0.0000
240.98	201.1685
241.98	201.3011
241.98	201.3011
241.98	201.3011
244.69	195.7080
245.39	178.1580
247.94	164.9067
248.90	173.4807
249.79	0.0000
252.40	197.1279
252.85	183.8916
252.85	183.8916
254.15	0.0000
256.20	195.3843
256.20	195.3843
260.50	211.4973
260.90	0.0000
262.80	206.2280
264.65	173.2075
268.24	195.0663
268.79	187.9720
269.46	180.8852
269.46	180.8852
269.46	180.8852
269.46	180.8852
271.23	155.9819
273.65	220.8505
276.40	169.3598
277.35	166.4571
277.60	165.3571
277.60	165.3571
278.00	157.5214
278.60	157.5769
279.20	155.8330
279.53	171.1786
280.46	192.9082
281.68	0.0000
283.67	167.9881
284.30	170.7621
285.00	166.3120
285.90	0.0000
286.10	152.8530
286.10	152.8530
287.40	147.5397
288.45	0.0000
290.67	161.7278
290.80	161.7387
291.72	163.3381
293.26	0.0000
293.70	160.4988
295.21	178.2160
295.21	178.2160

295.21	178.2160
295.96	178.2949
296.50	212.3214
297.23	0.0000
298.57	168.5392
299.80	148.9061
299.80	148.9061
300.09	165.6466
300.09	165.6466
300.09	165.6466
300.09	165.6466
300.12	165.6489
301.29	145.9902
302.84	166.4135
303.76	0.0000
303.91	176.3622
304.40	189.2084
304.40	189.2084
304.84	191.9967
306.84	166.5860
308.46	147.4982
311.98	139.5257
316.51	154.5981
318.01	156.5693
319.02	154.8114
319.41	152.0792
320.08	143.8373
323.87	197.7227
323.87	197.7227
323.87	197.7227
323.87	197.7227
325.23	176.6004
328.77	166.7483
333.44	154.7811
334.20	174.9739
334.20	174.9739
334.30	174.9831
338.28	169.4542
338.28	169.4542
338.28	169.4542
338.28	169.4542
338.32	169.4564
338.32	169.4564
338.32	169.4564
340.50	138.2694
340.57	138.2730
344.27	116.7480
345.85	127.1248
350.59	0.0000
351.07	115.2840
351.92	115.3335
351.92	115.3335
351.92	115.3335
355.39	0.0000
356.01	114.3209
364.48	110.4059
366.43	123.7384
367.43	126.6342
367.94	0.0000
369.80	131.5138
374.96	119.5170
383.85	121.9406
387.95	115.4995
388.63	106.9428
391.69	114.7485
391.69	114.7485
392.90	112.9009
398.62	147.7437
400.65	117.1554
401.10	131.5882
401.81	134.5142
402.60	131.6802
404.84	140.4769
410.95	106.1382
411.60	111.9615
413.65	136.2185
414.70	124.6853
415.30	116.0186

415.76	117.0105
417.63	0.0000
418.52	103.6014
423.70	109.6674
427.08	110.8063
427.89	109.8743
432.53	109.1275
433.93	110.1695
439.47	0.0000
439.56	124.1273
439.89	117.3032
443.98	103.8029
444.90	102.8646
445.03	102.8710
445.03	102.8710
445.03	102.8710
445.03	102.8710
453.90	102.2823
463.38	83.9354
468.07	97.2938
473.00	86.2587
475.06	112.1324
475.35	102.2217
476.78	71.4981
477.59	67.5493
477.96	71.5333
482.03	90.5623
484.57	0.0000
487.03	85.7627
490.36	0.0000
492.35	0.0000
497.08	74.0976
507.63	0.0000
510.53	0.0000
510.84	80.5464
511.00	80.5513
511.85	80.5791
511.85	80.5791
513.99	99.1280
513.99	99.1280
520.41	94.9983
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	91.2832
529.87	0.0000
531.02	91.3315
537.32	82.3961
543.00	77.4770
546.56	0.0000
549.76	75.6314
552.65	75.7127
555.20	69.6402
563.23	77.0380
563.90	76.0307
568.70	63.8134
569.32	65.8875
569.50	71.0400
569.67	71.0434
573.80	68.7451
574.00	77.9167
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	75.8757
585.48	0.0000
591.81	79.9176
592.07	83.0391
593.00	92.4114
595.88	83.1504
600.56	72.8779
602.52	0.0000
602.71	74.6691
602.71	74.6691
603.60	90.3271
604.41	95.5652
604.70	95.5741
609.31	73.1018

609.31	73.1018
609.31	73.1018
609.31	73.1018
610.33	87.0565
612.46	67.9548
614.37	80.2061
618.01	83.7988
621.84	70.2731
621.84	70.2731
631.29	63.1362
633.02	68.4373
633.10	68.4388
634.78	61.1039
635.90	71.6656
636.97	76.9637
645.85	69.7915
646.12	69.7979
656.30	56.5938
657.75	61.9293
657.90	0.0000
661.65	54.2136
661.65	54.2136
664.57	0.0000
666.33	54.2971
666.33	54.2971
675.00	54.4502
677.61	65.1818
685.20	64.2700
692.80	60.1316
695.00	73.0685
696.49	54.8275
696.49	54.8275
697.00	59.1371
697.49	54.8449
698.33	66.6909
698.50	70.9983
699.00	74.2373
702.63	89.4013
706.10	58.2280
706.58	0.0000
706.67	71.1804
709.31	63.6843
711.68	66.9724
713.82	63.7736
717.42	60.1183
720.50	54.1577
721.93	0.0000
722.20	61.4113
722.78	68.6477
722.78	68.6477
722.89	68.6508
722.95	68.6523
723.30	79.5011
724.18	83.1373
727.18	55.3554
733.00	48.9298
735.90	60.9451
739.58	37.0431
742.81	50.1665
744.21	66.5534
747.13	48.0487
751.79	55.7700
752.31	53.5914
753.82	54.7107
755.35	0.0000
756.15	48.1787
756.87	54.7607
763.93	85.6058
765.79	65.8872
766.42	65.8989
766.84	63.7108
776.49	50.4894
778.00	56.0222
778.57	48.6825
778.89	48.6868
783.80	56.1165
785.46	42.3379
792.07	74.6949

795.84	45.2347
796.30	52.6269
798.80	95.1669
801.93	63.8101
805.60	45.3613
810.29	55.6189
810.76	57.4804
815.85	43.6370
817.79	0.0000
818.51	37.1655
819.60	46.4711
826.30	40.9716
828.27	0.0000
831.60	68.0766
831.96	68.0840
834.83	62.5385
836.80	0.0000
846.75	54.3160
848.13	59.9583
856.28	0.0000
856.80	49.9047
860.37	59.2189
867.32	41.9752
867.82	38.1459
871.10	56.5625
873.19	45.2754
874.81	41.5212
875.33	0.0000
876.40	42.4823
879.36	36.8474
880.27	42.5272
880.51	44.4201
881.50	49.1584
883.24	38.7770
884.67	37.8459
889.25	45.4707
896.60	53.1528
898.02	52.2227
899.00	50.3366
903.28	60.3095
911.07	42.8741
911.07	42.8741
911.07	42.8741
919.63	32.9432
920.93	38.9722
925.00	28.6859
925.24	25.8190
926.50	29.6541
935.52	30.6816
937.48	54.6783
944.10	52.8493
946.00	43.2614
949.00	47.1428
962.29	52.9542
964.01	59.5986
966.15	54.6620
968.20	87.8349
969.11	67.6872
969.11	67.6872
969.11	67.6872
977.42	34.8823
980.50	36.8481
983.50	33.9646
989.30	45.6747
996.32	40.0513
1001.03	36.0598
1001.68	36.0651
1004.76	33.4445
1021.30	0.0000
1024.50	0.0000
1034.80	45.1970
1036.00	42.2599
1037.82	39.3294
1038.57	37.3691
1038.76	0.0000
1045.16	44.3225
1046.59	44.3372
1048.07	38.4382

1050.47	47.3359
1050.47	47.3359
1062.04	40.5429
1063.62	41.5471
1076.63	50.6016
1077.35	41.6787
1078.86	48.6411
1085.78	42.7533
1099.22	50.8630
1112.02	42.0085
1112.84	41.1596
1115.52	46.3309
1120.29	39.0809
1120.29	39.0809
1120.29	39.0809
1120.29	39.0809
1120.51	39.0825
1121.28	39.0889
1124.00	0.0000
1129.67	39.5922
1131.51	0.0000
1147.95	0.0000
1167.94	50.6307
1173.22	55.7587
1175.09	43.6106
1177.93	57.8442
1189.05	43.7419
1204.90	44.9095
1205.75	0.0000
1213.00	49.0762
1221.42	51.2126
1230.97	58.4983
1235.34	48.2794
1236.41	0.0000
1238.25	43.1689
1246.25	47.3589
1260.41	0.0000
1271.85	34.1534
1274.45	41.4193
1274.54	41.4209
1291.56	37.4063
1298.22	0.0000
1312.09	34.4301
1325.50	21.9681
1325.50	21.9681
1332.49	27.2367
1333.61	25.1465
1360.21	21.0645
1362.66	0.0000
1365.15	15.8130
1368.21	23.2067
1368.53	0.0000
1376.25	22.1860
1384.27	30.6851
1394.10	22.2612
1395.20	28.6282
1407.95	19.1309
1434.06	14.9525
1436.60	17.0964
1457.56	0.0000
1460.81	23.9198
1489.15	12.9463
1509.49	14.0759
1596.49	15.0765
1620.62	12.2999
1678.03	0.0000
1691.02	12.4446
1691.02	12.4446
1706.46	0.0000
1750.46	0.0000
1764.49	11.6237
1764.49	11.6237
1764.49	11.6237
1764.49	11.6237
1770.23	6.7866
1771.40	67.8784
1791.20	0.0000
1808.65	5.8523

1836.01

17.6309

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107011

Total Uranium Activity	4.6163E+00	ug/g
Total Uranium Counting Unc.	6.3526E+00	ug/g
Total Uranium Tpu	3.2411E-06	ug/g
Total Uranium Mda	4.1445E+00	ug/g

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*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON ,SC 29417                           *
*                               GROSS GAMMA REPORT                             *
*
*****
*
*  BATCH ID      : 944038                SAMPLE ID   : G245107011                *
*  ANALYST       : MXR1                  DETECTOR    : GAM06                  *
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00          *
*  ANALYSIS DATE: 1-FEB-2010 13:29:10.41  SAMPLE ALQT: 125.930 GRAM          *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.689E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.385E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.877E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.881E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:54:03.87

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107012.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:29:36.
Sample ID          : G245107012          Sample quantity  : 1.16580E+02 GRAM
Detector name      : GAM07              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           : 944038             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	46.55*	43	369	0.90	92.76	89	8	5.95E-03	82.4	
2	0	63.20*	122	607	1.06	126.06	121	10	1.69E-02	39.6	
3	2	74.79*	492	437	1.22	149.24	142	23	6.83E-02	8.6	3.70E+00
4	2	77.13*	816	400	1.14	153.90	142	23	1.13E-01	5.7	
5	5	87.18	387	329	1.23	174.01	165	30	5.37E-02	9.3	3.78E+00
6	5	89.96	243	355	1.33	179.56	165	30	3.37E-02	15.2	
7	5	92.91*	387	378	1.50	185.46	165	30	5.38E-02	11.1	
8	0	129.24	98	320	0.75	258.11	254	8	1.36E-02	33.2	
9	0	185.88*	214	310	1.19	371.38	366	10	2.98E-02	17.5	
10	0	209.17	133	237	1.25	417.94	414	9	1.85E-02	22.5	
11	4	238.71*	1244	154	1.09	477.01	469	21	1.73E-01	3.4	2.74E+00
12	4	241.74	303	213	1.63	483.07	469	21	4.21E-02	12.4	
13	0	270.13	124	259	1.11	539.85	534	13	1.73E-02	28.0	
14	0	295.43	399	248	1.14	590.43	583	14	5.54E-02	9.8	
15	0	300.28	85	126	0.82	600.13	597	8	1.18E-02	25.4	
16	0	338.38	255	165	1.01	676.32	670	11	3.54E-02	11.6	
17	0	352.03*	644	153	1.25	703.60	698	12	8.94E-02	5.6	
18	0	463.21	70	80	1.32	925.94	920	10	9.74E-03	26.7	
19	0	510.78*	102	149	1.62	1021.07	1013	17	1.42E-02	32.9	
20	0	583.32*	388	85	1.33	1166.12	1160	14	5.39E-02	7.3	
21	0	609.54*	469	110	1.44	1218.55	1212	15	6.51E-02	6.9	
22	0	661.79	140	65	1.58	1323.04	1318	10	1.94E-02	13.7	
23	0	727.03	101	74	1.81	1453.49	1446	13	1.40E-02	19.5	
24	0	768.66	53	52	1.45	1536.76	1531	11	7.31E-03	30.0	
25	0	794.36	86	52	1.44	1588.14	1580	16	1.20E-02	21.6	
26	0	836.94	28	55	0.72	1673.29	1665	11	3.89E-03	54.7	
27	0	861.32	44	54	1.60	1722.04	1715	13	6.06E-03	38.2	
28	0	911.40*	258	51	1.39	1822.19	1814	14	3.59E-02	8.7	
29	0	964.42	55	45	1.48	1928.22	1921	13	7.60E-03	28.8	
30	0	969.32*	189	27	1.74	1938.01	1933	12	2.63E-02	9.5	
31	0	1120.54	99	44	1.85	2240.44	2235	12	1.38E-02	16.8	
32	0	1378.55	25	23	1.22	2756.40	2750	13	3.46E-03	44.4	
33	0	1461.01*	810	23	1.98	2921.31	2912	17	1.12E-01	3.8	
34	0	1588.64	26	3	1.17	3176.57	3172	10	3.65E-03	22.6	
35	0	1593.79	11	12	0.77	3186.86	3181	10	1.58E-03	64.9	
36	0	1765.24*	98	7	2.25	3529.73	3522	15	1.36E-02	12.3	
37	0	1847.84	29	3	1.22	3694.93	3689	12	4.03E-03	22.1	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107012.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:29:36
Sample ID        : G245107012 Sample quantity : 116.58 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA7 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.24 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)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.163E+01	2.478E+00	4.704E-01	4.039E-02	45.988
CD-109	+	88.03	*	5.042E+00	1.052E+00	1.004E+00	9.455E-02	5.023
SN-126	+	64.28		8.549E-01	6.880E-01	6.302E-01	9.140E-02	1.356
	+	86.94		2.048E+00	9.322E-01	4.099E-01	1.701E-01	4.997
	+	87.57	*	4.927E-01	1.028E-01	9.829E-02	9.210E-03	5.012
BA-137M	+	661.65	*	2.248E-01	6.470E-02	6.679E-02	5.911E-03	3.366
CS-137	+	661.65	*	2.376E-01	6.840E-02	7.061E-02	6.260E-03	3.366
TL-208		277.35		5.936E-01	4.104E-01	7.012E-01	8.586E-02	0.847
	+	510.84		5.539E-01	3.705E-01	2.116E-01	2.578E-02	2.618
	+	583.14	*	5.995E-01	1.043E-01	6.119E-02	5.853E-03	9.798
	+	860.37		6.330E-01	4.873E-01	4.861E-01	4.754E-02	1.302
BI-210	+	46.50	*	1.643E+00	2.711E+00	3.022E+00	2.836E-01	0.543
PB-210	+	46.50	*	1.643E+00	2.711E+00	3.022E+00	2.836E-01	0.543
PO-210	+	46.50	*	1.643E+00	2.710E+00	3.022E+00	2.572E-01	0.543
BI-211		72.87		6.275E+00	2.948E+00	4.662E+00	3.680E-01	1.346
	+	351.07	*	4.354E+00	6.237E-01	3.444E-01	3.089E-02	12.643
PB-212	+	74.81		2.437E+00	5.170E-01	4.608E-01	5.684E-02	5.289
	+	77.11		2.331E+00	3.286E-01	2.664E-01	2.199E-02	8.749
	+	87.30		2.279E+00	5.271E-01	4.552E-01	6.228E-02	5.006
	+	238.63	*	1.829E+00	2.141E-01	9.823E-02	9.396E-03	18.617
	+	300.09		1.927E+00	9.995E-01	1.327E+00	1.376E-01	1.452
PO-212	+	74.81		2.437E+00	5.170E-01	4.608E-01	5.684E-02	5.289
	+	77.11		2.331E+00	3.286E-01	2.664E-01	2.199E-02	8.749
	+	87.30		2.279E+00	5.271E-01	4.552E-01	6.228E-02	5.006
	+	115.19		-1.692E+00	3.686E+00	5.817E+00	5.010E-01	-0.291
	+	238.63	*	1.829E+00	2.141E-01	9.823E-02	9.396E-03	18.617
	+	300.09		1.927E+00	9.995E-01	1.327E+00	1.376E-01	1.452
BI-214	+	609.31	*	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
	+	1120.29		1.499E+00	5.281E-01	5.267E-01	5.656E-02	2.846
	+	1764.49		2.036E+00	5.278E-01	2.795E-01	2.299E-02	7.285
PB-214	+	74.81		4.199E+00	8.581E-01	7.940E-01	8.686E-02	5.289
	+	77.11		3.996E+00	6.403E-01	4.568E-01	5.130E-02	8.749
	+	87.30		3.904E+00	8.681E-01	7.798E-01	9.442E-02	5.006
	+	241.98		2.680E+00	7.179E-01	5.917E-01	6.006E-02	4.529

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.593E+00	3.538E-01	2.091E-01	2.214E-02	7.615
	+	351.92	*	1.514E+00	2.309E-01	1.201E-01	1.246E-02	12.616
	+	74.81		4.199E+00	8.581E-01	7.940E-01	8.686E-02	5.289
	+	77.11		3.996E+00	6.403E-01	4.568E-01	5.130E-02	8.749
	+	87.30		3.904E+00	8.681E-01	7.798E-01	9.442E-02	5.006
PO-216	+	241.98		2.680E+00	7.179E-01	5.917E-01	6.006E-02	4.529
	+	295.21		1.593E+00	3.538E-01	2.091E-01	2.214E-02	7.615
	+	351.92	*	1.514E+00	2.309E-01	1.201E-01	1.246E-02	12.616
	+	74.81		2.437E+00	5.170E-01	4.608E-01	5.684E-02	5.289
	+	77.11		2.331E+00	3.286E-01	2.664E-01	2.199E-02	8.749
PO-218	+	87.30		2.279E+00	5.271E-01	4.552E-01	6.228E-02	5.006
	+	238.63	*	1.829E+00	2.141E-01	9.823E-02	9.396E-03	18.617
	+	300.09		1.927E+00	9.995E-01	1.327E+00	1.376E-01	1.452
	+	74.81		4.199E+00	8.581E-01	7.940E-01	8.686E-02	5.289
	+	77.11		3.996E+00	6.403E-01	4.568E-01	5.130E-02	8.749
RA-224	+	87.30		3.904E+00	8.681E-01	7.798E-01	9.442E-02	5.006
	+	241.98		2.680E+00	7.179E-01	5.917E-01	6.006E-02	4.529
	+	295.21		1.593E+00	3.538E-01	2.091E-01	2.214E-02	7.615
	+	351.92	*	1.514E+00	2.309E-01	1.201E-01	1.246E-02	12.616
	+	240.98	*	5.081E+00	1.331E+00	1.118E+00	9.456E-02	4.544
RA-226	+	609.31	*	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
	+	1120.29		1.499E+00	5.281E-01	5.267E-01	5.656E-02	2.846
	+	1764.49		2.036E+00	5.278E-01	2.795E-01	2.299E-02	7.285
	+	338.32		1.897E+00	8.979E-01	3.956E-01	1.632E-01	4.795
	+	911.07	*	1.772E+00	3.709E-01	2.100E-01	2.446E-02	8.439
RA-228	+	969.11		2.288E+00	6.902E-01	MDA could not be calculated		
	+	338.32		1.897E+00	8.979E-01	3.956E-01	1.632E-01	4.795
	+	911.07	*	1.772E+00	3.709E-01	2.100E-01	2.446E-02	8.439
	+	969.11		2.288E+00	6.902E-01	MDA could not be calculated		
	+	74.81		2.484E+00	4.738E-01	4.696E-01	3.817E-02	5.289
TH-228	+	77.11		2.376E+00	3.349E-01	2.715E-01	2.241E-02	8.749
	+	87.30		2.322E+00	4.844E-01	4.639E-01	4.332E-02	5.006
	+	238.63	*	1.864E+00	2.182E-01	1.001E-01	9.576E-03	18.617
	+	300.09		1.964E+00	1.533E+00	1.352E+00	8.016E-01	1.452
	+	609.31	*	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
TH-230	+	1120.29		1.499E+00	5.281E-01	5.267E-01	5.655E-02	2.846
	+	1764.49		2.036E+00	5.278E-01	2.795E-01	2.299E-02	7.285
	+	338.32		1.897E+00	4.693E-01	3.956E-01	3.387E-02	4.795
	+	911.07	*	1.772E+00	3.709E-01	2.100E-01	2.446E-02	8.439
	+	969.11		2.288E+00	6.902E-01	MDA could not be calculated		
TH-234	+	63.29	*	2.160E+00	1.751E+00	1.574E+00	2.738E-01	1.372
	+	92.38		3.283E+00	9.473E-01	6.599E-01	1.211E-01	4.975
U-234	+	609.31	*	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
	+	1120.29		1.499E+00	5.281E-01	5.267E-01	5.655E-02	2.846
	+	1764.49		2.036E+00	5.278E-01	2.795E-01	2.299E-02	7.285
NP-237	+	86.50	*	1.447E+00	4.245E-01	2.902E-01	6.562E-02	4.985
	+	95.87		8.273E-02	9.654E-01	1.407E+00	3.485E-01	0.059
U-238	+	63.29	*	2.160E+00	1.751E+00	1.574E+00	2.738E-01	1.372
	+	92.38		3.283E+00	7.906E-01	6.599E-01	6.045E-02	4.975

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243	+	74.67	*	3.951E-01	7.524E-02	7.484E-02	6.016E-03	5.279
	+	86.72		5.425E+01	1.132E+01	1.087E+01	1.007E+00	4.991
		117.66		-2.034E+00	3.878E+00	6.089E+00	5.238E-01	-0.334
		142.18		-6.170E+00	1.943E+01	3.037E+01	2.507E+00	-0.203
ANH-511	+	511.00	*	1.196E-01	7.941E-02	4.572E-02	4.062E-03	2.617

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.090E-02	3.790E-01	6.010E-01	5.672E-02	-0.085
NA-22		1274.54	*	-4.489E-02	4.275E-02	6.094E-02	5.002E-03	-0.737
NA-24		1368.53	*	2.205E+01	4.275E-02	Half-Life too short		
AL-26		1129.67		1.134E+00	1.789E+00	3.158E+00	2.653E-01	0.359
		1808.65	*	9.115E-03	2.941E-02	5.034E-02	4.105E-03	0.181
TI-44		67.85		-3.745E-03	4.187E-02	6.147E-02	4.638E-03	-0.061
	+	78.38	*	4.302E-01	6.065E-02	7.311E-02	6.121E-03	5.885
SC-46		889.25	*	2.173E-02	4.553E-02	7.732E-02	7.085E-03	0.281
	+	1120.51		2.652E-01	9.174E-02	1.480E-01	1.250E-02	1.792
V-48		944.10		-1.469E-01	1.114E+00	1.774E+00	1.612E-01	-0.083
		983.50	*	2.794E-02	8.920E-02	1.486E-01	1.338E-02	0.188
		1312.09		5.560E-02	1.028E-01	1.797E-01	1.474E-02	0.309
CR-51		320.08	*	-2.408E-01	4.308E-01	6.827E-01	6.169E-02	-0.353
MN-52		744.21		1.717E-01	4.191E-01	7.139E-01	6.481E-02	0.240
		848.13		-1.622E+00	1.198E+01	1.926E+01	1.768E+00	-0.084
		935.52		7.675E-01	4.794E-01	8.811E-01	8.023E-02	0.871
		1246.25		-6.685E-01	1.259E+01	2.074E+01	1.699E+00	-0.032
		1333.61		1.606E+00	8.923E+00	1.506E+01	1.234E+00	0.107
		1434.06	*	9.240E-02	3.798E-01	6.453E-01	5.366E-02	0.143
MN-54		834.83	*	3.899E-02	5.005E-02	7.702E-02	7.069E-03	0.506
CO-56		846.75	*	-2.864E-03	4.301E-02	6.960E-02	6.390E-03	-0.041
		977.42		-1.856E-01	2.977E+00	4.626E+00	4.171E-01	-0.040
		1037.82		-5.564E-02	3.206E-01	5.284E-01	4.902E-02	-0.105
		1175.09		-7.002E-01	2.379E+00	3.839E+00	3.125E-01	-0.182
		1238.25		1.586E-01	9.940E-02	1.845E-01	1.559E-02	0.860
		1360.21		6.503E-01	1.139E+00	2.005E+00	1.650E-01	0.324
		1771.40		-2.661E-01	2.672E-01	2.362E-01	1.940E-02	-1.127
CO-57		122.06	*	1.070E-02	2.513E-02	4.121E-02	3.546E-03	0.260
		136.48		-1.652E-01	2.208E-01	3.397E-01	3.059E-02	-0.486
CO-58		810.76	*	1.597E-02	4.179E-02	7.088E-02	6.512E-03	0.225
FE-59		142.65		5.250E-02	3.173E+00	5.035E+00	4.153E-01	0.010
		192.34		-1.077E+00	1.033E+00	1.651E+00	2.167E-01	-0.652
		1099.22	*	-1.438E-02	1.069E-01	1.764E-01	1.634E-02	-0.082
		1291.56		7.395E-04	1.364E-01	2.253E-01	2.122E-02	0.003
CO-60		1173.22		5.406E-03	4.527E-02	7.619E-02	6.200E-03	0.071
		1332.49	*	-1.267E-02	4.464E-02	7.121E-02	5.834E-03	-0.178
ZN-65		1115.52	*	2.370E-02	1.098E-01	1.626E-01	1.380E-02	0.146
GE-68		1077.35	*	1.606E-01	1.233E+00	2.093E+00	1.813E-01	0.077
AS-73		53.44	*	4.637E-02	5.884E-01	9.660E-01	7.254E-02	0.048

---- 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	*	-8.946E-03	1.162E-01	1.930E-01	1.731E-02	-0.046
		634.78		-2.285E-02	4.110E-01	6.803E-01	6.065E-02	-0.034
SE-75		66.05		-3.093E-01	4.289E+00	6.309E+00	5.985E-01	-0.049
		96.73		-2.832E-01	8.331E-01	1.183E+00	1.639E-01	-0.239
		121.11		3.663E-02	1.383E-01	2.251E-01	2.522E-02	0.163
		136.00		-2.348E-02	4.209E-02	6.547E-02	5.504E-03	-0.359
		198.60		6.593E-01	1.962E+00	3.304E+00	3.036E-01	0.200
		264.65	*	4.007E-02	5.225E-02	8.064E-02	6.886E-03	0.497
		279.53		-3.774E-02	1.174E-01	1.911E-01	1.684E-02	-0.198
		303.91		3.473E-01	2.440E+00	3.575E+00	4.087E-01	0.097
		400.65		1.523E-01	2.581E-01	4.365E-01	4.772E-02	0.349
BR-77	+	87.88		3.422E-03	2.581E-01	Half-Life	too short	
		200.40		-1.667E-04	2.581E-01	Half-Life	too short	
	+	239.00		9.281E-04	2.581E-01	Half-Life	too short	
		249.79		1.349E-05	2.581E-01	Half-Life	too short	
		281.68		-2.413E-04	2.581E-01	Half-Life	too short	
		297.23		1.172E-03	2.581E-01	Half-Life	too short	
		303.76		1.280E-04	2.581E-01	Half-Life	too short	
		439.47		-1.779E-04	2.581E-01	Half-Life	too short	
		484.57		-8.114E-04	2.581E-01	Half-Life	too short	
		520.65	*	3.921E-05	2.581E-01	Half-Life	too short	
		574.64		-5.335E-04	2.581E-01	Half-Life	too short	
		578.91		-3.188E-06	2.581E-01	Half-Life	too short	
		585.48		5.232E-03	2.581E-01	Half-Life	too short	
		755.35		8.567E-04	2.581E-01	Half-Life	too short	
		817.79		1.966E-04	2.581E-01	Half-Life	too short	
SR-82		698.33		-1.679E+01	4.150E+01	6.626E+01	5.942E+00	-0.253
		776.49	*	-3.432E-01	4.477E-01	6.775E-01	6.187E-02	-0.507
		1395.20		-3.143E-01	1.217E+01	1.988E+01	1.645E+00	-0.016
RB-83		520.41	*	8.323E-02	7.477E-02	1.352E-01	1.205E-02	0.615
		529.64		-1.027E-01	1.160E-01	1.817E-01	1.621E-02	-0.565
		552.65		1.291E-01	2.171E-01	3.799E-01	3.403E-02	0.340
RB-84		881.50	*	-2.296E-03	7.898E-02	1.279E-01	1.173E-02	-0.018
KR-85		513.99	*	1.916E+01	8.635E+00	1.491E+01	1.326E+00	1.284
SR-85		513.99	*	1.024E-01	4.615E-02	7.970E-02	7.087E-03	1.284
RB-86		1076.63	*	3.806E-01	8.858E-01	1.549E+00	1.342E-01	0.246
Y-88		898.02		1.022E-02	4.492E-02	7.459E-02	6.860E-03	0.137
		1836.01	*	-1.495E-02	3.431E-02	5.159E-02	4.187E-03	-0.290
ZR-88		392.90	*	4.604E-03	3.492E-02	5.722E-02	4.766E-03	0.080
Y-91		1204.90	*	1.278E+00	2.098E+01	3.502E+01	2.860E+00	0.037
NB-94		702.63	*	-7.137E-03	4.023E-02	6.519E-02	5.853E-03	-0.109
		871.10		1.392E-02	4.095E-02	6.803E-02	6.242E-03	0.205
NB-95		765.79	*	1.466E-02	5.159E-02	7.597E-02	6.926E-03	0.193
NB-95M		235.69	*	1.000E-01	1.519E-01	2.325E-01	2.256E-02	0.430
ZR-95		724.18		1.279E-01	1.086E-01	1.769E-01	1.724E-02	0.723
		756.15	*	7.854E-02	8.297E-02	1.465E-01	1.455E-02	0.536
NB-97		657.90	*	7.092E-01	8.297E-02	Half-Life	too short	
		1024.50		2.674E+02	8.297E-02	Half-Life	too short	
ZR-97		254.15		3.532E+01	8.297E-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
	355.39			-1.880E+02	8.297E-02	Half-Life too short		
	507.63	*		1.240E+02	8.297E-02	Half-Life too short		
	602.52			-2.542E+02	8.297E-02	Half-Life too short		
	1021.30			-9.443E+01	8.297E-02	Half-Life too short		
	1147.95			-1.246E+02	8.297E-02	Half-Life too short		
	1362.66			1.754E+02	8.297E-02	Half-Life too short		
	1750.46			-1.153E+02	8.297E-02	Half-Life too short		
MO-99	140.51			-9.455E+01	8.148E+01	1.159E+02	3.196E+01	-0.816
	181.06			6.067E+00	5.424E+01	8.172E+01	1.473E+01	0.074
	366.43			1.611E+02	2.528E+02	4.288E+02	3.632E+01	0.376
	739.58	*		-2.865E+01	3.264E+01	4.859E+01	7.504E+00	-0.590
	778.00			-1.136E+02	9.862E+01	1.424E+02	1.300E+01	-0.798
TC-99M	140.51	*		-2.761E+15	9.862E+01	Half-Life too short		
RH-101	127.23			1.642E-02	3.612E-02	5.302E-02	4.503E-03	0.310
	198.01	*		2.736E-02	3.490E-02	5.975E-02	4.901E-03	0.458
	325.23			-3.742E-01	2.707E-01	4.081E-01	3.499E-02	-0.917
RH-102	418.52			-2.148E-01	3.248E-01	4.992E-01	4.242E-02	-0.430
	475.06	*		-2.588E-02	3.199E-02	4.768E-02	4.183E-03	-0.543
	631.29			-3.573E-02	5.786E-02	9.109E-02	8.126E-03	-0.392
	697.49			-2.422E-02	8.224E-02	1.325E-01	1.188E-02	-0.183
	766.84			1.698E-01	1.342E-01	2.170E-01	1.979E-02	0.783
	1046.59			-2.129E-02	1.191E-01	1.962E-01	1.725E-02	-0.109
	1112.84			-1.141E-01	2.677E-01	3.941E-01	3.346E-02	-0.290
RU-103	497.08	*		1.606E-02	4.815E-02	7.900E-02	1.130E-02	0.203
+	610.33			1.579E+01	3.433E+00	3.644E+00	6.143E-01	4.334
RH-106	511.85	+		6.021E-01	3.996E-01	4.920E-01	4.372E-02	1.224
	621.84	*		-9.331E-02	3.334E-01	5.420E-01	7.352E-02	-0.172
	1050.47			1.238E-01	2.416E+00	4.072E+00	3.575E-01	0.030
RU-106	511.85	+		6.021E-01	3.996E-01	4.920E-01	4.372E-02	1.224
	621.84	*		-9.331E-02	3.332E-01	5.420E-01	4.844E-02	-0.172
	1050.47			1.238E-01	2.416E+00	4.072E+00	3.575E-01	0.030
AG-108M	433.93	*		-3.644E-02	3.346E-02	4.871E-02	4.348E-03	-0.748
	614.37			-7.879E-03	4.311E-02	6.107E-02	5.664E-03	-0.129
	722.95			1.028E-02	4.587E-02	6.535E-02	6.113E-03	0.157
AG-110M	657.75	*		1.443E-03	4.458E-02	6.446E-02	5.873E-03	0.022
	677.61			-5.599E-02	3.412E-01	5.572E-01	5.092E-02	-0.100
	706.67			4.953E-02	2.417E-01	4.054E-01	3.737E-02	0.122
	763.93			-8.372E-02	1.921E-01	2.564E-01	2.395E-02	-0.327
	884.67			1.474E-02	5.144E-02	8.609E-02	8.117E-03	0.171
	937.48			-4.902E-02	1.327E-01	2.067E-01	1.943E-02	-0.237
	1384.27			-9.627E-02	2.200E-01	2.833E-01	2.413E-02	-0.340
IN-111	171.28			3.111E-01	2.937E+00	4.668E+00	3.715E-01	0.067
	245.39	*		7.699E-03	3.134E+00	4.605E+00	3.901E-01	0.002
IN-113M	391.69	*		-2.544E-02	5.533E-02	8.328E-02	7.159E-03	-0.305
SN-113	391.69	*		-2.544E-02	5.533E-02	8.328E-02	7.159E-03	-0.305
IN-114M	190.27	*		2.447E-01	2.176E-01	3.450E-01	2.807E-02	0.709
CD-115	260.90			-1.594E-04	2.176E-01	Half-Life too short		
	492.35			-1.451E-05	2.176E-01	Half-Life too short		
	527.90	*		4.177E-06	2.176E-01	Half-Life too short		

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SN-117M	156.02			6.969E-01	2.962E+00	4.759E+00	3.833E-01	0.146
	158.56	*		-7.361E-03	7.272E-02	1.149E-01	9.209E-03	-0.064
SB-122	563.90	*		5.156E+00	5.483E+00	9.842E+00	8.823E-01	0.524
	692.80			1.148E+01	1.272E+02	2.119E+02	1.897E+01	0.054
I-123	159.00	*		3.051E+02	1.272E+02	Half-Life	too short	
	528.96			7.115E+03	1.272E+02	Half-Life	too short	
TE-123M	159.00	*		1.040E-02	3.139E-02	5.061E-02	4.083E-03	0.206
I-124	602.71	*		-9.093E-01	1.655E+00	2.261E+00	2.026E-01	-0.402
	722.78			1.807E+00	9.194E+00	1.305E+01	1.178E+00	0.138
	1325.50			1.891E+00	7.017E+01	1.160E+02	9.504E+00	0.016
	1376.25			3.811E+01	8.283E+01	1.252E+02	1.034E+01	0.304
	1509.49			1.085E+00	3.617E+01	5.919E+01	4.949E+00	0.018
	1691.02			-1.116E+00	6.830E+00	1.059E+01	8.799E-01	-0.105
SB-124	602.71			-2.875E-02	5.234E-02	7.150E-02	6.407E-03	-0.402
	645.85			1.018E-01	5.492E-01	9.266E-01	8.704E-02	0.110
	709.31			-4.753E-01	3.208E+00	5.231E+00	4.706E-01	-0.091
	713.82			4.842E-01	1.776E+00	2.999E+00	3.694E-01	0.161
	722.78			8.283E-02	4.214E-01	5.981E-01	5.508E-02	0.138
	968.20	+		2.465E+01	5.169E+00	8.999E+00	8.135E-01	2.739
	1045.16			-7.431E-01	2.646E+00	4.312E+00	3.795E-01	-0.172
	1325.50			9.256E-02	3.435E+00	5.677E+00	4.652E-01	0.016
	1368.21			7.746E-01	2.149E+00	3.683E+00	4.875E-01	0.210
	1436.60			6.823E-01	3.851E+00	6.481E+00	5.390E-01	0.105
	1691.02	*		-1.206E-02	7.384E-02	1.145E-01	9.917E-03	-0.105
SB-125	427.89	*		8.010E-02	9.917E-02	1.693E-01	1.476E-02	0.473
	463.38	+		7.423E-01	4.022E-01	5.935E-01	5.575E-02	1.251
	600.56			-8.865E-02	1.927E-01	3.103E-01	2.971E-02	-0.286
	635.90			-1.730E-01	2.809E-01	4.413E-01	4.231E-02	-0.392
TE-125M	109.28	*		4.166E+00	9.767E+00	1.606E+01	1.667E+00	0.259
I-126	388.63			2.477E-01	2.889E-01	4.940E-01	4.121E-02	0.501
	666.33	*		9.396E-02	2.680E-01	4.015E-01	3.560E-02	0.234
	753.82			1.079E+00	2.012E+00	3.454E+00	3.142E-01	0.312
SB-126	223.80			-2.738E+00	5.125E+00	8.368E+00	7.013E-01	-0.327
	278.60			2.638E+00	3.278E+00	5.647E+00	4.793E-01	0.467
	296.50	+		1.977E+01	4.214E+00	5.128E+00	4.382E-01	3.855
	414.70			6.899E-02	1.039E-01	1.757E-01	1.488E-02	0.393
	415.30			-3.764E-01	8.837E+00	1.426E+01	1.209E+00	-0.026
	555.20			-1.660E+00	5.130E+00	8.389E+00	7.516E-01	-0.198
	573.80			5.575E-01	1.419E+00	2.441E+00	2.190E-01	0.228
	593.00			2.607E-01	1.267E+00	2.150E+00	1.928E-01	0.121
	656.30			3.846E+00	4.861E+00	7.653E+00	6.784E-01	0.503
	666.33			3.962E-02	1.130E-01	1.693E-01	1.501E-02	0.234
	675.00			1.297E+00	2.744E+00	4.713E+00	4.192E-01	0.275
	695.00			-9.597E-03	1.021E-01	1.675E-01	1.500E-02	-0.057
	697.00			-5.984E-02	3.521E-01	5.734E-01	5.139E-02	-0.104
	720.50	*		-1.632E-01	2.062E-01	2.608E-01	2.353E-02	-0.626
	856.80			-4.363E-02	7.400E-01	1.032E+00	9.475E-02	-0.042
	989.30			-1.511E-01	1.625E+00	2.588E+00	2.325E-01	-0.058
	1034.80			-7.181E+00	1.130E+01	1.769E+01	1.564E+00	-0.406

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	1213.00			-1.835E+00	6.731E+00	1.090E+01	8.909E-01	-0.168
	61.10			-9.254E+00	9.453E+01	1.393E+02	1.601E+01	-0.066
	252.40			-6.084E-01	8.915E+00	1.480E+01	6.268E+00	-0.041
	290.80			-3.961E+01	5.225E+01	7.094E+01	8.762E+00	-0.558
	411.60			1.683E+01	2.962E+01	4.947E+01	8.190E+00	0.340
	444.90			-8.895E+00	2.214E+01	3.450E+01	4.717E+00	-0.258
	473.00			4.761E-01	3.646E+00	5.911E+00	8.309E-01	0.081
	543.00			9.638E+00	3.592E+01	6.151E+01	9.578E+00	0.157
	603.60			7.850E+00	2.838E+01	4.238E+01	5.871E+00	0.185
	685.20	*		-1.259E+00	2.904E+00	4.613E+00	5.917E-01	-0.273
	698.50			-1.180E+01	3.390E+01	5.433E+01	9.187E+00	-0.217
	722.20			-1.287E+01	6.765E+01	9.085E+01	1.154E+01	-0.142
	783.80			7.894E+00	8.201E+00	1.441E+01	2.002E+00	0.548
	57.60			1.996E+00	4.757E+00	7.655E+00	5.549E-01	0.261
XE-127	145.22			4.571E-01	8.186E-01	1.337E+00	1.097E-01	0.342
	172.10			-1.644E-02	1.438E-01	2.260E-01	1.800E-02	-0.073
	202.84	*		2.394E-02	5.286E-02	9.074E-02	7.478E-03	0.264
	374.96			4.089E-02	2.332E-01	3.842E-01	3.238E-02	0.106
I-131	80.18			-1.342E+00	6.349E+00	9.165E+00	7.916E-01	-0.146
	284.30			-1.168E+00	2.237E+00	3.591E+00	3.230E-01	-0.325
	364.48	*		6.175E-02	1.752E-01	2.925E-01	2.628E-02	0.211
	636.97			3.985E-01	2.204E+00	3.722E+00	3.501E-01	0.107
TE-132	722.89			2.326E+00	1.085E+01	1.543E+01	1.406E+00	0.151
	49.72			-1.622E+01	2.954E+01	4.273E+01	4.911E+00	-0.380
	111.76			1.724E+01	6.999E+01	1.141E+02	1.369E+01	0.151
	116.30			6.357E+01	6.449E+01	1.078E+02	1.290E+01	0.590
BA-133	228.16	*		8.158E-01	1.603E+00	2.742E+00	4.497E-01	0.297
	53.15			9.714E-01	2.426E+00	4.029E+00	3.036E-01	0.241
	79.62			-2.816E-01	1.249E+00	1.807E+00	2.738E-01	-0.156
	81.00			8.398E-02	1.101E-01	1.344E-01	2.134E-02	0.625
	276.40			5.812E-01	4.275E-01	7.004E-01	1.007E-01	0.830
	302.84			1.103E-01	1.711E-01	2.595E-01	3.438E-02	0.425
I-133	356.01	*		-3.405E-02	5.690E-02	7.801E-02	1.024E-02	-0.436
	383.85			-2.305E-01	3.432E-01	5.310E-01	6.604E-02	-0.434
	510.53	+		2.856E+01	3.432E-01	Half-Life	too short	
	529.87	*		-1.293E-01	3.432E-01	Half-Life	too short	
	706.58			2.272E+00	3.432E-01	Half-Life	too short	
	856.28			2.523E+00	3.432E-01	Half-Life	too short	
	875.33			2.946E-01	3.432E-01	Half-Life	too short	
	1236.41			2.073E+01	3.432E-01	Half-Life	too short	
CS-134	1298.22			-3.238E+00	3.432E-01	Half-Life	too short	
	475.35			-1.196E+00	2.062E+00	3.140E+00	2.755E-01	-0.381
	563.23			1.315E-01	3.538E-01	6.104E-01	5.520E-02	0.215
	569.32			-3.842E-02	2.087E-01	3.448E-01	3.131E-02	-0.111
	604.70			5.314E-03	4.229E-02	6.215E-02	5.580E-03	0.086
	795.84	+	*	1.925E-01	8.488E-02	1.071E-01	9.867E-03	1.797
	801.93			-2.625E-01	4.695E-01	6.482E-01	5.967E-02	-0.405
	1038.57			-3.605E-01	3.864E+00	6.423E+00	5.669E-01	-0.056
	1167.94			-6.467E-01	2.535E+00	4.107E+00	3.356E-01	-0.157

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CS-135 I-135	1365.15			-6.215E-01	1.461E+00	2.269E+00	1.962E-01	-0.274
	268.24	*		1.453E-01	1.927E-01	2.954E-01	2.913E-02	0.492
	288.45			1.549E+14	1.927E-01	Half-Life	too short	
	417.63			-2.446E+14	1.927E-01	Half-Life	too short	
	546.56			-1.397E+14	1.927E-01	Half-Life	too short	
	+ 836.80			5.610E+14	1.927E-01	Half-Life	too short	
	1038.76			-4.176E+13	1.927E-01	Half-Life	too short	
	1124.00			-4.973E+14	1.927E-01	Half-Life	too short	
	1131.51			1.584E+14	1.927E-01	Half-Life	too short	
	1260.41	*		-6.878E+13	1.927E-01	Half-Life	too short	
	1457.56			6.823E+15	1.927E-01	Half-Life	too short	
	1678.03			-2.390E+12	1.927E-01	Half-Life	too short	
	1706.46			-2.838E+14	1.927E-01	Half-Life	too short	
	1791.20			9.440E+13	1.927E-01	Half-Life	too short	
	CS-136			66.91	1.855E-01	1.256E+00	1.864E-01	0.148
	+ 86.29			7.914E+00	1.815E+00	2.501E+00	3.316E-01	3.165
	153.22			7.904E-01	8.737E-01	1.443E+00	1.324E-01	0.548
CE-139 BA-140	163.89			1.240E-01	1.367E+00	2.176E+00	1.971E-01	0.057
	176.55			4.248E-01	4.773E-01	8.359E-01	7.145E-02	0.508
	273.65			-3.283E-01	6.837E-01	9.619E-01	8.729E-02	-0.341
	340.57			3.018E-01	2.114E-01	3.319E-01	2.925E-02	0.909
	818.51			4.147E-02	8.892E-02	1.524E-01	1.399E-02	0.272
	1048.07	*		4.497E-02	1.338E-01	2.320E-01	2.123E-02	0.194
	1235.34			-1.208E-01	8.140E-01	1.332E+00	1.537E-01	-0.091
	165.85	*		-2.323E-02	3.190E-02	4.851E-02	3.837E-03	-0.479
	162.64			-4.790E-01	9.904E-01	1.530E+00	1.301E-01	-0.313
	304.84			9.820E-01	1.794E+00	2.687E+00	7.527E-01	0.365
LA-140	423.70			2.272E+00	2.750E+00	4.537E+00	1.470E+00	0.501
	537.32	*		-1.463E-01	3.537E-01	5.714E-01	1.899E-01	-0.256
	328.77			6.804E-01	4.373E-01	7.678E-01	6.955E-02	0.886
	432.53			-4.150E+00	2.763E+00	3.867E+00	3.479E-01	-1.073
	487.03			-1.820E-02	1.916E-01	3.043E-01	2.841E-02	-0.060
	751.79			-1.586E+00	2.339E+00	3.599E+00	3.588E-01	-0.441
	815.85			-3.148E-01	3.900E-01	5.764E-01	5.828E-02	-0.546
	867.82			-1.004E+00	2.107E+00	2.904E+00	2.790E-01	-0.346
	919.63			9.672E-01	3.432E+00	5.733E+00	6.343E-01	0.169
	925.24			2.253E-01	1.559E+00	2.560E+00	2.467E-01	0.088
CE-141 CE-143	1596.49	*		4.216E-02	1.068E-01	1.650E-01	1.380E-02	0.256
	145.44	*		3.171E-02	7.455E-02	1.211E-01	1.013E-02	0.262
	57.37			4.852E-04	7.455E-02	Half-Life	too short	
	231.56			-4.448E-03	7.455E-02	Half-Life	too short	
	293.26	*		4.824E-03	7.455E-02	Half-Life	too short	
CE-144	+ 350.59			2.522E-01	7.455E-02	Half-Life	too short	
	490.36			8.224E-03	7.455E-02	Half-Life	too short	
	664.57			1.635E-02	7.455E-02	Half-Life	too short	
	721.93			-4.884E-03	7.455E-02	Half-Life	too short	
	80.11			-4.437E-01	2.099E+00	3.031E+00	2.589E-01	-0.146
PM-144	133.54	*		2.091E-01	2.377E-01	3.541E-01	5.467E-02	0.590
	476.78			-4.242E-02	7.514E-02	1.147E-01	1.098E-02	-0.370

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		618.01		-5.384E-03	3.297E-02	5.271E-02	4.836E-03	-0.102
		696.49	*	-1.536E-02	3.658E-02	5.824E-02	5.222E-03	-0.264
		778.57		-1.871E+00	2.320E+00	3.476E+00	3.176E-01	-0.538
PR-144		696.49	*	-1.043E+00	2.484E+00	3.955E+00	3.544E-01	-0.264
	1489.15			-9.952E+00	1.320E+01	1.875E+01	1.566E+00	-0.531
PM-146		453.90	*	-2.357E-03	4.446E-02	7.120E-02	7.672E-03	-0.033
		633.02		-7.349E-01	1.455E+00	2.272E+00	8.505E-01	-0.323
		735.90		6.064E-02	1.626E-01	2.749E-01	7.902E-02	0.221
		747.13		-1.141E-02	9.734E-02	1.583E-01	2.269E-02	-0.072
ND-147	+	91.11		1.344E+00	4.308E-01	6.393E-01	6.328E-02	2.103
		319.41		-6.472E+00	4.622E+00	6.877E+00	5.899E-01	-0.941
		439.89		-6.191E-01	8.494E+00	1.362E+01	1.174E+00	-0.045
		531.02	*	-3.633E-01	7.827E-01	1.270E+00	1.921E-01	-0.286
PM-149		285.90	*	1.372E-05	7.827E-01	Half-Life	too short	
EU-152		121.78		1.328E-02	7.268E-02	1.179E-01	1.168E-02	0.113
		244.69		2.420E-01	3.645E-01	5.605E-01	4.746E-02	0.432
		344.27	*	5.090E-02	1.074E-01	1.753E-01	1.589E-02	0.290
		443.98		-2.802E-01	1.074E+00	1.695E+00	1.464E-01	-0.165
		778.89		-1.561E-01	2.713E-01	4.186E-01	3.824E-02	-0.373
		867.32		-6.664E-01	1.097E+00	1.403E+00	1.288E-01	-0.475
	+	964.01		7.607E-01	4.430E-01	6.327E-01	5.725E-02	1.202
		1085.78		1.822E-01	4.024E-01	7.035E-01	6.068E-02	0.259
		1112.02		-3.727E-01	3.535E-01	5.115E-01	4.346E-02	-0.729
		1407.95		5.134E-02	1.908E-01	3.245E-01	2.690E-02	0.158
GD-153		69.67		3.809E-02	1.530E+00	2.256E+00	1.728E-01	0.017
		83.37		2.637E+01	1.755E+01	2.243E+01	1.993E+00	1.176
		97.43	*	-2.958E-02	8.394E-02	1.191E-01	1.065E-02	-0.248
		103.18		-4.116E-02	1.028E-01	1.635E-01	1.434E-02	-0.252
EU-154		123.07		4.141E-03	5.324E-02	8.589E-02	9.731E-03	0.048
		247.94		-2.179E-01	3.952E-01	5.880E-01	6.685E-02	-0.371
		591.81		3.406E-01	6.948E-01	1.174E+00	1.400E-01	0.290
		723.30		7.554E-02	1.890E-01	2.755E-01	2.728E-02	0.274
		756.87		4.148E-01	8.742E-01	1.491E+00	1.838E-01	0.278
		873.19		3.148E-01	3.525E-01	6.162E-01	7.789E-02	0.511
		996.32		-4.887E-01	3.690E-01	4.715E-01	8.456E-02	-1.037
		1004.76		7.271E-03	2.277E-01	3.716E-01	4.414E-02	0.020
		1274.45	*	-9.936E-02	1.173E-01	1.720E-01	1.891E-02	-0.578
EU-155		48.70		4.439E-01	1.537E+00	2.331E+00	1.887E-01	0.190
		60.01		3.596E-01	3.881E+00	5.779E+00	4.161E-01	0.062
	+	86.54		5.943E-01	1.242E-01	1.887E-01	1.761E-02	3.149
		105.31	*	1.063E-01	1.058E-01	1.780E-01	1.573E-02	0.597
TB-160	+	86.79		1.646E+00	3.434E-01	5.208E-01	4.831E-02	3.161
		197.04		4.219E-02	6.103E-01	1.017E+00	8.331E-02	0.041
		215.65		7.290E-01	7.800E-01	1.363E+00	1.135E-01	0.535
		298.57		2.857E-01	1.808E-01	2.281E-01	1.951E-02	1.252
		879.36	*	-6.537E-02	1.593E-01	2.475E-01	2.270E-02	-0.264
		962.29		9.790E-01	6.723E-01	1.105E+00	1.000E-01	0.886
		966.15		1.460E+00	2.746E-01	5.597E-01	5.062E-02	2.609
		1177.93		8.691E-02	3.693E-01	6.286E-01	5.118E-02	0.138

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		1271.85		-2.500E-01	7.291E-01	1.155E+00	9.470E-02	-0.216
		80.57		-9.196E-02	2.658E-01	3.810E-01	3.272E-02	-0.241
	+	184.41		1.648E-01	5.919E-02	7.156E-02	5.785E-03	2.302
		280.46		-7.225E-02	9.011E-02	1.423E-01	1.209E-02	-0.508
		410.95		1.958E-01	2.870E-01	4.841E-01	4.091E-02	0.404
		711.68	*	-1.566E-02	6.547E-02	1.058E-01	9.525E-03	-0.148
		752.31		-1.981E-01	3.096E-01	4.793E-01	4.358E-02	-0.413
TM-171		810.29		2.554E-02	6.137E-02	1.044E-01	9.568E-03	0.245
		51.35		-1.473E+01	2.015E+01	3.088E+01	2.385E+00	-0.477
		52.39		3.923E-01	1.043E+01	1.709E+01	1.301E+00	0.023
		59.40		5.238E+00	2.078E+01	3.119E+01	2.243E+00	0.168
LU-176		66.72	*	6.608E-01	2.516E+01	3.717E+01	2.780E+00	0.018
	+	88.36		1.169E+00	2.438E-01	3.669E-01	3.448E-02	3.184
		201.83		-3.014E-02	3.037E-02	4.887E-02	4.023E-03	-0.617
		306.84	*	-2.137E-02	2.616E-02	4.087E-02	3.501E-03	-0.523
LU-177		401.10		6.094E+00	6.607E+00	1.142E+01	9.579E-01	0.534
		112.95		2.435E-01	2.477E+00	4.014E+00	3.464E-01	0.061
LU-177M	+	208.36	*	5.223E+00	2.389E+00	3.272E+00	2.710E-01	1.597
		52.97		8.277E-01	1.103E+00	1.854E+00	1.400E-01	0.446
		54.07		2.696E-01	5.959E-01	9.910E-01	7.390E-02	0.272
		61.30		1.899E-01	1.234E+00	1.840E+00	1.332E-01	0.103
		121.62		1.041E-01	3.804E-01	6.196E-01	5.325E-02	0.168
		147.16		-2.099E-01	7.152E-01	1.124E+00	9.194E-02	-0.187
		171.86		-2.875E-02	5.481E-01	8.642E-01	6.883E-02	-0.033
		218.09		-3.627E-01	8.878E-01	1.462E+00	1.220E-01	-0.248
	+	268.79		2.853E+00	1.618E+00	1.628E+00	1.383E-01	1.753
		319.02		-3.867E-01	2.864E-01	4.280E-01	3.670E-02	-0.904
HF-181		367.43		-4.635E-02	1.027E+00	1.670E+00	1.414E-01	-0.028
		413.65	*	-7.297E-03	2.106E-01	3.401E-01	2.879E-02	-0.021
		56.28		-4.366E-01	7.165E-01	1.160E+00	8.480E-02	-0.376
		57.53		1.649E-01	3.956E-01	6.366E-01	4.616E-02	0.259
		65.20		1.116E-02	8.817E-01	1.303E+00	9.640E-02	0.009
		133.02		8.534E-02	8.031E-02	1.215E-01	1.020E-02	0.702
		136.25		-4.520E-01	5.165E-01	7.896E-01	6.586E-02	-0.572
		345.85		4.455E-02	2.327E-01	3.578E-01	3.057E-02	0.125
W-181		482.03	*	2.613E-02	5.312E-02	8.818E-02	7.758E-03	0.296
		56.28		-1.636E-01	2.690E-01	4.355E-01	3.184E-02	-0.376
		57.53		6.193E-02	1.486E-01	2.391E-01	1.734E-02	0.259
TA-182		65.20	*	4.158E-03	3.286E-01	4.856E-01	3.593E-02	0.009
		67.75		-1.044E-02	1.022E-01	1.500E-01	1.131E-02	-0.070
		100.10		9.156E-02	1.801E-01	2.850E-01	2.524E-02	0.321
		152.43		7.874E-02	3.716E-01	5.969E-01	4.839E-02	0.132
RE-183		222.10		2.256E-01	3.549E-01	6.125E-01	5.128E-02	0.368
		1001.68		2.701E+00	2.323E+00	4.177E+00	3.738E-01	0.647
	+	1121.28		7.259E-01	2.512E-01	4.022E-01	3.397E-02	1.805
		1189.05		1.667E-01	3.430E-01	5.944E-01	4.847E-02	0.280
		1221.42	*	-1.022E-01	2.186E-01	3.465E-01	2.834E-02	-0.295
		1230.97		4.303E-01	5.230E-01	9.264E-01	7.582E-02	0.464
		57.98		-4.216E-02	1.663E-01	2.436E-01	1.762E-02	-0.173

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		5.513E-03	8.938E-02	1.329E-01	9.560E-03	0.041
		67.20		-2.991E-02	1.860E-01	2.723E-01	2.044E-02	-0.110
		162.32	*	-3.007E-02	1.227E-01	1.921E-01	1.529E-02	-0.157
	+	208.81		3.249E+00	1.486E+00	2.043E+00	1.693E-01	1.590
		291.72		-9.253E-01	1.196E+00	1.628E+00	1.389E-01	-0.568
		57.98		-1.518E-01	5.988E-01	8.773E-01	6.346E-02	-0.173
		59.32		1.984E-02	3.216E-01	4.784E-01	3.440E-02	0.041
		67.20		-1.077E-01	6.698E-01	9.804E-01	7.359E-02	-0.110
		161.27		2.957E-01	3.864E-01	6.346E-01	5.063E-02	0.466
		216.55		1.229E-01	2.718E-01	4.659E-01	3.885E-02	0.264
		252.85	*	-1.178E-01	2.441E-01	3.961E-01	3.361E-02	-0.297
		318.01		-1.470E-01	4.926E-01	7.955E-01	6.822E-02	-0.185
		792.07		-1.341E-01	1.276E+00	1.783E+00	1.632E-01	-0.075
		903.28		-8.485E-02	1.238E+00	1.801E+00	1.648E-01	-0.047
OS-185		920.93		-5.761E-02	4.672E-01	7.458E-01	6.808E-02	-0.077
		59.72		5.211E-02	2.354E-01	3.528E-01	2.538E-02	0.148
		61.14		-6.432E-03	1.364E-01	2.014E-01	1.457E-02	-0.032
		69.30		4.650E-02	2.763E-01	4.101E-01	3.132E-02	0.113
		592.07		1.403E+00	2.831E+00	4.902E+00	4.395E-01	0.286
		646.12	*	2.297E-02	4.595E-02	7.944E-02	7.063E-03	0.289
		717.42		7.871E-02	9.375E-01	1.558E+00	1.405E-01	0.051
		874.81		3.124E-01	6.914E-01	1.171E+00	1.075E-01	0.267
		880.27		-2.073E-01	8.682E-01	1.375E+00	1.261E-01	-0.151
		155.03	*	1.745E-01	1.931E-01	3.191E-01	2.575E-02	0.547
RE-188		477.96		1.294E+00	3.590E+00	5.914E+00	5.195E-01	0.219
		633.10		-1.479E+00	3.009E+00	4.789E+00	4.271E-01	-0.309
	+	63.58		9.029E+01	7.179E+01	7.791E+01	5.706E+00	1.159
W-188		227.08		6.690E+00	1.308E+01	2.244E+01	1.885E+00	0.298
		290.67	*	-7.134E+00	9.224E+00	1.253E+01	1.069E+00	-0.569
	+	295.96		1.260E+00	2.689E-01	3.358E-01	2.890E-02	3.752
IR-192		308.46		4.919E-02	1.013E-01	1.719E-01	1.480E-02	0.286
		316.51	*	9.532E-03	3.835E-02	6.403E-02	5.504E-03	0.149
		468.07		-3.806E-02	8.534E-02	1.133E-01	1.060E-02	-0.336
		604.41		2.233E-02	5.877E-01	8.561E-01	1.134E-01	0.026
		612.46		1.796E+00	9.117E-01	1.548E+00	1.577E-01	1.160
AU-195		65.12		2.420E-02	1.517E-01	2.256E-01	1.668E-02	0.107
		66.83		2.490E-03	8.419E-02	1.244E-01	9.310E-03	0.020
	+	75.70		1.298E+00	2.472E-01	4.409E-01	3.583E-02	2.944
		98.88	*	3.318E-01	2.306E-01	3.595E-01	3.197E-02	0.923
	+	129.76		6.006E+00	4.016E+00	5.553E+00	4.691E-01	1.082
TL-200		367.94	*	-1.679E-03	4.016E+00	Half-Life	too short	
		579.30		7.592E-03	4.016E+00	Half-Life	too short	
		828.27		4.887E-03	4.016E+00	Half-Life	too short	
		1205.75		4.684E-02	4.016E+00	Half-Life	too short	
TL-201		68.90		4.882E+00	1.060E+01	1.593E+01	1.212E+00	0.306
		70.82		1.861E+00	6.094E+00	9.091E+00	7.036E-01	0.205
		80.30		-2.556E+00	1.210E+01	1.746E+01	1.495E+00	-0.146
		135.34		-2.710E+01	6.500E+01	1.019E+02	8.513E+00	-0.266
		167.43	*	-1.414E+01	1.839E+01	2.789E+01	2.210E+00	-0.507

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-202		68.90		2.236E-01	4.853E-01	7.298E-01	5.553E-02	0.306
		70.82		8.501E-02	2.784E-01	4.153E-01	3.214E-02	0.205
		80.30		-1.168E-01	5.528E-01	7.979E-01	6.831E-02	-0.146
HG-203		439.56	*	-3.106E-02	9.835E-02	1.548E-01	1.333E-02	-0.201
		70.83		3.134E-01	1.024E+00	1.526E+00	1.994E-01	0.205
		72.87		1.324E+00	6.357E-01	9.834E-01	1.253E-01	1.346
		82.60		1.624E+00	1.364E+00	1.704E+00	2.362E-01	0.953
BI-207		279.20	*	2.957E-03	4.562E-02	7.589E-02	6.629E-03	0.039
		72.80		3.371E-01	1.709E-01	2.693E-01	2.124E-02	1.252
	+	74.97		7.093E-01	1.351E-01	2.106E-01	1.698E-02	3.368
		84.90		5.749E-01	1.870E-01	2.999E-01	2.716E-02	1.917
		569.67		4.289E-04	3.294E-02	5.525E-02	4.955E-03	0.008
		1063.62	*	-8.561E-03	5.508E-02	9.087E-02	7.929E-03	-0.094
		1770.23		2.177E-02	4.511E-01	6.565E-01	5.393E-02	0.033
TL-207		81.07		1.848E-01	2.415E-01	2.964E-01	2.560E-02	0.623
		83.78		2.683E-01	1.494E-01	1.937E-01	1.730E-02	1.385
		94.90		5.186E-01	2.414E-01	3.820E-01	3.454E-02	1.357
		122.32		6.923E-01	1.735E+00	2.841E+00	2.620E-01	0.244
		144.24		8.017E-01	7.570E-01	1.250E+00	1.161E-01	0.641
		154.21		4.734E-01	4.321E-01	7.183E-01	6.458E-02	0.659
	+	269.46		6.565E-01	3.725E-01	3.896E-01	3.381E-02	1.685
		323.87	*	-2.636E-01	7.472E-01	1.201E+00	2.123E-01	-0.220
	+	338.28		7.922E+00	2.080E+00	2.781E+00	3.413E-01	2.849
		445.03		-9.020E-01	2.541E+00	3.978E+00	4.815E-01	-0.227
PO-209		260.50		-2.258E+00	9.696E+00	1.592E+01	1.353E+00	-0.142
		262.80		-6.736E+00	2.787E+01	4.574E+01	3.887E+00	-0.147
		896.60	*	5.012E+00	7.773E+00	1.344E+01	1.231E+00	0.373
PB-211		404.84	*	-8.108E-01	1.104E+00	1.491E+00	9.337E-01	-0.544
		427.08		-3.448E-01	2.360E+00	3.757E+00	2.334E+00	-0.092
		831.96		1.244E+00	1.486E+00	2.051E+00	1.287E+00	0.607
BI-212	+	727.18	*	1.332E+00	5.383E-01	7.660E-01	7.946E-02	1.738
		785.46		1.572E+00	2.048E+00	3.484E+00	3.185E-01	0.451
		1620.62		1.249E+00	1.376E+00	2.549E+00	2.130E-01	0.490
PO-215		81.07		1.848E-01	2.415E-01	2.964E-01	2.560E-02	0.623
		83.78		2.683E-01	1.494E-01	1.937E-01	1.730E-02	1.385
		94.90		5.186E-01	2.414E-01	3.820E-01	3.454E-02	1.357
		122.32		6.923E-01	1.735E+00	2.841E+00	2.620E-01	0.244
		144.24		8.017E-01	7.570E-01	1.250E+00	1.161E-01	0.641
		154.21		4.734E-01	4.321E-01	7.183E-01	6.458E-02	0.659
	+	269.46		6.565E-01	3.725E-01	3.896E-01	3.381E-02	1.685
		323.87	*	-2.636E-01	7.472E-01	1.201E+00	2.123E-01	-0.220
	+	338.28		7.922E+00	2.080E+00	2.781E+00	3.413E-01	2.849
		445.03		-9.020E-01	2.541E+00	3.978E+00	4.815E-01	-0.227
RN-219	+	271.23		8.423E-01	4.801E-01	5.065E-01	5.171E-02	1.663
		401.81	*	2.448E-01	4.099E-01	6.920E-01	1.031E-01	0.354
RN-220		549.76	*	4.337E+00	2.883E+01	4.893E+01	4.381E+00	0.089
RA-223		81.07		1.848E-01	2.415E-01	2.964E-01	2.560E-02	0.623
		83.78		2.683E-01	1.494E-01	1.937E-01	1.730E-02	1.385
		94.90		5.186E-01	2.414E-01	3.820E-01	3.454E-02	1.357

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		122.32		6.923E-01	1.735E+00	2.841E+00	2.620E-01	0.244
		144.24		8.017E-01	7.570E-01	1.250E+00	1.161E-01	0.641
		154.21		4.734E-01	4.321E-01	7.183E-01	6.458E-02	0.659
	+	269.46		6.565E-01	3.725E-01	3.896E-01	3.381E-02	1.685
		323.87	*	-2.636E-01	7.472E-01	1.201E+00	2.123E-01	-0.220
	+	338.28		7.922E+00	2.080E+00	2.781E+00	3.413E-01	2.849
		445.03		-9.020E-01	2.541E+00	3.978E+00	4.815E-01	-0.227
		79.80		-4.427E-01	1.607E+00	2.309E+00	4.955E-01	-0.192
		236.00		3.517E-01	2.789E-01	4.365E-01	5.290E-02	0.806
		256.20	*	-9.596E-02	3.879E-01	6.370E-01	9.731E-02	-0.151
		286.10		1.026E+00	1.590E+00	2.719E+00	3.571E-01	0.378
	+	299.80		3.572E+00	1.919E+00	2.845E+00	4.967E-01	1.255
TH-227		304.40		9.629E-01	2.131E+00	3.192E+00	5.877E-01	0.302
		334.20		2.461E+00	2.679E+00	4.096E+00	7.940E-01	0.601
		79.80		-4.427E-01	1.607E+00	2.309E+00	5.018E-01	-0.192
	+	94.00		1.269E+01	3.971E+00	3.835E+00	8.423E-01	3.308
		236.00		3.517E-01	2.783E-01	4.365E-01	4.774E-02	0.806
		256.20	*	-9.596E-02	3.880E-01	6.370E-01	1.147E-01	-0.151
		286.10		1.026E+00	1.890E+00	2.719E+00	2.729E+00	0.378
	+	299.80		3.572E+00	1.919E+00	2.845E+00	4.967E-01	1.255
		304.40		9.629E-01	2.131E+00	3.192E+00	5.877E-01	0.302
		334.20		2.461E+00	2.679E+00	4.096E+00	7.940E-01	0.601
		85.43		7.433E-01	1.946E-01	3.132E-01	2.855E-02	2.373
	+	88.47		6.727E-01	1.403E-01	2.106E-01	1.978E-02	3.193
PA-231		100.00		1.479E-01	1.917E-01	2.894E-01	2.564E-02	0.511
		193.63	*	-5.095E-01	5.204E-01	8.265E-01	6.749E-02	-0.616
		210.97		1.342E+00	8.814E-01	1.414E+00	1.174E-01	0.949
		283.67	*	-3.202E-01	1.557E+00	2.547E+00	3.850E-01	-0.126
	+	301.29		1.429E+00	7.466E-01	1.138E+00	1.389E-01	1.255
		81.07		1.848E-01	2.415E-01	2.964E-01	2.560E-02	0.623
		83.78		2.683E-01	1.494E-01	1.937E-01	1.730E-02	1.385
		94.90		5.186E-01	2.414E-01	3.820E-01	3.454E-02	1.357
		122.32		6.923E-01	1.735E+00	2.841E+00	2.620E-01	0.244
		144.24		8.017E-01	7.570E-01	1.250E+00	1.161E-01	0.641
		154.21		4.734E-01	4.321E-01	7.183E-01	6.458E-02	0.659
	+	269.46		6.565E-01	3.725E-01	3.896E-01	3.381E-02	1.685
U-231		323.87	*	-2.636E-01	7.472E-01	1.201E+00	2.123E-01	-0.220
	+	338.28		7.922E+00	2.080E+00	2.781E+00	3.413E-01	2.849
		445.03		-9.020E-01	2.541E+00	3.978E+00	4.815E-01	-0.227
		84.21		2.833E+01	1.004E+01	1.606E+01	1.442E+00	1.763
	+	92.29		2.403E+01	5.786E+00	7.751E+00	7.103E-01	3.100
		95.87	*	1.798E-01	2.097E+00	3.057E+00	2.752E-01	0.059
		108.00		3.081E-01	3.971E+00	6.443E+00	5.596E-01	0.048
	+	75.28		2.069E+01	4.737E+00	6.488E+00	9.769E-01	3.190
	+	86.59		9.645E+00	3.170E+00	3.061E+00	8.274E-01	3.151
	+	300.12		9.957E-01	5.271E-01	7.935E-01	1.177E-01	1.255
		311.98	*	2.190E-02	6.872E-02	1.153E-01	1.017E-02	0.190
		340.50		1.398E+00	8.998E-01	1.340E+00	3.191E-01	1.044
PA-233		398.62		-1.837E+00	2.179E+00	3.214E+00	8.533E-01	-0.571

----- 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		1.882E-02	1.857E+00	3.007E+00	6.463E-01	0.006
		63.00		2.517E+00	2.028E+00	2.215E+00	3.279E-01	1.137
		94.67		5.391E-01	1.877E-01	2.915E-01	3.704E-02	1.850
		98.44		9.079E-02	1.067E-01	1.436E-01	8.019E-02	0.632
		99.86		4.154E-01	4.870E-01	7.381E-01	6.541E-02	0.563
		111.00		-1.212E-02	1.834E-01	2.952E-01	3.575E-02	-0.041
		131.20		2.458E-02	1.273E-01	1.836E-01	1.547E-02	0.134
		152.70		2.141E-01	3.541E-01	5.762E-01	9.674E-02	0.372
		186.00		5.931E+00	2.776E+00	2.855E+00	8.872E-01	2.077
		226.40		5.717E-02	3.951E-01	6.669E-01	8.707E-02	0.086
		227.20		2.882E-01	4.244E-01	7.337E-01	6.162E-02	0.393
		248.90		-2.555E-02	8.236E-01	1.371E+00	3.066E-01	-0.019
		293.70		5.511E+00	1.341E+00	1.809E+00	3.122E-01	3.046
		369.80		1.256E-01	9.380E-01	1.542E+00	3.348E-01	0.081
		568.70		-2.644E-02	1.018E+00	1.702E+00	1.526E-01	-0.016
		569.50		-2.376E-02	2.901E-01	4.831E-01	4.332E-02	-0.049
		574.00		-1.166E-01	1.663E+00	2.771E+00	2.486E-01	-0.042
		699.00		-2.948E-01	7.737E-01	1.235E+00	2.375E-01	-0.239
	706.10		5.069E-01	1.228E+00	2.057E+00	9.187E-01	0.246	
	733.00		1.149E-01	4.832E-01	7.083E-01	1.584E-01	0.162	
	742.81		6.974E-01	1.503E+00	2.453E+00	1.651E+00	0.284	
	796.30		2.744E+00	1.362E+00	2.054E+00	5.592E-01	1.336	
	805.60		6.156E-01	1.056E+00	1.795E+00	5.530E-01	0.343	
	819.60		1.937E-01	1.193E+00	1.979E+00	7.551E-01	0.098	
	826.30		-6.391E-01	8.793E-01	1.242E+00	5.572E-01	-0.514	
	831.60		4.054E-01	6.973E-01	1.054E+00	3.164E-01	0.385	
	876.40		-2.852E-01	1.015E+00	1.534E+00	1.578E+00	-0.186	
	880.51		-3.401E-02	3.022E-01	4.852E-01	4.449E-02	-0.070	
	883.24		8.302E-02	3.063E-01	5.035E-01	3.388E-01	0.165	
	899.00		-4.411E-01	9.630E-01	1.457E+00	6.385E-01	-0.303	
	925.00		3.558E-02	1.306E+00	2.120E+00	1.934E-01	0.017	
	926.50		1.388E-01	1.900E-01	3.257E-01	8.290E-02	0.426	
	946.00	*	-7.474E-02	3.081E-01	4.834E-01	9.176E-02	-0.155	
	949.00		-9.091E-02	4.620E-01	7.295E-01	6.625E-02	-0.125	
	980.50		-2.858E-01	7.588E-01	1.167E+00	1.052E-01	-0.245	
	1394.10		1.608E-01	1.211E+00	2.017E+00	1.312E+00	0.080	
PA-234M		766.42		9.995E+00	1.481E+01	2.145E+01	1.090E+01	0.466
		1001.03	*	5.708E+00	5.125E+00	9.174E+00	9.407E-01	0.622
U-235	+	89.95		4.174E+00	1.816E+00	1.836E+00	5.701E-01	2.274
		93.35		3.947E+00	1.418E+00	1.260E+00	3.552E-01	3.132
		105.00		1.157E+00	1.087E+00	1.748E+00	5.224E-01	0.662
		143.76	*	1.889E-01	2.346E-01	3.815E-01	6.607E-02	0.495
		163.35		-7.142E-02	4.948E-01	7.782E-01	1.462E-01	-0.092
NP-236	+	185.71		2.197E-01	7.891E-02	1.064E-01	8.612E-03	2.065
		205.31		-2.756E-01	6.188E-01	8.926E-01	1.689E-01	-0.309
		94.67		4.116E-01	1.377E-01	2.214E-01	2.004E-02	1.860
		98.44		6.865E-02	7.123E-02	1.086E-01	9.671E-03	0.632
		111.00		-9.166E-03	1.387E-01	2.233E-01	1.931E-02	-0.041
	160.31	*	3.718E-02	8.553E-02	1.385E-01	1.107E-02	0.268	

----- 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		1.853E-01	1.631E-01	2.504E-01	2.222E-02	0.740
		117.00	*	2.185E-01	1.889E-01	3.188E-01	2.743E-02	0.685
	+	209.75		2.465E+00	1.127E+00	1.545E+00	1.281E-01	1.595
		228.18		1.124E-01	2.258E-01	3.870E-01	3.253E-02	0.290
		277.60		1.754E-01	1.925E-01	3.330E-01	2.827E-02	0.527
		334.30		1.337E+00	1.495E+00	2.310E+00	1.979E-01	0.579
AM-241		59.54	*	2.813E-02	1.203E-01	1.805E-01	1.431E-02	0.156
CM-243		99.55		1.907E-01	1.679E-01	2.577E-01	2.287E-02	0.740
		103.76	*	6.670E-03	9.425E-02	1.531E-01	1.342E-02	0.044
		117.00		2.249E-01	1.943E-01	3.281E-01	2.823E-02	0.685
	+	209.75		2.430E+00	1.112E+00	1.523E+00	1.263E-01	1.595
		228.18		1.136E-01	2.282E-01	3.912E-01	3.287E-02	0.290
		277.60		1.769E-01	1.941E-01	3.358E-01	2.851E-02	0.527
AM-246		798.80		-5.650E-02	1.579E-01	2.114E-01	1.936E-02	-0.267
		1036.00		-1.069E-01	3.058E-01	4.948E-01	4.372E-02	-0.216
		1062.04		-1.880E-01	2.443E-01	3.769E-01	3.291E-02	-0.499
		1078.86	*	-3.598E-02	1.415E-01	2.305E-01	1.996E-02	-0.156
CM-247		278.00		3.575E-01	8.039E-01	1.362E+00	1.156E-01	0.262
		287.40		1.635E+00	1.298E+00	2.284E+00	1.946E-01	0.716
		402.60	*	1.024E-02	3.726E-02	6.163E-02	5.175E-03	0.166
CF-249		252.85		-4.349E-01	9.013E-01	1.462E+00	1.241E-01	-0.297
		333.44		-4.310E-02	2.112E-01	2.986E-01	2.558E-02	-0.144
		387.95	*	4.166E-02	4.622E-02	7.918E-02	6.609E-03	0.526
CF-251		176.60	*	1.217E-01	1.338E-01	2.346E-01	1.879E-02	0.519
		227.00		1.683E-01	3.758E-01	6.432E-01	5.402E-02	0.262
		285.00		-6.245E-01	1.868E+00	3.033E+00	2.581E-01	-0.206

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]G245107012      *
* Acquisition date   : 1-FEB-2010 13:29:36 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 02:00:01.24 Half life ratio : 8.000   *
*****
*                                     SAMPLE DATA                          *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID      *
* Sample ID          : G245107012 Analyst initials: MXR1         *
* Batch Number       : 944038 Sample Quantity : 1.1658E+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	2.163E+01	2.428E+00	4.688E-01	0.000E+00
CD-109	5.042E+00	1.031E+00	1.029E+00	0.000E+00
SN-126	4.927E-01	1.007E-01	1.008E-01	0.000E+00
BA-137M	2.248E-01	6.340E-02	6.711E-02	0.000E+00
CS-137	2.376E-01	6.704E-02	7.094E-02	0.000E+00
TL-208	5.995E-01	1.022E-01	6.156E-02	0.000E+00
BI-210	1.643E+00	2.657E+00	3.119E+00	0.000E+00
PB-210	1.643E+00	2.657E+00	3.119E+00	0.000E+00
PO-210	1.643E+00	2.656E+00	3.119E+00	0.000E+00
BI-211	4.354E+00	6.112E-01	3.483E-01	0.000E+00
PB-212	1.829E+00	2.098E-01	9.973E-02	0.000E+00
PO-212	1.829E+00	2.098E-01	9.973E-02	0.000E+00
BI-214	1.364E+00	2.298E-01	1.225E-01	0.000E+00
PB-214	1.514E+00	2.263E-01	1.214E-01	0.000E+00
PO-214	1.514E+00	2.263E-01	1.214E-01	0.000E+00
PO-216	1.829E+00	2.098E-01	9.973E-02	0.000E+00
PO-218	1.514E+00	2.263E-01	1.214E-01	0.000E+00
RA-224	5.081E+00	1.304E+00	1.135E+00	0.000E+00
RA-226	1.364E+00	2.298E-01	1.225E-01	0.000E+00
AC-228	1.772E+00	3.634E-01	2.103E-01	0.000E+00
RA-228	1.772E+00	3.634E-01	2.103E-01	0.000E+00
TH-228	1.864E+00	2.138E-01	1.016E-01	0.000E+00
TH-230	1.364E+00	2.298E-01	1.225E-01	0.000E+00
TH-232	1.772E+00	3.634E-01	2.103E-01	0.000E+00
TH-234	2.160E+00	1.716E+00	1.619E+00	0.000E+00
U-234	1.364E+00	2.298E-01	1.225E-01	0.000E+00
NP-237	1.447E+00	4.160E-01	2.976E-01	0.000E+00
U-238	2.160E+00	1.716E+00	1.619E+00	0.000E+00
AM-243	3.951E-01	7.374E-02	7.687E-02	0.000E+00
ANH-511	1.196E-01	7.782E-02	4.606E-02	0.000E+00

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

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-5.090E-02	3.714E-01	6.059E-01	0.000E+00	NOT IDENT.
NA-22	-4.489E-02	4.190E-02	6.081E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.709E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	9.115E-03	2.882E-02	5.005E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.944E-02	7.505E-02	0.000E+00	FAIL ABUN
SC-46	2.173E-02	4.462E-02	7.745E-02	0.000E+00	FAIL ABUN
V-48	2.794E-02	8.742E-02	1.487E-01	0.000E+00	NOT IDENT.
CR-51	-2.408E-01	4.222E-01	6.910E-01	0.000E+00	NOT IDENT.
MN-52	9.240E-02	3.722E-01	6.432E-01	0.000E+00	NOT IDENT.
MN-54	3.899E-02	4.904E-02	7.720E-02	0.000E+00	NOT IDENT.
CO-56	-2.864E-03	4.215E-02	6.976E-02	0.000E+00	NOT IDENT.
CO-57	1.070E-02	2.463E-02	4.212E-02	0.000E+00	NOT IDENT.
CO-58	1.597E-02	4.095E-02	7.107E-02	0.000E+00	NOT IDENT.
FE-59	-1.438E-02	1.047E-01	1.763E-01	0.000E+00	NOT IDENT.
CO-60	-1.267E-02	4.375E-02	7.103E-02	0.000E+00	NOT IDENT.
ZN-65	2.370E-02	1.076E-01	1.625E-01	0.000E+00	NOT IDENT.
GE-68	1.606E-01	1.209E+00	2.092E+00	0.000E+00	NOT IDENT.
AS-73	4.637E-02	5.767E-01	9.954E-01	0.000E+00	NOT IDENT.
AS-74	-8.946E-03	1.139E-01	1.942E-01	0.000E+00	NOT IDENT.
SE-75	4.007E-02	5.121E-02	8.178E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.399E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-3.432E-01	4.388E-01	6.796E-01	0.000E+00	NOT IDENT.
RB-83	8.323E-02	7.327E-02	1.362E-01	0.000E+00	NOT IDENT.
RB-84	-2.296E-03	7.740E-02	1.281E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	8.462E+00	1.502E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.522E-02	8.029E-02	0.000E+00	NOT IDENT.
RB-86	3.806E-01	8.681E-01	1.548E+00	0.000E+00	NOT IDENT.
Y-88	-1.495E-02	3.362E-02	5.129E-02	0.000E+00	NOT IDENT.
ZR-88	4.604E-03	3.422E-02	5.780E-02	0.000E+00	NOT IDENT.
Y-91	1.278E+00	2.056E+01	3.497E+01	0.000E+00	NOT IDENT.
NB-94	-7.137E-03	3.943E-02	6.546E-02	0.000E+00	NOT IDENT.
NB-95	1.466E-02	5.056E-02	7.622E-02	0.000E+00	NOT IDENT.
NB-95M	1.000E-01	1.489E-01	2.360E-01	0.000E+00	NOT IDENT.
ZR-95	7.854E-02	8.131E-02	1.470E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.892E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.022E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.865E+01	3.198E+01	4.876E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.415E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.736E-02	3.420E-02	6.078E-02	0.000E+00	NOT IDENT.
RH-102	-2.588E-02	3.135E-02	4.807E-02	0.000E+00	NOT IDENT.
RU-103	1.606E-02	4.719E-02	7.961E-02	0.000E+00	FAIL ABUN
RH-106	-9.331E-02	3.267E-01	5.449E-01	0.000E+00	FAIL ABUN
RU-106	-9.331E-02	3.266E-01	5.449E-01	0.000E+00	FAIL ABUN
AG-108M	-3.644E-02	3.279E-02	4.915E-02	0.000E+00	NOT IDENT.
AG-110M	1.443E-03	4.369E-02	6.477E-02	0.000E+00	NOT IDENT.
IN-111	7.699E-03	3.071E+00	4.674E+00	0.000E+00	NOT IDENT.
IN-113M	-2.544E-02	5.422E-02	8.413E-02	0.000E+00	NOT IDENT.
SN-113	-2.544E-02	5.422E-02	8.413E-02	0.000E+00	NOT IDENT.
IN-114M	2.447E-01	2.132E-01	3.510E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.706E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-7.361E-03	7.126E-02	1.171E-01	0.000E+00	NOT IDENT.
SB-122	5.156E+00	5.374E+00	9.905E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	9.021E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.040E-02	3.076E-02	5.159E-02	0.000E+00	NOT IDENT.
I-124	-9.093E-01	1.622E+00	2.274E+00	0.000E+00	NOT IDENT.
SB-124	-1.206E-02	7.236E-02	1.139E-01	0.000E+00	FAIL ABUN
SB-125	8.010E-02	9.718E-02	1.709E-01	0.000E+00	FAIL ABUN
TE-125M	4.166E+00	9.572E+00	1.643E+01	0.000E+00	NOT IDENT.
I-126	9.396E-02	2.627E-01	4.034E-01	0.000E+00	NOT IDENT.
SB-126	-1.632E-01	2.021E-01	2.618E-01	0.000E+00	FAIL ABUN
SB-127	-1.259E+00	2.846E+00	4.633E+00	0.000E+00	NOT IDENT.
XE-127	2.394E-02	5.180E-02	9.227E-02	0.000E+00	NOT IDENT.
I-131	6.175E-02	1.717E-01	2.957E-01	0.000E+00	NOT IDENT.
TE-132	8.158E-01	1.571E+00	2.785E+00	0.000E+00	NOT IDENT.
BA-133	-3.405E-02	5.576E-02	7.888E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.486E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	8.318E-02	1.074E-01	0.000E+00	FAIL ABUN
CS-135	1.453E-01	1.889E-01	2.996E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.152E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.497E-02	1.312E-01	2.320E-01	0.000E+00	FAIL ABUN
CE-139	-2.323E-02	3.126E-02	4.943E-02	0.000E+00	NOT IDENT.
BA-140	-1.463E-01	3.466E-01	5.754E-01	0.000E+00	NOT IDENT.
LA-140	4.216E-02	1.047E-01	1.643E-01	0.000E+00	NOT IDENT.
CE-141	3.171E-02	7.306E-02	1.235E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.660E+03	0.000E+00	0.000E+00	SHORT HLIF

CE-144	2.091E-01	2.330E-01	3.616E-01	0.000E+00	NOT IDENT.
PM-144	-1.536E-02	3.584E-02	5.848E-02	0.000E+00	NOT IDENT.
PR-144	-1.043E+00	2.434E+00	3.971E+00	0.000E+00	NOT IDENT.
PM-146	-2.357E-03	4.357E-02	7.181E-02	0.000E+00	NOT IDENT.
ND-147	-3.633E-01	7.671E-01	1.279E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.257E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	5.090E-02	1.052E-01	1.773E-01	0.000E+00	FAIL ABUN
GD-153	-2.958E-02	8.226E-02	1.220E-01	0.000E+00	NOT IDENT.
EU-154	-9.936E-02	1.149E-01	1.716E-01	0.000E+00	NOT IDENT.
EU-155	1.063E-01	1.037E-01	1.822E-01	0.000E+00	FAIL ABUN
TB-160	-6.537E-02	1.561E-01	2.479E-01	0.000E+00	FAIL ABUN
HO-166M	-1.566E-02	6.416E-02	1.062E-01	0.000E+00	FAIL ABUN
TM-171	6.608E-01	2.466E+01	3.822E+01	0.000E+00	NOT IDENT.
LU-176	-2.137E-02	2.564E-02	4.139E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.341E+00	3.326E+00	0.000E+00	FAIL ABUN
LU-177M	-7.297E-03	2.064E-01	3.433E-01	0.000E+00	FAIL ABUN
HF-181	2.613E-02	5.206E-02	8.888E-02	0.000E+00	NOT IDENT.
W-181	4.158E-03	3.220E-01	4.994E-01	0.000E+00	NOT IDENT.
TA-182	-1.022E-01	2.142E-01	3.460E-01	0.000E+00	FAIL ABUN
RE-183	-3.007E-02	1.202E-01	1.958E-01	0.000E+00	FAIL ABUN
RE-184	-1.178E-01	2.392E-01	4.019E-01	0.000E+00	NOT IDENT.
OS-185	2.297E-02	4.503E-02	7.984E-02	0.000E+00	NOT IDENT.
RE-188	1.745E-01	1.893E-01	3.254E-01	0.000E+00	NOT IDENT.
W-188	-7.134E+00	9.040E+00	1.270E+01	0.000E+00	FAIL ABUN
IR-192	9.532E-03	3.758E-02	6.482E-02	0.000E+00	FAIL ABUN
AU-195	3.318E-01	2.260E-01	3.682E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.365E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.414E+01	1.802E+01	2.842E+01	0.000E+00	NOT IDENT.
TL-202	-3.106E-02	9.638E-02	1.561E-01	0.000E+00	NOT IDENT.
HG-203	2.957E-03	4.471E-02	7.692E-02	0.000E+00	NOT IDENT.
BI-207	-8.561E-03	5.397E-02	9.085E-02	0.000E+00	FAIL ABUN
TL-207	-2.636E-01	7.323E-01	1.215E+00	0.000E+00	FAIL ABUN
PO-209	5.012E+00	7.618E+00	1.346E+01	0.000E+00	NOT IDENT.
PB-211	-8.108E-01	1.082E+00	1.505E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.276E-01	7.689E-01	0.000E+00	FAIL ABUN
PO-215	-2.636E-01	7.323E-01	1.215E+00	0.000E+00	FAIL ABUN
RN-219	2.448E-01	4.017E-01	6.989E-01	0.000E+00	FAIL ABUN
RN-220	4.337E+00	2.825E+01	4.926E+01	0.000E+00	NOT IDENT.
RA-223	-2.636E-01	7.323E-01	1.215E+00	0.000E+00	FAIL ABUN
AC-227	-9.596E-02	3.802E-01	6.463E-01	0.000E+00	FAIL ABUN
TH-227	-9.596E-02	3.803E-01	6.463E-01	0.000E+00	FAIL ABUN
TH-229	-5.095E-01	5.100E-01	8.408E-01	0.000E+00	FAIL ABUN
PA-231	-3.202E-01	1.526E+00	2.581E+00	0.000E+00	FAIL ABUN
TH-231	-2.636E-01	7.323E-01	1.215E+00	0.000E+00	FAIL ABUN
U-231	1.798E-01	2.056E+00	3.132E+00	0.000E+00	FAIL ABUN
PA-233	2.190E-02	6.735E-02	1.167E-01	0.000E+00	FAIL ABUN
PA-234	-7.474E-02	3.020E-01	4.839E-01	0.000E+00	FAIL ABUN
PA-234M	5.708E+00	5.023E+00	9.178E+00	0.000E+00	NOT IDENT.
U-235	1.889E-01	2.299E-01	3.893E-01	0.000E+00	FAIL ABUN
NP-236	3.718E-02	8.382E-02	1.412E-01	0.000E+00	NOT IDENT.
NP-239	2.185E-01	1.851E-01	3.260E-01	0.000E+00	FAIL ABUN
AM-241	2.813E-02	1.179E-01	1.858E-01	0.000E+00	NOT IDENT.
CM-243	6.670E-03	9.237E-02	1.568E-01	0.000E+00	FAIL ABUN
AM-246	-3.598E-02	1.387E-01	2.304E-01	0.000E+00	NOT IDENT.
CM-247	1.024E-02	3.651E-02	6.224E-02	0.000E+00	NOT IDENT.
CF-249	4.166E-02	4.530E-02	7.999E-02	0.000E+00	NOT IDENT.
CF-251	1.217E-01	1.311E-01	2.388E-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]G245107012.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:29:36.
Sample ID          : G245107012 Sample quantity : 1.16580E+02 GRAM
Detector name      : GAM07 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           : 944038 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	810	10.67*	1.129E+00	2.163E+01	2.163E+01	11.45
CD-109	88.03	387	3.72*	6.834E+00	4.900E+00	5.042E+00	20.86
SN-126	64.28	122	9.60	4.785E+00	8.549E-01	8.549E-01	80.48
	86.94	387	8.90	6.834E+00	2.048E+00	2.048E+00	45.51
	87.57	387	37.00*	6.834E+00	4.927E-01	4.927E-01	20.86
BA-137M	661.65	140	89.98*	2.231E+00	2.245E-01	2.248E-01	28.78
CS-137	661.65	140	85.12*	2.231E+00	2.373E-01	2.376E-01	28.79
TL-208	277.35	-----	6.80	4.401E+00	-----	Line Not Found	-----
	510.84	102	21.60	2.756E+00	5.539E-01	5.539E-01	66.89
	583.14	388	84.20*	2.476E+00	5.995E-01	5.995E-01	17.40
	860.37	44	12.46	1.781E+00	6.330E-01	6.330E-01	76.98
BI-210	46.50	43	4.05*	2.078E+00	1.640E+00	1.643E+00	165.06
PB-210	46.50	43	4.05*	2.078E+00	1.640E+00	1.643E+00	165.06
PO-210	46.50	43	4.05*	2.078E+00	1.640E+00	1.643E+00	165.01
BI-211	72.87	-----	1.27	5.899E+00	-----	Line Not Found	-----
	351.07	644	12.94*	3.680E+00	4.354E+00	4.354E+00	14.33
PB-212	74.81	492	10.70	6.071E+00	2.437E+00	2.437E+00	21.21
	77.11	816	18.00	6.259E+00	2.331E+00	2.331E+00	14.10
	87.30	387	8.00	6.834E+00	2.279E+00	2.279E+00	23.13
	238.63	1244	44.60*	4.909E+00	1.829E+00	1.829E+00	11.70
	300.09	85	3.41	4.149E+00	1.927E+00	1.927E+00	51.87
PO-212	74.81	492	10.70	6.071E+00	2.437E+00	2.437E+00	21.21
	77.11	816	18.00	6.259E+00	2.331E+00	2.331E+00	14.10
	87.30	387	8.00	6.834E+00	2.279E+00	2.279E+00	23.13
	115.19	-----	0.60	7.150E+00	-----	Line Not Found	-----
	238.63	1244	44.60*	4.909E+00	1.829E+00	1.829E+00	11.70
	300.09	85	3.41	4.149E+00	1.927E+00	1.927E+00	51.87
BI-214	609.31	469	46.30*	2.389E+00	1.364E+00	1.364E+00	17.19
	1120.29	99	15.10	1.414E+00	1.499E+00	1.499E+00	35.23
	1764.49	98	15.80	9.831E-01	2.036E+00	2.036E+00	25.92
PB-214	74.81	492	6.21	6.071E+00	4.199E+00	4.199E+00	20.44
	77.11	816	10.50	6.259E+00	3.996E+00	3.996E+00	16.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	387	4.67	6.834E+00	3.903E+00	3.904E+00	22.24
	241.98	303	7.49	4.865E+00	2.680E+00	2.680E+00	26.79
	295.21	399	19.20	4.200E+00	1.592E+00	1.593E+00	22.21
	351.92	644	37.20*	3.680E+00	1.514E+00	1.514E+00	15.25
	74.81	492	6.21	6.071E+00	4.199E+00	4.199E+00	20.44
	77.11	816	10.50	6.259E+00	3.996E+00	3.996E+00	16.02
PO-216	87.30	387	4.67	6.834E+00	3.903E+00	3.904E+00	22.24
	241.98	303	7.49	4.865E+00	2.680E+00	2.680E+00	26.79
	295.21	399	19.20	4.200E+00	1.592E+00	1.593E+00	22.21
	351.92	644	37.20*	3.680E+00	1.514E+00	1.514E+00	15.25
	74.81	492	10.70	6.071E+00	2.437E+00	2.437E+00	21.21
	77.11	816	18.00	6.259E+00	2.331E+00	2.331E+00	14.10
PO-218	87.30	387	8.00	6.834E+00	2.279E+00	2.279E+00	23.13
	238.63	1244	44.60*	4.909E+00	1.829E+00	1.829E+00	11.70
	300.09	85	3.41	4.149E+00	1.927E+00	1.927E+00	51.87
	74.81	492	6.21	6.071E+00	4.199E+00	4.199E+00	20.44
	77.11	816	10.50	6.259E+00	3.996E+00	3.996E+00	16.02
	87.30	387	4.67	6.834E+00	3.903E+00	3.904E+00	22.24
RA-224	241.98	303	7.49	4.865E+00	2.680E+00	2.680E+00	26.79
	295.21	399	19.20	4.200E+00	1.592E+00	1.593E+00	22.21
	351.92	644	37.20*	3.680E+00	1.514E+00	1.514E+00	15.25
	240.98	303	3.95*	4.865E+00	5.081E+00	5.081E+00	26.19
	609.31	469	46.30*	2.389E+00	1.364E+00	1.364E+00	17.19
	1120.29	99	15.10	1.414E+00	1.499E+00	1.499E+00	35.23
AC-228	1764.49	98	15.80	9.831E-01	2.036E+00	2.036E+00	25.92
	338.32	255	11.40	3.792E+00	1.897E+00	1.897E+00	47.33
	911.07	258	27.70*	1.695E+00	1.772E+00	1.772E+00	20.93
	969.11	189	16.60	1.606E+00	2.288E+00	2.288E+00	30.17
	338.32	255	11.40	3.792E+00	1.897E+00	1.897E+00	47.33
	911.07	258	27.70*	1.695E+00	1.772E+00	1.772E+00	20.93
TH-228	969.11	189	16.60	1.606E+00	2.288E+00	2.288E+00	30.17
	74.81	492	10.70	6.071E+00	2.437E+00	2.484E+00	19.08
	77.11	816	18.00	6.259E+00	2.331E+00	2.376E+00	14.10
	87.30	387	8.00	6.834E+00	2.279E+00	2.322E+00	20.86
	238.63	1244	44.60*	4.909E+00	1.829E+00	1.864E+00	11.70
	300.09	85	3.41	4.149E+00	1.927E+00	1.964E+00	78.07
TH-230	609.31	469	46.30*	2.389E+00	1.364E+00	1.364E+00	17.19
	1120.29	99	15.10	1.414E+00	1.499E+00	1.499E+00	35.23
	1764.49	98	15.80	9.831E-01	2.036E+00	2.036E+00	25.92
	338.32	255	11.40	3.792E+00	1.897E+00	1.897E+00	24.74
	911.07	258	27.70*	1.695E+00	1.772E+00	1.772E+00	20.93
	969.11	189	16.60	1.606E+00	2.288E+00	2.288E+00	30.17
TH-234	63.29	122	3.80*	4.785E+00	2.160E+00	2.160E+00	81.06
	92.38	387	5.41	7.022E+00	3.283E+00	3.283E+00	28.85
	609.31	469	46.30*	2.389E+00	1.364E+00	1.364E+00	17.19
	1120.29	99	15.10	1.414E+00	1.499E+00	1.499E+00	35.23
	1764.49	98	15.80	9.831E-01	2.036E+00	2.036E+00	25.92
	86.50	387	12.60*	6.834E+00	1.447E+00	1.447E+00	29.34
NP-237	95.87	-----	2.60	7.087E+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	122	3.80*	4.785E+00	2.160E+00	2.160E+00	81.06
	92.38	387	5.41	7.022E+00	3.283E+00	3.283E+00	24.08
AM-243	74.67	492	66.00*	6.071E+00	3.951E-01	3.951E-01	19.05
	86.72	387	0.34	6.834E+00	5.425E+01	5.425E+01	20.86
	117.66	-----	0.55	7.126E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.723E+00	-----	Line Not Found	-----
ANH-511	511.00	102	100.00*	2.756E+00	1.196E-01	1.196E-01	66.37

Flag: "*" = Keyline

Total number of lines in spectrum 37
Number of unidentified lines 5
Number of lines tentatively identified by NID 32 86.49%

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	2.163E+01	2.163E+01	0.248E+01	11.45	
CD-109	464.00D	1.03	4.900E+00	5.042E+00	1.052E+00	20.86	
SN-126	1.00E+05Y	1.00	4.927E-01	4.927E-01	1.028E-01	20.86	
BA-137M	30.17Y	1.00	2.245E-01	2.248E-01	0.647E-01	28.78	
CS-137	30.17Y	1.00	2.373E-01	2.376E-01	0.684E-01	28.79	
TL-208	1.41E+10Y	1.00	5.995E-01	5.995E-01	1.043E-01	17.40	
BI-210	22.26Y	1.00	1.640E+00	1.643E+00	2.711E+00	165.06	
PB-210	22.26Y	1.00	1.640E+00	1.643E+00	2.711E+00	165.06	
PO-210	22.26Y	1.00	1.640E+00	1.643E+00	2.710E+00	165.01	
BI-211	7.04E+08Y	1.00	4.354E+00	4.354E+00	0.624E+00	14.33	
PB-212	1.41E+10Y	1.00	1.829E+00	1.829E+00	0.214E+00	11.70	
PO-212	1.41E+10Y	1.00	1.829E+00	1.829E+00	0.214E+00	11.70	
BI-214	1600.00Y	1.00	1.364E+00	1.364E+00	0.234E+00	17.19	
PB-214	1600.00Y	1.00	1.514E+00	1.514E+00	0.231E+00	15.25	
PO-214	1600.00Y	1.00	1.514E+00	1.514E+00	0.231E+00	15.25	
PO-216	1.41E+10Y	1.00	1.829E+00	1.829E+00	0.214E+00	11.70	
PO-218	1600.00Y	1.00	1.514E+00	1.514E+00	0.231E+00	15.25	
RA-224	1.41E+10Y	1.00	5.081E+00	5.081E+00	1.331E+00	26.19	
RA-226	1600.00Y	1.00	1.364E+00	1.364E+00	0.234E+00	17.19	
AC-228	1.41E+10Y	1.00	1.772E+00	1.772E+00	0.371E+00	20.93	
RA-228	1.41E+10Y	1.00	1.772E+00	1.772E+00	0.371E+00	20.93	
TH-228	1.91Y	1.02	1.829E+00	1.864E+00	0.218E+00	11.70	
TH-230	4.47E+09Y	1.00	1.364E+00	1.364E+00	0.234E+00	17.19	
TH-232	1.41E+10Y	1.00	1.772E+00	1.772E+00	0.371E+00	20.93	
TH-234	4.47E+09Y	1.00	2.160E+00	2.160E+00	1.751E+00	81.06	
U-234	4.47E+09Y	1.00	1.364E+00	1.364E+00	0.234E+00	17.19	
NP-237	2.14E+06Y	1.00	1.447E+00	1.447E+00	0.425E+00	29.34	
U-238	4.47E+09Y	1.00	2.160E+00	2.160E+00	1.751E+00	81.06	
AM-243	7380.00Y	1.00	3.951E-01	3.951E-01	0.752E-01	19.05	
ANH-511	1.00E+09Y	1.00	1.196E-01	1.196E-01	0.794E-01	66.37	

Total Activity : 7.135E+01 7.154E+01

Grand Total Activity : 7.135E+01 7.154E+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
5	89.96	243	355	1.33	179.56	165	30	3.37E-02	30.5	6.94E+00	T
0	129.24	98	320	0.75	258.11	254	8	1.36E-02	66.3	6.97E+00	T
0	185.88	214	310	1.19	371.38	366	10	2.98E-02	35.0	5.82E+00	T
0	209.17	133	237	1.25	417.94	414	9	1.85E-02	45.0	5.38E+00	T
0	270.13	124	259	1.11	539.85	534	13	1.73E-02	56.1	4.49E+00	T
0	463.21	70	80	1.32	925.94	920	10	9.74E-03	53.4	2.98E+00	T
0	727.03	101	74	1.81	1453.49	1446	13	1.40E-02	39.1	2.06E+00	T
0	768.66	53	52	1.45	1536.76	1531	11	7.31E-03	59.9	1.97E+00	
0	794.36	86	52	1.44	1588.14	1580	16	1.20E-02	43.1	1.91E+00	T
0	836.94	28	55	0.72	1673.29	1665	11	3.89E-03	****	1.83E+00	T
0	964.42	55	45	1.48	1928.22	1921	13	7.60E-03	57.5	1.61E+00	T
0	1378.55	25	23	1.22	2756.40	2750	13	3.46E-03	88.7	1.18E+00	
0	1588.64	26	3	1.17	3176.57	3172	10	3.65E-03	45.2	1.06E+00	
0	1593.79	11	12	0.77	3186.86	3181	10	1.58E-03	****	1.06E+00	
0	1847.84	29	3	1.22	3694.93	3689	12	4.03E-03	44.2	9.55E-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]G245107012.CNF;1
* Acquisition date   : 1-FEB-2010 13:29:36.  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 02:00:01.24             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107012             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.16580E+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	2.163E+01	2.478E+00	4.704E-01	4.039E-02	45.988
CD-109	5.042E+00	1.052E+00	1.004E+00	9.455E-02	5.023
SN-126	4.927E-01	1.028E-01	9.829E-02	9.210E-03	5.012
BA-137M	2.248E-01	6.470E-02	6.679E-02	5.911E-03	3.366
CS-137	2.376E-01	6.840E-02	7.061E-02	6.260E-03	3.366
TL-208	5.995E-01	1.043E-01	6.119E-02	5.853E-03	9.798
BI-210	1.643E+00	2.711E+00	3.022E+00	2.836E-01	0.543
PB-210	1.643E+00	2.711E+00	3.022E+00	2.836E-01	0.543
PO-210	1.643E+00	2.710E+00	3.022E+00	2.572E-01	0.543
BI-211	4.354E+00	6.237E-01	3.444E-01	3.089E-02	12.643
PB-212	1.829E+00	2.141E-01	9.823E-02	9.396E-03	18.617
PO-212	1.829E+00	2.141E-01	9.823E-02	9.396E-03	18.617
BI-214	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
PB-214	1.514E+00	2.309E-01	1.201E-01	1.246E-02	12.616
PO-214	1.514E+00	2.309E-01	1.201E-01	1.246E-02	12.616
PO-216	1.829E+00	2.141E-01	9.823E-02	9.396E-03	18.617
PO-218	1.514E+00	2.309E-01	1.201E-01	1.246E-02	12.616
RA-224	5.081E+00	1.331E+00	1.118E+00	9.456E-02	4.544

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
AC-228	1.772E+00	3.709E-01	2.100E-01	2.446E-02	8.439
RA-228	1.772E+00	3.709E-01	2.100E-01	2.446E-02	8.439
TH-228	1.864E+00	2.182E-01	1.001E-01	9.576E-03	18.617
TH-230	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
TH-232	1.772E+00	3.709E-01	2.100E-01	2.446E-02	8.439
TH-234	2.160E+00	1.751E+00	1.574E+00	2.738E-01	1.372
U-234	1.364E+00	2.345E-01	1.219E-01	1.261E-02	11.195
NP-237	1.447E+00	4.245E-01	2.902E-01	6.562E-02	4.985
U-238	2.160E+00	1.751E+00	1.574E+00	2.738E-01	1.372
AM-243	3.951E-01	7.524E-02	7.484E-02	6.016E-03	5.279
ANH-511	1.196E-01	7.941E-02	4.572E-02	4.062E-03	2.617

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.090E-02		3.790E-01	6.010E-01	5.672E-02	-0.085
NA-22	-4.489E-02		4.275E-02	6.094E-02	5.002E-03	-0.737
NA-24	2.205E+01		3.423E+01	Half-Life	too short	
AL-26	9.115E-03		2.941E-02	5.034E-02	4.105E-03	0.181
TI-44	4.302E-01	+	6.065E-02	7.311E-02	6.121E-03	5.885
SC-46	2.173E-02		4.553E-02	7.732E-02	7.085E-03	0.281
V-48	2.794E-02		8.920E-02	1.486E-01	1.338E-02	0.188
CR-51	-2.408E-01		4.308E-01	6.827E-01	6.169E-02	-0.353
MN-52	9.240E-02		3.798E-01	6.453E-01	5.366E-02	0.143
MN-54	3.899E-02		5.005E-02	7.702E-02	7.069E-03	0.506
CO-56	-2.864E-03		4.301E-02	6.960E-02	6.390E-03	-0.041
CO-57	1.070E-02		2.513E-02	4.121E-02	3.546E-03	0.260
CO-58	1.597E-02		4.179E-02	7.088E-02	6.512E-03	0.225
FE-59	-1.438E-02		1.069E-01	1.764E-01	1.634E-02	-0.082
CO-60	-1.267E-02		4.464E-02	7.121E-02	5.834E-03	-0.178
ZN-65	2.370E-02		1.098E-01	1.626E-01	1.380E-02	0.146
GE-68	1.606E-01		1.233E+00	2.093E+00	1.813E-01	0.077
AS-73	4.637E-02		5.884E-01	9.660E-01	7.254E-02	0.048
AS-74	-8.946E-03		1.162E-01	1.930E-01	1.731E-02	-0.046
SE-75	4.007E-02		5.225E-02	8.064E-02	6.886E-03	0.497
BR-77	3.921E-05		1.734E-05	Half-Life	too short	
SR-82	-3.432E-01		4.477E-01	6.775E-01	6.187E-02	-0.507
RB-83	8.323E-02		7.477E-02	1.352E-01	1.205E-02	0.615
RB-84	-2.296E-03		7.898E-02	1.279E-01	1.173E-02	-0.018
KR-85	1.916E+01		8.635E+00	1.491E+01	1.326E+00	1.284
SR-85	1.024E-01		4.615E-02	7.970E-02	7.087E-03	1.284
RB-86	3.806E-01		8.858E-01	1.549E+00	1.342E-01	0.246
Y-88	-1.495E-02		3.431E-02	5.159E-02	4.187E-03	-0.290
ZR-88	4.604E-03		3.492E-02	5.722E-02	4.766E-03	0.080
Y-91	1.278E+00		2.098E+01	3.502E+01	2.860E+00	0.037
NB-94	-7.137E-03		4.023E-02	6.519E-02	5.853E-03	-0.109

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95	1.466E-02		5.159E-02	7.597E-02	6.926E-03	0.193
NB-95M	1.000E-01		1.519E-01	2.325E-01	2.256E-02	0.430
ZR-95	7.854E-02		8.297E-02	1.465E-01	1.455E-02	0.536
NB-97	7.092E-01		3.006E+00	Half-Life too short		
ZR-97	1.240E+02		5.213E+01	Half-Life too short		
MO-99	-2.865E+01		3.264E+01	4.859E+01	7.504E+00	-0.590
TC-99M	-2.761E+15		1.232E+15	Half-Life too short		
RH-101	2.736E-02		3.490E-02	5.975E-02	4.901E-03	0.458
RH-102	-2.588E-02		3.199E-02	4.768E-02	4.183E-03	-0.543
RU-103	1.606E-02		4.815E-02	7.900E-02	1.130E-02	0.203
RH-106	-9.331E-02		3.334E-01	5.420E-01	7.352E-02	-0.172
RU-106	-9.331E-02		3.332E-01	5.420E-01	4.844E-02	-0.172
AG-108M	-3.644E-02		3.346E-02	4.871E-02	4.348E-03	-0.748
AG-110M	1.443E-03		4.458E-02	6.446E-02	5.873E-03	0.022
IN-111	7.699E-03		3.134E+00	4.605E+00	3.901E-01	0.002
IN-113M	-2.544E-02		5.533E-02	8.328E-02	7.159E-03	-0.305
SN-113	-2.544E-02		5.533E-02	8.328E-02	7.159E-03	-0.305
IN-114M	2.447E-01		2.176E-01	3.450E-01	2.807E-02	0.709
CD-115	4.177E-06		1.891E-05	Half-Life too short		
SN-117M	-7.361E-03		7.272E-02	1.149E-01	9.209E-03	-0.064
SB-122	5.156E+00		5.483E+00	9.842E+00	8.823E-01	0.524
I-123	3.051E+02		4.602E+02	Half-Life too short		
TE-123M	1.040E-02		3.139E-02	5.061E-02	4.083E-03	0.206
I-124	-9.093E-01		1.655E+00	2.261E+00	2.026E-01	-0.402
SB-124	-1.206E-02		7.384E-02	1.145E-01	9.917E-03	-0.105
SB-125	8.010E-02		9.917E-02	1.693E-01	1.476E-02	0.473
TE-125M	4.166E+00		9.767E+00	1.606E+01	1.667E+00	0.259
I-126	9.396E-02		2.680E-01	4.015E-01	3.560E-02	0.234
SB-126	-1.632E-01		2.062E-01	2.608E-01	2.353E-02	-0.626
SB-127	-1.259E+00		2.904E+00	4.613E+00	5.917E-01	-0.273
XE-127	2.394E-02		5.286E-02	9.074E-02	7.478E-03	0.264
I-131	6.175E-02		1.752E-01	2.925E-01	2.628E-02	0.211
TE-132	8.158E-01		1.603E+00	2.742E+00	4.497E-01	0.297
BA-133	-3.405E-02		5.690E-02	7.801E-02	1.024E-02	-0.436
I-133	-1.293E-01		7.582E-02	Half-Life too short		
CS-134	1.925E-01	+	8.488E-02	1.071E-01	9.867E-03	1.797
CS-135	1.453E-01		1.927E-01	2.954E-01	2.913E-02	0.492
I-135	-6.878E+13		5.877E+13	Half-Life too short		
CS-136	4.497E-02		1.338E-01	2.320E-01	2.123E-02	0.194
CE-139	-2.323E-02		3.190E-02	4.851E-02	3.837E-03	-0.479
BA-140	-1.463E-01		3.537E-01	5.714E-01	1.899E-01	-0.256
LA-140	4.216E-02		1.068E-01	1.650E-01	1.380E-02	0.256
CE-141	3.171E-02		7.455E-02	1.211E-01	1.013E-02	0.262
CE-143	4.824E-03		8.470E-04	Half-Life too short		
CE-144	2.091E-01		2.377E-01	3.541E-01	5.467E-02	0.590
PM-144	-1.536E-02		3.658E-02	5.824E-02	5.222E-03	-0.264
PR-144	-1.043E+00		2.484E+00	3.955E+00	3.544E-01	-0.264
PM-146	-2.357E-03		4.446E-02	7.120E-02	7.672E-03	-0.033

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-3.633E-01		7.827E-01	1.270E+00	1.921E-01	-0.286
PM-149	1.372E-05		1.662E-04	Half-Life too short		
EU-152	5.090E-02		1.074E-01	1.753E-01	1.589E-02	0.290
GD-153	-2.958E-02		8.394E-02	1.191E-01	1.065E-02	-0.248
EU-154	-9.936E-02		1.173E-01	1.720E-01	1.891E-02	-0.578
EU-155	1.063E-01		1.058E-01	1.780E-01	1.573E-02	0.597
TB-160	-6.537E-02		1.593E-01	2.475E-01	2.270E-02	-0.264
HO-166M	-1.566E-02		6.547E-02	1.058E-01	9.525E-03	-0.148
TM-171	6.608E-01		2.516E+01	3.717E+01	2.780E+00	0.018
LU-176	-2.137E-02		2.616E-02	4.087E-02	3.501E-03	-0.523
LU-177	5.223E+00	+	2.389E+00	3.272E+00	2.710E-01	1.597
LU-177M	-7.297E-03		2.106E-01	3.401E-01	2.879E-02	-0.021
HF-181	2.613E-02		5.312E-02	8.818E-02	7.758E-03	0.296
W-181	4.158E-03		3.286E-01	4.856E-01	3.593E-02	0.009
TA-182	-1.022E-01		2.186E-01	3.465E-01	2.834E-02	-0.295
RE-183	-3.007E-02		1.227E-01	1.921E-01	1.529E-02	-0.157
RE-184	-1.178E-01		2.441E-01	3.961E-01	3.361E-02	-0.297
OS-185	2.297E-02		4.595E-02	7.944E-02	7.063E-03	0.289
RE-188	1.745E-01		1.931E-01	3.191E-01	2.575E-02	0.547
W-188	-7.134E+00		9.224E+00	1.253E+01	1.069E+00	-0.569
IR-192	9.532E-03		3.835E-02	6.403E-02	5.504E-03	0.149
AU-195	3.318E-01		2.306E-01	3.595E-01	3.197E-02	0.923
TL-200	-1.679E-03		3.248E-03	Half-Life too short		
TL-201	-1.414E+01		1.839E+01	2.789E+01	2.210E+00	-0.507
TL-202	-3.106E-02		9.835E-02	1.548E-01	1.333E-02	-0.201
HG-203	2.957E-03		4.562E-02	7.589E-02	6.629E-03	0.039
BI-207	-8.561E-03		5.508E-02	9.087E-02	7.929E-03	-0.094
TL-207	-2.636E-01		7.472E-01	1.201E+00	2.123E-01	-0.220
PO-209	5.012E+00		7.773E+00	1.344E+01	1.231E+00	0.373
PB-211	-8.108E-01		1.104E+00	1.491E+00	9.337E-01	-0.544
BI-212	1.332E+00	+	5.383E-01	7.660E-01	7.946E-02	1.738
PO-215	-2.636E-01		7.472E-01	1.201E+00	2.123E-01	-0.220
RN-219	2.448E-01		4.099E-01	6.920E-01	1.031E-01	0.354
RN-220	4.337E+00		2.883E+01	4.893E+01	4.381E+00	0.089
RA-223	-2.636E-01		7.472E-01	1.201E+00	2.123E-01	-0.220
AC-227	-9.596E-02		3.879E-01	6.370E-01	9.731E-02	-0.151
TH-227	-9.596E-02		3.880E-01	6.370E-01	1.147E-01	-0.151
TH-229	-5.095E-01		5.204E-01	8.265E-01	6.749E-02	-0.616
PA-231	-3.202E-01		1.557E+00	2.547E+00	3.850E-01	-0.126
TH-231	-2.636E-01		7.472E-01	1.201E+00	2.123E-01	-0.220
U-231	1.798E-01		2.097E+00	3.057E+00	2.752E-01	0.059
PA-233	2.190E-02		6.872E-02	1.153E-01	1.017E-02	0.190
PA-234	-7.474E-02		3.081E-01	4.834E-01	9.176E-02	-0.155
PA-234M	5.708E+00		5.125E+00	9.174E+00	9.407E-01	0.622
U-235	1.889E-01		2.346E-01	3.815E-01	6.607E-02	0.495
NP-236	3.718E-02		8.553E-02	1.385E-01	1.107E-02	0.268
NP-239	2.185E-01		1.889E-01	3.188E-01	2.743E-02	0.685
AM-241	2.813E-02		1.203E-01	1.805E-01	1.431E-02	0.156

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.670E-03		9.425E-02	1.531E-01	1.342E-02	0.044
AM-246	-3.598E-02		1.415E-01	2.305E-01	1.996E-02	-0.156
CM-247	1.024E-02		3.726E-02	6.163E-02	5.175E-03	0.166
CF-249	4.166E-02		4.622E-02	7.918E-02	6.609E-03	0.526
CF-251	1.217E-01		1.338E-01	2.346E-01	1.879E-02	0.519

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]G245107012
* Acquisition date   : 1-FEB-2010 13:29:36 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 02:00:01.24 Half life ratio       : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107012 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.1658E+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	2.163E+01	2.428E+00	2.345E-01	1.239E+00
CD-109	5.042E+00	1.031E+00	5.149E-01	5.259E-01
SN-126	4.927E-01	1.007E-01	5.043E-02	5.139E-02
BA-137M	2.248E-01	6.340E-02	3.357E-02	3.235E-02
CS-137	2.376E-01	6.704E-02	3.549E-02	3.420E-02
TL-208	5.995E-01	1.022E-01	3.080E-02	5.215E-02
BI-210	1.643E+00	2.657E+00	1.560E+00	1.356E+00
PB-210	1.643E+00	2.657E+00	1.560E+00	1.356E+00
PO-210	1.643E+00	2.656E+00	1.560E+00	1.355E+00
BI-211	4.354E+00	6.112E-01	1.742E-01	3.119E-01
PB-212	1.829E+00	2.098E-01	4.989E-02	1.070E-01
PO-212	1.829E+00	2.098E-01	4.989E-02	1.070E-01
BI-214	1.364E+00	2.298E-01	6.130E-02	1.172E-01
PB-214	1.514E+00	2.263E-01	6.074E-02	1.155E-01
PO-214	1.514E+00	2.263E-01	6.074E-02	1.155E-01
PO-216	1.829E+00	2.098E-01	4.989E-02	1.070E-01
PO-218	1.514E+00	2.263E-01	6.074E-02	1.155E-01
RA-224	5.081E+00	1.304E+00	5.679E-01	6.655E-01
RA-226	1.364E+00	2.298E-01	6.130E-02	1.172E-01
AC-228	1.772E+00	3.634E-01	1.052E-01	1.854E-01
RA-228	1.772E+00	3.634E-01	1.052E-01	1.854E-01
TH-228	1.864E+00	2.138E-01	5.085E-02	1.091E-01
TH-230	1.364E+00	2.298E-01	6.130E-02	1.172E-01
TH-232	1.772E+00	3.634E-01	1.052E-01	1.854E-01
TH-234	2.160E+00	1.716E+00	8.099E-01	8.753E-01
U-234	1.364E+00	2.298E-01	6.130E-02	1.172E-01
NP-237	1.447E+00	4.160E-01	1.489E-01	2.123E-01
U-238	2.160E+00	1.716E+00	8.099E-01	8.753E-01
AM-243	3.951E-01	7.374E-02	3.846E-02	3.762E-02
ANH-511	1.196E-01	7.782E-02	2.304E-02	3.971E-02

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

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-5.090E-02	3.714E-01	3.031E-01	1.895E-01 NOT IDENT.
NA-22	-4.489E-02	4.190E-02	3.042E-02	2.138E-02 NOT IDENT.
NA-24	2.205E+07	6.709E+07	0.000E+00	3.423E+07 SHORT HLIF
AL-26	9.115E-03	2.882E-02	2.504E-02	1.471E-02 NOT IDENT.
TI-44	4.302E-01	5.944E-02	3.755E-02	3.032E-02 FAIL ABUN
SC-46	2.173E-02	4.462E-02	3.875E-02	2.277E-02 FAIL ABUN
V-48	2.794E-02	8.742E-02	7.440E-02	4.460E-02 NOT IDENT.
CR-51	-2.408E-01	4.222E-01	3.457E-01	2.154E-01 NOT IDENT.
MN-52	9.240E-02	3.722E-01	3.218E-01	1.899E-01 NOT IDENT.
MN-54	3.899E-02	4.904E-02	3.862E-02	2.502E-02 NOT IDENT.
CO-56	-2.864E-03	4.215E-02	3.490E-02	2.150E-02 NOT IDENT.
CO-57	1.070E-02	2.463E-02	2.107E-02	1.257E-02 NOT IDENT.
CO-58	1.597E-02	4.095E-02	3.555E-02	2.089E-02 NOT IDENT.
FE-59	-1.438E-02	1.047E-01	8.819E-02	5.343E-02 NOT IDENT.
CO-60	-1.267E-02	4.375E-02	3.554E-02	2.232E-02 NOT IDENT.
ZN-65	2.370E-02	1.076E-01	8.131E-02	5.489E-02 NOT IDENT.
GE-68	1.606E-01	1.209E+00	1.047E+00	6.167E-01 NOT IDENT.
AS-73	4.637E-02	5.767E-01	4.980E-01	2.942E-01 NOT IDENT.
AS-74	-8.946E-03	1.139E-01	9.714E-02	5.811E-02 NOT IDENT.
SE-75	4.007E-02	5.121E-02	4.091E-02	2.613E-02 NOT IDENT.
BR-77	3.921E+01	3.399E+01	0.000E+00	1.734E+01 SHORT HLIF
SR-82	-3.432E-01	4.388E-01	3.400E-01	2.239E-01 NOT IDENT.
RB-83	8.323E-02	7.327E-02	6.815E-02	3.738E-02 NOT IDENT.
RB-84	-2.296E-03	7.740E-02	6.410E-02	3.949E-02 NOT IDENT.
KR-85	1.916E+01	8.462E+00	7.516E+00	4.317E+00 NOT IDENT.
SR-85	1.024E-01	4.522E-02	4.017E-02	2.307E-02 NOT IDENT.
RB-86	3.806E-01	8.681E-01	7.745E-01	4.429E-01 NOT IDENT.
Y-88	-1.495E-02	3.362E-02	2.566E-02	1.715E-02 NOT IDENT.
ZR-88	4.604E-03	3.422E-02	2.892E-02	1.746E-02 NOT IDENT.
Y-91	1.278E+00	2.056E+01	1.749E+01	1.049E+01 NOT IDENT.
NB-94	-7.137E-03	3.943E-02	3.275E-02	2.012E-02 NOT IDENT.
NB-95	1.466E-02	5.056E-02	3.813E-02	2.579E-02 NOT IDENT.
NB-95M	1.000E-01	1.489E-01	1.181E-01	7.596E-02 NOT IDENT.
ZR-95	7.854E-02	8.131E-02	7.356E-02	4.148E-02 NOT IDENT.
NB-97	7.092E+05	5.892E+06	0.000E+00	3.006E+06 SHORT HLIF
ZR-97	1.240E+08	1.022E+08	0.000E+00	5.213E+07 SHORT HLIF
MO-99	-2.865E+01	3.198E+01	2.440E+01	1.632E+01 NOT IDENT.
TC-99M	-2.761E+21	2.415E+21	0.000E+00	0.000E+00 SHORT HLIF
RH-101	2.736E-02	3.420E-02	3.041E-02	1.745E-02 NOT IDENT.
RH-102	-2.588E-02	3.135E-02	2.405E-02	1.599E-02 NOT IDENT.
RU-103	1.606E-02	4.719E-02	3.983E-02	2.407E-02 FAIL ABUN
RH-106	-9.331E-02	3.267E-01	2.726E-01	1.667E-01 FAIL ABUN
RU-106	-9.331E-02	3.266E-01	2.726E-01	1.666E-01 FAIL ABUN
AG-108M	-3.644E-02	3.279E-02	2.459E-02	1.673E-02 NOT IDENT.
AG-110M	1.443E-03	4.369E-02	3.240E-02	2.229E-02 NOT IDENT.
IN-111	7.699E-03	3.071E+00	2.338E+00	1.567E+00 NOT IDENT.
IN-113M	-2.544E-02	5.422E-02	4.209E-02	2.766E-02 NOT IDENT.
SN-113	-2.544E-02	5.422E-02	4.209E-02	2.766E-02 NOT IDENT.
IN-114M	2.447E-01	2.132E-01	1.756E-01	1.088E-01 NOT IDENT.
CD-115	4.177E+00	3.706E+01	0.000E+00	1.891E+01 SHORT HLIF
SN-117M	-7.361E-03	7.126E-02	5.858E-02	3.636E-02 NOT IDENT.
SB-122	5.156E+00	5.374E+00	4.955E+00	2.742E+00 NOT IDENT.
I-123	3.051E+08	9.021E+08	0.000E+00	4.602E+08 SHORT HLIF
TE-123M	1.040E-02	3.076E-02	2.581E-02	1.570E-02 NOT IDENT.
I-124	-9.093E-01	1.622E+00	1.138E+00	8.277E-01 NOT IDENT.
SB-124	-1.206E-02	7.236E-02	5.699E-02	3.692E-02 FAIL ABUN
SB-125	8.010E-02	9.718E-02	8.549E-02	4.958E-02 FAIL ABUN
TE-125M	4.166E+00	9.572E+00	8.222E+00	4.884E+00 NOT IDENT.
I-126	9.396E-02	2.627E-01	2.018E-01	1.340E-01 NOT IDENT.
SB-126	-1.632E-01	2.021E-01	1.310E-01	1.031E-01 FAIL ABUN
SB-127	-1.259E+00	2.846E+00	2.318E+00	1.452E+00 NOT IDENT.
XE-127	2.394E-02	5.180E-02	4.616E-02	2.643E-02 NOT IDENT.
I-131	6.175E-02	1.717E-01	1.479E-01	8.762E-02 NOT IDENT.
TE-132	8.158E-01	1.571E+00	1.394E+00	8.014E-01 NOT IDENT.
BA-133	-3.405E-02	5.576E-02	3.946E-02	2.845E-02 NOT IDENT.
I-133	-1.293E+05	1.486E+05	0.000E+00	7.582E+04 SHORT HLIF
CS-134	1.925E-01	8.318E-02	5.373E-02	4.244E-02 FAIL ABUN
CS-135	1.453E-01	1.889E-01	1.499E-01	9.636E-02 NOT IDENT.
I-135	-6.878E+19	1.152E+20	0.000E+00	0.000E+00 SHORT HLIF
CS-136	4.497E-02	1.312E-01	1.160E-01	6.692E-02 FAIL ABUN
CE-139	-2.323E-02	3.126E-02	2.473E-02	1.595E-02 NOT IDENT.
BA-140	-1.463E-01	3.466E-01	2.879E-01	1.768E-01 NOT IDENT.
LA-140	4.216E-02	1.047E-01	8.217E-02	5.340E-02 NOT IDENT.
CE-141	3.171E-02	7.306E-02	6.180E-02	3.727E-02 NOT IDENT.
CE-143	4.824E+03	1.660E+03	0.000E+00	8.470E+02 SHORT HLIF

CE-144	2.091E-01	2.330E-01	1.809E-01	1.189E-01	NOT IDENT.
PM-144	-1.536E-02	3.584E-02	2.926E-02	1.829E-02	NOT IDENT.
PR-144	-1.043E+00	2.434E+00	1.987E+00	1.242E+00	NOT IDENT.
PM-146	-2.357E-03	4.357E-02	3.593E-02	2.223E-02	NOT IDENT.
ND-147	-3.633E-01	7.671E-01	6.397E-01	3.914E-01	FAIL ABUN
PM-149	1.372E+01	3.257E+02	0.000E+00	1.662E+02	SHORT HLIF
EU-152	5.090E-02	1.052E-01	8.869E-02	5.370E-02	FAIL ABUN
GD-153	-2.958E-02	8.226E-02	6.104E-02	4.197E-02	NOT IDENT.
EU-154	-9.936E-02	1.149E-01	8.585E-02	5.864E-02	NOT IDENT.
EU-155	1.063E-01	1.037E-01	9.117E-02	5.291E-02	FAIL ABUN
TB-160	-6.537E-02	1.561E-01	1.240E-01	7.963E-02	FAIL ABUN
HO-166M	-1.566E-02	6.416E-02	5.314E-02	3.274E-02	FAIL ABUN
TM-171	6.608E-01	2.466E+01	1.912E+01	1.258E+01	NOT IDENT.
LU-176	-2.137E-02	2.564E-02	2.071E-02	1.308E-02	FAIL ABUN
LU-177	5.223E+00	2.341E+00	1.664E+00	1.195E+00	FAIL ABUN
LU-177M	-7.297E-03	2.064E-01	1.718E-01	1.053E-01	FAIL ABUN
HF-181	2.613E-02	5.206E-02	4.447E-02	2.656E-02	NOT IDENT.
W-181	4.158E-03	3.220E-01	2.498E-01	1.643E-01	NOT IDENT.
TA-182	-1.022E-01	2.142E-01	1.731E-01	1.093E-01	FAIL ABUN
RE-183	-3.007E-02	1.202E-01	9.795E-02	6.133E-02	FAIL ABUN
RE-184	-1.178E-01	2.392E-01	2.010E-01	1.221E-01	NOT IDENT.
OS-185	2.297E-02	4.503E-02	3.994E-02	2.298E-02	NOT IDENT.
RE-188	1.745E-01	1.893E-01	1.628E-01	9.657E-02	NOT IDENT.
W-188	-7.134E+00	9.040E+00	6.354E+00	4.612E+00	FAIL ABUN
IR-192	9.532E-03	3.758E-02	3.243E-02	1.917E-02	FAIL ABUN
AU-195	3.318E-01	2.260E-01	1.842E-01	1.153E-01	FAIL ABUN
TL-200	-1.679E+03	6.365E+03	0.000E+00	3.248E+03	SHORT HLIF
TL-201	-1.414E+01	1.802E+01	1.422E+01	9.194E+00	NOT IDENT.
TL-202	-3.106E-02	9.638E-02	7.812E-02	4.917E-02	NOT IDENT.
HG-203	2.957E-03	4.471E-02	3.848E-02	2.281E-02	NOT IDENT.
BI-207	-8.561E-03	5.397E-02	4.545E-02	2.754E-02	FAIL ABUN
TL-207	-2.636E-01	7.323E-01	6.080E-01	3.736E-01	FAIL ABUN
PO-209	5.012E+00	7.618E+00	6.735E+00	3.887E+00	NOT IDENT.
PB-211	-8.108E-01	1.082E+00	7.531E-01	5.520E-01	NOT IDENT.
BI-212	1.332E+00	5.276E-01	3.847E-01	2.692E-01	FAIL ABUN
PO-215	-2.636E-01	7.323E-01	6.080E-01	3.736E-01	FAIL ABUN
RN-219	2.448E-01	4.017E-01	3.496E-01	2.050E-01	FAIL ABUN
RN-220	4.337E+00	2.825E+01	2.464E+01	1.442E+01	NOT IDENT.
RA-223	-2.636E-01	7.323E-01	6.080E-01	3.736E-01	FAIL ABUN
AC-227	-9.596E-02	3.802E-01	3.233E-01	1.940E-01	FAIL ABUN
TH-227	-9.596E-02	3.803E-01	3.233E-01	1.940E-01	FAIL ABUN
TH-229	-5.095E-01	5.100E-01	4.207E-01	2.602E-01	FAIL ABUN
PA-231	-3.202E-01	1.526E+00	1.291E+00	7.786E-01	FAIL ABUN
TH-231	-2.636E-01	7.323E-01	6.080E-01	3.736E-01	FAIL ABUN
U-231	1.798E-01	2.056E+00	1.567E+00	1.049E+00	FAIL ABUN
PA-233	2.190E-02	6.735E-02	5.840E-02	3.436E-02	FAIL ABUN
PA-234	-7.474E-02	3.020E-01	2.421E-01	1.541E-01	FAIL ABUN
PA-234M	5.708E+00	5.023E+00	4.592E+00	2.563E+00	NOT IDENT.
U-235	1.889E-01	2.299E-01	1.948E-01	1.173E-01	FAIL ABUN
NP-236	3.718E-02	8.382E-02	7.063E-02	4.277E-02	NOT IDENT.
NP-239	2.185E-01	1.851E-01	1.631E-01	9.443E-02	FAIL ABUN
AM-241	2.813E-02	1.179E-01	9.294E-02	6.016E-02	NOT IDENT.
CM-243	6.670E-03	9.237E-02	7.844E-02	4.713E-02	FAIL ABUN
AM-246	-3.598E-02	1.387E-01	1.153E-01	7.077E-02	NOT IDENT.
CM-247	1.024E-02	3.651E-02	3.114E-02	1.863E-02	NOT IDENT.
CF-249	4.166E-02	4.530E-02	4.002E-02	2.311E-02	NOT IDENT.
CF-251	1.217E-01	1.311E-01	1.195E-01	6.690E-02	NOT IDENT.

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

ENERGY MDA COUNTS

46.50	285.2654
46.50	285.2654
46.50	285.2654
48.70	286.9676
49.72	313.3840
51.35	328.4507
52.39	309.8194
52.97	293.0383
53.15	308.5006
53.44	323.1075
54.07	307.2925
56.28	364.0030
56.28	364.0049
57.37	0.0000
57.53	316.1021
57.53	316.1037
57.60	316.1552
57.98	356.2885
57.98	356.2885
59.32	336.9981
59.32	336.9981
59.40	325.3875
59.54	325.4947
59.72	325.6325
60.01	333.1590
61.10	367.6968
61.14	367.7303
61.30	367.8663
63.00	366.8441
63.29	367.0848
63.29	367.0848
63.58	367.3250
64.28	396.9203
65.12	409.4891
65.20	409.5615
65.20	409.5615
66.05	398.4780
66.72	404.9948
66.83	405.0948
66.91	393.2927
67.20	417.3002
67.20	417.3002
67.75	416.3107
67.85	416.4005
68.90	397.9639
68.90	397.9639
69.30	405.7629
69.67	416.5353
70.82	411.5580
70.82	411.5580
70.83	411.5663
72.80	398.2278
72.87	398.2865
72.87	398.2865
74.67	399.7543
74.81	399.8675
74.81	399.8675
74.81	399.8675
74.81	399.8675
74.81	399.8675
74.81	399.8675
74.81	399.8675
74.97	399.9969
75.28	400.2476
75.70	400.5853
77.11	401.7154
77.11	401.7154

77.11	401.7154
77.11	401.7154
77.11	401.7154
77.11	401.7154
77.11	401.7154
78.38	402.7243
79.62	403.7008
79.80	403.8423
79.80	403.8423
80.11	404.0850
80.18	404.1396
80.30	404.2326
80.30	404.2326
80.57	404.4428
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81.07	305.5344
81.07	305.5344
81.07	305.5344
81.07	305.5344
82.60	306.4285
83.37	306.8726
83.78	307.1121
83.78	307.1121
83.78	307.1121
83.78	307.1121
84.21	275.0880
84.90	275.4417
85.43	275.7134
86.29	276.1532
86.50	276.2597
86.54	276.2802
86.59	276.3061
86.72	276.3717
86.79	276.4058
86.94	276.4837
87.30	276.6653
87.30	276.6653
87.30	276.6653
87.30	276.6653
87.30	276.6653
87.30	276.6653
87.57	276.8018
87.88	0.0000
88.03	277.0340
88.36	277.2006
88.47	277.2566
89.95	277.9968
91.11	278.5745
92.29	279.1563
92.38	279.2013
92.38	279.2013
93.35	279.6766
94.00	279.9948
94.67	280.3185
94.67	280.3212
94.90	280.4332
94.90	280.4332
94.90	280.4332
94.90	280.4332
95.87	295.0266
95.87	295.0266
96.73	312.7503
97.43	300.5344
98.44	250.6125
98.44	250.6125
98.88	227.1379
99.55	247.9225
99.55	247.9225
99.86	252.7917
100.00	252.8503
100.10	266.8035
103.18	290.1941
103.76	280.9290
105.00	256.0012
105.31	259.3183
108.00	295.6608
109.28	280.2167

111.00	282.0460
111.00	282.0460
111.76	289.8949
112.95	287.2021
115.19	302.2211
116.30	246.5083
117.00	230.5344
117.00	230.5344
117.66	282.7659
121.11	241.7477
121.62	240.8397
121.78	240.8959
122.06	232.2711
122.32	236.7224
122.32	236.7224
122.32	236.7224
122.32	236.7224
123.07	263.1917
127.23	253.7836
129.76	284.4610
131.20	290.0067
133.02	235.9134
133.54	236.0824
135.34	274.4428
136.00	278.0253
136.25	289.2442
136.48	280.4315
140.51	312.1608
140.51	0.0000
142.18	291.5452
142.65	282.7515
143.76	264.0594
144.24	257.4806
144.24	257.4806
144.24	257.4806
144.24	257.4806
145.22	279.1993
145.44	279.2775
147.16	285.5412
152.43	264.7369
152.70	260.2806
153.22	247.9400
154.21	247.1073
154.21	247.1073
154.21	247.1073
154.21	247.1073
155.03	247.3589
156.02	254.5114
158.56	259.8871
159.00	0.0000
159.00	247.4253
160.31	242.0842
161.27	232.0275
162.32	256.4736
162.64	256.5711
163.35	241.8192
163.89	231.6068
165.85	249.4709
167.43	256.8795
171.28	249.8994
171.86	254.7203
172.10	254.7916
176.55	236.7959
176.60	236.8103
181.06	258.0966
184.41	256.2259
185.71	255.1729
186.00	255.2542
190.27	205.1508
192.34	254.3304
193.63	242.1699
197.04	225.1076
198.01	211.8692
198.60	227.2699
200.40	0.0000
201.83	267.6925
202.84	229.1740
205.31	241.6934

208.36	219.2154
208.81	196.0763
209.75	188.9919
209.75	188.9919
210.97	199.4126
215.65	182.7927
216.55	193.0169
218.09	215.2959
222.10	180.2658
223.80	209.1184
226.40	180.0855
227.00	172.7958
227.08	172.8101
227.20	169.1318
228.16	177.6108
228.18	177.6152
228.18	177.6152
231.56	0.0000
235.69	213.1489
236.00	213.2100
236.00	213.2100
238.63	206.4389
238.63	206.4389
238.63	206.4389
238.63	206.4389
239.00	0.0000
240.98	206.8823
241.98	207.0703
241.98	207.0703
241.98	207.0703
244.69	154.7905
245.39	166.9187
247.94	173.3282
248.90	161.2192
249.79	0.0000
252.40	159.8274
252.85	175.0282
252.85	175.0282
254.15	0.0000
256.20	165.1043
256.20	165.1043
260.50	158.0997
260.90	0.0000
262.80	166.9998
264.65	142.2223
268.24	170.2641
268.79	167.2735
269.46	162.1870
269.46	162.1870
269.46	162.1870
269.46	162.1870
271.23	162.4268
273.65	195.6904
276.40	146.7166
277.35	141.3103
277.60	156.5222
277.60	156.5222
278.00	168.1722
278.60	156.6508
279.20	164.4670
279.53	170.3174
280.46	177.2254
281.68	0.0000
283.67	145.6467
284.30	164.1778
285.00	161.3546
285.90	0.0000
286.10	134.2560
286.10	134.2560
287.40	127.5799
288.45	0.0000
290.67	168.7263
290.80	168.7447
291.72	178.2502
293.26	0.0000
293.70	126.8493
295.21	126.9995
295.21	126.9995

295.21	126.9995
295.96	127.0747
296.50	127.1281
297.23	0.0000
298.57	121.8317
299.80	121.9490
299.80	121.9490
300.09	157.3877
300.09	157.3877
300.09	157.3877
300.09	157.3877
300.12	157.3926
301.29	141.7808
302.84	135.6411
303.76	0.0000
303.91	129.4383
304.40	123.1718
304.40	123.1718
304.84	118.4747
306.84	151.2864
308.46	118.8025
311.98	133.0165
316.51	131.4763
318.01	142.5920
319.02	160.6610
319.41	160.7077
320.08	138.8155
323.87	161.2358
323.87	161.2358
323.87	161.2358
323.87	161.2358
325.23	207.5085
328.77	149.7525
333.44	148.4421
334.20	111.3922
334.20	111.3922
334.30	111.4006
338.28	130.5393
338.28	130.5393
338.28	130.5393
338.28	130.5393
338.32	130.5432
338.32	130.5432
338.32	130.5432
340.50	157.2982
340.57	157.3053
344.27	118.4622
345.85	119.3672
350.59	0.0000
351.07	120.4811
351.92	120.5532
351.92	120.5532
351.92	120.5532
355.39	0.0000
356.01	139.3328
364.48	109.2219
366.43	109.3659
367.43	121.8279
367.94	0.0000
369.80	115.8162
374.96	113.0981
383.85	133.5840
387.95	113.0098
388.63	110.9655
391.69	130.0623
391.69	130.0623
392.90	111.2680
398.62	107.4567
400.65	82.2775
401.10	78.0796
401.81	83.3926
402.60	90.8265
404.84	115.2786
410.95	117.8376
411.60	122.1331
413.65	125.4758
414.70	98.9558
415.30	113.8932

415.76	110.7317
417.63	0.0000
418.52	119.4495
423.70	95.2157
427.08	111.4886
427.89	84.7295
432.53	114.0014
433.93	97.9497
439.47	0.0000
439.56	107.9926
439.89	104.7735
443.98	102.8568
444.90	102.9118
445.03	102.9205
445.03	102.9205
445.03	102.9205
445.03	102.9205
453.90	81.6673
463.38	84.0762
468.07	94.8335
473.00	82.5462
475.06	98.0662
475.35	92.5723
476.78	97.0557
477.59	93.7885
477.96	87.1862
482.03	91.8046
484.57	0.0000
487.03	90.9450
490.36	0.0000
492.35	0.0000
497.08	80.2848
507.63	0.0000
510.53	0.0000
510.84	70.7596
511.00	70.7654
511.85	70.7967
511.85	70.7967
513.99	69.0000
513.99	69.0000
520.41	65.9174
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	93.4469
529.87	0.0000
531.02	90.7886
537.32	91.0767
543.00	76.7197
546.56	0.0000
549.76	83.3930
552.65	70.6629
555.20	78.1021
563.23	64.5706
563.90	55.3638
568.70	74.9131
569.32	82.3380
569.50	82.3446
569.67	82.3511
573.80	78.8055
574.00	88.0837
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	72.6356
585.48	0.0000
591.81	72.7230
592.07	72.0033
593.00	76.7128
595.88	81.4988
600.56	89.1854
602.52	0.0000
602.71	98.6708
602.71	98.6708
603.60	78.3427
604.41	87.7757
604.70	87.7871
609.31	81.0596

609.31	81.0596
609.31	81.0596
609.31	81.0596
610.33	81.0974
612.46	61.3533
614.37	67.7054
618.01	66.2385
621.84	71.0925
621.84	71.0925
631.29	75.1985
633.02	70.4933
633.10	70.4951
634.78	60.0607
635.90	71.5356
636.97	60.1192
645.85	63.2269
646.12	59.4010
656.30	54.5306
657.75	73.8216
657.90	0.0000
661.65	80.0537
661.65	80.0537
664.57	0.0000
666.33	64.4287
666.33	64.4287
675.00	65.9580
677.61	71.8555
685.20	68.1868
692.80	67.4232
695.00	69.4417
696.49	73.3978
696.49	73.3978
697.00	70.4760
697.49	74.4062
698.33	79.3290
698.50	79.3349
699.00	77.3915
702.63	86.3371
706.10	75.6502
706.58	0.0000
706.67	76.6499
709.31	73.7805
711.68	69.9132
713.82	58.1473
717.42	57.2439
720.50	64.2319
721.93	0.0000
722.20	52.7383
722.78	47.8047
722.78	47.8047
722.89	47.8070
722.95	47.8082
723.30	44.5177
724.18	46.1825
727.18	77.6124
733.00	66.2044
735.90	58.6586
739.58	65.7116
742.81	52.8357
744.21	56.8539
747.13	60.9121
751.79	72.0264
752.31	75.0421
753.82	59.0677
755.35	0.0000
756.15	55.1128
756.87	62.1438
763.93	61.9768
765.79	58.6680
766.42	62.0355
766.84	57.0139
776.49	65.6379
778.00	70.7263
778.57	59.6251
778.89	59.6324
783.80	54.6790
785.46	59.6667
792.07	66.0204

795.84	44.0750
796.30	40.6914
798.80	52.6077
801.93	55.3380
805.60	46.9546
810.29	47.0343
810.76	46.0195
815.85	51.2280
817.79	0.0000
818.51	38.9704
819.60	41.0381
826.30	54.5062
828.27	0.0000
831.60	39.4966
831.96	32.6323
834.83	60.1733
836.80	0.0000
846.75	51.7944
848.13	54.9280
856.28	0.0000
856.80	57.1740
860.37	52.0410
867.32	62.5986
867.82	58.1368
871.10	54.3226
873.19	49.1343
874.81	51.2538
875.33	0.0000
876.40	60.7003
879.36	55.5232
880.27	52.3975
880.51	50.3051
881.50	46.1291
883.24	44.0580
884.67	41.9805
889.25	48.3517
896.60	40.0419
898.02	45.3316
899.00	59.0570
903.28	54.3126
911.07	43.4114
911.07	43.4114
911.07	43.4114
919.63	38.2254
920.93	43.5525
925.00	49.9926
925.24	48.9334
926.50	39.3757
935.52	39.4914
937.48	63.0116
944.10	46.0224
946.00	44.9798
949.00	46.0948
962.29	43.0605
964.01	59.2405
966.15	0.0000
968.20	0.0000
969.11	0.0000
969.11	0.0000
969.11	0.0000
977.42	36.0547
980.50	45.4730
983.50	41.1803
989.30	42.3401
996.32	50.0486
1001.03	34.8664
1001.68	34.8734
1004.76	41.4512
1021.30	0.0000
1024.50	0.0000
1034.80	49.5352
1036.00	46.7998
1037.82	43.1522
1038.57	42.2434
1038.76	0.0000
1045.16	46.9264
1046.59	46.9471
1048.07	39.6004

1050.47	45.1579
1050.47	45.1579
1062.04	55.4834
1063.62	48.1068
1076.63	35.2879
1077.35	39.0110
1078.86	43.6743
1085.78	38.1756
1099.22	53.2775
1112.02	63.4476
1112.84	58.7985
1115.52	49.9014
1120.29	56.4160
1120.29	56.4160
1120.29	56.4160
1120.29	56.4160
1120.51	60.1797
1121.28	43.5322
1124.00	0.0000
1129.67	42.4219
1131.51	0.0000
1147.95	0.0000
1167.94	48.5865
1173.22	44.8390
1175.09	50.5889
1177.93	42.0306
1189.05	49.8206
1204.90	53.8786
1205.75	0.0000
1213.00	68.4548
1221.42	63.7764
1230.97	50.3729
1235.34	72.7356
1236.41	0.0000
1238.25	45.6135
1246.25	50.5718
1260.41	0.0000
1271.85	38.1764
1274.45	40.1609
1274.54	43.0994
1291.56	36.3978
1298.22	0.0000
1312.09	30.6506
1325.50	30.7515
1325.50	30.7515
1332.49	33.7856
1333.61	26.8363
1360.21	25.0081
1362.66	0.0000
1365.15	36.0542
1368.21	29.0649
1368.53	0.0000
1376.25	36.1494
1384.27	34.4936
1394.10	22.1844
1395.20	22.1898
1407.95	23.2677
1434.06	18.3193
1436.60	18.3296
1457.56	0.0000
1460.81	14.3350
1489.15	25.7609
1509.49	27.9470
1596.49	10.8461
1620.62	12.7178
1678.03	0.0000
1691.02	10.7503
1691.02	10.7503
1706.46	0.0000
1750.46	0.0000
1764.49	8.4133
1764.49	8.4133
1764.49	8.4133
1764.49	8.4133
1770.23	8.1885
1771.40	14.7431
1791.20	0.0000
1808.65	6.5989

1836.01

12.3181

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107012

Total Uranium Activity	6.5126E+00	ug/g
Total Uranium Counting Unc.	5.1050E+00	ug/g
Total Uranium Tpu	2.6046E-06	ug/g
Total Uranium Mda	2.4112E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107012
*  ANALYST       : MXR1                             DETECTOR    : GAM07
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 13:29:36.40          SAMPLE ALQT  : 116.580 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.969E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.478E+00
GROSS GAMMA MDA (pCi/GRAM )     : 4.734E+00
GROSS GAMMA DLC (pCi/GRAM )     : 2.297E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:55:02.10

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*****
*                                     GEL Laboratories LLC
*                                     2040 Savage Road
*                                     Charleston, SC 29414
*                                     *****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107013.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:00.
Sample ID          : G245107013          Sample quantity  : 1.29700E+02 GRAM
Detector name      : GAM10              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.05 0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : MXR1
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 944038              Detector SN#      :
Matrix Spike ID    :                    LCS ID           : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.57*	275	430	1.17	149.28	144	16	3.83E-02	14.1	1.75E+00
2	2	76.87*	508	319	0.98	153.88	144	16	7.05E-02	7.4	
3	0	87.15*	119	488	1.48	174.41	170	8	1.66E-02	34.1	
4	0	89.69	118	282	1.05	179.50	177	6	1.64E-02	24.3	
5	0	92.81*	180	467	1.45	185.72	182	9	2.50E-02	23.8	
6	0	128.80	60	344	0.75	257.64	255	8	8.29E-03	55.1	
7	0	185.74*	188	350	0.97	371.43	367	10	2.61E-02	20.8	
8	0	208.84	104	307	1.22	417.59	414	9	1.45E-02	31.7	
9	5	238.44*	1257	188	1.08	476.75	472	18	1.75E-01	3.4	1.03E+00
10	5	241.23	293	241	1.69	482.32	472	18	4.07E-02	15.6	
11	0	270.25	82	242	1.23	540.32	535	10	1.15E-02	37.1	
12	0	294.77*	374	227	1.27	589.33	582	14	5.19E-02	10.1	
13	0	327.39	101	154	1.39	654.51	649	11	1.40E-02	25.9	
14	0	338.17	264	149	1.48	676.06	670	10	3.66E-02	10.7	
15	0	351.67*	566	194	1.11	703.04	697	13	7.86E-02	6.7	
16	0	409.31	49	151	3.70	818.25	812	14	6.79E-03	55.2	
17	0	462.35	94	102	1.00	924.27	919	11	1.30E-02	23.3	
18	0	510.47*	137	142	1.77	1020.45	1014	15	1.91E-02	23.1	
19	0	582.99*	369	96	1.48	1165.42	1159	12	5.12E-02	7.5	
20	0	609.13*	460	51	1.58	1217.68	1212	12	6.39E-02	5.8	
21	0	661.81	40	69	1.07	1323.00	1318	8	5.55E-03	39.5	
22	0	726.99*	130	62	1.57	1453.31	1446	15	1.80E-02	16.3	
23	0	795.05	57	48	1.79	1589.38	1584	11	7.89E-03	27.3	
24	0	861.01	58	73	1.92	1721.28	1713	18	8.05E-03	36.8	
25	0	911.11*	218	75	1.43	1821.46	1814	12	3.03E-02	10.6	
26	8	964.43	36	49	2.31	1928.08	1924	22	4.94E-03	36.2	2.51E+00
27	8	968.87	137	59	2.04	1936.96	1924	22	1.90E-02	14.5	
28	0	1119.88*	85	62	1.59	2238.97	2232	15	1.18E-02	23.5	
29	0	1377.22	40	16	1.34	2753.70	2749	9	5.60E-03	23.7	
30	0	1460.39*	1256	18	2.11	2920.09	2911	16	1.74E-01	2.9	
31	0	1729.12	27	11	3.32	3457.77	3449	15	3.77E-03	33.0	
32	0	1764.21*	87	7	2.60	3527.99	3521	16	1.21E-02	13.6	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:55:05

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107013.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:00
Sample ID         : G245107013 Sample quantity : 129.70 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA10 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.05 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	*	3.076E+01	3.208E+00	2.978E-01	2.565E-02	103.305
CD-109	+	88.03	*	1.812E+00	1.252E+00	1.132E+00	1.284E-01	1.600
SN-126		64.28		-2.346E-02	6.502E-01	1.074E+00	1.837E-01	-0.022
	+	86.94		7.361E-01	5.892E-01	6.009E-01	2.523E-01	1.225
	+	87.57	*	1.771E-01	1.223E-01	1.114E-01	1.261E-02	1.589
BA-137M	+	661.65	*	5.470E-02	4.325E-02	5.875E-02	2.899E-03	0.931
CS-137	+	661.65	*	5.782E-02	4.572E-02	6.210E-02	3.082E-03	0.931
TL-208		277.35		1.864E-01	3.476E-01	5.949E-01	6.488E-02	0.313
	+	510.84		6.280E-01	2.977E-01	2.178E-01	2.289E-02	2.884
	+	583.14	*	4.822E-01	7.965E-02	5.430E-02	3.649E-03	8.880
	+	860.37		7.319E-01	5.434E-01	4.378E-01	4.275E-02	1.672
BI-211		72.87		6.865E+00	4.179E+00	6.503E+00	7.152E-01	1.056
	+	351.07	*	3.255E+00	4.951E-01	2.903E-01	2.116E-02	11.214
PB-212	+	74.81		1.930E+00	6.097E-01	6.102E-01	8.785E-02	3.163
	+	77.11		1.965E+00	3.616E-01	3.381E-01	3.697E-02	5.811
	+	87.30		8.189E-01	5.715E-01	5.177E-01	7.811E-02	1.582
	+	238.63	*	1.595E+00	1.615E-01	8.835E-02	6.702E-03	18.051
		300.09		1.185E+00	7.832E-01	1.261E+00	1.108E-01	0.940
PO-212	+	74.81		1.930E+00	6.097E-01	6.102E-01	8.785E-02	3.163
	+	77.11		1.965E+00	3.616E-01	3.381E-01	3.697E-02	5.811
	+	87.30		8.189E-01	5.715E-01	5.177E-01	7.811E-02	1.582
		115.19		1.695E+00	3.479E+00	5.722E+00	4.093E-01	0.296
	+	238.63	*	1.595E+00	1.615E-01	8.835E-02	6.702E-03	18.051
		300.09		1.185E+00	7.832E-01	1.261E+00	1.108E-01	0.940
BI-214	+	609.31	*	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
	+	1120.29		1.152E+00	5.519E-01	5.238E-01	5.119E-02	2.199
	+	1764.49		1.635E+00	4.596E-01	2.542E-01	1.697E-02	6.434
PB-214	+	74.81		3.326E+00	1.033E+00	1.051E+00	1.390E-01	3.163
	+	77.11		3.369E+00	6.709E-01	5.797E-01	7.725E-02	5.811
	+	87.30		1.403E+00	9.750E-01	8.868E-01	1.213E-01	1.582
	+	241.98		2.231E+00	7.187E-01	5.319E-01	4.425E-02	4.195
	+	295.21		1.275E+00	2.816E-01	2.063E-01	1.863E-02	6.182
	+	351.92	*	1.132E+00	1.821E-01	1.012E-01	9.073E-03	11.191
PO-214	+	74.81		3.326E+00	1.033E+00	1.051E+00	1.390E-01	3.163

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.369E+00	6.709E-01	5.797E-01	7.725E-02	5.811
	+	87.30		1.403E+00	9.750E-01	8.868E-01	1.213E-01	1.582
	+	241.98		2.231E+00	7.187E-01	5.319E-01	4.425E-02	4.195
	+	295.21		1.275E+00	2.816E-01	2.063E-01	1.863E-02	6.182
	+	351.92	*	1.132E+00	1.821E-01	1.012E-01	9.073E-03	11.191
PO-216	+	74.81		1.930E+00	6.097E-01	6.102E-01	8.785E-02	3.163
	+	77.11		1.965E+00	3.616E-01	3.381E-01	3.697E-02	5.811
	+	87.30		8.189E-01	5.715E-01	5.177E-01	7.811E-02	1.582
	+	238.63	*	1.595E+00	1.615E-01	8.835E-02	6.702E-03	18.051
	+	300.09		1.185E+00	7.832E-01	1.261E+00	1.108E-01	0.940
PO-218	+	74.81		3.326E+00	1.033E+00	1.051E+00	1.390E-01	3.163
	+	77.11		3.369E+00	6.709E-01	5.797E-01	7.725E-02	5.811
	+	87.30		1.403E+00	9.750E-01	8.868E-01	1.213E-01	1.582
	+	241.98		2.231E+00	7.187E-01	5.319E-01	4.425E-02	4.195
	+	295.21		1.275E+00	2.816E-01	2.063E-01	1.863E-02	6.182
	+	351.92	*	1.132E+00	1.821E-01	1.012E-01	9.073E-03	11.191
RA-224	+	240.98	*	4.231E+00	1.342E+00	1.005E+00	6.170E-02	4.209
RA-226	+	609.31	*	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
	+	1120.29		1.152E+00	5.519E-01	5.238E-01	5.119E-02	2.199
	+	1764.49		1.635E+00	4.596E-01	2.542E-01	1.697E-02	6.434
AC-228	+	338.32		1.672E+00	7.712E-01	3.312E-01	1.355E-01	5.049
	+	911.07	*	1.310E+00	3.205E-01	2.070E-01	2.554E-02	6.329
	+	969.11		1.455E+00	5.436E-01	3.899E-01	9.219E-02	3.732
RA-228	+	338.32		1.672E+00	7.712E-01	3.312E-01	1.355E-01	5.049
	+	911.07	*	1.310E+00	3.205E-01	2.070E-01	2.554E-02	6.329
	+	969.11		1.455E+00	5.436E-01	3.899E-01	9.219E-02	3.732
TH-228	+	74.81		1.967E+00	5.940E-01	6.219E-01	6.845E-02	3.163
	+	77.11		2.003E+00	3.685E-01	3.446E-01	3.768E-02	5.811
	+	87.30		8.346E-01	5.764E-01	5.276E-01	5.961E-02	1.582
	+	238.63	*	1.625E+00	1.646E-01	9.004E-02	6.830E-03	18.051
	+	300.09		1.207E+00	1.065E+00	1.285E+00	7.582E-01	0.940
TH-230	+	609.31	*	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
	+	1120.29		1.152E+00	5.518E-01	5.238E-01	5.118E-02	2.199
	+	1764.49		1.635E+00	4.596E-01	2.542E-01	1.697E-02	6.434
TH-232	+	338.32		1.672E+00	3.735E-01	3.312E-01	2.220E-02	5.049
	+	911.07	*	1.310E+00	3.205E-01	2.070E-01	2.554E-02	6.329
	+	969.11		1.455E+00	5.436E-01	3.899E-01	9.219E-02	3.732
U-234	+	609.31	*	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
	+	1120.29		1.152E+00	5.518E-01	5.238E-01	5.118E-02	2.199
	+	1764.49		1.635E+00	4.596E-01	2.542E-01	1.697E-02	6.434
NP-237	+	86.50	*	5.200E-01	3.748E-01	4.276E-01	1.005E-01	1.216
	+	95.87		-6.138E-02	1.028E+00	1.499E+00	3.746E-01	-0.041
AM-243	+	74.67	*	3.129E-01	9.442E-02	9.939E-02	1.088E-02	3.149
	+	86.72		1.950E+01	1.347E+01	1.597E+01	1.799E+00	1.221
	+	117.66		-5.055E+00	3.749E+00	5.686E+00	3.946E-01	-0.889
	+	142.18		1.095E+01	1.765E+01	2.899E+01	1.730E+00	0.378
ANH-511	+	511.00	*	1.356E-01	6.330E-02	4.705E-02	3.014E-03	2.883

---- 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	*	-8.887E-02	3.121E-01	4.924E-01	3.662E-02	-0.180

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-22	1274.54	*		-2.191E-02	4.630E-02	7.336E-02	5.683E-03	-0.299
NA-24	1368.53	*		-3.871E+01	4.630E-02	Half-Life too short		
AL-26	1129.67			-9.799E-01	1.699E+00	2.701E+00	1.894E-01	-0.363
	1808.65	*		8.465E-04	2.550E-02	4.155E-02	2.635E-03	0.020
TI-44	67.85			4.579E-05	5.494E-02	9.119E-02	1.029E-02	0.001
	78.38	*		1.634E-01	4.757E-02	7.539E-02	8.249E-03	2.167
SC-46	889.25	*		-2.668E-02	4.110E-02	6.279E-02	6.214E-03	-0.425
	+ 1120.51			2.037E-01	9.666E-02	1.295E-01	9.298E-03	1.573
V-48	944.10			-4.024E-01	1.021E+00	1.591E+00	1.541E-01	-0.253
	983.50	*		-1.668E-02	8.488E-02	1.349E-01	1.247E-02	-0.124
	1312.09			-1.388E-02	1.028E-01	1.682E-01	1.404E-02	-0.083
CR-51	320.08	*		1.727E-01	3.761E-01	6.392E-01	4.617E-02	0.270
MN-52	744.21			2.076E-01	3.723E-01	6.448E-01	4.206E-02	0.322
	848.13			5.040E+00	1.044E+01	1.789E+01	1.586E+00	0.282
	935.52			3.637E-01	4.288E-01	7.494E-01	7.327E-02	0.485
	1246.25			1.262E-01	1.270E+01	2.119E+01	1.544E+00	0.006
	1333.61			3.444E-01	9.341E+00	1.552E+01	1.348E+00	0.022
	1434.06	*		-1.412E-01	3.656E-01	5.665E-01	4.787E-02	-0.249
MN-54	834.83	*		7.923E-03	4.053E-02	6.759E-02	5.774E-03	0.117
CO-56	846.75	*		-9.785E-03	3.948E-02	6.324E-02	5.584E-03	-0.155
	977.42			9.857E-01	3.410E+00	5.379E+00	5.013E-01	0.183
	1037.82			1.833E-01	3.169E-01	5.423E-01	4.876E-02	0.338
	1175.09			1.643E+00	2.568E+00	4.511E+00	2.794E-01	0.364
	1238.25			1.458E-01	1.084E-01	1.949E-01	1.453E-02	0.748
	1360.21			3.956E-01	1.098E+00	1.893E+00	1.635E-01	0.209
	1771.40			-2.918E-02	1.989E-01	2.580E-01	1.710E-02	-0.113
CO-57	122.06	*		7.401E-03	2.514E-02	4.126E-02	2.722E-03	0.179
	136.48			1.173E-02	2.026E-01	3.275E-01	2.290E-02	0.036
CO-58	810.76	*		9.125E-03	3.780E-02	6.363E-02	5.091E-03	0.143
FE-59	142.65			4.236E-01	2.916E+00	4.697E+00	2.799E-01	0.090
	192.34			4.400E-01	9.905E-01	1.601E+00	1.882E-01	0.275
	1099.22	*		1.840E-02	1.038E-01	1.698E-01	1.418E-02	0.108
	1291.56			3.717E-02	1.277E-01	2.188E-01	2.025E-02	0.170
CO-60	1173.22			6.004E-03	5.046E-02	8.528E-02	5.259E-03	0.070
	1332.49	*		-2.982E-02	4.577E-02	7.035E-02	6.113E-03	-0.424
ZN-65	1115.52	*		-2.808E-03	1.052E-01	1.450E-01	1.056E-02	-0.019
GE-68	1077.35	*		8.603E-01	1.293E+00	2.221E+00	1.759E-01	0.387
AS-73	53.44	*		-1.489E-02	1.480E+00	2.475E+00	3.275E-01	-0.006
AS-74	595.88	*		-4.942E-02	1.009E-01	1.636E-01	9.345E-03	-0.302
	634.78			2.978E-02	3.852E-01	6.491E-01	3.426E-02	0.046
SE-75	66.05			-8.273E+00	6.339E+00	9.759E+00	1.257E+00	-0.848
	96.73			-5.548E-01	8.671E-01	1.217E+00	1.723E-01	-0.456
	121.11			4.090E-02	1.357E-01	2.228E-01	2.182E-02	0.184
	136.00			5.995E-03	3.871E-02	6.284E-02	3.902E-03	0.095
	198.60			-1.036E-02	1.812E+00	2.851E+00	2.020E-01	-0.004
	264.65	*		-1.719E-02	4.837E-02	6.952E-02	4.434E-03	-0.247
	279.53			6.061E-03	1.001E-01	1.675E-01	1.148E-02	0.036
	303.91			-1.170E+00	2.017E+00	3.239E+00	3.246E-01	-0.361
	400.65			-6.267E-02	2.590E-01	4.164E-01	4.066E-02	-0.151

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	87.88		1.230E-03	2.590E-01	Half-Life	too short	
		200.40		7.532E-05	2.590E-01	Half-Life	too short	
	+	239.00		8.094E-04	2.590E-01	Half-Life	too short	
		249.79		-1.557E-04	2.590E-01	Half-Life	too short	
		281.68		-1.873E-04	2.590E-01	Half-Life	too short	
		297.23		3.134E-05	2.590E-01	Half-Life	too short	
		303.76		-6.249E-04	2.590E-01	Half-Life	too short	
		439.47		3.666E-04	2.590E-01	Half-Life	too short	
		484.57		1.644E-04	2.590E-01	Half-Life	too short	
		520.65	*	3.667E-06	2.590E-01	Half-Life	too short	
		574.64		-2.144E-04	2.590E-01	Half-Life	too short	
		578.91		1.612E-05	2.590E-01	Half-Life	too short	
		585.48		2.794E-03	2.590E-01	Half-Life	too short	
		755.35		7.145E-04	2.590E-01	Half-Life	too short	
		817.79		2.093E-05	2.590E-01	Half-Life	too short	
SR-82		698.33		-7.007E+00	3.483E+01	5.702E+01	3.199E+00	-0.123
		776.49	*	-2.313E-01	4.256E-01	6.700E-01	4.830E-02	-0.345
		1395.20		-1.658E+01	1.326E+01	1.803E+01	1.543E+00	-0.919
RB-83		520.41	*	4.259E-03	6.668E-02	1.076E-01	6.830E-03	0.040
		529.64		-7.476E-02	1.018E-01	1.525E-01	9.584E-03	-0.490
		552.65		-8.356E-02	1.902E-01	2.919E-01	1.783E-02	-0.286
RB-84		881.50	*	1.442E-02	7.707E-02	1.283E-01	1.244E-02	0.112
KR-85		513.99	*	1.038E+01	7.725E+00	1.222E+01	7.802E-01	0.850
SR-85		513.99	*	5.546E-02	4.128E-02	6.528E-02	4.170E-03	0.850
RB-86		1076.63	*	6.021E-01	9.280E-01	1.592E+00	1.263E-01	0.378
Y-88		898.02		3.022E-02	4.311E-02	7.479E-02	7.598E-03	0.404
		1836.01	*	8.270E-04	3.265E-02	5.299E-02	3.251E-03	0.016
ZR-88		392.90	*	4.708E-02	3.169E-02	5.621E-02	3.820E-03	0.838
Y-91		1204.90	*	2.439E+00	2.031E+01	3.428E+01	2.277E+00	0.071
NB-94		702.63	*	-8.649E-03	3.037E-02	4.931E-02	2.807E-03	-0.175
		871.10		3.043E-03	3.187E-02	5.268E-02	4.970E-03	0.058
NB-95		765.79	*	9.491E-03	4.692E-02	7.868E-02	5.491E-03	0.121
NB-95M		235.69	*	1.529E-01	1.387E-01	2.181E-01	1.692E-02	0.701
ZR-95		724.18		1.435E-01	1.013E-01	1.681E-01	1.198E-02	0.854
		756.15	*	6.811E-02	7.799E-02	1.372E-01	1.078E-02	0.496
NB-97		657.90	*	6.771E-01	7.799E-02	Half-Life	too short	
		1024.50		2.403E+01	7.799E-02	Half-Life	too short	
ZR-97		254.15		1.488E+02	7.799E-02	Half-Life	too short	
		355.39		1.159E+02	7.799E-02	Half-Life	too short	
		507.63	*	2.111E+02	7.799E-02	Half-Life	too short	
		602.52		-1.170E+01	7.799E-02	Half-Life	too short	
		1021.30		-1.714E+02	7.799E-02	Half-Life	too short	
		1147.95		6.619E+01	7.799E-02	Half-Life	too short	
		1362.66		4.941E+01	7.799E-02	Half-Life	too short	
		1750.46		3.229E+02	7.799E-02	Half-Life	too short	
MO-99		140.51		4.322E+01	7.118E+01	1.160E+02	3.131E+01	0.373
		181.06		-7.648E+00	4.721E+01	6.587E+01	1.124E+01	-0.116
		366.43		-1.137E+00	2.086E+02	3.426E+02	2.320E+01	-0.003
		739.58	*	-5.254E+00	3.045E+01	4.971E+01	6.988E+00	-0.106

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	778.00			-4.880E+01	8.770E+01	1.375E+02	9.957E+00	-0.355
TC-99M	140.51	*		1.263E+15	8.770E+01	Half-Life	too short	
RH-101	127.23			1.879E-02	3.391E-02	5.046E-02	3.225E-03	0.372
	198.01	*		8.780E-03	3.206E-02	5.117E-02	2.940E-03	0.172
	325.23			-2.257E-02	2.233E-01	3.218E-01	2.142E-02	-0.070
RH-102	418.52			2.946E-02	2.617E-01	4.298E-01	2.910E-02	0.069
	475.06	*		7.494E-03	2.738E-02	4.515E-02	2.978E-03	0.166
	631.29			-3.901E-02	5.151E-02	8.107E-02	4.313E-03	-0.481
	697.49			1.020E-02	7.272E-02	1.223E-01	6.843E-03	0.083
	766.84			1.881E-02	1.139E-01	1.904E-01	1.333E-02	0.099
	1046.59			1.128E-02	1.126E-01	1.837E-01	1.543E-02	0.061
	1112.84			-3.290E-02	2.800E-01	3.808E-01	2.788E-02	-0.086
RU-103	497.08	*		5.131E-03	3.893E-02	6.339E-02	8.224E-03	0.081
	610.33			1.316E+01	2.523E+00	2.983E+00	4.572E-01	4.412
RH-106	511.85	+		6.826E-01	3.186E-01	4.174E-01	2.671E-02	1.635
	621.84	*		-5.084E-02	3.051E-01	5.053E-01	5.840E-02	-0.101
	1050.47			-5.094E-02	2.247E+00	3.617E+00	3.018E-01	-0.014
RU-106	511.85	+		6.826E-01	3.186E-01	4.174E-01	2.671E-02	1.635
	621.84	*		-5.084E-02	3.051E-01	5.053E-01	2.744E-02	-0.101
	1050.47			-5.094E-02	2.247E+00	3.617E+00	3.018E-01	-0.014
AG-108M	433.93	*		-9.318E-03	3.138E-02	4.991E-02	3.579E-03	-0.187
	614.37			1.072E-02	3.839E-02	5.761E-02	3.475E-03	0.186
	722.95			1.624E-02	4.164E-02	6.284E-02	4.123E-03	0.258
AG-110M	657.75	*		2.592E-03	3.879E-02	5.677E-02	3.076E-03	0.046
	677.61			2.104E-01	3.211E-01	5.601E-01	3.144E-02	0.376
	706.67			1.009E-01	1.934E-01	3.348E-01	2.049E-02	0.301
	763.93			-4.928E-02	1.772E-01	2.869E-01	2.077E-02	-0.172
	884.67			2.762E-02	4.994E-02	8.578E-02	8.598E-03	0.322
	937.48			-1.817E-01	1.181E-01	1.598E-01	1.604E-02	-1.137
	1384.27			-1.888E-02	1.958E-01	3.102E-01	2.739E-02	-0.061
IN-111	171.28			2.119E+00	2.473E+00	4.104E+00	2.257E-01	0.516
	245.39	*		6.189E-01	2.763E+00	4.159E+00	2.568E-01	0.149
IN-113M	391.69	*		1.993E-02	4.487E-02	7.542E-02	5.378E-03	0.264
SN-113	391.69	*		1.993E-02	4.487E-02	7.542E-02	5.378E-03	0.264
IN-114M	190.27	*		9.762E-03	2.113E-01	2.983E-01	1.692E-02	0.033
CD-115	260.90			5.625E-05	2.113E-01	Half-Life	too short	
	492.35			-2.213E-05	2.113E-01	Half-Life	too short	
	527.90	*		-2.449E-05	2.113E-01	Half-Life	too short	
SN-117M	156.02			-7.303E-01	2.646E+00	4.182E+00	2.367E-01	-0.175
	158.56	*		-1.291E-02	6.621E-02	1.050E-01	5.886E-03	-0.123
SB-122	563.90	*		4.075E+00	5.939E+00	9.963E+00	5.992E-01	0.409
	692.80			7.716E+01	1.159E+02	2.024E+02	1.114E+01	0.381
I-123	159.00	*		-3.011E+01	1.159E+02	Half-Life	too short	
	528.96			-1.314E+04	1.159E+02	Half-Life	too short	
TE-123M	159.00	*		-1.026E-03	2.863E-02	4.573E-02	2.597E-03	-0.022
I-124	602.71	*		-1.486E-01	1.256E+00	1.901E+00	1.072E-01	-0.078
	722.78			3.595E+00	8.393E+00	1.272E+01	7.744E-01	0.283
	1325.50			2.951E+01	7.269E+01	1.257E+02	1.077E+01	0.235
	1376.25	+		1.471E+02	7.089E+01	1.327E+02	1.142E+01	1.109

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124		1509.49		2.531E+01	3.041E+01	5.549E+01	4.537E+00	0.456
		1691.02		-6.780E+00	6.740E+00	8.263E+00	5.943E-01	-0.821
		602.71		-4.697E-03	3.970E-02	6.010E-02	3.392E-03	-0.078
		645.85		-3.200E-01	4.552E-01	7.052E-01	4.208E-02	-0.454
		709.31		1.304E+00	2.613E+00	4.520E+00	2.632E-01	0.289
		713.82		-1.051E+00	1.582E+00	2.472E+00	2.540E-01	-0.425
		722.78		1.648E-01	3.847E-01	5.830E-01	3.701E-02	0.283
	+	968.20		1.568E+01	4.768E+00	7.404E+00	6.979E-01	2.117
		1045.16		8.868E-01	2.564E+00	4.289E+00	3.611E-01	0.207
		1325.50		1.445E+00	3.558E+00	6.152E+00	5.274E-01	0.235
		1368.21		-1.130E+00	1.684E+00	2.493E+00	3.360E-01	-0.453
		1436.60		1.143E+00	3.547E+00	6.132E+00	5.177E-01	0.186
		1691.02	*	-7.329E-02	7.288E-02	8.932E-02	6.787E-03	-0.821
		427.89	*	2.882E-02	8.918E-02	1.483E-01	1.033E-02	0.194
SB-125	+	463.38		8.376E-01	3.951E-01	5.192E-01	3.894E-02	1.613
		600.56		4.935E-02	1.677E-01	2.876E-01	1.896E-02	0.172
		635.90		3.370E-02	2.489E-01	4.212E-01	2.671E-02	0.080
		109.28	*	-2.385E+00	9.300E+00	1.497E+01	1.439E+00	-0.159
TE-125M I-126		388.63		-7.797E-02	2.315E-01	3.701E-01	2.515E-02	-0.211
		666.33	*	1.482E-01	2.533E-01	3.895E-01	1.954E-02	0.380
		753.82		2.875E+00	1.823E+00	3.365E+00	2.262E-01	0.854
SB-126		223.80		-6.927E+00	4.665E+00	7.318E+00	4.382E-01	-0.947
		278.60		2.475E+00	2.807E+00	4.885E+00	3.136E-01	0.507
		296.50		7.586E+00	2.339E+00	3.924E+00	2.561E-01	1.933
		414.70		-2.877E-02	9.597E-02	1.327E-01	8.991E-03	-0.217
		415.30		1.944E-01	7.764E+00	1.111E+01	7.524E-01	0.018
		555.20		-2.049E+00	4.856E+00	7.479E+00	4.553E-01	-0.274
		573.80		-4.162E-01	1.229E+00	2.022E+00	1.198E-01	-0.206
		593.00		1.103E-01	1.031E+00	1.749E+00	1.004E-01	0.063
		656.30		-9.712E-01	4.511E+00	6.395E+00	3.201E-01	-0.152
		666.33		6.248E-02	1.068E-01	1.643E-01	8.240E-03	0.380
		675.00		-1.695E+00	2.481E+00	3.917E+00	2.027E-01	-0.433
		695.00		5.106E-02	9.393E-02	1.626E-01	9.020E-03	0.314
		697.00		1.071E-01	3.160E-01	5.395E-01	3.013E-02	0.198
		720.50	*	-4.180E-02	1.891E-01	2.651E-01	1.602E-02	-0.158
SB-127		856.80		3.831E-01	5.546E-01	8.668E-01	7.868E-02	0.442
		989.30		-1.462E-02	1.672E+00	2.709E+00	2.486E-01	-0.005
		1034.80		-2.020E+00	1.115E+01	1.766E+01	1.513E+00	-0.114
		1213.00		4.648E-01	6.242E+00	1.049E+01	7.095E-01	0.044
		61.10		-8.041E+01	1.661E+02	2.709E+02	4.081E+01	-0.297
		252.40		-1.717E+00	8.041E+00	1.330E+01	5.579E+00	-0.129
		290.80		1.510E+01	4.118E+01	6.208E+01	6.856E+00	0.243
		411.60		3.856E+00	2.567E+01	3.718E+01	5.861E+00	0.104
		444.90		-6.969E+00	1.865E+01	2.937E+01	3.684E+00	-0.237
		473.00		-1.129E+00	3.269E+00	5.137E+00	6.587E-01	-0.220
		543.00		5.144E+00	3.267E+01	5.296E+01	7.503E+00	0.097
		603.60		-1.568E+01	2.451E+01	3.330E+01	3.988E+00	-0.471
		685.20	*	-1.573E-01	2.521E+00	4.178E+00	4.453E-01	-0.038
		698.50		-3.413E+00	2.812E+01	4.632E+01	7.130E+00	-0.074

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	722.20			1.169E+01	5.984E+01	8.833E+01	9.543E+00	0.132
	783.80			1.993E+00	7.350E+00	1.239E+01	1.585E+00	0.161
	57.60			2.742E-02	9.985E+00	1.667E+01	2.119E+00	0.002
	145.22			-4.701E-02	7.194E-01	1.153E+00	6.797E-02	-0.041
	172.10			4.518E-02	1.209E-01	1.962E-01	1.081E-02	0.230
I-131	202.84	*		-4.690E-03	4.614E-02	7.799E-02	4.516E-03	-0.060
	374.96			2.300E-01	2.030E-01	3.555E-01	2.412E-02	0.647
	80.18			-4.126E+00	7.212E+00	1.030E+01	1.138E+00	-0.400
	284.30			-2.337E-01	1.859E+00	3.079E+00	2.180E-01	-0.076
	364.48	*		-3.287E-02	1.513E-01	2.451E-01	1.812E-02	-0.134
TE-132	636.97			1.243E+00	2.024E+00	3.546E+00	2.147E-01	0.351
	722.89			3.981E+00	9.865E+00	1.491E+01	9.263E-01	0.267
	49.72			-5.225E+01	9.106E+01	1.485E+02	2.249E+01	-0.352
	111.76			-5.540E+01	6.756E+01	1.055E+02	1.180E+01	-0.525
	116.30			-3.794E+00	6.198E+01	9.952E+01	1.085E+01	-0.038
BA-133	228.16	*		1.094E-01	1.457E+00	2.467E+00	3.779E-01	0.044
	53.15			1.703E-01	6.174E+00	1.035E+01	1.370E+00	0.016
	79.62			6.736E-01	1.437E+00	2.167E+00	3.612E-01	0.311
	81.00			-1.164E-01	1.150E-01	1.583E-01	2.736E-02	-0.735
	276.40			5.393E-02	3.476E-01	5.849E-01	7.747E-02	0.092
I-133	302.84			-2.057E-01	1.398E-01	2.100E-01	2.531E-02	-0.980
	356.01	*		1.658E-02	4.158E-02	6.223E-02	7.509E-03	0.266
	383.85			-7.870E-02	2.668E-01	4.277E-01	4.889E-02	-0.184
	510.53	+		3.238E+01	2.668E-01	Half-Life	too short	
	529.87	*		-9.677E-02	2.668E-01	Half-Life	too short	
CS-134	706.58			4.290E+00	2.668E-01	Half-Life	too short	
	856.28			1.918E+00	2.668E-01	Half-Life	too short	
	875.33			-1.540E+00	2.668E-01	Half-Life	too short	
	1236.41			1.405E+01	2.668E-01	Half-Life	too short	
	1298.22			-1.482E-01	2.668E-01	Half-Life	too short	
CS-135	475.35			1.122E+00	1.733E+00	2.939E+00	1.938E-01	0.382
	563.23			2.442E-01	3.948E-01	6.580E-01	4.038E-02	0.371
	569.32			1.321E-01	1.992E-01	3.340E-01	2.049E-02	0.396
	604.70			-2.025E-02	3.274E-02	4.449E-02	2.516E-03	-0.455
	795.84	+	*	1.096E-01	6.048E-02	8.833E-02	6.809E-03	1.241
I-135	801.93			2.898E-02	3.998E-01	6.176E-01	4.835E-02	0.047
	1038.57			2.163E+00	3.865E+00	6.600E+00	5.621E-01	0.328
	1167.94			3.704E-01	2.746E+00	4.650E+00	2.917E-01	0.080
	1365.15			1.264E-01	1.208E+00	2.027E+00	1.829E-01	0.062
	268.24	*		1.841E-01	1.710E-01	2.685E-01	2.170E-02	0.686
I-135	288.45			-8.142E+13	1.710E-01	Half-Life	too short	
	417.63			-2.318E+14	1.710E-01	Half-Life	too short	
	546.56			2.407E+14	1.710E-01	Half-Life	too short	
	836.80			4.898E+14	1.710E-01	Half-Life	too short	
	1038.76			2.111E+14	1.710E-01	Half-Life	too short	
I-135	1124.00			6.308E+14	1.710E-01	Half-Life	too short	
	1131.51			-5.203E+13	1.710E-01	Half-Life	too short	
	1260.41	*		1.073E+13	1.710E-01	Half-Life	too short	
	1457.56			1.656E+16	1.710E-01	Half-Life	too short	

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

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CS-136		1678.03		8.911E+13	1.710E-01	Half-Life	too short	
		1706.46		1.126E+13	1.710E-01	Half-Life	too short	
		1791.20		-1.020E+14	1.710E-01	Half-Life	too short	
	+	66.91		1.554E-01	1.151E+00	1.900E+00	3.254E-01	0.082
		86.29		2.844E+00	1.983E+00	2.578E+00	3.798E-01	1.104
		153.22		4.871E-01	7.532E-01	1.243E+00	8.903E-02	0.392
		163.89		-1.169E+00	1.310E+00	2.001E+00	1.404E-01	-0.584
		176.55		3.827E-01	4.104E-01	6.831E-01	4.302E-02	0.560
		273.65		-6.332E-01	6.064E-01	8.254E-01	5.893E-02	-0.767
		340.57		1.674E-01	1.632E-01	2.543E-01	1.789E-02	0.658
CE-139		818.51		-7.324E-03	8.993E-02	1.468E-01	1.200E-02	-0.050
		1048.07	*	-8.773E-02	1.349E-01	2.020E-01	1.769E-02	-0.434
		1235.34		2.367E-01	8.126E-01	1.383E+00	1.494E-01	0.171
		165.85	*	1.651E-02	2.951E-02	4.833E-02	2.640E-03	0.342
	BA-140	162.64		-6.313E-01	9.087E-01	1.402E+00	8.807E-02	-0.450
		304.84		7.000E-01	1.456E+00	2.461E+00	6.758E-01	0.284
		423.70		-8.386E-01	2.247E+00	3.535E+00	1.130E+00	-0.237
		537.32	*	-1.793E-01	3.129E-01	4.678E-01	1.525E-01	-0.383
	+	328.77		9.767E-01	5.107E-01	6.502E-01	4.737E-02	1.502
		432.53		1.633E-01	2.490E+00	4.067E+00	2.956E-01	0.040
LA-140		487.03		-4.731E-02	1.571E-01	2.471E-01	1.786E-02	-0.191
		751.79		-1.062E+00	2.047E+00	3.235E+00	2.534E-01	-0.328
		815.85		-1.670E-02	3.861E-01	6.328E-01	5.788E-02	-0.026
		867.82		-9.415E-01	1.958E+00	2.582E+00	2.523E-01	-0.365
		919.63		-5.068E-01	3.246E+00	5.205E+00	6.108E-01	-0.097
		925.24		3.448E-01	1.356E+00	2.266E+00	2.346E-01	0.152
		1596.49	*	-3.115E-02	1.120E-01	1.750E-01	1.358E-02	-0.178
	CE-141	145.44	*	-4.746E-02	6.696E-02	1.041E-01	6.369E-03	-0.456
	CE-143	57.37		-2.183E-03	6.696E-02	Half-Life	too short	
		231.56		-4.003E-03	6.696E-02	Half-Life	too short	
CE-144		293.26	*	4.762E-03	6.696E-02	Half-Life	too short	
	+	350.59		1.886E-01	6.696E-02	Half-Life	too short	
		490.36		-4.047E-03	6.696E-02	Half-Life	too short	
		664.57		1.998E-03	6.696E-02	Half-Life	too short	
		721.93		-3.016E-03	6.696E-02	Half-Life	too short	
		80.11		-1.228E+00	2.391E+00	3.429E+00	3.763E-01	-0.358
		133.54	*	-1.338E-01	2.306E-01	3.189E-01	4.582E-02	-0.420
	PM-144	476.78		5.772E-03	6.317E-02	1.028E-01	7.825E-03	0.056
		618.01		3.348E-03	3.046E-02	5.152E-02	3.012E-03	0.065
		696.49	*	1.014E-02	3.294E-02	5.610E-02	3.132E-03	0.181
PR-144		778.57		-1.109E+00	2.246E+00	3.545E+00	2.574E-01	-0.313
		696.49	*	6.883E-01	2.237E+00	3.809E+00	2.124E-01	0.181
		1489.15		4.493E+00	1.097E+01	1.923E+01	1.588E+00	0.234
	PM-146	453.90	*	2.041E-02	4.175E-02	6.996E-02	6.462E-03	0.292
		633.02		-8.485E-02	1.261E+00	2.100E+00	7.718E-01	-0.040
		735.90		7.644E-02	1.410E-01	2.416E-01	6.766E-02	0.316
		747.13		-2.509E-02	8.253E-02	1.328E-01	1.711E-02	-0.189
	+	91.11		7.415E-01	3.704E-01	6.413E-01	7.150E-02	1.156
	ND-147	319.41		2.459E-01	3.912E+00	6.505E+00	4.318E-01	0.038

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

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	439.89			4.250E+00	7.295E+00	1.231E+01	8.282E-01	0.345
	531.02	*		2.269E-02	6.596E-01	1.061E+00	1.456E-01	0.021
PM-149	285.90	*		-4.032E-05	6.596E-01	Half-Life too short		
EU-152	121.78			4.676E-02	7.136E-02	1.188E-01	9.793E-03	0.393
	244.69			1.621E-02	3.234E-01	4.811E-01	2.968E-02	0.034
	344.27	*		1.879E-03	8.768E-02	1.448E-01	1.067E-02	0.013
	443.98			-4.219E-01	9.235E-01	1.448E+00	9.717E-02	-0.291
	778.89			-3.420E-02	2.597E-01	4.239E-01	3.078E-02	-0.081
	867.32			-5.851E-01	9.607E-01	1.243E+00	1.160E-01	-0.471
+	964.01			4.363E-01	3.186E-01	5.607E-01	5.312E-02	0.778
	1085.78			1.641E-01	4.091E-01	6.855E-01	5.336E-02	0.239
	1112.02			-1.899E-01	3.751E-01	5.129E-01	3.762E-02	-0.370
	1407.95			8.356E-02	1.865E-01	3.250E-01	2.771E-02	0.257
GD-153	69.67			-1.427E-01	2.176E+00	3.222E+00	3.593E-01	-0.044
	83.37			8.210E-01	1.827E+01	2.699E+01	2.991E+00	0.030
	97.43	*		-5.571E-02	8.820E-02	1.241E-01	1.155E-02	-0.449
	103.18			-2.939E-02	1.065E-01	1.718E-01	1.452E-02	-0.171
EU-154	123.07			-5.594E-03	5.107E-02	8.232E-02	8.135E-03	-0.068
	247.94			2.086E-01	3.469E-01	5.603E-01	5.483E-02	0.372
	591.81			-2.417E-02	5.410E-01	9.072E-01	8.842E-02	-0.027
	723.30			6.197E-02	1.760E-01	2.643E-01	1.937E-02	0.234
	756.87			1.850E-01	8.200E-01	1.380E+00	1.481E-01	0.134
	873.19			2.327E-02	2.872E-01	4.739E-01	6.098E-02	0.049
	996.32			-5.109E-01	4.375E-01	6.162E-01	1.109E-01	-0.829
	1004.76			-3.345E-02	2.288E-01	3.653E-01	4.351E-02	-0.092
	1274.45	*		-4.058E-02	1.274E-01	2.051E-01	2.185E-02	-0.198
EU-155	48.70			1.450E+00	5.177E+00	8.784E+00	1.055E+00	0.165
	60.01			-3.780E+00	7.249E+00	1.182E+01	1.456E+00	-0.320
+	86.54			2.136E-01	1.475E-01	1.914E-01	2.166E-02	1.116
	105.31	*		1.099E-01	1.100E-01	1.861E-01	1.544E-02	0.590
TB-160	86.79			5.916E-01	4.086E-01	5.240E-01	5.904E-02	1.129
	197.04			-1.076E-02	5.774E-01	9.072E-01	5.203E-02	-0.012
	215.65			5.675E-01	7.049E-01	1.232E+00	7.285E-02	0.461
	298.57			1.074E-01	1.168E-01	1.822E-01	1.191E-02	0.589
	879.36	*		-3.429E-04	1.440E-01	2.355E-01	2.271E-02	-0.001
	962.29			7.407E-01	6.414E-01	1.019E+00	9.677E-02	0.727
	966.15			9.250E-01	2.808E-01	5.268E-01	4.978E-02	1.756
	1177.93			1.166E-01	3.977E-01	6.818E-01	4.252E-02	0.171
	1271.85			2.701E-01	7.707E-01	1.325E+00	1.019E-01	0.204
HO-166M	80.57			-2.357E-01	3.057E-01	4.314E-01	4.738E-02	-0.546
+	184.41			1.265E-01	5.300E-02	6.600E-02	3.706E-03	1.917
	280.46			-1.414E-02	7.848E-02	1.297E-01	8.342E-03	-0.109
	410.95			1.550E-01	2.589E-01	3.898E-01	2.643E-02	0.397
	711.68	*		-2.571E-02	5.536E-02	8.829E-02	5.182E-03	-0.291
	752.31			-1.607E-02	2.691E-01	4.432E-01	2.966E-02	-0.036
	810.29			1.236E-02	5.515E-02	9.267E-02	7.383E-03	0.133
TM-171	51.35			8.285E+00	5.663E+01	9.546E+01	1.255E+01	0.087
	52.39			5.731E+00	2.798E+01	4.724E+01	6.257E+00	0.121
	59.40			2.268E+00	3.884E+01	6.491E+01	8.064E+00	0.035

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176	+	66.72	*	4.421E+00	3.413E+01	5.634E+01	6.419E+00	0.078
		88.36		4.200E-01	2.901E-01	3.433E-01	3.861E-02	1.223
		201.83		-2.215E-02	2.650E-02	4.339E-02	2.509E-03	-0.510
		306.84	*	3.839E-03	2.343E-02	3.924E-02	2.581E-03	0.098
LU-177	+	401.10		1.275E+00	6.581E+00	1.088E+01	7.390E-01	0.117
		112.95		6.025E-01	2.326E+00	3.825E+00	2.816E-01	0.158
		208.36	*	3.545E+00	2.255E+00	2.898E+00	1.693E-01	1.224
		52.97		-6.055E-01	2.868E+00	4.756E+00	6.301E-01	-0.127
LU-177M	+	54.07		1.034E-01	1.453E+00	2.438E+00	3.216E-01	0.042
		61.30		9.650E-01	2.064E+00	3.493E+00	4.227E-01	0.276
		121.62		2.669E-01	3.722E-01	6.217E-01	4.114E-02	0.429
		147.16		2.131E-01	6.288E-01	1.025E+00	6.001E-02	0.208
HF-181	+	171.86		3.060E-01	4.572E-01	7.523E-01	4.141E-02	0.407
		218.09		-6.633E-01	8.141E-01	1.327E+00	7.875E-02	-0.500
		268.79		1.624E+00	1.210E+00	1.474E+00	9.365E-02	1.102
		319.02		-4.002E-02	2.453E-01	4.024E-01	2.669E-02	-0.099
HF-181	+	367.43		6.116E-01	8.321E-01	1.431E+00	9.691E-02	0.427
		413.65	*	2.805E-02	1.821E-01	2.639E-01	1.788E-02	0.106
		56.28		-9.211E-02	1.592E+00	2.653E+00	3.428E-01	-0.035
		57.53		-1.525E-01	8.406E-01	1.393E+00	1.772E-01	-0.110
W-181	+	65.20		-1.882E+00	1.304E+00	1.996E+00	2.306E-01	-0.943
		133.02		1.953E-02	7.492E-02	1.094E-01	6.795E-03	0.178
		136.25		-2.803E-02	4.739E-01	7.619E-01	4.663E-02	-0.037
		345.85		8.035E-02	2.051E-01	3.069E-01	2.064E-02	0.262
TA-182	+	482.03	*	2.137E-02	4.142E-02	6.955E-02	4.565E-03	0.307
		56.28		-3.481E-02	5.975E-01	9.958E-01	1.286E-01	-0.035
		57.53		-5.730E-02	3.158E-01	5.232E-01	6.657E-02	-0.110
		65.20	*	-7.016E-01	4.859E-01	7.438E-01	8.594E-02	-0.943
RE-183	+	67.75		3.302E-03	1.347E-01	2.237E-01	2.527E-02	0.015
		100.10		7.434E-02	1.788E-01	2.972E-01	2.641E-02	0.250
		152.43		2.140E-01	3.182E-01	5.259E-01	3.017E-02	0.407
		222.10		1.394E-01	3.301E-01	5.676E-01	3.389E-02	0.246
RE-183	+	1001.68		-7.820E-01	2.462E+00	3.870E+00	3.491E-01	-0.202
		1121.28		5.576E-01	2.646E-01	3.556E-01	2.549E-02	1.568
		1189.05		-6.731E-02	3.293E-01	5.412E-01	3.465E-02	-0.124
		1221.42	*	7.603E-02	2.235E-01	3.827E-01	2.639E-02	0.199
RE-184	+	1230.97		1.433E-01	5.251E-01	8.944E-01	6.300E-02	0.160
		57.98		-8.172E-02	3.125E-01	5.157E-01	6.524E-02	-0.158
		59.32		-1.207E-03	1.654E-01	2.758E-01	3.429E-02	-0.004
		67.20		5.322E-02	2.487E-01	4.118E-01	4.672E-02	0.129
RE-184	+	162.32	*	-8.521E-03	1.103E-01	1.757E-01	9.716E-03	-0.049
		208.81		2.205E+00	1.402E+00	1.807E+00	1.057E-01	1.220
		291.72		7.560E-03	9.512E-01	1.394E+00	9.060E-02	0.005
		57.98		-2.943E-01	1.125E+00	1.857E+00	2.350E-01	-0.158
RE-184	+	59.32		-4.345E-03	5.952E-01	9.923E-01	1.234E-01	-0.004
		67.20		1.916E-01	8.955E-01	1.482E+00	1.682E-01	0.129
		161.27		3.201E-01	3.477E-01	5.790E-01	3.215E-02	0.553
		216.55		7.016E-02	2.528E-01	4.325E-01	2.561E-02	0.162
RE-184	+	252.85	*	-2.439E-02	2.137E-01	3.566E-01	2.223E-02	-0.068

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	318.01			-1.666E-01	4.252E-01	6.881E-01	4.561E-02	-0.242
	792.07			1.679E-01	1.152E+00	1.675E+00	1.265E-01	0.100
	903.28			-7.837E-01	1.226E+00	1.675E+00	1.688E-01	-0.468
	920.93			-3.233E-01	4.501E-01	6.768E-01	6.713E-02	-0.478
	59.72			1.910E-01	4.347E-01	7.360E-01	9.102E-02	0.259
	61.14			-1.167E-01	2.385E-01	3.893E-01	4.720E-02	-0.300
	69.30			-7.542E-02	3.981E-01	5.859E-01	6.549E-02	-0.129
	592.07			1.007E-01	2.289E+00	3.865E+00	2.223E-01	0.026
	646.12	*		-3.012E-02	3.724E-02	5.693E-02	2.925E-03	-0.529
	717.42			2.079E-01	8.320E-01	1.411E+00	8.440E-02	0.147
RE-188	874.81			-6.767E-01	5.923E-01	8.492E-01	8.090E-02	-0.797
	880.27			5.793E-01	7.948E-01	1.385E+00	1.339E-01	0.418
	155.03	*		-1.243E-02	1.696E-01	2.707E-01	1.538E-02	-0.046
	477.96			-8.093E-01	2.940E+00	4.642E+00	3.056E-01	-0.174
W-188	633.10			-6.919E-02	2.656E+00	4.440E+00	2.353E-01	-0.016
	63.58			1.855E+01	7.251E+01	1.211E+02	1.424E+01	0.153
IR-192	227.08			6.595E+00	1.201E+01	2.075E+01	1.248E+00	0.318
	290.67	*		2.473E+00	7.275E+00	1.095E+01	7.110E-01	0.226
	295.96		+	1.009E+00	2.139E-01	2.695E-01	1.780E-02	3.744
	308.46			1.712E-02	9.283E-02	1.557E-01	1.034E-02	0.110
AU-195	316.51	*		1.309E-02	3.274E-02	5.551E-02	3.691E-03	0.236
	468.07			7.018E-02	7.436E-02	1.148E-01	8.513E-03	0.611
	604.41			-2.638E-01	4.597E-01	6.275E-01	7.066E-02	-0.420
	612.46			-3.451E-01	7.626E-01	1.057E+00	7.792E-02	-0.327
	65.12			-3.258E-01	2.237E-01	3.422E-01	3.957E-02	-0.952
	66.83			1.325E-02	1.141E-01	1.883E-01	2.143E-02	0.070
TL-200	75.70		+	1.028E+00	3.102E-01	5.219E-01	5.709E-02	1.969
	98.88	*		9.288E-02	2.218E-01	3.691E-01	3.349E-02	0.252
	129.76		+	3.392E+00	3.743E+00	4.992E+00	3.149E-01	0.680
	367.94	*		2.962E-03	3.743E+00	Half-Life	too short	
TL-201	579.30			1.068E-02	3.743E+00	Half-Life	too short	
	828.27			2.304E-02	3.743E+00	Half-Life	too short	
	1205.75			6.932E-03	3.743E+00	Half-Life	too short	
	68.90			-2.842E+00	1.448E+01	2.273E+01	2.547E+00	-0.125
TL-202	70.82			2.711E+00	8.597E+00	1.295E+01	1.436E+00	0.209
	80.30			-1.099E+01	1.391E+01	1.960E+01	2.152E+00	-0.560
	135.34			4.456E+00	5.923E+01	9.583E+01	5.888E+00	0.047
	167.43	*		5.763E+00	1.677E+01	2.718E+01	1.487E+00	0.212
	68.90			-1.302E-01	6.634E-01	1.041E+00	1.167E-01	-0.125
HG-203	70.82			1.238E-01	3.927E-01	5.915E-01	6.557E-02	0.209
	80.30			-5.020E-01	6.355E-01	8.958E-01	9.833E-02	-0.560
	439.56	*		7.401E-02	8.584E-02	1.473E-01	9.902E-03	0.503
	70.83			4.675E-01	1.444E+00	2.175E+00	3.324E-01	0.215
BI-207	72.87			1.448E+00	8.932E-01	1.372E+00	2.039E-01	1.056
	82.60			-1.055E+00	1.552E+00	1.993E+00	3.067E-01	-0.529
	279.20	*		2.206E-02	3.944E-02	6.767E-02	4.567E-03	0.326
	72.80			3.422E-01	2.414E-01	3.740E-01	4.114E-02	0.915
	74.97		+	5.618E-01	1.695E-01	2.541E-01	2.782E-02	2.211
	84.90			5.512E-02	2.333E-01	3.471E-01	3.872E-02	0.159

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		569.67		1.898E-02	3.084E-02	5.155E-02	3.074E-03	0.368
		1063.62	*	1.149E-02	4.981E-02	8.235E-02	6.704E-03	0.139
		1770.23		-1.132E-01	4.177E-01	5.152E-01	3.418E-02	-0.220
		81.07		-2.459E-01	2.513E-01	3.502E-01	3.852E-02	-0.702
		83.78		6.084E-02	1.513E-01	2.270E-01	2.520E-02	0.268
		94.90		2.109E-01	2.455E-01	3.748E-01	3.660E-02	0.563
		122.32		1.927E-01	1.730E+00	2.817E+00	2.079E-01	0.068
		144.24		-2.282E-01	6.852E-01	1.080E+00	7.915E-02	-0.211
		154.21		-3.360E-02	3.739E-01	5.965E-01	4.134E-02	-0.056
	+	269.46		3.738E-01	2.786E-01	3.434E-01	2.265E-02	1.089
		323.87	*	-2.384E-01	6.727E-01	9.468E-01	1.594E-01	-0.252
	+	338.28		6.982E+00	1.676E+00	2.433E+00	2.690E-01	2.870
PO-209		445.03		-8.965E-01	2.128E+00	3.339E+00	3.609E-01	-0.268
		260.50		1.951E+00	8.769E+00	1.486E+01	9.350E-01	0.131
		262.80		1.235E+01	2.447E+01	4.200E+01	2.650E+00	0.294
		896.60	*	2.499E+00	7.681E+00	1.292E+01	1.303E+00	0.193
BI-210		46.50	*	3.119E+00	8.405E+00	1.433E+01	1.405E+00	0.218
PB-210		46.50	*	3.119E+00	8.405E+00	1.433E+01	1.405E+00	0.218
PO-210		46.50	*	3.119E+00	8.404E+00	1.433E+01	1.286E+00	0.218
PB-211		404.84	*	4.477E-01	1.002E+00	1.436E+00	8.968E-01	0.312
		427.08		1.709E+00	2.227E+00	3.377E+00	2.091E+00	0.506
BI-212		831.96		-7.169E-01	1.349E+00	1.990E+00	1.247E+00	-0.360
	+	727.18	*	1.473E+00	4.959E-01	6.687E-01	5.349E-02	2.203
		785.46		-3.784E-01	1.797E+00	2.893E+00	2.143E-01	-0.131
PO-215		1620.62		5.179E-01	1.048E+00	1.871E+00	1.426E-01	0.277
		81.07		-2.459E-01	2.513E-01	3.502E-01	3.852E-02	-0.702
		83.78		6.084E-02	1.513E-01	2.270E-01	2.520E-02	0.268
		94.90		2.109E-01	2.455E-01	3.748E-01	3.660E-02	0.563
		122.32		1.927E-01	1.730E+00	2.817E+00	2.079E-01	0.068
		144.24		-2.282E-01	6.852E-01	1.080E+00	7.915E-02	-0.211
		154.21		-3.360E-02	3.739E-01	5.965E-01	4.134E-02	-0.056
	+	269.46		3.738E-01	2.786E-01	3.434E-01	2.265E-02	1.089
		323.87	*	-2.384E-01	6.727E-01	9.468E-01	1.594E-01	-0.252
	+	338.28		6.982E+00	1.676E+00	2.433E+00	2.690E-01	2.870
		445.03		-8.965E-01	2.128E+00	3.339E+00	3.609E-01	-0.268
	+	271.23		4.796E-01	3.583E-01	4.362E-01	3.717E-02	1.100
RN-219		401.81	*	7.281E-02	3.988E-01	6.588E-01	9.261E-02	0.111
RN-220		549.76	*	-1.065E+01	2.436E+01	3.742E+01	2.295E+00	-0.285
RA-223		81.07		-2.459E-01	2.513E-01	3.502E-01	3.852E-02	-0.702
		83.78		6.084E-02	1.513E-01	2.270E-01	2.520E-02	0.268
		94.90		2.109E-01	2.455E-01	3.748E-01	3.660E-02	0.563
		122.32		1.927E-01	1.730E+00	2.817E+00	2.079E-01	0.068
		144.24		-2.282E-01	6.852E-01	1.080E+00	7.915E-02	-0.211
		154.21		-3.360E-02	3.739E-01	5.965E-01	4.134E-02	-0.056
	+	269.46		3.738E-01	2.786E-01	3.434E-01	2.265E-02	1.089
		323.87	*	-2.384E-01	6.727E-01	9.468E-01	1.594E-01	-0.252
	+	338.28		6.982E+00	1.676E+00	2.433E+00	2.690E-01	2.870
		445.03		-8.965E-01	2.128E+00	3.339E+00	3.609E-01	-0.268
		79.80		-3.685E-01	1.858E+00	2.713E+00	6.118E-01	-0.136
AC-227								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		236.00		5.677E-01	2.631E-01	4.246E-01	4.509E-02	1.337
		256.20	*	-2.257E-02	3.393E-01	5.671E-01	8.029E-02	-0.040
		286.10		7.167E-03	1.368E+00	2.281E+00	2.716E-01	0.003
		299.80		2.838E+00	1.476E+00	2.350E+00	3.893E-01	1.208
		304.40		-6.107E-01	1.755E+00	2.854E+00	5.015E-01	-0.214
		334.20		-1.529E+00	2.378E+00	3.236E+00	6.030E-01	-0.472
		79.80		-3.685E-01	1.858E+00	2.713E+00	6.189E-01	-0.136
	+	94.00		6.500E+00	3.416E+00	3.603E+00	8.047E-01	1.804
		236.00		5.677E-01	2.614E-01	4.246E-01	3.927E-02	1.337
		256.20	*	-2.257E-02	3.393E-01	5.671E-01	9.676E-02	-0.040
		286.10		7.167E-03	1.368E+00	2.281E+00	2.286E+00	0.003
		299.80		2.838E+00	1.476E+00	2.350E+00	3.893E-01	1.208
		304.40		-6.107E-01	1.755E+00	2.854E+00	5.015E-01	-0.214
		334.20		-1.529E+00	2.378E+00	3.236E+00	6.030E-01	-0.472
TH-229		85.43		1.701E-01	2.356E-01	3.565E-01	3.988E-02	0.477
	+	88.47		2.294E-01	1.143E-01	1.963E-01	2.202E-02	1.169
		100.00		7.697E-02	1.813E-01	3.015E-01	2.684E-02	0.255
		193.63	*	-6.110E-02	5.011E-01	7.884E-01	4.496E-02	-0.077
		210.97		7.501E-01	7.645E-01	1.207E+00	7.081E-02	0.622
		283.67	*	2.405E-02	1.341E+00	2.239E+00	3.150E-01	0.011
PA-231		301.29		2.205E-01	5.539E-01	9.093E-01	9.899E-02	0.243
TH-231		81.07		-2.459E-01	2.513E-01	3.502E-01	3.852E-02	-0.702
		83.78		6.084E-02	1.513E-01	2.270E-01	2.520E-02	0.268
		94.90		2.109E-01	2.455E-01	3.748E-01	3.660E-02	0.563
		122.32		1.927E-01	1.730E+00	2.817E+00	2.079E-01	0.068
		144.24		-2.282E-01	6.852E-01	1.080E+00	7.915E-02	-0.211
		154.21		-3.360E-02	3.739E-01	5.965E-01	4.134E-02	-0.056
	+	269.46		3.738E-01	2.786E-01	3.434E-01	2.265E-02	1.089
		323.87	*	-2.384E-01	6.727E-01	9.468E-01	1.594E-01	-0.252
	+	338.28		6.982E+00	1.676E+00	2.433E+00	2.690E-01	2.870
		445.03		-8.965E-01	2.128E+00	3.339E+00	3.609E-01	-0.268
	U-231	84.21		4.087E+00	1.243E+01	1.858E+01	2.067E+00	0.220
	+	92.29		1.231E+01	5.983E+00	7.579E+00	7.802E-01	1.624
		95.87	*	-1.334E-01	2.234E+00	3.258E+00	3.123E-01	-0.041
		108.00		-2.426E+00	3.897E+00	6.171E+00	4.858E-01	-0.393
PA-233	+	75.28		1.639E+01	5.366E+00	7.706E+00	1.292E+00	2.127
	+	86.59		3.466E+00	2.551E+00	3.100E+00	8.611E-01	1.118
PA-234		300.12		6.085E-01	4.096E-01	6.508E-01	8.964E-02	0.935
		311.98	*	-2.859E-02	5.916E-02	9.530E-02	6.595E-03	-0.300
		340.50		8.287E-01	6.777E-01	1.031E+00	2.394E-01	0.804
		398.62		-4.797E-01	2.034E+00	3.267E+00	8.525E-01	-0.147
		415.76		-1.713E-01	1.693E+00	2.390E+00	4.991E-01	-0.072
		63.00		5.928E-01	2.109E+00	3.524E+00	6.166E-01	0.168
		94.67		2.489E-01	1.798E-01	2.779E-01	3.683E-02	0.896
		98.44		3.191E-02	9.066E-02	1.476E-01	8.249E-02	0.216
		99.86		2.004E-01	4.595E-01	7.646E-01	6.822E-02	0.262
		111.00		-4.221E-02	1.744E-01	2.807E-01	3.186E-02	-0.150
		131.20		3.645E-02	1.165E-01	1.707E-01	1.069E-02	0.214
		152.70		2.078E-01	3.030E-01	4.984E-01	7.867E-02	0.417

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234M	+	186.00		4.554E+00	2.347E+00	2.446E+00	7.468E-01	1.861
		226.40		-1.126E-02	3.668E-01	6.183E-01	7.215E-02	-0.018
		227.20		2.256E-01	3.913E-01	6.769E-01	4.073E-02	0.333
		248.90		-2.731E-01	7.572E-01	1.245E+00	2.690E-01	-0.219
	+	293.70		6.122E+00	1.588E+00	1.615E+00	2.642E-01	3.790
		369.80		-8.024E-01	8.034E-01	1.200E+00	2.533E-01	-0.669
		568.70		5.195E-01	9.946E-01	1.652E+00	9.866E-02	0.314
		569.50		1.751E-01	2.741E-01	4.589E-01	2.737E-02	0.382
		574.00		-5.447E-01	1.410E+00	2.313E+00	1.370E-01	-0.236
		699.00		7.703E-02	6.514E-01	1.094E+00	1.961E-01	0.070
		706.10		2.576E-01	9.670E-01	1.631E+00	7.197E-01	0.158
		733.00		1.086E-01	3.966E-01	5.889E-01	1.260E-01	0.184
		742.81		9.537E-01	1.461E+00	2.305E+00	1.544E+00	0.414
	+	796.30		2.122E+00	1.291E+00	1.694E+00	4.534E-01	1.252
		805.60		-1.702E-01	9.230E-01	1.491E+00	4.540E-01	-0.114
		819.60		1.601E-01	1.211E+00	2.013E+00	7.636E-01	0.080
		826.30		-4.151E-01	8.759E-01	1.347E+00	6.020E-01	-0.308
		831.60		-4.343E-01	6.701E-01	1.020E+00	3.038E-01	-0.426
		876.40		2.027E-01	8.225E-01	1.335E+00	1.373E+00	0.152
		880.51		1.782E-01	2.766E-01	4.791E-01	4.633E-02	0.372
		883.24		5.473E-02	2.987E-01	4.931E-01	3.322E-01	0.111
		899.00		4.058E-01	8.838E-01	1.474E+00	6.491E-01	0.275
		925.00		2.893E-01	1.137E+00	1.901E+00	1.878E-01	0.152
		926.50		1.021E-01	1.752E-01	2.985E-01	7.681E-02	0.342
		946.00	*	1.562E-01	3.074E-01	5.220E-01	1.006E-01	0.299
		949.00		1.484E-01	4.651E-01	7.790E-01	7.507E-02	0.191
		980.50		5.485E-02	7.498E-01	1.225E+00	1.138E-01	0.045
		1394.10		-1.118E+00	1.399E+00	1.709E+00	1.112E+00	-0.654
		766.42		1.984E+00	1.186E+01	1.977E+01	9.980E+00	0.100
		1001.03	*	5.423E-01	5.328E+00	8.689E+00	8.968E-01	0.062
	TH-234	63.29	*	5.103E-01	1.769E+00	2.955E+00	5.824E-01	0.173
	+	92.38		1.682E+00	8.602E-01	1.036E+00	1.962E-01	1.623
	U-235	89.95		2.302E+00	1.335E+00	1.824E+00	5.753E-01	1.262
	+	93.35		2.022E+00	1.121E+00	1.236E+00	3.523E-01	1.636
		105.00		1.390E+00	1.144E+00	1.833E+00	5.450E-01	0.758
		143.76	*	-9.530E-02	2.129E-01	3.332E-01	5.448E-02	-0.286
		163.35		-3.177E-01	4.624E-01	7.087E-01	1.268E-01	-0.448
	+	185.71		1.686E-01	7.066E-02	9.091E-02	5.116E-03	1.855
		205.31		2.989E-01	5.174E-01	7.976E-01	1.435E-01	0.375
	NP-236	94.67		1.908E-01	1.354E-01	2.110E-01	2.070E-02	0.904
		98.44		2.414E-02	6.724E-02	1.116E-01	1.021E-02	0.216
		111.00		-3.192E-02	1.319E-01	2.123E-01	1.604E-02	-0.150
		160.31	*	1.968E-02	7.845E-02	1.269E-01	7.070E-03	0.155
	U-238	63.29	*	5.103E-01	1.769E+00	2.955E+00	5.824E-01	0.173
	+	92.38		1.682E+00	8.176E-01	1.036E+00	1.065E-01	1.623
	NP-239	99.55		1.104E-01	1.522E-01	2.560E-01	2.297E-02	0.431
		117.00	*	-2.295E-01	1.866E-01	2.850E-01	1.994E-02	-0.805
	+	209.75		1.673E+00	1.064E+00	1.387E+00	8.123E-02	1.206
		228.18		1.628E-02	2.060E-01	3.488E-01	2.102E-02	0.047

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		277.60		7.965E-02	1.683E-01	2.875E-01	1.843E-02	0.277
		334.30		-8.594E-01	1.340E+00	1.835E+00	1.228E-01	-0.468
AM-241		59.54	*	3.877E-02	2.249E-01	3.773E-01	4.846E-02	0.103
CM-243		99.55		1.136E-01	1.567E-01	2.635E-01	2.364E-02	0.431
		103.76	*	9.082E-02	9.729E-02	1.644E-01	1.378E-02	0.552
		117.00		-2.362E-01	1.921E-01	2.933E-01	2.052E-02	-0.805
	+	209.75		1.649E+00	1.049E+00	1.368E+00	8.010E-02	1.206
		228.18		1.646E-02	2.082E-01	3.525E-01	2.124E-02	0.047
		277.60		8.032E-02	1.697E-01	2.899E-01	1.859E-02	0.277
AM-246		798.80		-8.884E-02	1.514E-01	1.990E-01	1.533E-02	-0.446
		1036.00		-2.341E-01	3.078E-01	4.552E-01	3.894E-02	-0.514
		1062.04		2.088E-02	2.224E-01	3.622E-01	2.957E-02	0.058
		1078.86	*	-3.015E-02	1.524E-01	2.404E-01	1.899E-02	-0.125
CM-247		278.00		5.521E-01	6.934E-01	1.202E+00	7.707E-02	0.459
		287.40		8.465E-01	1.118E+00	1.883E+00	1.219E-01	0.450
		402.60	*	3.062E-02	3.817E-02	6.123E-02	4.157E-03	0.500
CF-249		252.85		-9.003E-02	7.890E-01	1.316E+00	8.208E-02	-0.068
		333.44		-1.260E-02	1.842E-01	2.473E-01	1.654E-02	-0.051
		387.95	*	-6.271E-03	3.583E-02	5.794E-02	3.937E-03	-0.108
CF-251		176.60	*	1.082E-01	1.150E-01	1.915E-01	1.062E-02	0.565
		227.00		9.732E-02	3.489E-01	5.961E-01	3.586E-02	0.163
		285.00		-1.395E-01	1.593E+00	2.644E+00	1.708E-01	-0.053

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]G245107013      *
* Acquisition date   : 1-FEB-2010 13:30:00 Detector SN#                   *
* Detector ID        : GAM10 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.05 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID         : G245107013 Analyst initials: MXR1                  *
* Batch Number      : 944038 Sample Quantity : 1.2970E+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	3.076E+01	3.144E+00	2.980E-01	0.000E+00
CD-109	1.812E+00	1.227E+00	1.185E+00	0.000E+00
SN-126	1.771E-01	1.198E-01	1.166E-01	0.000E+00
BA-137M	5.470E-02	4.239E-02	5.955E-02	0.000E+00
CS-137	5.782E-02	4.481E-02	6.295E-02	0.000E+00
TL-208	4.822E-01	7.806E-02	5.516E-02	0.000E+00
BI-211	3.255E+00	4.852E-01	2.972E-01	0.000E+00
PB-212	1.595E+00	1.583E-01	9.101E-02	0.000E+00
PO-212	1.595E+00	1.583E-01	9.101E-02	0.000E+00
BI-214	1.137E+00	1.537E-01	9.337E-02	0.000E+00
PB-214	1.132E+00	1.784E-01	1.036E-01	0.000E+00
PO-214	1.132E+00	1.784E-01	1.036E-01	0.000E+00
PO-216	1.595E+00	1.583E-01	9.101E-02	0.000E+00
PO-218	1.132E+00	1.784E-01	1.036E-01	0.000E+00
RA-224	4.231E+00	1.315E+00	1.035E+00	0.000E+00
RA-226	1.137E+00	1.537E-01	9.337E-02	0.000E+00
AC-228	1.310E+00	3.141E-01	2.087E-01	0.000E+00
RA-228	1.310E+00	3.141E-01	2.087E-01	0.000E+00
TH-228	1.625E+00	1.613E-01	9.276E-02	0.000E+00
TH-230	1.137E+00	1.537E-01	9.337E-02	0.000E+00
TH-232	1.310E+00	3.141E-01	2.087E-01	0.000E+00
U-234	1.137E+00	1.537E-01	9.337E-02	0.000E+00
NP-237	5.200E-01	3.673E-01	4.474E-01	0.000E+00
AM-243	3.129E-01	9.253E-02	1.042E-01	0.000E+00
ANH-511	1.356E-01	6.204E-02	4.789E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-8.887E-02	3.059E-01	5.018E-01	0.000E+00 NOT IDENT.
NA-22	-2.191E-02	4.538E-02	7.357E-02	0.000E+00 NOT IDENT.

NA-24	0.000E+00	5.256E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	8.465E-04	2.499E-02	4.143E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.661E-02	7.901E-02	0.000E+00	NOT IDENT.
SC-46	-2.668E-02	4.028E-02	6.334E-02	0.000E+00	FAIL ABUN
V-48	-1.668E-02	8.319E-02	1.358E-01	0.000E+00	NOT IDENT.
CR-51	1.727E-01	3.685E-01	6.554E-01	0.000E+00	NOT IDENT.
MN-52	-1.412E-01	3.583E-01	5.670E-01	0.000E+00	NOT IDENT.
MN-54	7.923E-03	3.972E-02	6.825E-02	0.000E+00	NOT IDENT.
CO-56	-9.785E-03	3.869E-02	6.385E-02	0.000E+00	NOT IDENT.
CO-57	7.401E-03	2.464E-02	4.295E-02	0.000E+00	NOT IDENT.
CO-58	9.125E-03	3.705E-02	6.428E-02	0.000E+00	NOT IDENT.
FE-59	1.840E-02	1.017E-01	1.707E-01	0.000E+00	NOT IDENT.
CO-60	-2.982E-02	4.485E-02	7.050E-02	0.000E+00	NOT IDENT.
ZN-65	-2.808E-03	1.031E-01	1.457E-01	0.000E+00	NOT IDENT.
GE-68	8.603E-01	1.268E+00	2.233E+00	0.000E+00	NOT IDENT.
AS-73	-1.489E-02	1.450E+00	2.609E+00	0.000E+00	NOT IDENT.
AS-74	-4.942E-02	9.887E-02	1.661E-01	0.000E+00	NOT IDENT.
SE-75	-1.719E-02	4.740E-02	7.151E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.039E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.313E-01	4.171E-01	6.773E-01	0.000E+00	NOT IDENT.
RB-83	4.259E-03	6.535E-02	1.095E-01	0.000E+00	NOT IDENT.
RB-84	1.442E-02	7.553E-02	1.294E-01	0.000E+00	NOT IDENT.
KR-85	1.038E+01	7.570E+00	1.243E+01	0.000E+00	NOT IDENT.
SR-85	5.546E-02	4.046E-02	6.644E-02	0.000E+00	NOT IDENT.
RB-86	6.021E-01	9.094E-01	1.601E+00	0.000E+00	NOT IDENT.
Y-88	8.270E-04	3.200E-02	5.282E-02	0.000E+00	NOT IDENT.
ZR-88	4.708E-02	3.106E-02	5.745E-02	0.000E+00	NOT IDENT.
Y-91	2.439E+00	1.990E+01	3.440E+01	0.000E+00	NOT IDENT.
NB-94	-8.649E-03	2.976E-02	4.994E-02	0.000E+00	NOT IDENT.
NB-95	9.491E-03	4.598E-02	7.956E-02	0.000E+00	NOT IDENT.
NB-95M	1.529E-01	1.359E-01	2.247E-01	0.000E+00	NOT IDENT.
ZR-95	6.811E-02	7.643E-02	1.388E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.119E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.778E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.254E+00	2.984E+01	5.030E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.059E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.780E-03	3.142E-02	5.287E-02	0.000E+00	NOT IDENT.
RH-102	7.494E-03	2.683E-02	4.601E-02	0.000E+00	NOT IDENT.
RU-103	5.131E-03	3.815E-02	6.455E-02	0.000E+00	FAIL ABUN
RH-106	-5.084E-02	2.990E-01	5.127E-01	0.000E+00	FAIL ABUN
RU-106	-5.084E-02	2.990E-01	5.127E-01	0.000E+00	FAIL ABUN
AG-108M	-9.318E-03	3.076E-02	5.093E-02	0.000E+00	NOT IDENT.
AG-110M	2.592E-03	3.801E-02	5.755E-02	0.000E+00	NOT IDENT.
IN-111	6.189E-01	2.708E+00	4.282E+00	0.000E+00	NOT IDENT.
IN-113M	1.993E-02	4.398E-02	7.709E-02	0.000E+00	NOT IDENT.
SN-113	1.993E-02	4.398E-02	7.709E-02	0.000E+00	NOT IDENT.
IN-114M	9.762E-03	2.071E-01	3.084E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.372E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.291E-02	6.488E-02	1.088E-01	0.000E+00	NOT IDENT.
SB-122	4.075E+00	5.820E+00	1.012E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.232E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.026E-03	2.806E-02	4.741E-02	0.000E+00	NOT IDENT.
I-124	-1.486E-01	1.230E+00	1.930E+00	0.000E+00	FAIL ABUN
SB-124	-7.329E-02	7.142E-02	8.916E-02	0.000E+00	FAIL ABUN
SB-125	2.882E-02	8.740E-02	1.513E-01	0.000E+00	FAIL ABUN
TE-125M	-2.385E+00	9.114E+00	1.561E+01	0.000E+00	NOT IDENT.
I-126	1.482E-01	2.482E-01	3.948E-01	0.000E+00	NOT IDENT.
SB-126	-4.180E-02	1.853E-01	2.683E-01	0.000E+00	NOT IDENT.
SB-127	-1.573E-01	2.470E+00	4.233E+00	0.000E+00	NOT IDENT.
XE-127	-4.690E-03	4.522E-02	8.055E-02	0.000E+00	NOT IDENT.
I-131	-3.287E-02	1.483E-01	2.508E-01	0.000E+00	NOT IDENT.
TE-132	1.094E-01	1.428E+00	2.544E+00	0.000E+00	NOT IDENT.
BA-133	1.658E-02	4.075E-02	6.371E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.298E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.927E-02	8.927E-02	0.000E+00	FAIL ABUN
CS-135	1.841E-01	1.675E-01	2.761E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.100E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.773E-02	1.322E-01	2.032E-01	0.000E+00	FAIL ABUN
CE-139	1.651E-02	2.892E-02	5.007E-02	0.000E+00	NOT IDENT.
BA-140	-1.793E-01	3.067E-01	4.758E-01	0.000E+00	NOT IDENT.
LA-140	-3.115E-02	1.097E-01	1.748E-01	0.000E+00	FAIL ABUN
CE-141	-4.746E-02	6.562E-02	1.080E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.523E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.338E-01	2.260E-01	3.315E-01	0.000E+00	NOT IDENT.
PM-144	1.014E-02	3.228E-02	5.682E-02	0.000E+00	NOT IDENT.
PR-144	6.883E-01	2.192E+00	3.858E+00	0.000E+00	NOT IDENT.
PM-146	2.041E-02	4.091E-02	7.135E-02	0.000E+00	NOT IDENT.
ND-147	2.269E-02	6.464E-01	1.079E+00	0.000E+00	FAIL ABUN

PM-149	0.000E+00	2.766E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.879E-03	8.592E-02	1.483E-01	0.000E+00	FAIL ABUN
GD-153	-5.571E-02	8.643E-02	1.296E-01	0.000E+00	NOT IDENT.
EU-154	-4.058E-02	1.249E-01	2.057E-01	0.000E+00	NOT IDENT.
EU-155	1.099E-01	1.078E-01	1.942E-01	0.000E+00	FAIL ABUN
TB-160	-3.429E-04	1.411E-01	2.376E-01	0.000E+00	FAIL ABUN
HO-166M	-2.571E-02	5.425E-02	8.939E-02	0.000E+00	FAIL ABUN
TM-171	4.421E+00	3.345E+01	5.919E+01	0.000E+00	NOT IDENT.
LU-176	3.839E-03	2.296E-02	4.027E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.210E+00	2.992E+00	0.000E+00	FAIL ABUN
LU-177M	2.805E-02	1.785E-01	2.695E-01	0.000E+00	FAIL ABUN
HF-181	2.137E-02	4.059E-02	7.085E-02	0.000E+00	NOT IDENT.
W-181	-7.016E-01	4.762E-01	7.816E-01	0.000E+00	NOT IDENT.
TA-182	7.603E-02	2.190E-01	3.840E-01	0.000E+00	FAIL ABUN
RE-183	-8.521E-03	1.081E-01	1.821E-01	0.000E+00	FAIL ABUN
RE-184	-2.439E-02	2.094E-01	3.670E-01	0.000E+00	NOT IDENT.
OS-185	-3.012E-02	3.649E-02	5.773E-02	0.000E+00	NOT IDENT.
RE-188	-1.243E-02	1.662E-01	2.808E-01	0.000E+00	NOT IDENT.
W-188	2.473E+00	7.130E+00	1.125E+01	0.000E+00	NOT IDENT.
IR-192	1.309E-02	3.209E-02	5.694E-02	0.000E+00	FAIL ABUN
AU-195	9.288E-02	2.174E-01	3.854E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.028E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.763E+00	1.643E+01	2.816E+01	0.000E+00	NOT IDENT.
TL-202	7.401E-02	8.412E-02	1.503E-01	0.000E+00	NOT IDENT.
HG-203	2.206E-02	3.866E-02	6.955E-02	0.000E+00	NOT IDENT.
BI-207	1.149E-02	4.882E-02	8.283E-02	0.000E+00	FAIL ABUN
TL-207	-2.384E-01	6.592E-01	9.707E-01	0.000E+00	FAIL ABUN
PO-209	2.499E+00	7.528E+00	1.303E+01	0.000E+00	NOT IDENT.
BI-210	3.119E+00	8.237E+00	1.513E+01	0.000E+00	NOT IDENT.
PB-210	3.119E+00	8.237E+00	1.513E+01	0.000E+00	NOT IDENT.
PO-210	3.119E+00	8.236E+00	1.513E+01	0.000E+00	NOT IDENT.
PB-211	4.477E-01	9.818E-01	1.467E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.860E-01	6.768E-01	0.000E+00	FAIL ABUN
PO-215	-2.384E-01	6.592E-01	9.707E-01	0.000E+00	FAIL ABUN
RN-219	7.281E-02	3.908E-01	6.732E-01	0.000E+00	FAIL ABUN
RN-220	-1.065E+01	2.387E+01	3.804E+01	0.000E+00	NOT IDENT.
RA-223	-2.384E-01	6.592E-01	9.707E-01	0.000E+00	FAIL ABUN
AC-227	-2.257E-02	3.325E-01	5.836E-01	0.000E+00	NOT IDENT.
TH-227	-2.257E-02	3.325E-01	5.836E-01	0.000E+00	FAIL ABUN
TH-229	-6.110E-02	4.911E-01	8.149E-01	0.000E+00	FAIL ABUN
PA-231	2.405E-02	1.315E+00	2.301E+00	0.000E+00	NOT IDENT.
TH-231	-2.384E-01	6.592E-01	9.707E-01	0.000E+00	FAIL ABUN
U-231	-1.334E-01	2.189E+00	3.404E+00	0.000E+00	FAIL ABUN
PA-233	-2.859E-02	5.797E-02	9.776E-02	0.000E+00	FAIL ABUN
PA-234	1.562E-01	3.012E-01	5.261E-01	0.000E+00	FAIL ABUN
PA-234M	5.423E-01	5.221E+00	8.749E+00	0.000E+00	NOT IDENT.
TH-234	5.103E-01	1.734E+00	3.107E+00	0.000E+00	FAIL ABUN
U-235	-9.530E-02	2.086E-01	3.459E-01	0.000E+00	FAIL ABUN
NP-236	1.968E-02	7.688E-02	1.315E-01	0.000E+00	NOT IDENT.
U-238	5.103E-01	1.734E+00	3.107E+00	0.000E+00	FAIL ABUN
NP-239	-2.295E-01	1.829E-01	2.969E-01	0.000E+00	FAIL ABUN
AM-241	3.877E-02	2.204E-01	3.971E-01	0.000E+00	NOT IDENT.
CM-243	9.082E-02	9.535E-02	1.716E-01	0.000E+00	FAIL ABUN
AM-246	-3.015E-02	1.494E-01	2.418E-01	0.000E+00	NOT IDENT.
CM-247	3.062E-02	3.741E-02	6.256E-02	0.000E+00	NOT IDENT.
CF-249	-6.271E-03	3.511E-02	5.924E-02	0.000E+00	NOT IDENT.
CF-251	1.082E-01	1.127E-01	1.982E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107013.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:00.
Sample ID          : G245107013 Sample quantity : 1.29700E+02 GRAM
Detector name      : GAM10 Detector geometry: CAN
Elapsed live time  : 0 02:00:00:00 Elapsed real time: 0 02:00:01.05 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	1256	10.67*	1.107E+00	3.076E+01	3.076E+01	10.43
CD-109	88.03	119	3.72*	5.267E+00	1.761E+00	1.812E+00	69.07
SN-126	64.28	-----	9.60	2.419E+00	-----	Line Not Found	-----
	86.94	119	8.90	5.267E+00	7.361E-01	7.361E-01	80.04
	87.57	119	37.00*	5.267E+00	1.771E-01	1.771E-01	69.07
BA-137M	661.65	40	89.98*	2.354E+00	5.463E-02	5.470E-02	79.08
CS-137	661.65	40	85.12*	2.354E+00	5.775E-02	5.782E-02	79.08
TL-208	277.35	-----	6.80	4.610E+00	-----	Line Not Found	-----
	510.84	137	21.60	2.931E+00	6.280E-01	6.280E-01	47.41
	583.14	369	84.20*	2.628E+00	4.822E-01	4.822E-01	16.52
	860.37	58	12.46	1.840E+00	7.319E-01	7.319E-01	74.25
BI-211	72.87	-----	1.27	3.633E+00	-----	Line Not Found	-----
	351.07	566	12.94*	3.889E+00	3.255E+00	3.255E+00	15.21
PB-212	74.81	275	10.70	3.859E+00	1.930E+00	1.930E+00	31.59
	77.11	508	18.00	4.154E+00	1.965E+00	1.965E+00	18.40
	87.30	119	8.00	5.267E+00	8.189E-01	8.189E-01	69.79
	238.63	1257	44.60*	5.116E+00	1.595E+00	1.595E+00	10.13
	300.09	-----	3.41	4.359E+00	-----	Line Not Found	-----
PO-212	74.81	275	10.70	3.859E+00	1.930E+00	1.930E+00	31.59
	77.11	508	18.00	4.154E+00	1.965E+00	1.965E+00	18.40
	87.30	119	8.00	5.267E+00	8.189E-01	8.189E-01	69.79
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1257	44.60*	5.116E+00	1.595E+00	1.595E+00	10.13
	300.09	-----	3.41	4.359E+00	-----	Line Not Found	-----
BI-214	609.31	460	46.30*	2.532E+00	1.137E+00	1.137E+00	13.80
	1120.29	85	15.10	1.416E+00	1.152E+00	1.152E+00	47.92
	1764.49	87	15.80	9.765E-01	1.635E+00	1.635E+00	28.10
PB-214	74.81	275	6.21	3.859E+00	3.326E+00	3.326E+00	31.07
	77.11	508	10.50	4.154E+00	3.369E+00	3.369E+00	19.92
	87.30	119	4.67	5.267E+00	1.403E+00	1.403E+00	69.49
	241.98	293	7.49	5.076E+00	2.231E+00	2.231E+00	32.21
	295.21	374	19.20	4.415E+00	1.275E+00	1.275E+00	22.08

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	566	37.20*	3.889E+00	1.132E+00	1.132E+00	16.08
	74.81	275	6.21	3.859E+00	3.326E+00	3.326E+00	31.07
	77.11	508	10.50	4.154E+00	3.369E+00	3.369E+00	19.92
	87.30	119	4.67	5.267E+00	1.403E+00	1.403E+00	69.49
	241.98	293	7.49	5.076E+00	2.231E+00	2.231E+00	32.21
PO-216	295.21	374	19.20	4.415E+00	1.275E+00	1.275E+00	22.08
	351.92	566	37.20*	3.889E+00	1.132E+00	1.132E+00	16.08
	74.81	275	10.70	3.859E+00	1.930E+00	1.930E+00	31.59
	77.11	508	18.00	4.154E+00	1.965E+00	1.965E+00	18.40
	87.30	119	8.00	5.267E+00	8.189E-01	8.189E-01	69.79
PO-218	238.63	1257	44.60*	5.116E+00	1.595E+00	1.595E+00	10.13
	300.09	-----	3.41	4.359E+00	-----	Line Not Found	-----
	74.81	275	6.21	3.859E+00	3.326E+00	3.326E+00	31.07
	77.11	508	10.50	4.154E+00	3.369E+00	3.369E+00	19.92
	87.30	119	4.67	5.267E+00	1.403E+00	1.403E+00	69.49
RA-224	241.98	293	7.49	5.076E+00	2.231E+00	2.231E+00	32.21
	295.21	374	19.20	4.415E+00	1.275E+00	1.275E+00	22.08
	351.92	566	37.20*	3.889E+00	1.132E+00	1.132E+00	16.08
	240.98	293	3.95*	5.076E+00	4.231E+00	4.231E+00	31.72
	609.31	460	46.30*	2.532E+00	1.137E+00	1.137E+00	13.80
AC-228	1120.29	85	15.10	1.416E+00	1.152E+00	1.152E+00	47.92
	1764.49	87	15.80	9.765E-01	1.635E+00	1.635E+00	28.10
	338.32	264	11.40	4.001E+00	1.672E+00	1.672E+00	46.12
	911.07	218	27.70*	1.740E+00	1.310E+00	1.310E+00	24.47
	969.11	137	16.60	1.636E+00	1.455E+00	1.455E+00	37.35
TH-228	338.32	264	11.40	4.001E+00	1.672E+00	1.672E+00	46.12
	911.07	218	27.70*	1.740E+00	1.310E+00	1.310E+00	24.47
	969.11	137	16.60	1.636E+00	1.455E+00	1.455E+00	37.35
	74.81	275	10.70	3.859E+00	1.930E+00	1.967E+00	30.19
	77.11	508	18.00	4.154E+00	1.965E+00	2.003E+00	18.40
TH-230	87.30	119	8.00	5.267E+00	8.189E-01	8.346E-01	69.07
	238.63	1257	44.60*	5.116E+00	1.595E+00	1.625E+00	10.13
	300.09	-----	3.41	4.359E+00	-----	Line Not Found	-----
	609.31	460	46.30*	2.532E+00	1.137E+00	1.137E+00	13.80
	1120.29	85	15.10	1.416E+00	1.152E+00	1.152E+00	47.92
TH-232	1764.49	87	15.80	9.765E-01	1.635E+00	1.635E+00	28.10
	338.32	264	11.40	4.001E+00	1.672E+00	1.672E+00	22.33
	911.07	218	27.70*	1.740E+00	1.310E+00	1.310E+00	24.47
	969.11	137	16.60	1.636E+00	1.455E+00	1.455E+00	37.35
	609.31	460	46.30*	2.532E+00	1.137E+00	1.137E+00	13.80
NP-237	1120.29	85	15.10	1.416E+00	1.152E+00	1.152E+00	47.92
	1764.49	87	15.80	9.765E-01	1.635E+00	1.635E+00	28.10
	86.50	119	12.60*	5.267E+00	5.200E-01	5.200E-01	72.08
	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
	74.67	275	66.00*	3.859E+00	3.129E-01	3.129E-01	30.17
AM-243	86.72	119	0.34	5.267E+00	1.950E+01	1.950E+01	69.07
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.676E+00	-----	Line Not Found	-----
	511.00	137	100.00*	2.931E+00	1.356E-01	1.356E-01	46.67

Flag: "*" = Keyline

Total number of lines in spectrum 32
Number of unidentified lines 2
Number of lines tentatively identified by NID 30 93.75%

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	3.076E+01	3.076E+01	0.321E+01	10.43	
CD-109	464.00D	1.03	1.761E+00	1.812E+00	1.252E+00	69.07	
SN-126	1.00E+05Y	1.00	1.771E-01	1.771E-01	1.223E-01	69.07	
BA-137M	30.17Y	1.00	5.463E-02	5.470E-02	4.325E-02	79.08	
CS-137	30.17Y	1.00	5.775E-02	5.782E-02	4.572E-02	79.08	
TL-208	1.41E+10Y	1.00	4.822E-01	4.822E-01	0.797E-01	16.52	
BI-211	7.04E+08Y	1.00	3.255E+00	3.255E+00	0.495E+00	15.21	
PB-212	1.41E+10Y	1.00	1.595E+00	1.595E+00	0.162E+00	10.13	
PO-212	1.41E+10Y	1.00	1.595E+00	1.595E+00	0.162E+00	10.13	
BI-214	1600.00Y	1.00	1.137E+00	1.137E+00	0.157E+00	13.80	
PB-214	1600.00Y	1.00	1.132E+00	1.132E+00	0.182E+00	16.08	
PO-214	1600.00Y	1.00	1.132E+00	1.132E+00	0.182E+00	16.08	
PO-216	1.41E+10Y	1.00	1.595E+00	1.595E+00	0.162E+00	10.13	
PO-218	1600.00Y	1.00	1.132E+00	1.132E+00	0.182E+00	16.08	
RA-224	1.41E+10Y	1.00	4.231E+00	4.231E+00	1.342E+00	31.72	
RA-226	1600.00Y	1.00	1.137E+00	1.137E+00	0.157E+00	13.80	
AC-228	1.41E+10Y	1.00	1.310E+00	1.310E+00	0.321E+00	24.47	
RA-228	1.41E+10Y	1.00	1.310E+00	1.310E+00	0.321E+00	24.47	
TH-228	1.91Y	1.02	1.595E+00	1.625E+00	0.165E+00	10.13	
TH-230	4.47E+09Y	1.00	1.137E+00	1.137E+00	0.157E+00	13.80	
TH-232	1.41E+10Y	1.00	1.310E+00	1.310E+00	0.321E+00	24.47	
U-234	4.47E+09Y	1.00	1.137E+00	1.137E+00	0.157E+00	13.80	
NP-237	2.14E+06Y	1.00	5.200E-01	5.200E-01	3.748E-01	72.08	
AM-243	7380.00Y	1.00	3.129E-01	3.129E-01	0.944E-01	30.17	
ANH-511	1.00E+09Y	1.00	1.356E-01	1.356E-01	0.633E-01	46.67	

Total Activity : 6.000E+01 6.008E+01

Grand Total Activity : 6.000E+01 6.008E+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	89.69	118	282	1.05	179.50	177	6	1.64E-02	48.6	5.49E+00	T
0	92.81	180	467	1.45	185.72	182	9	2.50E-02	47.5	5.73E+00	T
0	128.80	60	344	0.75	257.64	255	8	8.29E-03	****	6.76E+00	T
0	185.74	188	350	0.97	371.43	367	10	2.61E-02	41.5	5.98E+00	T
0	208.84	104	307	1.22	417.59	414	9	1.45E-02	63.3	5.58E+00	T
0	270.25	82	242	1.23	540.32	535	10	1.15E-02	74.2	4.69E+00	T
0	327.39	101	154	1.39	654.51	649	11	1.40E-02	51.8	4.10E+00	T
0	409.31	49	151	3.70	818.25	812	14	6.79E-03	****	3.48E+00	
0	462.35	94	102	1.00	924.27	919	11	1.30E-02	46.6	3.17E+00	T
0	726.99	130	62	1.57	1453.31	1446	15	1.80E-02	32.7	2.16E+00	T
0	795.05	57	48	1.79	1589.38	1584	11	7.89E-03	54.7	1.99E+00	T
8	964.43	36	49	2.31	1928.08	1924	22	4.94E-03	72.4	1.64E+00	T
0	1377.22	40	16	1.34	2753.70	2749	9	5.60E-03	47.4	1.16E+00	T
0	1729.12	27	11	3.32	3457.77	3449	15	3.77E-03	66.0	9.86E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107013.CNF;1
* Acquisition date   : 1-FEB-2010 13:30:00.  Detector SN#      :
* Detector ID        : GAM10                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.05             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                          *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107013             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.29700E+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	3.076E+01	3.208E+00	2.978E-01	2.565E-02	103.305
CD-109	1.812E+00	1.252E+00	1.132E+00	1.284E-01	1.600
SN-126	1.771E-01	1.223E-01	1.114E-01	1.261E-02	1.589
BA-137M	5.470E-02	4.325E-02	5.875E-02	2.899E-03	0.931
CS-137	5.782E-02	4.572E-02	6.210E-02	3.082E-03	0.931
TL-208	4.822E-01	7.965E-02	5.430E-02	3.649E-03	8.880
BI-211	3.255E+00	4.951E-01	2.903E-01	2.116E-02	11.214
PB-212	1.595E+00	1.615E-01	8.835E-02	6.702E-03	18.051
PO-212	1.595E+00	1.615E-01	8.835E-02	6.702E-03	18.051
BI-214	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
PB-214	1.132E+00	1.821E-01	1.012E-01	9.073E-03	11.191
PO-214	1.132E+00	1.821E-01	1.012E-01	9.073E-03	11.191
PO-216	1.595E+00	1.615E-01	8.835E-02	6.702E-03	18.051
PO-218	1.132E+00	1.821E-01	1.012E-01	9.073E-03	11.191
RA-224	4.231E+00	1.342E+00	1.005E+00	6.170E-02	4.209
RA-226	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
AC-228	1.310E+00	3.205E-01	2.070E-01	2.554E-02	6.329
RA-228	1.310E+00	3.205E-01	2.070E-01	2.554E-02	6.329

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.625E+00	1.646E-01	9.004E-02	6.830E-03	18.051
TH-230	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
TH-232	1.310E+00	3.205E-01	2.070E-01	2.554E-02	6.329
U-234	1.137E+00	1.569E-01	9.199E-02	7.000E-03	12.357
NP-237	5.200E-01	3.748E-01	4.276E-01	1.005E-01	1.216
AM-243	3.129E-01	9.442E-02	9.939E-02	1.088E-02	3.149
ANH-511	1.356E-01	6.330E-02	4.705E-02	3.014E-03	2.883

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-8.887E-02		3.121E-01	4.924E-01	3.662E-02	-0.180
NA-22	-2.191E-02		4.630E-02	7.336E-02	5.683E-03	-0.299
NA-24	-3.871E+01		2.682E+01	Half-Life too short		
AL-26	8.465E-04		2.550E-02	4.155E-02	2.635E-03	0.020
TI-44	1.634E-01		4.757E-02	7.539E-02	8.249E-03	2.167
SC-46	-2.668E-02		4.110E-02	6.279E-02	6.214E-03	-0.425
V-48	-1.668E-02		8.488E-02	1.349E-01	1.247E-02	-0.124
CR-51	1.727E-01		3.761E-01	6.392E-01	4.617E-02	0.270
MN-52	-1.412E-01		3.656E-01	5.665E-01	4.787E-02	-0.249
MN-54	7.923E-03		4.053E-02	6.759E-02	5.774E-03	0.117
CO-56	-9.785E-03		3.948E-02	6.324E-02	5.584E-03	-0.155
CO-57	7.401E-03		2.514E-02	4.126E-02	2.722E-03	0.179
CO-58	9.125E-03		3.780E-02	6.363E-02	5.091E-03	0.143
FE-59	1.840E-02		1.038E-01	1.698E-01	1.418E-02	0.108
CO-60	-2.982E-02		4.577E-02	7.035E-02	6.113E-03	-0.424
ZN-65	-2.808E-03		1.052E-01	1.450E-01	1.056E-02	-0.019
GE-68	8.603E-01		1.293E+00	2.221E+00	1.759E-01	0.387
AS-73	-1.489E-02		1.480E+00	2.475E+00	3.275E-01	-0.006
AS-74	-4.942E-02		1.009E-01	1.636E-01	9.345E-03	-0.302
SE-75	-1.719E-02		4.837E-02	6.952E-02	4.434E-03	-0.247
BR-77	3.667E-06		1.551E-05	Half-Life too short		
SR-82	-2.313E-01		4.256E-01	6.700E-01	4.830E-02	-0.345
RB-83	4.259E-03		6.668E-02	1.076E-01	6.830E-03	0.040
RB-84	1.442E-02		7.707E-02	1.283E-01	1.244E-02	0.112
KR-85	1.038E+01		7.725E+00	1.222E+01	7.802E-01	0.850
SR-85	5.546E-02		4.128E-02	6.528E-02	4.170E-03	0.850
RB-86	6.021E-01		9.280E-01	1.592E+00	1.263E-01	0.378
Y-88	8.270E-04		3.265E-02	5.299E-02	3.251E-03	0.016
ZR-88	4.708E-02		3.169E-02	5.621E-02	3.820E-03	0.838
Y-91	2.439E+00		2.031E+01	3.428E+01	2.277E+00	0.071
NB-94	-8.649E-03		3.037E-02	4.931E-02	2.807E-03	-0.175
NB-95	9.491E-03		4.692E-02	7.868E-02	5.491E-03	0.121
NB-95M	1.529E-01		1.387E-01	2.181E-01	1.692E-02	0.701
ZR-95	6.811E-02		7.799E-02	1.372E-01	1.078E-02	0.496
NB-97	6.771E-01		2.612E+00	Half-Life too short		
ZR-97	2.111E+02		4.479E+01	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	-5.254E+00		3.045E+01	4.971E+01	6.988E+00	-0.106
TC-99M	1.263E+15		1.050E+15	Half-Life too short		
RH-101	8.780E-03		3.206E-02	5.117E-02	2.940E-03	0.172
RH-102	7.494E-03		2.738E-02	4.515E-02	2.978E-03	0.166
RU-103	5.131E-03		3.893E-02	6.339E-02	8.224E-03	0.081
RH-106	-5.084E-02		3.051E-01	5.053E-01	5.840E-02	-0.101
RU-106	-5.084E-02		3.051E-01	5.053E-01	2.744E-02	-0.101
AG-108M	-9.318E-03		3.138E-02	4.991E-02	3.579E-03	-0.187
AG-110M	2.592E-03		3.879E-02	5.677E-02	3.076E-03	0.046
IN-111	6.189E-01		2.763E+00	4.159E+00	2.568E-01	0.149
IN-113M	1.993E-02		4.487E-02	7.542E-02	5.378E-03	0.264
SN-113	1.993E-02		4.487E-02	7.542E-02	5.378E-03	0.264
IN-114M	9.762E-03		2.113E-01	2.983E-01	1.692E-02	0.033
CD-115	-2.449E-05		1.721E-05	Half-Life too short		
SN-117M	-1.291E-02		6.621E-02	1.050E-01	5.886E-03	-0.123
SB-122	4.075E+00		5.939E+00	9.963E+00	5.992E-01	0.409
I-123	-3.011E+01		4.200E+02	Half-Life too short		
TE-123M	-1.026E-03		2.863E-02	4.573E-02	2.597E-03	-0.022
I-124	-1.486E-01		1.256E+00	1.901E+00	1.072E-01	-0.078
SB-124	-7.329E-02		7.288E-02	8.932E-02	6.787E-03	-0.821
SB-125	2.882E-02		8.918E-02	1.483E-01	1.033E-02	0.194
TE-125M	-2.385E+00		9.300E+00	1.497E+01	1.439E+00	-0.159
I-126	1.482E-01		2.533E-01	3.895E-01	1.954E-02	0.380
SB-126	-4.180E-02		1.891E-01	2.651E-01	1.602E-02	-0.158
SB-127	-1.573E-01		2.521E+00	4.178E+00	4.453E-01	-0.038
XE-127	-4.690E-03		4.614E-02	7.799E-02	4.516E-03	-0.060
I-131	-3.287E-02		1.513E-01	2.451E-01	1.812E-02	-0.134
TE-132	1.094E-01		1.457E+00	2.467E+00	3.779E-01	0.044
BA-133	1.658E-02		4.158E-02	6.223E-02	7.509E-03	0.266
I-133	-9.677E-02		6.620E-02	Half-Life too short		
CS-134	1.096E-01	+	6.048E-02	8.833E-02	6.809E-03	1.241
CS-135	1.841E-01		1.710E-01	2.685E-01	2.170E-02	0.686
I-135	1.073E+13		5.613E+13	Half-Life too short		
CS-136	-8.773E-02		1.349E-01	2.020E-01	1.769E-02	-0.434
CE-139	1.651E-02		2.951E-02	4.833E-02	2.640E-03	0.342
BA-140	-1.793E-01		3.129E-01	4.678E-01	1.525E-01	-0.383
LA-140	-3.115E-02		1.120E-01	1.750E-01	1.358E-02	-0.178
CE-141	-4.746E-02		6.696E-02	1.041E-01	6.369E-03	-0.456
CE-143	4.762E-03		7.769E-04	Half-Life too short		
CE-144	-1.338E-01		2.306E-01	3.189E-01	4.582E-02	-0.420
PM-144	1.014E-02		3.294E-02	5.610E-02	3.132E-03	0.181
PR-144	6.883E-01		2.237E+00	3.809E+00	2.124E-01	0.181
PM-146	2.041E-02		4.175E-02	6.996E-02	6.462E-03	0.292
ND-147	2.269E-02		6.596E-01	1.061E+00	1.456E-01	0.021
PM-149	-4.032E-05		1.411E-04	Half-Life too short		
EU-152	1.879E-03		8.768E-02	1.448E-01	1.067E-02	0.013
GD-153	-5.571E-02		8.820E-02	1.241E-01	1.155E-02	-0.449
EU-154	-4.058E-02		1.274E-01	2.051E-01	2.185E-02	-0.198

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	1.099E-01		1.100E-01	1.861E-01	1.544E-02	0.590
TB-160	-3.429E-04		1.440E-01	2.355E-01	2.271E-02	-0.001
HO-166M	-2.571E-02		5.536E-02	8.829E-02	5.182E-03	-0.291
TM-171	4.421E+00		3.413E+01	5.634E+01	6.419E+00	0.078
LU-176	3.839E-03		2.343E-02	3.924E-02	2.581E-03	0.098
LU-177	3.545E+00	+	2.255E+00	2.898E+00	1.693E-01	1.224
LU-177M	2.805E-02		1.821E-01	2.639E-01	1.788E-02	0.106
HF-181	2.137E-02		4.142E-02	6.955E-02	4.565E-03	0.307
W-181	-7.016E-01		4.859E-01	7.438E-01	8.594E-02	-0.943
TA-182	7.603E-02		2.235E-01	3.827E-01	2.639E-02	0.199
RE-183	-8.521E-03		1.103E-01	1.757E-01	9.716E-03	-0.049
RE-184	-2.439E-02		2.137E-01	3.566E-01	2.223E-02	-0.068
OS-185	-3.012E-02		3.724E-02	5.693E-02	2.925E-03	-0.529
RE-188	-1.243E-02		1.696E-01	2.707E-01	1.538E-02	-0.046
W-188	2.473E+00		7.275E+00	1.095E+01	7.110E-01	0.226
IR-192	1.309E-02		3.274E-02	5.551E-02	3.691E-03	0.236
AU-195	9.288E-02		2.218E-01	3.691E-01	3.349E-02	0.252
TL-200	2.962E-03		2.565E-03	Half-Life too short		
TL-201	5.763E+00		1.677E+01	2.718E+01	1.487E+00	0.212
TL-202	7.401E-02		8.584E-02	1.473E-01	9.902E-03	0.503
HG-203	2.206E-02		3.944E-02	6.767E-02	4.567E-03	0.326
BI-207	1.149E-02		4.981E-02	8.235E-02	6.704E-03	0.139
TL-207	-2.384E-01		6.727E-01	9.468E-01	1.594E-01	-0.252
PO-209	2.499E+00		7.681E+00	1.292E+01	1.303E+00	0.193
BI-210	3.119E+00		8.405E+00	1.433E+01	1.405E+00	0.218
PB-210	3.119E+00		8.405E+00	1.433E+01	1.405E+00	0.218
PO-210	3.119E+00		8.404E+00	1.433E+01	1.286E+00	0.218
PB-211	4.477E-01		1.002E+00	1.436E+00	8.968E-01	0.312
BI-212	1.473E+00	+	4.959E-01	6.687E-01	5.349E-02	2.203
PO-215	-2.384E-01		6.727E-01	9.468E-01	1.594E-01	-0.252
RN-219	7.281E-02		3.988E-01	6.588E-01	9.261E-02	0.111
RN-220	-1.065E+01		2.436E+01	3.742E+01	2.295E+00	-0.285
RA-223	-2.384E-01		6.727E-01	9.468E-01	1.594E-01	-0.252
AC-227	-2.257E-02		3.393E-01	5.671E-01	8.029E-02	-0.040
TH-227	-2.257E-02		3.393E-01	5.671E-01	9.676E-02	-0.040
TH-229	-6.110E-02		5.011E-01	7.884E-01	4.496E-02	-0.077
PA-231	2.405E-02		1.341E+00	2.239E+00	3.150E-01	0.011
TH-231	-2.384E-01		6.727E-01	9.468E-01	1.594E-01	-0.252
U-231	-1.334E-01		2.234E+00	3.258E+00	3.123E-01	-0.041
PA-233	-2.859E-02		5.916E-02	9.530E-02	6.595E-03	-0.300
PA-234	1.562E-01		3.074E-01	5.220E-01	1.006E-01	0.299
PA-234M	5.423E-01		5.328E+00	8.689E+00	8.968E-01	0.062
TH-234	5.103E-01		1.769E+00	2.955E+00	5.824E-01	0.173
U-235	-9.530E-02		2.129E-01	3.332E-01	5.448E-02	-0.286
NP-236	1.968E-02		7.845E-02	1.269E-01	7.070E-03	0.155
U-238	5.103E-01		1.769E+00	2.955E+00	5.824E-01	0.173
NP-239	-2.295E-01		1.866E-01	2.850E-01	1.994E-02	-0.805
AM-241	3.877E-02		2.249E-01	3.773E-01	4.846E-02	0.103

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.082E-02		9.729E-02	1.644E-01	1.378E-02	0.552
AM-246	-3.015E-02		1.524E-01	2.404E-01	1.899E-02	-0.125
CM-247	3.062E-02		3.817E-02	6.123E-02	4.157E-03	0.500
CF-249	-6.271E-03		3.583E-02	5.794E-02	3.937E-03	-0.108
CF-251	1.082E-01		1.150E-01	1.915E-01	1.062E-02	0.565

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]G245107013          *
* Acquisition date   : 1-FEB-2010 13:30:00 Detector SN#      :              *
* Detector ID        : GAM10                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000      *
* Elapsed real time  : 0 02:00:01.05             Half life ratio : 8.000      *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107013              Analyst initials: MXR1         *
* Batch Number       : 944038                  Sample Quantity : 1.2970E+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	3.076E+01	3.144E+00	1.491E-01	1.604E+00
CD-109	1.812E+00	1.227E+00	5.927E-01	6.258E-01
SN-126	1.771E-01	1.198E-01	5.834E-02	6.115E-02
BA-137M	5.470E-02	4.239E-02	2.979E-02	2.163E-02
CS-137	5.782E-02	4.481E-02	3.149E-02	2.286E-02
TL-208	4.822E-01	7.806E-02	2.759E-02	3.983E-02
BI-211	3.255E+00	4.852E-01	1.487E-01	2.475E-01
PB-212	1.595E+00	1.583E-01	4.553E-02	8.076E-02
PO-212	1.595E+00	1.583E-01	4.553E-02	8.076E-02
BI-214	1.137E+00	1.537E-01	4.671E-02	7.843E-02
PB-214	1.132E+00	1.784E-01	5.183E-02	9.103E-02
PO-214	1.132E+00	1.784E-01	5.183E-02	9.103E-02
PO-216	1.595E+00	1.583E-01	4.553E-02	8.076E-02
PO-218	1.132E+00	1.784E-01	5.183E-02	9.103E-02
RA-224	4.231E+00	1.315E+00	5.180E-01	6.710E-01
RA-226	1.137E+00	1.537E-01	4.671E-02	7.843E-02
AC-228	1.310E+00	3.141E-01	1.044E-01	1.603E-01
RA-228	1.310E+00	3.141E-01	1.044E-01	1.603E-01
TH-228	1.625E+00	1.613E-01	4.641E-02	8.230E-02
TH-230	1.137E+00	1.537E-01	4.671E-02	7.843E-02
TH-232	1.310E+00	3.141E-01	1.044E-01	1.603E-01
U-234	1.137E+00	1.537E-01	4.671E-02	7.843E-02
NP-237	5.200E-01	3.673E-01	2.238E-01	1.874E-01
AM-243	3.129E-01	9.253E-02	5.215E-02	4.721E-02
ANH-511	1.356E-01	6.204E-02	2.396E-02	3.165E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-8.887E-02	3.059E-01	2.510E-01	1.561E-01 NOT IDENT.
NA-22	-2.191E-02	4.538E-02	3.681E-02	2.315E-02 NOT IDENT.

NA-24	-3.871E+07	5.256E+07	0.000E+00	2.682E+07	SHORT HLIF
AL-26	8.465E-04	2.499E-02	2.073E-02	1.275E-02	NOT IDENT.
TI-44	1.634E-01	4.661E-02	3.953E-02	2.378E-02	NOT IDENT.
SC-46	-2.668E-02	4.028E-02	3.169E-02	2.055E-02	FAIL ABUN
V-48	-1.668E-02	8.319E-02	6.796E-02	4.244E-02	NOT IDENT.
CR-51	1.727E-01	3.685E-01	3.279E-01	1.880E-01	NOT IDENT.
MN-52	-1.412E-01	3.583E-01	2.837E-01	1.828E-01	NOT IDENT.
MN-54	7.923E-03	3.972E-02	3.414E-02	2.026E-02	NOT IDENT.
CO-56	-9.785E-03	3.869E-02	3.194E-02	1.974E-02	NOT IDENT.
CO-57	7.401E-03	2.464E-02	2.149E-02	1.257E-02	NOT IDENT.
CO-58	9.125E-03	3.705E-02	3.216E-02	1.890E-02	NOT IDENT.
FE-59	1.840E-02	1.017E-01	8.542E-02	5.191E-02	NOT IDENT.
CO-60	-2.982E-02	4.485E-02	3.527E-02	2.288E-02	NOT IDENT.
ZN-65	-2.808E-03	1.031E-01	7.289E-02	5.262E-02	NOT IDENT.
GE-68	8.603E-01	1.268E+00	1.117E+00	6.467E-01	NOT IDENT.
AS-73	-1.489E-02	1.450E+00	1.305E+00	7.398E-01	NOT IDENT.
AS-74	-4.942E-02	9.887E-02	8.310E-02	5.044E-02	NOT IDENT.
SE-75	-1.719E-02	4.740E-02	3.577E-02	2.419E-02	NOT IDENT.
BR-77	3.667E+00	3.039E+01	0.000E+00	1.551E+01	SHORT HLIF
SR-82	-2.313E-01	4.171E-01	3.389E-01	2.128E-01	NOT IDENT.
RB-83	4.259E-03	6.535E-02	5.479E-02	3.334E-02	NOT IDENT.
RB-84	1.442E-02	7.553E-02	6.474E-02	3.853E-02	NOT IDENT.
KR-85	1.038E+01	7.570E+00	6.220E+00	3.862E+00	NOT IDENT.
SR-85	5.546E-02	4.046E-02	3.324E-02	2.064E-02	NOT IDENT.
RB-86	6.021E-01	9.094E-01	8.012E-01	4.640E-01	NOT IDENT.
Y-88	8.270E-04	3.200E-02	2.642E-02	1.632E-02	NOT IDENT.
ZR-88	4.708E-02	3.106E-02	2.874E-02	1.584E-02	NOT IDENT.
Y-91	2.439E+00	1.990E+01	1.721E+01	1.015E+01	NOT IDENT.
NB-94	-8.649E-03	2.976E-02	2.498E-02	1.518E-02	NOT IDENT.
NB-95	9.491E-03	4.598E-02	3.981E-02	2.346E-02	NOT IDENT.
NB-95M	1.529E-01	1.359E-01	1.124E-01	6.934E-02	NOT IDENT.
ZR-95	6.811E-02	7.643E-02	6.942E-02	3.900E-02	NOT IDENT.
NB-97	6.771E+05	5.119E+06	0.000E+00	2.612E+06	SHORT HLIF
ZR-97	2.111E+08	8.778E+07	0.000E+00	4.479E+07	SHORT HLIF
MO-99	-5.254E+00	2.984E+01	2.516E+01	1.522E+01	NOT IDENT.
TC-99M	1.263E+21	2.059E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	8.780E-03	3.142E-02	2.645E-02	1.603E-02	NOT IDENT.
RH-102	7.494E-03	2.683E-02	2.302E-02	1.369E-02	NOT IDENT.
RU-103	5.131E-03	3.815E-02	3.229E-02	1.947E-02	FAIL ABUN
RH-106	-5.084E-02	2.990E-01	2.565E-01	1.526E-01	FAIL ABUN
RU-106	-5.084E-02	2.990E-01	2.565E-01	1.525E-01	FAIL ABUN
AG-108M	-9.318E-03	3.076E-02	2.548E-02	1.569E-02	NOT IDENT.
AG-110M	2.592E-03	3.801E-02	2.879E-02	1.940E-02	NOT IDENT.
IN-111	6.189E-01	2.708E+00	2.143E+00	1.382E+00	NOT IDENT.
IN-113M	1.993E-02	4.398E-02	3.857E-02	2.244E-02	NOT IDENT.
SN-113	1.993E-02	4.398E-02	3.857E-02	2.244E-02	NOT IDENT.
IN-114M	9.762E-03	2.071E-01	1.543E-01	1.057E-01	NOT IDENT.
CD-115	-2.449E+01	3.372E+01	0.000E+00	1.721E+01	SHORT HLIF
SN-117M	-1.291E-02	6.488E-02	5.444E-02	3.310E-02	NOT IDENT.
SB-122	4.075E+00	5.820E+00	5.065E+00	2.970E+00	NOT IDENT.
I-123	-3.011E+07	8.232E+08	0.000E+00	4.200E+08	SHORT HLIF
TE-123M	-1.026E-03	2.806E-02	2.372E-02	1.432E-02	NOT IDENT.
I-124	-1.486E-01	1.230E+00	9.654E-01	6.278E-01	FAIL ABUN
SB-124	-7.329E-02	7.142E-02	4.461E-02	3.644E-02	FAIL ABUN
SB-125	2.882E-02	8.740E-02	7.572E-02	4.459E-02	FAIL ABUN
TE-125M	-2.385E+00	9.114E+00	7.809E+00	4.650E+00	NOT IDENT.
I-126	1.482E-01	2.482E-01	1.975E-01	1.266E-01	NOT IDENT.
SB-126	-4.180E-02	1.853E-01	1.343E-01	9.454E-02	NOT IDENT.
SB-127	-1.573E-01	2.470E+00	2.118E+00	1.260E+00	NOT IDENT.
XE-127	-4.690E-03	4.522E-02	4.030E-02	2.307E-02	NOT IDENT.
I-131	-3.287E-02	1.483E-01	1.255E-01	7.564E-02	NOT IDENT.
TE-132	1.094E-01	1.428E+00	1.273E+00	7.287E-01	NOT IDENT.
BA-133	1.658E-02	4.075E-02	3.187E-02	2.079E-02	NOT IDENT.
I-133	-9.677E+04	1.298E+05	0.000E+00	6.620E+04	SHORT HLIF
CS-134	1.096E-01	5.927E-02	4.466E-02	3.024E-02	FAIL ABUN
CS-135	1.841E-01	1.675E-01	1.381E-01	8.548E-02	NOT IDENT.
I-135	1.073E+19	1.100E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-8.773E-02	1.322E-01	1.017E-01	6.746E-02	FAIL ABUN
CE-139	1.651E-02	2.892E-02	2.505E-02	1.476E-02	NOT IDENT.
BA-140	-1.793E-01	3.067E-01	2.380E-01	1.565E-01	NOT IDENT.
LA-140	-3.115E-02	1.097E-01	8.747E-02	5.599E-02	FAIL ABUN
CE-141	-4.746E-02	6.562E-02	5.405E-02	3.348E-02	NOT IDENT.
CE-143	4.762E+03	1.523E+03	0.000E+00	7.769E+02	SHORT HLIF
CE-144	-1.338E-01	2.260E-01	1.659E-01	1.153E-01	NOT IDENT.
PM-144	1.014E-02	3.228E-02	2.842E-02	1.647E-02	NOT IDENT.
PR-144	6.883E-01	2.192E+00	1.930E+00	1.118E+00	NOT IDENT.
PM-146	2.041E-02	4.091E-02	3.570E-02	2.087E-02	NOT IDENT.
ND-147	2.269E-02	6.464E-01	5.398E-01	3.298E-01	FAIL ABUN

PM-149	-4.032E+01	2.766E+02	0.000E+00	1.411E+02	SHORT HLIF
EU-152	1.879E-03	8.592E-02	7.419E-02	4.384E-02	FAIL ABUN
GD-153	-5.571E-02	8.643E-02	6.485E-02	4.410E-02	NOT IDENT.
EU-154	-4.058E-02	1.249E-01	1.029E-01	6.371E-02	NOT IDENT.
EU-155	1.099E-01	1.078E-01	9.716E-02	5.502E-02	FAIL ABUN
TB-160	-3.429E-04	1.411E-01	1.189E-01	7.199E-02	FAIL ABUN
HO-166M	-2.571E-02	5.425E-02	4.472E-02	2.768E-02	FAIL ABUN
TM-171	4.421E+00	3.345E+01	2.961E+01	1.707E+01	NOT IDENT.
LU-176	3.839E-03	2.296E-02	2.015E-02	1.171E-02	FAIL ABUN
LU-177	3.545E+00	2.210E+00	1.497E+00	1.127E+00	FAIL ABUN
LU-177M	2.805E-02	1.785E-01	1.348E-01	9.105E-02	FAIL ABUN
HF-181	2.137E-02	4.059E-02	3.545E-02	2.071E-02	NOT IDENT.
W-181	-7.016E-01	4.762E-01	3.910E-01	2.430E-01	NOT IDENT.
TA-182	7.603E-02	2.190E-01	1.921E-01	1.117E-01	FAIL ABUN
RE-183	-8.521E-03	1.081E-01	9.109E-02	5.517E-02	FAIL ABUN
RE-184	-2.439E-02	2.094E-01	1.836E-01	1.068E-01	NOT IDENT.
OS-185	-3.012E-02	3.649E-02	2.888E-02	1.862E-02	NOT IDENT.
RE-188	-1.243E-02	1.662E-01	1.405E-01	8.481E-02	NOT IDENT.
W-188	2.473E+00	7.130E+00	5.627E+00	3.638E+00	NOT IDENT.
IR-192	1.309E-02	3.209E-02	2.849E-02	1.637E-02	FAIL ABUN
AU-195	9.288E-02	2.174E-01	1.928E-01	1.109E-01	FAIL ABUN
TL-200	2.962E+03	5.028E+03	0.000E+00	2.565E+03	SHORT HLIF
TL-201	5.763E+00	1.643E+01	1.409E+01	8.384E+00	NOT IDENT.
TL-202	7.401E-02	8.412E-02	7.518E-02	4.292E-02	NOT IDENT.
HG-203	2.206E-02	3.866E-02	3.479E-02	1.972E-02	NOT IDENT.
BI-207	1.149E-02	4.882E-02	4.144E-02	2.491E-02	FAIL ABUN
TL-207	-2.384E-01	6.592E-01	4.856E-01	3.363E-01	FAIL ABUN
PO-209	2.499E+00	7.528E+00	6.518E+00	3.841E+00	NOT IDENT.
BI-210	3.119E+00	8.237E+00	7.572E+00	4.203E+00	NOT IDENT.
PB-210	3.119E+00	8.237E+00	7.572E+00	4.203E+00	NOT IDENT.
PO-210	3.119E+00	8.236E+00	7.572E+00	4.202E+00	NOT IDENT.
PB-211	4.477E-01	9.818E-01	7.341E-01	5.009E-01	NOT IDENT.
BI-212	1.473E+00	4.860E-01	3.386E-01	2.479E-01	FAIL ABUN
PO-215	-2.384E-01	6.592E-01	4.856E-01	3.363E-01	FAIL ABUN
RN-219	7.281E-02	3.908E-01	3.368E-01	1.994E-01	FAIL ABUN
RN-220	-1.065E+01	2.387E+01	1.903E+01	1.218E+01	NOT IDENT.
RA-223	-2.384E-01	6.592E-01	4.856E-01	3.363E-01	FAIL ABUN
AC-227	-2.257E-02	3.325E-01	2.920E-01	1.697E-01	NOT IDENT.
TH-227	-2.257E-02	3.325E-01	2.920E-01	1.697E-01	FAIL ABUN
TH-229	-6.110E-02	4.911E-01	4.077E-01	2.506E-01	FAIL ABUN
PA-231	2.405E-02	1.315E+00	1.151E+00	6.707E-01	NOT IDENT.
TH-231	-2.384E-01	6.592E-01	4.856E-01	3.363E-01	FAIL ABUN
U-231	-1.334E-01	2.189E+00	1.703E+00	1.117E+00	FAIL ABUN
PA-233	-2.859E-02	5.797E-02	4.891E-02	2.958E-02	FAIL ABUN
PA-234	1.562E-01	3.012E-01	2.632E-01	1.537E-01	FAIL ABUN
PA-234M	5.423E-01	5.221E+00	4.377E+00	2.664E+00	NOT IDENT.
TH-234	5.103E-01	1.734E+00	1.554E+00	8.846E-01	FAIL ABUN
U-235	-9.530E-02	2.086E-01	1.731E-01	1.065E-01	FAIL ABUN
NP-236	1.968E-02	7.688E-02	6.580E-02	3.923E-02	NOT IDENT.
U-238	5.103E-01	1.734E+00	1.554E+00	8.846E-01	FAIL ABUN
NP-239	-2.295E-01	1.829E-01	1.485E-01	9.332E-02	FAIL ABUN
AM-241	3.877E-02	2.204E-01	1.987E-01	1.124E-01	NOT IDENT.
CM-243	9.082E-02	9.535E-02	8.586E-02	4.865E-02	FAIL ABUN
AM-246	-3.015E-02	1.494E-01	1.210E-01	7.620E-02	NOT IDENT.
CM-247	3.062E-02	3.741E-02	3.130E-02	1.909E-02	NOT IDENT.
CF-249	-6.271E-03	3.511E-02	2.964E-02	1.792E-02	NOT IDENT.
CF-251	1.082E-01	1.127E-01	9.917E-02	5.748E-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	257.5985
46.50	257.5985
46.50	257.5985
48.70	250.8735
49.72	269.9849
51.35	241.5267
52.39	242.1745
52.97	255.5424
53.15	249.1515
53.44	256.7769
54.07	253.4574
56.28	274.5221
56.28	274.5243
57.37	0.0000
57.53	294.1547
57.53	294.1559
57.60	284.8046
57.98	293.5323
57.98	293.5323
59.32	302.9645
59.32	302.9645
59.40	303.0216
59.54	303.1220
59.72	292.8593
60.01	335.5995
61.10	350.6708
61.14	350.7028
61.30	305.3192
63.00	322.6951
63.29	319.0975
63.29	319.0975
63.58	319.3071
64.28	318.8568
65.12	374.9310
65.20	374.9973
65.20	374.9973
66.05	377.6214
66.72	310.9878
66.83	312.9837
66.91	313.0385
67.20	314.1983
67.20	314.1983
67.75	332.8522
67.85	332.9243
68.90	349.4953
68.90	349.4953
69.30	348.9271
69.67	349.2047
70.82	355.8642
70.82	355.8642
70.83	355.8717
72.80	376.3018
72.87	376.3570
72.87	376.3570
74.67	356.2764
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.81	356.3785
74.97	356.4936
75.28	356.7182
75.70	357.0208
77.11	358.0326
77.11	358.0326

77.11	358.0326
77.11	358.0326
77.11	358.0326
77.11	358.0326
77.11	358.0326
78.38	323.0431
79.62	310.5219
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79.80	341.6940
80.11	341.9019
80.18	341.9478
80.30	355.3528
80.30	355.3528
80.57	355.5396
81.00	384.0066
81.07	384.0579
81.07	384.0579
81.07	384.0579
81.07	384.0579
82.60	410.4687
83.37	393.1963
83.78	375.6179
83.78	375.6179
83.78	375.6179
83.78	375.6179
84.21	380.3969
84.90	412.2586
85.43	426.1236
86.29	434.2920
86.50	434.4624
86.54	434.4933
86.59	434.5332
86.72	434.6394
86.79	434.6925
86.94	434.8141
87.30	264.0631
87.30	264.0631
87.30	264.0631
87.30	264.0631
87.30	264.0631
87.30	264.0631
87.57	264.1934
87.88	0.0000
88.03	264.4163
88.36	264.5760
88.47	264.6284
89.95	334.6903
91.11	265.8933
92.29	281.5912
92.38	281.6366
92.38	281.6366
93.35	300.3203
94.00	283.9597
94.67	281.2488
94.67	281.2516
94.90	287.4481
94.90	287.4481
94.90	287.4481
94.90	287.4481
95.87	298.5952
95.87	298.5952
96.73	308.1936
97.43	305.5069
98.44	270.3294
98.44	270.3294
98.88	268.4899
99.55	260.6173
99.55	260.6173
99.86	273.0242
100.00	273.0894
100.10	273.1370
103.18	300.2413
103.76	270.6810
105.00	269.1669
105.31	280.6536
108.00	307.7783
109.28	279.3299

111.00	272.7981
111.00	272.7981
111.76	309.6092
112.95	267.3620
115.19	255.7093
116.30	262.4397
117.00	305.8040
117.00	305.8040
117.66	310.3166
121.11	263.2796
121.62	251.8388
121.78	252.9565
122.06	268.9422
122.32	276.4589
122.32	276.4589
122.32	276.4589
122.32	276.4589
123.07	282.0662
127.23	260.8302
129.76	303.5230
131.20	288.0453
133.02	266.1889
133.54	303.5120
135.34	265.4214
136.00	269.9814
136.25	278.7153
136.48	270.1594
140.51	285.7541
140.51	0.0000
142.18	279.8571
142.65	298.5531
143.76	310.9940
144.24	304.6369
144.24	304.6369
144.24	304.6369
144.24	304.6369
145.22	284.2560
145.44	308.3973
147.16	263.0518
152.43	236.1393
152.70	239.5313
153.22	240.7926
154.21	264.3140
154.21	264.3140
154.21	264.3140
154.21	264.3140
155.03	266.8004
156.02	271.5626
158.56	279.0863
159.00	0.0000
159.00	273.6745
160.31	267.4268
161.27	239.8497
162.32	264.7300
162.64	283.8276
163.35	281.8337
163.89	297.6833
165.85	249.0251
167.43	253.9879
171.28	215.6250
171.86	216.9004
172.10	226.0010
176.55	198.7638
176.60	198.7745
181.06	231.1723
184.41	213.1288
185.71	228.3508
186.00	228.4237
190.27	250.8228
192.34	239.2469
193.63	252.3086
197.04	240.4450
198.01	230.2245
198.60	243.1657
200.40	0.0000
201.83	270.5447
202.84	247.1631
205.31	219.3217

208.36	236.9267
208.81	219.5753
209.75	204.7789
209.75	204.7789
210.97	216.3422
215.65	205.9878
216.55	230.1660
218.09	252.7642
222.10	217.1208
223.80	253.2754
226.40	214.4312
227.00	206.4739
227.08	197.5119
227.20	198.4333
228.16	210.2969
228.18	210.3004
228.18	210.3004
231.56	0.0000
235.69	233.1473
236.00	233.2161
236.00	233.2161
238.63	224.1622
238.63	224.1622
238.63	224.1622
238.63	224.1622
239.00	0.0000
240.98	224.6447
241.98	224.8501
241.98	224.8501
241.98	224.8501
244.69	178.1331
245.39	173.8617
247.94	162.3008
248.90	191.4473
249.79	0.0000
252.40	179.1795
252.85	176.4932
252.85	176.4932
254.15	0.0000
256.20	169.6362
256.20	169.6362
260.50	168.4200
260.90	0.0000
262.80	162.2627
264.65	188.7110
268.24	178.8516
268.79	171.4808
269.46	187.4285
269.46	187.4285
269.46	187.4285
269.46	187.4285
271.23	186.7737
273.65	221.5881
276.40	184.7657
277.35	171.7691
277.60	174.6219
277.60	174.6219
278.00	165.2874
278.60	156.9142
279.20	159.8108
279.53	163.6162
280.46	174.0924
281.68	0.0000
283.67	145.2985
284.30	150.0936
285.00	157.7347
285.90	0.0000
286.10	149.3666
286.10	149.3666
287.40	131.9461
288.45	0.0000
290.67	130.5579
290.80	130.5705
291.72	145.8609
293.26	0.0000
293.70	168.3466
295.21	168.5465
295.21	168.5465

295.21	168.5465
295.96	198.1833
296.50	215.0422
297.23	0.0000
298.57	142.0679
299.80	117.7389
299.80	117.7389
300.09	133.0594
300.09	133.0594
300.09	133.0594
300.09	133.0594
300.12	133.0616
301.29	167.2984
302.84	198.2918
303.76	0.0000
303.91	171.6118
304.40	164.9611
304.40	164.9611
304.84	141.9929
306.84	150.8576
308.46	144.3100
311.98	150.4847
316.51	130.6721
318.01	149.2298
319.02	145.4636
319.41	137.7445
320.08	130.0497
323.87	140.1460
323.87	140.1460
323.87	140.1460
323.87	140.1460
325.23	135.6104
328.77	148.4653
333.44	135.2457
334.20	149.0498
334.20	149.0498
334.30	149.0591
338.28	125.8809
338.28	125.8809
338.28	125.8809
338.28	125.8809
338.32	125.8848
338.32	125.8848
338.32	125.8848
340.50	137.1121
340.57	137.1185
344.27	125.4284
345.85	113.9010
350.59	0.0000
351.07	118.0867
351.92	118.1575
351.92	118.1575
351.92	118.1575
355.39	0.0000
356.01	100.3678
364.48	123.1802
366.43	114.3183
367.43	100.3464
367.94	0.0000
369.80	131.6616
374.96	104.8839
383.85	109.5524
387.95	110.8611
388.63	118.0320
391.69	121.3224
391.69	121.3224
392.90	106.1106
398.62	126.9763
400.65	132.2655
401.10	124.0981
401.81	120.0493
402.60	108.1316
404.84	101.9776
410.95	105.6672
411.60	105.7094
413.65	99.2271
414.70	104.2561
415.30	94.3617

415.76	101.0119
417.63	0.0000
418.52	99.5229
423.70	113.3543
427.08	94.8268
427.89	105.2998
432.53	108.7274
433.93	109.8626
439.47	0.0000
439.56	98.6802
439.89	99.7488
443.98	110.5131
444.90	103.1994
445.03	103.2083
445.03	103.2083
445.03	103.2083
445.03	103.2083
453.90	94.2094
463.38	103.8698
468.07	85.3638
473.00	100.5778
475.06	87.8382
475.35	77.1383
476.78	88.9930
477.59	92.2503
477.96	91.1971
482.03	78.4971
484.57	0.0000
487.03	89.4932
490.36	0.0000
492.35	0.0000
497.08	76.9683
507.63	0.0000
510.53	0.0000
510.84	104.8293
511.00	104.8381
511.85	104.8835
511.85	104.8835
513.99	85.7506
513.99	85.7506
520.41	81.2085
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	89.3106
529.87	0.0000
531.02	76.1320
537.32	90.7635
543.00	82.1412
546.56	0.0000
549.76	82.4178
552.65	81.4188
555.20	89.3384
563.23	99.7801
563.90	89.7192
568.70	83.1823
569.32	83.2071
569.50	83.2139
569.67	83.2206
573.80	93.7523
574.00	93.7600
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	79.6813
585.48	0.0000
591.81	71.8233
592.07	71.8329
593.00	72.7734
595.88	91.9998
600.56	84.8943
602.52	0.0000
602.71	83.5424
602.71	83.5424
603.60	92.9371
604.41	82.3030
604.70	82.3140
609.31	64.1570

609.31	64.1570
609.31	64.1570
609.31	64.1570
610.33	70.2990
612.46	88.7228
614.37	67.3661
618.01	80.0523
621.84	82.0338
621.84	82.0338
631.29	85.1562
633.02	71.3265
633.10	71.3303
634.78	72.3100
635.90	69.5636
636.97	65.8847
645.85	68.0044
646.12	66.1482
656.30	77.9826
657.75	78.0314
657.90	0.0000
661.65	85.3525
661.65	85.3525
664.57	0.0000
666.33	78.3162
666.33	78.3162
675.00	90.5531
677.61	77.4315
685.20	67.2576
692.80	70.3199
695.00	73.2383
696.49	73.2816
696.49	73.2816
697.00	72.3466
697.49	75.2159
698.33	75.2429
698.50	73.3436
699.00	70.5005
702.63	73.4677
706.10	67.8383
706.58	0.0000
706.67	64.0311
709.31	60.2730
711.68	71.8213
713.82	74.7589
717.42	60.4698
720.50	68.8733
721.93	0.0000
722.20	59.3030
722.78	59.3165
722.78	59.3165
722.89	59.3195
722.95	59.3210
723.30	60.9336
724.18	54.5375
727.18	60.7052
733.00	61.1671
735.90	58.0151
739.58	70.6867
742.81	59.1414
744.21	60.1442
747.13	62.1547
751.79	73.9423
752.31	71.0378
753.82	53.5525
755.35	0.0000
756.15	69.1938
756.87	78.9612
763.93	93.8367
765.79	89.9897
766.42	89.0338
766.84	91.0042
776.49	77.5882
778.00	69.7710
778.57	71.7524
778.89	68.8105
783.80	69.9236
785.46	74.8941
792.07	70.7971

795.84	52.7604
796.30	47.8212
798.80	67.6727
801.93	55.7707
805.60	58.5751
810.29	53.7034
810.76	52.7179
815.85	58.7940
817.79	0.0000
818.51	60.8466
819.60	57.8768
826.30	73.0196
828.27	0.0000
831.60	81.1760
831.96	80.1836
834.83	78.2590
836.80	0.0000
846.75	60.4541
848.13	49.3948
856.28	0.0000
856.80	37.0740
860.37	55.6808
867.32	64.2719
867.82	60.8994
871.10	48.7746
873.19	51.8604
874.81	66.1331
875.33	0.0000
876.40	48.8637
879.36	56.0460
880.27	47.9088
880.51	47.9122
881.50	56.0863
883.24	58.1606
884.67	50.0216
889.25	64.4135
896.60	56.3737
898.02	50.2477
899.00	55.3935
903.28	76.3115
911.07	54.9297
911.07	54.9297
911.07	54.9297
919.63	49.5773
920.93	58.8981
925.00	47.5958
925.24	47.5992
926.50	46.5831
935.52	50.8734
937.48	76.8780
944.10	53.0980
946.00	50.0051
949.00	55.2670
962.29	55.8503
964.01	50.6426
966.15	61.8607
968.20	61.9010
969.11	61.9183
969.11	61.9183
969.11	61.9183
977.42	53.9264
980.50	52.6611
983.50	53.7654
989.30	57.0309
996.32	84.6738
1001.03	61.4777
1001.68	69.9703
1004.76	61.5471
1021.30	0.0000
1024.50	0.0000
1034.80	51.4008
1036.00	58.9182
1037.82	41.8012
1038.57	42.8828
1038.76	0.0000
1045.16	45.1151
1046.59	46.2103
1048.07	56.9802

1050.47	46.2628
1050.47	46.2628
1062.04	45.3407
1063.62	42.1211
1076.63	43.3652
1077.35	44.4594
1078.86	57.4978
1085.78	46.7415
1099.22	54.5605
1112.02	61.0164
1112.84	60.2476
1115.52	54.8120
1120.29	69.1554
1120.29	69.1554
1120.29	69.1554
1120.29	69.1554
1120.51	69.1616
1121.28	76.8633
1124.00	0.0000
1129.67	61.4507
1131.51	0.0000
1147.95	0.0000
1167.94	65.8085
1173.22	69.6167
1175.09	61.2922
1177.93	60.4112
1189.05	65.2519
1204.90	61.7837
1205.75	0.0000
1213.00	68.4821
1221.42	71.4541
1230.97	70.6879
1235.34	83.0371
1236.41	0.0000
1238.25	69.8778
1246.25	62.4524
1260.41	0.0000
1271.85	44.7644
1274.45	51.4666
1274.54	54.3258
1291.56	36.3734
1298.22	0.0000
1312.09	44.2555
1325.50	36.6795
1325.50	36.6795
1332.49	49.3108
1333.61	40.6208
1360.21	30.1750
1362.66	0.0000
1365.15	26.3123
1368.21	28.2826
1368.53	0.0000
1376.25	24.4273
1384.27	35.2427
1394.10	34.3435
1395.20	41.2224
1407.95	25.5948
1434.06	24.7589
1436.60	17.8367
1457.56	0.0000
1460.81	6.8326
1489.15	15.0409
1509.49	18.1304
1596.49	24.6299
1620.62	10.3141
1678.03	0.0000
1691.02	16.7402
1691.02	16.7402
1706.46	0.0000
1750.46	0.0000
1764.49	8.4915
1764.49	8.4915
1764.49	8.4915
1764.49	8.4915
1770.23	9.1082
1771.40	7.2882
1791.20	0.0000
1808.65	8.5635

1836.01

10.7593

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107013

Total Uranium Activity	1.4741E+00	ug/g
Total Uranium Counting Unc.	5.1593E+00	ug/g
Total Uranium Tpu	2.6323E-06	ug/g
Total Uranium Mda	4.6247E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107013
*  ANALYST       : MXR1                             DETECTOR    : GAM10
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 13:30:00.74          SAMPLE ALQT  : 129.700 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.960E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.390E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.105E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.502E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:55:57.80

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107014.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:23.
Sample ID          : G245107014 Sample quantity : 1.13230E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.40 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	63.17*	97	432	0.81	125.82	122	8	1.35E-02	39.5	
2	3	74.76*	326	342	0.91	149.02	145	14	4.53E-02	10.1	6.88E-01
3	3	77.02*	543	363	0.93	153.52	145	14	7.54E-02	7.2	
4	0	87.08	270	310	1.08	173.66	171	6	3.74E-02	12.0	
5	4	89.87*	176	241	1.11	179.24	177	13	2.44E-02	15.3	1.93E+00
6	4	92.69*	323	371	1.40	184.89	177	13	4.48E-02	12.5	
7	0	128.39	62	347	0.67	256.33	253	9	8.61E-03	55.4	
8	0	185.69*	187	306	0.89	370.98	367	9	2.59E-02	19.3	
9	0	209.08*	126	267	1.61	417.78	413	10	1.75E-02	26.3	
10	7	238.45*	1144	179	1.06	476.55	472	16	1.59E-01	3.5	1.97E+00
11	7	241.50	280	222	1.64	482.64	472	16	3.89E-02	13.0	
12	3	269.85*	125	145	1.64	539.39	534	26	1.73E-02	21.0	2.13E+00
13	3	277.32	88	145	1.65	554.32	534	26	1.22E-02	28.1	
14	2	294.99*	369	101	1.24	589.67	585	21	5.13E-02	6.9	1.92E+00
15	2	299.91	104	107	1.53	599.53	585	21	1.44E-02	21.3	
16	0	327.12	74	155	0.85	653.97	649	10	1.02E-02	33.8	
17	0	338.41*	269	187	1.42	676.56	671	14	3.73E-02	12.7	
18	0	351.60*	624	171	1.12	702.94	699	11	8.67E-02	5.7	
19	0	462.46	72	110	0.97	924.76	919	11	9.98E-03	30.6	
20	0	510.66*	84	183	1.70	1021.19	1013	18	1.16E-02	43.7	
21	0	582.99*	333	104	1.43	1165.88	1160	14	4.63E-02	8.7	
22	0	609.02*	418	98	1.34	1217.96	1212	14	5.81E-02	7.1	
23	0	661.37*	309	69	1.41	1322.68	1317	11	4.29E-02	7.8	
24	0	727.74	67	89	1.60	1455.44	1448	14	9.24E-03	32.7	
25	0	767.37	54	70	2.33	1534.74	1529	12	7.53E-03	33.6	
26	0	794.48	60	48	1.46	1588.95	1583	12	8.32E-03	26.5	
27	0	910.69*	245	49	1.85	1821.40	1815	14	3.40E-02	9.0	
28	0	968.74	140	68	1.44	1937.53	1932	14	1.94E-02	15.4	
29	0	1000.66*	21	38	1.40	2001.37	1996	11	2.95E-03	63.0	
30	0	1119.53	108	36	1.20	2239.12	2233	13	1.50E-02	14.9	
31	0	1238.05	26	56	1.43	2476.16	2472	12	3.64E-03	59.6	
32	0	1460.03*	844	14	2.22	2920.08	2913	15	1.17E-01	3.6	
33	0	1728.58	31	0	0.77	3457.06	3449	14	4.31E-03	18.0	
34	0	1763.25*	88	0	2.00	3526.39	3517	16	1.22E-02	11.4	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:56:01

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107014.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:23
Sample ID         : G245107014 Sample quantity : 113.23 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA12 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.40 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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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	*	2.304E+01	2.346E+00	5.907E-01	4.212E-02	39.002
CD-109	+	88.03	*	4.381E+00	1.105E+00	1.249E+00	9.555E-02	3.508
SN-126	+	64.28		1.050E+00	8.424E-01	8.794E-01	1.235E-01	1.193
	+	86.94		1.779E+00	8.482E-01	6.022E-01	2.478E-01	2.955
	+	87.57	*	4.280E-01	1.079E-01	1.226E-01	9.343E-03	3.492
BA-137M	+	661.65	*	5.058E-01	8.532E-02	6.886E-02	4.464E-03	7.346
CS-137	+	661.65	*	5.347E-01	9.023E-02	7.279E-02	4.734E-03	7.346
TL-208	+	277.35		9.495E-01	5.427E-01	5.844E-01	6.120E-02	1.625
	+	510.84		4.596E-01	4.041E-01	2.201E-01	2.272E-02	2.088
	+	583.14	*	5.240E-01	9.840E-02	6.044E-02	4.323E-03	8.670
		860.37		1.509E-01	3.707E-01	6.221E-01	5.436E-02	0.243
BI-211		72.87		4.070E+00	3.666E+00	5.741E+00	3.852E-01	0.709
	+	351.07	*	4.248E+00	5.537E-01	3.518E-01	2.212E-02	12.073
PB-212	+	74.81		2.203E+00	5.115E-01	5.831E-01	6.740E-02	3.779
	+	77.11		2.076E+00	3.303E-01	3.309E-01	2.291E-02	6.275
	+	87.30		1.980E+00	5.370E-01	6.624E-01	8.320E-02	2.989
	+	238.63	*	1.695E+00	1.687E-01	9.666E-02	6.864E-03	17.532
	+	300.09		2.376E+00	1.028E+00	1.155E+00	9.428E-02	2.057
PO-212	+	74.81		2.203E+00	5.115E-01	5.831E-01	6.740E-02	3.779
	+	77.11		2.076E+00	3.303E-01	3.309E-01	2.291E-02	6.275
	+	87.30		1.980E+00	5.370E-01	6.624E-01	8.320E-02	2.989
		115.19		-1.911E+00	3.677E+00	5.892E+00	3.737E-01	-0.324
	+	238.63	*	1.695E+00	1.687E-01	9.666E-02	6.864E-03	17.532
	+	300.09		2.376E+00	1.028E+00	1.155E+00	9.428E-02	2.057
BI-214	+	609.31	*	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
	+	1120.29		1.666E+00	5.201E-01	4.210E-01	3.824E-02	3.956
	+	1764.49		1.867E+00	4.403E-01	3.389E-01	2.008E-02	5.510
PB-214	+	74.81		3.797E+00	8.543E-01	1.005E+00	1.010E-01	3.779
	+	77.11		3.560E+00	6.279E-01	5.673E-01	5.840E-02	6.275
	+	87.30		3.391E+00	8.942E-01	1.135E+00	1.228E-01	2.989
	+	241.98		2.492E+00	6.792E-01	5.822E-01	4.581E-02	4.280
	+	295.21		1.481E+00	2.388E-01	2.022E-01	1.706E-02	7.325
	+	351.92	*	1.478E+00	2.075E-01	1.252E-01	1.023E-02	11.803
PO-214	+	74.81		3.797E+00	8.543E-01	1.005E+00	1.010E-01	3.779

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	77.11		3.560E+00	6.279E-01	5.673E-01	5.840E-02	6.275
	+	87.30		3.391E+00	8.942E-01	1.135E+00	1.228E-01	2.989
	+	241.98		2.492E+00	6.792E-01	5.822E-01	4.581E-02	4.280
	+	295.21		1.481E+00	2.388E-01	2.022E-01	1.706E-02	7.325
	+	351.92	*	1.478E+00	2.075E-01	1.252E-01	1.023E-02	11.803
PO-216	+	74.81		2.203E+00	5.115E-01	5.831E-01	6.740E-02	3.779
	+	77.11		2.076E+00	3.303E-01	3.309E-01	2.291E-02	6.275
	+	87.30		1.980E+00	5.370E-01	6.624E-01	8.320E-02	2.989
	+	238.63	*	1.695E+00	1.687E-01	9.666E-02	6.864E-03	17.532
	+	300.09		2.376E+00	1.028E+00	1.155E+00	9.428E-02	2.057
PO-218	+	74.81		3.797E+00	8.543E-01	1.005E+00	1.010E-01	3.779
	+	77.11		3.560E+00	6.279E-01	5.673E-01	5.840E-02	6.275
	+	87.30		3.391E+00	8.942E-01	1.135E+00	1.228E-01	2.989
	+	241.98		2.492E+00	6.792E-01	5.822E-01	4.581E-02	4.280
	+	295.21		1.481E+00	2.388E-01	2.022E-01	1.706E-02	7.325
	+	351.92	*	1.478E+00	2.075E-01	1.252E-01	1.023E-02	11.803
RA-224	+	240.98	*	4.725E+00	1.260E+00	1.100E+00	6.069E-02	4.294
RA-226	+	609.31	*	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
	+	1120.29		1.666E+00	5.201E-01	4.210E-01	3.824E-02	3.956
	+	1764.49		1.867E+00	4.403E-01	3.389E-01	2.008E-02	5.510
AC-228	+	338.32		2.014E+00	9.667E-01	3.608E-01	1.470E-01	5.583
	+	911.07	*	1.718E+00	3.613E-01	2.335E-01	2.564E-02	7.359
	+	969.11		1.727E+00	6.652E-01	5.128E-01	1.182E-01	3.368
RA-228	+	338.32		2.014E+00	9.667E-01	3.608E-01	1.470E-01	5.583
	+	911.07	*	1.718E+00	3.613E-01	2.335E-01	2.564E-02	7.359
	+	969.11		1.727E+00	6.652E-01	5.128E-01	1.182E-01	3.368
TH-228	+	74.81		2.246E+00	4.778E-01	5.943E-01	4.097E-02	3.779
	+	77.11		2.116E+00	3.366E-01	3.373E-01	2.335E-02	6.275
	+	87.30		2.018E+00	5.087E-01	6.751E-01	5.131E-02	2.989
	+	238.63	*	1.727E+00	1.720E-01	9.852E-02	6.995E-03	17.532
	+	300.09		2.422E+00	1.759E+00	1.177E+00	6.936E-01	2.057
TH-230	+	609.31	*	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
	+	1120.29		1.666E+00	5.201E-01	4.210E-01	3.824E-02	3.956
	+	1764.49		1.867E+00	4.403E-01	3.389E-01	2.008E-02	5.510
TH-232	+	338.32		2.014E+00	5.232E-01	3.608E-01	2.044E-02	5.583
	+	911.07	*	1.718E+00	3.613E-01	2.335E-01	2.564E-02	7.359
	+	969.11		1.727E+00	6.652E-01	5.128E-01	1.182E-01	3.368
PA-234M	+	766.42		2.832E+01	2.380E+01	1.752E+01	8.852E+00	1.617
	+	1001.03	*	5.332E+00	6.731E+00	6.394E+00	5.787E-01	0.834
TH-234	+	63.29	*	2.651E+00	2.143E+00	2.271E+00	3.866E-01	1.168
	+	92.38		3.309E+00	1.009E+00	7.587E-01	1.327E-01	4.362
U-234	+	609.31	*	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
	+	1120.29		1.666E+00	5.201E-01	4.210E-01	3.824E-02	3.956
	+	1764.49		1.867E+00	4.403E-01	3.389E-01	2.008E-02	5.510
NP-237	+	86.50	*	1.257E+00	4.095E-01	4.498E-01	9.881E-02	2.795
	+	95.87		-9.223E-02	1.043E+00	1.541E+00	3.718E-01	-0.060
U-238	+	63.29	*	2.651E+00	2.143E+00	2.271E+00	3.866E-01	1.168
	+	92.38		3.309E+00	8.605E-01	7.587E-01	5.523E-02	4.362
AM-243	+	74.67	*	3.572E-01	7.590E-02	9.482E-02	6.443E-03	3.767

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	86.72		4.713E+01	1.188E+01	1.677E+01	1.267E+00	2.811
		117.66		-2.246E+00	3.838E+00	6.116E+00	3.853E-01	-0.367
		142.18		-6.191E+00	1.871E+01	2.949E+01	1.669E+00	-0.210
ANH-511	+	511.00	*	9.927E-02	8.690E-02	4.756E-02	2.899E-03	2.087

---- 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	*	-2.982E-01	3.755E-01	5.531E-01	3.806E-02	-0.539
NA-22		1274.54	*	1.608E-02	5.076E-02	8.613E-02	5.547E-03	0.187
NA-24		1368.53	*	5.411E+01	5.076E-02	Half-Life too short		
AL-26		1129.67		1.025E-02	1.892E+00	3.145E+00	1.917E-01	0.003
		1808.65	*	-2.301E-02	2.761E-02	3.527E-02	2.024E-03	-0.652
TI-44		67.85		-8.262E-03	5.082E-02	8.131E-02	5.292E-03	-0.102
	+	78.38	*	3.832E-01	6.096E-02	7.913E-02	5.535E-03	4.843
SC-46		889.25	*	-3.527E-02	4.509E-02	6.663E-02	5.523E-03	-0.529
	+	1120.51		2.946E-01	8.989E-02	1.491E-01	9.264E-03	1.976
V-48		944.10		-5.320E-01	1.179E+00	1.803E+00	1.448E-01	-0.295
		983.50	*	6.469E-02	8.044E-02	1.418E-01	1.092E-02	0.456
		1312.09		3.799E-02	9.297E-02	1.607E-01	1.090E-02	0.236
CR-51		320.08	*	-2.308E-01	4.214E-01	6.741E-01	4.286E-02	-0.342
MN-52		744.21		-1.374E-01	4.139E-01	6.591E-01	4.708E-02	-0.208
		848.13		-7.987E+00	1.184E+01	1.783E+01	1.421E+00	-0.448
		935.52		3.768E-02	4.600E-01	7.483E-01	6.058E-02	0.050
		1246.25		-6.427E+00	1.539E+01	2.235E+01	1.377E+00	-0.288
		1333.61		8.305E-01	8.281E+00	1.375E+01	9.599E-01	0.060
		1434.06	*	-1.800E-01	3.831E-01	5.717E-01	3.927E-02	-0.315
MN-54		834.83	*	-4.498E-02	4.370E-02	6.406E-02	5.036E-03	-0.702
CO-56		846.75	*	-1.416E-02	4.356E-02	6.843E-02	5.444E-03	-0.207
		977.42		-6.146E-01	3.155E+00	4.625E+00	3.588E-01	-0.133
		1037.82		-1.006E-01	3.653E-01	5.951E-01	4.597E-02	-0.169
		1175.09		4.574E-01	2.812E+00	4.721E+00	2.603E-01	0.097
	+	1238.25		1.176E-01	1.404E-01	1.899E-01	1.222E-02	0.619
		1360.21		6.099E-01	1.023E+00	1.815E+00	1.264E-01	0.336
		1771.40		-4.868E-02	2.825E-01	4.540E-01	2.677E-02	-0.107
CO-57		122.06	*	2.810E-03	2.661E-02	4.380E-02	2.739E-03	0.064
		136.48		-1.917E-01	2.193E-01	3.411E-01	2.294E-02	-0.562
CO-58		810.76	*	-2.457E-02	4.171E-02	5.966E-02	4.591E-03	-0.412
FE-59		142.65		-3.511E-01	3.057E+00	4.867E+00	2.750E-01	-0.072
		192.34		2.149E-01	1.117E+00	1.797E+00	2.077E-01	0.120
		1099.22	*	-1.432E-03	1.159E-01	1.927E-01	1.423E-02	-0.007
		1291.56		9.618E-02	1.253E-01	2.252E-01	1.814E-02	0.427
CO-60		1173.22		-5.849E-02	5.565E-02	8.330E-02	4.579E-03	-0.702
		1332.49	*	-3.020E-02	4.247E-02	6.266E-02	4.377E-03	-0.482
ZN-65		1115.52	*	-3.325E-02	1.160E-01	1.594E-01	1.003E-02	-0.209
GE-68		1077.35	*	-1.760E-01	1.448E+00	2.387E+00	1.609E-01	-0.074
AS-73		53.44	*	2.047E-01	9.001E-01	1.545E+00	9.977E-02	0.132
AS-74		595.88	*	-3.327E-02	1.137E-01	1.859E-01	1.183E-02	-0.179

---- 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			-3.823E-02	4.547E-01	7.521E-01	4.847E-02	-0.051
	66.05			7.068E-01	5.704E+00	8.705E+00	7.599E-01	0.081
	96.73			-7.969E-01	9.225E-01	1.294E+00	1.639E-01	-0.616
	121.11			2.735E-02	1.438E-01	2.377E-01	2.264E-02	0.115
	136.00			-2.791E-02	4.187E-02	6.593E-02	3.893E-03	-0.423
	198.60			3.909E-01	2.059E+00	3.250E+00	2.184E-01	0.120
	264.65	*		-1.830E-02	4.939E-02	7.089E-02	4.018E-03	-0.258
	279.53			-8.321E-02	1.334E-01	1.872E-01	1.147E-02	-0.445
	303.91			-3.212E-01	2.351E+00	3.399E+00	3.219E-01	-0.095
	400.65			3.285E-02	2.883E-01	4.741E-01	4.237E-02	0.069
BR-77	87.88		+	2.974E-03	2.883E-01	Half-Life	too short	
	200.40			3.095E-05	2.883E-01	Half-Life	too short	
	239.00		+	8.602E-04	2.883E-01	Half-Life	too short	
	249.79			-2.963E-06	2.883E-01	Half-Life	too short	
	281.68			1.323E-04	2.883E-01	Half-Life	too short	
	297.23			3.429E-04	2.883E-01	Half-Life	too short	
	303.76			-7.917E-05	2.883E-01	Half-Life	too short	
	439.47			-2.394E-05	2.883E-01	Half-Life	too short	
	484.57			2.148E-04	2.883E-01	Half-Life	too short	
	520.65	*		1.344E-05	2.883E-01	Half-Life	too short	
	574.64			4.482E-05	2.883E-01	Half-Life	too short	
	578.91			-1.358E-04	2.883E-01	Half-Life	too short	
	585.48			2.285E-03	2.883E-01	Half-Life	too short	
	755.35			9.264E-04	2.883E-01	Half-Life	too short	
	817.79			5.112E-05	2.883E-01	Half-Life	too short	
SR-82	698.33			-2.584E+01	4.018E+01	6.262E+01	4.244E+00	-0.413
	776.49	*		-3.805E-01	4.435E-01	6.620E-01	4.898E-02	-0.575
RB-83	1395.20			1.332E+01	1.380E+01	2.532E+01	1.753E+00	0.526
	520.41	*		1.521E-02	7.625E-02	1.241E-01	7.606E-03	0.123
	529.64			9.761E-02	1.255E-01	2.129E-01	1.313E-02	0.459
RB-84	552.65			2.551E-02	2.141E-01	3.637E-01	2.271E-02	0.070
	881.50	*		-3.160E-02	8.475E-02	1.296E-01	1.066E-02	-0.244
KR-85	513.99	*		1.652E+01	7.825E+00	1.343E+01	8.199E-01	1.230
SR-85	513.99	*		8.829E-02	4.182E-02	7.175E-02	4.382E-03	1.230
RB-86	1076.63	*		-2.277E-01	1.043E+00	1.703E+00	1.150E-01	-0.134
Y-88	898.02			-3.838E-02	4.904E-02	7.266E-02	6.104E-03	-0.528
ZR-88	1836.01	*		-1.619E-02	4.736E-02	7.377E-02	4.153E-03	-0.220
	392.90	*		-3.820E-02	3.408E-02	5.104E-02	2.800E-03	-0.748
Y-91	1204.90	*		-7.084E+00	2.269E+01	3.641E+01	2.105E+00	-0.195
NB-94	702.63	*		7.226E-03	3.674E-02	6.168E-02	4.201E-03	0.117
	871.10			1.963E-02	3.198E-02	5.562E-02	4.531E-03	0.353
NB-95	765.79	*		9.532E-02	5.718E-02	9.567E-02	6.998E-03	0.996
NB-95M	235.69	*		8.667E-02	1.480E-01	2.293E-01	1.673E-02	0.378
ZR-95	724.18			4.226E-02	1.272E-01	1.885E-01	1.486E-02	0.224
	756.15	*		9.996E-02	8.406E-02	1.512E-01	1.249E-02	0.661
NB-97	657.90	*		2.873E+00	8.406E-02	Half-Life	too short	
	1024.50			2.015E+02	8.406E-02	Half-Life	too short	
ZR-97	254.15			2.476E+01	8.406E-02	Half-Life	too short	
	355.39			-6.529E+01	8.406E-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	*		1.233E+02	8.406E-02	Half-Life	too short	
	602.52			1.680E+02	8.406E-02	Half-Life	too short	
	1021.30			8.436E+01	8.406E-02	Half-Life	too short	
	1147.95			-6.054E+01	8.406E-02	Half-Life	too short	
	1362.66			-3.259E+02	8.406E-02	Half-Life	too short	
	1750.46			1.521E+02	8.406E-02	Half-Life	too short	
MO-99	140.51			-1.495E+01	7.504E+01	1.188E+02	3.200E+01	-0.126
	181.06			-5.966E-01	5.290E+01	7.525E+01	1.275E+01	-0.008
	366.43			-4.777E+01	2.252E+02	3.641E+02	2.036E+01	-0.131
	739.58	*		1.446E+01	3.543E+01	6.024E+01	8.662E+00	0.240
	778.00			5.139E+01	9.313E+01	1.607E+02	1.192E+01	0.320
TC-99M	140.51	*		-4.373E+14	9.313E+01	Half-Life	too short	
RH-101	127.23	+		4.605E-02	5.106E-02	5.425E-02	3.292E-03	0.849
	198.01	*		-4.550E-03	3.668E-02	5.698E-02	3.014E-03	-0.080
	325.23			1.380E-01	2.656E-01	4.026E-01	2.287E-02	0.343
RH-102	418.52			-8.811E-02	3.070E-01	4.884E-01	2.755E-02	-0.180
	475.06	*		-1.109E-02	3.060E-02	4.774E-02	2.835E-03	-0.232
	631.29			1.873E-02	6.057E-02	1.034E-01	6.655E-03	0.181
	697.49			-6.325E-02	8.419E-02	1.301E-01	8.807E-03	-0.486
	766.84	+		2.699E-01	1.822E-01	2.453E-01	1.797E-02	1.100
	1046.59			3.797E-02	1.294E-01	2.222E-01	1.574E-02	0.171
	1112.84			1.464E-01	2.702E-01	4.169E-01	2.632E-02	0.351
RU-103	497.08	*		-8.778E-03	4.605E-02	7.264E-02	9.265E-03	-0.121
	610.33	+		1.436E+01	3.032E+00	3.426E+00	5.362E-01	4.191
RH-106	511.85	+		4.995E-01	4.373E-01	4.853E-01	2.959E-02	1.029
	621.84	*		1.344E-02	3.543E-01	5.928E-01	7.147E-02	0.023
	1050.47	+		-3.321E-01	2.525E+00	4.166E+00	2.935E-01	-0.080
RU-106	511.85	+		4.995E-01	4.373E-01	4.853E-01	2.959E-02	1.029
	621.84	*		1.344E-02	3.543E-01	5.928E-01	3.806E-02	0.023
	1050.47			-3.321E-01	2.525E+00	4.166E+00	2.935E-01	-0.080
AG-108M	433.93	*		1.147E-02	3.548E-02	5.892E-02	3.672E-03	0.195
	614.37			-1.772E-02	4.555E-02	6.306E-02	4.323E-03	-0.281
	722.95			-1.672E-02	5.245E-02	7.194E-02	5.314E-03	-0.232
AG-110M	657.75	*		1.293E-02	4.521E-02	6.731E-02	4.587E-03	0.192
	677.61			7.231E-02	3.368E-01	5.681E-01	3.933E-02	0.127
	706.67			-7.301E-02	2.423E-01	3.842E-01	2.743E-02	-0.190
	763.93			1.244E-01	1.818E-01	2.826E-01	2.143E-02	0.440
	884.67			3.337E-03	5.103E-02	8.331E-02	7.116E-03	0.040
	937.48			-8.484E-02	1.261E-01	1.881E-01	1.582E-02	-0.451
	1384.27			9.649E-02	1.784E-01	3.122E-01	2.259E-02	0.309
IN-111	171.28			6.507E-02	2.763E+00	4.441E+00	2.284E-01	0.015
	245.39	*		-1.702E+00	3.103E+00	4.431E+00	2.453E-01	-0.384
IN-113M	391.69	*		-3.053E-03	4.797E-02	7.805E-02	4.595E-03	-0.039
SN-113	391.69	*		-3.053E-03	4.797E-02	7.805E-02	4.595E-03	-0.039
IN-114M	190.27	*		1.203E-01	2.372E-01	3.475E-01	1.823E-02	0.346
CD-115	260.90			2.054E-05	2.372E-01	Half-Life	too short	
	492.35			-4.574E-06	2.372E-01	Half-Life	too short	
	527.90	*		-1.630E-05	2.372E-01	Half-Life	too short	
SN-117M	156.02			-2.063E+00	2.919E+00	4.547E+00	2.428E-01	-0.454

---- 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	*		-1.071E-02	6.708E-02	1.073E-01	5.668E-03	-0.100
	563.90	*		3.866E+00	6.312E+00	1.105E+01	6.941E-01	0.350
	692.80			9.856E+00	1.296E+02	2.157E+02	1.452E+01	0.046
I-123	159.00	*		-2.499E+02	1.296E+02	Half-Life	too short	
	528.96			2.848E+04	1.296E+02	Half-Life	too short	
TE-123M	159.00	*		-8.517E-03	2.871E-02	4.557E-02	2.441E-03	-0.187
I-124	602.71	*		2.494E-01	1.516E+00	2.245E+00	1.433E-01	0.111
	722.78			-4.252E+00	1.047E+01	1.419E+01	9.896E-01	-0.300
	1325.50			6.627E+01	8.183E+01	1.456E+02	1.007E+01	0.455
SB-124	1376.25			1.006E+02	6.467E+01	1.245E+02	8.649E+00	0.808
	1509.49			2.958E+01	3.203E+01	5.902E+01	3.971E+00	0.501
	1691.02			-8.529E-01	7.629E+00	1.243E+01	7.713E-01	-0.069
	602.71			7.886E-03	4.793E-02	7.099E-02	4.532E-03	0.111
	645.85			7.908E-01	5.689E-01	1.046E+00	7.462E-02	0.756
	709.31			8.239E-01	3.309E+00	5.489E+00	3.767E-01	0.150
	713.82			-1.153E+00	1.842E+00	2.860E+00	3.110E-01	-0.403
	722.78			-1.949E-01	4.800E-01	6.505E-01	4.684E-02	-0.300
	+			1.861E+01	5.923E+00	8.669E+00	6.793E-01	2.146
	1045.16			-5.307E-03	2.952E+00	4.936E+00	3.505E-01	-0.001
	1325.50			3.244E+00	4.005E+00	7.128E+00	4.930E-01	0.455
	1368.21			1.730E+00	1.829E+00	3.377E+00	4.213E-01	0.512
	1436.60			-3.369E+00	4.412E+00	6.294E+00	4.322E-01	-0.535
	1691.02	*		-9.220E-03	8.247E-02	1.343E-01	8.964E-03	-0.069
SB-125	427.89	*		6.569E-02	1.036E-01	1.756E-01	1.044E-02	0.374
	+			7.697E-01	4.746E-01	6.195E-01	4.233E-02	1.243
	600.56			9.334E-02	1.898E-01	3.288E-01	2.372E-02	0.284
TE-125M	635.90			2.481E-03	3.004E-01	5.006E-01	3.680E-02	0.005
	109.28	*		8.956E-01	1.011E+01	1.672E+01	1.444E+00	0.054
I-126	388.63			3.171E-01	2.777E-01	4.867E-01	2.674E-02	0.651
	666.33	*		2.692E-01	2.427E-01	3.980E-01	2.595E-02	0.676
	753.82			3.539E+00	2.032E+00	3.797E+00	2.741E-01	0.932
SB-126	223.80			-3.797E+00	5.190E+00	8.501E+00	4.618E-01	-0.447
	+			7.827E+00	4.419E+00	5.647E+00	3.187E-01	1.386
	296.50			1.283E+01	2.359E+00	4.519E+00	2.564E-01	2.839
	414.70			5.570E-02	9.773E-02	1.656E-01	9.304E-03	0.336
	415.30			1.467E+00	8.232E+00	1.357E+01	7.629E-01	0.108
	555.20			-4.245E-01	4.990E+00	8.338E+00	5.214E-01	-0.051
	573.80			3.796E-01	1.346E+00	2.307E+00	1.455E-01	0.165
	593.00			-1.892E-01	1.231E+00	2.035E+00	1.294E-01	-0.093
	656.30			-3.411E+00	5.418E+00	7.222E+00	4.677E-01	-0.472
	666.33			1.135E-01	1.024E-01	1.678E-01	1.094E-02	0.676
	675.00			1.849E+00	2.587E+00	4.545E+00	2.995E-01	0.407
	695.00			8.466E-02	1.020E-01	1.800E-01	1.215E-02	0.470
	697.00			-2.005E-01	3.602E-01	5.666E-01	3.833E-02	-0.354
	720.50	*		7.051E-02	2.172E-01	3.232E-01	2.247E-02	0.218
	856.80			1.464E-02	7.409E-01	1.206E+00	9.690E-02	0.012
	989.30			-9.742E-01	1.591E+00	2.349E+00	1.798E-01	-0.415
	1034.80			1.434E+00	1.260E+01	2.130E+01	1.536E+00	0.067
	1213.00			-1.190E+00	6.737E+00	1.095E+01	6.410E-01	-0.109

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-127	61.10			-2.388E+01	1.303E+02	1.966E+02	2.151E+01	-0.121
	252.40			3.927E+00	9.355E+00	1.584E+01	6.630E+00	0.248
	290.80			-3.855E+01	4.968E+01	6.805E+01	7.200E+00	-0.567
	411.60			-1.001E+01	2.729E+01	4.323E+01	6.612E+00	-0.232
	444.90			-6.830E+00	2.159E+01	3.406E+01	4.113E+00	-0.201
	473.00			2.983E-01	3.613E+00	5.861E+00	7.319E-01	0.051
	543.00			6.903E+00	3.840E+01	6.549E+01	9.287E+00	0.105
	603.60			-1.316E+01	2.843E+01	3.911E+01	4.829E+00	-0.337
	685.20	*		1.361E-01	3.102E+00	5.154E+00	5.862E-01	0.026
	698.50			-1.858E+01	3.295E+01	5.159E+01	8.180E+00	-0.360
	722.20			-1.880E+01	7.423E+01	1.026E+02	1.162E+01	-0.183
	783.80			4.689E+00	8.440E+00	1.444E+01	1.855E+00	0.325
	XE-127	57.60		-4.431E-01	6.966E+00	1.179E+01	7.452E-01	-0.038
		145.22		3.760E-01	7.653E-01	1.269E+00	7.092E-02	0.296
I-131		172.10		1.106E-01	1.345E-01	2.248E-01	1.157E-02	0.492
		202.84	*	-3.582E-02	5.448E-02	8.341E-02	4.435E-03	-0.429
		374.96		1.527E-01	2.269E-01	3.885E-01	2.159E-02	0.393
		80.18		1.151E+00	7.196E+00	1.089E+01	7.849E-01	0.106
TE-132		284.30		8.936E-02	2.302E+00	3.855E+00	2.453E-01	0.023
		364.48	*	-8.183E-02	1.634E-01	2.586E-01	1.639E-02	-0.316
		636.97		-1.255E+00	2.394E+00	3.810E+00	2.712E-01	-0.329
		722.89		-4.343E+00	1.238E+01	1.691E+01	1.197E+00	-0.257
BA-133		49.72		-1.909E+01	4.399E+01	7.363E+01	7.789E+00	-0.259
		111.76		-1.764E+01	7.233E+01	1.158E+02	1.216E+01	-0.152
		116.30		-5.139E+00	6.354E+01	1.039E+02	1.085E+01	-0.049
		228.16	*	2.776E-01	1.605E+00	2.740E+00	4.138E-01	0.101
I-133		53.15		-1.138E+00	3.766E+00	6.333E+00	4.095E-01	-0.180
		79.62		-3.909E-02	1.438E+00	2.157E+00	3.106E-01	-0.018
		81.00		-2.266E-02	1.125E-01	1.671E-01	2.529E-02	-0.136
	+	276.40		9.390E-01	5.413E-01	6.786E-01	8.749E-02	1.384
CS-134		302.84		-7.957E-02	1.588E-01	2.219E-01	2.574E-02	-0.359
		356.01	*	-1.492E-02	5.466E-02	7.698E-02	8.832E-03	-0.194
		383.85		-3.320E-01	3.395E-01	5.156E-01	5.529E-02	-0.644
	+	510.53		2.371E+01	3.395E-01	Half-Life too short		
I-133		529.87	*	1.299E-01	3.395E-01	Half-Life too short		
		706.58		-3.431E+00	3.395E-01	Half-Life too short		
		856.28		-9.447E+00	3.395E-01	Half-Life too short		
		875.33		2.909E-01	3.395E-01	Half-Life too short		
CS-134		1236.41		1.612E+01	3.395E-01	Half-Life too short		
		1298.22		-3.948E+00	3.395E-01	Half-Life too short		
		475.35		-6.803E-01	2.006E+00	3.137E+00	1.863E-01	-0.217
		563.23		2.102E-01	3.958E-01	6.898E-01	4.408E-02	0.305
I-133		569.32		-3.992E-02	2.169E-01	3.593E-01	2.319E-02	-0.111
		604.70		-1.468E-02	4.072E-02	5.683E-02	3.646E-03	-0.258
	+	795.84	*	1.367E-01	7.318E-02	1.078E-01	8.220E-03	1.268
		801.93		-9.208E-02	4.396E-01	6.914E-01	5.294E-02	-0.133
CS-134		1038.57		2.671E+00	4.324E+00	7.643E+00	5.481E-01	0.349
		1167.94		3.949E+00	2.888E+00	5.339E+00	2.975E-01	0.740
		1365.15		-8.721E-01	1.318E+00	1.935E+00	1.440E-01	-0.451

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

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CS-135	268.24	*		2.901E-01	1.874E-01	2.984E-01	2.244E-02	0.972
I-135	288.45			2.724E+14	1.874E-01	Half-Life	too short	
	417.63			-3.410E+14	1.874E-01	Half-Life	too short	
	546.56			-1.887E+14	1.874E-01	Half-Life	too short	
	836.80			1.341E+14	1.874E-01	Half-Life	too short	
	1038.76			2.522E+14	1.874E-01	Half-Life	too short	
	1124.00			2.288E+14	1.874E-01	Half-Life	too short	
	1131.51			1.427E+14	1.874E-01	Half-Life	too short	
	1260.41	*		2.362E+13	1.874E-01	Half-Life	too short	
	1457.56			1.698E+16	1.874E-01	Half-Life	too short	
	1678.03			-5.861E+12	1.874E-01	Half-Life	too short	
	1706.46			3.143E+13	1.874E-01	Half-Life	too short	
	1791.20			2.948E+13	1.874E-01	Half-Life	too short	
CS-136	66.91			-5.829E-01	1.134E+00	1.673E+00	2.401E-01	-0.348
+	86.29			6.876E+00	1.854E+00	2.813E+00	3.416E-01	2.445
	153.22			1.090E+00	8.609E-01	1.467E+00	1.014E-01	0.743
	163.89			3.915E-01	1.351E+00	2.167E+00	1.465E-01	0.181
	176.55			-2.933E-02	4.708E-01	7.519E-01	4.489E-02	-0.039
	273.65			3.990E-01	5.485E-01	9.356E-01	6.057E-02	0.426
	340.57			3.587E-01	1.740E-01	2.925E-01	1.767E-02	1.226
	818.51			5.643E-02	1.038E-01	1.778E-01	1.377E-02	0.317
	1048.07	*		2.126E-02	1.429E-01	2.424E-01	1.822E-02	0.088
	1235.34			1.114E+00	9.465E-01	1.518E+00	1.540E-01	0.734
CE-139	165.85	*		-1.617E-02	3.067E-02	4.795E-02	2.457E-03	-0.337
BA-140	162.64			3.311E-01	9.671E-01	1.556E+00	9.320E-02	0.213
	304.84			2.562E-01	1.752E+00	2.592E+00	7.069E-01	0.099
	423.70			7.970E-02	2.636E+00	4.291E+00	1.363E+00	0.019
	537.32	*		2.936E-02	3.287E-01	5.579E-01	1.818E-01	0.053
LA-140	328.77			5.967E-01	4.605E-01	7.316E-01	4.673E-02	0.816
	432.53			3.541E-02	2.837E+00	4.607E+00	2.918E-01	0.008
	487.03			-2.060E-02	1.796E-01	2.858E-01	1.926E-02	-0.072
	751.79			-2.202E+00	2.472E+00	3.730E+00	3.089E-01	-0.590
	815.85			-1.896E-01	4.267E-01	6.635E-01	5.843E-02	-0.286
	867.82			-3.142E-01	1.822E+00	2.903E+00	2.498E-01	-0.108
	919.63			2.496E+00	3.746E+00	6.464E+00	6.671E-01	0.386
	925.24			-1.318E+00	1.433E+00	2.041E+00	1.784E-01	-0.646
	1596.49	*		-2.977E-02	1.214E-01	1.960E-01	1.276E-02	-0.152
CE-141	145.44	*		3.995E-02	6.941E-02	1.156E-01	6.728E-03	0.346
CE-143	57.37			-3.250E-05	6.941E-02	Half-Life	too short	
	231.56			-7.700E-03	6.941E-02	Half-Life	too short	
	293.26	*		5.630E-03	6.941E-02	Half-Life	too short	
+	350.59			2.461E-01	6.941E-02	Half-Life	too short	
	490.36			-1.207E-02	6.941E-02	Half-Life	too short	
	664.57			2.540E-02	6.941E-02	Half-Life	too short	
	721.93			-1.871E-03	6.941E-02	Half-Life	too short	
CE-144	80.11			3.805E-01	2.380E+00	3.602E+00	2.557E-01	0.106
	133.54	*		5.886E-02	2.225E-01	3.501E-01	4.984E-02	0.168
PM-144	476.78			-3.149E-02	7.172E-02	1.111E-01	7.851E-03	-0.284
	618.01			4.775E-03	3.462E-02	5.840E-02	3.932E-03	0.082

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	696.49	*		-7.460E-03	3.772E-02	6.133E-02	4.151E-03	-0.122
	778.57			3.675E-01	2.386E+00	3.968E+00	2.945E-01	0.093
PR-144	696.49	*		-5.065E-01	2.562E+00	4.165E+00	2.816E-01	-0.122
	1489.15			-1.558E+01	1.405E+01	1.834E+01	1.242E+00	-0.850
PM-146	453.90	*		1.276E-02	4.758E-02	7.847E-02	6.784E-03	0.163
	633.02			-2.817E-01	1.577E+00	2.584E+00	9.544E-01	-0.109
	735.90			3.155E-02	1.574E-01	2.635E-01	7.425E-02	0.120
	747.13			1.485E-02	9.260E-02	1.546E-01	2.040E-02	0.096
ND-147	+	91.11		1.197E+00	3.797E-01	7.438E-01	6.099E-02	1.609
		319.41		-2.896E+00	4.336E+00	6.879E+00	3.913E-01	-0.421
		439.89		1.497E+00	7.892E+00	1.297E+01	7.480E-01	0.115
		531.02	*	4.593E-01	8.210E-01	1.368E+00	1.872E-01	0.336
PM-149		285.90	*	-2.962E-04	8.210E-01	Half-Life too short		
EU-152		121.78		3.698E-02	7.555E-02	1.265E-01	1.006E-02	0.292
		244.69		-1.750E-01	3.596E-01	5.161E-01	2.855E-02	-0.339
		344.27	*	-8.071E-02	1.108E-01	1.489E-01	9.543E-03	-0.542
		443.98		1.371E+00	1.001E+00	1.785E+00	1.032E-01	0.768
		778.89		7.070E-02	2.710E-01	4.553E-01	3.378E-02	0.155
		867.32		2.372E-01	8.580E-01	1.434E+00	1.164E-01	0.165
		964.01		3.063E-01	4.032E-01	6.097E-01	4.800E-02	0.502
		1085.78		-5.403E-04	4.447E-01	7.411E-01	4.923E-02	-0.001
		1112.02		2.593E-01	3.758E-01	6.092E-01	3.851E-02	0.426
		1407.95		1.672E-01	2.214E-01	3.936E-01	2.719E-02	0.425
GD-153		69.67		4.353E-02	1.852E+00	2.981E+00	1.960E-01	0.015
		83.37		1.356E+01	1.775E+01	2.743E+01	2.006E+00	0.494
		97.43	*	-3.247E-02	9.325E-02	1.342E-01	9.334E-03	-0.242
		103.18		-6.060E-02	1.079E-01	1.736E-01	1.160E-02	-0.349
EU-154		123.07		1.508E-02	5.366E-02	8.895E-02	8.595E-03	0.170
		247.94		-1.325E-02	3.665E-01	6.167E-01	5.790E-02	-0.021
		591.81		-3.022E-01	6.670E-01	1.076E+00	1.088E-01	-0.281
		723.30		4.028E-03	2.170E-01	3.107E-01	2.508E-02	0.013
		756.87		2.041E-01	8.877E-01	1.486E+00	1.639E-01	0.137
		873.19		-2.680E-01	2.996E-01	4.301E-01	5.130E-02	-0.623
		996.32		-7.593E-02	4.526E-01	6.397E-01	1.106E-01	-0.119
		1004.76		-1.913E-01	2.407E-01	3.009E-01	3.262E-02	-0.636
		1274.45	*	4.882E-02	1.420E-01	2.414E-01	2.352E-02	0.202
EU-155		48.70		-3.226E+00	2.414E+00	3.874E+00	2.531E-01	-0.833
		60.01		-1.915E+00	5.696E+00	8.533E+00	5.362E-01	-0.224
	+	86.54		5.163E-01	1.303E-01	2.132E-01	1.629E-02	2.421
		105.31	*	1.801E-01	1.129E-01	1.978E-01	1.333E-02	0.910
TB-160	+	86.79		1.430E+00	3.606E-01	5.893E-01	4.455E-02	2.427
		197.04		-1.192E-01	6.435E-01	9.963E-01	5.265E-02	-0.120
		215.65		6.291E-01	7.989E-01	1.319E+00	7.109E-02	0.477
	+	298.57		3.591E-01	1.540E-01	2.122E-01	1.205E-02	1.692
		879.36	*	1.053E-01	1.483E-01	2.587E-01	2.124E-02	0.407
		962.29		1.092E-01	7.851E-01	1.107E+00	8.729E-02	0.099
		966.15		1.085E+00	3.447E-01	6.064E-01	4.762E-02	1.789
		1177.93		6.310E-01	4.269E-01	7.954E-01	4.405E-02	0.793
		1271.85		-3.006E-01	8.801E-01	1.396E+00	8.934E-02	-0.215

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HO-166M		80.57		5.566E-02	3.019E-01	4.572E-01	3.259E-02	0.122
	+	184.41		1.467E-01	5.718E-02	7.482E-02	3.900E-03	1.961
		280.46		-4.809E-02	1.031E-01	1.466E-01	8.280E-03	-0.328
		410.95		-3.350E-02	2.703E-01	4.365E-01	2.443E-02	-0.077
		711.68	*	1.735E-02	6.580E-02	1.110E-01	7.643E-03	0.156
		752.31		-1.435E-02	2.993E-01	4.896E-01	3.528E-02	-0.029
		810.29		1.429E-03	5.708E-02	9.347E-02	7.167E-03	0.015
TM-171		51.35		9.907E-01	3.092E+01	5.278E+01	3.440E+00	0.019
		52.39		-1.545E+00	1.662E+01	2.821E+01	1.830E+00	-0.055
		59.40		1.923E+01	3.012E+01	4.740E+01	2.973E+00	0.406
		66.72	*	-1.214E+01	3.341E+01	4.977E+01	3.221E+00	-0.244
LU-176	+	88.36		1.015E+00	2.560E-01	3.990E-01	3.040E-02	2.545
		201.83		-7.703E-03	3.075E-02	4.820E-02	2.560E-03	-0.160
		306.84	*	1.329E-02	2.531E-02	4.337E-02	2.465E-03	0.306
		401.10		-1.903E+00	7.522E+00	1.206E+01	6.677E-01	-0.158
LU-177		112.95		-1.771E-01	2.547E+00	4.108E+00	2.625E-01	-0.043
LU-177M	+	208.36	*	5.000E+00	2.644E+00	3.258E+00	1.743E-01	1.535
		52.97		-7.778E-01	1.722E+00	2.877E+00	1.862E-01	-0.270
		54.07		6.829E-01	9.146E-01	1.599E+00	1.029E-01	0.427
		61.30		-4.897E-02	1.692E+00	2.572E+00	1.625E-01	-0.019
		121.62		2.076E-01	3.945E-01	6.617E-01	4.132E-02	0.314
		147.16		-1.922E-01	6.773E-01	1.082E+00	5.996E-02	-0.178
		171.86		2.758E-01	5.045E-01	8.323E-01	4.284E-02	0.331
		218.09		-7.288E-01	9.536E-01	1.441E+00	7.785E-02	-0.506
	+	268.79		2.876E+00	1.222E+00	1.639E+00	9.211E-02	1.755
		319.02		-1.446E-01	2.680E-01	4.291E-01	2.439E-02	-0.337
		367.43		4.567E-01	8.789E-01	1.498E+00	8.368E-02	0.305
		413.65	*	-3.132E-02	1.930E-01	3.104E-01	1.742E-02	-0.101
		56.28		-9.614E-02	1.069E+00	1.809E+00	1.151E-01	-0.053
		57.53		-2.667E-02	5.805E-01	9.834E-01	6.216E-02	-0.027
		65.20		5.354E-01	1.145E+00	1.777E+00	1.142E-01	0.301
HF-181		133.02		-7.776E-03	8.032E-02	1.162E-01	6.851E-03	-0.067
		136.25		-3.875E-01	5.083E-01	7.961E-01	4.626E-02	-0.487
		345.85		3.657E-02	2.307E-01	3.389E-01	1.914E-02	0.108
		482.03	*	6.869E-04	4.786E-02	7.709E-02	4.603E-03	0.009
		56.28		-3.624E-02	4.012E-01	6.791E-01	4.319E-02	-0.053
		57.53		-9.905E-03	2.181E-01	3.694E-01	2.335E-02	-0.027
		65.20	*	1.995E-01	4.269E-01	6.624E-01	4.256E-02	0.301
TA-182		67.75		-2.397E-02	1.241E-01	1.983E-01	1.290E-02	-0.121
		100.10		1.231E-01	1.865E-01	3.171E-01	2.161E-02	0.388
		152.43		3.183E-01	3.622E-01	6.092E-01	3.302E-02	0.522
		222.10		1.334E-01	3.660E-01	6.309E-01	3.422E-02	0.211
	+	1001.68		2.405E+00	3.034E+00	4.096E+00	3.087E-01	0.587
RE-183		1121.28		5.691E-01	2.153E-01	3.867E-01	2.399E-02	1.472
		1189.05		-1.159E-01	3.710E-01	5.962E-01	3.362E-02	-0.194
		1221.42	*	2.356E-02	2.349E-01	3.910E-01	2.320E-02	0.060
		1230.97		5.651E-02	5.834E-01	9.006E-01	5.421E-02	0.063
		57.98		2.695E-03	2.192E-01	3.721E-01	2.347E-02	0.007
		59.32		8.348E-02	1.284E-01	2.022E-01	1.269E-02	0.413

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		67.20		-4.000E-02	2.390E-01	3.593E-01	2.331E-02	-0.111
		162.32	*	5.411E-02	1.170E-01	1.894E-01	9.845E-03	0.286
	+	208.81		3.110E+00	1.644E+00	2.036E+00	1.089E-01	1.528
		291.72		-1.410E+00	1.114E+00	1.458E+00	8.266E-02	-0.967
		57.98		9.705E-03	7.896E-01	1.340E+00	8.454E-02	0.007
		59.32		3.004E-01	4.620E-01	7.277E-01	4.566E-02	0.413
		67.20		-1.440E-01	8.605E-01	1.294E+00	8.393E-02	-0.111
		161.27		-2.330E-02	3.657E-01	5.873E-01	3.067E-02	-0.040
		216.55		6.387E-02	2.884E-01	4.616E-01	2.490E-02	0.138
		252.85	*	5.043E-02	2.453E-01	4.172E-01	2.322E-02	0.121
OS-185		318.01		-5.089E-01	4.722E-01	7.281E-01	4.139E-02	-0.699
		792.07		5.187E-01	1.273E+00	1.894E+00	1.425E-01	0.274
		903.28		7.755E-01	1.167E+00	1.861E+00	1.549E-01	0.417
		920.93		1.217E-01	4.888E-01	8.110E-01	6.652E-02	0.150
		59.72		3.796E-02	3.463E-01	5.311E-01	3.333E-02	0.071
		61.14		-3.406E-02	1.875E-01	2.830E-01	1.787E-02	-0.120
		69.30		-1.157E-01	3.226E-01	5.362E-01	3.518E-02	-0.216
		592.07		-3.991E-01	2.748E+00	4.549E+00	2.891E-01	-0.088
		646.12	*	6.700E-02	4.699E-02	8.672E-02	5.604E-03	0.773
		717.42		-8.149E-02	9.827E-01	1.609E+00	1.115E-01	-0.051
RE-188		874.81		-3.283E-01	5.948E-01	8.994E-01	7.353E-02	-0.365
		880.27		4.341E-01	8.034E-01	1.380E+00	1.134E-01	0.314
		155.03	*	6.973E-02	1.872E-01	3.077E-01	1.650E-02	0.227
		477.96		-6.941E-01	3.490E+00	5.427E+00	3.230E-01	-0.128
		633.10		-7.877E-01	3.288E+00	5.373E+00	3.461E-01	-0.147
W-188	+	63.58		1.109E+02	8.788E+01	1.098E+02	7.002E+00	1.010
IR-192		227.08		5.145E+00	1.363E+01	2.348E+01	1.280E+00	0.219
		290.67	*	-5.690E+00	8.737E+00	1.214E+01	6.879E-01	-0.469
	+	295.96		1.172E+00	1.746E-01	3.137E-01	1.809E-02	3.735
		308.46		2.865E-02	1.035E-01	1.748E-01	1.006E-02	0.164
		316.51	*	-1.478E-02	3.699E-02	5.984E-02	3.420E-03	-0.247
AU-195		468.07		-1.671E-02	8.569E-02	1.252E-01	8.489E-03	-0.133
		604.41		-5.303E-01	5.935E-01	7.731E-01	9.015E-02	-0.686
		612.46		-1.458E-01	9.485E-01	1.356E+00	1.090E-01	-0.108
		65.12		4.404E-02	1.990E-01	3.052E-01	1.960E-02	0.144
		66.83		-4.233E-02	1.116E-01	1.661E-01	1.075E-02	-0.255
	+	75.70		1.173E+00	2.493E-01	5.054E-01	3.461E-02	2.322
		98.88	*	1.432E-01	2.407E-01	4.026E-01	2.768E-02	0.356
TL-200	+	129.76		4.111E+00	4.558E+00	5.393E+00	3.232E-01	0.762
		367.94	*	2.773E-03	4.558E+00	Half-Life	too short	
		579.30		1.434E-03	4.558E+00	Half-Life	too short	
		828.27		2.156E-03	4.558E+00	Half-Life	too short	
TL-201		1205.75		-2.250E-02	4.558E+00	Half-Life	too short	
		68.90		-6.721E+00	1.244E+01	2.055E+01	1.345E+00	-0.327
		70.82		5.214E-01	7.926E+00	1.191E+01	7.885E-01	0.044
		80.30		2.193E+00	1.370E+01	2.073E+01	1.474E+00	0.106
		135.34		2.918E+00	6.299E+01	1.028E+02	5.997E+00	0.028
TL-202		167.43	*	-4.654E+00	1.730E+01	2.741E+01	1.405E+00	-0.170
		68.90		-3.078E-01	5.700E-01	9.411E-01	6.161E-02	-0.327

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		70.82		2.381E-02	3.620E-01	5.440E-01	3.601E-02	0.044
		80.30		1.002E-01	6.259E-01	9.471E-01	6.734E-02	0.106
		439.56	*	-6.423E-03	9.294E-02	1.498E-01	8.626E-03	-0.043
		70.83		8.572E-02	1.330E+00	1.999E+00	2.485E-01	0.043
		72.87		8.585E-01	7.780E-01	1.211E+00	1.458E-01	0.709
		82.60		5.566E-01	1.295E+00	2.085E+00	2.697E-01	0.267
BI-207		279.20	*	-2.019E-02	5.225E-02	7.477E-02	4.496E-03	-0.270
		72.80		1.992E-01	2.127E-01	3.310E-01	2.220E-02	0.602
	+	74.97		6.414E-01	1.363E-01	2.470E-01	1.682E-02	2.597
		84.90		1.904E-01	2.232E-01	3.458E-01	2.566E-02	0.551
		569.67		-4.694E-03	3.308E-02	5.496E-02	3.461E-03	-0.085
		1063.62	*	-2.144E-02	5.909E-02	9.460E-02	6.526E-03	-0.227
TL-207		1770.23		-1.993E+00	8.173E-01	8.706E-01	5.138E-02	-2.289
		81.07		-4.096E-02	2.484E-01	3.697E-01	2.646E-02	-0.111
		83.78		4.006E-02	1.518E-01	2.296E-01	1.686E-02	0.174
		94.90		3.067E-01	2.531E-01	3.996E-01	2.839E-02	0.768
		122.32		1.487E-01	1.820E+00	2.991E+00	2.117E-01	0.050
		144.24		4.847E-01	7.230E-01	1.191E+00	8.436E-02	0.407
PO-209		154.21		5.267E-01	4.226E-01	7.196E-01	4.799E-02	0.732
	+	269.46		6.620E-01	2.814E-01	3.928E-01	2.314E-02	1.685
		323.87	*	6.622E-01	7.751E-01	1.197E+00	1.972E-01	0.553
	+	338.28		8.412E+00	2.306E+00	2.772E+00	2.899E-01	3.035
		445.03		-1.487E+00	2.510E+00	3.867E+00	3.969E-01	-0.384
		260.50		2.270E+00	9.496E+00	1.616E+01	9.039E-01	0.140
BI-210		262.80		1.827E+01	2.591E+01	4.516E+01	2.529E+00	0.405
		896.60	*	-3.984E+00	8.588E+00	1.322E+01	1.104E+00	-0.301
		46.50	*	3.351E+00	3.502E+00	6.136E+00	4.622E-01	0.546
		46.50	*	3.351E+00	3.502E+00	6.136E+00	4.622E-01	0.546
		46.50	*	3.351E+00	3.499E+00	6.136E+00	3.935E-01	0.546
		404.84	*	-1.303E-01	1.036E+00	1.669E+00	1.040E+00	-0.078
BI-212		427.08		1.387E+00	2.473E+00	3.924E+00	2.425E+00	0.353
		831.96		9.285E-01	1.466E+00	2.333E+00	1.459E+00	0.398
	+	727.18	*	9.007E-01	5.947E-01	7.339E-01	6.354E-02	1.227
		785.46		1.233E+00	1.970E+00	3.397E+00	2.538E-01	0.363
		1620.62		2.339E+00	1.432E+00	2.910E+00	1.874E-01	0.804
		81.07		-4.096E-02	2.484E-01	3.697E-01	2.646E-02	-0.111
PO-215		83.78		4.006E-02	1.518E-01	2.296E-01	1.686E-02	0.174
		94.90		3.067E-01	2.531E-01	3.996E-01	2.839E-02	0.768
		122.32		1.487E-01	1.820E+00	2.991E+00	2.117E-01	0.050
		144.24		4.847E-01	7.230E-01	1.191E+00	8.436E-02	0.407
		154.21		5.267E-01	4.226E-01	7.196E-01	4.799E-02	0.732
	+	269.46		6.620E-01	2.814E-01	3.928E-01	2.314E-02	1.685
RN-219		323.87	*	6.622E-01	7.751E-01	1.197E+00	1.972E-01	0.553
	+	338.28		8.412E+00	2.306E+00	2.772E+00	2.899E-01	3.035
		445.03		-1.487E+00	2.510E+00	3.867E+00	3.969E-01	-0.384
	+	271.23		8.493E-01	3.639E-01	4.958E-01	3.957E-02	1.713
		401.81	*	-1.961E-01	4.614E-01	7.295E-01	9.846E-02	-0.269
		549.76	*	7.720E+00	2.761E+01	4.744E+01	2.958E+00	0.163
RA-223		81.07		-4.096E-02	2.484E-01	3.697E-01	2.646E-02	-0.111

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		83.78		4.006E-02	1.518E-01	2.296E-01	1.686E-02	0.174
		94.90		3.067E-01	2.531E-01	3.996E-01	2.839E-02	0.768
		122.32		1.487E-01	1.820E+00	2.991E+00	2.117E-01	0.050
		144.24		4.847E-01	7.230E-01	1.191E+00	8.436E-02	0.407
		154.21		5.267E-01	4.226E-01	7.196E-01	4.799E-02	0.732
	+	269.46		6.620E-01	2.814E-01	3.928E-01	2.314E-02	1.685
		323.87	*	6.622E-01	7.751E-01	1.197E+00	1.972E-01	0.553
	+	338.28		8.412E+00	2.306E+00	2.772E+00	2.899E-01	3.035
		445.03		-1.487E+00	2.510E+00	3.867E+00	3.969E-01	-0.384
		79.80		3.369E-02	1.825E+00	2.743E+00	5.742E-01	0.012
		236.00		4.480E-01	2.915E-01	4.670E-01	4.803E-02	0.959
		256.20	*	-1.923E-01	3.847E-01	6.284E-01	8.715E-02	-0.306
		286.10		-1.085E+00	1.651E+00	2.650E+00	3.045E-01	-0.409
	+	299.80		4.403E+00	2.004E+00	2.744E+00	4.458E-01	1.604
TH-227		304.40		1.179E-01	2.020E+00	2.970E+00	5.126E-01	0.040
		334.20		3.595E-01	2.710E+00	3.977E+00	7.274E-01	0.090
		79.80		3.369E-02	1.825E+00	2.743E+00	5.820E-01	0.012
	+	94.00		1.279E+01	4.195E+00	4.182E+00	8.884E-01	3.058
		236.00		4.480E-01	2.905E-01	4.670E-01	4.139E-02	0.959
		256.20	*	-1.923E-01	3.851E-01	6.284E-01	1.057E-01	-0.306
TH-229		286.10		-1.085E+00	1.972E+00	2.650E+00	2.655E+00	-0.409
	+	299.80		4.403E+00	2.004E+00	2.744E+00	4.458E-01	1.604
		304.40		1.179E-01	2.020E+00	2.970E+00	5.126E-01	0.040
		334.20		3.595E-01	2.710E+00	3.977E+00	7.274E-01	0.090
		85.43		2.773E-01	2.268E-01	3.557E-01	2.653E-02	0.780
	+	88.47		5.844E-01	1.474E-01	2.277E-01	1.733E-02	2.566
PA-231		100.00		8.200E-02	1.910E-01	3.218E-01	2.195E-02	0.255
		193.63	*	7.774E-02	5.404E-01	8.673E-01	4.566E-02	0.090
		210.97		8.279E-01	8.618E-01	1.282E+00	6.874E-02	0.646
TH-231		283.67	*	1.998E+00	1.722E+00	2.931E+00	4.022E-01	0.682
	+	301.29		1.761E+00	7.707E-01	1.079E+00	1.121E-01	1.632
U-231		81.07		-4.096E-02	2.484E-01	3.697E-01	2.646E-02	-0.111
		83.78		4.006E-02	1.518E-01	2.296E-01	1.686E-02	0.174
		94.90		3.067E-01	2.531E-01	3.996E-01	2.839E-02	0.768
		122.32		1.487E-01	1.820E+00	2.991E+00	2.117E-01	0.050
		144.24		4.847E-01	7.230E-01	1.191E+00	8.436E-02	0.407
		154.21		5.267E-01	4.226E-01	7.196E-01	4.799E-02	0.732
	+	269.46		6.620E-01	2.814E-01	3.928E-01	2.314E-02	1.685
		323.87	*	6.622E-01	7.751E-01	1.197E+00	1.972E-01	0.553
	+	338.28		8.412E+00	2.306E+00	2.772E+00	2.899E-01	3.035
		445.03		-1.487E+00	2.510E+00	3.867E+00	3.969E-01	-0.384
		84.21		2.575E+00	1.249E+01	1.884E+01	1.389E+00	0.137
	+	92.29		2.422E+01	6.298E+00	9.158E+00	6.674E-01	2.644
		95.87	*	-2.004E-01	2.265E+00	3.349E+00	2.359E-01	-0.060
		108.00		1.200E+00	4.121E+00	6.878E+00	4.482E-01	0.174
PA-233	+	75.28		1.871E+01	4.632E+00	7.529E+00	1.085E+00	2.485
	+	86.59		8.379E+00	2.999E+00	3.468E+00	9.188E-01	2.416
	+	300.12		1.228E+00	5.471E-01	7.679E-01	1.028E-01	1.599
		311.98	*	-3.555E-02	6.711E-02	1.078E-01	6.524E-03	-0.330

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234		340.50		1.566E+00	7.765E-01	1.179E+00	2.704E-01	1.327
		398.62		8.906E-01	2.358E+00	3.927E+00	1.013E+00	0.227
		415.76		2.782E-01	1.709E+00	2.813E+00	5.778E-01	0.099
	+	63.00		3.091E+00	2.482E+00	3.132E+00	4.501E-01	0.987
		94.67		3.820E-01	1.914E-01	3.062E-01	3.494E-02	1.248
		98.44		8.881E-02	1.086E-01	1.640E-01	9.112E-02	0.541
		99.86		2.352E-01	4.897E-01	8.147E-01	5.563E-02	0.289
		111.00		-1.333E-01	1.938E-01	3.032E-01	3.226E-02	-0.440
		131.20		-6.112E-02	1.243E-01	1.755E-01	1.044E-02	-0.348
		152.70		3.488E-01	3.475E-01	5.810E-01	9.104E-02	0.600
	+	186.00		5.283E+00	2.598E+00	2.898E+00	8.825E-01	1.823
		226.40		1.970E-01	4.144E-01	7.164E-01	8.157E-02	0.275
		227.20		1.086E-01	4.434E-01	7.595E-01	4.140E-02	0.143
		248.90		3.339E-01	8.390E-01	1.437E+00	3.078E-01	0.232
	+	293.70		7.108E+00	1.501E+00	1.842E+00	2.954E-01	3.859
		369.80		-1.377E-01	8.503E-01	1.378E+00	2.862E-01	-0.100
		568.70		2.484E-01	1.088E+00	1.858E+00	1.169E-01	0.134
		569.50		-8.480E-02	2.967E-01	4.876E-01	3.070E-02	-0.174
		574.00		5.155E-01	1.557E+00	2.678E+00	1.690E-01	0.193
		699.00		-2.818E-01	7.526E-01	1.201E+00	2.200E-01	-0.235
		706.10		-4.169E-01	1.194E+00	1.891E+00	8.376E-01	-0.220
		733.00		-3.719E-01	4.690E-01	5.855E-01	1.267E-01	-0.635
		742.81		1.824E-01	1.515E+00	2.511E+00	1.684E+00	0.073
		796.30		1.948E+00	1.330E+00	2.043E+00	5.460E-01	0.954
		805.60		5.464E-02	1.051E+00	1.725E+00	5.243E-01	0.032
		819.60		3.647E-03	1.446E+00	2.359E+00	8.926E-01	0.002
		826.30		-6.881E-01	1.012E+00	1.464E+00	6.528E-01	-0.470
		831.60		2.112E-01	7.119E-01	1.187E+00	3.517E-01	0.178
		876.40		2.824E-02	8.345E-01	1.358E+00	1.396E+00	0.021
		880.51		9.548E-02	2.867E-01	4.819E-01	3.961E-02	0.198
		883.24		7.656E-02	3.098E-01	5.000E-01	3.359E-01	0.153
		899.00		-3.062E-01	9.376E-01	1.449E+00	6.328E-01	-0.211
		925.00		-1.029E+00	1.194E+00	1.715E+00	1.401E-01	-0.600
		926.50		-6.905E-02	1.753E-01	2.678E-01	6.730E-02	-0.258
		946.00	*	2.242E-01	3.318E-01	5.688E-01	1.052E-01	0.394
		949.00		-6.994E-02	5.123E-01	8.134E-01	6.502E-02	-0.086
		980.50		-5.965E-01	7.363E-01	1.073E+00	8.294E-02	-0.556
		1394.10		1.292E+00	1.597E+00	2.489E+00	1.615E+00	0.519
U-235	+	89.95		3.715E+00	1.608E+00	2.101E+00	6.419E-01	1.769
	+	93.35		3.978E+00	1.482E+00	1.496E+00	4.132E-01	2.660
		105.00		1.271E+00	1.156E+00	1.896E+00	5.560E-01	0.671
		143.76	*	-1.014E-02	2.261E-01	3.611E-01	5.865E-02	-0.028
		163.35		-3.252E-03	4.899E-01	7.743E-01	1.377E-01	-0.004
NP-236	+	185.71		1.957E-01	7.623E-02	1.070E-01	5.587E-03	1.828
		205.31		2.831E-01	5.958E-01	8.658E-01	1.544E-01	0.327
		94.67		2.924E-01	1.429E-01	2.326E-01	1.656E-02	1.257
		98.44		6.710E-02	7.326E-02	1.240E-01	8.555E-03	0.541
		111.00		-1.009E-01	1.464E-01	2.293E-01	1.476E-02	-0.440
		160.31	*	-4.452E-02	8.057E-02	1.261E-01	6.612E-03	-0.353

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		7.623E-02	1.633E-01	2.716E-01	1.859E-02	0.281
		117.00	*	-1.143E-01	1.914E-01	3.049E-01	1.924E-02	-0.375
	+	209.75		2.359E+00	1.247E+00	1.523E+00	8.156E-02	1.550
		228.18		4.082E-02	2.263E-01	3.866E-01	2.109E-02	0.106
	+	277.60		4.579E-01	2.586E-01	3.380E-01	1.907E-02	1.355
		334.30		1.620E-01	1.533E+00	2.245E+00	1.273E-01	0.072
AM-241		59.54	*	1.064E-01	1.740E-01	2.734E-01	1.943E-02	0.389
CM-243		99.55		7.847E-02	1.681E-01	2.796E-01	1.913E-02	0.281
		103.76	*	-3.977E-02	1.018E-01	1.652E-01	1.100E-02	-0.241
		117.00		-1.176E-01	1.970E-01	3.138E-01	1.980E-02	-0.375
	+	209.75		2.326E+00	1.230E+00	1.501E+00	8.042E-02	1.550
		228.18		4.125E-02	2.287E-01	3.907E-01	2.132E-02	0.106
	+	277.60		4.618E-01	2.607E-01	3.409E-01	1.923E-02	1.355
AM-246		798.80		-6.525E-02	1.695E-01	2.263E-01	1.714E-02	-0.288
		1036.00		-3.073E-01	3.504E-01	5.363E-01	3.860E-02	-0.573
		1062.04		5.397E-02	2.563E-01	4.339E-01	3.001E-02	0.124
		1078.86	*	-8.260E-03	1.665E-01	2.764E-01	1.858E-02	-0.030
CM-247	+	278.00		1.899E+00	1.072E+00	1.384E+00	7.812E-02	1.372
		287.40		1.005E-01	1.287E+00	2.159E+00	1.222E-01	0.047
		402.60	*	-3.490E-02	4.171E-02	6.404E-02	3.552E-03	-0.545
CF-249		252.85		1.862E-01	9.057E-01	1.540E+00	8.572E-02	0.121
		333.44		6.161E-02	2.013E-01	2.997E-01	1.700E-02	0.206
		387.95	*	4.758E-02	4.410E-02	7.703E-02	4.234E-03	0.618
CF-251		176.60	*	-5.102E-03	1.320E-01	2.111E-01	1.092E-02	-0.024
		227.00		1.601E-01	3.937E-01	6.792E-01	3.701E-02	0.236
		285.00		-2.673E-01	1.902E+00	3.154E+00	1.784E-01	-0.085

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]G245107014
* Acquisition date   : 1-FEB-2010 13:30:23 Detector SN#      :
* Detector ID        : GAM12 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.40 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107014 Analyst initials: MXR1
* Batch Number       : 944038 Sample Quantity : 1.1323E+02 GRAM
* Recovery           : 1.00000 Carrier Weight : 0.00000
*****
*                               QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope      :
* MSD DPM            : 0.000 MSD Isotope      :
* LCS DPM            : 0.000 LCS Isotope      :
* LCSD DPM           : 0.000 LCSD Isotope     :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.304E+01	2.299E+00	5.881E-01	0.000E+00
CD-109	4.381E+00	1.082E+00	1.274E+00	0.000E+00
SN-126	4.280E-01	1.058E-01	1.251E-01	0.000E+00
BA-137M	5.058E-01	8.361E-02	6.902E-02	0.000E+00
CS-137	5.347E-01	8.843E-02	7.296E-02	0.000E+00
TL-208	5.240E-01	9.644E-02	6.065E-02	0.000E+00
BI-211	4.248E+00	5.426E-01	3.547E-01	0.000E+00
PB-212	1.695E+00	1.654E-01	9.776E-02	0.000E+00
PO-212	1.695E+00	1.654E-01	9.776E-02	0.000E+00
BI-214	1.240E+00	1.992E-01	1.144E-01	0.000E+00
PB-214	1.478E+00	2.033E-01	1.262E-01	0.000E+00
PO-214	1.478E+00	2.033E-01	1.262E-01	0.000E+00
PO-216	1.695E+00	1.654E-01	9.776E-02	0.000E+00
PO-218	1.478E+00	2.033E-01	1.262E-01	0.000E+00
RA-224	4.725E+00	1.235E+00	1.113E+00	0.000E+00
RA-226	1.240E+00	1.992E-01	1.144E-01	0.000E+00
AC-228	1.718E+00	3.540E-01	2.334E-01	0.000E+00
RA-228	1.718E+00	3.540E-01	2.334E-01	0.000E+00
TH-228	1.727E+00	1.685E-01	9.964E-02	0.000E+00
TH-230	1.240E+00	1.992E-01	1.144E-01	0.000E+00
TH-232	1.718E+00	3.540E-01	2.334E-01	0.000E+00
PA-234M	5.332E+00	6.597E+00	6.386E+00	0.000E+00
TH-234	2.651E+00	2.101E+00	2.323E+00	0.000E+00
U-234	1.240E+00	1.992E-01	1.144E-01	0.000E+00
NP-237	1.257E+00	4.013E-01	4.588E-01	0.000E+00
U-238	2.651E+00	2.101E+00	2.323E+00	0.000E+00
AM-243	3.572E-01	7.438E-02	9.686E-02	0.000E+00
ANH-511	9.927E-02	8.516E-02	4.778E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)
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BE-7	-2.982E-01	3.680E-01	5.561E-01	0.000E+00	NOT IDENT.
NA-22	1.608E-02	4.974E-02	8.584E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.591E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.301E-02	2.705E-02	3.505E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.975E-02	8.079E-02	0.000E+00	FAIL ABUN
SC-46	-3.527E-02	4.419E-02	6.662E-02	0.000E+00	FAIL ABUN
V-48	6.469E-02	7.883E-02	1.416E-01	0.000E+00	NOT IDENT.
CR-51	-2.308E-01	4.130E-01	6.801E-01	0.000E+00	NOT IDENT.
MN-52	-1.800E-01	3.755E-01	5.692E-01	0.000E+00	NOT IDENT.
MN-54	-4.498E-02	4.283E-02	6.409E-02	0.000E+00	NOT IDENT.
CO-56	-1.416E-02	4.269E-02	6.845E-02	0.000E+00	FAIL ABUN
CO-57	2.810E-03	2.608E-02	4.455E-02	0.000E+00	NOT IDENT.
CO-58	-2.457E-02	4.087E-02	5.970E-02	0.000E+00	NOT IDENT.
FE-59	-1.432E-03	1.136E-01	1.923E-01	0.000E+00	NOT IDENT.
CO-60	-3.020E-02	4.162E-02	6.243E-02	0.000E+00	NOT IDENT.
ZN-65	-3.325E-02	1.136E-01	1.591E-01	0.000E+00	NOT IDENT.
GE-68	-1.760E-01	1.419E+00	2.382E+00	0.000E+00	NOT IDENT.
AS-73	2.047E-01	8.821E-01	1.583E+00	0.000E+00	NOT IDENT.
AS-74	-3.327E-02	1.114E-01	1.865E-01	0.000E+00	NOT IDENT.
SE-75	-1.830E-02	4.840E-02	7.163E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.407E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-3.805E-01	4.347E-01	6.627E-01	0.000E+00	NOT IDENT.
RB-83	1.521E-02	7.472E-02	1.246E-01	0.000E+00	NOT IDENT.
RB-84	-3.160E-02	8.306E-02	1.296E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	7.669E+00	1.349E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	4.098E-02	7.209E-02	0.000E+00	NOT IDENT.
RB-86	-2.277E-01	1.022E+00	1.700E+00	0.000E+00	NOT IDENT.
Y-88	-1.619E-02	4.641E-02	7.329E-02	0.000E+00	NOT IDENT.
ZR-88	-3.820E-02	3.340E-02	5.140E-02	0.000E+00	NOT IDENT.
Y-91	-7.084E+00	2.223E+01	3.630E+01	0.000E+00	NOT IDENT.
NB-94	7.226E-03	3.601E-02	6.180E-02	0.000E+00	NOT IDENT.
NB-95	9.532E-02	5.604E-02	9.579E-02	0.000E+00	NOT IDENT.
NB-95M	8.667E-02	1.450E-01	2.319E-01	0.000E+00	NOT IDENT.
ZR-95	9.996E-02	8.238E-02	1.514E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.023E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.135E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.446E+01	3.472E+01	6.033E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.153E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.550E-03	3.595E-02	5.772E-02	0.000E+00	FAIL ABUN
RH-102	-1.109E-02	2.999E-02	4.800E-02	0.000E+00	FAIL ABUN
RU-103	-8.778E-03	4.513E-02	7.300E-02	0.000E+00	FAIL ABUN
RH-106	1.344E-02	3.472E-01	5.945E-01	0.000E+00	FAIL ABUN
RU-106	1.344E-02	3.472E-01	5.945E-01	0.000E+00	FAIL ABUN
AG-108M	1.147E-02	3.477E-02	5.928E-02	0.000E+00	NOT IDENT.
AG-110M	1.293E-02	4.431E-02	6.748E-02	0.000E+00	NOT IDENT.
IN-111	-1.702E+00	3.041E+00	4.480E+00	0.000E+00	NOT IDENT.
IN-113M	-3.053E-03	4.701E-02	7.860E-02	0.000E+00	NOT IDENT.
SN-113	-3.053E-03	4.701E-02	7.860E-02	0.000E+00	NOT IDENT.
IN-114M	1.203E-01	2.325E-01	3.522E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.312E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-1.071E-02	6.574E-02	1.089E-01	0.000E+00	NOT IDENT.
SB-122	3.866E+00	6.186E+00	1.110E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.255E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-8.517E-03	2.813E-02	4.625E-02	0.000E+00	NOT IDENT.
I-124	2.494E-01	1.486E+00	2.253E+00	0.000E+00	NOT IDENT.
SB-124	-9.220E-03	8.082E-02	1.335E-01	0.000E+00	FAIL ABUN
SB-125	6.569E-02	1.015E-01	1.767E-01	0.000E+00	FAIL ABUN
TE-125M	8.956E-01	9.907E+00	1.702E+01	0.000E+00	NOT IDENT.
I-126	2.692E-01	2.379E-01	3.989E-01	0.000E+00	NOT IDENT.
SB-126	7.051E-02	2.129E-01	3.237E-01	0.000E+00	FAIL ABUN
SB-127	1.361E-01	3.040E+00	5.165E+00	0.000E+00	NOT IDENT.
XE-127	-3.582E-02	5.339E-02	8.447E-02	0.000E+00	NOT IDENT.
I-131	-8.183E-02	1.601E-01	2.606E-01	0.000E+00	NOT IDENT.
TE-132	2.776E-01	1.573E+00	2.773E+00	0.000E+00	NOT IDENT.
BA-133	-1.492E-02	5.357E-02	7.759E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.615E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	7.172E-02	1.079E-01	0.000E+00	FAIL ABUN
CS-135	2.901E-01	1.837E-01	3.015E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.253E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.126E-02	1.401E-01	2.420E-01	0.000E+00	FAIL ABUN
CE-139	-1.617E-02	3.006E-02	4.865E-02	0.000E+00	NOT IDENT.
BA-140	2.936E-02	3.221E-01	5.603E-01	0.000E+00	NOT IDENT.
LA-140	-2.977E-02	1.190E-01	1.949E-01	0.000E+00	NOT IDENT.
CE-141	3.995E-02	6.802E-02	1.174E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.795E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.886E-02	2.181E-01	3.559E-01	0.000E+00	NOT IDENT.
PM-144	-7.460E-03	3.697E-02	6.145E-02	0.000E+00	NOT IDENT.

PR-144	-5.065E-01	2.510E+00	4.173E+00	0.000E+00	NOT IDENT.
PM-146	1.276E-02	4.663E-02	7.892E-02	0.000E+00	NOT IDENT.
ND-147	4.593E-01	8.046E-01	1.374E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.387E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-8.071E-02	1.086E-01	1.501E-01	0.000E+00	NOT IDENT.
GD-153	-3.247E-02	9.138E-02	1.368E-01	0.000E+00	NOT IDENT.
EU-154	4.882E-02	1.391E-01	2.406E-01	0.000E+00	NOT IDENT.
EU-155	1.801E-01	1.106E-01	2.015E-01	0.000E+00	FAIL ABUN
TB-160	1.053E-01	1.454E-01	2.587E-01	0.000E+00	FAIL ABUN
HO-166M	1.735E-02	6.449E-02	1.112E-01	0.000E+00	FAIL ABUN
TM-171	-1.214E+01	3.274E+01	5.089E+01	0.000E+00	NOT IDENT.
LU-176	1.329E-02	2.481E-02	4.376E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.591E+00	3.299E+00	0.000E+00	FAIL ABUN
LU-177M	-3.132E-02	1.891E-01	3.124E-01	0.000E+00	FAIL ABUN
HF-181	6.869E-04	4.691E-02	7.750E-02	0.000E+00	NOT IDENT.
W-181	1.995E-01	4.183E-01	6.774E-01	0.000E+00	NOT IDENT.
TA-182	2.356E-02	2.302E-01	3.899E-01	0.000E+00	FAIL ABUN
RE-183	5.411E-02	1.147E-01	1.922E-01	0.000E+00	FAIL ABUN
RE-184	5.043E-02	2.404E-01	4.217E-01	0.000E+00	NOT IDENT.
OS-185	6.700E-02	4.605E-02	8.695E-02	0.000E+00	NOT IDENT.
RE-188	6.973E-02	1.835E-01	3.124E-01	0.000E+00	NOT IDENT.
W-188	-5.690E+00	8.563E+00	1.225E+01	0.000E+00	FAIL ABUN
IR-192	-1.478E-02	3.625E-02	6.037E-02	0.000E+00	FAIL ABUN
AU-195	1.432E-01	2.359E-01	4.102E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.445E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-4.654E+00	1.695E+01	2.780E+01	0.000E+00	NOT IDENT.
TL-202	-6.423E-03	9.108E-02	1.507E-01	0.000E+00	NOT IDENT.
HG-203	-2.019E-02	5.120E-02	7.552E-02	0.000E+00	NOT IDENT.
BI-207	-2.144E-02	5.791E-02	9.444E-02	0.000E+00	FAIL ABUN
TL-207	6.622E-01	7.596E-01	1.207E+00	0.000E+00	FAIL ABUN
PO-209	-3.984E+00	8.416E+00	1.322E+01	0.000E+00	NOT IDENT.
BI-210	3.351E+00	3.432E+00	6.293E+00	0.000E+00	NOT IDENT.
PB-210	3.351E+00	3.432E+00	6.293E+00	0.000E+00	NOT IDENT.
PO-210	3.351E+00	3.429E+00	6.293E+00	0.000E+00	NOT IDENT.
PB-211	-1.303E-01	1.015E+00	1.681E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.829E-01	7.351E-01	0.000E+00	FAIL ABUN
PO-215	6.622E-01	7.596E-01	1.207E+00	0.000E+00	FAIL ABUN
RN-219	-1.961E-01	4.521E-01	7.345E-01	0.000E+00	FAIL ABUN
RN-220	7.720E+00	2.706E+01	4.764E+01	0.000E+00	NOT IDENT.
RA-223	6.622E-01	7.596E-01	1.207E+00	0.000E+00	FAIL ABUN
AC-227	-1.923E-01	3.770E-01	6.351E-01	0.000E+00	FAIL ABUN
TH-227	-1.923E-01	3.774E-01	6.351E-01	0.000E+00	FAIL ABUN
TH-229	7.774E-02	5.296E-01	8.787E-01	0.000E+00	FAIL ABUN
PA-231	1.998E+00	1.687E+00	2.960E+00	0.000E+00	FAIL ABUN
TH-231	6.622E-01	7.596E-01	1.207E+00	0.000E+00	FAIL ABUN
U-231	-2.004E-01	2.220E+00	3.414E+00	0.000E+00	FAIL ABUN
PA-233	-3.555E-02	6.577E-02	1.088E-01	0.000E+00	FAIL ABUN
PA-234	2.242E-01	3.252E-01	5.684E-01	0.000E+00	FAIL ABUN
U-235	-1.014E-02	2.215E-01	3.668E-01	0.000E+00	FAIL ABUN
NP-236	-4.452E-02	7.896E-02	1.280E-01	0.000E+00	NOT IDENT.
NP-239	-1.143E-01	1.876E-01	3.103E-01	0.000E+00	FAIL ABUN
AM-241	1.064E-01	1.705E-01	2.799E-01	0.000E+00	NOT IDENT.
CM-243	-3.977E-02	9.976E-02	1.683E-01	0.000E+00	FAIL ABUN
AM-246	-8.260E-03	1.631E-01	2.758E-01	0.000E+00	NOT IDENT.
CM-247	-3.490E-02	4.088E-02	6.448E-02	0.000E+00	FAIL ABUN
CF-249	4.758E-02	4.322E-02	7.758E-02	0.000E+00	NOT IDENT.
CF-251	-5.102E-03	1.294E-01	2.141E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107014.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:23.
Sample ID          : G245107014 Sample quantity : 1.13230E+02 GRAM
Detector name      : GAM12 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.40 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	844	10.67*	1.138E+00	2.304E+01	2.304E+01	10.18
CD-109	88.03	270	3.72*	5.642E+00	4.257E+00	4.381E+00	25.22
SN-126	64.28	97	9.60	3.190E+00	1.050E+00	1.050E+00	80.26
	86.94	270	8.90	5.642E+00	1.779E+00	1.779E+00	47.67
	87.57	270	37.00*	5.642E+00	4.280E-01	4.280E-01	25.22
BA-137M	661.65	309	89.98*	2.253E+00	5.052E-01	5.058E-01	16.87
CS-137	661.65	309	85.12*	2.253E+00	5.341E-01	5.347E-01	16.88
TL-208	277.35	88	6.80	4.505E+00	9.495E-01	9.495E-01	57.15
	510.84	84	21.60	2.795E+00	4.596E-01	4.596E-01	87.93
	583.14	333	84.20*	2.505E+00	5.240E-01	5.240E-01	18.78
	860.37	-----	12.46	1.795E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	4.387E+00	-----	Line Not Found	-----
	351.07	624	12.94*	3.764E+00	4.248E+00	4.248E+00	13.04
PB-212	74.81	326	10.70	4.590E+00	2.203E+00	2.203E+00	23.21
	77.11	543	18.00	4.818E+00	2.076E+00	2.076E+00	15.91
	87.30	270	8.00	5.642E+00	1.980E+00	1.980E+00	27.13
	238.63	1144	44.60*	5.017E+00	1.695E+00	1.695E+00	9.96
	300.09	104	3.41	4.250E+00	2.376E+00	2.376E+00	43.28
PO-212	74.81	326	10.70	4.590E+00	2.203E+00	2.203E+00	23.21
	77.11	543	18.00	4.818E+00	2.076E+00	2.076E+00	15.91
	87.30	270	8.00	5.642E+00	1.980E+00	1.980E+00	27.13
	115.19	-----	0.60	6.604E+00	-----	Line Not Found	-----
	238.63	1144	44.60*	5.017E+00	1.695E+00	1.695E+00	9.96
	300.09	104	3.41	4.250E+00	2.376E+00	2.376E+00	43.28
BI-214	609.31	418	46.30*	2.415E+00	1.240E+00	1.240E+00	16.39
	1120.29	108	15.10	1.423E+00	1.666E+00	1.666E+00	31.23
	1764.49	88	15.80	9.906E-01	1.867E+00	1.867E+00	23.58
PB-214	74.81	326	6.21	4.590E+00	3.796E+00	3.797E+00	22.50
	77.11	543	10.50	4.818E+00	3.559E+00	3.560E+00	17.64
	87.30	270	4.67	5.642E+00	3.391E+00	3.391E+00	26.37
	241.98	280	7.49	4.973E+00	2.492E+00	2.492E+00	27.26
	295.21	369	19.20	4.303E+00	1.481E+00	1.481E+00	16.13

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	351.92	624	37.20*	3.764E+00	1.478E+00	1.478E+00	14.04
	74.81	326	6.21	4.590E+00	3.796E+00	3.797E+00	22.50
	77.11	543	10.50	4.818E+00	3.559E+00	3.560E+00	17.64
	87.30	270	4.67	5.642E+00	3.391E+00	3.391E+00	26.37
	241.98	280	7.49	4.973E+00	2.492E+00	2.492E+00	27.26
PO-216	295.21	369	19.20	4.303E+00	1.481E+00	1.481E+00	16.13
	351.92	624	37.20*	3.764E+00	1.478E+00	1.478E+00	14.04
	74.81	326	10.70	4.590E+00	2.203E+00	2.203E+00	23.21
	77.11	543	18.00	4.818E+00	2.076E+00	2.076E+00	15.91
	87.30	270	8.00	5.642E+00	1.980E+00	1.980E+00	27.13
PO-218	238.63	1144	44.60*	5.017E+00	1.695E+00	1.695E+00	9.96
	300.09	104	3.41	4.250E+00	2.376E+00	2.376E+00	43.28
	74.81	326	6.21	4.590E+00	3.796E+00	3.797E+00	22.50
	77.11	543	10.50	4.818E+00	3.559E+00	3.560E+00	17.64
	87.30	270	4.67	5.642E+00	3.391E+00	3.391E+00	26.37
RA-224	241.98	280	7.49	4.973E+00	2.492E+00	2.492E+00	27.26
	295.21	369	19.20	4.303E+00	1.481E+00	1.481E+00	16.13
	351.92	624	37.20*	3.764E+00	1.478E+00	1.478E+00	14.04
	240.98	280	3.95*	4.973E+00	4.725E+00	4.725E+00	26.68
	609.31	418	46.30*	2.415E+00	1.240E+00	1.240E+00	16.39
AC-228	1120.29	108	15.10	1.423E+00	1.666E+00	1.666E+00	31.23
	1764.49	88	15.80	9.906E-01	1.867E+00	1.867E+00	23.58
	338.32	269	11.40	3.877E+00	2.014E+00	2.014E+00	47.99
	911.07	245	27.70*	1.707E+00	1.718E+00	1.718E+00	21.02
	969.11	140	16.60	1.617E+00	1.727E+00	1.727E+00	38.52
RA-228	338.32	269	11.40	3.877E+00	2.014E+00	2.014E+00	47.99
	911.07	245	27.70*	1.707E+00	1.718E+00	1.718E+00	21.02
	969.11	140	16.60	1.617E+00	1.727E+00	1.727E+00	38.52
	74.81	326	10.70	4.590E+00	2.203E+00	2.246E+00	21.28
	77.11	543	18.00	4.818E+00	2.076E+00	2.116E+00	15.91
TH-228	87.30	270	8.00	5.642E+00	1.980E+00	2.018E+00	25.22
	238.63	1144	44.60*	5.017E+00	1.695E+00	1.727E+00	9.96
	300.09	104	3.41	4.250E+00	2.376E+00	2.422E+00	72.66
	609.31	418	46.30*	2.415E+00	1.240E+00	1.240E+00	16.39
	1120.29	108	15.10	1.423E+00	1.666E+00	1.666E+00	31.23
TH-230	1764.49	88	15.80	9.906E-01	1.867E+00	1.867E+00	23.58
	338.32	269	11.40	3.877E+00	2.014E+00	2.014E+00	25.97
	911.07	245	27.70*	1.707E+00	1.718E+00	1.718E+00	21.02
	969.11	140	16.60	1.617E+00	1.727E+00	1.727E+00	38.52
	766.42	54	0.32	1.983E+00	2.832E+01	2.832E+01	84.02
PA-234M	1001.03	21	0.84*	1.571E+00	5.332E+00	5.332E+00	126.24
	63.29	97	3.80*	3.190E+00	2.651E+00	2.651E+00	80.84
	92.38	323	5.41	5.973E+00	3.309E+00	3.309E+00	30.48
	609.31	418	46.30*	2.415E+00	1.240E+00	1.240E+00	16.39
	1120.29	108	15.10	1.423E+00	1.666E+00	1.666E+00	31.23
U-234	1764.49	88	15.80	9.906E-01	1.867E+00	1.867E+00	23.58
	86.50	270	12.60*	5.642E+00	1.257E+00	1.257E+00	32.58
	95.87	-----	2.60	6.124E+00	-----	Line Not Found	-----
	63.29	97	3.80*	3.190E+00	2.651E+00	2.651E+00	80.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	92.38	323	5.41	5.973E+00	3.309E+00	3.309E+00	26.00
AM-243	74.67	326	66.00*	4.590E+00	3.572E-01	3.572E-01	21.25
	86.72	270	0.34	5.642E+00	4.713E+01	4.713E+01	25.22
	117.66	-----	0.55	6.624E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.534E+00	-----	Line Not Found	-----
ANH-511	511.00	84	100.00*	2.795E+00	9.927E-02	9.927E-02	87.53

Flag: "*" = Keyline

Total number of lines in spectrum 34
Number of unidentified lines 2
Number of lines tentatively identified by NID 32 94.12%

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	2.304E+01	2.304E+01	0.235E+01	10.18	
CD-109	464.00D	1.03	4.257E+00	4.381E+00	1.105E+00	25.22	
SN-126	1.00E+05Y	1.00	4.280E-01	4.280E-01	1.079E-01	25.22	
BA-137M	30.17Y	1.00	5.052E-01	5.058E-01	0.853E-01	16.87	
CS-137	30.17Y	1.00	5.341E-01	5.347E-01	0.902E-01	16.88	
TL-208	1.41E+10Y	1.00	5.240E-01	5.240E-01	0.984E-01	18.78	
BI-211	7.04E+08Y	1.00	4.248E+00	4.248E+00	0.554E+00	13.04	
PB-212	1.41E+10Y	1.00	1.695E+00	1.695E+00	0.169E+00	9.96	
PO-212	1.41E+10Y	1.00	1.695E+00	1.695E+00	0.169E+00	9.96	
BI-214	1600.00Y	1.00	1.240E+00	1.240E+00	0.203E+00	16.39	
PB-214	1600.00Y	1.00	1.478E+00	1.478E+00	0.207E+00	14.04	
PO-214	1600.00Y	1.00	1.478E+00	1.478E+00	0.207E+00	14.04	
PO-216	1.41E+10Y	1.00	1.695E+00	1.695E+00	0.169E+00	9.96	
PO-218	1600.00Y	1.00	1.478E+00	1.478E+00	0.207E+00	14.04	
RA-224	1.41E+10Y	1.00	4.725E+00	4.725E+00	1.260E+00	26.68	
RA-226	1600.00Y	1.00	1.240E+00	1.240E+00	0.203E+00	16.39	
AC-228	1.41E+10Y	1.00	1.718E+00	1.718E+00	0.361E+00	21.02	
RA-228	1.41E+10Y	1.00	1.718E+00	1.718E+00	0.361E+00	21.02	
TH-228	1.91Y	1.02	1.695E+00	1.727E+00	0.172E+00	9.96	
TH-230	4.47E+09Y	1.00	1.240E+00	1.240E+00	0.203E+00	16.39	
TH-232	1.41E+10Y	1.00	1.718E+00	1.718E+00	0.361E+00	21.02	
PA-234M	4.47E+09Y	1.00	5.332E+00	5.332E+00	6.731E+00	126.24	
TH-234	4.47E+09Y	1.00	2.651E+00	2.651E+00	2.143E+00	80.84	
U-234	4.47E+09Y	1.00	1.240E+00	1.240E+00	0.203E+00	16.39	
NP-237	2.14E+06Y	1.00	1.257E+00	1.257E+00	0.410E+00	32.58	
U-238	4.47E+09Y	1.00	2.651E+00	2.651E+00	2.143E+00	80.84	
AM-243	7380.00Y	1.00	3.572E-01	3.572E-01	0.759E-01	21.25	
ANH-511	1.00E+09Y	1.00	9.927E-02	9.927E-02	8.690E-02	87.53	

Total Activity : 7.194E+01 7.209E+01

Grand Total Activity : 7.194E+01 7.209E+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	89.87	176	241	1.11	179.24	177	13	2.44E-02	30.6	5.82E+00	T
0	128.39	62	347	0.67	256.33	253	9	8.61E-03	****	6.64E+00	T
0	185.69	187	306	0.89	370.98	367	9	2.59E-02	38.6	5.86E+00	T
0	209.08	126	267	1.61	417.78	413	10	1.75E-02	52.6	5.47E+00	T
3	269.85	125	145	1.64	539.39	534	26	1.73E-02	42.1	4.60E+00	T
0	327.12	74	155	0.85	653.97	649	10	1.02E-02	67.6	3.98E+00	
0	462.46	72	110	0.97	924.76	919	11	9.98E-03	61.3	3.03E+00	T
0	727.74	67	89	1.60	1455.44	1448	14	9.24E-03	65.5	2.08E+00	T
0	794.48	60	48	1.46	1588.95	1583	12	8.32E-03	53.0	1.92E+00	T
0	1238.05	26	56	1.43	2476.16	2472	12	3.64E-03	****	1.30E+00	T
0	1728.58	31	0	0.77	3457.06	3449	14	4.31E-03	35.9	1.00E+00	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107014.CNF;1
* Acquisition date   : 1-FEB-2010 13:30:23.  Detector SN#      :
* Detector ID        : GAM12                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.40             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107014             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.13230E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24.5MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                 LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.304E+01	2.346E+00	5.907E-01	4.212E-02	39.002
CD-109	4.381E+00	1.105E+00	1.249E+00	9.555E-02	3.508
SN-126	4.280E-01	1.079E-01	1.226E-01	9.343E-03	3.492
BA-137M	5.058E-01	8.532E-02	6.886E-02	4.464E-03	7.346
CS-137	5.347E-01	9.023E-02	7.279E-02	4.734E-03	7.346
TL-208	5.240E-01	9.840E-02	6.044E-02	4.323E-03	8.670
BI-211	4.248E+00	5.537E-01	3.518E-01	2.212E-02	12.073
PB-212	1.695E+00	1.687E-01	9.666E-02	6.864E-03	17.532
PO-212	1.695E+00	1.687E-01	9.666E-02	6.864E-03	17.532
BI-214	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
PB-214	1.478E+00	2.075E-01	1.252E-01	1.023E-02	11.803
PO-214	1.478E+00	2.075E-01	1.252E-01	1.023E-02	11.803
PO-216	1.695E+00	1.687E-01	9.666E-02	6.864E-03	17.532
PO-218	1.478E+00	2.075E-01	1.252E-01	1.023E-02	11.803
RA-224	4.725E+00	1.260E+00	1.100E+00	6.069E-02	4.294
RA-226	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
AC-228	1.718E+00	3.613E-01	2.335E-01	2.564E-02	7.359
RA-228	1.718E+00	3.613E-01	2.335E-01	2.564E-02	7.359

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.727E+00	1.720E-01	9.852E-02	6.995E-03	17.532
TH-230	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
TH-232	1.718E+00	3.613E-01	2.335E-01	2.564E-02	7.359
PA-234M	5.332E+00	6.731E+00	6.394E+00	5.787E-01	0.834
TH-234	2.651E+00	2.143E+00	2.271E+00	3.866E-01	1.168
U-234	1.240E+00	2.033E-01	1.140E-01	9.388E-03	10.876
NP-237	1.257E+00	4.095E-01	4.498E-01	9.881E-02	2.795
U-238	2.651E+00	2.143E+00	2.271E+00	3.866E-01	1.168
AM-243	3.572E-01	7.590E-02	9.482E-02	6.443E-03	3.767
ANH-511	9.927E-02	8.690E-02	4.756E-02	2.899E-03	2.087

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.982E-01		3.755E-01	5.531E-01	3.806E-02	-0.539
NA-22	1.608E-02		5.076E-02	8.613E-02	5.547E-03	0.187
NA-24	5.411E+01		2.853E+01	Half-Life	too short	
AL-26	-2.301E-02		2.761E-02	3.527E-02	2.024E-03	-0.652
TI-44	3.832E-01	+	6.096E-02	7.913E-02	5.535E-03	4.843
SC-46	-3.527E-02		4.509E-02	6.663E-02	5.523E-03	-0.529
V-48	6.469E-02		8.044E-02	1.418E-01	1.092E-02	0.456
CR-51	-2.308E-01		4.214E-01	6.741E-01	4.286E-02	-0.342
MN-52	-1.800E-01		3.831E-01	5.717E-01	3.927E-02	-0.315
MN-54	-4.498E-02		4.370E-02	6.406E-02	5.036E-03	-0.702
CO-56	-1.416E-02		4.356E-02	6.843E-02	5.444E-03	-0.207
CO-57	2.810E-03		2.661E-02	4.380E-02	2.739E-03	0.064
CO-58	-2.457E-02		4.171E-02	5.966E-02	4.591E-03	-0.412
FE-59	-1.432E-03		1.159E-01	1.927E-01	1.423E-02	-0.007
CO-60	-3.020E-02		4.247E-02	6.266E-02	4.377E-03	-0.482
ZN-65	-3.325E-02		1.160E-01	1.594E-01	1.003E-02	-0.209
GE-68	-1.760E-01		1.448E+00	2.387E+00	1.609E-01	-0.074
AS-73	2.047E-01		9.001E-01	1.545E+00	9.977E-02	0.132
AS-74	-3.327E-02		1.137E-01	1.859E-01	1.183E-02	-0.179
SE-75	-1.830E-02		4.939E-02	7.089E-02	4.018E-03	-0.258
BR-77	1.344E-05		1.738E-05	Half-Life	too short	
SR-82	-3.805E-01		4.435E-01	6.620E-01	4.898E-02	-0.575
RB-83	1.521E-02		7.625E-02	1.241E-01	7.606E-03	0.123
RB-84	-3.160E-02		8.475E-02	1.296E-01	1.066E-02	-0.244
KR-85	1.652E+01		7.825E+00	1.343E+01	8.199E-01	1.230
SR-85	8.829E-02		4.182E-02	7.175E-02	4.382E-03	1.230
RB-86	-2.277E-01		1.043E+00	1.703E+00	1.150E-01	-0.134
Y-88	-1.619E-02		4.736E-02	7.377E-02	4.153E-03	-0.220
ZR-88	-3.820E-02		3.408E-02	5.104E-02	2.800E-03	-0.748
Y-91	-7.084E+00		2.269E+01	3.641E+01	2.105E+00	-0.195
NB-94	7.226E-03		3.674E-02	6.168E-02	4.201E-03	0.117
NB-95	9.532E-02		5.718E-02	9.567E-02	6.998E-03	0.996
NB-95M	8.667E-02		1.480E-01	2.293E-01	1.673E-02	0.378

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	9.996E-02		8.406E-02	1.512E-01	1.249E-02	0.661
NB-97	2.873E+00		3.073E+00	Half-Life too short		
ZR-97	1.233E+02		5.793E+01	Half-Life too short		
MO-99	1.446E+01		3.543E+01	6.024E+01	8.662E+00	0.240
TC-99M	-4.373E+14		1.098E+15	Half-Life too short		
RH-101	-4.550E-03		3.668E-02	5.698E-02	3.014E-03	-0.080
RH-102	-1.109E-02		3.060E-02	4.774E-02	2.835E-03	-0.232
RU-103	-8.778E-03		4.605E-02	7.264E-02	9.265E-03	-0.121
RH-106	1.344E-02		3.543E-01	5.928E-01	7.147E-02	0.023
RU-106	1.344E-02		3.543E-01	5.928E-01	3.806E-02	0.023
AG-108M	1.147E-02		3.548E-02	5.892E-02	3.672E-03	0.195
AG-110M	1.293E-02		4.521E-02	6.731E-02	4.587E-03	0.192
IN-111	-1.702E+00		3.103E+00	4.431E+00	2.453E-01	-0.384
IN-113M	-3.053E-03		4.797E-02	7.805E-02	4.595E-03	-0.039
SN-113	-3.053E-03		4.797E-02	7.805E-02	4.595E-03	-0.039
IN-114M	1.203E-01		2.372E-01	3.475E-01	1.823E-02	0.346
CD-115	-1.630E-05		2.200E-05	Half-Life too short		
SN-117M	-1.071E-02		6.708E-02	1.073E-01	5.668E-03	-0.100
SB-122	3.866E+00		6.312E+00	1.105E+01	6.941E-01	0.350
I-123	-2.499E+02		4.212E+02	Half-Life too short		
TE-123M	-8.517E-03		2.871E-02	4.557E-02	2.441E-03	-0.187
I-124	2.494E-01		1.516E+00	2.245E+00	1.433E-01	0.111
SB-124	-9.220E-03		8.247E-02	1.343E-01	8.964E-03	-0.069
SB-125	6.569E-02		1.036E-01	1.756E-01	1.044E-02	0.374
TE-125M	8.956E-01		1.011E+01	1.672E+01	1.444E+00	0.054
I-126	2.692E-01		2.427E-01	3.980E-01	2.595E-02	0.676
SB-126	7.051E-02		2.172E-01	3.232E-01	2.247E-02	0.218
SB-127	1.361E-01		3.102E+00	5.154E+00	5.862E-01	0.026
XE-127	-3.582E-02		5.448E-02	8.341E-02	4.435E-03	-0.429
I-131	-8.183E-02		1.634E-01	2.586E-01	1.639E-02	-0.316
TE-132	2.776E-01		1.605E+00	2.740E+00	4.138E-01	0.101
BA-133	-1.492E-02		5.466E-02	7.698E-02	8.832E-03	-0.194
I-133	1.299E-01		8.238E-02	Half-Life too short		
CS-134	1.367E-01	+	7.318E-02	1.078E-01	8.220E-03	1.268
CS-135	2.901E-01		1.874E-01	2.984E-01	2.244E-02	0.972
I-135	2.362E+13		6.392E+13	Half-Life too short		
CS-136	2.126E-02		1.429E-01	2.424E-01	1.822E-02	0.088
CE-139	-1.617E-02		3.067E-02	4.795E-02	2.457E-03	-0.337
BA-140	2.936E-02		3.287E-01	5.579E-01	1.818E-01	0.053
LA-140	-2.977E-02		1.214E-01	1.960E-01	1.276E-02	-0.152
CE-141	3.995E-02		6.941E-02	1.156E-01	6.728E-03	0.346
CE-143	5.630E-03		9.156E-04	Half-Life too short		
CE-144	5.886E-02		2.225E-01	3.501E-01	4.984E-02	0.168
PM-144	-7.460E-03		3.772E-02	6.133E-02	4.151E-03	-0.122
PR-144	-5.065E-01		2.562E+00	4.165E+00	2.816E-01	-0.122
PM-146	1.276E-02		4.758E-02	7.847E-02	6.784E-03	0.163
ND-147	4.593E-01		8.210E-01	1.368E+00	1.872E-01	0.336
PM-149	-2.962E-04		1.728E-04	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	-8.071E-02		1.108E-01	1.489E-01	9.543E-03	-0.542
GD-153	-3.247E-02		9.325E-02	1.342E-01	9.334E-03	-0.242
EU-154	4.882E-02		1.420E-01	2.414E-01	2.352E-02	0.202
EU-155	1.801E-01		1.129E-01	1.978E-01	1.333E-02	0.910
TB-160	1.053E-01		1.483E-01	2.587E-01	2.124E-02	0.407
HO-166M	1.735E-02		6.580E-02	1.110E-01	7.643E-03	0.156
TM-171	-1.214E+01		3.341E+01	4.977E+01	3.221E+00	-0.244
LU-176	1.329E-02		2.531E-02	4.337E-02	2.465E-03	0.306
LU-177	5.000E+00	+	2.644E+00	3.258E+00	1.743E-01	1.535
LU-177M	-3.132E-02		1.930E-01	3.104E-01	1.742E-02	-0.101
HF-181	6.869E-04		4.786E-02	7.709E-02	4.603E-03	0.009
W-181	1.995E-01		4.269E-01	6.624E-01	4.256E-02	0.301
TA-182	2.356E-02		2.349E-01	3.910E-01	2.320E-02	0.060
RE-183	5.411E-02		1.170E-01	1.894E-01	9.845E-03	0.286
RE-184	5.043E-02		2.453E-01	4.172E-01	2.322E-02	0.121
OS-185	6.700E-02		4.699E-02	8.679E-02	5.604E-03	0.773
RE-188	6.973E-02		1.872E-01	3.077E-01	1.650E-02	0.227
W-188	-5.690E+00		8.737E+00	1.214E+01	6.879E-01	-0.469
IR-192	-1.478E-02		3.699E-02	5.984E-02	3.420E-03	-0.247
AU-195	1.432E-01		2.407E-01	4.026E-01	2.768E-02	0.356
TL-200	2.773E-03		2.778E-03	Half-Life too short		
TL-201	-4.654E+00		1.730E+01	2.741E+01	1.405E+00	-0.170
TL-202	-6.423E-03		9.294E-02	1.498E-01	8.626E-03	-0.043
HG-203	-2.019E-02		5.225E-02	7.477E-02	4.496E-03	-0.270
BI-207	-2.144E-02		5.909E-02	9.460E-02	6.526E-03	-0.227
TL-207	6.622E-01		7.751E-01	1.197E+00	1.972E-01	0.553
PO-209	-3.984E+00		8.588E+00	1.322E+01	1.104E+00	-0.301
BI-210	3.351E+00		3.502E+00	6.136E+00	4.622E-01	0.546
PB-210	3.351E+00		3.502E+00	6.136E+00	4.622E-01	0.546
PO-210	3.351E+00		3.499E+00	6.136E+00	3.935E-01	0.546
PB-211	-1.303E-01		1.036E+00	1.669E+00	1.040E+00	-0.078
BI-212	9.007E-01	+	5.947E-01	7.339E-01	6.354E-02	1.227
PO-215	6.622E-01		7.751E-01	1.197E+00	1.972E-01	0.553
RN-219	-1.961E-01		4.614E-01	7.295E-01	9.846E-02	-0.269
RN-220	7.720E+00		2.761E+01	4.744E+01	2.958E+00	0.163
RA-223	6.622E-01		7.751E-01	1.197E+00	1.972E-01	0.553
AC-227	-1.923E-01		3.847E-01	6.284E-01	8.715E-02	-0.306
TH-227	-1.923E-01		3.851E-01	6.284E-01	1.057E-01	-0.306
TH-229	7.774E-02		5.404E-01	8.673E-01	4.566E-02	0.090
PA-231	1.998E+00		1.722E+00	2.931E+00	4.022E-01	0.682
TH-231	6.622E-01		7.751E-01	1.197E+00	1.972E-01	0.553
U-231	-2.004E-01		2.265E+00	3.349E+00	2.359E-01	-0.060
PA-233	-3.555E-02		6.711E-02	1.078E-01	6.524E-03	-0.330
PA-234	2.242E-01		3.318E-01	5.688E-01	1.052E-01	0.394
U-235	-1.014E-02		2.261E-01	3.611E-01	5.865E-02	-0.028
NP-236	-4.452E-02		8.057E-02	1.261E-01	6.612E-03	-0.353
NP-239	-1.143E-01		1.914E-01	3.049E-01	1.924E-02	-0.375
AM-241	1.064E-01		1.740E-01	2.734E-01	1.943E-02	0.389

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-3.977E-02		1.018E-01	1.652E-01	1.100E-02	-0.241
AM-246	-8.260E-03		1.665E-01	2.764E-01	1.858E-02	-0.030
CM-247	-3.490E-02		4.171E-02	6.404E-02	3.552E-03	-0.545
CF-249	4.758E-02		4.410E-02	7.703E-02	4.234E-03	0.618
CF-251	-5.102E-03		1.320E-01	2.111E-01	1.092E-02	-0.024

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]G245107014          *
* Acquisition date   : 1-FEB-2010 13:30:23 Detector SN# :                   *
* Detector ID        : GAM12 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.40 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*                                     *                                       *
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107014 Analyst initials: MXR1                  *
* Batch Number       : 944038 Sample Quantity : 1.1323E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*                                     *                                       *
* CALIB. DATE/TIME   : 10-FEB-2009 09:20:24 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.304E+01	2.299E+00	2.942E-01	1.173E+00
CD-109	4.381E+00	1.082E+00	6.372E-01	5.523E-01
SN-126	4.280E-01	1.058E-01	6.256E-02	5.396E-02
BA-137M	5.058E-01	8.361E-02	3.453E-02	4.266E-02
CS-137	5.347E-01	8.843E-02	3.650E-02	4.512E-02
TL-208	5.240E-01	9.644E-02	3.034E-02	4.920E-02
BI-211	4.248E+00	5.426E-01	1.774E-01	2.768E-01
PB-212	1.695E+00	1.654E-01	4.891E-02	8.437E-02
PO-212	1.695E+00	1.654E-01	4.891E-02	8.437E-02
BI-214	1.240E+00	1.992E-01	5.723E-02	1.016E-01
PB-214	1.478E+00	2.033E-01	6.313E-02	1.037E-01
PO-214	1.478E+00	2.033E-01	6.313E-02	1.037E-01
PO-216	1.695E+00	1.654E-01	4.891E-02	8.437E-02
PO-218	1.478E+00	2.033E-01	6.313E-02	1.037E-01
RA-224	4.725E+00	1.235E+00	5.567E-01	6.302E-01
RA-226	1.240E+00	1.992E-01	5.723E-02	1.016E-01
AC-228	1.718E+00	3.540E-01	1.168E-01	1.806E-01
RA-228	1.718E+00	3.540E-01	1.168E-01	1.806E-01
TH-228	1.727E+00	1.685E-01	4.985E-02	8.599E-02
TH-230	1.240E+00	1.992E-01	5.723E-02	1.016E-01
TH-232	1.718E+00	3.540E-01	1.168E-01	1.806E-01
PA-234M	5.332E+00	6.597E+00	3.195E+00	3.366E+00
TH-234	2.651E+00	2.101E+00	1.162E+00	1.072E+00
U-234	1.240E+00	1.992E-01	5.723E-02	1.016E-01
NP-237	1.257E+00	4.013E-01	2.296E-01	2.048E-01
U-238	2.651E+00	2.101E+00	1.162E+00	1.072E+00
AM-243	3.572E-01	7.438E-02	4.846E-02	3.795E-02
ANH-511	9.927E-02	8.516E-02	2.391E-02	4.345E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-2.982E-01	3.680E-01	2.782E-01	1.877E-01	NOT IDENT.
NA-22	1.608E-02	4.974E-02	4.295E-02	2.538E-02	NOT IDENT.
NA-24	5.411E+07	5.591E+07	0.000E+00	2.853E+07	SHORT HLIF
AL-26	-2.301E-02	2.705E-02	1.753E-02	1.380E-02	NOT IDENT.
TI-44	3.832E-01	5.975E-02	4.042E-02	3.048E-02	FAIL ABUN
SC-46	-3.527E-02	4.419E-02	3.333E-02	2.255E-02	FAIL ABUN
V-48	6.469E-02	7.883E-02	7.086E-02	4.022E-02	NOT IDENT.
CR-51	-2.308E-01	4.130E-01	3.402E-01	2.107E-01	NOT IDENT.
MN-52	-1.800E-01	3.755E-01	2.847E-01	1.916E-01	NOT IDENT.
MN-54	-4.498E-02	4.283E-02	3.206E-02	2.185E-02	NOT IDENT.
CO-56	-1.416E-02	4.269E-02	3.425E-02	2.178E-02	FAIL ABUN
CO-57	2.810E-03	2.608E-02	2.229E-02	1.331E-02	NOT IDENT.
CO-58	-2.457E-02	4.087E-02	2.987E-02	2.085E-02	NOT IDENT.
FE-59	-1.432E-03	1.136E-01	9.622E-02	5.793E-02	NOT IDENT.
CO-60	-3.020E-02	4.162E-02	3.123E-02	2.124E-02	NOT IDENT.
ZN-65	-3.325E-02	1.136E-01	7.958E-02	5.798E-02	NOT IDENT.
GE-68	-1.760E-01	1.419E+00	1.192E+00	7.238E-01	NOT IDENT.
AS-73	2.047E-01	8.821E-01	7.920E-01	4.500E-01	NOT IDENT.
AS-74	-3.327E-02	1.114E-01	9.330E-02	5.685E-02	NOT IDENT.
SE-75	-1.830E-02	4.840E-02	3.584E-02	2.469E-02	NOT IDENT.
BR-77	1.344E+01	3.407E+01	0.000E+00	1.738E+01	SHORT HLIF
SR-82	-3.805E-01	4.347E-01	3.315E-01	2.218E-01	NOT IDENT.
RB-83	1.521E-02	7.472E-02	6.235E-02	3.812E-02	NOT IDENT.
RB-84	-3.160E-02	8.306E-02	6.483E-02	4.238E-02	NOT IDENT.
KR-85	1.652E+01	7.669E+00	6.748E+00	3.913E+00	NOT IDENT.
SR-85	8.829E-02	4.098E-02	3.607E-02	2.091E-02	NOT IDENT.
RB-86	-2.277E-01	1.022E+00	8.504E-01	5.213E-01	NOT IDENT.
Y-88	-1.619E-02	4.641E-02	3.667E-02	2.368E-02	NOT IDENT.
ZR-88	-3.820E-02	3.340E-02	2.572E-02	1.704E-02	NOT IDENT.
Y-91	-7.084E+00	2.223E+01	1.816E+01	1.134E+01	NOT IDENT.
NB-94	7.226E-03	3.601E-02	3.092E-02	1.837E-02	NOT IDENT.
NB-95	9.532E-02	5.604E-02	4.792E-02	2.859E-02	NOT IDENT.
NB-95M	8.667E-02	1.450E-01	1.160E-01	7.398E-02	NOT IDENT.
ZR-95	9.996E-02	8.238E-02	7.573E-02	4.203E-02	NOT IDENT.
NB-97	2.873E+06	6.023E+06	0.000E+00	3.073E+06	SHORT HLIF
ZR-97	1.233E+08	1.135E+08	0.000E+00	5.793E+07	SHORT HLIF
MO-99	1.446E+01	3.472E+01	3.018E+01	1.771E+01	NOT IDENT.
TC-99M	-4.373E+20	2.153E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-4.550E-03	3.595E-02	2.888E-02	1.834E-02	FAIL ABUN
RH-102	-1.109E-02	2.999E-02	2.401E-02	1.530E-02	FAIL ABUN
RU-103	-8.778E-03	4.513E-02	3.652E-02	2.302E-02	FAIL ABUN
RH-106	1.344E-02	3.472E-01	2.974E-01	1.771E-01	FAIL ABUN
RU-106	1.344E-02	3.472E-01	2.974E-01	1.771E-01	FAIL ABUN
AG-108M	1.147E-02	3.477E-02	2.966E-02	1.774E-02	NOT IDENT.
AG-110M	1.293E-02	4.431E-02	3.376E-02	2.260E-02	NOT IDENT.
IN-111	-1.702E+00	3.041E+00	2.241E+00	1.552E+00	NOT IDENT.
IN-113M	-3.053E-03	4.701E-02	3.932E-02	2.399E-02	NOT IDENT.
SN-113	-3.053E-03	4.701E-02	3.932E-02	2.399E-02	NOT IDENT.
IN-114M	1.203E-01	2.325E-01	1.762E-01	1.186E-01	NOT IDENT.
CD-115	-1.630E+01	4.312E+01	0.000E+00	2.200E+01	SHORT HLIF
SN-117M	-1.071E-02	6.574E-02	5.448E-02	3.354E-02	NOT IDENT.
SB-122	3.866E+00	6.186E+00	5.551E+00	3.156E+00	NOT IDENT.
I-123	-2.499E+08	8.255E+08	0.000E+00	4.212E+08	SHORT HLIF
TE-123M	-8.517E-03	2.813E-02	2.314E-02	1.435E-02	NOT IDENT.
I-124	2.494E-01	1.486E+00	1.127E+00	7.581E-01	NOT IDENT.
SB-124	-9.220E-03	8.082E-02	6.681E-02	4.124E-02	FAIL ABUN
SB-125	6.569E-02	1.015E-01	8.842E-02	5.181E-02	FAIL ABUN
TE-125M	8.956E-01	9.907E+00	8.516E+00	5.055E+00	NOT IDENT.
I-126	2.692E-01	2.379E-01	1.996E-01	1.214E-01	NOT IDENT.
SB-126	7.051E-02	2.129E-01	1.619E-01	1.086E-01	FAIL ABUN
SB-127	1.361E-01	3.040E+00	2.584E+00	1.551E+00	NOT IDENT.
XE-127	-3.582E-02	5.339E-02	4.226E-02	2.724E-02	NOT IDENT.
I-131	-8.183E-02	1.601E-01	1.304E-01	8.170E-02	NOT IDENT.
TE-132	2.776E-01	1.573E+00	1.387E+00	8.026E-01	NOT IDENT.
BA-133	-1.492E-02	5.357E-02	3.882E-02	2.733E-02	FAIL ABUN
I-133	1.299E+05	1.615E+05	0.000E+00	8.238E+04	SHORT HLIF
CS-134	1.367E-01	7.172E-02	5.398E-02	3.659E-02	FAIL ABUN
CS-135	2.901E-01	1.837E-01	1.508E-01	9.371E-02	NOT IDENT.
I-135	2.362E+19	1.253E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.126E-02	1.401E-01	1.211E-01	7.147E-02	FAIL ABUN
CE-139	-1.617E-02	3.006E-02	2.434E-02	1.534E-02	NOT IDENT.
BA-140	2.936E-02	3.221E-01	2.803E-01	1.643E-01	NOT IDENT.
LA-140	-2.977E-02	1.190E-01	9.752E-02	6.071E-02	NOT IDENT.
CE-141	3.995E-02	6.802E-02	5.872E-02	3.471E-02	NOT IDENT.
CE-143	5.630E+03	1.795E+03	0.000E+00	9.156E+02	SHORT HLIF
CE-144	5.886E-02	2.181E-01	1.780E-01	1.113E-01	NOT IDENT.
PM-144	-7.460E-03	3.697E-02	3.075E-02	1.886E-02	NOT IDENT.

PR-144	-5.065E-01	2.510E+00	2.088E+00	1.281E+00	NOT IDENT.
PM-146	1.276E-02	4.663E-02	3.948E-02	2.379E-02	NOT IDENT.
ND-147	4.593E-01	8.046E-01	6.874E-01	4.105E-01	FAIL ABUN
PM-149	-2.962E+02	3.387E+02	0.000E+00	1.728E+02	SHORT HLIF
EU-152	-8.071E-02	1.086E-01	7.511E-02	5.540E-02	NOT IDENT.
GD-153	-3.247E-02	9.138E-02	6.844E-02	4.662E-02	NOT IDENT.
EU-154	4.882E-02	1.391E-01	1.204E-01	7.098E-02	NOT IDENT.
EU-155	1.801E-01	1.106E-01	1.008E-01	5.643E-02	FAIL ABUN
TB-160	1.053E-01	1.454E-01	1.294E-01	7.416E-02	FAIL ABUN
HO-166M	1.735E-02	6.449E-02	5.566E-02	3.290E-02	FAIL ABUN
TM-171	-1.214E+01	3.274E+01	2.546E+01	1.671E+01	NOT IDENT.
LU-176	1.329E-02	2.481E-02	2.190E-02	1.266E-02	FAIL ABUN
LU-177	5.000E+00	2.591E+00	1.650E+00	1.322E+00	FAIL ABUN
LU-177M	-3.132E-02	1.891E-01	1.563E-01	9.648E-02	FAIL ABUN
HF-181	6.869E-04	4.691E-02	3.877E-02	2.393E-02	NOT IDENT.
W-181	1.995E-01	4.183E-01	3.389E-01	2.134E-01	NOT IDENT.
TA-182	2.356E-02	2.302E-01	1.950E-01	1.175E-01	FAIL ABUN
RE-183	5.411E-02	1.147E-01	9.614E-02	5.851E-02	FAIL ABUN
RE-184	5.043E-02	2.404E-01	2.110E-01	1.226E-01	NOT IDENT.
OS-185	6.700E-02	4.605E-02	4.350E-02	2.349E-02	NOT IDENT.
RE-188	6.973E-02	1.835E-01	1.563E-01	9.361E-02	NOT IDENT.
W-188	-5.690E+00	8.563E+00	6.131E+00	4.369E+00	FAIL ABUN
IR-192	-1.478E-02	3.625E-02	3.020E-02	1.850E-02	FAIL ABUN
AU-195	1.432E-01	2.359E-01	2.052E-01	1.204E-01	FAIL ABUN
TL-200	2.773E+03	5.445E+03	0.000E+00	2.778E+03	SHORT HLIF
TL-201	-4.654E+00	1.695E+01	1.391E+01	8.648E+00	NOT IDENT.
TL-202	-6.423E-03	9.108E-02	7.539E-02	4.647E-02	NOT IDENT.
HG-203	-2.019E-02	5.120E-02	3.778E-02	2.612E-02	NOT IDENT.
BI-207	-2.144E-02	5.791E-02	4.725E-02	2.955E-02	FAIL ABUN
TL-207	6.622E-01	7.596E-01	6.041E-01	3.875E-01	FAIL ABUN
PO-209	-3.984E+00	8.416E+00	6.615E+00	4.294E+00	NOT IDENT.
BI-210	3.351E+00	3.432E+00	3.148E+00	1.751E+00	NOT IDENT.
PB-210	3.351E+00	3.432E+00	3.148E+00	1.751E+00	NOT IDENT.
PO-210	3.351E+00	3.429E+00	3.148E+00	1.750E+00	NOT IDENT.
PB-211	-1.303E-01	1.015E+00	8.408E-01	5.180E-01	NOT IDENT.
BI-212	9.007E-01	5.829E-01	3.678E-01	2.974E-01	FAIL ABUN
PO-215	6.622E-01	7.596E-01	6.041E-01	3.875E-01	FAIL ABUN
RN-219	-1.961E-01	4.521E-01	3.674E-01	2.307E-01	FAIL ABUN
RN-220	7.720E+00	2.706E+01	2.383E+01	1.380E+01	NOT IDENT.
RA-223	6.622E-01	7.596E-01	6.041E-01	3.875E-01	FAIL ABUN
AC-227	-1.923E-01	3.770E-01	3.178E-01	1.923E-01	FAIL ABUN
TH-227	-1.923E-01	3.774E-01	3.178E-01	1.926E-01	FAIL ABUN
TH-229	7.774E-02	5.296E-01	4.396E-01	2.702E-01	FAIL ABUN
PA-231	1.998E+00	1.687E+00	1.481E+00	8.610E-01	FAIL ABUN
TH-231	6.622E-01	7.596E-01	6.041E-01	3.875E-01	FAIL ABUN
U-231	-2.004E-01	2.220E+00	1.708E+00	1.133E+00	FAIL ABUN
PA-233	-3.555E-02	6.577E-02	5.443E-02	3.356E-02	FAIL ABUN
PA-234	2.242E-01	3.252E-01	2.844E-01	1.659E-01	FAIL ABUN
U-235	-1.014E-02	2.215E-01	1.835E-01	1.130E-01	FAIL ABUN
NP-236	-4.452E-02	7.896E-02	6.402E-02	4.029E-02	NOT IDENT.
NP-239	-1.143E-01	1.876E-01	1.552E-01	9.571E-02	FAIL ABUN
AM-241	1.064E-01	1.705E-01	1.400E-01	8.699E-02	NOT IDENT.
CM-243	-3.977E-02	9.976E-02	8.419E-02	5.090E-02	FAIL ABUN
AM-246	-8.260E-03	1.631E-01	1.380E-01	8.324E-02	NOT IDENT.
CM-247	-3.490E-02	4.088E-02	3.226E-02	2.086E-02	FAIL ABUN
CF-249	4.758E-02	4.322E-02	3.881E-02	2.205E-02	NOT IDENT.
CF-251	-5.102E-03	1.294E-01	1.071E-01	6.602E-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	209.1393
46.50	209.1393
46.50	209.1393
48.70	262.7520
49.72	237.1114
51.35	236.6596
52.39	261.6305
52.97	267.3048
53.15	267.4572
53.44	254.7071
54.07	245.6638
56.28	278.8086
56.28	278.8110
57.37	0.0000
57.53	288.6406
57.53	288.6422
57.60	288.7016
57.98	286.3949
57.98	286.3949
59.32	263.2797
59.32	263.2797
59.40	263.3411
59.54	263.4497
59.72	286.1062
60.01	300.9319
61.10	295.2354
61.14	295.2697
61.30	295.4052
63.00	321.8007
63.29	322.0633
63.29	322.0633
63.58	322.3263
64.28	334.1411
65.12	326.8501
65.20	312.1235
65.20	312.1235
66.05	331.7318
66.72	355.3024
66.83	355.4108
66.91	362.2474
67.20	338.1825
67.20	338.1825
67.75	346.8105
67.85	346.9063
68.90	370.5293
68.90	370.5293
69.30	364.5742
69.67	356.2173
70.82	357.8373
70.82	357.8373
70.83	357.8473
72.80	352.8083
72.87	352.8730
72.87	352.8730
74.67	345.7510
74.81	345.8734
74.81	345.8734
74.81	345.8734
74.81	345.8734
74.81	345.8734
74.81	345.8734
74.81	345.8734
74.97	346.0121
75.28	346.2808
75.70	346.6441
77.11	347.8566
77.11	347.8566

77.11	347.8566
77.11	347.8566
77.11	347.8566
77.11	347.8566
77.11	347.8566
78.38	325.7383
79.62	325.3204
79.80	325.4608
79.80	325.4608
80.11	322.9087
80.18	322.9615
80.30	323.0549
80.30	323.0549
80.57	323.2629
81.00	353.0119
81.07	353.0715
81.07	353.0715
81.07	353.0715
81.07	353.0715
82.60	325.1003
83.37	331.0371
83.78	359.5568
83.78	359.5568
83.78	359.5568
83.78	359.5568
84.21	362.7376
84.90	330.8014
85.43	346.7743
86.29	405.6002
86.50	424.2396
86.54	424.2784
86.59	421.4879
86.72	421.6126
86.79	421.6783
86.94	383.4757
87.30	378.1010
87.30	378.1010
87.30	378.1010
87.30	378.1010
87.30	378.1010
87.30	378.1010
87.30	378.1010
87.57	278.7712
87.88	0.0000
88.03	279.0598
88.36	279.2662
88.47	279.3350
89.95	250.2274
91.11	250.8682
92.29	251.5144
92.38	251.5638
92.38	251.5638
93.35	252.0912
94.00	239.4609
94.67	248.4691
94.67	248.4717
94.90	248.5938
94.90	248.5938
94.90	248.5938
94.90	248.5938
95.87	257.7953
95.87	257.7953
96.73	294.5383
97.43	268.8140
98.44	236.8590
98.44	236.8603
98.88	241.9343
99.55	238.3768
99.55	238.3768
99.86	238.5288
100.00	245.4144
100.10	234.7522
103.18	252.8848
103.76	265.9359
105.00	224.2925
105.31	216.5558
108.00	250.3556
109.28	249.9851

111.00	254.7917
111.00	254.7917
111.76	249.1798
112.95	238.7520
115.19	253.7978
116.30	224.1637
117.00	236.5300
117.00	236.5300
117.66	236.8168
121.11	226.1305
121.62	217.2023
121.78	217.2643
122.06	231.5938
122.32	231.7005
122.32	231.7005
122.32	231.7005
122.32	231.7005
123.07	226.9211
127.23	236.7789
129.76	217.7350
131.20	261.6127
133.02	236.0179
133.54	227.5191
135.34	224.4595
136.00	252.7913
136.25	253.9383
136.48	255.0737
140.51	243.1275
140.51	0.0000
142.18	244.8297
142.65	239.7544
143.76	244.3925
144.24	220.3298
144.24	220.3298
144.24	220.3298
144.24	220.3298
145.22	227.0049
145.44	220.7465
147.16	239.3457
152.43	222.0728
152.70	223.2318
153.22	218.0615
154.21	219.4579
154.21	219.4579
154.21	219.4579
154.21	219.4579
155.03	231.5193
156.02	254.4042
158.56	212.2644
159.00	0.0000
159.00	209.1661
160.31	224.6922
161.27	215.2716
162.32	196.0981
162.64	204.8596
163.35	211.5793
163.89	199.7994
165.85	219.9615
167.43	211.7257
171.28	216.1641
171.86	197.6697
172.10	197.7356
176.55	214.4215
176.60	214.4363
181.06	213.5059
184.41	219.4834
185.71	240.5562
186.00	240.6480
190.27	226.2293
192.34	231.3445
193.63	212.5079
197.04	223.6430
198.01	225.0502
198.60	221.8030
200.40	0.0000
201.83	222.6936
202.84	232.1189
205.31	190.9574

208.36	188.7859
208.81	188.8876
209.75	152.2034
209.75	152.2034
210.97	166.2817
215.65	169.5269
216.55	192.9524
218.09	221.2453
222.10	198.2914
223.80	218.8952
226.40	191.3286
227.00	191.4577
227.08	191.4760
227.20	195.0307
228.16	186.4071
228.18	185.5284
228.18	185.5284
231.56	0.0000
235.69	202.4020
236.00	226.7109
236.00	226.7109
238.63	196.6190
238.63	196.6190
238.63	196.6190
238.63	196.6190
239.00	0.0000
240.98	197.1191
241.98	197.3306
241.98	197.3306
241.98	197.3306
244.69	171.2760
245.39	174.2846
247.94	166.0902
248.90	159.0300
249.79	0.0000
252.40	162.3335
252.85	165.1319
252.85	165.1319
254.15	0.0000
256.20	167.5249
256.20	167.5249
260.50	144.4870
260.90	0.0000
262.80	129.2421
264.65	145.4618
268.24	134.1872
268.79	133.7073
269.46	133.7958
269.46	133.7958
269.46	133.7958
269.46	133.7958
271.23	134.0303
273.65	134.3489
276.40	134.7073
277.35	134.8335
277.60	134.8644
277.60	134.8644
278.00	134.9175
278.60	160.8768
279.20	175.8765
279.53	175.9312
280.46	174.5974
281.68	0.0000
283.67	138.9933
284.30	164.7529
285.00	164.8630
285.90	0.0000
286.10	169.7234
286.10	169.7234
287.40	148.3372
288.45	0.0000
290.67	152.1830
290.80	155.2167
291.72	164.3995
293.26	0.0000
293.70	131.4579
295.21	117.2679
295.21	117.2679

295.21	117.2679
295.96	117.3493
296.50	117.4061
297.23	0.0000
298.57	117.6293
299.80	117.7618
299.80	117.7618
300.09	117.7939
300.09	117.7939
300.09	117.7939
300.09	117.7939
300.12	117.7958
301.29	115.6402
302.84	134.0861
303.76	0.0000
303.91	125.0640
304.40	117.4908
304.40	117.4908
304.84	122.1172
306.84	121.3802
308.46	128.2565
311.98	141.1389
316.51	133.0263
318.01	143.8186
319.02	131.3868
319.41	133.3632
320.08	133.4411
323.87	114.8626
323.87	114.8626
323.87	114.8626
323.87	114.8626
325.23	128.9844
328.77	135.6083
333.44	128.3192
334.20	129.9671
334.20	129.9671
334.30	129.9773
338.28	107.0374
338.28	107.0374
338.28	107.0374
338.28	107.0374
338.32	107.0424
338.32	107.0424
338.32	107.0424
340.50	94.4458
340.57	94.4502
344.27	120.0024
345.85	105.9274
350.59	0.0000
351.07	123.8421
351.92	129.0915
351.92	129.0915
351.92	129.0915
355.39	0.0000
356.01	133.8976
364.48	106.3138
366.43	97.4352
367.43	81.4264
367.94	0.0000
369.80	98.6968
374.96	99.0901
383.85	134.3707
387.95	99.0470
388.63	97.0541
391.69	104.4420
391.69	104.4420
392.90	122.9828
398.62	110.1201
400.65	110.2833
401.10	120.6295
401.81	121.7235
402.60	130.0490
404.84	115.7871
410.95	115.2563
411.60	116.3494
413.65	106.1151
414.70	87.4530
415.30	94.7810

415.76	90.6454
417.63	0.0000
418.52	101.2597
423.70	104.7699
427.08	96.6143
427.89	94.5676
432.53	99.0861
433.93	89.6835
439.47	0.0000
439.56	92.1454
439.89	85.8104
443.98	66.9250
444.90	95.6662
445.03	102.0527
445.03	102.0527
445.03	102.0527
445.03	102.0527
453.90	87.6843
463.38	96.4059
468.07	102.1651
473.00	80.1132
475.06	83.4703
475.35	83.4856
476.78	85.7324
477.59	89.0331
477.96	78.1941
482.03	78.3940
484.57	0.0000
487.03	78.6396
490.36	0.0000
492.35	0.0000
497.08	78.0300
507.63	0.0000
510.53	0.0000
510.84	74.2494
511.00	74.2566
511.85	74.2944
511.85	74.2944
513.99	49.7407
513.99	49.7407
520.41	71.3281
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	73.9559
529.87	0.0000
531.02	74.0164
537.32	72.0352
543.00	86.7234
546.56	0.0000
549.76	72.5469
552.65	72.6641
555.20	69.1292
563.23	76.7484
563.90	77.6912
568.70	79.7295
569.32	86.1743
569.50	86.1835
569.67	82.5227
573.80	69.8436
574.00	69.8510
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	68.3506
585.48	0.0000
591.81	79.8020
592.07	73.3180
593.00	74.2813
595.88	78.1143
600.56	71.7814
602.52	0.0000
602.71	73.1067
602.71	73.1067
603.60	84.0344
604.41	96.5243
604.70	84.0828
609.31	68.3644

609.31	68.3644
609.31	68.3644
609.31	68.3644
610.33	68.4001
612.46	93.8037
614.37	75.1172
618.01	70.5542
621.84	73.5192
621.84	73.5192
631.29	68.1908
633.02	77.7278
633.10	77.7318
634.78	71.1566
635.90	71.1969
636.97	76.9322
645.85	50.5622
646.12	48.6604
656.30	81.5074
657.75	70.3703
657.90	0.0000
661.65	81.7191
661.65	81.7191
664.57	0.0000
666.33	43.3608
666.33	43.3608
675.00	53.2181
677.61	62.9719
685.20	69.0326
692.80	67.3272
695.00	55.6752
696.49	72.3307
696.49	72.3307
697.00	75.2799
697.49	80.1862
698.33	74.3486
698.50	74.3542
699.00	70.4584
702.63	68.6157
706.10	78.5430
706.58	0.0000
706.67	73.6542
709.31	63.9098
711.68	62.0110
713.82	69.9530
717.42	62.1740
720.50	57.6483
721.93	0.0000
722.20	67.5826
722.78	72.5474
722.78	72.5474
722.89	72.5509
722.95	72.5527
723.30	67.6160
724.18	72.5921
727.18	57.4917
733.00	67.9113
735.90	54.7301
739.58	59.8037
742.81	60.8868
744.21	60.9240
747.13	50.0024
751.79	79.1639
752.31	61.1415
753.82	43.1281
755.35	0.0000
756.15	51.2030
756.87	64.2750
763.93	43.6528
765.79	53.7695
766.42	52.1031
766.84	66.5704
776.49	62.7932
778.00	44.5919
778.57	50.6848
778.89	48.6645
783.80	60.9565
785.46	56.9324
792.07	57.7707

795.84	45.9481
796.30	54.4674
798.80	57.9325
801.93	48.9081
805.60	51.2610
810.29	42.1151
810.76	47.2601
815.85	54.5657
817.79	0.0000
818.51	50.5013
819.60	59.8040
826.30	68.2381
828.27	0.0000
831.60	56.9860
831.96	50.7765
834.83	77.8088
836.80	0.0000
846.75	53.1615
848.13	56.3190
856.28	0.0000
856.80	72.2091
860.37	71.2622
867.32	42.0322
867.82	48.3460
871.10	30.5180
873.19	48.4471
874.81	44.2620
875.33	0.0000
876.40	40.0707
879.36	35.8934
880.27	35.9059
880.51	39.0776
881.50	46.4890
883.24	35.9465
884.67	41.2556
889.25	57.2234
896.60	58.4442
898.02	61.6661
899.00	53.1799
903.28	39.5686
911.07	51.2836
911.07	51.2836
911.07	51.2836
919.63	39.6567
920.93	41.8203
925.00	47.2527
925.24	48.3311
926.50	41.9060
935.52	49.5904
937.48	57.1782
944.10	51.9082
946.00	40.0397
949.00	53.0829
962.29	72.5651
964.01	63.5329
966.15	58.1315
968.20	105.4389
969.11	79.6513
969.11	79.6513
969.11	79.6513
977.42	36.9330
980.50	40.5329
983.50	27.4158
989.30	42.8553
996.32	48.7813
1001.03	29.9466
1001.68	37.8357
1004.76	45.7666
1021.30	0.0000
1024.50	0.0000
1034.80	50.2207
1036.00	63.2658
1037.82	53.9950
1038.57	42.8330
1038.76	0.0000
1045.16	52.2607
1046.59	47.6154
1048.07	44.8379

1050.47	48.6125
1050.47	48.6125
1062.04	42.2278
1063.62	48.8219
1076.63	53.7437
1077.35	53.7552
1078.86	54.7243
1085.78	49.1732
1099.22	57.9321
1112.02	41.4804
1112.84	40.8779
1115.52	57.2754
1120.29	34.4165
1120.29	34.4165
1120.29	34.4165
1120.29	34.4165
1120.51	39.3365
1121.28	47.5437
1124.00	0.0000
1129.67	51.7764
1131.51	0.0000
1147.95	0.0000
1167.94	41.7140
1173.22	77.7311
1175.09	61.2491
1177.93	39.8939
1189.05	64.4316
1204.90	63.7543
1205.75	0.0000
1213.00	63.9050
1221.42	63.0755
1230.97	59.2969
1235.34	54.2835
1236.41	0.0000
1238.25	58.4310
1246.25	64.8522
1260.41	0.0000
1271.85	51.9915
1274.45	43.0245
1274.54	43.0262
1291.56	23.1226
1298.22	0.0000
1312.09	24.2646
1325.50	32.4714
1325.50	32.4714
1332.49	35.5825
1333.61	25.4232
1360.21	18.4351
1362.66	0.0000
1365.15	29.7399
1368.21	15.3955
1368.53	0.0000
1376.25	18.5134
1384.27	22.6750
1394.10	20.6665
1395.20	19.6386
1407.95	25.9257
1434.06	21.9229
1436.60	29.2487
1457.56	0.0000
1460.81	21.6194
1489.15	29.6338
1509.49	14.8904
1596.49	24.1945
1620.62	9.3572
1678.03	0.0000
1691.02	13.3076
1691.02	13.3076
1706.46	0.0000
1750.46	0.0000
1764.49	11.8296
1764.49	11.8296
1764.49	11.8296
1764.49	11.8296
1770.23	55.1094
1771.40	16.4403
1791.20	0.0000
1808.65	11.6953

1836.01

20.5825

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107014

Total Uranium Activity	7.8833E+00	ug/g
Total Uranium Counting Unc.	6.2499E+00	ug/g
Total Uranium Tpu	3.1887E-06	ug/g
Total Uranium Mda	3.4583E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107014
*  ANALYST       : MXR1                             DETECTOR    : GAM12
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 13:30:23.99          SAMPLE ALQT  : 113.230 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.593E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.448E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.608E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.744E+00

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VAX/VMS Nuclide Identification Report Generated 1-FEB-2010 15:33:48.85

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107015.CNF;1
Sample date   : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:50.
Sample ID    : G245107015 Sample quantity : 1.06990E+02 GRAM
Detector name : GAM15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit : 75.00000 Sensitivity : 5.00000
Batch ID : 944038 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	3	74.27*	287	346	1.27	149.03	144	14	3.98E-02	13.4	1.22E+00
2	3	76.48*	434	324	1.41	153.44	144	14	6.03E-02	9.6	
3	0	86.00	131	677	3.88	172.48	165	13	1.82E-02	41.8	
4	0	92.74*	87	498	1.74	185.95	181	10	1.20E-02	53.5	
5	0	185.48*	198	335	1.61	371.34	366	12	2.75E-02	21.0	
6	0	208.86	124	294	2.70	418.09	412	11	1.72E-02	28.3	
7	3	238.02*	1070	170	1.38	476.39	468	21	1.49E-01	3.9	5.65E-01
8	3	241.08*	285	185	1.89	482.49	468	21	3.96E-02	14.3	
9	0	269.28	105	234	1.11	538.88	532	13	1.45E-02	31.7	
10	0	277.01	74	101	1.59	554.33	551	7	1.02E-02	25.7	
11	0	294.59	344	193	1.25	589.47	584	11	4.78E-02	9.5	
12	0	299.31*	51	171	1.05	598.91	595	10	7.04E-03	51.6	
13	0	337.77	228	175	1.32	675.81	670	14	3.17E-02	14.0	
14	0	351.36*	531	195	1.37	702.98	697	14	7.37E-02	7.2	
15	0	464.96	151	179	7.96	930.09	916	29	2.09E-02	26.9	
16	0	510.33*	147	123	1.97	1020.79	1013	18	2.04E-02	22.1	
17	0	582.58*	366	74	1.26	1165.25	1159	13	5.09E-02	7.3	
18	0	608.77*	427	108	1.53	1217.61	1209	16	5.92E-02	7.5	
19	0	726.99	84	59	2.03	1453.99	1448	13	1.16E-02	22.5	
20	0	768.11	53	53	2.73	1536.19	1530	11	7.29E-03	30.5	
21	0	860.39	50	76	1.03	1720.71	1714	14	6.92E-03	39.9	
22	0	910.67*	184	55	1.49	1821.24	1816	13	2.56E-02	11.5	
23	3	964.01	58	40	2.07	1927.90	1920	25	8.10E-03	25.4	1.64E+00
24	3	968.48*	138	45	2.64	1936.84	1920	25	1.91E-02	15.0	
25	0	1120.07*	108	53	1.76	2239.96	2233	18	1.50E-02	18.5	
26	0	1460.36	740	4	2.09	2920.45	2912	17	1.03E-01	3.7	
27	0	1590.25	22	23	5.01	3180.21	3172	15	2.99E-03	52.7	
28	0	1764.43*	75	7	2.13	3528.56	3521	14	1.04E-02	14.9	

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

VMS Nuclide Identification Report V3.1 Generated 1-FEB-2010 15:33:51

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107015.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title : MXR1
Sample date : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:50
Sample ID : G245107015 Sample quantity : 106.99 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA15 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.17 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00 WTM error limit : 3.00

Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.435E+01	2.602E+00	6.813E-01	5.208E-02	35.742
CS-135	+	268.24	*	5.937E-01	3.793E-01	3.539E-01	3.026E-02	1.678
TL-208	+	277.35		1.004E+00	5.276E-01	8.912E-01	9.986E-02	1.127
	+	510.84		9.671E-01	4.380E-01	2.883E-01	2.902E-02	3.354
	+	583.14	*	6.846E-01	1.096E-01	8.434E-02	5.370E-03	8.118
	+	860.37		8.703E-01	6.984E-01	5.232E-01	4.497E-02	1.663
BI-211	+	72.87		2.508E+01	7.258E+00	8.304E+00	9.259E-01	3.021
	+	351.07	*	4.489E+00	7.147E-01	4.508E-01	3.097E-02	9.957
PB-212	+	74.81		2.977E+00	9.053E-01	9.055E-01	1.315E-01	3.288
	+	77.11		2.479E+00	5.482E-01	4.878E-01	5.417E-02	5.083
	+	87.30		1.321E+00	1.122E+00	1.088E+00	1.659E-01	1.214
	+	238.63	*	1.995E+00	2.258E-01	1.284E-01	1.063E-02	15.535
	+	300.09		1.453E+00	1.507E+00	1.786E+00	1.602E-01	0.814
PO-212	+	74.81		2.977E+00	9.053E-01	9.055E-01	1.315E-01	3.288
	+	77.11		2.479E+00	5.482E-01	4.878E-01	5.417E-02	5.083
	+	87.30		1.321E+00	1.122E+00	1.088E+00	1.659E-01	1.214
	+	115.19		3.338E-01	4.869E+00	7.972E+00	6.100E-01	0.042
	+	238.63	*	1.995E+00	2.258E-01	1.284E-01	1.063E-02	15.535
	+	300.09		1.453E+00	1.507E+00	1.786E+00	1.602E-01	0.814
BI-214	+	609.31	*	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
	+	1120.29		1.990E+00	7.576E-01	5.132E-01	4.735E-02	3.878
	+	1764.49		1.888E+00	5.734E-01	3.780E-01	2.352E-02	4.995
PB-214	+	74.81		5.130E+00	1.532E+00	1.560E+00	2.084E-01	3.288
	+	77.11		4.250E+00	9.940E-01	8.362E-01	1.126E-01	5.083
	+	87.30		2.262E+00	1.918E+00	1.863E+00	2.583E-01	1.214
	+	241.98		3.197E+00	9.548E-01	7.101E-01	6.347E-02	4.502
	+	295.21		1.733E+00	3.658E-01	3.049E-01	2.819E-02	5.686
	+	351.92	*	1.561E+00	2.616E-01	1.571E-01	1.354E-02	9.938
PO-214	+	74.81		5.130E+00	1.532E+00	1.560E+00	2.084E-01	3.288
	+	77.11		4.250E+00	9.940E-01	8.362E-01	1.126E-01	5.083
	+	87.30		2.262E+00	1.918E+00	1.863E+00	2.583E-01	1.214
	+	241.98		3.197E+00	9.548E-01	7.101E-01	6.347E-02	4.502
	+	295.21		1.733E+00	3.658E-01	3.049E-01	2.819E-02	5.686
	+	351.92	*	1.561E+00	2.616E-01	1.571E-01	1.354E-02	9.938

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	74.81		2.977E+00	9.053E-01	9.055E-01	1.315E-01	3.288
	+	77.11		2.479E+00	5.482E-01	4.878E-01	5.417E-02	5.083
	+	87.30		1.321E+00	1.122E+00	1.088E+00	1.659E-01	1.214
	+	238.63	*	1.995E+00	2.258E-01	1.284E-01	1.063E-02	15.535
PO-218	+	300.09		1.453E+00	1.507E+00	1.786E+00	1.602E-01	0.814
	+	74.81		5.130E+00	1.532E+00	1.560E+00	2.084E-01	3.288
	+	77.11		4.250E+00	9.940E-01	8.362E-01	1.126E-01	5.083
	+	87.30		2.262E+00	1.918E+00	1.863E+00	2.583E-01	1.214
RA-224	+	241.98		3.197E+00	9.548E-01	7.101E-01	6.347E-02	4.502
	+	295.21		1.733E+00	3.658E-01	3.049E-01	2.819E-02	5.686
	+	351.92	*	1.561E+00	2.616E-01	1.571E-01	1.354E-02	9.938
	+	240.98	*	6.061E+00	1.778E+00	1.461E+00	1.017E-01	4.148
RA-226	+	609.31	*	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
	+	1120.29		1.990E+00	7.576E-01	5.132E-01	4.735E-02	3.878
	+	1764.49		1.888E+00	5.734E-01	3.780E-01	2.352E-02	4.995
	+	338.32		2.131E+00	1.057E+00	5.340E-01	2.182E-01	3.990
AC-228	+	911.07	*	1.522E+00	3.895E-01	2.898E-01	3.222E-02	5.253
	+	969.11		2.010E+00	7.606E-01	5.022E-01	1.161E-01	4.003
	+	338.32		2.131E+00	1.057E+00	5.340E-01	2.182E-01	3.990
	+	911.07	*	1.522E+00	3.895E-01	2.898E-01	3.222E-02	5.253
TH-228	+	969.11		2.010E+00	7.606E-01	5.022E-01	1.161E-01	4.003
	+	74.81		3.034E+00	8.786E-01	9.229E-01	1.031E-01	3.288
	+	77.11		2.527E+00	5.587E-01	4.971E-01	5.521E-02	5.083
	+	87.30		1.346E+00	1.136E+00	1.109E+00	1.277E-01	1.214
TH-230	+	238.63	*	2.033E+00	2.301E-01	1.309E-01	1.083E-02	15.535
	+	300.09		1.481E+00	1.762E+00	1.821E+00	1.075E+00	0.814
	+	609.31	*	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
	+	1120.29		1.990E+00	7.576E-01	5.132E-01	4.735E-02	3.878
TH-232	+	1764.49		1.888E+00	5.734E-01	3.780E-01	2.352E-02	4.995
	+	338.32		2.131E+00	6.142E-01	5.340E-01	3.437E-02	3.990
	+	911.07	*	1.522E+00	3.895E-01	2.898E-01	3.222E-02	5.253
	+	969.11		2.010E+00	7.606E-01	5.022E-01	1.161E-01	4.003
U-234	+	609.31	*	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
	+	1120.29		1.990E+00	7.576E-01	5.132E-01	4.735E-02	3.878
	+	1764.49		1.888E+00	5.734E-01	3.780E-01	2.352E-02	4.995
	+	86.50	*	8.384E-01	7.286E-01	6.254E-01	1.476E-01	1.341
NP-237	+	95.87		-5.725E-01	1.540E+00	2.159E+00	5.417E-01	-0.265
	+	74.67	*	4.827E-01	1.397E-01	1.475E-01	1.640E-02	3.271
	+	86.72		3.144E+01	2.654E+01	2.641E+01	3.032E+00	1.190
	+	117.66		-6.586E+00	5.337E+00	8.194E+00	6.121E-01	-0.804
ANH-511	+	142.18		1.160E+01	2.607E+01	4.272E+01	2.910E+00	0.271
	+	511.00	*	2.089E-01	9.298E-02	6.229E-02	3.517E-03	3.354

---- 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	*	-3.341E-02	4.737E-01	7.702E-01	5.132E-02	-0.043
NA-22		1274.54	*	-6.797E-03	6.016E-02	9.616E-02	6.600E-03	-0.071

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NA-24	1368.53	*	-3.083E+01	6.016E-02	Half-Life too short			
AL-26	1129.67		1.482E-01	2.146E+00	3.162E+00	1.992E-01	0.047	
	1808.65	*	1.818E-02	3.471E-02	6.363E-02	3.807E-03	0.286	
TI-44	67.85		7.494E-02	8.876E-02	1.462E-01	1.667E-02	0.513	
	78.38	*	2.171E-01	7.521E-02	1.110E-01	1.234E-02	1.955	
SC-46	889.25	*	-3.013E-02	5.452E-02	8.533E-02	7.158E-03	-0.353	
+	1120.51		3.520E-01	1.320E-01	1.813E-01	1.164E-02	1.942	
V-48	944.10		6.442E-01	1.296E+00	2.245E+00	1.846E-01	0.287	
	983.50	*	6.297E-02	1.087E-01	1.890E-01	1.493E-02	0.333	
	1312.09		2.208E-02	1.195E-01	1.979E-01	1.444E-02	0.112	
CR-51	320.08	*	2.298E-01	6.022E-01	1.022E+00	7.370E-02	0.225	
MN-52	744.21		-1.518E-01	4.791E-01	7.778E-01	4.771E-02	-0.195	
	848.13		1.318E+01	1.451E+01	2.596E+01	2.001E+00	0.508	
	935.52		5.225E-01	5.474E-01	9.796E-01	8.114E-02	0.533	
	1246.25		-2.180E-01	1.635E+01	2.647E+01	1.726E+00	-0.008	
	1333.61		2.500E+00	1.096E+01	1.823E+01	1.375E+00	0.137	
	1434.06	*	-3.829E-01	4.719E-01	6.859E-01	5.086E-02	-0.558	
MN-54	834.83	*	2.137E-02	4.741E-02	8.181E-02	6.132E-03	0.261	
CO-56	846.75	*	2.091E-02	5.422E-02	9.303E-02	7.150E-03	0.225	
	977.42		-1.851E+00	4.452E+00	6.659E+00	5.296E-01	-0.278	
	1037.82		-2.261E-01	4.521E-01	7.038E-01	5.570E-02	-0.321	
	1175.09		2.500E+00	2.844E+00	5.052E+00	2.888E-01	0.495	
	1238.25		1.600E-01	1.278E-01	2.285E-01	1.544E-02	0.700	
	1360.21		2.959E-01	1.297E+00	2.162E+00	1.626E-01	0.137	
	1771.40		-1.269E+00	4.823E-01	4.453E-01	2.755E-02	-2.850	
CO-57	122.06	*	3.012E-02	3.623E-02	6.102E-02	4.387E-03	0.494	
	136.48		-2.805E-01	3.049E-01	4.680E-01	3.592E-02	-0.599	
CO-58	810.76	*	-3.901E-02	4.819E-02	7.332E-02	5.237E-03	-0.532	
FE-59	142.65		1.316E+00	4.293E+00	6.996E+00	4.764E-01	0.188	
	192.34		1.121E-01	1.543E+00	2.397E+00	2.955E-01	0.047	
	1099.22	*	-3.946E-02	1.350E-01	2.142E-01	1.621E-02	-0.184	
	1291.56		-4.958E-03	1.649E-01	2.657E-01	2.242E-02	-0.019	
CO-60	1173.22		1.644E-02	5.873E-02	9.832E-02	5.600E-03	0.167	
	1332.49	*	-1.951E-02	5.476E-02	8.422E-02	6.356E-03	-0.232	
ZN-65	1115.52	*	1.028E-01	1.128E-01	1.816E-01	1.179E-02	0.566	
GE-68	1077.35	*	1.189E+00	1.727E+00	3.012E+00	2.093E-01	0.395	
AS-73	53.44	*	1.091E+00	2.440E+00	4.130E+00	5.644E-01	0.264	
AS-74	595.88	*	2.036E-02	1.560E-01	2.546E-01	1.369E-02	0.080	
	634.78		9.682E-02	5.571E-01	9.110E-01	4.725E-02	0.106	
SE-75	66.05		-2.506E+00	9.486E+00	1.555E+01	2.017E+00	-0.161	
	96.73		3.570E-01	1.234E+00	1.803E+00	2.586E-01	0.198	
	121.11		1.418E-01	1.933E-01	3.243E-01	3.307E-02	0.437	
	136.00		-3.124E-02	5.819E-02	9.112E-02	6.345E-03	-0.343	
	198.60		5.107E-01	2.623E+00	4.243E+00	3.386E-01	0.120	
	264.65	*	-4.294E-02	7.201E-02	1.004E-01	7.023E-03	-0.428	
	279.53		6.520E-02	1.807E-01	2.696E-01	1.967E-02	0.242	
	303.91		5.537E-01	3.458E+00	5.072E+00	5.150E-01	0.109	
	400.65		-2.565E-01	3.813E-01	6.007E-01	5.425E-02	-0.427	
BR-77	87.88		1.698E-03	3.813E-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
	200.40			-1.128E-03	3.813E-01	Half-Life too short		
	+ 239.00			1.013E-03	3.813E-01	Half-Life too short		
	249.79			-1.152E-04	3.813E-01	Half-Life too short		
	281.68			2.552E-04	3.813E-01	Half-Life too short		
	297.23			8.537E-04	3.813E-01	Half-Life too short		
	303.76			1.391E-04	3.813E-01	Half-Life too short		
	439.47			2.265E-04	3.813E-01	Half-Life too short		
	484.57			-1.113E-03	3.813E-01	Half-Life too short		
	520.65	*		-1.722E-05	3.813E-01	Half-Life too short		
	574.64			1.887E-04	3.813E-01	Half-Life too short		
	578.91			1.752E-05	3.813E-01	Half-Life too short		
	585.48			2.851E-03	3.813E-01	Half-Life too short		
	755.35			5.275E-04	3.813E-01	Half-Life too short		
	817.79			-2.626E-04	3.813E-01	Half-Life too short		
SR-82	698.33			-4.717E+00	5.245E+01	8.738E+01	4.810E+00	-0.054
	776.49	*		-2.899E-01	5.408E-01	8.579E-01	5.663E-02	-0.338
RB-83	1395.20			-1.503E+01	1.730E+01	2.563E+01	1.917E+00	-0.586
	520.41	*		-3.035E-02	9.624E-02	1.526E-01	8.588E-03	-0.199
	529.64			1.257E-02	1.483E-01	2.428E-01	1.361E-02	0.052
	552.65			9.071E-02	2.809E-01	4.674E-01	2.589E-02	0.194
RB-84	881.50	*		6.418E-02	1.008E-01	1.765E-01	1.457E-02	0.364
KR-85	513.99	*		1.720E+01	1.120E+01	1.801E+01	1.016E+00	0.955
SR-85	513.99	*		9.194E-02	5.984E-02	9.626E-02	5.430E-03	0.955
RB-86	1076.63	*		9.481E-01	1.251E+00	2.196E+00	1.528E-01	0.432
Y-88	898.02			-3.015E-03	6.062E-02	9.983E-02	8.565E-03	-0.030
	1836.01	*		4.184E-02	4.043E-02	8.054E-02	4.705E-03	0.519
ZR-88	392.90	*		-6.570E-03	4.457E-02	7.282E-02	4.130E-03	-0.090
Y-91	1204.90	*		2.422E+01	2.474E+01	4.408E+01	2.666E+00	0.549
NB-94	702.63	*		8.205E-03	4.448E-02	7.560E-02	4.205E-03	0.109
	871.10			1.926E-02	4.150E-02	7.192E-02	5.814E-03	0.268
NB-95	765.79	*		8.899E-02	7.028E-02	1.141E-01	7.354E-03	0.780
NB-95M	235.69	*		2.038E+00	3.237E-01	5.191E-01	4.386E-02	3.927
ZR-95	724.18			2.621E-01	1.585E-01	2.646E-01	1.827E-02	0.990
	756.15	*		-5.942E-04	9.672E-02	1.614E-01	1.203E-02	-0.004
NB-97	657.90	*		-5.276E+00	9.672E-02	Half-Life too short		
	1024.50			-1.787E+02	9.672E-02	Half-Life too short		
ZR-97	254.15			1.773E+02	9.672E-02	Half-Life too short		
	355.39			1.626E+02	9.672E-02	Half-Life too short		
	507.63	*		5.386E+02	9.672E-02	Half-Life too short		
	602.52			-2.938E+01	9.672E-02	Half-Life too short		
	1021.30			5.701E+01	9.672E-02	Half-Life too short		
	1147.95			2.061E+02	9.672E-02	Half-Life too short		
	1362.66			-3.394E+02	9.672E-02	Half-Life too short		
	1750.46			9.216E+01	9.672E-02	Half-Life too short		
MO-99	140.51			-1.843E+00	1.051E+02	1.699E+02	4.619E+01	-0.011
	181.06			-1.720E-01	7.610E+01	1.068E+02	1.867E+01	-0.002
	366.43			-4.119E+02	3.264E+02	4.953E+02	3.008E+01	-0.832
	739.58	*		2.476E+01	4.137E+01	7.020E+01	9.756E+00	0.353
	778.00			-1.541E+02	1.210E+02	1.777E+02	1.177E+01	-0.867

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M	140.51	*		-5.395E+13	1.210E+02	Half-Life	too short	
RH-101	127.23			9.129E-02	4.586E-02	7.986E-02	5.627E-03	1.143
	198.01	*		2.883E-02	4.703E-02	7.749E-02	5.287E-03	0.372
	325.23			1.054E-01	3.268E-01	5.524E-01	3.633E-02	0.191
RH-102	418.52			-2.393E-01	4.092E-01	6.465E-01	3.688E-02	-0.370
	475.06	*		-1.754E-02	4.733E-02	6.427E-02	3.663E-03	-0.273
	631.29			1.731E-02	7.077E-02	1.165E-01	6.066E-03	0.149
	697.49			5.858E-02	1.072E-01	1.867E-01	1.026E-02	0.314
	766.84	+		3.078E-01	1.891E-01	2.872E-01	1.855E-02	1.072
	1046.59			1.691E-02	1.535E-01	2.545E-01	1.855E-02	0.066
	1112.84			1.518E-01	2.763E-01	4.244E-01	2.766E-02	0.358
RU-103	497.08	*		1.297E-02	6.138E-02	1.016E-01	1.279E-02	0.128
	610.33			1.592E+01	3.203E+00	4.215E+00	6.424E-01	3.778
RH-106	511.85			5.833E-01	3.205E-01	6.014E-01	3.395E-02	0.970
	621.84	*		-1.601E-01	4.198E-01	6.524E-01	7.488E-02	-0.245
	1050.47			6.385E-01	2.968E+00	4.974E+00	3.606E-01	0.128
RU-106	511.85			5.833E-01	3.205E-01	6.014E-01	3.395E-02	0.970
	621.84	*		-1.601E-01	4.194E-01	6.524E-01	3.428E-02	-0.245
	1050.47			6.385E-01	2.968E+00	4.974E+00	3.606E-01	0.128
AG-108M	433.93	*		7.323E-03	4.643E-02	7.704E-02	4.790E-03	0.095
	614.37			1.077E-03	5.601E-02	7.809E-02	4.550E-03	0.014
	722.95			4.809E-02	5.873E-02	9.288E-02	5.876E-03	0.518
CD-109	88.03	*		2.350E-01	2.289E+00	2.400E+00	2.775E-01	0.098
AG-110M	657.75	*		-4.455E-02	5.164E-02	7.682E-02	4.210E-03	-0.580
	677.61			-1.366E-01	4.274E-01	6.657E-01	3.745E-02	-0.205
	706.67			5.308E-02	2.599E-01	4.429E-01	2.646E-02	0.120
	763.93			1.272E-01	2.416E-01	3.693E-01	2.490E-02	0.345
	884.67			1.502E-03	6.964E-02	1.155E-01	9.932E-03	0.013
	937.48			2.752E-02	1.490E-01	2.502E-01	2.150E-02	0.110
	1384.27			-1.923E-01	2.375E-01	3.579E-01	2.781E-02	-0.538
IN-111	171.28			7.572E-01	3.783E+00	6.151E+00	4.106E-01	0.123
	245.39	*		8.243E-01	4.105E+00	6.099E+00	4.246E-01	0.135
IN-113M	391.69	*		-1.692E-02	6.385E-02	1.035E-01	6.280E-03	-0.163
SN-113	391.69	*		-1.692E-02	6.385E-02	1.035E-01	6.280E-03	-0.163
IN-114M	190.27	*		4.851E-02	3.165E-01	4.476E-01	3.035E-02	0.108
CD-115	260.90			3.692E-04	3.165E-01	Half-Life	too short	
	492.35			-7.601E-05	3.165E-01	Half-Life	too short	
	527.90	*		-2.663E-05	3.165E-01	Half-Life	too short	
SN-117M	156.02			-2.083E+00	4.180E+00	6.614E+00	4.432E-01	-0.315
	158.56	*		2.563E-02	1.004E-01	1.640E-01	1.097E-02	0.156
SB-122	563.90	*		8.279E+00	8.130E+00	1.414E+01	7.781E-01	0.585
	692.80			4.956E+01	1.699E+02	2.909E+02	1.580E+01	0.170
I-123	159.00	*		6.438E+02	1.699E+02	Half-Life	too short	
	528.96			-5.046E+04	1.699E+02	Half-Life	too short	
TE-123M	159.00	*		2.193E-02	4.412E-02	7.271E-02	4.909E-03	0.302
I-124	602.71	*		-1.765E-01	2.062E+00	2.844E+00	1.520E-01	-0.062
	722.78			9.352E+00	1.177E+01	1.858E+01	1.084E+00	0.503
	1325.50			-2.479E+01	8.975E+01	1.396E+02	1.041E+01	-0.178
	1376.25			1.046E+02	9.172E+01	1.657E+02	1.243E+01	0.631

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-124	1509.49			2.016E+01	4.296E+01	7.572E+01	5.484E+00	0.266
	1691.02			-9.250E-02	9.525E+00	1.571E+01	1.034E+00	-0.006
	602.71			-5.579E-03	6.520E-02	8.991E-02	4.809E-03	-0.062
	645.85			4.573E-01	6.421E-01	1.103E+00	6.566E-02	0.415
	709.31			-6.530E-01	3.600E+00	5.940E+00	3.357E-01	-0.110
	713.82			5.011E-01	2.053E+00	3.511E+00	3.567E-01	0.143
	722.78			4.286E-01	5.396E-01	8.516E-01	5.201E-02	0.503
	968.20		+	2.165E+01	6.714E+00	9.977E+00	8.011E-01	2.170
	1045.16			1.283E+00	3.504E+00	5.951E+00	4.348E-01	0.216
	1325.50			-1.214E+00	4.393E+00	6.830E+00	5.097E-01	-0.178
SB-125	1368.21			-1.174E+00	2.525E+00	3.784E+00	4.843E-01	-0.310
	1436.60			-5.792E-01	4.920E+00	8.074E+00	5.983E-01	-0.072
	1691.02		*	-9.998E-04	1.030E-01	1.698E-01	1.192E-02	-0.006
	427.89		*	-2.963E-02	1.288E-01	2.082E-01	1.241E-02	-0.142
	463.38			5.801E-01	4.099E-01	7.270E-01	4.860E-02	0.798
TE-125M	600.56			-9.527E-02	2.947E-01	3.954E-01	2.502E-02	-0.241
	635.90			-7.529E-02	3.592E-01	5.673E-01	3.557E-02	-0.133
I-126	109.28		*	1.097E+00	1.426E+01	2.338E+01	2.326E+00	0.047
	388.63			-2.614E-01	3.547E-01	5.571E-01	3.188E-02	-0.469
SB-126	666.33		*	-2.481E-01	3.286E-01	4.942E-01	2.515E-02	-0.502
	753.82			1.685E+00	2.350E+00	4.152E+00	2.604E-01	0.406
	223.80			4.706E+00	7.815E+00	1.281E+01	8.876E-01	0.367
	278.60			1.877E+00	5.133E+00	7.654E+00	5.282E-01	0.245
	296.50			1.760E+01	4.589E+00	6.190E+00	4.214E-01	2.844
	414.70			-3.648E-02	1.374E-01	2.223E-01	1.268E-02	-0.164
	415.30			-4.487E+00	1.124E+01	1.801E+01	1.027E+00	-0.249
	555.20			-9.786E-01	6.846E+00	1.097E+01	6.070E-01	-0.089
	573.80			9.396E-01	1.890E+00	3.172E+00	1.734E-01	0.296
	593.00			-4.323E-01	1.744E+00	2.765E+00	1.490E-01	-0.156
	656.30			-7.508E+00	6.045E+00	8.637E+00	4.374E-01	-0.869
	666.33			-1.046E-01	1.386E-01	2.084E-01	1.061E-02	-0.502
	675.00			-2.565E+00	3.455E+00	5.165E+00	2.686E-01	-0.497
	695.00			6.331E-02	1.340E-01	2.323E-01	1.269E-02	0.273
	697.00			4.878E-02	4.633E-01	7.830E-01	4.297E-02	0.062
	720.50		*	8.359E-02	2.492E-01	3.750E-01	2.177E-02	0.223
	856.80			7.054E-01	8.706E-01	1.370E+00	1.075E-01	0.515
	989.30			-1.490E+00	2.114E+00	3.218E+00	2.526E-01	-0.463
SN-126	1034.80			9.208E+00	1.451E+01	2.531E+01	1.876E+00	0.364
	1213.00			4.744E+00	7.780E+00	1.336E+01	8.204E-01	0.355
	64.28			-1.152E-01	9.716E-01	1.603E+00	2.748E-01	-0.072
SB-127	86.94		+	1.187E+00	1.111E+00	9.639E-01	4.053E-01	1.232
	87.57		*	2.286E-01	2.088E-01	2.342E-01	2.702E-02	0.976
	61.10			4.995E+00	2.467E+02	4.098E+02	6.163E+01	0.012
	252.40			6.553E+00	1.279E+01	2.150E+01	9.045E+00	0.305
	290.80			-4.008E+01	7.170E+01	9.969E+01	1.122E+01	-0.402
	411.60			-4.765E+00	3.705E+01	6.049E+01	9.273E+00	-0.079
	444.90			1.070E+01	2.680E+01	4.515E+01	5.437E+00	0.237
	473.00			2.442E+00	5.070E+00	7.538E+00	9.333E-01	0.324
	543.00			2.897E+01	4.631E+01	7.859E+01	1.093E+01	0.369

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		603.60		1.198E+01	3.634E+01	5.248E+01	6.214E+00	0.228
		685.20	*	4.264E-01	3.857E+00	6.527E+00	6.947E-01	0.065
		698.50		-1.194E+01	4.247E+01	6.969E+01	1.070E+01	-0.171
		722.20		7.382E+01	8.413E+01	1.338E+02	1.427E+01	0.552
		783.80		1.379E+01	9.905E+00	1.805E+01	2.244E+00	0.764
XE-127		57.60		5.738E+00	1.596E+01	2.687E+01	3.423E+00	0.213
		145.22		-1.471E-02	1.077E+00	1.744E+00	1.183E-01	-0.008
		172.10		6.072E-02	1.846E-01	3.019E-01	2.016E-02	0.201
		202.84	*	2.737E-02	8.187E-02	1.169E-01	8.001E-03	0.234
		374.96		-3.537E-01	3.055E-01	4.668E-01	2.775E-02	-0.758
I-131		80.18		-5.566E+00	1.579E+01	1.594E+01	1.790E+00	-0.349
		284.30		-1.455E+00	3.060E+00	4.992E+00	3.729E-01	-0.291
		364.48	*	-5.819E-02	2.206E-01	3.589E-01	2.436E-02	-0.162
		636.97		5.553E-01	2.880E+00	4.718E+00	2.826E-01	0.118
		722.89		1.125E+01	1.389E+01	2.195E+01	1.309E+00	0.513
TE-132		49.72		-5.543E+01	1.504E+02	2.462E+02	3.897E+01	-0.225
		111.76		-4.511E+01	9.816E+01	1.571E+02	1.805E+01	-0.287
		116.30		2.638E+01	8.659E+01	1.431E+02	1.609E+01	0.184
		228.16	*	-2.238E+00	2.352E+00	3.761E+00	5.904E-01	-0.595
BA-133		53.15		3.458E+00	1.038E+01	1.751E+01	2.400E+00	0.198
		79.62		-9.507E-02	3.068E+00	3.197E+00	5.365E-01	-0.030
		81.00		-5.714E-02	2.380E-01	2.429E-01	4.226E-02	-0.235
	+	276.40		9.929E-01	5.271E-01	9.266E-01	1.251E-01	1.072
		302.84		2.624E-03	2.324E-01	3.371E-01	4.102E-02	0.008
		356.01	*	5.036E-02	6.669E-02	1.018E-01	1.198E-02	0.495
		383.85		4.784E-01	4.327E-01	7.562E-01	8.222E-02	0.633
I-133	+	510.53		4.990E+01	4.327E-01	Half-Life	too short	
		529.87	*	5.001E-02	4.327E-01	Half-Life	too short	
		706.58		3.298E+00	4.327E-01	Half-Life	too short	
		856.28		1.574E+00	4.327E-01	Half-Life	too short	
		875.33		-4.642E+00	4.327E-01	Half-Life	too short	
		1236.41		3.516E+01	4.327E-01	Half-Life	too short	
		1298.22		-2.323E+00	4.327E-01	Half-Life	too short	
CS-134		475.35		-2.229E+00	3.217E+00	4.216E+00	2.403E-01	-0.529
		563.23		4.793E-01	5.157E-01	8.921E-01	5.024E-02	0.537
		569.32		-2.108E-01	2.886E-01	4.407E-01	2.496E-02	-0.478
		604.70		3.858E-02	5.314E-02	7.980E-02	4.287E-03	0.483
		795.84	*	1.089E-01	6.374E-02	1.191E-01	8.301E-03	0.914
		801.93		-1.715E-01	5.429E-01	8.352E-01	5.882E-02	-0.205
		1038.57		-2.833E+00	5.131E+00	7.912E+00	5.834E-01	-0.358
		1167.94		-9.552E-01	3.436E+00	5.438E+00	3.138E-01	-0.176
		1365.15		9.413E-01	1.593E+00	2.785E+00	2.218E-01	0.338
I-135		288.45		7.955E+14	1.593E+00	Half-Life	too short	
		417.63		-1.028E+14	1.593E+00	Half-Life	too short	
		546.56		-2.251E+14	1.593E+00	Half-Life	too short	
		836.80		2.851E+14	1.593E+00	Half-Life	too short	
		1038.76		-3.056E+14	1.593E+00	Half-Life	too short	
		1124.00		5.829E+14	1.593E+00	Half-Life	too short	
		1131.51		1.183E+13	1.593E+00	Half-Life	too short	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CS-136	1260.41	*		-4.629E+13	1.593E+00	Half-Life	too short	
	1457.56			1.553E+16	1.593E+00	Half-Life	too short	
	1678.03			-2.174E+14	1.593E+00	Half-Life	too short	
	1706.46			-7.251E+14	1.593E+00	Half-Life	too short	
	1791.20			-3.947E+14	1.593E+00	Half-Life	too short	
	66.91			1.148E+00	1.824E+00	3.072E+00	5.284E-01	0.374
	86.29			4.587E+00	3.896E+00	3.725E+00	5.550E-01	1.232
	153.22			1.042E+00	1.222E+00	2.040E+00	1.629E-01	0.511
	163.89			-7.233E-01	2.012E+00	3.129E+00	2.491E-01	-0.231
	176.55			4.344E-02	6.705E-01	1.082E+00	7.942E-02	0.040
	273.65			3.446E-01	1.261E+00	1.283E+00	9.773E-02	0.269
	340.57			2.949E-02	2.482E-01	3.610E-01	2.437E-02	0.082
	818.51			-1.327E-03	1.134E-01	1.884E-01	1.367E-02	-0.007
	1048.07	*		7.123E-02	1.735E-01	2.962E-01	2.283E-02	0.241
	1235.34			1.542E+00	1.006E+00	1.821E+00	1.884E-01	0.847
BA-137M	661.65	*		6.119E-02	5.272E-02	9.213E-02	4.635E-03	0.664
CS-137	661.65	*		6.468E-02	5.573E-02	9.739E-02	4.927E-03	0.664
CE-139	165.85	*		3.522E-03	4.404E-02	7.130E-02	4.742E-03	0.049
BA-140	162.64			6.058E-02	1.447E+00	2.295E+00	1.676E-01	0.026
	304.84			2.865E+00	2.549E+00	3.832E+00	1.054E+00	0.748
	423.70			5.178E-01	3.327E+00	5.518E+00	1.753E+00	0.094
LA-140	537.32	*		-1.959E-01	4.666E-01	7.265E-01	2.360E-01	-0.270
	328.77			3.852E-01	5.337E-01	9.183E-01	6.580E-02	0.420
	432.53			1.873E+00	3.688E+00	6.252E+00	3.957E-01	0.300
	487.03			3.895E-01	2.242E-01	4.108E-01	2.656E-02	0.948
	751.79			3.801E-01	2.702E+00	4.567E+00	3.408E-01	0.083
	815.85			-3.386E-01	4.796E-01	7.383E-01	6.173E-02	-0.459
	867.82			3.782E-01	2.340E+00	3.549E+00	3.023E-01	0.107
	919.63			7.032E-01	4.355E+00	6.995E+00	7.321E-01	0.101
	925.24			-7.513E-01	1.838E+00	2.908E+00	2.592E-01	-0.258
	1596.49	*		4.480E-02	1.557E-01	2.354E-01	1.641E-02	0.190
CE-141	145.44	*		-1.277E-02	9.798E-02	1.579E-01	1.102E-02	-0.081
CE-143	57.37			9.004E-03	9.798E-02	Half-Life	too short	
	231.56			8.622E-03	9.798E-02	Half-Life	too short	
	293.26	*		1.207E-02	9.798E-02	Half-Life	too short	
	350.59			2.601E-01	9.798E-02	Half-Life	too short	
	490.36			-2.396E-02	9.798E-02	Half-Life	too short	
	664.57			-3.873E-03	9.798E-02	Half-Life	too short	
	721.93			1.214E-02	9.798E-02	Half-Life	too short	
CE-144	80.11			-1.952E+00	5.225E+00	5.265E+00	5.874E-01	-0.371
	133.54	*		-3.075E-02	2.876E-01	4.651E-01	6.836E-02	-0.066
PM-144	476.78			-9.268E-02	9.799E-02	1.436E-01	9.849E-03	-0.646
	618.01			-2.943E-02	4.265E-02	6.497E-02	3.676E-03	-0.453
	696.49	*		1.949E-02	4.873E-02	8.401E-02	4.611E-03	0.232
	778.57			-3.047E+00	3.128E+00	4.765E+00	3.163E-01	-0.640
PR-144	696.49	*		1.324E+00	3.309E+00	5.705E+00	3.127E-01	0.232
	1489.15			-8.135E+00	1.374E+01	2.041E+01	1.489E+00	-0.399
PM-146	453.90	*		4.754E-02	6.065E-02	9.677E-02	8.287E-03	0.491
	633.02			1.756E-01	1.818E+00	2.952E+00	1.084E+00	0.059

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

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ND-147	735.90			-3.765E-02	1.846E-01	2.958E-01	8.261E-02	-0.127
	747.13			-4.798E-02	1.138E-01	1.827E-01	2.318E-02	-0.263
	91.11			-2.903E-01	9.766E-01	1.056E+00	1.202E-01	-0.275
	319.41			3.973E+00	6.209E+00	1.067E+01	7.081E-01	0.372
	439.89			3.194E+00	1.022E+01	1.713E+01	9.797E-01	0.186
PM-149	531.02	*		5.304E-01	1.009E+00	1.702E+00	2.287E-01	0.312
	285.90	*		-1.212E-04	1.009E+00	Half-Life too short		
EU-152	121.78			9.318E-02	1.038E-01	1.751E-01	1.527E-02	0.532
	244.69			-3.256E-02	4.908E-01	7.156E-01	4.982E-02	-0.045
	344.27	*		1.771E-01	1.787E-01	2.295E-01	1.617E-02	0.771
	443.98			1.223E-01	1.326E+00	2.189E+00	1.251E-01	0.056
	778.89			-2.901E-01	3.508E-01	5.416E-01	3.594E-02	-0.536
	867.32			1.518E-01	1.188E+00	1.725E+00	1.383E-01	0.088
	964.01	+		9.807E-01	5.037E-01	8.288E-01	6.683E-02	1.183
	1085.78			1.801E-01	5.109E-01	8.666E-01	5.937E-02	0.208
	1112.02			-2.259E-01	4.051E-01	5.359E-01	3.499E-02	-0.421
	1407.95			-1.889E-02	2.640E-01	4.376E-01	3.265E-02	-0.043
GD-153	69.67			-9.271E-01	3.465E+00	4.966E+00	5.606E-01	-0.187
	83.37			2.308E+01	2.601E+01	3.904E+01	4.404E+00	0.591
	97.43	*		3.344E-02	1.286E-01	1.877E-01	1.801E-02	0.178
EU-154	103.18			-1.906E-02	1.562E-01	2.546E-01	2.240E-02	-0.075
	123.07			4.575E-03	7.335E-02	1.198E-01	1.233E-02	0.038
	247.94			-2.413E-01	5.366E-01	8.300E-01	8.540E-02	-0.291
	591.81			-7.662E-02	9.439E-01	1.516E+00	1.446E-01	-0.051
	723.30			2.611E-01	2.566E-01	4.119E-01	2.931E-02	0.634
	756.87			-5.691E-02	1.027E+00	1.707E+00	1.782E-01	-0.033
	873.19			-5.476E-02	3.589E-01	5.849E-01	6.959E-02	-0.094
EU-155	996.32			-3.153E-01	5.048E-01	7.734E-01	1.344E-01	-0.408
	1004.76			-2.621E-01	2.680E-01	3.897E-01	4.279E-02	-0.673
	1274.45	*		-2.054E-02	1.675E-01	2.675E-01	2.683E-02	-0.077
	48.70			-4.209E+00	8.766E+00	1.428E+01	1.838E+00	-0.295
	60.01			2.567E+00	1.101E+01	1.845E+01	2.255E+00	0.139
	86.54	+		3.444E-01	2.907E-01	2.796E-01	3.225E-02	1.232
	105.31	*		1.084E-02	1.604E-01	2.632E-01	2.279E-02	0.041
	86.79	+		9.540E-01	8.053E-01	7.746E-01	8.895E-02	1.232
	197.04			8.516E-01	8.274E-01	1.387E+00	9.456E-02	0.614
	215.65			3.758E-01	1.176E+00	1.908E+00	1.316E-01	0.197
TB-160	298.57	+		2.196E-01	2.273E-01	3.004E-01	2.041E-02	0.731
	879.36	*		1.927E-02	1.884E-01	3.151E-01	2.591E-02	0.061
	962.29			1.043E+00	9.153E-01	1.460E+00	1.179E-01	0.714
	966.15			1.860E+00	4.176E-01	8.080E-01	6.501E-02	2.302
	1177.93			-3.083E-01	4.646E-01	6.988E-01	4.016E-02	-0.441
	1271.85			1.070E-01	9.497E-01	1.558E+00	1.063E-01	0.069
	80.57			2.501E-01	6.210E-01	6.730E-01	7.517E-02	0.372
HO-166M	184.41	+		1.934E-01	8.226E-02	1.016E-01	6.855E-03	1.904
	280.46			5.172E-02	1.304E-01	1.954E-01	1.347E-02	0.265
	410.95			1.791E-01	3.692E-01	6.246E-01	3.559E-02	0.287
	711.68	*		-2.736E-02	7.486E-02	1.215E-01	6.904E-03	-0.225
	752.31			1.822E-01	3.508E-01	6.112E-01	3.819E-02	0.298

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TM-171	810.29			-2.864E-02	6.908E-02	1.100E-01	7.822E-03	-0.260
	51.35			-1.225E+01	9.617E+01	1.593E+02	2.201E+01	-0.077
	52.39			-3.379E+00	4.684E+01	7.775E+01	1.073E+01	-0.043
	59.40			8.578E+00	6.041E+01	1.009E+02	1.241E+01	0.085
LU-176	66.72	*		3.110E+01	5.401E+01	9.113E+01	1.048E+01	0.341
	88.36			-4.379E-02	5.257E-01	5.436E-01	6.237E-02	-0.081
	201.83			-4.565E-02	4.356E-02	6.335E-02	4.334E-03	-0.721
	306.84	*		5.729E-03	3.608E-02	5.912E-02	3.983E-03	0.097
LU-177	401.10			-8.258E+00	9.700E+00	1.511E+01	8.587E-01	-0.547
	112.95			-7.949E-01	3.455E+00	5.589E+00	4.375E-01	-0.142
LU-177M	208.36	*		6.168E+00	3.519E+00	4.355E+00	2.992E-01	1.416
	52.97			2.186E+00	4.743E+00	8.036E+00	1.104E+00	0.272
HF-181	54.07			8.321E-01	2.395E+00	4.040E+00	5.476E-01	0.206
	61.30			-1.622E+00	3.283E+00	5.256E+00	6.345E-01	-0.309
	121.62			4.788E-01	5.405E-01	9.123E-01	6.573E-02	0.525
	147.16			-7.821E-01	9.584E-01	1.496E+00	1.012E-01	-0.523
	171.86			2.223E-01	7.032E-01	1.149E+00	7.673E-02	0.193
	218.09			2.985E-01	1.313E+00	2.120E+00	1.465E-01	0.141
	268.79	+		3.035E+00	1.933E+00	2.195E+00	1.522E-01	1.382
	319.02			1.871E-01	3.872E-01	6.603E-01	4.381E-02	0.283
	367.43			-3.217E-01	1.284E+00	2.090E+00	1.266E-01	-0.154
	413.65	*		-3.166E-02	2.654E-01	4.335E-01	2.471E-02	-0.073
	56.28			-5.750E-01	2.583E+00	4.254E+00	5.556E-01	-0.135
	57.53			5.639E-01	1.328E+00	2.241E+00	2.858E-01	0.252
W-181	65.20			-6.017E-01	1.940E+00	3.175E+00	3.696E-01	-0.189
	133.02			-2.439E-02	9.739E-02	1.565E-01	1.086E-02	-0.156
	136.25			-5.479E-01	7.075E-01	1.095E+00	7.539E-02	-0.500
	345.85			2.279E-01	3.636E-01	4.890E-01	3.104E-02	0.466
	482.03	*		1.044E-02	6.316E-02	1.044E-01	5.944E-03	0.100
	56.28			-2.147E-01	9.696E-01	1.597E+00	2.085E-01	-0.134
TA-182	57.53			2.115E-01	4.987E-01	8.418E-01	1.074E-01	0.251
	65.20	*		-2.242E-01	7.229E-01	1.183E+00	1.377E-01	-0.189
	67.75			1.788E-01	2.172E-01	3.575E-01	4.081E-02	0.500
	100.10			4.430E-02	2.634E-01	4.346E-01	3.997E-02	0.102
RE-183	152.43			7.096E-01	5.190E-01	8.821E-01	5.932E-02	0.804
	222.10			2.102E-01	5.438E-01	8.836E-01	6.117E-02	0.238
	1001.68			1.510E+00	2.710E+00	4.603E+00	3.561E-01	0.328
	1121.28	+		9.636E-01	3.613E-01	4.992E-01	3.200E-02	1.930
	1189.05			-1.018E-01	3.718E-01	5.855E-01	3.437E-02	-0.174
	1221.42	*		-8.108E-02	2.738E-01	4.317E-01	2.691E-02	-0.188
	1230.97			-6.986E-01	6.921E-01	1.013E+00	6.429E-02	-0.689
	57.98			1.228E-01	4.981E-01	8.354E-01	1.056E-01	0.147
RE-184	59.32			3.750E-02	2.582E-01	4.312E-01	5.314E-02	0.087
	67.20			2.990E-01	3.883E-01	6.585E-01	7.546E-02	0.454
	162.32	*		1.336E-02	1.767E-01	2.805E-01	1.869E-02	0.048
	208.81	+		3.835E+00	2.188E+00	2.702E+00	1.857E-01	1.420
RE-184	291.72			4.150E-01	1.675E+00	2.473E+00	1.691E-01	0.168
	57.98			4.422E-01	1.794E+00	3.009E+00	3.804E-01	0.147
	59.32			1.350E-01	9.291E-01	1.552E+00	1.912E-01	0.087

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	67.20			1.076E+00	1.398E+00	2.371E+00	2.717E-01	0.454
	161.27			-2.104E-01	5.654E-01	8.809E-01	5.877E-02	-0.239
	216.55			3.258E-02	4.144E-01	6.645E-01	4.588E-02	0.049
	252.85	*		2.990E-01	3.310E-01	5.783E-01	4.025E-02	0.517
	318.01			7.407E-02	6.782E-01	1.135E+00	7.542E-02	0.065
	792.07			1.077E+00	1.377E+00	2.429E+00	1.660E-01	0.443
	903.28			-2.870E-01	1.585E+00	2.381E+00	2.024E-01	-0.121
	920.93			4.642E-02	5.690E-01	9.478E-01	7.949E-02	0.049
	59.72			2.349E-02	6.823E-01	1.135E+00	1.391E-01	0.021
	61.14			7.201E-03	3.546E-01	5.890E-01	7.122E-02	0.012
	69.30			1.838E-01	6.201E-01	9.146E-01	1.034E-01	0.201
	592.07			-5.175E-01	3.928E+00	6.286E+00	3.390E-01	-0.082
	646.12	*		2.240E-02	5.480E-02	9.159E-02	4.693E-03	0.245
	717.42			-8.586E-01	1.148E+00	1.794E+00	1.034E-01	-0.478
	874.81			-3.940E-01	7.432E-01	1.162E+00	9.463E-02	-0.339
RE-188	880.27			5.245E-01	1.064E+00	1.841E+00	1.516E-01	0.285
	155.03	*		5.668E-02	2.702E-01	4.407E-01	2.956E-02	0.129
	477.96			6.844E-01	4.441E+00	7.338E+00	4.181E-01	0.093
	633.10			4.459E-01	3.821E+00	6.220E+00	3.232E-01	0.072
W-188	63.58			-5.688E+01	1.104E+02	1.768E+02	2.087E+01	-0.322
	227.08			-1.945E+01	1.965E+01	3.169E+01	2.198E+00	-0.614
IR-192	290.67	*		-7.445E+00	1.266E+01	1.758E+01	1.203E+00	-0.423
	295.96	+		1.372E+00	2.768E-01	4.181E-01	2.881E-02	3.280
	308.46			-1.326E-01	1.448E-01	2.289E-01	1.552E-02	-0.579
	316.51	*		-6.695E-03	5.385E-02	8.907E-02	5.953E-03	-0.075
AU-195	468.07			3.937E-02	9.737E-02	1.637E-01	1.081E-02	0.241
	604.41			3.161E-01	7.289E-01	1.063E+00	1.183E-01	0.297
	612.46			8.124E-01	1.119E+00	1.681E+00	1.210E-01	0.483
	65.12			-1.156E-01	3.326E-01	5.436E-01	6.332E-02	-0.213
	66.83			1.097E-01	1.803E-01	3.045E-01	3.498E-02	0.360
	75.70	+		2.221E+00	4.911E-01	7.835E-01	8.700E-02	2.835
	98.88	*		1.682E-01	3.367E-01	5.447E-01	5.106E-02	0.309
	129.76			1.336E+00	4.062E+00	6.695E+00	4.682E-01	0.200
TL-200	367.94	*		-5.554E-04	4.062E+00	Half-Life	too short	
	579.30			1.013E-01	4.062E+00	Half-Life	too short	
	828.27			-1.603E-02	4.062E+00	Half-Life	too short	
	1205.75			-8.044E-03	4.062E+00	Half-Life	too short	
TL-201	68.90			5.061E+00	2.434E+01	3.575E+01	4.052E+00	0.142
	70.82			-3.970E+00	1.341E+01	1.918E+01	2.154E+00	-0.207
	80.30			-9.506E+00	3.005E+01	3.045E+01	3.399E+00	-0.312
	135.34			3.684E+00	8.773E+01	1.409E+02	9.723E+00	0.026
TL-202	167.43	*		-1.076E+01	2.477E+01	3.914E+01	2.605E+00	-0.275
	68.90			2.318E-01	1.115E+00	1.637E+00	1.856E-01	0.142
	70.82			-1.813E-01	6.125E-01	8.761E-01	9.836E-02	-0.207
	80.30			-4.343E-01	1.373E+00	1.391E+00	1.553E-01	-0.312
HG-203	439.56	*		4.487E-02	1.206E-01	1.975E-01	1.129E-02	0.227
	70.83			-6.633E-01	2.251E+00	3.219E+00	4.954E-01	-0.206
	72.87	+		5.291E+00	1.620E+00	2.241E+00	3.357E-01	2.360
	82.60			1.085E+00	2.060E+00	3.046E+00	4.729E-01	0.356

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		279.20	*	4.266E-02	7.028E-02	1.065E-01	7.671E-03	0.401
	+	72.80		1.463E+00	4.233E-01	6.160E-01	6.870E-02	2.375
	+	74.97		8.666E-01	2.508E-01	4.297E-01	4.773E-02	2.017
	+	84.90		6.488E-01	5.477E-01	5.351E-01	6.080E-02	1.213
		569.67		-3.634E-02	4.533E-02	6.885E-02	3.773E-03	-0.528
TL-207		1063.62	*	3.658E-03	6.674E-02	1.099E-01	7.811E-03	0.033
		1770.23		9.572E-03	6.251E-01	8.828E-01	5.467E-02	0.011
		81.07		-1.175E-01	5.243E-01	5.361E-01	5.997E-02	-0.219
		83.78		2.317E-01	2.190E-01	3.306E-01	3.737E-02	0.701
		94.90		2.488E-01	3.699E-01	5.504E-01	5.519E-02	0.452
		122.32		2.148E+00	2.452E+00	4.137E+00	3.275E-01	0.519
		144.24		-9.529E-02	1.006E+00	1.613E+00	1.298E-01	-0.059
		154.21		2.308E-01	6.115E-01	1.003E+00	7.811E-02	0.230
	+	269.46		6.984E-01	4.451E-01	5.083E-01	3.636E-02	1.374
		323.87	*	-1.100E+00	1.014E+00	1.562E+00	2.626E-01	-0.705
	+	338.28		8.898E+00	2.681E+00	3.350E+00	3.650E-01	2.656
		445.03		1.225E+00	3.067E+00	5.169E+00	5.283E-01	0.237
PO-209		260.50		9.485E+00	1.315E+01	2.281E+01	1.586E+00	0.416
		262.80		-1.748E+01	4.313E+01	6.111E+01	4.246E+00	-0.286
		896.60	*	3.779E+00	1.035E+01	1.766E+01	1.504E+00	0.214
BI-210		46.50	*	-2.865E+00	1.494E+01	2.410E+01	2.504E+00	-0.119
PB-210		46.50	*	-2.865E+00	1.494E+01	2.410E+01	2.504E+00	-0.119
PO-210		46.50	*	-2.865E+00	1.494E+01	2.410E+01	2.315E+00	-0.119
PB-211		404.84	*	-1.400E+00	1.651E+00	2.168E+00	1.351E+00	-0.646
		427.08		-1.434E+00	3.071E+00	4.673E+00	2.888E+00	-0.307
		831.96		5.311E-01	1.616E+00	2.705E+00	1.691E+00	0.196
BI-212	+	727.18	*	1.331E+00	6.081E-01	8.510E-01	6.625E-02	1.564
		785.46		1.680E+00	2.381E+00	4.184E+00	2.817E-01	0.402
PO-215		1620.62		9.348E-01	1.888E+00	3.338E+00	2.296E-01	0.280
		81.07		-1.175E-01	5.243E-01	5.361E-01	5.997E-02	-0.219
		83.78		2.317E-01	2.190E-01	3.306E-01	3.737E-02	0.701
		94.90		2.488E-01	3.699E-01	5.504E-01	5.519E-02	0.452
		122.32		2.148E+00	2.452E+00	4.137E+00	3.275E-01	0.519
		144.24		-9.529E-02	1.006E+00	1.613E+00	1.298E-01	-0.059
		154.21		2.308E-01	6.115E-01	1.003E+00	7.811E-02	0.230
	+	269.46		6.984E-01	4.451E-01	5.083E-01	3.636E-02	1.374
		323.87	*	-1.100E+00	1.014E+00	1.562E+00	2.626E-01	-0.705
	+	338.28		8.898E+00	2.681E+00	3.350E+00	3.650E-01	2.656
RN-219		445.03		1.225E+00	3.067E+00	5.169E+00	5.283E-01	0.237
		271.23		5.290E-01	4.572E-01	6.370E-01	5.698E-02	0.830
		401.81	*	-3.161E-01	5.925E-01	9.408E-01	1.275E-01	-0.336
RN-220		549.76	*	4.907E+00	3.592E+01	5.892E+01	3.269E+00	0.083
RA-223		81.07		-1.175E-01	5.243E-01	5.361E-01	5.997E-02	-0.219
		83.78		2.317E-01	2.190E-01	3.306E-01	3.737E-02	0.701
		94.90		2.488E-01	3.699E-01	5.504E-01	5.519E-02	0.452
		122.32		2.148E+00	2.452E+00	4.137E+00	3.275E-01	0.519
		144.24		-9.529E-02	1.006E+00	1.613E+00	1.298E-01	-0.059
		154.21		2.308E-01	6.115E-01	1.003E+00	7.811E-02	0.230
	+	269.46		6.984E-01	4.451E-01	5.083E-01	3.636E-02	1.374

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		323.87	*	-1.100E+00	1.014E+00	1.562E+00	2.626E-01	-0.705
	+	338.28		8.898E+00	2.681E+00	3.350E+00	3.650E-01	2.656
		445.03		1.225E+00	3.067E+00	5.169E+00	5.283E-01	0.237
		79.80		-1.697E-01	3.879E+00	4.036E+00	9.137E-01	-0.042
		236.00		5.459E+00	7.825E-01	1.045E+00	1.163E-01	5.224
		256.20	*	-4.027E-01	5.383E-01	8.655E-01	1.253E-01	-0.465
TH-227		286.10		-9.738E-01	2.225E+00	3.631E+00	4.405E-01	-0.268
	+	299.80		2.693E+00	2.818E+00	3.649E+00	6.080E-01	0.738
		304.40		1.936E+00	2.991E+00	4.519E+00	7.972E-01	0.428
		334.20		2.790E+00	3.616E+00	5.482E+00	1.017E+00	0.509
		79.80		-1.697E-01	3.879E+00	4.036E+00	9.242E-01	-0.042
	+	94.00		4.470E+00	4.887E+00	5.236E+00	1.175E+00	0.854
TH-229		236.00		5.459E+00	7.288E-01	1.045E+00	1.028E-01	5.224
		256.20	*	-4.027E-01	5.397E-01	8.655E-01	1.500E-01	-0.465
		286.10		-9.738E-01	2.426E+00	3.631E+00	3.640E+00	-0.268
	+	299.80		2.693E+00	2.818E+00	3.649E+00	6.080E-01	0.738
		304.40		1.936E+00	2.991E+00	4.519E+00	7.972E-01	0.428
		334.20		2.790E+00	3.616E+00	5.482E+00	1.017E+00	0.509
PA-231	+	85.43		6.403E-01	5.405E-01	5.331E-01	6.075E-02	1.201
		88.47		-4.392E-02	3.018E-01	3.105E-01	3.554E-02	-0.141
		100.00		1.232E-01	2.646E-01	4.417E-01	4.069E-02	0.279
		193.63	*	4.055E-01	7.657E-01	1.257E+00	8.544E-02	0.323
		210.97		1.082E+00	1.290E+00	1.891E+00	1.301E-01	0.572
		283.67	*	-5.593E-01	2.201E+00	3.630E+00	5.180E-01	-0.154
TH-231		301.29		8.275E-01	9.506E-01	1.455E+00	1.604E-01	0.569
		81.07		-1.175E-01	5.243E-01	5.361E-01	5.997E-02	-0.219
		83.78		2.317E-01	2.190E-01	3.306E-01	3.737E-02	0.701
		94.90		2.488E-01	3.699E-01	5.504E-01	5.519E-02	0.452
		122.32		2.148E+00	2.452E+00	4.137E+00	3.275E-01	0.519
		144.24		-9.529E-02	1.006E+00	1.613E+00	1.298E-01	-0.059
U-231		154.21		2.308E-01	6.115E-01	1.003E+00	7.811E-02	0.230
	+	269.46		6.984E-01	4.451E-01	5.083E-01	3.636E-02	1.374
		323.87	*	-1.100E+00	1.014E+00	1.562E+00	2.626E-01	-0.705
	+	338.28		8.898E+00	2.681E+00	3.350E+00	3.650E-01	2.656
		445.03		1.225E+00	3.067E+00	5.169E+00	5.283E-01	0.237
		84.21		2.434E+00	1.740E+01	2.782E+01	3.151E+00	0.087
PA-233	+	92.29		8.467E+00	9.099E+00	1.142E+01	1.204E+00	0.741
		95.87	*	-1.244E+00	3.334E+00	4.692E+00	4.624E-01	-0.265
		108.00		3.593E+00	5.776E+00	9.668E+00	7.998E-01	0.372
	+	75.28		2.528E+01	7.989E+00	1.267E+01	2.138E+00	1.995
	+	86.59		5.590E+00	4.927E+00	4.538E+00	1.265E+00	1.232
	+	300.12		7.509E-01	7.825E-01	1.015E+00	1.410E-01	0.740
PA-234		311.98	*	3.076E-03	9.094E-02	1.518E-01	1.064E-02	0.020
		340.50		2.725E-01	9.875E-01	1.450E+00	3.354E-01	0.188
		398.62		9.065E-01	3.020E+00	5.054E+00	1.305E+00	0.179
		415.76		-4.872E-01	2.340E+00	3.794E+00	7.801E-01	-0.128
		63.00		-2.412E+00	3.198E+00	5.033E+00	8.818E-01	-0.479
		94.67		3.017E-01	2.711E-01	4.086E-01	5.496E-02	0.738
		98.44		5.918E-02	1.455E-01	2.196E-01	1.228E-01	0.269

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	99.86			3.387E-01	6.705E-01	1.121E+00	1.034E-01	0.302
	111.00			2.247E-02	2.646E-01	4.339E-01	5.055E-02	0.052
	131.20			-2.519E-01	1.518E-01	2.275E-01	1.585E-02	-1.107
	152.70			6.186E-01	4.935E-01	8.221E-01	1.329E-01	0.752
+	186.00			6.964E+00	3.624E+00	3.731E+00	1.147E+00	1.867
	226.40			-3.352E-01	5.949E-01	9.776E-01	1.190E-01	-0.343
	227.20			-6.521E-01	6.372E-01	1.026E+00	7.117E-02	-0.636
	248.90			-5.507E-01	1.157E+00	1.890E+00	4.126E-01	-0.291
+	293.70			8.320E+00	2.091E+00	2.525E+00	4.162E-01	3.295
	369.80			1.081E+00	1.209E+00	2.072E+00	4.328E-01	0.522
	568.70			-2.747E-01	1.416E+00	2.258E+00	1.239E-01	-0.122
	569.50			-2.892E-01	3.979E-01	6.079E-01	3.332E-02	-0.476
	574.00			1.092E+00	2.153E+00	3.617E+00	1.977E-01	0.302
	699.00			-6.392E-01	1.004E+00	1.593E+00	2.851E-01	-0.401
	706.10			4.572E-01	1.334E+00	2.271E+00	1.002E+00	0.201
	733.00			-4.757E-01	5.327E-01	6.582E-01	1.403E-01	-0.723
	742.81			-6.016E-01	1.759E+00	2.774E+00	1.857E+00	-0.217
	796.30			1.965E+00	1.329E+00	2.284E+00	6.066E-01	0.860
	805.60			5.454E-01	1.240E+00	2.129E+00	6.439E-01	0.256
	819.60			1.567E-01	1.566E+00	2.627E+00	9.915E-01	0.060
	826.30			3.980E-01	1.110E+00	1.879E+00	8.363E-01	0.212
	831.60			1.908E-01	7.998E-01	1.354E+00	3.997E-01	0.141
	876.40			-8.527E-01	1.361E+00	1.576E+00	1.620E+00	-0.541
	880.51			1.913E-01	3.711E-01	6.433E-01	5.301E-02	0.297
	883.24			1.483E-01	4.077E-01	6.766E-01	4.545E-01	0.219
	899.00			-5.415E-01	1.219E+00	1.897E+00	8.288E-01	-0.285
	925.00			-7.417E-01	1.531E+00	2.401E+00	2.007E-01	-0.309
	926.50			1.636E-01	2.203E-01	3.846E-01	9.686E-02	0.426
	946.00	*		-5.754E-02	3.779E-01	6.131E-01	1.139E-01	-0.094
	949.00			-2.033E-01	5.573E-01	8.831E-01	7.226E-02	-0.230
	980.50			1.816E-01	9.959E-01	1.668E+00	1.322E-01	0.109
	1394.10			-3.304E-01	1.572E+00	2.532E+00	1.644E+00	-0.130
PA-234M	766.42			1.933E+01	2.086E+01	2.935E+01	1.480E+01	0.659
	1001.03	*		5.275E+00	5.973E+00	1.043E+01	9.611E-01	0.506
TH-234	63.29	*		-2.111E+00	2.722E+00	4.268E+00	8.424E-01	-0.495
+	92.38			1.157E+00	1.257E+00	1.556E+00	2.966E-01	0.743
U-235	89.95			-3.994E-01	2.965E+00	3.048E+00	9.642E-01	-0.131
+	93.35			1.391E+00	1.540E+00	1.788E+00	5.113E-01	0.778
	105.00			1.729E-01	1.570E+00	2.580E+00	7.697E-01	0.067
	143.76	*		1.109E-01	3.100E-01	5.054E-01	8.432E-02	0.219
	163.35			1.604E-02	7.195E-01	1.139E+00	2.081E-01	0.014
+	185.71			2.579E-01	1.097E-01	1.379E-01	9.313E-03	1.871
	205.31			7.666E-01	8.475E-01	1.237E+00	2.270E-01	0.620
NP-236	94.67			2.308E-01	2.047E-01	3.102E-01	3.124E-02	0.744
	98.44			4.477E-02	1.072E-01	1.660E-01	1.567E-02	0.270
	111.00			1.699E-02	2.001E-01	3.282E-01	2.624E-02	0.052
	160.31	*		4.077E-02	1.205E-01	1.974E-01	1.318E-02	0.207
U-238	63.29	*		-2.111E+00	2.722E+00	4.268E+00	8.424E-01	-0.495
+	92.38			1.157E+00	1.243E+00	1.556E+00	1.637E-01	0.743

---- 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		1.216E-01	2.244E-01	3.756E-01	3.484E-02	0.324
		117.00	*	-1.741E-01	2.645E-01	4.185E-01	3.146E-02	-0.416
	+	209.75		2.910E+00	1.660E+00	2.036E+00	1.400E-01	1.429
		228.18		-3.170E-01	3.292E-01	5.312E-01	3.686E-02	-0.597
	+	277.60		4.842E-01	2.508E-01	4.489E-01	3.099E-02	1.079
		334.30		1.777E+00	2.041E+00	3.141E+00	2.036E-01	0.566
AM-241		59.54	*	-2.319E-02	3.513E-01	5.819E-01	7.405E-02	-0.040
CM-243		99.55		1.251E-01	2.310E-01	3.866E-01	3.586E-02	0.324
		103.76	*	-2.413E-02	1.426E-01	2.319E-01	2.025E-02	-0.104
		117.00		-1.792E-01	2.721E-01	4.307E-01	3.237E-02	-0.416
	+	209.75		2.869E+00	1.637E+00	2.007E+00	1.381E-01	1.429
		228.18		-3.204E-01	3.328E-01	5.369E-01	3.726E-02	-0.597
	+	277.60		4.883E-01	2.530E-01	4.527E-01	3.125E-02	1.079
AM-246		798.80		-2.724E-01	1.972E-01	2.885E-01	2.001E-02	-0.944
		1036.00		-1.020E-01	3.991E-01	6.371E-01	4.715E-02	-0.160
		1062.04		-4.817E-02	2.915E-01	4.688E-01	3.339E-02	-0.103
		1078.86	*	6.853E-02	1.985E-01	3.357E-01	2.327E-02	0.204
CM-247	+	278.00		2.008E+00	1.040E+00	1.872E+00	1.292E-01	1.073
		287.40		4.696E-01	1.889E+00	3.024E+00	2.075E-01	0.155
		402.60	*	-2.188E-02	5.218E-02	8.364E-02	4.756E-03	-0.262
CF-249		252.85		1.104E+00	1.222E+00	2.135E+00	1.486E-01	0.517
		333.44		-5.312E-02	2.789E-01	3.963E-01	2.572E-02	-0.134
		387.95	*	-3.773E-02	5.673E-02	8.963E-02	5.139E-03	-0.421
CF-251		176.60	*	1.256E-02	1.878E-01	3.033E-01	2.033E-02	0.041
		227.00		-5.486E-01	5.673E-01	9.160E-01	6.354E-02	-0.599
		285.00		-8.637E-01	2.551E+00	4.192E+00	2.881E-01	-0.206

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]G245107015      *
* Acquisition date   : 1-FEB-2010 13:30:50 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 02:00:01.17 Half life ratio : 8.000              *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245107015 Analyst initials: MXR1                  *
* Batch Number       : 944038 Sample Quantity : 1.0699E+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	2.435E+01	2.549E+00	6.768E-01	0.000E+00
CS-135	5.937E-01	3.717E-01	3.551E-01	0.000E+00
TL-208	6.846E-01	1.074E-01	8.425E-02	0.000E+00
BI-211	4.489E+00	7.004E-01	4.517E-01	0.000E+00
PB-212	1.995E+00	2.213E-01	1.290E-01	0.000E+00
PO-212	1.995E+00	2.213E-01	1.290E-01	0.000E+00
BI-214	1.499E+00	2.464E-01	1.486E-01	0.000E+00
PB-214	1.561E+00	2.564E-01	1.574E-01	0.000E+00
PO-214	1.561E+00	2.564E-01	1.574E-01	0.000E+00
PO-216	1.995E+00	2.213E-01	1.290E-01	0.000E+00
PO-218	1.561E+00	2.564E-01	1.574E-01	0.000E+00
RA-224	6.061E+00	1.743E+00	1.467E+00	0.000E+00
RA-226	1.499E+00	2.464E-01	1.486E-01	0.000E+00
AC-228	1.522E+00	3.817E-01	2.887E-01	0.000E+00
RA-228	1.522E+00	3.817E-01	2.887E-01	0.000E+00
TH-228	2.033E+00	2.255E-01	1.314E-01	0.000E+00
TH-230	1.499E+00	2.464E-01	1.486E-01	0.000E+00
TH-232	1.522E+00	3.817E-01	2.887E-01	0.000E+00
U-234	1.499E+00	2.464E-01	1.486E-01	0.000E+00
NP-237	8.384E-01	7.140E-01	6.317E-01	0.000E+00
AM-243	4.827E-01	1.369E-01	1.491E-01	0.000E+00
ANH-511	2.089E-01	9.112E-02	6.227E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-3.341E-02	4.642E-01	7.702E-01	0.000E+00 NOT IDENT.
NA-22	-6.797E-03	5.896E-02	9.562E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	8.015E+07	0.000E+00	0.000E+00 SHORT HLIF
AL-26	1.818E-02	3.402E-02	6.314E-02	0.000E+00 NOT IDENT.
TI-44	0.000E+00	7.371E-02	1.122E-01	0.000E+00 NOT IDENT.

SC-46	-3.013E-02	5.343E-02	8.503E-02	0.000E+00	FAIL ABUN
V-48	6.297E-02	1.065E-01	1.882E-01	0.000E+00	NOT IDENT.
CR-51	2.298E-01	5.902E-01	1.024E+00	0.000E+00	NOT IDENT.
MN-52	-3.829E-01	4.624E-01	6.815E-01	0.000E+00	NOT IDENT.
MN-54	2.137E-02	4.646E-02	8.155E-02	0.000E+00	NOT IDENT.
CO-56	2.091E-02	5.314E-02	9.272E-02	0.000E+00	NOT IDENT.
CO-57	3.012E-02	3.551E-02	6.151E-02	0.000E+00	NOT IDENT.
CO-58	-3.901E-02	4.722E-02	7.309E-02	0.000E+00	NOT IDENT.
FE-59	-3.946E-02	1.323E-01	2.131E-01	0.000E+00	NOT IDENT.
CO-60	-1.951E-02	5.366E-02	8.372E-02	0.000E+00	NOT IDENT.
ZN-65	1.028E-01	1.105E-01	1.807E-01	0.000E+00	NOT IDENT.
GE-68	1.189E+00	1.692E+00	2.997E+00	0.000E+00	NOT IDENT.
AS-73	1.091E+00	2.391E+00	4.184E+00	0.000E+00	NOT IDENT.
AS-74	2.036E-02	1.529E-01	2.543E-01	0.000E+00	NOT IDENT.
SE-75	-4.294E-02	7.057E-02	1.008E-01	0.000E+00	NOT IDENT.
BR-77	0.000E+00	4.373E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.899E-01	5.299E-01	8.556E-01	0.000E+00	NOT IDENT.
RB-83	-3.035E-02	9.432E-02	1.526E-01	0.000E+00	NOT IDENT.
RB-84	6.418E-02	9.878E-02	1.758E-01	0.000E+00	NOT IDENT.
KR-85	1.720E+01	1.097E+01	1.800E+01	0.000E+00	NOT IDENT.
SR-85	9.194E-02	5.865E-02	9.623E-02	0.000E+00	NOT IDENT.
RB-86	9.481E-01	1.226E+00	2.186E+00	0.000E+00	NOT IDENT.
Y-88	4.184E-02	3.962E-02	7.991E-02	0.000E+00	NOT IDENT.
ZR-88	-6.570E-03	4.368E-02	7.291E-02	0.000E+00	NOT IDENT.
Y-91	2.422E+01	2.425E+01	4.385E+01	0.000E+00	NOT IDENT.
NB-94	8.205E-03	4.359E-02	7.543E-02	0.000E+00	NOT IDENT.
NB-95	8.899E-02	6.888E-02	1.138E-01	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	3.172E-01	5.213E-01	0.000E+00	NOT IDENT.
ZR-95	-5.942E-04	9.478E-02	1.610E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.837E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.393E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.476E+01	4.055E+01	7.003E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.016E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.883E-02	4.609E-02	7.790E-02	0.000E+00	NOT IDENT.
RH-102	-1.754E-02	4.638E-02	6.428E-02	0.000E+00	FAIL ABUN
RU-103	1.297E-02	6.016E-02	1.016E-01	0.000E+00	NOT IDENT.
RH-106	-1.601E-01	4.114E-01	6.515E-01	0.000E+00	NOT IDENT.
RU-106	-1.601E-01	4.110E-01	6.515E-01	0.000E+00	NOT IDENT.
AG-108M	7.323E-03	4.550E-02	7.709E-02	0.000E+00	NOT IDENT.
CD-109	2.350E-01	2.243E+00	2.424E+00	0.000E+00	NOT IDENT.
AG-110M	-4.455E-02	5.061E-02	7.668E-02	0.000E+00	NOT IDENT.
IN-111	8.243E-01	4.023E+00	6.123E+00	0.000E+00	NOT IDENT.
IN-113M	-1.692E-02	6.257E-02	1.037E-01	0.000E+00	NOT IDENT.
SN-113	-1.692E-02	6.257E-02	1.037E-01	0.000E+00	NOT IDENT.
IN-114M	4.851E-02	3.102E-01	4.501E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	5.018E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.563E-02	9.844E-02	1.651E-01	0.000E+00	NOT IDENT.
SB-122	8.279E+00	7.968E+00	1.413E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.269E+09	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	2.193E-02	4.323E-02	7.318E-02	0.000E+00	NOT IDENT.
I-124	-1.765E-01	2.021E+00	2.840E+00	0.000E+00	NOT IDENT.
SB-124	-9.998E-04	1.009E-01	1.685E-01	0.000E+00	FAIL ABUN
SB-125	-2.963E-02	1.262E-01	2.084E-01	0.000E+00	NOT IDENT.
TE-125M	1.097E+00	1.397E+01	2.359E+01	0.000E+00	NOT IDENT.
I-126	-2.481E-01	3.221E-01	4.933E-01	0.000E+00	NOT IDENT.
SN-126	8.359E-02	2.442E-01	3.742E-01	0.000E+00	NOT IDENT.
SN-126	2.286E-01	2.046E-01	2.365E-01	0.000E+00	FAIL ABUN
SB-127	4.264E-01	3.780E+00	6.514E+00	0.000E+00	NOT IDENT.
XE-127	2.737E-02	8.024E-02	1.175E-01	0.000E+00	NOT IDENT.
I-131	-5.819E-02	2.162E-01	3.595E-01	0.000E+00	NOT IDENT.
TE-132	-2.238E+00	2.305E+00	3.778E+00	0.000E+00	NOT IDENT.
BA-133	5.036E-02	6.535E-02	1.020E-01	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.908E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.089E-01	6.246E-02	1.188E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.534E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.123E-02	1.700E-01	2.948E-01	0.000E+00	FAIL ABUN
BA-137M	6.119E-02	5.166E-02	9.196E-02	0.000E+00	NOT IDENT.
CS-137	6.468E-02	5.462E-02	9.721E-02	0.000E+00	NOT IDENT.
CE-139	3.522E-03	4.316E-02	7.175E-02	0.000E+00	NOT IDENT.
BA-140	-1.959E-01	4.572E-01	7.261E-01	0.000E+00	NOT IDENT.
LA-140	4.480E-02	1.526E-01	2.338E-01	0.000E+00	NOT IDENT.
CE-141	-1.277E-02	9.602E-02	1.590E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.558E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-3.075E-02	2.818E-01	4.686E-01	0.000E+00	NOT IDENT.
PM-144	1.949E-02	4.775E-02	8.383E-02	0.000E+00	NOT IDENT.
PR-144	1.324E+00	3.243E+00	5.693E+00	0.000E+00	NOT IDENT.
PM-146	4.754E-02	5.944E-02	9.680E-02	0.000E+00	NOT IDENT.
ND-147	5.304E-01	9.889E-01	1.701E+00	0.000E+00	NOT IDENT.

PM-149	0.000E+00	4.426E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	1.771E-01	1.751E-01	2.300E-01	0.000E+00	FAIL ABUN
GD-153	3.344E-02	1.260E-01	1.894E-01	0.000E+00	NOT IDENT.
EU-154	-2.054E-02	1.642E-01	2.660E-01	0.000E+00	NOT IDENT.
EU-155	1.084E-02	1.571E-01	2.655E-01	0.000E+00	FAIL ABUN
TB-160	1.927E-02	1.847E-01	3.140E-01	0.000E+00	FAIL ABUN
HO-166M	-2.736E-02	7.337E-02	1.212E-01	0.000E+00	FAIL ABUN
TM-171	3.110E+01	5.293E+01	9.218E+01	0.000E+00	NOT IDENT.
LU-176	5.729E-03	3.536E-02	5.928E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	3.448E+00	4.376E+00	0.000E+00	FAIL ABUN
LU-177M	-3.166E-02	2.601E-01	4.339E-01	0.000E+00	FAIL ABUN
HF-181	1.044E-02	6.190E-02	1.044E-01	0.000E+00	NOT IDENT.
W-181	-2.242E-01	7.084E-01	1.197E+00	0.000E+00	NOT IDENT.
TA-182	-8.108E-02	2.683E-01	4.293E-01	0.000E+00	FAIL ABUN
RE-183	1.336E-02	1.731E-01	2.823E-01	0.000E+00	FAIL ABUN
RE-184	2.990E-01	3.243E-01	5.805E-01	0.000E+00	NOT IDENT.
OS-185	2.240E-02	5.371E-02	9.144E-02	0.000E+00	NOT IDENT.
RE-188	5.668E-02	2.648E-01	4.436E-01	0.000E+00	NOT IDENT.
W-188	-7.445E+00	1.241E+01	1.764E+01	0.000E+00	NOT IDENT.
IR-192	-6.695E-03	5.277E-02	8.929E-02	0.000E+00	FAIL ABUN
AU-195	1.682E-01	3.299E-01	5.498E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.827E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.076E+01	2.427E+01	3.939E+01	0.000E+00	NOT IDENT.
TL-202	4.487E-02	1.182E-01	1.976E-01	0.000E+00	NOT IDENT.
HG-203	4.266E-02	6.888E-02	1.068E-01	0.000E+00	FAIL ABUN
BI-207	3.658E-03	6.541E-02	1.094E-01	0.000E+00	FAIL ABUN
TL-207	-1.100E+00	9.936E-01	1.566E+00	0.000E+00	FAIL ABUN
PO-209	3.779E+00	1.014E+01	1.760E+01	0.000E+00	NOT IDENT.
BI-210	-2.865E+00	1.464E+01	2.443E+01	0.000E+00	NOT IDENT.
PB-210	-2.865E+00	1.464E+01	2.443E+01	0.000E+00	NOT IDENT.
PO-210	-2.865E+00	1.464E+01	2.443E+01	0.000E+00	NOT IDENT.
PB-211	-1.400E+00	1.618E+00	2.170E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	5.960E-01	8.489E-01	0.000E+00	FAIL ABUN
PO-215	-1.100E+00	9.936E-01	1.566E+00	0.000E+00	FAIL ABUN
RN-219	-3.161E-01	5.806E-01	9.418E-01	0.000E+00	NOT IDENT.
RN-220	4.907E+00	3.520E+01	5.888E+01	0.000E+00	NOT IDENT.
RA-223	-1.100E+00	9.936E-01	1.566E+00	0.000E+00	FAIL ABUN
AC-227	-4.027E-01	5.275E-01	8.688E-01	0.000E+00	FAIL ABUN
TH-227	-4.027E-01	5.289E-01	8.688E-01	0.000E+00	FAIL ABUN
TH-229	4.055E-01	7.504E-01	1.264E+00	0.000E+00	FAIL ABUN
PA-231	-5.593E-01	2.157E+00	3.642E+00	0.000E+00	NOT IDENT.
TH-231	-1.100E+00	9.936E-01	1.566E+00	0.000E+00	FAIL ABUN
U-231	-1.244E+00	3.267E+00	4.736E+00	0.000E+00	FAIL ABUN
PA-233	3.076E-03	8.912E-02	1.522E-01	0.000E+00	FAIL ABUN
PA-234	-5.754E-02	3.703E-01	6.106E-01	0.000E+00	FAIL ABUN
PA-234M	5.275E+00	5.853E+00	1.038E+01	0.000E+00	NOT IDENT.
TH-234	-2.111E+00	2.668E+00	4.319E+00	0.000E+00	FAIL ABUN
U-235	1.109E-01	3.038E-01	5.090E-01	0.000E+00	FAIL ABUN
NP-236	4.077E-02	1.181E-01	1.986E-01	0.000E+00	NOT IDENT.
U-238	-2.111E+00	2.668E+00	4.319E+00	0.000E+00	FAIL ABUN
NP-239	-1.741E-01	2.592E-01	4.220E-01	0.000E+00	FAIL ABUN
AM-241	-2.319E-02	3.443E-01	5.891E-01	0.000E+00	NOT IDENT.
CM-243	-2.413E-02	1.398E-01	2.340E-01	0.000E+00	FAIL ABUN
AM-246	6.853E-02	1.946E-01	3.341E-01	0.000E+00	NOT IDENT.
CM-247	-2.188E-02	5.113E-02	8.373E-02	0.000E+00	FAIL ABUN
CF-249	-3.773E-02	5.560E-02	8.975E-02	0.000E+00	NOT IDENT.
CF-251	1.256E-02	1.841E-01	3.051E-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]G245107015.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:30:50.
Sample ID          : G245107015      Sample quantity      : 1.06990E+02 GRAM
Detector name      : GAM15           Detector geometry   : CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time  : 0 02:00:01.17  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials   : MXR1
Abundance limit    : 75.00000        Sensitivity        : 5.00000
Batch ID           : 944038          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*	9.990E-01	2.435E+01	2.435E+01	10.68
CS-135	268.24	105	16.00*	3.869E+00	5.937E-01	5.937E-01	63.90
TL-208	277.35	74	6.80	3.792E+00	1.004E+00	1.004E+00	52.55
	510.84	147	21.60	2.462E+00	9.671E-01	9.671E-01	45.29
	583.14	366	84.20*	2.230E+00	6.846E-01	6.846E-01	16.01
	860.37	50	12.46	1.613E+00	8.703E-01	8.703E-01	80.25
BI-211	72.87	287	1.27	3.158E+00	2.508E+01	2.508E+01	28.94
	351.07	531	12.94*	3.206E+00	4.489E+00	4.489E+00	15.92
PB-212	74.81	287	10.70	3.158E+00	2.977E+00	2.977E+00	30.41
	77.11	434	18.00	3.411E+00	2.479E+00	2.479E+00	22.11
	87.30	131	8.00	4.354E+00	1.321E+00	1.321E+00	85.00
	238.63	1070	44.60*	4.221E+00	1.995E+00	1.995E+00	11.32
	300.09	51	3.41	3.589E+00	1.453E+00	1.453E+00	103.67
PO-212	74.81	287	10.70	3.158E+00	2.977E+00	2.977E+00	30.41
	77.11	434	18.00	3.411E+00	2.479E+00	2.479E+00	22.11
	87.30	131	8.00	4.354E+00	1.321E+00	1.321E+00	85.00
	115.19	-----	0.60	5.666E+00	-----	Line Not Found	-----
	238.63	1070	44.60*	4.221E+00	1.995E+00	1.995E+00	11.32
	300.09	51	3.41	3.589E+00	1.453E+00	1.453E+00	103.67
BI-214	609.31	427	46.30*	2.156E+00	1.499E+00	1.499E+00	16.77
	1120.29	108	15.10	1.263E+00	1.990E+00	1.990E+00	38.07
	1764.49	75	15.80	8.815E-01	1.888E+00	1.888E+00	30.37
PB-214	74.81	287	6.21	3.158E+00	5.130E+00	5.130E+00	29.87
	77.11	434	10.50	3.411E+00	4.250E+00	4.250E+00	23.39
	87.30	131	4.67	4.354E+00	2.262E+00	2.262E+00	84.76
	241.98	285	7.49	4.183E+00	3.197E+00	3.197E+00	29.87
	295.21	344	19.20	3.630E+00	1.733E+00	1.733E+00	21.10
	351.92	531	37.20*	3.206E+00	1.561E+00	1.561E+00	16.76
PO-214	74.81	287	6.21	3.158E+00	5.130E+00	5.130E+00	29.87
	77.11	434	10.50	3.411E+00	4.250E+00	4.250E+00	23.39
	87.30	131	4.67	4.354E+00	2.262E+00	2.262E+00	84.76
	241.98	285	7.49	4.183E+00	3.197E+00	3.197E+00	29.87

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-216	295.21	344	19.20	3.630E+00	1.733E+00	1.733E+00	21.10
	351.92	531	37.20*	3.206E+00	1.561E+00	1.561E+00	16.76
	74.81	287	10.70	3.158E+00	2.977E+00	2.977E+00	30.41
	77.11	434	18.00	3.411E+00	2.479E+00	2.479E+00	22.11
	87.30	131	8.00	4.354E+00	1.321E+00	1.321E+00	85.00
PO-218	238.63	1070	44.60*	4.221E+00	1.995E+00	1.995E+00	11.32
	300.09	51	3.41	3.589E+00	1.453E+00	1.453E+00	103.67
	74.81	287	6.21	3.158E+00	5.130E+00	5.130E+00	29.87
	77.11	434	10.50	3.411E+00	4.250E+00	4.250E+00	23.39
	87.30	131	4.67	4.354E+00	2.262E+00	2.262E+00	84.76
RA-224	241.98	285	7.49	4.183E+00	3.197E+00	3.197E+00	29.87
	295.21	344	19.20	3.630E+00	1.733E+00	1.733E+00	21.10
	351.92	531	37.20*	3.206E+00	1.561E+00	1.561E+00	16.76
	240.98	285	3.95*	4.183E+00	6.061E+00	6.061E+00	29.34
	609.31	427	46.30*	2.156E+00	1.499E+00	1.499E+00	16.77
AC-228	1120.29	108	15.10	1.263E+00	1.990E+00	1.990E+00	38.07
	1764.49	75	15.80	8.815E-01	1.888E+00	1.888E+00	30.37
	338.32	228	11.40	3.296E+00	2.131E+00	2.131E+00	49.59
	911.07	184	27.70*	1.532E+00	1.522E+00	1.522E+00	25.58
	969.11	138	16.60	1.447E+00	2.010E+00	2.010E+00	37.84
RA-228	338.32	228	11.40	3.296E+00	2.131E+00	2.131E+00	49.59
	911.07	184	27.70*	1.532E+00	1.522E+00	1.522E+00	25.58
	969.11	138	16.60	1.447E+00	2.010E+00	2.010E+00	37.84
	74.81	287	10.70	3.158E+00	2.977E+00	3.034E+00	28.96
	77.11	434	18.00	3.411E+00	2.479E+00	2.527E+00	22.11
TH-228	87.30	131	8.00	4.354E+00	1.321E+00	1.346E+00	84.41
	238.63	1070	44.60*	4.221E+00	1.995E+00	2.033E+00	11.32
	300.09	51	3.41	3.589E+00	1.453E+00	1.481E+00	118.97
	609.31	427	46.30*	2.156E+00	1.499E+00	1.499E+00	16.77
	1120.29	108	15.10	1.263E+00	1.990E+00	1.990E+00	38.07
TH-232	1764.49	75	15.80	8.815E-01	1.888E+00	1.888E+00	30.37
	338.32	228	11.40	3.296E+00	2.131E+00	2.131E+00	28.83
	911.07	184	27.70*	1.532E+00	1.522E+00	1.522E+00	25.58
	969.11	138	16.60	1.447E+00	2.010E+00	2.010E+00	37.84
	609.31	427	46.30*	2.156E+00	1.499E+00	1.499E+00	16.77
U-234	1120.29	108	15.10	1.263E+00	1.990E+00	1.990E+00	38.07
	1764.49	75	15.80	8.815E-01	1.888E+00	1.888E+00	30.37
	86.50	131	12.60*	4.354E+00	8.384E-01	8.384E-01	86.90
	95.87	-----	2.60	5.041E+00	-----	Line Not Found	-----
	74.67	287	66.00*	3.158E+00	4.826E-01	4.827E-01	28.94
AM-243	86.72	131	0.34	4.354E+00	3.144E+01	3.144E+01	84.41
	117.66	-----	0.55	5.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.637E+00	-----	Line Not Found	-----
	511.00	147	100.00*	2.462E+00	2.089E-01	2.089E-01	44.51

Flag: "*" = Keyline

Total number of lines in spectrum 28
Number of unidentified lines 2
Number of lines tentatively identified by NID 26 92.86%

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	2.435E+01	2.435E+01	0.260E+01	10.68	
CS-135	2.30E+06Y	1.00	5.937E-01	5.937E-01	3.793E-01	63.90	
TL-208	1.41E+10Y	1.00	6.846E-01	6.846E-01	1.096E-01	16.01	
BI-211	7.04E+08Y	1.00	4.489E+00	4.489E+00	0.715E+00	15.92	
PB-212	1.41E+10Y	1.00	1.995E+00	1.995E+00	0.226E+00	11.32	
PO-212	1.41E+10Y	1.00	1.995E+00	1.995E+00	0.226E+00	11.32	
BI-214	1600.00Y	1.00	1.499E+00	1.499E+00	0.251E+00	16.77	
PB-214	1600.00Y	1.00	1.561E+00	1.561E+00	0.262E+00	16.76	
PO-214	1600.00Y	1.00	1.561E+00	1.561E+00	0.262E+00	16.76	
PO-216	1.41E+10Y	1.00	1.995E+00	1.995E+00	0.226E+00	11.32	
PO-218	1600.00Y	1.00	1.561E+00	1.561E+00	0.262E+00	16.76	
RA-224	1.41E+10Y	1.00	6.061E+00	6.061E+00	1.778E+00	29.34	
RA-226	1600.00Y	1.00	1.499E+00	1.499E+00	0.251E+00	16.77	
AC-228	1.41E+10Y	1.00	1.522E+00	1.522E+00	0.389E+00	25.58	
RA-228	1.41E+10Y	1.00	1.522E+00	1.522E+00	0.389E+00	25.58	
TH-228	1.91Y	1.02	1.995E+00	2.033E+00	0.230E+00	11.32	
TH-230	4.47E+09Y	1.00	1.499E+00	1.499E+00	0.251E+00	16.77	
TH-232	1.41E+10Y	1.00	1.522E+00	1.522E+00	0.389E+00	25.58	
U-234	4.47E+09Y	1.00	1.499E+00	1.499E+00	0.251E+00	16.77	
NP-237	2.14E+06Y	1.00	8.384E-01	8.384E-01	7.286E-01	86.90	
AM-243	7380.00Y	1.00	4.826E-01	4.827E-01	1.397E-01	28.94	
ANH-511	1.00E+09Y	1.00	2.089E-01	2.089E-01	0.930E-01	44.51	

Total Activity : 6.094E+01 6.097E+01

Grand Total Activity : 6.094E+01 6.097E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G245107015

Page : 4
Acquisition date : 1-FEB-2010 13:30:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.74	87	498	1.74	185.95	181	10	1.20E-02	****	4.85E+00	T
0	185.48	198	335	1.61	371.34	366	12	2.75E-02	42.0	4.98E+00	T
0	208.86	124	294	2.70	418.09	412	11	1.72E-02	56.6	4.62E+00	T
0	464.96	151	179	7.96	930.09	916	29	2.09E-02	53.8	2.63E+00	
0	726.99	84	59	2.03	1453.99	1448	13	1.16E-02	45.0	1.87E+00	T
0	768.11	53	53	2.73	1536.19	1530	11	7.29E-03	61.1	1.78E+00	T
3	964.01	58	40	2.07	1927.90	1920	25	8.10E-03	50.7	1.45E+00	T
0	1590.25	22	23	5.01	3180.21	3172	15	2.99E-03	****	9.38E-01	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107015.CNF;1
* Acquisition date   : 1-FEB-2010 13:30:50. 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 02:00:01.17                     Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107015           Analyst initials: MXR1
* Batch Number       : 944038              Sample Quantity : 1.06990E+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	2.435E+01	2.602E+00	6.813E-01	5.208E-02	35.742
CS-135	5.937E-01	3.793E-01	3.539E-01	3.026E-02	1.678
TL-208	6.846E-01	1.096E-01	8.434E-02	5.370E-03	8.118
BI-211	4.489E+00	7.147E-01	4.508E-01	3.097E-02	9.957
PB-212	1.995E+00	2.258E-01	1.284E-01	1.063E-02	15.535
PO-212	1.995E+00	2.258E-01	1.284E-01	1.063E-02	15.535
BI-214	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
PB-214	1.561E+00	2.616E-01	1.571E-01	1.354E-02	9.938
PO-214	1.561E+00	2.616E-01	1.571E-01	1.354E-02	9.938
PO-216	1.995E+00	2.258E-01	1.284E-01	1.063E-02	15.535
PO-218	1.561E+00	2.616E-01	1.571E-01	1.354E-02	9.938
RA-224	6.061E+00	1.778E+00	1.461E+00	1.017E-01	4.148
RA-226	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
AC-228	1.522E+00	3.895E-01	2.898E-01	3.222E-02	5.253
RA-228	1.522E+00	3.895E-01	2.898E-01	3.222E-02	5.253
TH-228	2.033E+00	2.301E-01	1.309E-01	1.083E-02	15.535
TH-230	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
TH-232	1.522E+00	3.895E-01	2.898E-01	3.222E-02	5.253

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-234	1.499E+00	2.514E-01	1.488E-01	1.105E-02	10.074
NP-237	8.384E-01	7.286E-01	6.254E-01	1.476E-01	1.341
AM-243	4.827E-01	1.397E-01	1.475E-01	1.640E-02	3.271
ANH-511	2.089E-01	9.298E-02	6.229E-02	3.517E-03	3.354

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.341E-02		4.737E-01	7.702E-01	5.132E-02	-0.043
NA-22	-6.797E-03		6.016E-02	9.616E-02	6.600E-03	-0.071
NA-24	-3.083E+01		4.089E+01	Half-Life too short		
AL-26	1.818E-02		3.471E-02	6.363E-02	3.807E-03	0.286
TI-44	2.171E-01		7.521E-02	1.110E-01	1.234E-02	1.955
SC-46	-3.013E-02		5.452E-02	8.533E-02	7.158E-03	-0.353
V-48	6.297E-02		1.087E-01	1.890E-01	1.493E-02	0.333
CR-51	2.298E-01		6.022E-01	1.022E+00	7.370E-02	0.225
MN-52	-3.829E-01		4.719E-01	6.859E-01	5.086E-02	-0.558
MN-54	2.137E-02		4.741E-02	8.181E-02	6.132E-03	0.261
CO-56	2.091E-02		5.422E-02	9.303E-02	7.150E-03	0.225
CO-57	3.012E-02		3.623E-02	6.102E-02	4.387E-03	0.494
CO-58	-3.901E-02		4.819E-02	7.332E-02	5.237E-03	-0.532
FE-59	-3.946E-02		1.350E-01	2.142E-01	1.621E-02	-0.184
CO-60	-1.951E-02		5.476E-02	8.422E-02	6.356E-03	-0.232
ZN-65	1.028E-01		1.128E-01	1.816E-01	1.179E-02	0.566
GE-68	1.189E+00		1.727E+00	3.012E+00	2.093E-01	0.395
AS-73	1.091E+00		2.440E+00	4.130E+00	5.644E-01	0.264
AS-74	2.036E-02		1.560E-01	2.546E-01	1.369E-02	0.080
SE-75	-4.294E-02		7.201E-02	1.004E-01	7.023E-03	-0.428
BR-77	-1.722E-05		2.231E-05	Half-Life too short		
SR-82	-2.899E-01		5.408E-01	8.579E-01	5.663E-02	-0.338
RB-83	-3.035E-02		9.624E-02	1.526E-01	8.588E-03	-0.199
RB-84	6.418E-02		1.008E-01	1.765E-01	1.457E-02	0.364
KR-85	1.720E+01		1.120E+01	1.801E+01	1.016E+00	0.955
SR-85	9.194E-02		5.984E-02	9.626E-02	5.430E-03	0.955
RB-86	9.481E-01		1.251E+00	2.196E+00	1.528E-01	0.432
Y-88	4.184E-02		4.043E-02	8.054E-02	4.705E-03	0.519
ZR-88	-6.570E-03		4.457E-02	7.282E-02	4.130E-03	-0.090
Y-91	2.422E+01		2.474E+01	4.408E+01	2.666E+00	0.549
NB-94	8.205E-03		4.448E-02	7.560E-02	4.205E-03	0.109
NB-95	8.899E-02		7.028E-02	1.141E-01	7.354E-03	0.780
NB-95M	2.038E+00		3.237E-01	5.191E-01	4.386E-02	3.927
ZR-95	-5.942E-04		9.672E-02	1.614E-01	1.203E-02	-0.004
NB-97	-5.276E+00		3.488E+00	Half-Life too short		
ZR-97	5.386E+02		7.107E+01	Half-Life too short		
MO-99	2.476E+01		4.137E+01	7.020E+01	9.756E+00	0.353
TC-99M	-5.395E+13		1.539E+15	Half-Life too short		
RH-101	2.883E-02		4.703E-02	7.749E-02	5.287E-03	0.372

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	-1.754E-02		4.733E-02	6.427E-02	3.663E-03	-0.273
RU-103	1.297E-02		6.138E-02	1.016E-01	1.279E-02	0.128
RH-106	-1.601E-01		4.198E-01	6.524E-01	7.488E-02	-0.245
RU-106	-1.601E-01		4.194E-01	6.524E-01	3.428E-02	-0.245
AG-108M	7.323E-03		4.643E-02	7.704E-02	4.790E-03	0.095
CD-109	2.350E-01		2.289E+00	2.400E+00	2.775E-01	0.098
AG-110M	-4.455E-02		5.164E-02	7.682E-02	4.210E-03	-0.580
IN-111	8.243E-01		4.105E+00	6.099E+00	4.246E-01	0.135
IN-113M	-1.692E-02		6.385E-02	1.035E-01	6.280E-03	-0.163
SN-113	-1.692E-02		6.385E-02	1.035E-01	6.280E-03	-0.163
IN-114M	4.851E-02		3.165E-01	4.476E-01	3.035E-02	0.108
CD-115	-2.663E-05		2.560E-05	Half-Life too short		
SN-117M	2.563E-02		1.004E-01	1.640E-01	1.097E-02	0.156
SB-122	8.279E+00		8.130E+00	1.414E+01	7.781E-01	0.585
I-123	6.438E+02		6.475E+02	Half-Life too short		
TE-123M	2.193E-02		4.412E-02	7.271E-02	4.909E-03	0.302
I-124	-1.765E-01		2.062E+00	2.844E+00	1.520E-01	-0.062
SB-124	-9.998E-04		1.030E-01	1.698E-01	1.192E-02	-0.006
SB-125	-2.963E-02		1.288E-01	2.082E-01	1.241E-02	-0.142
TE-125M	1.097E+00		1.426E+01	2.338E+01	2.326E+00	0.047
I-126	-2.481E-01		3.286E-01	4.942E-01	2.515E-02	-0.502
SB-126	8.359E-02		2.492E-01	3.750E-01	2.177E-02	0.223
SN-126	2.286E-01		2.088E-01	2.342E-01	2.702E-02	0.976
SB-127	4.264E-01		3.857E+00	6.527E+00	6.947E-01	0.065
XE-127	2.737E-02		8.187E-02	1.169E-01	8.001E-03	0.234
I-131	-5.819E-02		2.206E-01	3.589E-01	2.436E-02	-0.162
TE-132	-2.238E+00		2.352E+00	3.761E+00	5.904E-01	-0.595
BA-133	5.036E-02		6.669E-02	1.018E-01	1.198E-02	0.495
I-133	5.001E-02		9.734E-02	Half-Life too short		
CS-134	1.089E-01		6.374E-02	1.191E-01	8.301E-03	0.914
I-135	-4.629E+13		7.827E+13	Half-Life too short		
CS-136	7.123E-02		1.735E-01	2.962E-01	2.283E-02	0.241
BA-137M	6.119E-02		5.272E-02	9.213E-02	4.635E-03	0.664
CS-137	6.468E-02		5.573E-02	9.739E-02	4.927E-03	0.664
CE-139	3.522E-03		4.404E-02	7.130E-02	4.742E-03	0.049
BA-140	-1.959E-01		4.666E-01	7.265E-01	2.360E-01	-0.270
LA-140	4.480E-02		1.557E-01	2.354E-01	1.641E-02	0.190
CE-141	-1.277E-02		9.798E-02	1.579E-01	1.102E-02	-0.081
CE-143	1.207E-02	+	1.815E-03	Half-Life too short		
CE-144	-3.075E-02		2.876E-01	4.651E-01	6.836E-02	-0.066
PM-144	1.949E-02		4.873E-02	8.401E-02	4.611E-03	0.232
PR-144	1.324E+00		3.309E+00	5.705E+00	3.127E-01	0.232
PM-146	4.754E-02		6.065E-02	9.677E-02	8.287E-03	0.491
ND-147	5.304E-01		1.009E+00	1.702E+00	2.287E-01	0.312
PM-149	-1.212E-04		2.258E-04	Half-Life too short		
EU-152	1.771E-01		1.787E-01	2.295E-01	1.617E-02	0.771
GD-153	3.344E-02		1.286E-01	1.877E-01	1.801E-02	0.178
EU-154	-2.054E-02		1.675E-01	2.675E-01	2.683E-02	-0.077

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	1.084E-02		1.604E-01	2.632E-01	2.279E-02	0.041
TB-160	1.927E-02		1.884E-01	3.151E-01	2.591E-02	0.061
HO-166M	-2.736E-02		7.486E-02	1.215E-01	6.904E-03	-0.225
TM-171	3.110E+01		5.401E+01	9.113E+01	1.048E+01	0.341
LU-176	5.729E-03		3.608E-02	5.912E-02	3.983E-03	0.097
LU-177	6.168E+00	+	3.519E+00	4.355E+00	2.992E-01	1.416
LU-177M	-3.166E-02		2.654E-01	4.335E-01	2.471E-02	-0.073
HF-181	1.044E-02		6.316E-02	1.044E-01	5.944E-03	0.100
W-181	-2.242E-01		7.229E-01	1.183E+00	1.377E-01	-0.189
TA-182	-8.108E-02		2.738E-01	4.317E-01	2.691E-02	-0.188
RE-183	1.336E-02		1.767E-01	2.805E-01	1.869E-02	0.048
RE-184	2.990E-01		3.310E-01	5.783E-01	4.025E-02	0.517
OS-185	2.240E-02		5.480E-02	9.159E-02	4.693E-03	0.245
RE-188	5.668E-02		2.702E-01	4.407E-01	2.956E-02	0.129
W-188	-7.445E+00		1.266E+01	1.758E+01	1.203E+00	-0.423
IR-192	-6.695E-03		5.385E-02	8.907E-02	5.953E-03	-0.075
AU-195	1.682E-01		3.367E-01	5.447E-01	5.106E-02	0.309
TL-200	-5.554E-04		3.993E-03	Half-Life too short		
TL-201	-1.076E+01		2.477E+01	3.914E+01	2.605E+00	-0.275
TL-202	4.487E-02		1.206E-01	1.975E-01	1.129E-02	0.227
HG-203	4.266E-02		7.028E-02	1.065E-01	7.671E-03	0.401
BI-207	3.658E-03		6.674E-02	1.099E-01	7.811E-03	0.033
TL-207	-1.100E+00		1.014E+00	1.562E+00	2.626E-01	-0.705
PO-209	3.779E+00		1.035E+01	1.766E+01	1.504E+00	0.214
BI-210	-2.865E+00		1.494E+01	2.410E+01	2.504E+00	-0.119
PB-210	-2.865E+00		1.494E+01	2.410E+01	2.504E+00	-0.119
PO-210	-2.865E+00		1.494E+01	2.410E+01	2.315E+00	-0.119
PB-211	-1.400E+00		1.651E+00	2.168E+00	1.351E+00	-0.646
BI-212	1.331E+00	+	6.081E-01	8.510E-01	6.625E-02	1.564
PO-215	-1.100E+00		1.014E+00	1.562E+00	2.626E-01	-0.705
RN-219	-3.161E-01		5.925E-01	9.408E-01	1.275E-01	-0.336
RN-220	4.907E+00		3.592E+01	5.892E+01	3.269E+00	0.083
RA-223	-1.100E+00		1.014E+00	1.562E+00	2.626E-01	-0.705
AC-227	-4.027E-01		5.383E-01	8.655E-01	1.253E-01	-0.465
TH-227	-4.027E-01		5.397E-01	8.655E-01	1.500E-01	-0.465
TH-229	4.055E-01		7.657E-01	1.257E+00	8.544E-02	0.323
PA-231	-5.593E-01		2.201E+00	3.630E+00	5.180E-01	-0.154
TH-231	-1.100E+00		1.014E+00	1.562E+00	2.626E-01	-0.705
U-231	-1.244E+00		3.334E+00	4.692E+00	4.624E-01	-0.265
PA-233	3.076E-03		9.094E-02	1.518E-01	1.064E-02	0.020
PA-234	-5.754E-02		3.779E-01	6.131E-01	1.139E-01	-0.094
PA-234M	5.275E+00		5.973E+00	1.043E+01	9.611E-01	0.506
TH-234	-2.111E+00		2.722E+00	4.268E+00	8.424E-01	-0.495
U-235	1.109E-01		3.100E-01	5.054E-01	8.432E-02	0.219
NP-236	4.077E-02		1.205E-01	1.974E-01	1.318E-02	0.207
U-238	-2.111E+00		2.722E+00	4.268E+00	8.424E-01	-0.495
NP-239	-1.741E-01		2.645E-01	4.185E-01	3.146E-02	-0.416
AM-241	-2.319E-02		3.513E-01	5.819E-01	7.405E-02	-0.040

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-2.413E-02		1.426E-01	2.319E-01	2.025E-02	-0.104
AM-246	6.853E-02		1.985E-01	3.357E-01	2.327E-02	0.204
CM-247	-2.188E-02		5.218E-02	8.364E-02	4.756E-03	-0.262
CF-249	-3.773E-02		5.673E-02	8.963E-02	5.139E-03	-0.421
CF-251	1.256E-02		1.878E-01	3.033E-01	2.033E-02	0.041

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]G245107015          *
* Acquisition date   : 1-FEB-2010 13:30:50 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 02:00:01.17 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID        *
* Sample ID          : G245107015 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.0699E+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	2.435E+01	2.549E+00	3.386E-01	1.301E+00
CS-135	5.937E-01	3.717E-01	1.777E-01	1.897E-01
TL-208	6.846E-01	1.074E-01	4.215E-02	5.482E-02
BI-211	4.489E+00	7.004E-01	2.260E-01	3.574E-01
PB-212	1.995E+00	2.213E-01	6.452E-02	1.129E-01
PO-212	1.995E+00	2.213E-01	6.452E-02	1.129E-01
BI-214	1.499E+00	2.464E-01	7.435E-02	1.257E-01
PB-214	1.561E+00	2.564E-01	7.875E-02	1.308E-01
PO-214	1.561E+00	2.564E-01	7.875E-02	1.308E-01
PO-216	1.995E+00	2.213E-01	6.452E-02	1.129E-01
PO-218	1.561E+00	2.564E-01	7.875E-02	1.308E-01
RA-224	6.061E+00	1.743E+00	7.340E-01	8.891E-01
RA-226	1.499E+00	2.464E-01	7.435E-02	1.257E-01
AC-228	1.522E+00	3.817E-01	1.445E-01	1.947E-01
RA-228	1.522E+00	3.817E-01	1.445E-01	1.947E-01
TH-228	2.033E+00	2.255E-01	6.575E-02	1.151E-01
TH-230	1.499E+00	2.464E-01	7.435E-02	1.257E-01
TH-232	1.522E+00	3.817E-01	1.445E-01	1.947E-01
U-234	1.499E+00	2.464E-01	7.435E-02	1.257E-01
NP-237	8.384E-01	7.140E-01	3.160E-01	3.643E-01
AM-243	4.827E-01	1.369E-01	7.462E-02	6.983E-02
ANH-511	2.089E-01	9.112E-02	3.115E-02	4.649E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-3.341E-02	4.642E-01	3.853E-01	2.368E-01 NOT IDENT.
NA-22	-6.797E-03	5.896E-02	4.784E-02	3.008E-02 NOT IDENT.
NA-24	-3.083E+07	8.015E+07	0.000E+00	4.089E+07 SHORT HLIF
AL-26	1.818E-02	3.402E-02	3.159E-02	1.736E-02 NOT IDENT.
TI-44	2.171E-01	7.371E-02	5.614E-02	3.761E-02 NOT IDENT.

SC-46	-3.013E-02	5.343E-02	4.254E-02	2.726E-02	FAIL ABUN
V-48	6.297E-02	1.065E-01	9.417E-02	5.433E-02	NOT IDENT.
CR-51	2.298E-01	5.902E-01	5.125E-01	3.011E-01	NOT IDENT.
MN-52	-3.829E-01	4.624E-01	3.410E-01	2.359E-01	NOT IDENT.
MN-54	2.137E-02	4.646E-02	4.080E-02	2.370E-02	NOT IDENT.
CO-56	2.091E-02	5.314E-02	4.639E-02	2.711E-02	NOT IDENT.
CO-57	3.012E-02	3.551E-02	3.077E-02	1.812E-02	NOT IDENT.
CO-58	-3.901E-02	4.722E-02	3.657E-02	2.409E-02	NOT IDENT.
FE-59	-3.946E-02	1.323E-01	1.066E-01	6.750E-02	NOT IDENT.
CO-60	-1.951E-02	5.366E-02	4.188E-02	2.738E-02	NOT IDENT.
ZN-65	1.028E-01	1.105E-01	9.039E-02	5.639E-02	NOT IDENT.
GE-68	1.189E+00	1.692E+00	1.500E+00	8.633E-01	NOT IDENT.
AS-73	1.091E+00	2.391E+00	2.093E+00	1.220E+00	NOT IDENT.
AS-74	2.036E-02	1.529E-01	1.272E-01	7.799E-02	NOT IDENT.
SE-75	-4.294E-02	7.057E-02	5.042E-02	3.601E-02	NOT IDENT.
BR-77	-1.722E+01	4.373E+01	0.000E+00	2.231E+01	SHORT HLIF
SR-82	-2.899E-01	5.299E-01	4.280E-01	2.704E-01	NOT IDENT.
RB-83	-3.035E-02	9.432E-02	7.633E-02	4.812E-02	NOT IDENT.
RB-84	6.418E-02	9.878E-02	8.797E-02	5.040E-02	NOT IDENT.
KR-85	1.720E+01	1.097E+01	9.008E+00	5.599E+00	NOT IDENT.
SR-85	9.194E-02	5.865E-02	4.814E-02	2.992E-02	NOT IDENT.
RB-86	9.481E-01	1.226E+00	1.094E+00	6.257E-01	NOT IDENT.
Y-88	4.184E-02	3.962E-02	3.998E-02	2.021E-02	NOT IDENT.
ZR-88	-6.570E-03	4.368E-02	3.648E-02	2.228E-02	NOT IDENT.
Y-91	2.422E+01	2.425E+01	2.194E+01	1.237E+01	NOT IDENT.
NB-94	8.205E-03	4.359E-02	3.774E-02	2.224E-02	NOT IDENT.
NB-95	8.899E-02	6.888E-02	5.694E-02	3.514E-02	NOT IDENT.
NB-95M	2.038E+00	3.172E-01	2.608E-01	1.619E-01	NOT IDENT.
ZR-95	-5.942E-04	9.478E-02	8.055E-02	4.836E-02	NOT IDENT.
NB-97	-5.276E+06	6.837E+06	0.000E+00	3.488E+06	SHORT HLIF
ZR-97	5.386E+08	1.393E+08	0.000E+00	7.107E+07	SHORT HLIF
MO-99	2.476E+01	4.055E+01	3.504E+01	2.069E+01	NOT IDENT.
TC-99M	-5.395E+19	3.016E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	2.883E-02	4.609E-02	3.897E-02	2.351E-02	NOT IDENT.
RH-102	-1.754E-02	4.638E-02	3.216E-02	2.367E-02	FAIL ABUN
RU-103	1.297E-02	6.016E-02	5.084E-02	3.069E-02	NOT IDENT.
RH-106	-1.601E-01	4.114E-01	3.259E-01	2.099E-01	NOT IDENT.
RU-106	-1.601E-01	4.110E-01	3.259E-01	2.097E-01	NOT IDENT.
AG-108M	7.323E-03	4.550E-02	3.857E-02	2.322E-02	NOT IDENT.
CD-109	2.350E-01	2.243E+00	1.213E+00	1.144E+00	NOT IDENT.
AG-110M	-4.455E-02	5.061E-02	3.836E-02	2.582E-02	NOT IDENT.
IN-111	8.243E-01	4.023E+00	3.063E+00	2.053E+00	NOT IDENT.
IN-113M	-1.692E-02	6.257E-02	5.186E-02	3.192E-02	NOT IDENT.
SN-113	-1.692E-02	6.257E-02	5.186E-02	3.192E-02	NOT IDENT.
IN-114M	4.851E-02	3.102E-01	2.252E-01	1.582E-01	NOT IDENT.
CD-115	-2.663E+01	5.018E+01	0.000E+00	2.560E+01	SHORT HLIF
SN-117M	2.563E-02	9.844E-02	8.260E-02	5.022E-02	NOT IDENT.
SB-122	8.279E+00	7.968E+00	7.070E+00	4.065E+00	NOT IDENT.
I-123	6.438E+08	1.269E+09	0.000E+00	6.475E+08	SHORT HLIF
TE-123M	2.193E-02	4.323E-02	3.661E-02	2.206E-02	NOT IDENT.
I-124	-1.765E-01	2.021E+00	1.421E+00	1.031E+00	NOT IDENT.
SB-124	-9.998E-04	1.009E-01	8.432E-02	5.148E-02	FAIL ABUN
SB-125	-2.963E-02	1.262E-01	1.043E-01	6.439E-02	NOT IDENT.
TE-125M	1.097E+00	1.397E+01	1.180E+01	7.128E+00	NOT IDENT.
I-126	-2.481E-01	3.221E-01	2.468E-01	1.643E-01	NOT IDENT.
SB-126	8.359E-02	2.442E-01	1.872E-01	1.246E-01	NOT IDENT.
SN-126	2.286E-01	2.046E-01	1.183E-01	1.044E-01	FAIL ABUN
SB-127	4.264E-01	3.780E+00	3.259E+00	1.929E+00	NOT IDENT.
XE-127	2.737E-02	8.024E-02	5.877E-02	4.094E-02	NOT IDENT.
I-131	-5.819E-02	2.162E-01	1.798E-01	1.103E-01	NOT IDENT.
TE-132	-2.238E+00	2.305E+00	1.890E+00	1.176E+00	NOT IDENT.
BA-133	5.036E-02	6.535E-02	5.101E-02	3.334E-02	FAIL ABUN
I-133	5.001E+04	1.908E+05	0.000E+00	9.734E+04	SHORT HLIF
CS-134	1.089E-01	6.246E-02	5.942E-02	3.187E-02	NOT IDENT.
I-135	-4.629E+19	1.534E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	7.123E-02	1.700E-01	1.475E-01	8.673E-02	FAIL ABUN
BA-137M	6.119E-02	5.166E-02	4.601E-02	2.636E-02	NOT IDENT.
CS-137	6.468E-02	5.462E-02	4.863E-02	2.786E-02	NOT IDENT.
CE-139	3.522E-03	4.316E-02	3.590E-02	2.202E-02	NOT IDENT.
BA-140	-1.959E-01	4.572E-01	3.632E-01	2.333E-01	NOT IDENT.
LA-140	4.480E-02	1.526E-01	1.170E-01	7.784E-02	NOT IDENT.
CE-141	-1.277E-02	9.602E-02	7.956E-02	4.899E-02	NOT IDENT.
CE-143	1.207E+04	3.558E+03	0.000E+00	1.815E+03	SHORT HLIF
CE-144	-3.075E-02	2.818E-01	2.345E-01	1.438E-01	NOT IDENT.
PM-144	1.949E-02	4.775E-02	4.194E-02	2.436E-02	NOT IDENT.
PR-144	1.324E+00	3.243E+00	2.848E+00	1.654E+00	NOT IDENT.
PM-146	4.754E-02	5.944E-02	4.843E-02	3.033E-02	NOT IDENT.
ND-147	5.304E-01	9.889E-01	8.511E-01	5.046E-01	NOT IDENT.

PM-149	-1.212E+02	4.426E+02	0.000E+00	2.258E+02	SHORT HLIF
EU-152	1.771E-01	1.751E-01	1.151E-01	8.934E-02	FAIL ABUN
GD-153	3.344E-02	1.260E-01	9.476E-02	6.430E-02	NOT IDENT.
EU-154	-2.054E-02	1.642E-01	1.331E-01	8.377E-02	NOT IDENT.
EU-155	1.084E-02	1.571E-01	1.328E-01	8.018E-02	FAIL ABUN
TB-160	1.927E-02	1.847E-01	1.571E-01	9.422E-02	FAIL ABUN
HO-166M	-2.736E-02	7.337E-02	6.063E-02	3.743E-02	FAIL ABUN
TM-171	3.110E+01	5.293E+01	4.612E+01	2.701E+01	NOT IDENT.
LU-176	5.729E-03	3.536E-02	2.966E-02	1.804E-02	NOT IDENT.
LU-177	6.168E+00	3.448E+00	2.189E+00	1.759E+00	FAIL ABUN
LU-177M	-3.166E-02	2.601E-01	2.171E-01	1.327E-01	FAIL ABUN
HF-181	1.044E-02	6.190E-02	5.224E-02	3.158E-02	NOT IDENT.
W-181	-2.242E-01	7.084E-01	5.990E-01	3.614E-01	NOT IDENT.
TA-182	-8.108E-02	2.683E-01	2.148E-01	1.369E-01	FAIL ABUN
RE-183	1.336E-02	1.731E-01	1.412E-01	8.833E-02	FAIL ABUN
RE-184	2.990E-01	3.243E-01	2.904E-01	1.655E-01	NOT IDENT.
OS-185	2.240E-02	5.371E-02	4.575E-02	2.740E-02	NOT IDENT.
RE-188	5.668E-02	2.648E-01	2.219E-01	1.351E-01	NOT IDENT.
W-188	-7.445E+00	1.241E+01	8.824E+00	6.330E+00	NOT IDENT.
IR-192	-6.695E-03	5.277E-02	4.467E-02	2.693E-02	FAIL ABUN
AU-195	1.682E-01	3.299E-01	2.751E-01	1.683E-01	FAIL ABUN
TL-200	-5.554E+02	7.827E+03	0.000E+00	3.993E+03	SHORT HLIF
TL-201	-1.076E+01	2.427E+01	1.971E+01	1.238E+01	NOT IDENT.
TL-202	4.487E-02	1.182E-01	9.886E-02	6.030E-02	NOT IDENT.
HG-203	4.266E-02	6.888E-02	5.346E-02	3.514E-02	FAIL ABUN
BI-207	3.658E-03	6.541E-02	5.475E-02	3.337E-02	FAIL ABUN
TL-207	-1.100E+00	9.936E-01	7.833E-01	5.069E-01	FAIL ABUN
PO-209	3.779E+00	1.014E+01	8.805E+00	5.173E+00	NOT IDENT.
BI-210	-2.865E+00	1.464E+01	1.222E+01	7.470E+00	NOT IDENT.
PB-210	-2.865E+00	1.464E+01	1.222E+01	7.470E+00	NOT IDENT.
PO-210	-2.865E+00	1.464E+01	1.222E+01	7.470E+00	NOT IDENT.
PB-211	-1.400E+00	1.618E+00	1.086E+00	8.255E-01	NOT IDENT.
BI-212	1.331E+00	5.960E-01	4.247E-01	3.041E-01	FAIL ABUN
PO-215	-1.100E+00	9.936E-01	7.833E-01	5.069E-01	FAIL ABUN
RN-219	-3.161E-01	5.806E-01	4.712E-01	2.962E-01	NOT IDENT.
RN-220	4.907E+00	3.520E+01	2.946E+01	1.796E+01	NOT IDENT.
RA-223	-1.100E+00	9.936E-01	7.833E-01	5.069E-01	FAIL ABUN
AC-227	-4.027E-01	5.275E-01	4.347E-01	2.692E-01	FAIL ABUN
TH-227	-4.027E-01	5.289E-01	4.347E-01	2.698E-01	FAIL ABUN
TH-229	4.055E-01	7.504E-01	6.321E-01	3.828E-01	FAIL ABUN
PA-231	-5.593E-01	2.157E+00	1.822E+00	1.100E+00	NOT IDENT.
TH-231	-1.100E+00	9.936E-01	7.833E-01	5.069E-01	FAIL ABUN
U-231	-1.244E+00	3.267E+00	2.370E+00	1.667E+00	FAIL ABUN
PA-233	3.076E-03	8.912E-02	7.613E-02	4.547E-02	FAIL ABUN
PA-234	-5.754E-02	3.703E-01	3.055E-01	1.889E-01	FAIL ABUN
PA-234M	5.275E+00	5.853E+00	5.195E+00	2.986E+00	NOT IDENT.
TH-234	-2.111E+00	2.668E+00	2.161E+00	1.361E+00	FAIL ABUN
U-235	1.109E-01	3.038E-01	2.546E-01	1.550E-01	FAIL ABUN
NP-236	4.077E-02	1.181E-01	9.938E-02	6.026E-02	NOT IDENT.
U-238	-2.111E+00	2.668E+00	2.161E+00	1.361E+00	FAIL ABUN
NP-239	-1.741E-01	2.592E-01	2.111E-01	1.322E-01	FAIL ABUN
AM-241	-2.319E-02	3.443E-01	2.947E-01	1.757E-01	NOT IDENT.
CM-243	-2.413E-02	1.398E-01	1.171E-01	7.132E-02	FAIL ABUN
AM-246	6.853E-02	1.946E-01	1.672E-01	9.927E-02	NOT IDENT.
CM-247	-2.188E-02	5.113E-02	4.189E-02	2.609E-02	FAIL ABUN
CF-249	-3.773E-02	5.560E-02	4.490E-02	2.837E-02	NOT IDENT.
CF-251	1.256E-02	1.841E-01	1.526E-01	9.392E-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	240.5659
46.50	240.5659
46.50	240.5659
48.70	252.8096
49.72	245.6905
51.35	251.1027
52.39	250.5862
52.97	238.4736
53.15	249.9485
53.44	245.3123
54.07	249.3704
56.28	283.6814
56.28	283.6826
57.37	0.0000
57.53	274.6691
57.53	274.6702
57.60	278.5277
57.98	284.4383
57.98	284.4383
59.32	295.5828
59.32	295.5828
59.40	295.6192
59.54	307.2021
59.72	305.3665
60.01	299.7369
61.10	310.8165
61.14	310.8350
61.30	310.9095
63.00	330.9980
63.29	337.8969
63.29	337.8969
63.58	330.3148
64.28	337.4214
65.12	352.3539
65.20	352.3945
65.20	352.3945
66.05	364.4580
66.72	343.4615
66.83	343.5168
66.91	343.5560
67.20	334.9597
67.20	334.9597
67.75	335.3591
67.85	335.4065
68.90	364.3767
68.90	364.3767
69.30	353.6747
69.67	388.1522
70.82	393.4532
70.82	393.4532
70.83	393.4593
72.80	374.1669
72.87	374.2019
72.87	374.2019
74.67	365.8884
74.81	365.9567
74.81	365.9567
74.81	365.9567
74.81	365.9567
74.81	365.9567
74.81	365.9567
74.97	366.0350
75.28	366.1858
75.70	366.3893
77.11	351.1270
77.11	351.1270

77.11	351.1270
77.11	351.1270
77.11	351.1270
77.11	351.1270
77.11	351.1270
78.38	358.8055
79.62	351.4818
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79.80	351.5633
80.11	383.3170
80.18	383.3510
80.30	383.4102
80.30	383.4102
80.57	328.1854
81.00	383.7521
81.07	383.7862
81.07	383.7862
81.07	383.7862
81.07	383.7862
82.60	374.2208
83.37	365.0576
83.78	365.2457
83.78	365.2457
83.78	365.2457
83.78	365.2457
84.21	449.4242
84.90	449.8092
85.43	450.1027
86.29	450.5774
86.50	450.6931
86.54	576.2937
86.59	576.3290
86.72	576.4195
86.79	576.4681
86.94	576.5740
87.30	566.1951
87.30	566.1951
87.30	566.1951
87.30	566.1951
87.30	566.1951
87.30	566.1951
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88.03	566.6956
88.36	566.9210
88.47	566.9968
89.95	568.0022
91.11	568.7866
92.29	398.8188
92.38	398.8613
92.38	398.8613
93.35	269.8807
94.00	290.9854
94.67	315.3430
94.67	315.3442
94.90	315.4279
94.90	315.4279
94.90	315.4279
94.90	315.4279
95.87	322.2253
95.87	322.2253
96.73	279.0000
97.43	290.5192
98.44	290.8521
98.44	290.8521
98.88	284.0675
99.55	286.1599
99.55	286.1599
99.86	286.2592
100.00	287.3151
100.10	300.5020
103.18	316.7560
103.76	318.9889
105.00	320.4374
105.31	322.5795
108.00	304.1238
109.28	317.8228

111.00	304.0663
111.00	304.0663
111.76	317.6287
112.95	305.7108
115.19	274.5422
116.30	261.4714
117.00	293.5926
117.00	293.5926
117.66	310.2823
121.11	254.4645
121.62	259.7687
121.78	259.8098
122.06	264.0232
122.32	256.8408
122.32	256.8408
122.32	256.8408
122.32	256.8408
123.07	285.0142
127.23	255.9932
129.76	297.2977
131.20	348.8867
133.02	291.9355
133.54	286.8438
135.34	270.5465
136.00	300.0914
136.25	305.4088
136.48	306.5229
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140.51	0.0000
142.18	306.0076
142.65	314.5822
143.76	304.3279
144.24	317.1432
144.24	317.1432
144.24	317.1432
144.24	317.1432
145.22	312.1299
145.44	311.1324
147.16	328.5638
152.43	290.6769
152.70	289.6807
153.22	306.8569
154.21	333.7756
154.21	333.7756
154.21	333.7756
154.21	333.7756
155.03	324.4055
156.02	336.4275
158.56	302.9006
159.00	0.0000
159.00	304.0814
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161.27	327.1853
162.32	308.1431
162.64	312.5222
163.35	299.8092
163.89	309.6189
165.85	282.1190
167.43	287.8726
171.28	261.7279
171.86	258.6036
172.10	257.5706
176.55	281.2855
176.60	281.2953
181.06	277.2601
184.41	276.2242
185.71	262.4982
186.00	262.5549
190.27	259.8889
192.34	270.0885
193.63	268.4601
197.04	229.4249
198.01	240.6263
198.60	250.6660
200.40	0.0000
201.83	284.6165
202.84	237.4787
205.31	229.0222

208.36	269.1039
208.81	269.1888
209.75	251.1132
209.75	251.1132
210.97	254.8916
215.65	251.4753
216.55	261.6950
218.09	248.5373
222.10	245.8487
223.80	245.0072
226.40	272.0046
227.00	281.1237
227.08	281.1390
227.20	281.1599
228.16	271.4218
228.18	271.4254
228.18	271.4254
231.56	0.0000
235.69	253.7380
236.00	218.4401
236.00	218.4401
238.63	218.8122
238.63	218.8122
238.63	218.8122
238.63	218.8122
239.00	0.0000
240.98	219.1432
241.98	185.0105
241.98	185.0105
241.98	185.0105
244.69	186.8498
245.39	173.2544
247.94	206.6423
248.90	207.4520
249.79	0.0000
252.40	185.9251
252.85	174.0673
252.85	174.0673
254.15	0.0000
256.20	208.3955
256.20	208.3955
260.50	164.7632
260.90	0.0000
262.80	193.5681
264.65	192.2455
268.24	181.2545
268.79	181.3144
269.46	181.3885
269.46	181.3885
269.46	181.3885
269.46	181.3885
271.23	192.2313
273.65	176.2719
276.40	190.4958
277.35	198.0390
277.60	198.0676
277.60	198.0676
278.00	184.4728
278.60	196.9440
279.20	178.3983
279.53	181.5342
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281.68	0.0000
283.67	185.7026
284.30	194.1723
285.00	191.4493
285.90	0.0000
286.10	190.6349
286.10	190.6349
287.40	177.6843
288.45	0.0000
290.67	195.1904
290.80	195.2057
291.72	199.9948
293.26	0.0000
293.70	173.6272
295.21	169.0774
295.21	169.0774

295.21	169.0774
295.96	169.1477
296.50	169.2004
297.23	0.0000
298.57	169.3960
299.80	175.7884
299.80	175.7884
300.09	178.9576
300.09	178.9576
300.09	178.9576
300.09	178.9576
300.12	178.9600
301.29	175.9342
302.84	169.7959
303.76	0.0000
303.91	163.6045
304.40	149.4851
304.40	149.4851
304.84	130.6348
306.84	157.5643
308.46	182.6196
311.98	155.4757
316.51	174.8629
318.01	166.4423
319.02	156.0643
319.41	150.3855
320.08	157.1045
323.87	200.3536
323.87	200.3536
323.87	200.3536
323.87	200.3536
325.23	167.0810
328.77	162.6082
333.44	164.6005
334.20	134.2903
334.20	134.2903
334.30	134.2971
338.28	150.9132
338.28	150.9132
338.28	150.9132
338.28	150.9132
338.32	150.9170
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338.32	150.9170
340.50	160.3861
340.57	160.3922
344.27	102.8438
345.85	123.0285
350.59	0.0000
351.07	131.5757
351.92	131.6305
351.92	131.6305
351.92	131.6305
355.39	0.0000
356.01	113.1476
364.48	123.6824
366.43	151.0947
367.43	128.7371
367.94	0.0000
369.80	110.3323
374.96	149.7577
383.85	111.0730
387.95	138.8606
388.63	136.9350
391.69	127.2647
391.69	127.2647
392.90	125.3613
398.62	123.7122
400.65	142.6482
401.10	144.6598
401.81	136.7770
402.60	130.8785
404.84	158.8008
410.95	135.3542
411.60	141.3656
413.65	135.5169
414.70	132.5892
415.30	129.6334

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417.63	0.0000
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423.70	112.0998
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427.89	113.3090
432.53	107.5094
433.93	108.5788
439.47	0.0000
439.56	91.7098
439.89	97.7708
443.98	101.9802
444.90	91.9187
445.03	91.9242
445.03	91.9242
445.03	91.9242
445.03	91.9242
453.90	75.3213
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468.07	99.9511
473.00	78.3512
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475.35	115.9342
476.78	112.5902
477.59	100.3399
477.96	95.2353
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484.57	0.0000
487.03	61.6663
490.36	0.0000
492.35	0.0000
497.08	92.8685
507.63	0.0000
510.53	0.0000
510.84	88.1802
511.00	88.1859
511.85	88.2150
511.85	88.2150
513.99	84.8249
513.99	84.8249
520.41	88.5050
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	83.5898
529.87	0.0000
531.02	81.5420
537.32	99.5482
543.00	75.6070
546.56	0.0000
549.76	82.1114
552.65	79.0375
555.20	85.4396
563.23	80.3993
563.90	79.3597
568.70	94.3365
569.32	107.0807
569.50	107.0856
569.67	110.2740
573.80	88.1368
574.00	86.0190
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	94.1108
585.48	0.0000
591.81	99.3847
592.07	98.3228
593.00	99.4255
595.88	90.9620
600.56	96.4688
602.52	0.0000
602.71	91.1779
602.71	91.1779
603.60	80.4749
604.41	80.4977
604.70	80.5060
609.31	82.7825

609.31	82.7825
609.31	82.7825
609.31	82.7825
610.33	73.4917
612.46	75.3372
614.37	70.0020
618.01	74.4007
621.84	73.4171
621.84	73.4171
631.29	62.8187
633.02	66.1067
633.10	66.1082
634.78	68.3141
635.90	70.5082
636.97	66.1930
645.85	50.0621
646.12	55.5086
656.30	98.2815
657.75	96.1426
657.90	0.0000
661.65	73.2911
661.65	73.2911
664.57	0.0000
666.33	97.5024
666.33	97.5024
675.00	82.3920
677.61	74.7651
685.20	78.0654
692.80	82.8552
695.00	77.3845
696.49	81.1071
696.49	81.1071
697.00	82.9633
697.49	78.3663
698.33	85.7628
698.50	87.6129
699.00	95.0055
702.63	74.7971
706.10	64.7078
706.58	0.0000
706.67	62.8701
709.31	66.6226
711.68	66.6709
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717.42	70.4970
720.50	55.7080
721.93	0.0000
722.20	52.5512
722.78	55.7458
722.78	55.7458
722.89	55.7483
722.95	55.7495
723.30	58.9417
724.18	66.9243
727.18	57.6810
733.00	65.5039
735.90	58.0007
739.58	52.2926
742.81	63.5591
744.21	60.7801
747.13	62.7035
751.79	59.9779
752.31	56.2378
753.82	55.3257
755.35	0.0000
756.15	64.7465
756.87	67.5762
763.93	59.6540
765.79	66.1388
766.42	74.2174
766.84	75.8406
776.49	66.0736
778.00	77.4339
778.57	78.3900
778.89	73.6757
783.80	51.0776
785.46	61.5114
792.07	62.5746

795.84	50.3021
796.30	51.2578
798.80	90.2396
801.93	57.9942
805.60	48.5367
810.29	50.5059
810.76	55.2789
815.85	54.4023
817.79	0.0000
818.51	50.6213
819.60	51.5918
826.30	54.5589
828.27	0.0000
831.60	54.6378
831.96	56.5609
834.83	53.7271
836.80	0.0000
846.75	53.9002
848.13	46.2178
856.28	0.0000
856.80	47.9797
860.37	41.5390
867.32	46.4541
867.82	45.0090
871.10	40.6884
873.19	45.5571
874.81	51.3944
875.33	0.0000
876.40	55.2964
879.36	50.4850
880.27	48.5555
880.51	47.5874
881.50	46.6279
883.24	53.4525
884.67	58.3337
889.25	60.3501
896.60	54.6134
898.02	62.4375
899.00	67.3337
903.28	67.7323
911.07	56.7740
911.07	56.7740
911.07	56.7740
919.63	41.2019
920.93	44.1595
925.00	54.0287
925.24	54.0321
926.50	37.3429
935.52	43.3376
937.48	51.2415
944.10	38.4946
946.00	47.4004
949.00	49.4120
962.29	59.4897
964.01	54.5546
966.15	54.5837
968.20	54.6106
969.11	54.6229
969.11	54.6229
969.11	54.6229
977.42	58.5153
980.50	49.7945
983.50	40.8615
989.30	56.8864
996.32	59.9817
1001.03	31.0252
1001.68	35.0342
1004.76	54.0923
1021.30	0.0000
1024.50	0.0000
1034.80	40.3516
1036.00	50.4537
1037.82	58.5522
1038.57	52.5036
1038.76	0.0000
1045.16	46.5166
1046.59	47.5431
1048.07	42.4990

1050.47	42.5229
1050.47	42.5229
1062.04	45.6812
1063.62	43.6666
1076.63	42.7776
1077.35	43.8031
1078.86	48.9121
1085.78	40.8236
1099.22	56.3025
1112.02	41.5761
1112.84	28.1629
1115.52	28.1786
1120.29	35.9955
1120.29	35.9955
1120.29	35.9955
1120.29	35.9955
1120.51	35.9969
1121.28	36.0026
1124.00	0.0000
1129.67	35.5543
1131.51	0.0000
1147.95	0.0000
1167.94	57.1484
1173.22	46.8109
1175.09	35.3821
1177.93	51.0217
1189.05	43.8354
1204.90	38.7449
1205.75	0.0000
1213.00	49.2987
1221.42	61.9937
1230.97	77.9053
1235.34	49.5244
1236.41	0.0000
1238.25	50.6094
1246.25	53.8596
1260.41	0.0000
1271.85	37.1533
1274.45	44.6062
1274.54	44.6062
1291.56	34.1016
1298.22	0.0000
1312.09	28.8885
1325.50	34.3268
1325.50	34.3268
1332.49	36.5221
1333.61	29.0094
1360.21	22.6774
1362.66	0.0000
1365.15	20.5369
1368.21	31.3636
1368.53	0.0000
1376.25	31.4108
1384.27	40.9109
1394.10	27.9450
1395.20	37.2684
1407.95	33.6207
1434.06	26.2744
1436.60	22.5318
1457.56	0.0000
1460.81	19.8010
1489.15	18.9537
1509.49	23.7776
1596.49	16.8939
1620.62	20.3540
1678.03	0.0000
1691.02	13.7261
1691.02	13.7261
1706.46	0.0000
1750.46	0.0000
1764.49	10.4147
1764.49	10.4147
1764.49	10.4147
1764.49	10.4147
1770.23	10.4238
1771.40	51.6318
1791.20	0.0000
1808.65	6.9902

1836.01

5.0138

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107015

Total Uranium Activity	-6.2296E+00	ug/g
Total Uranium Counting Unc.	7.9376E+00	ug/g
Total Uranium Tpu	4.0498E-06	ug/g
Total Uranium Mda	6.4293E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G245107015
*  ANALYST       : MXR1                             DETECTOR    : GAM15
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 13:30:50.29          SAMPLE ALQT  : 106.990 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.888E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.654E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.646E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.762E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:56:58.11

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107016.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:33:54.
Sample ID          : G245107016      Sample quantity   : 1.24280E+02 GRAM
Detector name      : GAM04           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.18  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials : MXR1
Abundance limit    : 75.00000        Sensitivity      : 5.00000
Batch ID           : 944038          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	62.89*	96	465	1.13	125.81	123	10	1.33E-02	43.4	
2	4	74.71	270	309	0.93	149.46	145	14	3.75E-02	11.9	6.89E-01
3	4	77.04	481	301	0.95	154.12	145	14	6.68E-02	7.4	
4	0	87.20	123	395	1.08	174.45	171	7	1.71E-02	28.2	
5	0	92.99*	297	458	1.34	186.03	182	10	4.13E-02	15.1	
6	0	185.90*	177	366	1.07	371.87	368	10	2.46E-02	22.1	
7	0	209.17	99	194	1.15	418.41	415	7	1.38E-02	25.4	
8	3	238.54*	1146	193	1.10	477.14	473	17	1.59E-01	3.6	8.97E-01
9	3	241.52*	235	206	1.54	483.11	473	17	3.27E-02	16.1	
10	0	269.44	114	202	1.65	538.95	533	12	1.59E-02	26.5	
11	0	294.94*	349	175	1.35	589.95	585	11	4.84E-02	9.2	
12	0	300.57	95	176	1.04	601.23	597	10	1.32E-02	28.1	
13	0	327.24	49	173	1.24	654.56	650	11	6.81E-03	53.9	
14	0	337.99	249	183	1.13	676.06	670	13	3.46E-02	12.9	
15	0	351.77*	628	128	1.28	703.62	697	11	8.72E-02	5.3	
16	0	462.66	95	54	1.74	925.42	921	9	1.32E-02	17.3	
17	0	510.76*	122	117	1.99	1021.61	1013	18	1.69E-02	25.2	
18	0	582.94*	334	120	1.65	1165.98	1158	17	4.64E-02	9.4	
19	0	609.09*	403	120	1.52	1218.28	1210	17	5.60E-02	8.1	
20	0	661.68*	280	62	1.60	1323.46	1317	15	3.88E-02	8.9	
21	0	727.19	109	86	2.29	1454.47	1445	20	1.51E-02	22.8	
22	0	768.29	33	43	1.24	1536.67	1533	7	4.57E-03	37.5	
23	0	794.75	64	44	1.13	1589.58	1585	12	8.94E-03	23.8	
24	0	860.33	54	36	1.33	1720.72	1715	12	7.47E-03	26.2	
25	0	911.11*	252	23	1.59	1822.28	1817	14	3.50E-02	7.6	
26	0	933.08	28	47	1.32	1866.22	1861	13	3.82E-03	54.2	
27	0	967.87*	185	76	1.72	1935.80	1926	18	2.56E-02	13.4	
28	0	1001.05*	16	22	1.05	2002.15	1998	9	2.25E-03	62.7	
29	0	1120.17	93	68	1.81	2240.35	2232	16	1.29E-02	22.4	
30	0	1378.00	22	21	0.96	2755.92	2747	12	3.03E-03	47.2	
31	0	1460.28*	863	16	2.03	2920.45	2912	16	1.20E-01	3.6	
32	0	1517.44	12	2	1.40	3034.73	3029	9	1.70E-03	35.6	
33	0	1763.89*	81	16	1.81	3527.50	3522	16	1.13E-02	16.1	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:57:01

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107016.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:33:54
Sample ID        : G245107016 Sample quantity : 124.28 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA4 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.18 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.273E+01	2.290E+00	4.189E-01	2.977E-02	54.258
CD-109	+	88.03	*	2.053E+00	1.182E+00	1.555E+00	1.869E-01	1.320
SN-126	+	64.28		1.501E+00	1.329E+00	1.042E+00	1.795E-01	1.441
	+	86.94		8.339E-01	5.869E-01	6.280E-01	2.649E-01	1.328
	+	87.57	*	2.006E-01	1.155E-01	1.533E-01	1.839E-02	1.308
CS-135	+	268.24	*	4.888E-01	2.622E-01	2.242E-01	1.869E-02	2.180
BA-137M	+	661.65	*	4.257E-01	7.863E-02	5.395E-02	2.631E-03	7.891
CS-137	+	661.65	*	4.500E-01	8.316E-02	5.703E-02	2.798E-03	7.891
TL-208		277.35		6.656E-02	3.755E-01	6.305E-01	6.968E-02	0.106
	+	510.84		6.234E-01	3.205E-01	1.985E-01	1.992E-02	3.140
	+	583.14	*	4.882E-01	9.650E-02	5.411E-02	3.405E-03	9.023
	+	860.37		7.477E-01	3.961E-01	4.203E-01	3.505E-02	1.779
BI-211		72.87		2.136E+00	3.768E+00	5.841E+00	6.697E-01	0.366
	+	351.07	*	4.039E+00	5.092E-01	2.871E-01	1.940E-02	14.069
PB-212	+	74.81		2.104E+00	5.886E-01	6.162E-01	9.109E-02	3.414
	+	77.11		2.060E+00	3.847E-01	3.401E-01	3.902E-02	6.056
	+	87.30		9.278E-01	5.423E-01	6.944E-01	1.083E-01	1.336
	+	238.63	*	1.608E+00	1.742E-01	9.434E-02	7.576E-03	17.044
	+	300.09		2.068E+00	1.176E+00	1.112E+00	9.792E-02	1.859
PO-212	+	74.81		2.104E+00	5.886E-01	6.162E-01	9.109E-02	3.414
	+	77.11		2.060E+00	3.847E-01	3.401E-01	3.902E-02	6.056
	+	87.30		9.278E-01	5.423E-01	6.944E-01	1.083E-01	1.336
		115.19		-5.720E-01	3.443E+00	5.631E+00	4.237E-01	-0.102
	+	238.63	*	1.608E+00	1.742E-01	9.434E-02	7.576E-03	17.044
	+	300.09		2.068E+00	1.176E+00	1.112E+00	9.792E-02	1.859
BI-214	+	609.31	*	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
	+	1120.29		1.370E+00	6.263E-01	4.426E-01	4.123E-02	3.096
	+	1764.49		1.627E+00	5.324E-01	3.296E-01	2.010E-02	4.935
PB-214	+	74.81		3.625E+00	9.929E-01	1.062E+00	1.448E-01	3.414
	+	77.11		3.531E+00	7.122E-01	5.831E-01	8.030E-02	6.056
	+	87.30		1.589E+00	9.235E-01	1.190E+00	1.694E-01	1.336
	+	241.98		1.982E+00	6.626E-01	5.683E-01	4.951E-02	3.488
	+	295.21		1.327E+00	2.714E-01	2.116E-01	1.922E-02	6.269
	+	351.92	*	1.405E+00	1.917E-01	1.020E-01	8.703E-03	13.772

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.625E+00	9.929E-01	1.062E+00	1.448E-01	3.414
	+	77.11		3.531E+00	7.122E-01	5.831E-01	8.030E-02	6.056
	+	87.30		1.589E+00	9.235E-01	1.190E+00	1.694E-01	1.336
	+	241.98		1.982E+00	6.626E-01	5.683E-01	4.951E-02	3.488
	+	295.21		1.327E+00	2.714E-01	2.116E-01	1.922E-02	6.269
PO-216	+	351.92	*	1.405E+00	1.917E-01	1.020E-01	8.703E-03	13.772
	+	74.81		2.104E+00	5.886E-01	6.162E-01	9.109E-02	3.414
	+	77.11		2.060E+00	3.847E-01	3.401E-01	3.902E-02	6.056
	+	87.30		9.278E-01	5.423E-01	6.944E-01	1.083E-01	1.336
	+	238.63	*	1.608E+00	1.742E-01	9.434E-02	7.576E-03	17.044
PO-218	+	300.09		2.068E+00	1.176E+00	1.112E+00	9.792E-02	1.859
	+	74.81		3.625E+00	9.929E-01	1.062E+00	1.448E-01	3.414
	+	77.11		3.531E+00	7.122E-01	5.831E-01	8.030E-02	6.056
	+	87.30		1.589E+00	9.235E-01	1.190E+00	1.694E-01	1.336
	+	241.98		1.982E+00	6.626E-01	5.683E-01	4.951E-02	3.488
RA-224	+	295.21		1.327E+00	2.714E-01	2.116E-01	1.922E-02	6.269
	+	351.92	*	1.405E+00	1.917E-01	1.020E-01	8.703E-03	13.772
	+	240.98	*	3.759E+00	1.239E+00	1.074E+00	7.159E-02	3.500
	+	609.31	*	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
	+	1120.29		1.370E+00	6.263E-01	4.426E-01	4.123E-02	3.096
AC-228	+	1764.49		1.627E+00	5.324E-01	3.296E-01	2.010E-02	4.935
	+	338.32		1.765E+00	8.517E-01	3.155E-01	1.289E-01	5.594
	+	911.07	*	1.661E+00	3.097E-01	2.059E-01	2.245E-02	8.067
	+	969.11		2.152E+00	7.614E-01	3.291E-01	7.590E-02	6.539
	+	338.32		1.765E+00	8.517E-01	3.155E-01	1.289E-01	5.594
RA-228	+	911.07	*	1.661E+00	3.097E-01	2.059E-01	2.245E-02	8.067
	+	969.11		2.152E+00	7.614E-01	3.291E-01	7.590E-02	6.539
	+	74.81		2.144E+00	5.659E-01	6.280E-01	7.227E-02	3.414
	+	77.11		2.099E+00	3.920E-01	3.467E-01	3.977E-02	6.056
	+	87.30		9.455E-01	5.446E-01	7.077E-01	8.472E-02	1.336
TH-228	+	238.63	*	1.639E+00	1.776E-01	9.614E-02	7.722E-03	17.044
	+	300.09		2.108E+00	1.717E+00	1.134E+00	6.690E-01	1.859
	+	609.31	*	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
	+	1120.29		1.370E+00	6.263E-01	4.426E-01	4.123E-02	3.096
	+	1764.49		1.627E+00	5.324E-01	3.296E-01	2.009E-02	4.935
TH-232	+	338.32		1.765E+00	4.670E-01	3.155E-01	1.984E-02	5.594
	+	911.07	*	1.661E+00	3.097E-01	2.059E-01	2.245E-02	8.067
	+	969.11		2.152E+00	7.614E-01	3.291E-01	7.590E-02	6.539
	+	63.29	*	3.793E+00	3.378E+00	2.802E+00	5.543E-01	1.354
	+	92.38		3.026E+00	1.082E+00	8.556E-01	1.647E-01	3.536
U-234	+	609.31	*	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
	+	1120.29		1.370E+00	6.263E-01	4.426E-01	4.123E-02	3.096
	+	1764.49		1.627E+00	5.324E-01	3.296E-01	2.009E-02	4.935
	+	86.50	*	5.891E-01	3.604E-01	4.288E-01	1.022E-01	1.374
	+	95.87		-4.927E-01	1.040E+00	1.496E+00	3.769E-01	-0.329
U-238	+	63.29	*	3.793E+00	3.378E+00	2.802E+00	5.543E-01	1.354
	+	92.38		3.026E+00	9.688E-01	8.556E-01	9.291E-02	3.536
	+	74.67	*	3.411E-01	8.994E-02	1.004E-01	1.150E-02	3.398
	+	86.72		2.209E+01	1.272E+01	1.670E+01	1.992E+00	1.323

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-2.067E+00	3.574E+00	5.716E+00	4.173E-01	-0.362
		142.18		-7.395E-01	1.724E+01	2.781E+01	1.819E+00	-0.027
ANH-511	+	511.00	*	1.347E-01	6.832E-02	4.289E-02	2.399E-03	3.139

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-5.462E-01	3.486E-01	4.920E-01	3.259E-02	-1.110
NA-22		1274.54	*	2.013E-02	4.000E-02	7.078E-02	4.628E-03	0.284
NA-24		1368.53	*	-5.736E+00	4.000E-02	Half-Life too short		
AL-26		1129.67		5.481E-02	1.739E+00	2.819E+00	1.818E-01	0.019
		1808.65	*	-2.339E-02	3.604E-02	5.089E-02	3.018E-03	-0.460
TI-44		67.85		-4.952E-02	6.277E-02	9.066E-02	1.054E-02	-0.546
	+	78.38	*	3.802E-01	7.100E-02	8.181E-02	9.408E-03	4.647
SC-46		889.25	*	-1.242E-02	4.262E-02	6.587E-02	5.328E-03	-0.189
	+	1120.51		2.424E-01	1.096E-01	1.425E-01	9.333E-03	1.701
V-48		944.10		-3.808E-01	9.654E-01	1.507E+00	1.204E-01	-0.253
		983.50	*	-2.833E-02	7.792E-02	1.216E-01	9.422E-03	-0.233
		1312.09		-4.529E-02	9.075E-02	1.416E-01	9.543E-03	-0.320
CR-51		320.08	*	-2.274E-01	3.804E-01	6.119E-01	4.309E-02	-0.372
MN-52		744.21		-1.417E-02	3.658E-01	6.084E-01	3.611E-02	-0.023
		848.13		-2.260E+00	1.092E+01	1.768E+01	1.315E+00	-0.128
		935.52		1.684E-01	4.572E-01	6.850E-01	5.509E-02	0.246
		1246.25		1.461E+01	1.157E+01	2.164E+01	1.378E+00	0.675
		1333.61		-1.286E+00	7.986E+00	1.303E+01	8.930E-01	-0.099
		1434.06	*	-1.922E-01	4.055E-01	6.250E-01	4.265E-02	-0.308
MN-54		834.83	*	-6.661E-03	3.516E-02	5.709E-02	4.132E-03	-0.117
CO-56		846.75	*	3.875E-02	4.212E-02	7.524E-02	5.582E-03	0.515
		977.42		1.342E+00	2.693E+00	4.662E+00	3.631E-01	0.288
		1037.82		-2.050E-02	3.359E-01	5.427E-01	4.271E-02	-0.038
		1175.09		-5.324E-01	2.495E+00	3.924E+00	2.338E-01	-0.136
		1238.25		1.420E-01	9.890E-02	1.833E-01	1.220E-02	0.775
		1360.21		1.213E-01	8.431E-01	1.436E+00	9.843E-02	0.084
		1771.40		2.163E-01	2.109E-01	3.983E-01	2.418E-02	0.543
CO-57		122.06	*	8.765E-03	2.496E-02	4.166E-02	2.892E-03	0.210
		136.48		-1.475E-02	1.989E-01	3.240E-01	2.410E-02	-0.046
CO-58		810.76	*	-6.118E-03	3.608E-02	5.873E-02	4.055E-03	-0.104
FE-59		142.65		-7.354E-02	2.821E+00	4.552E+00	2.976E-01	-0.016
		192.34		-4.187E-01	1.021E+00	1.601E+00	1.948E-01	-0.261
		1099.22	*	1.264E-02	1.091E-01	1.787E-01	1.365E-02	0.071
		1291.56		1.049E-02	1.178E-01	1.990E-01	1.608E-02	0.053
CO-60		1173.22		-2.431E-02	4.852E-02	7.385E-02	4.392E-03	-0.329
		1332.49	*	-2.416E-02	4.026E-02	6.191E-02	4.242E-03	-0.390
ZN-65		1115.52	*	-3.601E-03	1.002E-01	1.388E-01	9.184E-03	-0.026
GE-68		1077.35	*	1.700E-01	1.258E+00	2.072E+00	1.447E-01	0.082
AS-73		53.44	*	-3.292E-01	1.574E+00	2.650E+00	3.467E-01	-0.124
AS-74		595.88	*	1.039E-01	1.091E-01	1.891E-01	9.984E-03	0.549
		634.78		4.571E-01	4.049E-01	7.147E-01	3.615E-02	0.639

----- 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		-5.089E+00	6.908E+00	9.963E+00	1.308E+00	-0.511
		96.73		-2.088E-01	8.447E-01	1.239E+00	1.796E-01	-0.169
		121.11		-2.743E-02	1.347E-01	2.194E-01	2.202E-02	-0.125
		136.00		-6.015E-03	3.795E-02	6.158E-02	4.127E-03	-0.098
		198.60		-5.511E-01	1.925E+00	2.988E+00	2.306E-01	-0.184
		264.65	*	-2.363E-02	4.615E-02	6.615E-02	4.449E-03	-0.357
		279.53		-6.789E-02	1.102E-01	1.798E-01	1.270E-02	-0.378
		303.91		1.218E+00	2.133E+00	3.305E+00	3.309E-01	0.369
		400.65		2.017E-01	2.478E-01	4.309E-01	3.880E-02	0.468
BR-77	+	87.88		1.395E-03	2.478E-01	Half-Life	too short	
		200.40		-1.536E-05	2.478E-01	Half-Life	too short	
	+	239.00		8.167E-04	2.478E-01	Half-Life	too short	
		249.79		7.226E-05	2.478E-01	Half-Life	too short	
		281.68		1.918E-04	2.478E-01	Half-Life	too short	
		297.23		2.430E-04	2.478E-01	Half-Life	too short	
		303.76		2.400E-04	2.478E-01	Half-Life	too short	
		439.47		-4.560E-05	2.478E-01	Half-Life	too short	
		484.57		1.853E-05	2.478E-01	Half-Life	too short	
		520.65	*	1.234E-05	2.478E-01	Half-Life	too short	
		574.64		3.124E-04	2.478E-01	Half-Life	too short	
		578.91		1.616E-04	2.478E-01	Half-Life	too short	
		585.48		2.011E-03	2.478E-01	Half-Life	too short	
		755.35		4.703E-04	2.478E-01	Half-Life	too short	
		817.79		-9.608E-05	2.478E-01	Half-Life	too short	
SR-82		698.33		-3.116E+01	3.928E+01	6.108E+01	3.257E+00	-0.510
		776.49	*	-2.696E-01	3.854E-01	5.949E-01	3.797E-02	-0.453
		1395.20		-3.715E+00	1.208E+01	1.915E+01	1.311E+00	-0.194
RB-83		520.41	*	4.760E-03	7.264E-02	1.184E-01	6.591E-03	0.040
		529.64		1.378E-02	1.135E-01	1.855E-01	1.028E-02	0.074
		552.65		-8.469E-04	2.034E-01	3.280E-01	1.794E-02	-0.003
RB-84		881.50	*	6.050E-03	7.560E-02	1.233E-01	9.822E-03	0.049
KR-85		513.99	*	4.483E+00	7.253E+00	1.101E+01	6.152E-01	0.407
SR-85		513.99	*	2.396E-02	3.876E-02	5.887E-02	3.288E-03	0.407
RB-86		1076.63	*	3.669E-02	8.937E-01	1.456E+00	1.018E-01	0.025
Y-88		898.02		-3.050E-02	4.066E-02	6.007E-02	4.970E-03	-0.508
		1836.01	*	-2.079E-02	3.316E-02	4.517E-02	2.636E-03	-0.460
ZR-88		392.90	*	3.294E-02	2.958E-02	5.257E-02	2.958E-03	0.627
Y-91		1204.90	*	9.542E+00	2.029E+01	3.418E+01	2.095E+00	0.279
NB-94		702.63	*	2.941E-02	3.299E-02	5.907E-02	3.182E-03	0.498
		871.10		-7.033E-03	3.217E-02	5.179E-02	4.039E-03	-0.136
NB-95		765.79	*	6.777E-02	5.017E-02	8.340E-02	5.198E-03	0.813
NB-95M		235.69	*	5.402E-02	1.509E-01	2.177E-01	1.787E-02	0.248
ZR-95		724.18		8.940E-02	1.017E-01	1.634E-01	1.103E-02	0.547
		756.15	*	6.588E-02	7.229E-02	1.297E-01	9.446E-03	0.508
NB-97		657.90	*	1.433E+00	7.229E-02	Half-Life	too short	
		1024.50		1.487E+02	7.229E-02	Half-Life	too short	
ZR-97		254.15		1.163E+02	7.229E-02	Half-Life	too short	
		355.39		-6.390E+01	7.229E-02	Half-Life	too short	
		507.63	*	9.908E+01	7.229E-02	Half-Life	too short	

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	602.52			1.462E+02	7.229E-02	Half-Life	too short	
	1021.30			8.224E+01	7.229E-02	Half-Life	too short	
	1147.95			1.188E+02	7.229E-02	Half-Life	too short	
	1362.66			-1.019E+02	7.229E-02	Half-Life	too short	
	1750.46			-5.846E+01	7.229E-02	Half-Life	too short	
MO-99	140.51			-2.959E-01	6.888E+01	1.124E+02	3.049E+01	-0.003
	181.06			-3.192E+00	4.547E+01	6.938E+01	1.204E+01	-0.046
	366.43			3.828E+02	2.368E+02	4.294E+02	2.567E+01	0.891
	739.58	*		1.916E+00	2.791E+01	4.691E+01	6.480E+00	0.041
	778.00			-1.269E+02	8.568E+01	1.198E+02	7.671E+00	-1.059
TC-99M	140.51	*		-8.707E+12	8.568E+01	Half-Life	too short	
RH-101	127.23			6.179E-03	3.149E-02	5.209E-02	3.537E-03	0.119
	198.01	*		-6.070E-03	3.492E-02	5.457E-02	3.554E-03	-0.111
	325.23			2.449E-01	2.340E-01	3.735E-01	2.391E-02	0.656
RH-102	418.52			-3.724E-02	2.901E-01	4.729E-01	2.678E-02	-0.079
	475.06	*		2.909E-02	2.751E-02	4.860E-02	2.748E-03	0.599
	631.29			-3.213E-02	5.396E-02	8.093E-02	4.111E-03	-0.397
	697.49			-9.927E-02	8.023E-02	1.197E-01	6.368E-03	-0.830
	766.84	+		1.529E-01	1.152E-01	2.151E-01	1.344E-02	0.711
	1046.59			2.166E-02	1.187E-01	1.967E-01	1.429E-02	0.110
	1112.84			-1.573E-02	2.443E-01	3.369E-01	2.234E-02	-0.047
RU-103	497.08	*		3.106E-02	4.458E-02	7.615E-02	9.567E-03	0.408
	610.33	+		1.286E+01	2.852E+00	3.102E+00	4.716E-01	4.144
RH-106	511.85	+		6.776E-01	3.438E-01	4.278E-01	2.392E-02	1.584
	621.84	*		1.022E-01	3.351E-01	5.502E-01	6.286E-02	0.186
	1050.47			6.553E-01	2.365E+00	3.959E+00	2.862E-01	0.166
RU-106	511.85	+		6.776E-01	3.438E-01	4.278E-01	2.392E-02	1.584
	621.84	*		1.022E-01	3.349E-01	5.502E-01	2.827E-02	0.186
	1050.47			6.553E-01	2.365E+00	3.959E+00	2.862E-01	0.166
AG-108M	433.93	*		3.717E-04	3.334E-02	5.477E-02	3.384E-03	0.007
	614.37			-2.068E-03	4.388E-02	6.086E-02	3.485E-03	-0.034
	722.95			-1.929E-02	4.324E-02	5.915E-02	3.640E-03	-0.326
AG-110M	657.75	*		7.922E-03	3.762E-02	5.660E-02	3.024E-03	0.140
	677.61			1.290E-01	2.787E-01	4.874E-01	2.668E-02	0.265
	706.67			-1.042E-01	2.012E-01	3.218E-01	1.869E-02	-0.324
	763.93			1.184E-01	1.730E-01	2.723E-01	1.781E-02	0.435
	884.67			-4.023E-02	5.046E-02	7.590E-02	6.308E-03	-0.530
	937.48			-1.202E-02	1.169E-01	1.630E-01	1.363E-02	-0.074
	1384.27			-9.745E-02	1.544E-01	2.161E-01	1.546E-02	-0.451
IN-111	171.28			-2.842E-01	2.569E+00	4.126E+00	2.630E-01	-0.069
	245.39	*		-1.524E+00	2.982E+00	3.996E+00	2.666E-01	-0.381
IN-113M	391.69	*		7.511E-03	4.355E-02	7.283E-02	4.389E-03	0.103
SN-113	391.69	*		7.511E-03	4.355E-02	7.283E-02	4.389E-03	0.103
IN-114M	190.27	*		5.927E-02	2.103E-01	3.064E-01	1.983E-02	0.193
CD-115	260.90			2.011E-04	2.103E-01	Half-Life	too short	
	492.35			-5.442E-05	2.103E-01	Half-Life	too short	
	527.90	*		-4.227E-06	2.103E-01	Half-Life	too short	
SN-117M	156.02			-2.786E-01	2.700E+00	4.361E+00	2.797E-01	-0.064
	158.56	*		2.848E-02	6.447E-02	1.068E-01	6.829E-03	0.267

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SB-122	563.90	*		1.111E+00	5.013E+00	8.250E+00	4.475E-01	0.135
	692.80			2.409E+00	1.115E+02	1.875E+02	9.865E+00	0.013
I-123	159.00	*		-1.317E+02	1.115E+02	Half-Life too short		
	528.96			8.290E+03	1.115E+02	Half-Life too short		
TE-123M	159.00	*		-4.476E-03	2.824E-02	4.543E-02	2.937E-03	-0.099
I-124	602.71	*		5.755E-01	1.339E+00	1.976E+00	1.036E-01	0.291
	722.78			-4.092E+00	8.675E+00	1.182E+01	6.677E-01	-0.346
	1325.50			-1.189E+01	6.479E+01	1.055E+02	7.187E+00	-0.113
	1376.25			8.416E+01	6.240E+01	1.190E+02	8.156E+00	0.707
	1509.49			3.604E+01	2.858E+01	5.418E+01	3.653E+00	0.665
	1691.02			-2.023E+00	5.826E+00	8.624E+00	5.466E-01	-0.235
SB-124	602.71			1.819E-02	4.230E-02	6.244E-02	3.276E-03	0.291
	645.85			-2.846E-01	4.849E-01	7.750E-01	4.522E-02	-0.367
	709.31			-3.658E-01	2.756E+00	4.564E+00	2.498E-01	-0.080
	713.82			-4.296E-01	1.637E+00	2.677E+00	2.693E-01	-0.160
	722.78			-1.875E-01	3.974E-01	5.415E-01	3.211E-02	-0.346
+	968.20			2.318E+01	6.482E+00	7.913E+00	6.210E-01	2.930
	1045.16			-3.498E-01	2.609E+00	4.176E+00	3.038E-01	-0.084
	1325.50			-5.820E-01	3.170E+00	5.161E+00	3.517E-01	-0.113
	1368.21			-7.574E-01	1.840E+00	2.713E+00	3.369E-01	-0.279
	1436.60			2.089E-01	3.872E+00	6.467E+00	4.412E-01	0.032
	1691.02	*		-2.186E-02	6.295E-02	9.319E-02	6.333E-03	-0.235
SB-125	427.89	*		-5.002E-02	9.252E-02	1.438E-01	8.510E-03	-0.348
+	463.38			9.523E-01	3.358E-01	5.474E-01	3.639E-02	1.740
	600.56			-9.804E-02	1.833E-01	2.679E-01	1.673E-02	-0.366
	635.90			2.037E-01	2.837E-01	4.819E-01	2.971E-02	0.423
TE-125M	109.28	*		1.350E+00	9.945E+00	1.622E+01	1.611E+00	0.083
I-126	388.63			-2.610E-02	2.428E-01	3.985E-01	2.260E-02	-0.065
	666.33	*		2.308E-01	2.186E-01	3.620E-01	1.786E-02	0.638
	753.82			1.722E+00	1.779E+00	3.206E+00	1.945E-01	0.537
SB-126	223.80			-6.568E-01	5.030E+00	7.939E+00	5.259E-01	-0.083
	278.60			-7.564E-01	2.999E+00	4.995E+00	3.321E-01	-0.151
	296.50			1.003E+01	3.090E+00	4.343E+00	2.859E-01	2.310
	414.70			-6.171E-03	9.037E-02	1.480E-01	8.377E-03	-0.042
	415.30			-7.612E-01	7.639E+00	1.248E+01	7.065E-01	-0.061
	555.20			-5.617E-01	4.750E+00	7.577E+00	4.136E-01	-0.074
	573.80			2.094E-01	1.219E+00	1.992E+00	1.072E-01	0.105
	593.00			-9.551E-01	1.199E+00	1.782E+00	9.432E-02	-0.536
	656.30			-2.535E+00	4.624E+00	6.330E+00	3.111E-01	-0.400
	666.33			9.732E-02	9.217E-02	1.526E-01	7.530E-03	0.638
	675.00			-7.193E-01	2.189E+00	3.567E+00	1.798E-01	-0.202
	695.00			3.118E-02	8.754E-02	1.513E-01	8.005E-03	0.206
	697.00			-4.299E-01	3.391E-01	5.020E-01	2.668E-02	-0.856
	720.50	*		6.764E-02	1.799E-01	2.749E-01	1.545E-02	0.246
	856.80			-1.309E-01	6.375E-01	8.848E-01	6.702E-02	-0.148
	989.30			3.903E-01	1.449E+00	2.441E+00	1.881E-01	0.160
	1034.80			-1.931E+00	1.101E+01	1.755E+01	1.292E+00	-0.110
	1213.00			-2.518E+00	6.405E+00	9.864E+00	6.091E-01	-0.255
SB-127	61.10			1.047E+02	1.724E+02	2.687E+02	4.037E+01	0.390

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		252.40		-1.318E+00	8.694E+00	1.461E+01	6.142E+00	-0.090
		290.80		6.192E-01	4.464E+01	6.635E+01	7.374E+00	0.009
		411.60		-1.716E+01	2.524E+01	3.940E+01	6.034E+00	-0.435
		444.90		1.718E+01	1.909E+01	3.324E+01	3.996E+00	0.517
		473.00		8.112E-01	3.257E+00	5.420E+00	6.699E-01	0.150
		543.00		-2.415E+00	3.375E+01	5.418E+01	7.523E+00	-0.045
		603.60		2.483E+01	2.249E+01	3.592E+01	4.237E+00	0.691
		685.20	*	2.758E-01	2.515E+00	4.264E+00	4.504E-01	0.065
		698.50		-1.313E+01	3.161E+01	5.068E+01	7.751E+00	-0.259
		722.20		-2.359E+01	6.356E+01	8.789E+01	9.287E+00	-0.268
		783.80		1.809E+01	8.117E+00	1.526E+01	1.878E+00	1.186
XE-127		57.60		2.473E+00	1.017E+01	1.742E+01	2.180E+00	0.142
		145.22		4.215E-02	6.955E-01	1.137E+00	7.396E-02	0.037
		172.10		3.264E-03	1.227E-01	1.985E-01	1.266E-02	0.016
		202.84	*	-2.660E-02	5.047E-02	7.843E-02	5.126E-03	-0.339
		374.96		-1.372E-01	2.016E-01	3.176E-01	1.863E-02	-0.432
I-131		80.18		2.221E+00	6.980E+00	1.067E+01	1.240E+00	0.208
		284.30		-2.392E+00	2.076E+00	3.264E+00	2.365E-01	-0.733
		364.48	*	6.960E-02	1.698E-01	2.888E-01	1.934E-02	0.241
		636.97		-1.436E+00	2.259E+00	3.380E+00	1.987E-01	-0.425
		722.89		-4.769E+00	1.022E+01	1.393E+01	8.057E-01	-0.342
TE-132		49.72		-6.317E+01	9.472E+01	1.556E+02	2.313E+01	-0.406
		111.76		4.381E+00	6.909E+01	1.143E+02	1.309E+01	0.038
		116.30		-3.368E+01	6.079E+01	9.736E+01	1.085E+01	-0.346
		228.16	*	8.604E-03	1.609E+00	2.556E+00	3.979E-01	0.003
BA-133		53.15		-4.998E-01	6.626E+00	1.123E+01	1.470E+00	-0.045
		79.62		1.340E+00	1.414E+00	2.209E+00	3.765E-01	0.607
		81.00		-1.667E-01	1.176E-01	1.577E-01	2.786E-02	-1.057
		276.40		6.106E-01	3.721E-01	6.545E-01	8.749E-02	0.933
		302.84		6.372E-02	1.486E-01	2.273E-01	2.739E-02	0.280
		356.01	*	2.401E-02	4.409E-02	6.767E-02	7.927E-03	0.355
		383.85		2.886E-02	3.002E-01	5.000E-01	5.420E-02	0.058
I-133	+	510.53		3.222E+01	3.002E-01	Half-Life	too short	
		529.87	*	3.129E-02	3.002E-01	Half-Life	too short	
		706.58		-4.562E+00	3.002E-01	Half-Life	too short	
		856.28		1.932E+00	3.002E-01	Half-Life	too short	
		875.33		-3.159E-01	3.002E-01	Half-Life	too short	
		1236.41		2.679E+01	3.002E-01	Half-Life	too short	
		1298.22		-4.730E-01	3.002E-01	Half-Life	too short	
CS-134		475.35		1.216E+00	1.817E+00	3.121E+00	1.765E-01	0.389
		563.23		2.820E-01	3.198E-01	5.575E-01	3.098E-02	0.506
		569.32		-9.245E-02	1.839E-01	2.798E-01	1.563E-02	-0.330
		604.70		7.919E-03	3.521E-02	5.065E-02	2.669E-03	0.156
	+	795.84	*	1.371E-01	6.585E-02	9.721E-02	6.552E-03	1.410
		801.93		2.052E-01	4.377E-01	7.091E-01	4.828E-02	0.289
		1038.57		-5.659E-03	4.036E+00	6.562E+00	4.810E-01	-0.001
		1167.94		6.088E-01	2.490E+00	4.120E+00	2.476E-01	0.148
		1365.15		5.731E-02	1.068E+00	1.793E+00	1.316E-01	0.032
I-135		288.45		4.006E+14	1.068E+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
	417.63			5.972E+13	1.068E+00	Half-Life	too short	
	546.56			2.002E+13	1.068E+00	Half-Life	too short	
	836.80			2.313E+14	1.068E+00	Half-Life	too short	
	1038.76			-5.689E+12	1.068E+00	Half-Life	too short	
	1124.00			3.094E+14	1.068E+00	Half-Life	too short	
	1131.51			-1.041E+13	1.068E+00	Half-Life	too short	
	1260.41	*		-2.496E+13	1.068E+00	Half-Life	too short	
	1457.56			1.271E+16	1.068E+00	Half-Life	too short	
	1678.03			-6.132E+13	1.068E+00	Half-Life	too short	
	1706.46			4.359E+14	1.068E+00	Half-Life	too short	
	1791.20			-9.861E+13	1.068E+00	Half-Life	too short	
CS-136	66.91			-2.056E+00	1.408E+00	1.889E+00	3.275E-01	-1.088
	86.29	+		3.223E+00	1.881E+00	2.593E+00	3.954E-01	1.243
	153.22			6.377E-01	7.911E-01	1.331E+00	1.031E-01	0.479
	163.89			-1.299E+00	1.247E+00	1.904E+00	1.469E-01	-0.682
	176.55			2.603E-01	4.215E-01	7.009E-01	4.950E-02	0.371
	273.65			-6.755E-01	6.201E-01	8.491E-01	6.272E-02	-0.796
	340.57			1.353E-01	1.527E-01	2.410E-01	1.593E-02	0.561
	818.51			-3.536E-03	8.550E-02	1.411E-01	9.886E-03	-0.025
	1048.07	*		8.821E-03	1.355E-01	2.218E-01	1.705E-02	0.040
	1235.34			6.862E-01	7.694E-01	1.376E+00	1.416E-01	0.499
CE-139	165.85	*		-1.598E-02	2.897E-02	4.553E-02	2.893E-03	-0.351
BA-140	162.64			2.800E-01	8.621E-01	1.419E+00	9.983E-02	0.197
	304.84			2.386E-01	1.582E+00	2.369E+00	6.505E-01	0.101
	423.70			4.193E-01	2.382E+00	3.958E+00	1.257E+00	0.106
	537.32	*		-4.639E-02	3.074E-01	4.895E-01	1.590E-01	-0.095
LA-140	328.77			5.312E-01	3.876E-01	6.301E-01	4.418E-02	0.843
	432.53			1.406E+00	2.547E+00	4.345E+00	2.733E-01	0.324
	487.03			2.611E-02	1.695E-01	2.793E-01	1.794E-02	0.093
	751.79			-3.891E-01	2.069E+00	3.392E+00	2.474E-01	-0.115
	815.85			-4.828E-02	3.686E-01	6.026E-01	4.912E-02	-0.080
	867.82			6.403E-01	1.615E+00	2.712E+00	2.237E-01	0.236
	919.63			-1.109E+00	3.425E+00	5.067E+00	5.195E-01	-0.219
	925.24			-3.266E-02	1.412E+00	2.250E+00	1.951E-01	-0.015
	1596.49	*		6.166E-03	1.103E-01	1.828E-01	1.204E-02	0.034
CE-141	145.44	*		-2.047E-02	6.444E-02	1.034E-01	6.940E-03	-0.198
CE-143	57.37			-1.712E-03	6.444E-02	Half-Life	too short	
	231.56			-3.742E-03	6.444E-02	Half-Life	too short	
	293.26	*		4.157E-03	6.444E-02	Half-Life	too short	
	350.59	+		2.343E-01	6.444E-02	Half-Life	too short	
	490.36			1.765E-03	6.444E-02	Half-Life	too short	
	664.57			1.493E-02	6.444E-02	Half-Life	too short	
	721.93			-5.481E-03	6.444E-02	Half-Life	too short	
CE-144	80.11			8.444E-01	2.315E+00	3.547E+00	4.098E-01	0.238
	133.54	*		4.250E-02	1.916E-01	3.167E-01	4.616E-02	0.134
PM-144	476.78			-6.192E-02	6.913E-02	1.044E-01	7.122E-03	-0.593
	618.01			1.066E-03	3.365E-02	5.398E-02	2.997E-03	0.020
	696.49	*		-1.684E-02	3.318E-02	5.264E-02	2.798E-03	-0.320
	778.57			-2.960E+00	2.110E+00	2.971E+00	1.907E-01	-0.996

----- 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	*		-1.144E+00	2.253E+00	3.574E+00	1.898E-01	-0.320
	1489.15			-7.661E+00	1.004E+01	1.388E+01	9.400E-01	-0.552
PM-146	453.90	*		1.994E-02	4.533E-02	7.646E-02	6.526E-03	0.261
	633.02			-2.148E-01	1.435E+00	2.255E+00	8.281E-01	-0.095
	735.90			-8.478E-02	1.518E-01	2.116E-01	5.901E-02	-0.401
	747.13			3.959E-02	8.376E-02	1.457E-01	1.834E-02	0.272
ND-147	91.11			4.721E-01	5.184E-01	6.514E-01	7.639E-02	0.725
	319.41			-1.491E+00	3.951E+00	6.455E+00	4.163E-01	-0.231
	439.89			-3.107E+00	7.437E+00	1.181E+01	6.701E-01	-0.263
	531.02	*		2.891E-01	7.355E-01	1.227E+00	1.646E-01	0.236
PM-149	285.90	*		-1.928E-04	7.355E-01	Half-Life too short		
EU-152	121.78			2.061E-02	7.154E-02	1.191E-01	1.015E-02	0.173
	244.69			5.922E-02	3.386E-01	4.827E-01	3.220E-02	0.123
	344.27	*		8.569E-02	9.198E-02	1.527E-01	1.057E-02	0.561
	443.98			4.906E-01	9.149E-01	1.560E+00	8.851E-02	0.314
	778.89			-3.606E-01	2.422E-01	3.369E-01	2.161E-02	-1.070
	867.32			1.233E-01	7.900E-01	1.254E+00	9.706E-02	0.098
	964.01			7.725E-01	3.434E-01	6.082E-01	4.790E-02	1.270
	1085.78			3.676E-01	4.142E-01	7.330E-01	5.061E-02	0.502
	1112.02			2.092E-01	3.222E-01	5.171E-01	3.434E-02	0.405
	1407.95			6.084E-03	1.998E-01	3.330E-01	2.278E-02	0.018
GD-153	69.67			1.644E+00	2.043E+00	3.390E+00	3.914E-01	0.485
	83.37			2.194E+01	1.646E+01	2.610E+01	3.055E+00	0.841
	97.43	*		1.378E-03	8.712E-02	1.298E-01	1.274E-02	0.011
	103.18			3.468E-03	1.083E-01	1.796E-01	1.598E-02	0.019
EU-154	123.07			2.007E-02	5.022E-02	8.394E-02	8.497E-03	0.239
	247.94			5.505E-02	3.720E-01	5.645E-01	5.699E-02	0.098
	591.81			-6.381E-01	6.381E-01	9.233E-01	8.759E-02	-0.691
	723.30			-5.583E-02	1.805E-01	2.518E-01	1.753E-02	-0.222
	756.87			1.208E-01	7.301E-01	1.235E+00	1.275E-01	0.098
	873.19			4.492E-02	2.802E-01	4.699E-01	5.498E-02	0.096
	996.32			1.885E-01	3.675E-01	5.626E-01	9.744E-02	0.335
	1004.76			1.419E-01	2.055E-01	3.244E-01	3.536E-02	0.437
	1274.45	*		2.429E-02	1.155E-01	1.977E-01	1.940E-02	0.123
EU-155	48.70			-9.503E+00	5.600E+00	8.393E+00	9.670E-01	-1.132
	60.01			2.477E-01	7.620E+00	1.155E+01	1.403E+00	0.021
	86.54	+		2.420E-01	1.394E-01	1.947E-01	2.332E-02	1.243
	105.31	*		2.948E-02	1.087E-01	1.819E-01	1.585E-02	0.162
TB-160	86.79	+		6.702E-01	3.860E-01	5.407E-01	6.451E-02	1.240
	197.04			3.117E-02	6.134E-01	9.697E-01	6.310E-02	0.032
	215.65			-2.719E-01	7.872E-01	1.231E+00	8.115E-02	-0.221
	298.57			7.431E-02	1.855E-01	2.099E-01	1.380E-02	0.354
	879.36	*		2.816E-02	1.417E-01	2.383E-01	1.890E-02	0.118
	962.29			8.764E-01	6.205E-01	1.034E+00	8.150E-02	0.848
	966.15			1.238E+00	2.902E-01	5.741E-01	4.513E-02	2.156
	1177.93			1.861E-01	3.810E-01	6.453E-01	3.855E-02	0.288
	1271.85			-2.990E-01	6.913E-01	1.097E+00	7.144E-02	-0.273
HO-166M	80.57			-2.105E-01	3.024E-01	4.356E-01	5.041E-02	-0.483
	184.41	+		1.305E-01	5.820E-02	6.683E-02	4.305E-03	1.952

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

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TM-171		280.46		-2.018E-02	8.645E-02	1.441E-01	9.574E-03	-0.140
		410.95		-1.306E-02	2.488E-01	4.084E-01	2.310E-02	-0.032
		711.68	*	4.071E-02	5.607E-02	9.971E-02	5.488E-03	0.408
		752.31		2.008E-01	2.605E-01	4.637E-01	2.804E-02	0.433
		810.29		-2.983E-02	5.115E-02	7.921E-02	5.442E-03	-0.377
		51.35		8.048E+01	6.123E+01	1.088E+02	1.409E+01	0.740
		52.39		2.020E+01	3.048E+01	5.315E+01	6.952E+00	0.380
		59.40		4.169E+00	4.291E+01	6.529E+01	7.962E+00	0.064
		66.72	*	-5.120E+01	4.035E+01	5.605E+01	6.553E+00	-0.913
		88.36		4.758E-01	2.740E-01	3.737E-01	4.454E-02	1.273
LU-176	+	201.83		-1.497E-02	2.900E-02	4.513E-02	2.948E-03	-0.332
		306.84	*	9.290E-03	2.336E-02	3.892E-02	2.541E-03	0.239
LU-177		401.10		3.115E+00	6.490E+00	1.106E+01	6.238E-01	0.282
		112.95		8.694E-01	2.430E+00	4.068E+00	3.150E-01	0.214
LU-177M	+	208.36	*	3.708E+00	1.901E+00	2.948E+00	1.935E-01	1.258
		52.97		-2.110E-01	3.074E+00	5.212E+00	6.824E-01	-0.040
HF-181		54.07		-5.041E-01	1.551E+00	2.596E+00	3.385E-01	-0.194
		61.30		1.577E+00	2.180E+00	3.444E+00	4.155E-01	0.458
		121.62		-1.191E-03	3.758E-01	6.177E-01	4.302E-02	-0.002
		147.16		-7.555E-02	6.084E-01	9.846E-01	6.388E-02	-0.077
		171.86		-3.731E-03	4.659E-01	7.520E-01	4.796E-02	-0.005
		218.09		6.125E-01	8.494E-01	1.406E+00	9.282E-02	0.436
	+	268.79		2.498E+00	1.334E+00	1.466E+00	9.775E-02	1.705
		319.02		-4.248E-02	2.406E-01	3.982E-01	2.568E-02	-0.107
		367.43		6.952E-01	9.424E-01	1.634E+00	9.746E-02	0.425
		413.65	*	-5.970E-02	1.764E-01	2.834E-01	1.603E-02	-0.211
W-181		56.28		2.970E-01	1.628E+00	2.783E+00	3.548E-01	0.107
		57.53		-8.192E-02	8.614E-01	1.454E+00	1.823E-01	-0.056
		65.20		3.900E-01	1.417E+00	2.171E+00	2.559E-01	0.180
		133.02		6.160E-03	6.484E-02	1.066E-01	7.114E-03	0.058
		136.25		-5.934E-02	4.601E-01	7.476E-01	4.949E-02	-0.079
		345.85		1.409E-01	2.055E-01	3.202E-01	1.989E-02	0.440
		482.03	*	3.372E-02	4.736E-02	8.119E-02	4.584E-03	0.415
		56.28		1.111E-01	6.108E-01	1.045E+00	1.332E-01	0.106
		57.53		-3.112E-02	3.236E-01	5.464E-01	6.847E-02	-0.057
		65.20	*	1.453E-01	5.279E-01	8.090E-01	9.535E-02	0.180
TA-182		67.75		-1.478E-01	1.564E-01	2.226E-01	2.590E-02	-0.664
		100.10		-1.361E-01	1.792E-01	2.864E-01	2.681E-02	-0.475
		152.43		-4.452E-02	3.357E-01	5.422E-01	3.492E-02	-0.082
		222.10		-4.488E-02	3.536E-01	5.585E-01	3.696E-02	-0.080
	+	1001.68		1.739E+00	2.185E+00	3.671E+00	2.797E-01	0.474
	+	1121.28		6.635E-01	3.000E-01	3.890E-01	2.544E-02	1.706
		1189.05		-1.128E-01	3.170E-01	4.889E-01	2.952E-02	-0.231
		1221.42	*	6.109E-02	2.061E-01	3.549E-01	2.209E-02	0.172
		1230.97		-1.932E-02	4.695E-01	7.847E-01	4.927E-02	-0.025
		59.98		1.279E-02	3.143E-01	5.338E-01	6.646E-02	0.024
RE-183		59.32		1.782E-02	1.833E-01	2.789E-01	3.406E-02	0.064
		67.20		-4.182E-01	2.976E-01	4.095E-01	4.777E-02	-1.021
		162.32	*	5.694E-02	1.058E-01	1.760E-01	1.121E-02	0.324

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	+	208.81		2.306E+00	1.182E+00	1.833E+00	1.203E-01	1.258
		291.72		-4.278E-01	1.031E+00	1.480E+00	9.775E-02	-0.289
		57.98		4.605E-02	1.132E+00	1.922E+00	2.393E-01	0.024
		59.32		6.412E-02	6.596E-01	1.004E+00	1.225E-01	0.064
		67.20		-1.505E+00	1.072E+00	1.474E+00	1.720E-01	-1.021
		161.27		7.358E-02	3.451E-01	5.651E-01	3.604E-02	0.130
		216.55		-1.547E-01	2.706E-01	4.171E-01	2.752E-02	-0.371
		252.85	*	-5.073E-03	2.301E-01	3.899E-01	2.604E-02	-0.013
		318.01		1.298E-01	4.239E-01	7.230E-01	4.667E-02	0.180
		792.07		8.809E-01	1.101E+00	1.718E+00	1.134E-01	0.513
OS-185		903.28		4.259E-01	9.499E-01	1.599E+00	1.312E-01	0.266
		920.93		-1.616E-01	4.409E-01	6.940E-01	5.635E-02	-0.233
		59.72		-3.043E-02	4.791E-01	7.220E-01	8.783E-02	-0.042
		61.14		1.501E-01	2.474E-01	3.860E-01	4.662E-02	0.389
		69.30		1.444E-01	3.626E-01	6.193E-01	7.160E-02	0.233
		592.07		-3.926E+00	2.757E+00	3.825E+00	2.027E-01	-1.026
		646.12	*	-3.353E-02	4.094E-02	6.400E-02	3.190E-03	-0.524
		717.42		2.285E-01	8.717E-01	1.457E+00	8.130E-02	0.157
		874.81		1.642E-02	5.648E-01	9.342E-01	7.340E-02	0.018
		880.27		2.040E-01	7.887E-01	1.334E+00	1.060E-01	0.153
RE-188		155.03	*	5.525E-02	1.751E-01	2.885E-01	1.853E-02	0.192
		477.96		-3.740E+00	3.244E+00	4.778E+00	2.700E-01	-0.783
		633.10		-3.094E-01	3.020E+00	4.776E+00	2.421E-01	-0.065
W-188	+	63.58		1.586E+02	1.390E+02	1.403E+02	1.670E+01	1.130
		227.08		-4.566E+00	1.329E+01	2.069E+01	1.373E+00	-0.221
IR-192		290.67	*	3.972E-01	7.916E+00	1.180E+01	7.798E-01	0.034
	+	295.96		1.050E+00	2.047E-01	2.995E-01	1.997E-02	3.505
		308.46		-1.536E-02	9.237E-02	1.534E-01	1.009E-02	-0.100
		316.51	*	1.668E-02	3.342E-02	5.763E-02	3.742E-03	0.289
		468.07		5.916E-02	6.565E-02	1.081E-01	7.102E-03	0.547
AU-195		604.41		2.144E-01	4.730E-01	7.004E-01	7.755E-02	0.306
		612.46		4.052E-01	7.946E-01	1.179E+00	8.389E-02	0.344
		65.12		6.690E-02	2.432E-01	3.727E-01	4.395E-02	0.180
		66.83		-1.684E-01	1.346E-01	1.872E-01	2.187E-02	-0.900
	+	75.70		1.120E+00	2.955E-01	5.144E-01	5.893E-02	2.178
		98.88	*	2.243E-01	2.245E-01	3.869E-01	3.700E-02	0.580
		129.76		2.256E+00	2.875E+00	4.863E+00	3.276E-01	0.464
TL-200		367.94	*	-4.913E-04	2.875E+00	Half-Life	too short	
		579.30		3.434E-02	2.875E+00	Half-Life	too short	
		828.27		-1.331E-02	2.875E+00	Half-Life	too short	
		1205.75		5.733E-03	2.875E+00	Half-Life	too short	
TL-201		68.90		5.533E+00	1.466E+01	2.397E+01	2.775E+00	0.231
		70.82		4.138E+00	8.502E+00	1.316E+01	1.514E+00	0.314
		80.30		3.079E+00	1.323E+01	2.013E+01	2.328E+00	0.153
		135.34		-7.593E+00	5.832E+01	9.477E+01	6.288E+00	-0.080
TL-202		167.43	*	1.574E+01	1.655E+01	2.797E+01	1.778E+00	0.563
		68.90		2.533E-01	6.711E-01	1.097E+00	1.271E-01	0.231
		70.82		1.889E-01	3.882E-01	6.008E-01	6.915E-02	0.314
		80.30		1.406E-01	6.041E-01	9.195E-01	1.063E-01	0.153

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HG-203		439.56	*	-9.305E-03	8.476E-02	1.378E-01	7.818E-03	-0.068
		70.83		6.859E-01	1.427E+00	2.206E+00	3.441E-01	0.311
		72.87		4.505E-01	7.960E-01	1.232E+00	1.874E-01	0.366
		82.60		-4.191E-01	1.254E+00	1.970E+00	3.120E-01	-0.213
BI-207		279.20	*	-1.455E-02	4.251E-02	7.045E-02	4.905E-03	-0.207
		72.80		1.106E-01	2.197E-01	3.397E-01	3.895E-02	0.326
	+	74.97		6.124E-01	1.615E-01	2.499E-01	2.862E-02	2.450
		84.90		1.351E-01	2.089E-01	3.227E-01	3.807E-02	0.419
		569.67		-2.344E-02	2.996E-02	4.440E-02	2.398E-03	-0.528
		1063.62	*	2.930E-02	5.633E-02	9.626E-02	6.846E-03	0.304
TL-207		1770.23		3.153E-01	4.804E-01	8.063E-01	4.899E-02	0.391
		81.07		-3.634E-01	2.545E-01	3.480E-01	4.034E-02	-1.044
		83.78		2.722E-01	1.380E-01	2.225E-01	2.610E-02	1.223
		94.90		2.835E-01	2.540E-01	3.985E-01	4.106E-02	0.711
		122.32		9.754E-01	1.694E+00	2.854E+00	2.196E-01	0.342
		144.24		1.730E-01	6.631E-01	1.083E+00	8.473E-02	0.160
		154.21		2.028E-01	3.884E-01	6.456E-01	4.868E-02	0.314
	+	269.46		5.750E-01	3.073E-01	3.458E-01	2.385E-02	1.663
		323.87	*	4.940E-01	6.817E-01	1.059E+00	1.773E-01	0.466
	+	338.28		7.371E+00	2.055E+00	2.535E+00	2.740E-01	2.907
		445.03		1.856E+00	2.172E+00	3.777E+00	3.852E-01	0.491
		260.50		3.263E+00	8.804E+00	1.520E+01	1.015E+00	0.215
PO-209		262.80		-4.788E+00	2.509E+01	4.065E+01	2.714E+00	-0.118
		896.60	*	-3.117E+00	7.027E+00	1.080E+01	8.863E-01	-0.289
BI-210		46.50	*	1.010E+01	9.007E+00	1.577E+01	1.374E+00	0.640
PB-210		46.50	*	1.010E+01	9.007E+00	1.577E+01	1.374E+00	0.640
PO-210		46.50	*	1.010E+01	8.998E+00	1.577E+01	1.225E+00	0.640
PB-211		404.84	*	-8.849E-01	1.095E+00	1.459E+00	9.095E-01	-0.606
BI-212		427.08		-2.049E+00	2.466E+00	3.185E+00	1.968E+00	-0.643
		831.96		-1.588E-01	1.039E+00	1.683E+00	1.052E+00	-0.094
	+	727.18	*	1.372E+00	6.356E-01	6.807E-01	5.203E-02	2.016
		785.46		1.595E+00	1.949E+00	3.440E+00	2.239E-01	0.464
PO-215		1620.62		1.816E+00	1.446E+00	2.784E+00	1.818E-01	0.652
		81.07		-3.634E-01	2.545E-01	3.480E-01	4.034E-02	-1.044
		83.78		2.722E-01	1.380E-01	2.225E-01	2.610E-02	1.223
		94.90		2.835E-01	2.540E-01	3.985E-01	4.106E-02	0.711
		122.32		9.754E-01	1.694E+00	2.854E+00	2.196E-01	0.342
		144.24		1.730E-01	6.631E-01	1.083E+00	8.473E-02	0.160
		154.21		2.028E-01	3.884E-01	6.456E-01	4.868E-02	0.314
	+	269.46		5.750E-01	3.073E-01	3.458E-01	2.385E-02	1.663
		323.87	*	4.940E-01	6.817E-01	1.059E+00	1.773E-01	0.466
	+	338.28		7.371E+00	2.055E+00	2.535E+00	2.740E-01	2.907
RN-219		445.03		1.856E+00	2.172E+00	3.777E+00	3.852E-01	0.491
		271.23		2.982E-01	2.659E-01	4.248E-01	3.715E-02	0.702
RN-220		401.81	*	3.770E-02	4.028E-01	6.687E-01	9.054E-02	0.056
RA-223		549.76	*	1.281E+01	2.654E+01	4.457E+01	2.442E+00	0.287
		81.07		-3.634E-01	2.545E-01	3.480E-01	4.034E-02	-1.044
		83.78		2.722E-01	1.380E-01	2.225E-01	2.610E-02	1.223
		94.90		2.835E-01	2.540E-01	3.985E-01	4.106E-02	0.711

---- 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		9.754E-01	1.694E+00	2.854E+00	2.196E-01	0.342
		144.24		1.730E-01	6.631E-01	1.083E+00	8.473E-02	0.160
		154.21		2.028E-01	3.884E-01	6.456E-01	4.868E-02	0.314
	+	269.46		5.750E-01	3.073E-01	3.458E-01	2.385E-02	1.663
		323.87	*	4.940E-01	6.817E-01	1.059E+00	1.773E-01	0.466
	+	338.28		7.371E+00	2.055E+00	2.535E+00	2.740E-01	2.907
		445.03		1.856E+00	2.172E+00	3.777E+00	3.852E-01	0.491
		79.80		1.514E+00	1.791E+00	2.768E+00	6.320E-01	0.547
		236.00		4.406E-01	2.678E-01	4.125E-01	4.518E-02	1.068
		256.20	*	-5.663E-02	3.629E-01	6.102E-01	8.755E-02	-0.093
		286.10		-2.053E-01	1.432E+00	2.393E+00	2.870E-01	-0.086
	+	299.80		3.833E+00	2.245E+00	2.716E+00	4.502E-01	1.411
TH-227		304.40		6.718E-01	1.895E+00	2.883E+00	5.062E-01	0.233
		334.20		9.278E-01	2.294E+00	3.484E+00	6.448E-01	0.266
		79.80		1.514E+00	1.792E+00	2.768E+00	6.392E-01	0.547
	+	94.00		1.169E+01	4.414E+00	3.993E+00	9.019E-01	2.928
		236.00		4.406E-01	2.669E-01	4.125E-01	3.972E-02	1.068
		256.20	*	-5.663E-02	3.629E-01	6.102E-01	1.051E-01	-0.093
		286.10		-2.053E-01	1.446E+00	2.393E+00	2.398E+00	-0.086
	+	299.80		3.833E+00	2.245E+00	2.716E+00	4.502E-01	1.411
		304.40		6.718E-01	1.895E+00	2.883E+00	5.062E-01	0.233
		334.20		9.278E-01	2.294E+00	3.484E+00	6.448E-01	0.266
		85.43		5.135E-02	2.141E-01	3.245E-01	3.841E-02	0.158
	+	88.47		2.739E-01	1.577E-01	2.137E-01	2.540E-02	1.282
TH-229		100.00		-1.208E-01	1.823E-01	2.930E-01	2.747E-02	-0.412
		193.63	*	-1.558E-01	5.112E-01	8.069E-01	5.236E-02	-0.193
		210.97		2.597E-01	8.705E-01	1.260E+00	8.284E-02	0.206
		283.67	*	-6.333E-01	1.476E+00	2.425E+00	3.432E-01	-0.261
PA-231	+	301.29		1.533E+00	8.772E-01	1.094E+00	1.192E-01	1.401
TH-231		81.07		-3.634E-01	2.545E-01	3.480E-01	4.034E-02	-1.044
		83.78		2.722E-01	1.380E-01	2.225E-01	2.610E-02	1.223
U-231		94.90		2.835E-01	2.540E-01	3.985E-01	4.106E-02	0.711
		122.32		9.754E-01	1.694E+00	2.854E+00	2.196E-01	0.342
		144.24		1.730E-01	6.631E-01	1.083E+00	8.473E-02	0.160
		154.21		2.028E-01	3.884E-01	6.456E-01	4.868E-02	0.314
	+	269.46		5.750E-01	3.073E-01	3.458E-01	2.385E-02	1.663
		323.87	*	4.940E-01	6.817E-01	1.059E+00	1.773E-01	0.466
	+	338.28		7.371E+00	2.055E+00	2.535E+00	2.740E-01	2.907
		445.03		1.856E+00	2.172E+00	3.777E+00	3.852E-01	0.491
		84.21		1.364E+01	1.152E+01	1.815E+01	2.133E+00	0.751
	+	92.29		2.215E+01	7.093E+00	8.320E+00	9.053E-01	2.662
		95.87	*	-1.071E+00	2.248E+00	3.252E+00	3.288E-01	-0.329
		108.00		-1.010E+00	3.898E+00	6.369E+00	5.273E-01	-0.159
PA-233	+	75.28		1.787E+01	5.229E+00	7.513E+00	1.285E+00	2.378
	+	86.59		3.927E+00	2.472E+00	3.158E+00	8.859E-01	1.244
	+	300.12		1.069E+00	6.180E-01	7.628E-01	1.052E-01	1.401
		311.98	*	-8.543E-03	6.057E-02	1.007E-01	6.865E-03	-0.085
		340.50		7.274E-01	6.345E-01	9.884E-01	2.282E-01	0.736
		398.62		-4.808E-01	2.012E+00	3.258E+00	8.412E-01	-0.148

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-234	+	415.76		6.583E-02	1.614E+00	2.664E+00	5.474E-01	0.025
		63.00		4.421E+00	3.916E+00	4.000E+00	7.026E-01	1.105
		94.67		4.364E-01	1.863E-01	2.972E-01	4.061E-02	1.468
		98.44		1.054E-01	1.088E-01	1.531E-01	8.567E-02	0.689
		99.86		-2.476E-01	4.642E-01	7.511E-01	7.060E-02	-0.330
		111.00		-8.450E-02	1.901E-01	3.016E-01	3.503E-02	-0.280
		131.20		-1.162E-01	1.036E-01	1.604E-01	1.076E-02	-0.725
		152.70		1.586E-01	3.127E-01	5.187E-01	8.326E-02	0.306
		186.00		4.697E+00	2.525E+00	2.637E+00	8.093E-01	1.781
		226.40		-4.025E-02	4.015E-01	6.343E-01	7.612E-02	-0.063
		227.20		-1.253E-01	4.327E-01	6.760E-01	4.485E-02	-0.185
		248.90		1.595E-01	8.278E-01	1.322E+00	2.875E-01	0.121
		293.70		6.368E+00	1.565E+00	1.706E+00	2.795E-01	3.733
		369.80		-8.298E-01	8.566E-01	1.297E+00	2.706E-01	-0.640
		568.70		-3.436E-01	8.989E-01	1.383E+00	7.476E-02	-0.248
		569.50		-1.101E-01	2.550E-01	3.911E-01	2.112E-02	-0.282
		574.00		1.461E-01	1.407E+00	2.286E+00	1.231E-01	0.064
		699.00		5.060E-02	6.945E-01	1.171E+00	2.089E-01	0.043
		706.10		-5.381E-01	1.040E+00	1.621E+00	7.145E-01	-0.332
		733.00		2.152E-02	3.803E-01	5.569E-01	1.184E-01	0.039
		742.81		1.806E-01	1.276E+00	2.148E+00	1.437E+00	0.084
		796.30		2.069E+00	1.200E+00	1.872E+00	4.960E-01	1.105
		805.60		-5.667E-02	9.723E-01	1.604E+00	4.842E-01	-0.035
		819.60		-3.386E-01	1.181E+00	1.889E+00	7.119E-01	-0.179
		826.30		-3.175E-01	7.593E-01	1.178E+00	5.241E-01	-0.269
		831.60		-1.573E-01	5.354E-01	8.539E-01	2.516E-01	-0.184
		876.40		-2.271E-01	8.444E-01	1.298E+00	1.334E+00	-0.175
		880.51		5.077E-02	2.748E-01	4.614E-01	3.667E-02	0.110
		883.24		2.946E-02	2.902E-01	4.735E-01	3.179E-01	0.062
		899.00		-4.369E-02	7.936E-01	1.278E+00	5.577E-01	-0.034
		925.00		2.361E-01	1.137E+00	1.908E+00	1.545E-01	0.124
		926.50		2.685E-02	1.881E-01	2.855E-01	7.167E-02	0.094
		946.00	*	-3.529E-01	2.856E-01	3.833E-01	7.084E-02	-0.921
		949.00		3.616E-01	3.981E-01	7.175E-01	5.715E-02	0.504
		980.50		-1.412E-01	6.513E-01	1.035E+00	8.041E-02	-0.136
		1394.10		-9.248E-01	1.281E+00	1.638E+00	1.063E+00	-0.565
PA-234M		766.42		2.116E+01	1.692E+01	2.231E+01	1.124E+01	0.948
U-235	+	1001.03	*	3.854E+00	4.849E+00	7.898E+00	7.200E-01	0.488
		89.95		3.003E-01	1.596E+00	1.918E+00	6.093E-01	0.157
		93.35		3.638E+00	1.516E+00	1.359E+00	3.902E-01	2.677
		105.00		6.642E-01	1.080E+00	1.803E+00	5.383E-01	0.368
		143.76	*	1.217E-02	2.033E-01	3.292E-01	5.457E-02	0.037
NP-236	+	163.35		-1.778E-01	4.442E-01	7.027E-01	1.277E-01	-0.253
		185.71		1.740E-01	7.760E-02	9.783E-02	6.308E-03	1.778
		205.31		8.781E-02	5.740E-01	8.246E-01	1.504E-01	0.106
		94.67		3.324E-01	1.383E-01	2.256E-01	2.336E-02	1.473
		98.44		7.969E-02	6.949E-02	1.157E-01	1.115E-02	0.689
NP-236		111.00		-6.392E-02	1.437E-01	2.281E-01	1.812E-02	-0.280
		160.31	*	3.066E-02	7.582E-02	1.253E-01	8.001E-03	0.245

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239		99.55		7.829E-02	1.522E-01	2.579E-01	2.437E-02	0.304
		117.00	*	-1.405E-01	1.792E-01	2.836E-01	2.087E-02	-0.495
	+	209.75		1.749E+00	8.968E-01	1.385E+00	9.098E-02	1.263
		228.18		7.652E-04	2.272E-01	3.609E-01	2.395E-02	0.002
		277.60		2.860E-03	1.819E-01	3.031E-01	2.016E-02	0.009
		334.30		5.337E-01	1.297E+00	1.976E+00	1.250E-01	0.270
AM-241		59.54	*	-3.156E-02	2.497E-01	3.750E-01	4.735E-02	-0.084
CM-243		99.55		8.058E-02	1.567E-01	2.655E-01	2.509E-02	0.304
		103.76	*	2.952E-02	9.664E-02	1.621E-01	1.429E-02	0.182
		117.00		-1.446E-01	1.844E-01	2.918E-01	2.147E-02	-0.495
	+	209.75		1.725E+00	8.843E-01	1.366E+00	8.972E-02	1.263
		228.18		7.734E-04	2.296E-01	3.647E-01	2.421E-02	0.002
		277.60		2.884E-03	1.834E-01	3.056E-01	2.033E-02	0.009
AM-246		798.80		-1.551E-01	1.629E-01	2.035E-01	1.364E-02	-0.762
		1036.00		6.101E-02	3.069E-01	5.100E-01	3.749E-02	0.120
		1062.04		1.934E-01	2.421E-01	4.247E-01	3.027E-02	0.455
		1078.86	*	4.705E-02	1.455E-01	2.442E-01	1.702E-02	0.193
CM-247		278.00		-2.525E-01	7.602E-01	1.244E+00	8.275E-02	-0.203
		287.40		-2.440E-01	1.183E+00	1.971E+00	1.305E-01	-0.124
		402.60	*	-6.394E-03	3.596E-02	5.858E-02	3.306E-03	-0.109
CF-249		252.85		-1.873E-02	8.494E-01	1.440E+00	9.615E-02	-0.013
		333.44		2.506E-02	1.996E-01	2.519E-01	1.595E-02	0.099
		387.95	*	1.120E-02	3.854E-02	6.498E-02	3.692E-03	0.172
CF-251		176.60	*	7.493E-02	1.181E-01	1.967E-01	1.259E-02	0.381
		227.00		-2.105E-01	3.866E-01	5.946E-01	3.945E-02	-0.354
		285.00		-2.023E-01	1.681E+00	2.814E+00	1.866E-01	-0.072

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]G245107016
* Acquisition date   : 1-FEB-2010 13:33:54 Detector SN# :
* Detector ID        : GAM04                      Sensitivity   : 5.000
* Geometry           : CAN                        Energy tolerance: 1.500
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.000
* Elapsed real time  : 0 02:00:01.18             Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245107016               Analyst initials: MXR1
* Batch Number       : 944038                   Sample Quantity : 1.2428E+02 GRAM
* Recovery           : 1.00000                  Carrier Weight  : 0.00000
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope :
* MSD DPM            : 0.000                    MSD Isotope :
* LCS DPM            : 0.000                    LCS Isotope :
* LCSD DPM           : 0.000                    LCSD Isotope :
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.273E+01	2.244E+00	4.184E-01	0.000E+00
CD-109	2.053E+00	1.159E+00	1.614E+00	0.000E+00
SN-126	2.006E-01	1.132E-01	1.591E-01	0.000E+00
CS-135	4.888E-01	2.569E-01	2.292E-01	0.000E+00
BA-137M	4.257E-01	7.706E-02	5.449E-02	0.000E+00
CS-137	4.500E-01	8.150E-02	5.760E-02	0.000E+00
TL-208	4.882E-01	9.457E-02	5.475E-02	0.000E+00
BI-211	4.039E+00	4.990E-01	2.925E-01	0.000E+00
PB-212	1.608E+00	1.708E-01	9.661E-02	0.000E+00
PO-212	1.608E+00	1.708E-01	9.661E-02	0.000E+00
BI-214	1.111E+00	1.932E-01	1.065E-01	0.000E+00
PB-214	1.405E+00	1.879E-01	1.039E-01	0.000E+00
PO-214	1.405E+00	1.879E-01	1.039E-01	0.000E+00
PO-216	1.608E+00	1.708E-01	9.661E-02	0.000E+00
PO-218	1.405E+00	1.879E-01	1.039E-01	0.000E+00
RA-224	3.759E+00	1.214E+00	1.100E+00	0.000E+00
RA-226	1.111E+00	1.932E-01	1.065E-01	0.000E+00
AC-228	1.661E+00	3.035E-01	2.071E-01	0.000E+00
RA-228	1.661E+00	3.035E-01	2.071E-01	0.000E+00
TH-228	1.639E+00	1.740E-01	9.846E-02	0.000E+00
TH-230	1.111E+00	1.932E-01	1.065E-01	0.000E+00
TH-232	1.661E+00	3.035E-01	2.071E-01	0.000E+00
TH-234	3.793E+00	3.310E+00	2.920E+00	0.000E+00
U-234	1.111E+00	1.932E-01	1.065E-01	0.000E+00
NP-237	5.891E-01	3.532E-01	4.451E-01	0.000E+00
U-238	3.793E+00	3.310E+00	2.920E+00	0.000E+00
AM-243	3.411E-01	8.814E-02	1.044E-01	0.000E+00
ANH-511	1.347E-01	6.695E-02	4.348E-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	-5.462E-01	3.416E-01	4.991E-01	0.000E+00	NOT IDENT.
NA-22	2.013E-02	3.920E-02	7.084E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.756E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-2.339E-02	3.532E-02	5.068E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.958E-02	8.502E-02	0.000E+00	FAIL ABUN
SC-46	-1.242E-02	4.177E-02	6.626E-02	0.000E+00	FAIL ABUN
V-48	-2.833E-02	7.636E-02	1.222E-01	0.000E+00	NOT IDENT.
CR-51	-2.274E-01	3.728E-01	6.241E-01	0.000E+00	NOT IDENT.
MN-52	-1.922E-01	3.974E-01	6.245E-01	0.000E+00	NOT IDENT.
MN-54	-6.661E-03	3.446E-02	5.748E-02	0.000E+00	NOT IDENT.
CO-56	3.875E-02	4.128E-02	7.573E-02	0.000E+00	NOT IDENT.
CO-57	8.765E-03	2.446E-02	4.305E-02	0.000E+00	NOT IDENT.
CO-58	-6.118E-03	3.535E-02	5.915E-02	0.000E+00	NOT IDENT.
FE-59	1.264E-02	1.069E-01	1.792E-01	0.000E+00	NOT IDENT.
CO-60	-2.416E-02	3.946E-02	6.192E-02	0.000E+00	NOT IDENT.
ZN-65	-3.601E-03	9.817E-02	1.392E-01	0.000E+00	NOT IDENT.
GE-68	1.700E-01	1.233E+00	2.078E+00	0.000E+00	NOT IDENT.
AS-73	-3.292E-01	1.543E+00	2.768E+00	0.000E+00	NOT IDENT.
AS-74	1.039E-01	1.070E-01	1.913E-01	0.000E+00	NOT IDENT.
SE-75	-2.363E-02	4.523E-02	6.764E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.290E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-2.696E-01	3.777E-01	5.996E-01	0.000E+00	NOT IDENT.
RB-83	4.760E-03	7.119E-02	1.199E-01	0.000E+00	NOT IDENT.
RB-84	6.050E-03	7.409E-02	1.241E-01	0.000E+00	NOT IDENT.
KR-85	4.483E+00	7.108E+00	1.116E+01	0.000E+00	NOT IDENT.
SR-85	2.396E-02	3.799E-02	5.966E-02	0.000E+00	NOT IDENT.
RB-86	3.669E-02	8.758E-01	1.461E+00	0.000E+00	NOT IDENT.
Y-88	-2.079E-02	3.250E-02	4.498E-02	0.000E+00	NOT IDENT.
ZR-88	3.294E-02	2.899E-02	5.347E-02	0.000E+00	NOT IDENT.
Y-91	9.542E+00	1.988E+01	3.423E+01	0.000E+00	NOT IDENT.
NB-94	2.941E-02	3.233E-02	5.961E-02	0.000E+00	NOT IDENT.
NB-95	6.777E-02	4.917E-02	8.406E-02	0.000E+00	NOT IDENT.
NB-95M	5.402E-02	1.479E-01	2.230E-01	0.000E+00	NOT IDENT.
ZR-95	6.588E-02	7.085E-02	1.308E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	4.985E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	8.383E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.916E+00	2.735E+01	4.731E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.986E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.070E-03	3.422E-02	5.603E-02	0.000E+00	NOT IDENT.
RH-102	2.909E-02	2.696E-02	4.931E-02	0.000E+00	FAIL ABUN
RU-103	3.106E-02	4.369E-02	7.721E-02	0.000E+00	FAIL ABUN
RH-106	1.022E-01	3.284E-01	5.562E-01	0.000E+00	FAIL ABUN
RU-106	1.022E-01	3.282E-01	5.562E-01	0.000E+00	FAIL ABUN
AG-108M	3.717E-04	3.267E-02	5.563E-02	0.000E+00	NOT IDENT.
AG-110M	7.922E-03	3.687E-02	5.717E-02	0.000E+00	NOT IDENT.
IN-111	-1.524E+00	2.922E+00	4.090E+00	0.000E+00	NOT IDENT.
IN-113M	7.511E-03	4.268E-02	7.409E-02	0.000E+00	NOT IDENT.
SN-113	7.511E-03	4.268E-02	7.409E-02	0.000E+00	NOT IDENT.
IN-114M	5.927E-02	2.061E-01	3.147E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	3.714E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	2.848E-02	6.318E-02	1.099E-01	0.000E+00	NOT IDENT.
SB-122	1.111E+00	4.913E+00	8.350E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.145E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-4.476E-03	2.767E-02	4.678E-02	0.000E+00	NOT IDENT.
I-124	5.755E-01	1.312E+00	1.998E+00	0.000E+00	NOT IDENT.
SB-124	-2.186E-02	6.169E-02	9.290E-02	0.000E+00	FAIL ABUN
SB-125	-5.002E-02	9.067E-02	1.461E-01	0.000E+00	FAIL ABUN
TE-125M	1.350E+00	9.746E+00	1.678E+01	0.000E+00	NOT IDENT.
I-126	2.308E-01	2.142E-01	3.656E-01	0.000E+00	NOT IDENT.
SB-126	6.764E-02	1.763E-01	2.773E-01	0.000E+00	NOT IDENT.
SB-127	2.758E-01	2.465E+00	4.305E+00	0.000E+00	NOT IDENT.
XE-127	-2.660E-02	4.946E-02	8.049E-02	0.000E+00	NOT IDENT.
I-131	6.960E-02	1.664E-01	2.941E-01	0.000E+00	NOT IDENT.
TE-132	8.604E-03	1.577E+00	2.619E+00	0.000E+00	NOT IDENT.
BA-133	2.401E-02	4.321E-02	6.893E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.433E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.453E-02	9.793E-02	0.000E+00	FAIL ABUN
I-135	0.000E+00	1.138E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.821E-03	1.328E-01	2.226E-01	0.000E+00	FAIL ABUN
CE-139	-1.598E-02	2.839E-02	4.685E-02	0.000E+00	NOT IDENT.
BA-140	-4.639E-02	3.012E-01	4.958E-01	0.000E+00	NOT IDENT.
LA-140	6.166E-03	1.081E-01	1.824E-01	0.000E+00	NOT IDENT.
CE-141	-2.047E-02	6.316E-02	1.066E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.513E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.250E-02	1.877E-01	3.268E-01	0.000E+00	NOT IDENT.
PM-144	-1.684E-02	3.252E-02	5.313E-02	0.000E+00	NOT IDENT.
PR-144	-1.144E+00	2.208E+00	3.608E+00	0.000E+00	NOT IDENT.

PM-146	1.994E-02	4.442E-02	7.762E-02	0.000E+00	NOT IDENT.
ND-147	2.891E-01	7.208E-01	1.243E+00	0.000E+00	NOT IDENT.
PM-149	0.000E+00	2.960E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	8.569E-02	9.014E-02	1.556E-01	0.000E+00	NOT IDENT.
GD-153	1.378E-03	8.538E-02	1.345E-01	0.000E+00	NOT IDENT.
EU-154	2.429E-02	1.131E-01	1.979E-01	0.000E+00	NOT IDENT.
EU-155	2.948E-02	1.065E-01	1.883E-01	0.000E+00	FAIL ABUN
TB-160	2.816E-02	1.389E-01	2.398E-01	0.000E+00	FAIL ABUN
HO-166M	4.071E-02	5.495E-02	1.006E-01	0.000E+00	FAIL ABUN
TM-171	-5.120E+01	3.954E+01	5.837E+01	0.000E+00	NOT IDENT.
LU-176	9.290E-03	2.290E-02	3.972E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.863E+00	3.025E+00	0.000E+00	FAIL ABUN
LU-177M	-5.970E-02	1.729E-01	2.881E-01	0.000E+00	FAIL ABUN
HF-181	3.372E-02	4.641E-02	8.236E-02	0.000E+00	NOT IDENT.
W-181	1.453E-01	5.174E-01	8.427E-01	0.000E+00	NOT IDENT.
TA-182	6.109E-02	2.019E-01	3.554E-01	0.000E+00	FAIL ABUN
RE-183	5.694E-02	1.037E-01	1.811E-01	0.000E+00	FAIL ABUN
RE-184	-5.073E-03	2.255E-01	3.990E-01	0.000E+00	NOT IDENT.
OS-185	-3.353E-02	4.012E-02	6.466E-02	0.000E+00	NOT IDENT.
RE-188	5.525E-02	1.716E-01	2.971E-01	0.000E+00	NOT IDENT.
W-188	3.972E-01	7.757E+00	1.205E+01	0.000E+00	FAIL ABUN
IR-192	1.668E-02	3.275E-02	5.879E-02	0.000E+00	FAIL ABUN
AU-195	2.243E-01	2.200E-01	4.009E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.658E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.574E+01	1.622E+01	2.877E+01	0.000E+00	NOT IDENT.
TL-202	-9.305E-03	8.306E-02	1.400E-01	0.000E+00	NOT IDENT.
HG-203	-1.455E-02	4.166E-02	7.199E-02	0.000E+00	NOT IDENT.
BI-207	2.930E-02	5.520E-02	9.658E-02	0.000E+00	FAIL ABUN
TL-207	4.940E-01	6.680E-01	1.080E+00	0.000E+00	FAIL ABUN
PO-209	-3.117E+00	6.886E+00	1.086E+01	0.000E+00	NOT IDENT.
BI-210	1.010E+01	8.827E+00	1.649E+01	0.000E+00	NOT IDENT.
PB-210	1.010E+01	8.827E+00	1.649E+01	0.000E+00	NOT IDENT.
PO-210	1.010E+01	8.818E+00	1.649E+01	0.000E+00	NOT IDENT.
PB-211	-8.849E-01	1.073E+00	1.484E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	6.229E-01	6.866E-01	0.000E+00	FAIL ABUN
PO-215	4.940E-01	6.680E-01	1.080E+00	0.000E+00	FAIL ABUN
RN-219	3.770E-02	3.947E-01	6.800E-01	0.000E+00	NOT IDENT.
RN-220	1.281E+01	2.601E+01	4.513E+01	0.000E+00	NOT IDENT.
RA-223	4.940E-01	6.680E-01	1.080E+00	0.000E+00	FAIL ABUN
AC-227	-5.663E-02	3.556E-01	6.243E-01	0.000E+00	FAIL ABUN
TH-227	-5.663E-02	3.557E-01	6.243E-01	0.000E+00	FAIL ABUN
TH-229	-1.558E-01	5.009E-01	8.286E-01	0.000E+00	FAIL ABUN
PA-231	-6.333E-01	1.447E+00	2.478E+00	0.000E+00	FAIL ABUN
TH-231	4.940E-01	6.680E-01	1.080E+00	0.000E+00	FAIL ABUN
U-231	-1.071E+00	2.203E+00	3.371E+00	0.000E+00	FAIL ABUN
PA-233	-8.543E-03	5.936E-02	1.027E-01	0.000E+00	FAIL ABUN
PA-234	-3.529E-01	2.799E-01	3.853E-01	0.000E+00	FAIL ABUN
PA-234M	3.854E+00	4.752E+00	7.931E+00	0.000E+00	FAIL ABUN
U-235	1.217E-02	1.993E-01	3.394E-01	0.000E+00	FAIL ABUN
NP-236	3.066E-02	7.431E-02	1.290E-01	0.000E+00	NOT IDENT.
NP-239	-1.405E-01	1.756E-01	2.932E-01	0.000E+00	FAIL ABUN
AM-241	-3.156E-02	2.447E-01	3.911E-01	0.000E+00	NOT IDENT.
CM-243	2.952E-02	9.471E-02	1.678E-01	0.000E+00	FAIL ABUN
AM-246	4.705E-02	1.426E-01	2.450E-01	0.000E+00	NOT IDENT.
CM-247	-6.394E-03	3.524E-02	5.957E-02	0.000E+00	NOT IDENT.
CF-249	1.120E-02	3.777E-02	6.611E-02	0.000E+00	NOT IDENT.
CF-251	7.493E-02	1.158E-01	2.022E-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]G245107016.CNF;1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:33:54.
Sample ID        : G245107016 Sample quantity   : 1.24280E+02 GRAM
Detector name     : GAM04 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.18 0.0%
Energy tolerance : 1.50000 keV Analyst Initials : MXR1
Abundance limit  : 75.00000 Sensitivity       : 5.00000
Batch ID         : 944038 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	863	10.67*	1.075E+00	2.273E+01	2.273E+01	10.08
CD-109	88.03	123	3.72*	5.013E+00	1.995E+00	2.053E+00	57.59
SN-126	64.28	96	9.60	2.012E+00	1.501E+00	1.501E+00	88.53
	86.94	123	8.90	5.013E+00	8.339E-01	8.339E-01	70.38
	87.57	123	37.00*	5.013E+00	2.006E-01	2.006E-01	57.59
CS-135	268.24	114	16.00*	4.419E+00	4.888E-01	4.888E-01	53.64
BA-137M	661.65	280	89.98*	2.208E+00	4.252E-01	4.257E-01	18.47
CS-137	661.65	280	85.12*	2.208E+00	4.494E-01	4.500E-01	18.48
TL-208	277.35	-----	6.80	4.326E+00	-----	Line Not Found	-----
	510.84	122	21.60	2.731E+00	6.234E-01	6.234E-01	51.41
	583.14	334	84.20*	2.456E+00	4.882E-01	4.882E-01	19.76
	860.37	54	12.46	1.744E+00	7.477E-01	7.477E-01	52.97
BI-211	72.87	-----	1.27	3.384E+00	-----	Line Not Found	-----
	351.07	628	12.94*	3.627E+00	4.039E+00	4.039E+00	12.61
PB-212	74.81	270	10.70	3.625E+00	2.104E+00	2.104E+00	27.98
	77.11	481	18.00	3.919E+00	2.060E+00	2.060E+00	18.68
	87.30	123	8.00	5.013E+00	9.278E-01	9.278E-01	58.45
	238.63	1146	44.60*	4.827E+00	1.608E+00	1.608E+00	10.84
	300.09	95	3.41	4.077E+00	2.068E+00	2.068E+00	56.85
PO-212	74.81	270	10.70	3.625E+00	2.104E+00	2.104E+00	27.98
	77.11	481	18.00	3.919E+00	2.060E+00	2.060E+00	18.68
	87.30	123	8.00	5.013E+00	9.278E-01	9.278E-01	58.45
	115.19	-----	0.60	6.408E+00	-----	Line Not Found	-----
	238.63	1146	44.60*	4.827E+00	1.608E+00	1.608E+00	10.84
	300.09	95	3.41	4.077E+00	2.068E+00	2.068E+00	56.85
BI-214	609.31	403	46.30*	2.368E+00	1.111E+00	1.111E+00	17.75
	1120.29	93	15.10	1.358E+00	1.370E+00	1.370E+00	45.70
	1764.49	81	15.80	9.531E-01	1.627E+00	1.627E+00	32.73
PB-214	74.81	270	6.21	3.625E+00	3.625E+00	3.625E+00	27.39
	77.11	481	10.50	3.919E+00	3.531E+00	3.531E+00	20.17
	87.30	123	4.67	5.013E+00	1.589E+00	1.589E+00	58.11
	241.98	235	7.49	4.784E+00	1.982E+00	1.982E+00	33.42

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	349	19.20	4.135E+00	1.327E+00	1.327E+00	20.46
	351.92	628	37.20*	3.627E+00	1.405E+00	1.405E+00	13.64
	74.81	270	6.21	3.625E+00	3.625E+00	3.625E+00	27.39
	77.11	481	10.50	3.919E+00	3.531E+00	3.531E+00	20.17
	87.30	123	4.67	5.013E+00	1.589E+00	1.589E+00	58.11
	241.98	235	7.49	4.784E+00	1.982E+00	1.982E+00	33.42
PO-216	295.21	349	19.20	4.135E+00	1.327E+00	1.327E+00	20.46
	351.92	628	37.20*	3.627E+00	1.405E+00	1.405E+00	13.64
	74.81	270	10.70	3.625E+00	2.104E+00	2.104E+00	27.98
	77.11	481	18.00	3.919E+00	2.060E+00	2.060E+00	18.68
	87.30	123	8.00	5.013E+00	9.278E-01	9.278E-01	58.45
	238.63	1146	44.60*	4.827E+00	1.608E+00	1.608E+00	10.84
PO-218	300.09	95	3.41	4.077E+00	2.068E+00	2.068E+00	56.85
	74.81	270	6.21	3.625E+00	3.625E+00	3.625E+00	27.39
	77.11	481	10.50	3.919E+00	3.531E+00	3.531E+00	20.17
	87.30	123	4.67	5.013E+00	1.589E+00	1.589E+00	58.11
	241.98	235	7.49	4.784E+00	1.982E+00	1.982E+00	33.42
	295.21	349	19.20	4.135E+00	1.327E+00	1.327E+00	20.46
RA-224	351.92	628	37.20*	3.627E+00	1.405E+00	1.405E+00	13.64
RA-226	240.98	235	3.95*	4.784E+00	3.759E+00	3.759E+00	32.95
AC-228	609.31	403	46.30*	2.368E+00	1.111E+00	1.111E+00	17.75
	1120.29	93	15.10	1.358E+00	1.370E+00	1.370E+00	45.70
	1764.49	81	15.80	9.531E-01	1.627E+00	1.627E+00	32.73
	338.32	249	11.40	3.737E+00	1.765E+00	1.765E+00	48.25
	911.07	252	27.70*	1.653E+00	1.661E+00	1.661E+00	18.64
	969.11	185	16.60	1.560E+00	2.152E+00	2.152E+00	35.38
RA-228	338.32	249	11.40	3.737E+00	1.765E+00	1.765E+00	48.25
	911.07	252	27.70*	1.653E+00	1.661E+00	1.661E+00	18.64
	969.11	185	16.60	1.560E+00	2.152E+00	2.152E+00	35.38
	74.81	270	10.70	3.625E+00	2.104E+00	2.144E+00	26.39
	77.11	481	18.00	3.919E+00	2.060E+00	2.099E+00	18.68
	87.30	123	8.00	5.013E+00	9.278E-01	9.455E-01	57.59
TH-228	238.63	1146	44.60*	4.827E+00	1.608E+00	1.639E+00	10.84
	300.09	95	3.41	4.077E+00	2.068E+00	2.108E+00	81.47
	609.31	403	46.30*	2.368E+00	1.111E+00	1.111E+00	17.75
	1120.29	93	15.10	1.358E+00	1.370E+00	1.370E+00	45.70
	1764.49	81	15.80	9.531E-01	1.627E+00	1.627E+00	32.73
	338.32	249	11.40	3.737E+00	1.765E+00	1.765E+00	26.46
TH-232	911.07	252	27.70*	1.653E+00	1.661E+00	1.661E+00	18.64
	969.11	185	16.60	1.560E+00	2.152E+00	2.152E+00	35.38
	63.29	96	3.80*	2.012E+00	3.793E+00	3.793E+00	89.06
	92.38	297	5.41	5.484E+00	3.026E+00	3.026E+00	35.75
	609.31	403	46.30*	2.368E+00	1.111E+00	1.111E+00	17.75
	1120.29	93	15.10	1.358E+00	1.370E+00	1.370E+00	45.70
U-234	1764.49	81	15.80	9.531E-01	1.627E+00	1.627E+00	32.73
	86.50	123	12.60*	5.013E+00	5.891E-01	5.891E-01	61.18
	95.87	-----	2.60	5.678E+00	-----	Line Not Found	-----
	63.29	96	3.80*	2.012E+00	3.793E+00	3.793E+00	89.06
	92.38	297	5.41	5.484E+00	3.026E+00	3.026E+00	32.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	270	66.00*	3.625E+00	3.411E-01	3.411E-01	26.37
	86.72	123	0.34	5.013E+00	2.209E+01	2.209E+01	57.59
	117.66	-----	0.55	6.445E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.417E+00	-----	Line Not Found	-----
ANH-511	511.00	122	100.00*	2.731E+00	1.347E-01	1.347E-01	50.73

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 4
Number of lines tentatively identified by NID 29 87.88%

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	2.273E+01	2.273E+01	0.229E+01	10.08	
CD-109	464.00D	1.03	1.995E+00	2.053E+00	1.182E+00	57.59	
SN-126	1.00E+05Y	1.00	2.006E-01	2.006E-01	1.155E-01	57.59	
CS-135	2.30E+06Y	1.00	4.888E-01	4.888E-01	2.622E-01	53.64	
BA-137M	30.17Y	1.00	4.252E-01	4.257E-01	0.786E-01	18.47	
CS-137	30.17Y	1.00	4.494E-01	4.500E-01	0.832E-01	18.48	
TL-208	1.41E+10Y	1.00	4.882E-01	4.882E-01	0.965E-01	19.76	
BI-211	7.04E+08Y	1.00	4.039E+00	4.039E+00	0.509E+00	12.61	
PB-212	1.41E+10Y	1.00	1.608E+00	1.608E+00	0.174E+00	10.84	
PO-212	1.41E+10Y	1.00	1.608E+00	1.608E+00	0.174E+00	10.84	
BI-214	1600.00Y	1.00	1.111E+00	1.111E+00	0.197E+00	17.75	
PB-214	1600.00Y	1.00	1.405E+00	1.405E+00	0.192E+00	13.64	
PO-214	1600.00Y	1.00	1.405E+00	1.405E+00	0.192E+00	13.64	
PO-216	1.41E+10Y	1.00	1.608E+00	1.608E+00	0.174E+00	10.84	
PO-218	1600.00Y	1.00	1.405E+00	1.405E+00	0.192E+00	13.64	
RA-224	1.41E+10Y	1.00	3.759E+00	3.759E+00	1.239E+00	32.95	
RA-226	1600.00Y	1.00	1.111E+00	1.111E+00	0.197E+00	17.75	
AC-228	1.41E+10Y	1.00	1.661E+00	1.661E+00	0.310E+00	18.64	
RA-228	1.41E+10Y	1.00	1.661E+00	1.661E+00	0.310E+00	18.64	
TH-228	1.91Y	1.02	1.608E+00	1.639E+00	0.178E+00	10.84	
TH-230	4.47E+09Y	1.00	1.111E+00	1.111E+00	0.197E+00	17.75	
TH-232	1.41E+10Y	1.00	1.661E+00	1.661E+00	0.310E+00	18.64	
TH-234	4.47E+09Y	1.00	3.793E+00	3.793E+00	3.378E+00	89.06	
U-234	4.47E+09Y	1.00	1.111E+00	1.111E+00	0.197E+00	17.75	
NP-237	2.14E+06Y	1.00	5.891E-01	5.891E-01	3.604E-01	61.18	
U-238	4.47E+09Y	1.00	3.793E+00	3.793E+00	3.378E+00	89.06	
AM-243	7380.00Y	1.00	3.411E-01	3.411E-01	0.899E-01	26.37	
ANH-511	1.00E+09Y	1.00	1.347E-01	1.347E-01	0.683E-01	50.73	

Total Activity : 6.330E+01 6.339E+01

Grand Total Activity : 6.330E+01 6.339E+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	185.90	177	366	1.07	371.87	368	10	2.46E-02	44.1	5.70E+00	T
0	209.17	99	194	1.15	418.41	415	7	1.38E-02	50.8	5.29E+00	T
0	327.24	49	173	1.24	654.56	650	11	6.81E-03	****	3.83E+00	
0	462.66	95	54	1.74	925.42	921	9	1.32E-02	34.6	2.95E+00	T
0	727.19	109	86	2.29	1454.47	1445	20	1.51E-02	45.7	2.03E+00	T
0	768.29	33	43	1.24	1536.67	1533	7	4.57E-03	75.1	1.94E+00	T
0	794.75	64	44	1.13	1589.58	1585	12	8.94E-03	47.6	1.88E+00	T
0	933.08	28	47	1.32	1866.22	1861	13	3.82E-03	****	1.62E+00	
0	1001.05	16	22	1.05	2002.15	1998	9	2.25E-03	****	1.51E+00	T
0	1378.00	22	21	0.96	2755.92	2747	12	3.03E-03	94.5	1.13E+00	
0	1517.44	12	2	1.40	3034.73	3029	9	1.70E-03	71.3	1.04E+00	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245107016.CNF;1
* Acquisition date   : 1-FEB-2010 13:33:54.  Detector SN#      :
* Detector ID        : GAM04                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:01.18             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245107016             Analyst initials: MXR1
* Batch Number       : 944038                 Sample Quantity : 1.24280E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.273E+01	2.290E+00	4.189E-01	2.977E-02	54.258
CD-109	2.053E+00	1.182E+00	1.555E+00	1.869E-01	1.320
SN-126	2.006E-01	1.155E-01	1.533E-01	1.839E-02	1.308
CS-135	4.888E-01	2.622E-01	2.242E-01	1.869E-02	2.180
BA-137M	4.257E-01	7.863E-02	5.395E-02	2.631E-03	7.891
CS-137	4.500E-01	8.316E-02	5.703E-02	2.798E-03	7.891
TL-208	4.882E-01	9.650E-02	5.411E-02	3.405E-03	9.023
BI-211	4.039E+00	5.092E-01	2.871E-01	1.940E-02	14.069
PB-212	1.608E+00	1.742E-01	9.434E-02	7.576E-03	17.044
PO-212	1.608E+00	1.742E-01	9.434E-02	7.576E-03	17.044
BI-214	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
PB-214	1.405E+00	1.917E-01	1.020E-01	8.703E-03	13.772
PO-214	1.405E+00	1.917E-01	1.020E-01	8.703E-03	13.772
PO-216	1.608E+00	1.742E-01	9.434E-02	7.576E-03	17.044
PO-218	1.405E+00	1.917E-01	1.020E-01	8.703E-03	13.772
RA-224	3.759E+00	1.239E+00	1.074E+00	7.159E-02	3.500
RA-226	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
AC-228	1.661E+00	3.097E-01	2.059E-01	2.245E-02	8.067

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.661E+00	3.097E-01	2.059E-01	2.245E-02	8.067
TH-228	1.639E+00	1.776E-01	9.614E-02	7.722E-03	17.044
TH-230	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
TH-232	1.661E+00	3.097E-01	2.059E-01	2.245E-02	8.067
TH-234	3.793E+00	3.378E+00	2.802E+00	5.543E-01	1.354
U-234	1.111E+00	1.971E-01	1.053E-01	7.740E-03	10.545
NP-237	5.891E-01	3.604E-01	4.288E-01	1.022E-01	1.374
U-238	3.793E+00	3.378E+00	2.802E+00	5.543E-01	1.354
AM-243	3.411E-01	8.994E-02	1.004E-01	1.150E-02	3.398
ANH-511	1.347E-01	6.832E-02	4.289E-02	2.399E-03	3.139

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-5.462E-01		3.486E-01	4.920E-01	3.259E-02	-1.110
NA-22	2.013E-02		4.000E-02	7.078E-02	4.628E-03	0.284
NA-24	-5.736E+00		2.937E+01	Half-Life too short		
AL-26	-2.339E-02		3.604E-02	5.089E-02	3.018E-03	-0.460
TI-44	3.802E-01	+	7.100E-02	8.181E-02	9.408E-03	4.647
SC-46	-1.242E-02		4.262E-02	6.587E-02	5.328E-03	-0.189
V-48	-2.833E-02		7.792E-02	1.216E-01	9.422E-03	-0.233
CR-51	-2.274E-01		3.804E-01	6.119E-01	4.309E-02	-0.372
MN-52	-1.922E-01		4.055E-01	6.250E-01	4.265E-02	-0.308
MN-54	-6.661E-03		3.516E-02	5.709E-02	4.132E-03	-0.117
CO-56	3.875E-02		4.212E-02	7.524E-02	5.582E-03	0.515
CO-57	8.765E-03		2.496E-02	4.166E-02	2.892E-03	0.210
CO-58	-6.118E-03		3.608E-02	5.873E-02	4.055E-03	-0.104
FE-59	1.264E-02		1.091E-01	1.787E-01	1.365E-02	0.071
CO-60	-2.416E-02		4.026E-02	6.191E-02	4.242E-03	-0.390
ZN-65	-3.601E-03		1.002E-01	1.388E-01	9.184E-03	-0.026
GE-68	1.700E-01		1.258E+00	2.072E+00	1.447E-01	0.082
AS-73	-3.292E-01		1.574E+00	2.650E+00	3.467E-01	-0.124
AS-74	1.039E-01		1.091E-01	1.891E-01	9.984E-03	0.549
SE-75	-2.363E-02		4.615E-02	6.615E-02	4.449E-03	-0.357
BR-77	1.234E-05		1.679E-05	Half-Life too short		
SR-82	-2.696E-01		3.854E-01	5.949E-01	3.797E-02	-0.453
RB-83	4.760E-03		7.264E-02	1.184E-01	6.591E-03	0.040
RB-84	6.050E-03		7.560E-02	1.233E-01	9.822E-03	0.049
KR-85	4.483E+00		7.253E+00	1.101E+01	6.152E-01	0.407
SR-85	2.396E-02		3.876E-02	5.887E-02	3.288E-03	0.407
RB-86	3.669E-02		8.937E-01	1.456E+00	1.018E-01	0.025
Y-88	-2.079E-02		3.316E-02	4.517E-02	2.636E-03	-0.460
ZR-88	3.294E-02		2.958E-02	5.257E-02	2.958E-03	0.627
Y-91	9.542E+00		2.029E+01	3.418E+01	2.095E+00	0.279
NB-94	2.941E-02		3.299E-02	5.907E-02	3.182E-03	0.498
NB-95	6.777E-02		5.017E-02	8.340E-02	5.198E-03	0.813
NB-95M	5.402E-02		1.509E-01	2.177E-01	1.787E-02	0.248

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	6.588E-02		7.229E-02	1.297E-01	9.446E-03	0.508
NB-97	1.433E+00		2.543E+00	Half-Life too short		
ZR-97	9.908E+01		4.277E+01	Half-Life too short		
MO-99	1.916E+00		2.791E+01	4.691E+01	6.480E+00	0.041
TC-99M	-8.707E+12		1.013E+15	Half-Life too short		
RH-101	-6.070E-03		3.492E-02	5.457E-02	3.554E-03	-0.111
RH-102	2.909E-02		2.751E-02	4.860E-02	2.748E-03	0.599
RU-103	3.106E-02		4.458E-02	7.615E-02	9.567E-03	0.408
RH-106	1.022E-01		3.351E-01	5.502E-01	6.286E-02	0.186
RU-106	1.022E-01		3.349E-01	5.502E-01	2.827E-02	0.186
AG-108M	3.717E-04		3.334E-02	5.477E-02	3.384E-03	0.007
AG-110M	7.922E-03		3.762E-02	5.660E-02	3.024E-03	0.140
IN-111	-1.524E+00		2.982E+00	3.996E+00	2.666E-01	-0.381
IN-113M	7.511E-03		4.355E-02	7.283E-02	4.389E-03	0.103
SN-113	7.511E-03		4.355E-02	7.283E-02	4.389E-03	0.103
IN-114M	5.927E-02		2.103E-01	3.064E-01	1.983E-02	0.193
CD-115	-4.227E-06		1.895E-05	Half-Life too short		
SN-117M	2.848E-02		6.447E-02	1.068E-01	6.829E-03	0.267
SB-122	1.111E+00		5.013E+00	8.250E+00	4.475E-01	0.135
I-123	-1.317E+02		4.155E+02	Half-Life too short		
TE-123M	-4.476E-03		2.824E-02	4.543E-02	2.937E-03	-0.099
I-124	5.755E-01		1.339E+00	1.976E+00	1.036E-01	0.291
SB-124	-2.186E-02		6.295E-02	9.319E-02	6.333E-03	-0.235
SB-125	-5.002E-02		9.252E-02	1.438E-01	8.510E-03	-0.348
TE-125M	1.350E+00		9.945E+00	1.622E+01	1.611E+00	0.083
I-126	2.308E-01		2.186E-01	3.620E-01	1.786E-02	0.638
SB-126	6.764E-02		1.799E-01	2.749E-01	1.545E-02	0.246
SB-127	2.758E-01		2.515E+00	4.264E+00	4.504E-01	0.065
XE-127	-2.660E-02		5.047E-02	7.843E-02	5.126E-03	-0.339
I-131	6.960E-02		1.698E-01	2.888E-01	1.934E-02	0.241
TE-132	8.604E-03		1.609E+00	2.556E+00	3.979E-01	0.003
BA-133	2.401E-02		4.409E-02	6.767E-02	7.927E-03	0.355
I-133	3.129E-02		7.313E-02	Half-Life too short		
CS-134	1.371E-01	+	6.585E-02	9.721E-02	6.552E-03	1.410
I-135	-2.496E+13		5.804E+13	Half-Life too short		
CS-136	8.821E-03		1.355E-01	2.218E-01	1.705E-02	0.040
CE-139	-1.598E-02		2.897E-02	4.553E-02	2.893E-03	-0.351
BA-140	-4.639E-02		3.074E-01	4.895E-01	1.590E-01	-0.095
LA-140	6.166E-03		1.103E-01	1.828E-01	1.204E-02	0.034
CE-141	-2.047E-02		6.444E-02	1.034E-01	6.940E-03	-0.198
CE-143	4.157E-03		7.719E-04	Half-Life too short		
CE-144	4.250E-02		1.916E-01	3.167E-01	4.616E-02	0.134
PM-144	-1.684E-02		3.318E-02	5.264E-02	2.798E-03	-0.320
PR-144	-1.144E+00		2.253E+00	3.574E+00	1.898E-01	-0.320
PM-146	1.994E-02		4.533E-02	7.646E-02	6.526E-03	0.261
ND-147	2.891E-01		7.355E-01	1.227E+00	1.646E-01	0.236
PM-149	-1.928E-04		1.510E-04	Half-Life too short		
EU-152	8.569E-02		9.198E-02	1.527E-01	1.057E-02	0.561

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GD-153	1.378E-03		8.712E-02	1.298E-01	1.274E-02	0.011
EU-154	2.429E-02		1.155E-01	1.977E-01	1.940E-02	0.123
EU-155	2.948E-02		1.087E-01	1.819E-01	1.585E-02	0.162
TB-160	2.816E-02		1.417E-01	2.383E-01	1.890E-02	0.118
HO-166M	4.071E-02		5.607E-02	9.971E-02	5.488E-03	0.408
TM-171	-5.120E+01		4.035E+01	5.605E+01	6.553E+00	-0.913
LU-176	9.290E-03		2.336E-02	3.892E-02	2.541E-03	0.239
LU-177	3.708E+00	+	1.901E+00	2.948E+00	1.935E-01	1.258
LU-177M	-5.970E-02		1.764E-01	2.834E-01	1.603E-02	-0.211
HF-181	3.372E-02		4.736E-02	8.119E-02	4.584E-03	0.415
W-181	1.453E-01		5.279E-01	8.090E-01	9.535E-02	0.180
TA-182	6.109E-02		2.061E-01	3.549E-01	2.209E-02	0.172
RE-183	5.694E-02		1.058E-01	1.760E-01	1.121E-02	0.324
RE-184	-5.073E-03		2.301E-01	3.899E-01	2.604E-02	-0.013
OS-185	-3.353E-02		4.094E-02	6.400E-02	3.190E-03	-0.524
RE-188	5.525E-02		1.751E-01	2.885E-01	1.853E-02	0.192
W-188	3.972E-01		7.916E+00	1.180E+01	7.798E-01	0.034
IR-192	1.668E-02		3.342E-02	5.763E-02	3.742E-03	0.289
AU-195	2.243E-01		2.245E-01	3.869E-01	3.700E-02	0.580
TL-200	-4.913E-04		2.887E-03	Half-Life too short		
TL-201	1.574E+01		1.655E+01	2.797E+01	1.778E+00	0.563
TL-202	-9.305E-03		8.476E-02	1.378E-01	7.818E-03	-0.068
HG-203	-1.455E-02		4.251E-02	7.045E-02	4.905E-03	-0.207
BI-207	2.930E-02		5.633E-02	9.626E-02	6.846E-03	0.304
TL-207	4.940E-01		6.817E-01	1.059E+00	1.773E-01	0.466
PO-209	-3.117E+00		7.027E+00	1.080E+01	8.863E-01	-0.289
BI-210	1.010E+01		9.007E+00	1.577E+01	1.374E+00	0.640
PB-210	1.010E+01		9.007E+00	1.577E+01	1.374E+00	0.640
PO-210	1.010E+01		8.998E+00	1.577E+01	1.225E+00	0.640
PB-211	-8.849E-01		1.095E+00	1.459E+00	9.095E-01	-0.606
BI-212	1.372E+00	+	6.356E-01	6.807E-01	5.203E-02	2.016
PO-215	4.940E-01		6.817E-01	1.059E+00	1.773E-01	0.466
RN-219	3.770E-02		4.028E-01	6.687E-01	9.054E-02	0.056
RN-220	1.281E+01		2.654E+01	4.457E+01	2.442E+00	0.287
RA-223	4.940E-01		6.817E-01	1.059E+00	1.773E-01	0.466
AC-227	-5.663E-02		3.629E-01	6.102E-01	8.755E-02	-0.093
TH-227	-5.663E-02		3.629E-01	6.102E-01	1.051E-01	-0.093
TH-229	-1.558E-01		5.112E-01	8.069E-01	5.236E-02	-0.193
PA-231	-6.333E-01		1.476E+00	2.425E+00	3.432E-01	-0.261
TH-231	4.940E-01		6.817E-01	1.059E+00	1.773E-01	0.466
U-231	-1.071E+00		2.248E+00	3.252E+00	3.288E-01	-0.329
PA-233	-8.543E-03		6.057E-02	1.007E-01	6.865E-03	-0.085
PA-234	-3.529E-01		2.856E-01	3.833E-01	7.084E-02	-0.921
PA-234M	3.854E+00	+	4.849E+00	7.898E+00	7.200E-01	0.488
U-235	1.217E-02		2.033E-01	3.292E-01	5.457E-02	0.037
NP-236	3.066E-02		7.582E-02	1.253E-01	8.001E-03	0.245
NP-239	-1.405E-01		1.792E-01	2.836E-01	2.087E-02	-0.495
AM-241	-3.156E-02		2.497E-01	3.750E-01	4.735E-02	-0.084

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.952E-02		9.664E-02	1.621E-01	1.429E-02	0.182
AM-246	4.705E-02		1.455E-01	2.442E-01	1.702E-02	0.193
CM-247	-6.394E-03		3.596E-02	5.858E-02	3.306E-03	-0.109
CF-249	1.120E-02		3.854E-02	6.498E-02	3.692E-03	0.172
CF-251	7.493E-02		1.181E-01	1.967E-01	1.259E-02	0.381

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]G245107016          *
* Acquisition date   : 1-FEB-2010 13:33:54 Detector SN# :                  *
* Detector ID        : GAM04 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000            *
* Elapsed real time  : 0 02:00:01.18 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245107016 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.2428E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                  *
* LCS DPM             : 0.000 LCS Isotope :                  *
* LCSD DPM            : 0.000 LCSD Isotope :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.273E+01	2.244E+00	2.093E-01	1.145E+00
CD-109	2.053E+00	1.159E+00	8.075E-01	5.912E-01
SN-126	2.006E-01	1.132E-01	7.960E-02	5.776E-02
CS-135	4.888E-01	2.569E-01	1.147E-01	1.311E-01
BA-137M	4.257E-01	7.706E-02	2.726E-02	3.932E-02
CS-137	4.500E-01	8.150E-02	2.882E-02	4.158E-02
TL-208	4.882E-01	9.457E-02	2.739E-02	4.825E-02
BI-211	4.039E+00	4.990E-01	1.463E-01	2.546E-01
PB-212	1.608E+00	1.708E-01	4.833E-02	8.712E-02
PO-212	1.608E+00	1.708E-01	4.833E-02	8.712E-02
BI-214	1.111E+00	1.932E-01	5.328E-02	9.855E-02
PB-214	1.405E+00	1.879E-01	5.200E-02	9.586E-02
PO-214	1.405E+00	1.879E-01	5.200E-02	9.586E-02
PO-216	1.608E+00	1.708E-01	4.833E-02	8.712E-02
PO-218	1.405E+00	1.879E-01	5.200E-02	9.586E-02
RA-224	3.759E+00	1.214E+00	5.501E-01	6.193E-01
RA-226	1.111E+00	1.932E-01	5.328E-02	9.855E-02
AC-228	1.661E+00	3.035E-01	1.036E-01	1.548E-01
RA-228	1.661E+00	3.035E-01	1.036E-01	1.548E-01
TH-228	1.639E+00	1.740E-01	4.926E-02	8.879E-02
TH-230	1.111E+00	1.932E-01	5.328E-02	9.855E-02
TH-232	1.661E+00	3.035E-01	1.036E-01	1.548E-01
TH-234	3.793E+00	3.310E+00	1.461E+00	1.689E+00
U-234	1.111E+00	1.932E-01	5.328E-02	9.855E-02
NP-237	5.891E-01	3.532E-01	2.227E-01	1.802E-01
U-238	3.793E+00	3.310E+00	1.461E+00	1.689E+00
AM-243	3.411E-01	8.814E-02	5.222E-02	4.497E-02
ANH-511	1.347E-01	6.695E-02	2.175E-02	3.416E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	-5.462E-01	3.416E-01	2.497E-01	1.743E-01	NOT IDENT.
NA-22	2.013E-02	3.920E-02	3.544E-02	2.000E-02	NOT IDENT.
NA-24	-5.736E+06	5.756E+07	0.000E+00	2.937E+07	SHORT HLIF
AL-26	-2.339E-02	3.532E-02	2.535E-02	1.802E-02	NOT IDENT.
TI-44	3.802E-01	6.958E-02	4.254E-02	3.550E-02	FAIL ABUN
SC-46	-1.242E-02	4.177E-02	3.315E-02	2.131E-02	FAIL ABUN
V-48	-2.833E-02	7.636E-02	6.111E-02	3.896E-02	NOT IDENT.
CR-51	-2.274E-01	3.728E-01	3.122E-01	1.902E-01	NOT IDENT.
MN-52	-1.922E-01	3.974E-01	3.124E-01	2.028E-01	NOT IDENT.
MN-54	-6.661E-03	3.446E-02	2.876E-02	1.758E-02	NOT IDENT.
CO-56	3.875E-02	4.128E-02	3.789E-02	2.106E-02	NOT IDENT.
CO-57	8.765E-03	2.446E-02	2.154E-02	1.248E-02	NOT IDENT.
CO-58	-6.118E-03	3.535E-02	2.959E-02	1.804E-02	NOT IDENT.
FE-59	1.264E-02	1.069E-01	8.966E-02	5.456E-02	NOT IDENT.
CO-60	-2.416E-02	3.946E-02	3.098E-02	2.013E-02	NOT IDENT.
ZN-65	-3.601E-03	9.817E-02	6.964E-02	5.009E-02	NOT IDENT.
GE-68	1.700E-01	1.233E+00	1.040E+00	6.292E-01	NOT IDENT.
AS-73	-3.292E-01	1.543E+00	1.385E+00	7.872E-01	NOT IDENT.
AS-74	1.039E-01	1.070E-01	9.569E-02	5.457E-02	NOT IDENT.
SE-75	-2.363E-02	4.523E-02	3.384E-02	2.308E-02	NOT IDENT.
BR-77	1.234E+01	3.290E+01	0.000E+00	1.679E+01	SHORT HLIF
SR-82	-2.696E-01	3.777E-01	3.000E-01	1.927E-01	NOT IDENT.
RB-83	4.760E-03	7.119E-02	6.000E-02	3.632E-02	NOT IDENT.
RB-84	6.050E-03	7.409E-02	6.208E-02	3.780E-02	NOT IDENT.
KR-85	4.483E+00	7.108E+00	5.585E+00	3.627E+00	NOT IDENT.
SR-85	2.396E-02	3.799E-02	2.985E-02	1.938E-02	NOT IDENT.
RB-86	3.669E-02	8.758E-01	7.307E-01	4.468E-01	NOT IDENT.
Y-88	-2.079E-02	3.250E-02	2.250E-02	1.658E-02	NOT IDENT.
ZR-88	3.294E-02	2.899E-02	2.675E-02	1.479E-02	NOT IDENT.
Y-91	9.542E+00	1.988E+01	1.713E+01	1.014E+01	NOT IDENT.
NB-94	2.941E-02	3.233E-02	2.982E-02	1.649E-02	NOT IDENT.
NB-95	6.777E-02	4.917E-02	4.206E-02	2.509E-02	NOT IDENT.
NB-95M	5.402E-02	1.479E-01	1.115E-01	7.547E-02	NOT IDENT.
ZR-95	6.588E-02	7.085E-02	6.543E-02	3.615E-02	NOT IDENT.
NB-97	1.433E+06	4.985E+06	0.000E+00	2.543E+06	SHORT HLIF
ZR-97	9.908E+07	8.383E+07	0.000E+00	4.277E+07	SHORT HLIF
MO-99	1.916E+00	2.735E+01	2.367E+01	1.395E+01	NOT IDENT.
TC-99M	-8.707E+18	1.986E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.070E-03	3.422E-02	2.803E-02	1.746E-02	NOT IDENT.
RH-102	2.909E-02	2.696E-02	2.467E-02	1.376E-02	FAIL ABUN
RU-103	3.106E-02	4.369E-02	3.863E-02	2.229E-02	FAIL ABUN
RH-106	1.022E-01	3.284E-01	2.782E-01	1.675E-01	FAIL ABUN
RU-106	1.022E-01	3.282E-01	2.782E-01	1.675E-01	FAIL ABUN
AG-108M	3.717E-04	3.267E-02	2.783E-02	1.667E-02	NOT IDENT.
AG-110M	7.922E-03	3.687E-02	2.860E-02	1.881E-02	NOT IDENT.
IN-111	-1.524E+00	2.922E+00	2.046E+00	1.491E+00	NOT IDENT.
IN-113M	7.511E-03	4.268E-02	3.707E-02	2.178E-02	NOT IDENT.
SN-113	7.511E-03	4.268E-02	3.707E-02	2.178E-02	NOT IDENT.
IN-114M	5.927E-02	2.061E-01	1.574E-01	1.051E-01	NOT IDENT.
CD-115	-4.227E+00	3.714E+01	0.000E+00	1.895E+01	SHORT HLIF
SN-117M	2.848E-02	6.318E-02	5.499E-02	3.223E-02	NOT IDENT.
SB-122	1.111E+00	4.913E+00	4.178E+00	2.506E+00	NOT IDENT.
I-123	-1.317E+08	8.145E+08	0.000E+00	4.155E+08	SHORT HLIF
TE-123M	-4.476E-03	2.767E-02	2.340E-02	1.412E-02	NOT IDENT.
I-124	5.755E-01	1.312E+00	9.997E-01	6.693E-01	NOT IDENT.
SB-124	-2.186E-02	6.169E-02	4.648E-02	3.148E-02	FAIL ABUN
SB-125	-5.002E-02	9.067E-02	7.308E-02	4.626E-02	FAIL ABUN
TE-125M	1.350E+00	9.746E+00	8.395E+00	4.973E+00	NOT IDENT.
I-126	2.308E-01	2.142E-01	1.829E-01	1.093E-01	NOT IDENT.
SB-126	6.764E-02	1.763E-01	1.388E-01	8.993E-02	NOT IDENT.
SB-127	2.758E-01	2.465E+00	2.154E+00	1.258E+00	NOT IDENT.
XE-127	-2.660E-02	4.946E-02	4.027E-02	2.523E-02	NOT IDENT.
I-131	6.960E-02	1.664E-01	1.471E-01	8.489E-02	NOT IDENT.
TE-132	8.604E-03	1.577E+00	1.310E+00	8.043E-01	NOT IDENT.
BA-133	2.401E-02	4.321E-02	3.448E-02	2.204E-02	NOT IDENT.
I-133	3.129E+04	1.433E+05	0.000E+00	7.313E+04	SHORT HLIF
CS-134	1.371E-01	6.453E-02	4.899E-02	3.292E-02	FAIL ABUN
I-135	-2.496E+19	1.138E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	8.821E-03	1.328E-01	1.113E-01	6.775E-02	FAIL ABUN
CE-139	-1.598E-02	2.839E-02	2.344E-02	1.449E-02	NOT IDENT.
BA-140	-4.639E-02	3.012E-01	2.480E-01	1.537E-01	NOT IDENT.
LA-140	6.166E-03	1.081E-01	9.123E-02	5.516E-02	NOT IDENT.
CE-141	-2.047E-02	6.316E-02	5.332E-02	3.222E-02	NOT IDENT.
CE-143	4.157E+03	1.513E+03	0.000E+00	7.719E+02	SHORT HLIF
CE-144	4.250E-02	1.877E-01	1.635E-01	9.579E-02	NOT IDENT.
PM-144	-1.684E-02	3.252E-02	2.658E-02	1.659E-02	NOT IDENT.
PR-144	-1.144E+00	2.208E+00	1.805E+00	1.127E+00	NOT IDENT.

PM-146	1.994E-02	4.442E-02	3.883E-02	2.266E-02	NOT IDENT.
ND-147	2.891E-01	7.208E-01	6.220E-01	3.678E-01	NOT IDENT.
PM-149	-1.928E+02	2.960E+02	0.000E+00	1.510E+02	SHORT HLIF
EU-152	8.569E-02	9.014E-02	7.787E-02	4.599E-02	NOT IDENT.
GD-153	1.378E-03	8.538E-02	6.729E-02	4.356E-02	NOT IDENT.
EU-154	2.429E-02	1.131E-01	9.901E-02	5.773E-02	NOT IDENT.
EU-155	2.948E-02	1.065E-01	9.419E-02	5.433E-02	FAIL ABUN
TB-160	2.816E-02	1.389E-01	1.200E-01	7.086E-02	FAIL ABUN
HO-166M	4.071E-02	5.495E-02	5.033E-02	2.804E-02	FAIL ABUN
TM-171	-5.120E+01	3.954E+01	2.920E+01	2.017E+01	NOT IDENT.
LU-176	9.290E-03	2.290E-02	1.987E-02	1.168E-02	FAIL ABUN
LU-177	3.708E+00	1.863E+00	1.513E+00	9.506E-01	FAIL ABUN
LU-177M	-5.970E-02	1.729E-01	1.441E-01	8.819E-02	FAIL ABUN
HF-181	3.372E-02	4.641E-02	4.120E-02	2.368E-02	NOT IDENT.
W-181	1.453E-01	5.174E-01	4.216E-01	2.640E-01	NOT IDENT.
TA-182	6.109E-02	2.019E-01	1.778E-01	1.030E-01	FAIL ABUN
RE-183	5.694E-02	1.037E-01	9.061E-02	5.291E-02	FAIL ABUN
RE-184	-5.073E-03	2.255E-01	1.996E-01	1.150E-01	NOT IDENT.
OS-185	-3.353E-02	4.012E-02	3.235E-02	2.047E-02	NOT IDENT.
RE-188	5.525E-02	1.716E-01	1.487E-01	8.756E-02	NOT IDENT.
W-188	3.972E-01	7.757E+00	6.029E+00	3.958E+00	FAIL ABUN
IR-192	1.668E-02	3.275E-02	2.941E-02	1.671E-02	FAIL ABUN
AU-195	2.243E-01	2.200E-01	2.006E-01	1.123E-01	FAIL ABUN
TL-200	-4.913E+02	5.658E+03	0.000E+00	2.887E+03	SHORT HLIF
TL-201	1.574E+01	1.622E+01	1.440E+01	8.276E+00	NOT IDENT.
TL-202	-9.305E-03	8.306E-02	7.003E-02	4.238E-02	NOT IDENT.
HG-203	-1.455E-02	4.166E-02	3.602E-02	2.126E-02	NOT IDENT.
BI-207	2.930E-02	5.520E-02	4.832E-02	2.816E-02	FAIL ABUN
TL-207	4.940E-01	6.680E-01	5.405E-01	3.408E-01	FAIL ABUN
PO-209	-3.117E+00	6.886E+00	5.434E+00	3.513E+00	NOT IDENT.
BI-210	1.010E+01	8.827E+00	8.252E+00	4.503E+00	NOT IDENT.
PB-210	1.010E+01	8.827E+00	8.252E+00	4.503E+00	NOT IDENT.
PO-210	1.010E+01	8.818E+00	8.252E+00	4.499E+00	NOT IDENT.
PB-211	-8.849E-01	1.073E+00	7.423E-01	5.475E-01	NOT IDENT.
BI-212	1.372E+00	6.229E-01	3.435E-01	3.178E-01	FAIL ABUN
PO-215	4.940E-01	6.680E-01	5.405E-01	3.408E-01	FAIL ABUN
RN-219	3.770E-02	3.947E-01	3.402E-01	2.014E-01	NOT IDENT.
RN-220	1.281E+01	2.601E+01	2.258E+01	1.327E+01	NOT IDENT.
RA-223	4.940E-01	6.680E-01	5.405E-01	3.408E-01	FAIL ABUN
AC-227	-5.663E-02	3.556E-01	3.123E-01	1.814E-01	FAIL ABUN
TH-227	-5.663E-02	3.557E-01	3.123E-01	1.815E-01	FAIL ABUN
TH-229	-1.558E-01	5.009E-01	4.145E-01	2.556E-01	FAIL ABUN
PA-231	-6.333E-01	1.447E+00	1.240E+00	7.382E-01	FAIL ABUN
TH-231	4.940E-01	6.680E-01	5.405E-01	3.408E-01	FAIL ABUN
U-231	-1.071E+00	2.203E+00	1.687E+00	1.124E+00	FAIL ABUN
PA-233	-8.543E-03	5.936E-02	5.139E-02	3.029E-02	FAIL ABUN
PA-234	-3.529E-01	2.799E-01	1.927E-01	1.428E-01	FAIL ABUN
PA-234M	3.854E+00	4.752E+00	3.968E+00	2.424E+00	FAIL ABUN
U-235	1.217E-02	1.993E-01	1.698E-01	1.017E-01	FAIL ABUN
NP-236	3.066E-02	7.431E-02	6.454E-02	3.791E-02	NOT IDENT.
NP-239	-1.405E-01	1.756E-01	1.467E-01	8.961E-02	FAIL ABUN
AM-241	-3.156E-02	2.447E-01	1.957E-01	1.248E-01	NOT IDENT.
CM-243	2.952E-02	9.471E-02	8.397E-02	4.832E-02	FAIL ABUN
AM-246	4.705E-02	1.426E-01	1.226E-01	7.275E-02	NOT IDENT.
CM-247	-6.394E-03	3.524E-02	2.980E-02	1.798E-02	NOT IDENT.
CF-249	1.120E-02	3.777E-02	3.308E-02	1.927E-02	NOT IDENT.
CF-251	7.493E-02	1.158E-01	1.012E-01	5.907E-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	163.0127
46.50	163.0127
46.50	163.0127
48.70	219.9121
49.72	201.6073
51.35	166.1895
52.39	190.9793
52.97	206.0671
53.15	206.1696
53.44	211.5571
54.07	215.4102
56.28	206.1629
56.28	206.1647
57.37	0.0000
57.53	228.8482
57.53	228.8495
57.60	214.8050
57.98	216.7799
57.98	216.7799
59.32	217.5310
59.32	217.5310
59.40	217.5754
59.54	226.9430
59.72	220.4086
60.01	211.2701
61.10	205.1910
61.14	205.2115
61.30	205.2944
63.00	245.4321
63.29	245.6072
63.29	245.6072
63.58	245.7821
64.28	246.2017
65.12	251.6369
65.20	251.6854
65.20	251.6854
66.05	279.1717
66.72	303.9299
66.83	304.0106
66.91	318.9345
67.20	319.1524
67.20	319.1524
67.75	296.5469
67.85	296.6171
68.90	275.8917
68.90	275.8917
69.30	277.2347
69.67	261.1523
70.82	279.5681
70.82	279.5681
70.83	279.5743
72.80	289.0416
72.87	289.0867
72.87	289.0867
74.67	291.6181
74.81	291.7086
74.81	291.7086
74.81	291.7086
74.81	291.7086
74.81	291.7086
74.81	291.7086
74.81	291.7086
74.97	291.8105
75.28	292.0095
75.70	292.2780
77.11	293.1724
77.11	293.1724

77.11	293.1724
77.11	293.1724
77.11	293.1724
77.11	293.1724
77.11	293.1724
78.38	246.8251
79.62	237.7434
79.80	237.8334
79.80	237.8334
80.11	254.6896
80.18	254.7266
80.30	254.7901
80.30	254.7901
80.57	295.3349
81.00	341.6134
81.07	341.6620
81.07	341.6620
81.07	341.6620
81.07	341.6620
82.60	308.8929
83.37	252.2104
83.78	231.3880
83.78	231.3880
83.78	231.3880
83.78	231.3880
84.21	269.4873
84.90	286.7318
85.43	327.8411
86.29	362.2357
86.50	362.3866
86.54	362.4160
86.59	362.4513
86.72	394.0507
86.79	394.1040
86.94	394.2233
87.30	394.5068
87.30	394.5068
87.30	394.5068
87.30	394.5068
87.30	394.5068
87.30	394.5068
87.57	415.4428
87.88	0.0000
88.03	414.8767
88.36	359.4800
88.47	359.5575
89.95	360.5981
91.11	361.4082
92.29	321.3465
92.38	321.4015
92.38	321.4015
93.35	321.9946
94.00	322.3918
94.67	219.1753
94.67	219.1776
94.90	259.4004
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94.90	259.4004
94.90	259.4004
95.87	271.3573
95.87	271.3573
96.73	250.2206
97.43	249.1033
98.44	208.8847
98.44	208.8847
98.88	223.2974
99.55	230.3156
99.55	230.3156
99.86	263.2274
100.00	263.2940
100.10	263.3440
103.18	263.8265
103.76	246.6206
105.00	245.2119
105.31	255.0811
108.00	262.1400
109.28	248.9900

111.00	266.4307
111.00	266.4307
111.76	265.7854
112.95	252.5065
115.19	246.5126
116.30	243.9855
117.00	241.2845
117.00	241.2845
117.66	235.5788
121.11	237.8838
121.62	240.0769
121.78	230.1310
122.06	230.2328
122.32	221.3147
122.32	221.3147
122.32	221.3147
122.32	221.3147
123.07	227.5911
127.23	254.2911
129.76	251.2216
131.20	280.1918
133.02	221.9118
133.54	218.0099
135.34	228.8034
136.00	233.1141
136.25	231.1543
136.48	230.2082
140.51	252.1354
140.51	0.0000
142.18	246.5465
142.65	246.7094
143.76	237.7911
144.24	235.8834
144.24	235.8834
144.24	235.8834
144.24	235.8834
145.22	228.9561
145.44	242.4979
147.16	223.3416
152.43	245.8818
152.70	226.0854
153.22	226.2437
154.21	233.8841
154.21	233.8841
154.21	233.8841
154.21	233.8841
155.03	238.3426
156.02	241.8107
158.56	216.2506
159.00	0.0000
159.00	233.2635
160.31	212.5177
161.27	218.0766
162.32	198.2310
162.64	202.5547
163.35	222.9092
163.89	237.9339
165.85	228.9471
167.43	199.5302
171.28	219.7936
171.86	207.0769
172.10	207.1377
176.55	185.6107
176.60	185.6230
181.06	209.6263
184.41	232.0305
185.71	244.3870
186.00	244.4691
190.27	208.9427
192.34	234.1778
193.63	227.9160
197.04	222.1645
198.01	229.0468
198.60	225.8746
200.40	0.0000
201.83	232.2442
202.84	225.8288
205.31	210.8235

208.36	224.9534
208.81	201.5479
209.75	205.1155
209.75	205.1155
210.97	222.2183
215.65	210.9171
216.55	208.8589
218.09	173.0121
222.10	191.9009
223.80	191.0986
226.40	188.1863
227.00	199.7126
227.08	192.8808
227.20	192.9049
228.16	187.3795
228.18	187.3828
228.18	187.3828
231.56	0.0000
235.69	217.5738
236.00	188.2751
236.00	188.2751
238.63	208.9664
238.63	208.9664
238.63	208.9664
238.63	208.9664
239.00	0.0000
240.98	209.4451
241.98	209.6495
241.98	209.6495
241.98	209.6495
244.69	141.0999
245.39	158.6252
247.94	148.1787
248.90	156.2420
249.79	0.0000
252.40	173.7213
252.85	168.5288
252.85	168.5288
254.15	0.0000
256.20	162.8919
256.20	162.8919
260.50	137.9044
260.90	0.0000
262.80	143.7631
264.65	146.2344
268.24	128.1929
268.79	128.2566
269.46	128.3335
269.46	128.3335
269.46	128.3335
269.46	128.3335
271.23	152.8146
273.65	194.6500
276.40	128.2278
277.35	163.3351
277.60	167.8594
277.60	167.8594
278.00	176.8960
278.60	168.9034
279.20	169.8912
279.53	176.2343
280.46	175.4780
281.68	0.0000
283.67	152.5013
284.30	171.5468
285.00	145.4493
285.90	0.0000
286.10	137.4485
286.10	137.4485
287.40	146.6543
288.45	0.0000
290.67	132.1744
290.80	132.1877
291.72	148.2810
293.26	0.0000
293.70	126.6874
295.21	142.8848
295.21	142.8848

295.21	142.8848
295.96	138.5989
296.50	167.8506
297.23	0.0000
298.57	168.1398
299.80	128.0627
299.80	128.0627
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300.09	121.5071
300.09	121.5071
300.09	121.5071
300.12	121.5091
301.29	121.6266
302.84	120.3134
303.76	0.0000
303.91	107.2027
304.40	113.1219
304.40	113.1219
304.84	113.1633
306.84	111.4549
308.46	122.5241
311.98	124.7189
316.51	109.4096
318.01	111.3959
319.02	115.1999
319.41	121.7411
320.08	124.5945
323.87	102.9559
323.87	102.9559
323.87	102.9559
323.87	102.9559
325.23	106.0528
328.77	106.3440
333.44	105.2222
334.20	102.2756
334.20	102.2756
334.30	102.2822
338.28	91.4644
338.28	91.4644
338.28	91.4644
338.28	91.4644
338.32	91.4674
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338.32	91.4674
340.50	98.2300
340.57	98.2347
344.27	84.6142
345.85	89.5184
350.59	0.0000
351.07	92.3392
351.92	96.0166
351.92	96.0166
351.92	96.0166
355.39	0.0000
356.01	90.1882
364.48	116.3085
366.43	93.3678
367.43	104.9933
367.94	0.0000
369.80	122.5371
374.96	108.4556
383.85	107.1768
387.95	97.7066
388.63	102.6384
391.69	95.9947
391.69	95.9947
392.90	77.4462
398.62	101.3623
400.65	83.7614
401.10	93.6432
401.81	100.5915
402.60	103.6029
404.84	124.5081
410.95	112.1086
411.60	119.1046
413.65	105.3482
414.70	95.4756
415.30	98.4970

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417.63	0.0000
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427.89	94.2768
432.53	85.4993
433.93	96.6475
439.47	0.0000
439.56	89.9140
439.89	97.0063
443.98	75.9762
444.90	70.9517
445.03	70.9570
445.03	70.9570
445.03	70.9570
445.03	70.9570
453.90	90.7043
463.38	81.9946
468.07	58.9264
473.00	74.2148
475.06	61.9199
475.35	68.1229
476.78	99.1699
477.59	109.5519
477.96	101.3062
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487.03	78.9745
490.36	0.0000
492.35	0.0000
497.08	74.1992
507.63	0.0000
510.53	0.0000
510.84	69.5031
511.00	69.5097
511.85	69.5419
511.85	69.5419
513.99	67.5137
513.99	67.5137
520.41	78.3359
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	79.7905
529.87	0.0000
531.02	72.3953
537.32	69.4334
543.00	73.9274
546.56	0.0000
549.76	68.8125
552.65	71.0696
555.20	66.8494
563.23	48.7202
563.90	55.2350
568.70	55.3688
569.32	60.8176
569.50	60.8228
569.67	70.6038
573.80	62.0428
574.00	63.1384
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	63.4251
585.48	0.0000
591.81	83.4659
592.07	93.3604
593.00	82.4158
595.88	61.6226
600.56	78.1487
602.52	0.0000
602.71	58.2946
602.71	58.2946
603.60	42.4148
604.41	54.8070
604.70	61.8875
609.31	67.5620

609.31	67.5620
609.31	67.5620
609.31	67.5620
610.33	67.5956
612.46	63.8930
614.37	71.0566
618.01	72.2919
621.84	66.8500
621.84	66.8500
631.29	67.1466
633.02	68.3216
633.10	68.3234
634.78	47.0795
635.90	59.4406
636.97	74.0566
645.85	64.8949
646.12	68.5095
656.30	70.9399
657.75	58.9031
657.90	0.0000
661.65	58.0984
661.65	58.0984
664.57	0.0000
666.33	42.4523
666.33	42.4523
675.00	55.7057
677.61	48.4557
685.20	53.2025
692.80	59.8203
695.00	53.4291
696.49	65.4471
696.49	65.4471
697.00	82.9797
697.49	87.6083
698.33	81.1809
698.50	74.7292
699.00	66.4400
702.63	57.3016
706.10	71.2701
706.58	0.0000
706.67	68.5096
709.31	62.0993
711.68	48.2447
713.82	62.2171
717.42	51.6683
720.50	46.5613
721.93	0.0000
722.20	60.5725
722.78	60.5884
722.78	60.5884
722.89	60.5900
722.95	60.5916
723.30	59.0472
724.18	49.7422
727.18	49.4934
733.00	48.3643
735.90	56.2324
739.58	46.9312
742.81	50.7529
744.21	53.6031
747.13	45.1934
751.79	59.4286
752.31	46.2318
753.82	47.2034
755.35	0.0000
756.15	47.2485
756.87	51.9882
763.93	47.3962
765.79	52.1748
766.42	53.7683
766.84	65.4826
776.49	55.2543
778.00	64.8191
778.57	61.9738
778.89	62.9353
783.80	41.0820
785.46	64.0524
792.07	43.1312

795.84	44.7948
796.30	44.8027
798.80	68.8707
801.93	45.3577
805.60	52.9919
810.29	45.3649
810.76	43.4421
815.85	45.4613
817.79	0.0000
818.51	45.5072
819.60	49.4000
826.30	46.6113
828.27	0.0000
831.60	42.8119
831.96	41.8442
834.83	52.6052
836.80	0.0000
846.75	45.0095
848.13	51.8859
856.28	0.0000
856.80	49.1040
860.37	42.2840
867.32	38.2013
867.82	37.2493
871.10	44.4232
873.19	40.5045
874.81	41.5160
875.33	0.0000
876.40	47.4738
879.36	43.5639
880.27	43.5778
880.51	43.5821
881.50	42.6063
883.24	43.6240
884.67	55.5502
889.25	48.6854
896.60	40.8418
898.02	44.8495
899.00	37.8859
903.28	36.6112
911.07	45.0538
911.07	45.0538
911.07	45.0538
919.63	42.6764
920.93	45.2065
925.00	40.2402
925.24	43.5968
926.50	41.6986
935.52	40.3848
937.48	38.7273
944.10	40.5020
946.00	49.6460
949.00	28.3979
962.29	40.7480
964.01	37.3739
966.15	36.7198
968.20	36.7453
969.11	36.7559
969.11	36.7559
969.11	36.7559
977.42	29.6896
980.50	35.8690
983.50	40.0074
989.30	33.9160
996.32	29.1855
1001.03	41.2656
1001.68	40.2426
1004.76	25.8221
1021.30	0.0000
1024.50	0.0000
1034.80	42.7517
1036.00	41.7246
1037.82	45.9229
1038.57	44.8897
1038.76	0.0000
1045.16	43.9359
1046.59	42.9079
1048.07	42.9279

1050.47	40.8643
1050.47	40.8643
1062.04	38.9060
1063.62	43.1341
1076.63	39.0794
1077.35	40.1449
1078.86	40.1635
1085.78	36.0104
1099.22	52.1056
1112.02	32.0215
1112.84	39.1481
1115.52	42.7402
1120.29	41.7289
1120.29	41.7289
1120.29	41.7289
1120.29	41.7289
1120.51	41.7327
1121.28	46.3802
1124.00	0.0000
1129.67	45.0618
1131.51	0.0000
1147.95	0.0000
1167.94	41.2192
1173.22	56.4891
1175.09	53.2588
1177.93	41.3361
1189.05	49.1023
1204.90	44.9338
1205.75	0.0000
1213.00	61.5098
1221.42	52.2941
1230.97	51.5111
1235.34	56.1748
1236.41	0.0000
1238.25	50.6897
1246.25	32.3269
1260.41	0.0000
1271.85	37.1956
1274.45	32.5690
1274.54	27.9163
1291.56	28.0408
1298.22	0.0000
1312.09	32.8880
1325.50	29.2290
1325.50	29.2290
1332.49	34.9487
1333.61	28.3447
1360.21	16.1692
1362.66	0.0000
1365.15	18.0939
1368.21	25.1604
1368.53	0.0000
1376.25	21.0081
1384.27	24.1121
1394.10	26.8550
1395.20	24.9442
1407.95	28.8708
1434.06	27.1147
1436.60	20.3480
1457.56	0.0000
1460.81	11.6943
1489.15	16.6763
1509.49	9.1981
1596.49	19.0912
1620.62	13.1307
1678.03	0.0000
1691.02	9.2263
1691.02	9.2263
1706.46	0.0000
1750.46	0.0000
1764.49	12.4868
1764.49	12.4868
1764.49	12.4868
1764.49	12.4868
1770.23	7.1434
1771.40	3.5725
1791.20	0.0000
1808.65	18.8936

1836.01

12.6631

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245107016

Total Uranium Activity	1.1289E+01	ug/g
Total Uranium Counting Unc.	9.8476E+00	ug/g
Total Uranium Tpu	5.0243E-06	ug/g
Total Uranium Mda	4.3466E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944038          SAMPLE ID   : G245107016
*  ANALYST       : MXR1            DETECTOR    : GAM04
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 1-FEB-2010 13:33:54.01  SAMPLE ALQT: 124.280 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 8.994E+00
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.365E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.162E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.521E+00

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VAX/VMS Nuclide Identification Report Generated 2-FEB-2010 14:57:53.93

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                   *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021396.CNF;1
Sample date        : 25-JAN-2010 00:00:00 Acquisition date : 1-FEB-2010 13:34:23.
Sample ID          : G1202021396 Sample quantity : 1.38120E+02 GRAM
Detector name      : GAM13 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:00.82 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****

```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	92.62*	32	304	1.31	185.03	178	14	4.49E-03	142.5	
2	0	185.61*	0	176	1.19	371.05	366	11	4.56E-05	*****	
3	0	239.76*	12	178	1.11	479.37	473	13	1.68E-03	253.1	

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

VMS Nuclide Identification Report V3.1 Generated 2-FEB-2010 14:57:57

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021396.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-JAN-2010 00:00:00 Acquisition date : 1-FEB-2010 13:34:23
Sample ID        : G1202021396 Sample quantity : 138.12 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA13 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:00.82 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
RA-224	+	240.98	*	1.770E-01	8.962E-01	6.953E-01	5.489E-02	0.255

---- 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	*	8.718E-02	2.516E-01	4.320E-01	3.248E-02	0.202
NA-22		1274.54	*	-5.230E-03	3.211E-02	5.216E-02	2.944E-03	-0.100
NA-24		1368.53	*	-6.600E-05	3.211E-02	Half-Life too short		
AL-26		1129.67	*	-8.020E-02	1.460E+00	2.347E+00	1.391E-01	-0.034
		1808.65	*	6.693E-03	2.956E-02	5.126E-02	2.893E-03	0.131
K-40		1460.81	*	4.759E-02	3.263E-01	5.470E-01	3.344E-02	0.087
TI-44		67.85	*	-1.681E-03	1.331E-02	2.232E-02	2.020E-03	-0.075
		78.38	*	-1.251E-02	1.345E-02	2.133E-02	1.796E-03	-0.586
SC-46		889.25	*	1.489E-02	3.133E-02	5.461E-02	4.135E-03	0.273
		1120.51	*	2.392E-02	3.873E-02	6.729E-02	4.046E-03	0.356
V-48		944.10	*	2.944E-01	5.358E-01	9.387E-01	6.853E-02	0.314
		983.50	*	-9.103E-03	4.828E-02	7.751E-02	5.483E-03	-0.117
		1312.09	*	2.484E-02	4.607E-02	8.206E-02	4.652E-03	0.303
CR-51		320.08	*	2.482E-01	2.446E-01	4.276E-01	3.328E-02	0.581
MN-52		744.21	*	4.509E-03	7.990E-02	1.293E-01	1.049E-02	0.035
		848.13	*	1.417E+00	2.620E+00	4.570E+00	3.559E-01	0.310
		935.52	*	6.998E-02	8.698E-02	1.555E-01	1.143E-02	0.450
		1246.25	*	1.262E-01	2.106E+00	3.535E+00	1.978E-01	0.036
		1333.61	*	-7.059E-01	1.487E+00	2.265E+00	1.288E-01	-0.312
		1434.06	*	-6.854E-02	9.134E-02	1.327E-01	7.625E-03	-0.517
MN-54		834.83	*	1.510E-02	3.322E-02	5.764E-02	4.523E-03	0.262
CO-56		846.75	*	2.300E-02	3.619E-02	6.362E-02	4.959E-03	0.361
		977.42	*	5.369E-01	2.675E+00	4.482E+00	3.187E-01	0.120
		1037.82	*	-4.760E-02	2.746E-01	4.392E-01	3.199E-02	-0.108
		1175.09	*	-1.999E-01	1.485E+00	2.344E+00	1.289E-01	-0.085
		1238.25	*	2.518E-02	5.406E-02	9.531E-02	5.685E-03	0.264
		1360.21	*	4.751E-01	7.068E-01	1.294E+00	7.386E-02	0.367
		1771.40	*	1.219E-01	2.292E-01	4.149E-01	2.354E-02	0.294

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-57	122.06	*		-9.646E-03	1.569E-02	2.448E-02	3.097E-03	-0.394
	136.48			-3.229E-02	1.322E-01	2.105E-01	2.463E-02	-0.153
CO-58	810.76	*		3.330E-03	3.395E-02	5.721E-02	4.557E-03	0.058
FE-59	142.65			-4.244E-01	1.866E+00	2.911E+00	3.070E-01	-0.146
	192.34			2.750E-01	5.408E-01	9.429E-01	1.224E-01	0.292
	1099.22	*		3.511E-04	6.447E-02	1.047E-01	7.479E-03	0.003
	1291.56			-2.218E-02	8.484E-02	1.356E-01	9.904E-03	-0.164
CO-60	1173.22			-3.175E-02	3.336E-02	4.584E-02	2.519E-03	-0.693
	1332.49	*		-1.103E-02	2.912E-02	4.513E-02	2.567E-03	-0.245
ZN-65	1115.52	*		-3.912E-02	7.380E-02	1.115E-01	6.772E-03	-0.351
GE-68	1077.35	*		1.422E-01	9.801E-01	1.624E+00	1.038E-01	0.088
AS-73	53.44	*		-3.119E-02	1.415E-01	2.199E-01	1.858E-02	-0.142
AS-74	595.88	*		-1.765E-03	6.015E-02	9.841E-02	7.557E-03	-0.018
	634.78			-8.770E-02	2.466E-01	3.882E-01	3.094E-02	-0.226
SE-75	66.05			-7.560E+00	1.808E+00	2.123E+00	2.312E-01	-3.561
	96.73			-2.500E-01	4.449E-01	6.282E-01	8.718E-02	-0.398
	121.11			-8.964E-02	8.263E-02	1.235E-01	1.779E-02	-0.726
	136.00			-1.206E-02	2.406E-02	3.758E-02	4.246E-03	-0.321
	198.60			3.961E-01	1.293E+00	2.089E+00	1.867E-01	0.190
	264.65	*		9.898E-03	3.031E-02	5.138E-02	4.025E-03	0.193
	279.53			6.132E-02	7.526E-02	1.310E-01	1.054E-02	0.468
	303.91			5.837E-01	1.453E+00	2.454E+00	2.607E-01	0.238
	400.65			-6.236E-02	1.867E-01	2.899E-01	2.664E-02	-0.215
BR-77	87.88			5.690E+00	9.356E+00	1.457E+01	1.150E+00	0.390
	200.40			-2.862E+00	1.290E+01	2.157E+01	1.708E+00	-0.133
	239.00	+		2.783E-01	1.409E+00	1.397E+00	1.104E-01	0.199
	249.79			-7.625E-02	5.183E+00	8.626E+00	6.783E-01	-0.009
	281.68			2.061E+00	7.155E+00	1.205E+01	9.241E-01	0.171
	297.23			-4.134E-01	4.169E+00	6.804E+00	5.118E-01	-0.061
	303.76			5.933E+00	1.438E+01	2.432E+01	1.812E+00	0.244
	439.47			1.283E+01	1.268E+01	2.295E+01	1.450E+00	0.559
	484.57			-2.281E-01	2.181E+01	3.639E+01	2.453E+00	-0.006
	520.65	*		7.936E-02	8.859E-01	1.483E+00	1.048E-01	0.054
	574.64			2.093E+00	2.009E+01	3.338E+01	2.508E+00	0.063
	578.91			-4.641E+00	8.904E+00	1.398E+01	1.055E+00	-0.332
	585.48			-9.584E+00	1.671E+01	2.606E+01	1.980E+00	-0.368
	755.35			-1.424E+00	1.644E+01	2.613E+01	2.116E+00	-0.054
	817.79			1.192E-02	1.450E+01	2.420E+01	1.916E+00	0.000
SR-82	698.33			4.914E+00	2.629E+01	4.325E+01	3.531E+00	0.114
	776.49	*		3.651E-02	2.577E-01	4.380E-01	3.525E-02	0.083
	1395.20			9.301E-01	7.986E+00	1.339E+01	7.672E-01	0.069
RB-83	520.41	*		-1.558E-03	5.068E-02	8.387E-02	5.922E-03	-0.019
	529.64			-4.918E-03	8.460E-02	1.395E-01	9.959E-03	-0.035
	552.65			-5.666E-02	1.529E-01	2.433E-01	1.784E-02	-0.233
RB-84	881.50	*		-8.299E-04	5.844E-02	9.669E-02	7.365E-03	-0.009
KR-85	513.99	*		-1.471E+01	8.078E+00	1.177E+01	8.245E-01	-1.250
SR-85	513.99	*		-6.968E-02	3.826E-02	5.574E-02	3.905E-03	-1.250
RB-86	1076.63	*		-4.130E-01	4.929E-01	7.068E-01	4.522E-02	-0.584
Y-88	898.02			1.811E-02	3.792E-02	6.566E-02	4.970E-03	0.276

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1836.01		*	-2.023E-02	2.694E-02	3.582E-02	2.017E-03	-0.565
ZR-88	392.90		*	-5.419E-04	2.475E-02	3.970E-02	2.325E-03	-0.014
Y-91	1204.90		*	-9.985E+00	1.269E+01	1.907E+01	1.057E+00	-0.524
NB-94	702.63		*	5.550E-03	3.240E-02	5.319E-02	4.341E-03	0.104
	871.10			-1.028E-02	2.859E-02	4.540E-02	3.484E-03	-0.226
NB-95	765.79		*	9.359E-03	3.319E-02	5.710E-02	4.611E-03	0.164
NB-95M	235.69		*	-2.103E-02	9.012E-02	1.302E-01	1.204E-02	-0.162
ZR-95	724.18			2.410E-02	7.453E-02	1.241E-01	1.108E-02	0.194
	756.15		*	1.358E-03	6.070E-02	9.765E-02	8.809E-03	0.014
NB-97	657.90		*	4.219E-06	6.070E-02	Half-Life	too short	
	1024.50			-2.594E-04	6.070E-02	Half-Life	too short	
ZR-97	254.15			8.156E-04	6.070E-02	Half-Life	too short	
	355.39			-6.659E-04	6.070E-02	Half-Life	too short	
	507.63		*	-2.992E-03	6.070E-02	Half-Life	too short	
	602.52			3.540E-03	6.070E-02	Half-Life	too short	
	1021.30			3.656E-04	6.070E-02	Half-Life	too short	
	1147.95			-1.251E-03	6.070E-02	Half-Life	too short	
	1362.66			3.674E-04	6.070E-02	Half-Life	too short	
	1750.46			-1.006E-03	6.070E-02	Half-Life	too short	
MO-99	140.51			-2.595E+00	2.869E+00	4.223E+00	1.201E+00	-0.614
	181.06			-1.230E+00	1.926E+00	2.524E+00	4.532E-01	-0.487
	366.43			3.310E+00	1.149E+01	1.897E+01	1.220E+00	0.174
	739.58		*	5.930E-01	1.605E+00	2.678E+00	3.992E-01	0.221
	778.00			3.841E-01	4.510E+00	7.619E+00	6.129E-01	0.050
TC-99M	140.51		*	-2.189E+01	4.510E+00	Half-Life	too short	
RH-101	127.23			-4.010E-03	2.094E-02	3.364E-02	4.085E-03	-0.119
	198.01		*	1.115E-02	2.491E-02	4.060E-02	3.215E-03	0.275
	325.23			-1.372E-01	1.707E-01	2.609E-01	1.870E-02	-0.526
RH-102	418.52			-1.729E-01	2.605E-01	3.708E-01	2.267E-02	-0.466
	475.06		*	-1.489E-02	2.527E-02	4.023E-02	2.677E-03	-0.370
	631.29			-6.116E-03	4.681E-02	7.536E-02	5.986E-03	-0.081
	697.49			-4.732E-02	7.445E-02	1.129E-01	9.220E-03	-0.419
	766.84			3.804E-02	8.836E-02	1.541E-01	1.244E-02	0.247
	1046.59			9.067E-02	1.047E-01	1.869E-01	1.240E-02	0.485
	1112.84			-3.014E-02	1.847E-01	2.931E-01	1.783E-02	-0.103
RU-103	497.08		*	-1.501E-02	3.166E-02	5.059E-02	6.659E-03	-0.297
	610.33			5.391E-02	6.845E-01	1.141E+00	1.857E-01	0.047
RH-106	511.85			-2.234E-01	2.093E-01	3.643E-01	2.545E-02	-0.613
	621.84		*	1.060E-01	2.869E-01	4.844E-01	6.244E-02	0.219
	1050.47			-6.140E-01	2.115E+00	3.330E+00	2.200E-01	-0.184
RU-106	511.85			-2.234E-01	2.093E-01	3.643E-01	2.545E-02	-0.613
	621.84		*	1.060E-01	2.867E-01	4.844E-01	3.815E-02	0.219
	1050.47			-6.140E-01	2.115E+00	3.330E+00	2.200E-01	-0.184
AG-108M	433.93		*	-9.708E-03	2.676E-02	4.380E-02	2.946E-03	-0.222
	614.37			1.431E-03	3.627E-02	5.954E-02	4.877E-03	0.024
	722.95			1.676E-02	3.735E-02	6.287E-02	5.346E-03	0.267
CD-109	88.03		*	2.494E-01	3.883E-01	6.060E-01	4.782E-02	0.411
AG-110M	657.75		*	-9.451E-04	3.382E-02	5.485E-02	4.608E-03	-0.017
	677.61			1.614E-01	2.972E-01	5.052E-01	4.254E-02	0.319

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	706.67			-2.573E-02	2.079E-01	3.319E-01	2.792E-02	-0.078
	763.93			-7.493E-02	1.380E-01	2.193E-01	1.829E-02	-0.342
	884.67			-3.598E-02	4.596E-02	6.956E-02	5.504E-03	-0.517
	937.48			4.367E-04	9.300E-02	1.533E-01	1.180E-02	0.003
	1384.27			1.491E-01	1.455E-01	2.725E-01	1.657E-02	0.547
IN-111	171.28			-3.058E-02	1.115E-01	1.741E-01	1.367E-02	-0.176
	245.39	*		7.438E-02	1.109E-01	1.931E-01	1.522E-02	0.385
IN-113M	391.69	*		5.820E-03	3.566E-02	5.809E-02	3.619E-03	0.100
SN-113	391.69	*		5.820E-03	3.566E-02	5.809E-02	3.619E-03	0.100
IN-114M	190.27	*		1.608E-01	1.216E-01	1.910E-01	1.510E-02	0.842
CD-115	260.90			2.159E+00	8.762E+00	1.479E+01	1.156E+00	0.146
	492.35			9.537E-01	2.951E+00	5.051E+00	3.441E-01	0.189
	527.90	*		6.246E-02	8.553E-01	1.427E+00	1.017E-01	0.044
SN-117M	156.02			1.485E-03	1.027E+00	1.647E+00	1.488E-01	0.001
	158.56	*		3.812E-03	2.581E-02	4.173E-02	3.644E-03	0.091
SB-122	563.90	*		-1.600E-01	2.604E-01	4.046E-01	3.005E-02	-0.395
	692.80			-4.662E-02	5.977E+00	9.664E+00	7.891E-01	-0.005
I-123	159.00	*		-8.418E-05	5.977E+00	Half-Life too short		
	528.96			5.727E-03	5.977E+00	Half-Life too short		
TE-123M	159.00	*		-5.690E-03	1.912E-02	3.001E-02	2.620E-03	-0.190
I-124	602.71	*		1.589E-01	1.733E-01	3.050E-01	2.359E-02	0.521
	722.78			7.108E-01	1.102E+00	1.889E+00	1.539E-01	0.376
	1325.50			5.080E+00	7.424E+00	1.356E+01	7.707E-01	0.375
	1376.25			-2.838E+00	7.173E+00	1.112E+01	6.356E-01	-0.255
	1509.49			-2.141E+00	4.261E+00	6.397E+00	3.688E-01	-0.335
	1691.02			4.260E-01	1.092E+00	1.897E+00	1.087E-01	0.225
SB-124	602.71			2.961E-02	3.229E-02	5.685E-02	4.397E-03	0.521
	645.85			-1.071E-01	3.973E-01	6.285E-01	5.404E-02	-0.170
	709.31			1.303E+00	2.553E+00	4.309E+00	3.515E-01	0.302
	713.82			-8.350E-01	1.472E+00	2.235E+00	2.617E-01	-0.374
	722.78			1.920E-01	2.978E-01	5.104E-01	4.259E-02	0.376
	968.20			1.496E+00	1.910E+00	3.397E+00	2.434E-01	0.440
	1045.16			1.604E+00	2.053E+00	3.638E+00	2.418E-01	0.441
	1325.50			1.466E+00	2.142E+00	3.914E+00	2.224E-01	0.375
	1368.21			-2.252E-01	1.409E+00	2.271E+00	2.686E-01	-0.099
	1436.60			-3.805E-01	3.142E+00	5.064E+00	2.911E-01	-0.075
	1691.02	*		2.715E-02	6.958E-02	1.209E-01	7.531E-03	0.225
SB-125	427.89	*		-6.134E-04	7.119E-02	1.200E-01	7.721E-03	-0.005
	463.38			1.831E-01	1.891E-01	3.436E-01	2.547E-02	0.533
	600.56			1.585E-02	1.668E-01	2.756E-01	2.321E-02	0.058
	635.90			1.563E-01	2.380E-01	4.123E-01	3.597E-02	0.379
TE-125M	109.28	*		7.265E-01	4.920E+00	8.154E+00	9.895E-01	0.089
I-126	388.63			3.846E-02	1.140E-01	1.884E-01	1.116E-02	0.204
	666.33	*		-3.808E-02	1.036E-01	1.617E-01	1.319E-02	-0.236
	753.82			1.383E-02	8.872E-01	1.427E+00	1.156E-01	0.010
SB-126	223.80			-6.645E-01	1.719E+00	2.812E+00	2.229E-01	-0.236
	278.60			4.528E-02	1.178E+00	1.951E+00	1.501E-01	0.023
	296.50			1.166E-01	6.590E-01	1.097E+00	8.258E-02	0.106
	414.70			-1.052E-02	3.940E-02	6.143E-02	3.732E-03	-0.171

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		415.30		2.512E-02	3.309E+00	5.294E+00	3.220E-01	0.005
		555.20		5.251E-01	2.195E+00	3.703E+00	2.724E-01	0.142
		573.80		-4.206E-01	6.132E-01	9.449E-01	7.093E-02	-0.445
		593.00		-5.361E-02	5.536E-01	9.005E-01	6.895E-02	-0.060
		656.30		1.437E+00	2.050E+00	3.543E+00	2.877E-01	0.405
		666.33		-1.564E-02	4.255E-02	6.641E-02	5.419E-03	-0.236
		675.00		-6.029E-01	1.262E+00	1.950E+00	1.592E-01	-0.309
		695.00		-1.454E-03	4.827E-02	7.786E-02	6.357E-03	-0.019
		697.00		-8.008E-02	1.685E-01	2.599E-01	2.122E-02	-0.308
		720.50	*	1.992E-02	9.020E-02	1.485E-01	1.211E-02	0.134
		856.80		-2.209E-02	2.761E-01	4.548E-01	3.523E-02	-0.049
		989.30		-1.530E-01	7.563E-01	1.211E+00	8.520E-02	-0.126
		1034.80		7.013E-02	5.538E+00	9.052E+00	6.088E-01	0.008
		1213.00		-8.408E-01	2.191E+00	3.482E+00	1.934E-01	-0.241
SN-126		64.28		-8.381E-01	2.409E-01	3.338E-01	5.197E-02	-2.511
		86.94		-1.077E-01	1.719E-01	2.361E-01	9.731E-02	-0.456
		87.57	*	-1.103E-03	4.005E-02	5.966E-02	4.719E-03	-0.018
SB-127		61.10		-2.003E+01	4.809E+00	5.842E+00	5.925E-01	-3.428
		252.40		6.154E-02	7.899E-01	1.321E+00	5.474E-01	0.047
		290.80		-1.025E+00	3.963E+00	6.402E+00	5.364E-01	-0.160
		411.60		-1.289E+00	2.568E+00	3.914E+00	5.133E-01	-0.329
		444.90		6.755E-01	1.980E+00	3.419E+00	3.165E-01	0.198
		473.00		6.071E-02	3.463E-01	5.879E-01	5.809E-02	0.103
		543.00		-8.211E-01	3.642E+00	5.897E+00	7.172E-01	-0.139
		603.60		6.542E-01	2.860E+00	4.771E+00	4.875E-01	0.137
		685.20	*	-1.026E-01	3.415E-01	5.369E-01	4.931E-02	-0.191
		698.50		3.500E-01	3.740E+00	6.100E+00	8.733E-01	0.057
		722.20		3.936E+00	6.897E+00	1.174E+01	1.043E+00	0.335
		783.80		7.102E-02	8.511E-01	1.436E+00	1.483E-01	0.049
XE-127		57.60		1.586E-01	1.061E+00	1.820E+00	1.682E-01	0.087
		145.22		5.919E-02	4.111E-01	6.684E-01	6.861E-02	0.089
		172.10		-7.236E-02	7.544E-02	1.118E-01	8.782E-03	-0.647
		202.84	*	9.531E-03	2.837E-02	4.884E-02	3.870E-03	0.195
		374.96		-1.315E-02	1.410E-01	2.257E-01	1.409E-02	-0.058
I-131		80.18		-1.204E+00	1.084E+00	1.679E+00	1.399E-01	-0.717
		284.30		-5.443E-01	5.763E-01	8.812E-01	7.142E-02	-0.618
		364.48	*	1.897E-02	5.399E-02	8.955E-02	6.299E-03	0.212
		636.97		4.972E-01	6.942E-01	1.211E+00	1.024E-01	0.411
		722.89		1.491E+00	3.283E+00	5.528E+00	4.512E-01	0.270
TE-132		49.72		-1.821E-01	4.473E-01	7.495E-01	6.310E-02	-0.243
		111.76		-2.566E+00	4.007E+00	5.933E+00	6.868E-01	-0.433
		116.30		-1.835E-02	3.386E+00	5.537E+00	6.766E-01	-0.003
		228.16	*	9.235E-02	9.680E-02	1.701E-01	2.423E-02	0.543
BA-133		53.15		-1.206E-01	6.393E-01	9.962E-01	8.360E-02	-0.121
		79.62		-1.283E+00	6.062E-01	8.378E-01	1.263E-01	-1.532
		81.00		-2.163E-02	4.484E-02	7.191E-02	1.128E-02	-0.301
		276.40		-1.746E-01	2.742E-01	4.320E-01	6.014E-02	-0.404
		302.84		1.562E-03	1.039E-01	1.708E-01	2.146E-02	0.009
		356.01	*	-2.141E-02	4.368E-02	6.534E-02	7.845E-03	-0.328

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I-133	383.85			1.366E-01	2.415E-01	4.066E-01	4.473E-02	0.336
	510.53			-2.584E-04	2.415E-01	Half-Life	too short	
	529.87	*		5.001E-07	2.415E-01	Half-Life	too short	
	706.58			-1.463E-04	2.415E-01	Half-Life	too short	
	856.28			-4.655E-04	2.415E-01	Half-Life	too short	
	875.33			1.819E-05	2.415E-01	Half-Life	too short	
	1236.41			7.862E-05	2.415E-01	Half-Life	too short	
CS-134	1298.22			3.821E-04	2.415E-01	Half-Life	too short	
	475.35			-1.040E+00	1.622E+00	2.568E+00	1.709E-01	-0.405
	563.23			-2.226E-01	3.028E-01	4.634E-01	3.483E-02	-0.480
	569.32			-6.267E-02	1.937E-01	2.929E-01	2.227E-02	-0.214
	604.70			-1.199E-02	3.392E-02	5.402E-02	4.198E-03	-0.222
	795.84	*		-1.007E-02	4.029E-02	6.573E-02	5.298E-03	-0.153
	801.93			-2.019E-01	4.321E-01	5.912E-01	4.745E-02	-0.342
	1038.57			-1.489E+00	3.676E+00	5.718E+00	3.829E-01	-0.260
	1167.94			-4.503E-01	1.913E+00	2.984E+00	1.656E-01	-0.151
	1365.15			1.270E-01	1.018E+00	1.714E+00	1.077E-01	0.074
CS-135	268.24	*		3.462E-02	1.003E-01	1.703E-01	1.573E-02	0.203
I-135	288.45			5.865E+01	1.003E-01	Half-Life	too short	
	417.63			-3.994E+01	1.003E-01	Half-Life	too short	
	546.56			6.020E+00	1.003E-01	Half-Life	too short	
	836.80			8.178E+01	1.003E-01	Half-Life	too short	
	1038.76			-5.622E+01	1.003E-01	Half-Life	too short	
	1124.00			-1.210E+02	1.003E-01	Half-Life	too short	
	1131.51			1.396E+01	1.003E-01	Half-Life	too short	
	1260.41	*		-3.090E+00	1.003E-01	Half-Life	too short	
	1457.56			-1.405E+01	1.003E-01	Half-Life	too short	
	1678.03			-1.712E+01	1.003E-01	Half-Life	too short	
	1706.46			1.441E+02	1.003E-01	Half-Life	too short	
	1791.20			9.827E-01	1.003E-01	Half-Life	too short	
	66.91			3.003E-02	1.482E-01	2.530E-01	3.975E-02	0.119
CS-136	86.29			-2.810E-01	3.314E-01	4.961E-01	6.165E-02	-0.566
	153.22			1.035E-01	2.858E-01	4.698E-01	4.839E-02	0.220
	163.89			-4.041E-01	5.617E-01	8.011E-01	7.351E-02	-0.504
	176.55			1.234E-01	1.831E-01	3.030E-01	2.547E-02	0.407
	273.65			1.522E-01	2.061E-01	3.579E-01	2.989E-02	0.425
	340.57			-2.121E-02	6.448E-02	1.022E-01	7.386E-03	-0.208
	818.51			-1.684E-02	4.885E-02	7.878E-02	6.235E-03	-0.214
	1048.07	*		3.151E-02	6.436E-02	1.109E-01	7.859E-03	0.284
	1235.34			-8.400E-02	2.752E-01	4.417E-01	4.354E-02	-0.190
	661.65	*		8.673E-03	3.303E-02	5.498E-02	4.484E-03	0.158
CS-137	661.65	*		9.168E-03	3.491E-02	5.812E-02	4.750E-03	0.158
CE-139	165.85	*		-7.742E-03	2.000E-02	3.106E-02	2.435E-03	-0.249
BA-140	162.64			1.231E-02	3.920E-01	5.917E-01	5.184E-02	0.021
	304.84			-5.922E-02	6.156E-01	1.002E+00	2.775E-01	-0.059
	423.70			-2.951E-01	1.065E+00	1.650E+00	5.255E-01	-0.179
LA-140	537.32	*		3.028E-02	1.531E-01	2.571E-01	8.434E-02	0.118
	328.77			1.511E-02	1.475E-01	2.423E-01	1.865E-02	0.062
	432.53			3.661E-01	1.127E+00	1.945E+00	1.326E-01	0.188

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	487.03			-4.289E-02	7.992E-02	1.274E-01	9.467E-03	-0.337
	751.79			-1.140E-01	9.671E-01	1.531E+00	1.390E-01	-0.074
	815.85			1.130E-01	2.028E-01	3.557E-01	3.199E-02	0.318
	867.82			-5.769E-01	7.386E-01	1.103E+00	9.041E-02	-0.523
	919.63			-2.505E-01	1.869E+00	3.043E+00	2.953E-01	-0.082
	925.24			9.025E-02	7.059E-01	1.180E+00	9.467E-02	0.076
	1596.49	*		-5.010E-03	5.248E-02	8.389E-02	4.834E-03	-0.060
CE-141	145.44	*		-1.151E-02	3.669E-02	5.793E-02	6.008E-03	-0.199
CE-143	57.37			1.588E+00	4.684E+00	8.114E+00	8.361E-01	0.196
	231.56			-2.960E+01	4.048E+01	6.288E+01	1.973E+01	-0.471
	293.26	*		8.809E-01	2.041E+00	3.449E+00	7.248E-01	0.255
	350.59			-2.482E+01	3.324E+01	4.907E+01	1.498E+01	-0.506
	490.36			1.166E+01	5.258E+01	8.916E+01	2.774E+01	0.131
	664.57			-8.795E+00	2.598E+01	4.053E+01	1.304E+01	-0.217
	721.93			5.767E+00	2.857E+01	4.689E+01	1.360E+01	0.123
CE-144	80.11			-1.095E+00	9.357E-01	1.444E+00	1.202E-01	-0.758
	133.54	*		1.364E-02	1.275E-01	2.081E-01	3.607E-02	0.066
PM-144	476.78			1.473E-02	5.570E-02	9.509E-02	7.305E-03	0.155
	618.01			-8.573E-05	2.977E-02	4.866E-02	3.944E-03	-0.002
	696.49	*		-1.300E-03	3.181E-02	5.125E-02	4.184E-03	-0.025
	778.57			2.857E-01	1.981E+00	3.365E+00	2.707E-01	0.085
PR-144	696.49	*		-8.773E-02	2.147E+00	3.459E+00	2.824E-01	-0.025
	1489.15			-1.083E+00	1.219E+01	1.970E+01	1.135E+00	-0.055
PM-146	453.90	*		1.371E-02	3.384E-02	5.867E-02	5.325E-03	0.234
	633.02			-5.790E-01	1.315E+00	1.963E+00	7.308E-01	-0.295
	735.90			4.909E-02	1.373E-01	2.281E-01	6.491E-02	0.215
	747.13			-7.410E-02	8.151E-02	1.158E-01	1.590E-02	-0.640
ND-147	91.11			-5.069E-01	1.295E-01	2.035E-01	1.835E-02	-2.491
	319.41			6.124E-01	1.626E+00	2.731E+00	1.981E-01	0.224
	439.89			1.852E+00	2.879E+00	5.085E+00	3.215E-01	0.364
	531.02	*		-9.793E-02	3.079E-01	4.955E-01	7.014E-02	-0.198
PM-149	285.90	*		1.004E-01	6.100E+00	1.007E+01	1.510E+00	0.010
EU-152	121.78			-4.683E-02	4.696E-02	7.088E-02	9.589E-03	-0.661
	244.69			8.148E-02	2.416E-01	3.662E-01	2.886E-02	0.223
	344.27	*		1.424E-02	7.894E-02	1.300E-01	9.744E-03	0.110
	443.98			9.368E-02	7.540E-01	1.281E+00	8.146E-02	0.073
	778.89			2.316E-03	2.375E-01	3.983E-01	3.204E-02	0.006
	867.32			-4.960E-01	6.834E-01	1.033E+00	7.944E-02	-0.480
	964.01			-4.467E-02	2.470E-01	3.981E-01	2.862E-02	-0.112
	1085.78			-1.021E-01	3.234E-01	5.026E-01	3.177E-02	-0.203
	1112.02			-1.387E-01	2.677E-01	4.047E-01	2.464E-02	-0.343
	1407.95			-1.862E-01	1.522E-01	1.946E-01	1.116E-02	-0.957
GD-153	69.67			-2.450E-01	4.919E-01	8.060E-01	7.205E-02	-0.304
	83.37			-5.822E+00	7.344E+00	1.079E+01	8.785E-01	-0.540
	97.43	*		1.724E-02	5.045E-02	7.336E-02	6.675E-03	0.235
	103.18			5.515E-03	5.863E-02	9.718E-02	9.599E-03	0.057
EU-154	123.07			1.850E-02	3.194E-02	5.380E-02	7.842E-03	0.344
	247.94			-2.050E-02	2.543E-01	4.217E-01	4.606E-02	-0.049
	591.81			2.414E-01	5.703E-01	9.698E-01	1.064E-01	0.249

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		723.30		9.854E-02	1.540E-01	2.639E-01	2.402E-02	0.373
		756.87		4.063E-01	7.161E-01	1.215E+00	1.410E-01	0.334
		873.19		-1.443E-03	2.600E-01	4.309E-01	4.994E-02	-0.003
		996.32		8.261E-03	3.420E-01	5.618E-01	9.570E-02	0.015
		1004.76		2.385E-02	1.910E-01	3.170E-01	3.314E-02	0.075
		1274.45	*	-1.586E-02	8.988E-02	1.457E-01	1.346E-02	-0.109
		48.70		-4.828E-01	2.810E-01	4.361E-01	3.291E-02	-1.107
		60.01		-2.733E+00	1.223E+00	1.791E+00	1.714E-01	-1.526
		86.54		-4.754E-02	4.910E-02	6.793E-02	5.476E-03	-0.700
		105.31	*	3.055E-02	6.154E-02	1.042E-01	1.069E-02	0.293
TB-160		86.79		-1.314E-01	1.229E-01	1.686E-01	1.341E-02	-0.780
		197.04		-1.908E-02	3.931E-01	6.231E-01	4.933E-02	-0.031
		215.65		-4.845E-01	4.306E-01	6.661E-01	5.283E-02	-0.727
		298.57		-2.954E-02	7.751E-02	1.239E-01	9.301E-03	-0.238
		879.36	*	1.274E-01	1.239E-01	2.253E-01	1.718E-02	0.566
		962.29		-1.794E-01	4.130E-01	6.459E-01	4.651E-02	-0.278
		966.15		1.379E-01	1.515E-01	2.721E-01	1.953E-02	0.507
		1177.93		-8.365E-02	2.501E-01	3.834E-01	2.110E-02	-0.218
		1271.85		-2.612E-01	5.116E-01	7.900E-01	4.446E-02	-0.331
		80.57		-7.757E-02	1.225E-01	1.952E-01	1.620E-02	-0.397
HO-166M	+	184.41		2.242E-04	4.242E-02	5.146E-02	4.060E-03	0.004
		280.46		5.526E-02	6.082E-02	1.065E-01	8.179E-03	0.519
		410.95		-2.423E-02	1.933E-01	3.058E-01	1.847E-02	-0.079
		711.68	*	2.013E-02	5.903E-02	9.833E-02	8.021E-03	0.205
		752.31		4.877E-02	2.381E-01	3.911E-01	3.169E-02	0.125
		810.29		-8.857E-03	5.618E-02	9.239E-02	7.339E-03	-0.096
		51.35		-3.040E+00	4.129E+00	6.777E+00	5.456E-01	-0.448
		52.39		-2.504E-01	2.591E+00	4.043E+00	3.334E-01	-0.062
		59.40		-1.044E-01	5.632E+00	9.564E+00	9.170E-01	-0.011
		66.72	*	1.420E+00	7.896E+00	1.347E+01	1.229E+00	0.105
LU-176		88.36		8.780E-02	9.069E-02	1.445E-01	1.146E-02	0.608
		201.83		-8.281E-03	2.047E-02	3.385E-02	2.682E-03	-0.245
		306.84	*	-1.305E-02	1.849E-02	2.860E-02	2.121E-03	-0.456
		401.10		-2.920E+00	5.209E+00	7.908E+00	4.697E-01	-0.369
		112.95		7.058E-03	4.880E-01	7.521E-01	8.473E-02	0.009
		208.36	*	-2.897E-01	3.241E-01	5.162E-01	4.093E-02	-0.561
		52.97		-5.430E-03	2.735E-01	4.294E-01	3.589E-02	-0.013
		54.07		-1.298E-01	1.582E-01	2.373E-01	2.033E-02	-0.547
		61.30		-1.535E+00	4.632E-01	6.340E-01	6.012E-02	-2.422
		121.62		-2.553E-01	2.319E-01	3.470E-01	4.363E-02	-0.736
LU-177M		147.16		-3.880E-01	4.135E-01	6.202E-01	6.233E-02	-0.626
		171.86		-2.767E-01	3.381E-01	5.069E-01	3.980E-02	-0.546
		218.09		4.118E-01	4.931E-01	8.743E-01	6.934E-02	0.471
		268.79		-4.893E-02	4.969E-01	8.171E-01	6.344E-02	-0.060
		319.02		3.437E-02	1.990E-01	3.294E-01	2.390E-02	0.104
		367.43		1.980E-01	7.806E-01	1.285E+00	8.239E-02	0.154
		413.65	*	-1.381E-02	1.333E-01	2.112E-01	1.281E-02	-0.065
		56.28		6.399E-03	1.592E-01	2.719E-01	2.444E-02	0.024
		57.53		2.876E-02	9.005E-02	1.559E-01	1.438E-02	0.185
HF-181								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181	65.20			-1.687E+00	3.405E-01	3.862E-01	3.562E-02	-4.368
	133.02			1.854E-02	3.653E-02	6.107E-02	7.059E-03	0.304
	136.25			-1.058E-01	2.607E-01	4.101E-01	4.603E-02	-0.258
	345.85			-3.954E-02	1.375E-01	2.183E-01	1.492E-02	-0.181
	482.03	*		1.467E-02	3.247E-02	5.615E-02	3.772E-03	0.261
	56.28			2.763E-03	6.753E-02	1.153E-01	1.037E-02	0.024
	57.53			1.222E-02	3.822E-02	6.615E-02	6.104E-03	0.185
	65.20	*		-7.104E-01	1.434E-01	1.626E-01	1.500E-02	-4.368
	67.75			-1.619E-03	3.039E-02	5.117E-02	4.636E-03	-0.032
	100.10			-9.981E-02	1.070E-01	1.547E-01	1.463E-02	-0.645
TA-182	152.43			2.632E-02	2.037E-01	3.301E-01	3.120E-02	0.080
	222.10			-9.325E-02	2.092E-01	3.407E-01	2.701E-02	-0.274
	1001.68			1.738E+00	1.746E+00	3.156E+00	2.196E-01	0.551
	1121.28			5.864E-02	1.062E-01	1.835E-01	1.102E-02	0.320
	1189.05			1.167E-01	2.431E-01	4.274E-01	2.359E-02	0.273
	1221.42	*		1.102E-01	1.437E-01	2.599E-01	1.446E-02	0.424
	1230.97			-1.143E-01	3.416E-01	5.475E-01	3.054E-02	-0.209
	57.98			-4.225E-03	3.767E-02	6.372E-02	5.935E-03	-0.066
	59.32			-8.525E-05	2.159E-02	3.670E-02	3.513E-03	-0.002
	67.20			-1.511E-02	5.374E-02	8.941E-02	8.132E-03	-0.169
RE-183	162.32	*		-1.019E-02	8.041E-02	1.202E-01	9.946E-03	-0.085
	208.81			-1.111E-01	5.826E-01	9.718E-01	7.707E-02	-0.114
	291.72			-7.812E-01	6.579E-01	9.860E-01	7.471E-02	-0.792
	57.98			-1.627E-02	1.450E-01	2.453E-01	2.285E-02	-0.066
	59.32			-3.279E-04	8.305E-02	1.412E-01	1.351E-02	-0.002
	67.20			-5.814E-02	2.068E-01	3.441E-01	3.130E-02	-0.169
	161.27			1.080E-01	2.438E-01	4.008E-01	3.369E-02	0.269
	216.55			-1.125E-01	1.633E-01	2.618E-01	2.077E-02	-0.429
	252.85	*		4.376E-02	1.597E-01	2.706E-01	2.124E-02	0.162
	318.01			-1.123E-01	3.555E-01	5.678E-01	4.129E-02	-0.198
RE-184	792.07			3.286E-01	9.058E-01	1.563E+00	1.251E-01	0.210
	903.28			2.870E-02	8.822E-01	1.463E+00	1.097E-01	0.020
	920.93			1.735E-01	4.275E-01	7.340E-01	5.444E-02	0.236
	59.72			-1.490E-01	6.827E-02	1.005E-01	9.636E-03	-1.483
	61.14			-2.028E-01	4.994E-02	6.268E-02	5.951E-03	-3.236
	69.30			-3.357E-02	8.556E-02	1.412E-01	1.265E-02	-0.238
	592.07			4.756E-01	2.162E+00	3.618E+00	2.768E-01	0.131
	646.12	*		-2.155E-03	3.448E-02	5.579E-02	4.490E-03	-0.039
	717.42			1.806E-02	8.033E-01	1.298E+00	1.059E-01	0.014
	874.81			1.849E-01	5.223E-01	8.966E-01	6.862E-02	0.206
OS-185	880.27			2.929E-01	7.146E-01	1.231E+00	9.386E-02	0.238
	155.03	*		7.318E-04	1.044E-01	1.676E-01	1.534E-02	0.004
	477.96			8.036E-01	2.430E+00	4.167E+00	2.784E-01	0.193
	633.10			-1.177E+00	2.432E+00	3.660E+00	2.912E-01	-0.321
	63.58			-1.415E+01	1.967E+01	3.588E+01	3.348E+00	-0.394
	227.08			9.044E+00	8.151E+00	1.453E+01	1.151E+00	0.622
	290.67	*		-1.559E+00	4.962E+00	7.982E+00	6.057E-01	-0.195
	295.96			3.778E-02	7.130E-02	1.214E-01	9.237E-03	0.311
	308.46			-1.463E-02	6.694E-02	1.079E-01	8.032E-03	-0.136
RE-188								
W-188								
IR-192								

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195	316.51	*		-1.326E-03	2.421E-02	3.944E-02	2.885E-03	-0.034
	468.07			-1.711E-02	4.693E-02	7.600E-02	5.610E-03	-0.225
	604.41			-6.846E-02	4.187E-01	6.770E-01	8.433E-02	-0.101
	612.46			-2.366E-01	6.347E-01	1.006E+00	9.256E-02	-0.235
	65.12			-2.324E-01	6.094E-02	7.893E-02	7.285E-03	-2.944
	66.83			4.960E-03	2.567E-02	4.381E-02	3.995E-03	0.113
	75.70			-2.713E-03	7.022E-02	1.080E-01	9.266E-03	-0.025
	98.88	*		6.962E-02	1.347E-01	2.137E-01	1.986E-02	0.326
TL-200	129.76			2.814E-01	1.818E+00	2.980E+00	3.544E-01	0.094
	367.94	*		5.708E-02	3.352E+00	5.423E+00	3.470E-01	0.011
	579.30			-2.855E+00	2.614E+01	4.258E+01	3.215E+00	-0.067
	828.27			9.167E+00	3.624E+01	6.191E+01	4.875E+00	0.148
TL-201	1205.75			-6.096E+00	1.531E+01	2.436E+01	1.350E+00	-0.250
	68.90			6.077E-02	2.532E-01	4.325E-01	3.888E-02	0.140
	70.82			3.091E-02	1.529E-01	2.602E-01	2.308E-02	0.119
	80.30			-3.399E-01	4.038E-01	6.358E-01	5.286E-02	-0.535
TL-202	135.34			-2.229E+00	2.918E+00	4.465E+00	5.055E-01	-0.499
	167.43	*		-8.328E-02	8.651E-01	1.371E+00	1.074E-01	-0.061
	68.90			1.988E-02	8.285E-02	1.415E-01	1.272E-02	0.140
	70.82			1.009E-02	4.989E-02	8.492E-02	7.531E-03	0.119
HG-203	80.30			-1.109E-01	1.318E-01	2.075E-01	1.725E-02	-0.535
	439.56	*		3.040E-02	3.658E-02	6.537E-02	4.131E-03	0.465
	70.83			6.100E-02	2.966E-01	5.049E-01	6.950E-02	0.121
	72.87			-3.277E-04	1.817E-01	3.056E-01	4.060E-02	-0.001
BI-207	82.60			-1.918E-01	4.937E-01	7.415E-01	9.991E-02	-0.259
	279.20	*		2.285E-02	2.624E-02	4.582E-02	3.648E-03	0.499
	72.80			3.739E-04	5.959E-02	1.003E-01	8.772E-03	0.004
	74.97			-2.491E-02	3.636E-02	5.880E-02	5.069E-03	-0.424
TL-207	84.90			-4.338E-02	8.172E-02	1.323E-01	1.066E-02	-0.328
	569.67			-1.237E-02	3.020E-02	4.524E-02	3.381E-03	-0.273
	1063.62	*		3.183E-02	4.763E-02	8.337E-02	5.422E-03	0.382
	1770.23			1.206E-01	4.906E-01	8.501E-01	4.824E-02	0.142
TL-208	81.07			-4.541E-02	9.910E-02	1.595E-01	1.319E-02	-0.285
	83.78			-4.086E-02	6.346E-02	9.389E-02	7.622E-03	-0.435
	94.90			8.663E-02	1.273E-01	1.983E-01	1.739E-02	0.437
	122.32			-3.286E-01	1.100E+00	1.757E+00	2.296E-01	-0.187
PO-209	144.24			1.532E-01	5.201E-01	8.348E-01	9.380E-02	0.184
	154.21			-5.763E-03	2.599E-01	4.165E-01	4.187E-02	-0.014
	269.46			-1.028E-01	1.265E-01	1.967E-01	1.565E-02	-0.523
	323.87	*		-3.101E-01	5.154E-01	7.983E-01	1.361E-01	-0.388
TL-209	338.28			2.153E-01	8.455E-01	1.304E+00	1.463E-01	0.165
	445.03			4.482E-01	1.819E+00	3.117E+00	3.305E-01	0.144
	277.35			-7.985E-02	2.720E-01	4.403E-01	5.157E-02	-0.181
	510.84			-5.109E-02	1.964E-01	3.546E-01	3.854E-02	-0.144
PO-209	583.14	*		-1.324E-02	3.921E-02	6.098E-02	5.048E-03	-0.217
	860.37			2.404E-01	2.436E-01	4.439E-01	3.743E-02	0.542
	260.50			4.456E-01	6.804E+00	1.135E+01	8.867E-01	0.039
	262.80			1.614E+00	2.023E+01	3.307E+01	2.579E+00	0.049
	896.60	*		5.557E+00	6.938E+00	1.239E+01	9.325E-01	0.449

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-210	46.50	*		-1.111E-01	4.068E-01	6.417E-01	5.230E-02	-0.173
PB-210	46.50	*		-1.111E-01	4.068E-01	6.417E-01	5.230E-02	-0.173
PO-210	46.50	*		-1.111E-01	4.068E-01	6.417E-01	4.575E-02	-0.173
BI-211	72.87			-1.843E-03	1.022E+00	1.719E+00	1.503E-01	-0.001
	351.07	*		-2.221E-01	1.903E-01	2.792E-01	2.035E-02	-0.795
PB-211	404.84	*		6.386E-02	7.308E-01	1.179E+00	7.350E-01	0.054
	427.08			7.143E-02	1.736E+00	2.778E+00	1.718E+00	0.026
	831.96			-4.268E-01	1.143E+00	1.780E+00	1.114E+00	-0.240
BI-212	727.18	*		-4.596E-02	2.425E-01	3.823E-01	3.670E-02	-0.120
	785.46			-7.375E-02	1.653E+00	2.757E+00	2.212E-01	-0.027
	1620.62			-1.540E+00	1.411E+00	1.516E+00	8.726E-02	-1.016
PB-212	74.81			-8.444E-02	1.253E-01	2.023E-01	2.573E-02	-0.417
	77.11			-4.359E-02	8.169E-02	1.218E-01	1.035E-02	-0.358
	87.30			4.448E-02	1.785E-01	2.713E-01	3.461E-02	0.164
+	238.63	*		1.568E-02	7.938E-02	7.794E-02	7.081E-03	0.201
	300.09			2.342E-01	5.537E-01	9.365E-01	8.909E-02	0.250
PO-212	74.81			-8.444E-02	1.253E-01	2.023E-01	2.573E-02	-0.417
	77.11			-4.359E-02	8.169E-02	1.218E-01	1.035E-02	-0.358
	87.30			4.448E-02	1.785E-01	2.713E-01	3.461E-02	0.164
	115.19			-2.006E+00	2.257E+00	3.473E+00	4.028E-01	-0.577
+	238.63	*		1.568E-02	7.938E-02	7.794E-02	7.081E-03	0.201
	300.09			2.342E-01	5.537E-01	9.365E-01	8.909E-02	0.250
BI-214	609.31	*		-3.077E-02	7.495E-02	1.203E-01	1.125E-02	-0.256
	1120.29			9.959E-02	2.422E-01	4.112E-01	3.679E-02	0.242
	1764.49			-1.378E-01	2.296E-01	3.563E-01	2.023E-02	-0.387
PB-214	74.81			-1.455E-01	2.157E-01	3.485E-01	3.964E-02	-0.417
	77.11			-7.472E-02	1.401E-01	2.089E-01	2.383E-02	-0.358
	87.30			7.620E-02	3.057E-01	4.647E-01	5.138E-02	0.164
	241.98			2.477E-02	2.464E-01	3.656E-01	3.540E-02	0.068
	295.21			2.629E-02	9.966E-02	1.669E-01	1.635E-02	0.158
	351.92	*		-8.829E-02	6.762E-02	9.791E-02	8.765E-03	-0.902
PO-214	74.81			-1.455E-01	2.157E-01	3.485E-01	3.964E-02	-0.417
	77.11			-7.472E-02	1.401E-01	2.089E-01	2.383E-02	-0.358
	87.30			7.620E-02	3.057E-01	4.647E-01	5.138E-02	0.164
	241.98			2.477E-02	2.464E-01	3.656E-01	3.540E-02	0.068
	295.21			2.629E-02	9.966E-02	1.669E-01	1.635E-02	0.158
	351.92	*		-8.829E-02	6.762E-02	9.791E-02	8.765E-03	-0.902
PO-215	81.07			-4.541E-02	9.910E-02	1.595E-01	1.319E-02	-0.285
	83.78			-4.086E-02	6.346E-02	9.389E-02	7.622E-03	-0.435
	94.90			8.663E-02	1.273E-01	1.983E-01	1.739E-02	0.437
	122.32			-3.286E-01	1.100E+00	1.757E+00	2.296E-01	-0.187
	144.24			1.532E-01	5.201E-01	8.348E-01	9.380E-02	0.184
	154.21			-5.763E-03	2.599E-01	4.165E-01	4.187E-02	-0.014
	269.46			-1.028E-01	1.265E-01	1.967E-01	1.565E-02	-0.523
	323.87	*		-3.101E-01	5.154E-01	7.983E-01	1.361E-01	-0.388
	338.28			2.153E-01	8.455E-01	1.304E+00	1.463E-01	0.165
	445.03			4.482E-01	1.819E+00	3.117E+00	3.305E-01	0.144
PO-216	74.81			-8.444E-02	1.253E-01	2.023E-01	2.573E-02	-0.417
	77.11			-4.359E-02	8.169E-02	1.218E-01	1.035E-02	-0.358

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-218	+	87.30		4.448E-02	1.785E-01	2.713E-01	3.461E-02	0.164
		238.63	*	1.568E-02	7.938E-02	7.794E-02	7.081E-03	0.201
		300.09		2.342E-01	5.537E-01	9.365E-01	8.909E-02	0.250
		74.81		-1.455E-01	2.157E-01	3.485E-01	3.964E-02	-0.417
		77.11		-7.472E-02	1.401E-01	2.089E-01	2.383E-02	-0.358
		87.30		7.620E-02	3.057E-01	4.647E-01	5.138E-02	0.164
RN-219		241.98		2.477E-02	2.464E-01	3.656E-01	3.540E-02	0.068
		295.21		2.629E-02	9.966E-02	1.669E-01	1.635E-02	0.158
		351.92	*	-8.829E-02	6.762E-02	9.791E-02	8.765E-03	-0.902
		271.23		-1.183E-01	1.603E-01	2.501E-01	2.400E-02	-0.473
		401.81	*	-1.809E-01	3.193E-01	4.829E-01	6.601E-02	-0.375
		549.76	*	-8.398E+00	2.166E+01	3.444E+01	2.517E+00	-0.244
RA-223		81.07		-4.541E-02	9.910E-02	1.595E-01	1.319E-02	-0.285
		83.78		-4.086E-02	6.346E-02	9.389E-02	7.622E-03	-0.435
		94.90		8.663E-02	1.273E-01	1.983E-01	1.739E-02	0.437
		122.32		-3.286E-01	1.100E+00	1.757E+00	2.296E-01	-0.187
		144.24		1.532E-01	5.201E-01	8.348E-01	9.380E-02	0.184
		154.21		-5.763E-03	2.599E-01	4.165E-01	4.187E-02	-0.014
RA-226		269.46		-1.028E-01	1.265E-01	1.967E-01	1.565E-02	-0.523
		323.87	*	-3.101E-01	5.154E-01	7.983E-01	1.361E-01	-0.388
		338.28		2.153E-01	8.455E-01	1.304E+00	1.463E-01	0.165
		445.03		4.482E-01	1.819E+00	3.117E+00	3.305E-01	0.144
		609.31	*	-3.077E-02	7.495E-02	1.203E-01	1.125E-02	-0.256
		1120.29		9.959E-02	2.422E-01	4.112E-01	3.679E-02	0.242
AC-227		1764.49		-1.378E-01	2.296E-01	3.563E-01	2.023E-02	-0.387
		79.80		-1.178E+00	7.672E-01	1.094E+00	2.341E-01	-1.077
		236.00		-2.470E-02	1.816E-01	2.645E-01	3.109E-02	-0.093
		256.20	*	-6.367E-02	2.678E-01	4.376E-01	6.530E-02	-0.145
		286.10		8.404E-02	1.095E+00	1.816E+00	2.284E-01	0.046
		299.80		1.878E-01	1.034E+00	1.720E+00	2.918E-01	0.109
TH-227		304.40		1.293E-01	1.353E+00	2.235E+00	4.005E-01	0.058
		334.20		-4.747E-01	1.775E+00	2.828E+00	5.305E-01	-0.168
		79.80		-1.178E+00	7.682E-01	1.094E+00	2.371E-01	-1.077
		94.00		8.740E-01	2.499E+00	2.406E+00	5.242E-01	0.363
		236.00		-2.470E-02	1.816E-01	2.645E-01	2.785E-02	-0.093
		256.20	*	-6.367E-02	2.678E-01	4.376E-01	7.747E-02	-0.145
AC-228		286.10		8.404E-02	1.098E+00	1.816E+00	1.821E+00	0.046
		299.80		1.878E-01	1.034E+00	1.720E+00	2.918E-01	0.109
		304.40		1.293E-01	1.353E+00	2.235E+00	4.005E-01	0.058
		334.20		-4.747E-01	1.775E+00	2.828E+00	5.305E-01	-0.168
		338.32		5.102E-02	2.035E-01	3.122E-01	1.278E-01	0.163
		911.07	*	-3.621E-03	1.322E-01	2.123E-01	2.204E-02	-0.017
RA-228		969.11		8.916E-02	2.032E-01	3.481E-01	7.950E-02	0.256
		338.32		5.102E-02	2.035E-01	3.122E-01	1.278E-01	0.163
		911.07	*	-3.621E-03	1.322E-01	2.123E-01	2.204E-02	-0.017
TH-228		969.11		8.916E-02	2.032E-01	3.481E-01	7.950E-02	0.256
		74.81		-8.508E-02	1.260E-01	2.038E-01	1.774E-02	-0.417
		77.11		-4.392E-02	8.230E-02	1.228E-01	1.043E-02	-0.358
		87.30		4.482E-02	1.798E-01	2.733E-01	2.166E-02	0.164

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-229	+	238.63	*	1.580E-02	7.998E-02	7.854E-02	7.135E-03	0.201
		300.09		2.360E-01	5.747E-01	9.436E-01	5.579E-01	0.250
		85.43		-5.854E-02	7.980E-02	1.274E-01	1.023E-02	-0.459
		88.47		4.916E-02	5.214E-02	8.296E-02	6.592E-03	0.593
		100.00		-9.097E-02	1.170E-01	1.714E-01	1.619E-02	-0.531
TH-230		193.63	*	-6.005E-01	3.333E-01	4.964E-01	3.927E-02	-1.210
		210.97		2.689E-01	4.910E-01	8.538E-01	6.771E-02	0.315
		609.31	*	-3.077E-02	7.495E-02	1.203E-01	1.125E-02	-0.256
		1120.29		9.959E-02	2.422E-01	4.112E-01	3.679E-02	0.242
		1764.49		-1.378E-01	2.296E-01	3.563E-01	2.023E-02	-0.387
PA-231		283.67	*	-1.232E+00	1.127E+00	1.683E+00	2.466E-01	-0.732
TH-231		301.29		2.100E-01	4.108E-01	6.981E-01	8.007E-02	0.301
		81.07		-4.541E-02	9.910E-02	1.595E-01	1.319E-02	-0.285
		83.78		-4.086E-02	6.346E-02	9.389E-02	7.622E-03	-0.435
		94.90		8.663E-02	1.273E-01	1.983E-01	1.739E-02	0.437
		122.32		-3.286E-01	1.100E+00	1.757E+00	2.296E-01	-0.187
U-231		144.24		1.532E-01	5.201E-01	8.348E-01	9.380E-02	0.184
		154.21		-5.763E-03	2.599E-01	4.165E-01	4.187E-02	-0.014
		269.46		-1.028E-01	1.265E-01	1.967E-01	1.565E-02	-0.523
		323.87	*	-3.101E-01	5.154E-01	7.983E-01	1.361E-01	-0.388
		338.28		2.153E-01	8.455E-01	1.304E+00	1.463E-01	0.165
TH-232		445.03		4.482E-01	1.819E+00	3.117E+00	3.305E-01	0.144
		84.21		-9.360E-01	7.965E-01	1.141E+00	9.237E-02	-0.820
	+	92.29		2.482E-01	7.079E-01	8.759E-01	7.384E-02	0.283
		95.87	*	-1.078E-01	1.852E-01	2.619E-01	2.330E-02	-0.412
		108.00		1.869E-02	3.289E-01	5.425E-01	5.724E-02	0.034
PA-233		338.32		5.102E-02	2.024E-01	3.122E-01	2.174E-02	0.163
		911.07	*	-3.621E-03	1.322E-01	2.123E-01	2.204E-02	-0.017
		969.11		8.916E-02	2.032E-01	3.481E-01	7.950E-02	0.256
		75.28		-4.927E-01	1.169E+00	1.756E+00	2.694E-01	-0.281
		86.59		-7.810E-01	8.245E-01	1.106E+00	2.945E-01	-0.706
PA-234		300.12		1.229E-01	2.866E-01	4.843E-01	6.901E-02	0.254
		311.98	*	-1.573E-02	4.924E-02	7.865E-02	6.007E-03	-0.200
		340.50		-1.578E-01	4.664E-01	7.364E-01	1.714E-01	-0.214
		398.62		1.213E+00	1.627E+00	2.737E+00	7.085E-01	0.443
		415.76		-2.831E-01	1.429E+00	2.118E+00	4.377E-01	-0.134
+ 226.40		63.00		-3.190E-01	6.160E-01	1.129E+00	1.798E-01	-0.283
		94.67		1.332E-01	9.575E-02	1.540E-01	1.923E-02	0.865
		98.44		4.346E-02	6.229E-02	8.954E-02	5.004E-02	0.485
		99.86		-1.109E-01	2.951E-01	4.447E-01	4.191E-02	-0.249
		111.00		9.974E-03	1.086E-01	1.791E-01	2.485E-02	0.056
+ 227.20		131.20		-2.076E-03	6.931E-02	1.123E-01	1.319E-02	-0.018
		152.70		1.296E-03	2.104E-01	3.380E-01	5.903E-02	0.004
		186.00		8.071E-03	1.527E+00	2.012E+00	6.242E-01	0.004
		226.40		-2.215E-02	2.773E-01	4.630E-01	5.908E-02	-0.048
		227.20		2.847E-01	2.995E-01	5.295E-01	4.196E-02	0.538
+ 248.90		248.90		2.356E-01	5.702E-01	9.726E-01	2.153E-01	0.242
		293.70		3.126E-01	4.706E-01	8.055E-01	1.353E-01	0.388
		369.80		-2.347E-01	7.530E-01	1.184E+00	2.485E-01	-0.198

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	568.70			-1.097E-01	9.982E-01	1.542E+00	1.151E-01	-0.071
	569.50			-9.890E-02	2.690E-01	4.048E-01	3.025E-02	-0.244
	574.00			-8.741E-01	1.347E+00	2.084E+00	1.565E-01	-0.419
	699.00			4.059E-02	6.726E-01	1.094E+00	2.064E-01	0.037
	706.10			-2.147E-01	1.040E+00	1.641E+00	7.303E-01	-0.131
	733.00			-2.123E-01	3.429E-01	5.090E-01	1.120E-01	-0.417
	742.81			-3.776E-01	1.233E+00	1.871E+00	1.256E+00	-0.202
	796.30			-1.617E-01	8.085E-01	1.324E+00	3.557E-01	-0.122
	805.60			2.578E-01	8.820E-01	1.510E+00	4.601E-01	0.171
	819.60			-3.208E-01	1.192E+00	1.927E+00	7.296E-01	-0.167
	826.30			-5.602E-01	8.219E-01	1.212E+00	5.405E-01	-0.462
	831.60			-3.133E-01	5.895E-01	9.184E-01	2.722E-01	-0.341
	876.40			-1.718E-01	8.193E-01	1.297E+00	1.333E+00	-0.132
	880.51			6.458E-02	2.682E-01	4.552E-01	3.469E-02	0.142
	883.24			-1.555E-01	2.935E-01	4.274E-01	2.868E-01	-0.364
	899.00			1.822E-01	7.943E-01	1.338E+00	5.822E-01	0.136
	925.00			1.188E-01	1.115E+00	1.859E+00	1.376E-01	0.064
	926.50			-1.352E-02	1.566E-01	2.557E-01	6.363E-02	-0.053
	946.00	*		-6.685E-03	2.504E-01	4.108E-01	7.473E-02	-0.016
	949.00			-3.432E-01	4.485E-01	6.356E-01	4.624E-02	-0.540
	980.50			8.138E-01	7.050E-01	1.290E+00	9.147E-02	0.631
	1394.10			1.978E-01	1.082E+00	1.819E+00	1.178E+00	0.109
PA-234M	766.42			4.824E+00	9.725E+00	1.653E+01	8.374E+00	0.292
	1001.03	*		-1.317E+00	4.726E+00	7.400E+00	6.343E-01	-0.178
TH-234	63.29	*		-2.391E-01	5.275E-01	9.686E-01	1.777E-01	-0.247
	92.38		+	2.262E-01	6.461E-01	8.001E-01	1.440E-01	0.283
U-234	609.31	*		-3.077E-02	7.495E-02	1.203E-01	1.125E-02	-0.256
	1120.29			9.959E-02	2.422E-01	4.112E-01	3.679E-02	0.242
	1764.49			-1.378E-01	2.296E-01	3.563E-01	2.023E-02	-0.387
U-235	89.95			-3.176E-01	5.739E-01	8.083E-01	2.484E-01	-0.393
	93.35		+	2.719E-01	7.789E-01	9.176E-01	2.570E-01	0.296
	105.00			3.230E-01	6.126E-01	1.028E+00	3.115E-01	0.314
	143.76	*		8.026E-02	1.625E-01	2.628E-01	4.852E-02	0.305
	163.35			-8.577E-02	3.699E-01	5.477E-01	1.034E-01	-0.157
	185.71		+	2.989E-04	5.656E-02	7.418E-02	5.855E-03	0.004
	205.31			-1.076E-01	3.798E-01	5.933E-01	1.114E-01	-0.181
NP-236	94.67			1.027E-01	7.216E-02	1.171E-01	1.023E-02	0.877
	98.44			3.286E-02	4.346E-02	6.769E-02	6.251E-03	0.486
	111.00			7.544E-03	8.212E-02	1.355E-01	1.488E-02	0.056
	160.31	*		1.584E-02	5.640E-02	9.185E-02	7.827E-03	0.172
NP-237	86.50	*		-1.155E-01	1.224E-01	1.662E-01	3.677E-02	-0.695
	95.87			-3.309E-01	5.733E-01	8.038E-01	1.988E-01	-0.412
U-238	63.29	*		-2.391E-01	5.275E-01	9.686E-01	1.777E-01	-0.247
	92.38		+	2.262E-01	6.451E-01	8.001E-01	6.754E-02	0.283
NP-239	99.55			1.055E-02	9.858E-02	1.531E-01	1.437E-02	0.069
	117.00	*		-9.761E-03	1.180E-01	1.920E-01	2.278E-02	-0.051
	209.75			2.534E-01	4.892E-01	8.498E-01	6.740E-02	0.298
	228.18			1.354E-01	1.576E-01	2.772E-01	2.196E-02	0.488
	277.60			-4.704E-02	1.319E-01	2.126E-01	1.637E-02	-0.221

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	334.30			-2.769E-01	1.004E+00	1.601E+00	1.125E-01	-0.173
AM-241	59.54	*		-1.460E-03	3.312E-02	5.617E-02	5.712E-03	-0.026
AM-243	74.67	*		-8.233E-03	2.005E-02	3.294E-02	2.845E-03	-0.250
	86.72			-4.482E+00	4.500E+00	6.209E+00	4.940E-01	-0.722
	117.66			3.849E-01	2.362E+00	3.899E+00	4.666E-01	0.099
	142.18			-1.002E+01	1.383E+01	2.091E+01	2.215E+00	-0.479
CM-243	99.55			1.085E-02	1.014E-01	1.575E-01	1.478E-02	0.069
	103.76	*		1.850E-02	5.412E-02	9.099E-02	9.060E-03	0.203
	117.00			-1.004E-02	1.214E-01	1.974E-01	2.343E-02	-0.051
	209.75			2.497E-01	4.820E-01	8.373E-01	6.640E-02	0.298
	228.18			1.367E-01	1.591E-01	2.799E-01	2.218E-02	0.488
	277.60			-4.740E-02	1.329E-01	2.142E-01	1.650E-02	-0.221
AM-246	798.80			-1.212E-01	1.251E-01	1.881E-01	1.502E-02	-0.644
	1036.00			1.125E-02	2.790E-01	4.575E-01	3.073E-02	0.025
	1062.04			-2.265E-02	2.151E-01	3.460E-01	2.255E-02	-0.065
	1078.86	*		1.851E-02	1.222E-01	2.024E-01	1.291E-02	0.091
CM-247	278.00			-9.234E-02	5.369E-01	8.766E-01	6.748E-02	-0.105
	287.40			4.988E-01	9.126E-01	1.561E+00	1.189E-01	0.320
	402.60	*		-2.958E-02	2.843E-02	4.084E-02	2.432E-03	-0.724
CF-249	252.85			1.694E-01	6.179E-01	1.047E+00	8.221E-02	0.162
	333.44			1.853E-02	1.322E-01	2.176E-01	1.532E-02	0.085
	387.95	*		4.121E-03	3.415E-02	5.547E-02	3.294E-03	0.074
CF-251	176.60	*		5.706E-02	9.396E-02	1.549E-01	1.219E-02	0.368
	227.00			2.912E-01	2.636E-01	4.699E-01	3.723E-02	0.620
	285.00			-6.476E-01	1.281E+00	2.033E+00	1.553E-01	-0.319
ANH-511	511.00	*		-8.430E-03	4.226E-02	7.654E-02	5.342E-03	-0.110

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]G1202021396
* Acquisition date   : 1-FEB-2010 13:34:23 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 02:00:00.82 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date       : 25-JAN-2010 00:00:00 Nuclide Library : SOLID
* Sample ID         : G1202021396 Analyst initials: MXR1
* Batch Number      : 944038 Sample Quantity : 1.3812E+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)	
RA-224	1.770E-01	8.783E-01	7.228E-01	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	8.718E-02	2.466E-01	4.431E-01	0.000E+00 NOT IDENT.
NA-22	-5.230E-03	3.147E-02	5.247E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.534E+02	0.000E+00	0.000E+00 SHORT HLIF
AL-26	6.693E-03	2.897E-02	5.120E-02	0.000E+00 NOT IDENT.
K-40	4.759E-02	3.197E-01	5.487E-01	0.000E+00 NOT IDENT.
TI-44	-1.251E-02	1.318E-02	2.264E-02	0.000E+00 NOT IDENT.
SC-46	1.489E-02	3.071E-02	5.534E-02	0.000E+00 NOT IDENT.
V-48	-9.103E-03	4.731E-02	7.839E-02	0.000E+00 NOT IDENT.
CR-51	2.482E-01	2.397E-01	4.421E-01	0.000E+00 NOT IDENT.
MN-52	-6.854E-02	8.951E-02	1.332E-01	0.000E+00 NOT IDENT.
MN-54	1.510E-02	3.255E-02	5.848E-02	0.000E+00 NOT IDENT.
CO-56	2.300E-02	3.547E-02	6.453E-02	0.000E+00 NOT IDENT.
CO-57	-9.646E-03	1.538E-02	2.578E-02	0.000E+00 NOT IDENT.
CO-58	3.330E-03	3.327E-02	5.808E-02	0.000E+00 NOT IDENT.
FE-59	3.511E-04	6.318E-02	1.056E-01	0.000E+00 NOT IDENT.
CO-60	-1.103E-02	2.853E-02	4.535E-02	0.000E+00 NOT IDENT.
ZN-65	-3.912E-02	7.232E-02	1.125E-01	0.000E+00 NOT IDENT.
GE-68	1.422E-01	9.605E-01	1.640E+00	0.000E+00 NOT IDENT.
AS-73	-3.119E-02	1.386E-01	2.351E-01	0.000E+00 NOT IDENT.
AS-74	-1.765E-03	5.895E-02	1.005E-01	0.000E+00 NOT IDENT.
SE-75	9.898E-03	2.970E-02	5.332E-02	0.000E+00 NOT IDENT.
BR-77	7.936E-02	8.682E-01	1.519E+00	0.000E+00 FAIL ABUN
SR-82	3.651E-02	2.525E-01	4.451E-01	0.000E+00 NOT IDENT.
RB-83	-1.558E-03	4.967E-02	8.589E-02	0.000E+00 NOT IDENT.
RB-84	-8.299E-04	5.727E-02	9.800E-02	0.000E+00 NOT IDENT.
KR-85	-1.471E+01	7.917E+00	1.206E+01	0.000E+00 NOT IDENT.

SR-85	-6.968E-02	3.749E-02	5.710E-02	0.000E+00	NOT IDENT.
RB-86	-4.130E-01	4.830E-01	7.134E-01	0.000E+00	NOT IDENT.
Y-88	-2.023E-02	2.640E-02	3.576E-02	0.000E+00	NOT IDENT.
ZR-88	-5.419E-04	2.426E-02	4.088E-02	0.000E+00	NOT IDENT.
Y-91	-9.985E+00	1.243E+01	1.920E+01	0.000E+00	NOT IDENT.
NB-94	5.550E-03	3.175E-02	5.415E-02	0.000E+00	NOT IDENT.
NB-95	9.359E-03	3.252E-02	5.804E-02	0.000E+00	NOT IDENT.
NB-95M	-2.103E-02	8.832E-02	1.354E-01	0.000E+00	NOT IDENT.
ZR-95	1.358E-03	5.949E-02	9.927E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.541E+01	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.192E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.930E-01	1.573E+00	2.724E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.323E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.115E-02	2.442E-02	4.236E-02	0.000E+00	NOT IDENT.
RH-102	-1.489E-02	2.477E-02	4.128E-02	0.000E+00	NOT IDENT.
RU-103	-1.501E-02	3.103E-02	5.186E-02	0.000E+00	NOT IDENT.
RH-106	1.060E-01	2.812E-01	4.944E-01	0.000E+00	NOT IDENT.
RU-106	1.060E-01	2.810E-01	4.944E-01	0.000E+00	NOT IDENT.
AG-108M	-9.708E-03	2.623E-02	4.501E-02	0.000E+00	NOT IDENT.
CD-109	2.494E-01	3.805E-01	6.419E-01	0.000E+00	NOT IDENT.
AG-110M	-9.451E-04	3.314E-02	5.592E-02	0.000E+00	NOT IDENT.
IN-111	7.438E-02	1.087E-01	2.007E-01	0.000E+00	NOT IDENT.
IN-113M	5.820E-03	3.495E-02	5.982E-02	0.000E+00	NOT IDENT.
SN-113	5.820E-03	3.495E-02	5.982E-02	0.000E+00	NOT IDENT.
IN-114M	1.608E-01	1.192E-01	1.995E-01	0.000E+00	NOT IDENT.
CD-115	6.246E-02	8.382E-01	1.461E+00	0.000E+00	NOT IDENT.
SN-117M	3.812E-03	2.529E-02	4.372E-02	0.000E+00	NOT IDENT.
SB-122	-1.600E-01	2.552E-01	4.138E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.773E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-5.690E-03	1.874E-02	3.144E-02	0.000E+00	NOT IDENT.
I-124	1.589E-01	1.698E-01	3.115E-01	0.000E+00	NOT IDENT.
SB-124	2.715E-02	6.819E-02	1.209E-01	0.000E+00	NOT IDENT.
SB-125	-6.134E-04	6.977E-02	1.234E-01	0.000E+00	NOT IDENT.
TE-125M	7.265E-01	4.822E+00	8.603E+00	0.000E+00	NOT IDENT.
I-126	-3.808E-02	1.015E-01	1.648E-01	0.000E+00	NOT IDENT.
SB-126	1.992E-02	8.839E-02	1.511E-01	0.000E+00	NOT IDENT.
SN-126	-1.103E-03	3.925E-02	6.320E-02	0.000E+00	NOT IDENT.
SB-127	-1.026E-01	3.346E-01	5.469E-01	0.000E+00	NOT IDENT.
XE-127	9.531E-03	2.780E-02	5.093E-02	0.000E+00	NOT IDENT.
I-131	1.897E-02	5.291E-02	9.236E-02	0.000E+00	NOT IDENT.
TE-132	9.235E-02	9.486E-02	1.770E-01	0.000E+00	NOT IDENT.
BA-133	-2.141E-02	4.281E-02	6.742E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.184E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	-1.007E-02	3.948E-02	6.675E-02	0.000E+00	NOT IDENT.
CS-135	3.462E-02	9.825E-02	1.767E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	2.234E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	3.151E-02	6.307E-02	1.120E-01	0.000E+00	NOT IDENT.
BA-137M	8.673E-03	3.236E-02	5.604E-02	0.000E+00	NOT IDENT.
CS-137	9.168E-03	3.421E-02	5.924E-02	0.000E+00	NOT IDENT.
CE-139	-7.742E-03	1.960E-02	3.252E-02	0.000E+00	NOT IDENT.
BA-140	3.028E-02	1.500E-01	2.632E-01	0.000E+00	NOT IDENT.
LA-140	-5.010E-03	5.143E-02	8.400E-02	0.000E+00	NOT IDENT.
CE-141	-1.151E-02	3.596E-02	6.079E-02	0.000E+00	NOT IDENT.
CE-143	8.809E-01	2.001E+00	3.572E+00	0.000E+00	NOT IDENT.
CE-144	1.364E-02	1.250E-01	2.188E-01	0.000E+00	NOT IDENT.
PM-144	-1.300E-03	3.117E-02	5.218E-02	0.000E+00	NOT IDENT.
PR-144	-8.773E-02	2.104E+00	3.522E+00	0.000E+00	NOT IDENT.
PM-146	1.371E-02	3.316E-02	6.025E-02	0.000E+00	NOT IDENT.
ND-147	-9.793E-02	3.018E-01	5.073E-01	0.000E+00	NOT IDENT.
PM-149	1.004E-01	5.978E+00	1.043E+01	0.000E+00	NOT IDENT.
EU-152	1.424E-02	7.736E-02	1.342E-01	0.000E+00	NOT IDENT.
GD-153	1.724E-02	4.944E-02	7.756E-02	0.000E+00	NOT IDENT.
EU-154	-1.586E-02	8.808E-02	1.465E-01	0.000E+00	NOT IDENT.
EU-155	3.055E-02	6.031E-02	1.100E-01	0.000E+00	NOT IDENT.
TB-160	1.274E-01	1.214E-01	2.283E-01	0.000E+00	NOT IDENT.
HO-166M	2.013E-02	5.785E-02	1.001E-01	0.000E+00	FAIL ABUN
TM-171	1.420E+00	7.738E+00	1.434E+01	0.000E+00	NOT IDENT.
LU-176	-1.305E-02	1.812E-02	2.960E-02	0.000E+00	NOT IDENT.
LU-177	-2.897E-01	3.176E-01	5.381E-01	0.000E+00	NOT IDENT.
LU-177M	-1.381E-02	1.307E-01	2.173E-01	0.000E+00	NOT IDENT.
HF-181	1.467E-02	3.182E-02	5.759E-02	0.000E+00	NOT IDENT.
W-181	-7.104E-01	1.405E-01	1.732E-01	0.000E+00	NOT IDENT.
TA-182	1.102E-01	1.408E-01	2.616E-01	0.000E+00	NOT IDENT.
RE-183	-1.019E-02	7.880E-02	1.259E-01	0.000E+00	NOT IDENT.
RE-184	4.376E-02	1.565E-01	2.810E-01	0.000E+00	NOT IDENT.
OS-185	-2.155E-03	3.379E-02	5.689E-02	0.000E+00	NOT IDENT.
RE-188	7.318E-04	1.023E-01	1.757E-01	0.000E+00	NOT IDENT.
W-188	-1.559E+00	4.863E+00	8.268E+00	0.000E+00	NOT IDENT.

IR-192	-1.326E-03	2.373E-02	4.078E-02	0.000E+00	NOT IDENT.
AU-195	6.962E-02	1.320E-01	2.259E-01	0.000E+00	NOT IDENT.
TL-200	5.708E-02	3.285E+00	5.592E+00	0.000E+00	NOT IDENT.
TL-201	-8.328E-02	8.478E-01	1.435E+00	0.000E+00	NOT IDENT.
TL-202	3.040E-02	3.585E-02	6.717E-02	0.000E+00	NOT IDENT.
HG-203	2.285E-02	2.572E-02	4.750E-02	0.000E+00	NOT IDENT.
BI-207	3.183E-02	4.668E-02	8.417E-02	0.000E+00	NOT IDENT.
TL-207	-3.101E-01	5.051E-01	8.252E-01	0.000E+00	NOT IDENT.
PL-208	-1.324E-02	3.843E-02	6.231E-02	0.000E+00	NOT IDENT.
PO-209	5.557E+00	6.799E+00	1.255E+01	0.000E+00	NOT IDENT.
BI-210	-1.111E-01	3.987E-01	6.877E-01	0.000E+00	NOT IDENT.
PB-210	-1.111E-01	3.987E-01	6.877E-01	0.000E+00	NOT IDENT.
PO-210	-1.111E-01	3.987E-01	6.877E-01	0.000E+00	NOT IDENT.
BI-211	-2.221E-01	1.865E-01	2.882E-01	0.000E+00	NOT IDENT.
PB-211	6.386E-02	7.162E-01	1.213E+00	0.000E+00	NOT IDENT.
BI-212	-4.596E-02	2.377E-01	3.890E-01	0.000E+00	NOT IDENT.
PB-212	1.568E-02	7.779E-02	8.104E-02	0.000E+00	FAIL ABUN
PO-212	1.568E-02	7.779E-02	8.104E-02	0.000E+00	FAIL ABUN
BI-214	-3.077E-02	7.345E-02	1.228E-01	0.000E+00	NOT IDENT.
PB-214	-8.829E-02	6.627E-02	1.010E-01	0.000E+00	NOT IDENT.
PO-214	-8.829E-02	6.627E-02	1.010E-01	0.000E+00	NOT IDENT.
PO-215	-3.101E-01	5.051E-01	8.252E-01	0.000E+00	NOT IDENT.
PO-216	1.568E-02	7.779E-02	8.104E-02	0.000E+00	FAIL ABUN
PO-218	-8.829E-02	6.627E-02	1.010E-01	0.000E+00	NOT IDENT.
RN-219	-1.809E-01	3.129E-01	4.971E-01	0.000E+00	NOT IDENT.
RN-220	-8.398E+00	2.123E+01	3.523E+01	0.000E+00	NOT IDENT.
RA-223	-3.101E-01	5.051E-01	8.252E-01	0.000E+00	NOT IDENT.
RA-226	-3.077E-02	7.345E-02	1.228E-01	0.000E+00	NOT IDENT.
AC-227	-6.367E-02	2.624E-01	4.544E-01	0.000E+00	NOT IDENT.
TH-227	-6.367E-02	2.625E-01	4.544E-01	0.000E+00	FAIL ABUN
AC-228	-3.621E-03	1.296E-01	2.150E-01	0.000E+00	NOT IDENT.
RA-228	-3.621E-03	1.296E-01	2.150E-01	0.000E+00	NOT IDENT.
TH-228	1.580E-02	7.838E-02	8.165E-02	0.000E+00	FAIL ABUN
TH-229	-6.005E-01	3.266E-01	5.182E-01	0.000E+00	NOT IDENT.
TH-230	-3.077E-02	7.345E-02	1.228E-01	0.000E+00	NOT IDENT.
PA-231	-1.232E+00	1.105E+00	1.744E+00	0.000E+00	NOT IDENT.
TH-231	-3.101E-01	5.051E-01	8.252E-01	0.000E+00	NOT IDENT.
U-231	-1.078E-01	1.815E-01	2.770E-01	0.000E+00	FAIL ABUN
TH-232	-3.621E-03	1.296E-01	2.150E-01	0.000E+00	NOT IDENT.
PA-233	-1.573E-02	4.825E-02	8.136E-02	0.000E+00	NOT IDENT.
PA-234	-6.685E-03	2.453E-01	4.157E-01	0.000E+00	FAIL ABUN
PA-234M	-1.317E+00	4.631E+00	7.481E+00	0.000E+00	NOT IDENT.
TH-234	-2.391E-01	5.169E-01	1.032E+00	0.000E+00	FAIL ABUN
U-234	-3.077E-02	7.345E-02	1.228E-01	0.000E+00	NOT IDENT.
U-235	8.026E-02	1.592E-01	2.759E-01	0.000E+00	FAIL ABUN
NP-236	1.584E-02	5.527E-02	9.622E-02	0.000E+00	NOT IDENT.
NP-237	-1.155E-01	1.200E-01	1.761E-01	0.000E+00	NOT IDENT.
U-238	-2.391E-01	5.169E-01	1.032E+00	0.000E+00	FAIL ABUN
NP-239	-9.761E-03	1.157E-01	2.023E-01	0.000E+00	NOT IDENT.
AM-241	-1.460E-03	3.246E-02	5.992E-02	0.000E+00	NOT IDENT.
AM-243	-8.233E-03	1.965E-02	3.499E-02	0.000E+00	NOT IDENT.
CM-243	1.850E-02	5.304E-02	9.610E-02	0.000E+00	NOT IDENT.
AM-246	1.851E-02	1.197E-01	2.043E-01	0.000E+00	NOT IDENT.
CM-247	-2.958E-02	2.786E-02	4.204E-02	0.000E+00	NOT IDENT.
CF-249	4.121E-03	3.347E-02	5.714E-02	0.000E+00	NOT IDENT.
CF-251	5.706E-02	9.208E-02	1.620E-01	0.000E+00	NOT IDENT.
ANH-511	-8.430E-03	4.141E-02	7.842E-02	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021396.CNF;1
Sample date        : 25-JAN-2010 00:00:00 Acquisition date : 1-FEB-2010 13:34:23.
Sample ID          : G1202021396      Sample quantity   : 1.38120E+02 GRAM
Detector name      : GAM13             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.82  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity      : 5.00000
Batch ID           : 944038             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
RA-224	240.98	12	3.95*	4.698E+00	1.770E-01	1.770E-01	506.34

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202021396

Page : 2
Acquisition date : 1-FEB-2010 13:34:23

Total number of lines in spectrum 3
Number of unidentified lines 0
Number of lines tentatively identified by NID 3 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
RA-224	1.41E+10Y	1.00	1.770E-01	1.770E-01	8.962E-01	506.34	
Total Activity :			1.770E-01	1.770E-01			

Grand Total Activity : 1.770E-01 1.770E-01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Unidentified Energy Lines
Sample ID : G1202021396

Page : 3
Acquisition date : 1-FEB-2010 13:34:23

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	92.62	32	304	1.31	185.03	178	14	4.49E-03	****	7.18E+00	T

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021396.CNF;1 *
* Acquisition date   : 1-FEB-2010 13:34:23.  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 02:00:00.82             Half life ratio : 8.00000      *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-JAN-2010 00:00:00  Nuclide Library : SOLID          *
* Sample ID          : G1202021396           Analyst initials: MXR1          *
* Batch Number       : 944038                Sample Quantity : 1.38120E+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
RA-224	1.770E-01	8.962E-01	6.953E-01	5.489E-02	0.255

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	8.718E-02		2.516E-01	4.320E-01	3.248E-02	0.202
NA-22	-5.230E-03		3.211E-02	5.216E-02	2.944E-03	-0.100
NA-24	-6.600E-05		7.829E-05	Half-Life too short		
AL-26	6.693E-03		2.956E-02	5.126E-02	2.893E-03	0.131
K-40	4.759E-02		3.263E-01	5.470E-01	3.344E-02	0.087
TI-44	-1.251E-02		1.345E-02	2.133E-02	1.796E-03	-0.586
SC-46	1.489E-02		3.133E-02	5.461E-02	4.135E-03	0.273
V-48	-9.103E-03		4.828E-02	7.751E-02	5.483E-03	-0.117
CR-51	2.482E-01		2.446E-01	4.276E-01	3.328E-02	0.581
MN-52	-6.854E-02		9.134E-02	1.327E-01	7.625E-03	-0.517
MN-54	1.510E-02		3.322E-02	5.764E-02	4.523E-03	0.262

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-56	2.300E-02		3.619E-02	6.362E-02	4.959E-03	0.361
CO-57	-9.646E-03		1.569E-02	2.448E-02	3.097E-03	-0.394
CO-58	3.330E-03		3.395E-02	5.721E-02	4.557E-03	0.058
FE-59	3.511E-04		6.447E-02	1.047E-01	7.479E-03	0.003
CO-60	-1.103E-02		2.912E-02	4.513E-02	2.567E-03	-0.245
ZN-65	-3.912E-02		7.380E-02	1.115E-01	6.772E-03	-0.351
GE-68	1.422E-01		9.801E-01	1.624E+00	1.038E-01	0.088
AS-73	-3.119E-02		1.415E-01	2.199E-01	1.858E-02	-0.142
AS-74	-1.765E-03		6.015E-02	9.841E-02	7.557E-03	-0.018
SE-75	9.898E-03		3.031E-02	5.138E-02	4.025E-03	0.193
BR-77	7.936E-02		8.859E-01	1.483E+00	1.048E-01	0.054
SR-82	3.651E-02		2.577E-01	4.380E-01	3.525E-02	0.083
RB-83	-1.558E-03		5.068E-02	8.387E-02	5.922E-03	-0.019
RB-84	-8.299E-04		5.844E-02	9.669E-02	7.365E-03	-0.009
KR-85	-1.471E+01		8.078E+00	1.177E+01	8.245E-01	-1.250
SR-85	-6.968E-02		3.826E-02	5.574E-02	3.905E-03	-1.250
RB-86	-4.130E-01		4.929E-01	7.068E-01	4.522E-02	-0.584
Y-88	-2.023E-02		2.694E-02	3.582E-02	2.017E-03	-0.565
ZR-88	-5.419E-04		2.475E-02	3.970E-02	2.325E-03	-0.014
Y-91	-9.985E+00		1.269E+01	1.907E+01	1.057E+00	-0.524
NB-94	5.550E-03		3.240E-02	5.319E-02	4.341E-03	0.104
NB-95	9.359E-03		3.319E-02	5.710E-02	4.611E-03	0.164
NB-95M	-2.103E-02		9.012E-02	1.302E-01	1.204E-02	-0.162
ZR-95	1.358E-03		6.070E-02	9.765E-02	8.809E-03	0.014
NB-97	4.219E-06		2.827E-05	Half-Life too short		
ZR-97	-2.992E-03		6.081E-04	Half-Life too short		
MO-99	5.930E-01		1.605E+00	2.678E+00	3.992E-01	0.221
TC-99M	-2.189E+01		1.185E+01	Half-Life too short		
RH-101	1.115E-02		2.491E-02	4.060E-02	3.215E-03	0.275
RH-102	-1.489E-02		2.527E-02	4.023E-02	2.677E-03	-0.370
RU-103	-1.501E-02		3.166E-02	5.059E-02	6.659E-03	-0.297
RH-106	1.060E-01		2.869E-01	4.844E-01	6.244E-02	0.219
RU-106	1.060E-01		2.867E-01	4.844E-01	3.815E-02	0.219
AG-108M	-9.708E-03		2.676E-02	4.380E-02	2.946E-03	-0.222
CD-109	2.494E-01		3.883E-01	6.060E-01	4.782E-02	0.411
AG-110M	-9.451E-04		3.382E-02	5.485E-02	4.608E-03	-0.017
IN-111	7.438E-02		1.109E-01	1.931E-01	1.522E-02	0.385
IN-113M	5.820E-03		3.566E-02	5.809E-02	3.619E-03	0.100
SN-113	5.820E-03		3.566E-02	5.809E-02	3.619E-03	0.100
IN-114M	1.608E-01		1.216E-01	1.910E-01	1.510E-02	0.842
CD-115	6.246E-02		8.553E-01	1.427E+00	1.017E-01	0.044
SN-117M	3.812E-03		2.581E-02	4.173E-02	3.644E-03	0.091
SB-122	-1.600E-01		2.604E-01	4.046E-01	3.005E-02	-0.395
I-123	-8.418E-05		1.415E-04	Half-Life too short		
TE-123M	-5.690E-03		1.912E-02	3.001E-02	2.620E-03	-0.190
I-124	1.589E-01		1.733E-01	3.050E-01	2.359E-02	0.521
SB-124	2.715E-02		6.958E-02	1.209E-01	7.531E-03	0.225
SB-125	-6.134E-04		7.119E-02	1.200E-01	7.721E-03	-0.005

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	7.265E-01		4.920E+00	8.154E+00	9.895E-01	0.089
I-126	-3.808E-02		1.036E-01	1.617E-01	1.319E-02	-0.236
SB-126	1.992E-02		9.020E-02	1.485E-01	1.211E-02	0.134
SN-126	-1.103E-03		4.005E-02	5.966E-02	4.719E-03	-0.018
SB-127	-1.026E-01		3.415E-01	5.369E-01	4.931E-02	-0.191
XE-127	9.531E-03		2.837E-02	4.884E-02	3.870E-03	0.195
I-131	1.897E-02		5.399E-02	8.955E-02	6.299E-03	0.212
TE-132	9.235E-02		9.680E-02	1.701E-01	2.423E-02	0.543
BA-133	-2.141E-02		4.368E-02	6.534E-02	7.845E-03	-0.328
I-133	5.001E-07		6.040E-06	Half-Life	too short	
CS-134	-1.007E-02		4.029E-02	6.573E-02	5.298E-03	-0.153
CS-135	3.462E-02		1.003E-01	1.703E-01	1.573E-02	0.203
I-135	-3.090E+00		1.140E+01	Half-Life	too short	
CS-136	3.151E-02		6.436E-02	1.109E-01	7.859E-03	0.284
BA-137M	8.673E-03		3.303E-02	5.498E-02	4.484E-03	0.158
CS-137	9.168E-03		3.491E-02	5.812E-02	4.750E-03	0.158
CE-139	-7.742E-03		2.000E-02	3.106E-02	2.435E-03	-0.249
BA-140	3.028E-02		1.531E-01	2.571E-01	8.434E-02	0.118
LA-140	-5.010E-03		5.248E-02	8.389E-02	4.834E-03	-0.060
CE-141	-1.151E-02		3.669E-02	5.793E-02	6.008E-03	-0.199
CE-143	8.809E-01		2.041E+00	3.449E+00	7.248E-01	0.255
CE-144	1.364E-02		1.275E-01	2.081E-01	3.607E-02	0.066
PM-144	-1.300E-03		3.181E-02	5.125E-02	4.184E-03	-0.025
PR-144	-8.773E-02		2.147E+00	3.459E+00	2.824E-01	-0.025
PM-146	1.371E-02		3.384E-02	5.867E-02	5.325E-03	0.234
ND-147	-9.793E-02		3.079E-01	4.955E-01	7.014E-02	-0.198
PM-149	1.004E-01		6.100E+00	1.007E+01	1.510E+00	0.010
EU-152	1.424E-02		7.894E-02	1.300E-01	9.744E-03	0.110
GD-153	1.724E-02		5.045E-02	7.336E-02	6.675E-03	0.235
EU-154	-1.586E-02		8.988E-02	1.457E-01	1.346E-02	-0.109
EU-155	3.055E-02		6.154E-02	1.042E-01	1.069E-02	0.293
TB-160	1.274E-01		1.239E-01	2.253E-01	1.718E-02	0.566
HO-166M	2.013E-02		5.903E-02	9.833E-02	8.021E-03	0.205
TM-171	1.420E+00		7.896E+00	1.347E+01	1.229E+00	0.105
LU-176	-1.305E-02		1.849E-02	2.860E-02	2.121E-03	-0.456
LU-177	-2.897E-01		3.241E-01	5.162E-01	4.093E-02	-0.561
LU-177M	-1.381E-02		1.333E-01	2.112E-01	1.281E-02	-0.065
HF-181	1.467E-02		3.247E-02	5.615E-02	3.772E-03	0.261
W-181	-7.104E-01		1.434E-01	1.626E-01	1.500E-02	-4.368
TA-182	1.102E-01		1.437E-01	2.599E-01	1.446E-02	0.424
RE-183	-1.019E-02		8.041E-02	1.202E-01	9.946E-03	-0.085
RE-184	4.376E-02		1.597E-01	2.706E-01	2.124E-02	0.162
OS-185	-2.155E-03		3.448E-02	5.579E-02	4.490E-03	-0.039
RE-188	7.318E-04		1.044E-01	1.676E-01	1.534E-02	0.004
W-188	-1.559E+00		4.962E+00	7.982E+00	6.057E-01	-0.195
IR-192	-1.326E-03		2.421E-02	3.944E-02	2.885E-03	-0.034
AU-195	6.962E-02		1.347E-01	2.137E-01	1.986E-02	0.326
TL-200	5.708E-02		3.352E+00	5.423E+00	3.470E-01	0.011

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-201	-8.328E-02		8.651E-01	1.371E+00	1.074E-01	-0.061
TL-202	3.040E-02		3.658E-02	6.537E-02	4.131E-03	0.465
HG-203	2.285E-02		2.624E-02	4.582E-02	3.648E-03	0.499
BI-207	3.183E-02		4.763E-02	8.337E-02	5.422E-03	0.382
TL-207	-3.101E-01		5.154E-01	7.983E-01	1.361E-01	-0.388
TL-208	-1.324E-02		3.921E-02	6.098E-02	5.048E-03	-0.217
PO-209	5.557E+00		6.938E+00	1.239E+01	9.325E-01	0.449
BI-210	-1.111E-01		4.068E-01	6.417E-01	5.230E-02	-0.173
PB-210	-1.111E-01		4.068E-01	6.417E-01	5.230E-02	-0.173
PO-210	-1.111E-01		4.068E-01	6.417E-01	4.575E-02	-0.173
BI-211	-2.221E-01		1.903E-01	2.792E-01	2.035E-02	-0.795
PB-211	6.386E-02		7.308E-01	1.179E+00	7.350E-01	0.054
BI-212	-4.596E-02		2.425E-01	3.823E-01	3.670E-02	-0.120
PB-212	1.568E-02	+	7.938E-02	7.794E-02	7.081E-03	0.201
PO-212	1.568E-02	+	7.938E-02	7.794E-02	7.081E-03	0.201
BI-214	-3.077E-02		7.495E-02	1.203E-01	1.125E-02	-0.256
PB-214	-8.829E-02		6.762E-02	9.791E-02	8.765E-03	-0.902
PO-214	-8.829E-02		6.762E-02	9.791E-02	8.765E-03	-0.902
PO-215	-3.101E-01		5.154E-01	7.983E-01	1.361E-01	-0.388
PO-216	1.568E-02	+	7.938E-02	7.794E-02	7.081E-03	0.201
PO-218	-8.829E-02		6.762E-02	9.791E-02	8.765E-03	-0.902
RN-219	-1.809E-01		3.193E-01	4.829E-01	6.601E-02	-0.375
RN-220	-8.398E+00		2.166E+01	3.444E+01	2.517E+00	-0.244
RA-223	-3.101E-01		5.154E-01	7.983E-01	1.361E-01	-0.388
RA-226	-3.077E-02		7.495E-02	1.203E-01	1.125E-02	-0.256
AC-227	-6.367E-02		2.678E-01	4.376E-01	6.530E-02	-0.145
TH-227	-6.367E-02		2.678E-01	4.376E-01	7.747E-02	-0.145
AC-228	-3.621E-03		1.322E-01	2.123E-01	2.204E-02	-0.017
RA-228	-3.621E-03		1.322E-01	2.123E-01	2.204E-02	-0.017
TH-228	1.580E-02	+	7.998E-02	7.854E-02	7.135E-03	0.201
TH-229	-6.005E-01		3.333E-01	4.964E-01	3.927E-02	-1.210
TH-230	-3.077E-02		7.495E-02	1.203E-01	1.125E-02	-0.256
PA-231	-1.232E+00		1.127E+00	1.683E+00	2.466E-01	-0.732
TH-231	-3.101E-01		5.154E-01	7.983E-01	1.361E-01	-0.388
U-231	-1.078E-01		1.852E-01	2.619E-01	2.330E-02	-0.412
TH-232	-3.621E-03		1.322E-01	2.123E-01	2.204E-02	-0.017
PA-233	-1.573E-02		4.924E-02	7.865E-02	6.007E-03	-0.200
PA-234	-6.685E-03		2.504E-01	4.108E-01	7.473E-02	-0.016
PA-234M	-1.317E+00		4.726E+00	7.400E+00	6.343E-01	-0.178
TH-234	-2.391E-01		5.275E-01	9.686E-01	1.777E-01	-0.247
U-234	-3.077E-02		7.495E-02	1.203E-01	1.125E-02	-0.256
U-235	8.026E-02		1.625E-01	2.628E-01	4.852E-02	0.305
NP-236	1.584E-02		5.640E-02	9.185E-02	7.827E-03	0.172
NP-237	-1.155E-01		1.224E-01	1.662E-01	3.677E-02	-0.695
U-238	-2.391E-01		5.275E-01	9.686E-01	1.777E-01	-0.247
NP-239	-9.761E-03		1.180E-01	1.920E-01	2.278E-02	-0.051
AM-241	-1.460E-03		3.312E-02	5.617E-02	5.712E-03	-0.026
AM-243	-8.233E-03		2.005E-02	3.294E-02	2.845E-03	-0.250

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.850E-02		5.412E-02	9.099E-02	9.060E-03	0.203
AM-246	1.851E-02		1.222E-01	2.024E-01	1.291E-02	0.091
CM-247	-2.958E-02		2.843E-02	4.084E-02	2.432E-03	-0.724
CF-249	4.121E-03		3.415E-02	5.547E-02	3.294E-03	0.074
CF-251	5.706E-02		9.396E-02	1.549E-01	1.219E-02	0.368
ANH-511	-8.430E-03		4.226E-02	7.654E-02	5.342E-03	-0.110

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]G1202021396          *
* Acquisition date   : 1-FEB-2010 13:34:23 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 02:00:00.82 Half life ratio : 8.000               *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202021396 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.3812E+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
RA-224	1.770E-01	8.783E-01	3.616E-01	4.481E-01

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	8.718E-02	2.466E-01	2.217E-01	1.258E-01	NOT IDENT.
NA-22	-5.230E-03	3.147E-02	2.625E-02	1.606E-02	NOT IDENT.
NA-24	-6.600E+01	1.534E+02	0.000E+00	7.829E+01	SHORT HLIF
AL-26	6.693E-03	2.897E-02	2.562E-02	1.478E-02	NOT IDENT.
K-40	4.759E-02	3.197E-01	2.745E-01	1.631E-01	NOT IDENT.
TI-44	-1.251E-02	1.318E-02	1.133E-02	6.724E-03	NOT IDENT.
SC-46	1.489E-02	3.071E-02	2.768E-02	1.567E-02	NOT IDENT.
V-48	-9.103E-03	4.731E-02	3.922E-02	2.414E-02	NOT IDENT.
CR-51	2.482E-01	2.397E-01	2.212E-01	1.223E-01	NOT IDENT.
MN-52	-6.854E-02	8.951E-02	6.662E-02	4.567E-02	NOT IDENT.
MN-54	1.510E-02	3.255E-02	2.926E-02	1.661E-02	NOT IDENT.
CO-56	2.300E-02	3.547E-02	3.229E-02	1.810E-02	NOT IDENT.
CO-57	-9.646E-03	1.538E-02	1.290E-02	7.845E-03	NOT IDENT.
CO-58	3.330E-03	3.327E-02	2.906E-02	1.697E-02	NOT IDENT.
FE-59	3.511E-04	6.318E-02	5.285E-02	3.224E-02	NOT IDENT.
CO-60	-1.103E-02	2.853E-02	2.269E-02	1.456E-02	NOT IDENT.
ZN-65	-3.912E-02	7.232E-02	5.629E-02	3.690E-02	NOT IDENT.
GE-68	1.422E-01	9.605E-01	8.203E-01	4.901E-01	NOT IDENT.
AS-73	-3.119E-02	1.386E-01	1.176E-01	7.073E-02	NOT IDENT.
AS-74	-1.765E-03	5.895E-02	5.029E-02	3.008E-02	NOT IDENT.
SE-75	9.898E-03	2.970E-02	2.667E-02	1.515E-02	NOT IDENT.
BR-77	7.936E-02	8.682E-01	7.599E-01	4.430E-01	FAIL ABUN
SR-82	3.651E-02	2.525E-01	2.227E-01	1.288E-01	NOT IDENT.
RB-83	-1.558E-03	4.967E-02	4.297E-02	2.534E-02	NOT IDENT.
RB-84	-8.299E-04	5.727E-02	4.903E-02	2.922E-02	NOT IDENT.
KR-85	-1.471E+01	7.917E+00	6.032E+00	4.039E+00	NOT IDENT.

SR-85	-6.968E-02	3.749E-02	2.857E-02	1.913E-02	NOT IDENT.
RB-86	-4.130E-01	4.830E-01	3.569E-01	2.464E-01	NOT IDENT.
Y-88	-2.023E-02	2.640E-02	1.789E-02	1.347E-02	NOT IDENT.
ZR-88	-5.419E-04	2.426E-02	2.045E-02	1.238E-02	NOT IDENT.
Y-91	-9.985E+00	1.243E+01	9.607E+00	6.343E+00	NOT IDENT.
NB-94	5.550E-03	3.175E-02	2.709E-02	1.620E-02	NOT IDENT.
NB-95	9.359E-03	3.252E-02	2.904E-02	1.659E-02	NOT IDENT.
NB-95M	-2.103E-02	8.832E-02	6.773E-02	4.506E-02	NOT IDENT.
ZR-95	1.358E-03	5.949E-02	4.967E-02	3.035E-02	NOT IDENT.
NB-97	4.219E+00	5.541E+01	0.000E+00	2.827E+01	SHORT HLIF
ZR-97	-2.992E+03	1.192E+03	0.000E+00	6.081E+02	SHORT HLIF
MO-99	5.930E-01	1.573E+00	1.363E+00	8.025E-01	NOT IDENT.
TC-99M	-2.189E+07	2.323E+07	0.000E+00	1.185E+07	SHORT HLIF
RH-101	1.115E-02	2.442E-02	2.119E-02	1.246E-02	NOT IDENT.
RH-102	-1.489E-02	2.477E-02	2.065E-02	1.264E-02	NOT IDENT.
RU-103	-1.501E-02	3.103E-02	2.594E-02	1.583E-02	NOT IDENT.
RH-106	1.060E-01	2.812E-01	2.473E-01	1.435E-01	NOT IDENT.
RU-106	1.060E-01	2.810E-01	2.473E-01	1.434E-01	NOT IDENT.
AG-108M	-9.708E-03	2.623E-02	2.252E-02	1.338E-02	NOT IDENT.
CD-109	2.494E-01	3.805E-01	3.211E-01	1.942E-01	NOT IDENT.
AG-110M	-9.451E-04	3.314E-02	2.797E-02	1.691E-02	NOT IDENT.
IN-111	7.438E-02	1.087E-01	1.004E-01	5.546E-02	NOT IDENT.
IN-113M	5.820E-03	3.495E-02	2.993E-02	1.783E-02	NOT IDENT.
SN-113	5.820E-03	3.495E-02	2.993E-02	1.783E-02	NOT IDENT.
IN-114M	1.608E-01	1.192E-01	9.980E-02	6.082E-02	NOT IDENT.
CD-115	6.246E-02	8.382E-01	7.311E-01	4.277E-01	NOT IDENT.
SN-117M	3.812E-03	2.529E-02	2.188E-02	1.290E-02	NOT IDENT.
SB-122	-1.600E-01	2.552E-01	2.070E-01	1.302E-01	NOT IDENT.
I-123	-8.418E+01	2.773E+02	0.000E+00	1.415E+02	SHORT HLIF
TE-123M	-5.690E-03	1.874E-02	1.573E-02	9.561E-03	NOT IDENT.
I-124	1.589E-01	1.698E-01	1.558E-01	8.664E-02	NOT IDENT.
SB-124	2.715E-02	6.819E-02	6.051E-02	3.479E-02	NOT IDENT.
SB-125	-6.134E-04	6.977E-02	6.171E-02	3.559E-02	NOT IDENT.
TE-125M	7.265E-01	4.822E+00	4.304E+00	2.460E+00	NOT IDENT.
I-126	-3.808E-02	1.015E-01	8.245E-02	5.180E-02	NOT IDENT.
SB-126	1.992E-02	8.839E-02	7.562E-02	4.510E-02	NOT IDENT.
SN-126	-1.103E-03	3.925E-02	3.162E-02	2.002E-02	NOT IDENT.
SB-127	-1.026E-01	3.346E-01	2.736E-01	1.707E-01	NOT IDENT.
XE-127	9.531E-03	2.780E-02	2.548E-02	1.419E-02	NOT IDENT.
I-131	1.897E-02	5.291E-02	4.620E-02	2.700E-02	NOT IDENT.
TE-132	9.235E-02	9.486E-02	8.855E-02	4.840E-02	NOT IDENT.
BA-133	-2.141E-02	4.281E-02	3.73E-02	2.184E-02	NOT IDENT.
I-133	5.001E-01	1.184E+01	0.000E+00	6.040E+00	SHORT HLIF
CS-134	-1.007E-02	3.948E-02	3.340E-02	2.015E-02	NOT IDENT.
CS-135	3.462E-02	9.825E-02	8.840E-02	5.013E-02	NOT IDENT.
I-135	-3.090E+06	2.234E+07	0.000E+00	1.140E+07	SHORT HLIF
CS-136	3.151E-02	6.307E-02	5.602E-02	3.218E-02	NOT IDENT.
BA-137M	8.673E-03	3.236E-02	2.804E-02	1.651E-02	NOT IDENT.
CS-137	9.168E-03	3.421E-02	2.964E-02	1.746E-02	NOT IDENT.
CE-139	-7.742E-03	1.960E-02	1.627E-02	9.998E-03	NOT IDENT.
BA-140	3.028E-02	1.500E-01	1.317E-01	7.654E-02	NOT IDENT.
LA-140	-5.010E-03	5.143E-02	4.203E-02	2.624E-02	NOT IDENT.
CE-141	-1.151E-02	3.596E-02	3.041E-02	1.835E-02	NOT IDENT.
CE-143	8.809E-01	2.001E+00	1.787E+00	1.021E+00	NOT IDENT.
CE-144	1.364E-02	1.250E-01	1.095E-01	6.377E-02	NOT IDENT.
PM-144	-1.300E-03	3.117E-02	2.611E-02	1.591E-02	NOT IDENT.
PR-144	-8.773E-02	2.104E+00	1.762E+00	1.074E+00	NOT IDENT.
PM-146	1.371E-02	3.316E-02	3.014E-02	1.692E-02	NOT IDENT.
ND-147	-9.793E-02	3.018E-01	2.538E-01	1.540E-01	NOT IDENT.
PM-149	1.004E-01	5.978E+00	5.220E+00	3.050E+00	NOT IDENT.
EU-152	1.424E-02	7.736E-02	6.715E-02	3.947E-02	NOT IDENT.
GD-153	1.724E-02	4.944E-02	3.880E-02	2.523E-02	NOT IDENT.
EU-154	-1.586E-02	8.808E-02	7.331E-02	4.494E-02	NOT IDENT.
EU-155	3.055E-02	6.031E-02	5.504E-02	3.077E-02	NOT IDENT.
TB-160	1.274E-01	1.214E-01	1.142E-01	6.196E-02	NOT IDENT.
HO-166M	2.013E-02	5.785E-02	5.007E-02	2.951E-02	FAIL ABUN
TM-171	1.420E+00	7.738E+00	7.173E+00	3.948E+00	NOT IDENT.
LU-176	-1.305E-02	1.812E-02	1.481E-02	9.244E-03	NOT IDENT.
LU-177	-2.897E-01	3.176E-01	2.692E-01	1.620E-01	NOT IDENT.
LU-177M	-1.381E-02	1.307E-01	1.087E-01	6.667E-02	NOT IDENT.
HF-181	1.467E-02	3.182E-02	2.881E-02	1.624E-02	NOT IDENT.
W-181	-7.104E-01	1.405E-01	8.665E-02	7.169E-02	NOT IDENT.
TA-182	1.102E-01	1.408E-01	1.309E-01	7.184E-02	NOT IDENT.
RE-183	-1.019E-02	7.880E-02	6.297E-02	4.020E-02	NOT IDENT.
RE-184	4.376E-02	1.565E-01	1.406E-01	7.983E-02	NOT IDENT.
OS-185	-2.155E-03	3.379E-02	2.846E-02	1.724E-02	NOT IDENT.
RE-188	7.318E-04	1.023E-01	8.789E-02	5.222E-02	NOT IDENT.
W-188	-1.559E+00	4.863E+00	4.137E+00	2.481E+00	NOT IDENT.

IR-192	-1.326E-03	2.373E-02	2.040E-02	1.211E-02	NOT IDENT.
AU-195	6.962E-02	1.320E-01	1.130E-01	6.737E-02	NOT IDENT.
TL-200	5.708E-02	3.285E+00	2.798E+00	1.676E+00	NOT IDENT.
TL-201	-8.328E-02	8.478E-01	7.178E-01	4.325E-01	NOT IDENT.
TL-202	3.040E-02	3.585E-02	3.361E-02	1.829E-02	NOT IDENT.
HG-203	2.285E-02	2.572E-02	2.376E-02	1.312E-02	NOT IDENT.
BI-207	3.183E-02	4.668E-02	4.211E-02	2.382E-02	NOT IDENT.
TL-207	-3.101E-01	5.051E-01	4.128E-01	2.577E-01	NOT IDENT.
TL-208	-1.324E-02	3.843E-02	3.118E-02	1.961E-02	NOT IDENT.
PO-209	5.557E+00	6.799E+00	6.278E+00	3.469E+00	NOT IDENT.
BI-210	-1.111E-01	3.987E-01	3.440E-01	2.034E-01	NOT IDENT.
PB-210	-1.111E-01	3.987E-01	3.440E-01	2.034E-01	NOT IDENT.
PO-210	-1.111E-01	3.987E-01	3.440E-01	2.034E-01	NOT IDENT.
BI-211	-2.221E-01	1.865E-01	1.442E-01	9.517E-02	NOT IDENT.
PB-211	6.386E-02	7.162E-01	6.069E-01	3.654E-01	NOT IDENT.
BI-212	-4.596E-02	2.377E-01	1.946E-01	1.213E-01	NOT IDENT.
PB-212	1.568E-02	7.779E-02	4.054E-02	3.969E-02	FAIL ABUN
PO-212	1.568E-02	7.779E-02	4.054E-02	3.969E-02	FAIL ABUN
BI-214	-3.077E-02	7.345E-02	6.146E-02	3.748E-02	NOT IDENT.
PB-214	-8.829E-02	6.627E-02	5.055E-02	3.381E-02	NOT IDENT.
PO-214	-8.829E-02	6.627E-02	5.055E-02	3.381E-02	NOT IDENT.
PO-215	-3.101E-01	5.051E-01	4.128E-01	2.577E-01	NOT IDENT.
PO-216	1.568E-02	7.779E-02	4.054E-02	3.969E-02	FAIL ABUN
PO-218	-8.829E-02	6.627E-02	5.055E-02	3.381E-02	NOT IDENT.
RN-219	-1.809E-01	3.129E-01	2.487E-01	1.597E-01	NOT IDENT.
RN-220	-8.398E+00	2.123E+01	1.762E+01	1.083E+01	NOT IDENT.
RA-223	-3.101E-01	5.051E-01	4.128E-01	2.577E-01	NOT IDENT.
RA-226	-3.077E-02	7.345E-02	6.146E-02	3.748E-02	NOT IDENT.
AC-227	-6.367E-02	2.624E-01	2.273E-01	1.339E-01	NOT IDENT.
TH-227	-6.367E-02	2.625E-01	2.273E-01	1.339E-01	FAIL ABUN
AC-228	-3.621E-03	1.296E-01	1.076E-01	6.612E-02	NOT IDENT.
RA-228	-3.621E-03	1.296E-01	1.076E-01	6.612E-02	NOT IDENT.
TH-228	1.580E-02	7.838E-02	4.085E-02	3.999E-02	FAIL ABUN
TH-229	-6.005E-01	3.266E-01	2.592E-01	1.666E-01	NOT IDENT.
TH-230	-3.077E-02	7.345E-02	6.146E-02	3.747E-02	NOT IDENT.
PA-231	-1.232E+00	1.105E+00	8.724E-01	5.637E-01	NOT IDENT.
TH-231	-3.101E-01	5.051E-01	4.128E-01	2.577E-01	NOT IDENT.
U-231	-1.078E-01	1.815E-01	1.386E-01	9.258E-02	FAIL ABUN
TH-232	-3.621E-03	1.296E-01	1.076E-01	6.612E-02	NOT IDENT.
PA-233	-1.573E-02	4.825E-02	4.070E-02	2.462E-02	NOT IDENT.
PA-234	-6.685E-03	2.453E-01	2.080E-01	1.252E-01	FAIL ABUN
PA-234M	-1.317E+00	4.631E+00	3.743E+00	2.363E+00	NOT IDENT.
TH-234	-2.391E-01	5.169E-01	5.164E-01	2.637E-01	FAIL ABUN
U-234	-3.077E-02	7.345E-02	6.146E-02	3.747E-02	NOT IDENT.
U-235	8.026E-02	1.592E-01	1.380E-01	8.124E-02	FAIL ABUN
NP-236	1.584E-02	5.527E-02	4.814E-02	2.820E-02	NOT IDENT.
NP-237	-1.155E-01	1.200E-01	8.812E-02	6.121E-02	NOT IDENT.
U-238	-2.391E-01	5.169E-01	5.164E-01	2.637E-01	FAIL ABUN
NP-239	-9.761E-03	1.157E-01	1.012E-01	5.901E-02	NOT IDENT.
AM-241	-1.460E-03	3.246E-02	2.998E-02	1.656E-02	NOT IDENT.
AM-243	-8.233E-03	1.965E-02	1.751E-02	1.002E-02	NOT IDENT.
CM-243	1.850E-02	5.304E-02	4.808E-02	2.706E-02	NOT IDENT.
AM-246	1.851E-02	1.197E-01	1.022E-01	6.108E-02	NOT IDENT.
CM-247	-2.958E-02	2.786E-02	2.103E-02	1.422E-02	NOT IDENT.
CF-249	4.121E-03	3.347E-02	2.859E-02	1.708E-02	NOT IDENT.
CF-251	5.706E-02	9.208E-02	8.106E-02	4.698E-02	NOT IDENT.
ANH-511	-8.430E-03	4.141E-02	3.923E-02	2.113E-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	134.0516
46.50	134.0516
46.50	134.0516
48.70	193.7711
49.72	140.0709
51.35	151.9766
52.39	126.3250
52.97	128.3133
53.15	136.0571
53.44	136.2113
54.07	151.0529
56.28	143.7233
56.28	143.7250
57.37	134.8056
57.53	134.8853
57.53	134.8865
57.60	140.1095
57.98	142.9043
57.98	142.9043
59.32	140.1237
59.32	140.1237
59.40	140.1642
59.54	140.2350
59.72	216.1549
60.01	216.3806
61.10	348.6083
61.14	348.6579
61.30	339.2136
63.00	141.9627
63.29	138.5746
63.29	138.5746
63.58	147.5488
64.28	220.5270
65.12	347.2798
65.20	413.1171
65.20	413.1171
66.05	347.4786
66.72	146.4454
66.83	146.5004
66.91	146.5388
67.20	160.0956
67.20	160.0956
67.75	147.8419
67.85	147.8914
68.90	142.1042
68.90	142.1042
69.30	159.3988
69.67	156.8861
70.82	149.3198
70.82	149.3198
70.83	149.3248
72.80	162.0938
72.87	162.1291
72.87	162.1291
74.67	174.9415
74.81	183.2631
74.81	183.2631
74.81	183.2631
74.81	183.2631
74.81	183.2631
74.81	183.2631
74.81	183.2631
74.97	183.3537
75.28	159.6682
75.70	152.5221
77.11	160.5540
77.11	160.5540

77.11	160.5540
77.11	160.5540
77.11	160.5540
77.11	160.5540
77.11	160.5540
78.38	178.7602
79.62	188.7100
79.80	172.0675
79.80	172.0675
80.11	166.6371
80.18	166.6717
80.30	159.2775
80.30	159.2775
80.57	155.6740
81.00	154.9343
81.07	154.9660
81.07	154.9660
81.07	154.9660
81.07	154.9660
82.60	155.6478
83.37	168.2022
83.78	160.8726
83.78	160.8726
83.78	160.8726
83.78	160.8726
84.21	177.0800
84.90	172.7036
85.43	172.0135
86.29	176.2132
86.50	183.4248
86.54	183.4445
86.59	183.4701
86.72	183.5351
86.79	186.4155
86.94	170.8337
87.30	145.3519
87.30	145.3519
87.30	145.3519
87.30	145.3519
87.30	145.3519
87.30	145.3519
87.57	161.1460
87.88	138.4458
88.03	138.5021
88.36	130.0516
88.47	130.0905
89.95	177.9728
91.11	151.6489
92.29	152.1215
92.38	152.1576
92.38	152.1576
93.35	152.5434
94.00	152.8005
94.67	132.2351
94.67	132.2372
94.90	132.3149
94.90	132.3149
94.90	132.3149
94.90	132.3149
95.87	161.7965
95.87	161.7965
96.73	154.8481
97.43	124.3892
98.44	112.6746
98.44	112.6746
98.88	120.4362
99.55	133.3873
99.55	133.3873
99.86	141.3420
100.00	149.2462
100.10	149.2841
103.18	134.5771
103.76	123.8651
105.00	125.2278
105.31	125.3200
108.00	122.1129
109.28	128.5000

111.00	130.0170
111.00	130.0170
111.76	137.3094
112.95	114.3961
115.19	157.7041
116.30	131.5733
117.00	133.8191
117.00	133.8191
117.66	128.8980
121.11	145.3238
121.62	146.5141
121.78	146.5639
122.06	138.3893
122.32	132.2656
122.32	132.2656
122.32	132.2656
122.32	132.2656
123.07	113.8465
127.23	148.2471
129.76	142.7195
131.20	141.0310
133.02	117.2510
133.54	124.7736
135.34	139.0143
136.00	133.8814
136.25	133.9468
136.48	131.8799
140.51	174.7130
140.51	0.0000
142.18	158.0642
142.65	144.2139
143.76	127.2608
144.24	127.3748
144.24	127.3748
144.24	127.3748
144.24	127.3748
145.22	142.7476
145.44	150.3797
147.16	144.3472
152.43	116.1521
152.70	123.8823
153.22	117.4133
154.21	126.4141
154.21	126.4141
154.21	126.4141
154.21	126.4141
155.03	125.4981
156.02	127.9229
158.56	130.7094
159.00	0.0000
159.00	141.8945
160.31	134.4387
161.27	131.3228
162.32	131.5592
162.64	127.1692
163.35	130.6729
163.89	137.5004
165.85	137.9558
167.43	129.3247
171.28	133.5458
171.86	148.3998
172.10	151.8569
176.55	130.1240
176.60	131.2760
181.06	127.6087
184.41	102.2741
185.71	113.4800
186.00	113.5308
190.27	92.6999
192.34	109.6563
193.63	149.4205
197.04	122.7905
198.01	115.8873
198.60	115.1019
200.40	148.2489
201.83	151.2247
202.84	131.8452
205.31	124.2656

208.36	139.1679
208.81	124.8807
209.75	109.7518
209.75	109.7518
210.97	110.8400
215.65	115.1848
216.55	113.5101
218.09	79.1690
222.10	106.1295
223.80	110.0372
226.40	117.7773
227.00	97.6112
227.08	97.6217
227.20	102.2417
228.16	101.4482
228.18	104.2176
228.18	104.2176
231.56	129.6873
235.69	135.5913
236.00	135.6447
236.00	135.6447
238.63	118.7108
238.63	118.7108
238.63	118.7108
238.63	118.7108
239.00	118.7660
240.98	103.4996
241.98	99.1233
241.98	99.1233
241.98	99.1233
244.69	90.4160
245.39	87.6657
247.94	104.0163
248.90	92.7775
249.79	102.3549
252.40	99.8266
252.85	97.0273
252.85	97.0273
254.15	0.0000
256.20	102.1921
256.20	102.1921
260.50	96.9545
260.90	93.1577
262.80	97.2150
264.65	94.5308
268.24	78.4564
268.79	87.2301
269.46	105.7251
269.46	105.7251
269.46	105.7251
269.46	105.7251
271.23	101.0801
273.65	84.7897
276.40	118.2896
277.35	108.6288
277.60	110.6171
277.60	110.6171
278.00	103.8116
278.60	102.9012
279.20	86.2987
279.53	87.3106
280.46	82.4914
281.68	90.4684
283.67	108.4071
284.30	108.4810
285.00	100.6693
285.90	87.9244
286.10	87.9435
286.10	87.9435
287.40	88.0684
288.45	0.0000
290.67	99.3027
290.80	98.3240
291.72	121.2870
293.26	88.6252
293.70	87.6710
295.21	96.7928
295.21	96.7928

295.21	96.7928
295.96	93.8738
296.50	99.9222
297.23	98.0000
298.57	108.1533
299.80	94.2539
299.80	94.2539
300.09	89.2675
300.09	89.2675
300.09	89.2675
300.09	89.2675
300.12	89.2702
301.29	87.3717
302.84	89.5242
303.76	83.5686
303.91	82.5743
304.40	85.6394
304.40	85.6394
304.84	88.7023
306.84	96.9668
308.46	90.0457
311.98	94.4304
316.51	85.6829
318.01	104.1992
319.02	92.0338
319.41	87.9776
320.08	79.8460
323.87	100.6976
323.87	100.6976
323.87	100.6976
323.87	100.6976
325.23	103.9189
328.77	89.8236
333.44	91.2670
334.20	95.4857
334.20	95.4857
334.30	95.4955
338.28	88.5641
338.28	88.5641
338.28	88.5641
338.28	88.5641
338.32	88.5680
338.32	88.5680
338.32	88.5680
340.50	98.1481
340.57	98.1552
344.27	89.0661
345.85	94.4453
350.59	87.4833
351.07	101.2295
351.92	107.6404
351.92	107.6404
351.92	107.6404
355.39	0.0000
356.01	104.8672
364.48	92.8623
366.43	96.2320
367.43	92.0364
367.94	97.4318
369.80	97.5914
374.96	81.8749
383.85	68.3939
387.95	83.8851
388.63	77.3930
391.69	78.6863
391.69	78.6863
392.90	84.2364
398.62	57.1591
400.65	69.3658
401.10	74.8995
401.81	73.8415
402.60	78.3009
404.84	68.5012
410.95	72.1738
411.60	81.0991
413.65	67.8794
414.70	71.2783
415.30	69.0840

415.76	67.9949
417.63	0.0000
418.52	81.5502
423.70	75.1552
427.08	70.8567
427.89	67.5247
432.53	69.5763
433.93	76.8881
439.47	56.3230
439.56	59.9607
439.89	59.9760
443.98	63.8092
444.90	61.1171
445.03	63.8596
445.03	63.8596
445.03	63.8596
445.03	63.8596
453.90	57.8574
463.38	40.6919
468.07	62.1754
473.00	60.5344
475.06	80.2103
475.35	78.3604
476.78	64.4340
477.59	67.2741
477.96	65.4225
482.03	64.6749
484.57	69.4861
487.03	77.1312
490.36	59.3970
492.35	62.3117
497.08	76.7246
507.63	0.0000
510.53	0.0000
510.84	63.1052
511.00	60.2434
511.85	78.4575
511.85	78.4575
513.99	162.8893
513.99	162.8893
520.41	51.9631
520.65	49.0838
527.90	56.0884
528.96	0.0000
529.64	60.9928
529.87	0.0000
531.02	67.8313
537.32	62.2719
543.00	61.5219
546.56	0.0000
549.76	58.8457
552.65	56.9875
555.20	53.1431
563.23	66.2688
563.90	69.2634
568.70	64.5081
569.32	65.5247
569.50	65.5327
569.67	65.5392
573.80	71.6783
574.00	71.6871
574.64	58.7667
578.91	77.8934
579.30	70.9203
583.14	60.0718
585.48	76.1967
591.81	58.3710
592.07	58.3795
593.00	62.4405
595.88	59.5214
600.56	69.8019
602.52	0.0000
602.71	56.7219
602.71	56.7219
603.60	73.9802
604.41	84.1530
604.70	91.2656
609.31	76.2598

609.31	76.2598
609.31	76.2598
609.31	76.2598
610.33	63.0792
612.46	82.5108
614.37	68.3250
618.01	64.3797
621.84	54.2797
621.84	54.2797
631.29	51.4819
633.02	53.5933
633.10	53.5958
634.78	61.8999
635.90	45.4223
636.97	42.3503
645.85	51.9019
646.12	48.7946
656.30	51.1557
657.75	66.8688
657.90	0.0000
661.65	56.5405
661.65	56.5405
664.57	59.7749
666.33	54.5835
666.33	54.5835
675.00	65.3831
677.61	55.9683
685.20	63.6152
692.80	60.6752
695.00	60.7434
696.49	59.7242
696.49	59.7242
697.00	67.2082
697.49	71.4934
698.33	59.7816
698.50	61.9209
699.00	59.8021
702.63	60.9842
706.10	67.5235
706.58	0.0000
706.67	69.6862
709.31	59.0444
711.68	55.8924
713.82	65.6361
717.42	54.9769
720.50	55.0616
721.93	54.0210
722.20	47.5449
722.78	45.3971
722.78	45.3971
722.89	48.6420
722.95	48.6442
723.30	45.4084
724.18	47.5922
727.18	47.6631
733.00	55.4065
735.90	45.6945
739.58	45.7765
742.81	48.0326
744.21	41.5115
747.13	53.6033
751.79	42.7610
752.31	41.6748
753.82	47.1929
755.35	47.2276
756.15	49.4440
756.87	43.9648
763.93	56.0619
765.79	48.7526
766.42	45.0871
766.84	45.0961
776.49	41.6043
778.00	47.1848
778.57	45.3463
778.89	49.0556
783.80	52.8797
785.46	56.6340
792.07	53.0838

795.84	51.3107
796.30	53.1870
798.80	58.8536
801.93	43.0342
805.60	42.1692
810.29	52.5900
810.76	47.9048
815.85	43.3075
817.79	52.7689
818.51	55.6138
819.60	52.8110
826.30	56.7542
828.27	42.6022
831.60	55.9391
831.96	53.1038
834.83	45.5752
836.80	0.0000
846.75	45.8145
848.13	46.7978
856.28	0.0000
856.80	46.0156
860.37	31.6841
867.32	41.4087
867.82	39.4919
871.10	38.5824
873.19	38.6165
874.81	41.5416
875.33	0.0000
876.40	48.3368
879.36	35.8144
880.27	43.5745
880.51	43.5791
881.50	48.4406
883.24	51.3847
884.67	52.3861
889.25	32.0755
896.60	36.0741
898.02	41.9484
899.00	42.9410
903.28	43.0171
911.07	40.2134
911.07	40.2134
911.07	40.2134
919.63	51.1801
920.93	42.3447
925.00	42.4147
925.24	41.4326
926.50	39.4792
935.52	31.6986
937.48	36.6801
944.10	28.8254
946.00	33.8201
949.00	47.8037
962.29	47.0526
964.01	47.0841
966.15	33.0866
968.20	33.1128
969.11	36.1362
969.11	36.1362
969.11	36.1362
977.42	42.2948
980.50	32.2624
983.50	43.4033
989.30	40.4647
996.32	41.5872
1001.03	34.5479
1001.68	31.5077
1004.76	37.6496
1021.30	0.0000
1024.50	0.0000
1034.80	41.1589
1036.00	39.1179
1037.82	42.2345
1038.57	45.3374
1038.76	0.0000
1045.16	30.9863
1046.59	31.0022
1048.07	32.0533

1050.47	42.4297
1050.47	42.4297
1062.04	41.5674
1063.62	32.2324
1076.63	37.6055
1077.35	28.2107
1078.86	32.4077
1085.78	32.4872
1099.22	29.4811
1112.02	39.1303
1112.84	34.9094
1115.52	41.2947
1120.29	32.8782
1120.29	32.8782
1120.29	32.8782
1120.29	32.8782
1120.51	30.7594
1121.28	29.7067
1124.00	0.0000
1129.67	36.1748
1131.51	0.0000
1147.95	0.0000
1167.94	31.2526
1173.22	34.5456
1175.09	25.9248
1177.93	30.2741
1189.05	33.4838
1204.90	37.3954
1205.75	36.4700
1213.00	32.8052
1221.42	28.1941
1230.97	37.7065
1235.34	34.9262
1236.41	0.0000
1238.25	24.5654
1246.25	28.4148
1260.41	0.0000
1271.85	29.5944
1274.45	24.8411
1274.54	24.8420
1291.56	25.9312
1298.22	0.0000
1312.09	19.3262
1325.50	14.5522
1325.50	14.5522
1332.49	20.4155
1333.61	21.3946
1360.21	12.7402
1362.66	0.0000
1365.15	18.6468
1368.21	22.5917
1368.53	0.0000
1376.25	24.6129
1384.27	16.7753
1394.10	20.7795
1395.20	20.7861
1407.95	26.8211
1434.06	29.0162
1436.60	21.0264
1457.56	0.0000
1460.81	21.1655
1489.15	23.3578
1509.49	24.5047
1596.49	17.7477
1620.62	18.9040
1678.03	0.0000
1691.02	11.7504
1691.02	11.7504
1706.46	0.0000
1750.46	0.0000
1764.49	13.3113
1764.49	13.3113
1764.49	13.3113
1764.49	13.3113
1770.23	14.2804
1771.40	12.3799
1791.20	0.0000
1808.65	10.5633

1836.01

11.5935

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202021396

Total Uranium Activity	-6.7421E-01	ug/g
Total Uranium Counting Unc.	1.5397E+00	ug/g
Total Uranium Tpu	7.8555E-07	ug/g
Total Uranium Mda	1.5376E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G1202021396
*  ANALYST       : MXR1                             DETECTOR    : GAM13
*  SAMPLE DATE   : 25-JAN-2010 00:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE: 1-FEB-2010 13:34:23.20            SAMPLE ALQT: 138.120 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.939E-02
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.610E-01
GROSS GAMMA MDA      (pCi/GRAM ) : 8.190E-02
GROSS GAMMA DLC       (pCi/GRAM ) : 3.901E-02

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VAX/VMS Nuclide Identification Report Generated 1-FEB-2010 15:48:09.51

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021397.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:47:32.
Sample ID          : G1202021397      Sample quantity   : 1.24440E+02 GRAM
Detector name      : GAM17             Detector geometry: CAN
Elapsed live time   : 0 02:00:00.00     Elapsed real time: 0 02:00:09.58 0.1%
Energy tolerance    : 1.50000 keV       Analyst Initials : MXR1
Abundance limit     : 75.00000          Sensitivity       : 5.00000
Batch ID           : 944038             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	46.51*	83	447	0.93	92.65	88	11	1.15E-02	52.5	
2	0	63.25*	129	474	1.04	126.14	122	8	1.79E-02	31.5	
3	3	74.84*	519	399	0.84	149.33	146	12	7.20E-02	7.3	2.11E+00
4	3	77.08*	795	345	0.87	153.81	146	12	1.10E-01	5.1	
5	0	83.98*	108	316	1.40	167.62	165	7	1.49E-02	29.7	
6	4	87.30*	340	289	1.22	174.26	171	21	4.73E-02	9.9	2.23E+00
7	4	89.88	191	239	1.04	179.42	171	21	2.66E-02	14.9	
8	4	92.79*	260	305	1.30	185.23	171	21	3.61E-02	14.2	
9	0	129.31*	79	311	1.17	258.32	254	9	1.10E-02	41.9	
10	0	185.95*	155	291	1.20	371.64	366	12	2.16E-02	24.2	
11	0	208.90	135	220	1.19	417.55	413	11	1.87E-02	22.9	
12	5	238.50*	952	108	0.98	476.78	472	15	1.32E-01	3.8	3.08E+00
13	5	241.30	222	159	1.82	482.38	472	15	3.08E-02	13.6	
14	0	269.97	95	155	1.38	539.74	536	10	1.32E-02	26.4	
15	0	277.01	29	128	1.25	553.82	551	8	4.06E-03	69.1	
16	0	295.12*	259	133	1.19	590.06	586	9	3.59E-02	10.5	
17	0	299.70*	56	100	1.11	599.23	596	7	7.82E-03	33.1	
18	0	327.84*	31	116	0.94	655.54	652	8	4.33E-03	64.3	
19	0	337.97*	179	127	1.42	675.79	671	10	2.48E-02	14.4	
20	0	351.67*	545	102	1.06	703.20	698	11	7.57E-02	5.7	
21	0	410.11	32	111	1.16	820.14	814	11	4.41E-03	67.1	
22	0	462.89	47	81	1.15	925.76	921	12	6.47E-03	41.4	
23	0	510.79*	69	101	2.14	1021.61	1015	14	9.63E-03	38.8	
24	0	582.79*	256	95	1.38	1165.69	1160	14	3.55E-02	10.5	
25	0	608.89*	376	55	1.47	1217.92	1212	13	5.23E-02	6.8	
26	0	726.91	59	41	0.75	1454.09	1450	9	8.19E-03	23.4	
27	0	767.67	45	20	1.45	1535.66	1532	8	6.32E-03	22.5	
28	0	794.59	41	43	1.56	1589.52	1585	10	5.65E-03	34.5	
29	0	859.84*	41	42	0.87	1720.12	1715	11	5.67E-03	35.2	
30	0	910.41*	200	45	1.56	1821.32	1814	16	2.77E-02	10.4	
31	0	934.08	29	37	1.79	1868.69	1863	10	3.97E-03	45.0	
32	0	968.13*	97	52	1.34	1936.84	1932	12	1.35E-02	18.6	
33	0	1119.24	79	42	1.25	2239.29	2233	14	1.10E-02	20.7	
34	0	1459.47*	614	14	1.90	2920.30	2911	19	8.53E-02	4.3	
35	0	1508.29	16	10	2.14	3018.04	3009	14	2.20E-03	49.9	
36	0	1580.22	8	6	0.57	3162.02	3158	6	1.12E-03	59.4	
37	0	1586.98	16	17	5.06	3175.56	3165	14	2.23E-03	60.6	
38	0	1590.68	18	5	0.93	3182.96	3179	9	2.50E-03	32.0	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1729.61	7	8	1.06	3461.09	3455	8	1.02E-03	75.9	
40	0	1763.07*	64	4	2.23	3528.08	3520	15	8.84E-03	14.5	

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

VMS Nuclide Identification Report V3.1 Generated 1-FEB-2010 15:48:12

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021397.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:47:32
Sample ID        : G1202021397 Sample quantity : 124.44 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA17 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:09.58 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	2.230E+01	2.761E+00	5.722E-01	5.081E-02	38.975
CD-109	+	88.03	*	4.255E+00	9.372E-01	8.516E-01	8.313E-02	4.996
SN-126	+	64.28		5.988E-01	3.889E-01	3.974E-01	6.344E-02	1.507
	+	86.94		1.728E+00	7.960E-01	3.525E-01	1.467E-01	4.904
	+	87.57	*	4.157E-01	9.158E-02	8.309E-02	8.108E-03	5.003
TL-208	+	277.35		3.634E-01	5.045E-01	5.933E-01	7.553E-02	0.613
	+	510.84		4.706E-01	3.695E-01	2.701E-01	3.299E-02	1.742
	+	583.14	*	5.058E-01	1.163E-01	6.993E-02	6.614E-03	7.234
	+	860.37		7.925E-01	5.634E-01	5.605E-01	5.273E-02	1.414
BI-210	+	46.50	*	9.770E-01	1.031E+00	7.936E-01	8.609E-02	1.231
PB-210	+	46.50	*	9.770E-01	1.031E+00	7.936E-01	8.609E-02	1.231
PO-210	+	46.50	*	9.770E-01	1.031E+00	7.936E-01	8.017E-02	1.231
BI-211		72.87		1.430E+00	2.226E+00	3.469E+00	3.392E-01	0.412
	+	351.07	*	4.369E+00	6.418E-01	3.211E-01	2.996E-02	13.605
PB-212	+	74.81		2.152E+00	4.266E-01	3.811E-01	5.150E-02	5.647
	+	77.11		1.965E+00	2.780E-01	2.276E-01	2.218E-02	8.634
	+	87.30		1.923E+00	4.652E-01	3.925E-01	5.484E-02	4.898
	+	238.63	*	1.600E+00	2.020E-01	9.688E-02	9.767E-03	16.512
	+	300.09		1.490E+00	9.998E-01	1.318E+00	1.435E-01	1.131
PO-212	+	74.81		2.152E+00	4.266E-01	3.811E-01	5.150E-02	5.647
	+	77.11		1.965E+00	2.780E-01	2.276E-01	2.218E-02	8.634
	+	87.30		1.923E+00	4.652E-01	3.925E-01	5.484E-02	4.898
		115.19		9.099E-01	3.334E+00	5.595E+00	6.300E-01	0.163
	+	238.63	*	1.600E+00	2.020E-01	9.688E-02	9.767E-03	16.512
	+	300.09		1.490E+00	9.998E-01	1.318E+00	1.435E-01	1.131
BI-214	+	609.31	*	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
	+	1120.29		1.614E+00	6.909E-01	5.479E-01	5.858E-02	2.946
	+	1764.49		1.810E+00	5.481E-01	3.029E-01	2.561E-02	5.975
PB-214	+	74.81		3.708E+00	7.040E-01	6.567E-01	8.046E-02	5.647
	+	77.11		3.369E+00	5.413E-01	3.901E-01	4.827E-02	8.634
	+	87.30		3.294E+00	7.687E-01	6.725E-01	8.362E-02	4.898
	+	241.98		2.238E+00	6.525E-01	5.241E-01	5.579E-02	4.269
	+	295.21		1.199E+00	2.845E-01	2.245E-01	2.494E-02	5.342
	+	351.92	*	1.520E+00	2.369E-01	1.120E-01	1.196E-02	13.572

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	74.81		3.708E+00	7.040E-01	6.567E-01	8.046E-02	5.647
	+	77.11		3.369E+00	5.413E-01	3.901E-01	4.827E-02	8.634
	+	87.30		3.294E+00	7.687E-01	6.725E-01	8.362E-02	4.898
	+	241.98		2.238E+00	6.525E-01	5.241E-01	5.579E-02	4.269
	+	295.21		1.199E+00	2.845E-01	2.245E-01	2.494E-02	5.342
	+	351.92	*	1.520E+00	2.369E-01	1.120E-01	1.196E-02	13.572
PO-216	+	74.81		2.152E+00	4.266E-01	3.811E-01	5.150E-02	5.647
	+	77.11		1.965E+00	2.780E-01	2.276E-01	2.218E-02	8.634
	+	87.30		1.923E+00	4.652E-01	3.925E-01	5.484E-02	4.898
	+	238.63	*	1.600E+00	2.020E-01	9.688E-02	9.767E-03	16.512
	+	300.09		1.490E+00	9.998E-01	1.318E+00	1.435E-01	1.131
	+	74.81		3.708E+00	7.040E-01	6.567E-01	8.046E-02	5.647
PO-218	+	77.11		3.369E+00	5.413E-01	3.901E-01	4.827E-02	8.634
	+	87.30		3.294E+00	7.687E-01	6.725E-01	8.362E-02	4.898
	+	241.98		2.238E+00	6.525E-01	5.241E-01	5.579E-02	4.269
	+	295.21		1.199E+00	2.845E-01	2.245E-01	2.494E-02	5.342
	+	351.92	*	1.520E+00	2.369E-01	1.120E-01	1.196E-02	13.572
	+	240.98	*	4.243E+00	1.214E+00	1.103E+00	9.979E-02	3.845
RA-224	+	609.31	*	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
RA-226	+	1120.29		1.614E+00	6.909E-01	5.479E-01	5.858E-02	2.946
	+	1764.49		1.810E+00	5.481E-01	3.029E-01	2.561E-02	5.975
AC-228	+	338.32		1.571E+00	7.907E-01	4.097E-01	1.694E-01	3.834
	+	911.07	*	1.840E+00	4.363E-01	2.617E-01	2.968E-02	7.032
	+	969.11		1.580E+00	6.949E-01	3.661E-01	8.559E-02	4.315
RA-228	+	338.32		1.571E+00	7.907E-01	4.097E-01	1.694E-01	3.834
	+	911.07	*	1.840E+00	4.363E-01	2.617E-01	2.968E-02	7.032
	+	969.11		1.580E+00	6.949E-01	3.661E-01	8.559E-02	4.315
TH-228	+	74.81		2.193E+00	3.842E-01	3.884E-01	3.816E-02	5.647
	+	77.11		2.003E+00	2.833E-01	2.319E-01	2.261E-02	8.634
	+	87.30		1.960E+00	4.317E-01	4.001E-01	3.904E-02	4.898
	+	238.63	*	1.630E+00	2.059E-01	9.874E-02	9.954E-03	16.512
	+	300.09		1.519E+00	1.350E+00	1.343E+00	7.973E-01	1.131
TH-230	+	609.31	*	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
	+	1120.29		1.614E+00	6.909E-01	5.479E-01	5.857E-02	2.946
	+	1764.49		1.810E+00	5.481E-01	3.029E-01	2.561E-02	5.975
TH-232	+	338.32		1.571E+00	4.726E-01	4.097E-01	3.692E-02	3.834
	+	911.07	*	1.840E+00	4.363E-01	2.617E-01	2.968E-02	7.032
	+	969.11		1.580E+00	6.949E-01	3.661E-01	8.559E-02	4.315
TH-234	+	63.29	*	1.513E+00	9.934E-01	9.580E-01	1.788E-01	1.579
	+	92.38		2.201E+00	7.496E-01	5.771E-01	1.083E-01	3.814
U-234	+	609.31	*	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
	+	1120.29		1.614E+00	6.909E-01	5.479E-01	5.857E-02	2.946
	+	1764.49		1.810E+00	5.481E-01	3.029E-01	2.561E-02	5.975
NP-237	+	86.50	*	1.221E+00	3.685E-01	2.377E-01	5.424E-02	5.137
	+	95.87		-2.598E-01	8.598E-01	1.263E+00	3.185E-01	-0.206
U-238	+	63.29	*	1.513E+00	9.934E-01	9.580E-01	1.788E-01	1.579
	+	92.38		2.201E+00	6.630E-01	5.771E-01	5.752E-02	3.814
AM-243	+	74.67	*	3.489E-01	6.099E-02	6.177E-02	6.030E-03	5.648
	+	86.72		4.578E+01	1.008E+01	8.918E+00	8.698E-01	5.134

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-3.644E+00	3.691E+00	5.783E+00	6.603E-01	-0.630
		142.18		-3.617E+00	1.825E+01	2.897E+01	2.987E+00	-0.125
ANH-511	+	511.00	*	1.016E-01	7.936E-02	5.836E-02	5.212E-03	1.742

---- 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	*	2.507E-02	3.912E-01	6.449E-01	6.137E-02	0.039
NA-22		1274.54	*	-3.934E-02	6.654E-02	9.919E-02	8.356E-03	-0.397
NA-24		1368.53	*	-1.154E+01	6.654E-02	Half-Life too short		
AL-26		1129.67		-4.184E-02	2.336E+00	3.784E+00	3.162E-01	-0.011
		1808.65	*	-1.767E-02	3.013E-02	3.903E-02	3.271E-03	-0.453
TI-44		67.85		1.578E-02	2.566E-02	4.312E-02	4.247E-03	0.366
	+	78.38	*	3.627E-01	5.131E-02	5.997E-02	5.844E-03	6.047
SC-46		889.25	*	5.756E-03	5.063E-02	8.486E-02	7.429E-03	0.068
	+	1120.51		2.855E-01	1.207E-01	1.729E-01	1.451E-02	1.651
V-48		944.10		2.372E-01	1.326E+00	2.229E+00	1.950E-01	0.106
		983.50	*	3.829E-02	1.144E-01	1.945E-01	1.697E-02	0.197
		1312.09		1.178E-01	1.140E-01	2.158E-01	1.832E-02	0.546
CR-51		320.08	*	2.152E-01	4.372E-01	7.581E-01	7.240E-02	0.284
MN-52		744.21		2.104E-02	5.094E-01	8.577E-01	7.455E-02	0.025
		848.13		-1.602E+00	1.280E+01	2.096E+01	1.842E+00	-0.076
	+	935.52		8.464E-01	7.661E-01	1.054E+00	9.220E-02	0.803
		1246.25		-9.369E-01	1.547E+01	2.471E+01	2.064E+00	-0.038
		1333.61		1.235E+00	9.699E+00	1.654E+01	1.410E+00	0.075
		1434.06	*	-2.644E-03	4.712E-01	7.839E-01	6.759E-02	-0.003
MN-54		834.83	*	1.805E-02	4.739E-02	8.169E-02	7.182E-03	0.221
CO-56		846.75	*	4.082E-02	4.435E-02	8.132E-02	7.149E-03	0.502
		977.42		3.848E+00	3.848E+00	7.009E+00	6.118E-01	0.549
		1037.82		2.835E-02	4.109E-01	6.773E-01	6.159E-02	0.042
		1175.09		-1.741E-01	2.956E+00	4.749E+00	3.882E-01	-0.037
		1238.25		1.318E-01	1.318E-01	2.315E-01	1.989E-02	0.569
		1360.21		2.057E-01	1.153E+00	1.983E+00	1.697E-01	0.104
		1771.40		-1.360E-01	2.812E-01	3.999E-01	3.377E-02	-0.340
CO-57		122.06	*	-7.395E-03	2.508E-02	4.085E-02	4.786E-03	-0.181
		136.48		-4.060E-02	2.149E-01	3.500E-01	3.940E-02	-0.116
CO-58		810.76	*	-3.689E-02	5.102E-02	7.827E-02	6.893E-03	-0.471
FE-59		142.65		4.261E-01	3.008E+00	4.857E+00	4.991E-01	0.088
		192.34		-5.185E-01	1.043E+00	1.632E+00	2.192E-01	-0.318
		1099.22	*	3.916E-02	1.276E-01	2.149E-01	1.972E-02	0.182
		1291.56		1.120E-01	1.607E-01	2.829E-01	2.726E-02	0.396
CO-60		1173.22		3.105E-02	5.718E-02	9.831E-02	8.030E-03	0.316
		1332.49	*	1.407E-03	4.940E-02	8.248E-02	7.030E-03	0.017
ZN-65		1115.52	*	4.291E-02	1.234E-01	1.837E-01	1.547E-02	0.234
GE-68		1077.35	*	5.684E-01	1.505E+00	2.570E+00	2.194E-01	0.221
AS-73		53.44	*	3.385E-01	2.197E-01	3.942E-01	3.944E-02	0.859
AS-74		595.88	*	-2.481E-02	1.423E-01	2.258E-01	1.990E-02	-0.110
		634.78		-1.963E-02	5.072E-01	8.109E-01	6.984E-02	-0.024

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SE-75		66.05		-2.138E+00	2.842E+00	4.081E+00	4.694E-01	-0.524
		96.73		-8.517E-01	7.364E-01	1.011E+00	1.483E-01	-0.843
		121.11		2.623E-02	1.345E-01	2.244E-01	3.071E-02	0.117
		136.00		7.953E-03	3.976E-02	6.602E-02	7.139E-03	0.120
		198.60		-3.527E-01	1.954E+00	3.117E+00	3.002E-01	-0.113
		264.65	*	5.933E-02	5.243E-02	8.538E-02	7.844E-03	0.695
		279.53		-1.916E-02	1.238E-01	1.830E-01	1.735E-02	-0.105
		303.91		2.720E+00	2.457E+00	3.980E+00	4.734E-01	0.683
		400.65		3.626E-02	3.079E-01	5.150E-01	5.669E-02	0.070
BR-77	+	87.88		2.899E-03	3.079E-01	Half-Life	too short	
		200.40		4.579E-04	3.079E-01	Half-Life	too short	
	+	239.00		8.148E-04	3.079E-01	Half-Life	too short	
		249.79		3.968E-05	3.079E-01	Half-Life	too short	
		281.68		-4.221E-04	3.079E-01	Half-Life	too short	
		297.23		4.457E-04	3.079E-01	Half-Life	too short	
		303.76		7.551E-04	3.079E-01	Half-Life	too short	
		439.47		1.460E-04	3.079E-01	Half-Life	too short	
		484.57		-2.071E-04	3.079E-01	Half-Life	too short	
		520.65	*	-2.108E-06	3.079E-01	Half-Life	too short	
		574.64		-3.856E-04	3.079E-01	Half-Life	too short	
		578.91		-1.953E-05	3.079E-01	Half-Life	too short	
		585.48		1.478E-03	3.079E-01	Half-Life	too short	
		755.35		8.408E-05	3.079E-01	Half-Life	too short	
		817.79		3.103E-04	3.079E-01	Half-Life	too short	
SR-82		698.33		1.322E+01	4.799E+01	8.272E+01	7.083E+00	0.160
		776.49	*	-1.053E-01	5.240E-01	8.586E-01	7.514E-02	-0.123
		1395.20		-1.031E+01	1.485E+01	2.186E+01	1.879E+00	-0.471
RB-83		520.41	*	-2.713E-03	8.633E-02	1.403E-01	1.254E-02	-0.019
		529.64		1.156E-02	1.180E-01	1.939E-01	1.733E-02	0.060
		552.65		1.701E-01	2.368E-01	4.101E-01	3.660E-02	0.415
RB-84		881.50	*	1.162E-01	1.010E-01	1.856E-01	1.627E-02	0.626
KR-85		513.99	*	7.719E+00	8.962E+00	1.408E+01	1.258E+00	0.548
SR-85		513.99	*	4.126E-02	4.790E-02	7.525E-02	6.723E-03	0.548
RB-86		1076.63	*	4.928E-01	1.087E+00	1.873E+00	1.599E-01	0.263
Y-88		898.02		-1.189E-03	5.742E-02	9.476E-02	8.324E-03	-0.013
		1836.01	*	1.591E-02	4.172E-02	7.444E-02	6.207E-03	0.214
ZR-88		392.90	*	-1.691E-02	3.482E-02	5.561E-02	4.686E-03	-0.304
Y-91		1204.90	*	1.716E+01	2.490E+01	4.331E+01	3.575E+00	0.396
NB-94		702.63	*	3.730E-02	4.324E-02	7.773E-02	6.667E-03	0.480
		871.10		5.612E-04	4.485E-02	7.445E-02	6.533E-03	0.008
NB-95		765.79	*	4.218E-02	6.546E-02	1.027E-01	8.967E-03	0.411
NB-95M		235.69	*	-1.795E-02	1.460E-01	2.049E-01	2.092E-02	-0.088
ZR-95		724.18		9.498E-02	1.269E-01	2.038E-01	1.912E-02	0.466
		756.15	*	6.256E-03	9.312E-02	1.570E-01	1.505E-02	0.040
NB-97		657.90	*	-2.467E+00	9.312E-02	Half-Life	too short	
		1024.50		-1.614E+02	9.312E-02	Half-Life	too short	
ZR-97		254.15		-1.679E+01	9.312E-02	Half-Life	too short	
		355.39		-1.509E+02	9.312E-02	Half-Life	too short	
		507.63	*	1.065E+02	9.312E-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			-7.104E+02	9.312E-02	Half-Life	too short	
	1021.30			2.552E+02	9.312E-02	Half-Life	too short	
	1147.95			1.808E+02	9.312E-02	Half-Life	too short	
	1362.66			-2.310E+01	9.312E-02	Half-Life	too short	
	1750.46			-8.472E+01	9.312E-02	Half-Life	too short	
MO-99	140.51			-8.245E+01	7.822E+01	1.126E+02	3.189E+01	-0.732
	181.06			-2.545E+01	5.348E+01	7.422E+01	1.354E+01	-0.343
	366.43			2.021E+02	2.583E+02	4.532E+02	3.967E+01	0.446
	739.58	*		2.226E+01	4.148E+01	7.266E+01	1.106E+01	0.306
	778.00			-4.415E+00	1.131E+02	1.884E+02	1.649E+01	-0.023
TC-99M	140.51	*		-2.485E+15	1.131E+02	Half-Life	too short	
RH-101	127.23			-2.524E-02	3.568E-02	5.012E-02	5.701E-03	-0.504
	198.01	*		1.419E-02	3.389E-02	5.589E-02	4.859E-03	0.254
	325.23			1.837E-01	2.695E-01	4.224E-01	3.840E-02	0.435
RH-102	418.52			1.400E-01	3.682E-01	6.089E-01	5.236E-02	0.230
	475.06	*		3.030E-02	3.316E-02	5.847E-02	5.179E-03	0.518
	631.29			-6.360E-03	6.907E-02	1.099E-01	9.486E-03	-0.058
	697.49			2.291E-02	9.700E-02	1.667E-01	1.427E-02	0.137
+	766.84			2.941E-01	1.350E-01	2.572E-01	2.247E-02	1.144
	1046.59			7.328E-02	1.250E-01	2.203E-01	1.898E-02	0.333
	1112.84			-1.699E-01	3.346E-01	4.267E-01	3.592E-02	-0.398
RU-103	497.08	*		-9.135E-04	4.875E-02	7.955E-02	1.141E-02	-0.011
+	610.33			1.634E+01	3.517E+00	3.869E+00	6.481E-01	4.222
RH-106	511.85	+		5.115E-01	3.994E-01	4.986E-01	4.454E-02	1.026
	621.84	*		1.875E-01	3.905E-01	6.575E-01	8.812E-02	0.285
	1050.47			-2.769E-01	2.903E+00	4.686E+00	4.033E-01	-0.059
RU-106	511.85	+		5.115E-01	3.994E-01	4.986E-01	4.454E-02	1.026
	621.84	*		1.875E-01	3.900E-01	6.575E-01	5.712E-02	0.285
	1050.47			-2.769E-01	2.903E+00	4.686E+00	4.033E-01	-0.059
AG-108M	433.93	*		9.465E-03	3.663E-02	6.172E-02	5.571E-03	0.153
	614.37			6.070E-03	4.810E-02	6.888E-02	6.241E-03	0.088
	722.95			1.876E-02	5.175E-02	7.966E-02	7.151E-03	0.236
AG-110M	657.75	*		-1.335E-02	4.622E-02	7.180E-02	6.258E-03	-0.186
	677.61			1.406E-01	3.801E-01	6.314E-01	5.515E-02	0.223
	706.67			-4.277E-02	2.604E-01	4.320E-01	3.814E-02	-0.099
	763.93			3.553E-02	2.182E-01	3.253E-01	2.918E-02	0.109
	884.67			-1.314E-02	6.558E-02	1.062E-01	9.595E-03	-0.124
	937.48			-1.072E-01	1.639E-01	2.143E-01	1.941E-02	-0.500
	1384.27			6.783E-02	1.912E-01	3.366E-01	2.971E-02	0.202
IN-111	171.28			1.584E+00	2.754E+00	4.607E+00	3.868E-01	0.344
	245.39	*		3.242E+00	2.991E+00	4.648E+00	4.215E-01	0.698
IN-113M	391.69	*		-1.041E-02	4.819E-02	7.868E-02	6.837E-03	-0.132
SN-113	391.69	*		-1.041E-02	4.819E-02	7.868E-02	6.837E-03	-0.132
IN-114M	190.27	*		2.570E-02	2.114E-01	3.074E-01	2.647E-02	0.084
CD-115	260.90			-5.061E-05	2.114E-01	Half-Life	too short	
	492.35			5.847E-05	2.114E-01	Half-Life	too short	
	527.90	*		-3.130E-05	2.114E-01	Half-Life	too short	
SN-117M	156.02			-1.483E+00	2.855E+00	4.532E+00	4.173E-01	-0.327
	158.56	*		-3.122E-02	6.711E-02	1.066E-01	9.585E-03	-0.293

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-122		563.90	*	-1.101E+00	7.156E+00	1.143E+01	1.017E+00	-0.096
		692.80		-5.474E+01	1.514E+02	2.471E+02	2.111E+01	-0.222
I-123		159.00	*	-5.030E+01	1.514E+02	Half-Life	too short	
		528.96		-2.524E+04	1.514E+02	Half-Life	too short	
TE-123M		159.00	*	-1.689E-03	2.923E-02	4.753E-02	4.278E-03	-0.036
I-124		602.71	*	-2.979E+00	1.946E+00	2.128E+00	1.869E-01	-1.400
		722.78		2.025E+00	1.062E+01	1.596E+01	1.379E+00	0.127
		1325.50		5.083E+01	7.909E+01	1.440E+02	1.225E+01	0.353
		1376.25		1.157E+02	7.896E+01	1.539E+02	1.320E+01	0.751
	+	1509.49		5.166E+01	5.178E+01	7.402E+01	6.401E+00	0.698
		1691.02		1.130E+00	9.897E+00	1.663E+01	1.423E+00	0.068
SB-124		602.71		-9.401E-02	6.139E-02	6.716E-02	5.899E-03	-1.400
		645.85		3.671E-02	6.266E-01	1.011E+00	9.162E-02	0.036
		709.31		6.242E-01	3.540E+00	6.053E+00	5.205E-01	0.103
		713.82		3.506E-01	1.974E+00	3.377E+00	4.064E-01	0.104
		722.78		9.264E-02	4.856E-01	7.303E-01	6.444E-02	0.127
	+	968.20		1.702E+01	6.514E+00	9.875E+00	8.628E-01	1.724
		1045.16		-1.015E+00	2.882E+00	4.472E+00	3.854E-01	-0.227
		1325.50		2.483E+00	3.864E+00	7.034E+00	5.987E-01	0.353
		1368.21		-2.425E-01	2.096E+00	3.437E+00	4.620E-01	-0.071
		1436.60		-1.816E+00	5.049E+00	7.912E+00	6.823E-01	-0.230
		1691.02	*	1.219E-02	1.068E-01	1.795E-01	1.597E-02	0.068
SB-125		427.89	*	-8.341E-02	1.051E-01	1.618E-01	1.427E-02	-0.516
	+	463.38		6.088E-01	5.069E-01	6.161E-01	5.840E-02	0.988
		600.56		5.091E-02	2.194E-01	3.615E-01	3.403E-02	0.141
		635.90		-5.030E-02	3.396E-01	5.366E-01	4.992E-02	-0.094
TE-125M		109.28	*	-1.931E-01	8.824E+00	1.465E+01	1.802E+00	-0.013
I-126		388.63		1.440E-01	2.824E-01	4.864E-01	4.116E-02	0.296
		666.33	*	3.189E-01	2.954E-01	5.186E-01	4.379E-02	0.615
		753.82		1.833E+00	2.350E+00	4.202E+00	3.661E-01	0.436
SB-126		223.80		5.776E-01	5.592E+00	9.001E+00	8.035E-01	0.064
		278.60		3.305E+00	3.493E+00	5.613E+00	5.152E-01	0.589
	+	296.50		1.490E+01	3.410E+00	4.666E+00	4.284E-01	3.193
		414.70		-1.024E-01	1.270E-01	1.682E-01	1.442E-02	-0.609
		415.30		-5.017E+00	9.806E+00	1.429E+01	1.226E+00	-0.351
		555.20		2.173E+00	5.741E+00	9.653E+00	8.610E-01	0.225
		573.80		5.751E-01	1.535E+00	2.572E+00	2.285E-01	0.224
		593.00		-5.758E-01	1.431E+00	2.215E+00	1.953E-01	-0.260
		656.30		-7.899E-01	5.345E+00	8.427E+00	7.134E-01	-0.094
		666.33		1.345E-01	1.246E-01	2.187E-01	1.847E-02	0.615
		675.00		1.401E+00	3.114E+00	5.209E+00	4.417E-01	0.269
		695.00		-5.440E-02	1.195E-01	1.932E-01	1.652E-02	-0.282
		697.00		-1.096E-01	4.287E-01	7.068E-01	6.049E-02	-0.155
		720.50	*	3.497E-02	2.108E-01	3.417E-01	2.949E-02	0.102
		856.80		2.038E-01	9.104E-01	1.352E+00	1.188E-01	0.151
		989.30		-1.284E+00	2.115E+00	3.221E+00	2.807E-01	-0.399
		1034.80		3.238E-01	1.466E+01	2.404E+01	2.077E+00	0.013
		1213.00		5.966E+00	7.515E+00	1.317E+01	1.090E+00	0.453
SB-127		61.10		9.020E+00	5.223E+01	8.073E+01	1.084E+01	0.112

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127		252.40		-2.351E+00	9.708E+00	1.507E+01	6.404E+00	-0.156
		290.80		-2.607E+01	4.985E+01	7.090E+01	9.087E+00	-0.368
	+	411.60		3.446E+01	4.659E+01	4.603E+01	7.645E+00	0.749
		444.90		-1.589E+01	2.533E+01	3.892E+01	5.348E+00	-0.408
		473.00		-4.053E+00	4.076E+00	6.027E+00	8.507E-01	-0.672
		543.00		1.342E+01	4.127E+01	6.897E+01	1.074E+01	0.195
		603.60		-3.362E+01	3.350E+01	3.996E+01	5.491E+00	-0.841
		685.20	*	4.988E-01	3.614E+00	5.849E+00	7.340E-01	0.085
		698.50		1.242E+01	3.896E+01	6.732E+01	1.124E+01	0.184
		722.20		1.404E+01	7.709E+01	1.158E+02	1.439E+01	0.121
		783.80		5.013E+00	8.881E+00	1.561E+01	2.130E+00	0.321
		57.60		2.312E+00	2.271E+00	3.999E+00	4.016E-01	0.578
		145.22		3.541E-01	7.554E-01	1.265E+00	1.275E-01	0.280
		172.10		-7.375E-02	1.386E-01	2.185E-01	1.837E-02	-0.338
		202.84	*	1.748E-02	5.270E-02	8.639E-02	7.552E-03	0.202
I-131		374.96		2.842E-02	2.271E-01	3.820E-01	3.304E-02	0.074
		80.18		1.346E+00	6.128E+00	7.515E+00	7.378E-01	0.179
		284.40		6.056E-01	2.270E+00	3.903E+00	3.761E-01	0.155
		364.48	*	-1.405E-01	1.816E-01	2.852E-01	2.642E-02	-0.493
TE-132		636.97		-5.233E-01	2.739E+00	4.307E+00	3.925E-01	-0.122
		722.89		2.443E+00	1.250E+01	1.880E+01	1.641E+00	0.130
		49.72		-1.442E+00	9.361E+00	1.435E+01	1.869E+00	-0.100
		111.76		-4.381E+00	6.420E+01	1.062E+02	1.469E+01	-0.041
BA-133		116.30		1.304E+01	5.898E+01	9.873E+01	1.388E+01	0.132
		228.16	*	2.381E+00	1.687E+00	2.858E+00	4.771E-01	0.833
		53.15		1.185E+00	9.088E-01	1.621E+00	1.622E-01	0.731
		79.62		8.774E-01	1.038E+00	1.500E+00	2.383E-01	0.585
+		81.00		-8.366E-03	9.090E-02	1.087E-01	1.795E-02	-0.077
		276.40		3.594E-01	4.997E-01	6.693E-01	9.896E-02	0.537
		302.84		1.228E-01	1.634E-01	2.583E-01	3.526E-02	0.476
		356.01	*	-3.438E-02	5.078E-02	6.898E-02	9.217E-03	-0.498
I-133	+	383.85		-3.355E-01	3.433E-01	5.249E-01	6.584E-02	-0.639
		510.53		2.451E+01	3.433E-01	Half-Life	too short	
		529.87	*	5.456E-02	3.433E-01	Half-Life	too short	
		706.58		-1.664E+00	3.433E-01	Half-Life	too short	
CS-134		856.28		9.489E+00	3.433E-01	Half-Life	too short	
		875.33		-1.260E+00	3.433E-01	Half-Life	too short	
		1236.41		3.297E+01	3.433E-01	Half-Life	too short	
		1298.22		-5.644E+00	3.433E-01	Half-Life	too short	
+		475.35		2.071E+00	2.213E+00	3.902E+00	3.456E-01	0.531
		563.23		1.651E-01	4.475E-01	7.489E-01	6.729E-02	0.220
		569.32		6.847E-02	2.482E-01	4.117E-01	3.708E-02	0.166
		604.70		-1.566E-02	4.437E-02	5.923E-02	5.208E-03	-0.264
CS-135	+	795.84	*	1.208E-01	8.397E-02	1.206E-01	1.065E-02	1.002
		801.93		-8.243E-01	4.873E-01	6.221E-01	5.492E-02	-1.325
		1038.57		1.505E+00	4.813E+00	8.166E+00	7.050E-01	0.184
		1167.94		-2.064E+00	3.347E+00	5.012E+00	4.106E-01	-0.412
		1365.15		4.089E-02	1.367E+00	2.298E+00	2.058E-01	0.018
		268.24	*	2.577E-02	2.010E-01	2.854E-01	2.979E-02	0.090

---- 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			-2.445E+14	2.010E-01	Half-Life	too short	
	417.63			3.069E+14	2.010E-01	Half-Life	too short	
	546.56			2.113E+14	2.010E-01	Half-Life	too short	
	836.80			3.758E+14	2.010E-01	Half-Life	too short	
	1038.76			1.247E+14	2.010E-01	Half-Life	too short	
	1124.00			-5.718E+14	2.010E-01	Half-Life	too short	
	1131.51			1.110E+14	2.010E-01	Half-Life	too short	
	1260.41	*		6.287E+13	2.010E-01	Half-Life	too short	
	1457.56			1.868E+16	2.010E-01	Half-Life	too short	
	1678.03			-5.864E+13	2.010E-01	Half-Life	too short	
	1706.46			-4.421E+14	2.010E-01	Half-Life	too short	
	1791.20			1.456E+14	2.010E-01	Half-Life	too short	
	66.91			-1.168E-01	5.665E-01	8.380E-01	1.355E-01	-0.139
CS-136	86.29		+	6.683E+00	1.604E+00	2.021E+00	2.756E-01	3.307
	153.22			5.925E-01	8.293E-01	1.400E+00	1.453E-01	0.423
	163.89			1.254E-01	1.282E+00	2.099E+00	2.008E-01	0.060
	176.55			-7.431E-02	4.801E-01	7.723E-01	6.928E-02	-0.096
	273.65			2.715E-02	7.998E-01	8.815E-01	8.560E-02	0.031
	340.57			1.193E-01	1.795E-01	2.806E-01	2.593E-02	0.425
	818.51			7.224E-02	1.222E-01	2.147E-01	1.890E-02	0.336
	1048.07	*		2.708E-02	1.560E-01	2.606E-01	2.341E-02	0.104
	1235.34			1.629E+00	1.016E+00	1.855E+00	2.159E-01	0.878
	661.65	*		-2.211E-02	5.032E-02	7.712E-02	6.496E-03	-0.287
BA-137M	661.65	*		-2.337E-02	5.319E-02	8.152E-02	6.881E-03	-0.287
CE-139	165.85	*		-3.186E-03	3.033E-02	4.909E-02	4.093E-03	-0.065
BA-140	162.64			-2.514E-01	9.391E-01	1.508E+00	1.377E-01	-0.167
	304.84			-5.563E-01	1.744E+00	2.774E+00	7.822E-01	-0.201
LA-140	423.70			-1.542E+00	2.832E+00	4.410E+00	1.430E+00	-0.350
	537.32	*		-4.758E-02	3.958E-01	6.357E-01	2.112E-01	-0.075
	328.77		+	4.181E-01	5.393E-01	7.524E-01	7.172E-02	0.556
	432.53			4.219E+00	2.874E+00	5.247E+00	4.773E-01	0.804
	487.03			-1.409E-03	2.034E-01	3.327E-01	3.130E-02	-0.004
	751.79			4.747E-01	2.790E+00	4.747E+00	4.568E-01	0.100
	815.85			6.100E-02	5.362E-01	9.032E-01	8.820E-02	0.068
	867.82			1.308E-01	2.195E+00	3.663E+00	3.380E-01	0.036
	919.63			1.154E+00	4.898E+00	8.273E+00	8.897E-01	0.139
	925.24			1.902E-01	2.036E+00	3.391E+00	3.148E-01	0.056
	1596.49	*		1.253E-01	1.414E-01	2.467E-01	2.129E-02	0.508
	145.44	*		-1.730E-02	6.990E-02	1.131E-01	1.154E-02	-0.153
CE-141	57.37			2.141E-03	6.990E-02	Half-Life	too short	
CE-143	231.56			-8.883E-03	6.990E-02	Half-Life	too short	
	293.26	*		4.914E-03	6.990E-02	Half-Life	too short	
	350.59		+	2.546E-01	6.990E-02	Half-Life	too short	
	490.36			5.973E-03	6.990E-02	Half-Life	too short	
	664.57			-1.305E-03	6.990E-02	Half-Life	too short	
CE-144	721.93			1.366E-03	6.990E-02	Half-Life	too short	
	80.11			4.815E-01	2.024E+00	2.485E+00	2.421E-01	0.194
	133.54	*		2.439E-02	2.213E-01	3.283E-01	5.569E-02	0.074
PM-144	476.78			6.399E-02	7.839E-02	1.370E-01	1.322E-02	0.467

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

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	618.01			-2.014E-02	3.762E-02	5.687E-02	5.088E-03	-0.354
	696.49	*		-1.109E-02	4.516E-02	7.454E-02	6.382E-03	-0.149
	778.57			-1.392E+00	2.843E+00	4.511E+00	3.951E-01	-0.308
PR-144	696.49	*		-7.533E-01	3.066E+00	5.062E+00	4.331E-01	-0.149
	1489.15			-2.036E+00	1.374E+01	2.214E+01	1.914E+00	-0.092
PM-146	453.90	*		2.817E-02	4.826E-02	8.317E-02	9.028E-03	0.339
	633.02			9.302E-01	1.730E+00	2.876E+00	1.075E+00	0.323
	735.90			-7.415E-02	1.981E-01	3.194E-01	9.141E-02	-0.232
	747.13			-6.768E-02	1.256E-01	1.936E-01	2.728E-02	-0.350
ND-147	+	91.11		1.039E+00	3.282E-01	5.311E-01	5.594E-02	1.956
	319.41			-9.678E-01	4.419E+00	7.326E+00	6.682E-01	-0.132
	439.89			5.075E+00	8.047E+00	1.396E+01	1.217E+00	0.364
	531.02	*		-3.537E-01	7.680E-01	1.184E+00	1.793E-01	-0.299
PM-149	285.90	*		3.700E-04	7.680E-01	Half-Life	too short	
EU-152	121.78			1.235E-02	7.129E-02	1.188E-01	1.508E-02	0.104
	244.69			1.693E-01	3.668E-01	5.405E-01	4.899E-02	0.313
	344.27	*		-1.125E-02	1.030E-01	1.713E-01	1.621E-02	-0.066
	443.98			2.996E-01	1.160E+00	1.919E+00	1.677E-01	0.156
	778.89			-2.274E-01	3.189E-01	4.919E-01	4.307E-02	-0.462
	867.32			1.646E-01	1.056E+00	1.736E+00	1.524E-01	0.095
	964.01			4.732E-01	4.668E-01	7.473E-01	6.531E-02	0.633
	1085.78			1.136E-02	4.809E-01	7.857E-01	6.686E-02	0.014
	1112.02			-6.910E-02	4.207E-01	6.023E-01	5.073E-02	-0.115
	1407.95			3.671E-01	2.535E-01	4.962E-01	4.269E-02	0.740
GD-153	69.67			-6.473E-01	9.749E-01	1.611E+00	1.581E-01	-0.402
	+	83.37		2.319E+01	1.396E+01	1.915E+01	1.865E+00	1.211
	97.43	*		-2.051E-02	7.481E-02	1.089E-01	1.114E-02	-0.188
	103.18			-9.745E-02	9.363E-02	1.475E-01	1.554E-02	-0.661
EU-154	123.07			-6.025E-03	5.070E-02	8.329E-02	1.150E-02	-0.072
	247.94			2.307E-01	3.643E-01	6.040E-01	7.144E-02	0.382
	591.81			-1.501E-01	7.201E-01	1.136E+00	1.343E-01	-0.132
	723.30			1.005E-01	2.188E-01	3.407E-01	3.253E-02	0.295
	756.87			-3.533E-02	9.798E-01	1.636E+00	1.971E-01	-0.022
	873.19			-1.982E-02	3.810E-01	6.278E-01	7.755E-02	-0.032
	996.32			-2.998E-01	4.559E-01	6.808E-01	1.212E-01	-0.440
	1004.76			8.290E-02	2.635E-01	4.478E-01	5.237E-02	0.185
	1274.45	*		-2.268E-02	1.752E-01	2.770E-01	3.090E-02	-0.082
EU-155	48.70			4.091E-01	4.513E-01	7.312E-01	7.345E-02	0.560
	60.01			-4.648E-01	2.160E+00	3.278E+00	3.298E-01	-0.142
	+	86.54		5.015E-01	1.106E-01	1.593E-01	1.566E-02	3.149
	105.31	*		4.692E-02	9.610E-02	1.633E-01	1.754E-02	0.287
TB-160	+	86.79		1.389E+00	3.060E-01	4.443E-01	4.334E-02	3.127
	197.04			-1.970E-01	6.134E-01	9.704E-01	8.427E-02	-0.203
	215.65			1.359E-01	8.244E-01	1.335E+00	1.183E-01	0.102
	+	298.57		2.252E-01	1.505E-01	2.300E-01	2.111E-02	0.979
	879.36	*		-3.060E-02	2.003E-01	3.267E-01	2.864E-02	-0.094
	962.29			7.526E-01	8.663E-01	1.371E+00	1.198E-01	0.549
	966.15			1.192E+00	4.350E-01	7.599E-01	6.640E-02	1.568
	1177.93			-9.783E-02	4.686E-01	7.382E-01	6.040E-02	-0.133

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	1271.85			-5.641E-02	1.069E+00	1.707E+00	1.436E-01	-0.033
	80.57			2.436E-01	2.367E-01	3.082E-01	3.002E-02	0.790
	184.41			5.061E-02	4.193E-02	6.729E-02	5.752E-03	0.752
	280.46			-6.849E-03	9.287E-02	1.382E-01	1.269E-02	-0.050
	410.95		+	3.378E-01	4.542E-01	4.922E-01	4.209E-02	0.686
	711.68		*	1.405E-02	7.365E-02	1.261E-01	1.085E-02	0.111
TM-171	752.31			1.907E-01	3.487E-01	6.129E-01	5.338E-02	0.311
	810.29			-8.800E-02	7.595E-02	1.102E-01	9.683E-03	-0.798
	51.35			-9.994E+00	7.668E+00	1.087E+01	1.088E+00	-0.919
	52.39			1.054E+00	3.764E+00	6.510E+00	6.514E-01	0.162
	59.40			9.779E-01	1.130E+01	1.742E+01	1.755E+00	0.056
	66.72		*	-2.693E-01	1.636E+01	2.442E+01	2.410E+00	-0.011
LU-176	88.36		+	9.860E-01	2.172E-01	3.165E-01	3.094E-02	3.115
	201.83			-1.664E-02	3.136E-02	4.893E-02	4.273E-03	-0.340
	306.84		*	-7.462E-03	2.651E-02	4.390E-02	4.022E-03	-0.170
	401.10			3.853E+00	7.548E+00	1.298E+01	1.101E+00	0.297
LU-177	112.95			-3.579E-01	2.289E+00	3.770E+00	4.192E-01	-0.095
	208.36		+	5.998E+00	2.798E+00	3.299E+00	2.902E-01	1.818
LU-177M	52.97			5.001E-01	4.107E-01	7.312E-01	7.315E-02	0.684
	54.07			2.715E-01	2.322E-01	4.126E-01	4.129E-02	0.658
	61.30			3.513E-01	6.796E-01	1.066E+00	1.068E-01	0.329
	121.62			6.728E-02	3.716E-01	6.198E-01	7.238E-02	0.109
	147.16			-3.358E-01	6.605E-01	1.052E+00	1.045E-01	-0.319
	171.86			-2.126E-01	5.228E-01	8.303E-01	6.977E-02	-0.256
	218.09			-7.616E-01	9.731E-01	1.483E+00	1.317E-01	-0.513
	268.79		+	2.516E+00	1.348E+00	1.617E+00	1.481E-01	1.556
	319.02			-1.460E-01	2.720E-01	4.404E-01	4.016E-02	-0.332
	367.43			8.672E-01	1.033E+00	1.820E+00	1.590E-01	0.477
	413.65		*	-1.567E-01	2.295E-01	3.075E-01	2.635E-02	-0.510
	56.28			-1.984E-01	3.166E-01	5.259E-01	5.271E-02	-0.377
HF-181	57.53			1.796E-01	1.878E-01	3.301E-01	3.315E-02	0.544
	65.20			-3.140E-01	5.459E-01	8.106E-01	8.027E-02	-0.387
	133.02			-4.111E-03	7.373E-02	1.082E-01	1.188E-02	-0.038
	136.25			1.332E-01	4.858E-01	8.093E-01	8.699E-02	0.165
	345.85			-7.412E-02	2.335E-01	3.528E-01	3.159E-02	-0.210
	482.03		*	3.637E-03	5.020E-02	8.280E-02	7.350E-03	0.044
W-181	56.28			-7.428E-02	1.188E-01	1.974E-01	1.979E-02	-0.376
	57.53			6.731E-02	7.052E-02	1.240E-01	1.245E-02	0.543
TA-182	65.20		*	-1.170E-01	2.034E-01	3.020E-01	2.991E-02	-0.387
	67.75			3.237E-02	6.511E-02	1.049E-01	1.033E-02	0.309
	100.10			1.367E-01	1.598E-01	2.709E-01	2.808E-02	0.505
	152.43			6.048E-02	3.411E-01	5.627E-01	5.349E-02	0.107
	222.10			1.210E-02	3.901E-01	6.255E-01	5.575E-02	0.019
	1001.68			6.827E-01	2.583E+00	4.341E+00	3.777E-01	0.157
RE-183	1121.28			5.817E-01	2.514E-01	4.460E-01	3.741E-02	1.304
	1189.05			2.610E-01	4.022E-01	6.977E-01	5.729E-02	0.374
	1221.42		*	8.237E-02	2.670E-01	4.450E-01	3.691E-02	0.185
	1230.97			-4.036E-01	6.267E-01	9.320E-01	7.752E-02	-0.433
	57.98			7.424E-02	7.357E-02	1.294E-01	1.301E-02	0.574

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184		59.32		5.026E-03	4.800E-02	7.406E-02	7.462E-03	0.068
		67.20		-3.123E-03	1.243E-01	1.856E-01	1.830E-02	-0.017
		162.32	*	3.035E-02	1.124E-01	1.858E-01	1.609E-02	0.163
	+	208.81		3.726E+00	1.738E+00	2.045E+00	1.799E-01	1.822
		291.72		-3.164E-01	1.118E+00	1.629E+00	1.496E-01	-0.194
		57.98		2.673E-01	2.650E-01	4.661E-01	4.684E-02	0.574
		59.32		1.808E-02	1.727E-01	2.665E-01	2.685E-02	0.068
		67.20		-1.124E-02	4.476E-01	6.682E-01	6.589E-02	-0.017
		161.27		5.184E-02	3.599E-01	5.913E-01	5.174E-02	0.088
		216.55		3.206E-01	2.853E-01	4.855E-01	4.305E-02	0.660
OS-185		252.85	*	-7.239E-03	2.588E-01	4.102E-01	3.735E-02	-0.018
		318.01		-1.128E-01	4.831E-01	8.005E-01	7.304E-02	-0.141
		792.07		2.301E+00	1.444E+00	2.501E+00	2.194E-01	0.920
		903.28		2.835E-01	1.689E+00	2.464E+00	2.154E-01	0.115
		920.93		-2.287E-01	6.745E-01	1.075E+00	9.409E-02	-0.213
		59.72		2.693E-02	1.282E-01	1.988E-01	2.002E-02	0.135
		61.14		1.399E-02	7.518E-02	1.163E-01	1.165E-02	0.120
		69.30		4.090E-03	1.721E-01	2.917E-01	2.866E-02	0.014
		592.07		-1.256E+00	3.155E+00	4.880E+00	4.306E-01	-0.257
		646.12	*	-1.763E-02	5.407E-02	8.355E-02	7.134E-03	-0.211
RE-188		717.42		-6.270E-01	1.070E+00	1.691E+00	1.458E-01	-0.371
		874.81		-1.663E-01	7.839E-01	1.269E+00	1.113E-01	-0.131
		880.27		2.754E-01	1.074E+00	1.825E+00	1.599E-01	0.151
	*	155.03		2.458E-01	1.821E-01	3.151E-01	2.927E-02	0.780
		477.96		-2.401E+00	3.765E+00	5.813E+00	5.154E-01	-0.413
W-188	+	633.10		1.898E+00	3.557E+00	6.022E+00	5.193E-01	0.315
IR-192		63.58		6.325E+01	4.032E+01	5.096E+01	5.068E+00	1.241
		227.08		-2.416E+00	1.437E+01	2.273E+01	2.034E+00	-0.106
	*	290.67		-4.607E+00	8.797E+00	1.252E+01	1.150E+00	-0.368
AU-195	+	295.96		9.491E-01	2.174E-01	3.265E-01	3.017E-02	2.907
		308.46		7.352E-02	1.064E-01	1.867E-01	1.717E-02	0.394
		316.51	*	-2.338E-02	3.737E-02	6.015E-02	5.503E-03	-0.389
		468.07		-3.112E-03	8.341E-02	1.195E-01	1.128E-02	-0.026
		604.41		-3.186E-01	6.133E-01	7.946E-01	1.043E-01	-0.401
TL-200		612.46		7.455E-01	8.732E-01	1.376E+00	1.377E-01	0.542
		65.12		-4.053E-02	9.366E-02	1.402E-01	1.388E-02	-0.289
		66.83		-1.476E-02	5.584E-02	8.238E-02	8.129E-03	-0.179
	+	75.70		1.146E+00	2.004E-01	3.625E-01	3.536E-02	3.162
	*	98.88		1.978E-01	1.995E-01	3.397E-01	3.499E-02	0.582
TL-201	+	129.76		5.403E+00	4.570E+00	5.541E+00	6.207E-01	0.975
		367.94	*	4.692E-03	4.570E+00	Half-Life	too short	
		579.30		1.121E-02	4.570E+00	Half-Life	too short	
		828.27		3.082E-03	4.570E+00	Half-Life	too short	
TL-201		1205.75		2.657E-02	4.570E+00	Half-Life	too short	
		68.90		1.634E+00	6.507E+00	1.112E+01	1.093E+00	0.147
		70.82		-6.138E+00	4.544E+00	6.437E+00	6.309E-01	-0.954
		80.30		1.083E+01	1.104E+01	1.430E+01	1.393E+00	0.757
		135.34		2.775E+01	6.089E+01	1.023E+02	1.106E+01	0.271
	*	167.43		1.154E+00	1.753E+01	2.862E+01	2.390E+00	0.040

---- 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		7.468E-02	2.974E-01	5.080E-01	4.994E-02	0.147
		70.82		-2.798E-01	2.071E-01	2.934E-01	2.876E-02	-0.954
		80.30		4.939E-01	5.033E-01	6.521E-01	6.351E-02	0.757
HG-203		439.56	*	2.937E-02	9.477E-02	1.603E-01	1.397E-02	0.183
		70.83		-1.022E+00	7.685E-01	1.079E+00	1.551E-01	-0.947
		72.87		3.016E-01	4.706E-01	7.319E-01	1.024E-01	0.412
BI-207	+	82.60		1.808E+00	1.105E+00	1.356E+00	1.963E-01	1.333
		279.20	*	7.912E-03	4.887E-02	7.423E-02	6.986E-03	0.107
		72.80		6.167E-02	1.290E-01	1.999E-01	1.955E-02	0.308
	+	74.97		6.264E-01	1.095E-01	1.737E-01	1.696E-02	3.605
	+	84.90		2.966E-01	1.785E-01	2.451E-01	2.389E-02	1.210
		569.67		2.608E-02	3.709E-02	6.384E-02	5.677E-03	0.409
TL-207		1063.62	*	2.548E-02	6.754E-02	1.150E-01	9.861E-03	0.222
		1770.23		-8.561E-01	7.051E-01	8.360E-01	7.061E-02	-1.024
		81.07		-7.736E-02	2.044E-01	2.387E-01	2.324E-02	-0.324
	+	83.78		1.955E-01	1.177E-01	1.643E-01	1.601E-02	1.190
		94.90		3.595E-01	2.023E-01	3.285E-01	3.315E-02	1.094
		122.32		-8.768E-01	1.702E+00	2.738E+00	3.332E-01	-0.320
		144.24		7.803E-01	7.177E-01	1.202E+00	1.327E-01	0.649
		154.21		2.119E-01	4.086E-01	6.840E-01	6.946E-02	0.310
	+	269.46		5.789E-01	3.103E-01	3.990E-01	3.723E-02	1.451
		323.87	*	-1.601E-01	8.116E-01	1.181E+00	2.119E-01	-0.136
	+	338.28		6.560E+00	2.056E+00	2.867E+00	3.610E-01	2.288
		445.03		-1.986E+00	2.880E+00	4.400E+00	5.358E-01	-0.451
PO-209		260.50		-1.834E+00	1.056E+01	1.653E+01	1.510E+00	-0.111
		262.80		-1.899E+01	3.041E+01	4.599E+01	4.205E+00	-0.413
		896.60	*	-2.695E+00	9.797E+00	1.572E+01	1.374E+00	-0.171
PB-211		404.84	*	6.312E-01	1.270E+00	1.851E+00	1.160E+00	0.341
		427.08		-9.115E-01	2.384E+00	3.703E+00	2.301E+00	-0.246
		831.96		-1.317E+00	1.698E+00	2.229E+00	1.397E+00	-0.591
BI-212	+	727.18	*	1.030E+00	4.936E-01	8.251E-01	8.279E-02	1.248
		785.46		1.743E+00	2.119E+00	3.810E+00	3.339E-01	0.458
		1620.62		4.277E-01	1.576E+00	2.729E+00	2.351E-01	0.157
PO-215		81.07		-7.736E-02	2.044E-01	2.387E-01	2.324E-02	-0.324
	+	83.78		1.955E-01	1.177E-01	1.643E-01	1.601E-02	1.190
		94.90		3.595E-01	2.023E-01	3.285E-01	3.315E-02	1.094
		122.32		-8.768E-01	1.702E+00	2.738E+00	3.332E-01	-0.320
		144.24		7.803E-01	7.177E-01	1.202E+00	1.327E-01	0.649
		154.21		2.119E-01	4.086E-01	6.840E-01	6.946E-02	0.310
	+	269.46		5.789E-01	3.103E-01	3.990E-01	3.723E-02	1.451
		323.87	*	-1.601E-01	8.116E-01	1.181E+00	2.119E-01	-0.136
	+	338.28		6.560E+00	2.056E+00	2.867E+00	3.610E-01	2.288
		445.03		-1.986E+00	2.880E+00	4.400E+00	5.358E-01	-0.451
	+	271.23		7.428E-01	4.001E-01	5.005E-01	5.392E-02	1.484
RN-219		401.81	*	-3.461E-01	4.856E-01	7.585E-01	1.134E-01	-0.456
		549.76	*	-1.217E+01	3.178E+01	4.964E+01	4.432E+00	-0.245
		81.07		-7.736E-02	2.044E-01	2.387E-01	2.324E-02	-0.324
RA-223	+	83.78		1.955E-01	1.177E-01	1.643E-01	1.601E-02	1.190
		94.90		3.595E-01	2.023E-01	3.285E-01	3.315E-02	1.094

---- 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		-8.768E-01	1.702E+00	2.738E+00	3.332E-01	-0.320
		144.24		7.803E-01	7.177E-01	1.202E+00	1.327E-01	0.649
		154.21		2.119E-01	4.086E-01	6.840E-01	6.946E-02	0.310
	+	269.46		5.789E-01	3.103E-01	3.990E-01	3.723E-02	1.451
		323.87	*	-1.601E-01	8.116E-01	1.181E+00	2.119E-01	-0.136
	+	338.28		6.560E+00	2.056E+00	2.867E+00	3.610E-01	2.288
		445.03		-1.986E+00	2.880E+00	4.400E+00	5.358E-01	-0.451
		79.80		1.064E+00	1.326E+00	1.900E+00	4.176E-01	0.560
		236.00		2.093E-01	2.714E-01	4.064E-01	5.090E-02	0.515
		256.20	*	1.187E-01	4.220E-01	6.817E-01	1.066E-01	0.174
TH-227		286.10		2.393E+00	1.661E+00	2.989E+00	4.058E-01	0.801
	+	299.80		2.762E+00	1.893E+00	2.908E+00	5.168E-01	0.950
		304.40		1.098E-01	2.148E+00	3.382E+00	6.323E-01	0.032
		334.20		-2.465E+00	2.908E+00	3.905E+00	7.654E-01	-0.631
		79.80		1.064E+00	1.327E+00	1.900E+00	4.227E-01	0.560
	+	94.00		8.505E+00	3.075E+00	3.364E+00	7.529E-01	2.528
		236.00		2.093E-01	2.712E-01	4.064E-01	4.627E-02	0.515
		256.20	*	1.187E-01	4.222E-01	6.817E-01	1.248E-01	0.174
		286.10		2.393E+00	2.904E+00	2.989E+00	3.001E+00	0.801
	+	299.80		2.762E+00	1.893E+00	2.908E+00	5.168E-01	0.950
TH-229		304.40		1.098E-01	2.148E+00	3.382E+00	6.323E-01	0.032
		334.20		-2.465E+00	2.908E+00	3.905E+00	7.654E-01	-0.631
	+	85.43		2.927E-01	1.762E-01	2.425E-01	2.364E-02	1.207
	+	88.47		5.676E-01	1.250E-01	1.804E-01	1.764E-02	3.147
		100.00		1.617E-01	1.628E-01	2.772E-01	2.872E-02	0.583
		193.63	*	1.290E-02	5.252E-01	8.486E-01	7.340E-02	0.015
		210.97		9.290E-01	8.576E-01	1.323E+00	1.167E-01	0.702
		283.67	*	5.218E-01	1.577E+00	2.722E+00	4.222E-01	0.192
		301.29		5.678E-01	7.140E-01	1.124E+00	1.421E-01	0.505
		81.07		-7.736E-02	2.044E-01	2.387E-01	2.324E-02	-0.324
PA-231	+	83.78		1.955E-01	1.177E-01	1.643E-01	1.601E-02	1.190
		94.90		3.595E-01	2.023E-01	3.285E-01	3.315E-02	1.094
		122.32		-8.768E-01	1.702E+00	2.738E+00	3.332E-01	-0.320
		144.24		7.803E-01	7.177E-01	1.202E+00	1.327E-01	0.649
		154.21		2.119E-01	4.086E-01	6.840E-01	6.946E-02	0.310
	+	269.46		5.789E-01	3.103E-01	3.990E-01	3.723E-02	1.451
		323.87	*	-1.601E-01	8.116E-01	1.181E+00	2.119E-01	-0.136
	+	338.28		6.560E+00	2.056E+00	2.867E+00	3.610E-01	2.288
		445.03		-1.986E+00	2.880E+00	4.400E+00	5.358E-01	-0.451
	+	84.21		1.618E+01	9.738E+00	1.365E+01	1.330E+00	1.185
U-231	+	92.29		1.614E+01	4.862E+00	6.750E+00	6.724E-01	2.391
		95.87	*	-5.657E-01	1.868E+00	2.751E+00	2.790E-01	-0.206
		108.00		1.931E-01	3.619E+00	6.032E+00	6.524E-01	0.032
	+	75.28		1.828E+01	3.949E+00	5.313E+00	8.509E-01	3.440
	+	86.59		8.139E+00	2.736E+00	2.591E+00	7.048E-01	3.142
	+	300.12		7.700E-01	5.230E-01	8.069E-01	1.227E-01	0.954
		311.98	*	-3.646E-02	6.758E-02	1.097E-01	1.029E-02	-0.332
		340.50		6.355E-01	7.318E-01	1.141E+00	2.735E-01	0.557
		398.62		9.496E-01	2.445E+00	4.148E+00	1.103E+00	0.229

---- 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		-9.597E-01	2.024E+00	3.091E+00	6.657E-01	-0.311
		63.00		1.763E+00	1.147E+00	1.425E+00	2.320E-01	1.238
		94.67		3.651E-01	1.543E-01	2.484E-01	3.344E-02	1.469
		98.44		1.878E-02	8.399E-02	1.324E-01	7.423E-02	0.142
		99.86		4.382E-01	4.135E-01	7.054E-01	7.303E-02	0.621
		111.00		-1.682E-02	1.694E-01	2.801E-01	3.889E-02	-0.060
		131.20		-1.286E-02	1.141E-01	1.669E-01	1.854E-02	-0.077
		152.70		1.717E-01	3.271E-01	5.468E-01	9.568E-02	0.314
		186.00		4.877E+00	2.808E+00	2.775E+00	8.657E-01	1.758
		226.40		-4.383E-01	4.428E-01	6.575E-01	8.821E-02	-0.667
		227.20		2.005E-01	4.535E-01	7.444E-01	6.664E-02	0.269
		248.90		-3.732E-01	8.766E-01	1.345E+00	3.039E-01	-0.277
		293.70		5.757E+00	1.575E+00	1.878E+00	3.304E-01	3.065
		369.80		5.251E-03	9.552E-01	1.593E+00	3.476E-01	0.003
		568.70		5.607E-02	1.278E+00	2.078E+00	1.848E-01	0.027
		569.50		1.681E-01	3.347E-01	5.662E-01	5.035E-02	0.297
		574.00		8.917E-01	1.722E+00	2.925E+00	2.598E-01	0.305
		699.00		3.214E-01	9.178E-01	1.588E+00	3.025E-01	0.202
		706.10		-3.435E-01	1.313E+00	2.146E+00	9.566E-01	-0.160
		733.00		-1.266E-01	5.071E-01	7.819E-01	1.737E-01	-0.162
		742.81		-4.537E-01	1.904E+00	3.087E+00	2.076E+00	-0.147
		796.30		1.772E+00	1.347E+00	2.165E+00	5.866E-01	0.819
		805.60		1.583E+00	1.256E+00	2.200E+00	6.754E-01	0.719
		819.60		1.499E+00	1.686E+00	2.887E+00	1.099E+00	0.519
		826.30		6.119E-01	1.037E+00	1.772E+00	7.934E-01	0.345
		831.60		-7.761E-01	8.244E-01	1.179E+00	3.524E-01	-0.658
		876.40		-4.110E-01	1.160E+00	1.715E+00	1.763E+00	-0.240
		880.51		6.569E-02	3.777E-01	6.368E-01	5.582E-02	0.103
		883.24		2.526E-02	3.825E-01	6.372E-01	4.284E-01	0.040
		899.00		-9.059E-01	1.258E+00	1.821E+00	7.965E-01	-0.497
		925.00		2.553E-01	1.683E+00	2.818E+00	2.466E-01	0.091
		926.50		-8.015E-02	2.627E-01	4.065E-01	1.029E-01	-0.197
		946.00	*	1.487E-02	3.633E-01	6.014E-01	1.132E-01	0.025
		949.00		6.611E-02	4.931E-01	8.260E-01	7.226E-02	0.080
		980.50		-2.943E-01	1.022E+00	1.624E+00	1.417E-01	-0.181
		1394.10		-1.066E-01	1.401E+00	2.306E+00	1.501E+00	-0.046
PA-234M	+	766.42		3.086E+01	2.094E+01	2.735E+01	1.388E+01	1.128
		1001.03	*	-5.249E-01	5.639E+00	9.093E+00	9.125E-01	-0.058
U-235	+	89.95		3.222E+00	1.391E+00	1.587E+00	4.956E-01	2.030
		93.35		2.646E+00	1.065E+00	1.142E+00	3.254E-01	2.316
		105.00		6.268E-01	9.649E-01	1.621E+00	4.943E-01	0.387
		143.76	*	2.186E-01	2.254E-01	3.724E-01	6.828E-02	0.587
		163.35		-6.361E-02	4.746E-01	7.672E-01	1.462E-01	-0.083
NP-236	+	185.71		1.806E-01	8.875E-02	1.028E-01	8.801E-03	1.758
		205.31		-2.583E-02	5.676E-01	8.098E-01	1.550E-01	-0.032
		94.67		2.791E-01	1.146E-01	1.887E-01	1.902E-02	1.479
		98.44		1.415E-02	6.301E-02	1.001E-01	1.028E-02	0.141
		111.00		-1.272E-02	1.282E-01	2.119E-01	2.330E-02	-0.060
		160.31	*	1.336E-02	7.726E-02	1.272E-01	1.124E-02	0.105

---- 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		1.505E-01	1.366E-01	2.334E-01	2.412E-02	0.645
		117.00	*	-1.293E-01	1.786E-01	2.843E-01	3.234E-02	-0.455
	+	209.75		2.827E+00	1.319E+00	1.564E+00	1.377E-01	1.808
		228.18		3.335E-01	2.328E-01	4.024E-01	3.605E-02	0.829
	+	277.60		1.753E-01	2.428E-01	3.329E-01	3.056E-02	0.526
AM-241		334.30		-1.407E+00	1.629E+00	2.211E+00	1.998E-01	-0.636
		59.54	*	3.596E-03	6.571E-02	1.011E-01	1.074E-02	0.036
	CM-243	99.55		1.549E-01	1.406E-01	2.402E-01	2.483E-02	0.645
		103.76	*	3.744E-02	8.333E-02	1.415E-01	1.496E-02	0.265
		117.00		-1.331E-01	1.838E-01	2.926E-01	3.328E-02	-0.455
AM-246	+	209.75		2.787E+00	1.300E+00	1.542E+00	1.358E-01	1.808
		228.18		3.370E-01	2.353E-01	4.067E-01	3.644E-02	0.829
	+	277.60		1.768E-01	2.449E-01	3.358E-01	3.082E-02	0.526
		798.80		8.694E-02	1.608E-01	2.545E-01	2.233E-02	0.342
		1036.00		1.797E-01	3.791E-01	6.543E-01	5.652E-02	0.275
CM-247		1062.04		-4.663E-02	3.097E-01	4.965E-01	4.259E-02	-0.094
		1078.86	*	1.766E-02	1.730E-01	2.855E-01	2.436E-02	0.062
	+	278.00		7.269E-01	1.007E+00	1.417E+00	1.301E-01	0.513
		287.40		9.030E-01	1.287E+00	2.265E+00	2.081E-01	0.399
		402.60	*	-2.891E-02	4.378E-02	6.899E-02	5.861E-03	-0.419
CF-249		252.85		-2.673E-02	9.556E-01	1.514E+00	1.379E-01	-0.018
		333.44		-1.498E-01	2.327E-01	2.990E-01	2.704E-02	-0.501
CF-251		387.95	*	4.447E-02	4.417E-02	7.849E-02	6.650E-03	0.567
		176.60	*	-2.389E-02	1.343E-01	2.157E-01	1.825E-02	-0.111
		227.00		-2.211E-01	4.214E-01	6.510E-01	5.827E-02	-0.340
		285.00		1.293E+00	1.859E+00	3.270E+00	3.003E-01	0.395

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]G1202021397      *
* Acquisition date   : 1-FEB-2010 13:47:32 Detector SN# :                    *
* Detector ID        : GAM17 Sensitivity      : 5.000                        *
* Geometry           : CAN Energy tolerance  : 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000               *
* Elapsed real time  : 0 02:00:09.58 Half life ratio : 8.000               *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202021397 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.2444E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight  : 0.00000                 *
*****
*                                     QC DATA                               *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope :                    *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.230E+01	2.705E+00	5.716E-01	0.000E+00
CD-109	4.255E+00	9.185E-01	8.838E-01	0.000E+00
SN-126	4.157E-01	8.975E-02	8.624E-02	0.000E+00
TL-208	5.058E-01	1.139E-01	7.076E-02	0.000E+00
BI-210	9.770E-01	1.011E+00	8.305E-01	0.000E+00
PB-210	9.770E-01	1.011E+00	8.305E-01	0.000E+00
PO-210	9.770E-01	1.010E+00	8.305E-01	0.000E+00
BI-211	4.369E+00	6.290E-01	3.272E-01	0.000E+00
PB-212	1.600E+00	1.980E-01	9.923E-02	0.000E+00
PO-212	1.600E+00	1.980E-01	9.923E-02	0.000E+00
BI-214	1.411E+00	2.340E-01	1.325E-01	0.000E+00
PB-214	1.520E+00	2.322E-01	1.141E-01	0.000E+00
PO-214	1.520E+00	2.322E-01	1.141E-01	0.000E+00
PO-216	1.600E+00	1.980E-01	9.923E-02	0.000E+00
PO-218	1.520E+00	2.322E-01	1.141E-01	0.000E+00
RA-224	4.243E+00	1.190E+00	1.130E+00	0.000E+00
RA-226	1.411E+00	2.340E-01	1.325E-01	0.000E+00
AC-228	1.840E+00	4.276E-01	2.632E-01	0.000E+00
RA-228	1.840E+00	4.276E-01	2.632E-01	0.000E+00
TH-228	1.630E+00	2.018E-01	1.011E-01	0.000E+00
TH-230	1.411E+00	2.340E-01	1.325E-01	0.000E+00
TH-232	1.840E+00	4.276E-01	2.632E-01	0.000E+00
TH-234	1.513E+00	9.735E-01	9.986E-01	0.000E+00
U-234	1.411E+00	2.340E-01	1.325E-01	0.000E+00
NP-237	1.221E+00	3.611E-01	2.467E-01	0.000E+00
U-238	1.513E+00	9.735E-01	9.986E-01	0.000E+00
AM-243	3.489E-01	5.977E-02	6.425E-02	0.000E+00
ANH-511	1.016E-01	7.777E-02	5.916E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	2.507E-02	3.834E-01	6.544E-01	0.000E+00	NOT IDENT.
NA-22	-3.934E-02	6.521E-02	9.928E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.788E+07	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.767E-02	2.953E-02	3.887E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	5.028E-02	6.234E-02	0.000E+00	FAIL ABUN
SC-46	5.756E-03	4.962E-02	8.537E-02	0.000E+00	FAIL ABUN
V-48	3.829E-02	1.121E-01	1.954E-01	0.000E+00	NOT IDENT.
CR-51	2.152E-01	4.285E-01	7.734E-01	0.000E+00	NOT IDENT.
MN-52	-2.644E-03	4.618E-01	7.833E-01	0.000E+00	FAIL ABUN
MN-54	1.805E-02	4.644E-02	8.225E-02	0.000E+00	NOT IDENT.
CO-56	4.082E-02	4.347E-02	8.186E-02	0.000E+00	NOT IDENT.
CO-57	-7.395E-03	2.458E-02	4.222E-02	0.000E+00	NOT IDENT.
CO-58	-3.689E-02	5.000E-02	7.884E-02	0.000E+00	NOT IDENT.
FE-59	3.916E-02	1.250E-01	2.155E-01	0.000E+00	NOT IDENT.
CO-60	1.407E-03	4.841E-02	8.250E-02	0.000E+00	NOT IDENT.
ZN-65	4.291E-02	1.210E-01	1.842E-01	0.000E+00	NOT IDENT.
GE-68	5.684E-01	1.475E+00	2.578E+00	0.000E+00	NOT IDENT.
AS-73	3.385E-01	2.153E-01	4.118E-01	0.000E+00	NOT IDENT.
AS-74	-2.481E-02	1.394E-01	2.284E-01	0.000E+00	NOT IDENT.
SE-75	5.933E-02	5.138E-02	8.732E-02	0.000E+00	NOT IDENT.
BR-77	0.000E+00	3.925E+01	0.000E+00	0.000E+00	SHORT HLIF
SR-82	-1.053E-01	5.135E-01	8.653E-01	0.000E+00	NOT IDENT.
RB-83	-2.713E-03	8.460E-02	1.421E-01	0.000E+00	NOT IDENT.
RB-84	1.162E-01	9.898E-02	1.868E-01	0.000E+00	NOT IDENT.
KR-85	7.719E+00	8.783E+00	1.427E+01	0.000E+00	NOT IDENT.
SR-85	4.126E-02	4.694E-02	7.628E-02	0.000E+00	NOT IDENT.
RB-86	4.928E-01	1.065E+00	1.879E+00	0.000E+00	NOT IDENT.
Y-88	1.591E-02	4.088E-02	7.412E-02	0.000E+00	NOT IDENT.
ZR-88	-1.691E-02	3.412E-02	5.658E-02	0.000E+00	NOT IDENT.
Y-91	1.716E+01	2.441E+01	4.338E+01	0.000E+00	NOT IDENT.
NB-94	3.730E-02	4.238E-02	7.844E-02	0.000E+00	NOT IDENT.
NB-95	4.218E-02	6.415E-02	1.035E-01	0.000E+00	NOT IDENT.
NB-95M	-1.795E-02	1.431E-01	2.099E-01	0.000E+00	NOT IDENT.
ZR-95	6.256E-03	9.126E-02	1.583E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.207E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.186E+08	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.226E+01	4.065E+01	7.328E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.378E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.419E-02	3.321E-02	5.739E-02	0.000E+00	NOT IDENT.
RH-102	3.030E-02	3.250E-02	5.933E-02	0.000E+00	FAIL ABUN
RU-103	-9.135E-04	4.777E-02	8.067E-02	0.000E+00	FAIL ABUN
RH-106	1.875E-01	3.827E-01	6.647E-01	0.000E+00	FAIL ABUN
RU-106	1.875E-01	3.822E-01	6.647E-01	0.000E+00	FAIL ABUN
AG-108M	9.465E-03	3.590E-02	6.270E-02	0.000E+00	NOT IDENT.
AG-110M	-1.335E-02	4.530E-02	7.253E-02	0.000E+00	NOT IDENT.
IN-111	3.242E+00	2.931E+00	4.759E+00	0.000E+00	NOT IDENT.
IN-113M	-1.041E-02	4.723E-02	8.005E-02	0.000E+00	NOT IDENT.
SN-113	-1.041E-02	4.723E-02	8.005E-02	0.000E+00	NOT IDENT.
IN-114M	2.570E-02	2.072E-01	3.158E-01	0.000E+00	NOT IDENT.
CD-115	0.000E+00	4.214E+01	0.000E+00	0.000E+00	SHORT HLIF
SN-117M	-3.122E-02	6.577E-02	1.098E-01	0.000E+00	NOT IDENT.
SB-122	-1.101E+00	7.013E+00	1.157E+01	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.532E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.689E-03	2.864E-02	4.895E-02	0.000E+00	NOT IDENT.
I-124	-2.979E+00	1.907E+00	2.153E+00	0.000E+00	FAIL ABUN
SB-124	1.219E-02	1.047E-01	1.789E-01	0.000E+00	FAIL ABUN
SB-125	-8.341E-02	1.030E-01	1.644E-01	0.000E+00	FAIL ABUN
TE-125M	-1.931E-01	8.647E+00	1.516E+01	0.000E+00	NOT IDENT.
I-126	3.189E-01	2.895E-01	5.238E-01	0.000E+00	NOT IDENT.
SB-126	3.497E-02	2.066E-01	3.447E-01	0.000E+00	FAIL ABUN
SB-127	4.988E-01	3.541E+00	5.905E+00	0.000E+00	FAIL ABUN
XE-127	1.748E-02	5.164E-02	8.868E-02	0.000E+00	NOT IDENT.
I-131	-1.405E-01	1.780E-01	2.904E-01	0.000E+00	NOT IDENT.
TE-132	2.381E+00	1.653E+00	2.929E+00	0.000E+00	NOT IDENT.
BA-133	-3.438E-02	4.976E-02	7.027E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.481E+05	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.208E-01	8.229E-02	1.215E-01	0.000E+00	FAIL ABUN
CS-135	2.577E-02	1.970E-01	2.919E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.571E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.708E-02	1.529E-01	2.616E-01	0.000E+00	FAIL ABUN
BA-137M	-2.211E-02	4.931E-02	7.790E-02	0.000E+00	NOT IDENT.
CS-137	-2.337E-02	5.213E-02	8.234E-02	0.000E+00	NOT IDENT.
CE-139	-3.186E-03	2.973E-02	5.052E-02	0.000E+00	NOT IDENT.
BA-140	-4.758E-02	3.879E-01	6.440E-01	0.000E+00	NOT IDENT.
LA-140	1.253E-01	1.385E-01	2.461E-01	0.000E+00	FAIL ABUN
CE-141	-1.730E-02	6.850E-02	1.167E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.708E+03	0.000E+00	0.000E+00	SHORT HLIF

CE-144	2.439E-02	2.169E-01	3.389E-01	0.000E+00	NOT IDENT.
PM-144	-1.109E-02	4.425E-02	7.524E-02	0.000E+00	NOT IDENT.
PR-144	-7.533E-01	3.005E+00	5.109E+00	0.000E+00	NOT IDENT.
PM-146	2.817E-02	4.729E-02	8.445E-02	0.000E+00	NOT IDENT.
ND-147	-3.537E-01	7.527E-01	1.200E+00	0.000E+00	FAIL ABUN
PM-149	0.000E+00	3.395E+02	0.000E+00	0.000E+00	SHORT HLIF
EU-152	-1.125E-02	1.010E-01	1.746E-01	0.000E+00	NOT IDENT.
GD-153	-2.051E-02	7.331E-02	1.129E-01	0.000E+00	FAIL ABUN
EU-154	-2.268E-02	1.717E-01	2.772E-01	0.000E+00	NOT IDENT.
EU-155	4.692E-02	9.417E-02	1.691E-01	0.000E+00	FAIL ABUN
TB-160	-3.060E-02	1.963E-01	3.287E-01	0.000E+00	FAIL ABUN
HO-166M	1.405E-02	7.217E-02	1.272E-01	0.000E+00	FAIL ABUN
TM-171	-2.693E-01	1.603E+01	2.543E+01	0.000E+00	NOT IDENT.
LU-176	-7.462E-03	2.598E-02	4.482E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	2.742E+00	3.385E+00	0.000E+00	FAIL ABUN
LU-177M	-1.567E-01	2.249E-01	3.126E-01	0.000E+00	FAIL ABUN
HF-181	3.637E-03	4.920E-02	8.400E-02	0.000E+00	NOT IDENT.
W-181	-1.170E-01	1.993E-01	3.147E-01	0.000E+00	NOT IDENT.
TA-182	8.237E-02	2.617E-01	4.456E-01	0.000E+00	NOT IDENT.
RE-183	3.035E-02	1.102E-01	1.913E-01	0.000E+00	FAIL ABUN
RE-184	-7.239E-03	2.536E-01	4.198E-01	0.000E+00	NOT IDENT.
OS-185	-1.763E-02	5.299E-02	8.442E-02	0.000E+00	NOT IDENT.
RE-188	2.458E-01	1.784E-01	3.246E-01	0.000E+00	NOT IDENT.
W-188	-4.607E+00	8.621E+00	1.279E+01	0.000E+00	FAIL ABUN
IR-192	-2.338E-02	3.662E-02	6.137E-02	0.000E+00	FAIL ABUN
AU-195	1.978E-01	1.955E-01	3.520E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.289E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.154E+00	1.718E+01	2.945E+01	0.000E+00	NOT IDENT.
TL-202	2.937E-02	9.287E-02	1.628E-01	0.000E+00	NOT IDENT.
HG-203	7.912E-03	4.789E-02	7.587E-02	0.000E+00	FAIL ABUN
BI-207	2.548E-02	6.619E-02	1.154E-01	0.000E+00	FAIL ABUN
TL-207	-1.601E-01	7.954E-01	1.205E+00	0.000E+00	FAIL ABUN
PO-209	-2.695E+00	9.601E+00	1.581E+01	0.000E+00	NOT IDENT.
PB-211	6.312E-01	1.244E+00	1.882E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	4.837E-01	8.323E-01	0.000E+00	FAIL ABUN
PO-215	-1.601E-01	7.954E-01	1.205E+00	0.000E+00	FAIL ABUN
RN-219	-3.461E-01	4.759E-01	7.714E-01	0.000E+00	FAIL ABUN
RN-220	-1.217E+01	3.115E+01	5.027E+01	0.000E+00	NOT IDENT.
RA-223	-1.601E-01	7.954E-01	1.205E+00	0.000E+00	FAIL ABUN
AC-227	1.187E-01	4.136E-01	6.975E-01	0.000E+00	FAIL ABUN
TH-227	1.187E-01	4.137E-01	6.975E-01	0.000E+00	FAIL ABUN
TH-229	1.290E-02	5.146E-01	8.716E-01	0.000E+00	FAIL ABUN
PA-231	5.218E-01	1.545E+00	2.781E+00	0.000E+00	NOT IDENT.
TH-231	-1.601E-01	7.954E-01	1.205E+00	0.000E+00	FAIL ABUN
U-231	-5.657E-01	1.830E+00	2.852E+00	0.000E+00	FAIL ABUN
PA-233	-3.646E-02	6.623E-02	1.119E-01	0.000E+00	FAIL ABUN
PA-234	1.487E-02	3.561E-01	6.044E-01	0.000E+00	FAIL ABUN
PA-234M	-5.249E-01	5.526E+00	9.132E+00	0.000E+00	FAIL ABUN
U-235	2.186E-01	2.209E-01	3.840E-01	0.000E+00	FAIL ABUN
NP-236	1.336E-02	7.571E-02	1.309E-01	0.000E+00	NOT IDENT.
NP-239	-1.293E-01	1.750E-01	2.940E-01	0.000E+00	FAIL ABUN
AM-241	3.596E-03	6.439E-02	1.055E-01	0.000E+00	NOT IDENT.
CM-243	3.744E-02	8.166E-02	1.466E-01	0.000E+00	FAIL ABUN
AM-246	1.766E-02	1.695E-01	2.865E-01	0.000E+00	NOT IDENT.
CM-247	-2.891E-02	4.291E-02	7.017E-02	0.000E+00	FAIL ABUN
CF-249	4.447E-02	4.329E-02	7.986E-02	0.000E+00	NOT IDENT.
CF-251	-2.389E-02	1.316E-01	2.218E-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]G1202021397.CNF;1
Sample date        : 13-JAN-2010 12:00:00 Acquisition date : 1-FEB-2010 13:47:32.
Sample ID          : G1202021397      Sample quantity    : 1.24440E+02 GRAM
Detector name      : GAM17             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:09.58 0.1%
Energy tolerance   : 1.50000 keV       Analyst Initials : MXR1
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 944038            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	614	10.67*	7.784E-01	2.230E+01	2.230E+01	12.38
CD-109	88.03	340	3.72*	6.675E+00	4.135E+00	4.255E+00	22.03
SN-126	64.28	129	9.60	6.776E+00	5.988E-01	5.988E-01	64.95
	86.94	340	8.90	6.675E+00	1.728E+00	1.728E+00	46.06
	87.57	340	37.00*	6.675E+00	4.157E-01	4.157E-01	22.03
TL-208	277.35	29	6.80	3.572E+00	3.634E-01	3.634E-01	138.81
	510.84	69	21.60	2.057E+00	4.706E-01	4.706E-01	78.52
	583.14	256	84.20*	1.812E+00	5.058E-01	5.058E-01	22.98
	860.37	41	12.46	1.247E+00	7.925E-01	7.925E-01	71.09
BI-210	46.50	83	4.05*	6.312E+00	9.754E-01	9.770E-01	105.56
PB-210	46.50	83	4.05*	6.312E+00	9.754E-01	9.770E-01	105.56
PO-210	46.50	83	4.05*	6.312E+00	9.754E-01	9.770E-01	105.49
BI-211	72.87	-----	1.27	6.803E+00	-----	Line Not Found	-----
	351.07	545	12.94*	2.909E+00	4.369E+00	4.369E+00	14.69
PB-212	74.81	519	10.70	6.795E+00	2.152E+00	2.152E+00	19.82
	77.11	795	18.00	6.782E+00	1.965E+00	1.965E+00	14.15
	87.30	340	8.00	6.675E+00	1.923E+00	1.923E+00	24.19
	238.63	952	44.60*	4.023E+00	1.600E+00	1.600E+00	12.63
	300.09	56	3.41	3.344E+00	1.490E+00	1.490E+00	67.09
PO-212	74.81	519	10.70	6.795E+00	2.152E+00	2.152E+00	19.82
	77.11	795	18.00	6.782E+00	1.965E+00	1.965E+00	14.15
	87.30	340	8.00	6.675E+00	1.923E+00	1.923E+00	24.19
	115.19	-----	0.60	6.177E+00	-----	Line Not Found	-----
	238.63	952	44.60*	4.023E+00	1.600E+00	1.600E+00	12.63
	300.09	56	3.41	3.344E+00	1.490E+00	1.490E+00	67.09
BI-214	609.31	376	46.30*	1.737E+00	1.411E+00	1.411E+00	16.92
	1120.29	79	15.10	9.777E-01	1.614E+00	1.614E+00	42.80
	1764.49	64	15.80	6.718E-01	1.810E+00	1.810E+00	30.28
PB-214	74.81	519	6.21	6.795E+00	3.708E+00	3.708E+00	18.99
	77.11	795	10.50	6.782E+00	3.368E+00	3.369E+00	16.07
	87.30	340	4.67	6.675E+00	3.294E+00	3.294E+00	23.34
	241.98	222	7.49	3.987E+00	2.237E+00	2.238E+00	29.16

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	295.21	259	19.20	3.388E+00	1.199E+00	1.199E+00	23.72
	351.92	545	37.20*	2.909E+00	1.520E+00	1.520E+00	15.59
	74.81	519	6.21	6.795E+00	3.708E+00	3.708E+00	18.99
	77.11	795	10.50	6.782E+00	3.368E+00	3.369E+00	16.07
	87.30	340	4.67	6.675E+00	3.294E+00	3.294E+00	23.34
PO-216	241.98	222	7.49	3.987E+00	2.237E+00	2.238E+00	29.16
	295.21	259	19.20	3.388E+00	1.199E+00	1.199E+00	23.72
	351.92	545	37.20*	2.909E+00	1.520E+00	1.520E+00	15.59
	74.81	519	10.70	6.795E+00	2.152E+00	2.152E+00	19.82
	77.11	795	18.00	6.782E+00	1.965E+00	1.965E+00	14.15
PO-218	87.30	340	8.00	6.675E+00	1.923E+00	1.923E+00	24.19
	238.63	952	44.60*	4.023E+00	1.600E+00	1.600E+00	12.63
	300.09	56	3.41	3.344E+00	1.490E+00	1.490E+00	67.09
	74.81	519	6.21	6.795E+00	3.708E+00	3.708E+00	18.99
	77.11	795	10.50	6.782E+00	3.368E+00	3.369E+00	16.07
RA-224	87.30	340	4.67	6.675E+00	3.294E+00	3.294E+00	23.34
	241.98	222	7.49	3.987E+00	2.237E+00	2.238E+00	29.16
	295.21	259	19.20	3.388E+00	1.199E+00	1.199E+00	23.72
	351.92	545	37.20*	2.909E+00	1.520E+00	1.520E+00	15.59
	240.98	222	3.95*	3.987E+00	4.243E+00	4.243E+00	28.62
RA-226	609.31	376	46.30*	1.737E+00	1.411E+00	1.411E+00	16.92
	1120.29	79	15.10	9.777E-01	1.614E+00	1.614E+00	42.80
AC-228	1764.49	64	15.80	6.718E-01	1.810E+00	1.810E+00	30.28
	338.32	179	11.40	3.014E+00	1.571E+00	1.571E+00	50.33
	911.07	200	27.70*	1.182E+00	1.840E+00	1.840E+00	23.71
RA-228	969.11	97	16.60	1.116E+00	1.580E+00	1.580E+00	43.99
	338.32	179	11.40	3.014E+00	1.571E+00	1.571E+00	50.33
	911.07	200	27.70*	1.182E+00	1.840E+00	1.840E+00	23.71
TH-228	969.11	97	16.60	1.116E+00	1.580E+00	1.580E+00	43.99
	74.81	519	10.70	6.795E+00	2.152E+00	2.193E+00	17.52
	77.11	795	18.00	6.782E+00	1.965E+00	2.003E+00	14.15
TH-230	87.30	340	8.00	6.675E+00	1.923E+00	1.960E+00	22.03
	238.63	952	44.60*	4.023E+00	1.600E+00	1.630E+00	12.63
	300.09	56	3.41	3.344E+00	1.490E+00	1.519E+00	88.92
	609.31	376	46.30*	1.737E+00	1.411E+00	1.411E+00	16.92
	1120.29	79	15.10	9.777E-01	1.614E+00	1.614E+00	42.80
TH-232	1764.49	64	15.80	6.718E-01	1.810E+00	1.810E+00	30.28
	338.32	179	11.40	3.014E+00	1.571E+00	1.571E+00	30.08
	911.07	200	27.70*	1.182E+00	1.840E+00	1.840E+00	23.71
TH-234	969.11	97	16.60	1.116E+00	1.580E+00	1.580E+00	43.99
	63.29	129	3.80*	6.776E+00	1.513E+00	1.513E+00	65.67
	92.38	260	5.41	6.594E+00	2.201E+00	2.201E+00	34.06
U-234	609.31	376	46.30*	1.737E+00	1.411E+00	1.411E+00	16.92
	1120.29	79	15.10	9.777E-01	1.614E+00	1.614E+00	42.80
NP-237	1764.49	64	15.80	6.718E-01	1.810E+00	1.810E+00	30.28
	86.50	340	12.60*	6.675E+00	1.221E+00	1.221E+00	30.18
U-238	95.87	-----	2.60	6.543E+00	-----	Line Not Found	-----
	63.29	129	3.80*	6.776E+00	1.513E+00	1.513E+00	65.67
	92.38	260	5.41	6.594E+00	2.201E+00	2.201E+00	30.12

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	519	66.00*	6.795E+00	3.489E-01	3.489E-01	17.48
	86.72	340	0.34	6.675E+00	4.578E+01	4.578E+01	22.03
	117.66	-----	0.55	6.127E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.624E+00	-----	Line Not Found	-----
ANH-511	511.00	69	100.00*	2.057E+00	1.016E-01	1.016E-01	78.08

Flag: "*" = Keyline

Total number of lines in spectrum 40
Number of unidentified lines 4
Number of lines tentatively identified by NID 36 90.00%

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	2.230E+01	2.230E+01	0.276E+01	12.38	
CD-109	464.00D	1.03	4.135E+00	4.255E+00	0.937E+00	22.03	
SN-126	1.00E+05Y	1.00	4.157E-01	4.157E-01	0.916E-01	22.03	
TL-208	1.41E+10Y	1.00	5.058E-01	5.058E-01	1.163E-01	22.98	
BI-210	22.26Y	1.00	9.754E-01	9.770E-01	10.31E-01	105.56	
PB-210	22.26Y	1.00	9.754E-01	9.770E-01	10.31E-01	105.56	
PO-210	22.26Y	1.00	9.754E-01	9.770E-01	10.31E-01	105.49	
BI-211	7.04E+08Y	1.00	4.369E+00	4.369E+00	0.642E+00	14.69	
PB-212	1.41E+10Y	1.00	1.600E+00	1.600E+00	0.202E+00	12.63	
PO-212	1.41E+10Y	1.00	1.600E+00	1.600E+00	0.202E+00	12.63	
BI-214	1600.00Y	1.00	1.411E+00	1.411E+00	0.239E+00	16.92	
PB-214	1600.00Y	1.00	1.520E+00	1.520E+00	0.237E+00	15.59	
PO-214	1600.00Y	1.00	1.520E+00	1.520E+00	0.237E+00	15.59	
PO-216	1.41E+10Y	1.00	1.600E+00	1.600E+00	0.202E+00	12.63	
PO-218	1600.00Y	1.00	1.520E+00	1.520E+00	0.237E+00	15.59	
RA-224	1.41E+10Y	1.00	4.243E+00	4.243E+00	1.214E+00	28.62	
RA-226	1600.00Y	1.00	1.411E+00	1.411E+00	0.239E+00	16.92	
AC-228	1.41E+10Y	1.00	1.840E+00	1.840E+00	0.436E+00	23.71	
RA-228	1.41E+10Y	1.00	1.840E+00	1.840E+00	0.436E+00	23.71	
TH-228	1.91Y	1.02	1.600E+00	1.630E+00	0.206E+00	12.63	
TH-230	4.47E+09Y	1.00	1.411E+00	1.411E+00	0.239E+00	16.92	
TH-232	1.41E+10Y	1.00	1.840E+00	1.840E+00	0.436E+00	23.71	
TH-234	4.47E+09Y	1.00	1.513E+00	1.513E+00	0.993E+00	65.67	
U-234	4.47E+09Y	1.00	1.411E+00	1.411E+00	0.239E+00	16.92	
NP-237	2.14E+06Y	1.00	1.221E+00	1.221E+00	0.368E+00	30.18	
U-238	4.47E+09Y	1.00	1.513E+00	1.513E+00	0.993E+00	65.67	
AM-243	7380.00Y	1.00	3.489E-01	3.489E-01	0.610E-01	17.48	
ANH-511	1.00E+09Y	1.00	1.016E-01	1.016E-01	0.794E-01	78.08	

Total Activity : 6.572E+01 6.587E+01

Grand Total Activity : 6.572E+01 6.587E+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	83.98	108	316	1.40	167.62	165	7	1.49E-02	59.4	6.72E+00	T
4	89.88	191	239	1.04	179.42	171	21	2.66E-02	29.8	6.64E+00	T
0	129.31	79	311	1.17	258.32	254	9	1.10E-02	83.8	5.89E+00	T
0	185.95	155	291	1.20	371.64	366	12	2.16E-02	48.4	4.81E+00	T
0	208.90	135	220	1.19	417.55	413	11	1.87E-02	45.8	4.44E+00	T
0	269.97	95	155	1.38	539.74	536	10	1.32E-02	52.8	3.65E+00	T
0	327.84	31	116	0.94	655.54	652	8	4.33E-03	****	3.10E+00	T
0	410.11	32	111	1.16	820.14	814	11	4.41E-03	****	2.53E+00	T
0	462.89	47	81	1.15	925.76	921	12	6.47E-03	82.7	2.26E+00	T
0	726.91	59	41	0.75	1454.09	1450	9	8.19E-03	46.9	1.46E+00	T
0	767.67	45	20	1.45	1535.66	1532	8	6.32E-03	45.0	1.39E+00	T
0	794.59	41	43	1.56	1589.52	1585	10	5.65E-03	68.9	1.34E+00	T
0	934.08	29	37	1.79	1868.69	1863	10	3.97E-03	90.1	1.15E+00	T
0	1508.29	16	10	2.14	3018.04	3009	14	2.20E-03	99.9	7.58E-01	T
0	1580.22	8	6	0.57	3162.02	3158	6	1.12E-03	****	7.30E-01	
0	1586.98	16	17	5.06	3175.56	3165	14	2.23E-03	****	7.28E-01	
0	1590.68	18	5	0.93	3182.96	3179	9	2.50E-03	63.9	7.27E-01	
0	1729.61	7	8	1.06	3461.09	3455	8	1.02E-03	****	6.81E-01	

Flags: "T" = Tentatively associated

```

*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021397.CNF;1
* Acquisition date   : 1-FEB-2010 13:47:32.  Detector SN#      :
* Detector ID        : GAM17                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:09.58             Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G1202021397           Analyst initials: MXR1
* Batch Number       : 944038                Sample Quantity : 1.24440E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope      :
* MSD ID             :                      MSD Isotope       :
* LCS ID             : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.230E+01	2.761E+00	5.722E-01	5.081E-02	38.975
CD-109	4.255E+00	9.372E-01	8.516E-01	8.313E-02	4.996
SN-126	4.157E-01	9.158E-02	8.309E-02	8.108E-03	5.003
TL-208	5.058E-01	1.163E-01	6.993E-02	6.614E-03	7.234
BI-210	9.770E-01	1.031E+00	7.936E-01	8.609E-02	1.231
PB-210	9.770E-01	1.031E+00	7.936E-01	8.609E-02	1.231
PO-210	9.770E-01	1.031E+00	7.936E-01	8.017E-02	1.231
BI-211	4.369E+00	6.418E-01	3.211E-01	2.996E-02	13.605
PB-212	1.600E+00	2.020E-01	9.688E-02	9.767E-03	16.512
PO-212	1.600E+00	2.020E-01	9.688E-02	9.767E-03	16.512
BI-214	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
PB-214	1.520E+00	2.369E-01	1.120E-01	1.196E-02	13.572
PO-214	1.520E+00	2.369E-01	1.120E-01	1.196E-02	13.572
PO-216	1.600E+00	2.020E-01	9.688E-02	9.767E-03	16.512
PO-218	1.520E+00	2.369E-01	1.120E-01	1.196E-02	13.572
RA-224	4.243E+00	1.214E+00	1.103E+00	9.979E-02	3.845
RA-226	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
AC-228	1.840E+00	4.363E-01	2.617E-01	2.968E-02	7.032

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.840E+00	4.363E-01	2.617E-01	2.968E-02	7.032
TH-228	1.630E+00	2.059E-01	9.874E-02	9.954E-03	16.512
TH-230	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
TH-232	1.840E+00	4.363E-01	2.617E-01	2.968E-02	7.032
TH-234	1.513E+00	9.934E-01	9.580E-01	1.788E-01	1.579
U-234	1.411E+00	2.388E-01	1.310E-01	1.333E-02	10.768
NP-237	1.221E+00	3.685E-01	2.377E-01	5.424E-02	5.137
U-238	1.513E+00	9.934E-01	9.580E-01	1.788E-01	1.579
AM-243	3.489E-01	6.099E-02	6.177E-02	6.030E-03	5.648
ANH-511	1.016E-01	7.936E-02	5.836E-02	5.212E-03	1.742

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.507E-02		3.912E-01	6.449E-01	6.137E-02	0.039
NA-22	-3.934E-02		6.654E-02	9.919E-02	8.356E-03	-0.397
NA-24	-1.154E+01		3.463E+01	Half-Life too short		
AL-26	-1.767E-02		3.013E-02	3.903E-02	3.271E-03	-0.453
TI-44	3.627E-01	+	5.131E-02	5.997E-02	5.844E-03	6.047
SC-46	5.756E-03		5.063E-02	8.486E-02	7.429E-03	0.068
V-48	3.829E-02		1.144E-01	1.945E-01	1.697E-02	0.197
CR-51	2.152E-01		4.372E-01	7.581E-01	7.240E-02	0.284
MN-52	-2.644E-03		4.712E-01	7.839E-01	6.759E-02	-0.003
MN-54	1.805E-02		4.739E-02	8.169E-02	7.182E-03	0.221
CO-56	4.082E-02		4.435E-02	4.132E-02	7.149E-03	0.502
CO-57	-7.395E-03		2.508E-02	4.085E-02	4.786E-03	-0.181
CO-58	-3.689E-02		5.102E-02	7.827E-02	6.893E-03	-0.471
FE-59	3.916E-02		1.276E-01	2.149E-01	1.972E-02	0.182
CO-60	1.407E-03		4.940E-02	8.248E-02	7.030E-03	0.017
ZN-65	4.291E-02		1.234E-01	1.837E-01	1.547E-02	0.234
GE-68	5.684E-01		1.505E+00	2.570E+00	2.194E-01	0.221
AS-73	3.385E-01		2.197E-01	3.942E-01	3.944E-02	0.859
AS-74	-2.481E-02		1.423E-01	2.258E-01	1.990E-02	-0.110
SE-75	5.933E-02		5.243E-02	8.538E-02	7.844E-03	0.695
BR-77	-2.108E-06		2.003E-05	Half-Life too short		
SR-82	-1.053E-01		5.240E-01	8.586E-01	7.514E-02	-0.123
RB-83	-2.713E-03		8.633E-02	1.403E-01	1.254E-02	-0.019
RB-84	1.162E-01		1.010E-01	1.856E-01	1.627E-02	0.626
KR-85	7.719E+00		8.962E+00	1.408E+01	1.258E+00	0.548
SR-85	4.126E-02		4.790E-02	7.525E-02	6.723E-03	0.548
RB-86	4.928E-01		1.087E+00	1.873E+00	1.599E-01	0.263
Y-88	1.591E-02		4.172E-02	7.444E-02	6.207E-03	0.214
ZR-88	-1.691E-02		3.482E-02	5.561E-02	4.686E-03	-0.304
Y-91	1.716E+01		2.490E+01	4.331E+01	3.575E+00	0.396
NB-94	3.730E-02		4.324E-02	7.773E-02	6.667E-03	0.480
NB-95	4.218E-02		6.546E-02	1.027E-01	8.967E-03	0.411
NB-95M	-1.795E-02		1.460E-01	2.049E-01	2.092E-02	-0.088

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-95	6.256E-03		9.312E-02	1.570E-01	1.505E-02	0.040
NB-97	-2.467E+00		3.167E+00	Half-Life too short		
ZR-97	1.065E+02		6.051E+01	Half-Life too short		
MO-99	2.226E+01		4.148E+01	7.266E+01	1.106E+01	0.306
TC-99M	-2.485E+15		1.213E+15	Half-Life too short		
RH-101	1.419E-02		3.389E-02	5.589E-02	4.859E-03	0.254
RH-102	3.030E-02		3.316E-02	5.847E-02	5.179E-03	0.518
RU-103	-9.135E-04		4.875E-02	7.955E-02	1.141E-02	-0.011
RH-106	1.875E-01		3.905E-01	6.575E-01	8.812E-02	0.285
RU-106	1.875E-01		3.900E-01	6.575E-01	5.712E-02	0.285
AG-108M	9.465E-03		3.663E-02	6.172E-02	5.571E-03	0.153
AG-110M	-1.335E-02		4.622E-02	7.180E-02	6.258E-03	-0.186
IN-111	3.242E+00		2.991E+00	4.648E+00	4.215E-01	0.698
IN-113M	-1.041E-02		4.819E-02	7.868E-02	6.837E-03	-0.132
SN-113	-1.041E-02		4.819E-02	7.868E-02	6.837E-03	-0.132
IN-114M	2.570E-02		2.114E-01	3.074E-01	2.647E-02	0.084
CD-115	-3.130E-05		2.150E-05	Half-Life too short		
SN-117M	-3.122E-02		6.711E-02	1.066E-01	9.585E-03	-0.293
SB-122	-1.101E+00		7.156E+00	1.143E+01	1.017E+00	-0.096
I-123	-5.030E+01		4.353E+02	Half-Life too short		
TE-123M	-1.689E-03		2.923E-02	4.753E-02	4.278E-03	-0.036
I-124	-2.979E+00		1.946E+00	2.128E+00	1.869E-01	-1.400
SB-124	1.219E-02		1.068E-01	1.795E-01	1.597E-02	0.068
SB-125	-8.341E-02		1.051E-01	1.618E-01	1.427E-02	-0.516
TE-125M	-1.931E-01		8.824E+00	1.465E+01	1.802E+00	-0.013
I-126	3.189E-01		2.954E-01	5.186E-01	4.379E-02	0.615
SB-126	3.497E-02		2.108E-01	3.417E-01	2.949E-02	0.102
SB-127	4.988E-01		3.614E+00	5.849E+00	7.340E-01	0.085
XE-127	1.748E-02		5.270E-02	8.639E-02	7.552E-03	0.202
I-131	-1.405E-01		1.816E-01	2.852E-01	2.642E-02	-0.493
TE-132	2.381E+00		1.687E+00	2.858E+00	4.771E-01	0.833
BA-133	-3.438E-02		5.078E-02	6.898E-02	9.217E-03	-0.498
I-133	5.456E-02		7.555E-02	Half-Life too short		
CS-134	1.208E-01	+	8.397E-02	1.206E-01	1.065E-02	1.002
CS-135	2.577E-02		2.010E-01	2.854E-01	2.979E-02	0.090
I-135	6.287E+13		8.014E+13	Half-Life too short		
CS-136	2.708E-02		1.560E-01	2.606E-01	2.341E-02	0.104
BA-137M	-2.211E-02		5.032E-02	7.712E-02	6.496E-03	-0.287
CS-137	-2.337E-02		5.319E-02	8.152E-02	6.881E-03	-0.287
CE-139	-3.186E-03		3.033E-02	4.909E-02	4.093E-03	-0.065
BA-140	-4.758E-02		3.958E-01	6.357E-01	2.112E-01	-0.075
LA-140	1.253E-01		1.414E-01	2.467E-01	2.129E-02	0.508
CE-141	-1.730E-02		6.990E-02	1.131E-01	1.154E-02	-0.153
CE-143	4.914E-03		8.714E-04	Half-Life too short		
CE-144	2.439E-02		2.213E-01	3.283E-01	5.569E-02	0.074
PM-144	-1.109E-02		4.516E-02	7.454E-02	6.382E-03	-0.149
PR-144	-7.533E-01		3.066E+00	5.062E+00	4.331E-01	-0.149
PM-146	2.817E-02		4.826E-02	8.317E-02	9.028E-03	0.339

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	-3.537E-01		7.680E-01	1.184E+00	1.793E-01	-0.299
PM-149	3.700E-04		1.732E-04	Half-Life too short		
EU-152	-1.125E-02		1.030E-01	1.713E-01	1.621E-02	-0.066
GD-153	-2.051E-02		7.481E-02	1.089E-01	1.114E-02	-0.188
EU-154	-2.268E-02		1.752E-01	2.770E-01	3.090E-02	-0.082
EU-155	4.692E-02		9.610E-02	1.633E-01	1.754E-02	0.287
TB-160	-3.060E-02		2.003E-01	3.267E-01	2.864E-02	-0.094
HO-166M	1.405E-02		7.365E-02	1.261E-01	1.085E-02	0.111
TM-171	-2.693E-01		1.636E+01	2.442E+01	2.410E+00	-0.011
LU-176	-7.462E-03		2.651E-02	4.390E-02	4.022E-03	-0.170
LU-177	5.998E+00	+	2.798E+00	3.299E+00	2.902E-01	1.818
LU-177M	-1.567E-01		2.295E-01	3.075E-01	2.635E-02	-0.510
HF-181	3.637E-03		5.020E-02	8.280E-02	7.350E-03	0.044
W-181	-1.170E-01		2.034E-01	3.020E-01	2.991E-02	-0.387
TA-182	8.237E-02		2.670E-01	4.450E-01	3.691E-02	0.185
RE-183	3.035E-02		1.124E-01	1.858E-01	1.609E-02	0.163
RE-184	-7.239E-03		2.588E-01	4.102E-01	3.735E-02	-0.018
OS-185	-1.763E-02		5.407E-02	8.355E-02	7.134E-03	-0.211
RE-188	2.458E-01		1.821E-01	3.151E-01	2.927E-02	0.780
W-188	-4.607E+00		8.797E+00	1.252E+01	1.150E+00	-0.368
IR-192	-2.338E-02		3.737E-02	6.015E-02	5.503E-03	-0.389
AU-195	1.978E-01		1.995E-01	3.397E-01	3.499E-02	0.582
TL-200	4.692E-03		3.209E-03	Half-Life too short		
TL-201	1.154E+00		1.753E+01	2.862E+01	2.390E+00	0.040
TL-202	2.937E-02		9.477E-02	1.603E-01	1.397E-02	0.183
HG-203	7.912E-03		4.887E-02	7.423E-02	6.986E-03	0.107
BI-207	2.548E-02		6.754E-02	1.150E-01	9.861E-03	0.222
TL-207	-1.601E-01		8.116E-01	1.181E+00	2.119E-01	-0.136
PO-209	-2.695E+00		9.797E+00	1.572E+01	1.374E+00	-0.171
PB-211	6.312E-01		1.270E+00	1.851E+00	1.160E+00	0.341
BI-212	1.030E+00	+	4.936E-01	8.251E-01	8.279E-02	1.248
PO-215	-1.601E-01		8.116E-01	1.181E+00	2.119E-01	-0.136
RN-219	-3.461E-01		4.856E-01	7.585E-01	1.134E-01	-0.456
RN-220	-1.217E+01		3.178E+01	4.964E+01	4.432E+00	-0.245
RA-223	-1.601E-01		8.116E-01	1.181E+00	2.119E-01	-0.136
AC-227	1.187E-01		4.220E-01	6.817E-01	1.066E-01	0.174
TH-227	1.187E-01		4.222E-01	6.817E-01	1.248E-01	0.174
TH-229	1.290E-02		5.252E-01	8.486E-01	7.340E-02	0.015
PA-231	5.218E-01		1.577E+00	2.722E+00	4.222E-01	0.192
TH-231	-1.601E-01		8.116E-01	1.181E+00	2.119E-01	-0.136
U-231	-5.657E-01		1.868E+00	2.751E+00	2.790E-01	-0.206
PA-233	-3.646E-02		6.758E-02	1.097E-01	1.029E-02	-0.332
PA-234	1.487E-02		3.633E-01	6.014E-01	1.132E-01	0.025
PA-234M	-5.249E-01		5.639E+00	9.093E+00	9.125E-01	-0.058
U-235	2.186E-01		2.254E-01	3.724E-01	6.828E-02	0.587
NP-236	1.336E-02		7.726E-02	1.272E-01	1.124E-02	0.105
NP-239	-1.293E-01		1.786E-01	2.843E-01	3.234E-02	-0.455
AM-241	3.596E-03		6.571E-02	1.011E-01	1.074E-02	0.036

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.744E-02		8.333E-02	1.415E-01	1.496E-02	0.265
AM-246	1.766E-02		1.730E-01	2.855E-01	2.436E-02	0.062
CM-247	-2.891E-02		4.378E-02	6.899E-02	5.861E-03	-0.419
CF-249	4.447E-02		4.417E-02	7.849E-02	6.650E-03	0.567
CF-251	-2.389E-02		1.343E-01	2.157E-01	1.825E-02	-0.111

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]G1202021397          *
* Acquisition date   : 1-FEB-2010 13:47:32 Detector SN#      :              *
* Detector ID        : GAM17 Sensitivity      : 5.000          *
* Geometry           : CAN Energy tolerance: 1.500          *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000   *
* Elapsed real time  : 0 02:00:09.58 Half life ratio : 8.000   *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 13-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202021397 Analyst initials: MXR1          *
* Batch Number       : 944038 Sample Quantity : 1.2444E+02 GRAM   *
* Recovery           : 1.00000 Carrier Weight : 0.00000          *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope      :              *
* MSD DPM             : 0.000 MSD Isotope                  :              *
* LCS DPM             : 0.000 LCS Isotope                   :              *
* LCSD DPM            : 0.000 LCSD Isotope                  :              *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.230E+01	2.705E+00	2.860E-01	1.380E+00
CD-109	4.255E+00	9.185E-01	4.422E-01	4.686E-01
SN-126	4.157E-01	8.975E-02	4.315E-02	4.579E-02
TL-208	5.058E-01	1.139E-01	3.540E-02	5.813E-02
BI-210	9.770E-01	1.011E+00	4.155E-01	5.157E-01
PB-210	9.770E-01	1.011E+00	4.155E-01	5.157E-01
PO-210	9.770E-01	1.010E+00	4.155E-01	5.153E-01
BI-211	4.369E+00	6.290E-01	1.637E-01	3.209E-01
PB-212	1.600E+00	1.980E-01	4.964E-02	1.010E-01
PO-212	1.600E+00	1.980E-01	4.964E-02	1.010E-01
BI-214	1.411E+00	2.340E-01	6.629E-02	1.194E-01
PB-214	1.520E+00	2.322E-01	5.708E-02	1.185E-01
PO-214	1.520E+00	2.322E-01	5.708E-02	1.185E-01
PO-216	1.600E+00	1.980E-01	4.964E-02	1.010E-01
PO-218	1.520E+00	2.322E-01	5.708E-02	1.185E-01
RA-224	4.243E+00	1.190E+00	5.654E-01	6.071E-01
RA-226	1.411E+00	2.340E-01	6.629E-02	1.194E-01
AC-228	1.840E+00	4.276E-01	1.317E-01	2.181E-01
RA-228	1.840E+00	4.276E-01	1.317E-01	2.181E-01
TH-228	1.630E+00	2.018E-01	5.060E-02	1.029E-01
TH-230	1.411E+00	2.340E-01	6.629E-02	1.194E-01
TH-232	1.840E+00	4.276E-01	1.317E-01	2.181E-01
TH-234	1.513E+00	9.735E-01	4.996E-01	4.967E-01
U-234	1.411E+00	2.340E-01	6.629E-02	1.194E-01
NP-237	1.221E+00	3.611E-01	1.234E-01	1.842E-01
U-238	1.513E+00	9.735E-01	4.996E-01	4.967E-01
AM-243	3.489E-01	5.977E-02	3.214E-02	3.049E-02
ANH-511	1.016E-01	7.777E-02	2.960E-02	3.968E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	2.507E-02	3.834E-01	3.274E-01	1.956E-01	NOT IDENT.
NA-22	-3.934E-02	6.521E-02	4.967E-02	3.327E-02	NOT IDENT.
NA-24	-1.154E+07	6.788E+07	0.000E+00	3.463E+07	SHORT HLIF
AL-26	-1.767E-02	2.953E-02	1.945E-02	1.506E-02	NOT IDENT.
TI-44	3.627E-01	5.028E-02	3.119E-02	2.565E-02	FAIL ABUN
SC-46	5.756E-03	4.962E-02	4.271E-02	2.532E-02	FAIL ABUN
V-48	3.829E-02	1.121E-01	9.777E-02	5.719E-02	NOT IDENT.
CR-51	2.152E-01	4.285E-01	3.869E-01	2.186E-01	NOT IDENT.
MN-52	-2.644E-03	4.618E-01	3.919E-01	2.356E-01	FAIL ABUN
MN-54	1.805E-02	4.644E-02	4.115E-02	2.369E-02	NOT IDENT.
CO-56	4.082E-02	4.347E-02	4.095E-02	2.218E-02	NOT IDENT.
CO-57	-7.395E-03	2.458E-02	2.112E-02	1.254E-02	NOT IDENT.
CO-58	-3.689E-02	5.000E-02	3.944E-02	2.551E-02	NOT IDENT.
FE-59	3.916E-02	1.250E-01	1.078E-01	6.378E-02	NOT IDENT.
CO-60	1.407E-03	4.841E-02	4.128E-02	2.470E-02	NOT IDENT.
ZN-65	4.291E-02	1.210E-01	9.216E-02	6.171E-02	NOT IDENT.
GE-68	5.684E-01	1.475E+00	1.290E+00	7.526E-01	NOT IDENT.
AS-73	3.385E-01	2.153E-01	2.060E-01	1.099E-01	NOT IDENT.
AS-74	-2.481E-02	1.394E-01	1.143E-01	7.114E-02	NOT IDENT.
SE-75	5.933E-02	5.138E-02	4.369E-02	2.622E-02	NOT IDENT.
BR-77	-2.108E+00	3.925E+01	0.000E+00	2.003E+01	SHORT HLIF
SR-82	-1.053E-01	5.135E-01	4.329E-01	2.620E-01	NOT IDENT.
RB-83	-2.713E-03	8.460E-02	7.112E-02	4.317E-02	NOT IDENT.
RB-84	1.162E-01	9.898E-02	9.344E-02	5.050E-02	NOT IDENT.
KR-85	7.719E+00	8.783E+00	7.139E+00	4.481E+00	NOT IDENT.
SR-85	4.126E-02	4.694E-02	3.816E-02	2.395E-02	NOT IDENT.
RB-86	4.928E-01	1.065E+00	9.400E-01	5.434E-01	NOT IDENT.
Y-88	1.591E-02	4.088E-02	3.708E-02	2.086E-02	NOT IDENT.
ZR-88	-1.691E-02	3.412E-02	2.831E-02	1.741E-02	NOT IDENT.
Y-91	1.716E+01	2.441E+01	2.170E+01	1.245E+01	NOT IDENT.
NB-94	3.730E-02	4.238E-02	3.924E-02	2.162E-02	NOT IDENT.
NB-95	4.218E-02	6.415E-02	5.177E-02	3.273E-02	NOT IDENT.
NB-95M	-1.795E-02	1.431E-01	1.050E-01	7.301E-02	NOT IDENT.
ZR-95	6.256E-03	9.126E-02	7.920E-02	4.656E-02	NOT IDENT.
NB-97	-2.467E+06	6.207E+06	0.000E+00	3.167E+06	SHORT HLIF
ZR-97	1.065E+08	1.186E+08	0.000E+00	6.051E+07	SHORT HLIF
MO-99	2.226E+01	4.065E+01	3.666E+01	2.074E+01	NOT IDENT.
TC-99M	-2.485E+21	2.378E+21	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.419E-02	3.321E-02	2.871E-02	1.694E-02	NOT IDENT.
RH-102	3.030E-02	3.250E-02	2.968E-02	1.658E-02	FAIL ABUN
RU-103	-9.135E-04	4.777E-02	4.036E-02	2.437E-02	FAIL ABUN
RH-106	1.875E-01	3.827E-01	3.326E-01	1.953E-01	FAIL ABUN
RU-106	1.875E-01	3.822E-01	3.326E-01	1.950E-01	FAIL ABUN
AG-108M	9.465E-03	3.590E-02	3.137E-02	1.832E-02	NOT IDENT.
AG-110M	-1.335E-02	4.530E-02	3.629E-02	2.311E-02	NOT IDENT.
IN-111	3.242E+00	2.931E+00	2.381E+00	1.495E+00	NOT IDENT.
IN-113M	-1.041E-02	4.723E-02	4.005E-02	2.410E-02	NOT IDENT.
SN-113	-1.041E-02	4.723E-02	4.005E-02	2.410E-02	NOT IDENT.
IN-114M	2.570E-02	2.072E-01	1.580E-01	1.057E-01	NOT IDENT.
CD-115	-3.130E+01	4.214E+01	0.000E+00	2.150E+01	SHORT HLIF
SN-117M	-3.122E-02	6.577E-02	5.494E-02	3.355E-02	NOT IDENT.
SB-122	-1.101E+00	7.013E+00	5.787E+00	3.578E+00	NOT IDENT.
I-123	-5.030E+07	8.532E+08	0.000E+00	4.353E+08	SHORT HLIF
TE-123M	-1.689E-03	2.864E-02	2.449E-02	1.461E-02	NOT IDENT.
I-124	-2.979E+00	1.907E+00	1.077E+00	9.728E-01	FAIL ABUN
SB-124	1.219E-02	1.047E-01	8.950E-02	5.339E-02	FAIL ABUN
SB-125	-8.341E-02	1.030E-01	8.224E-02	5.256E-02	FAIL ABUN
TE-125M	-1.931E-01	8.647E+00	7.585E+00	4.412E+00	NOT IDENT.
I-126	3.189E-01	2.895E-01	2.621E-01	1.477E-01	NOT IDENT.
SB-126	3.497E-02	2.066E-01	1.725E-01	1.054E-01	FAIL ABUN
SB-127	4.988E-01	3.541E+00	2.954E+00	1.807E+00	FAIL ABUN
XE-127	1.748E-02	5.164E-02	4.437E-02	2.635E-02	NOT IDENT.
I-131	-1.405E-01	1.780E-01	1.453E-01	9.081E-02	NOT IDENT.
TE-132	2.381E+00	1.653E+00	1.465E+00	8.434E-01	NOT IDENT.
BA-133	-3.438E-02	4.976E-02	3.516E-02	2.539E-02	FAIL ABUN
I-133	5.456E+04	1.481E+05	0.000E+00	7.555E+04	SHORT HLIF
CS-134	1.208E-01	8.229E-02	6.077E-02	4.198E-02	FAIL ABUN
CS-135	2.577E-02	1.970E-01	1.460E-01	1.005E-01	NOT IDENT.
I-135	6.287E+19	1.571E+20	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.708E-02	1.529E-01	1.309E-01	7.802E-02	FAIL ABUN
BA-137M	-2.211E-02	4.931E-02	3.897E-02	2.516E-02	NOT IDENT.
CS-137	-2.337E-02	5.213E-02	4.120E-02	2.659E-02	NOT IDENT.
CE-139	-3.186E-03	2.973E-02	2.528E-02	1.517E-02	NOT IDENT.
BA-140	-4.758E-02	3.879E-01	3.222E-01	1.979E-01	NOT IDENT.
LA-140	1.253E-01	1.385E-01	1.231E-01	7.068E-02	FAIL ABUN
CE-141	-1.730E-02	6.850E-02	5.836E-02	3.495E-02	NOT IDENT.
CE-143	4.914E+03	1.708E+03	0.000E+00	8.714E+02	SHORT HLIF

CE-144	2.439E-02	2.169E-01	1.695E-01	1.107E-01	NOT IDENT.
PM-144	-1.109E-02	4.425E-02	3.764E-02	2.258E-02	NOT IDENT.
PR-144	-7.533E-01	3.005E+00	2.556E+00	1.533E+00	NOT IDENT.
PM-146	2.817E-02	4.729E-02	4.225E-02	2.413E-02	NOT IDENT.
ND-147	-3.537E-01	7.527E-01	6.002E-01	3.840E-01	FAIL ABUN
PM-149	3.700E+02	3.395E+02	0.000E+00	1.732E+02	SHORT HLIF
EU-152	-1.125E-02	1.010E-01	8.735E-02	5.152E-02	NOT IDENT.
GD-153	-2.051E-02	7.331E-02	5.649E-02	3.741E-02	FAIL ABUN
EU-154	-2.268E-02	1.717E-01	1.387E-01	8.761E-02	NOT IDENT.
EU-155	4.692E-02	9.417E-02	8.459E-02	4.805E-02	FAIL ABUN
TB-160	-3.060E-02	1.963E-01	1.644E-01	1.002E-01	FAIL ABUN
HO-166M	1.405E-02	7.217E-02	6.365E-02	3.682E-02	FAIL ABUN
TM-171	-2.693E-01	1.603E+01	1.272E+01	8.181E+00	NOT IDENT.
LU-176	-7.462E-03	2.598E-02	2.242E-02	1.325E-02	FAIL ABUN
LU-177	5.998E+00	2.742E+00	1.694E+00	1.399E+00	FAIL ABUN
LU-177M	-1.567E-01	2.249E-01	1.564E-01	1.147E-01	FAIL ABUN
HF-181	3.637E-03	4.920E-02	4.202E-02	2.510E-02	NOT IDENT.
W-181	-1.170E-01	1.993E-01	1.575E-01	1.017E-01	NOT IDENT.
TA-182	8.237E-02	2.617E-01	2.229E-01	1.335E-01	NOT IDENT.
RE-183	3.035E-02	1.102E-01	9.572E-02	5.621E-02	FAIL ABUN
RE-184	-7.239E-03	2.536E-01	2.100E-01	1.294E-01	NOT IDENT.
OS-185	-1.763E-02	5.299E-02	4.224E-02	2.704E-02	NOT IDENT.
RE-188	2.458E-01	1.784E-01	1.624E-01	9.104E-02	NOT IDENT.
W-188	-4.607E+00	8.621E+00	6.401E+00	4.399E+00	FAIL ABUN
IR-192	-2.338E-02	3.662E-02	3.070E-02	1.868E-02	FAIL ABUN
AU-195	1.978E-01	1.955E-01	1.761E-01	9.973E-02	FAIL ABUN
TL-200	4.692E+03	6.289E+03	0.000E+00	3.209E+03	SHORT HLIF
TL-201	1.154E+00	1.718E+01	1.474E+01	8.765E+00	NOT IDENT.
TL-202	2.937E-02	9.287E-02	8.146E-02	4.738E-02	NOT IDENT.
HG-203	7.912E-03	4.789E-02	3.796E-02	2.444E-02	FAIL ABUN
BI-207	2.548E-02	6.619E-02	5.774E-02	3.377E-02	FAIL ABUN
TL-207	-1.601E-01	7.954E-01	6.027E-01	4.058E-01	FAIL ABUN
PO-209	-2.695E+00	9.601E+00	7.909E+00	4.898E+00	NOT IDENT.
PB-211	6.312E-01	1.244E+00	9.417E-01	6.348E-01	NOT IDENT.
BI-212	1.030E+00	4.837E-01	4.164E-01	2.468E-01	FAIL ABUN
PO-215	-1.601E-01	7.954E-01	6.027E-01	4.058E-01	FAIL ABUN
RN-219	-3.461E-01	4.759E-01	3.859E-01	2.428E-01	FAIL ABUN
RN-220	-1.217E+01	3.115E+01	2.515E+01	1.589E+01	NOT IDENT.
RA-223	-1.601E-01	7.954E-01	6.027E-01	4.058E-01	FAIL ABUN
AC-227	1.187E-01	4.136E-01	3.490E-01	2.110E-01	FAIL ABUN
TH-227	1.187E-01	4.137E-01	3.490E-01	2.111E-01	FAIL ABUN
TH-229	1.290E-02	5.146E-01	4.361E-01	2.626E-01	FAIL ABUN
PA-231	5.218E-01	1.545E+00	1.391E+00	7.885E-01	NOT IDENT.
TH-231	-1.601E-01	7.954E-01	6.027E-01	4.058E-01	FAIL ABUN
U-231	-5.657E-01	1.830E+00	1.427E+00	9.339E-01	FAIL ABUN
PA-233	-3.646E-02	6.623E-02	5.601E-02	3.379E-02	FAIL ABUN
PA-234	1.487E-02	3.561E-01	3.024E-01	1.817E-01	FAIL ABUN
PA-234M	-5.249E-01	5.526E+00	4.569E+00	2.820E+00	FAIL ABUN
U-235	2.186E-01	2.209E-01	1.921E-01	1.127E-01	FAIL ABUN
NP-236	1.336E-02	7.571E-02	6.551E-02	3.863E-02	NOT IDENT.
NP-239	-1.293E-01	1.750E-01	1.471E-01	8.929E-02	FAIL ABUN
AM-241	3.596E-03	6.439E-02	5.278E-02	3.285E-02	NOT IDENT.
CM-243	3.744E-02	8.166E-02	7.334E-02	4.166E-02	FAIL ABUN
AM-246	1.766E-02	1.695E-01	1.433E-01	8.649E-02	NOT IDENT.
CM-247	-2.891E-02	4.291E-02	3.510E-02	2.189E-02	FAIL ABUN
CF-249	4.447E-02	4.329E-02	3.995E-02	2.209E-02	NOT IDENT.
CF-251	-2.389E-02	1.316E-01	1.110E-01	6.714E-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	208.4786
46.50	208.4786
46.50	208.4786
48.70	193.5146
49.72	226.8594
51.35	268.4419
52.39	229.4385
52.97	207.7624
53.15	207.8658
53.44	196.9949
54.07	210.0960
56.28	274.6773
56.28	274.6790
57.37	0.0000
57.53	254.9874
57.53	254.9889
57.60	255.0342
57.98	259.5873
57.98	259.5873
59.32	300.1723
59.32	300.1723
59.40	300.2343
59.54	300.3431
59.72	291.4158
60.01	312.3713
61.10	302.8429
61.14	302.8732
61.30	295.1934
63.00	309.0789
63.29	309.3010
63.29	309.3010
63.58	309.5231
64.28	340.6252
65.12	359.7039
65.20	359.7734
65.20	359.7734
66.05	363.1449
66.72	330.7818
66.83	349.3248
66.91	349.3915
67.20	349.6341
67.20	349.6341
67.75	332.9149
67.85	329.4718
68.90	348.8315
68.90	348.8315
69.30	361.5342
69.67	397.2369
70.82	432.4440
70.82	432.4440
70.83	432.4539
72.80	415.6877
72.87	415.7518
72.87	415.7518
74.67	390.1398
74.81	390.2596
74.81	390.2596
74.81	390.2596
74.81	390.2596
74.81	390.2596
74.81	390.2596
74.97	390.3993
75.28	390.6654
75.70	391.0291
77.11	392.2354
77.11	392.2354

77.11	392.2354
77.11	392.2354
77.11	392.2354
77.11	392.2354
77.11	392.2354
78.38	328.8134
79.62	287.6279
79.80	287.7379
79.80	287.7379
80.11	317.8063
80.18	317.8545
80.30	266.3044
80.30	266.3044
80.57	250.1418
81.00	302.0760
81.07	318.4508
81.07	318.4508
81.07	318.4508
81.07	318.4508
82.60	327.6617
83.37	288.5265
83.78	288.7728
83.78	288.7728
83.78	288.7728
83.78	288.7728
84.21	265.7406
84.90	203.0156
85.43	203.2346
86.29	203.5892
86.50	203.6750
86.54	203.6908
86.59	203.7123
86.72	203.7654
86.79	203.7924
86.94	223.1381
87.30	223.3000
87.30	223.3000
87.30	223.3000
87.30	223.3000
87.30	223.3000
87.30	223.3000
87.57	213.7659
87.88	0.0000
88.03	213.9622
88.36	214.1018
88.47	214.1491
89.95	214.7747
91.11	215.2607
92.29	215.7526
92.38	215.7905
92.38	215.7905
93.35	216.1926
94.00	216.4598
94.67	208.3433
94.67	208.3456
94.90	208.4365
94.90	208.4365
94.90	208.4365
94.90	208.4365
95.87	249.4597
95.87	249.4597
96.73	262.4965
97.43	231.9154
98.44	226.4342
98.44	226.4342
98.88	204.8207
99.55	197.5468
99.55	197.5468
99.86	202.3652
100.00	202.4165
100.10	203.3965
103.18	244.2974
103.76	201.8954
105.00	211.8391
105.31	211.9548
108.00	228.2309
109.28	220.1219

111.00	221.7287
111.00	221.7287
111.76	227.7808
112.95	227.2746
115.19	208.7919
116.30	198.5218
117.00	220.0794
117.00	220.0794
117.66	236.8168
121.11	202.0274
121.62	203.1694
121.78	203.2213
122.06	216.9956
122.32	217.0848
122.32	217.0848
122.32	217.0848
122.32	217.0848
123.07	212.4483
127.23	236.4978
129.76	180.0412
131.20	206.7078
133.02	189.3799
133.54	191.0195
135.34	187.5410
136.00	197.7100
136.25	197.7825
136.48	216.8344
140.51	239.2178
140.51	0.0000
142.18	211.5829
142.65	207.6911
143.76	192.8730
144.24	185.9298
144.24	185.9298
144.24	185.9298
144.24	185.9298
145.22	199.3427
145.44	218.6345
147.16	209.0155
152.43	186.0101
152.70	185.0562
153.22	187.2332
154.21	193.6316
154.21	193.6316
154.21	193.6316
154.21	193.6316
155.03	169.2297
156.02	210.5346
158.56	190.6382
159.00	0.0000
159.00	184.5628
160.31	167.3229
161.27	176.8395
162.32	169.8340
162.64	188.5521
163.35	184.5783
163.89	168.1040
165.85	177.8919
167.43	179.2926
171.28	170.7401
171.86	198.1170
172.10	203.4194
176.55	189.7815
176.60	189.7943
181.06	189.2332
184.41	167.6418
185.71	170.5648
186.00	170.6234
190.27	154.3301
192.34	178.3355
193.63	167.8416
197.04	182.5349
198.01	160.0292
198.60	182.8564
200.40	0.0000
201.83	195.4651
202.84	161.9836
205.31	150.4342

208.36	145.4674
208.81	145.5391
209.75	145.6879
209.75	145.6879
210.97	139.8474
215.65	156.5316
216.55	135.7174
218.09	187.8813
222.10	163.1454
223.80	163.4310
226.40	175.0167
227.00	168.4311
227.08	157.2896
227.20	138.3433
228.16	113.9095
228.18	113.9116
228.18	113.9116
231.56	0.0000
235.69	150.2201
236.00	150.2676
236.00	150.2676
238.63	153.4801
238.63	153.4801
238.63	153.4801
238.63	153.4801
239.00	0.0000
240.98	153.8342
241.98	123.9795
241.98	123.9795
241.98	123.9795
244.69	112.3871
245.39	92.0149
247.94	102.4896
248.90	131.0795
249.79	0.0000
252.40	131.5158
252.85	129.2838
252.85	129.2838
254.15	0.0000
256.20	126.2476
256.20	126.2476
260.50	127.9056
260.90	0.0000
262.80	142.0336
264.65	106.8789
268.24	137.5171
268.79	134.1014
269.46	109.7847
269.46	109.7847
269.46	109.7847
269.46	109.7847
271.23	115.1959
273.65	108.4489
276.40	113.9742
277.35	105.2948
277.60	102.6856
277.60	102.6856
278.00	105.3552
278.60	105.4102
279.20	113.9043
279.53	113.9359
280.46	106.9900
281.68	0.0000
283.67	108.5240
284.30	120.0604
285.00	108.6497
285.90	0.0000
286.10	96.3746
286.10	96.3746
287.40	104.4492
288.45	0.0000
290.67	119.2980
290.80	119.3103
291.72	117.9832
293.26	0.0000
293.70	111.0624
295.21	108.3520
295.21	108.3520

295.21	108.3520
295.96	103.4276
296.50	85.6333
297.23	0.0000
298.57	85.7827
299.80	121.6479
299.80	121.6479
300.09	114.5215
300.09	114.5215
300.09	114.5215
300.09	114.5215
300.12	114.5234
301.29	121.7994
302.84	93.2598
303.76	0.0000
303.91	87.5981
304.40	113.7325
304.40	113.7325
304.84	118.0503
306.84	113.3608
308.46	96.3924
311.98	110.2200
316.51	106.9951
318.01	104.3995
319.02	103.5752
319.41	99.9712
320.08	94.5674
323.87	110.9032
323.87	110.9032
323.87	110.9032
323.87	110.9032
325.23	97.8746
328.77	124.5117
333.44	124.9600
334.20	123.5616
334.20	123.5616
334.30	123.5719
338.28	100.5226
338.28	100.5226
338.28	100.5226
338.28	100.5226
338.32	100.5260
338.32	100.5260
338.32	100.5260
340.50	91.6392
340.57	91.6437
344.27	94.4935
345.85	96.4606
350.59	0.0000
351.07	74.4885
351.92	74.5349
351.92	74.5349
351.92	74.5349
355.39	0.0000
356.01	91.2051
364.48	100.6048
366.43	80.0312
367.43	78.2038
367.94	0.0000
369.80	89.6612
374.96	78.6218
383.85	101.9844
387.95	70.7300
388.63	79.3690
391.69	78.5767
391.69	78.5767
392.90	87.2731
398.62	84.7209
400.65	90.6207
401.10	78.1116
401.81	101.3038
402.60	102.3220
404.84	80.4324
410.95	66.7791
411.60	60.5928
413.65	88.6784
414.70	98.0791
415.30	90.8496

415.76	92.3604
417.63	0.0000
418.52	81.9351
423.70	91.0161
427.08	79.4427
427.89	85.3711
432.53	53.1447
433.93	67.9671
439.47	0.0000
439.56	63.2637
439.89	57.3451
443.98	67.4023
444.90	86.2845
445.03	86.2911
445.03	86.2911
445.03	86.2911
445.03	86.2911
453.90	58.8371
463.38	72.2109
468.07	59.5396
473.00	81.7020
475.06	53.5232
475.35	55.5531
476.78	56.6101
477.59	65.7389
477.96	75.8686
482.03	58.8107
484.57	0.0000
487.03	68.1328
490.36	0.0000
492.35	0.0000
497.08	58.2959
507.63	0.0000
510.53	0.0000
510.84	73.1749
511.00	73.1814
511.85	73.2160
511.85	73.2160
513.99	56.1635
513.99	56.1635
520.41	64.2365
520.65	0.0000
527.90	0.0000
528.96	0.0000
529.64	48.9392
529.87	0.0000
531.02	52.1011
537.32	64.8230
543.00	57.6772
546.56	0.0000
549.76	64.1963
552.65	46.3754
555.20	49.6033
563.23	59.3462
563.90	66.7875
568.70	66.9510
569.32	61.6569
569.50	56.3465
569.67	52.0984
573.80	52.2076
574.00	47.9498
574.64	0.0000
578.91	0.0000
579.30	0.0000
583.14	57.8051
585.48	0.0000
591.81	52.6786
592.07	59.1357
593.00	61.3140
595.88	70.0186
600.56	58.3028
602.52	0.0000
602.71	86.4648
602.71	86.4648
603.60	72.6612
604.41	58.8442
604.70	58.8525
609.31	56.3815

609.31	56.3815
609.31	56.3815
609.31	56.3815
610.33	53.8050
612.46	38.2239
614.37	45.2144
618.01	54.4388
621.84	46.9026
621.84	46.9026
631.29	54.7806
633.02	44.9564
633.10	44.9589
634.78	50.4810
635.90	53.8016
636.97	54.9271
645.85	46.3284
646.12	52.9526
656.30	56.5237
657.75	60.9972
657.90	0.0000
661.65	73.3255
661.65	73.3255
664.57	0.0000
666.33	47.8737
666.33	47.8737
675.00	45.8235
677.61	43.6382
685.20	51.6433
692.80	62.1775
695.00	61.3361
696.49	65.8871
696.49	65.8871
697.00	64.0976
697.49	56.8861
698.33	56.9076
698.50	56.0089
699.00	57.8266
702.63	51.5825
706.10	59.8173
706.58	0.0000
706.67	57.1122
709.31	50.8225
711.68	49.0575
713.82	43.6465
717.42	50.9988
720.50	41.0339
721.93	0.0000
722.20	42.5845
722.78	42.5947
722.78	42.5947
722.89	42.5970
722.95	39.5544
723.30	39.5607
724.18	41.0977
727.18	45.7214
733.00	56.1448
735.90	59.6537
739.58	48.7145
742.81	62.5846
744.21	53.4121
747.13	56.2418
751.79	52.6540
752.31	45.2736
753.82	44.3766
755.35	0.0000
756.15	49.0457
756.87	50.9113
763.93	43.3205
765.79	52.6422
766.42	51.1073
766.84	53.9035
776.49	48.5139
778.00	45.7425
778.57	50.4207
778.89	50.4272
783.80	40.2327
785.46	37.4502
792.07	34.4180

795.84	37.6025
796.30	34.4753
798.80	26.6656
801.93	54.6525
805.60	26.4209
810.29	56.7188
810.76	50.1106
815.85	47.3657
817.79	0.0000
818.51	41.7248
819.60	35.1012
826.30	34.2387
828.27	0.0000
831.60	55.2728
831.96	51.4674
834.83	43.8898
836.80	0.0000
846.75	23.9587
848.13	36.4358
856.28	0.0000
856.80	48.0957
860.37	38.5264
867.32	37.5511
867.82	40.5624
871.10	42.5444
873.19	40.6414
874.81	43.5696
875.33	0.0000
876.40	44.5636
879.36	48.4900
880.27	41.7150
880.51	42.6884
881.50	32.0276
883.24	42.7303
884.67	43.7234
889.25	36.9823
896.60	44.8848
898.02	44.9073
899.00	57.6186
903.28	47.2725
911.07	37.2671
911.07	37.2671
911.07	37.2671
919.63	45.2464
920.93	54.1232
925.00	46.3161
925.24	48.2906
926.50	52.5846
935.52	36.2638
937.48	39.5869
944.10	34.7163
946.00	33.7460
949.00	27.8188
962.29	46.5710
964.01	48.2625
966.15	59.9546
968.20	56.9944
969.11	23.3385
969.11	23.3385
969.11	23.3385
977.42	27.0798
980.50	46.1831
983.50	38.1883
989.30	45.3087
996.32	40.3662
1001.03	31.3315
1001.68	29.3165
1004.76	32.3813
1021.30	0.0000
1024.50	0.0000
1034.80	37.7985
1036.00	30.6592
1037.82	34.7670
1038.57	30.6841
1038.76	0.0000
1045.16	29.7222
1046.59	21.5322
1048.07	28.7232

1050.47	34.9048
1050.47	34.9048
1062.04	41.2109
1063.62	32.9844
1076.63	26.9064
1077.35	27.9479
1078.86	31.0664
1085.78	31.1323
1099.22	35.4244
1112.02	34.3652
1112.84	41.8457
1115.52	31.4092
1120.29	33.2005
1120.29	33.2005
1120.29	33.2005
1120.29	33.2005
1120.51	33.2021
1121.28	34.9577
1124.00	0.0000
1129.67	43.1041
1131.51	0.0000
1147.95	0.0000
1167.94	46.7693
1173.22	33.0011
1175.09	38.3432
1177.93	38.3748
1189.05	33.1479
1204.90	33.2932
1205.75	0.0000
1213.00	34.4453
1221.42	42.0754
1230.97	49.7577
1235.34	37.9036
1236.41	0.0000
1238.25	47.6889
1246.25	39.1025
1260.41	0.0000
1271.85	39.3697
1274.45	39.3961
1274.54	48.1529
1291.56	20.8861
1298.22	0.0000
1312.09	15.6560
1325.50	17.5581
1325.50	17.5581
1332.49	22.2178
1333.61	20.3726
1360.21	15.8483
1362.66	0.0000
1365.15	15.8676
1368.21	17.7476
1368.53	0.0000
1376.25	15.9112
1384.27	15.9430
1394.10	17.8612
1395.20	22.5684
1407.95	14.1486
1434.06	17.0859
1436.60	20.8953
1457.56	0.0000
1460.81	11.4629
1489.15	13.4622
1509.49	14.9050
1596.49	8.4431
1620.62	11.8823
1678.03	0.0000
1691.02	11.0555
1691.02	11.0555
1706.46	0.0000
1750.46	0.0000
1764.49	5.2469
1764.49	5.2469
1764.49	5.2469
1764.49	5.2469
1770.23	20.4281
1771.40	10.2165
1791.20	0.0000
1808.65	7.2042

1836.01

6.2083

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202021397

Total Uranium Activity	4.6015E+00	ug/g
Total Uranium Counting Unc.	2.8979E+00	ug/g
Total Uranium Tpu	1.4785E-06	ug/g
Total Uranium Mda	1.4889E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 944038          SAMPLE ID   : G1202021397
*  ANALYST       : MXR1            DETECTOR    : GAM17
*  SAMPLE DATE   : 13-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 1-FEB-2010 13:47:32.66  SAMPLE ALQT: 124.440 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.077E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.631E+00
GROSS GAMMA MDA (pCi/GRAM ) : 5.878E+00
GROSS GAMMA DLC (pCi/GRAM ) : 2.846E+00

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VAX/VMS Nuclide Identification Report Generated 1-FEB-2010 14:36:20.03

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021398.CNF;2
Sample date        : 25-JAN-2010 00:00:00 Acquisition date : 1-FEB-2010 13:35:50.
Sample ID          : G1202021398 Sample quantity : 1.51730E+02 GRAM
Detector name      : GAM16 Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00 Elapsed real time: 0 01:00:02.16 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : MXR1
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 944038 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	59.52	3120	852	0.96	119.24	114	10	8.67E-01	2.5	
2	3	74.72*	231	399	1.02	149.63	146	13	6.41E-02	15.2	3.92E+00
3	3	77.16*	305	342	0.84	154.51	146	13	8.46E-02	10.7	
4	1	87.99*	1637	357	0.96	176.17	171	12	4.55E-01	3.1	9.51E+00
5	1	89.98	75	247	0.90	180.15	171	12	2.09E-02	46.9	
6	0	92.97*	129	335	1.81	186.13	183	8	3.57E-02	27.1	
7	0	122.03	316	269	1.06	244.24	240	7	8.79E-02	10.3	
8	0	185.62*	60	258	1.06	371.44	368	7	1.67E-02	47.4	
9	0	238.40*	603	420	1.07	476.99	471	10	1.68E-01	7.3	
10	0	241.50	129	266	1.77	483.20	481	7	3.58E-02	22.9	
11	0	295.18	172	238	1.12	590.56	586	9	4.77E-02	17.9	
12	0	338.17*	123	209	0.90	676.53	672	10	3.42E-02	23.9	
13	0	351.68*	341	281	1.09	703.55	698	12	9.46E-02	11.3	
14	0	510.74*	45	241	1.39	1021.65	1015	14	1.24E-02	78.3	
15	0	583.17*	206	110	1.31	1166.47	1162	10	5.73E-02	11.9	
16	0	609.40*	233	150	1.20	1218.93	1213	13	6.46E-02	12.8	
17	0	661.62	2618	144	1.37	1323.35	1315	16	7.27E-01	2.2	
18	0	727.22*	93	66	1.50	1454.52	1448	11	2.59E-02	19.9	
19	0	911.34*	113	132	1.08	1822.69	1821	8	3.13E-02	21.0	
20	0	968.89*	107	81	1.58	1937.75	1933	11	2.98E-02	19.2	
21	0	1173.26	1994	110	1.67	2346.36	2340	15	5.54E-01	2.5	
22	0	1332.52	1873	8	1.74	2664.76	2657	16	5.20E-01	2.3	
23	0	1380.22*	19	20	3.20	2760.12	2748	17	5.17E-03	62.1	
24	0	1460.73*	35	10	1.19	2921.05	2915	13	9.83E-03	26.3	
25	0	1764.74*	43	7	1.46	3528.77	3523	13	1.19E-02	20.5	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021398.CNF;2
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : MXR1
Sample date       : 25-JAN-2010 00:00:00 Acquisition date : 1-FEB-2010 13:35:50
Sample ID        : G1202021398 Sample quantity : 151.73 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA16 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:02.16 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	1.359E+00	7.241E-01	6.182E-01	5.434E-02	2.198
CO-57	+	122.06	*	2.602E-01	5.761E-02	5.240E-02	4.354E-03	4.967
		136.48		1.601E-01	2.990E-01	5.088E-01	4.625E-02	0.315
CO-60	+	1173.22		6.800E+00	6.458E-01	1.255E-01	1.009E-02	54.199
	+	1332.49	*	7.133E+00	6.878E-01	7.561E-02	6.377E-03	94.347
CD-109	+	88.03	*	3.491E+01	3.997E+00	1.901E+00	1.832E-01	18.360
SN-126		64.28		-9.916E-02	7.177E-01	1.108E+00	1.615E-01	-0.089
	+	86.94		1.443E+01	6.065E+00	7.944E-01	3.301E-01	18.162
	+	87.57	*	3.470E+00	3.974E-01	1.899E-01	1.820E-02	18.278
BA-137M	+	661.65	*	5.989E+00	5.936E-01	1.120E-01	9.943E-03	53.451
CS-137	+	661.65	*	6.331E+00	6.284E-01	1.184E-01	1.053E-02	53.451
TL-208		277.35		8.966E-01	6.624E-01	1.111E+00	1.651E-01	0.807
	+	510.84		3.454E-01	5.427E-01	3.993E-01	5.049E-02	0.865
	+	583.14	*	4.543E-01	1.174E-01	1.038E-01	1.029E-02	4.377
		860.37		9.147E-01	5.796E-01	1.058E+00	1.059E-01	0.865
BI-211		72.87		8.892E-01	4.564E+00	7.113E+00	5.783E-01	0.125
	+	351.07	*	3.305E+00	8.269E-01	5.459E-01	5.969E-02	6.055
PB-212	+	74.81		2.095E+00	6.871E-01	7.717E-01	9.641E-02	2.715
	+	77.11		1.559E+00	3.589E-01	4.378E-01	3.719E-02	3.562
	+	87.30		1.605E+01	2.440E+00	8.805E-01	1.218E-01	18.228
	+	238.63	*	1.280E+00	2.414E-01	1.645E-01	1.947E-02	7.782
		300.09		2.025E+00	1.433E+00	2.315E+00	3.033E-01	0.875
PO-212	+	74.81		2.095E+00	6.871E-01	7.717E-01	9.641E-02	2.715
	+	77.11		1.559E+00	3.589E-01	4.378E-01	3.719E-02	3.562
	+	87.30		1.605E+01	2.440E+00	8.805E-01	1.218E-01	18.228
		115.19		-1.367E+00	4.847E+00	8.038E+00	6.707E-01	-0.170
	+	238.63	*	1.280E+00	2.414E-01	1.645E-01	1.947E-02	7.782
		300.09		2.025E+00	1.433E+00	2.315E+00	3.033E-01	0.875
BI-214	+	609.31	*	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
		1120.29		1.404E+00	6.189E-01	1.144E+00	1.228E-01	1.227
	+	1764.49		1.265E+00	5.285E-01	5.380E-01	4.453E-02	2.352
PB-214	+	74.81		3.610E+00	1.166E+00	1.330E+00	1.478E-01	2.715
	+	77.11		2.673E+00	6.480E-01	7.506E-01	8.565E-02	3.562
	+	87.30		2.750E+01	3.795E+00	1.508E+00	1.852E-01	18.228

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		1.642E+00	7.803E-01	8.645E-01	1.071E-01	1.899
	+	295.21		9.868E-01	3.772E-01	3.698E-01	4.936E-02	2.669
	+	351.92	*	1.150E+00	2.938E-01	1.903E-01	2.302E-02	6.042
	+	74.81		3.610E+00	1.166E+00	1.330E+00	1.478E-01	2.715
	+	77.11		2.673E+00	6.480E-01	7.506E-01	8.565E-02	3.562
	+	87.30		2.750E+01	3.795E+00	1.508E+00	1.852E-01	18.228
PO-216	+	241.98		1.642E+00	7.803E-01	8.645E-01	1.071E-01	1.899
	+	295.21		9.868E-01	3.772E-01	3.698E-01	4.936E-02	2.669
	+	351.92	*	1.150E+00	2.938E-01	1.903E-01	2.302E-02	6.042
	+	74.81		2.095E+00	6.871E-01	7.717E-01	9.641E-02	2.715
	+	77.11		1.559E+00	3.589E-01	4.378E-01	3.719E-02	3.562
	+	87.30		1.605E+01	2.440E+00	8.805E-01	1.218E-01	18.228
PO-218	+	238.63	*	1.280E+00	2.414E-01	1.645E-01	1.947E-02	7.782
	+	300.09		2.025E+00	1.433E+00	2.315E+00	3.033E-01	0.875
	+	74.81		3.610E+00	1.166E+00	1.330E+00	1.478E-01	2.715
	+	77.11		2.673E+00	6.480E-01	7.506E-01	8.565E-02	3.562
	+	87.30		2.750E+01	3.795E+00	1.508E+00	1.852E-01	18.228
	+	241.98		1.642E+00	7.803E-01	8.645E-01	1.071E-01	1.899
RA-224	+	295.21		9.868E-01	3.772E-01	3.698E-01	4.936E-02	2.669
	+	351.92	*	1.150E+00	2.938E-01	1.903E-01	2.302E-02	6.042
RA-226	+	240.98	*	3.113E+00	1.469E+00	1.872E+00	2.063E-01	1.663
	+	609.31	*	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
AC-228	+	1120.29		1.404E+00	6.189E-01	1.144E+00	1.228E-01	1.227
	+	1764.49		1.265E+00	5.285E-01	5.380E-01	4.453E-02	2.352
	+	338.32		1.315E+00	8.345E-01	6.300E-01	2.633E-01	2.087
	+	911.07	*	1.103E+00	4.821E-01	4.912E-01	5.834E-02	2.245
RA-228	+	969.11		1.851E+00	8.352E-01	9.154E-01	2.159E-01	2.023
	+	338.32		1.315E+00	8.345E-01	6.300E-01	2.633E-01	2.087
	+	911.07	*	1.103E+00	4.821E-01	4.912E-01	5.834E-02	2.245
	+	969.11		1.851E+00	8.352E-01	9.154E-01	2.159E-01	2.023
TH-228	+	74.81		2.111E+00	6.640E-01	7.776E-01	6.505E-02	2.715
	+	77.11		1.571E+00	3.616E-01	4.412E-01	3.747E-02	3.562
	+	87.30		1.617E+01	1.852E+00	8.872E-01	8.478E-02	18.228
	+	238.63	*	1.290E+00	2.432E-01	1.657E-01	1.962E-02	7.782
TH-230	+	300.09		2.040E+00	1.872E+00	2.333E+00	1.395E+00	0.875
	+	609.31	*	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
	+	1120.29		1.404E+00	6.189E-01	1.144E+00	1.228E-01	1.227
TH-232	+	1764.49		1.265E+00	5.285E-01	5.380E-01	4.453E-02	2.352
	+	338.32		1.315E+00	6.441E-01	6.300E-01	6.877E-02	2.087
	+	911.07	*	1.103E+00	4.821E-01	4.912E-01	5.834E-02	2.245
U-234	+	969.11		1.851E+00	8.352E-01	9.154E-01	2.159E-01	2.023
	+	609.31	*	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
	+	1120.29		1.404E+00	6.189E-01	1.144E+00	1.228E-01	1.227
NP-237	+	1764.49		1.265E+00	5.285E-01	5.380E-01	4.453E-02	2.352
	+	86.50	*	1.019E+01	2.405E+00	5.637E-01	1.280E-01	18.078
	+	95.87		-2.897E-01	1.223E+00	1.834E+00	4.542E-01	-0.158
AM-241	+	59.54	*	1.462E+01	1.361E+00	4.570E-01	3.586E-02	31.989
AM-243	+	74.67	*	3.396E-01	1.068E-01	1.255E-01	1.039E-02	2.706
	+	86.72		3.821E+02	4.376E+01	2.109E+01	2.001E+00	18.120

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		117.66		-3.136E-01	5.903E+00	8.870E+00	7.380E-01	-0.035
		142.18		-2.773E+01	2.327E+01	3.625E+01	3.091E+00	-0.765
ANH-511	+	511.00	*	7.461E-02	1.170E-01	8.627E-02	8.205E-03	0.865

---- 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	*	2.475E-01	5.617E-01	9.533E-01	9.643E-02	0.260
NA-22		1274.54	*	-1.849E-02	4.939E-02	7.638E-02	6.355E-03	-0.242
NA-24		1368.53	*	-1.331E-04	4.939E-02	Half-Life too short		
AL-26		1129.67		-1.690E-01	2.920E+00	4.758E+00	3.988E-01	-0.036
		1808.65	*	9.417E-03	3.799E-02	6.628E-02	5.420E-03	0.142
TI-44		67.85		7.801E-03	6.688E-02	1.043E-01	8.077E-03	0.075
	+	78.38	*	2.877E-01	6.620E-02	9.674E-02	8.331E-03	2.974
SC-46		889.25	*	-4.592E-02	7.853E-02	1.257E-01	1.188E-02	-0.365
		1120.51		2.298E-01	9.924E-02	1.855E-01	1.567E-02	1.238
V-48		944.10		1.057E+00	1.556E+00	2.691E+00	2.514E-01	0.393
		983.50	*	4.353E-02	1.090E-01	1.857E-01	1.709E-02	0.234
		1312.09		-5.878E-02	6.167E-02	7.987E-02	6.705E-03	-0.736
CR-51		320.08	*	-3.600E-01	5.516E-01	8.352E-01	9.765E-02	-0.431
MN-52		744.21		1.443E-02	1.675E-01	2.703E-01	2.482E-02	0.053
		848.13		7.611E-01	5.184E+00	8.780E+00	8.264E-01	0.087
		935.52		7.033E-02	2.350E-01	3.980E-01	3.729E-02	0.177
		1246.25		-4.769E-01	3.615E+00	5.774E+00	4.759E-01	-0.083
	+	1333.61		3.594E+02	3.466E+01	3.828E+01	3.229E+00	9.390
		1434.06	*	1.963E-02	1.081E-01	1.799E-01	1.535E-02	0.109
MN-54		834.83	*	-9.343E-03	6.908E-02	1.149E-01	1.079E-02	-0.081
CO-56		846.75	*	2.251E-02	6.819E-02	1.170E-01	1.101E-02	0.192
		977.42		-9.738E-01	5.922E+00	9.703E+00	8.954E-01	-0.100
		1037.82		3.735E-01	6.314E-01	1.084E+00	1.019E-01	0.345
		1175.09		2.700E+02	2.562E+01	3.093E+01	2.488E+00	8.729
		1238.25		6.748E-02	1.061E-01	1.842E-01	1.562E-02	0.366
		1360.21		1.488E-02	1.214E+00	1.971E+00	1.669E-01	0.008
		1771.40		-5.176E-01	3.750E-01	4.442E-01	3.670E-02	-1.165
CO-58		810.76	*	-3.327E-02	6.737E-02	1.092E-01	1.023E-02	-0.305
FE-59		142.65		-3.325E+00	3.260E+00	5.145E+00	4.392E-01	-0.646
		192.34		-2.645E-01	1.279E+00	2.070E+00	2.930E-01	-0.128
		1099.22	*	-6.370E-02	1.787E-01	2.857E-01	2.655E-02	-0.223
		1291.56		-3.944E-02	1.310E-01	2.018E-01	1.927E-02	-0.195
ZN-65		1115.52	*	-2.758E-01	1.853E-01	2.670E-01	2.267E-02	-1.033
GE-68		1077.35	*	4.274E-01	2.784E+00	4.629E+00	4.043E-01	0.092
AS-73		53.44	*	6.873E-01	1.723E+00	2.739E+00	2.089E-01	0.251
AS-74		595.88	*	8.158E-02	1.238E-01	2.107E-01	1.955E-02	0.387
		634.78		-4.295E-02	5.024E-01	8.100E-01	7.343E-02	-0.053
SE-75		66.05		6.540E-01	6.472E+00	1.010E+01	9.717E-01	0.065
		96.73		-6.890E-01	1.003E+00	1.457E+00	2.015E-01	-0.473
	+	121.11		1.366E+00	3.178E-01	4.483E-01	4.923E-02	3.046
		136.00		4.059E-02	5.482E-02	9.401E-02	7.979E-03	0.432

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BR-77	+	198.60		1.890E+00	2.592E+00	4.363E+00	4.677E-01	0.433
		264.65	*	-6.903E-02	7.164E-02	1.079E-01	1.259E-02	-0.640
		279.53		-2.663E-01	1.836E-01	2.645E-01	3.238E-02	-1.006
		303.91		-1.378E+00	3.327E+00	5.140E+00	7.144E-01	-0.268
		400.65		-2.138E-01	4.496E-01	7.339E-01	8.544E-02	-0.291
		87.88		8.384E+02	9.600E+01	1.055E+02	1.016E+01	7.945
		200.40		7.858E+00	2.754E+01	4.552E+01	4.523E+00	0.173
		239.00	+	2.259E+01	4.138E+00	5.294E+00	5.806E-01	4.268
		249.79		-3.335E+00	1.214E+01	1.923E+01	2.164E+00	-0.173
		281.68		4.406E+00	1.593E+01	2.584E+01	3.096E+00	0.171
		297.23		-9.036E+00	1.268E+01	1.700E+01	2.000E+00	-0.532
		303.76		-3.943E+01	3.435E+01	5.028E+01	5.859E+00	-0.784
		439.47		3.203E+01	3.158E+01	5.511E+01	5.201E+00	0.581
		484.57		1.472E+01	4.908E+01	8.262E+01	7.859E+00	0.178
		520.65	*	6.085E-01	2.046E+00	3.434E+00	3.263E-01	0.177
		574.64		-1.843E+01	4.167E+01	6.594E+01	6.179E+00	-0.279
		578.91		1.333E+01	1.891E+01	2.883E+01	2.696E+00	0.462
		585.48		7.067E+01	3.839E+01	6.287E+01	5.864E+00	1.124
		755.35		-8.478E+00	3.347E+01	5.238E+01	4.827E+00	-0.162
		817.79		1.514E+01	2.793E+01	4.867E+01	4.557E+00	0.311
SR-82		698.33		4.029E+01	4.839E+01	8.270E+01	7.462E+00	0.487
RB-83	*	776.49		-7.861E-01	5.901E-01	8.248E-01	7.647E-02	-0.953
		1395.20		3.409E+00	1.173E+01	1.982E+01	1.685E+00	0.172
		520.41	*	3.442E-02	1.158E-01	1.944E-01	1.847E-02	0.177
RB-84	*	529.64		-1.365E-01	1.787E-01	2.775E-01	2.634E-02	-0.492
		552.65		-5.695E-02	3.176E-01	5.138E-01	4.850E-02	-0.111
KR-85	*	881.50		3.928E-02	1.286E-01	2.192E-01	2.071E-02	0.179
SR-85	*	513.99		7.331E+00	1.399E+01	2.112E+01	2.008E+00	0.347
RB-86	*	513.99		3.471E-02	6.622E-02	9.998E-02	9.507E-03	0.347
Y-88	*	1076.63		4.299E-01	1.346E+00	2.263E+00	1.978E-01	0.190
ZR-88	*	898.02		2.086E-02	8.939E-02	1.514E-01	1.438E-02	0.138
		1836.01		8.688E-03	4.270E-02	7.349E-02	5.966E-03	0.118
Y-91	*	392.90		-2.350E-02	5.229E-02	8.563E-02	7.921E-03	-0.274
NB-94	*	1204.90		-4.458E+00	2.129E+01	3.378E+01	2.747E+00	-0.132
NB-95	*	702.63		-1.054E-02	5.933E-02	9.411E-02	8.508E-03	-0.112
		871.10		-3.122E-02	7.277E-02	1.181E-01	1.115E-02	-0.264
NB-95M	*	765.79		-1.206E-02	7.346E-02	1.159E-01	1.071E-02	-0.104
ZR-95	*	235.69		1.412E-01	1.971E-01	2.960E-01	3.520E-02	0.477
NB-97	*	724.18		3.162E-02	1.649E-01	2.360E-01	2.319E-02	0.134
		756.15		1.451E-02	1.187E-01	1.919E-01	1.926E-02	0.076
ZR-97	*	657.90		1.280E-05	1.187E-01	Half-Life too short		
		1024.50		5.925E-03	1.187E-01	Half-Life too short		
ZR-97	*	254.15		-3.219E-03	1.187E-01	Half-Life too short		
		355.39		2.947E-04	1.187E-01	Half-Life too short		
		507.63		4.922E-04	1.187E-01	Half-Life too short		
		602.52		-1.423E-03	1.187E-01	Half-Life too short		
		1021.30		-2.016E-03	1.187E-01	Half-Life too short		
		1147.95		-5.108E-03	1.187E-01	Half-Life too short		
		1362.66		5.292E-03	1.187E-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
MO-99	1750.46			2.977E-03	1.187E-01	Half-Life too short		
	140.51			-1.328E-01	5.043E+00	8.372E+00	2.315E+00	-0.016
	181.06			6.602E-01	3.797E+00	5.992E+00	1.120E+00	0.110
	366.43			2.033E+01	2.142E+01	3.777E+01	3.820E+00	0.538
	739.58	*		2.214E+00	3.066E+00	5.181E+00	8.031E-01	0.427
TC-99M	778.00			-4.552E+00	9.470E+00	1.448E+01	1.343E+00	-0.314
	140.51	*		-1.068E+00	9.470E+00	Half-Life too short		
RH-101	127.23			1.224E-02	4.329E-02	7.324E-02	6.098E-03	0.167
	198.01	*		7.664E-03	5.036E-02	8.278E-02	8.173E-03	0.093
RH-102	325.23			-3.319E-01	4.010E-01	5.996E-01	6.732E-02	-0.554
	418.52			-1.893E-02	5.443E-01	9.085E-01	8.509E-02	-0.021
	475.06	*		9.060E-03	5.930E-02	9.909E-02	9.419E-03	0.091
	631.29			9.357E-02	1.000E-01	1.727E-01	1.570E-02	0.542
	697.49			1.777E-01	1.331E-01	2.347E-01	2.117E-02	0.757
RU-103	766.84			7.722E-02	2.020E-01	3.319E-01	3.068E-02	0.233
	1046.59			1.086E-01	2.321E-01	3.960E-01	3.528E-02	0.274
	1112.84			2.069E-01	4.610E-01	7.808E-01	6.638E-02	0.265
	497.08	*		2.774E-02	6.596E-02	1.116E-01	1.643E-02	0.249
	610.33	+		9.126E+00	2.808E+00	3.277E+00	5.570E-01	2.785
RH-106	511.85	+		3.674E-01	5.764E-01	5.990E-01	5.696E-02	0.613
	621.84	*		1.326E-01	5.369E-01	8.887E-01	1.218E-01	0.149
RU-106	1050.47			-5.424E+00	4.690E+00	6.972E+00	6.198E-01	-0.778
	511.85	+		3.674E-01	5.764E-01	5.990E-01	5.696E-02	0.613
	621.84	*		1.326E-01	5.367E-01	8.887E-01	8.127E-02	0.149
AG-108M	1050.47			-5.424E+00	4.690E+00	6.972E+00	6.198E-01	-0.778
	433.93	*		1.454E-02	6.188E-02	1.045E-01	1.017E-02	0.139
AG-110M	614.37			-1.019E-02	6.834E-02	9.556E-02	9.084E-03	-0.107
	722.95			-2.317E-02	8.163E-02	1.105E-01	1.042E-02	-0.210
	657.75	*		1.123E-02	7.493E-02	1.075E-01	9.841E-03	0.104
	677.61			-6.613E-02	5.510E-01	8.810E-01	8.084E-02	-0.075
	706.67			-1.560E-01	3.701E-01	5.749E-01	5.336E-02	-0.271
IN-111	763.93			5.610E-02	3.057E-01	4.955E-01	4.691E-02	0.113
	884.67			1.719E-02	1.051E-01	1.776E-01	1.723E-02	0.097
	937.48			4.223E-02	2.621E-01	4.403E-01	4.249E-02	0.096
	1384.27			9.208E-02	1.986E-01	3.112E-01	2.721E-02	0.296
	171.28			-1.336E-01	2.360E-01	3.777E-01	3.472E-02	-0.354
IN-113M	245.39	*		9.977E-02	3.038E-01	4.457E-01	4.964E-02	0.224
	391.69	*		-2.413E-02	7.563E-02	1.248E-01	1.184E-02	-0.193
SN-113	391.69	*		-2.413E-02	7.563E-02	1.248E-01	1.184E-02	-0.193
IN-114M	190.27	*		1.050E-01	2.519E-01	4.197E-01	4.058E-02	0.250
CD-115	260.90			-1.968E+00	2.070E+01	3.305E+01	3.815E+00	-0.060
	492.35			1.825E+00	6.601E+00	1.109E+01	1.055E+00	0.165
SN-117M	527.90	*		-3.263E-01	1.809E+00	2.938E+00	2.788E-01	-0.111
	156.02			1.237E+00	2.198E+00	3.724E+00	3.284E-01	0.332
	158.56	*		2.798E-03	5.329E-02	8.830E-02	7.842E-03	0.032
SB-122	563.90	*		4.998E-02	5.484E-01	9.044E-01	8.508E-02	0.055
	692.80			-4.417E+00	1.097E+01	1.708E+01	1.538E+00	-0.259
I-123	159.00	*		9.250E-05	1.097E+01	Half-Life too short		
	528.96			-5.941E-02	1.097E+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
TE-123M	159.00	*		6.408E-03	3.777E-02	6.291E-02	5.626E-03	0.102
I-124	602.71	*		-1.066E-01	3.718E-01	5.460E-01	5.050E-02	-0.195
	722.78			-7.375E-01	2.427E+00	3.276E+00	2.985E-01	-0.225
	1325.50			4.372E+00	1.463E+01	2.175E+01	1.832E+00	0.201
	1376.25			5.111E+00	1.489E+01	2.206E+01	1.873E+00	0.232
	1509.49			-2.378E-01	6.218E+00	1.034E+01	8.839E-01	-0.023
	1691.02			-1.088E+00	1.785E+00	2.621E+00	2.204E-01	-0.415
SB-124	602.71			-1.993E-02	6.950E-02	1.021E-01	9.442E-03	-0.195
	645.85			4.286E-02	8.476E-01	1.379E+00	1.308E-01	0.031
	709.31			5.638E-01	4.539E+00	7.372E+00	6.683E-01	0.076
	713.82			-3.508E-01	2.875E+00	4.578E+00	5.664E-01	-0.077
	722.78			-1.999E-01	6.576E-01	8.877E-01	8.246E-02	-0.225
+	968.20			1.747E+01	6.910E+00	1.028E+01	9.522E-01	1.699
	1045.16			3.620E+00	4.666E+00	8.120E+00	7.242E-01	0.446
	1325.50			1.265E+00	4.235E+00	6.295E+00	5.302E-01	0.201
	1368.21			-1.606E+00	1.960E+00	2.609E+00	3.493E-01	-0.616
	1436.60			-2.292E-01	4.189E+00	6.968E+00	5.947E-01	-0.033
	1691.02	*		-6.956E-02	1.141E-01	1.675E-01	1.467E-02	-0.415
SB-125	427.89	*		6.797E-02	1.840E-01	3.127E-01	2.988E-02	0.217
	463.38			3.506E-01	5.566E-01	9.521E-01	9.623E-02	0.368
	600.56			-5.657E-02	3.171E-01	5.100E-01	5.026E-02	-0.111
	635.90			-2.284E-01	4.941E-01	7.723E-01	7.508E-02	-0.296
TE-125M	109.28	*		1.509E+01	1.117E+01	1.972E+01	2.005E+00	0.765
I-126	388.63			2.246E-02	2.444E-01	4.126E-01	3.860E-02	0.054
	666.33	*		8.402E-02	2.364E-01	3.467E-01	3.083E-02	0.242
	753.82			-1.652E+00	1.843E+00	2.714E+00	2.500E-01	-0.609
SB-126	223.80			-1.125E+00	4.462E+00	7.141E+00	7.542E-01	-0.158
	278.60			-5.572E-01	2.860E+00	4.521E+00	5.423E-01	-0.123
+	296.50			6.434E+00	2.427E+00	3.143E+00	3.701E-01	2.047
	414.70			2.432E-02	9.044E-02	1.534E-01	1.435E-02	0.158
	415.30			5.167E+00	7.580E+00	1.311E+01	1.226E+00	0.394
	555.20			1.439E+00	4.401E+00	7.384E+00	6.965E-01	0.195
	573.80			4.833E-01	1.187E+00	1.995E+00	1.870E-01	0.242
	593.00			-5.033E-01	1.075E+00	1.691E+00	1.572E-01	-0.298
	656.30			-1.408E+00	4.891E+00	6.713E+00	5.985E-01	-0.210
	666.33			3.450E-02	9.708E-02	1.424E-01	1.266E-02	0.242
	675.00			-5.656E-02	2.330E+00	3.755E+00	3.354E-01	-0.015
	695.00			-1.111E-01	9.273E-02	1.340E-01	1.207E-02	-0.829
	697.00			3.417E-01	3.067E-01	5.339E-01	4.815E-02	0.640
	720.50	*		-1.292E-02	1.881E-01	2.769E-01	2.521E-02	-0.047
	856.80			-4.030E-01	6.337E-01	1.015E+00	9.563E-02	-0.397
	989.30			4.826E-01	1.757E+00	2.968E+00	2.725E-01	0.163
	1034.80			-2.288E-01	1.244E+01	2.050E+01	1.839E+00	-0.011
	1213.00			-8.572E-02	3.558E+00	5.775E+00	4.710E-01	-0.015
SB-127	61.10			2.959E+02	4.066E+01	6.265E+01	5.050E+00	4.723
	252.40			4.593E-02	1.851E+00	2.981E+00	1.259E+00	0.015
	290.80			6.112E+00	1.045E+01	1.541E+01	1.907E+00	0.397
	411.60			-1.082E+00	5.595E+00	9.263E+00	1.382E+00	-0.117
	444.90			-3.328E+00	4.882E+00	7.797E+00	9.039E-01	-0.427

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	473.00			-7.157E-01	8.788E-01	1.384E+00	1.660E-01	-0.517
	543.00			-3.092E-01	7.365E+00	1.206E+01	1.639E+00	-0.026
	603.60			-8.677E-01	6.048E+00	8.500E+00	9.688E-01	-0.102
	685.20	*		-4.635E-01	6.441E-01	9.760E-01	9.668E-02	-0.475
	698.50			3.535E+00	6.893E+00	1.151E+01	1.705E+00	0.307
	722.20			-5.076E+00	1.525E+01	2.053E+01	2.007E+00	-0.247
	783.80			-1.443E+00	1.839E+00	2.737E+00	3.102E-01	-0.527
XE-127	57.60			2.734E+01	1.378E+01	2.108E+01	1.524E+00	1.297
	145.22			8.500E-01	8.234E-01	1.425E+00	1.223E-01	0.597
	172.10			-1.142E-01	1.607E-01	2.552E-01	2.352E-02	-0.447
	202.84	*		-9.178E-03	6.301E-02	1.020E-01	1.020E-02	-0.090
	374.96			-5.073E-02	3.072E-01	5.129E-01	5.044E-02	-0.099
I-131	80.18			-2.557E+00	3.677E+00	5.468E+00	4.811E-01	-0.468
	284.30			-2.836E-01	1.319E+00	2.077E+00	2.543E-01	-0.137
	364.48	*		3.255E-03	1.011E-01	1.709E-01	1.802E-02	0.019
	636.97			3.257E-01	1.433E+00	2.364E+00	2.239E-01	0.138
	722.89			-2.016E+00	7.159E+00	9.692E+00	8.844E-01	-0.208
TE-132	49.72			6.270E+00	8.030E+00	1.297E+01	1.133E+00	0.483
	111.76			-5.427E+00	7.822E+00	1.273E+01	1.148E+00	-0.426
	116.30			1.242E+00	7.510E+00	1.270E+01	1.138E+00	0.098
	228.16	*		-9.429E-02	2.395E-01	3.796E-01	6.051E-02	-0.248
BA-133	53.15			5.882E+00	7.863E+00	1.264E+01	9.683E-01	0.465
	79.62			-1.107E+00	1.954E+00	2.918E+00	4.461E-01	-0.379
	81.00			-1.654E-01	1.556E-01	2.244E-01	3.593E-02	-0.737
	276.40			1.032E+00	6.663E-01	1.113E+00	1.852E-01	0.927
	302.84			-4.495E-01	2.654E-01	3.645E-01	5.629E-02	-1.233
	356.01	*		-6.169E-02	8.333E-02	1.167E-01	1.686E-02	-0.529
	383.85			1.357E-01	5.283E-01	9.000E-01	1.192E-01	0.151
I-133	510.53	+		1.780E-03	5.283E-01	Half-Life	too short	
	529.87	*		-1.510E-05	5.283E-01	Half-Life	too short	
	706.58			-7.723E-04	5.283E-01	Half-Life	too short	
	856.28			-1.579E-03	5.283E-01	Half-Life	too short	
	875.33			-3.353E-04	5.283E-01	Half-Life	too short	
	1236.41			1.560E-03	5.283E-01	Half-Life	too short	
	1298.22			-1.890E-04	5.283E-01	Half-Life	too short	
CS-134	475.35			3.042E+00	3.771E+00	6.508E+00	6.186E-01	0.467
	563.23			7.684E-02	6.695E-01	1.106E+00	1.049E-01	0.069
	569.32			-8.595E-02	3.366E-01	5.402E-01	5.131E-02	-0.159
	604.70			-6.955E-04	6.626E-02	9.434E-02	8.735E-03	-0.007
	795.84	*		7.200E-02	8.717E-02	1.542E-01	1.446E-02	0.467
	801.93			-5.115E-01	7.507E-01	1.208E+00	1.133E-01	-0.423
	1038.57			1.082E+00	8.321E+00	1.386E+01	1.241E+00	0.078
	1167.94			-3.603E+00	5.529E+00	7.179E+00	5.803E-01	-0.502
	1365.15			-8.671E-02	1.477E+00	2.354E+00	2.089E-01	-0.037
CS-135	268.24	*		2.282E-01	2.660E-01	4.427E-01	5.646E-02	0.516
I-135	288.45			1.963E+02	2.660E-01	Half-Life	too short	
	417.63			-1.858E+02	2.660E-01	Half-Life	too short	
	546.56			1.683E+01	2.660E-01	Half-Life	too short	
	836.80			-7.167E+00	2.660E-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
	1038.76			-4.625E+01	2.660E-01	Half-Life	too short	
	1124.00			-7.157E+02	2.660E-01	Half-Life	too short	
	1131.51			-4.521E+01	2.660E-01	Half-Life	too short	
	1260.41	*		-1.553E+01	2.660E-01	Half-Life	too short	
	1457.56			1.978E+01	2.660E-01	Half-Life	too short	
	1678.03			-3.133E+01	2.660E-01	Half-Life	too short	
	1706.46			-1.634E+01	2.660E-01	Half-Life	too short	
	1791.20			7.269E+01	2.660E-01	Half-Life	too short	
CS-136	66.91			-1.400E-01	7.443E-01	1.144E+00	1.708E-01	-0.122
	86.29			3.779E+00	1.379E+00	2.178E+00	2.920E-01	1.736
	153.22			1.769E-01	6.354E-01	1.065E+00	1.038E-01	0.166
	163.89			-1.841E-01	1.011E+00	1.640E+00	1.641E-01	-0.112
	176.55			-1.848E-02	3.662E-01	6.003E-01	5.871E-02	-0.031
	273.65			-4.561E-01	5.215E-01	7.900E-01	9.705E-02	-0.577
	340.57			1.058E-01	1.530E-01	2.392E-01	2.643E-02	0.442
	818.51			-2.922E-03	9.427E-02	1.582E-01	1.481E-02	-0.018
	1048.07	*		-1.723E-01	1.496E-01	2.224E-01	2.057E-02	-0.775
	1235.34			-6.696E-02	4.581E-01	7.312E-01	8.447E-02	-0.092
CE-139	165.85	*		-4.653E-03	4.028E-02	6.605E-02	5.990E-03	-0.070
BA-140	162.64			1.947E-01	7.063E-01	1.172E+00	1.109E-01	0.166
	304.84			-5.997E-01	1.429E+00	2.194E+00	6.384E-01	-0.273
	423.70			-1.393E+00	2.567E+00	4.102E+00	1.339E+00	-0.340
	537.32	*		1.982E-02	3.015E-01	4.974E-01	1.660E-01	0.040
LA-140	328.77			2.776E-01	3.453E-01	5.686E-01	6.553E-02	0.488
	432.53			1.192E+00	2.679E+00	4.570E+00	4.479E-01	0.261
	487.03			-7.210E-02	1.757E-01	2.834E-01	2.834E-02	-0.254
	751.79			2.776E-01	2.090E+00	3.382E+00	3.406E-01	0.082
	815.85			1.225E-03	3.977E-01	6.690E-01	6.879E-02	0.002
	867.82			6.081E-01	1.901E+00	3.248E+00	3.201E-01	0.187
	919.63			-1.171E+00	4.291E+00	7.022E+00	7.932E-01	-0.167
	925.24			-1.212E+00	1.796E+00	2.856E+00	2.826E-01	-0.424
	1596.49	*		-1.222E-01	9.401E-02	1.235E-01	1.052E-02	-0.989
CE-141	145.44	*		7.124E-02	7.321E-02	1.264E-01	1.106E-02	0.564
CE-143	57.37			7.825E+01	5.907E+01	8.878E+01	7.638E+00	0.881
	231.56			-2.987E+01	9.366E+01	1.483E+02	4.776E+01	-0.201
	293.26	*		5.199E+00	5.842E+00	8.604E+00	1.970E+00	0.604
+	350.59			5.765E+02	2.236E+02	1.668E+02	5.270E+01	3.457
	490.36			5.913E+01	1.207E+02	2.030E+02	6.459E+01	0.291
	664.57			4.526E+02	1.666E+02	1.543E+02	4.993E+01	2.934
	721.93			-1.273E+01	6.173E+01	8.429E+01	2.469E+01	-0.151
CE-144	80.11			-2.267E+00	3.191E+00	4.741E+00	4.162E-01	-0.478
	133.54	*		-7.283E-03	2.835E-01	4.722E-01	7.292E-02	-0.015
PM-144	476.78			1.487E-01	1.303E-01	2.281E-01	2.336E-02	0.652
	618.01			3.737E-02	5.268E-02	9.017E-02	8.466E-03	0.414
	696.49	*		1.859E-02	6.099E-02	1.005E-01	9.062E-03	0.185
	778.57			-7.312E-01	4.216E+00	6.629E+00	6.150E-01	-0.110
PR-144	696.49	*		1.255E+00	4.116E+00	6.782E+00	6.116E-01	0.185
	1489.15			-2.375E+00	1.651E+01	2.699E+01	2.308E+00	-0.088
PM-146	453.90	*		-1.240E-02	8.266E-02	1.363E-01	1.556E-02	-0.091

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

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ND-147	+	633.02		1.199E+00	2.684E+00	4.431E+00	1.661E+00	0.271
		735.90		-1.439E-01	2.699E-01	4.076E-01	1.173E-01	-0.353
		747.13		1.935E-02	1.745E-01	2.819E-01	4.058E-02	0.069
		91.11		3.340E-01	3.153E-01	3.762E-01	3.759E-02	0.888
		319.41		-1.233E+00	3.652E+00	5.656E+00	6.421E-01	-0.218
PM-149		439.89		7.296E+00	7.191E+00	1.255E+01	1.185E+00	0.581
		531.02	*	3.343E-01	5.984E-01	1.019E+00	1.575E-01	0.328
EU-152	+	285.90	*	-5.614E+00	1.459E+01	2.269E+01	3.987E+00	-0.247
		121.78		7.693E-01	1.745E-01	2.591E-01	2.501E-02	2.970
		244.69		3.479E-01	5.964E-01	8.887E-01	9.881E-02	0.391
		344.27	*	-3.317E-02	1.677E-01	2.718E-01	3.037E-02	-0.122
		443.98		-1.252E+00	1.869E+00	2.991E+00	2.826E-01	-0.419
		778.89		-3.807E-02	4.968E-01	7.877E-01	7.308E-02	-0.048
		867.32		3.389E-01	1.723E+00	2.921E+00	2.756E-01	0.116
		964.01		1.519E-01	6.866E-01	1.009E+00	9.364E-02	0.151
		1085.78		-3.154E-01	8.291E-01	1.322E+00	1.148E-01	-0.239
		1112.02		7.705E-01	6.642E-01	1.175E+00	9.994E-02	0.656
		1407.95		1.106E-01	2.293E-01	3.995E-01	3.402E-02	0.277
		69.67		4.306E-01	2.160E+00	3.732E+00	2.941E-01	0.115
		83.37		1.578E+01	2.254E+01	3.569E+01	3.253E+00	0.442
GD-153		97.43	*	-3.791E-02	1.054E-01	1.569E-01	1.394E-02	-0.242
		103.18		1.039E-01	1.364E-01	2.373E-01	2.045E-02	0.438
EU-154	+	123.07		5.398E-01	1.260E-01	1.693E-01	1.883E-02	3.189
		247.94		-1.424E-01	5.975E-01	9.492E-01	1.284E-01	-0.150
		591.81		-5.409E-01	1.097E+00	1.720E+00	2.095E-01	-0.314
		723.30		-7.849E-02	3.420E-01	4.660E-01	4.650E-02	-0.168
		756.87		4.123E-01	1.400E+00	2.294E+00	2.848E-01	0.180
EU-155		873.19		7.101E-01	6.239E-01	1.111E+00	1.426E-01	0.639
		996.32		1.427E-01	7.493E-01	1.257E+00	2.267E-01	0.113
		1004.76		-3.448E-01	4.710E-01	7.359E-01	8.839E-02	-0.469
		1274.45	*	-2.462E-02	1.358E-01	2.170E-01	2.404E-02	-0.113
		48.70		3.698E+00	4.903E+00	7.929E+00	6.515E-01	0.466
		60.01		4.742E+02	4.121E+01	3.939E+01	2.814E+00	12.038
		86.54		4.167E+00	4.799E-01	3.685E-01	3.518E-02	11.310
		105.31	*	3.276E-02	1.416E-01	2.411E-01	2.086E-02	0.136
		86.79		1.038E+01	1.189E+00	1.094E+00	1.039E-01	9.494
		197.04		1.283E-02	8.004E-01	1.308E+00	1.288E-01	0.010
TB-160	+	215.65		1.027E+00	1.149E+00	1.935E+00	2.001E-01	0.531
		298.57		1.203E-01	2.055E-01	3.020E-01	3.546E-02	0.398
		879.36	*	-5.454E-02	2.756E-01	4.545E-01	4.294E-02	-0.120
		962.29		-6.766E-01	1.105E+00	1.659E+00	1.540E-01	-0.408
		966.15		1.254E+00	4.363E-01	7.611E-01	7.055E-02	1.647
HO-166M	+	1177.93		9.170E-02	5.792E-01	8.368E-01	6.739E-02	0.110
		1271.85		6.655E-01	7.119E-01	1.319E+00	1.095E-01	0.505
		80.57		-1.639E-01	4.125E-01	6.226E-01	5.494E-02	-0.263
		184.41		6.722E-02	6.404E-02	8.827E-02	8.402E-03	0.762
		280.46		-1.664E-01	1.482E-01	2.194E-01	2.632E-02	-0.758
		410.95		2.230E-01	4.244E-01	7.299E-01	6.814E-02	0.305
		711.68	*	-1.696E-02	1.114E-01	1.769E-01	1.605E-02	-0.096

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		752.31		-2.842E-01	5.150E-01	7.852E-01	7.228E-02	-0.362
		810.29		-1.038E-01	1.109E-01	1.730E-01	1.618E-02	-0.600
		51.35		-7.149E+01	6.649E+01	9.978E+01	7.862E+00	-0.717
		52.39		2.765E+01	3.372E+01	5.438E+01	4.215E+00	0.508
+ LU-176		59.40		2.482E+03	2.157E+02	2.194E+02	1.558E+01	11.314
		66.72	*	7.735E-01	3.976E+01	6.176E+01	4.732E+00	0.013
		88.36		8.231E+00	9.424E-01	1.015E+00	9.745E-02	8.109
		201.83		-2.755E-02	4.527E-02	7.156E-02	7.138E-03	-0.385
LU-177		306.84	*	8.126E-03	4.217E-02	6.776E-02	7.859E-03	0.120
		401.10		-2.942E+00	1.215E+01	2.010E+01	1.868E+00	-0.146
		112.95		-3.307E-01	9.952E-01	1.648E+00	1.380E-01	-0.201
		208.36	*	1.013E+00	7.834E-01	1.338E+00	1.358E-01	0.757
LU-177M		52.97		2.489E+00	3.449E+00	5.540E+00	4.256E-01	0.449
		54.07		-6.607E-01	1.871E+00	2.894E+00	2.188E-01	-0.228
		61.30		9.648E+00	2.758E+00	4.472E+00	3.244E-01	2.157
	+	121.62		3.823E+00	8.461E-01	1.289E+00	1.070E-01	2.966
		147.16		-1.536E-01	8.789E-01	1.447E+00	1.248E-01	-0.106
		171.86		-5.689E-01	7.215E-01	1.141E+00	1.051E-01	-0.498
		218.09		-7.021E-01	1.397E+00	2.211E+00	2.301E-01	-0.318
		268.79		1.498E+00	1.315E+00	2.211E+00	2.597E-01	0.678
HF-181		319.02		-1.425E-01	4.508E-01	6.994E-01	7.947E-02	-0.204
		367.43		6.899E-01	1.508E+00	2.602E+00	2.624E-01	0.265
		413.65	*	4.472E-02	3.149E-01	5.309E-01	4.962E-02	0.084
		56.28		1.504E+00	2.051E+00	3.035E+00	2.228E-01	0.496
		57.53		1.893E+00	1.168E+00	1.772E+00	1.282E-01	1.069
		65.20		-9.970E-01	1.190E+00	1.769E+00	1.336E-01	-0.564
		133.02		4.964E-02	7.960E-02	1.363E-01	1.143E-02	0.364
		136.25		3.775E-01	5.930E-01	1.013E+00	8.538E-02	0.373
W-181		345.85		-1.654E-02	2.944E-01	4.617E-01	4.949E-02	-0.036
		482.03	*	7.994E-02	7.411E-02	1.295E-01	1.231E-02	0.618
		56.28		6.404E-01	8.701E-01	1.288E+00	9.453E-02	0.497
		57.53		7.982E-01	4.958E-01	7.516E-01	5.438E-02	1.062
TA-182		65.20	*	-4.199E-01	5.013E-01	7.450E-01	5.626E-02	-0.564
		67.75		1.426E-02	1.525E-01	2.375E-01	1.838E-02	0.060
		100.10		-2.275E-02	2.148E-01	3.614E-01	3.161E-02	-0.063
		152.43		-1.713E-01	4.649E-01	7.569E-01	6.613E-02	-0.226
		222.10		-5.440E-01	5.546E-01	8.513E-01	8.952E-02	-0.639
		1001.68		-7.359E-01	4.115E+00	6.756E+00	6.168E-01	-0.109
		1121.28		7.218E-01	2.801E-01	5.289E-01	4.465E-02	1.365
		1189.05		3.001E-01	4.027E-01	7.091E-01	5.734E-02	0.423
RE-183		1221.42	*	5.810E-02	2.174E-01	3.658E-01	2.991E-02	0.159
		1230.97		2.380E-01	4.946E-01	8.549E-01	7.013E-02	0.278
		57.98		3.409E+00	5.189E-01	8.624E-01	6.209E-02	3.953
	+	59.32		9.509E+00	8.264E-01	8.443E-01	6.000E-02	11.262
		67.20		1.703E-03	2.641E-01	4.099E-01	3.155E-02	0.004
		162.32	*	5.075E-02	1.442E-01	2.418E-01	2.170E-02	0.210
		208.81		1.906E+00	1.437E+00	2.455E+00	2.495E-01	0.776
		291.72		-1.459E+00	1.739E+00	2.295E+00	2.718E-01	-0.636
RE-184		57.98		1.313E+01	1.998E+00	3.320E+00	2.391E-01	3.953

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185	+	59.32		3.658E+01	3.179E+00	3.248E+00	2.308E-01	11.262
		67.20		6.556E-03	1.016E+00	1.578E+00	1.214E-01	0.004
		161.27		8.769E-02	4.852E-01	8.079E-01	7.230E-02	0.109
		216.55		1.987E-01	4.252E-01	7.046E-01	7.305E-02	0.282
		252.85	*	7.786E-02	3.738E-01	6.076E-01	6.886E-02	0.128
		318.01		-2.966E-01	7.835E-01	1.211E+00	1.378E-01	-0.245
		792.07		-3.233E-01	1.829E+00	3.047E+00	2.837E-01	-0.106
		903.28		1.912E-01	2.130E+00	3.574E+00	3.377E-01	0.054
		920.93		-7.453E-02	1.033E+00	1.713E+00	1.611E-01	-0.044
	+	59.72		2.644E+01	2.297E+00	2.271E+00	1.616E-01	11.638
		61.14		2.695E+00	3.878E-01	6.269E-01	4.539E-02	4.299
		69.30		2.099E-02	3.730E-01	6.415E-01	5.037E-02	0.033
RE-188		592.07		-1.935E+00	4.248E+00	6.687E+00	6.219E-01	-0.289
		646.12	*	-3.166E-03	7.474E-02	1.207E-01	1.085E-02	-0.026
		717.42		1.608E-02	1.594E+00	2.564E+00	2.331E-01	0.006
		874.81		6.491E-02	1.157E+00	1.943E+00	1.834E-01	0.033
		880.27		8.730E-01	1.532E+00	2.656E+00	2.509E-01	0.329
W-188		155.03	*	1.805E-01	2.313E-01	3.949E-01	3.474E-02	0.457
		477.96		-2.718E+00	5.629E+00	9.059E+00	8.613E-01	-0.300
		633.10		4.183E+00	4.865E+00	8.356E+00	7.584E-01	0.501
IR-192		63.58		-1.725E+01	7.496E+01	1.061E+02	7.884E+00	-0.163
		227.08		6.570E+00	2.015E+01	3.310E+01	3.525E+00	0.198
	*	290.67		7.900E+00	1.312E+01	1.937E+01	2.297E+00	0.408
	+	295.96		7.009E-01	2.644E-01	3.604E-01	4.263E-02	1.945
AU-195		308.46		-4.179E-02	1.605E-01	2.506E-01	2.907E-02	-0.167
		316.51	*	3.411E-02	5.827E-02	9.526E-02	1.089E-02	0.358
		468.07		2.655E-02	1.288E-01	2.160E-01	2.173E-02	0.123
		604.41		4.089E-02	8.434E-01	1.208E+00	1.623E-01	0.034
		612.46		1.248E+00	1.167E+00	1.839E+00	1.914E-01	0.679
		65.12		-1.968E-01	2.358E-01	3.505E-01	2.645E-02	-0.561
		66.83		-3.416E-04	1.285E-01	1.994E-01	1.529E-02	-0.002
TL-200	+	75.70		1.068E+00	3.358E-01	5.163E-01	4.320E-02	2.069
		98.88	*	1.258E-01	2.723E-01	4.685E-01	4.125E-02	0.269
		129.76		6.266E-01	3.671E+00	6.177E+00	5.157E-01	0.101
	*	367.94		-5.664E-01	6.474E+00	1.087E+01	1.094E+00	-0.052
		579.30		5.571E+01	5.486E+01	8.583E+01	8.028E+00	0.649
TL-201		828.27		2.962E+01	8.001E+01	1.376E+02	1.291E+01	0.215
		1205.75		-6.219E-01	2.475E+01	4.020E+01	3.270E+00	-0.015
		68.90		4.252E-02	1.114E+00	1.916E+00	1.498E-01	0.022
		70.82		7.301E-02	7.080E-01	1.101E+00	8.772E-02	0.066
TL-202		80.30		-9.200E-01	1.373E+00	2.045E+00	1.799E-01	-0.450
		135.34		8.666E+00	6.496E+00	1.137E+01	9.570E-01	0.762
	*	167.43		-1.774E-01	1.770E+00	2.902E+00	2.642E-01	-0.061
		68.90		1.396E-02	3.658E-01	6.289E-01	4.919E-02	0.022
		70.82		2.390E-02	2.318E-01	3.605E-01	2.872E-02	0.066
HG-203		80.30		-3.013E-01	4.498E-01	6.697E-01	5.892E-02	-0.450
	*	439.56		1.036E-01	9.055E-02	1.588E-01	1.499E-02	0.652
		70.83		1.467E-01	1.379E+00	2.144E+00	2.831E-01	0.068
		72.87		1.580E-01	8.112E-01	1.264E+00	1.629E-01	0.125

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-207		82.60		5.810E-01	1.455E+00	2.408E+00	3.372E-01	0.241
		279.20	*	-5.863E-02	6.353E-02	9.563E-02	1.165E-02	-0.613
		72.80		2.707E-02	2.655E-01	4.123E-01	3.349E-02	0.066
	+	74.97		6.094E-01	1.916E-01	2.856E-01	2.372E-02	2.134
		84.90		1.777E-02	2.971E-01	4.581E-01	4.252E-02	0.039
TL-207		569.67		-2.452E-03	5.305E-02	8.650E-02	8.121E-03	-0.028
		1063.62	*	3.019E-02	1.140E-01	1.912E-01	1.685E-02	0.158
		1770.23		-3.799E-01	7.646E-01	9.038E-01	7.470E-02	-0.420
		81.07		-3.639E-01	3.404E-01	4.959E-01	4.401E-02	-0.734
		83.78		8.073E-02	1.997E-01	3.124E-01	2.861E-02	0.258
PO-209		94.90		2.074E-01	2.970E-01	4.704E-01	4.253E-02	0.441
	+	122.32		1.834E+01	4.106E+00	6.183E+00	5.537E-01	2.966
		144.24		1.933E-01	9.336E-01	1.567E+00	1.503E-01	0.123
		154.21		5.541E-01	5.793E-01	9.946E-01	9.571E-02	0.557
		269.46		2.671E-01	3.248E-01	5.393E-01	6.415E-02	0.495
PB-210		323.87	*	7.677E-02	1.165E+00	1.850E+00	3.539E-01	0.041
	+	338.28		5.491E+00	2.733E+00	3.408E+00	4.777E-01	1.611
		445.03		-3.163E+00	4.442E+00	7.073E+00	8.979E-01	-0.447
		260.50		-5.876E+00	1.638E+01	2.575E+01	2.969E+00	-0.228
		262.80		2.532E+01	4.369E+01	7.219E+01	8.368E+00	0.351
PB-211		896.60	*	-1.099E+00	1.716E+01	2.854E+01	2.700E+00	-0.039
		46.50	*	-7.504E+00	7.015E+00	1.056E+01	9.850E-01	-0.710
		46.50	*	-7.504E+00	7.015E+00	1.056E+01	9.850E-01	-0.710
		46.50	*	-7.504E+00	7.009E+00	1.056E+01	8.922E-01	-0.710
		404.84	*	1.817E+00	2.010E+00	2.933E+00	1.841E+00	0.619
BI-212		427.08		4.945E+00	5.149E+00	7.301E+00	4.545E+00	0.677
		831.96		-1.501E+00	2.465E+00	3.646E+00	4.289E+00	-0.412
	+	727.18	*	1.761E+00	7.259E-01	1.063E+00	1.110E-01	1.657
		785.46		-2.560E+00	3.272E+00	5.209E+00	4.841E-01	-0.491
		1620.62		2.152E+00	1.937E+00	3.734E+00	3.172E-01	0.576
PO-215		81.07		-3.639E-01	3.404E-01	4.959E-01	4.401E-02	-0.734
		83.78		8.073E-02	1.997E-01	3.124E-01	2.861E-02	0.258
		94.90		2.074E-01	2.970E-01	4.704E-01	4.253E-02	0.441
	+	122.32		1.834E+01	4.106E+00	6.183E+00	5.537E-01	2.966
		144.24		1.933E-01	9.336E-01	1.567E+00	1.503E-01	0.123
RN-219		154.21		5.541E-01	5.793E-01	9.946E-01	9.571E-02	0.557
		269.46		2.671E-01	3.248E-01	5.393E-01	6.415E-02	0.495
		323.87	*	7.677E-02	1.165E+00	1.850E+00	3.539E-01	0.041
	+	338.28		5.491E+00	2.733E+00	3.408E+00	4.777E-01	1.611
		445.03		-3.163E+00	4.442E+00	7.073E+00	8.979E-01	-0.447
RN-220		271.23		1.496E-01	4.149E-01	6.758E-01	8.849E-02	0.221
		401.81	*	-5.055E-01	7.600E-01	1.223E+00	1.886E-01	-0.413
		549.76	*	3.572E+00	4.443E+01	7.330E+01	6.926E+00	0.049
		81.07		-3.639E-01	3.404E-01	4.959E-01	4.401E-02	-0.734
		83.78		8.073E-02	1.997E-01	3.124E-01	2.861E-02	0.258
RA-223		94.90		2.074E-01	2.970E-01	4.704E-01	4.253E-02	0.441
	+	122.32		1.834E+01	4.106E+00	6.183E+00	5.537E-01	2.966
		144.24		1.933E-01	9.336E-01	1.567E+00	1.503E-01	0.123
		154.21		5.541E-01	5.793E-01	9.946E-01	9.571E-02	0.557

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		269.46		2.671E-01	3.248E-01	5.393E-01	6.415E-02	0.495
		323.87	*	7.677E-02	1.165E+00	1.850E+00	3.539E-01	0.041
	+	338.28		5.491E+00	2.733E+00	3.408E+00	4.777E-01	1.611
		445.03		-3.163E+00	4.442E+00	7.073E+00	8.979E-01	-0.447
		79.80		-1.294E+00	2.492E+00	3.719E+00	8.016E-01	-0.348
		236.00		1.490E-01	3.986E-01	5.870E-01	8.180E-02	0.254
		256.20	*	3.367E-01	6.432E-01	1.058E+00	1.807E-01	0.318
		286.10		-2.142E+00	2.694E+00	4.066E+00	6.328E-01	-0.527
		299.80		3.642E+00	2.870E+00	4.299E+00	8.257E-01	0.847
		304.40		-1.273E+00	3.120E+00	4.816E+00	9.645E-01	-0.264
TH-227		334.20		-3.302E-01	4.182E+00	6.233E+00	1.283E+00	-0.053
		79.80		-1.294E+00	2.492E+00	3.719E+00	8.118E-01	-0.348
	+	94.00		6.885E+00	4.024E+00	4.480E+00	9.845E-01	1.537
		236.00		1.490E-01	3.985E-01	5.870E-01	7.585E-02	0.254
		256.20	*	3.367E-01	6.440E-01	1.058E+00	2.069E-01	0.318
		286.10		-2.142E+00	3.436E+00	4.066E+00	4.095E+00	-0.527
		299.80		3.642E+00	2.870E+00	4.299E+00	8.257E-01	0.847
		304.40		-1.273E+00	3.120E+00	4.816E+00	9.645E-01	-0.264
		334.20		-3.302E-01	4.182E+00	6.233E+00	1.283E+00	-0.053
		85.43		9.847E-02	2.920E-01	4.541E-01	4.242E-02	0.217
TH-229	+	88.47		4.738E+00	5.425E-01	5.818E-01	5.579E-02	8.144
		100.00		-5.193E-02	2.347E-01	3.919E-01	3.430E-02	-0.132
		193.63	*	-6.050E-01	7.866E-01	1.235E+00	1.205E-01	-0.490
		210.97		2.475E-01	1.184E+00	1.944E+00	1.986E-01	0.127
		283.67	*	-5.858E-01	2.536E+00	3.989E+00	6.899E-01	-0.147
		301.29		1.190E+00	9.920E-01	1.656E+00	2.414E-01	0.719
		81.07		-3.639E-01	3.404E-01	4.959E-01	4.401E-02	-0.734
		83.78		8.073E-02	1.997E-01	3.124E-01	2.861E-02	0.258
		94.90		2.074E-01	2.970E-01	4.704E-01	4.253E-02	0.441
	+	122.32		1.834E+01	4.106E+00	6.183E+00	5.537E-01	2.966
PA-231		144.24		1.933E-01	9.336E-01	1.567E+00	1.503E-01	0.123
		154.21		5.541E-01	5.793E-01	9.946E-01	9.571E-02	0.557
		269.46		2.671E-01	3.248E-01	5.393E-01	6.415E-02	0.495
		323.87	*	7.677E-02	1.165E+00	1.850E+00	3.539E-01	0.041
	+	338.28		5.491E+00	2.733E+00	3.408E+00	4.777E-01	1.611
		445.03		-3.163E+00	4.442E+00	7.073E+00	8.979E-01	-0.447
		84.21		1.275E+00	2.430E+00	3.819E+00	3.515E-01	0.334
	+	92.29		1.949E+00	1.070E+00	1.378E+00	1.273E-01	1.414
		95.87	*	-9.409E-02	3.967E-01	5.958E-01	5.348E-02	-0.158
		108.00		-4.388E-01	7.684E-01	1.260E+00	1.067E-01	-0.348
PA-233	+	75.28		1.779E+01	6.032E+00	8.240E+00	1.252E+00	2.159
	+	86.59		6.794E+01	1.893E+01	6.257E+00	1.696E+00	10.859
		300.12		1.039E+00	7.483E-01	1.195E+00	2.015E-01	0.870
		311.98	*	3.513E-02	1.165E-01	1.879E-01	2.196E-02	0.187
		340.50		8.405E-01	1.125E+00	1.741E+00	4.306E-01	0.483
		398.62		1.846E+00	3.817E+00	6.510E+00	1.748E+00	0.284
		415.76		1.631E+00	3.080E+00	5.262E+00	1.150E+00	0.310
		63.00		1.326E+00	2.340E+00	3.461E+00	5.141E-01	0.383
		94.67		2.401E-01	2.198E-01	3.524E-01	4.479E-02	0.681

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	98.44			7.599E-02	1.219E-01	1.986E-01	1.108E-01	0.383
	99.86			-7.885E-02	5.906E-01	9.903E-01	8.672E-02	-0.080
	111.00			-1.134E-01	2.453E-01	4.037E-01	4.818E-02	-0.281
	131.20			-1.748E-01	1.458E-01	2.289E-01	1.915E-02	-0.764
	152.70			-1.683E-01	4.695E-01	7.636E-01	1.307E-01	-0.220
+	186.00			2.420E+00	2.417E+00	3.352E+00	1.056E+00	0.722
	226.40			1.580E-01	6.935E-01	1.134E+00	1.655E-01	0.139
	227.20			1.930E-01	7.319E-01	1.199E+00	1.277E-01	0.161
	248.90			8.431E-02	1.352E+00	2.183E+00	5.139E-01	0.039
+	293.70			4.736E+00	1.922E+00	2.220E+00	4.239E-01	2.134
	369.80			-4.595E-01	1.492E+00	2.467E+00	5.518E-01	-0.186
	568.70			-1.643E+00	1.820E+00	2.778E+00	2.609E-01	-0.591
	569.50			-8.403E-02	4.714E-01	7.612E-01	7.147E-02	-0.110
	574.00			1.133E+00	2.608E+00	4.392E+00	4.117E-01	0.258
	699.00			3.349E-01	1.275E+00	2.091E+00	4.029E-01	0.160
	706.10			-4.284E-01	1.878E+00	2.950E+00	1.318E+00	-0.145
	733.00			2.119E-01	6.779E-01	1.077E+00	2.413E-01	0.197
	742.81			-1.053E+00	2.663E+00	3.974E+00	2.674E+00	-0.265
	796.30			5.580E-01	1.732E+00	2.966E+00	8.093E-01	0.188
	805.60			1.765E+00	1.989E+00	3.417E+00	1.054E+00	0.516
	819.60			-4.804E-01	2.388E+00	3.945E+00	1.507E+00	-0.122
	826.30			8.158E-01	1.706E+00	2.890E+00	1.297E+00	0.282
	831.60			-6.266E-01	1.240E+00	1.986E+00	5.973E-01	-0.316
	876.40			-1.168E+00	2.169E+00	2.889E+00	2.972E+00	-0.404
	880.51			3.416E-01	5.894E-01	1.022E+00	9.657E-02	0.334
	883.24			1.007E-01	6.112E-01	1.027E+00	6.913E-01	0.098
	899.00			1.088E+00	1.919E+00	3.218E+00	1.412E+00	0.338
	925.00			-1.565E+00	2.787E+00	4.470E+00	4.200E-01	-0.350
	926.50			-1.366E-01	4.219E-01	6.860E-01	1.753E-01	-0.199
	946.00	*		-7.574E-01	7.528E-01	1.150E+00	2.196E-01	-0.659
	949.00			3.172E-01	1.071E+00	1.812E+00	1.690E-01	0.175
	980.50			-1.453E+00	1.578E+00	2.428E+00	2.238E-01	-0.599
	1394.10			2.002E-01	1.574E+00	2.579E+00	1.678E+00	0.078
PA-234M	766.42			-2.002E+00	2.183E+01	3.461E+01	1.760E+01	-0.058
	1001.03	*		2.646E+00	9.702E+00	1.643E+01	1.711E+00	0.161
TH-234	63.29	*		9.095E-01	1.974E+00	2.904E+00	5.065E-01	0.313
	92.38			1.782E+00	1.019E+00	1.266E+00	2.327E-01	1.407
U-235	89.95	+		2.145E+00	2.121E+00	2.568E+00	7.984E-01	0.836
	93.35	+		2.142E+00	1.308E+00	1.505E+00	4.243E-01	1.423
	105.00			1.136E+00	1.422E+00	2.412E+00	7.195E-01	0.471
	143.76	*		6.928E-03	2.832E-01	4.717E-01	8.243E-02	0.015
	163.35			-7.842E-02	6.700E-01	1.091E+00	2.100E-01	-0.072
+	185.71			8.963E-02	8.539E-02	1.240E-01	1.185E-02	0.723
	205.31			-8.335E-03	8.010E-01	1.299E+00	2.569E-01	-0.006
NP-236	94.67			1.839E-01	1.660E-01	2.676E-01	2.423E-02	0.687
	98.44			5.744E-02	8.657E-02	1.501E-01	1.325E-02	0.383
	111.00			-8.581E-02	1.854E-01	3.053E-01	2.567E-02	-0.281
	160.31	*		-5.272E-02	1.146E-01	1.851E-01	1.652E-02	-0.285
U-238	63.29	*		9.095E-01	1.974E+00	2.904E+00	5.065E-01	0.313

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	92.38		1.782E+00	9.785E-01	1.266E+00	1.168E-01	1.407
		99.55		2.650E-02	1.956E-01	3.320E-01	2.912E-02	0.080
		117.00	*	3.115E-02	2.750E-01	4.434E-01	3.692E-02	0.070
		209.75		1.714E+00	1.229E+00	2.103E+00	2.142E-01	0.815
		228.18		-1.589E-01	3.915E-01	6.210E-01	6.631E-02	-0.256
		277.60		4.784E-01	3.138E-01	5.329E-01	6.379E-02	0.898
CM-243		334.30		-2.466E-01	2.367E+00	3.521E+00	3.879E-01	-0.070
		99.55		2.725E-02	2.012E-01	3.414E-01	2.995E-02	0.080
		103.76	*	6.999E-02	1.305E-01	2.250E-01	1.934E-02	0.311
		117.00		3.203E-02	2.828E-01	4.560E-01	3.796E-02	0.070
		209.75		1.689E+00	1.211E+00	2.072E+00	2.111E-01	0.815
		228.18		-1.604E-01	3.954E-01	6.271E-01	6.697E-02	-0.256
AM-246		277.60		4.821E-01	3.162E-01	5.370E-01	6.428E-02	0.898
		798.80		-1.971E-01	2.643E-01	4.213E-01	3.929E-02	-0.468
		1036.00		5.543E-01	6.333E-01	1.108E+00	9.937E-02	0.500
		1062.04		-1.264E-01	5.003E-01	8.086E-01	7.135E-02	-0.156
		1078.86	*	5.320E-04	3.269E-01	5.378E-01	4.692E-02	0.001
		278.00		1.340E+00	1.303E+00	2.177E+00	2.609E-01	0.615
CM-247		287.40		-3.648E-01	2.151E+00	3.397E+00	4.044E-01	-0.107
		402.60	*	-2.196E-02	6.744E-02	1.111E-01	1.033E-02	-0.198
		252.85		3.013E-01	1.447E+00	2.352E+00	2.665E-01	0.128
CF-249		333.44		3.776E-02	3.140E-01	4.747E-01	5.239E-02	0.080
		387.95	*	2.498E-03	7.221E-02	1.216E-01	1.140E-02	0.021
CF-251		176.60	*	-1.964E-02	1.877E-01	3.069E-01	2.861E-02	-0.064
		227.00		1.606E-01	6.553E-01	1.073E+00	1.142E-01	0.150
		285.00		-2.678E-01	2.921E+00	4.634E+00	5.533E-01	-0.058

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]G1202021398      *
* Acquisition date   : 1-FEB-2010 13:35:50 Detector SN# :                    *
* Detector ID        : GAM16 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 01:00:02.16 Half life ratio : 8.000               *
*****
*                                     SAMPLE DATA                            *
*
* Sample date       : 25-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID         : G1202021398 Analyst initials: MXR1                  *
* Batch Number      : 944038 Sample Quantity : 1.5173E+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	1.359E+00	7.096E-01	6.228E-01	0.000E+00
CO-57	2.602E-01	5.646E-02	5.616E-02	0.000E+00
CO-60	7.133E+00	6.740E-01	7.635E-02	0.000E+00
CD-109	3.491E+01	3.917E+00	2.054E+00	0.000E+00
SN-126	3.470E+00	3.894E-01	2.051E-01	0.000E+00
BA-137M	5.989E+00	5.817E-01	1.152E-01	0.000E+00
CS-137	6.331E+00	6.158E-01	1.218E-01	0.000E+00
TL-208	4.543E-01	1.151E-01	1.071E-01	0.000E+00
BI-211	3.305E+00	8.103E-01	5.704E-01	0.000E+00
PB-212	1.280E+00	2.366E-01	1.735E-01	0.000E+00
PO-212	1.280E+00	2.366E-01	1.735E-01	0.000E+00
BI-214	9.657E-01	2.625E-01	1.947E-01	0.000E+00
PB-214	1.150E+00	2.879E-01	1.988E-01	0.000E+00
PO-214	1.150E+00	2.879E-01	1.988E-01	0.000E+00
PO-216	1.280E+00	2.366E-01	1.735E-01	0.000E+00
PO-218	1.150E+00	2.879E-01	1.988E-01	0.000E+00
RA-224	3.113E+00	1.440E+00	1.974E+00	0.000E+00
RA-226	9.657E-01	2.625E-01	1.947E-01	0.000E+00
AC-228	1.103E+00	4.725E-01	5.011E-01	0.000E+00
RA-228	1.103E+00	4.725E-01	5.011E-01	0.000E+00
TH-228	1.290E+00	2.384E-01	1.748E-01	0.000E+00
TH-230	9.657E-01	2.625E-01	1.947E-01	0.000E+00
TH-232	1.103E+00	4.725E-01	5.011E-01	0.000E+00
U-234	9.657E-01	2.625E-01	1.947E-01	0.000E+00
NP-237	1.019E+01	2.357E+00	6.091E-01	0.000E+00
AM-241	1.462E+01	1.334E+00	4.981E-01	0.000E+00
AM-243	3.396E-01	1.046E-01	1.361E-01	0.000E+00
ANH-511	7.461E-02	1.147E-01	8.931E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)
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BE-7	2.475E-01	5.505E-01	9.885E-01	0.000E+00	NOT IDENT.
NA-22	-1.849E-02	4.840E-02	7.722E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.043E+02	0.000E+00	0.000E+00	SHORT HLIF
AL-26	9.417E-03	3.723E-02	6.639E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.488E-02	1.048E-01	0.000E+00	FAIL ABUN
SC-46	-4.592E-02	7.695E-02	1.283E-01	0.000E+00	NOT IDENT.
V-48	4.353E-02	1.069E-01	1.890E-01	0.000E+00	NOT IDENT.
CR-51	-3.600E-01	5.405E-01	8.747E-01	0.000E+00	NOT IDENT.
MN-52	1.963E-02	1.059E-01	1.813E-01	0.000E+00	FAIL ABUN
MN-54	-9.343E-03	6.770E-02	1.175E-01	0.000E+00	NOT IDENT.
CO-56	2.251E-02	6.682E-02	1.196E-01	0.000E+00	NOT IDENT.
CO-58	-3.327E-02	6.603E-02	1.117E-01	0.000E+00	NOT IDENT.
FE-59	-6.370E-02	1.751E-01	2.900E-01	0.000E+00	NOT IDENT.
ZN-65	-2.758E-01	1.816E-01	2.709E-01	0.000E+00	NOT IDENT.
GE-68	4.274E-01	2.729E+00	4.701E+00	0.000E+00	NOT IDENT.
AS-73	6.873E-01	1.689E+00	2.992E+00	0.000E+00	NOT IDENT.
AS-74	8.158E-02	1.213E-01	2.172E-01	0.000E+00	NOT IDENT.
SE-75	-6.903E-02	7.021E-02	1.135E-01	0.000E+00	FAIL ABUN
BR-77	6.085E-01	2.005E+00	3.554E+00	0.000E+00	FAIL ABUN
SR-82	-7.861E-01	5.783E-01	8.448E-01	0.000E+00	NOT IDENT.
RB-83	3.442E-02	1.135E-01	2.011E-01	0.000E+00	NOT IDENT.
RB-84	3.928E-02	1.260E-01	2.238E-01	0.000E+00	NOT IDENT.
KR-85	7.331E+00	1.371E+01	2.186E+01	0.000E+00	NOT IDENT.
SR-85	3.471E-02	6.490E-02	1.035E-01	0.000E+00	NOT IDENT.
RB-86	4.299E-01	1.319E+00	2.298E+00	0.000E+00	NOT IDENT.
Y-88	8.688E-03	4.184E-02	7.358E-02	0.000E+00	NOT IDENT.
ZR-88	-2.350E-02	5.125E-02	8.923E-02	0.000E+00	NOT IDENT.
Y-91	-4.458E+00	2.087E+01	3.420E+01	0.000E+00	NOT IDENT.
NB-94	-1.054E-02	5.814E-02	9.664E-02	0.000E+00	NOT IDENT.
NB-95	-1.206E-02	7.199E-02	1.187E-01	0.000E+00	NOT IDENT.
NB-95M	1.412E-01	1.932E-01	3.123E-01	0.000E+00	NOT IDENT.
ZR-95	1.451E-02	1.163E-01	1.966E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.229E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.016E+03	0.000E+00	0.000E+00	SHORT HLIF
MO-99	2.214E+00	3.004E+00	5.313E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	3.974E+07	0.000E+00	0.000E+00	SHORT HLIF
RH-101	7.664E-03	4.935E-02	8.772E-02	0.000E+00	NOT IDENT.
RH-102	9.060E-03	5.811E-02	1.028E-01	0.000E+00	NOT IDENT.
RU-103	2.774E-02	6.464E-02	1.156E-01	0.000E+00	FAIL ABUN
RH-106	1.326E-01	5.261E-01	9.154E-01	0.000E+00	FAIL ABUN
RU-106	1.326E-01	5.259E-01	9.154E-01	0.000E+00	FAIL ABUN
AG-108M	1.454E-02	6.064E-02	1.086E-01	0.000E+00	NOT IDENT.
AG-110M	1.123E-02	7.343E-02	1.106E-01	0.000E+00	NOT IDENT.
IN-111	9.977E-02	2.977E-01	4.699E-01	0.000E+00	NOT IDENT.
IN-113M	-2.413E-02	7.411E-02	1.300E-01	0.000E+00	NOT IDENT.
SN-113	-2.413E-02	7.411E-02	1.300E-01	0.000E+00	NOT IDENT.
IN-114M	1.050E-01	2.469E-01	4.451E-01	0.000E+00	NOT IDENT.
CD-115	-3.263E-01	1.772E+00	3.039E+00	0.000E+00	NOT IDENT.
SN-117M	2.798E-03	5.223E-02	9.406E-02	0.000E+00	NOT IDENT.
SB-122	4.998E-02	5.375E-01	9.339E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	5.343E+02	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	6.408E-03	3.701E-02	6.702E-02	0.000E+00	NOT IDENT.
I-124	-1.066E-01	3.643E-01	5.628E-01	0.000E+00	NOT IDENT.
SB-124	-6.956E-02	1.118E-01	1.681E-01	0.000E+00	FAIL ABUN
SB-125	6.797E-02	1.803E-01	3.252E-01	0.000E+00	NOT IDENT.
TE-125M	1.509E+01	1.095E+01	2.120E+01	0.000E+00	NOT IDENT.
I-126	8.402E-02	2.317E-01	3.564E-01	0.000E+00	NOT IDENT.
SB-126	-1.292E-02	1.843E-01	2.841E-01	0.000E+00	FAIL ABUN
SB-127	-4.635E-01	6.312E-01	1.003E+00	0.000E+00	NOT IDENT.
XE-127	-9.178E-03	6.175E-02	1.080E-01	0.000E+00	NOT IDENT.
I-131	3.255E-03	9.912E-02	1.785E-01	0.000E+00	NOT IDENT.
TE-132	-9.429E-02	2.347E-01	4.009E-01	0.000E+00	NOT IDENT.
BA-133	-6.169E-02	8.167E-02	1.219E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.459E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	7.200E-02	8.543E-02	1.578E-01	0.000E+00	NOT IDENT.
CS-135	2.282E-01	2.607E-01	4.657E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.589E+07	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-1.723E-01	1.466E-01	2.260E-01	0.000E+00	NOT IDENT.
CE-139	-4.653E-03	3.948E-02	7.028E-02	0.000E+00	NOT IDENT.
BA-140	1.982E-02	2.954E-01	5.143E-01	0.000E+00	NOT IDENT.
LA-140	-1.222E-01	9.213E-02	1.241E-01	0.000E+00	NOT IDENT.
CE-141	7.124E-02	7.174E-02	1.349E-01	0.000E+00	NOT IDENT.
CE-143	5.199E+00	5.725E+00	9.030E+00	0.000E+00	FAIL ABUN
CE-144	-7.283E-03	2.778E-01	5.051E-01	0.000E+00	NOT IDENT.
PM-144	1.859E-02	5.977E-02	1.032E-01	0.000E+00	NOT IDENT.
PR-144	1.255E+00	4.034E+00	6.966E+00	0.000E+00	NOT IDENT.
PM-146	-1.240E-02	8.101E-02	1.415E-01	0.000E+00	NOT IDENT.

ND-147	3.343E-01	5.864E-01	1.053E+00	0.000E+00	FAIL ABUN
PM-149	-5.614E+00	1.429E+01	2.383E+01	0.000E+00	NOT IDENT.
EU-152	-3.317E-02	1.644E-01	2.841E-01	0.000E+00	FAIL ABUN
GD-153	-3.791E-02	1.033E-01	1.691E-01	0.000E+00	NOT IDENT.
EU-154	-2.462E-02	1.331E-01	2.194E-01	0.000E+00	FAIL ABUN
EU-155	3.276E-02	1.387E-01	2.593E-01	0.000E+00	FAIL ABUN
TB-160	-5.454E-02	2.701E-01	4.640E-01	0.000E+00	FAIL ABUN
HO-166M	-1.696E-02	1.092E-01	1.816E-01	0.000E+00	FAIL ABUN
TM-171	7.735E-01	3.896E+01	6.714E+01	0.000E+00	FAIL ABUN
LU-176	8.126E-03	4.132E-02	7.104E-02	0.000E+00	FAIL ABUN
LU-177	1.013E+00	7.677E-01	1.416E+00	0.000E+00	NOT IDENT.
LU-177M	4.472E-02	3.086E-01	5.525E-01	0.000E+00	FAIL ABUN
HF-181	7.994E-02	7.263E-02	1.342E-01	0.000E+00	NOT IDENT.
W-181	-4.199E-01	4.913E-01	8.102E-01	0.000E+00	NOT IDENT.
TA-182	5.810E-02	2.130E-01	3.703E-01	0.000E+00	NOT IDENT.
RE-183	5.075E-02	1.413E-01	2.575E-01	0.000E+00	FAIL ABUN
RE-184	7.786E-02	3.663E-01	6.401E-01	0.000E+00	FAIL ABUN
OS-185	-3.166E-03	7.324E-02	1.242E-01	0.000E+00	FAIL ABUN
RE-188	1.805E-01	2.267E-01	4.209E-01	0.000E+00	NOT IDENT.
W-188	7.900E+00	1.286E+01	2.033E+01	0.000E+00	NOT IDENT.
IR-192	3.411E-02	5.710E-02	9.980E-02	0.000E+00	FAIL ABUN
AU-195	1.258E-01	2.668E-01	5.046E-01	0.000E+00	FAIL ABUN
TL-200	-5.664E-01	6.345E+00	1.134E+01	0.000E+00	NOT IDENT.
TL-201	-1.774E-01	1.734E+00	3.088E+00	0.000E+00	NOT IDENT.
TL-202	1.036E-01	8.874E-02	1.650E-01	0.000E+00	NOT IDENT.
HG-203	-5.863E-02	6.226E-02	1.005E-01	0.000E+00	NOT IDENT.
BI-207	3.019E-02	1.117E-01	1.942E-01	0.000E+00	FAIL ABUN
TL-207	7.677E-02	1.142E+00	1.937E+00	0.000E+00	FAIL ABUN
PO-209	-1.099E+00	1.682E+01	2.913E+01	0.000E+00	NOT IDENT.
BI-210	-7.504E+00	6.875E+00	1.158E+01	0.000E+00	NOT IDENT.
PB-210	-7.504E+00	6.875E+00	1.158E+01	0.000E+00	NOT IDENT.
PO-210	-7.504E+00	6.869E+00	1.158E+01	0.000E+00	NOT IDENT.
PB-211	1.817E+00	1.970E+00	3.054E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.114E-01	1.090E+00	0.000E+00	FAIL ABUN
PO-215	7.677E-02	1.142E+00	1.937E+00	0.000E+00	FAIL ABUN
RN-219	-5.055E-01	7.448E-01	1.273E+00	0.000E+00	NOT IDENT.
RN-220	3.572E+00	4.354E+01	7.574E+01	0.000E+00	NOT IDENT.
RA-223	7.677E-02	1.142E+00	1.937E+00	0.000E+00	FAIL ABUN
AC-227	3.367E-01	6.304E-01	1.114E+00	0.000E+00	NOT IDENT.
TH-227	3.367E-01	6.312E-01	1.114E+00	0.000E+00	FAIL ABUN
TH-229	-6.050E-01	7.708E-01	1.309E+00	0.000E+00	FAIL ABUN
PA-231	-5.858E-01	2.486E+00	4.190E+00	0.000E+00	NOT IDENT.
TH-231	7.677E-02	1.142E+00	1.937E+00	0.000E+00	FAIL ABUN
U-231	-9.409E-02	3.888E-01	6.422E-01	0.000E+00	FAIL ABUN
PA-233	3.513E-02	1.142E-01	1.969E-01	0.000E+00	FAIL ABUN
PA-234	-7.574E-01	7.378E-01	1.171E+00	0.000E+00	FAIL ABUN
PA-234M	2.646E+00	9.508E+00	1.672E+01	0.000E+00	NOT IDENT.
TH-234	9.095E-01	1.935E+00	3.160E+00	0.000E+00	FAIL ABUN
U-235	6.928E-03	2.776E-01	5.036E-01	0.000E+00	FAIL ABUN
NP-236	-5.272E-02	1.124E-01	1.972E-01	0.000E+00	NOT IDENT.
U-238	9.095E-01	1.935E+00	3.160E+00	0.000E+00	FAIL ABUN
NP-239	3.115E-02	2.695E-01	4.758E-01	0.000E+00	NOT IDENT.
CM-243	6.999E-02	1.279E-01	2.421E-01	0.000E+00	NOT IDENT.
AM-246	5.320E-04	3.204E-01	5.461E-01	0.000E+00	NOT IDENT.
CM-247	-2.196E-02	6.609E-02	1.156E-01	0.000E+00	NOT IDENT.
CF-249	2.498E-03	7.076E-02	1.267E-01	0.000E+00	NOT IDENT.
CF-251	-1.964E-02	1.840E-01	3.261E-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]G1202021398.CNF;2
Sample date        : 25-JAN-2010 00:00:00 Acquisition date : 1-FEB-2010 13:35:50.
Sample ID          : G1202021398      Sample quantity   : 1.51730E+02 GRAM
Detector name      : GAM16            Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00    Elapsed real time: 0 01:00:02.16 0.1%
Energy tolerance  : 1.50000 keV       Analyst Initials : MXR1
Abundance limit   : 75.00000          Sensitivity      : 5.00000
Batch ID          : 944038            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	35	10.67*	1.208E+00	1.359E+00	1.359E+00	53.30
CO-57	122.06	316	85.51*	7.172E+00	2.552E-01	2.602E-01	22.14
	136.48	-----	10.60	7.049E+00	-----	Line Not Found	-----
CO-60	1173.22	1994	100.00	1.455E+00	6.781E+00	6.800E+00	9.50
	1332.49	1873	100.00*	1.303E+00	7.114E+00	7.133E+00	9.64
CD-109	88.03	1637	3.72*	6.310E+00	3.452E+01	3.491E+01	11.45
SN-126	64.28	-----	9.60	3.681E+00	-----	Line Not Found	-----
	86.94	1637	8.90	6.310E+00	1.443E+01	1.443E+01	42.04
	87.57	1637	37.00*	6.310E+00	3.470E+00	3.470E+00	11.45
BA-137M	661.65	2618	89.98*	2.405E+00	5.986E+00	5.989E+00	9.91
CS-137	661.65	2618	85.12*	2.405E+00	6.328E+00	6.331E+00	9.93
TL-208	277.35	-----	6.80	4.695E+00	-----	Line Not Found	-----
	510.84	45	21.60	2.965E+00	3.454E-01	3.454E-01	157.11
	583.14	206	84.20*	2.668E+00	4.543E-01	4.543E-01	25.84
	860.37	-----	12.46	1.920E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	4.872E+00	-----	Line Not Found	-----
	351.07	341	12.94*	3.942E+00	3.305E+00	3.305E+00	25.01
PB-212	74.81	231	10.70	5.094E+00	2.095E+00	2.095E+00	32.80
	77.11	305	18.00	5.368E+00	1.559E+00	1.559E+00	23.01
	87.30	1637	8.00	6.310E+00	1.605E+01	1.605E+01	15.20
	238.63	603	44.60*	5.228E+00	1.280E+00	1.280E+00	18.86
	300.09	-----	3.41	4.433E+00	-----	Line Not Found	-----
PO-212	74.81	231	10.70	5.094E+00	2.095E+00	2.095E+00	32.80
	77.11	305	18.00	5.368E+00	1.559E+00	1.559E+00	23.01
	87.30	1637	8.00	6.310E+00	1.605E+01	1.605E+01	15.20
	115.19	-----	0.60	7.166E+00	-----	Line Not Found	-----
	238.63	603	44.60*	5.228E+00	1.280E+00	1.280E+00	18.86
	300.09	-----	3.41	4.433E+00	-----	Line Not Found	-----
BI-214	609.31	233	46.30*	2.574E+00	9.657E-01	9.657E-01	27.74
	1120.29	-----	15.10	1.516E+00	-----	Line Not Found	-----
	1764.49	43	15.80	1.056E+00	1.265E+00	1.265E+00	41.76
PB-214	74.81	231	6.21	5.094E+00	3.610E+00	3.610E+00	32.30

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	77.11	305	10.50	5.368E+00	2.673E+00	2.673E+00	24.24
	87.30	1637	4.67	6.310E+00	2.750E+01	2.750E+01	13.80
	241.98	129	7.49	5.181E+00	1.642E+00	1.642E+00	47.53
	295.21	172	19.20	4.486E+00	9.868E-01	9.868E-01	38.23
	351.92	341	37.20*	3.942E+00	1.150E+00	1.150E+00	25.55
	74.81	231	6.21	5.094E+00	3.610E+00	3.610E+00	32.30
	77.11	305	10.50	5.368E+00	2.673E+00	2.673E+00	24.24
	87.30	1637	4.67	6.310E+00	2.750E+01	2.750E+01	13.80
	241.98	129	7.49	5.181E+00	1.642E+00	1.642E+00	47.53
	295.21	172	19.20	4.486E+00	9.868E-01	9.868E-01	38.23
PO-216	351.92	341	37.20*	3.942E+00	1.150E+00	1.150E+00	25.55
	74.81	231	10.70	5.094E+00	2.095E+00	2.095E+00	32.80
	77.11	305	18.00	5.368E+00	1.559E+00	1.559E+00	23.01
	87.30	1637	8.00	6.310E+00	1.605E+01	1.605E+01	15.20
	238.63	603	44.60*	5.228E+00	1.280E+00	1.280E+00	18.86
	300.09	-----	3.41	4.433E+00	-----	Line Not Found	-----
	74.81	231	6.21	5.094E+00	3.610E+00	3.610E+00	32.30
	77.11	305	10.50	5.368E+00	2.673E+00	2.673E+00	24.24
	87.30	1637	4.67	6.310E+00	2.750E+01	2.750E+01	13.80
	241.98	129	7.49	5.181E+00	1.642E+00	1.642E+00	47.53
RA-224	295.21	172	19.20	4.486E+00	9.868E-01	9.868E-01	38.23
	351.92	341	37.20*	3.942E+00	1.150E+00	1.150E+00	25.55
	240.98	129	3.95*	5.181E+00	3.113E+00	3.113E+00	47.20
	609.31	233	46.30*	2.574E+00	9.657E-01	9.657E-01	27.74
	1120.29	-----	15.10	1.516E+00	-----	Line Not Found	-----
	1764.49	43	15.80	1.056E+00	1.265E+00	1.265E+00	41.76
	338.32	123	11.40	4.058E+00	1.315E+00	1.315E+00	63.46
	911.07	113	27.70*	1.824E+00	1.103E+00	1.103E+00	43.72
	969.11	107	16.60	1.727E+00	1.851E+00	1.851E+00	45.11
	338.32	123	11.40	4.058E+00	1.315E+00	1.315E+00	63.46
RA-228	911.07	113	27.70*	1.824E+00	1.103E+00	1.103E+00	43.72
	969.11	107	16.60	1.727E+00	1.851E+00	1.851E+00	45.11
	74.81	231	10.70	5.094E+00	2.095E+00	2.111E+00	31.46
	77.11	305	18.00	5.368E+00	1.559E+00	1.571E+00	23.01
	87.30	1637	8.00	6.310E+00	1.605E+01	1.617E+01	11.45
	238.63	603	44.60*	5.228E+00	1.280E+00	1.290E+00	18.86
	300.09	-----	3.41	4.433E+00	-----	Line Not Found	-----
	609.31	233	46.30*	2.574E+00	9.657E-01	9.657E-01	27.74
	1120.29	-----	15.10	1.516E+00	-----	Line Not Found	-----
	1764.49	43	15.80	1.056E+00	1.265E+00	1.265E+00	41.76
TH-232	338.32	123	11.40	4.058E+00	1.315E+00	1.315E+00	48.98
	911.07	113	27.70*	1.824E+00	1.103E+00	1.103E+00	43.72
	969.11	107	16.60	1.727E+00	1.851E+00	1.851E+00	45.11
	609.31	233	46.30*	2.574E+00	9.657E-01	9.657E-01	27.74
	1120.29	-----	15.10	1.516E+00	-----	Line Not Found	-----
	1764.49	43	15.80	1.056E+00	1.265E+00	1.265E+00	41.76
	338.32	123	11.40	4.058E+00	1.315E+00	1.315E+00	48.98
	911.07	113	27.70*	1.824E+00	1.103E+00	1.103E+00	43.72
	969.11	107	16.60	1.727E+00	1.851E+00	1.851E+00	45.11
	609.31	233	46.30*	2.574E+00	9.657E-01	9.657E-01	27.74
U-234	1120.29	-----	15.10	1.516E+00	-----	Line Not Found	-----
	1764.49	43	15.80	1.056E+00	1.265E+00	1.265E+00	41.76
	86.50	1637	12.60*	6.310E+00	1.019E+01	1.019E+01	23.60
	95.87	-----	2.60	6.742E+00	-----	Line Not Found	-----
	59.54	3120	35.90*	2.942E+00	1.462E+01	1.462E+01	9.31

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
AM-243	74.67	231	66.00*	5.094E+00	3.396E-01	3.396E-01	31.44
	86.72	1637	0.34	6.310E+00	3.821E+02	3.821E+02	11.45
	117.66	-----	0.55	7.175E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.968E+00	-----	Line Not Found	-----
ANH-511	511.00	45	100.00*	2.965E+00	7.461E-02	7.461E-02	156.89

Flag: "*" = Keyline

Total number of lines in spectrum 25
Number of unidentified lines 1
Number of lines tentatively identified by NID 24 96.00%

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	1.359E+00	1.359E+00	0.724E+00	53.30	
CO-57	270.90D	1.02	2.552E-01	2.602E-01	0.576E-01	22.14	
CO-60	5.27Y	1.00	7.114E+00	7.133E+00	0.688E+00	9.64	
CD-109	464.00D	1.01	3.452E+01	3.491E+01	0.400E+01	11.45	
SN-126	1.00E+05Y	1.00	3.470E+00	3.470E+00	0.397E+00	11.45	
BA-137M	30.17Y	1.00	5.986E+00	5.989E+00	0.594E+00	9.91	
CS-137	30.17Y	1.00	6.328E+00	6.331E+00	0.628E+00	9.93	
TL-208	1.41E+10Y	1.00	4.543E-01	4.543E-01	1.174E-01	25.84	
BI-211	7.04E+08Y	1.00	3.305E+00	3.305E+00	0.827E+00	25.01	
PB-212	1.41E+10Y	1.00	1.280E+00	1.280E+00	0.241E+00	18.86	
PO-212	1.41E+10Y	1.00	1.280E+00	1.280E+00	0.241E+00	18.86	
BI-214	1600.00Y	1.00	9.657E-01	9.657E-01	2.679E-01	27.74	
PB-214	1600.00Y	1.00	1.150E+00	1.150E+00	0.294E+00	25.55	
PO-214	1600.00Y	1.00	1.150E+00	1.150E+00	0.294E+00	25.55	
PO-216	1.41E+10Y	1.00	1.280E+00	1.280E+00	0.241E+00	18.86	
PO-218	1600.00Y	1.00	1.150E+00	1.150E+00	0.294E+00	25.55	
RA-224	1.41E+10Y	1.00	3.113E+00	3.113E+00	1.469E+00	47.20	
RA-226	1600.00Y	1.00	9.657E-01	9.657E-01	2.679E-01	27.74	
AC-228	1.41E+10Y	1.00	1.103E+00	1.103E+00	0.482E+00	43.72	
RA-228	1.41E+10Y	1.00	1.103E+00	1.103E+00	0.482E+00	43.72	
TH-228	1.91Y	1.01	1.280E+00	1.290E+00	0.243E+00	18.86	
TH-230	4.47E+09Y	1.00	9.657E-01	9.657E-01	2.679E-01	27.74	
TH-232	1.41E+10Y	1.00	1.103E+00	1.103E+00	0.482E+00	43.72	
U-234	4.47E+09Y	1.00	9.657E-01	9.657E-01	2.679E-01	27.74	
NP-237	2.14E+06Y	1.00	1.019E+01	1.019E+01	0.240E+01	23.60	
AM-241	432.20Y	1.00	1.462E+01	1.462E+01	0.136E+01	9.31	
AM-243	7380.00Y	1.00	3.396E-01	3.396E-01	1.068E-01	31.44	
ANH-511	1.00E+09Y	1.00	7.461E-02	7.461E-02	11.70E-02	156.89	

Total Activity : 1.069E+02 1.073E+02

Grand Total Activity : 1.069E+02 1.073E+02

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

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

Unidentified Energy Lines
Sample ID : G1202021398

Page : 5
Acquisition date : 1-FEB-2010 13:35:50

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	89.98	75	247	0.90	180.15	171	12	2.09E-02	93.9	6.44E+00	T
0	92.97	129	335	1.81	186.13	183	8	3.57E-02	54.1	6.60E+00	T
0	185.62	60	258	1.06	371.44	368	7	1.67E-02	94.8	6.15E+00	T
0	727.22	93	66	1.50	1454.52	1448	11	2.59E-02	39.9	2.22E+00	T
0	1380.22	19	20	3.20	2760.12	2748	17	5.17E-03	****	1.26E+00	

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202021398.CNF;2
* Acquisition date   : 1-FEB-2010 13:35:50.  Detector SN#      :
* Detector ID        : GAM16                      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 01:00:02.16             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 25-JAN-2010 00:00:00  Nuclide Library : SOLID
* Sample ID          : G1202021398           Analyst initials: MXR1
* Batch Number       : 944038                Sample Quantity : 1.51730E+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	1.359E+00	7.241E-01	6.182E-01	5.434E-02	2.198
CO-57	2.602E-01	5.761E-02	5.240E-02	4.354E-03	4.967
CO-60	7.133E+00	6.878E-01	7.561E-02	6.377E-03	94.347
CD-109	3.491E+01	3.997E+00	1.901E+00	1.832E-01	18.360
SN-126	3.470E+00	3.974E-01	1.899E-01	1.820E-02	18.278
BA-137M	5.989E+00	5.936E-01	1.120E-01	9.943E-03	53.451
CS-137	6.331E+00	6.284E-01	1.184E-01	1.053E-02	53.451
TL-208	4.543E-01	1.174E-01	1.038E-01	1.029E-02	4.377
BI-211	3.305E+00	8.269E-01	5.459E-01	5.969E-02	6.055
PB-212	1.280E+00	2.414E-01	1.645E-01	1.947E-02	7.782
PO-212	1.280E+00	2.414E-01	1.645E-01	1.947E-02	7.782
BI-214	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
PB-214	1.150E+00	2.938E-01	1.903E-01	2.302E-02	6.042
PO-214	1.150E+00	2.938E-01	1.903E-01	2.302E-02	6.042
PO-216	1.280E+00	2.414E-01	1.645E-01	1.947E-02	7.782
PO-218	1.150E+00	2.938E-01	1.903E-01	2.302E-02	6.042
RA-224	3.113E+00	1.469E+00	1.872E+00	2.063E-01	1.663
RA-226	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.103E+00	4.821E-01	4.912E-01	5.834E-02	2.245
RA-228	1.103E+00	4.821E-01	4.912E-01	5.834E-02	2.245
TH-228	1.290E+00	2.432E-01	1.657E-01	1.962E-02	7.782
TH-230	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
TH-232	1.103E+00	4.821E-01	4.912E-01	5.834E-02	2.245
U-234	9.657E-01	2.679E-01	1.889E-01	1.997E-02	5.113
NP-237	1.019E+01	2.405E+00	5.637E-01	1.280E-01	18.078
AM-241	1.462E+01	1.361E+00	4.570E-01	3.586E-02	31.989
AM-243	3.396E-01	1.068E-01	1.255E-01	1.039E-02	2.706
ANH-511	7.461E-02	1.170E-01	8.627E-02	8.205E-03	0.865

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.475E-01		5.617E-01	9.533E-01	9.643E-02	0.260
NA-22	-1.849E-02		4.939E-02	7.638E-02	6.355E-03	-0.242
NA-24	-1.331E-04		1.042E-04	Half-Life	too short	
AL-26	9.417E-03		3.799E-02	6.628E-02	5.420E-03	0.142
TI-44	2.877E-01	+	6.620E-02	9.674E-02	8.331E-03	2.974
SC-46	-4.592E-02		7.853E-02	1.257E-01	1.188E-02	-0.365
V-48	4.353E-02		1.090E-01	1.857E-01	1.709E-02	0.234
CR-51	-3.600E-01		5.516E-01	8.352E-01	9.765E-02	-0.431
MN-52	1.963E-02		1.081E-01	1.799E-01	1.535E-02	0.109
MN-54	-9.343E-03		6.908E-02	1.149E-01	1.079E-02	-0.081
CO-56	2.251E-02		6.819E-02	1.170E-01	1.101E-02	0.192
CO-58	-3.327E-02		6.737E-02	1.092E-01	1.023E-02	-0.305
FE-59	-6.370E-02		1.787E-01	2.857E-01	2.655E-02	-0.223
ZN-65	-2.758E-01		1.853E-01	2.670E-01	2.267E-02	-1.033
GE-68	4.274E-01		2.784E+00	4.629E+00	4.043E-01	0.092
AS-73	6.873E-01		1.723E+00	2.739E+00	2.089E-01	0.251
AS-74	8.158E-02		1.238E-01	2.107E-01	1.955E-02	0.387
SE-75	-6.903E-02		7.164E-02	1.079E-01	1.259E-02	-0.640
BR-77	6.085E-01		2.046E+00	3.434E+00	3.263E-01	0.177
SR-82	-7.861E-01		5.901E-01	8.248E-01	7.647E-02	-0.953
RB-83	3.442E-02		1.158E-01	1.944E-01	1.847E-02	0.177
RB-84	3.928E-02		1.286E-01	2.192E-01	2.071E-02	0.179
KR-85	7.331E+00		1.399E+01	2.112E+01	2.008E+00	0.347
SR-85	3.471E-02		6.622E-02	9.998E-02	9.507E-03	0.347
RB-86	4.299E-01		1.346E+00	2.263E+00	1.978E-01	0.190
Y-88	8.688E-03		4.270E-02	7.349E-02	5.966E-03	0.118
ZR-88	-2.350E-02		5.229E-02	8.563E-02	7.921E-03	-0.274
Y-91	-4.458E+00		2.129E+01	3.378E+01	2.747E+00	-0.132
NB-94	-1.054E-02		5.933E-02	9.411E-02	8.508E-03	-0.112
NB-95	-1.206E-02		7.346E-02	1.159E-01	1.071E-02	-0.104
NB-95M	1.412E-01		1.971E-01	2.960E-01	3.520E-02	0.477
ZR-95	1.451E-02		1.187E-01	1.919E-01	1.926E-02	0.076
NB-97	1.280E-05		6.269E-05	Half-Life	too short	

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-97	4.922E-04		1.028E-03	Half-Life too short		
MO-99	2.214E+00		3.066E+00	5.181E+00	8.031E-01	0.427
TC-99M	-1.068E+00		2.027E+01	Half-Life too short		
RH-101	7.664E-03		5.036E-02	8.278E-02	8.173E-03	0.093
RH-102	9.060E-03		5.930E-02	9.909E-02	9.419E-03	0.091
RU-103	2.774E-02		6.596E-02	1.116E-01	1.643E-02	0.249
RH-106	1.326E-01		5.369E-01	8.887E-01	1.218E-01	0.149
RU-106	1.326E-01		5.367E-01	8.887E-01	8.127E-02	0.149
AG-108M	1.454E-02		6.188E-02	1.045E-01	1.017E-02	0.139
AG-110M	1.123E-02		7.493E-02	1.075E-01	9.841E-03	0.104
IN-111	9.977E-02		3.038E-01	4.457E-01	4.964E-02	0.224
IN-113M	-2.413E-02		7.563E-02	1.248E-01	1.184E-02	-0.193
SN-113	-2.413E-02		7.563E-02	1.248E-01	1.184E-02	-0.193
IN-114M	1.050E-01		2.519E-01	4.197E-01	4.058E-02	0.250
CD-115	-3.263E-01		1.809E+00	2.938E+00	2.788E-01	-0.111
SN-117M	2.798E-03		5.329E-02	8.830E-02	7.842E-03	0.032
SB-122	4.998E-02		5.484E-01	9.044E-01	8.508E-02	0.055
I-123	9.250E-05		2.726E-04	Half-Life too short		
TE-123M	6.408E-03		3.777E-02	6.291E-02	5.626E-03	0.102
I-124	-1.066E-01		3.718E-01	5.460E-01	5.050E-02	-0.195
SB-124	-6.956E-02		1.141E-01	1.675E-01	1.467E-02	-0.415
SB-125	6.797E-02		1.840E-01	3.127E-01	2.988E-02	0.217
TE-125M	1.509E+01		1.117E+01	1.972E+01	2.005E+00	0.765
I-126	8.402E-02		2.364E-01	3.467E-01	3.083E-02	0.242
SB-126	-1.292E-02		1.881E-01	2.769E-01	2.521E-02	-0.047
SB-127	-4.635E-01		6.441E-01	9.760E-01	9.668E-02	-0.475
XE-127	-9.178E-03		6.301E-02	1.020E-01	1.020E-02	-0.090
I-131	3.255E-03		1.011E-01	1.709E-01	1.802E-02	0.019
TE-132	-9.429E-02		2.395E-01	3.796E-01	6.051E-02	-0.248
BA-133	-6.169E-02		8.333E-02	1.167E-01	1.686E-02	-0.529
I-133	-1.510E-05		1.254E-05	Half-Life too short		
CS-134	7.200E-02		8.717E-02	1.542E-01	1.446E-02	0.467
CS-135	2.282E-01		2.660E-01	4.427E-01	5.646E-02	0.516
I-135	-1.553E+01		1.831E+01	Half-Life too short		
CS-136	-1.723E-01		1.496E-01	2.224E-01	2.057E-02	-0.775
CE-139	-4.653E-03		4.028E-02	6.605E-02	5.990E-03	-0.070
BA-140	1.982E-02		3.015E-01	4.974E-01	1.660E-01	0.040
LA-140	-1.222E-01		9.401E-02	1.235E-01	1.052E-02	-0.989
CE-141	7.124E-02		7.321E-02	1.264E-01	1.106E-02	0.564
CE-143	5.199E+00		5.842E+00	8.604E+00	1.970E+00	0.604
CE-144	-7.283E-03		2.835E-01	4.722E-01	7.292E-02	-0.015
PM-144	1.859E-02		6.099E-02	1.005E-01	9.062E-03	0.185
PR-144	1.255E+00		4.116E+00	6.782E+00	6.116E-01	0.185
PM-146	-1.240E-02		8.266E-02	1.363E-01	1.556E-02	-0.091
ND-147	3.343E-01		5.984E-01	1.019E+00	1.575E-01	0.328
PM-149	-5.614E+00		1.459E+01	2.269E+01	3.987E+00	-0.247
EU-152	-3.317E-02		1.677E-01	2.718E-01	3.037E-02	-0.122
GD-153	-3.791E-02		1.054E-01	1.569E-01	1.394E-02	-0.242

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-2.462E-02		1.358E-01	2.170E-01	2.404E-02	-0.113
EU-155	3.276E-02		1.416E-01	2.411E-01	2.086E-02	0.136
TB-160	-5.454E-02		2.756E-01	4.545E-01	4.294E-02	-0.120
HO-166M	-1.696E-02		1.114E-01	1.769E-01	1.605E-02	-0.096
TM-171	7.735E-01		3.976E+01	6.176E+01	4.732E+00	0.013
LU-176	8.126E-03		4.217E-02	6.776E-02	7.859E-03	0.120
LU-177	1.013E+00		7.834E-01	1.338E+00	1.358E-01	0.757
LU-177M	4.472E-02		3.149E-01	5.309E-01	4.962E-02	0.084
HF-181	7.994E-02		7.411E-02	1.295E-01	1.231E-02	0.618
W-181	-4.199E-01		5.013E-01	7.450E-01	5.626E-02	-0.564
TA-182	5.810E-02		2.174E-01	3.658E-01	2.991E-02	0.159
RE-183	5.075E-02		1.442E-01	2.418E-01	2.170E-02	0.210
RE-184	7.786E-02		3.738E-01	6.076E-01	6.886E-02	0.128
OS-185	-3.166E-03		7.474E-02	1.207E-01	1.085E-02	-0.026
RE-188	1.805E-01		2.313E-01	3.949E-01	3.474E-02	0.457
W-188	7.900E+00		1.312E+01	1.937E+01	2.297E+00	0.408
IR-192	3.411E-02		5.827E-02	9.526E-02	1.089E-02	0.358
AU-195	1.258E-01		2.723E-01	4.685E-01	4.125E-02	0.269
TL-200	-5.664E-01		6.474E+00	1.087E+01	1.094E+00	-0.052
TL-201	-1.774E-01		1.770E+00	2.902E+00	2.642E-01	-0.061
TL-202	1.036E-01		9.055E-02	1.588E-01	1.499E-02	0.652
HG-203	-5.863E-02		6.353E-02	9.563E-02	1.165E-02	-0.613
BI-207	3.019E-02		1.140E-01	1.912E-01	1.685E-02	0.158
TL-207	7.677E-02		1.165E+00	1.850E+00	3.539E-01	0.041
PO-209	-1.099E+00		1.716E+01	2.854E+01	2.700E+00	-0.039
BI-210	-7.504E+00		7.015E+00	1.056E+01	9.850E-01	-0.710
PB-210	-7.504E+00		7.015E+00	1.056E+01	9.850E-01	-0.710
PO-210	-7.504E+00		7.009E+00	1.056E+01	8.922E-01	-0.710
PB-211	1.817E+00		2.010E+00	2.933E+00	1.841E+00	0.619
BI-212	1.761E+00	+	7.259E-01	1.063E+00	1.110E-01	1.657
PO-215	7.677E-02		1.165E+00	1.850E+00	3.539E-01	0.041
RN-219	-5.055E-01		7.600E-01	1.223E+00	1.886E-01	-0.413
RN-220	3.572E+00		4.443E+01	7.330E+01	6.926E+00	0.049
RA-223	7.677E-02		1.165E+00	1.850E+00	3.539E-01	0.041
AC-227	3.367E-01		6.432E-01	1.058E+00	1.807E-01	0.318
TH-227	3.367E-01		6.440E-01	1.058E+00	2.069E-01	0.318
TH-229	-6.050E-01		7.866E-01	1.235E+00	1.205E-01	-0.490
PA-231	-5.858E-01		2.536E+00	3.989E+00	6.899E-01	-0.147
TH-231	7.677E-02		1.165E+00	1.850E+00	3.539E-01	0.041
U-231	-9.409E-02		3.967E-01	5.958E-01	5.348E-02	-0.158
PA-233	3.513E-02		1.165E-01	1.879E-01	2.196E-02	0.187
PA-234	-7.574E-01		7.528E-01	1.150E+00	2.196E-01	-0.659
PA-234M	2.646E+00		9.702E+00	1.643E+01	1.711E+00	0.161
TH-234	9.095E-01		1.974E+00	2.904E+00	5.065E-01	0.313
U-235	6.928E-03		2.832E-01	4.717E-01	8.243E-02	0.015
NP-236	-5.272E-02		1.146E-01	1.851E-01	1.652E-02	-0.285
U-238	9.095E-01		1.974E+00	2.904E+00	5.065E-01	0.313
NP-239	3.115E-02		2.750E-01	4.434E-01	3.692E-02	0.070

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.999E-02		1.305E-01	2.250E-01	1.934E-02	0.311
AM-246	5.320E-04		3.269E-01	5.378E-01	4.692E-02	0.001
CM-247	-2.196E-02		6.744E-02	1.111E-01	1.033E-02	-0.198
CF-249	2.498E-03		7.221E-02	1.216E-01	1.140E-02	0.021
CF-251	-1.964E-02		1.877E-01	3.069E-01	2.861E-02	-0.064

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]G1202021398          *
* Acquisition date   : 1-FEB-2010 13:35:50 Detector SN# :                   *
* Detector ID        : GAM16 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 01:00:02.16 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 25-JAN-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202021398 Analyst initials: MXR1                 *
* Batch Number       : 944038 Sample Quantity : 1.5173E+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	1.359E+00	7.096E-01	3.116E-01	3.620E-01
CO-57	2.602E-01	5.646E-02	2.810E-02	2.881E-02
CO-60	7.133E+00	6.740E-01	3.820E-02	3.439E-01
CD-109	3.491E+01	3.917E+00	1.027E+00	1.999E+00
SN-126	3.470E+00	3.894E-01	1.026E-01	1.987E-01
BA-137M	5.989E+00	5.817E-01	5.765E-02	2.968E-01
CS-137	6.331E+00	6.158E-01	6.094E-02	3.142E-01
TL-208	4.543E-01	1.151E-01	5.358E-02	5.870E-02
BI-211	3.305E+00	8.103E-01	2.854E-01	4.134E-01
PB-212	1.280E+00	2.366E-01	8.680E-02	1.207E-01
PO-212	1.280E+00	2.366E-01	8.680E-02	1.207E-01
BI-214	9.657E-01	2.625E-01	9.738E-02	1.339E-01
PB-214	1.150E+00	2.879E-01	9.948E-02	1.469E-01
PO-214	1.150E+00	2.879E-01	9.948E-02	1.469E-01
PO-216	1.280E+00	2.366E-01	8.680E-02	1.207E-01
PO-218	1.150E+00	2.879E-01	9.948E-02	1.469E-01
RA-224	3.113E+00	1.440E+00	9.877E-01	7.346E-01
RA-226	9.657E-01	2.625E-01	9.738E-02	1.339E-01
AC-228	1.103E+00	4.725E-01	2.507E-01	2.411E-01
RA-228	1.103E+00	4.725E-01	2.507E-01	2.411E-01
TH-228	1.290E+00	2.384E-01	8.746E-02	1.216E-01
TH-230	9.657E-01	2.625E-01	9.738E-02	1.339E-01
TH-232	1.103E+00	4.725E-01	2.507E-01	2.411E-01
U-234	9.657E-01	2.625E-01	9.738E-02	1.339E-01
NP-237	1.019E+01	2.357E+00	3.047E-01	1.202E+00
AM-241	1.462E+01	1.334E+00	2.492E-01	6.806E-01
AM-243	3.396E-01	1.046E-01	6.807E-02	5.339E-02
ANH-511	7.461E-02	1.147E-01	4.468E-02	5.852E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
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BE-7	2.475E-01	5.505E-01	4.946E-01	2.809E-01	NOT IDENT.
NA-22	-1.849E-02	4.840E-02	3.863E-02	2.469E-02	NOT IDENT.
NA-24	-1.331E+02	2.043E+02	0.000E+00	1.042E+02	SHORT HLIF
AL-26	9.417E-03	3.723E-02	3.321E-02	1.900E-02	NOT IDENT.
TI-44	2.877E-01	6.488E-02	5.242E-02	3.310E-02	FAIL ABUN
SC-46	-4.592E-02	7.695E-02	6.418E-02	3.926E-02	NOT IDENT.
V-48	4.353E-02	1.069E-01	9.458E-02	5.452E-02	NOT IDENT.
CR-51	-3.600E-01	5.405E-01	4.376E-01	2.758E-01	NOT IDENT.
MN-52	1.963E-02	1.059E-01	9.070E-02	5.403E-02	FAIL ABUN
MN-54	-9.343E-03	6.770E-02	5.877E-02	3.454E-02	NOT IDENT.
CO-56	2.251E-02	6.682E-02	5.984E-02	3.409E-02	NOT IDENT.
CO-58	-3.327E-02	6.603E-02	5.587E-02	3.369E-02	NOT IDENT.
FE-59	-6.370E-02	1.751E-01	1.451E-01	8.934E-02	NOT IDENT.
ZN-65	-2.758E-01	1.816E-01	1.355E-01	9.265E-02	NOT IDENT.
GE-68	4.274E-01	2.729E+00	2.352E+00	1.392E+00	NOT IDENT.
AS-73	6.873E-01	1.689E+00	1.497E+00	8.617E-01	NOT IDENT.
AS-74	8.158E-02	1.213E-01	1.087E-01	6.189E-02	NOT IDENT.
SE-75	-6.903E-02	7.021E-02	5.678E-02	3.582E-02	FAIL ABUN
BR-77	6.085E-01	2.005E+00	1.778E+00	1.023E+00	FAIL ABUN
SR-82	-7.861E-01	5.783E-01	4.226E-01	2.951E-01	NOT IDENT.
RB-83	3.442E-02	1.135E-01	1.006E-01	5.789E-02	NOT IDENT.
RB-84	3.928E-02	1.260E-01	1.120E-01	6.430E-02	NOT IDENT.
KR-85	7.331E+00	1.371E+01	1.093E+01	6.993E+00	NOT IDENT.
SR-85	3.471E-02	6.490E-02	5.177E-02	3.311E-02	NOT IDENT.
RB-86	4.299E-01	1.319E+00	1.150E+00	6.732E-01	NOT IDENT.
Y-88	8.688E-03	4.184E-02	3.681E-02	2.135E-02	NOT IDENT.
ZR-88	-2.350E-02	5.125E-02	4.464E-02	2.615E-02	NOT IDENT.
Y-91	-4.458E+00	2.087E+01	1.711E+01	1.065E+01	NOT IDENT.
NB-94	-1.054E-02	5.814E-02	4.835E-02	2.966E-02	NOT IDENT.
NB-95	-1.206E-02	7.199E-02	5.940E-02	3.673E-02	NOT IDENT.
NB-95M	1.412E-01	1.932E-01	1.563E-01	9.855E-02	NOT IDENT.
ZR-95	1.451E-02	1.163E-01	9.838E-02	5.936E-02	NOT IDENT.
NB-97	1.280E+01	1.229E+02	0.000E+00	6.269E+01	SHORT HLIF
ZR-97	4.922E+02	2.016E+03	0.000E+00	1.028E+03	SHORT HLIF
MO-99	2.214E+00	3.004E+00	2.658E+00	1.533E+00	NOT IDENT.
TC-99M	-1.068E+06	3.974E+07	0.000E+00	2.027E+07	SHORT HLIF
RH-101	7.664E-03	4.935E-02	4.389E-02	2.518E-02	NOT IDENT.
RH-102	9.060E-03	5.811E-02	5.141E-02	2.965E-02	NOT IDENT.
RU-103	2.774E-02	6.464E-02	5.784E-02	3.298E-02	FAIL ABUN
RH-106	1.326E-01	5.261E-01	4.580E-01	2.684E-01	FAIL ABUN
RU-106	1.326E-01	5.259E-01	4.580E-01	2.683E-01	FAIL ABUN
AG-108M	1.454E-02	6.064E-02	5.435E-02	3.094E-02	NOT IDENT.
AG-110M	1.123E-02	7.343E-02	5.533E-02	3.747E-02	NOT IDENT.
IN-111	9.977E-02	2.977E-01	2.351E-01	1.519E-01	NOT IDENT.
IN-113M	-2.413E-02	7.411E-02	6.505E-02	3.781E-02	NOT IDENT.
SN-113	-2.413E-02	7.411E-02	6.505E-02	3.781E-02	NOT IDENT.
IN-114M	1.050E-01	2.469E-01	2.227E-01	1.260E-01	NOT IDENT.
CD-115	-3.263E-01	1.772E+00	1.520E+00	9.043E-01	NOT IDENT.
SN-117M	2.798E-03	5.223E-02	4.706E-02	2.665E-02	NOT IDENT.
SB-122	4.998E-02	5.375E-01	4.672E-01	2.742E-01	NOT IDENT.
I-123	9.250E+01	5.343E+02	0.000E+00	2.726E+02	SHORT HLIF
TE-123M	6.408E-03	3.701E-02	3.353E-02	1.888E-02	NOT IDENT.
I-124	-1.066E-01	3.643E-01	2.816E-01	1.859E-01	NOT IDENT.
SB-124	-6.956E-02	1.118E-01	8.411E-02	5.706E-02	FAIL ABUN
SB-125	6.797E-02	1.803E-01	1.627E-01	9.199E-02	NOT IDENT.
TE-125M	1.509E+01	1.095E+01	1.060E+01	5.586E+00	NOT IDENT.
I-126	8.402E-02	2.317E-01	1.783E-01	1.182E-01	NOT IDENT.
SB-126	-1.292E-02	1.843E-01	1.421E-01	9.403E-02	FAIL ABUN
SB-127	-4.635E-01	6.312E-01	5.017E-01	3.221E-01	NOT IDENT.
XE-127	-9.178E-03	6.175E-02	5.404E-02	3.151E-02	NOT IDENT.
I-131	3.255E-03	9.912E-02	8.928E-02	5.057E-02	NOT IDENT.
TE-132	-9.429E-02	2.347E-01	2.006E-01	1.197E-01	NOT IDENT.
BA-133	-6.169E-02	8.167E-02	6.099E-02	4.167E-02	NOT IDENT.
I-133	-1.510E+01	2.459E+01	0.000E+00	1.254E+01	SHORT HLIF
CS-134	7.200E-02	8.543E-02	7.896E-02	4.359E-02	NOT IDENT.
CS-135	2.282E-01	2.607E-01	2.330E-01	1.330E-01	NOT IDENT.
I-135	-1.553E+07	3.589E+07	0.000E+00	1.831E+07	SHORT HLIF
CS-136	-1.723E-01	1.466E-01	1.131E-01	7.478E-02	NOT IDENT.
CE-139	-4.653E-03	3.948E-02	3.516E-02	2.014E-02	NOT IDENT.
BA-140	1.982E-02	2.954E-01	2.573E-01	1.507E-01	NOT IDENT.
LA-140	-1.222E-01	9.213E-02	6.210E-02	4.701E-02	NOT IDENT.
CE-141	7.124E-02	7.174E-02	6.751E-02	3.660E-02	NOT IDENT.
CE-143	5.199E+00	5.725E+00	4.518E+00	2.921E+00	FAIL ABUN
CE-144	-7.283E-03	2.778E-01	2.527E-01	1.417E-01	NOT IDENT.
PM-144	1.859E-02	5.977E-02	5.164E-02	3.049E-02	NOT IDENT.
PR-144	1.255E+00	4.034E+00	3.485E+00	2.058E+00	NOT IDENT.
PM-146	-1.240E-02	8.101E-02	7.078E-02	4.133E-02	NOT IDENT.

ND-147	3.343E-01	5.864E-01	5.270E-01	2.992E-01	FAIL ABUN
PM-149	-5.614E+00	1.429E+01	1.192E+01	7.293E+00	NOT IDENT.
EU-152	-3.317E-02	1.644E-01	1.421E-01	8.385E-02	FAIL ABUN
GD-153	-3.791E-02	1.033E-01	8.458E-02	5.269E-02	NOT IDENT.
EU-154	-2.462E-02	1.331E-01	1.098E-01	6.790E-02	FAIL ABUN
EU-155	3.276E-02	1.387E-01	1.297E-01	7.078E-02	FAIL ABUN
TB-160	-5.454E-02	2.701E-01	2.322E-01	1.378E-01	FAIL ABUN
HO-166M	-1.696E-02	1.092E-01	9.085E-02	5.570E-02	FAIL ABUN
TM-171	7.735E-01	3.896E+01	3.359E+01	1.988E+01	FAIL ABUN
LU-176	8.126E-03	4.132E-02	3.554E-02	2.108E-02	FAIL ABUN
LU-177	1.013E+00	7.677E-01	7.083E-01	3.917E-01	NOT IDENT.
LU-177M	4.472E-02	3.086E-01	2.764E-01	1.575E-01	FAIL ABUN
HF-181	7.994E-02	7.263E-02	6.715E-02	3.706E-02	NOT IDENT.
W-181	-4.199E-01	4.913E-01	4.053E-01	2.506E-01	NOT IDENT.
TA-182	5.810E-02	2.130E-01	1.852E-01	1.087E-01	NOT IDENT.
RE-183	5.075E-02	1.413E-01	1.288E-01	7.209E-02	FAIL ABUN
RE-184	7.786E-02	3.663E-01	3.202E-01	1.869E-01	FAIL ABUN
OS-185	-3.166E-03	7.324E-02	6.214E-02	3.737E-02	FAIL ABUN
RE-188	1.805E-01	2.267E-01	2.106E-01	1.156E-01	NOT IDENT.
W-188	7.900E+00	1.286E+01	1.017E+01	6.559E+00	NOT IDENT.
IR-192	3.411E-02	5.710E-02	4.993E-02	2.913E-02	FAIL ABUN
AU-195	1.258E-01	2.668E-01	2.525E-01	1.361E-01	FAIL ABUN
TL-200	-5.664E-01	6.345E+00	5.674E+00	3.237E+00	NOT IDENT.
TL-201	-1.774E-01	1.734E+00	1.545E+00	8.848E-01	NOT IDENT.
TL-202	1.036E-01	8.874E-02	8.257E-02	4.527E-02	NOT IDENT.
HG-203	-5.863E-02	6.226E-02	5.027E-02	3.176E-02	NOT IDENT.
BI-207	3.019E-02	1.117E-01	9.717E-02	5.698E-02	FAIL ABUN
TL-207	7.677E-02	1.142E+00	9.691E-01	5.827E-01	FAIL ABUN
PO-209	-1.099E+00	1.682E+01	1.457E+01	8.582E+00	NOT IDENT.
BI-210	-7.504E+00	6.875E+00	5.791E+00	3.508E+00	NOT IDENT.
PB-210	-7.504E+00	6.875E+00	5.791E+00	3.508E+00	NOT IDENT.
PO-210	-7.504E+00	6.869E+00	5.791E+00	3.504E+00	NOT IDENT.
PB-211	1.817E+00	1.970E+00	1.528E+00	1.005E+00	NOT IDENT.
BI-212	1.761E+00	7.114E-01	5.455E-01	3.629E-01	FAIL ABUN
PO-215	7.677E-02	1.142E+00	9.691E-01	5.827E-01	FAIL ABUN
RN-219	-5.055E-01	7.448E-01	6.370E-01	3.800E-01	NOT IDENT.
RN-220	3.572E+00	4.354E+01	3.789E+01	2.222E+01	NOT IDENT.
RA-223	7.677E-02	1.142E+00	9.691E-01	5.827E-01	FAIL ABUN
AC-227	3.367E-01	6.304E-01	5.575E-01	3.216E-01	NOT IDENT.
TH-227	3.367E-01	6.312E-01	5.575E-01	3.220E-01	FAIL ABUN
TH-229	-6.050E-01	7.708E-01	6.549E-01	3.933E-01	FAIL ABUN
PA-231	-5.858E-01	2.486E+00	2.096E+00	1.268E+00	NOT IDENT.
TH-231	7.677E-02	1.142E+00	9.691E-01	5.827E-01	FAIL ABUN
U-231	-9.409E-02	3.888E-01	3.213E-01	1.984E-01	FAIL ABUN
PA-233	3.513E-02	1.142E-01	9.850E-02	5.825E-02	FAIL ABUN
PA-234	-7.574E-01	7.378E-01	5.861E-01	3.764E-01	FAIL ABUN
PA-234M	2.646E+00	9.508E+00	8.365E+00	4.851E+00	NOT IDENT.
TH-234	9.095E-01	1.935E+00	1.581E+00	9.872E-01	FAIL ABUN
U-235	6.928E-03	2.776E-01	2.520E-01	1.416E-01	FAIL ABUN
NP-236	-5.272E-02	1.124E-01	9.865E-02	5.732E-02	NOT IDENT.
U-238	9.095E-01	1.935E+00	1.581E+00	9.872E-01	FAIL ABUN
NP-239	3.115E-02	2.695E-01	2.380E-01	1.375E-01	NOT IDENT.
CM-243	6.999E-02	1.279E-01	1.211E-01	6.526E-02	NOT IDENT.
AM-246	5.320E-04	3.204E-01	2.732E-01	1.635E-01	NOT IDENT.
CM-247	-2.196E-02	6.609E-02	5.786E-02	3.372E-02	NOT IDENT.
CF-249	2.498E-03	7.076E-02	6.339E-02	3.610E-02	NOT IDENT.
CF-251	-1.964E-02	1.840E-01	1.631E-01	9.386E-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	405.5392
46.50	405.5392
46.50	405.5392
48.70	378.7390
49.72	401.2899
51.35	505.8582
52.39	443.9832
52.97	469.9091
53.15	470.1551
53.44	493.3571
54.07	544.7599
56.28	535.6685
56.28	535.6718
57.37	561.5700
57.53	584.4850
57.53	584.4877
57.60	584.5979
57.98	438.9056
57.98	438.9056
59.32	440.5072
59.32	440.5072
59.40	440.6022
59.54	440.7689
59.72	440.9816
60.01	441.3252
61.10	299.1584
61.14	299.1896
61.30	299.3157
63.00	248.0773
63.29	248.2639
63.29	248.2639
63.58	281.3571
64.28	283.0986
65.12	309.7224
65.20	309.7839
65.20	309.7839
66.05	280.6465
66.72	288.5804
66.83	288.6601
66.91	297.4298
67.20	295.1524
67.20	295.1524
67.75	300.5421
67.85	300.6175
68.90	309.3138
68.90	309.3138
69.30	321.2994
69.67	320.7539
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70.83	326.6762
72.80	354.7188
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72.87	354.7766
74.67	335.5624
74.81	335.6694
74.81	335.6694
74.81	335.6694
74.81	335.6694
74.81	335.6694
74.81	335.6694
74.81	335.6694
74.97	335.7946
75.28	336.0349
75.70	336.3580
77.11	337.4403
77.11	337.4403

77.11	337.4403
77.11	337.4403
77.11	337.4403
77.11	337.4403
77.11	337.4403
78.38	350.3413
79.62	361.5685
79.80	361.7127
79.80	361.7127
80.11	377.3627
80.18	377.4210
80.30	377.5197
80.30	377.5197
80.57	364.8955
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81.07	405.1703
81.07	405.1703
81.07	405.1703
81.07	405.1703
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83.37	346.4379
83.78	371.3273
83.78	371.3273
83.78	371.3273
83.78	371.3273
84.21	361.3087
84.90	377.4017
85.43	377.8258
86.29	407.1278
86.50	366.9666
86.54	366.9967
86.59	367.0355
86.72	367.1344
86.79	367.1861
86.94	367.3044
87.30	367.5798
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87.57	367.7863
87.88	368.0230
88.03	368.1370
88.36	368.3888
88.47	368.4727
89.95	301.4398
91.11	249.6026
92.29	250.1969
92.38	250.2419
92.38	250.2419
93.35	209.8181
94.00	192.9127
94.67	207.7191
94.67	207.7215
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94.90	203.8439
94.90	203.8439
94.90	203.8439
95.87	205.5578
95.87	205.5578
96.73	227.1590
97.43	214.1635
98.44	194.5868
98.44	194.5880
98.88	196.5302
99.55	203.9048
99.55	203.9048
99.86	212.9347
100.00	217.4465
100.10	217.4900
103.18	213.3681
103.76	225.2652
105.00	205.9903
105.31	222.3085
108.00	235.1529
109.28	192.1811

111.00	237.3224
111.00	237.3224
111.76	240.3712
112.95	238.1349
115.19	239.0602
116.30	226.6679
117.00	230.4307
117.00	230.4307
117.66	237.3110
121.11	207.2326
121.62	207.4080
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122.32	198.8419
122.32	198.8419
122.32	198.8419
123.07	224.1474
127.23	225.1983
129.76	219.5392
131.20	259.5333
133.02	213.1211
133.54	238.7729
135.34	211.9915
136.00	233.9972
136.25	238.8237
136.48	238.9083
140.51	200.3058
140.51	0.0000
142.18	237.1394
142.65	234.4353
143.76	210.8580
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144.24	213.8830
144.24	213.8830
144.24	213.8830
145.22	203.6260
145.44	203.6907
147.16	235.0223
152.43	250.3863
152.70	250.4808
153.22	234.1478
154.21	223.7694
154.21	223.7694
154.21	223.7694
154.21	223.7694
155.03	225.0008
156.02	219.4588
158.56	224.1453
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159.00	208.6080
160.31	237.4359
161.27	214.1680
162.32	212.5042
162.64	209.6415
163.35	218.7097
163.89	215.9101
165.85	215.4874
167.43	216.9282
171.28	244.9014
171.86	263.0198
172.10	263.1003
176.55	227.5195
176.60	227.5357
181.06	214.0983
184.41	229.2603
185.71	226.5829
186.00	226.6648
190.27	231.4082
192.34	233.0051
193.63	251.7856
197.04	235.3293
198.01	232.5108
198.60	210.0201
200.40	223.8718
201.83	256.2773
202.84	237.9526
205.31	232.3991

208.36	220.7082
208.81	221.8620
209.75	221.0533
209.75	221.0533
210.97	235.9730
215.65	223.5521
216.55	232.1777
218.09	263.0870
222.10	261.0581
223.80	248.8269
226.40	246.3301
227.00	241.1736
227.08	236.9443
227.20	236.9738
228.16	260.6165
228.18	260.6215
228.18	260.6215
231.56	239.1256
235.69	209.0581
236.00	220.3861
236.00	220.3861
238.63	277.4345
238.63	277.4345
238.63	277.4345
238.63	277.4345
239.00	277.5369
240.98	278.0959
241.98	212.0195
241.98	212.0195
241.98	212.0195
244.69	193.1208
245.39	196.5050
247.94	200.8006
248.90	192.2992
249.79	201.1676
252.40	192.9618
252.85	187.5931
252.85	187.5931
254.15	0.0000
256.20	186.0145
256.20	186.0145
260.50	203.2659
260.90	191.2506
262.80	167.3726
264.65	208.4760
268.24	183.7240
268.79	182.7112
269.46	198.3378
269.46	198.3378
269.46	198.3378
269.46	198.3378
271.23	205.3210
273.65	228.0266
276.40	178.4212
277.35	179.6903
277.60	170.8021
277.60	170.8021
278.00	184.2654
278.60	216.7699
279.20	218.0023
279.53	228.1345
280.46	216.0138
281.68	160.2262
283.67	172.8615
284.30	179.6973
285.00	171.9413
285.90	184.4533
286.10	200.2319
286.10	200.2319
287.40	189.2017
288.45	0.0000
290.67	172.8067
290.80	172.8254
291.72	215.3589
293.26	195.2733
293.70	178.3603
295.21	191.6344
295.21	191.6344

295.21	191.6344
295.96	207.6472
296.50	236.6920
297.23	262.3987
298.57	189.3484
299.80	172.4718
299.80	172.4718
300.09	169.4404
300.09	169.4404
300.09	169.4404
300.09	169.4404
300.12	169.4465
301.29	165.2844
302.84	224.8554
303.76	198.7590
303.91	169.0805
304.40	164.5781
304.40	164.5781
304.84	166.9263
306.84	153.4653
308.46	181.1992
311.98	172.5311
316.51	162.7874
318.01	178.0155
319.02	177.0059
319.41	172.4328
320.08	180.6321
323.87	168.4144
323.87	168.4144
323.87	168.4144
323.87	168.4144
325.23	196.5065
328.77	162.0818
333.44	167.1346
334.20	165.8280
334.20	165.8280
334.30	165.8424
338.28	160.3692
338.28	160.3692
338.28	160.3692
338.28	160.3692
338.32	160.3747
338.32	160.3747
338.32	160.3747
340.50	158.1754
340.57	158.1836
344.27	163.8984
345.85	150.0864
350.59	146.7769
351.07	146.8298
351.92	146.9254
351.92	146.9254
351.92	146.9254
355.39	0.0000
356.01	170.0674
364.48	143.8184
366.43	129.6233
367.43	141.4284
367.94	158.6030
369.80	159.7229
374.96	164.8514
383.85	148.5843
387.95	161.8161
388.63	158.2331
391.69	160.4069
391.69	160.4069
392.90	167.8822
398.62	149.2078
400.65	171.5511
401.10	164.2241
401.81	175.3795
402.60	167.1632
404.84	134.1188
410.95	137.4628
411.60	158.8931
413.65	158.1818
414.70	150.8442
415.30	144.3830

415.76	147.2233
417.63	0.0000
418.52	164.2964
423.70	188.2780
427.08	153.0214
427.89	168.1321
432.53	154.5082
433.93	147.1022
439.47	148.5746
439.56	145.7426
439.89	145.7732
443.98	168.9311
444.90	168.0792
445.03	168.0954
445.03	168.0954
445.03	168.0954
445.03	168.0954
453.90	149.9329
463.38	162.3417
468.07	168.5860
473.00	174.8880
475.06	157.6924
475.35	137.4000
476.78	125.8958
477.59	134.6775
477.96	156.9968
482.03	126.2906
484.57	137.1833
487.03	144.2038
490.36	123.0084
492.35	129.9944
497.08	117.6123
507.63	0.0000
510.53	0.0000
510.84	123.4837
511.00	123.4951
511.85	123.5533
511.85	123.5533
513.99	118.7549
513.99	118.7549
520.41	105.2786
520.65	105.2948
527.90	107.7133
528.96	0.0000
529.64	120.7969
529.87	0.0000
531.02	90.9167
537.32	102.2584
543.00	100.5615
546.56	0.0000
549.76	93.8656
552.65	97.0430
555.20	88.0647
563.23	112.8360
563.90	110.8395
568.70	124.3716
569.32	102.9973
569.50	103.0066
569.67	100.9759
573.80	94.0383
574.00	94.0468
574.64	114.5293
578.91	95.1053
579.30	86.9247
583.14	102.7069
585.48	90.4895
591.81	104.1932
592.07	104.2056
593.00	103.2227
595.88	95.1024
600.56	109.8333
602.52	0.0000
602.71	116.1733
602.71	116.1733
603.60	112.9039
604.41	106.3063
604.70	106.3219
609.31	95.7397

609.31	95.7397
609.31	95.7397
609.31	95.7397
610.33	95.7875
612.46	71.7080
614.37	80.1211
618.01	75.2476
621.84	82.7176
621.84	82.7176
631.29	83.0961
633.02	97.9043
633.10	87.3795
634.78	103.2547
635.90	101.2002
636.97	86.4869
645.85	94.2637
646.12	96.3959
656.30	112.3934
657.75	103.9502
657.90	0.0000
661.65	110.9666
661.65	110.9666
664.57	83.7642
666.33	82.1203
666.33	82.1203
675.00	88.0284
677.61	92.4327
685.20	101.3782
692.80	93.0652
695.00	110.4886
696.49	88.8817
696.49	88.8817
697.00	72.6392
697.49	69.4023
698.33	78.1062
698.50	84.6222
699.00	88.9818
702.63	92.3851
706.10	93.6137
706.58	0.0000
706.67	97.9926
709.31	86.1145
711.68	92.7509
713.82	99.3896
717.42	92.9817
720.50	92.0109
721.93	89.4368
722.20	89.4467
722.78	85.9605
722.78	85.9605
722.89	85.9653
722.95	85.9677
723.30	85.9797
724.18	78.9917
727.18	87.8809
733.00	74.2562
735.90	87.1054
739.58	68.4672
742.81	92.8901
744.21	78.5598
747.13	88.6255
751.79	82.1389
752.31	94.3695
753.82	98.8729
755.35	86.7074
756.15	80.0640
756.87	77.8635
763.93	94.8235
765.79	101.5946
766.42	107.2061
766.84	96.0545
776.49	104.2816
778.00	89.7607
778.57	85.2913
778.89	85.3029
783.80	109.0895
785.46	107.1378
792.07	104.7115

795.84	87.6931
796.30	97.6562
798.80	106.8021
801.93	100.5910
805.60	80.7714
810.29	99.1059
810.76	90.9399
815.85	82.9198
817.79	79.3344
818.51	85.7406
819.60	91.2524
826.30	91.4893
828.27	93.3913
831.60	105.4288
831.96	99.9415
834.83	97.2969
836.80	0.0000
846.75	77.4539
848.13	88.5656
856.28	0.0000
856.80	113.8441
860.37	74.1445
867.32	95.7075
867.82	92.0076
871.10	107.0067
873.19	79.1521
874.81	95.9716
875.33	0.0000
876.40	112.8083
879.36	102.6658
880.27	87.7624
880.51	88.7030
881.50	98.0760
883.24	96.2683
884.67	100.9942
889.25	107.7198
896.60	118.3373
898.02	109.9417
899.00	100.5816
903.28	109.2088
911.07	116.4350
911.07	116.4350
911.07	116.4350
919.63	119.3155
920.93	119.3708
925.00	127.1299
925.24	130.9349
926.50	127.1986
935.52	119.9799
937.48	124.8274
944.10	109.8340
946.00	144.3090
949.00	118.6295
962.29	126.1359
964.01	112.1863
966.15	67.3613
968.20	157.2841
969.11	130.0430
969.11	130.0430
969.11	130.0430
977.42	96.5967
980.50	106.3665
983.50	87.1150
989.30	87.2842
996.32	84.5701
1001.03	89.5697
1001.68	97.3804
1004.76	112.0997
1021.30	0.0000
1024.50	0.0000
1034.80	90.5580
1036.00	75.8232
1037.82	84.7318
1038.57	90.6658
1038.76	0.0000
1045.16	74.0698
1046.59	76.0789
1048.07	98.8477

1050.47	98.9258
1050.47	98.9258
1062.04	98.2942
1063.62	90.3957
1076.63	95.7469
1077.35	99.7607
1078.86	103.7969
1085.78	90.0176
1099.22	102.4383
1112.02	75.6152
1112.84	83.7052
1115.52	119.0947
1120.29	60.6445
1120.29	60.6445
1120.29	60.6445
1120.29	60.6445
1120.51	61.6583
1121.28	57.6290
1124.00	0.0000
1129.67	61.8280
1131.51	0.0000
1147.95	0.0000
1167.94	85.4167
1173.22	62.6203
1175.09	44.5098
1177.93	46.2590
1189.05	34.0313
1204.90	36.2561
1205.75	35.2285
1213.00	31.1484
1221.42	29.1402
1230.97	25.0430
1235.34	36.5654
1236.41	0.0000
1238.25	36.5945
1246.25	34.5807
1260.41	0.0000
1271.85	13.7173
1274.45	21.1191
1274.54	23.2311
1291.56	24.3982
1298.22	0.0000
1312.09	21.3311
1325.50	19.6224
1325.50	19.6224
1332.49	18.2277
1333.61	18.2335
1360.21	18.3580
1362.66	0.0000
1365.15	16.2188
1368.21	20.5595
1368.53	0.0000
1376.25	25.2998
1384.27	10.8647
1394.10	17.4266
1395.20	16.3418
1407.95	14.2080
1434.06	12.0995
1436.60	15.5923
1457.56	0.0000
1460.81	11.9934
1489.15	18.5758
1509.49	19.5978
1596.49	32.3647
1620.62	11.4839
1678.03	0.0000
1691.02	19.4320
1691.02	19.4320
1706.46	0.0000
1750.46	0.0000
1764.49	15.2208
1764.49	15.2208
1764.49	15.2208
1764.49	15.2208
1770.23	13.5452
1771.40	24.6979
1791.20	0.0000
1808.65	6.9675

1836.01

8.0062

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202021398

Total Uranium Activity	2.7089E+00	ug/g
Total Uranium Counting Unc.	5.7576E+00	ug/g
Total Uranium Tpu	2.9375E-06	ug/g
Total Uranium Mda	4.7053E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 944038                          SAMPLE ID   : G1202021398
*  ANALYST       : MXR1                             DETECTOR    : GAM16
*  SAMPLE DATE   : 25-JAN-2010 00:00:00.00          COUNT TIME   : 0 01:00:00.00
*  ANALYSIS DATE : 1-FEB-2010 13:35:50.45          SAMPLE ALQT  : 151.730 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 3.034E+01
GROSS GAMMA ERROR (pCi/GRAM )   : 3.010E+00
GROSS GAMMA MDA (pCi/GRAM )     : 4.958E+00
GROSS GAMMA DLC (pCi/GRAM )     : 2.415E+00

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Radiochemistry Batch Checklist, Rev10

Batch#

946394

Product:

Tritium

Date:

2/3/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Lynch

Secondary Review Performed By:

Lynch 2/4/10

LANL 2/17/10

Tritium Que Sheet

28-JAN-10

Batch #: 946394
Spike Isotope: Hydrogen-3
LCS Isotope: Hydrogen-3

Analyst: KXK2
Spike Code: 0134-K
LCS Code: 0134-K

First Client Due Date 17-FEB-10
Expiration Date: 3/27/10
Expiration Date: 3/27/10

Internal Due Date: 06-FEB-10

Prep Date: 1/29/10

Initials: KXK Pipet ID: 2970968

Witness: 2/1/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/mL)	LSC Rack #	Dist Rtg #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Total Moisture (g/mL)
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245107001-1	RE15-10-7165	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	232	1		381.59	307.56	74.03
245107002-1	RE15-10-7171	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	233	2		398.34	367.67	30.67
245107003-1	RE15-10-7170	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	234	3		296.26	227.82	68.44
245107004-1	RE15-10-7164	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	235	4		401.41	330.36	71.05
245107005-1	RE15-10-7167	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	236	5		308.03	240.57	67.46
245107006-1	RE15-10-7169	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	237	6		365.77	298.12	32.55
245107007-1	RE15-10-7168	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	238	7		298.12	241.66	57.06
245107008-1	RE15-10-7166	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	239	8		266.82	182.09	88.73
245107009-1	RE15-10-7177	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	240	9		304.25	281.74	22.51
245107010-1	RE15-10-7181	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	241	10		307.15	269.98	37.17
245107011-1	RE15-10-7178	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	242	11		305.62	240.22	65.40
245107012-1	RE15-10-7182	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	243	12		257.84	211.69	46.15
245107013-1	RE15-10-7183	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	244	13		278.01	244.09	33.92
245107014-1	RE15-10-7176	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	245	14		332.26	316.98	15.28
245107015-1	RE15-10-7180	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	246	15		283.17	245.51	37.66
245107016-1	RE15-10-7179	SAMPLE		.25 pCi/mL SOIL	LANL010	LANL010	13-JAN-10	10	247	16		304.73	242.87	61.86
1202027110-1	MB for batch 946394	MB		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	13-JAN-10	10	248	17		20.00	0	20.00
1202027111-1	RE15-10-7165(245107001DUP)	DUP		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	13-JAN-10	10	249	18		381.59	307.56	74.03
1202027112-1	LCS for batch 946394	LCS		.25 pCi/mL SOIL	QC ACCOUNT	QC ACCOUNT	13-JAN-10	10	250	19		20.00	0	20.00

Bkg Rack #: 23-1

Comments:

Bkg prepared with dead water Yes/No

Instrument Used (circle as appropriate): LS6000 (Red) 7065155, LS6500 (Blue) 7067083, LS6500 (Gold) 7070506, LS6500 (Green) 7067404, Wallac (Yellow) 4140127, LS6000 (Brown) 7060655, Wallac (Pink) 2200082, Wallac (White) 4140299, Purple 7069123, Silver 7060656, Orange DG06095168

Calibration Used: Ecosci Ultra 10 mL sample/13 mL Ecosci Ultra
Data Reviewed By: [Signature]

GEL Laboratories LLC, Radiochemistry Division

DATE	1/29/2010	INITIALS	KXK2	BATCH NUMBER	946394	
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
245107001	381.59	0.194	74.03	307.56	10	
245107002	398.34	0.077	30.67	367.67	10	
245107003	296.26	0.231	68.44	227.82	10	
245107004	401.41	0.177	71.05	330.36	10	
245107005	308.03	0.219	67.46	240.57	10	
245107006	365.77	0.089	32.55	333.22	10	
245107007	298.72	0.191	57.06	241.66	10	
245107008	265.82	0.315	83.73	182.09	10	
245107009	304.25	0.074	22.51	281.74	10	
245107010	307.15	0.121	37.17	269.98	10	
245107011	305.62	0.214	65.40	240.22	10	
245107012	257.84	0.179	46.15	211.69	10	
245107013	278.01	0.122	33.92	244.09	10	
245107014	332.26	0.046	15.28	316.98	10	
245107015	283.17	0.133	37.66	245.51	10	
245107016	304.73	0.203	61.86	242.87	10	
MB	20	1	20.00	0.00	10	
DUP	381.59	0.194	74.03	307.56	10	
LCS	20	1	20.00	0.00	10	

T946394

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.5

Batch : 946394
Analyst : KXK2
Prep Date : 1/28/2010

Spike SN :
Spike Exp Date :
Spike Activity (dpm/ml):
Spike Volume Added:

LCS SN: 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2473.15
LCS Volume Added: 0.10

Procedure Code : LSC_VH3S
Paramname : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.28 years

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
Ecosint Ultra

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002564 ml
Pipet, 1.0 ml Stdev : +/- 0.005480 ml
Pipet, 5.0 ml Stdev : +/- 0.025729 ml

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	245107001.1	381.59	0.0740	0.0100	2.5729E-05	307.56	19.40%	1	1/13/2010 12:00			
2	245107002.1	398.34	0.0307	0.0100	2.5729E-05	367.67	7.70%	2	1/13/2010 12:00			
3	245107003.1	296.26	0.0684	0.0100	2.5729E-05	227.82	23.10%	3	1/13/2010 12:00			
4	245107004.1	401.41	0.0711	0.0100	2.5729E-05	330.36	17.70%	4	1/13/2010 12:00			
5	245107005.1	308.03	0.0675	0.0100	2.5729E-05	240.57	21.90%	5	1/13/2010 12:00			
6	245107006.1	365.77	0.0326	0.0100	2.5729E-05	333.22	8.90%	6	1/13/2010 12:00			
7	245107007.1	298.72	0.0571	0.0100	2.5729E-05	241.66	19.10%	7	1/13/2010 12:00			
8	245107008.1	265.82	0.0637	0.0100	2.5729E-05	182.09	31.50%	8	1/13/2010 12:00			
9	245107009.1	304.25	0.0225	0.0100	2.5729E-05	281.74	7.40%	9	1/13/2010 12:00			
10	245107010.1	307.15	0.0372	0.0100	2.5729E-05	269.98	12.10%	10	1/13/2010 12:00			
11	245107011.1	305.62	0.0654	0.0100	2.5729E-05	240.22	21.40%	11	1/13/2010 12:00			
12	245107012.1	257.84	0.0462	0.0100	2.5729E-05	211.69	17.90%	12	1/13/2010 12:00			
13	245107013.1	278.01	0.0339	0.0100	2.5729E-05	244.09	12.20%	13	1/13/2010 12:00			
14	245107014.1	332.26	0.0153	0.0100	2.5729E-05	316.98	4.60%	14	1/13/2010 12:00			
15	245107015.1	283.17	0.0377	0.0100	2.5729E-05	245.51	13.30%	15	1/13/2010 12:00			
16	245107016.1	304.73	0.0619	0.0100	2.5729E-05	242.87	20.30%	16	1/13/2010 12:00			
17	1202027110.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	17	1/28/2010 0:00			
18	1202027111.1	381.59	0.0740	0.0100	2.5729E-05	307.56	19.40%	1	1/13/2010 12:00			
19	1202027112.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	18	1/28/2010 0:00			

Count raw data				Background				Calibration Data				Backgrounds			
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	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)	Rack Position #	Count Start Date/Time
1	23-2	95	119.7	3.45	3.17	95	2/1/2010 17:39	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1828	0.00792	23-1	2/1/2010 16:00
2	23-3	95	120.3	3.17	3.17	95	2/1/2010 18:17	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1823	0.00792	23-1	2/1/2010 16:00
3	23-4	95	119.8	3.12	3.17	95	2/1/2010 20:55	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1827	0.00792	23-1	2/1/2010 16:00
4	23-5	95	120.6	2.97	3.17	95	2/1/2010 22:33	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1820	0.00792	23-1	2/1/2010 16:00
5	23-6	95	120.1	3	3.17	95	2/2/2010 0:11	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1824	0.00792	23-1	2/1/2010 16:00
6	18-7	95	120.1	3.09	3.17	95	2/2/2010 3:01	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1824	0.00792	23-1	2/1/2010 16:00
7	18-8	95	119.7	3.28	3.17	95	2/2/2010 4:39	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1828	0.00792	23-1	2/1/2010 16:00
8	18-9	95	119.1	3.35	3.17	95	2/2/2010 6:17	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1832	0.00792	23-1	2/1/2010 16:00
9	18-10	95	119.1	3.41	3.17	95	2/2/2010 7:55	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1832	0.00792	23-1	2/1/2010 16:00
10	18-11	95	120.3	3.04	3.17	95	2/2/2010 9:33	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1823	0.00792	23-1	2/1/2010 16:00
11	18-12	95	119.6	3.26	3.17	95	2/2/2010 11:12	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1828	0.00792	23-1	2/1/2010 16:00
12	27-1	95	120.1	3.33	3.17	95	2/2/2010 12:50	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1824	0.00792	23-1	2/1/2010 16:00
13	27-2	95	120.4	3.25	3.17	95	2/2/2010 14:28	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1822	0.00792	23-1	2/1/2010 16:00
14	27-3	95	120.5	4.19	3.17	95	2/2/2010 16:06	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1821	0.00792	23-1	2/1/2010 16:00
15	27-4	95	119.3	3.36	3.17	95	2/2/2010 17:44	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1831	0.00792	23-1	2/1/2010 16:00
16	27-5	95	119.5	2.8	3.17	95	2/2/2010 19:23	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1829	0.00792	23-1	2/1/2010 16:00
17	27-6	95	119	2.68	3.17	95	2/2/2010 21:01	0.999	LSCGREEN	8/20/2009	8/31/2010	0.1833	0.00792	23-1	2/1/2010 16:00
18	27-7	95	119.3	3.46	3.17	95	2/2/2010 22:39	0.997	LSCGREEN	8/20/2009	8/31/2010	0.1831	0.00792	23-1	2/1/2010 16:00
19	5-1	15	119.3	29.27	3.17	95	2/3/2010 0:15	0.999	LSCGREEN	8/20/2009	8/31/2010	0.1831	0.00792	23-1	2/1/2010 16:00

Notes:

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

* - RPD changed to 0% due to activity below MDC for 1202027111.1

Results	Decision		Critical Level	Required MDC	Sample Act.		Sample Act. Error	Net Count Rate		Net Count Rate Error	1 SIGMA Counting Uncertainty		1 SIGMA Total Prop. Uncertainty	Sample QC	Sample Type	RPD	RER	Nominal pCVL	Recovery
	Pos.	Level			pCVL	pCVL		MDC	Conc.		pCVL	CPM							
1	148.7974	105.0522	250	217.9109	250	217.9109	68.2173	0.943	0.280	0.264	65.2565	65.4343	SAMPLE						
2	149.1888	105.3284	250	218.4838	250	218.4838	0.000E+00	0.000	0.000	0.258	64.0294	64.0297	SAMPLE						
3	148.8649	105.0998	250	218.0097	250	218.0097	-12.3658	5.146	-0.050	0.257	63.6381	63.6383	SAMPLE						
4	149.3897	105.4704	250	218.7784	250	218.7784	-49.6377	1.271	-0.200	0.254	63.0864	63.0866	SAMPLE						
5	149.0825	105.2394	250	218.2981	250	218.2981	-42.0996	1.499	-0.170	0.255	63.1118	63.1120	SAMPLE						
6	149.0652	105.2413	250	218.3031	250	218.3031	-19.8120	3.209	-0.080	0.257	63.5715	63.5718	SAMPLE						
7	148.8078	105.0597	250	217.9254	250	217.9254	27.1944	2.369	0.110	0.261	64.4177	64.4456	SAMPLE						
8	148.4284	104.7917	250	217.3706	250	217.3706	44.3865	1.455	0.180	0.262	64.6012	64.6751	SAMPLE						
9	148.4300	104.7928	250	217.3729	250	217.3729	59.1826	1.097	0.240	0.263	64.8984	65.0292	SAMPLE						
10	149.2023	105.3381	250	218.5039	250	218.5039	-82.2240	1.967	-0.130	0.256	63.3754	63.3757	SAMPLE						
11	148.7501	105.0188	250	217.8417	250	217.8417	22.2413	2.891	0.090	0.260	64.2928	64.3114	SAMPLE						
12	149.0746	105.2479	250	218.3169	250	218.3169	39.6364	1.635	0.160	0.262	64.7828	64.8416	SAMPLE						
13	149.2728	105.3679	250	218.6071	250	218.6071	19.8396	3.250	0.080	0.260	64.4685	64.4833	SAMPLE						
14	149.3404	105.4356	250	218.7061	250	218.7061	253.0688	0.273	1.020	0.278	69.0582	71.2720	SAMPLE						
15	148.5654	104.8685	250	217.5713	250	217.5713	48.8957	1.380	0.190	0.262	64.7104	64.7927	SAMPLE						
16	148.6940	104.8793	250	217.7596	250	217.7596	-91.4022	0.678	-0.370	0.251	61.9270	61.9273	SAMPLE						
17	148.0248	104.5068	250	216.7795	250	216.7795	-120.5013	0.507	-0.490	0.248	61.0256	61.0258	MB						
18	148.5701	104.8918	250	217.5781	250	217.5781	71.5798	0.811	0.290	0.264	65.2060	65.3963	DUP	245107001.1		0.0%	0.0090	5570.1552	115.4%
19	283.8112	200.3732	250	449.9939	250	449.9939	6425.8121	0.055	26.100	1.409	348.8987	566.2992	LCS						

ID: TRITIUM

1 FEB 2010 16:04

USER: 4

COMMENT: GREEN

PRESET TIME : 95.00

DATA CALC :	CPM	H# :	YES	SAMPLE REPEATS:	1	PRINTER :	STD
COUNT BLANK :	NO	IC# :	NO	REPLICATES :	1	RS232 :	EDIT
TWO PHASE :	NO	AQC :	NO	CYCLE REPEATS :	1	DISK :	OFF
SCINTILLATOR:	LIQUID	LUMEX:	YES	LOW SAMPLE REJ:	0	RWM LIST :	OFF
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:	none				

CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	23-1	95.00	120.3	3.17	12.03	33.13	3.58	0.74	97.66
2	23-2	95.00	119.7	3.45	11.89	34.06	3.54	1.32	195.93
3	23-3	95.00	120.3	3.17	12.45	34.27	3.53	1.26	294.20
4	23-4	95.00	119.8	3.12	12.40	33.16	3.59	1.08	392.44
5	23-5	95.00	120.6	2.97	12.69	33.80	3.55	1.00	490.63
6	23-6	95.00	120.1	3.00	12.55	33.49	3.57	0.94	588.82

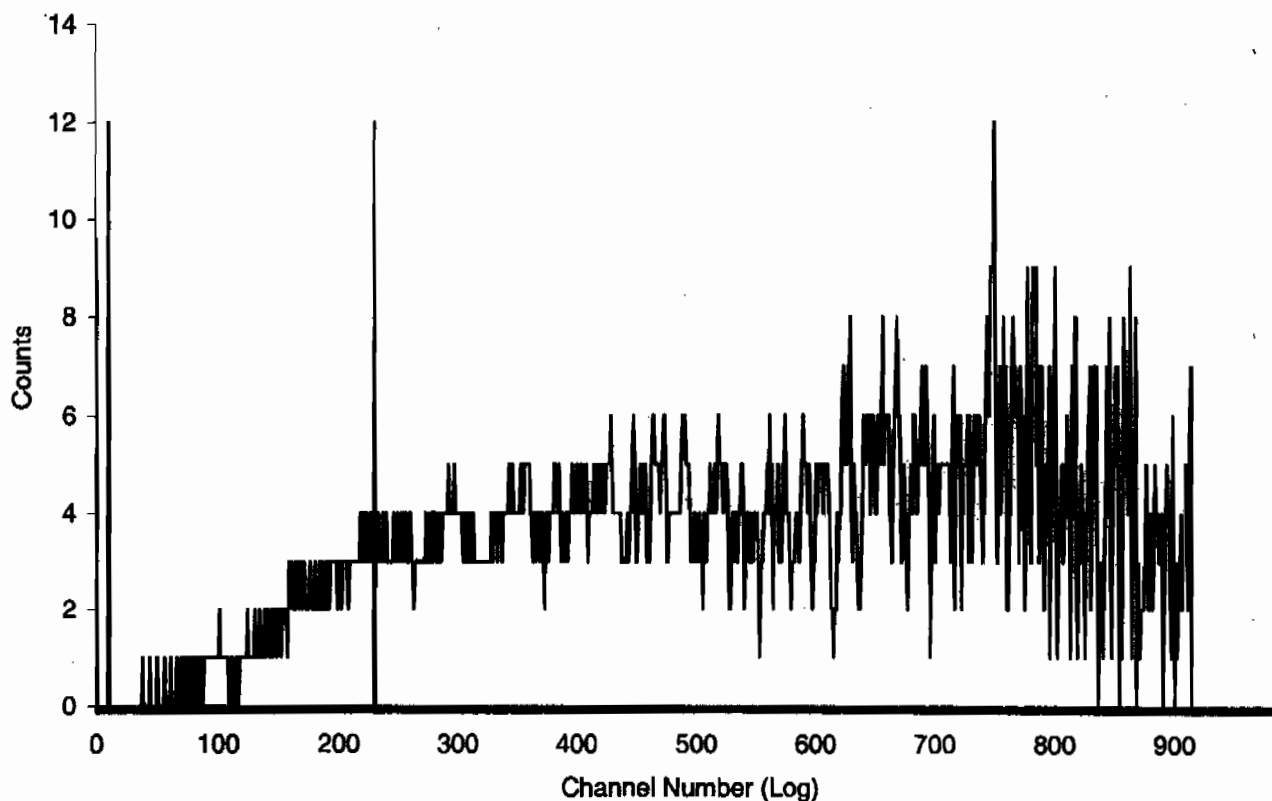
INSTRUMENT CALIBRATION: Mini 2 FEB 2010 01:56

Calibration successful

Sample Count Start Time:	1 Feb 2010 16:00:48		
Data Capture Date	01 Feb 2010 17:36:11		
User Filename	S04020123-1A.XLS		
	U04020123-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	23-1	95.00
H#, Total Counts:	120.3	3193	
Win1: Tritium - Start, End, Counts:	10	230	301
Win2: - Start, End, Counts:	0	990	3193

SPECTRUM PLOT

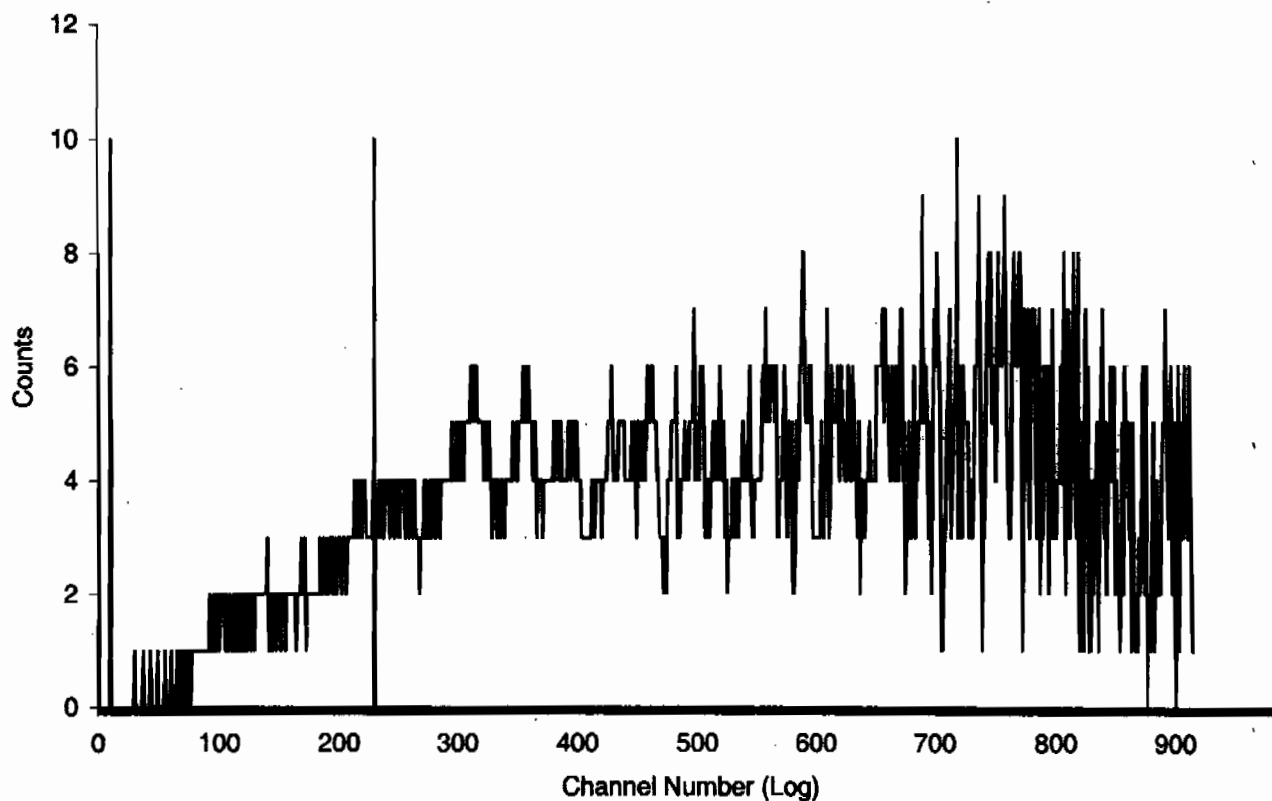
USER 04 - TRITIUM



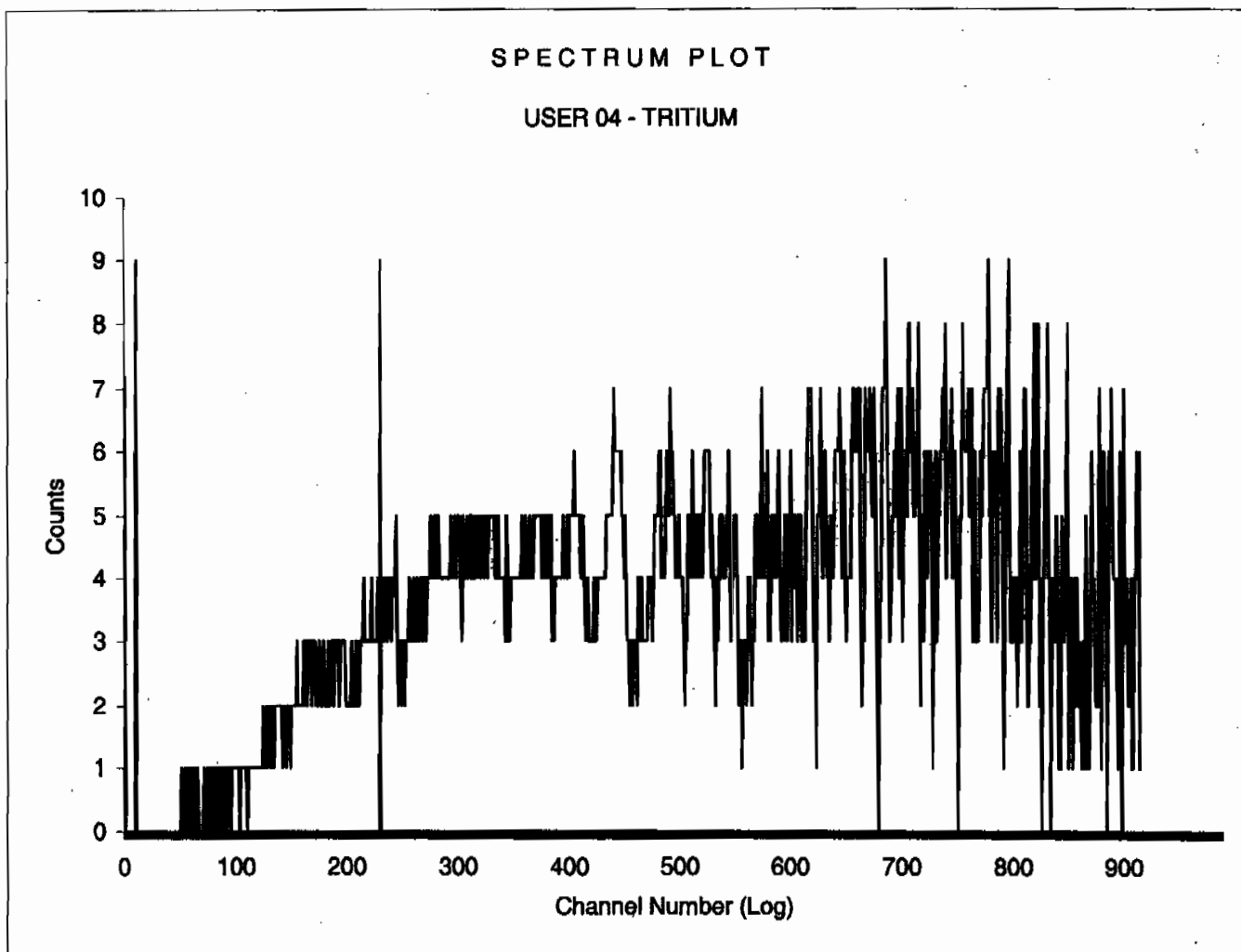
Sample Count Start Time:	1 Feb 2010 17:39:04		
Data Capture Date	01 Feb 2010 19:14:28		
User Filename	S04020123-2A.XLS		
	U04020123-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id -	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	23-2	95.00
H#, Total Counts:	119.7	3289	
Win1: Tritium - Start, End, Counts:	10	230	328
Win2: - Start, End, Counts:	0	990	3289

SPECTRUM PLOT

USER 04 - TRITIUM



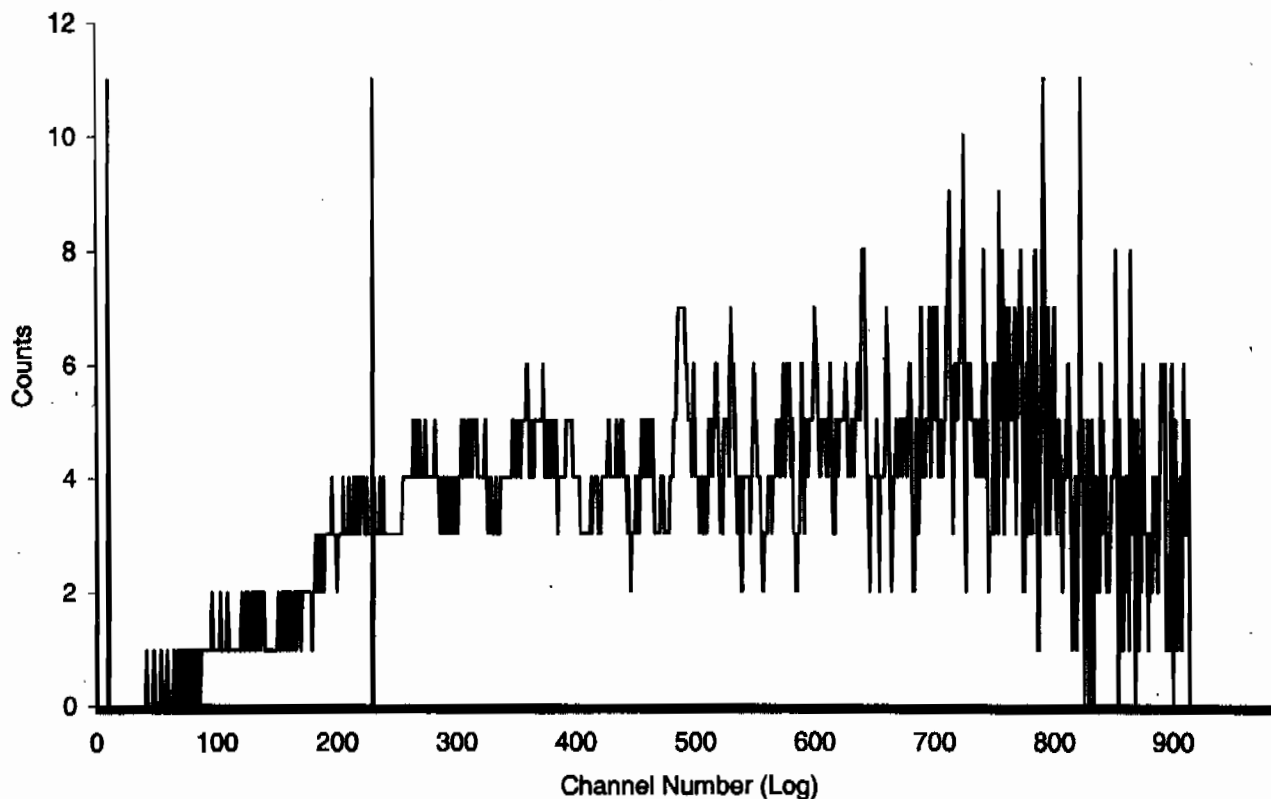
Sample Count Start Time:	1 Feb 2010 19:17:20		
Data Capture Date	01 Feb 2010 20:52:45		
User Filename	S04020123-3A.XLS		
	U04020123-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	3	23-3	95.00
H#, Total Counts:	120.3	3301	
Win1: Tritium - Start, End, Counts:	10	230	301
Win2: - Start, End, Counts:	0	990	3301



Sample Count Start Time:	1 Feb 2010 20:55:34		
Data Capture Date	01 Feb 2010 22:30:59		
User Filename	S04020123-4A.XLS		
	U04020123-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	4	23-4	95.00
H#, Total Counts:	119.8	3193	
Win1: Tritium - Start, End, Counts:	10	230	296
Win2: - Start, End, Counts:	0	990	3193

SPECTRUM PLOT

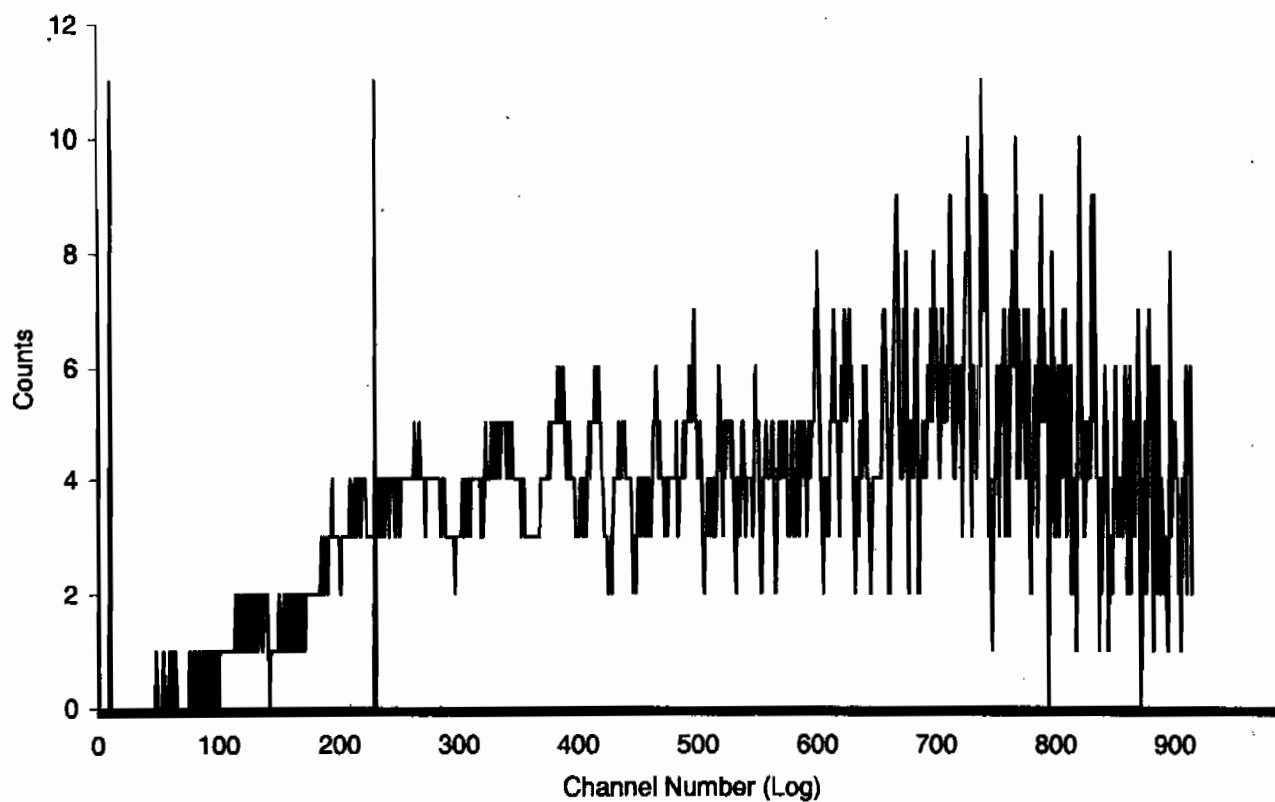
USER 04 - TRITIUM



Sample Count Start Time:	1 Feb 2010 22:33:46		
Data Capture Date	02 Feb 2010 00:09:11		
User Filename	S04020223-5A.XLS		
	U04020123-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	5	23-5	95.00
H#, Total Counts:	120.6	3260	
Win1: Tritium - Start, End, Counts:	10	230	282
Win2: - Start, End, Counts:	0	990	3260

SPECTRUM PLOT

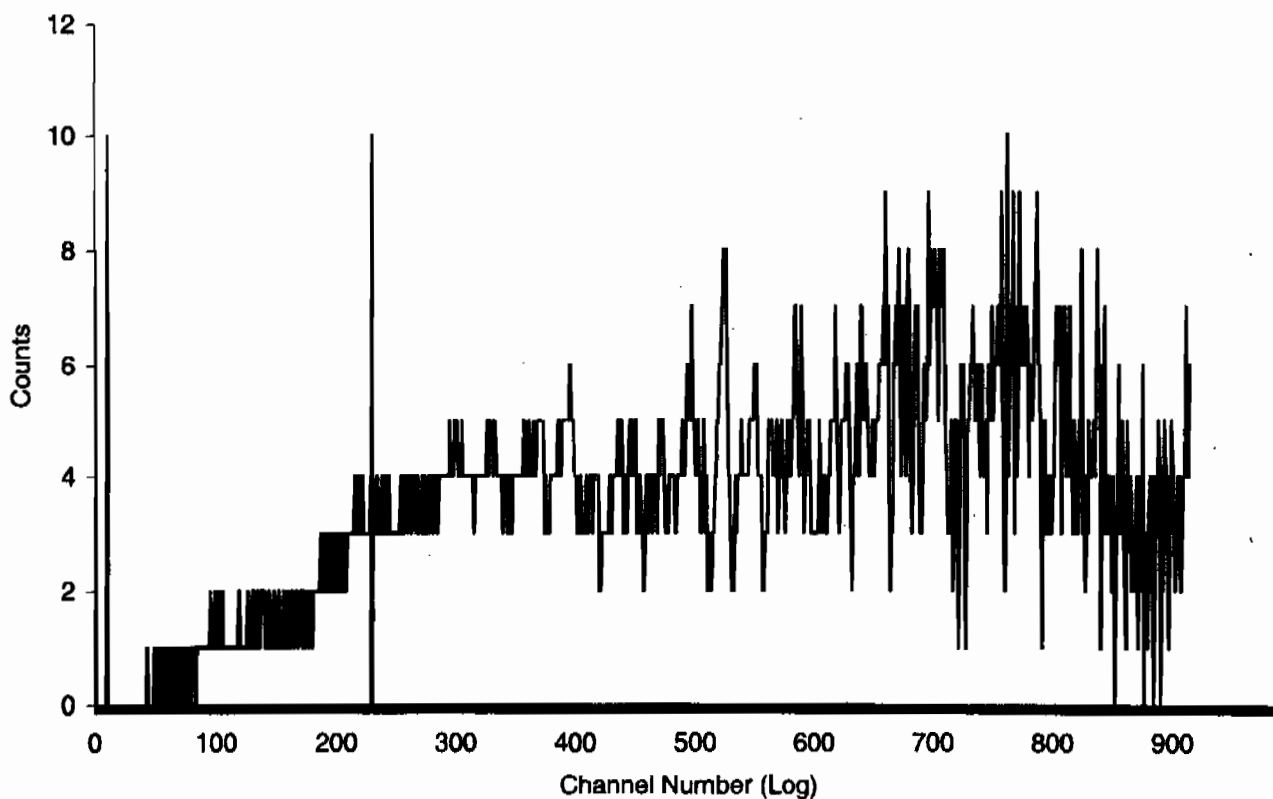
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 00:11:57		
Data Capture Date	02 Feb 2010 01:47:23		
User Filename	S04020223-6A.XLS		
	U04020123-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	6	23-6	95.00
H#, Total Counts:	120.1	3236	
Win1: Tritium - Start, End, Counts:	10	230	285
Win2: - Start, End, Counts:	0	990	3236

SPECTRUM PLOT

USER 04 - TRITIUM



ID: TRITIUM

2 FEB 2010 03:04

USER: 4 COMMENT: GREEN

PRESET TIME : 95.00

DATA CALC :	CPM	H# :	YES	SAMPLE REPEATS :	1	PRINTER :	STD
COUNT BLANK :	NO	IC# :	NO	REPLICATES :	1	RS232 :	EDIT
TWO PHASE :	NO	ADC :	NO	CYCLE REPEATS :	1	DISK :	OFF
SCINTILLATOR:	LIQUID	LUMEX:	YES	LOW SAMPLE REJ:	0	RWM LIST :	OFF
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:	none				

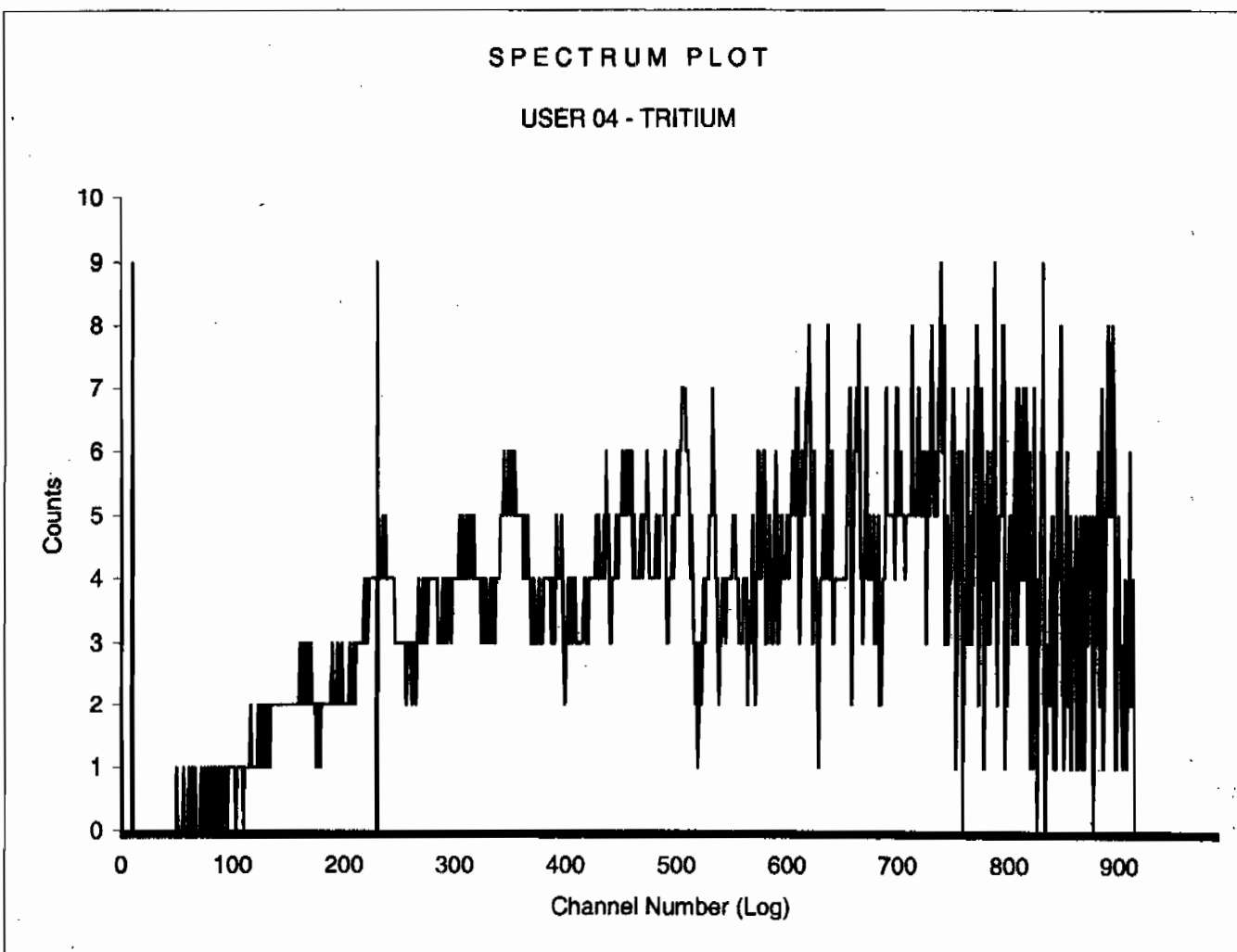
CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM	POS	TIME	H#	WIND1		WIND2		LUMEX	ELAPSED
				CPM	%ERROR	CPM	%ERROR		
MISSING SAMPLE									
7	18-7	95.00	120.1	3.09	12.13	33.40	3.56	0.68	97.69
8	18-8	95.00	119.7	3.28	11.70	34.73	3.49	0.55	195.75
9	18-9	95.00	119.1	3.35	11.53	34.46	3.50	0.52	293.83
10	18-10	95.00	119.1	3.41	11.48	34.46	3.51	0.61	391.92
11	18-11	95.00	120.3	3.04	12.22	34.33	3.51	0.61	490.03
12	18-12	95.00	119.6	3.26	11.83	33.91	3.54	0.71	588.14

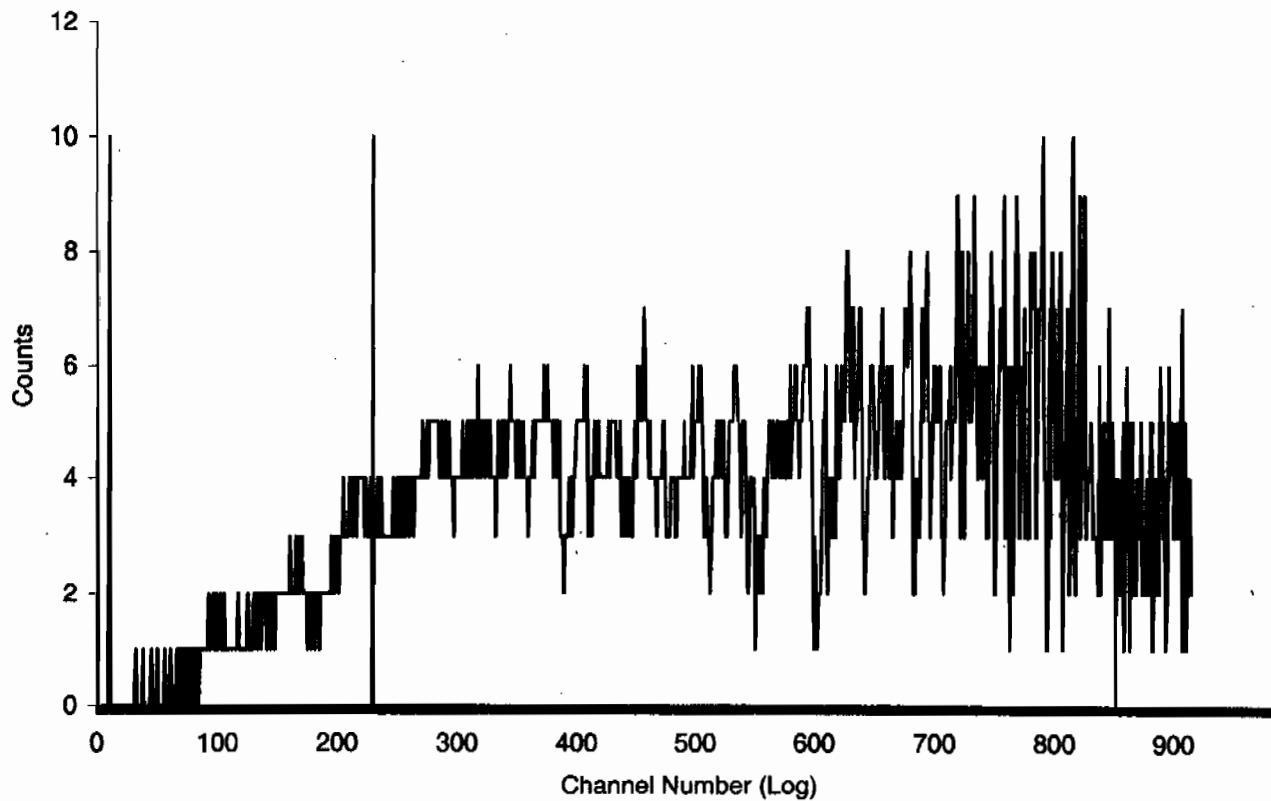
Sample Count Start Time:	2 Feb 2010 03:01:34		
Data Capture Date	02 Feb 2010 04:37:20		
User Filename	S04020218-7A.XLS		
	U04020218-7A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	7	18-7	95.00
H#, Total Counts:	120.1	3209	
Win1: Tritium - Start, End, Counts:	10	230	294
Win2: - Start, End, Counts:	0	990	3209



Sample Count Start Time:	2 Feb 2010 04:39:38		
Data Capture Date	02 Feb 2010 06:15:00		
User Filename	S04020218-8A.XLS		
	U04020218-7A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	8	18-8	95.00
H#, Total Counts:	119.7	3349	
Win1: Tritium - Start, End, Counts:	10	230	312
Win2: - Start, End, Counts:	0	990	3349

SPECTRUM PLOT

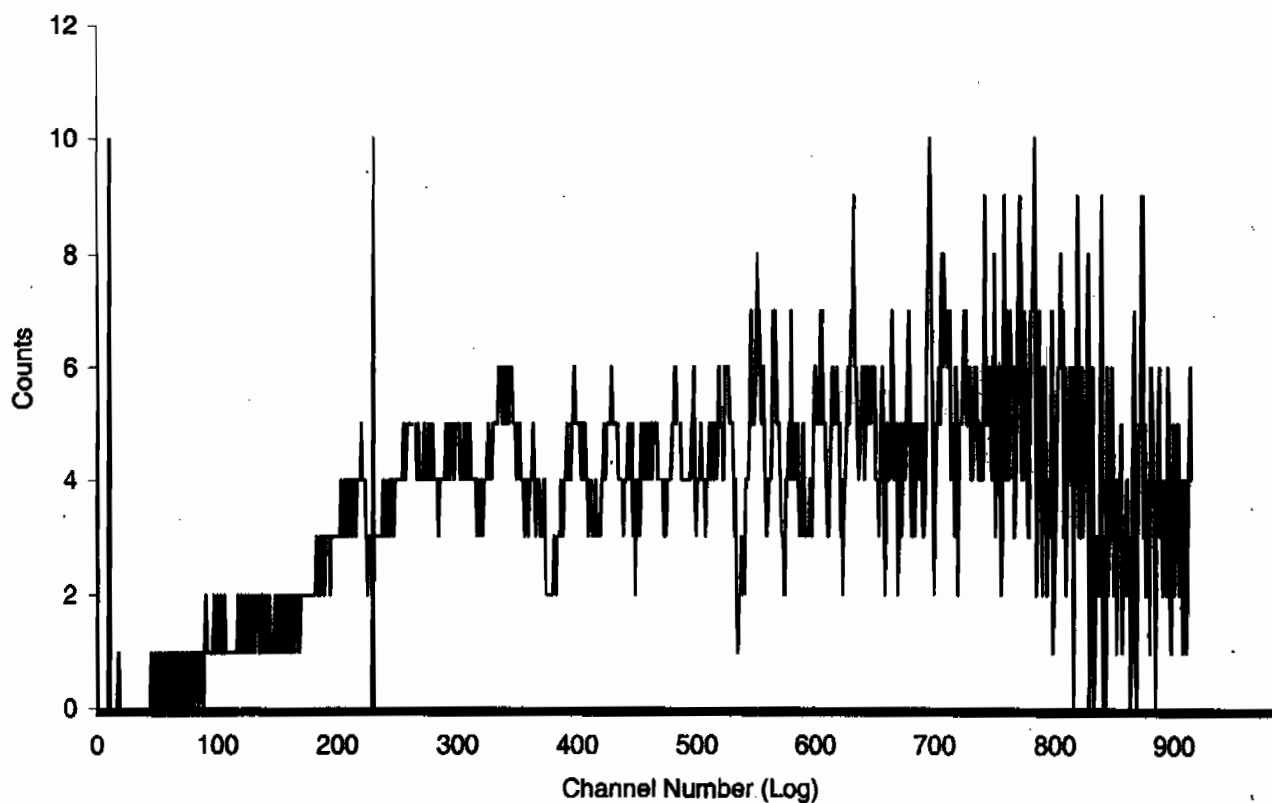
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 06:17:43		
Data Capture Date	02 Feb 2010 07:53:05		
User Filename	S04020218-9A.XLS		
	U04020218-7A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	9	18-9	95.00
H#, Total Counts:	119.1	3322	
Win1: Tritium - Start, End, Counts:	10	230	318
Win2: - Start, End, Counts:	0	990	3322

SPECTRUM PLOT

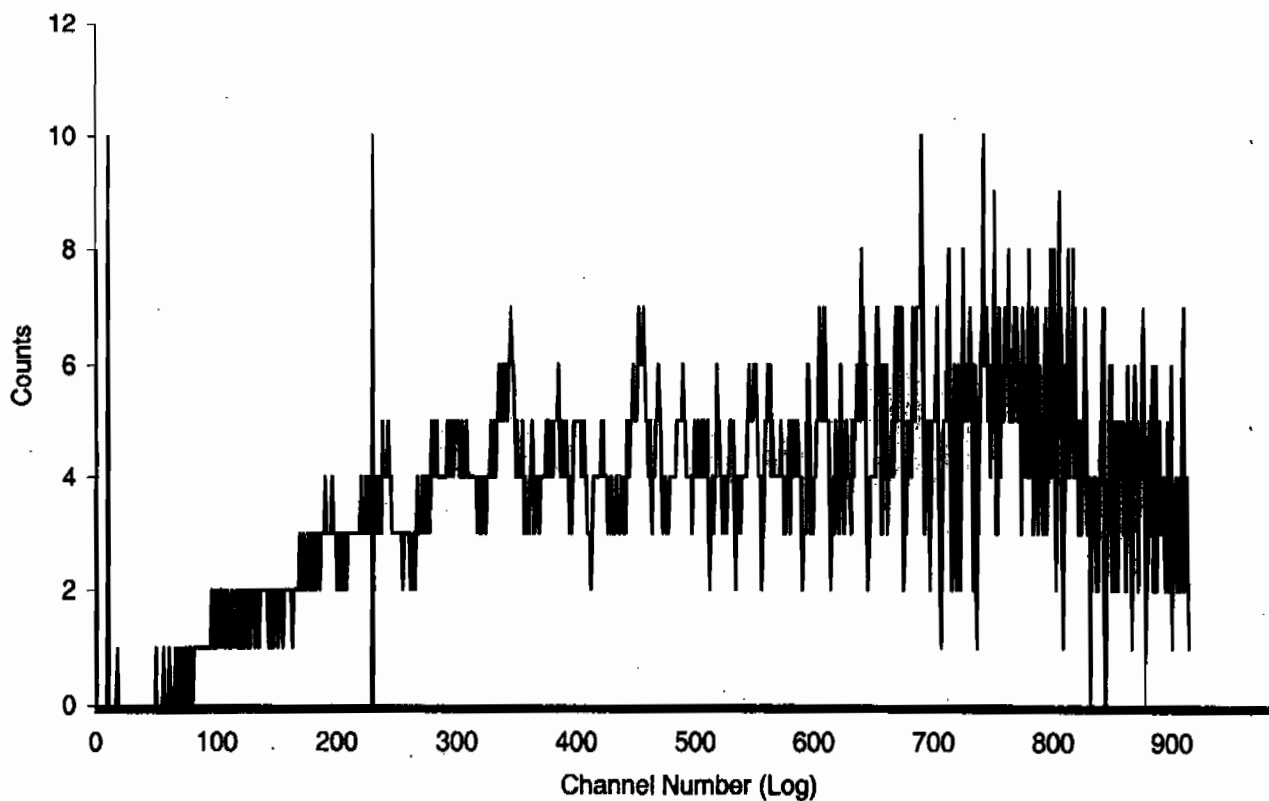
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 07:55:48		
Data Capture Date	02 Feb 2010 09:31:12		
User Filename	S04020218-10A.XLS		
	U04020218-7A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	10	18-10	95.00
H#, Total Counts:	119.1	3321	
Win1: Tritium - Start, End, Counts:	10	230	324
Win2: - Start, End, Counts:	0	990	3321

SPECTRUM PLOT

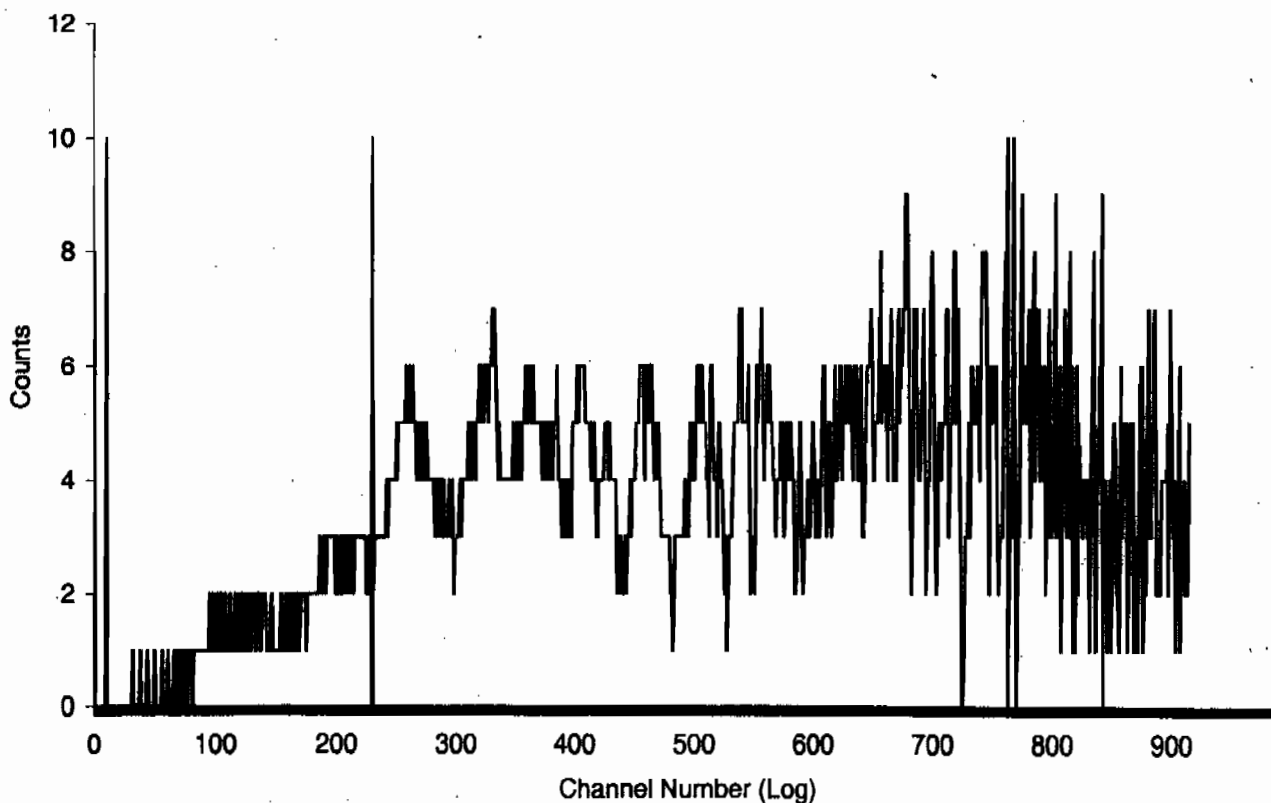
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 09:33:55		
Data Capture Date	02 Feb 2010 11:09:24		
User Filename	S04020218-11A.XLS		
	U04020218-7A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	11	18-11	95.00
H#, Total Counts:	120.3	3304	
Win1: Tritium - Start, End, Counts:	10	230	289
Win2: - Start, End, Counts:	0	990	3304

SPECTRUM PLOT

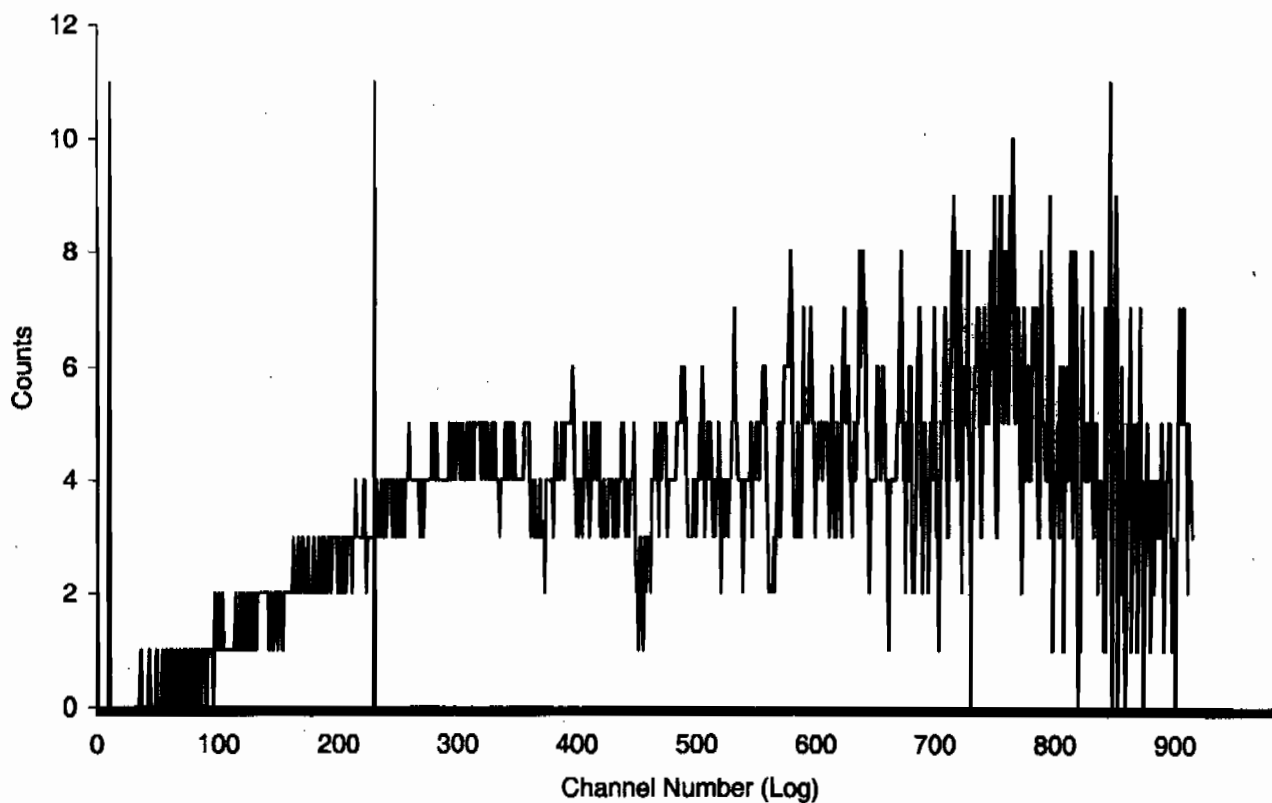
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 11:12:01		
Data Capture Date	02 Feb 2010 12:47:24		
User Filename	S04020218-12A.XLS		
	U04020218-7A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	12	18-12	95.00
H#, Total Counts:	119.6	3286	
Win1: Tritium - Start, End, Counts:	10	230	310
Win2: - Start, End, Counts:	0	990	3286

SPECTRUM PLOT

USER 04 - TRITIUM



ID: TRITIUM

2 FEB 2010 12:53

USER: 4 COMMENT: GREEN

PRESET TIME : 95.00

DATA CALC :	CPM	H# :	YES	SAMPLE REPEATS :	1	PRINTER :	STD
COUNT BLANK :	NO	IC# :	NO	REPLICATES :	1	RS232 :	EDIT
TWO PHASE :	NO	ACC :	NO	CYCLE REPEATS :	1	DISK :	OFF
SCINTILLATOR:	LIQUID	LUMEX:	YES	LOW SAMPLE REJ:	0	RWM LIST :	OFF
LOW LEVEL :	NO	HALF LIFE CORRECTION DATE:	none				

CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

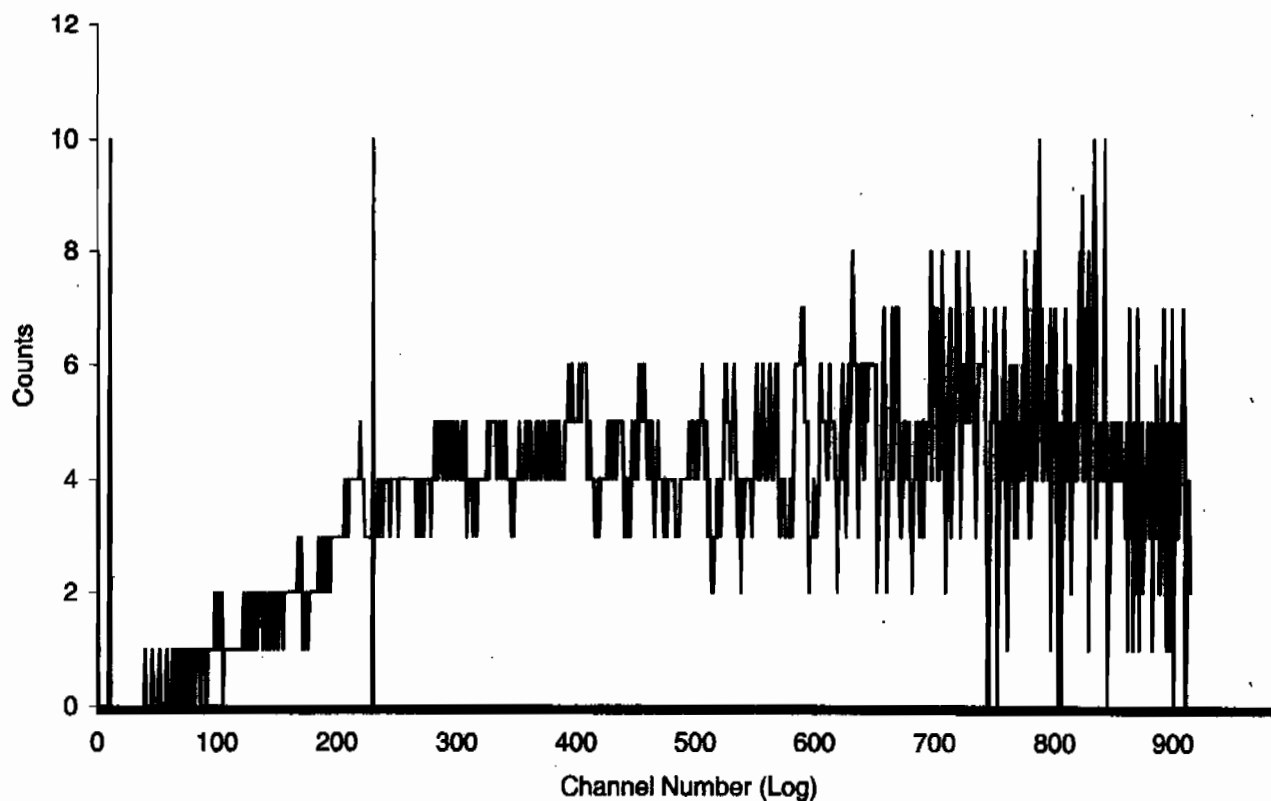
ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	27-1	95.00	120.1	3.33	11.69	34.78	3.49	0.70	97.65
2	27-2	95.00	120.4	3.25	11.90	34.40	3.51	0.74	195.77
3	27-3	95.00	120.5	4.19	10.46	34.36	3.52	0.89	293.95
4	27-4	95.00	119.3	3.36	11.63	33.94	3.54	0.69	392.07
5	27-5	95.00	119.5	2.80	12.78	34.04	3.53	0.63	490.18
6	27-6	95.00	119.0	2.68	12.86	34.05	3.52	0.40	588.19
7	27-7	95.00	119.3	3.46	11.31	33.76	3.54	0.47	686.24

Sample Count Start Time:	2 Feb 2010 12:50:34		
Data Capture Date	02 Feb 2010 14:25:42		
User Filename	S04020227-1A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	27-1	95.00
H#, Total Counts:	120.1	3353	
Win1: Tritium - Start, End, Counts:	10	230	316
Win2: - Start, End, Counts:	0	990	3353

SPECTRUM PLOT

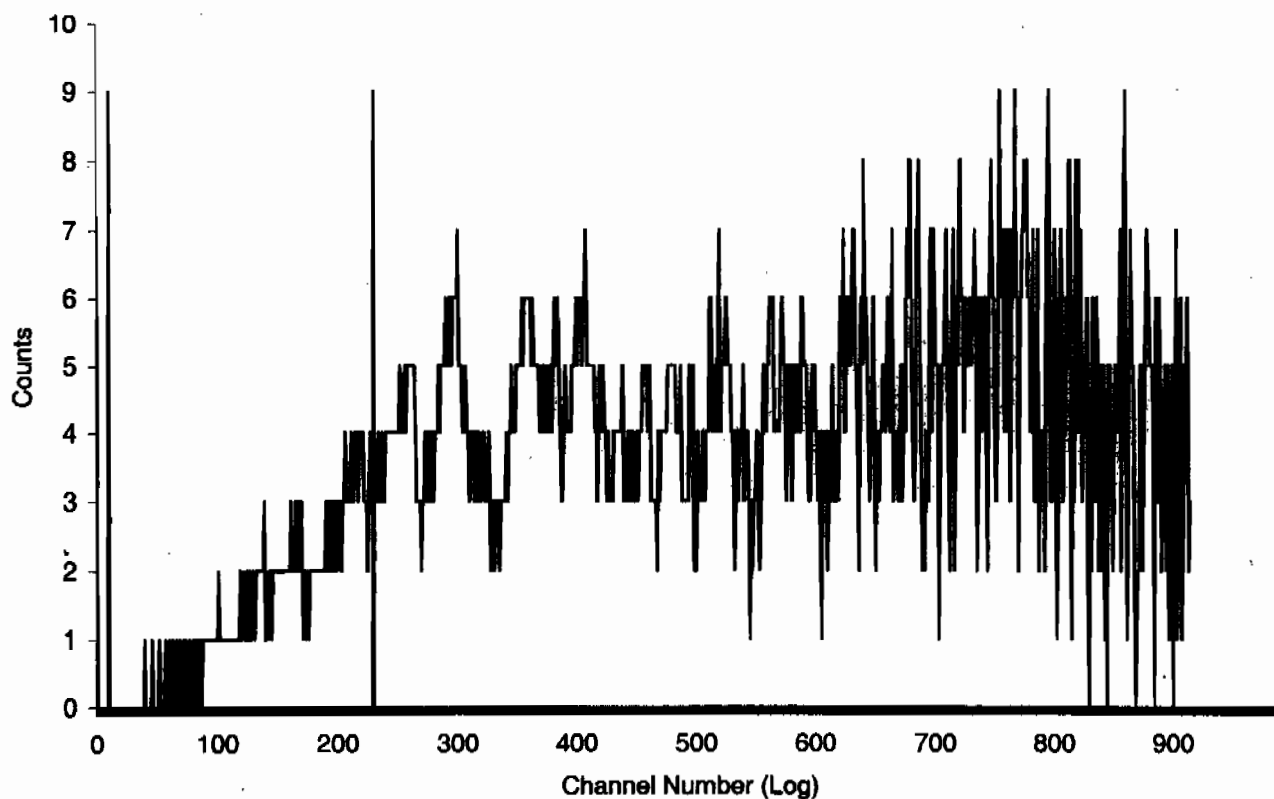
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 14:28:41		
Data Capture Date	02 Feb 2010 16:03:50		
User Filename	S04020227-2A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	2	27-2	95.00
H#, Total Counts:	120.4	3321	
Win1: Tritium - Start, End, Counts:	10	230	309
Win2: - Start, End, Counts:	0	990	3321

SPECTRUM PLOT

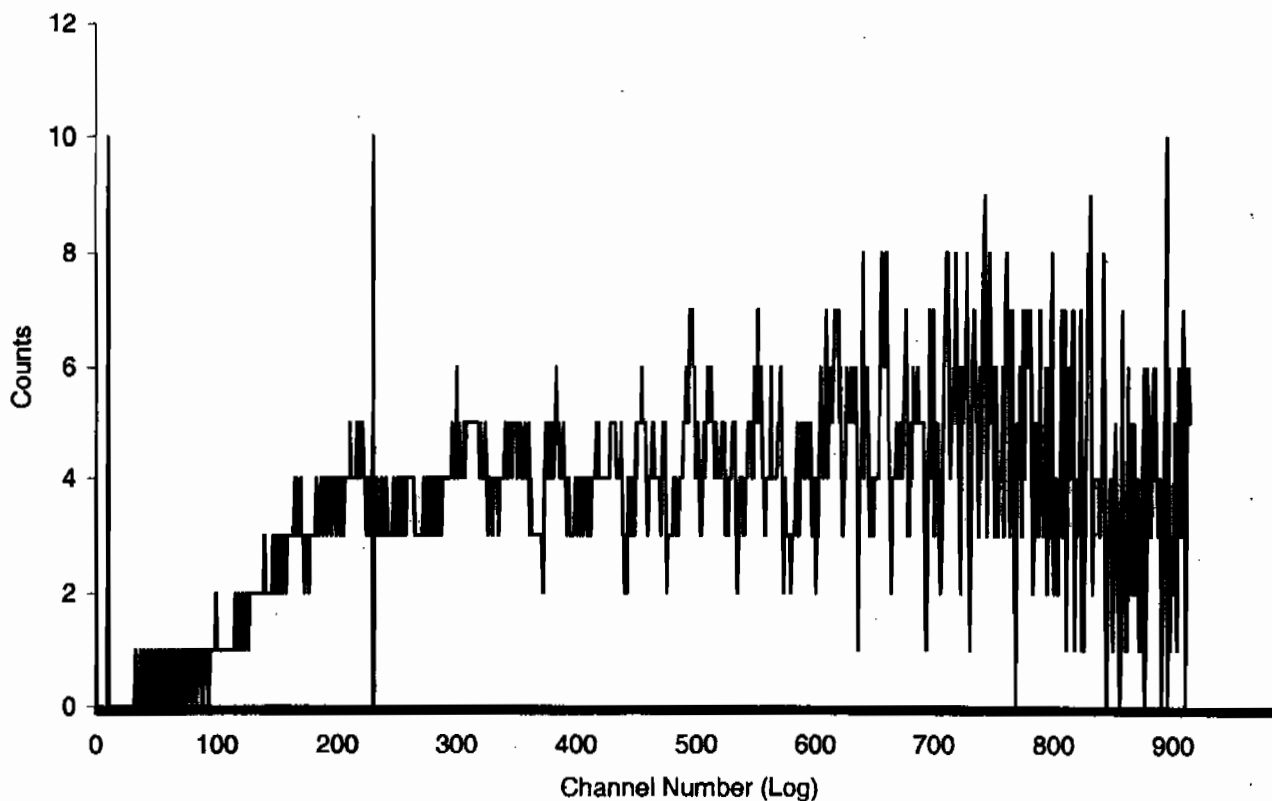
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 16:06:52		
Data Capture Date	02 Feb 2010 17:42:01		
User Filename	S04020227-3A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	3	27-3	95.00
H#, Total Counts:	120.5	3328	
Win1: Tritium - Start, End, Counts:	10	230	398
Win2: - Start, End, Counts:	0	990	3328

SPECTRUM PLOT

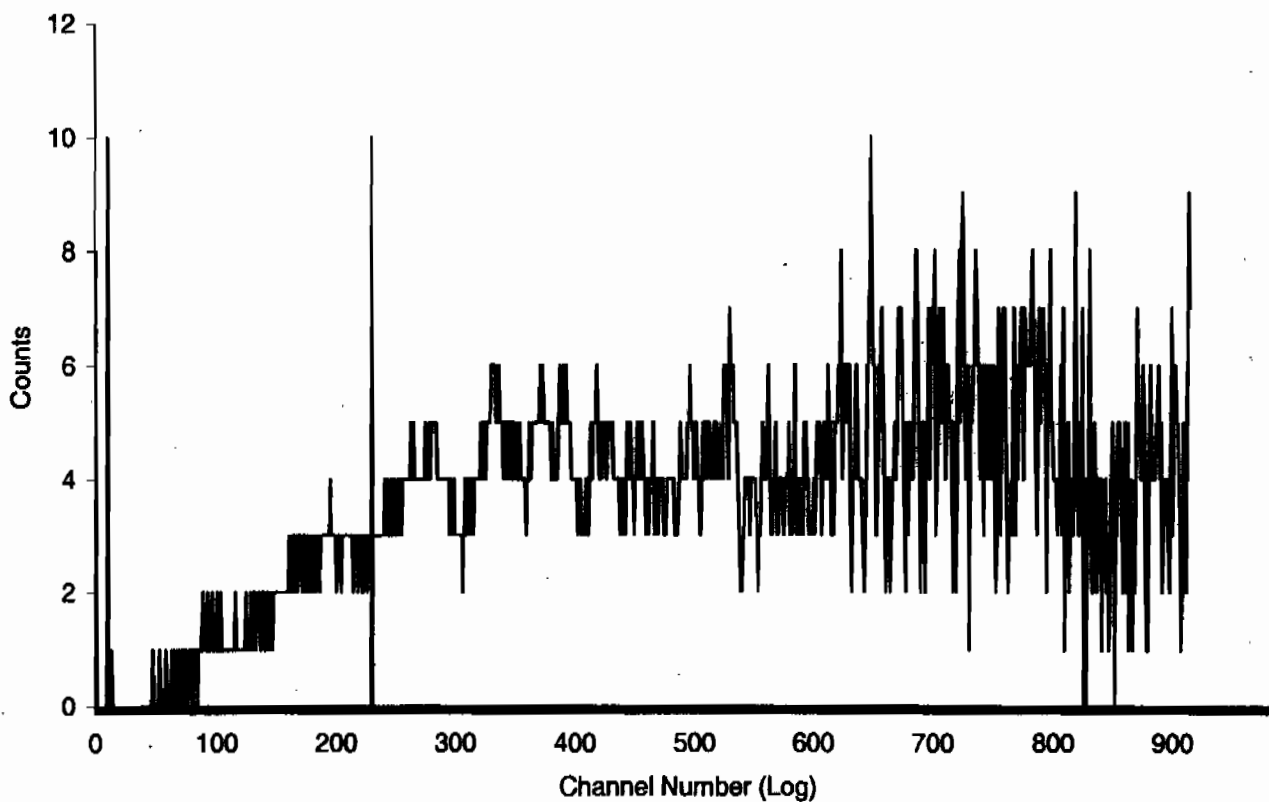
USER 04 - TRITIUM



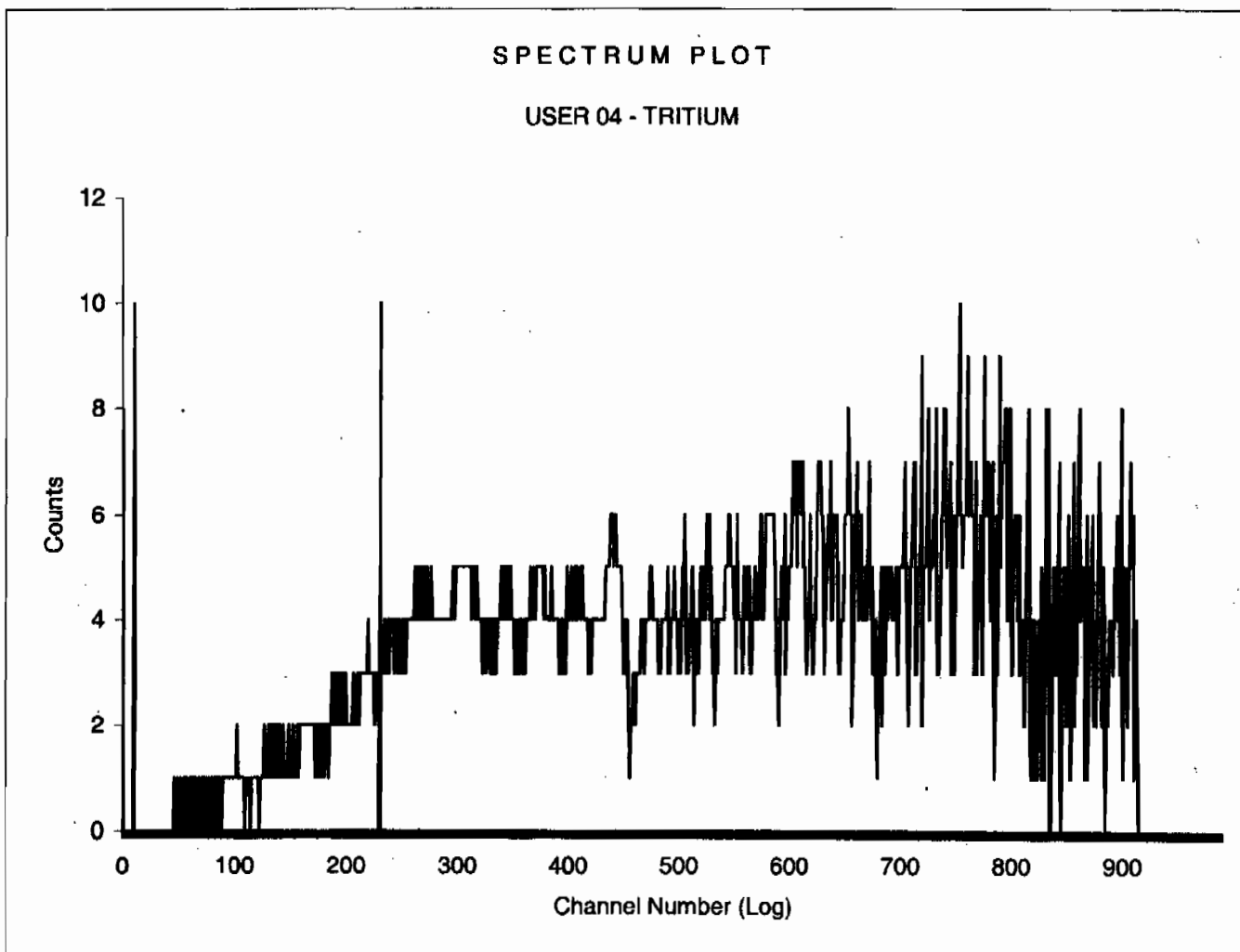
Sample Count Start Time:	2 Feb 2010 17:44:59		
Data Capture Date	02 Feb 2010 19:20:15		
User Filename	S04020227-4A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	4	27-4	95.00
H#, Total Counts:	119.3	3285	
Win1: Tritium - Start, End, Counts:	10	230	319
Win2: - Start, End, Counts:	0	990	3285

SPECTRUM PLOT

USER 04 - TRITIUM



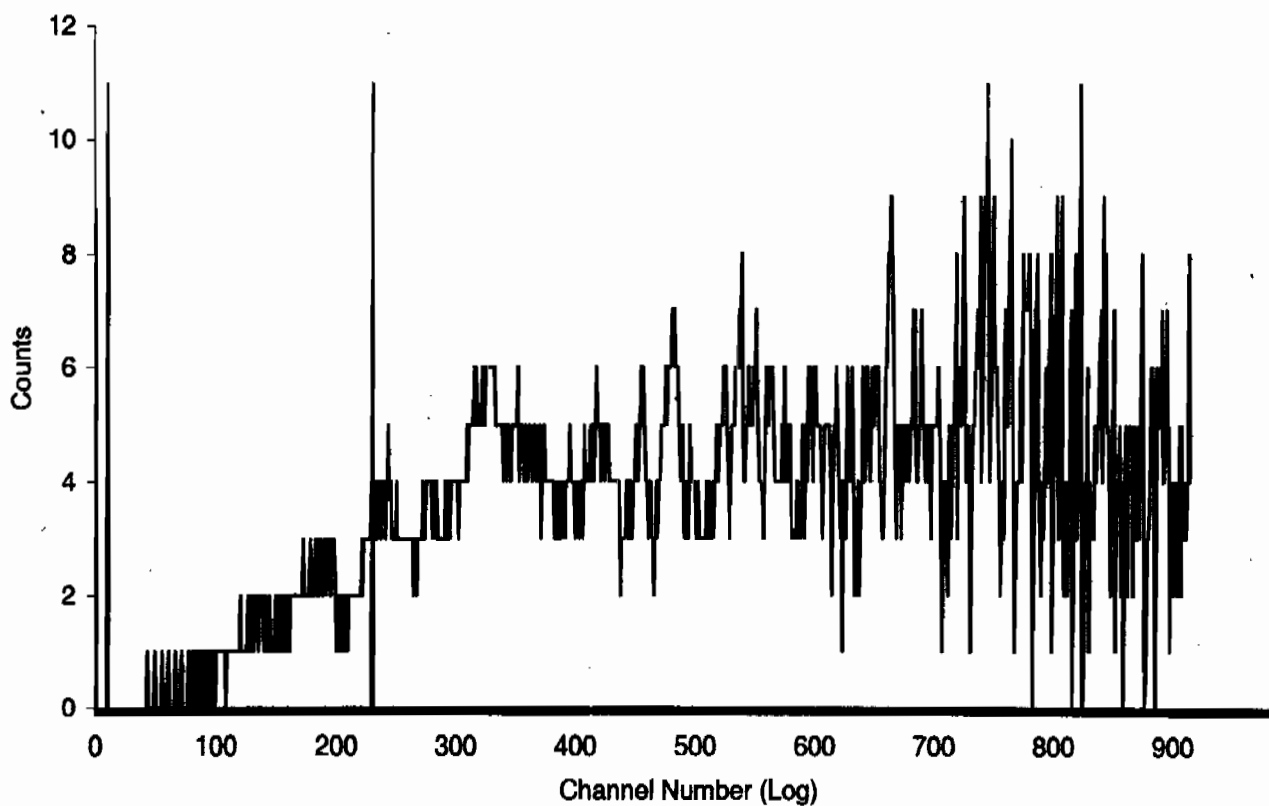
Sample Count Start Time:	2 Feb 2010 19:23:06		
Data Capture Date	02 Feb 2010 20:58:14		
User Filename	S04020227-5A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	5	27-5	95.00
H#, Total Counts:	119.5	3287	
Win1: Tritium - Start, End, Counts:	10	230	266
Win2: - Start, End, Counts:	0	990	3287



Sample Count Start Time:	2 Feb 2010 21:01:06		
Data Capture Date	02 Feb 2010 22:36:16		
User Filename	S04020227-6A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	6	27-6	95.00
H#, Total Counts:	119.0	3296	
Win1: Tritium - Start, End, Counts:	10	230	255
Win2: - Start, End, Counts:	0	990	3296

SPECTRUM PLOT

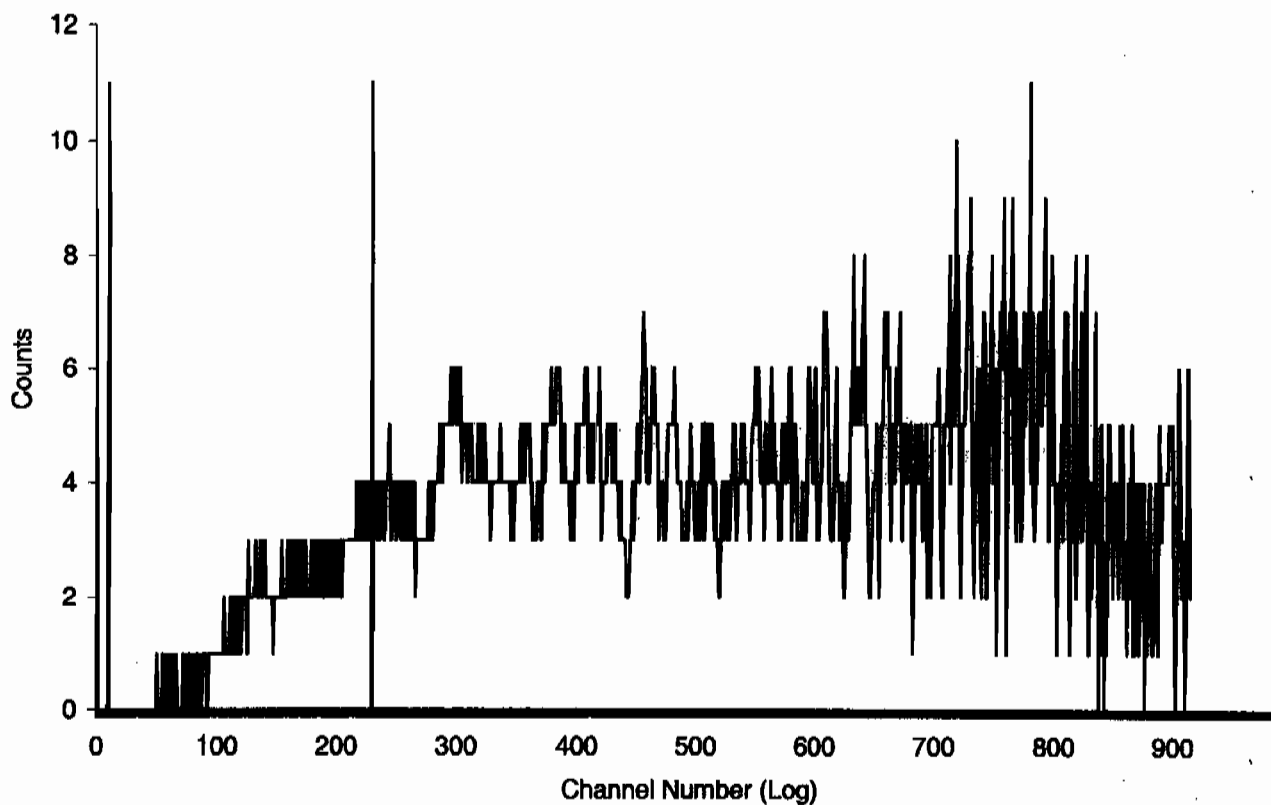
USER 04 - TRITIUM



Sample Count Start Time:	2 Feb 2010 22:39:09		
Data Capture Date	03 Feb 2010 00:14:19		
User Filename	S04020327-7A.XLS		
	U04020227-1A.XLS		
Spectrum Type	Log Counts		
User Number	04		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	7	27-7	95.00
H#, Total Counts:	119.3	3246	
Win1: Tritium - Start, End, Counts:	10	230	329
Win2: - Start, End, Counts:	0	990	3246

SPECTRUM PLOT

USER 04 - TRITIUM



ID: TRITIUM

3 FEB 2010 00:20

USER: 2

COMMENT: GREEN

PRESET TIME : 15.00

DATA CALC : CPM H# : YES SAMPLE REPEATS: 1 PRINTER : STD

COUNT BLANK : NO IC# : NO REPLICATES : 1 RS232 : EDIT

TWO PHASE : NO AQC : NO CYCLE REPEATS : 1 DISK : OFF

SCINTILLATOR: LIQUID LUMEX: YES LOW SAMPLE REJ: 0 RWM LIST : OFF

LOW LEVEL : NO HALF LIFE CORRECTION DATE: none

CHAN: 10.0 - 230.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

CHAN: 0.0 - 900.0 %ERROR: 2.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIND1		WIND2		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	5-1	15.00	119.3	29.27	9.56	70.87	6.14	0.22	15.80

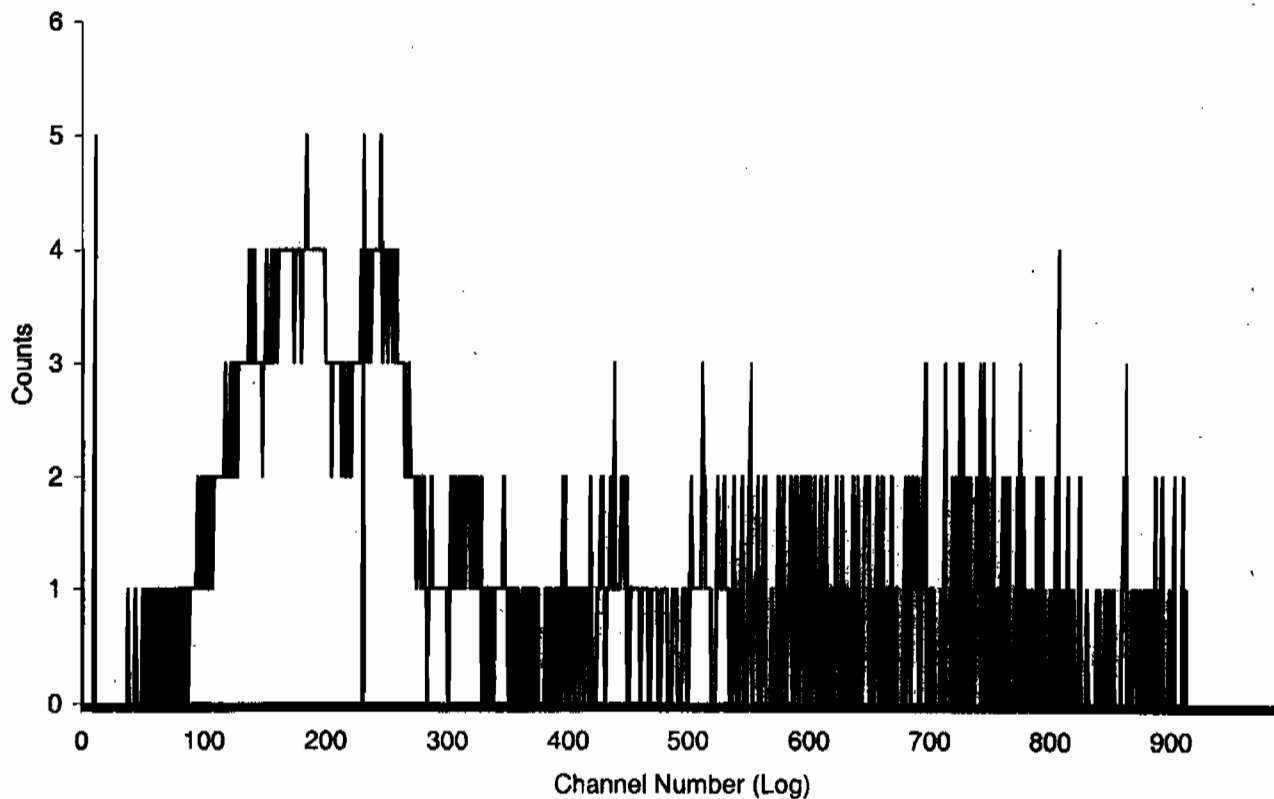
INSTRUMENT CALIBRATION: Mini 3 FEB 2010 00:40

Calibration successful

Sample Count Start Time:	3 Feb 2010 00:15:38		
Data Capture Date	03 Feb 2010 00:30:48		
User Filename	S02020305-1A.XLS		
	U02020305-1A.XLS		
Spectrum Type	Log Counts		
User Number	02		
User Id	TRITIUM		
User Comment	GREEN		
Isotope Name	14C		
Scintillator	LIQUID		
Sample, Rack-Pos, Time:	1	5-1	15.00
H#, Total Counts:	119.3	1069	
Win1: Tritium - Start, End, Counts:	10	230	439
Win2: - Start, End, Counts:	0	990	1069

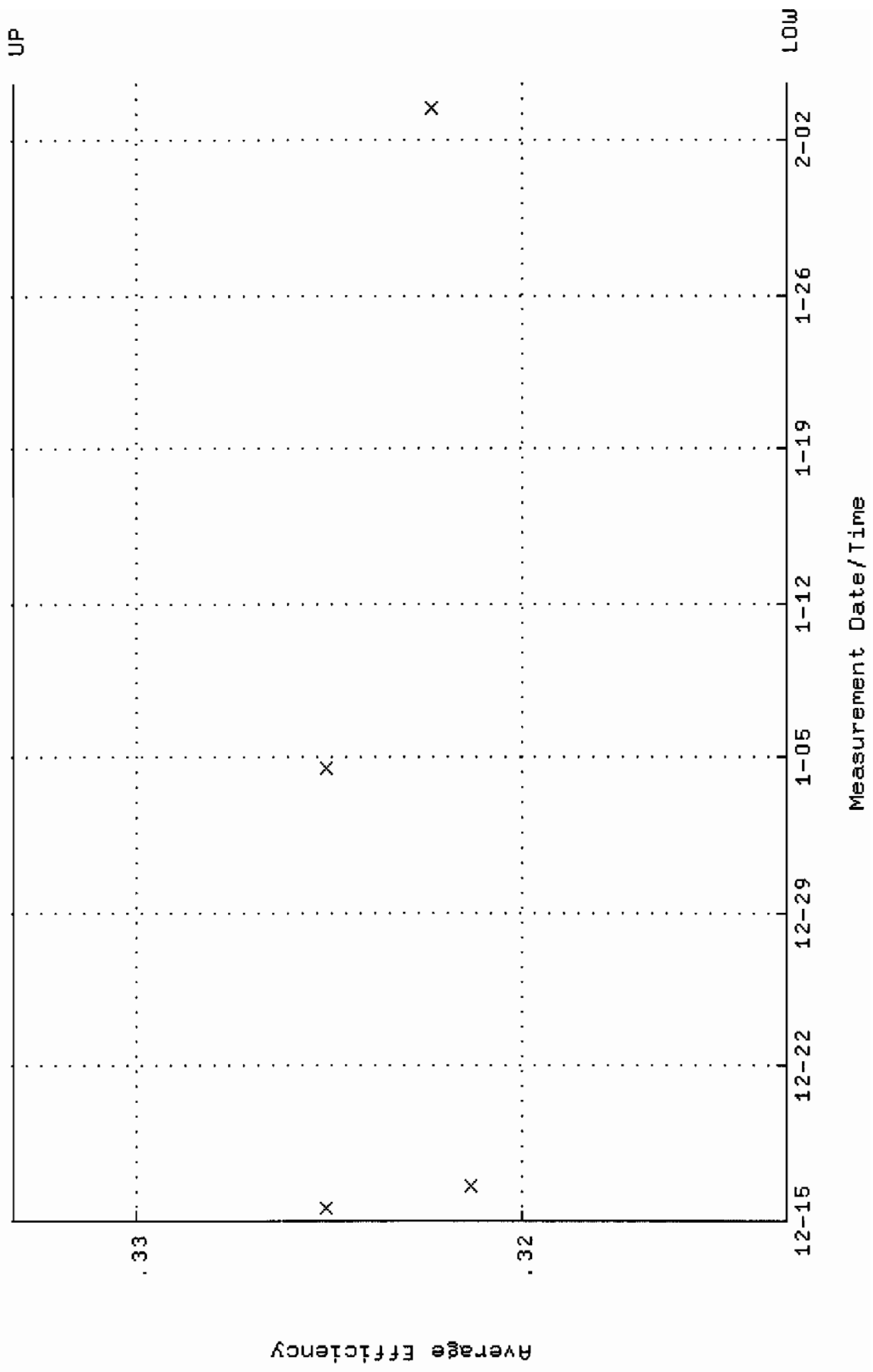
SPECTRUM PLOT

USER 02 - TRITIUM

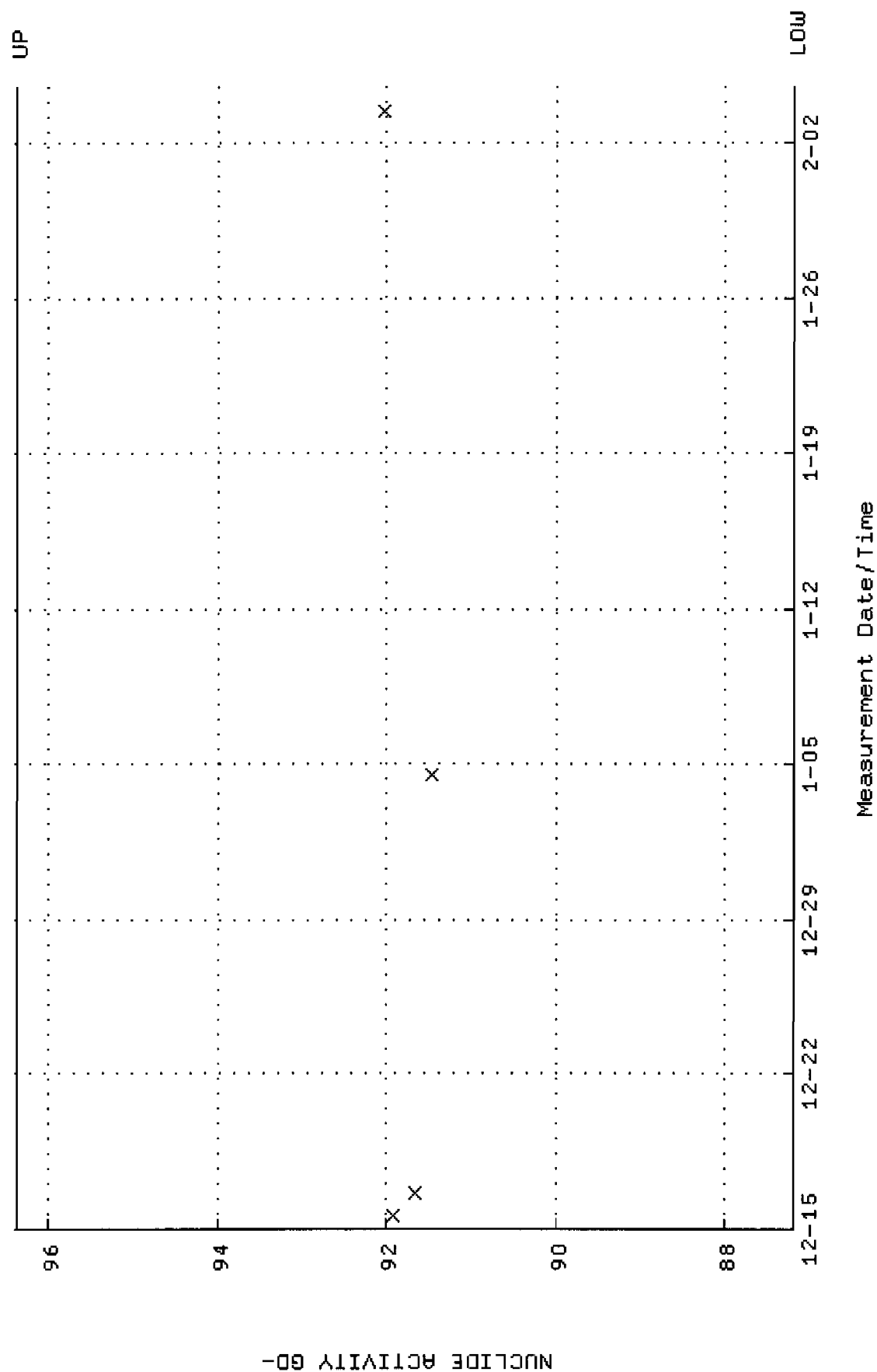


BACKGROUND AND EFFICIENCY DATA

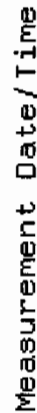
QA filename : DKA100:[ENV_ALPHA.QA.W]W001.QAF;7
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.313195 through 0.333195



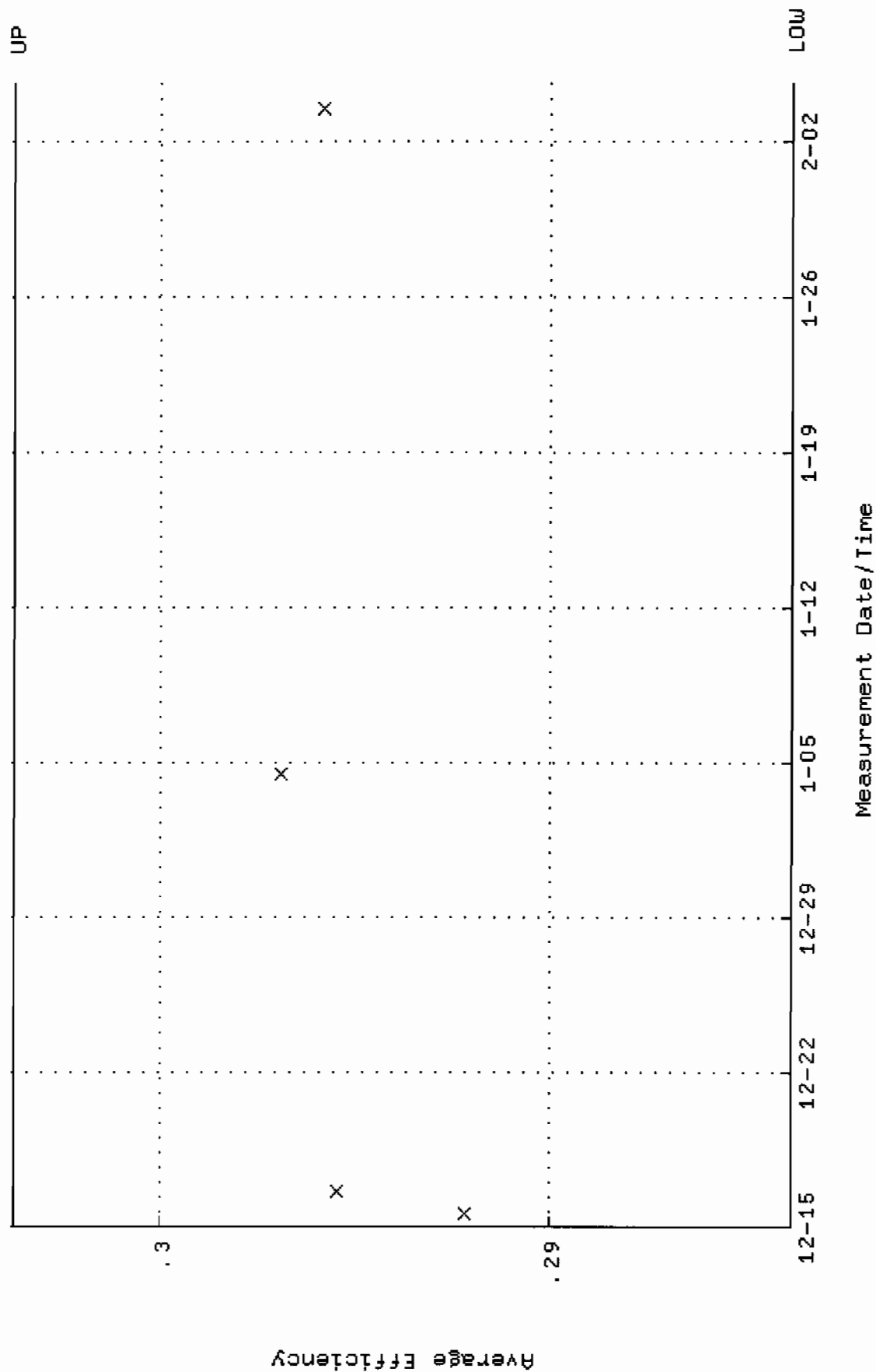
QA filename : DKA100:[ENV_ALPHA.QA.W]W001.QAF;7
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.1884 through 96.3662



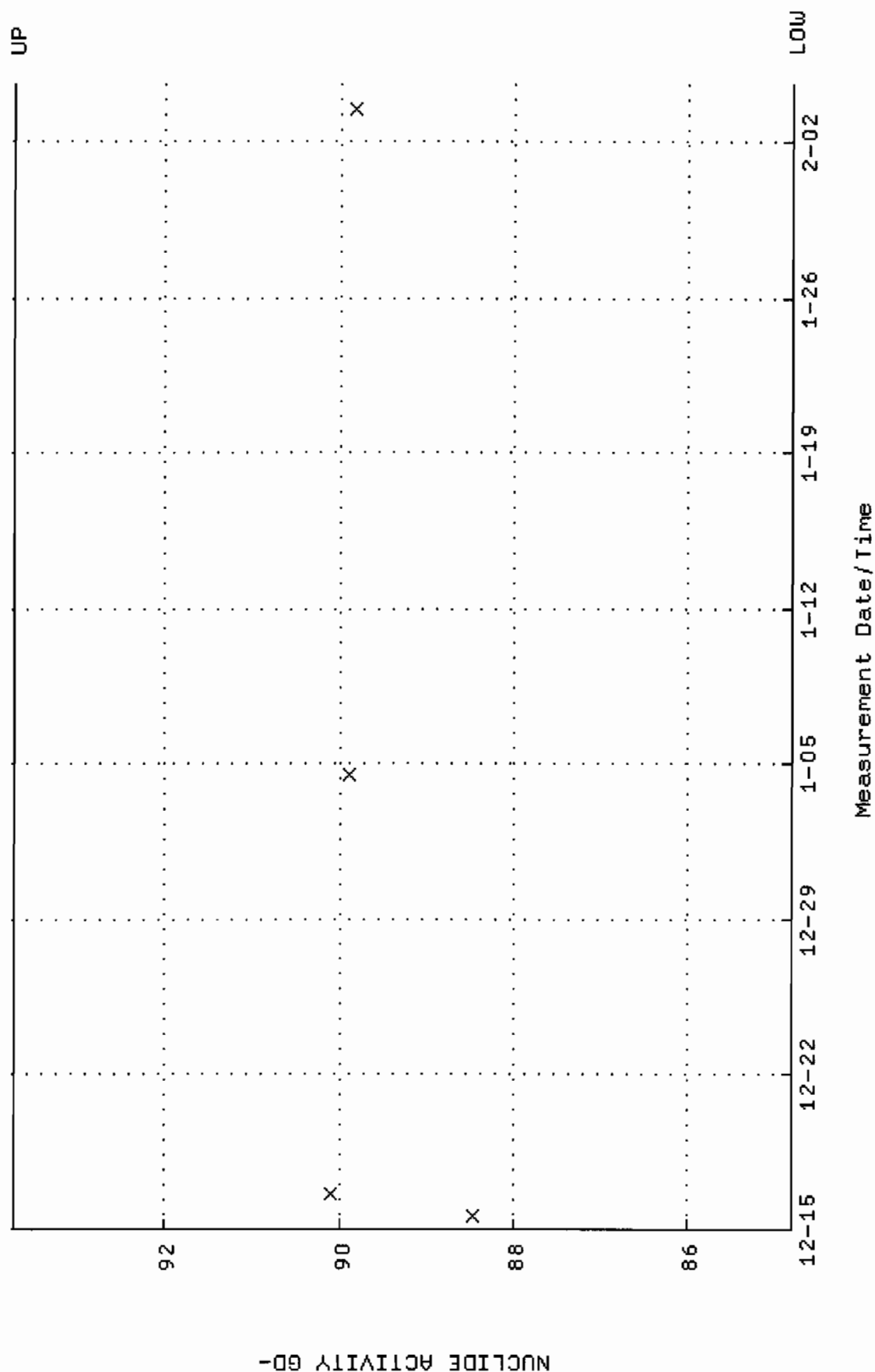
Lower/Inner limits: 0.000000E+00 through 2.000000E-02



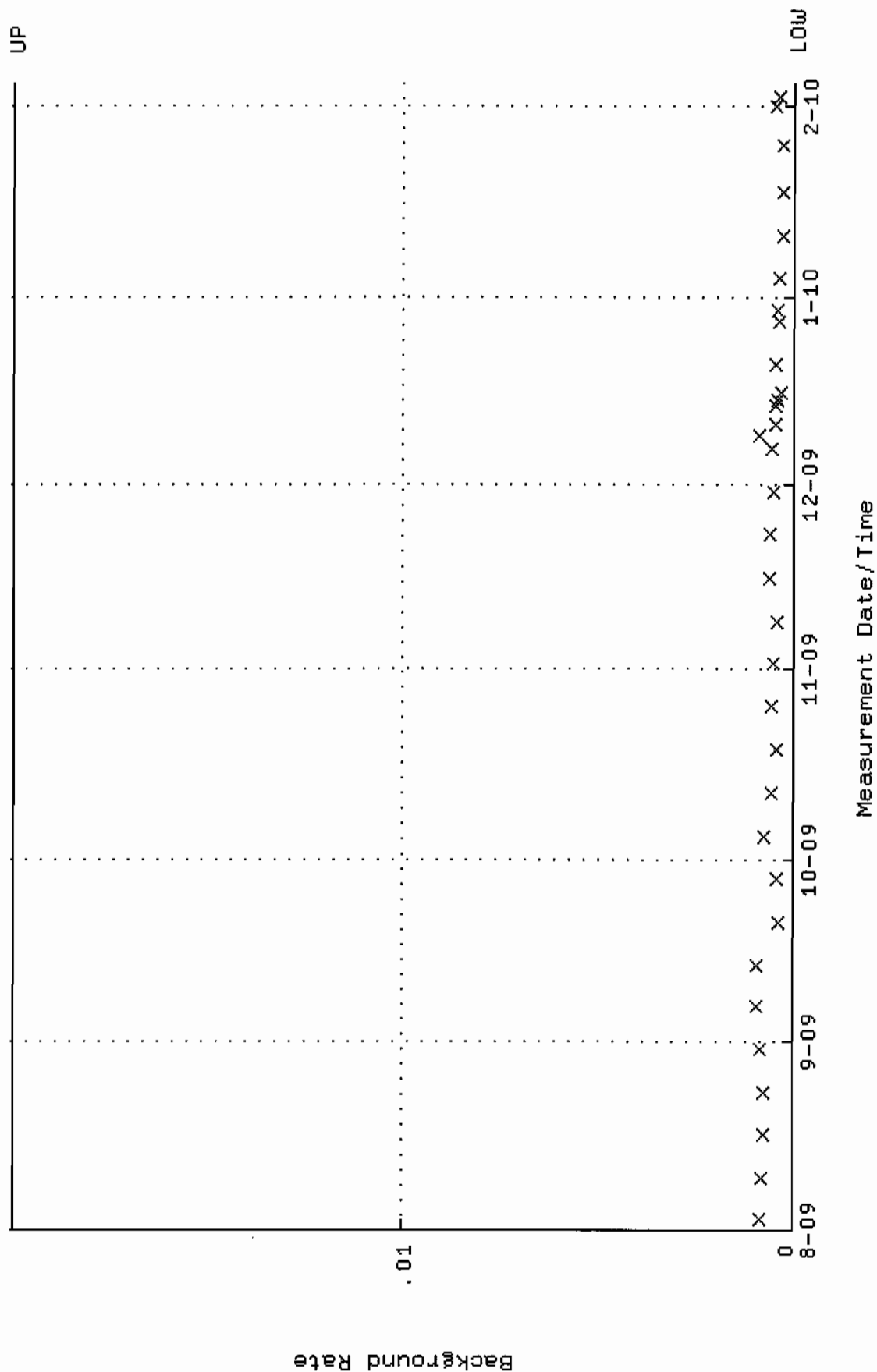
QA filename : DKA100:[ENV_ALPHA.QA.W]W002.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.283765 through 0.303765



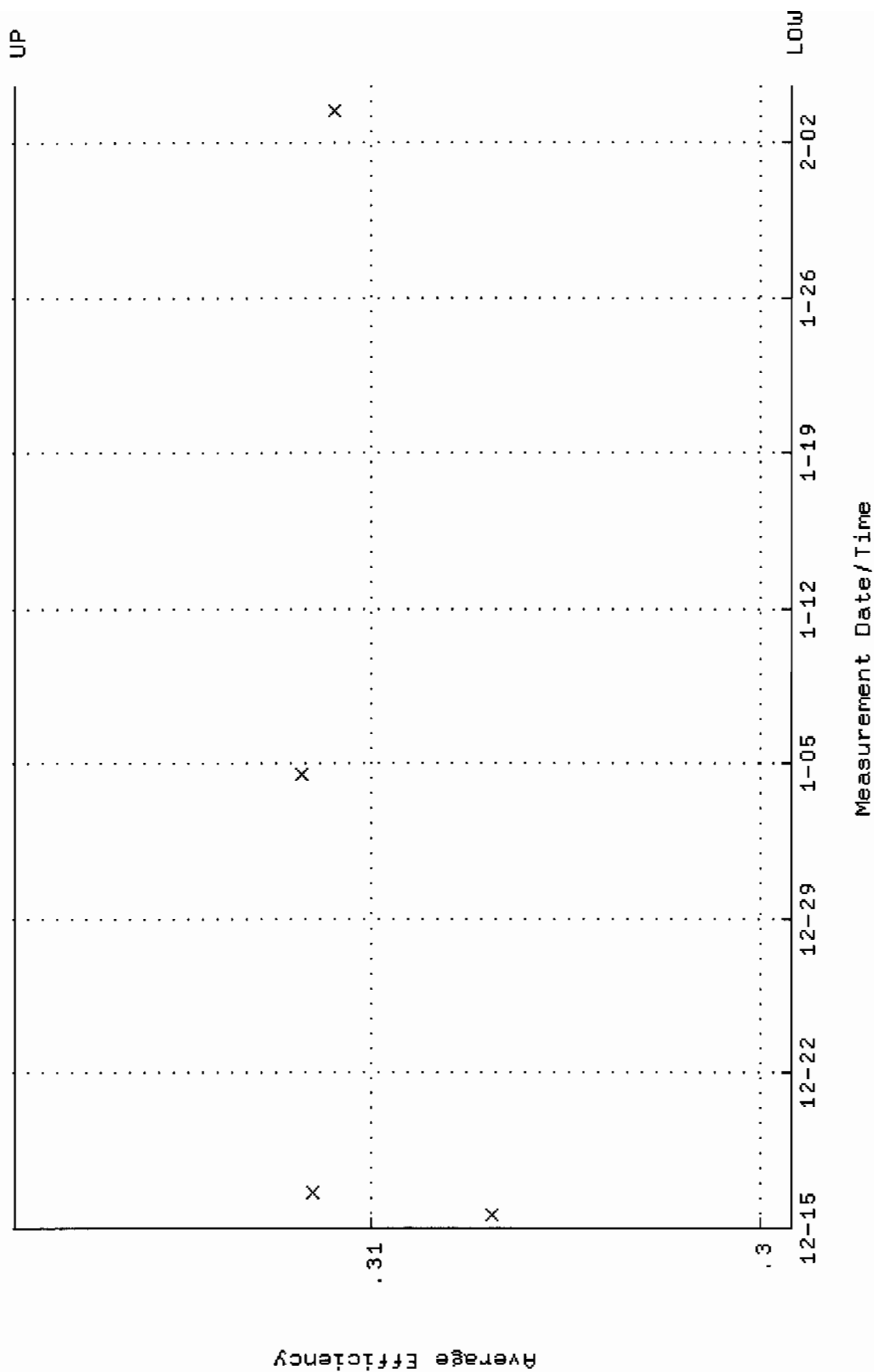
QA filename : DKA100:[ENV_ALPHA.QA.W]W002.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.8037 through 93.7305



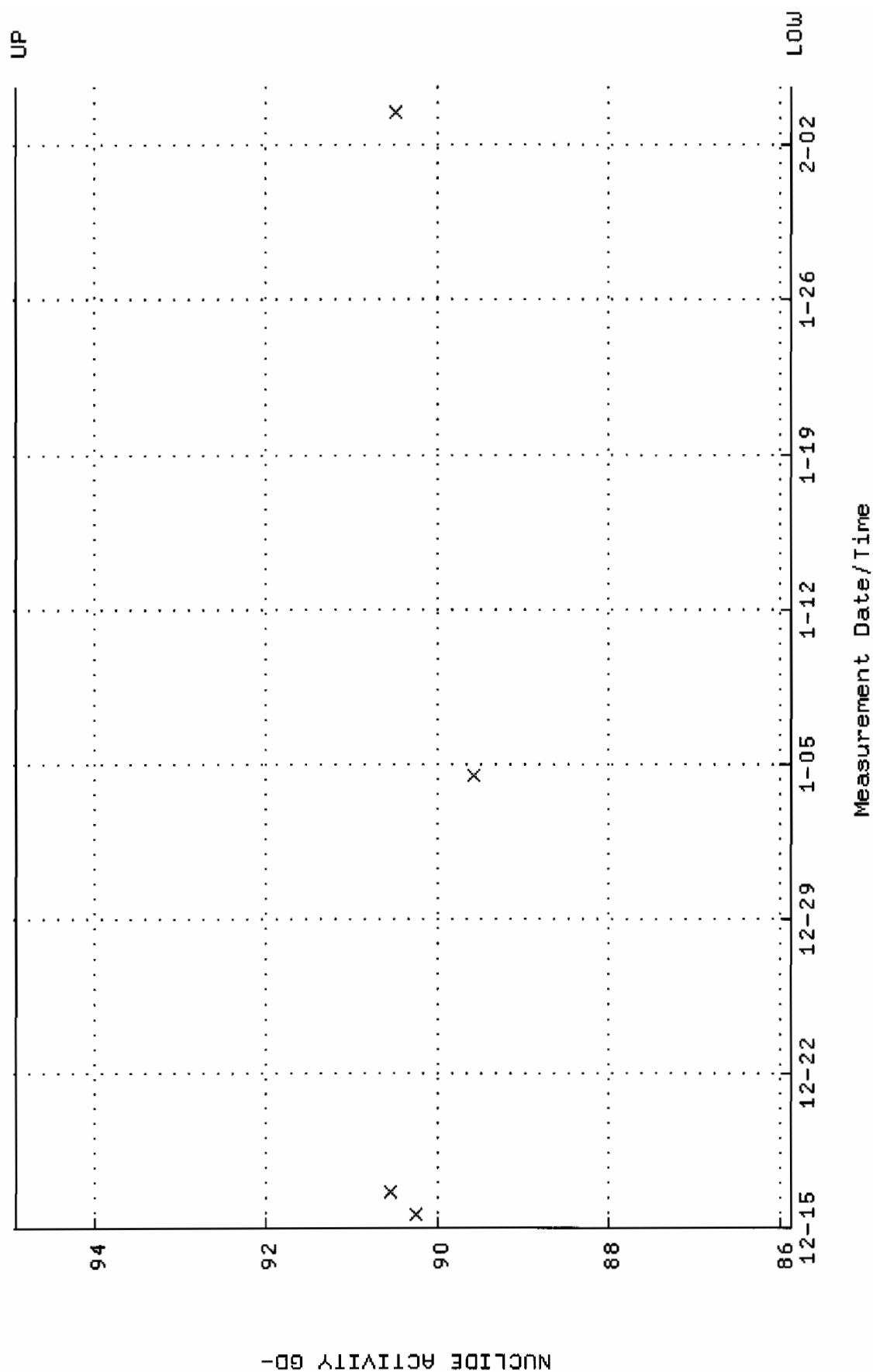
QA filename : DKA100:[ENV_ALPHA.QA.B]B002.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:31 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



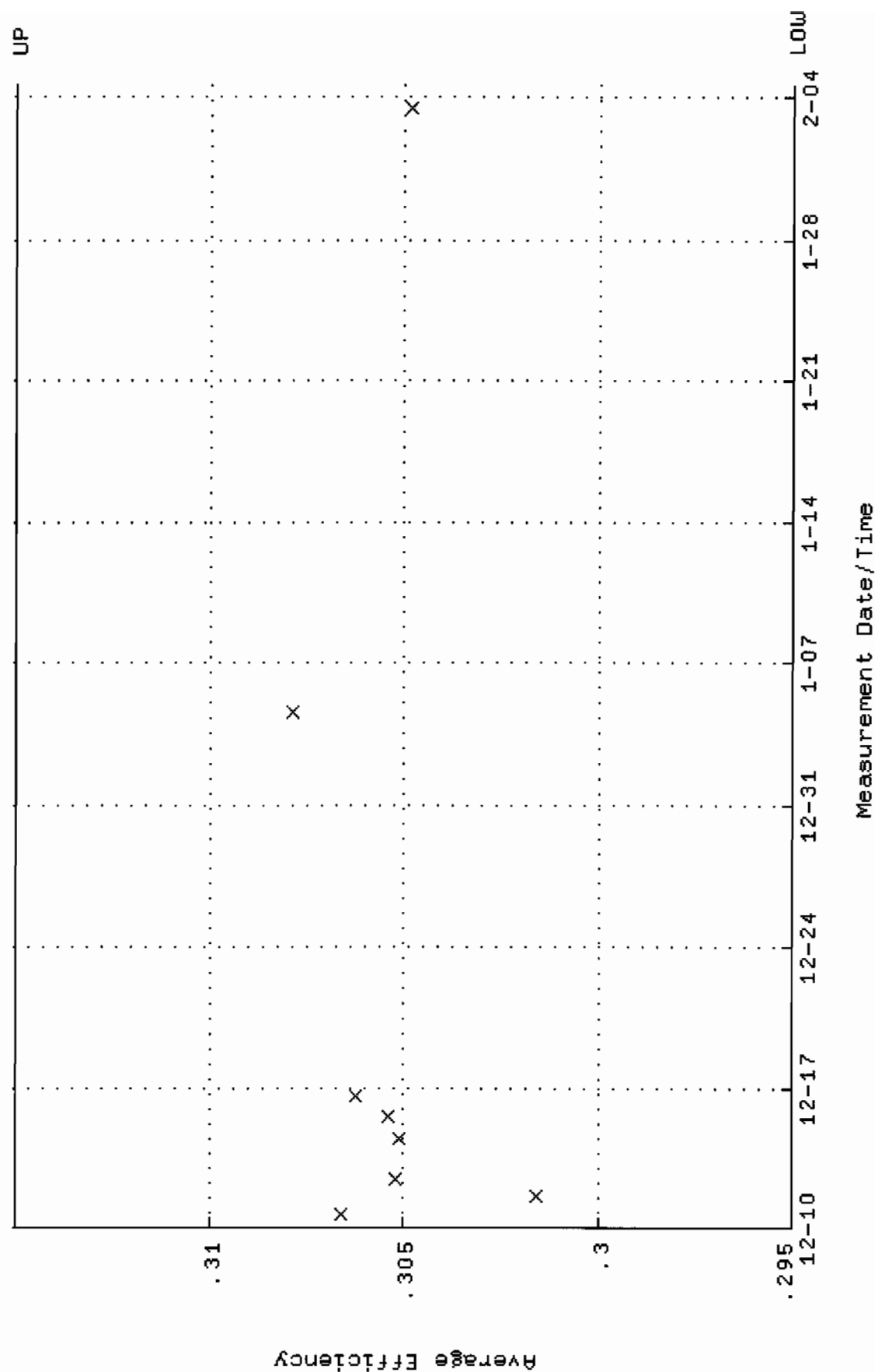
QA filename : DKA100:[ENV_ALPHA.QA.W]W003.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.299193 through 0.319193



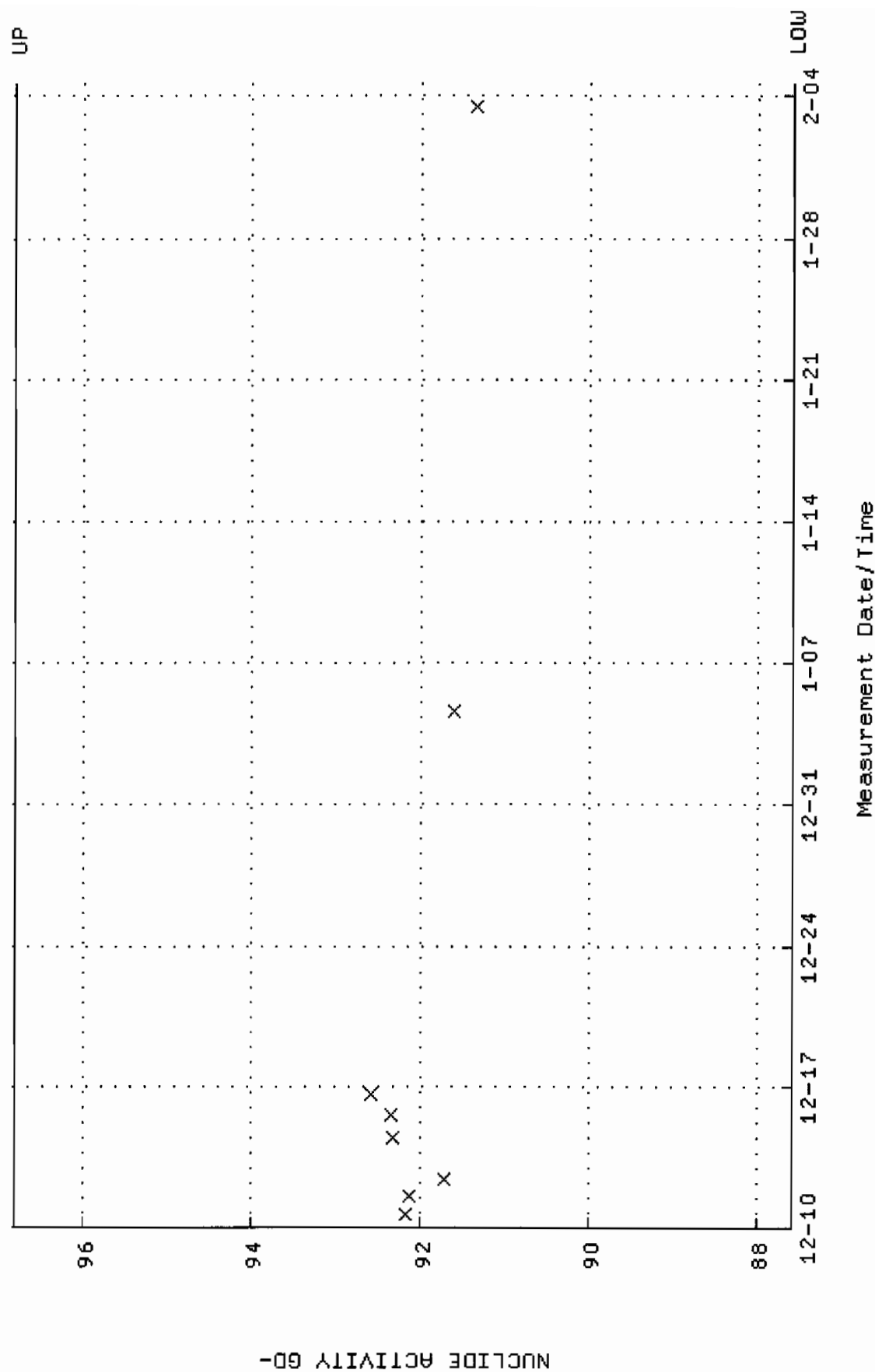
QA filename : DKA100:[ENV_ALPHA.QA.W]W003.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8745 through 94.9139



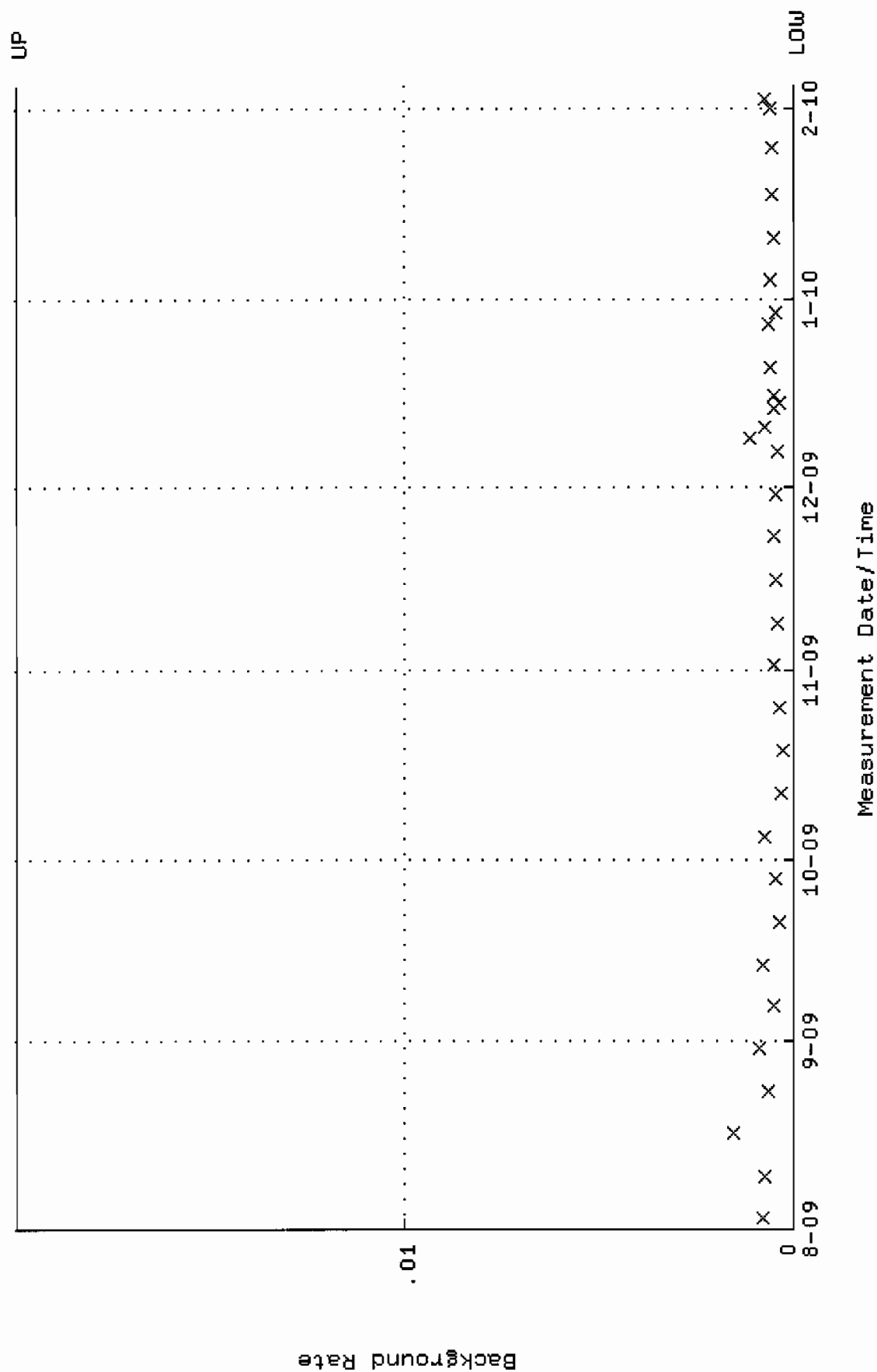
QA filename : DKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 10-DEC-2009 15:29:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.294995 through 0.314995



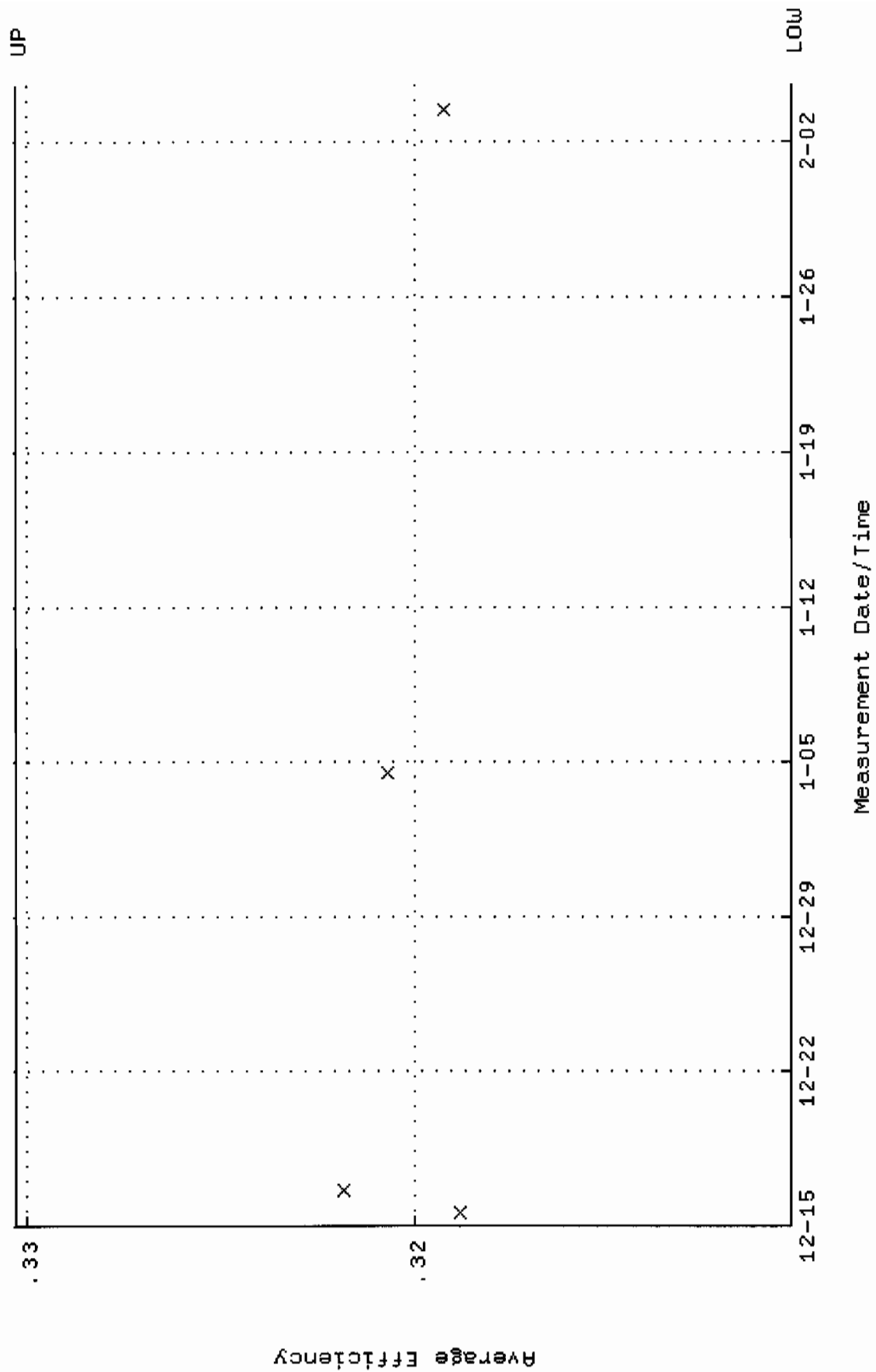
QA filename : OKA100:[ENV_ALPHA.QA.W]W004.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 10-DEC-2009 15:29:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.5863 through 96.8059



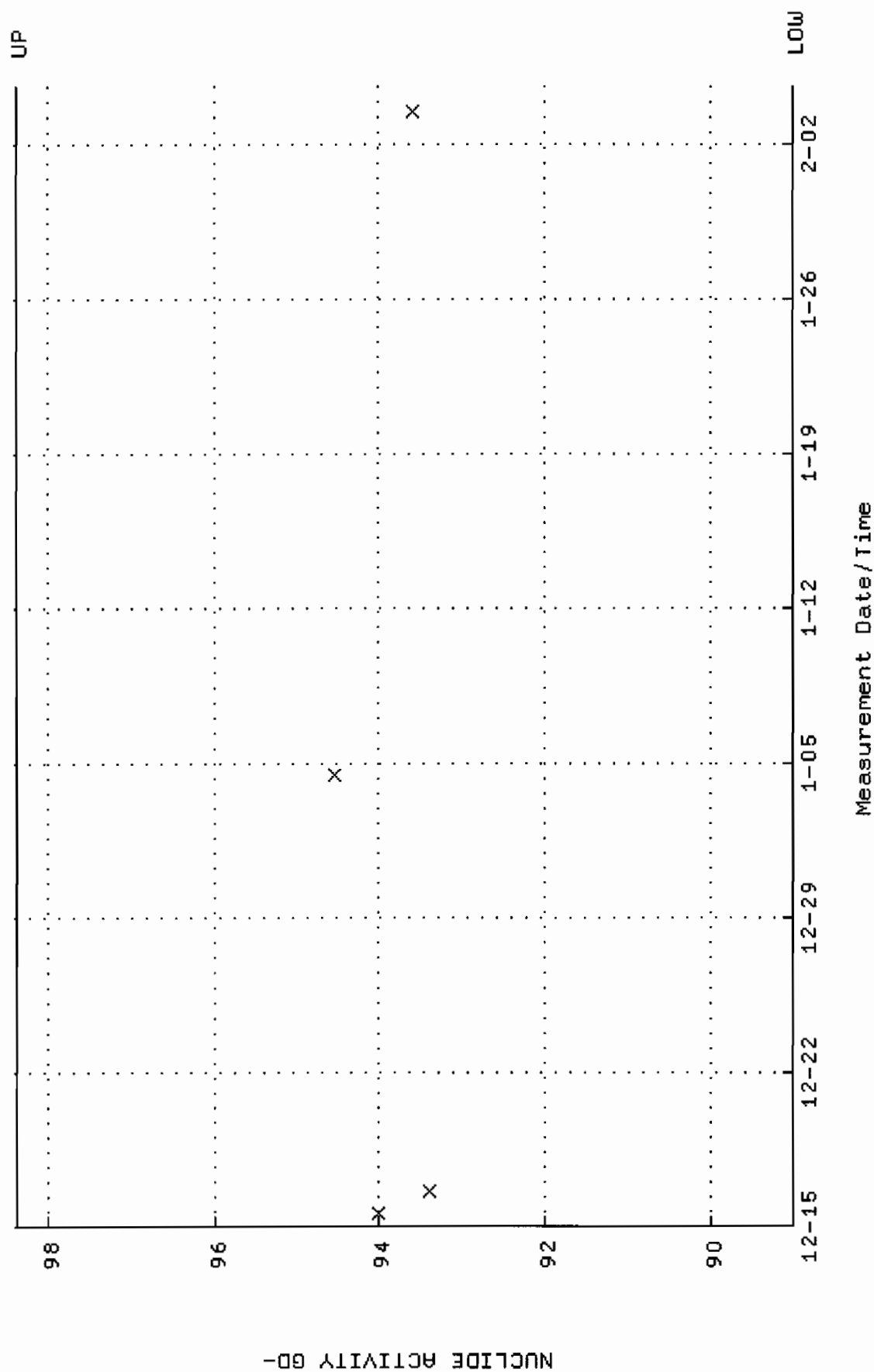
QA filename : DKA100:[ENV_ALPHA.QA.B]B004.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:31 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



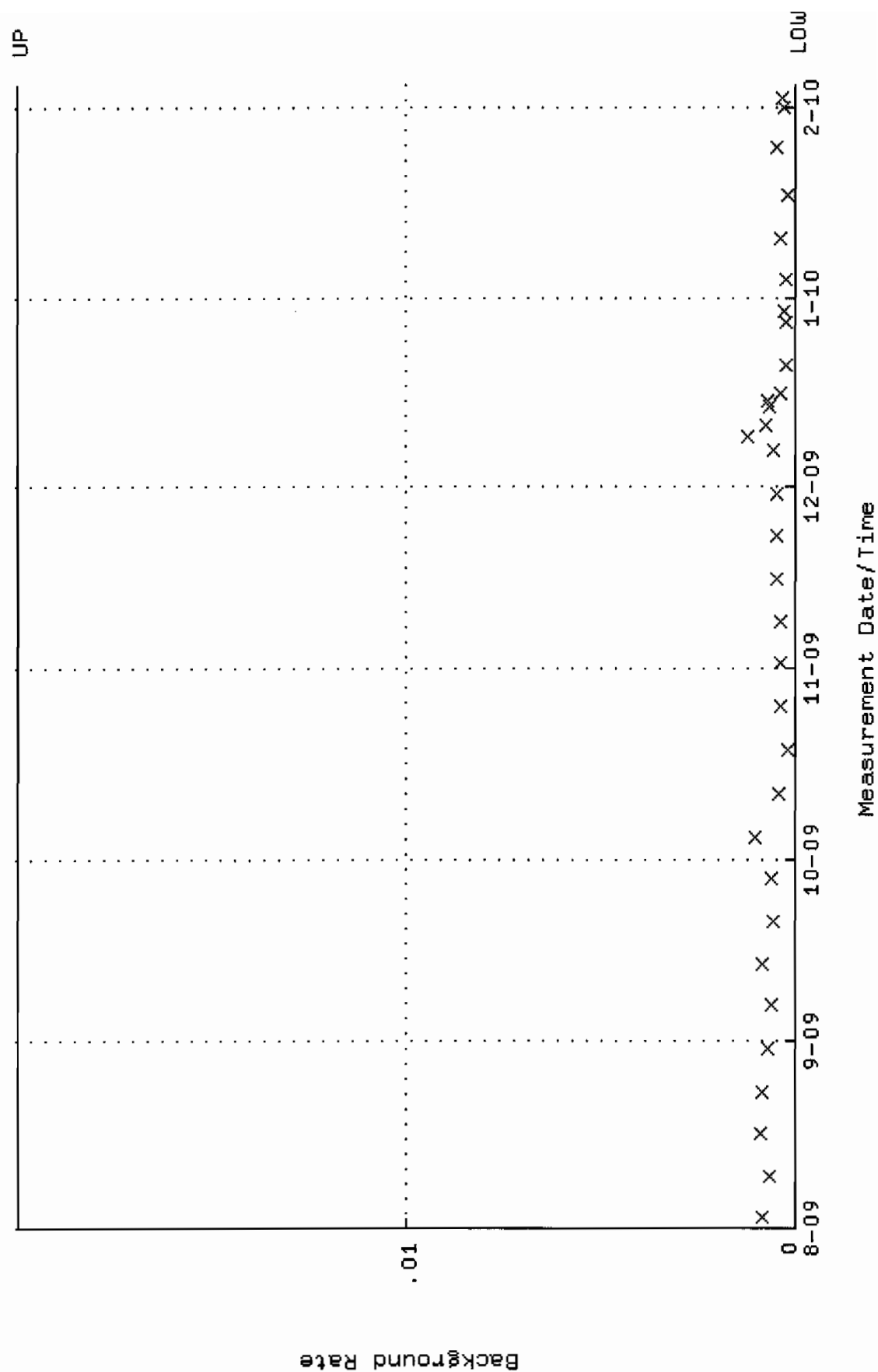
QA filename : DKA100:[ENV_ALPHA.QA.W]W005.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.310305 through 0.330305



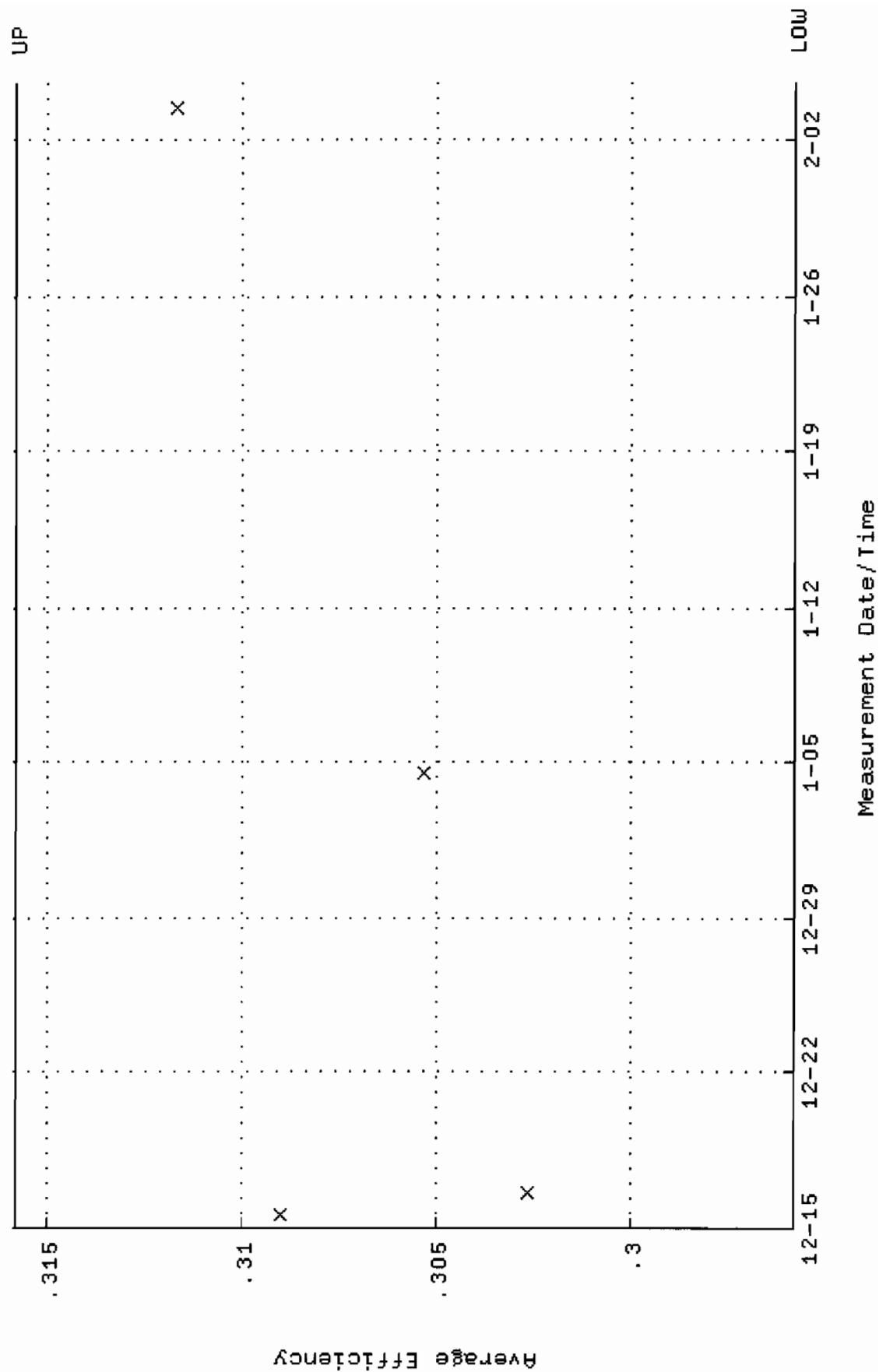
QA filename : DKA100:[ENV_ALPHA.QA.W]W005.QAF;6
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.0042 through 98.3730



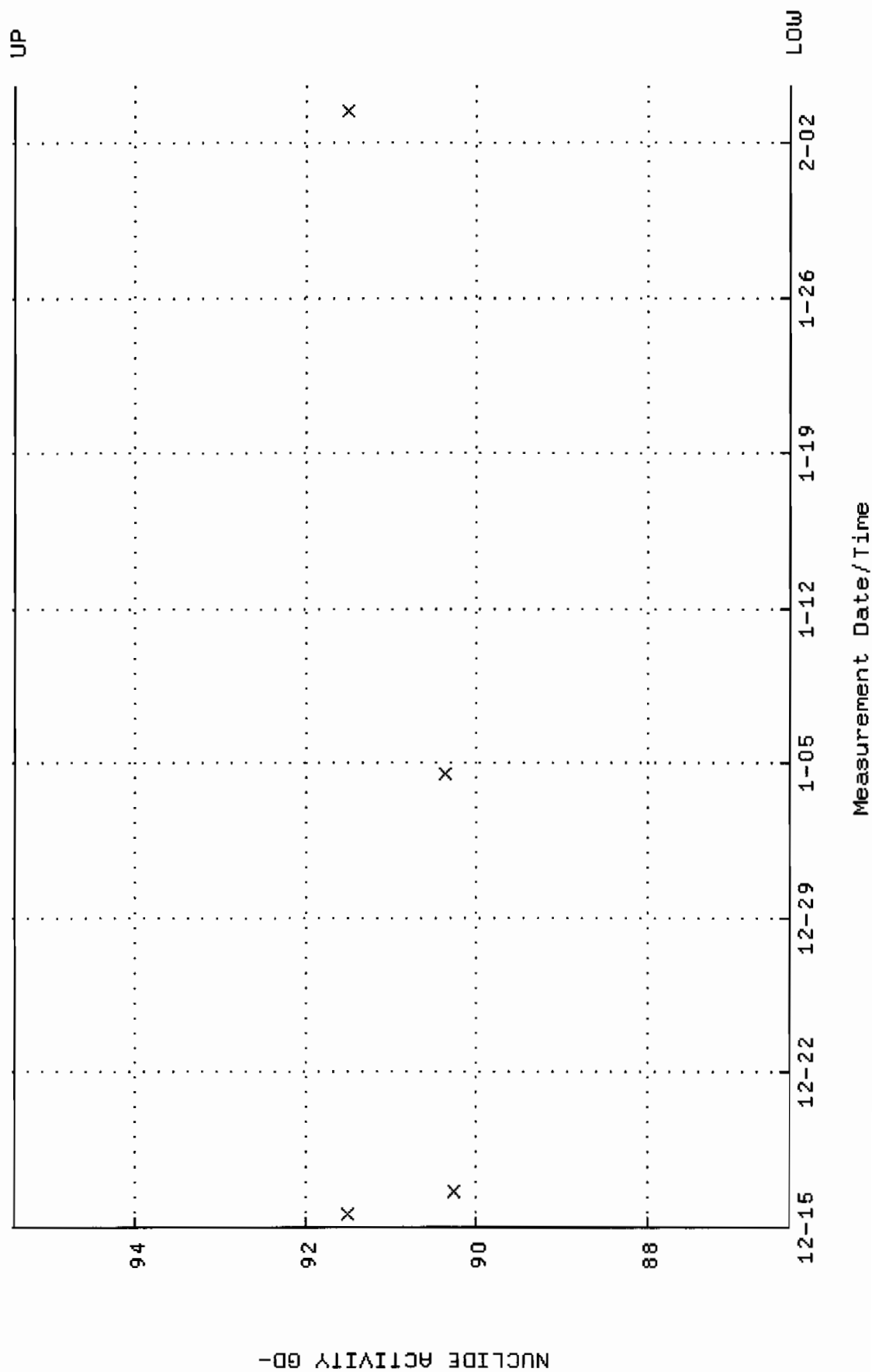
QA filename : DKA100:[ENV_ALPHA.QA.B]B0005.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:31 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



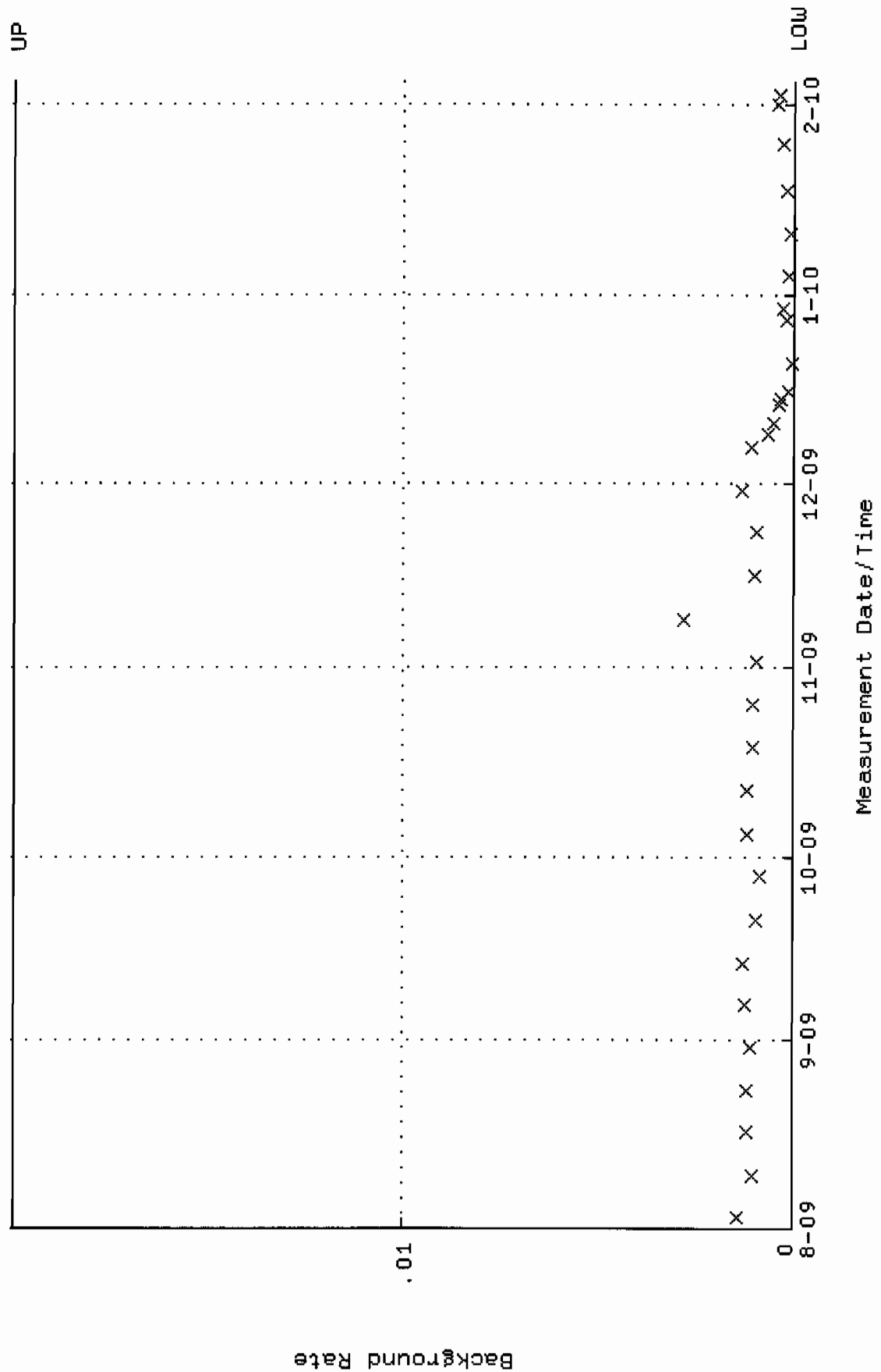
QA filename : DKA100:[ENV_ALPHA,QA.W]W006.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.295821 through 0.315821



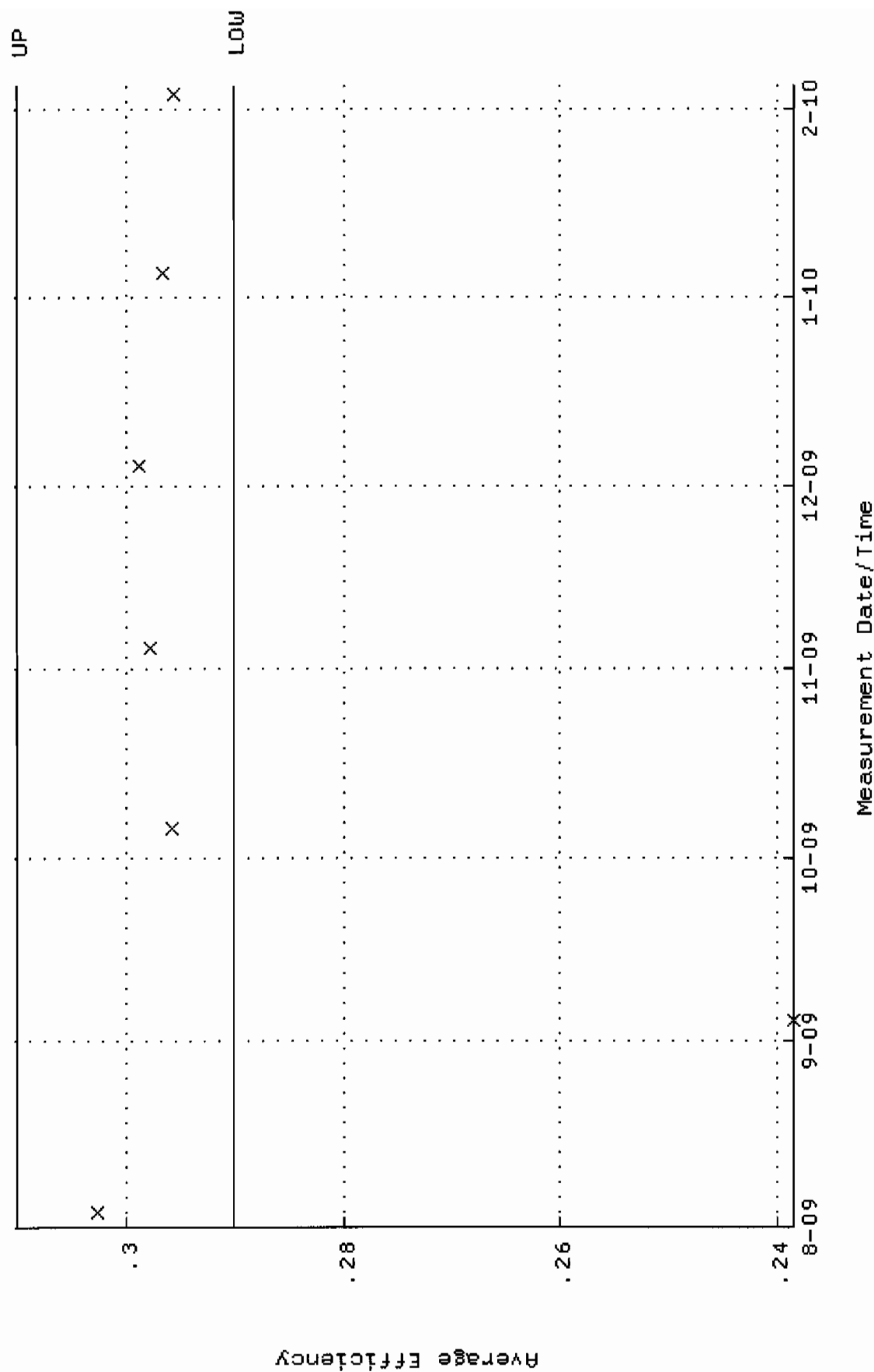
QA filename : DKA100:[ENV_ALPHA.QA.W]W006.QAF;6
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-DEC-2009 14:48:34 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.3237 through 95.4105



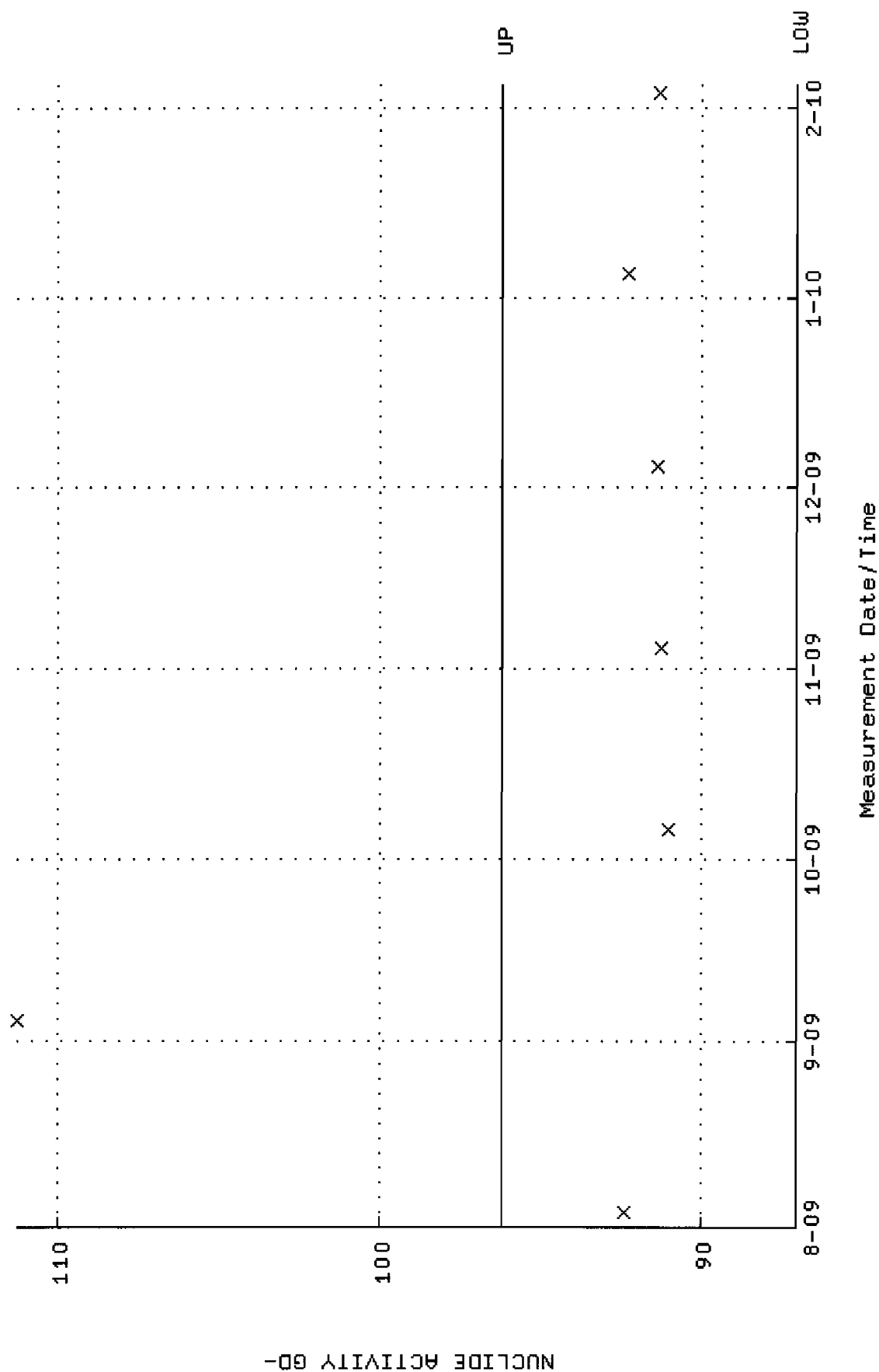
QA filename : DKA100:[ENV_ALPHA.QA.B]B006.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:31 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



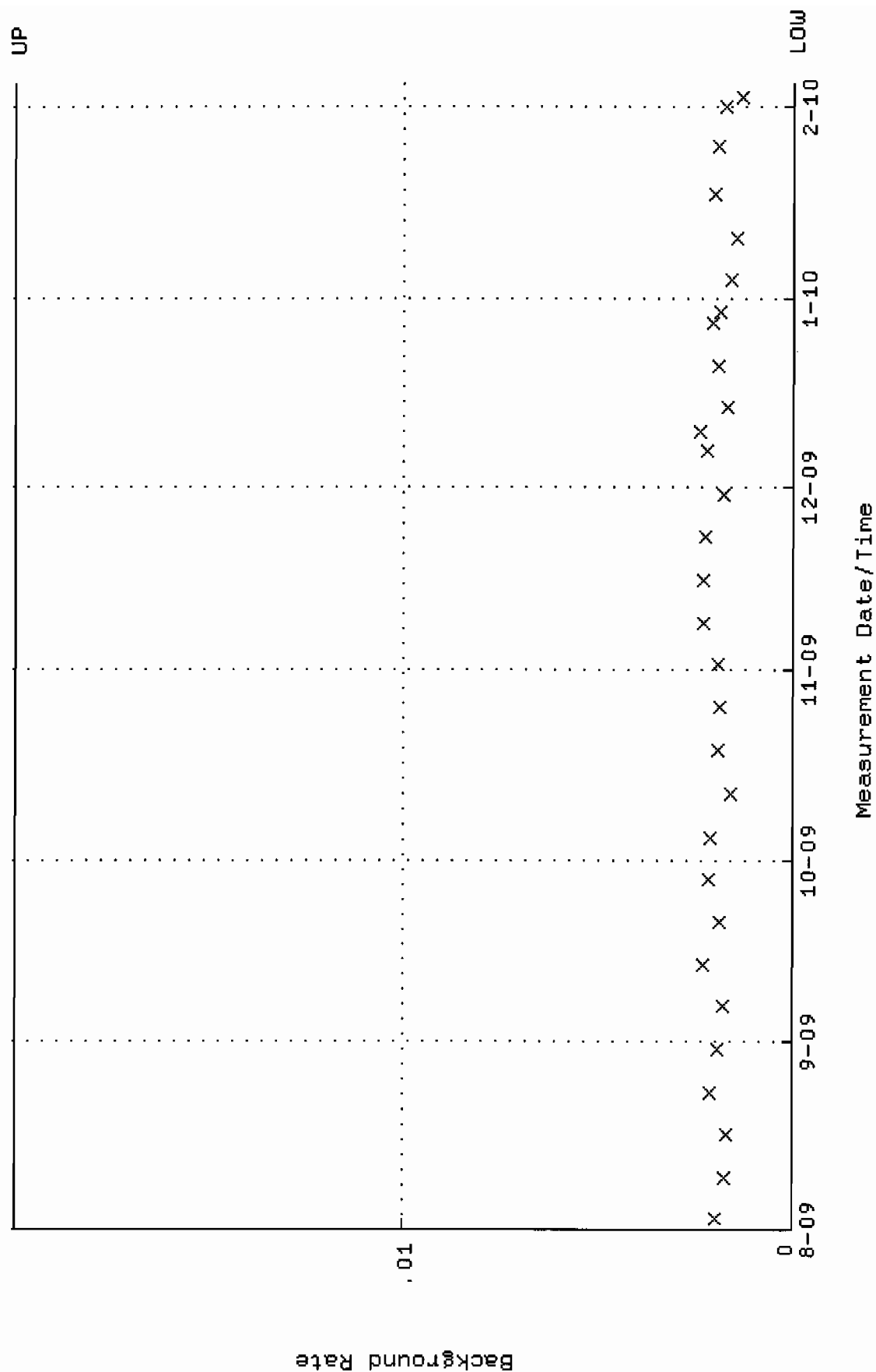
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.290108 through 0.310108



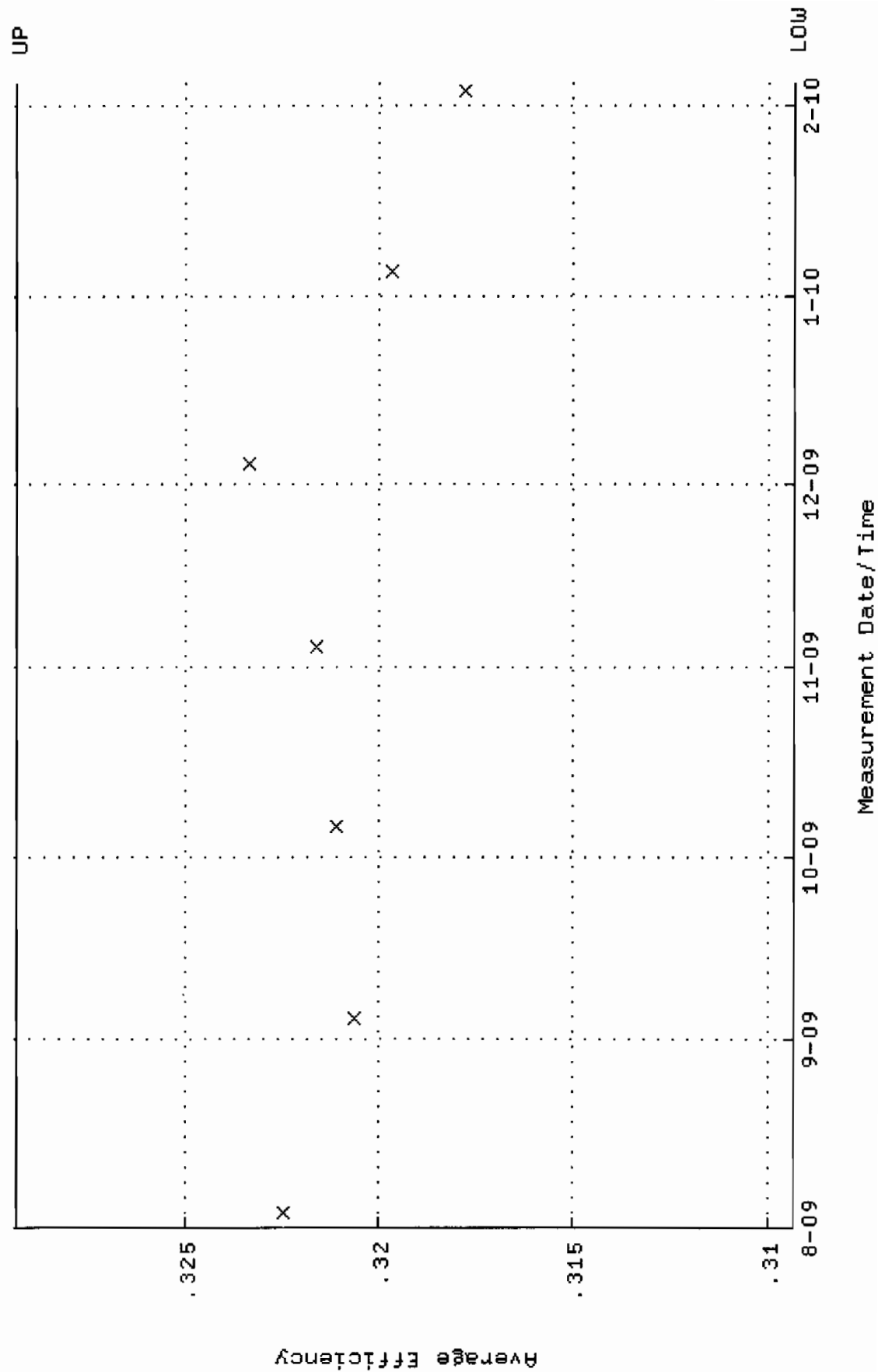
QA filename : DKA100:[ENV_ALPHA.QA.W]W007.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.0687 through 96.2339



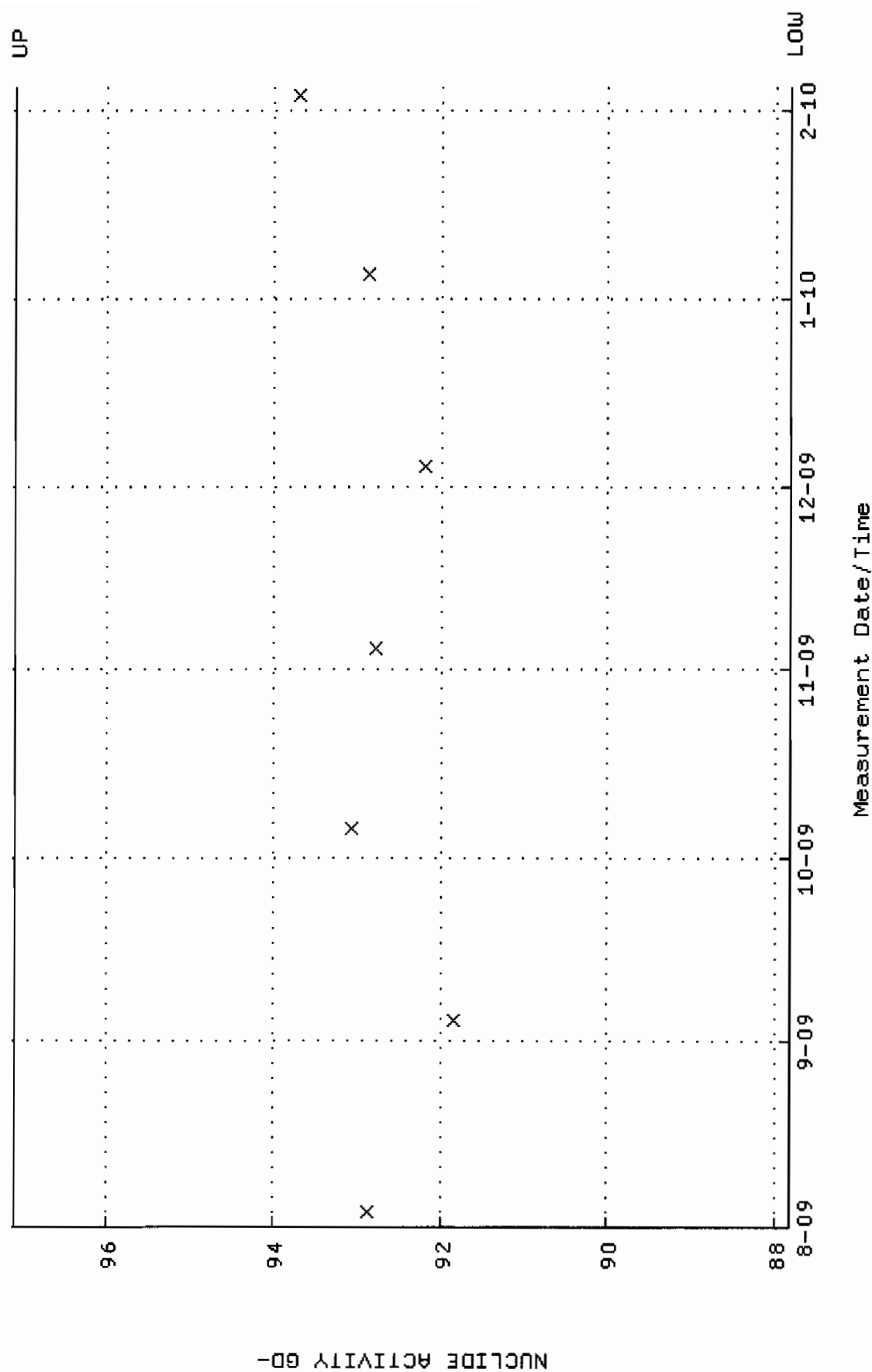
QA filename : DKA100:[ENV_ALPHA.QA.B]B007.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:32 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



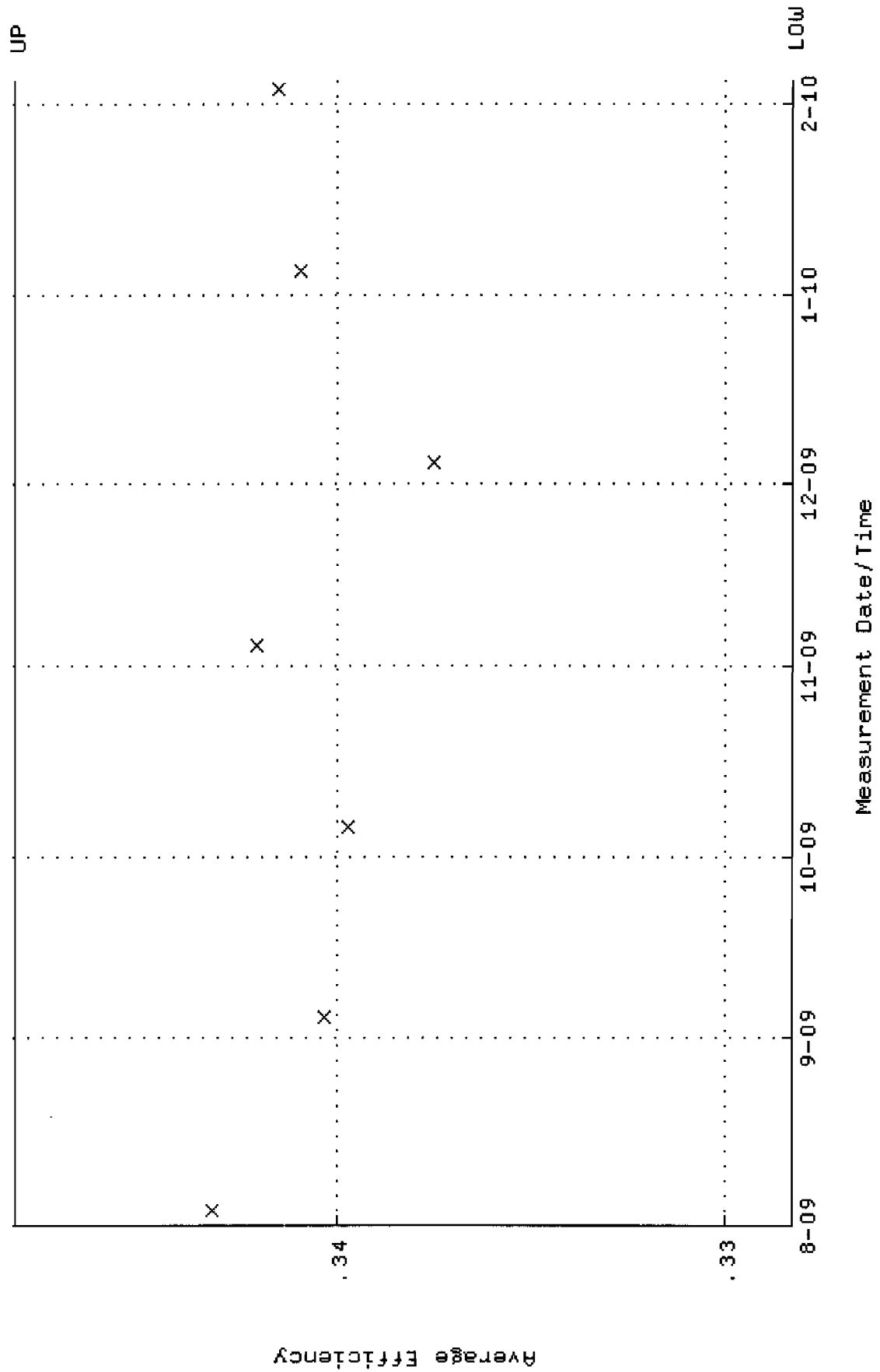
QA filename : DKA100:[ENV-ALPHA.QA.W]W008.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.309318 through 0.329318



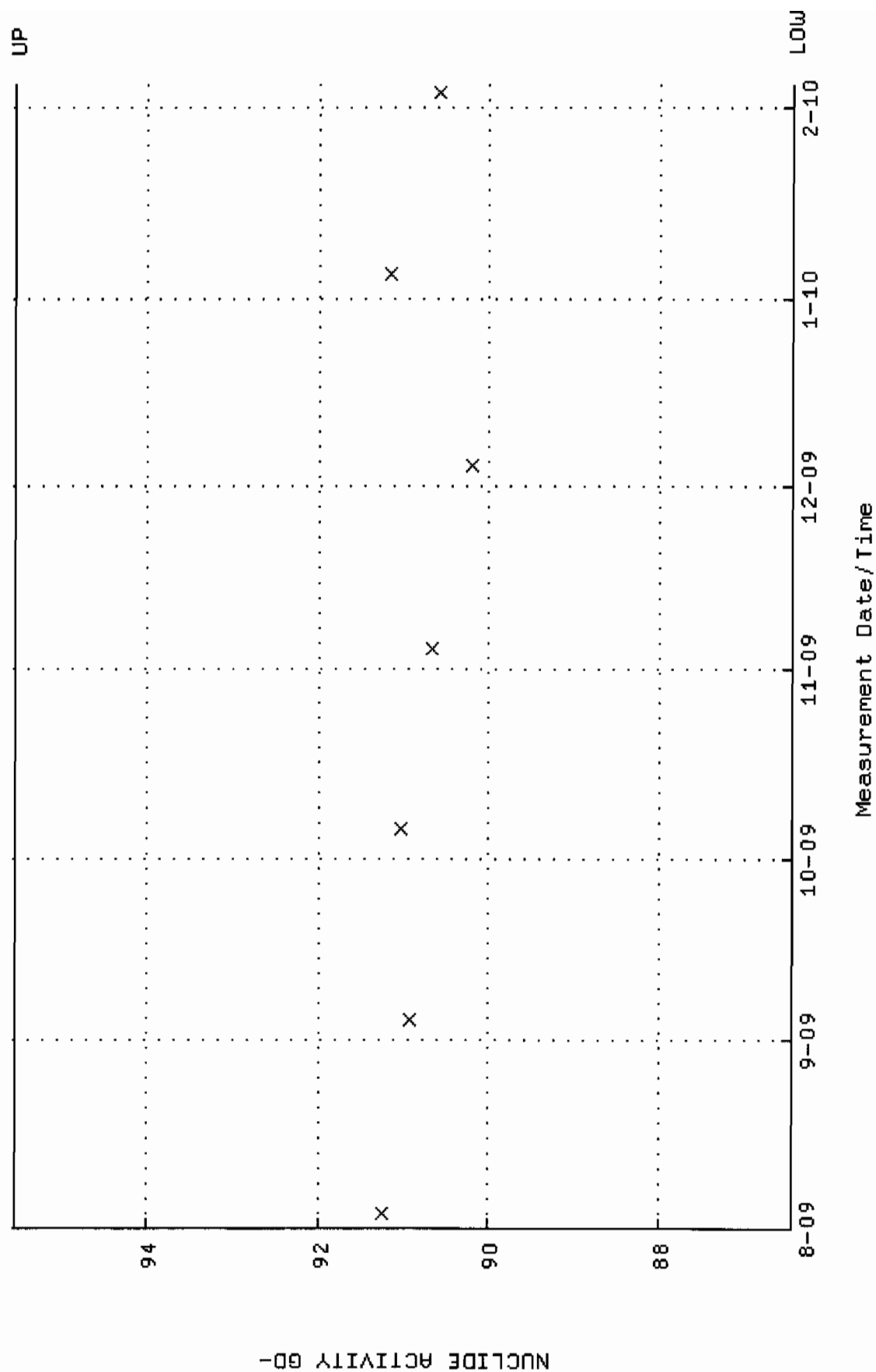
QA filename : DKA100:[ENV_ALPHA.QA.W]W008.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.8346 through 97.0804



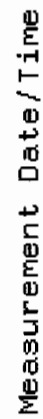
QA filename : DKA100:[ENV_ALPHA.QA.W]W009.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.328261 through 0.348261



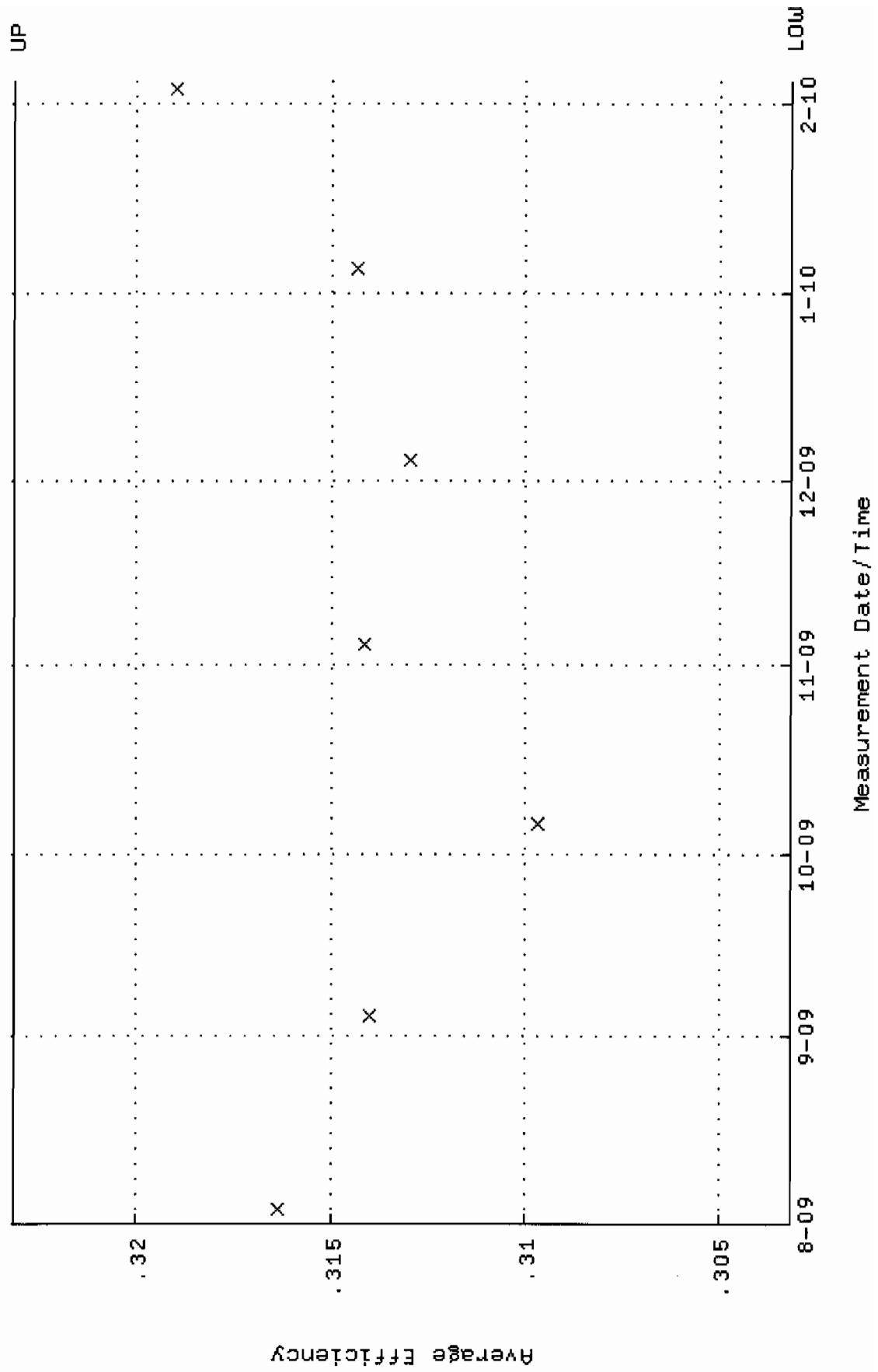
QA filename : DKA100:[ENV_ALPHA.QA.W]W009.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.4475 through 95.5473



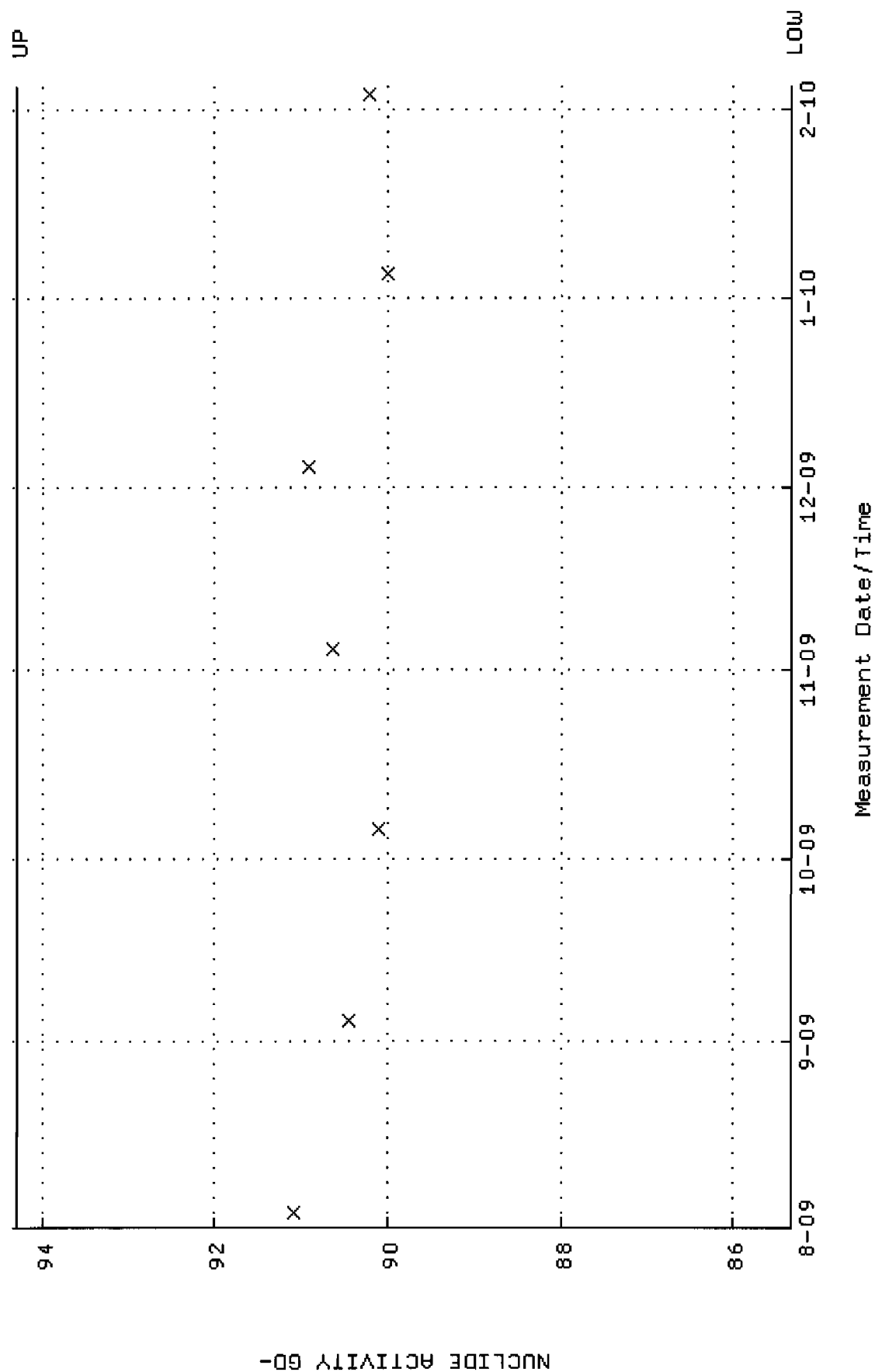
Lower/Upper Lmts: 0.000000E+00 through 2.000000E+02



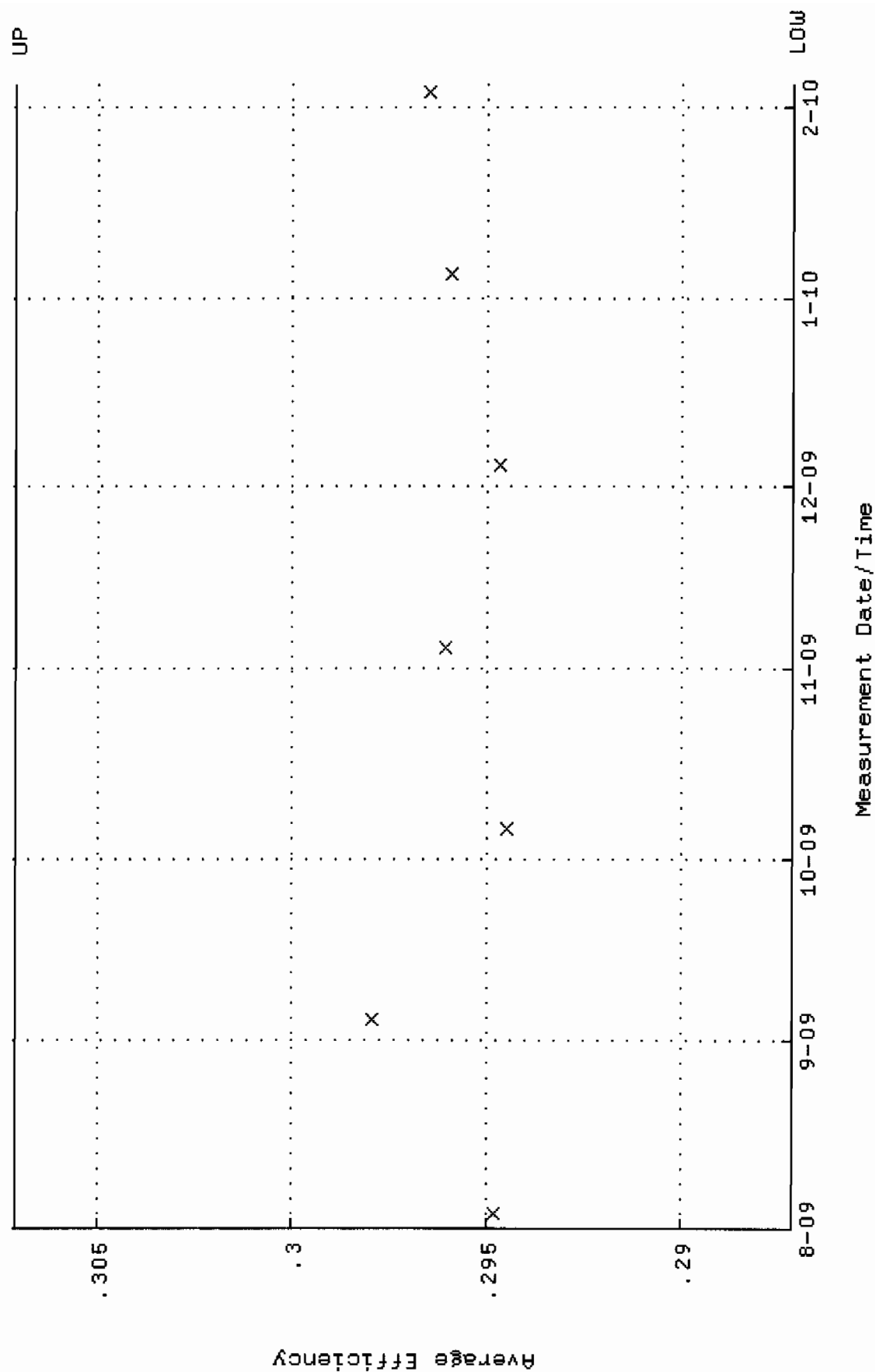
QA filename : DKA100:[ENV_ALPHA.QA.W]W010.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.303169 through 0.323169



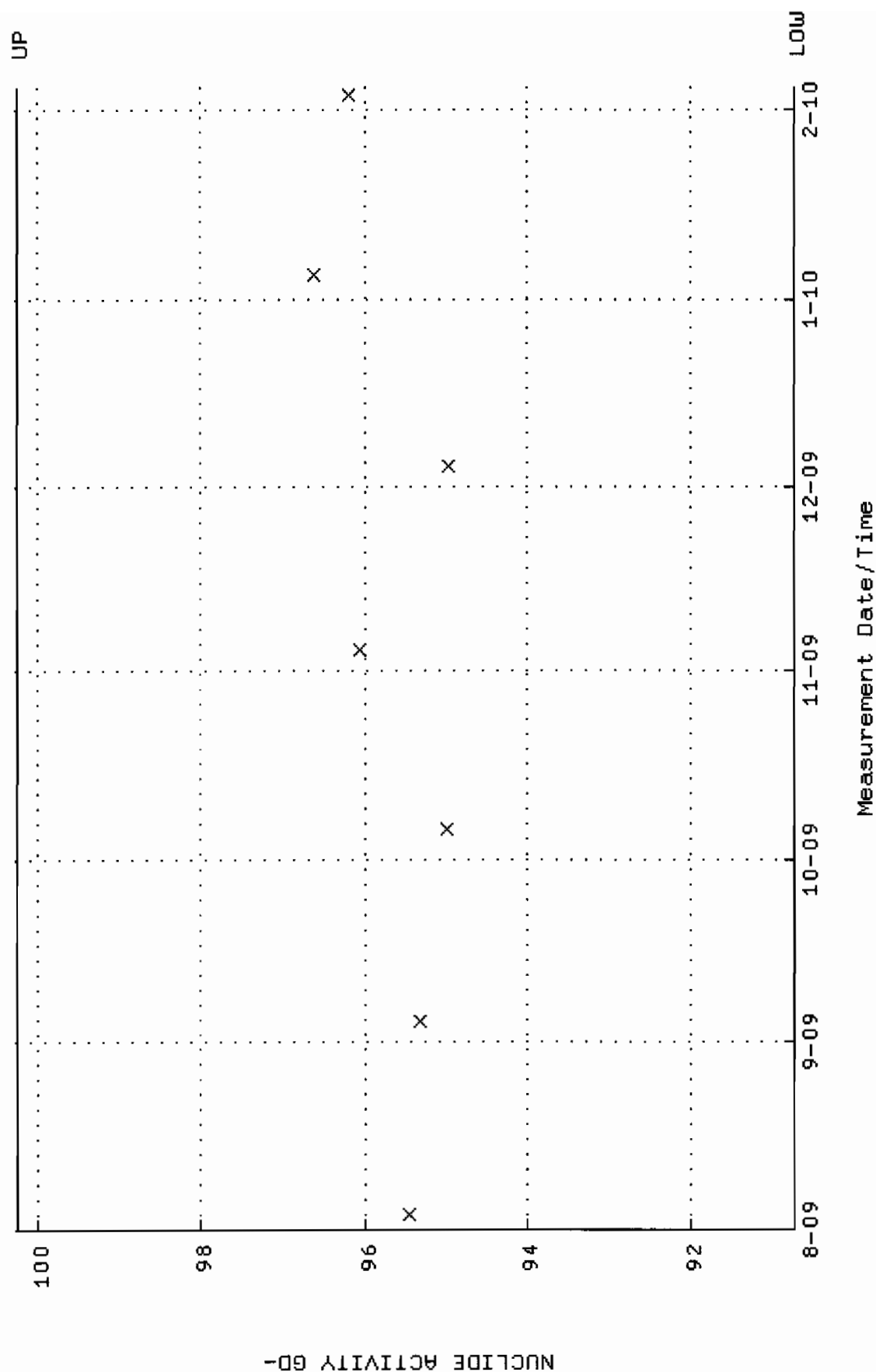
QA filename : DKA100:[ENV_ALPHA.QA.W]W010.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.3273 through 94.3091



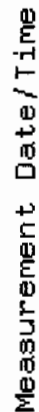
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.287129 through 0.307129



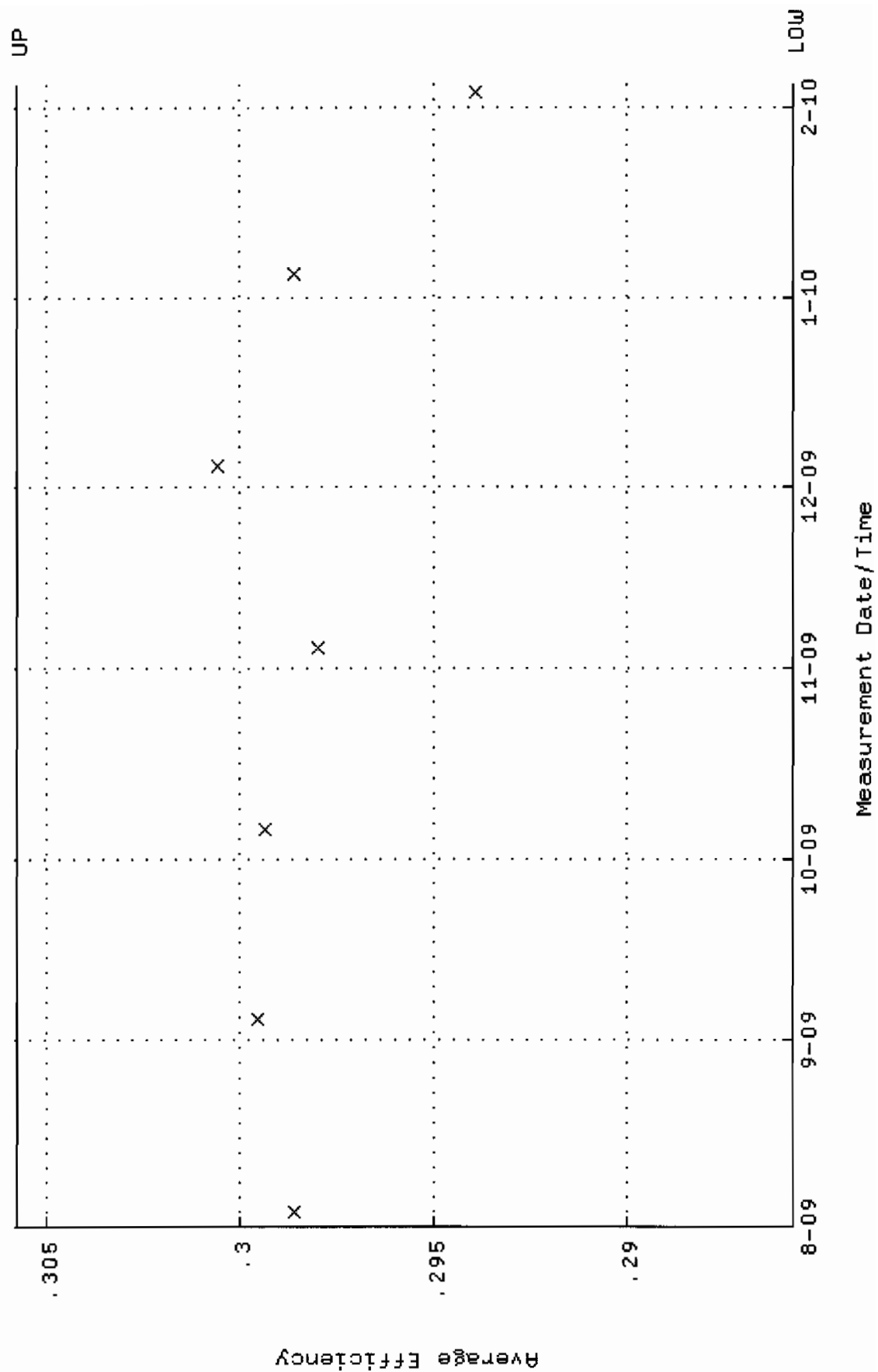
QA filename : DKA100:[ENV_ALPHA.QA.W]w011.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 90.7092 through 100.258



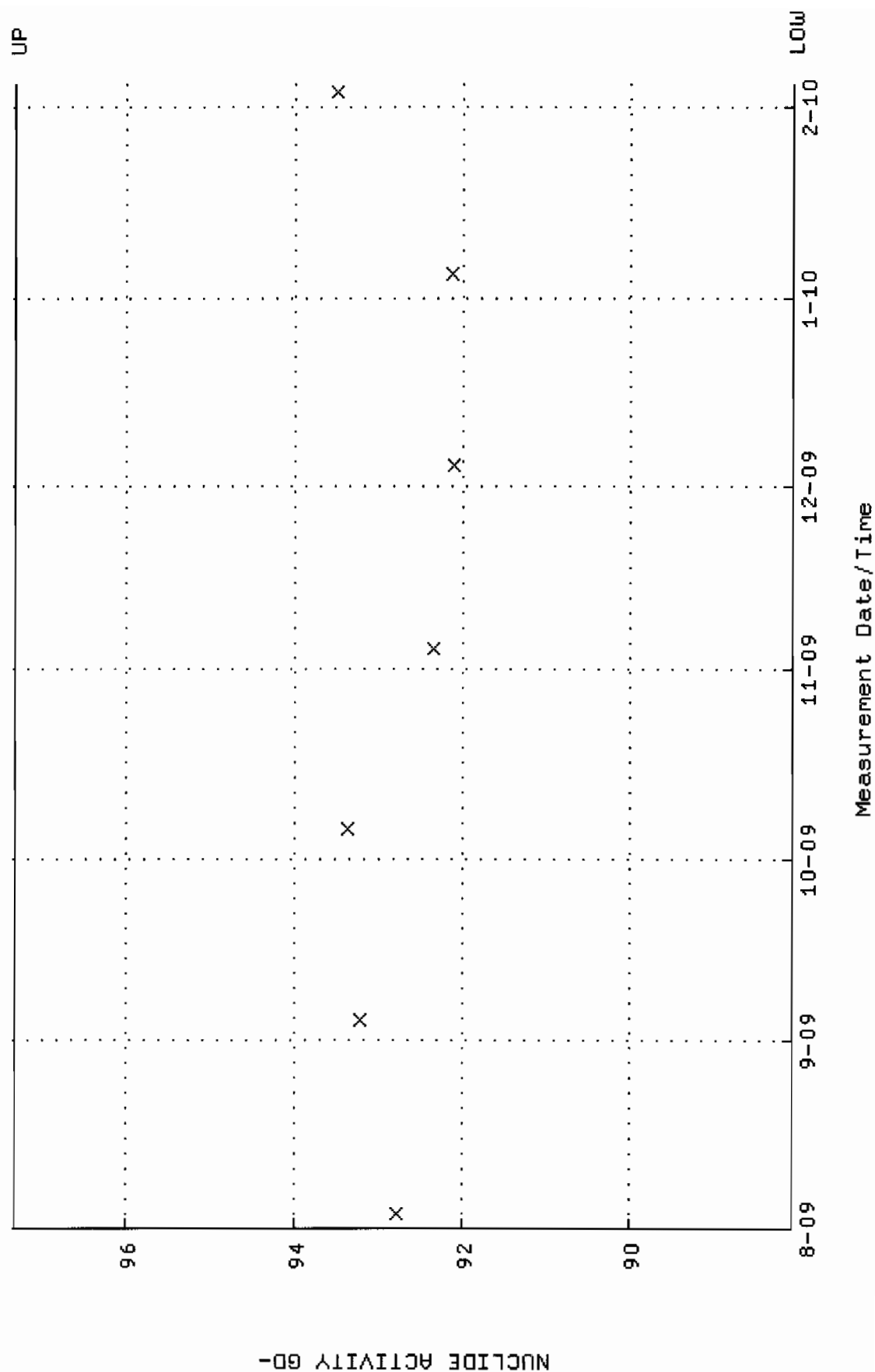
Lower/Upper lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV_ALPHA,QA.W]W012.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.285730 through 0.305730



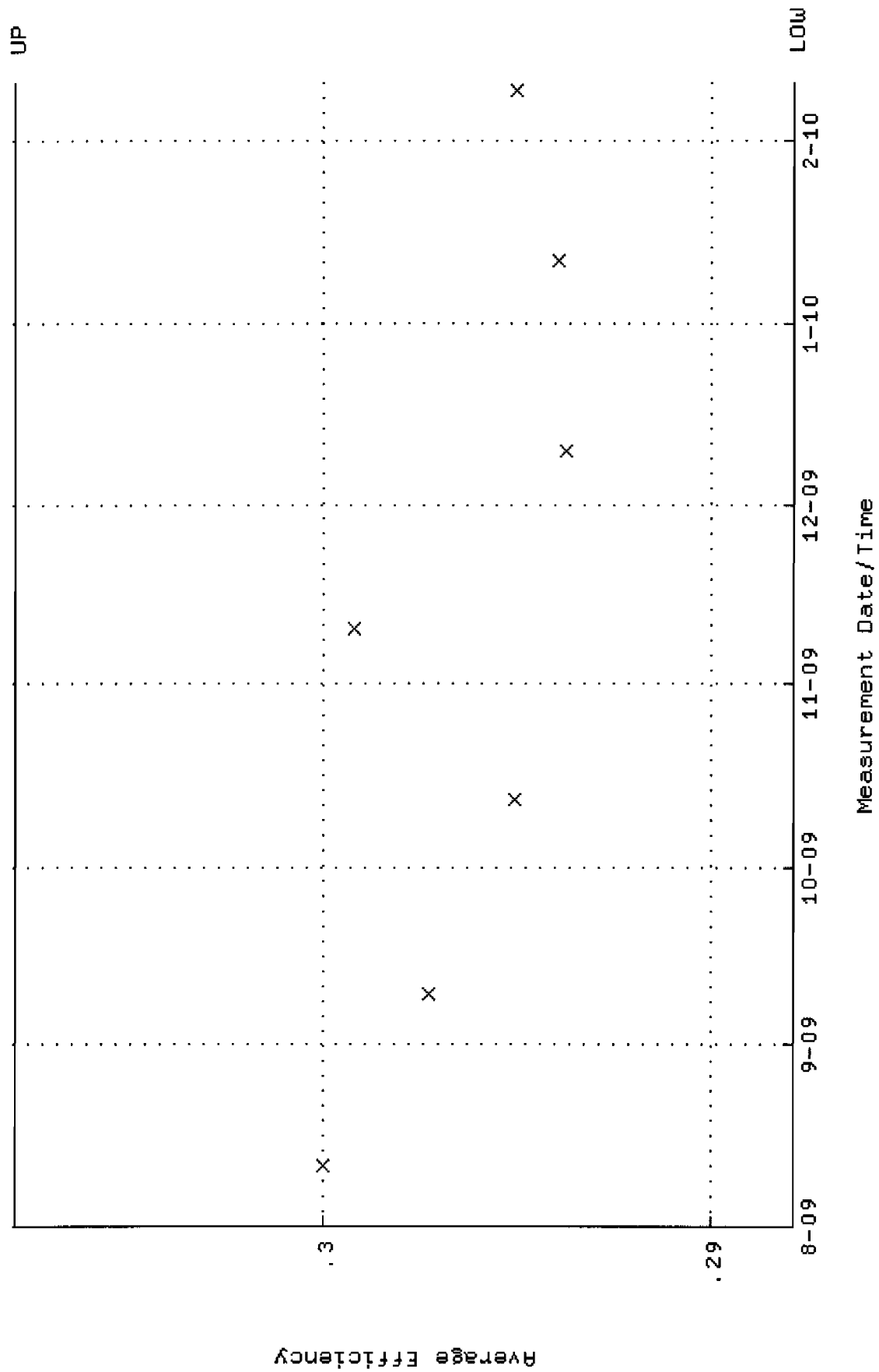
QA filename : DKA100:[ENV_ALPHA.QA.W]W012.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 88.0678 through 97.3382



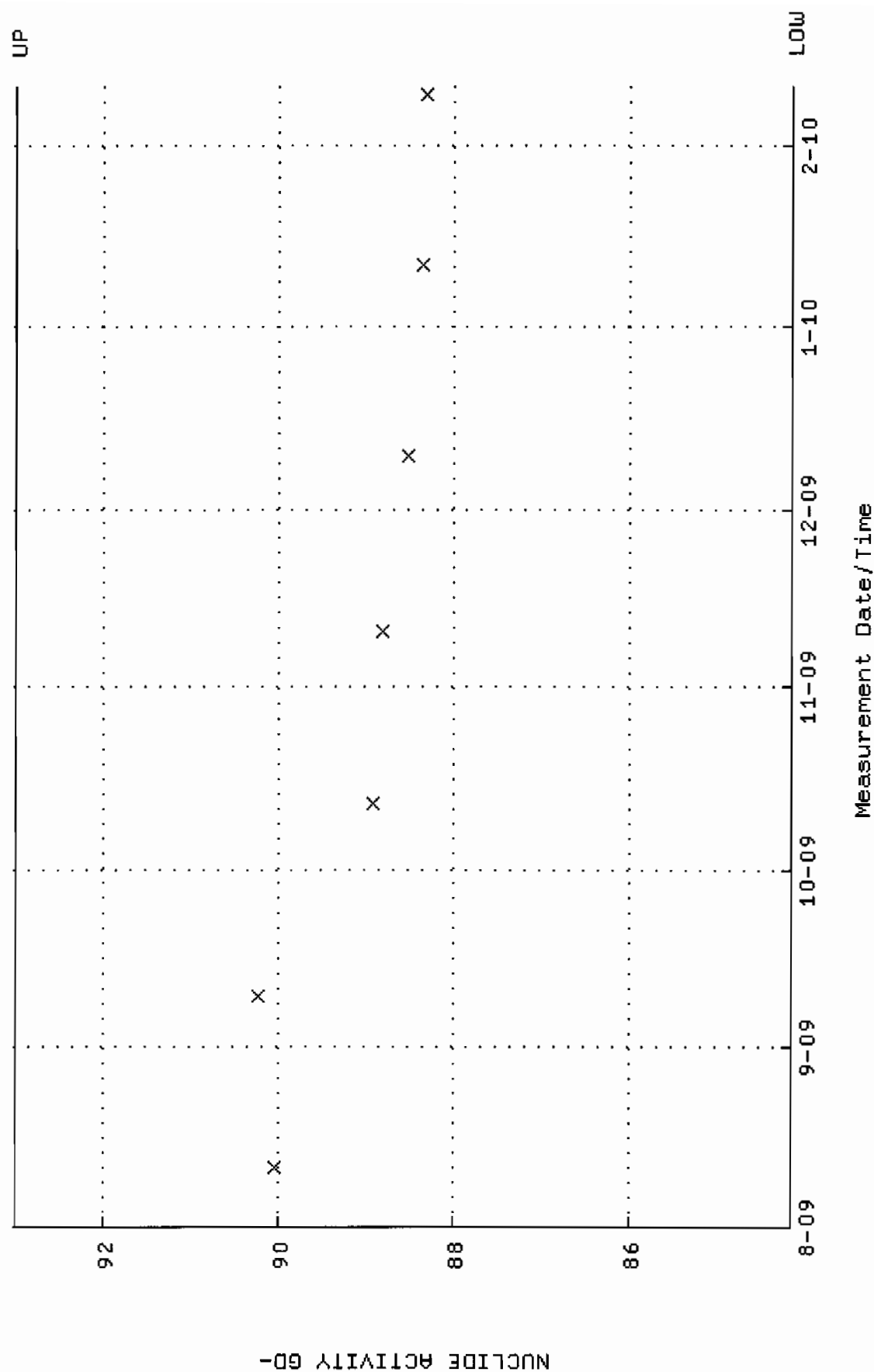
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



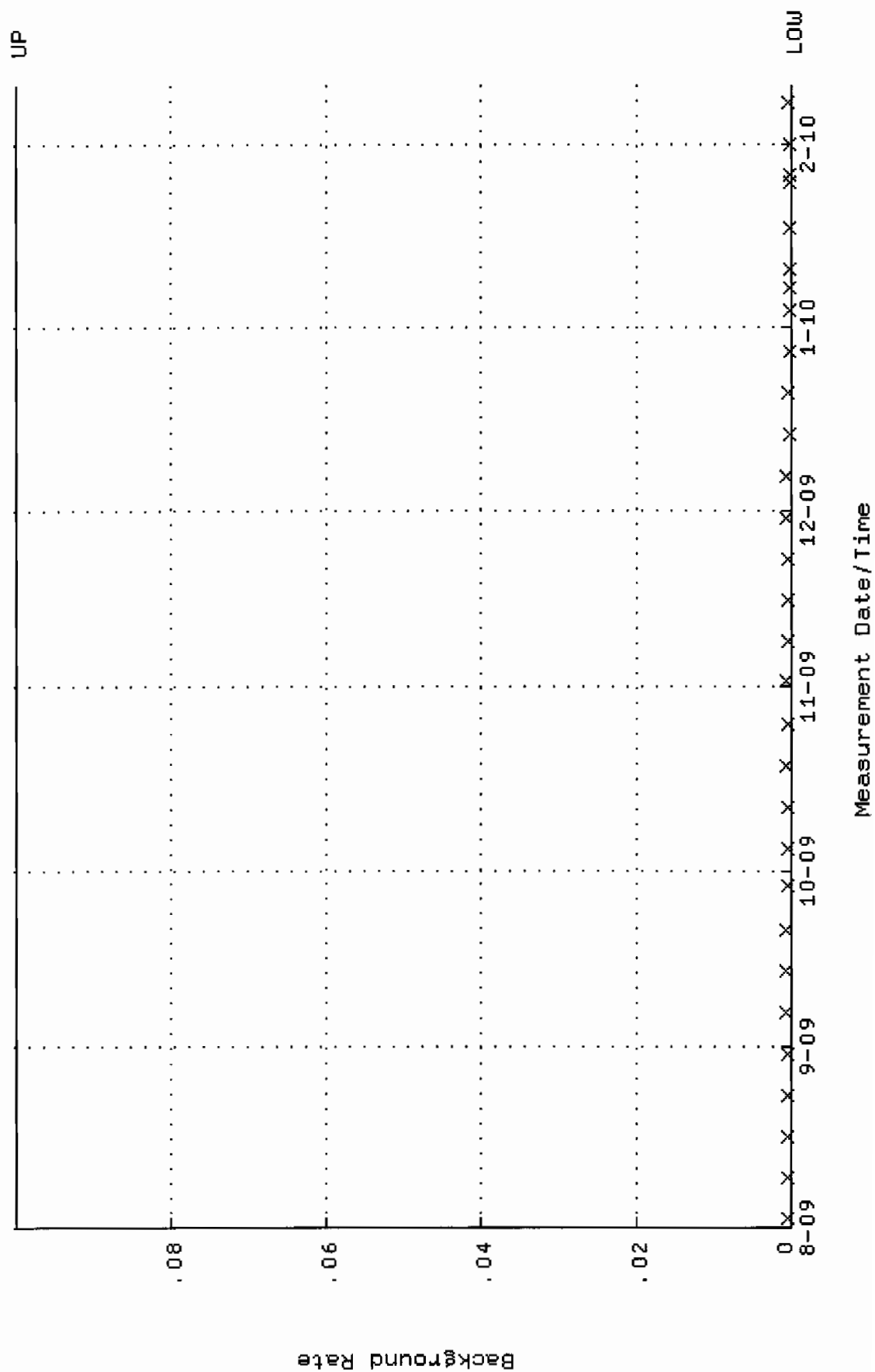
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.287888 through 0.307888



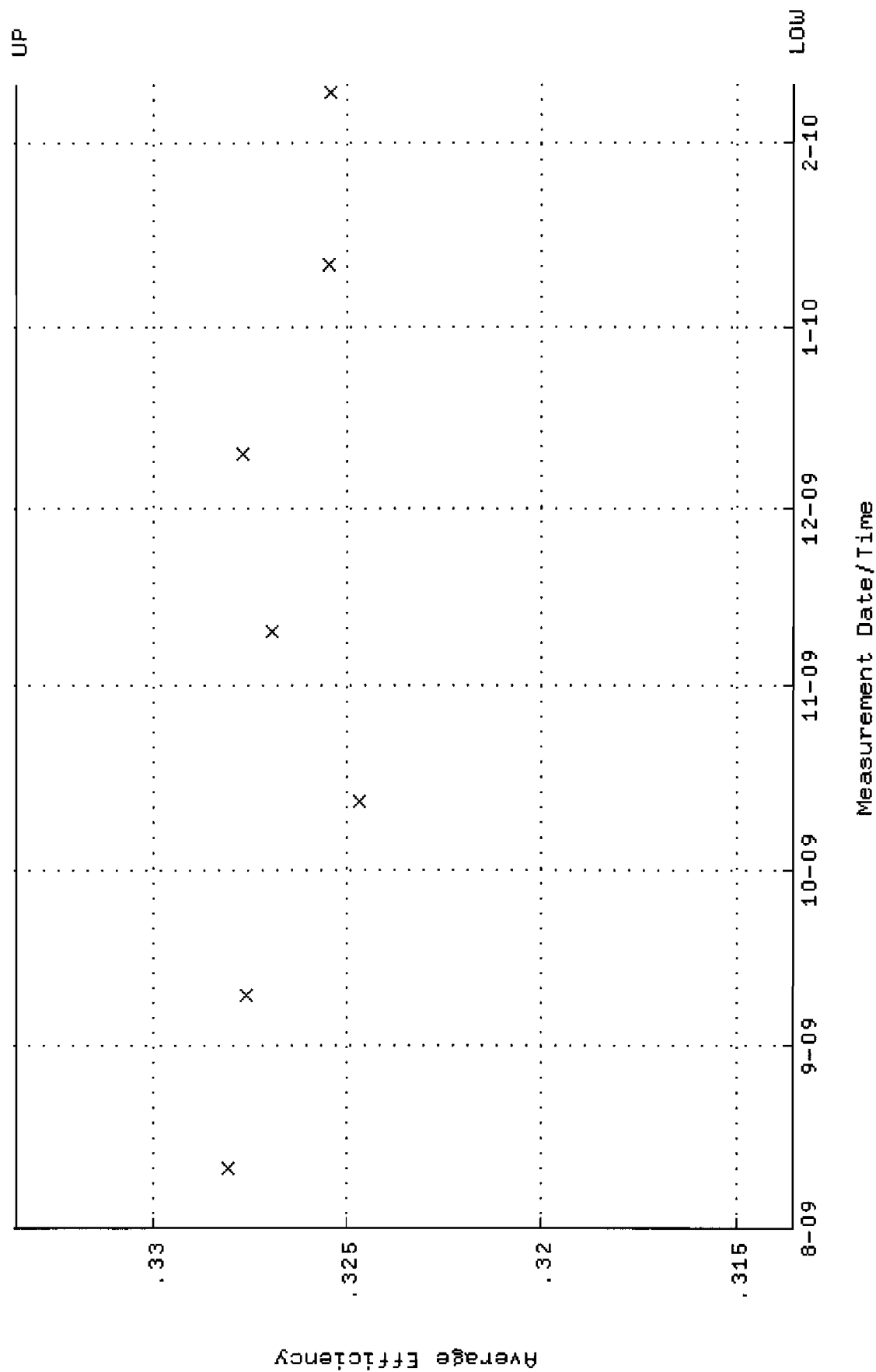
QA filename : DKA100:[ENV_ALPHA.QA.W]W089.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.1413 through 92.9983



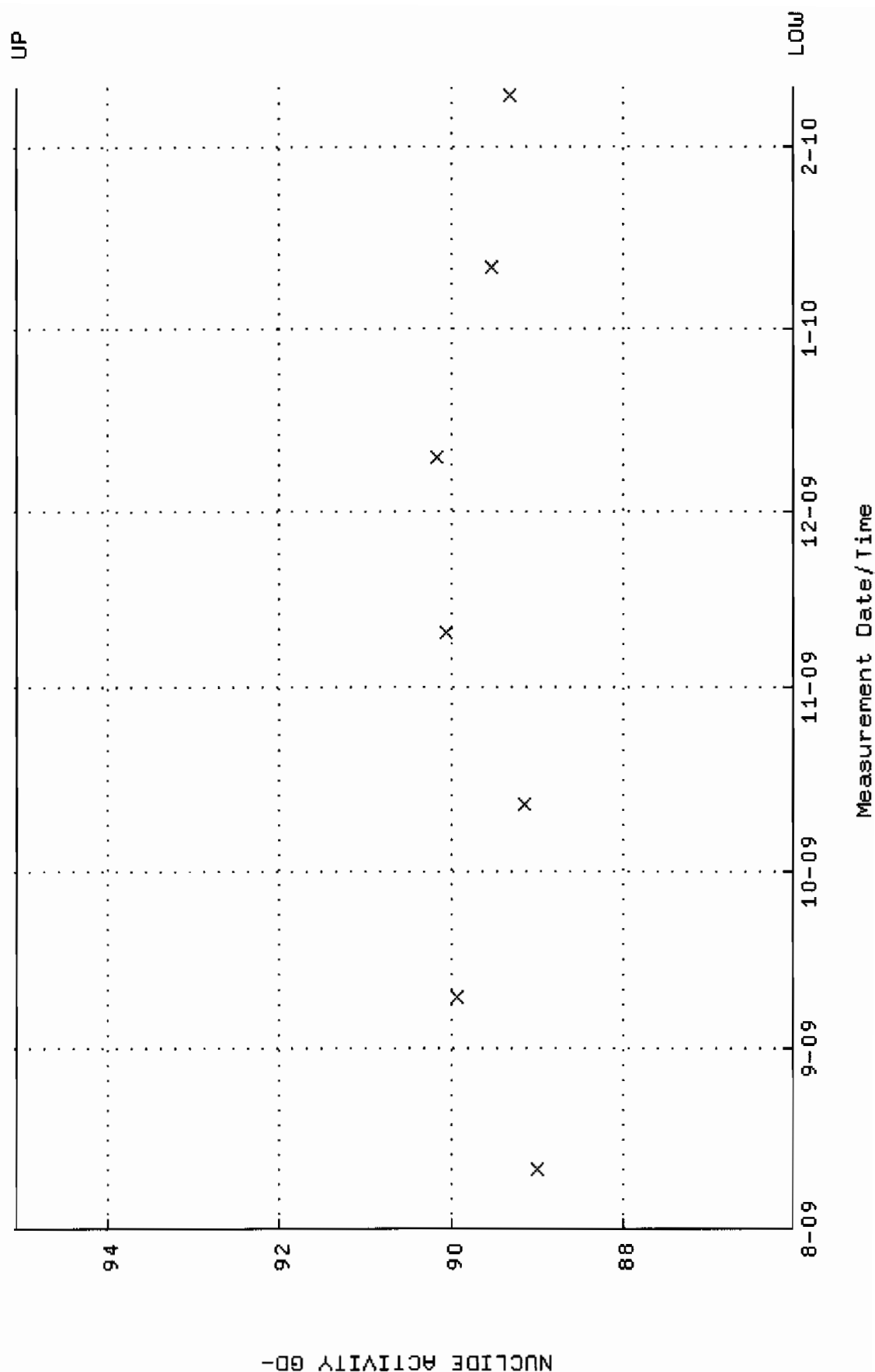
QA filename : DKA100:[ENV_ALPHA.QA.B]B089.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:42 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



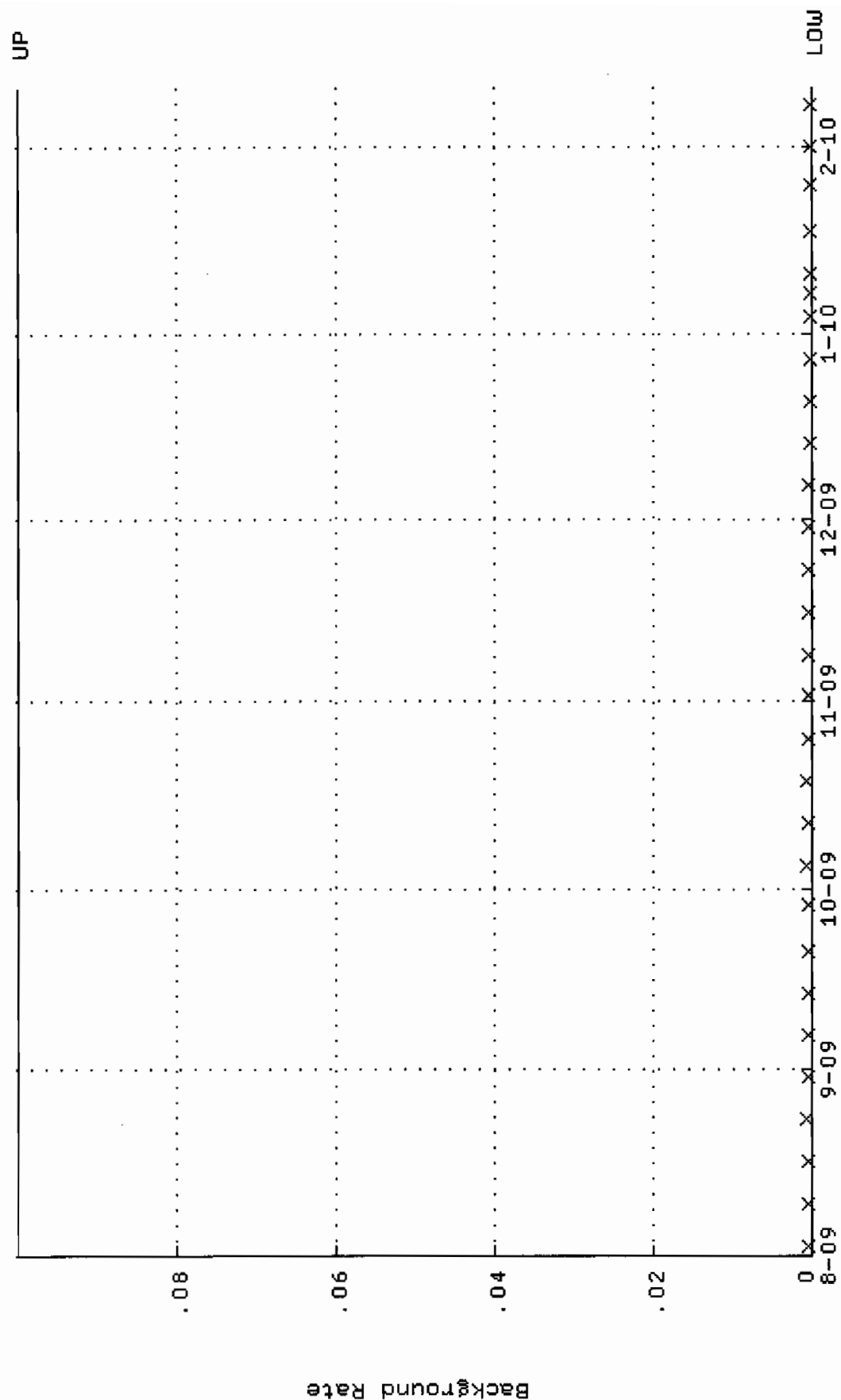
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.313529 through 0.333529



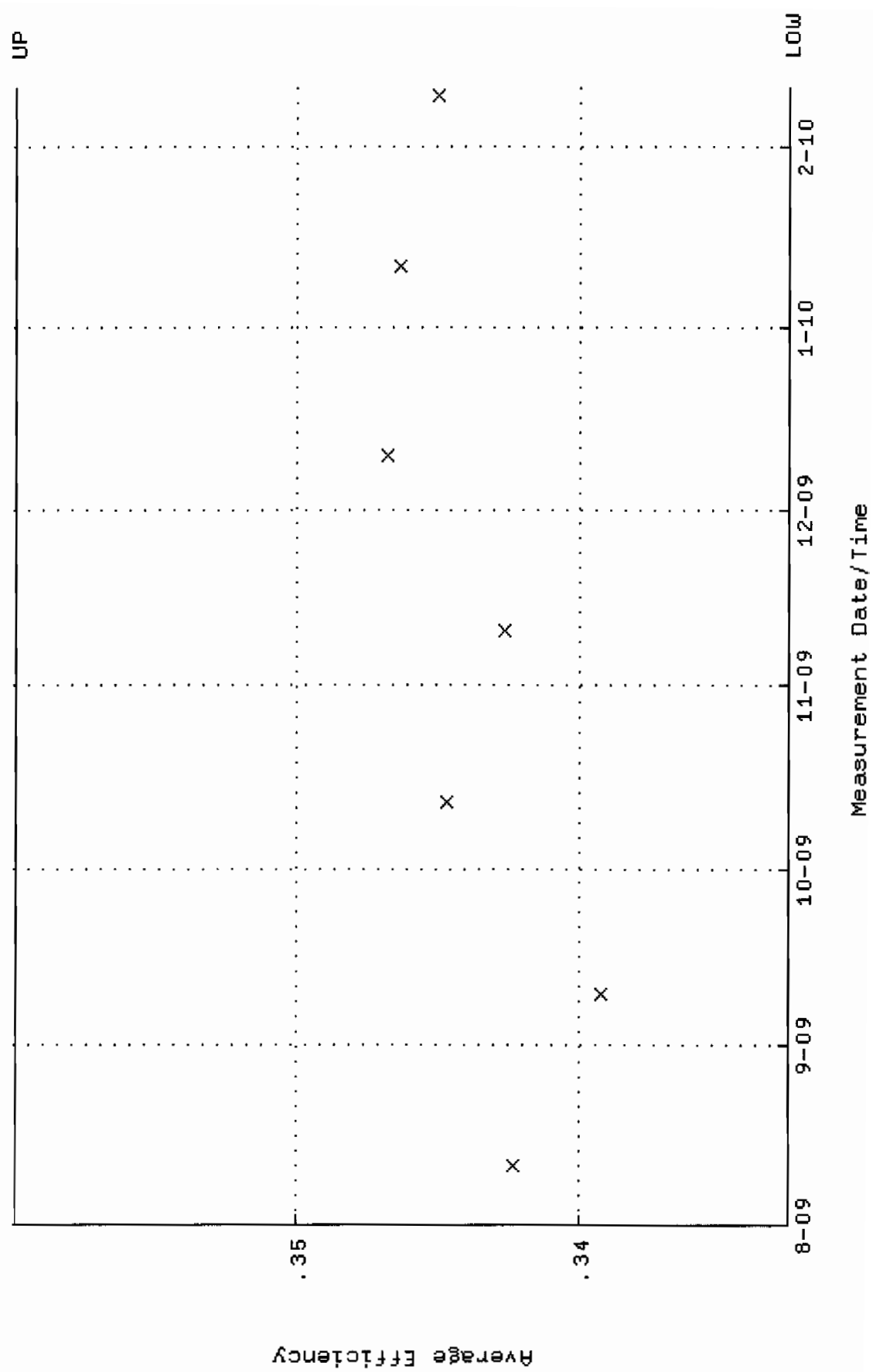
QA filename : DKA100:[ENV_ALPHA.QA.W]W090.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.0139 through 95.0680



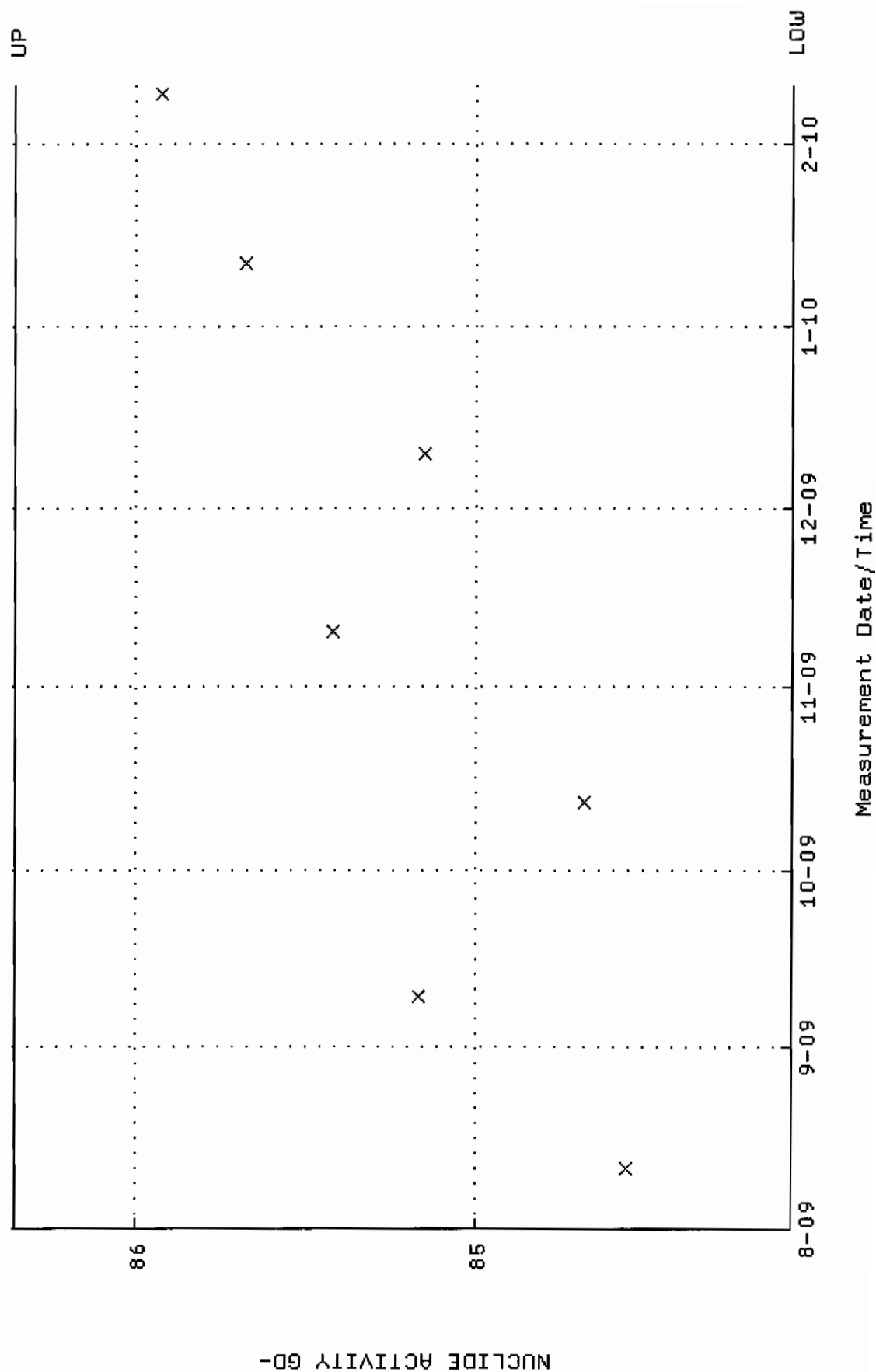
QA filename : DKA100:[ENV_ALPHA.QA.B]B090.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:42 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



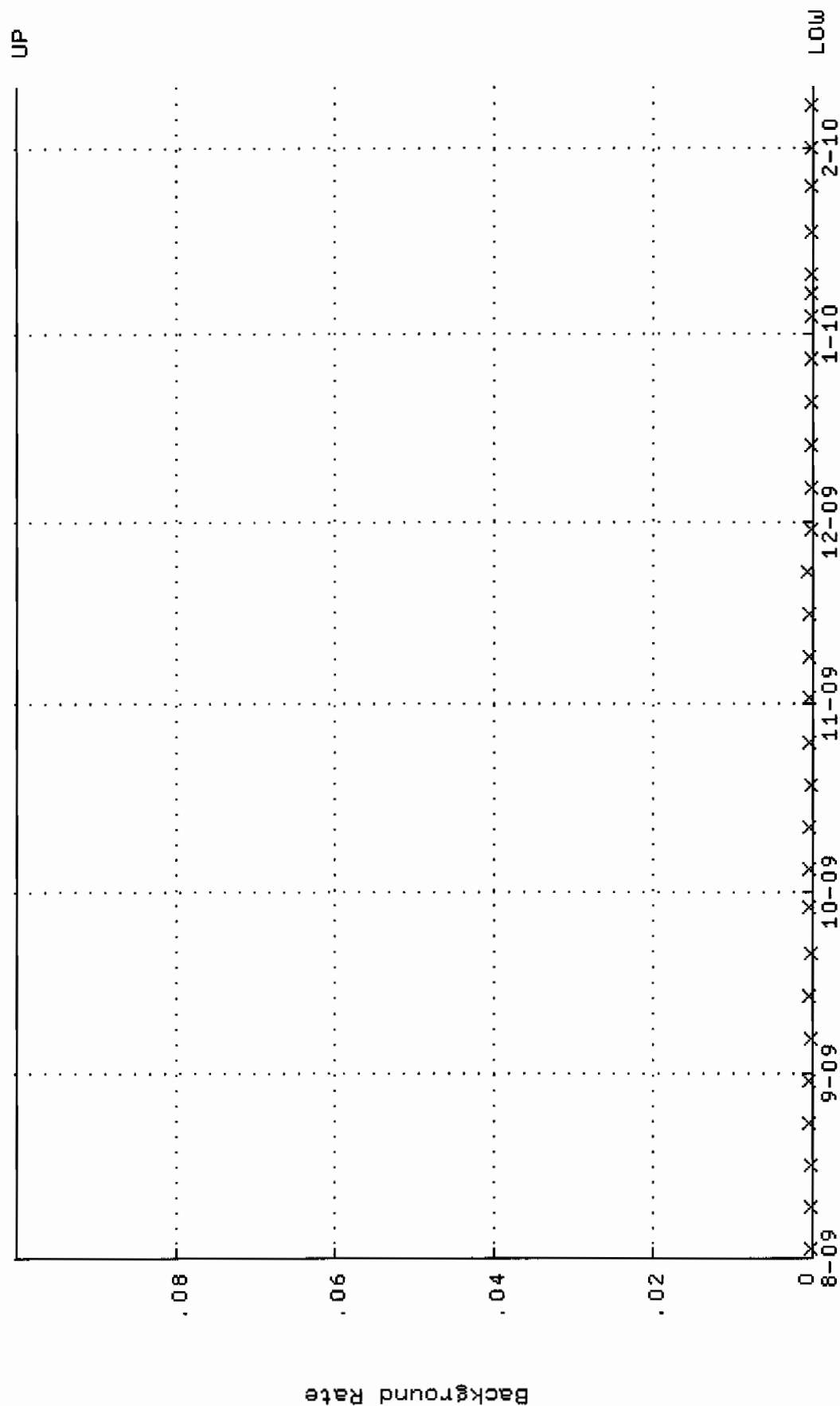
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.332648 through 0.359902



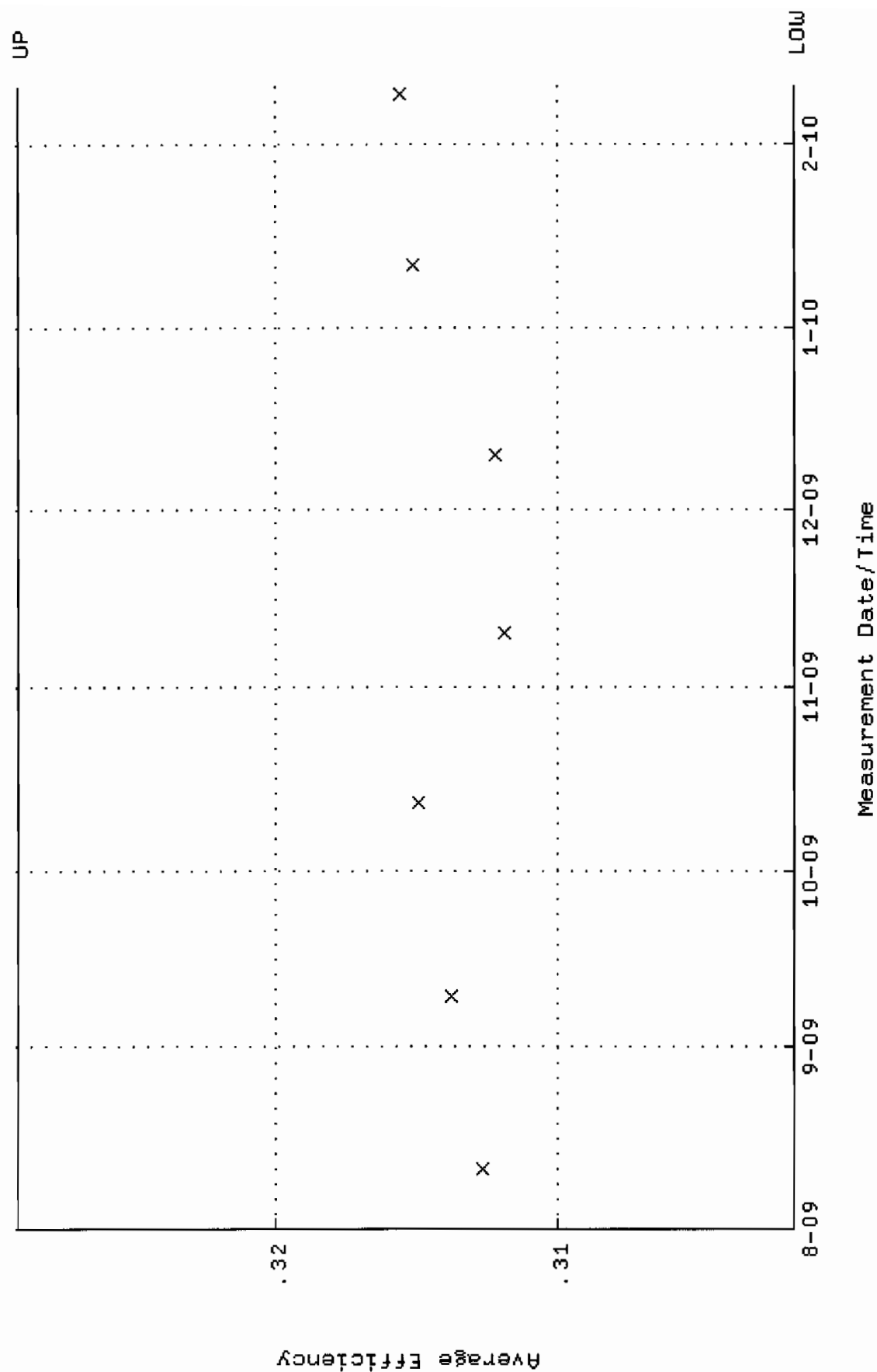
QA filename : DKA100:[ENV_ALPHA.QA.W]W091.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.0764 through 86.3518



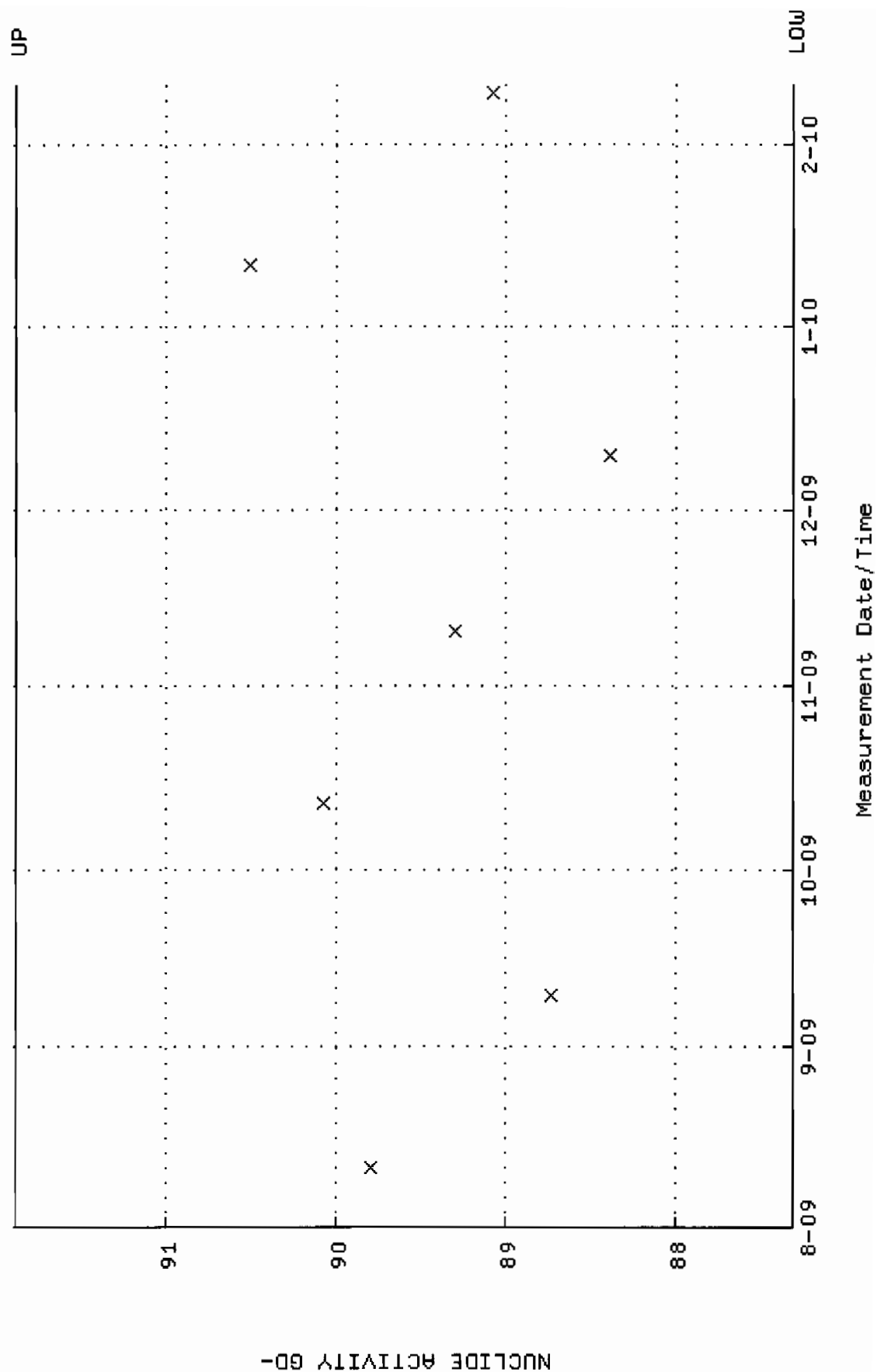
QA filename : DKA100:[ENV_ALPHA.QA.B]B091.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:42 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



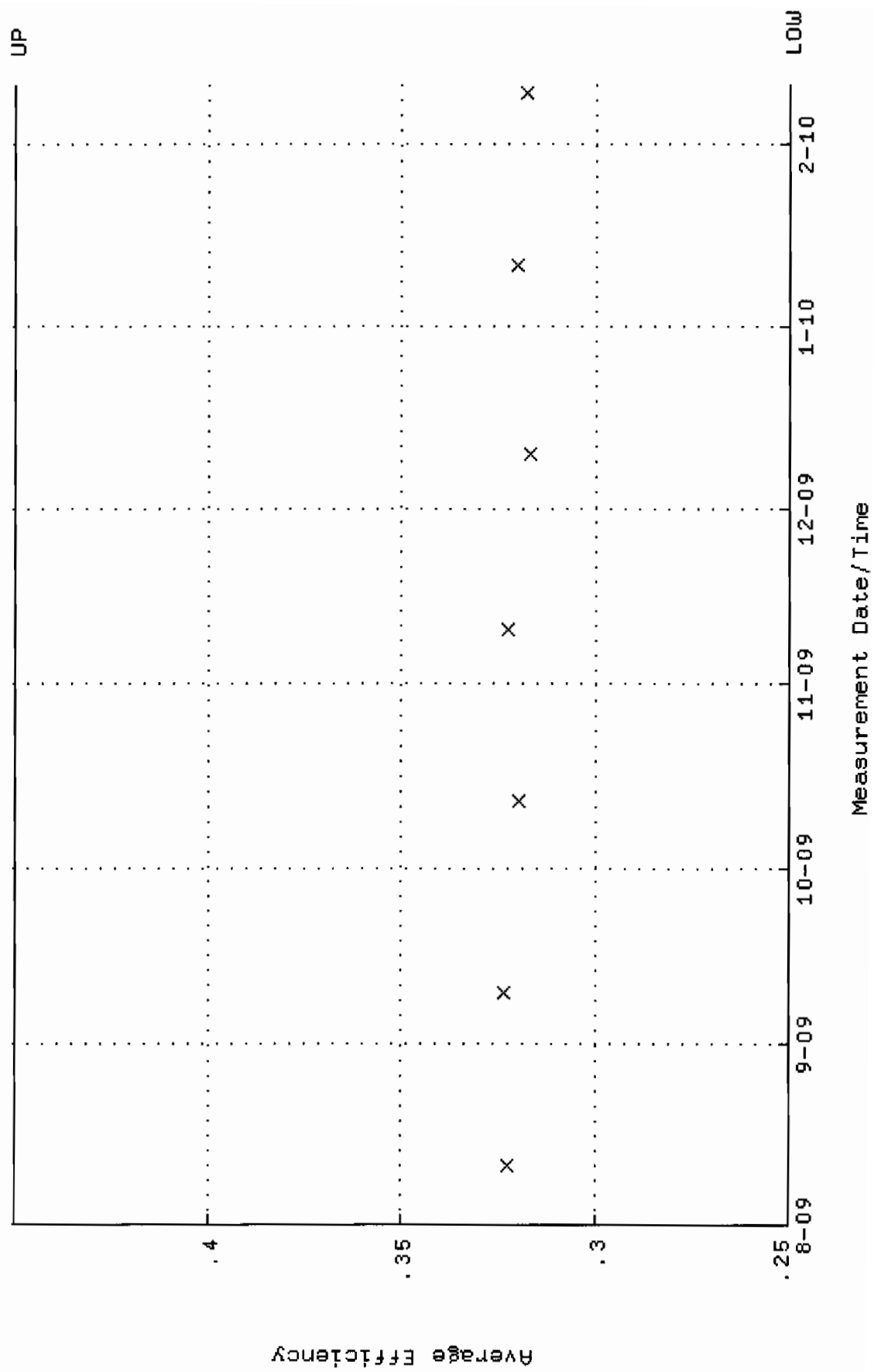
QA filename : DKA100:[ENV_ALPHA,QA,W]W092.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.301529 through 0.329133



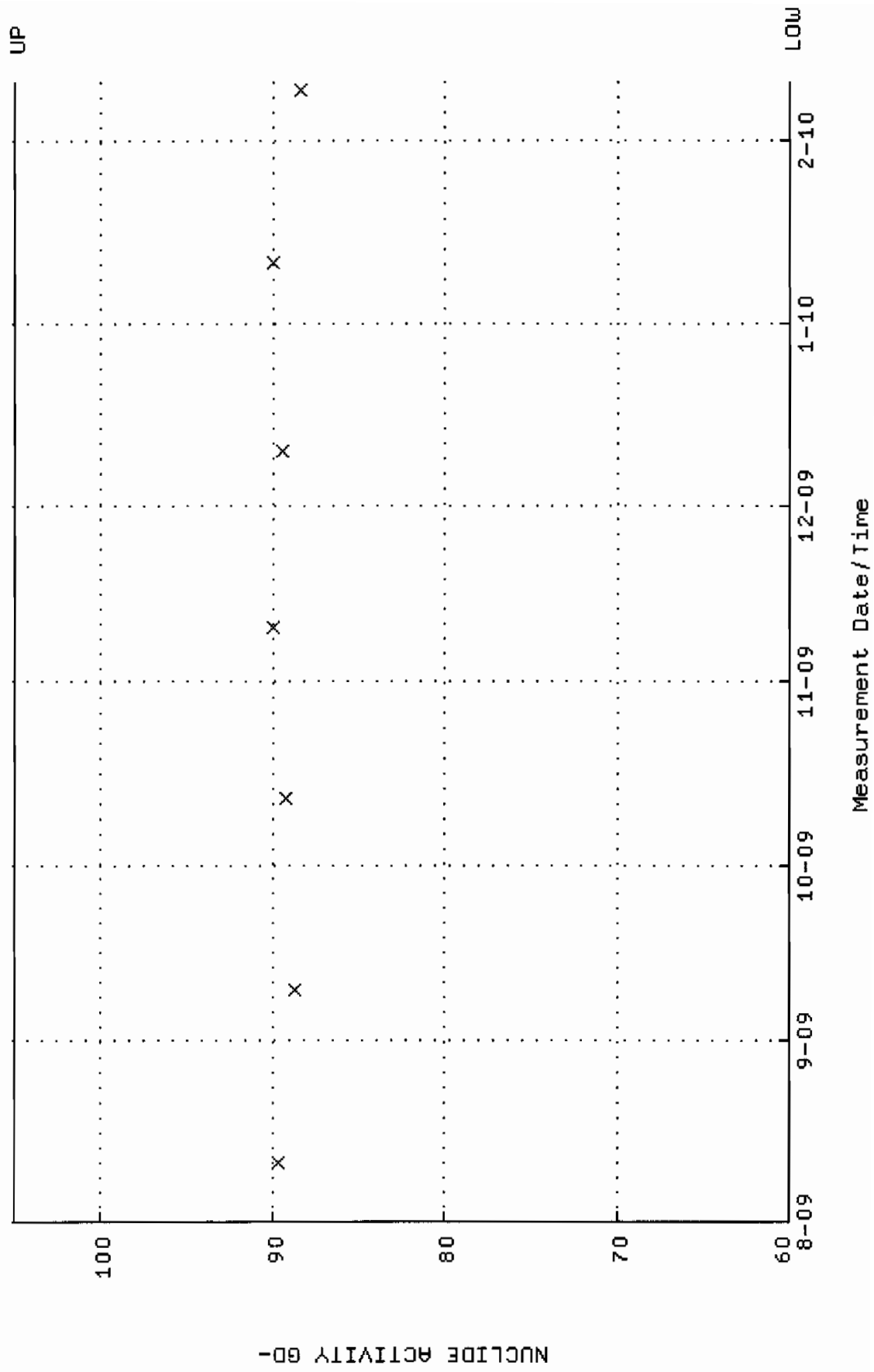
QA filename : DKA100:[ENV_ALPHA.QA.W]W092.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.3140 through 91.8878



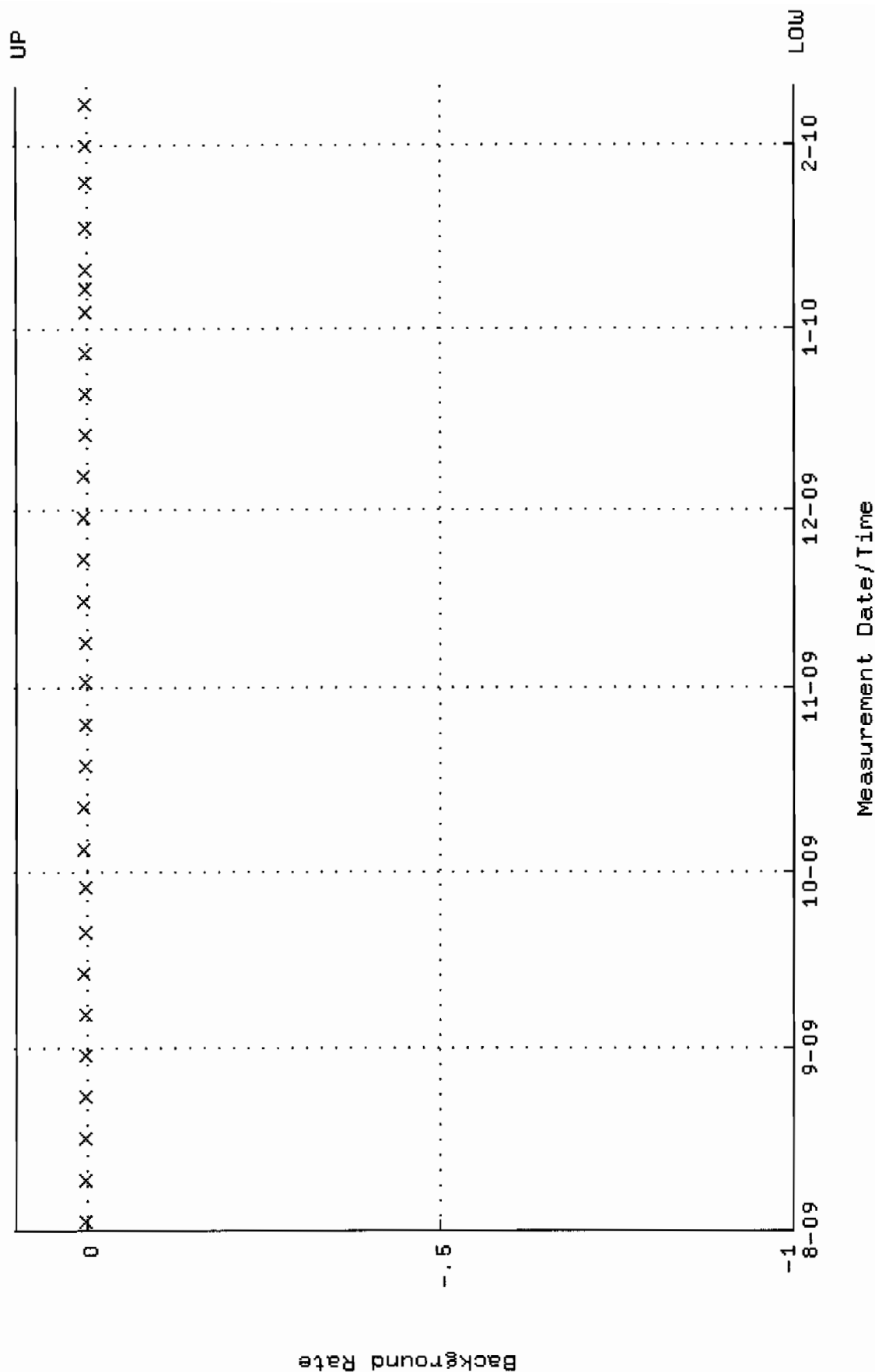
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



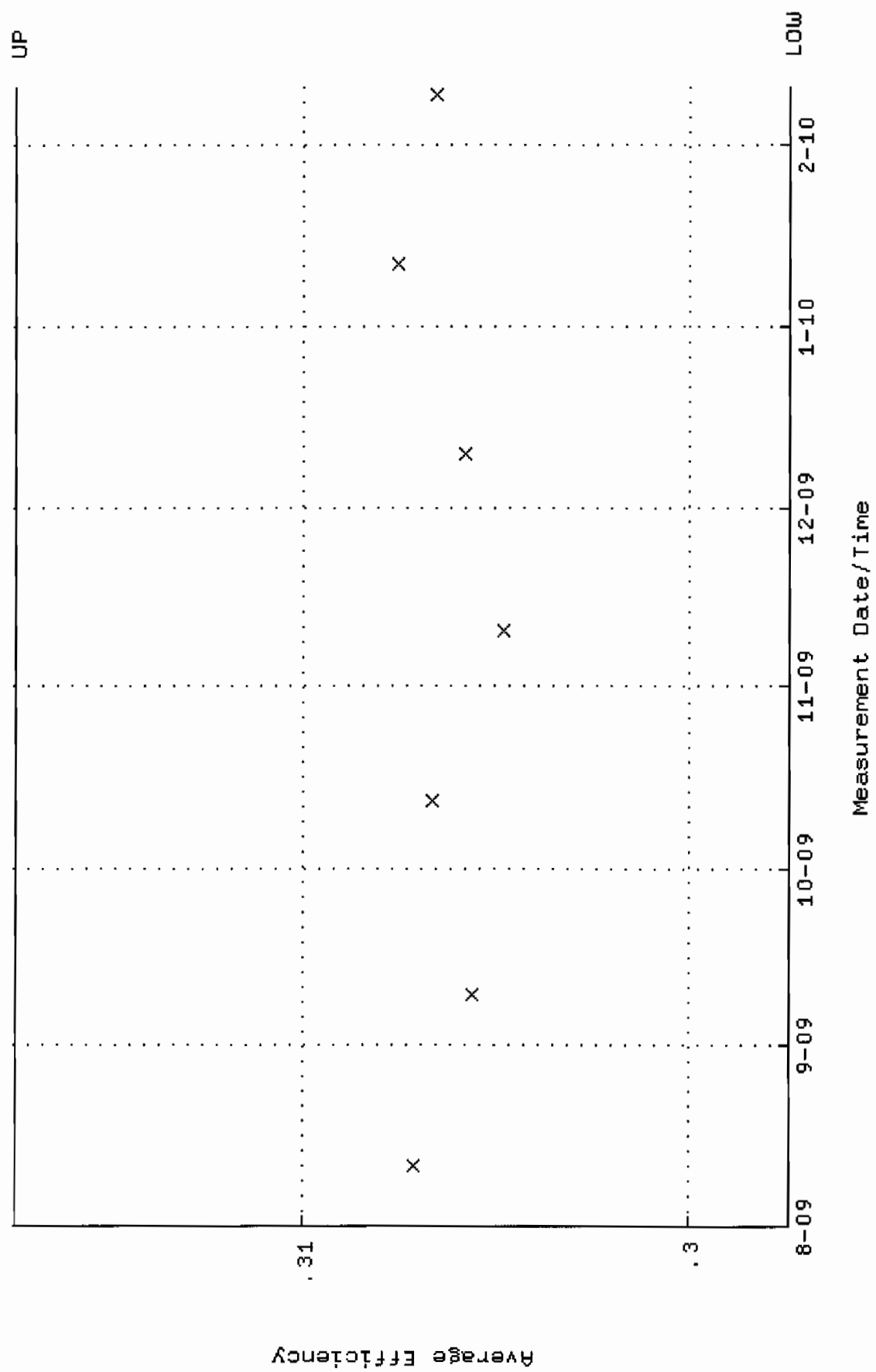
QA filename : DKA100:[ENV_ALPHA.QA.W]W093.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



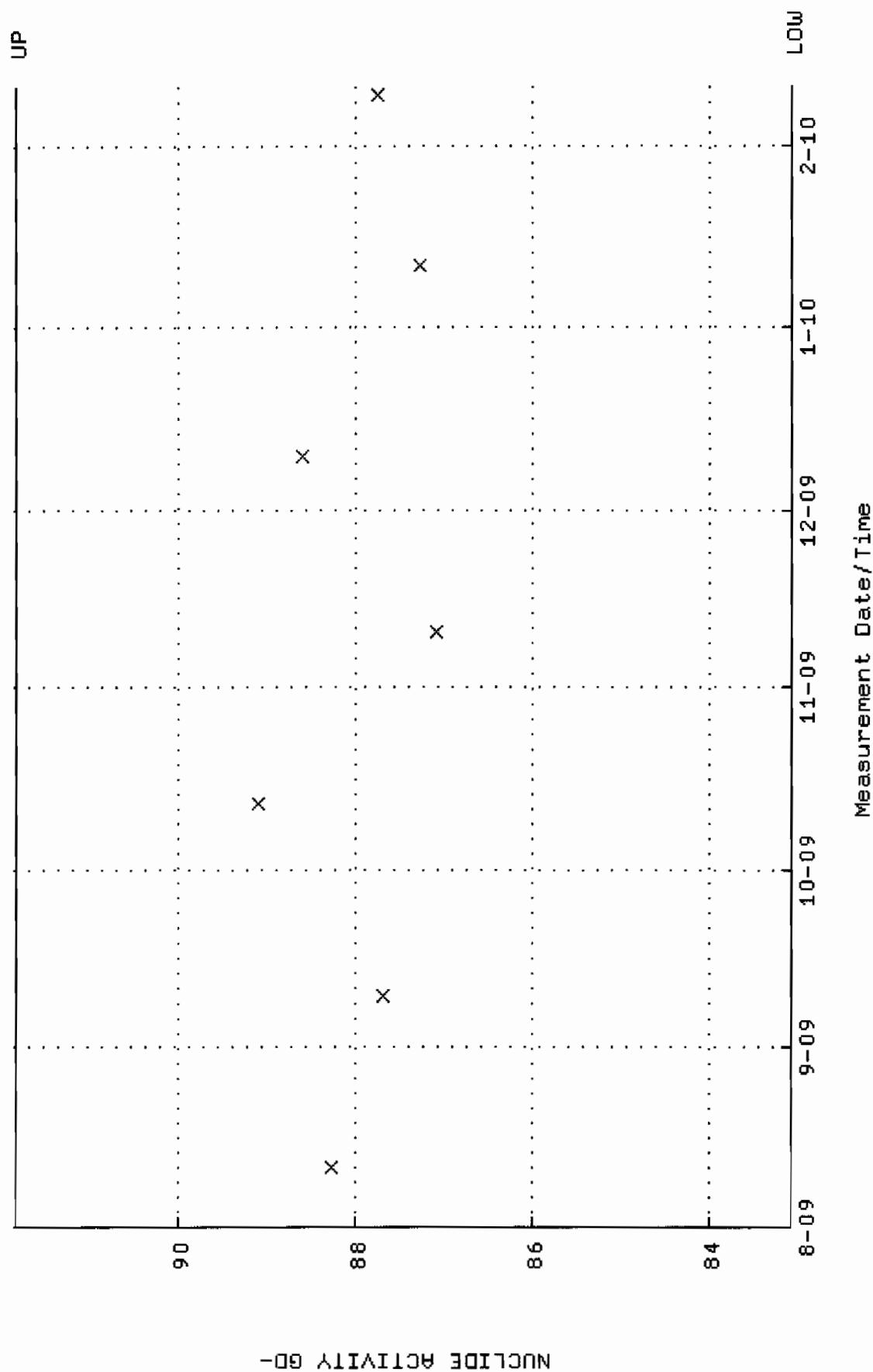
QA filename : DKA100:[ENV_ALPHA.QA.B]B093.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:42 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: -1.00000 through 0.100000



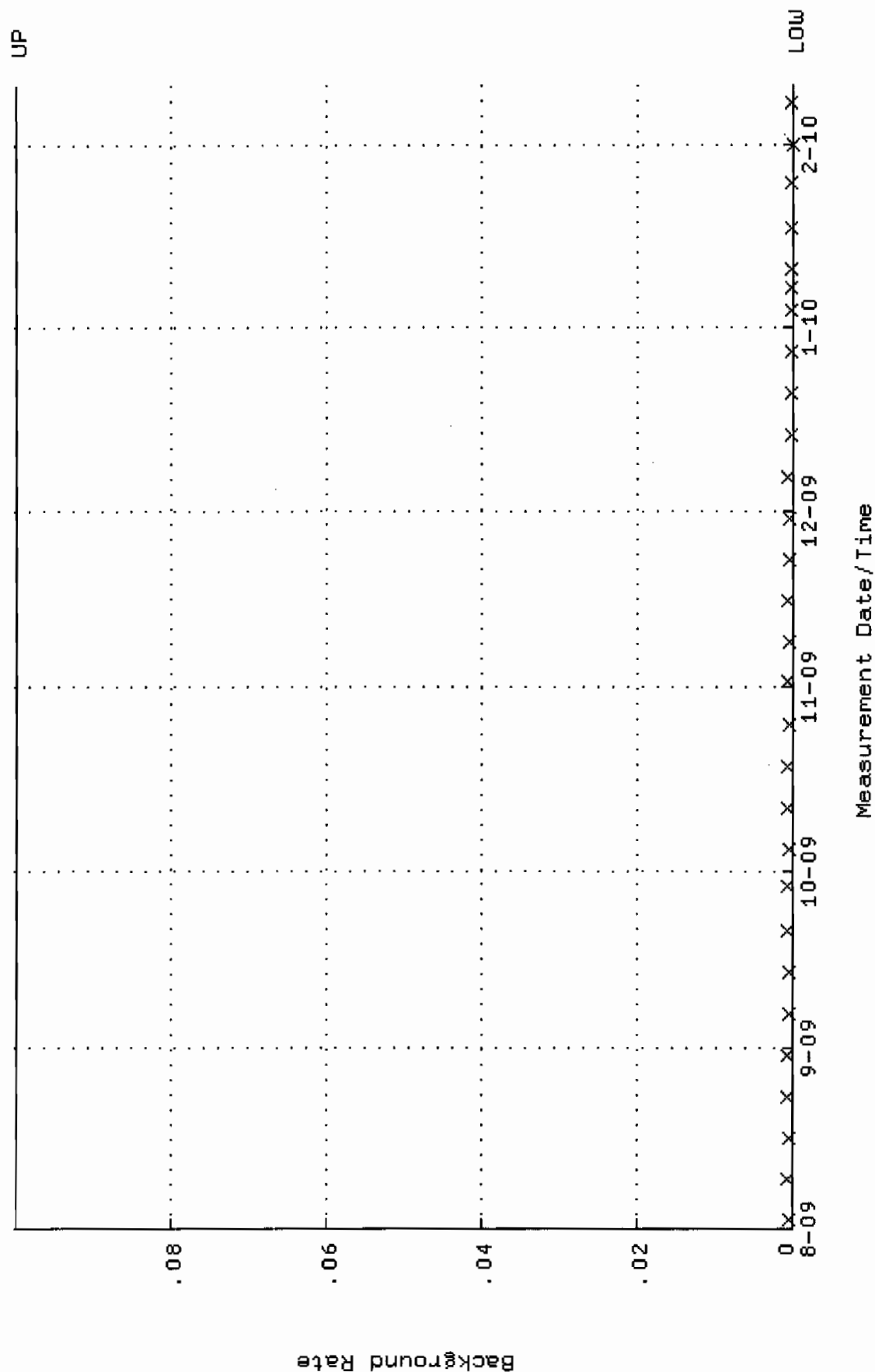
QA filename : DKA100:[ENV_ALPHA.QA.W]W094.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.297429 through 0.317429



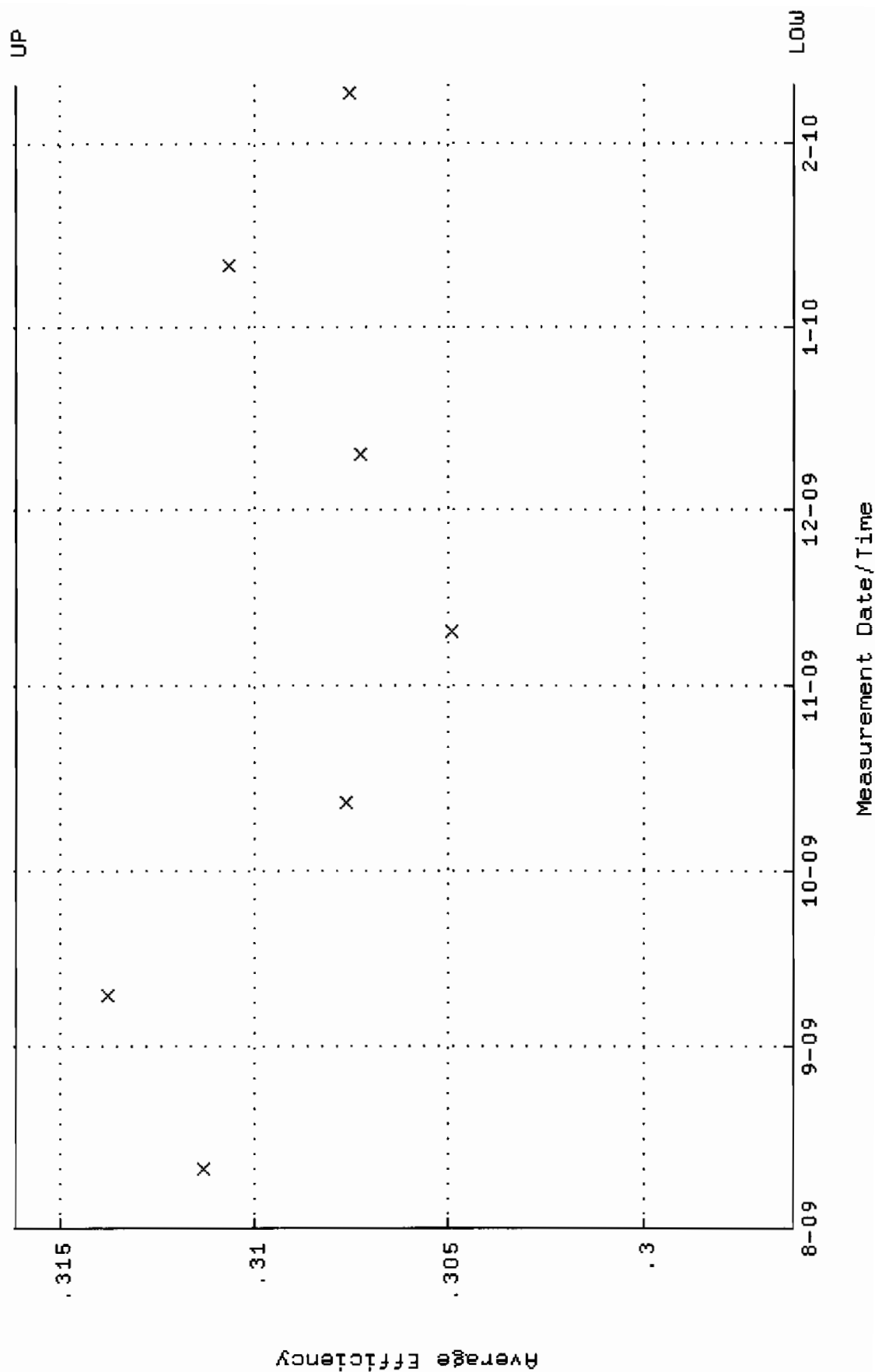
QA filename : DKA100:[ENV_ALPHA.QA.W]W094.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:15 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 83.0827 through 91.8283



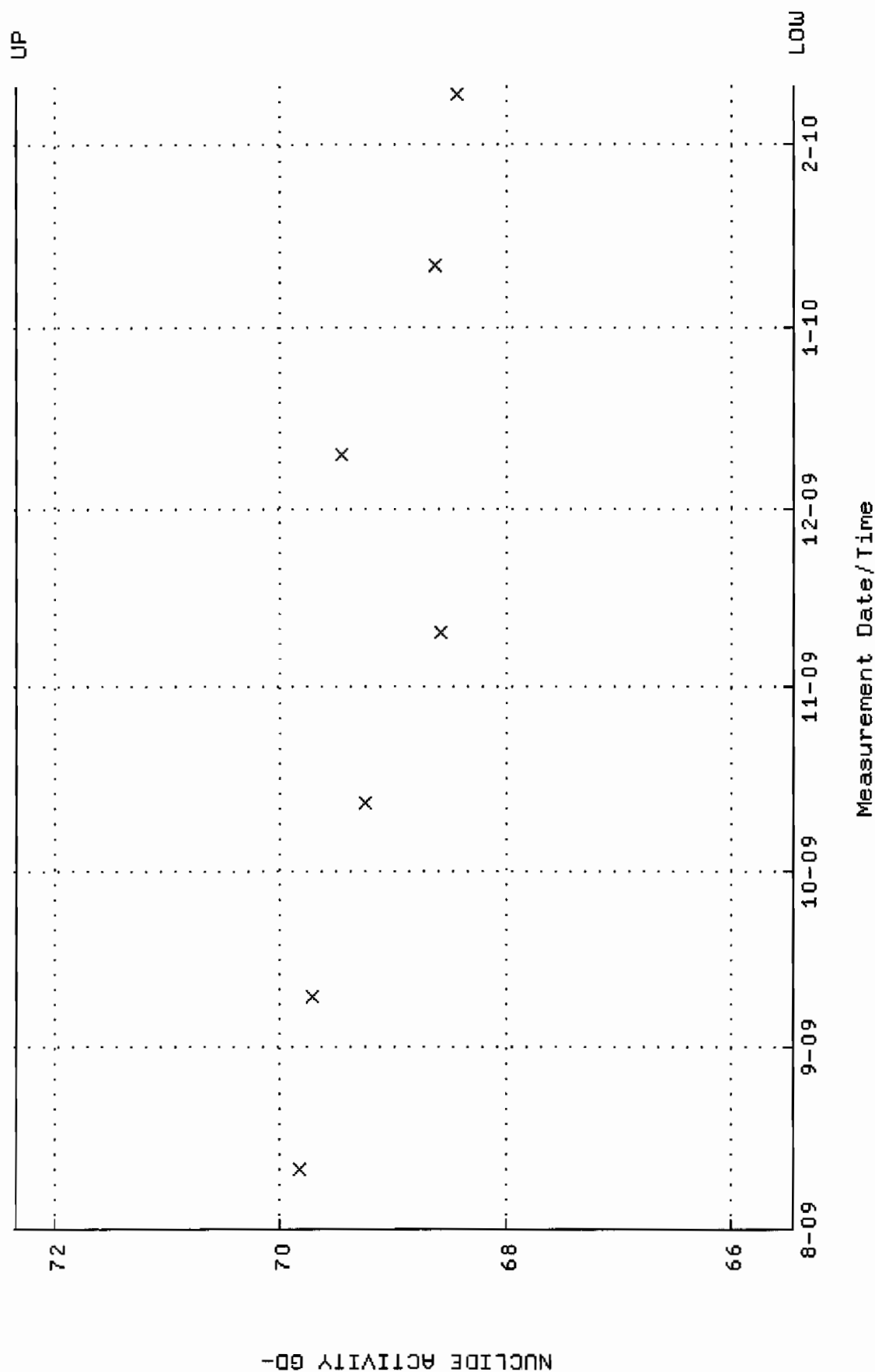
QA filename : DKA100:[ENV_ALPHA.QA.B]B094.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:42 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



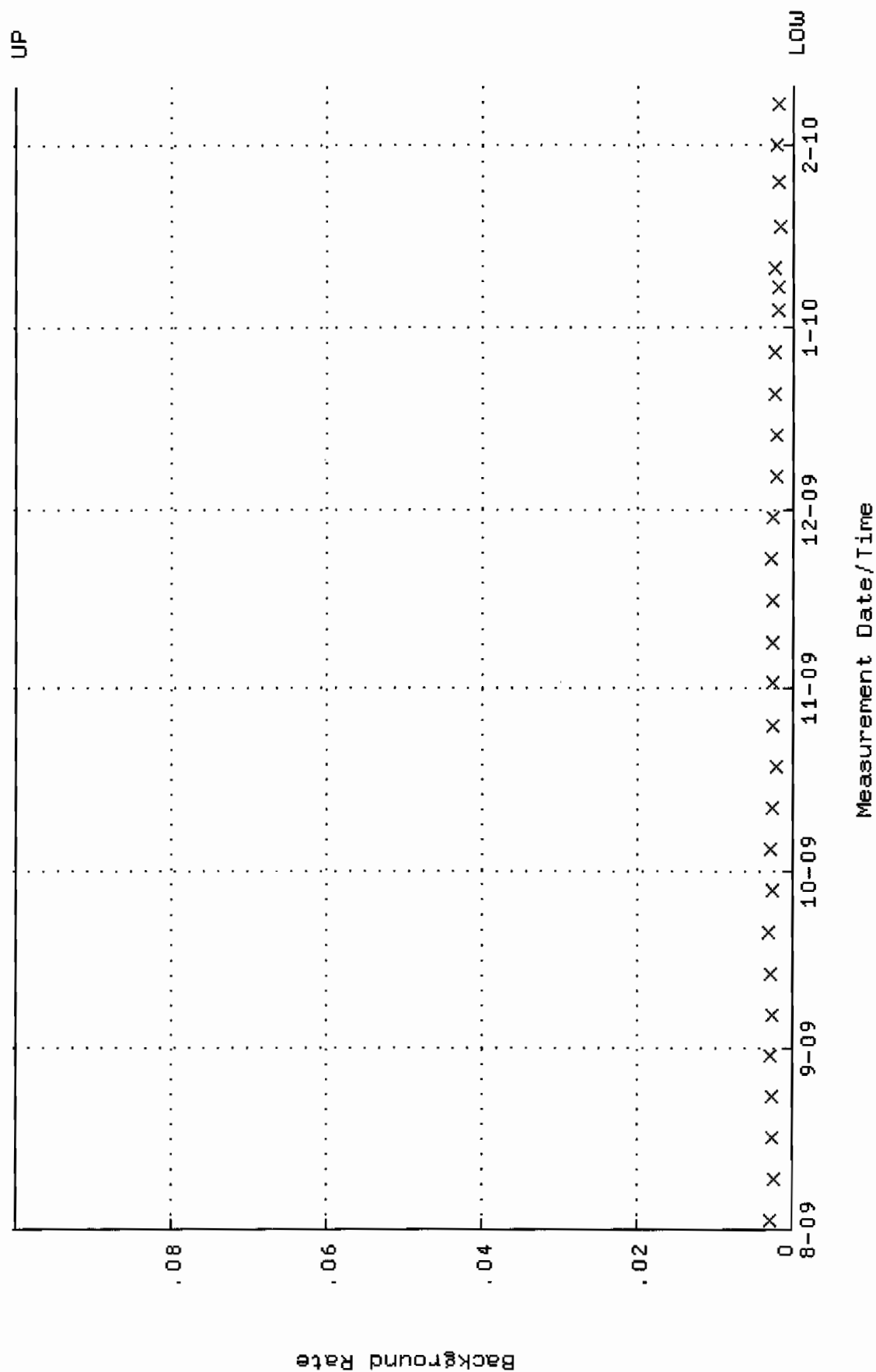
QA filename : DKA100:[ENV_ALPHA.QA.W]W095.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.296122 through 0.316122



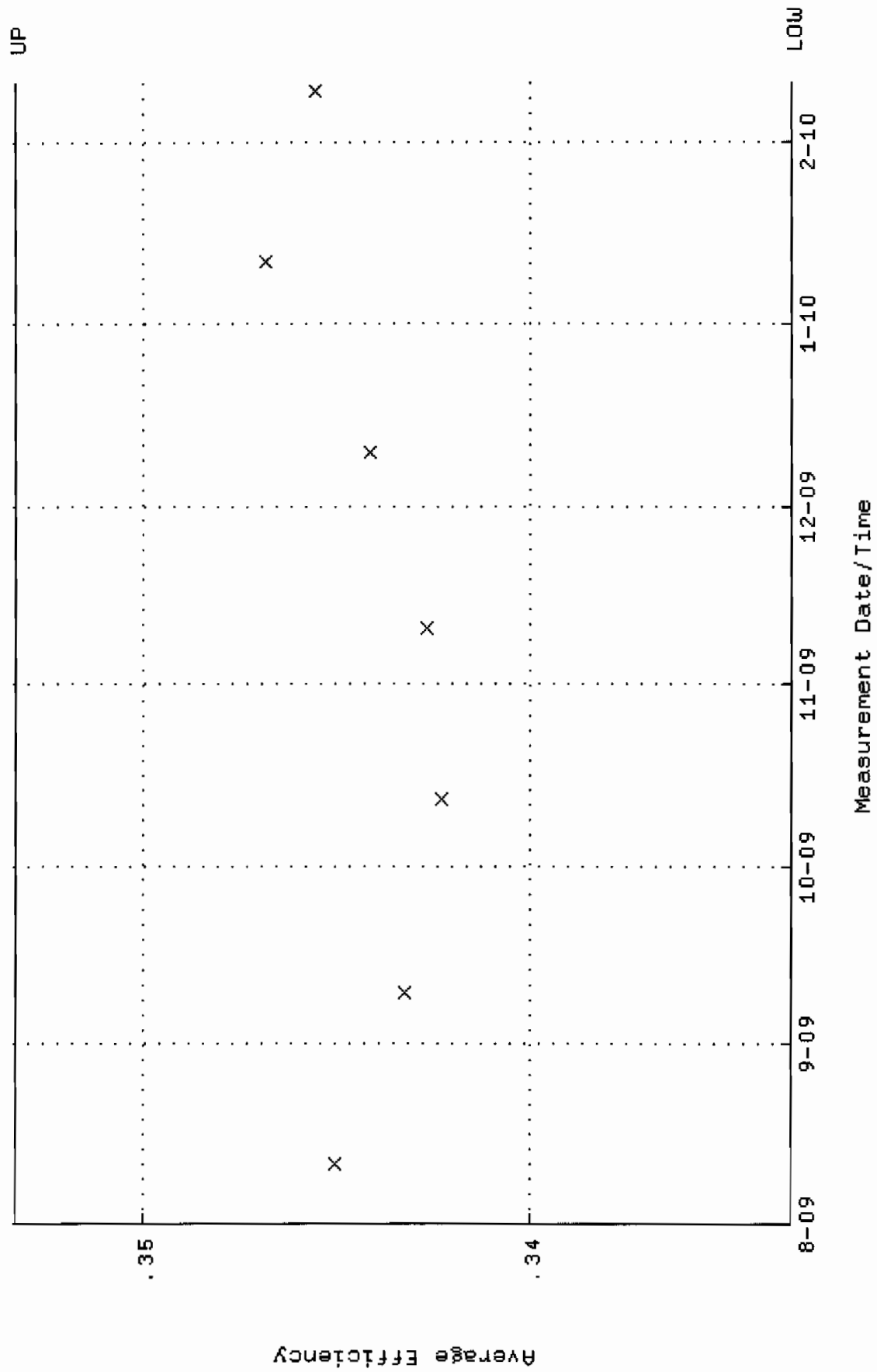
QA filename : DKA100:[ENV_ALPHA.QA.W]W095.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 65.4492 through 72.3386



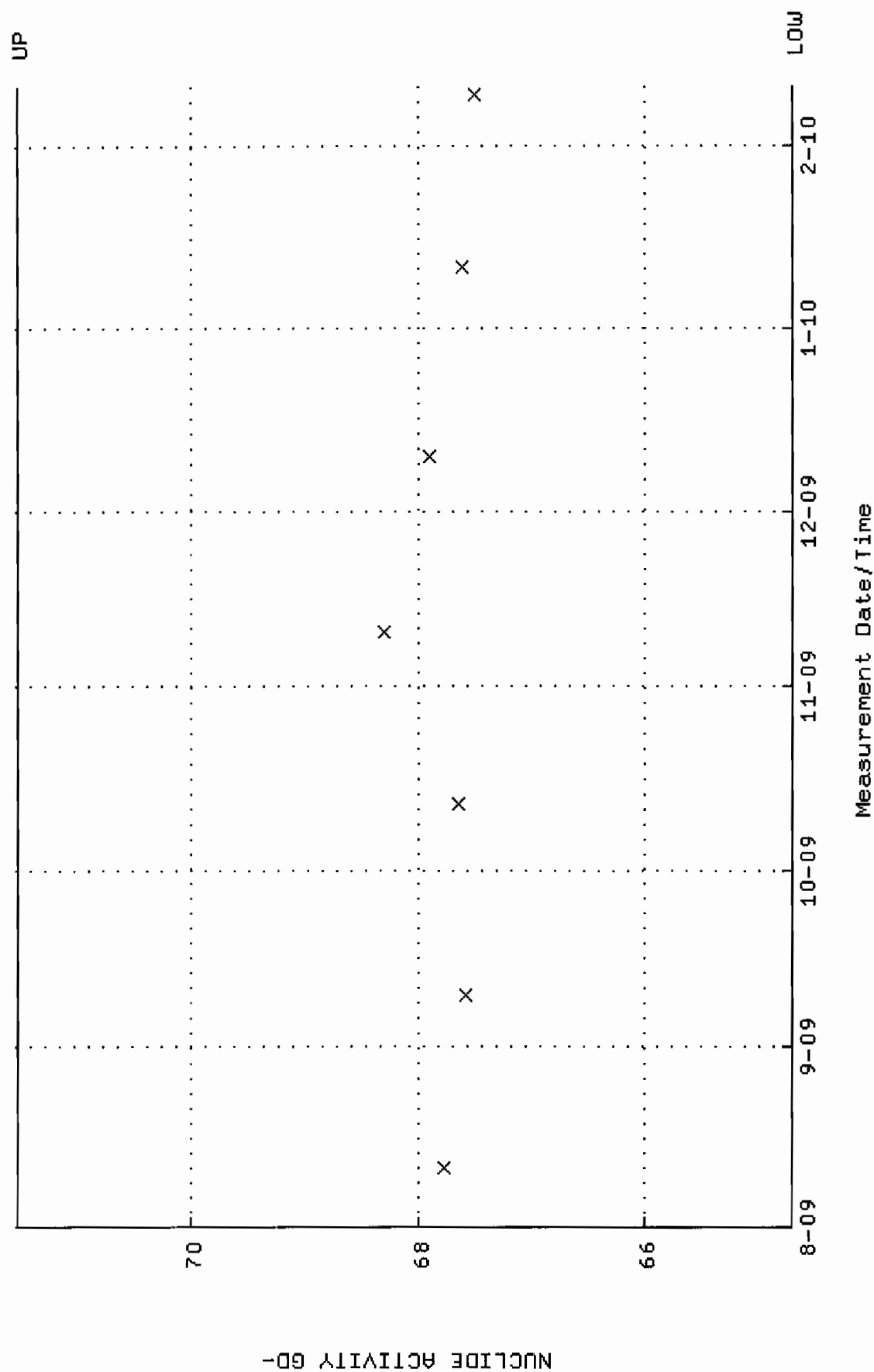
QA filename : DKA100:[ENV_ALPHA.QA.B]B095.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



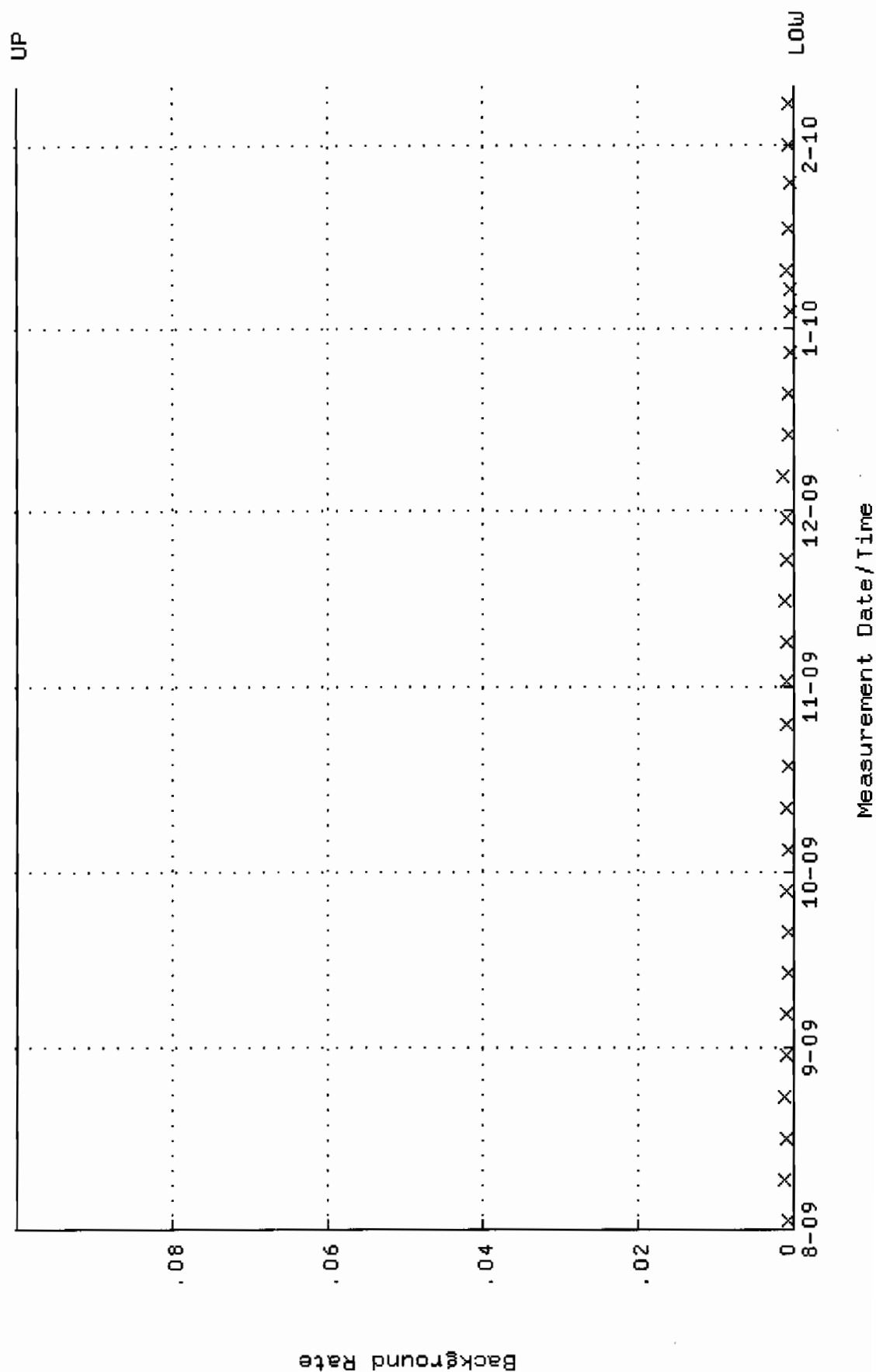
QA filename : DKA100:[ENV_ALPHA.QA.W]W097.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.333275 through 0.353275



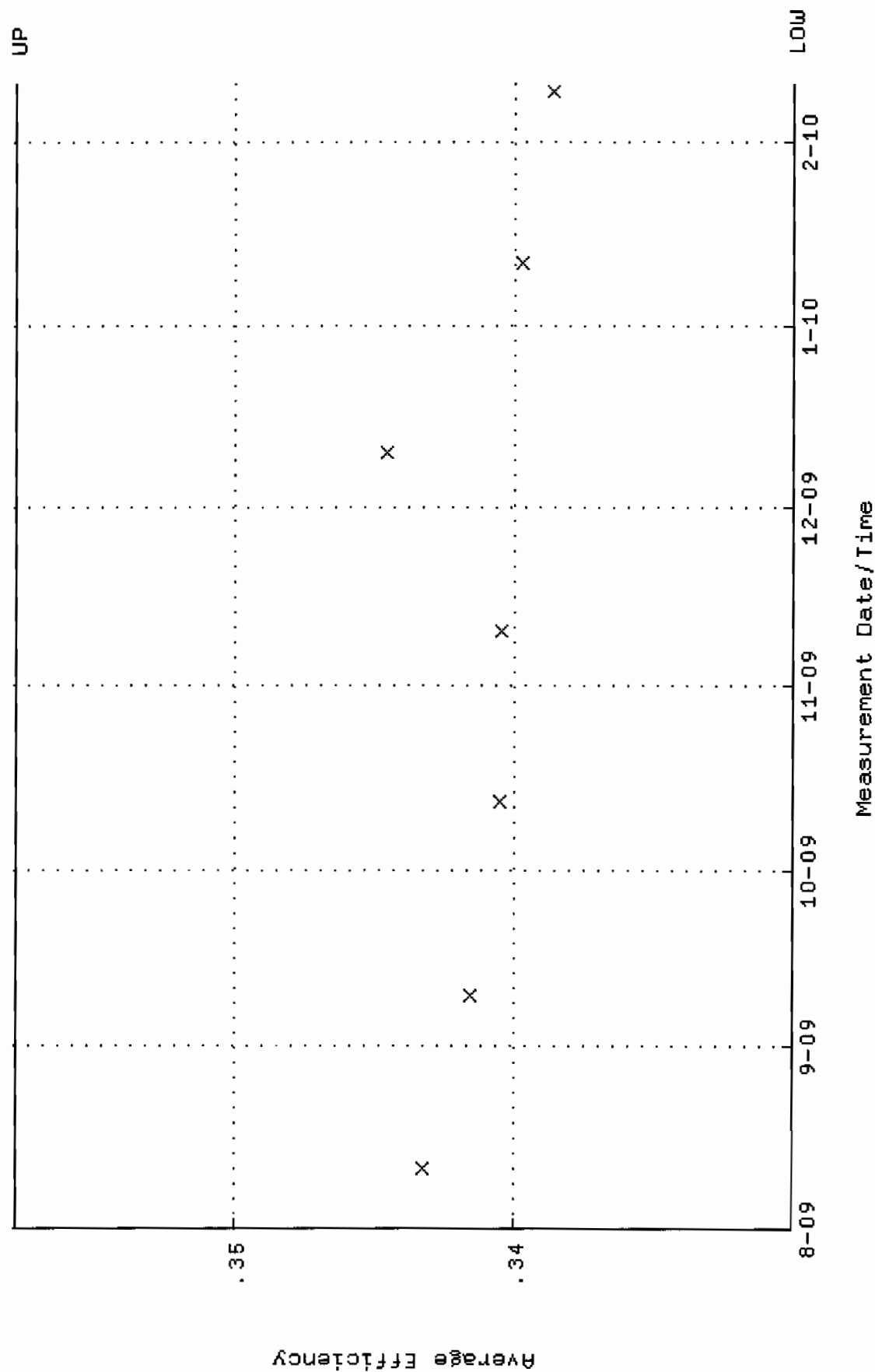
QA filename : DKA100:[ENV_ALPHA.QA.W]W097.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 64.7068 through 71.5180



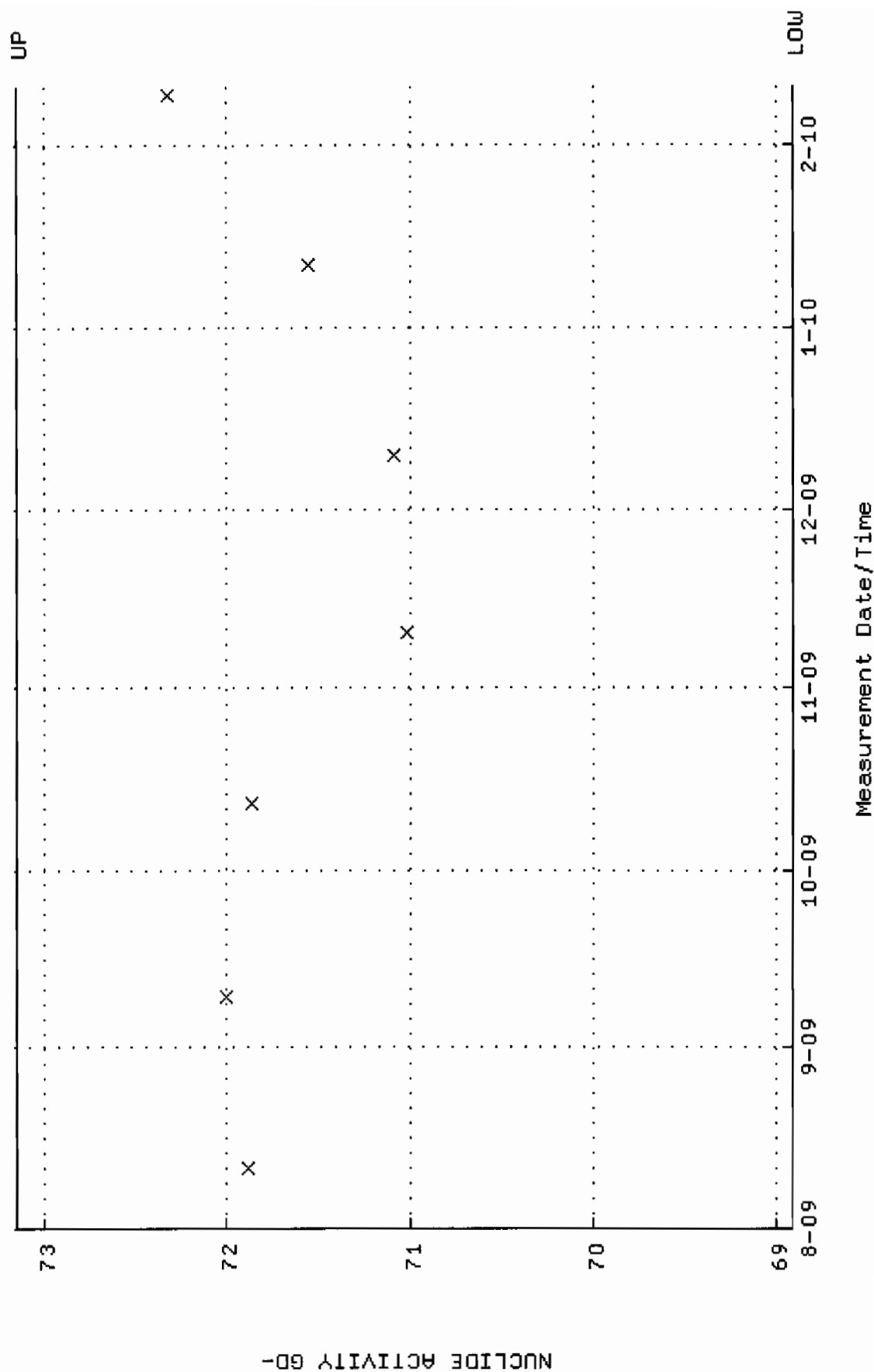
QA filename : DKA100:[ENV_ALPHA.QA.B]B097.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



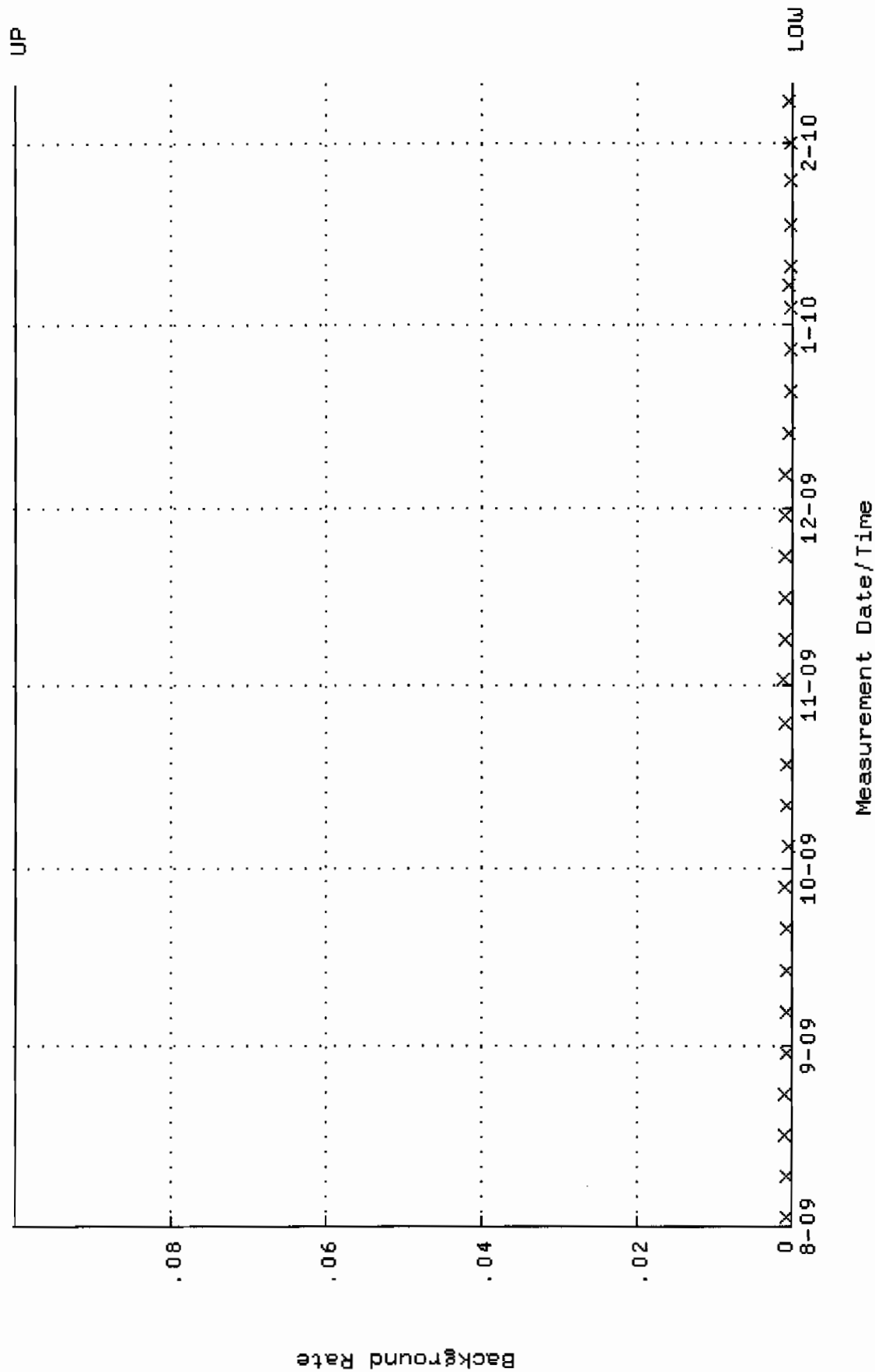
QA filename : DKA100:[ENV_ALPHA.QA.W]W099.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.330127 through 0.357809



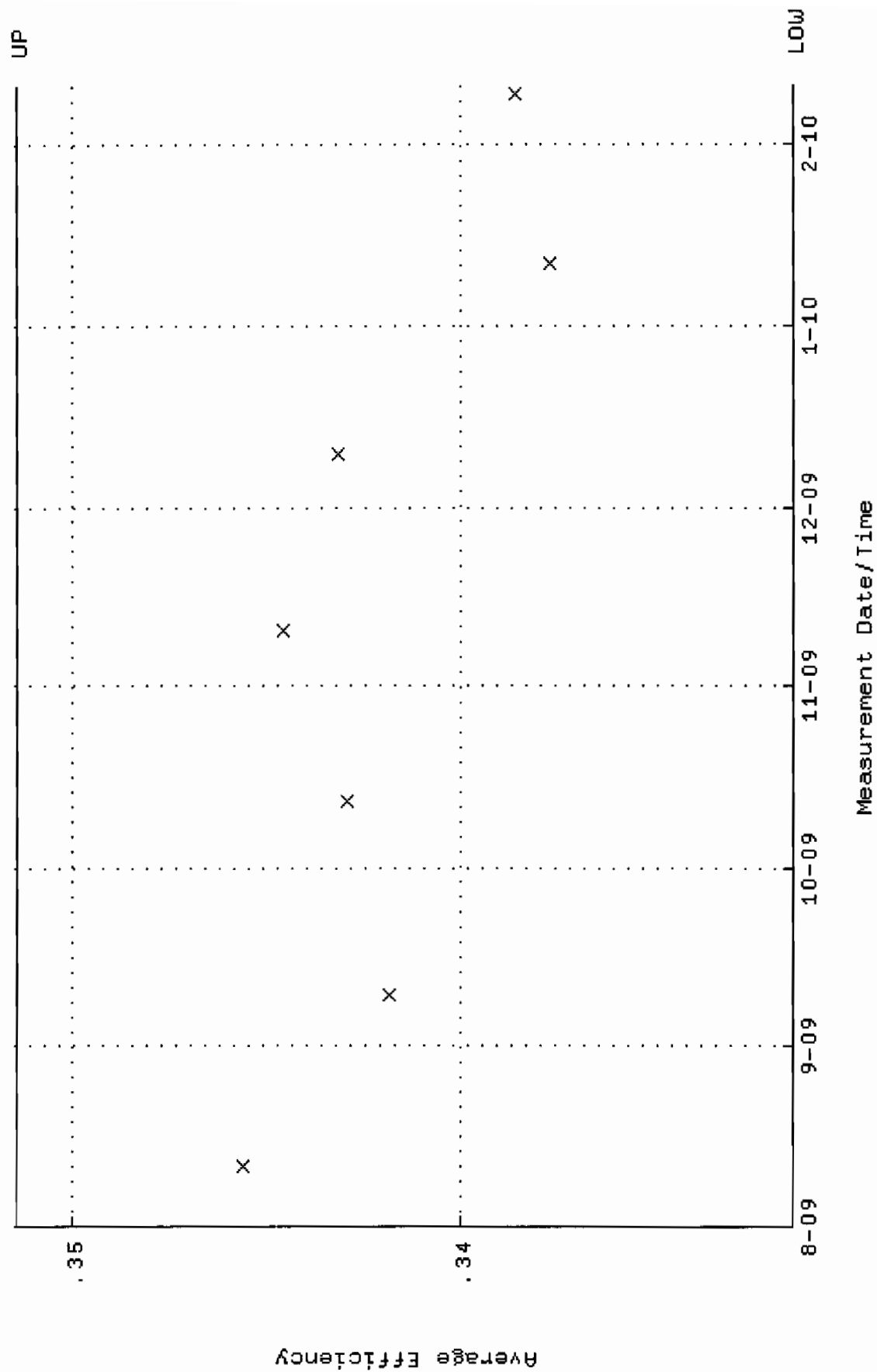
QA filename : DKA100:[ENV_ALPHA.QA.W]W099.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.9116 through 73.1498



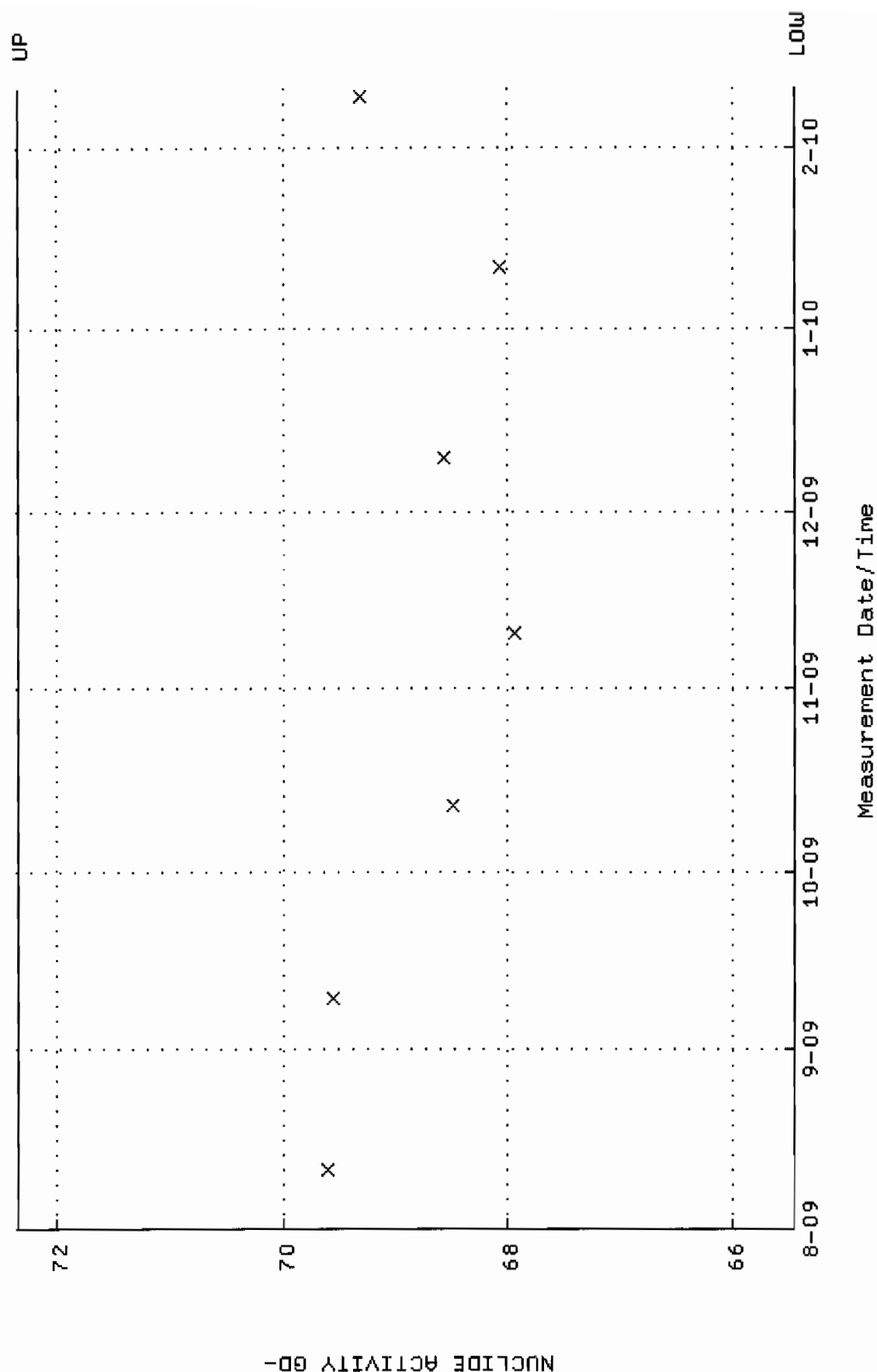
QA filename : DKA100:[ENV_ALPHA.QA.B]B099.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



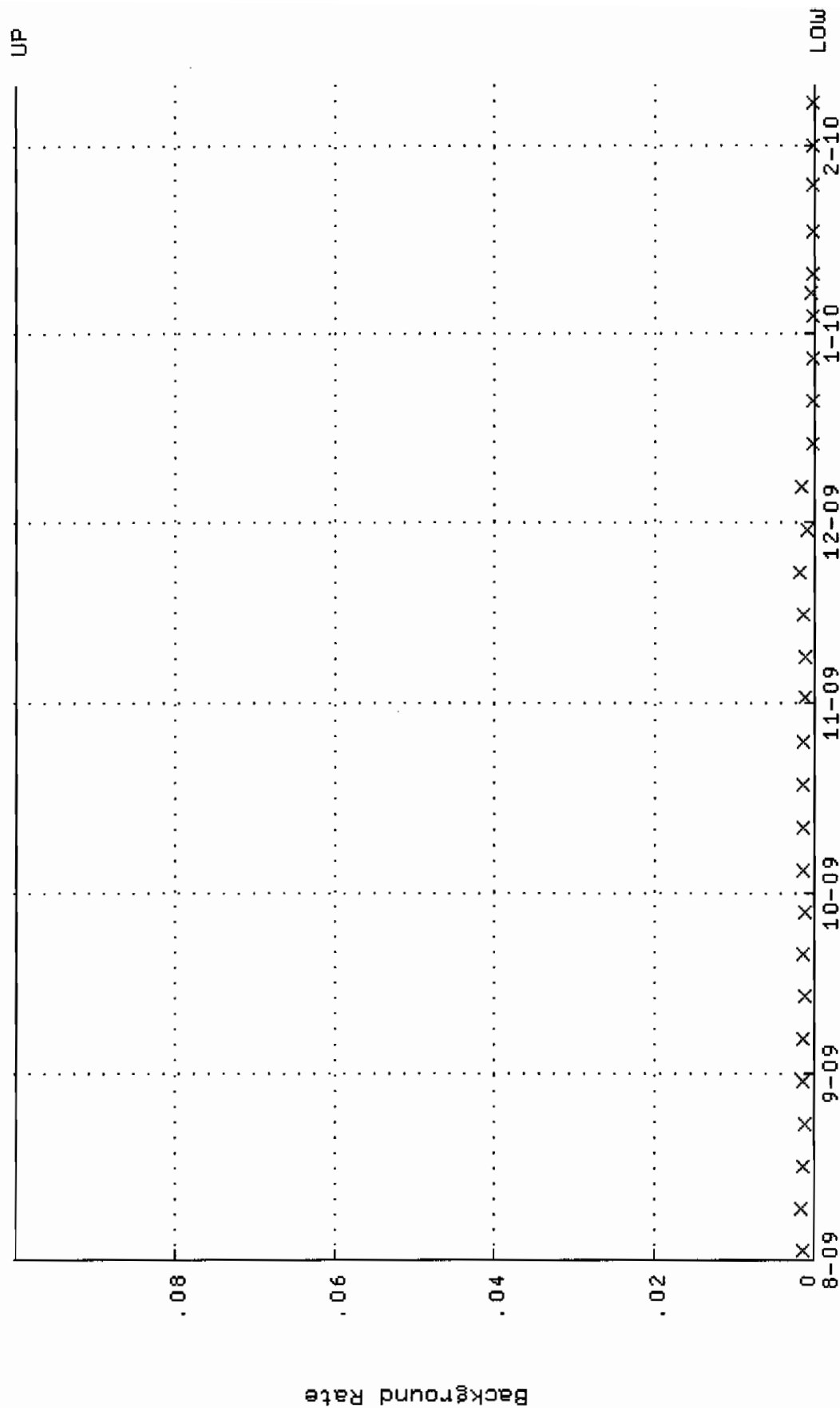
QA filename : DKA100:[ENV-ALPHA.QA.W]W100.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.331433 through 0.351433



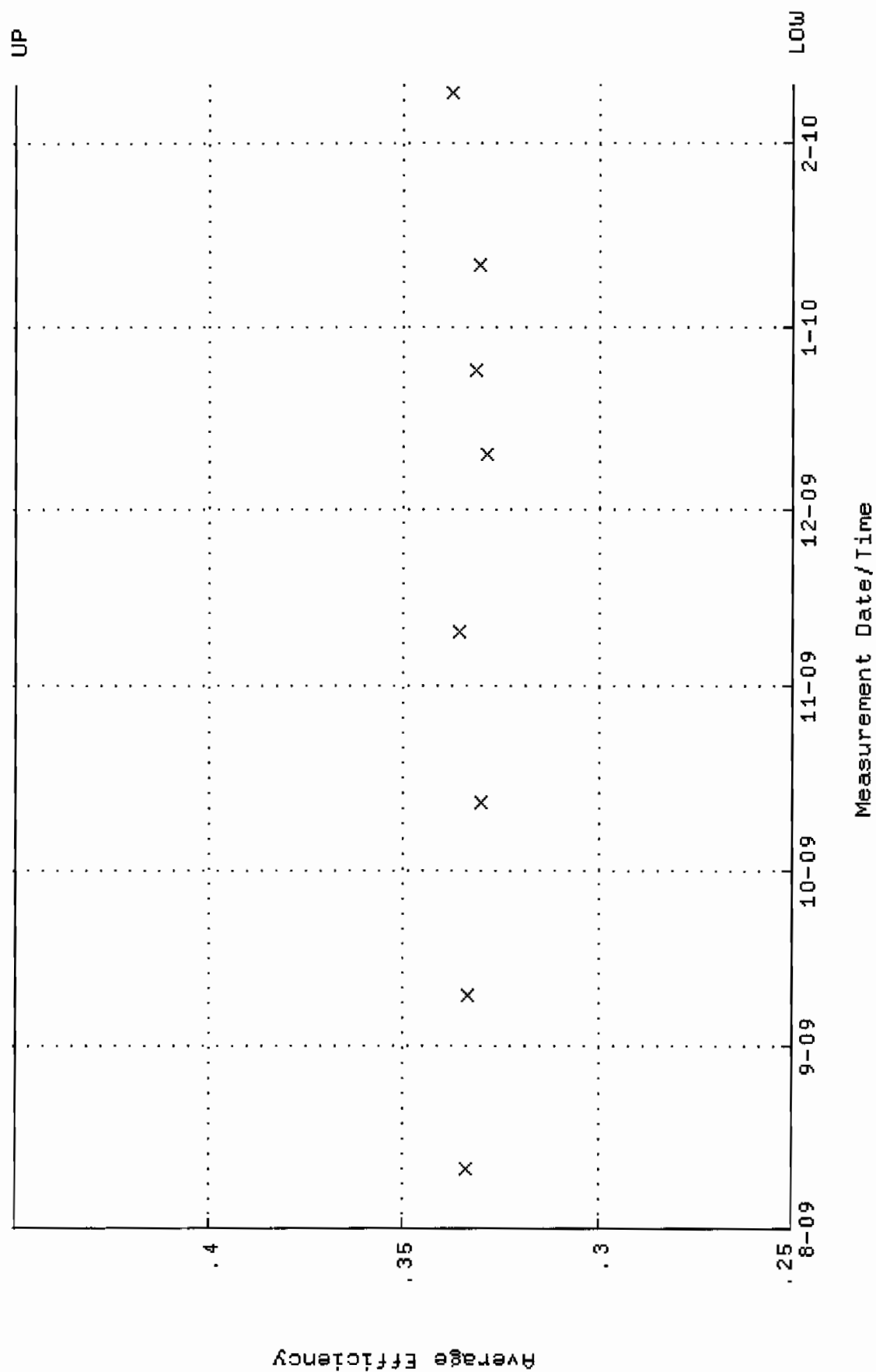
QA filename : DKA100:[ENV_ALPHA.QA.W]W100.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:16 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 65.4550 through 72.3450



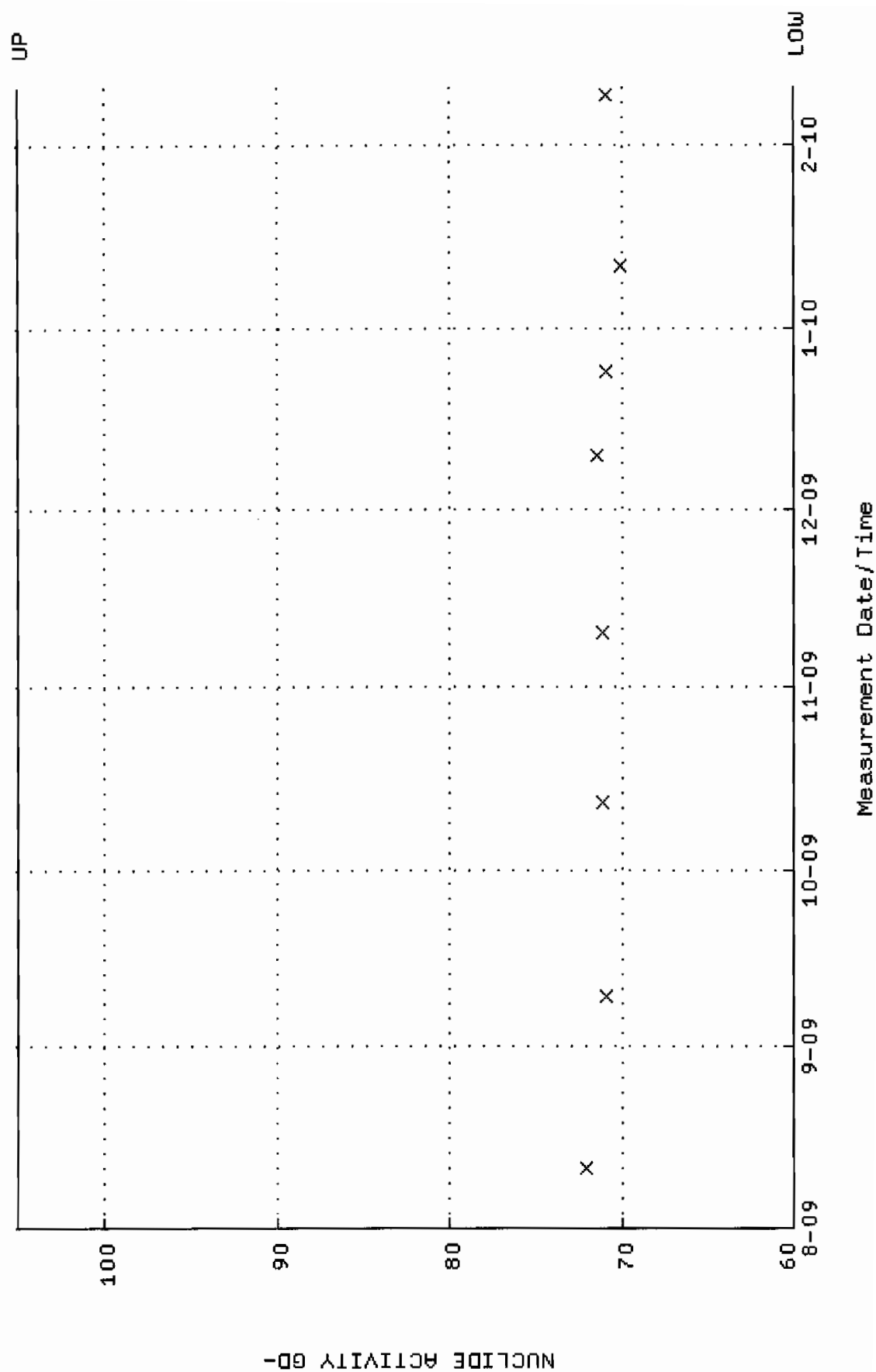
QA filename : DKA100:[ENV_ALPHA.QA.B]B100.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



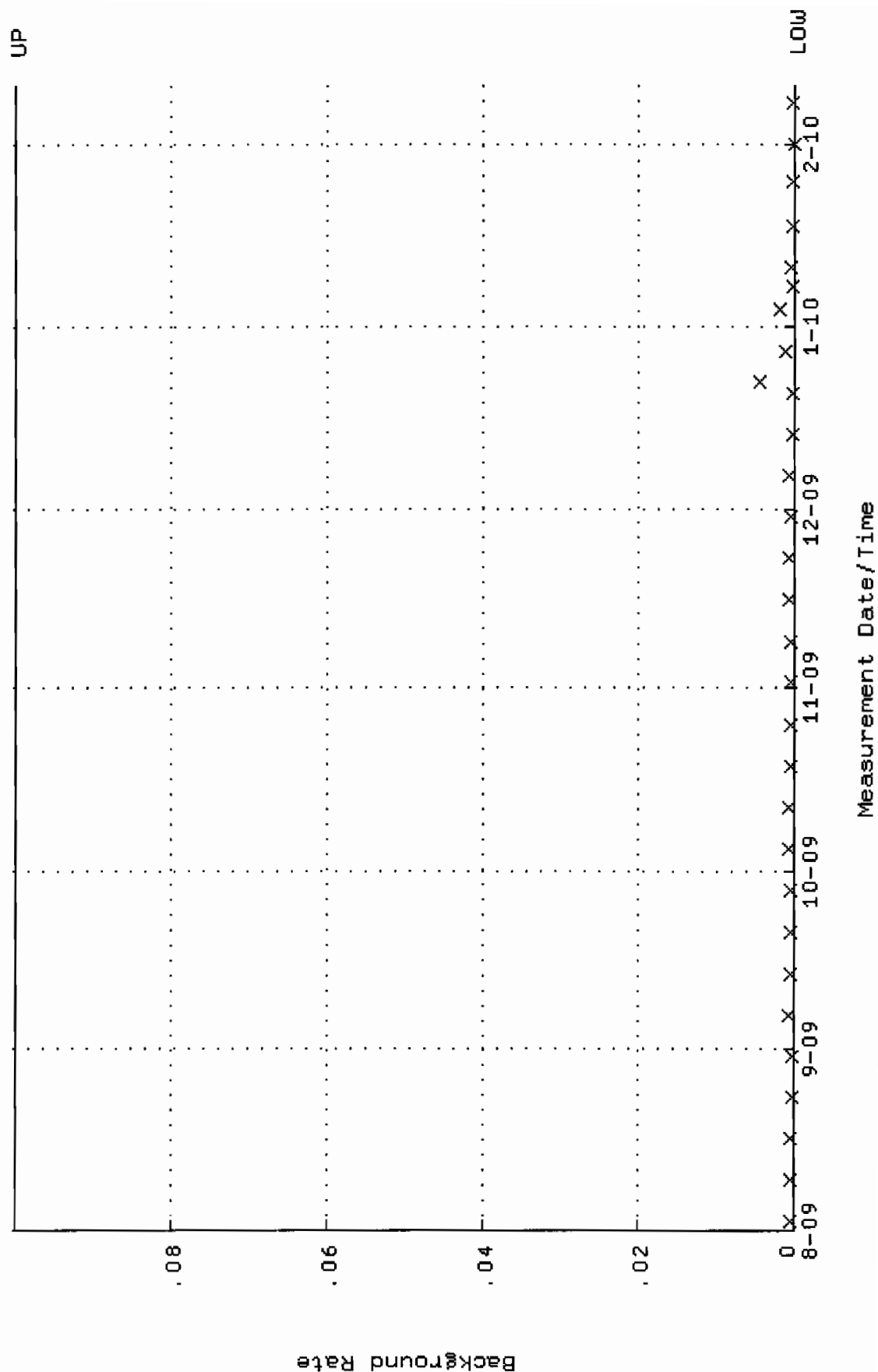
QA filename : DKA100:[ENV_ALPHA.QA.W]W101.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



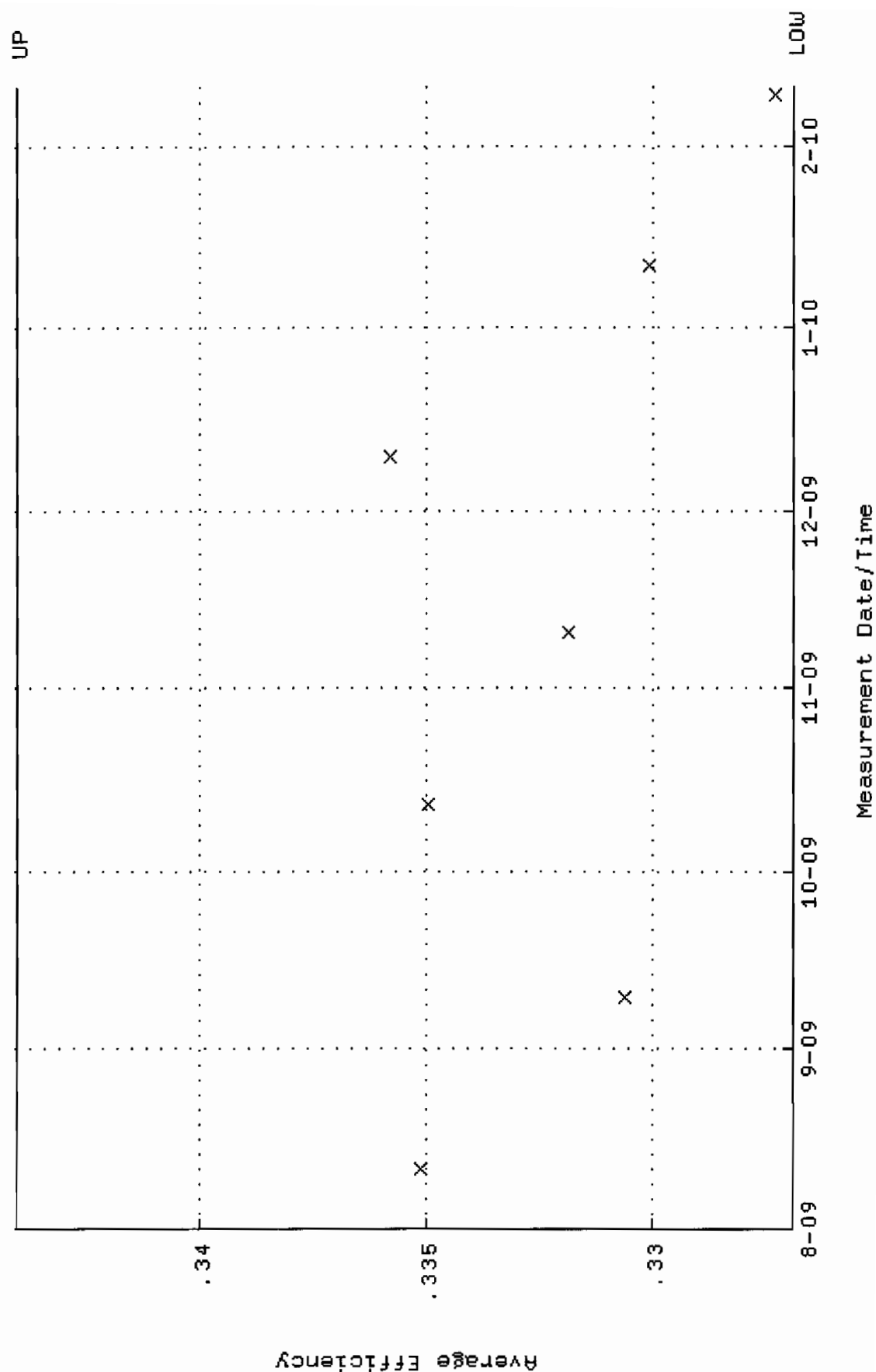
QA filename : DKA100:[ENV_ALPHA,QA.W]W101.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.000



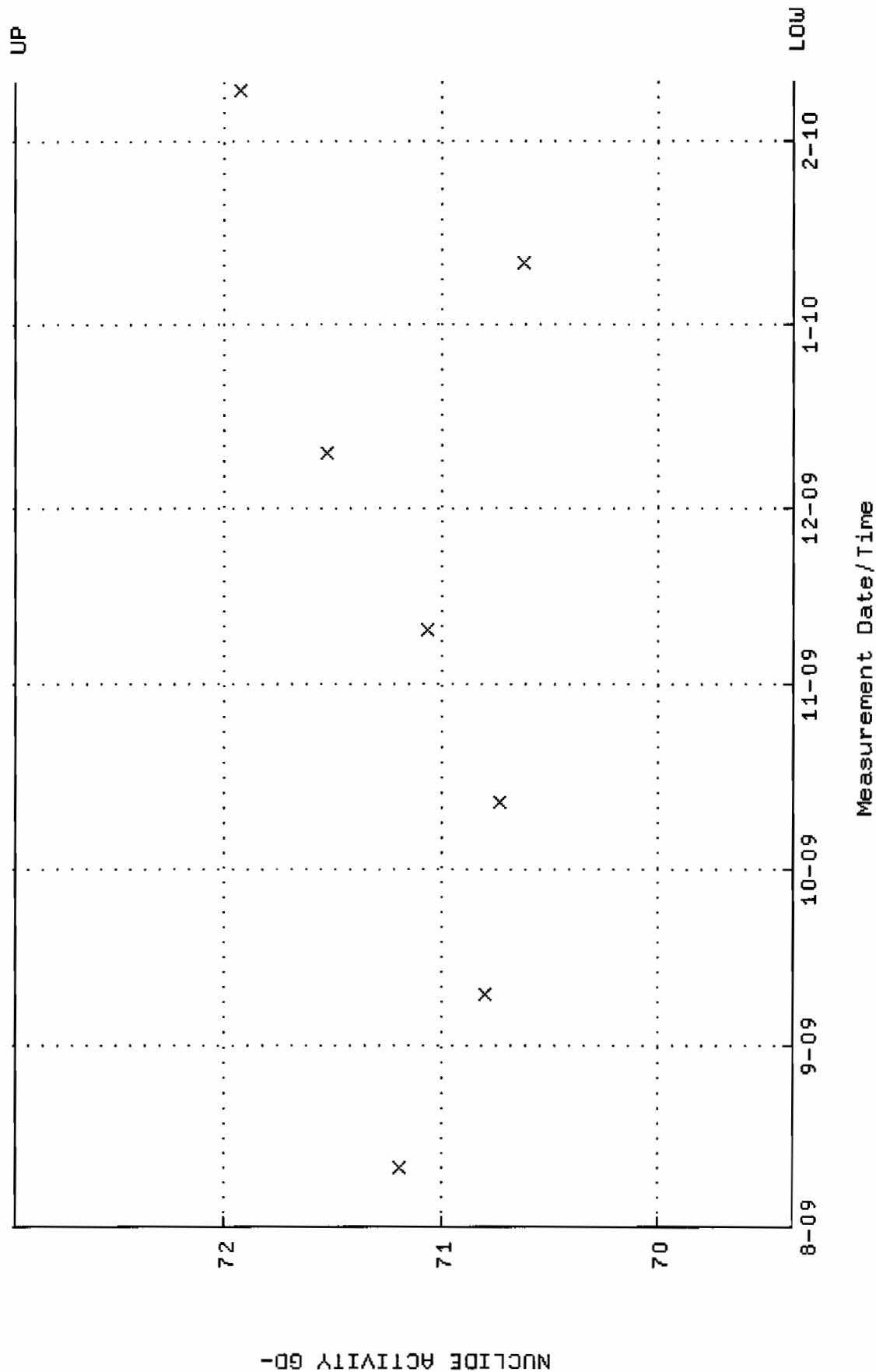
QA filename : DKA100:[ENV_ALPHA.QA.B]B101.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



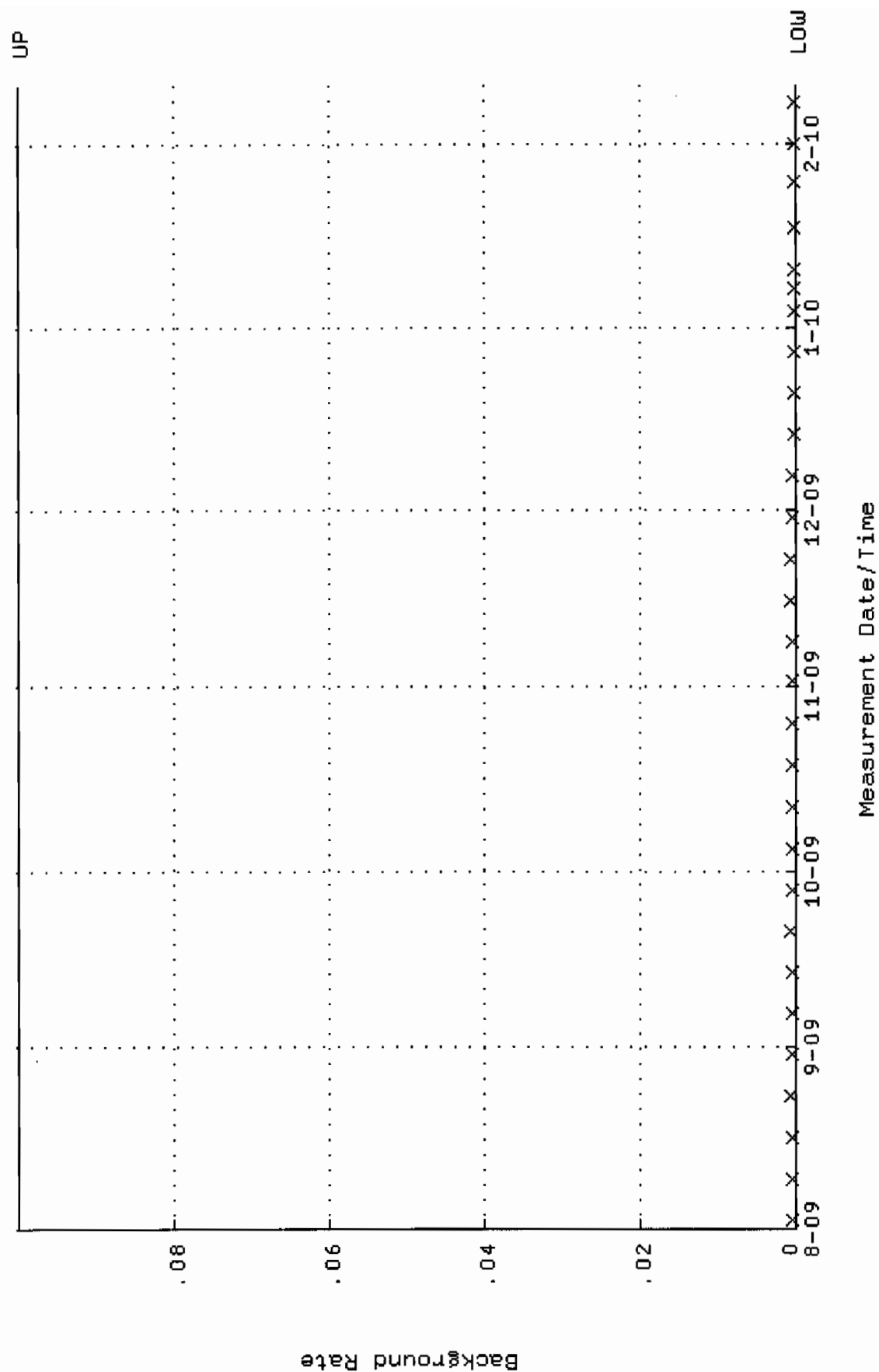
QA filename : DKA100:[ENV_ALPHA.QA.W]W102.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.326915 through 0.344021



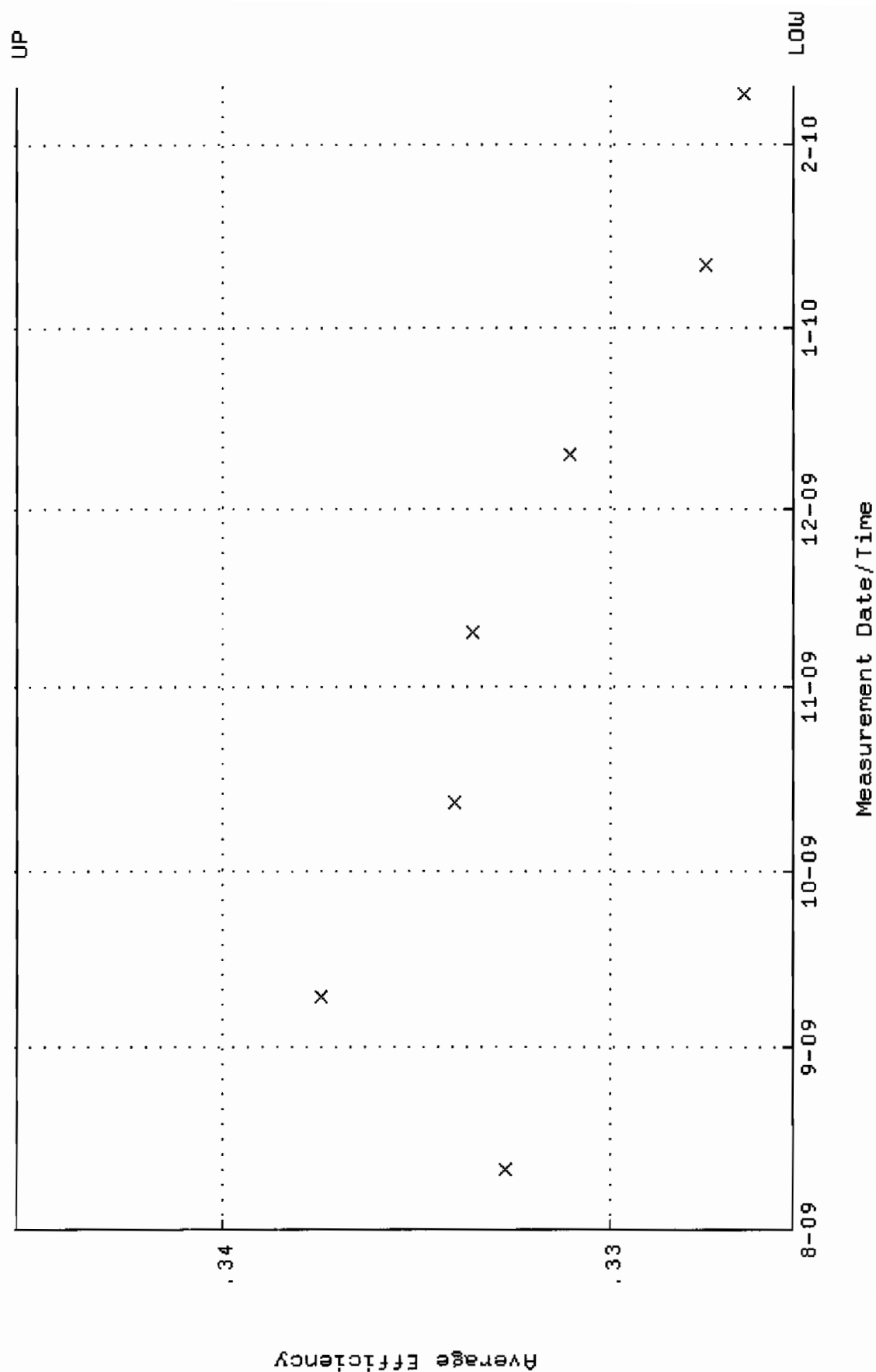
QA filename : DKA100:[ENV_ALPHA.QA.W]W102.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.3731 through 72.9663



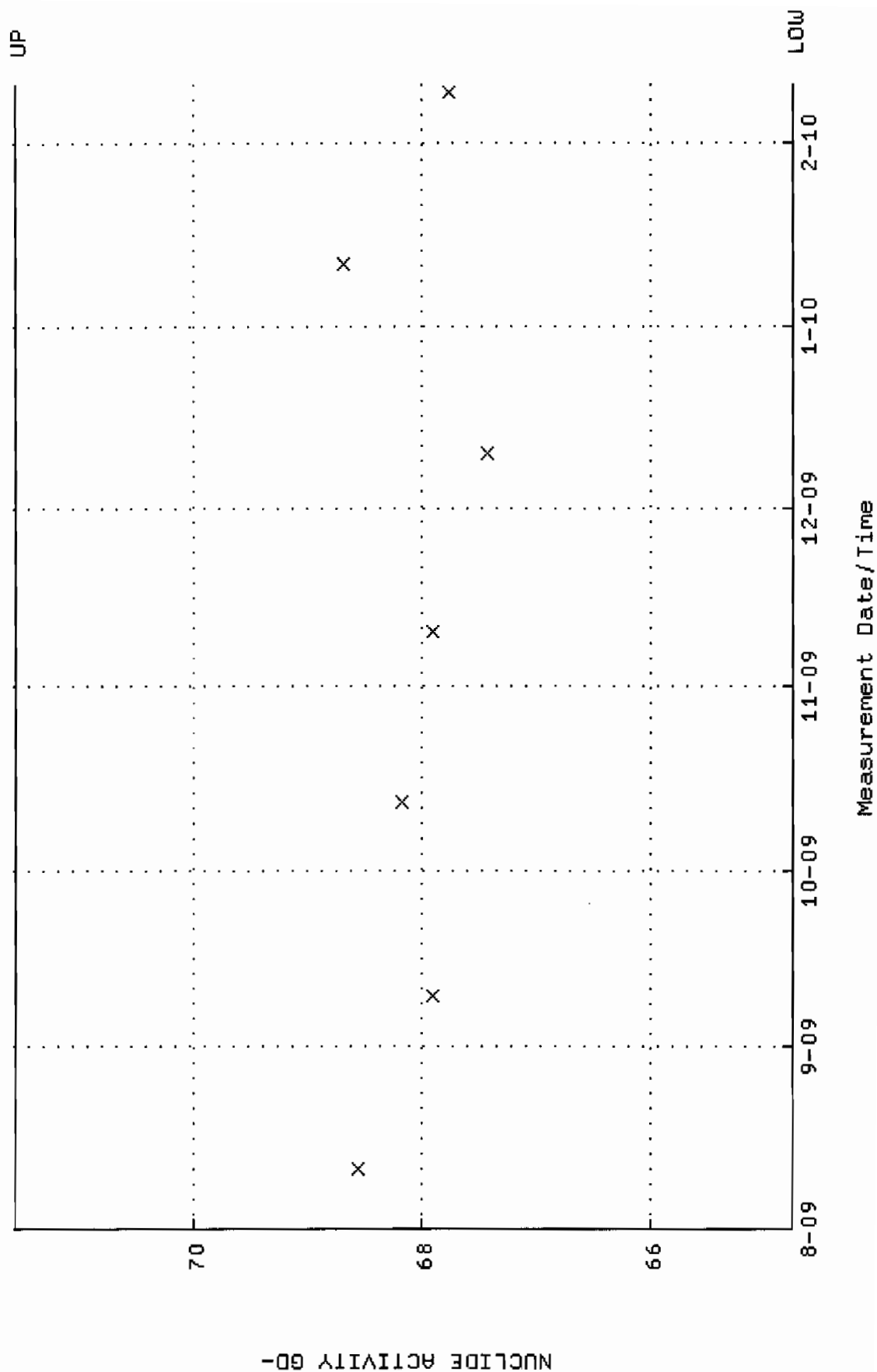
QA filename : DKA100:[ENV_ALPHA.QA.B]B102.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



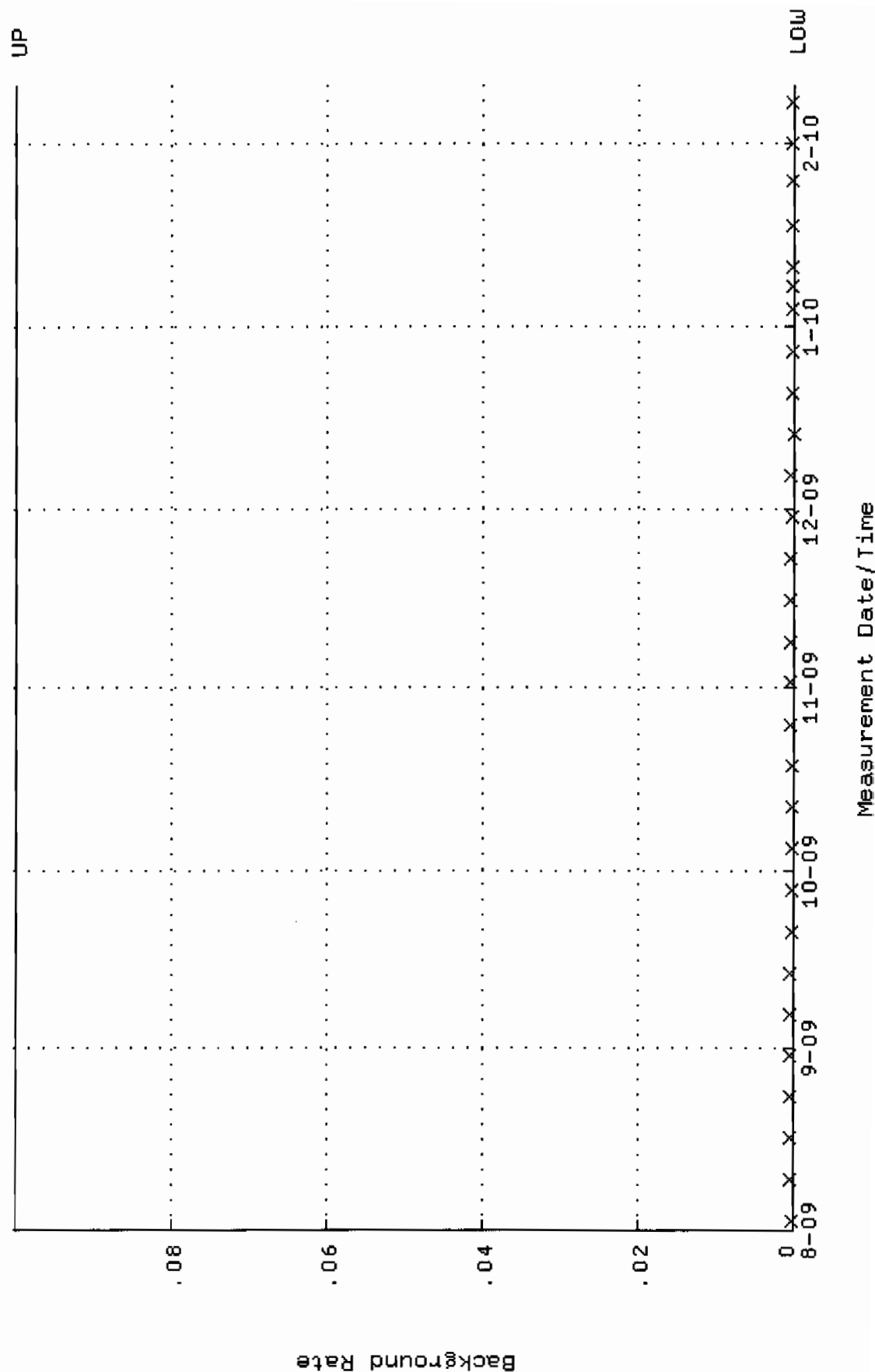
QA filename : DKA100:[ENV_ALPHA.QA.W]W103.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.325314 through 0.345314



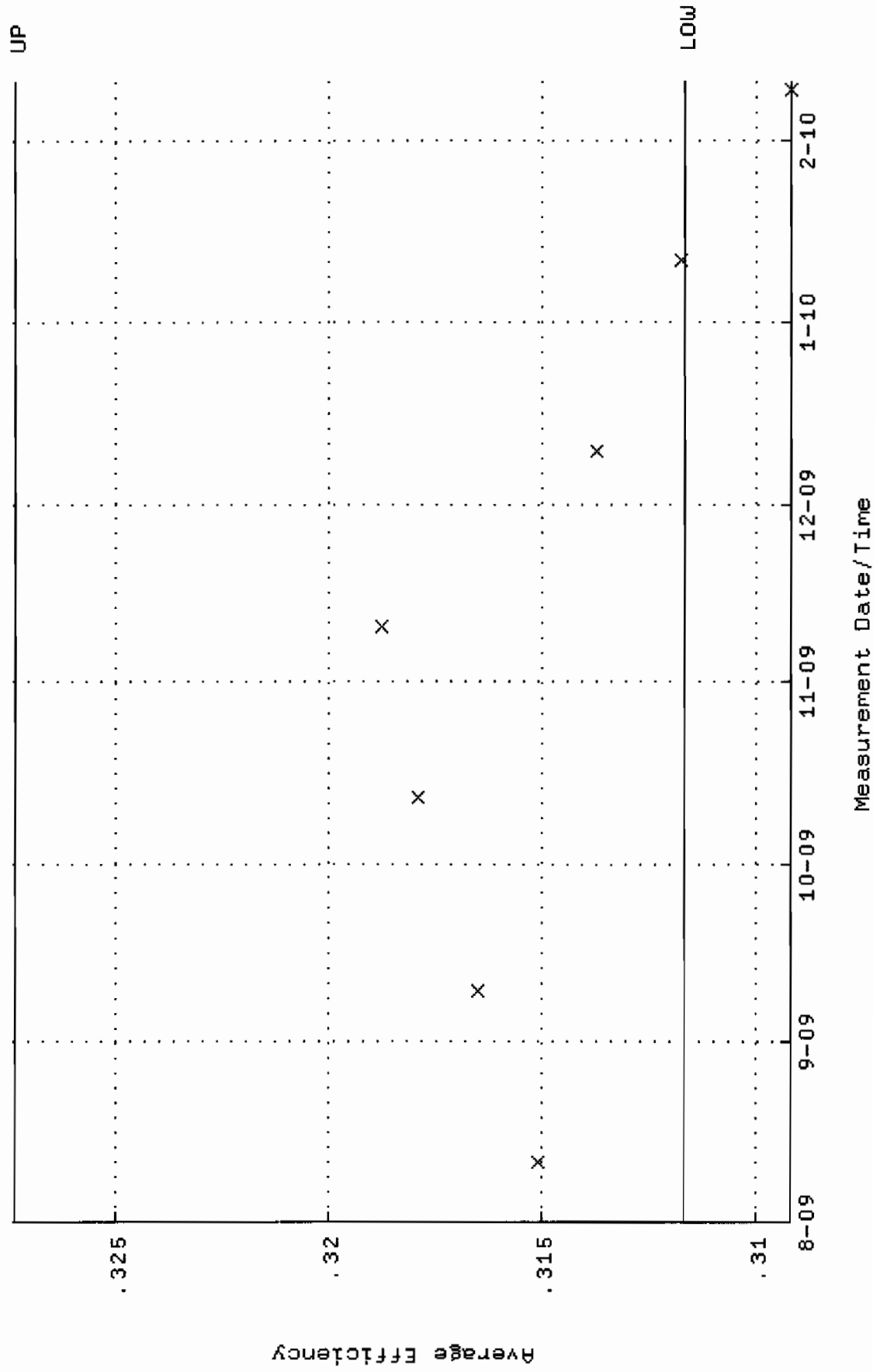
QA filename : DKA100:[ENV_ALPHA.QA.W]W103.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 64.7479 through 71.5635



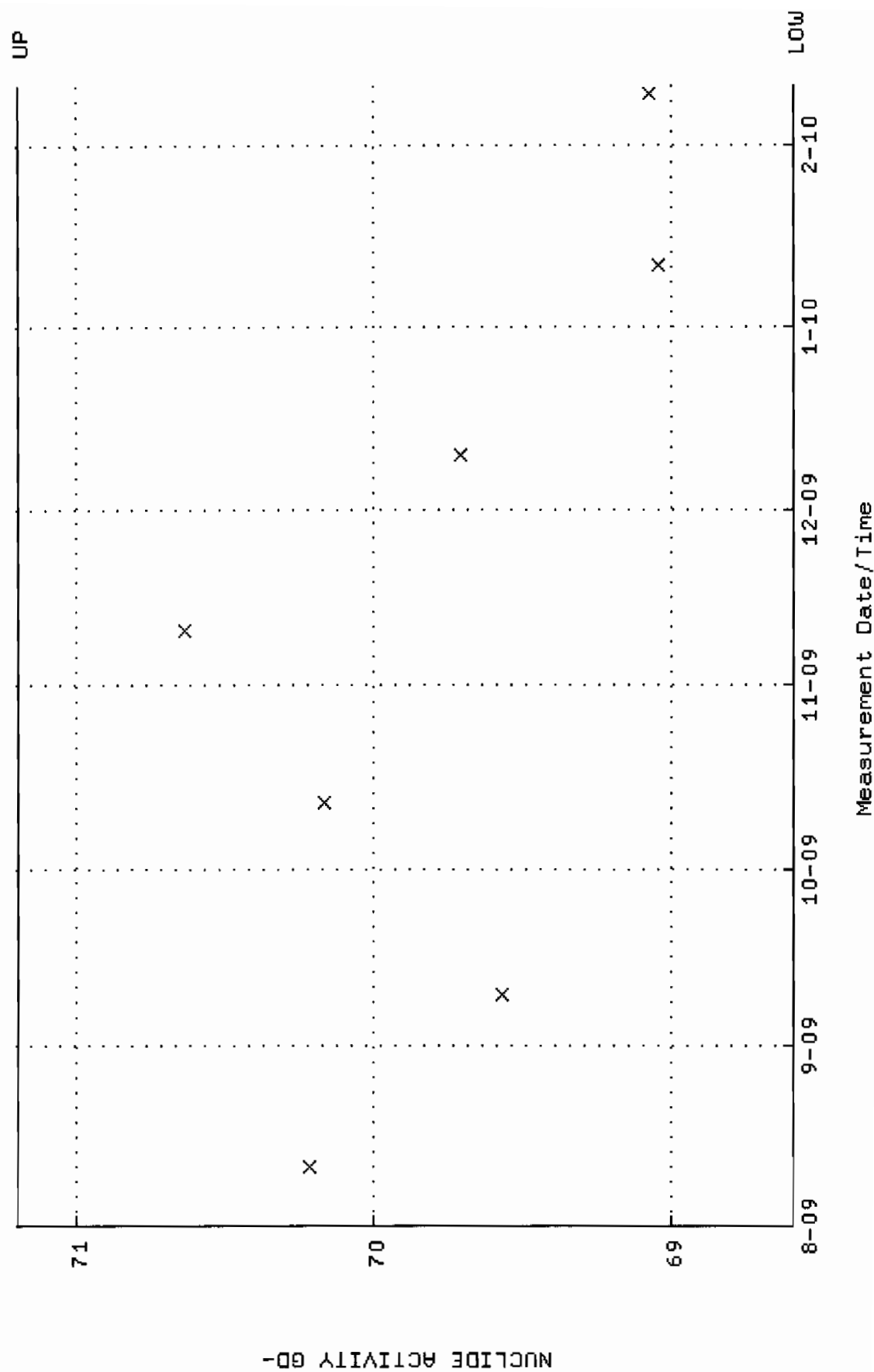
QA filename : DKA100:[ENV_ALPHA.QA.B]B103.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



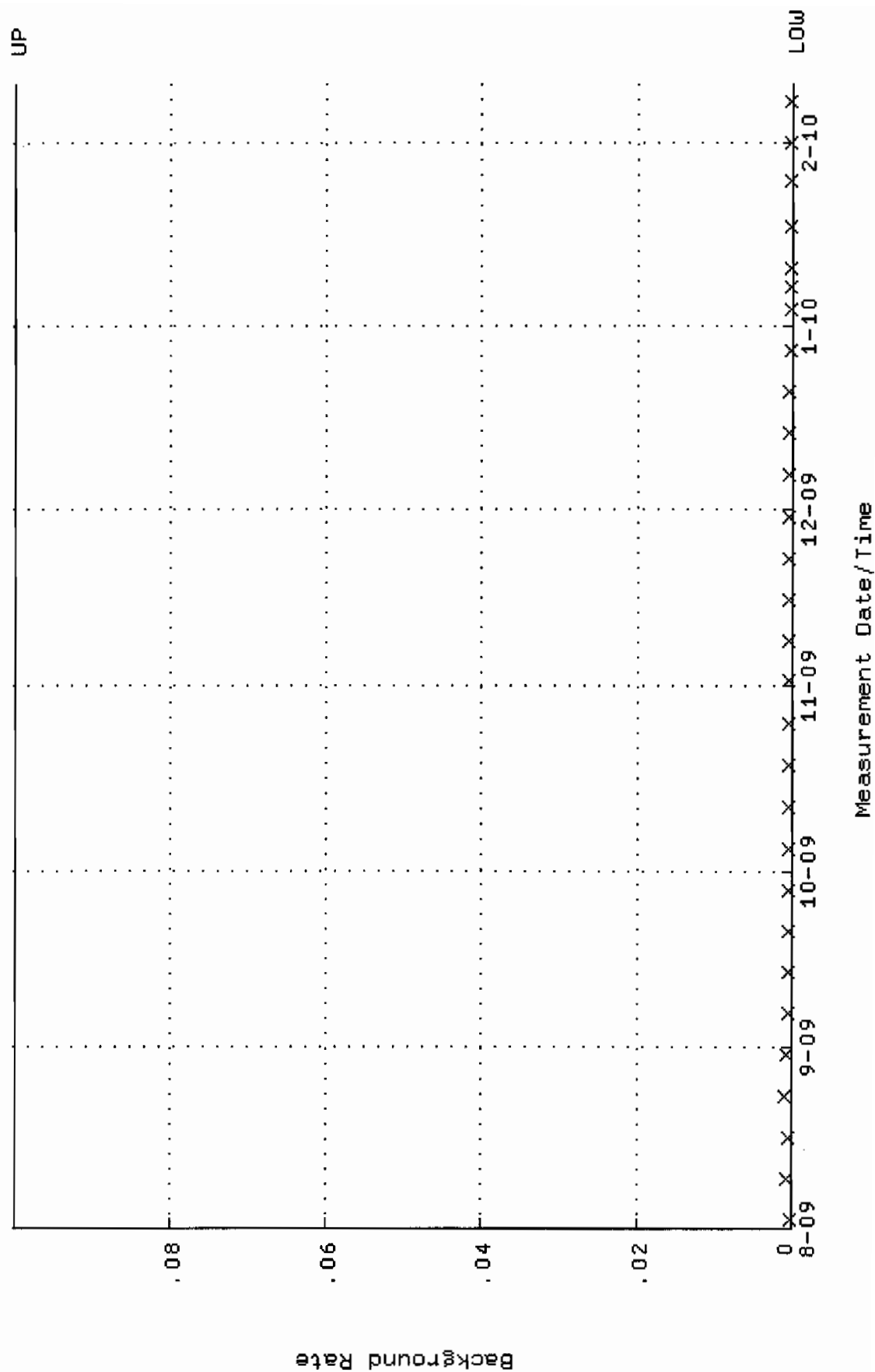
QA filename : DKA100:[ENV_ALPHA.QA.W]U104.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.311685 through 0.327337



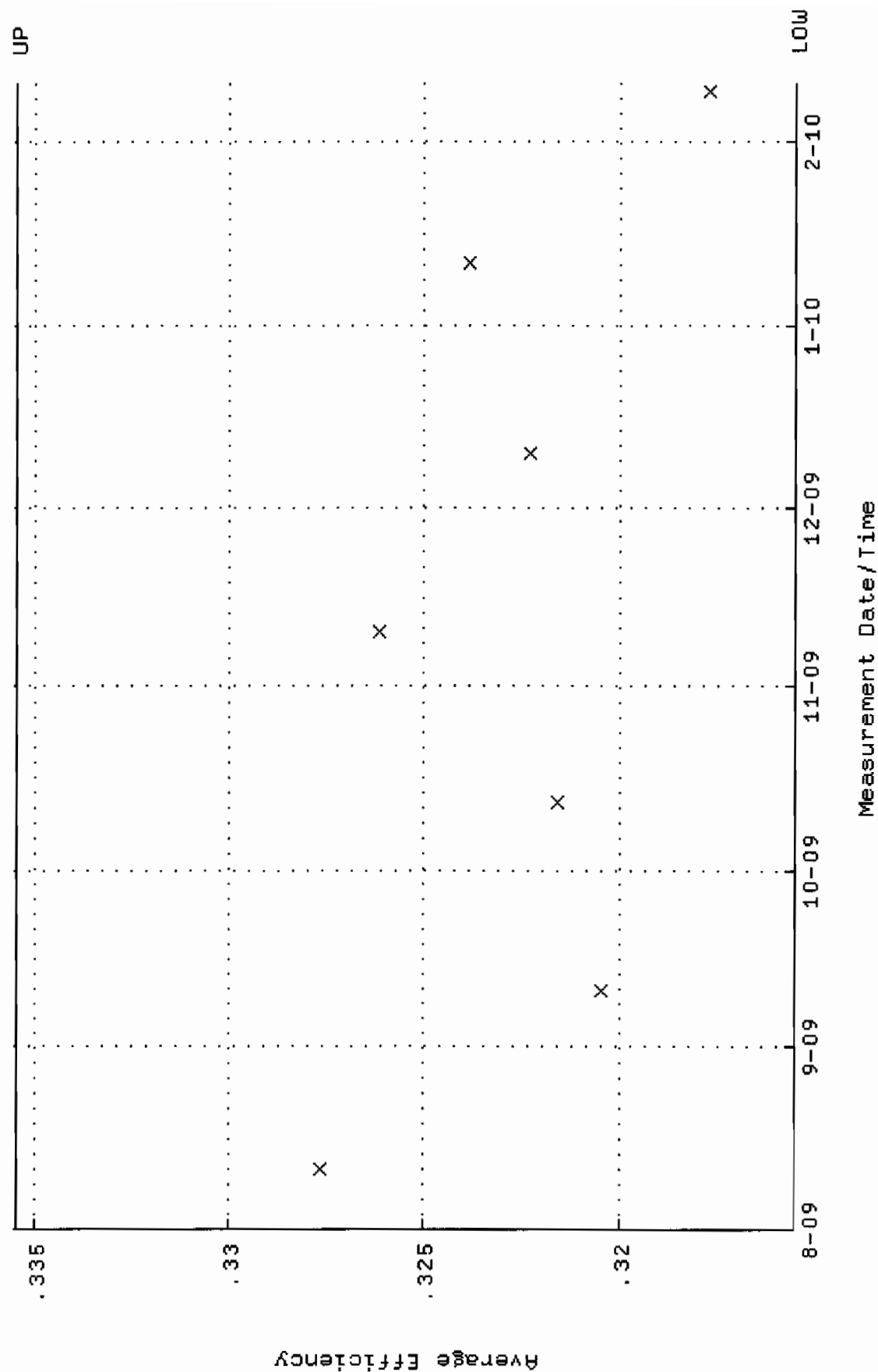
QA filename : DKA100:[ENV-ALPHA.QA.W]W104.QAF;3
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.5906 through 71.1932



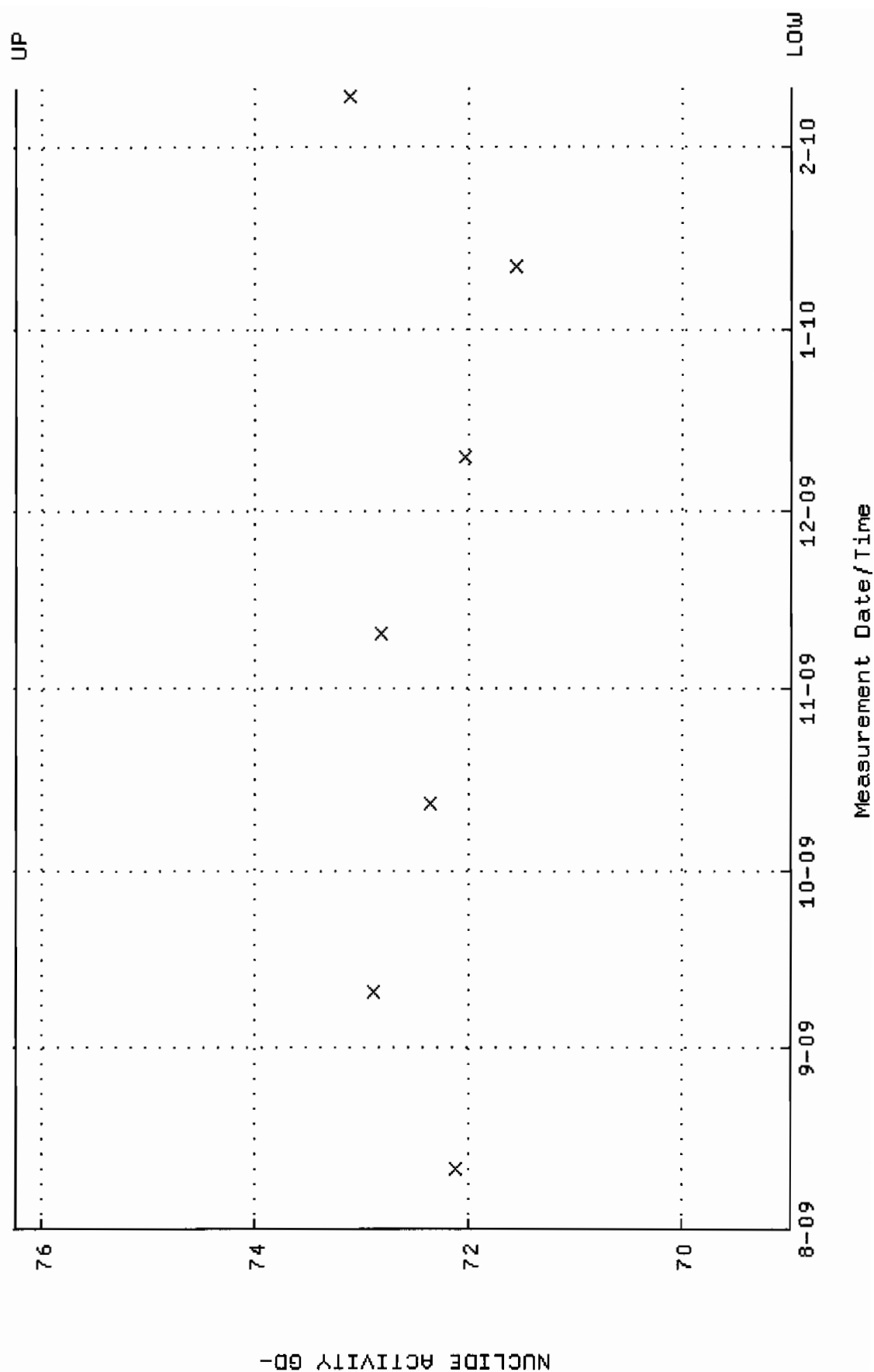
QA filename : DKA100:[ENV_ALPHA.QA.BJB104.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



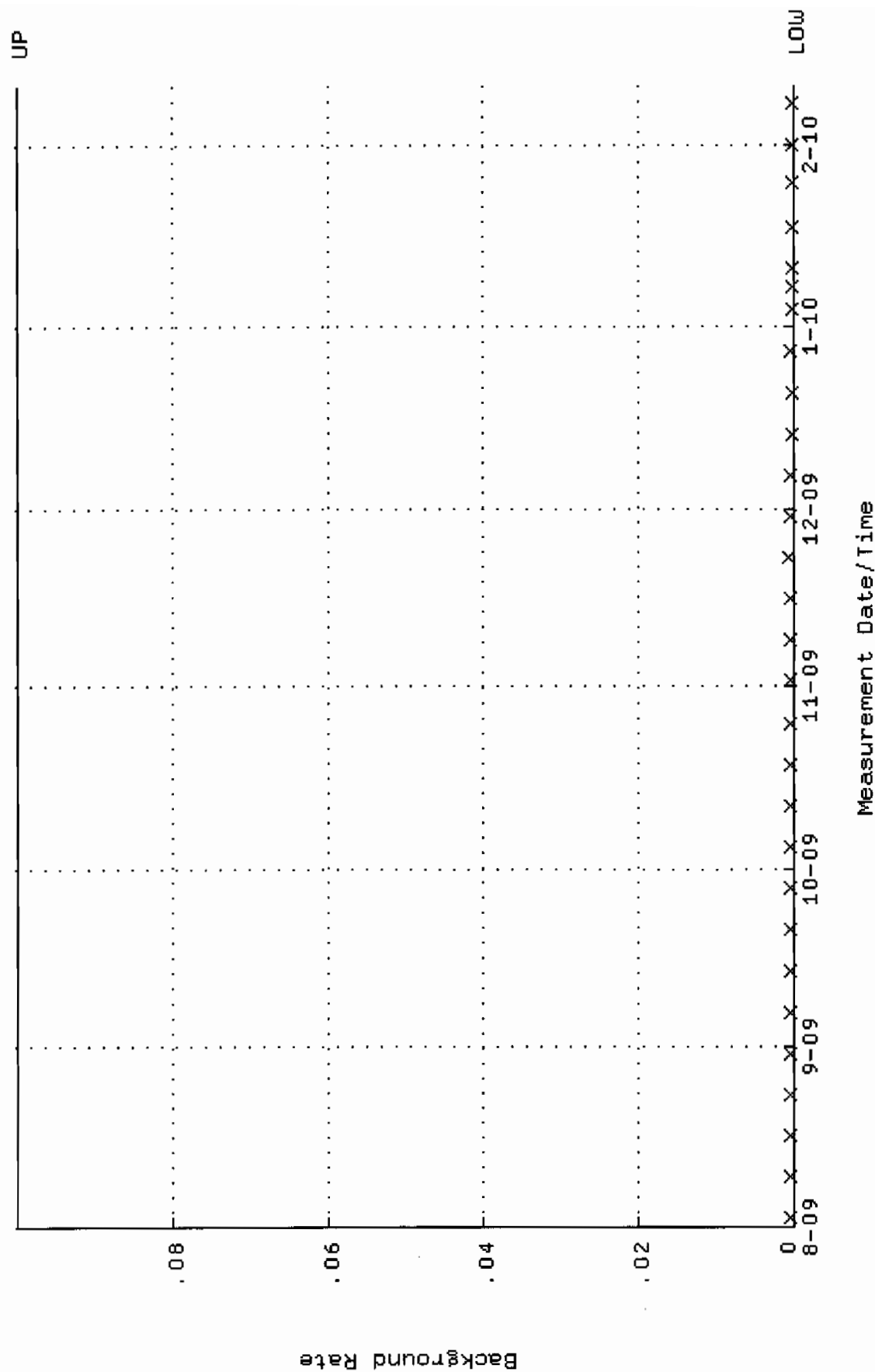
QA filename : DKA100:[ENV_ALPHA.QA.W]W105.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.315468 through 0.335468



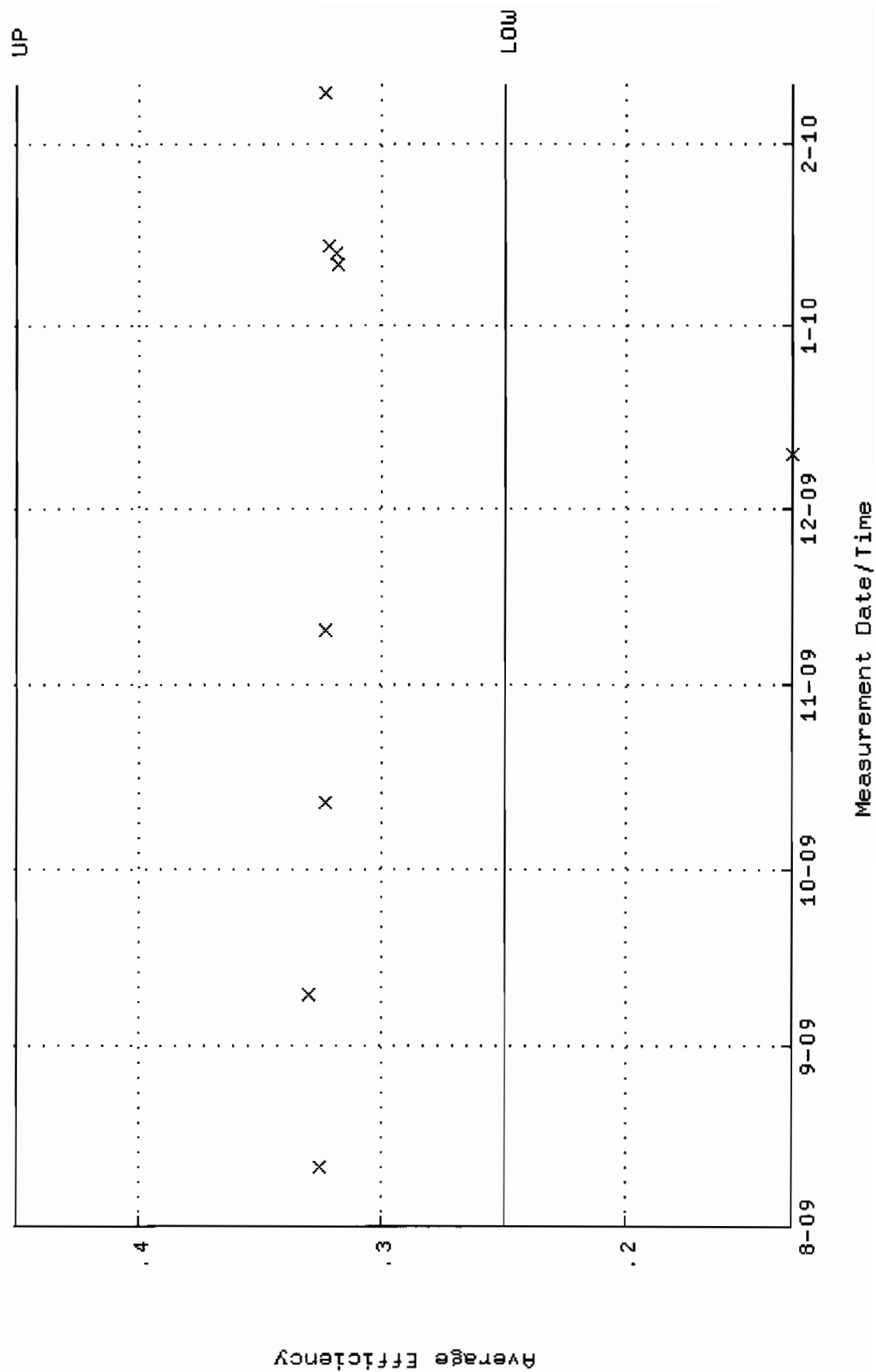
QA filename : DKA100:[ENV_ALPHA.QA.W]W105.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.9774 through 76.2382



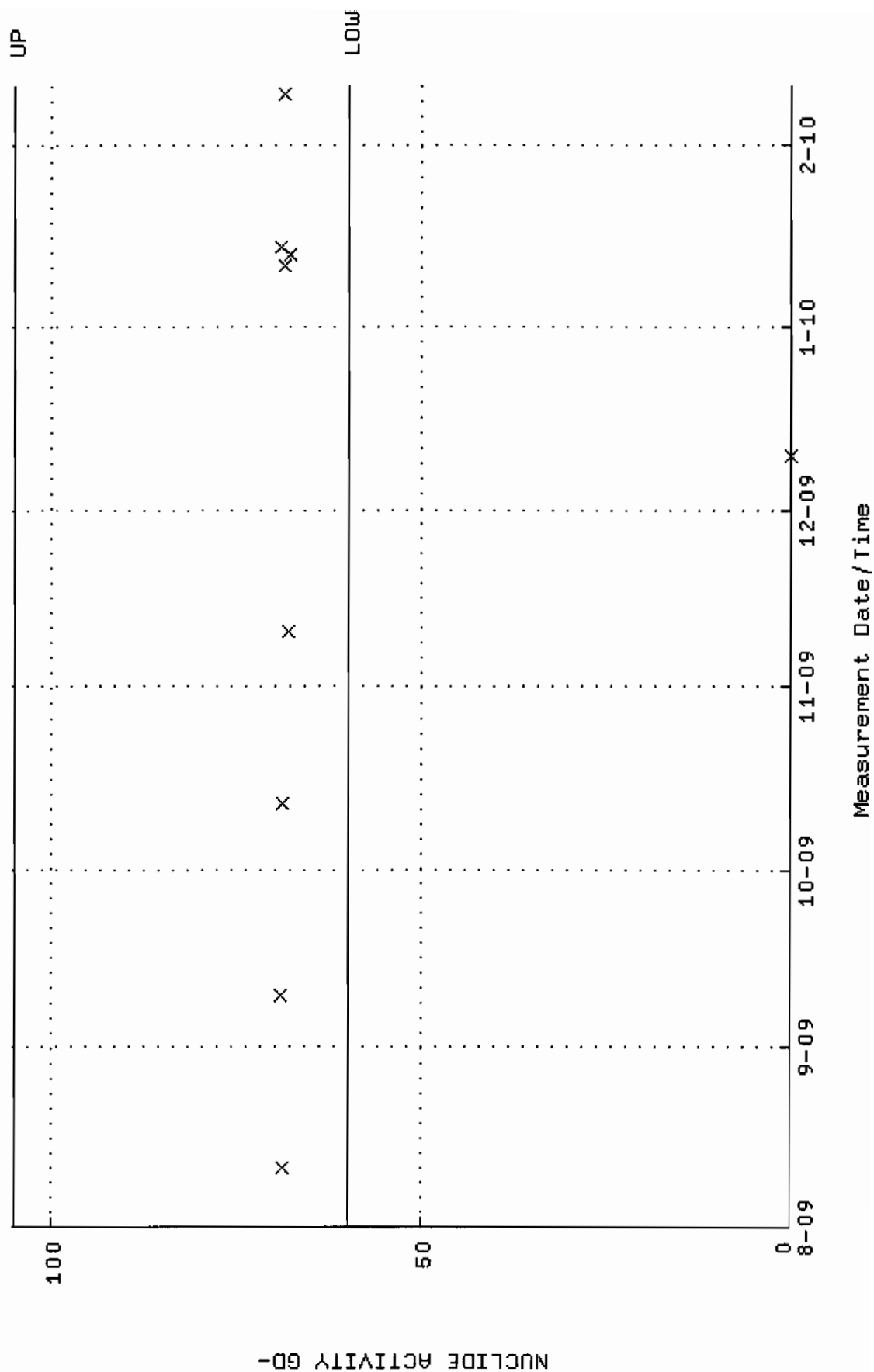
QA filename : DKA100:[ENV_ALPHA.QA.B]B105.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



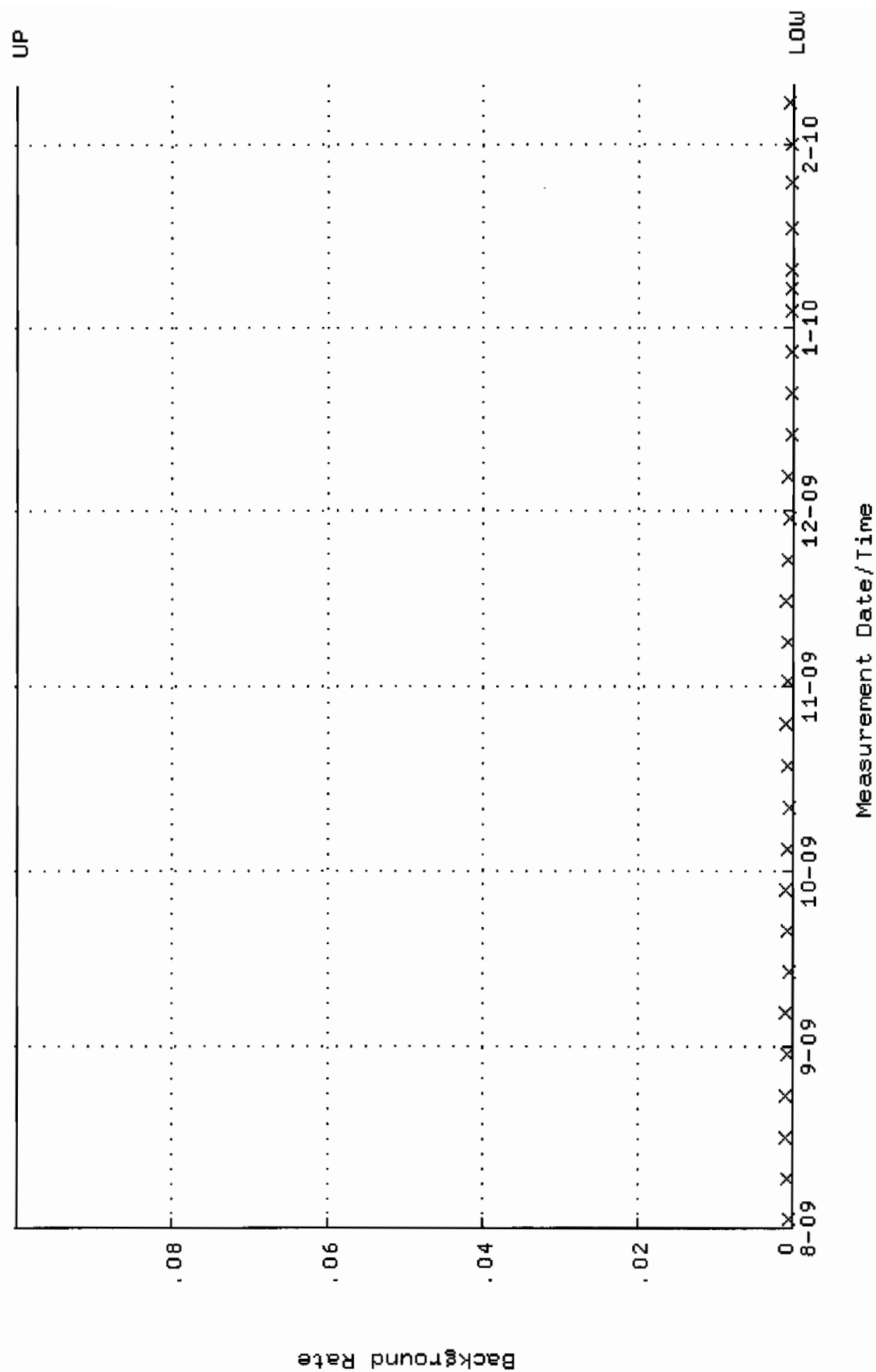
QA filename : DKA100:[ENV_ALPHA.QA.W]W106.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



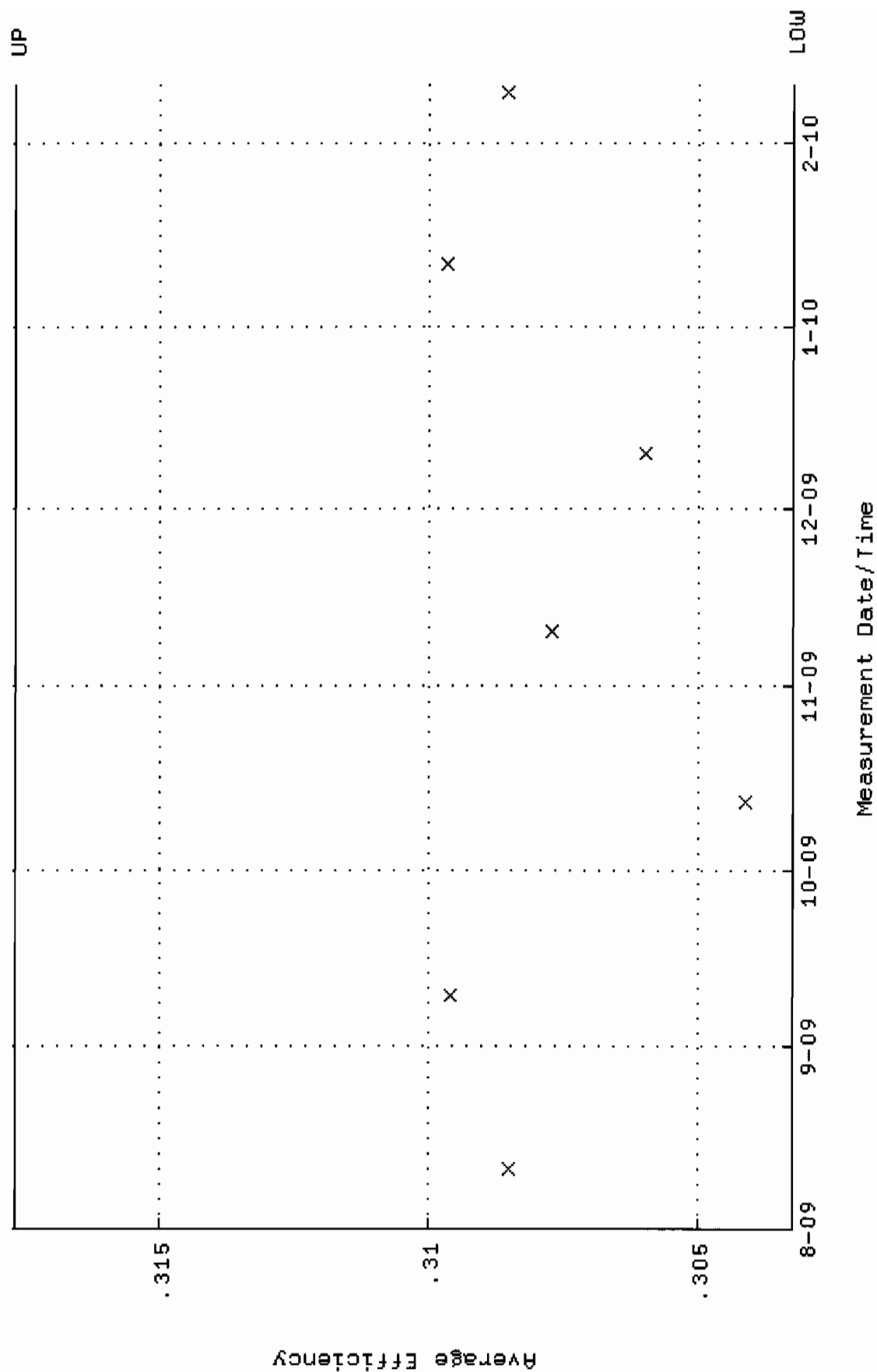
QA filename : DKA100:[ENV_ALPHA.QA.w]w106.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:17 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



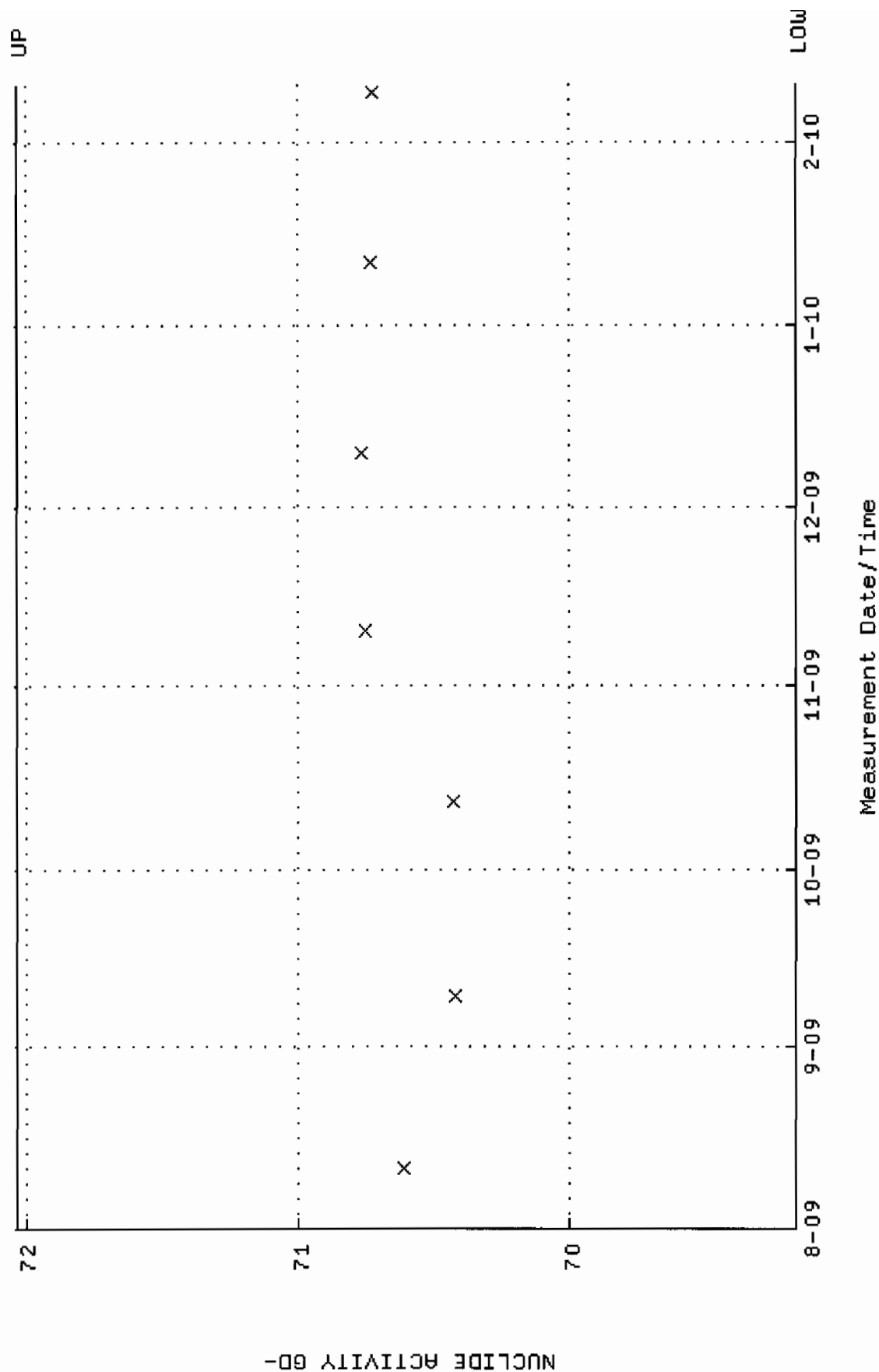
QA filename : DKA100:[ENV_ALPHA.QA.B]B106.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:43 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]w107.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.303231 through 0.317703



QA filename : DKA100:[ENV_ALPHA.QA.W]w107.QAF;4
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.1572 through 72.0358

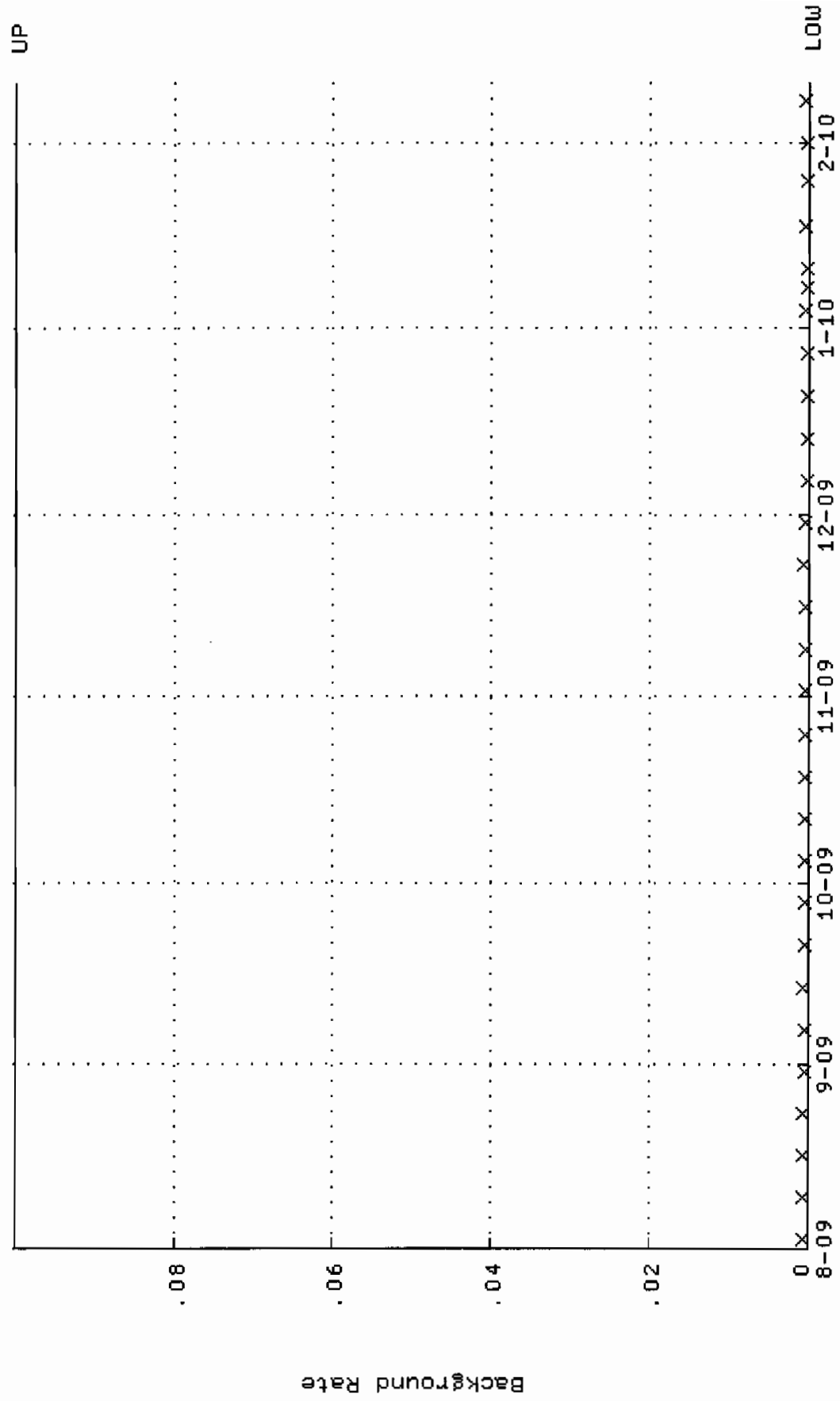


QA filename : DKA100:[ENV_ALPHA.QA.B]B107.QAF;2

Parameter Name : BACKRATE (Background Rate)

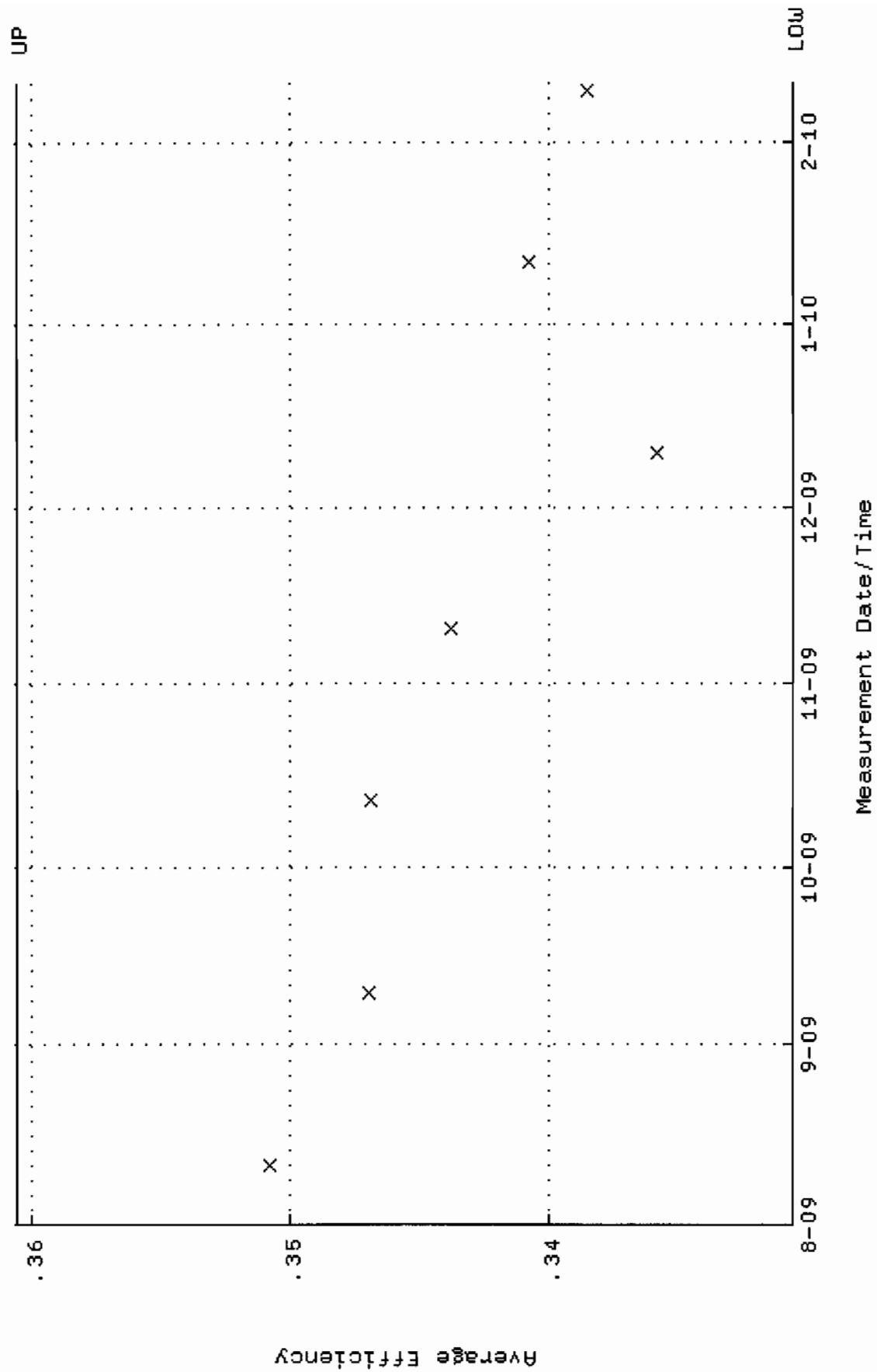
Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00

Lower/Upper Lmts: 0.000000E+00 through 0.100000

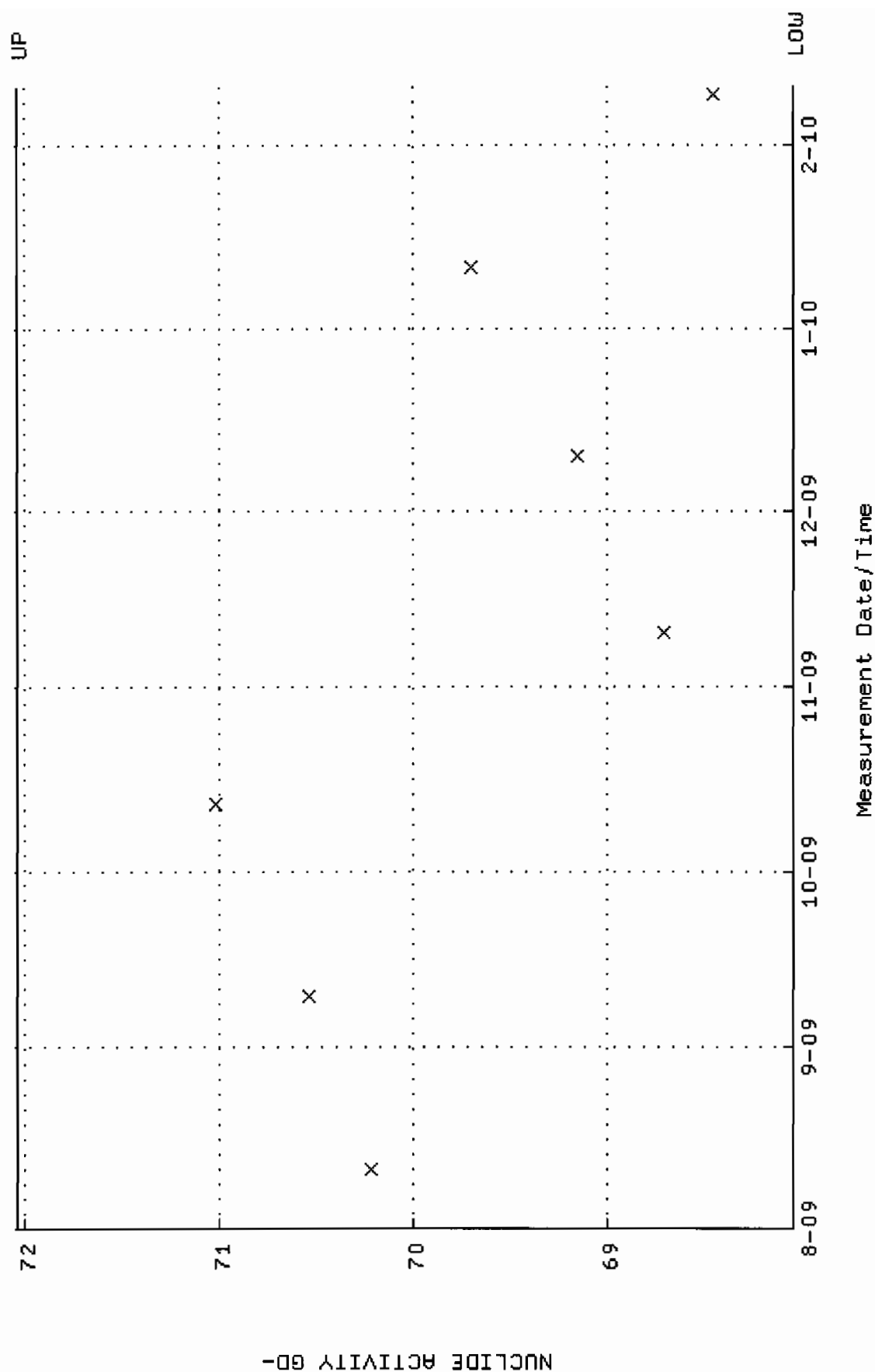


Measurement Date/Time

QA filename : DKA100:[ENV_ALPHA.QA.W]W108.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.330641 through 0.360561



QA filename : DKA100:[ENV_ALPHA,QA,W]W108.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 68.0460 through 72.0402

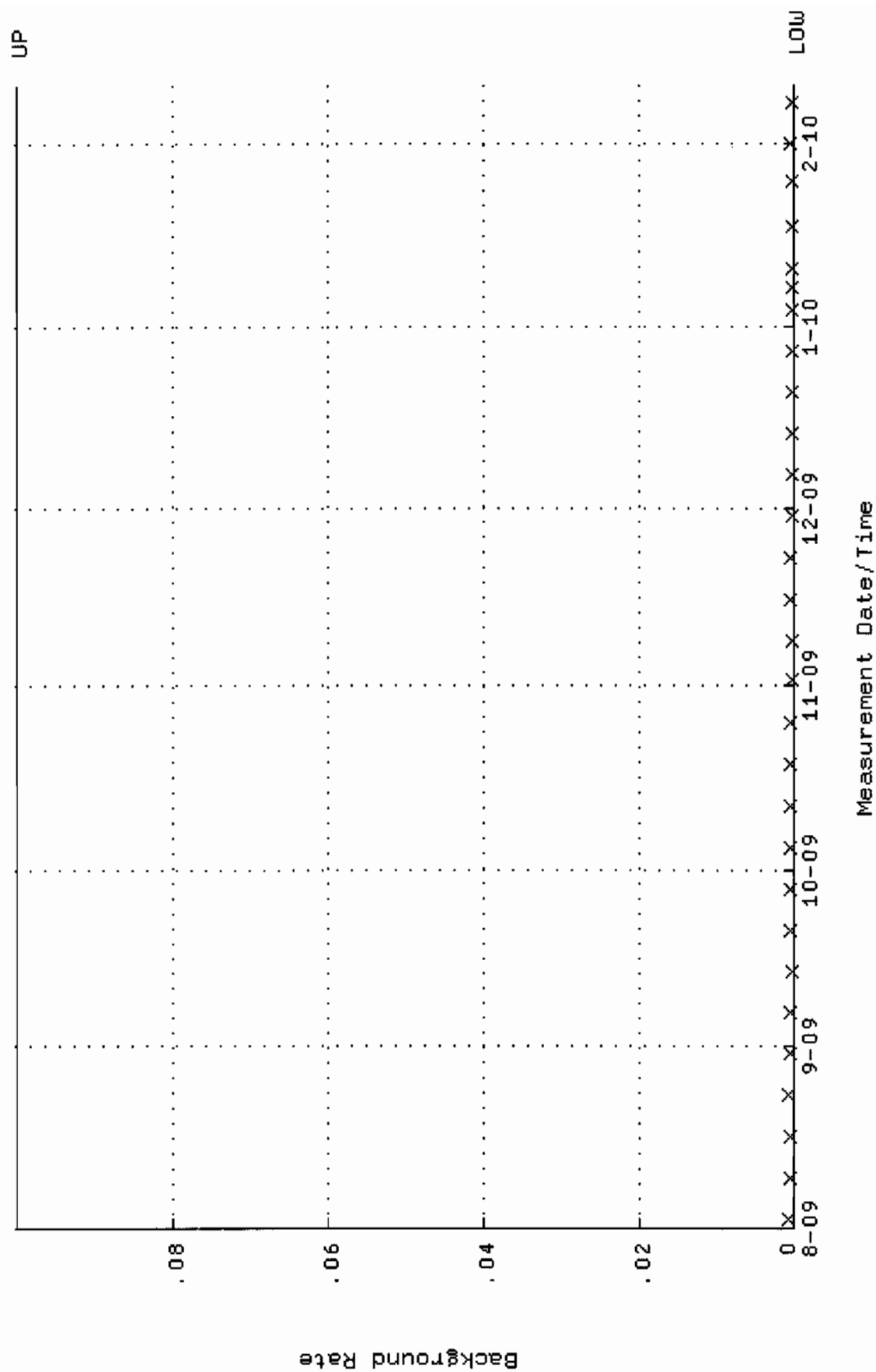


QA filename : DKA100:[ENV_ALPHA.QA.B]B108.QAF;2

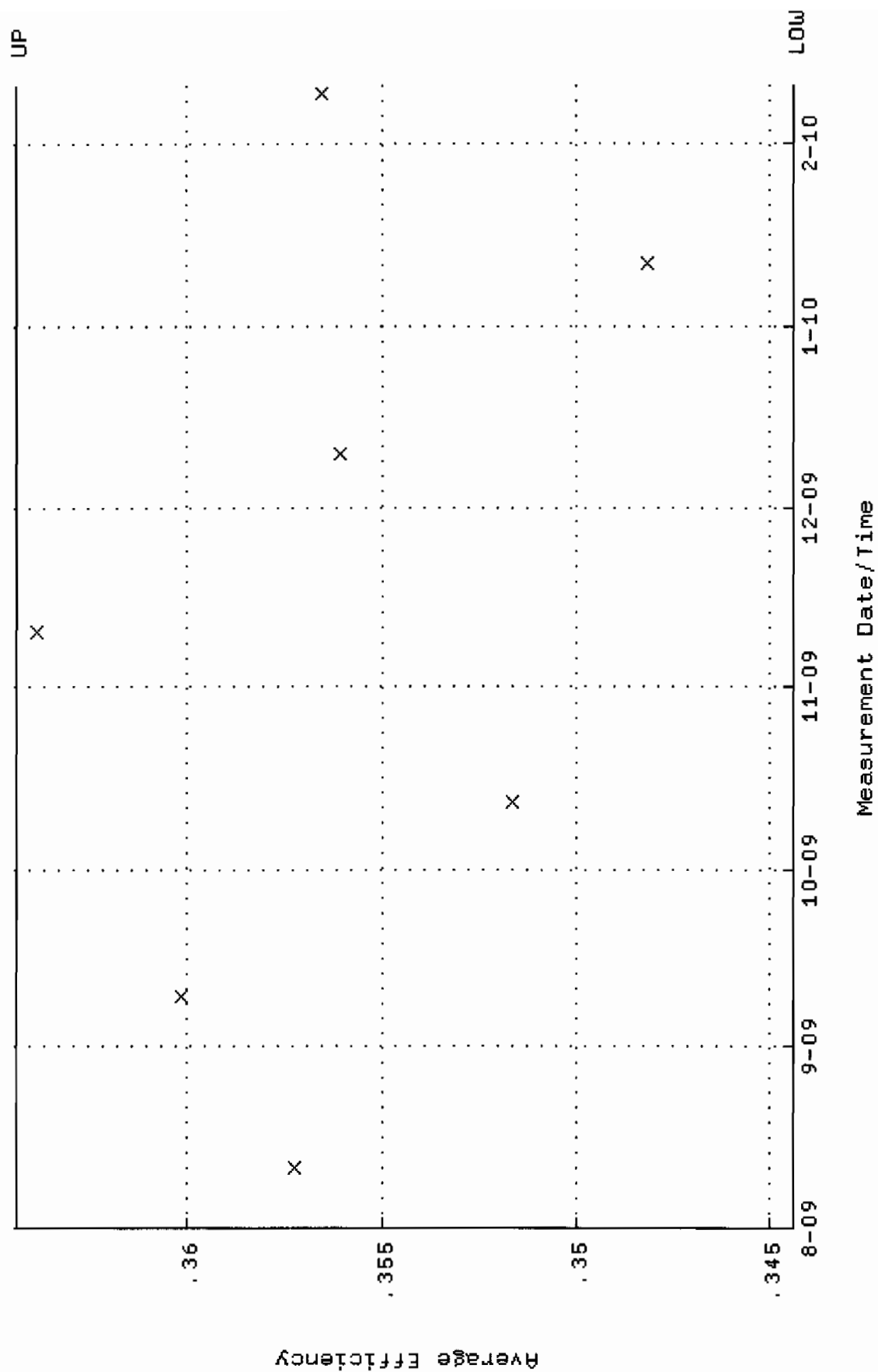
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00

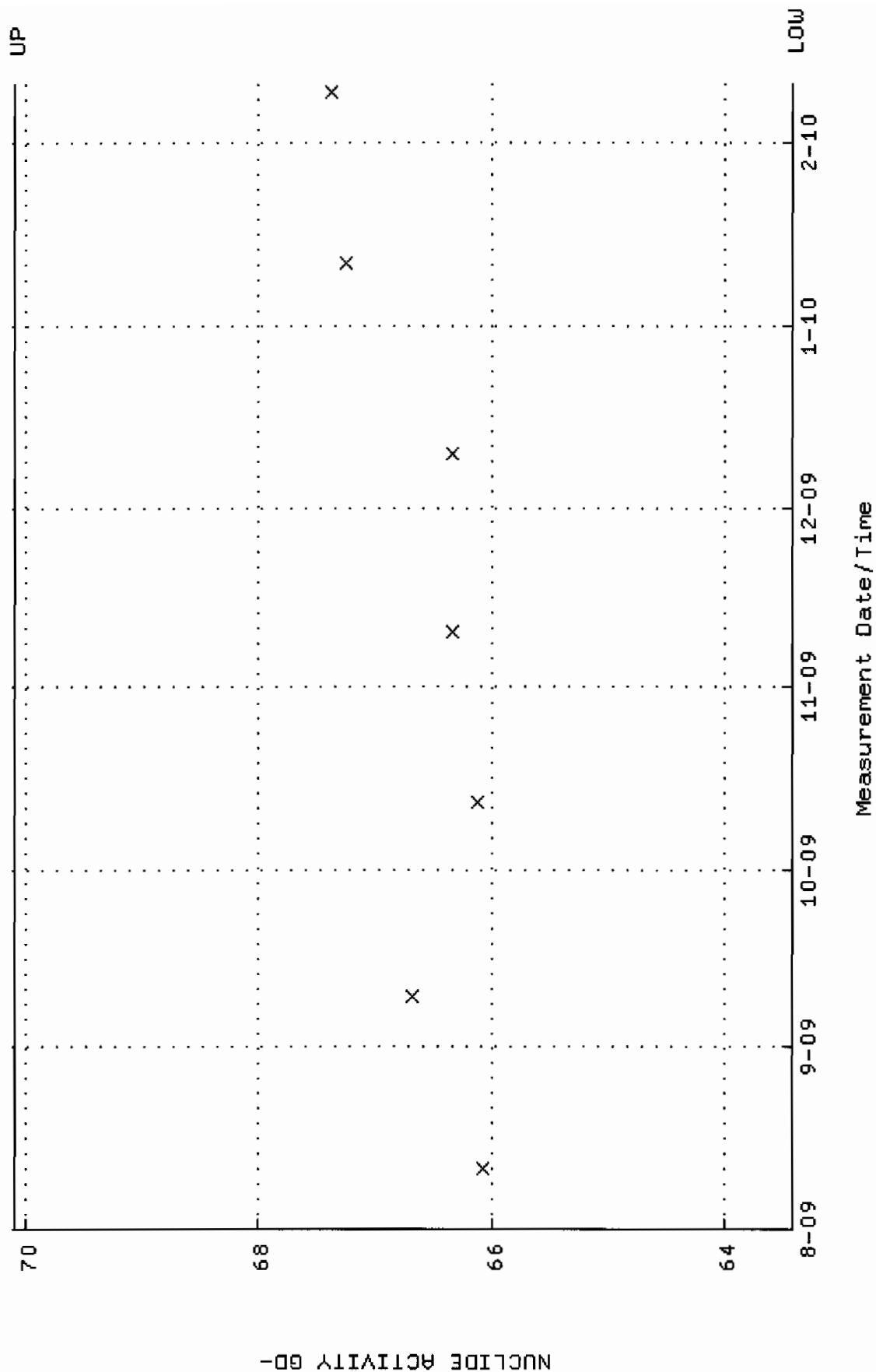
Lower/Upper Lmts: 0.000000E+00 through 0.100000



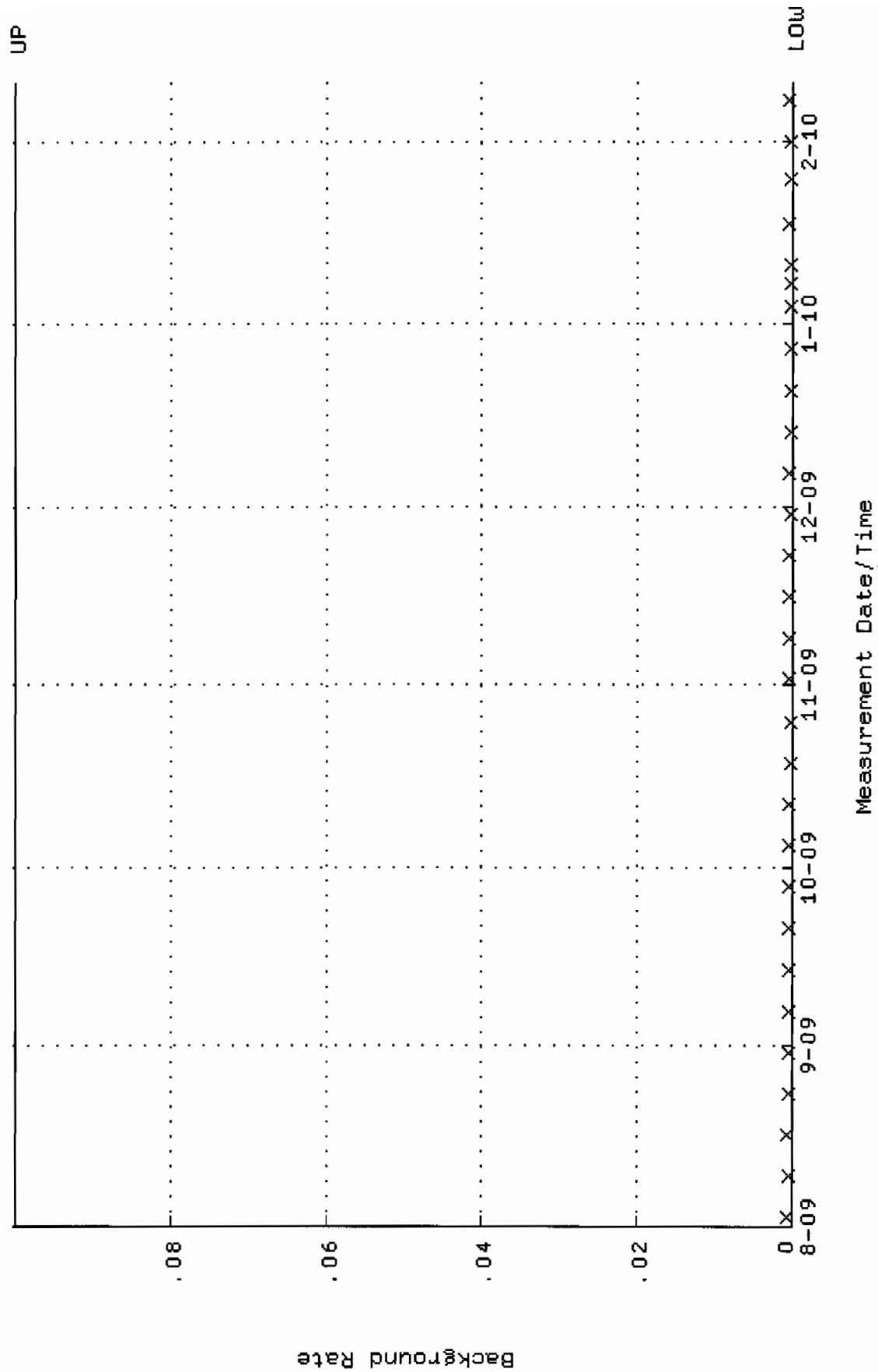
QA filename : DKA100:[ENV_ALPHA.QA.W]W109.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.344397 through 0.364397



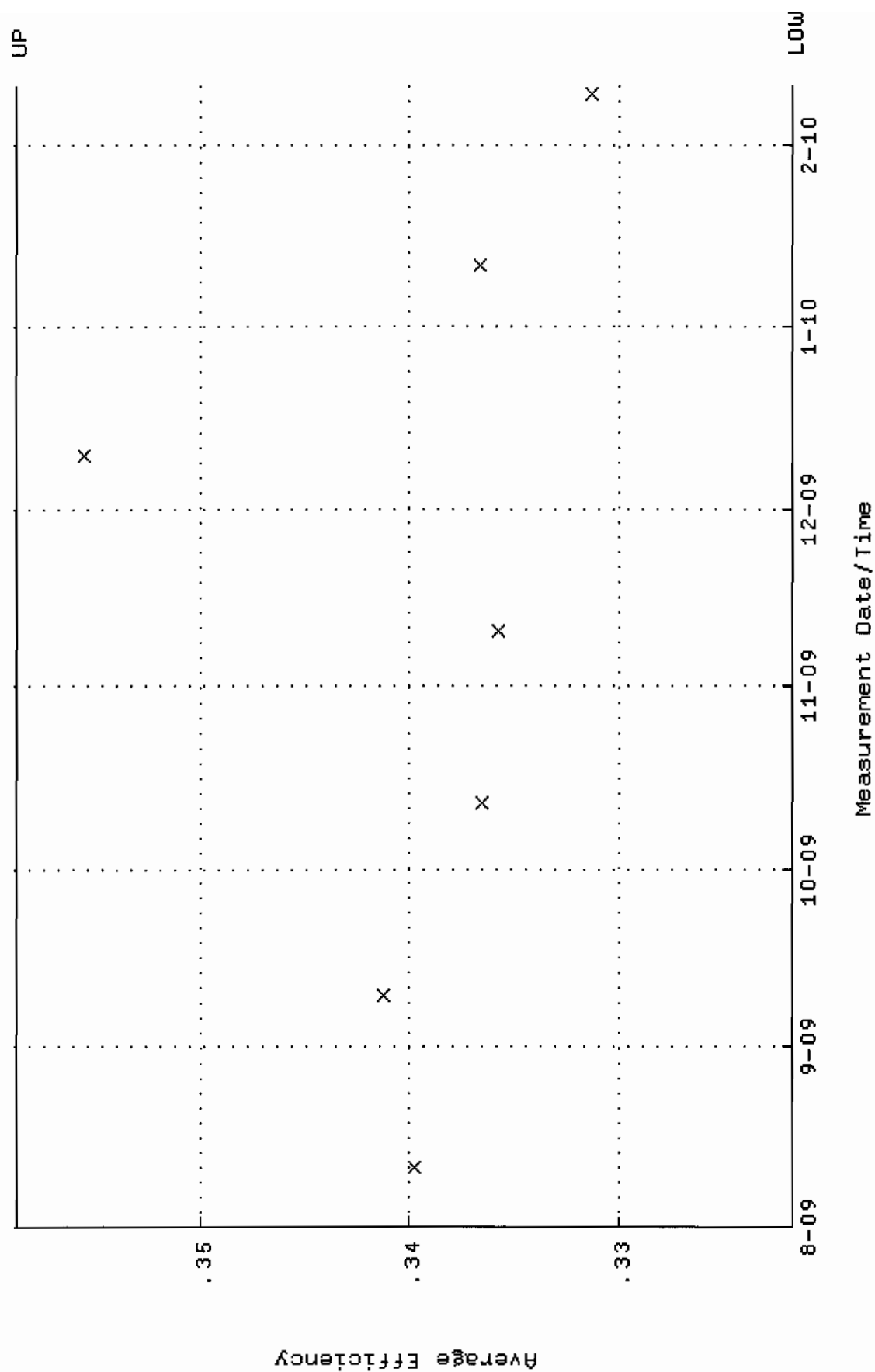
QA filename : DKA100:[ENV_ALPHA.QA.W]w109.QAF;2
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 63.4194 through 70.0952



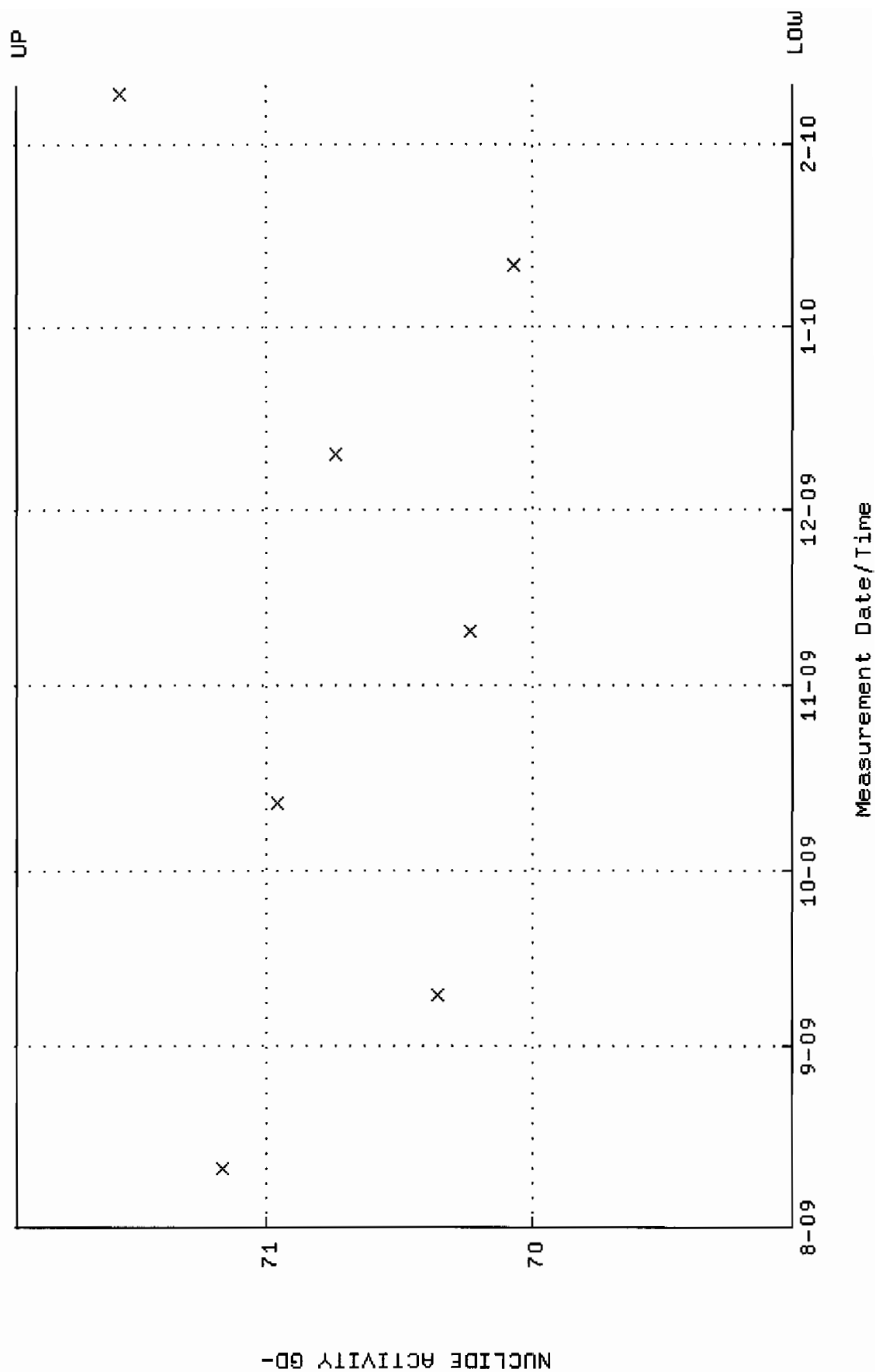
QA filename : DKA100:[ENV_ALPHA.QA.B]B109.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



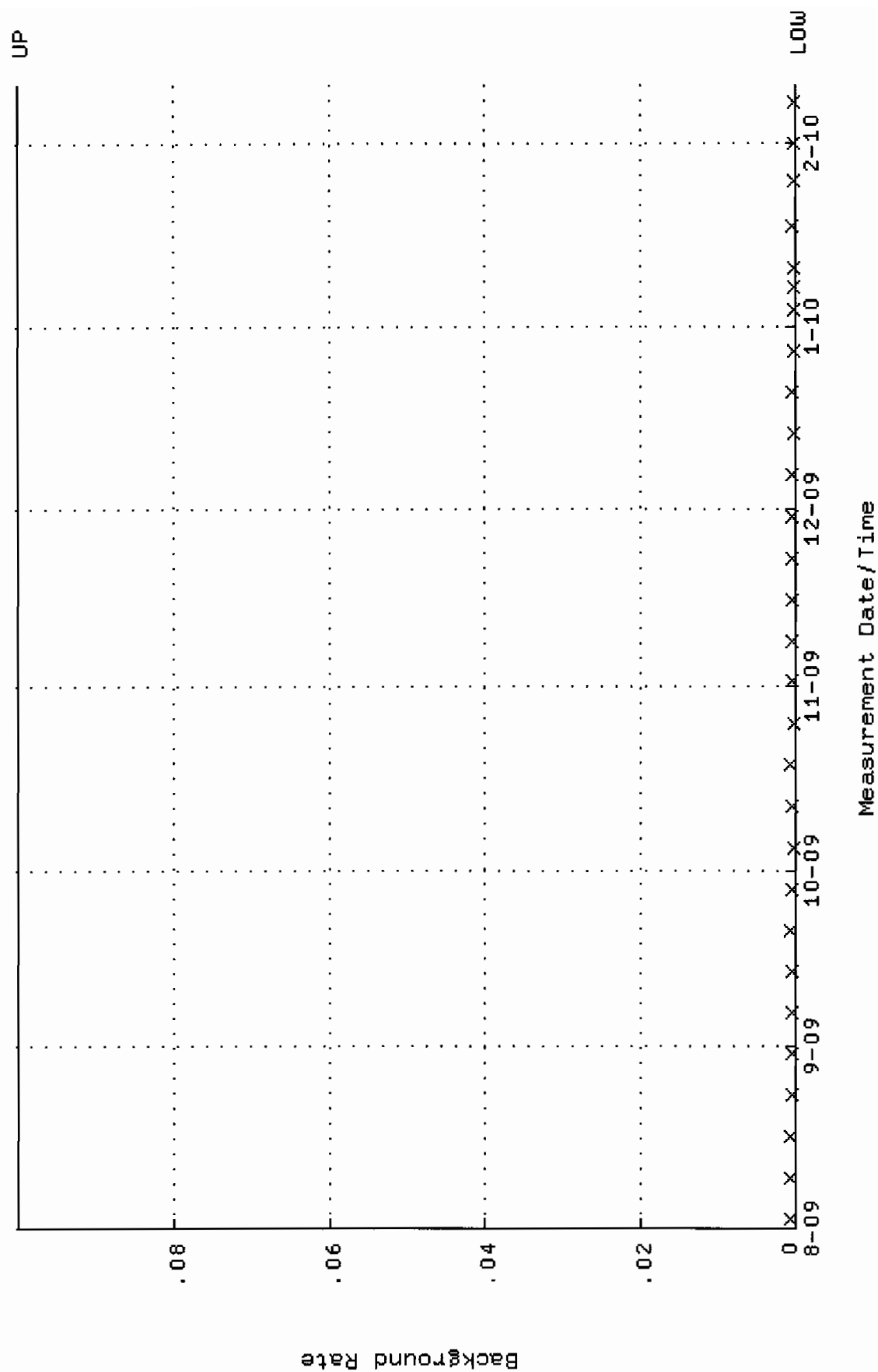
QA filename : DKA100:[ENV_ALPHA,QA.W]W111.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.321662 through 0.358794



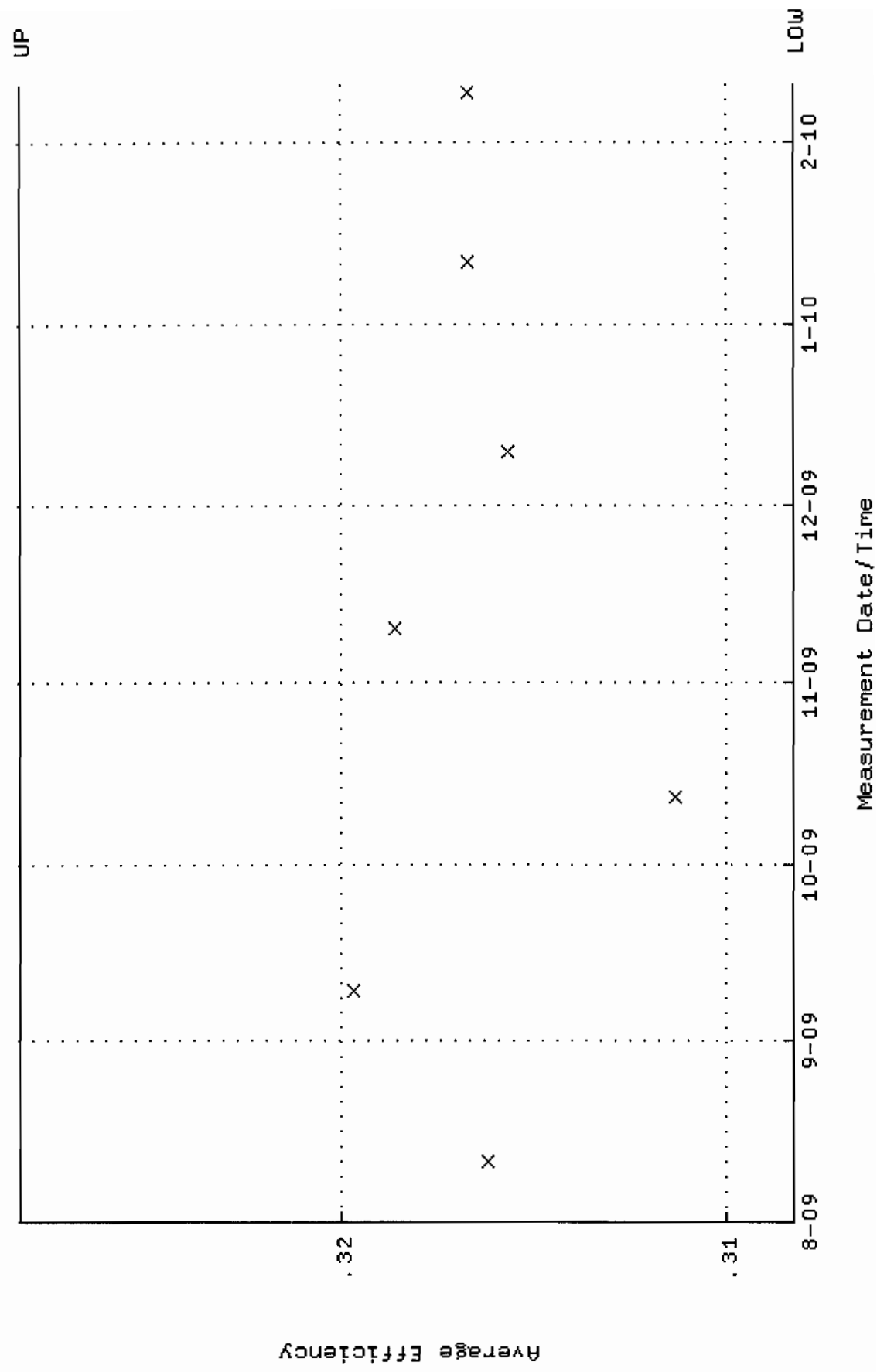
QA filename : DKA100:[ENV_ALPHA.QA.W]W111.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 69.0200 through 71.9448



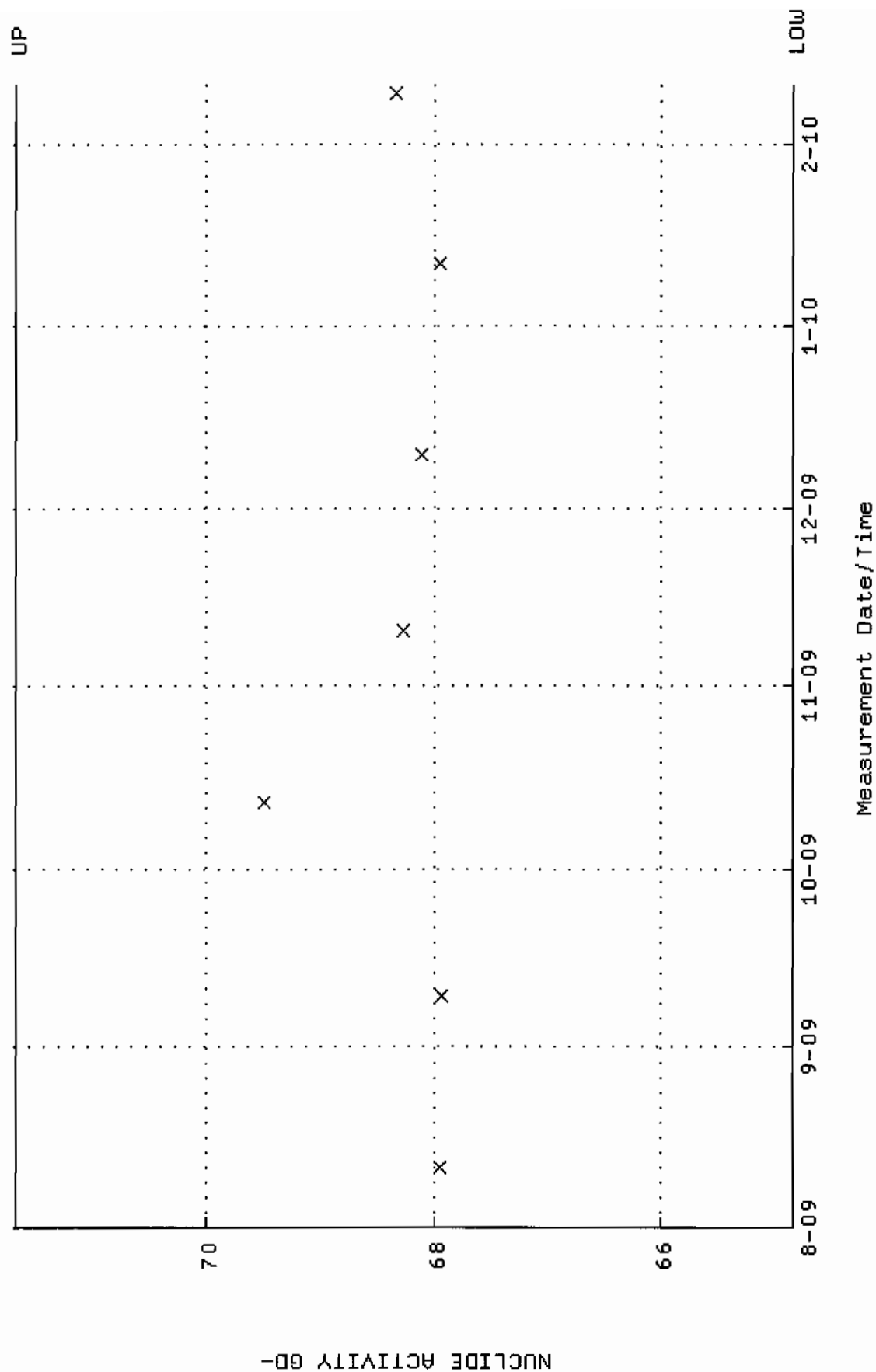
QA filename : OKA100:[ENV_ALPHA.QA.B]B111.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



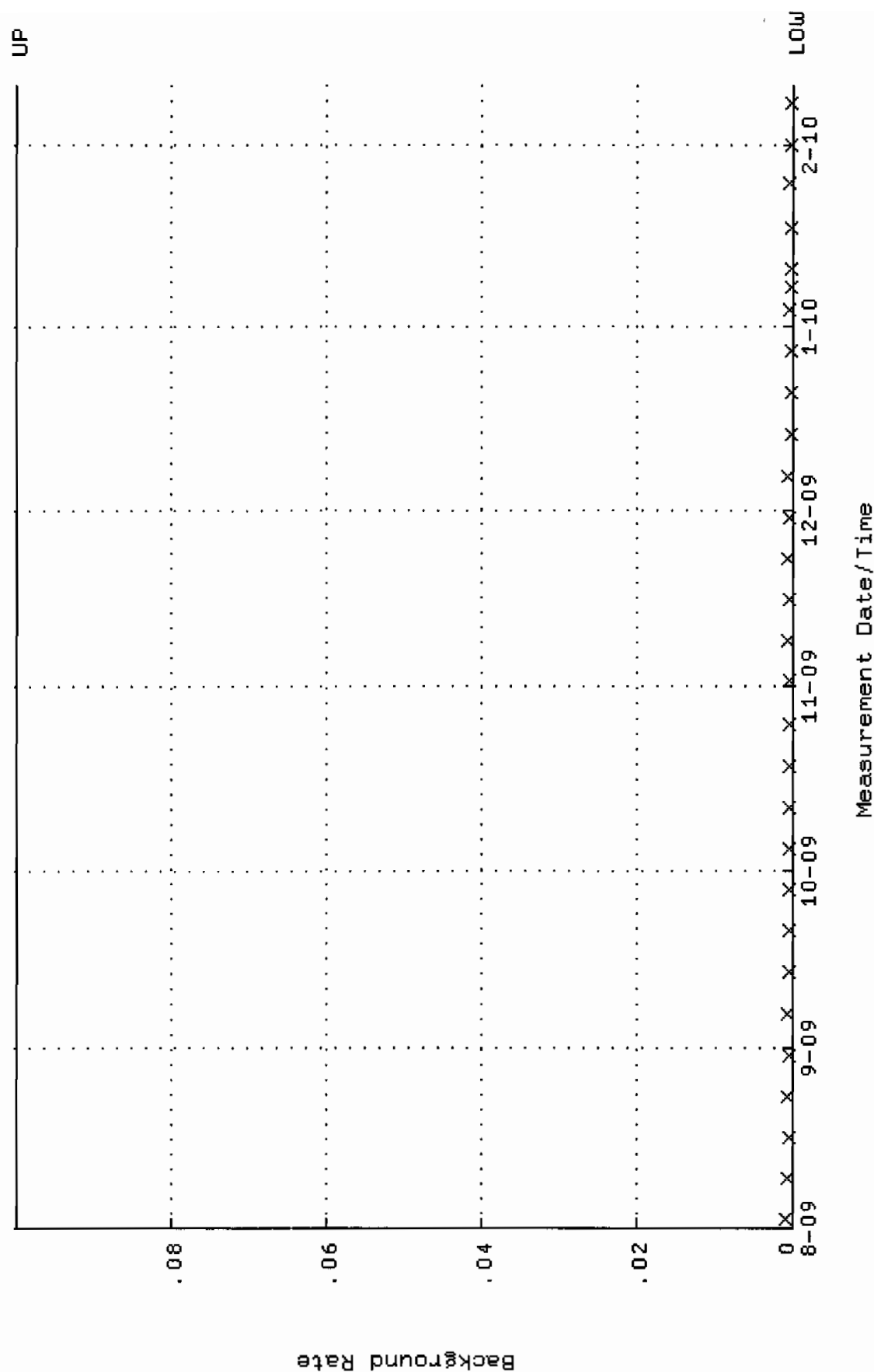
QA filename : DKA100:[ENV_ALPHA.QA.W]w112.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.308263 through 0.328263



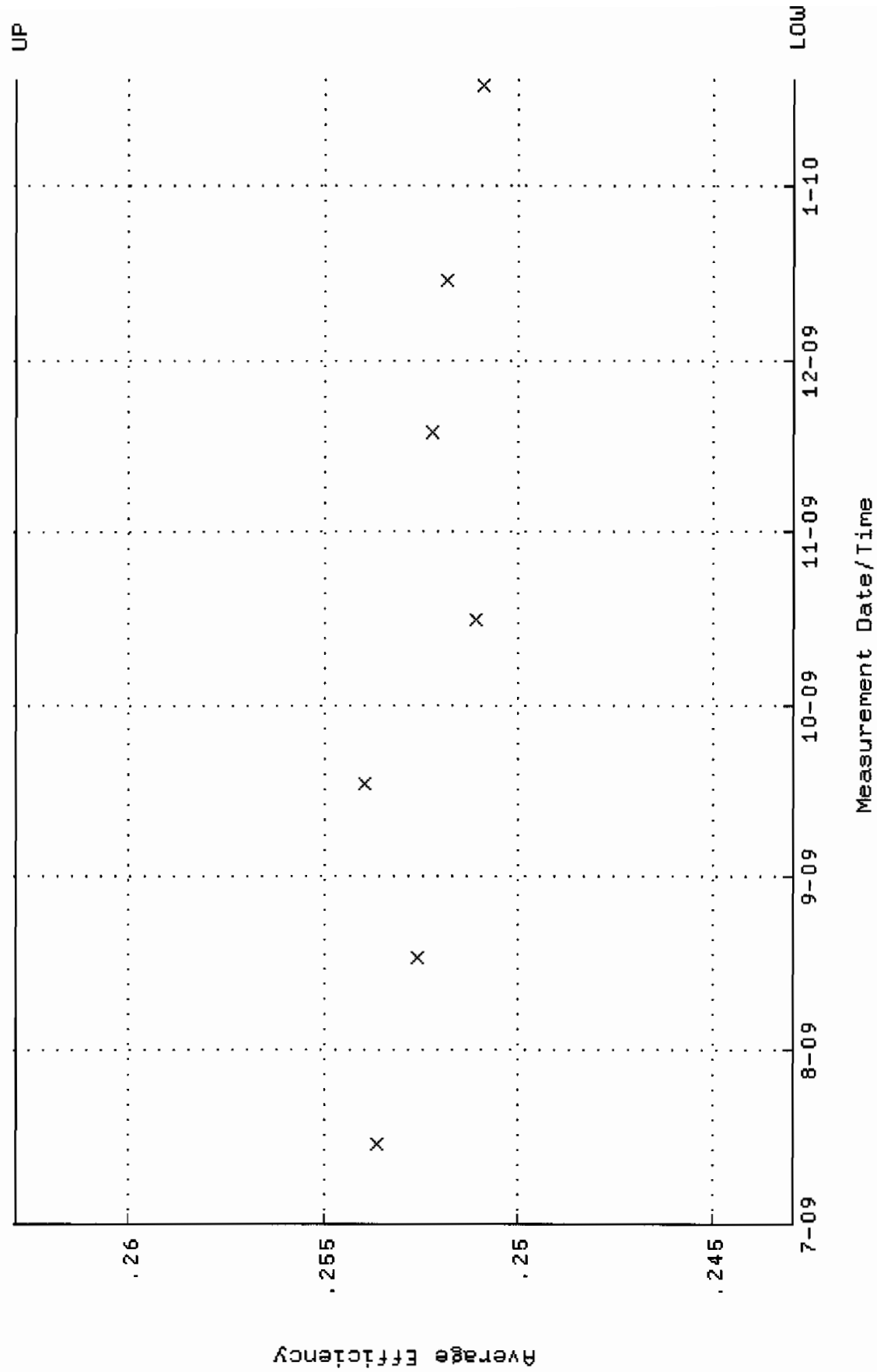
QA filename : DKA100:[ENV_ALPHA,QA.W]W112.QAF;3
 Parameter Name : NLAIVITY-G0148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 11-AUG-2009 07:20:19 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 64.8451 through 71.6709



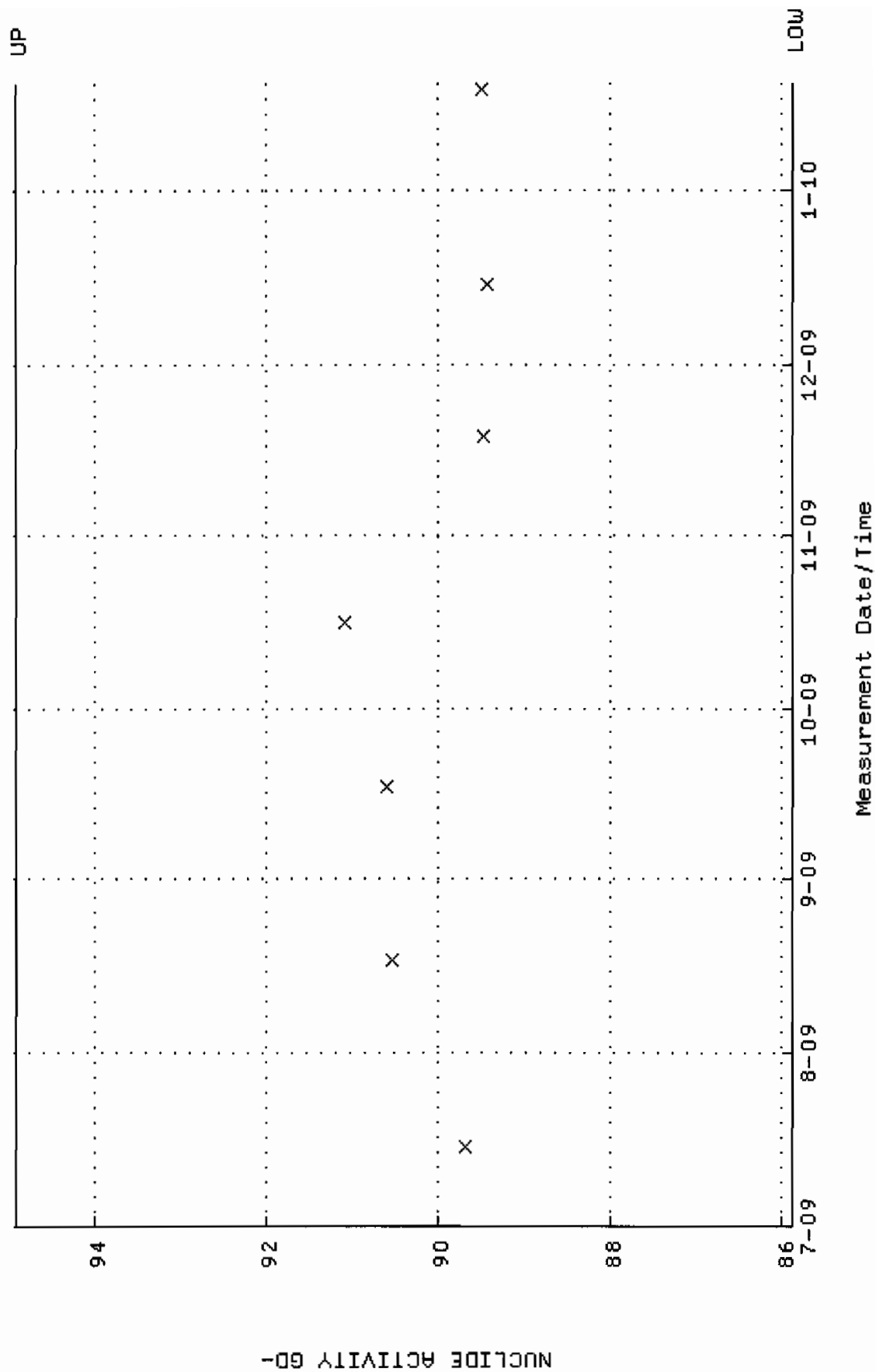
QA filename : DKA100:[ENV_ALPHA.QA.B]B112.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:44 through 10-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



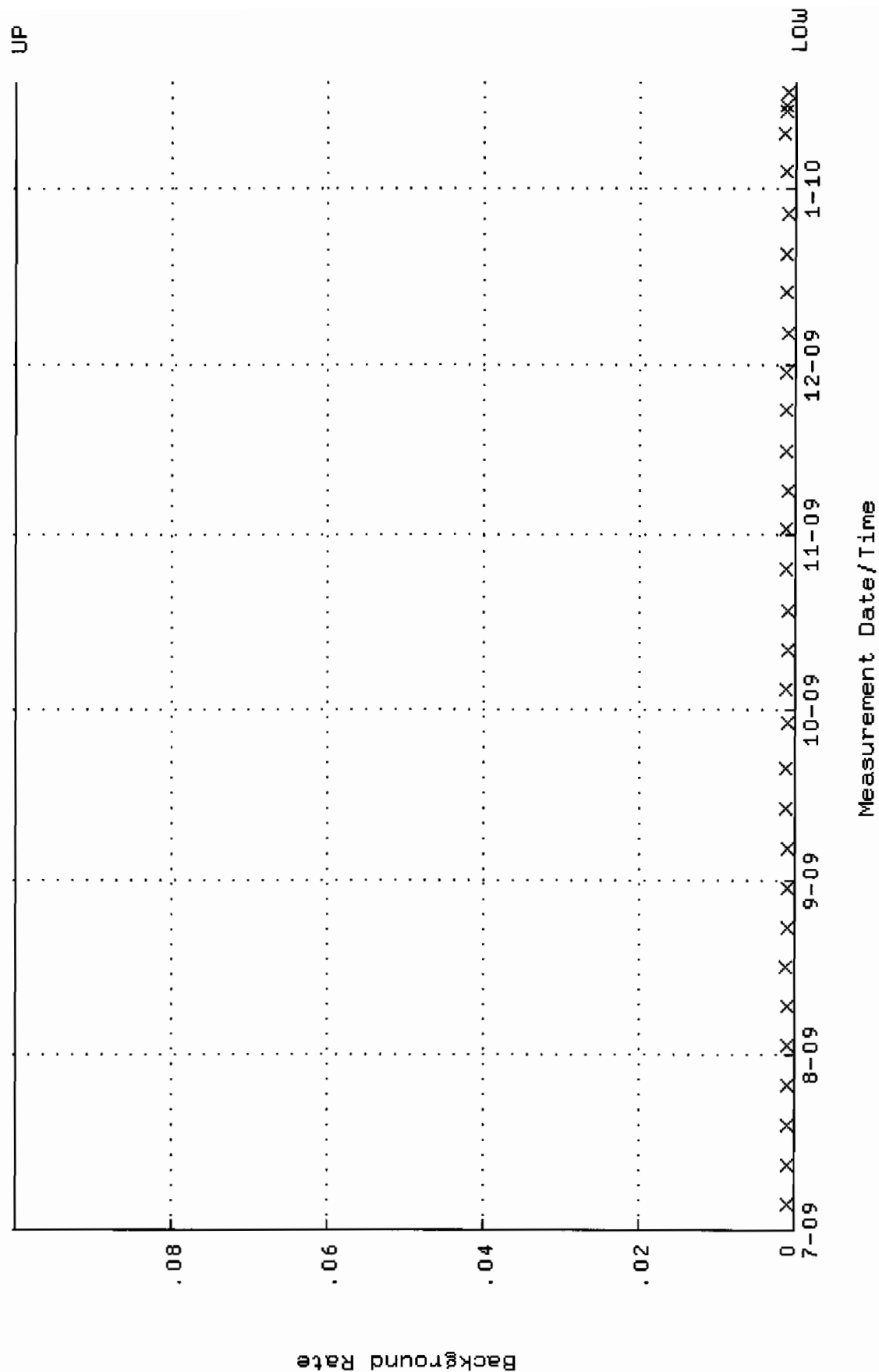
QA filename : DKA100:[ENV_ALPHA.QA.W]w117.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUL-2009 08:38:07 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.242940 through 0.262940



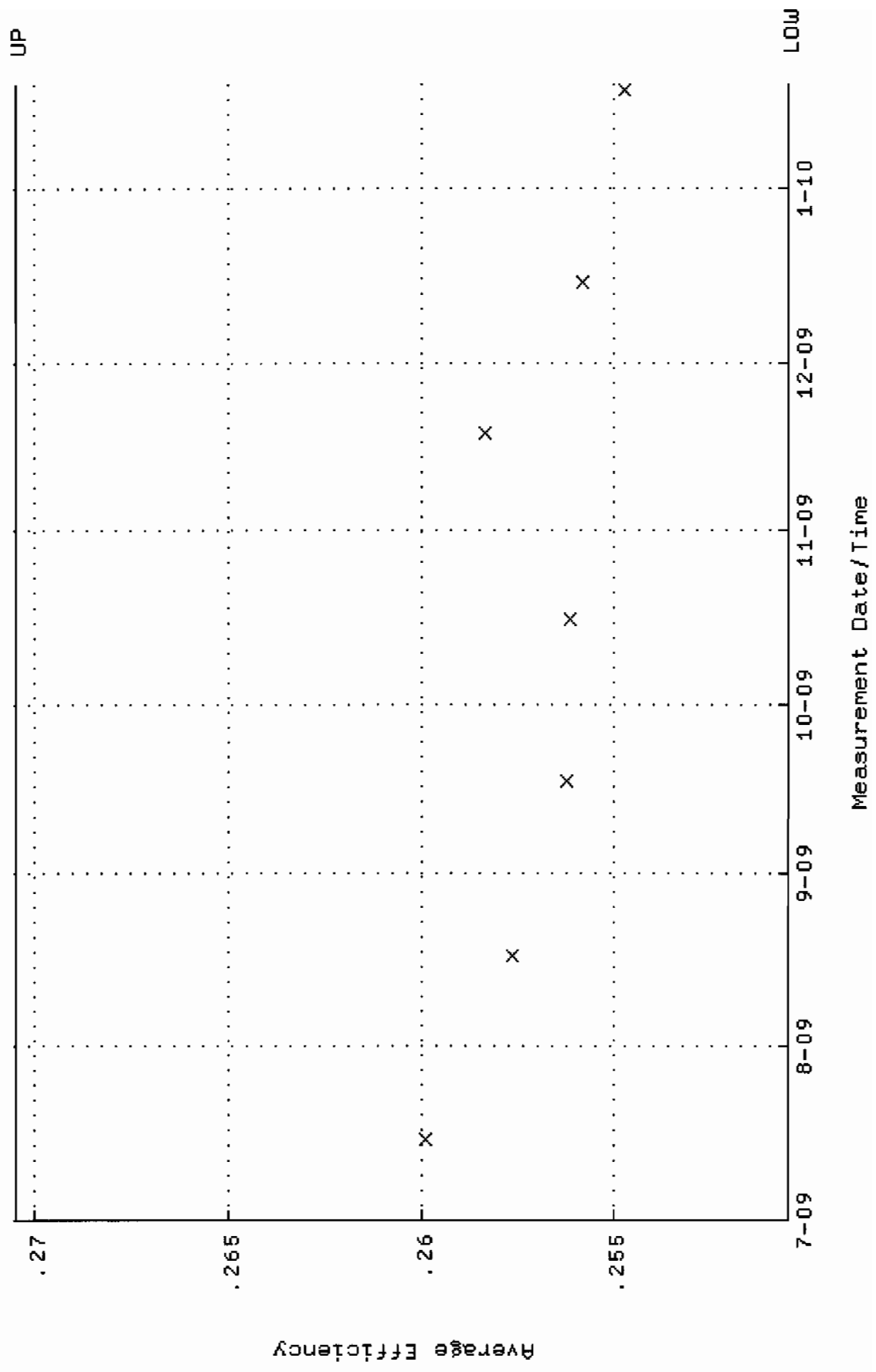
QA filename : DKA100:[ENV_ALPHA.QA.W]w117.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUL-2009 08:38:07 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.8693 through 94.9081



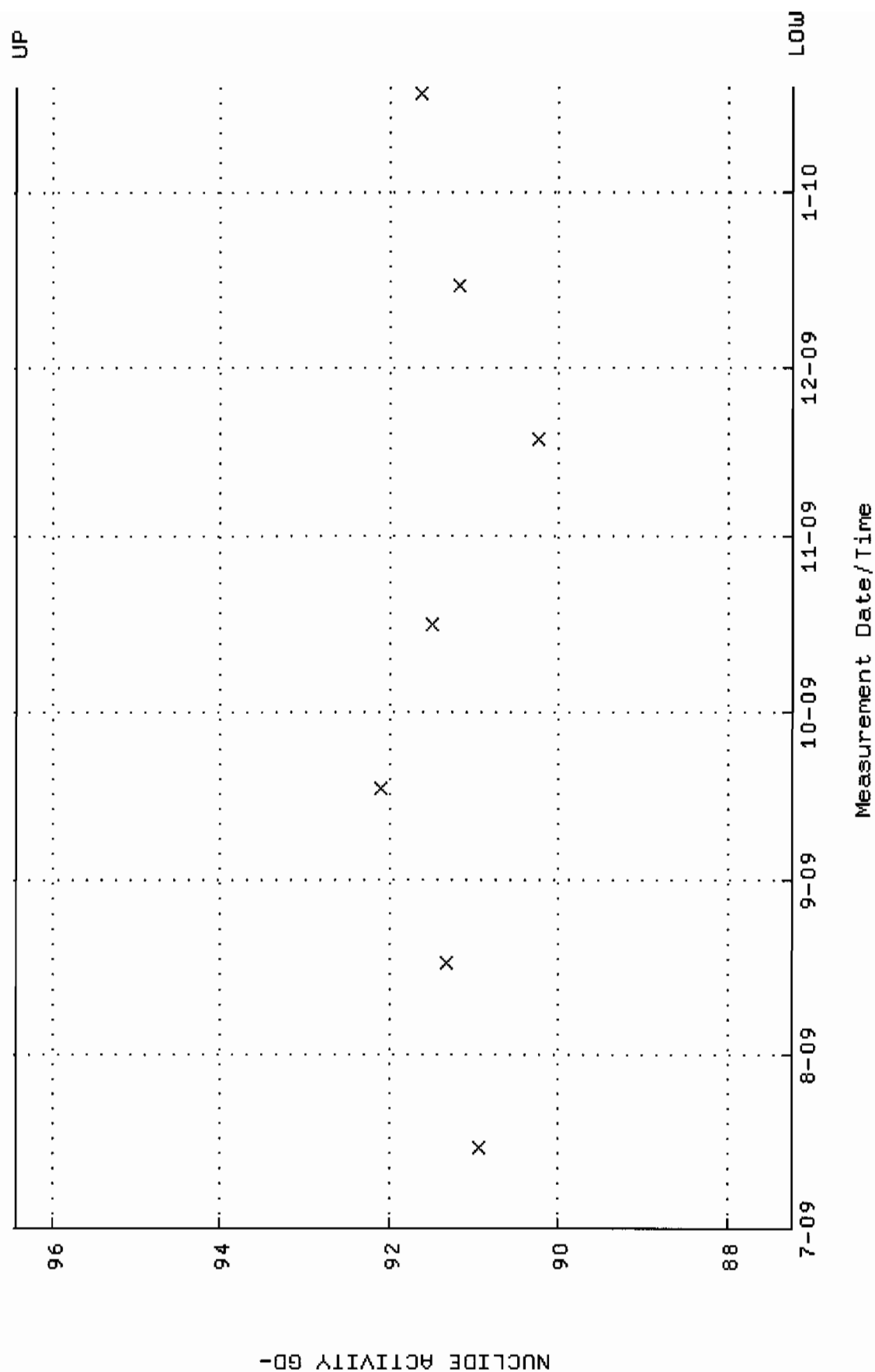
QA filename : DKA100:[ENV_ALPHA.QA.B]B117.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:03 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



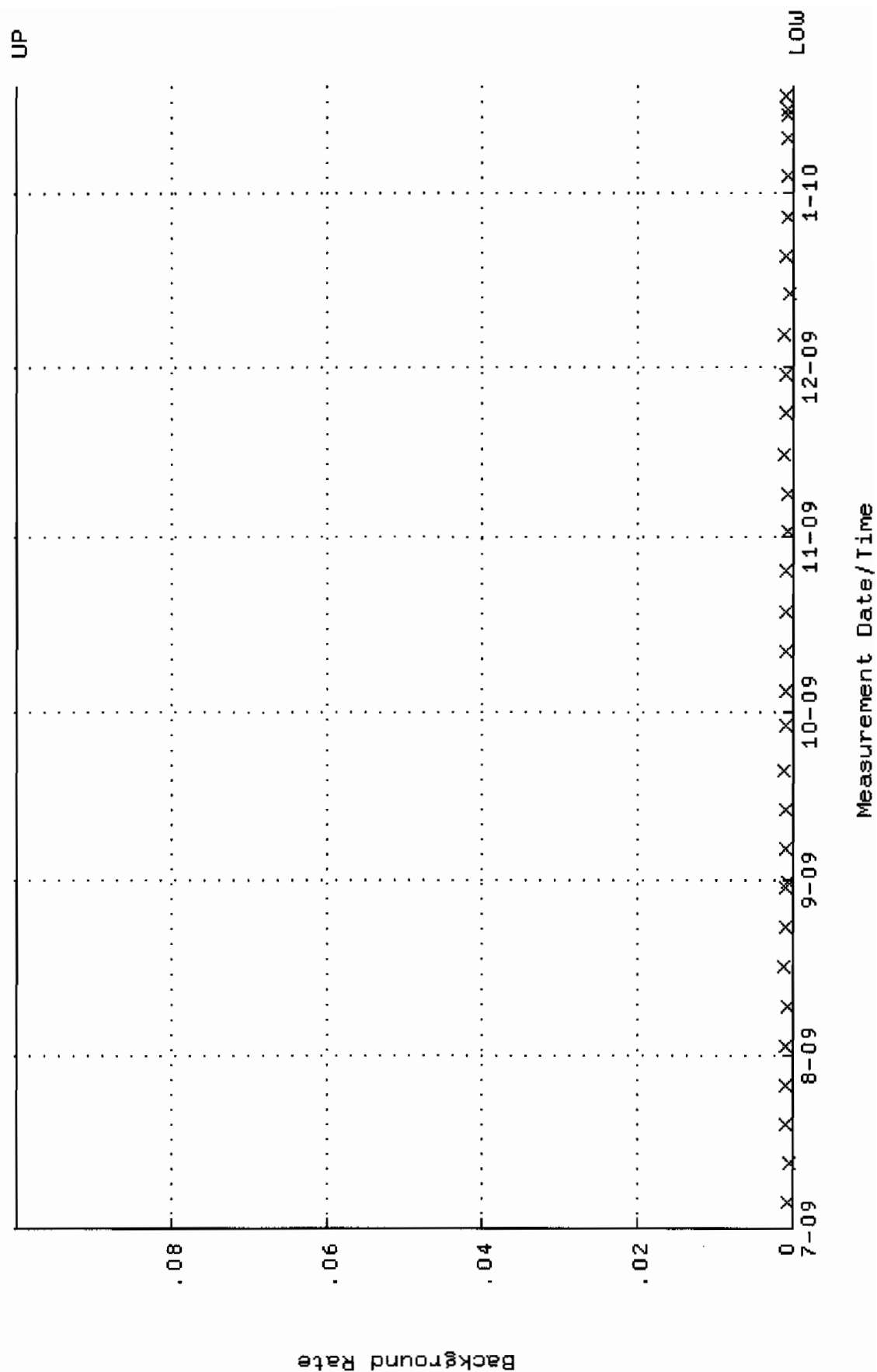
QA filename : DKA100:[ENV_ALPHA.QA.W]W118.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUL-2009 08:38:11 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.250490 through 0.270490



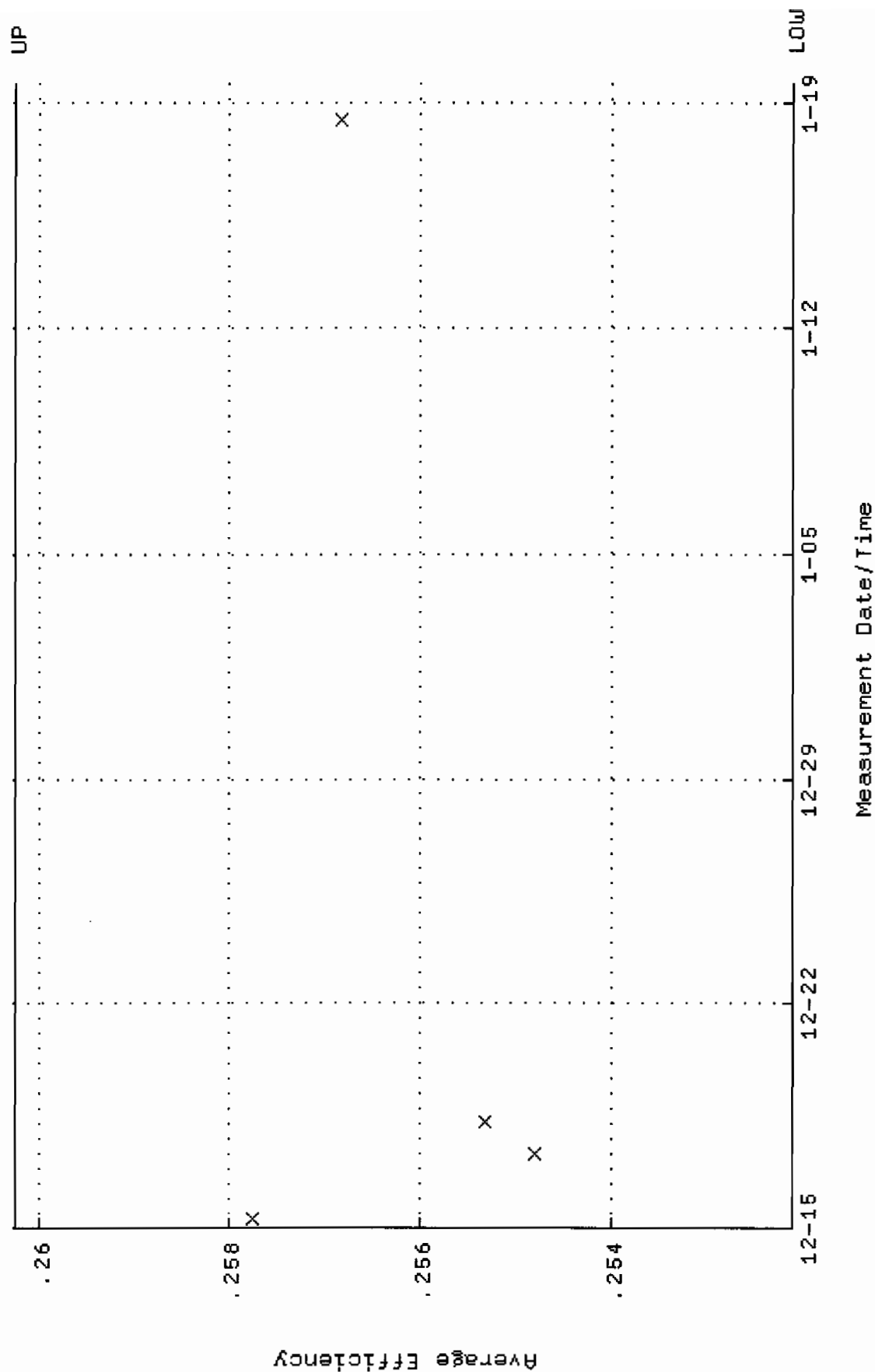
QA filename : DKA100:[ENV_ALPHA.QA.W]w118.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUL-2009 08:38:11 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.2440 through 96.4276



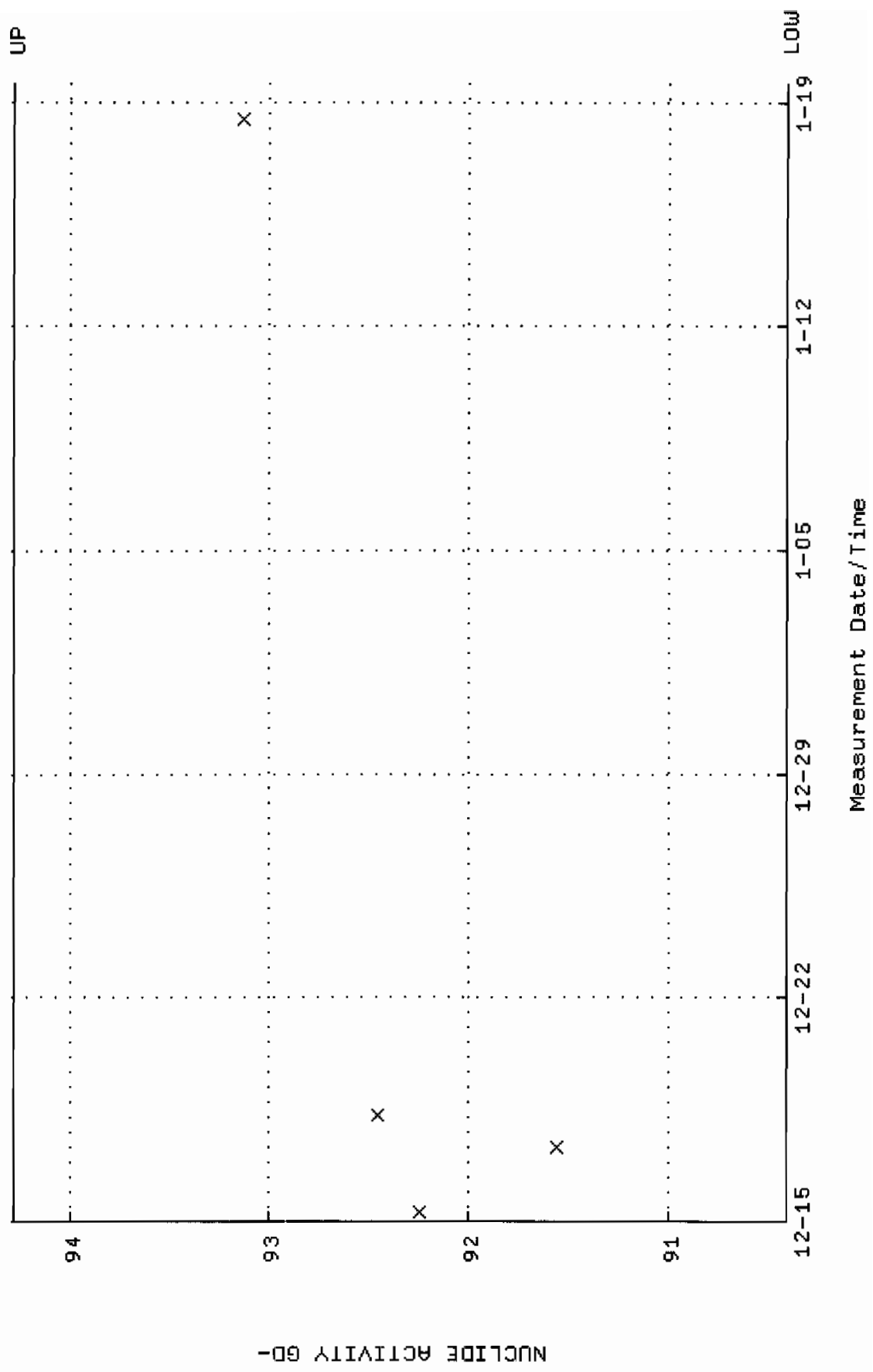
QA filename : DKA100:[ENV_ALPHA.QA.B]B118.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:08 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



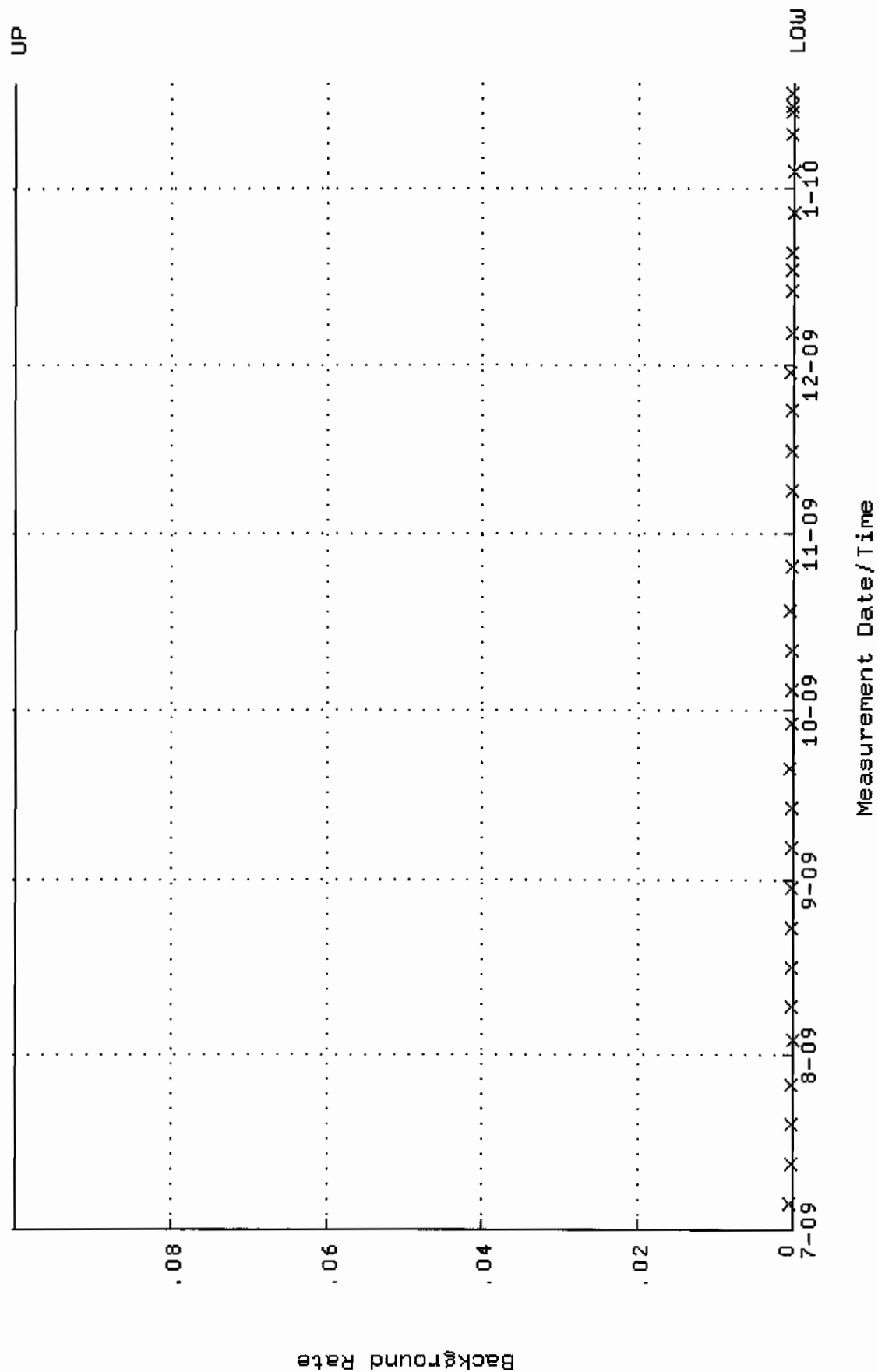
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-DEC-2009 06:21:52 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.252093 through 0.260243



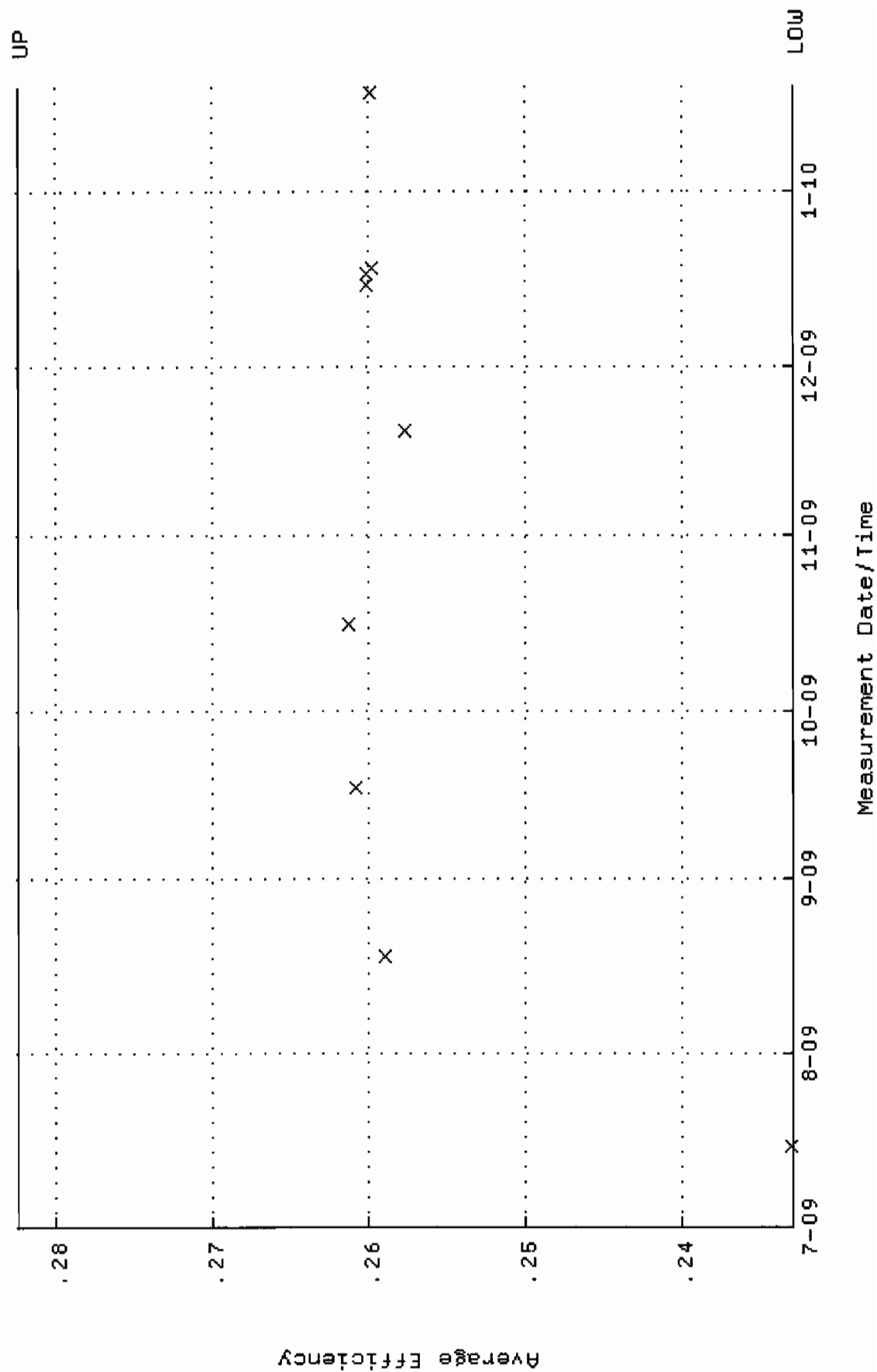
QA filename : DKA100:[ENV_ALPHA.QA.W]W119.QAF;1
Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 15-DEC-2009 06:21:52 through 19-JAN-2010 12:00:00
Lower/Upper Lmts: 90.4107 through 94.2781



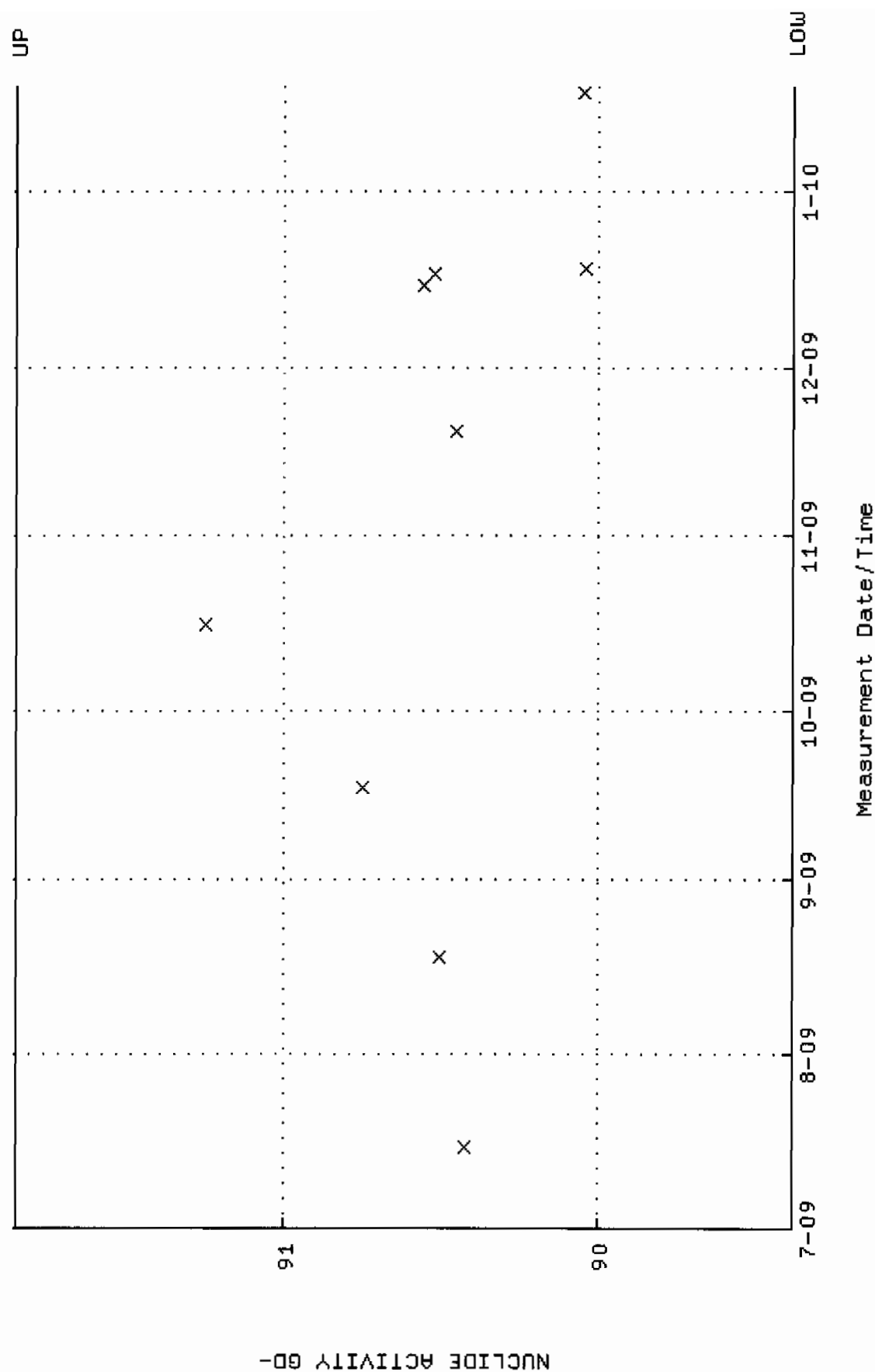
QA filename : DKA100:[ENV_ALPHA.QA.B]B119.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:14 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



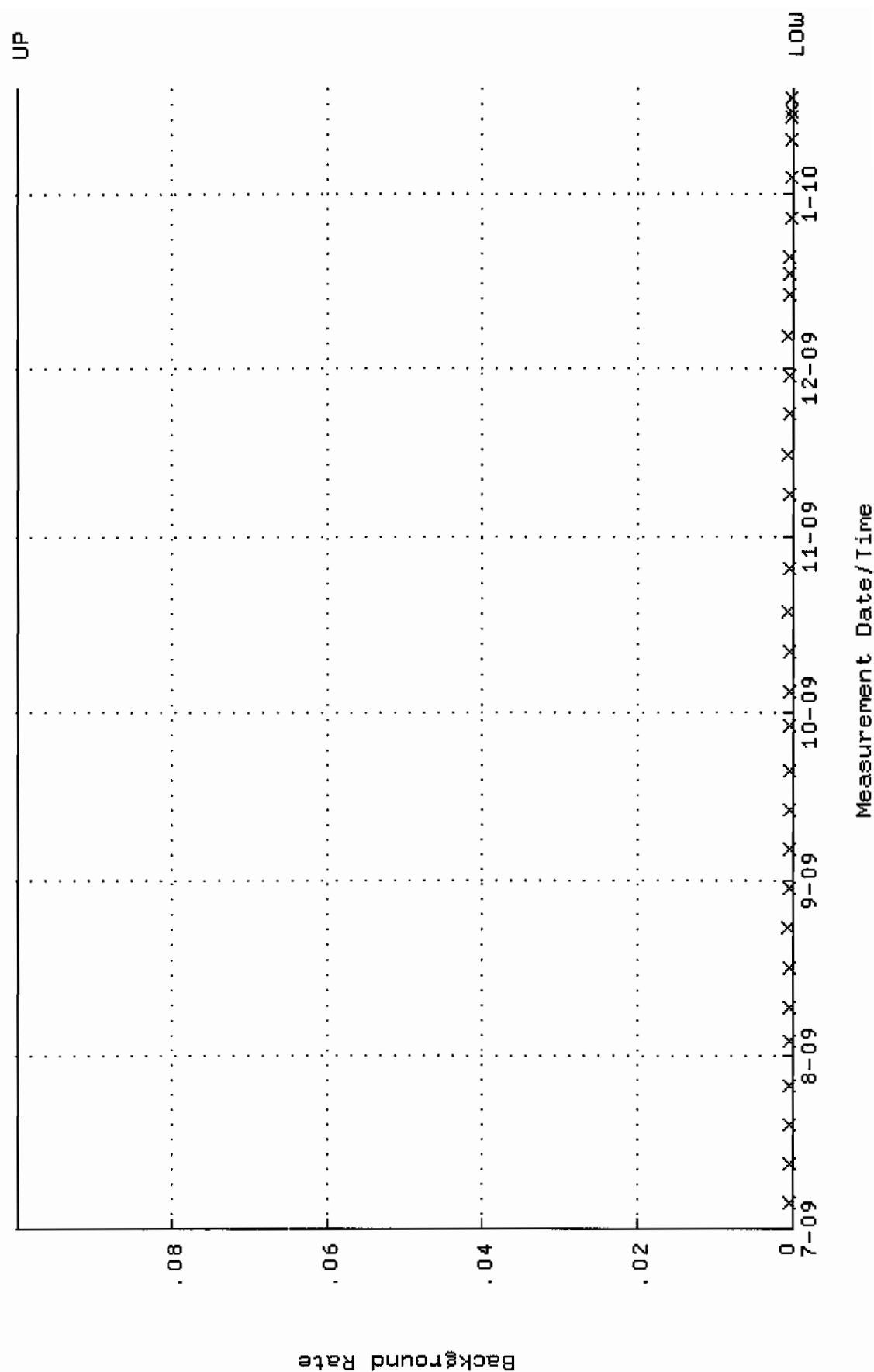
QA filename : DKA100:[ENV_ALPHA.QA.W]w120.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 15-JUL-2009 08:38:20 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.232847 through 0.282381



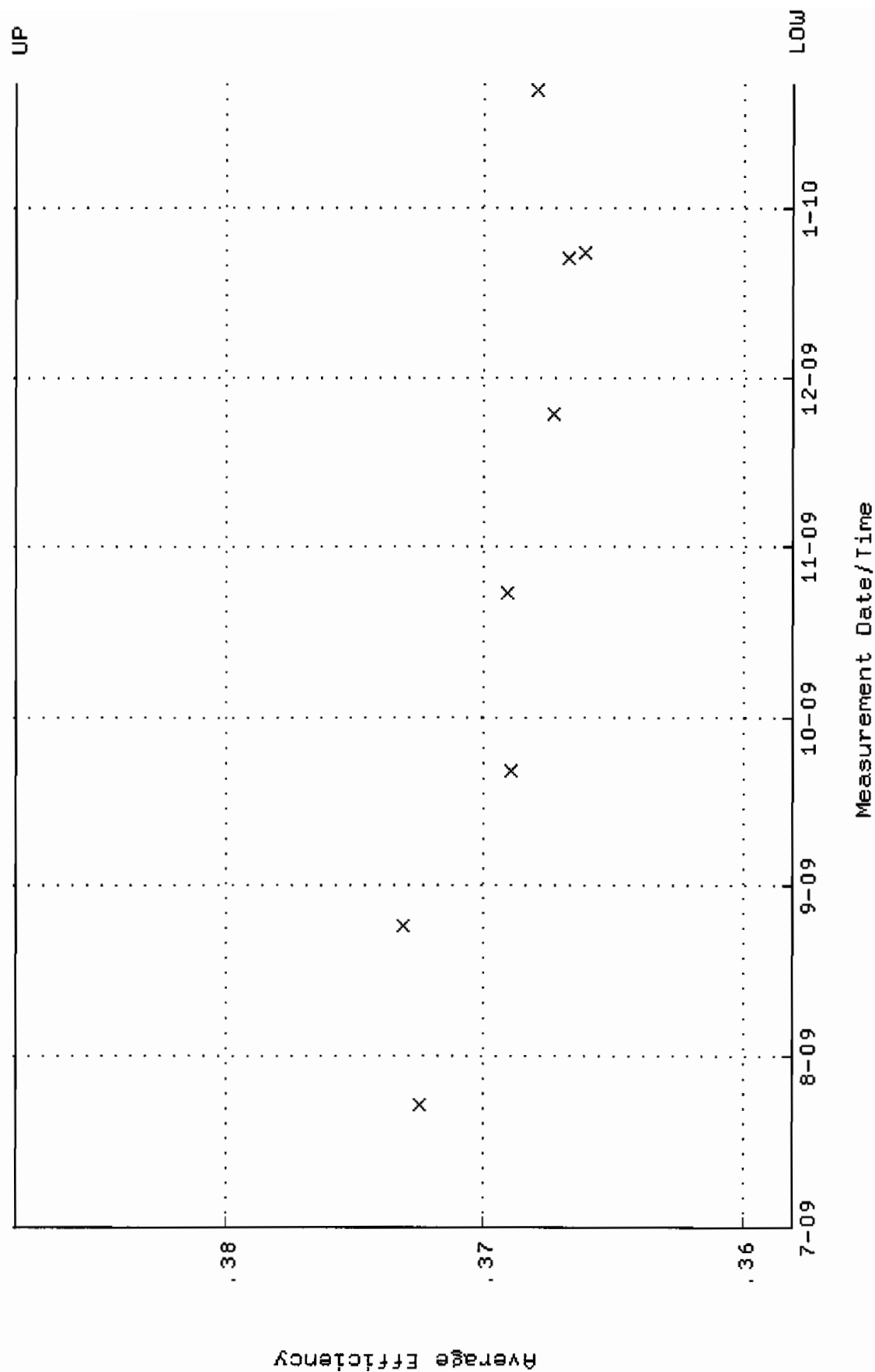
QA filename : DKA100:[ENV_ALPHA.QA.W]w120.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 15-JUL-2009 08:38:20 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 89.3881 through 91.8481



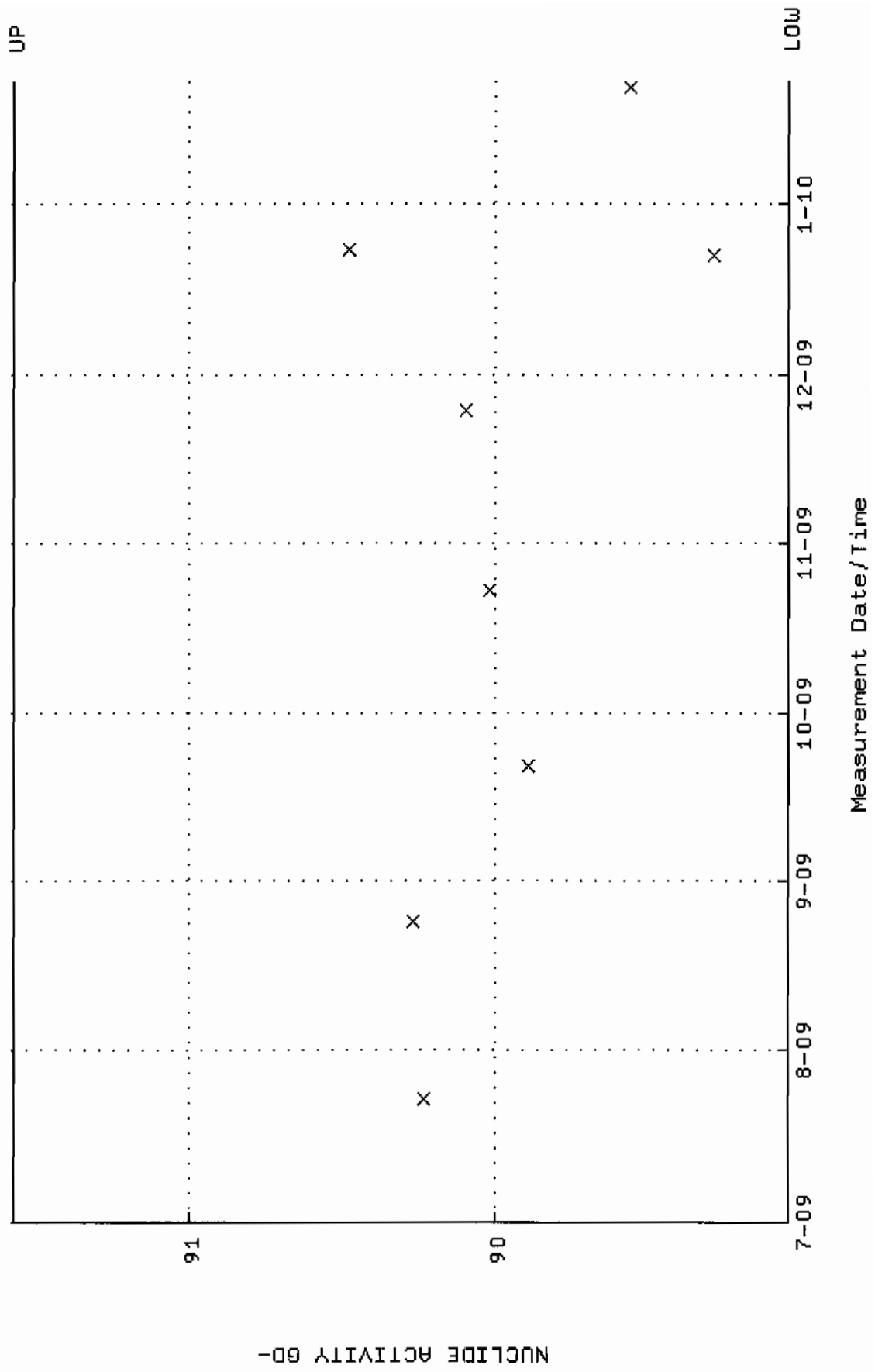
QA filename : DKA100:[ENV_ALPHA.QA.B]B120.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:55:20 through 19-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



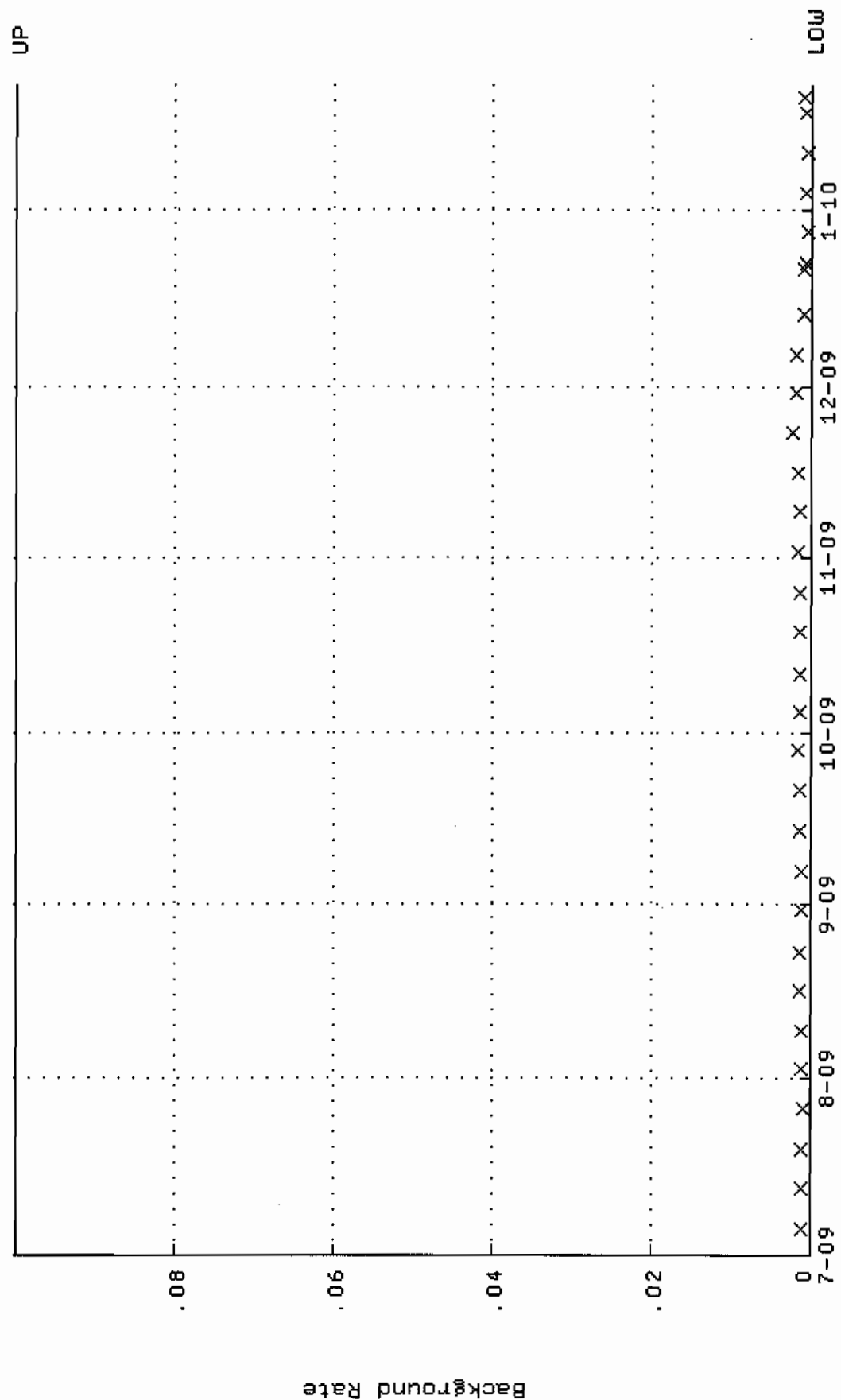
QA filename : DKA100:[ENV_ALPHA.QA.W]W161.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 23-JUL-2009 08:06:57 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.358070 through 0.388144



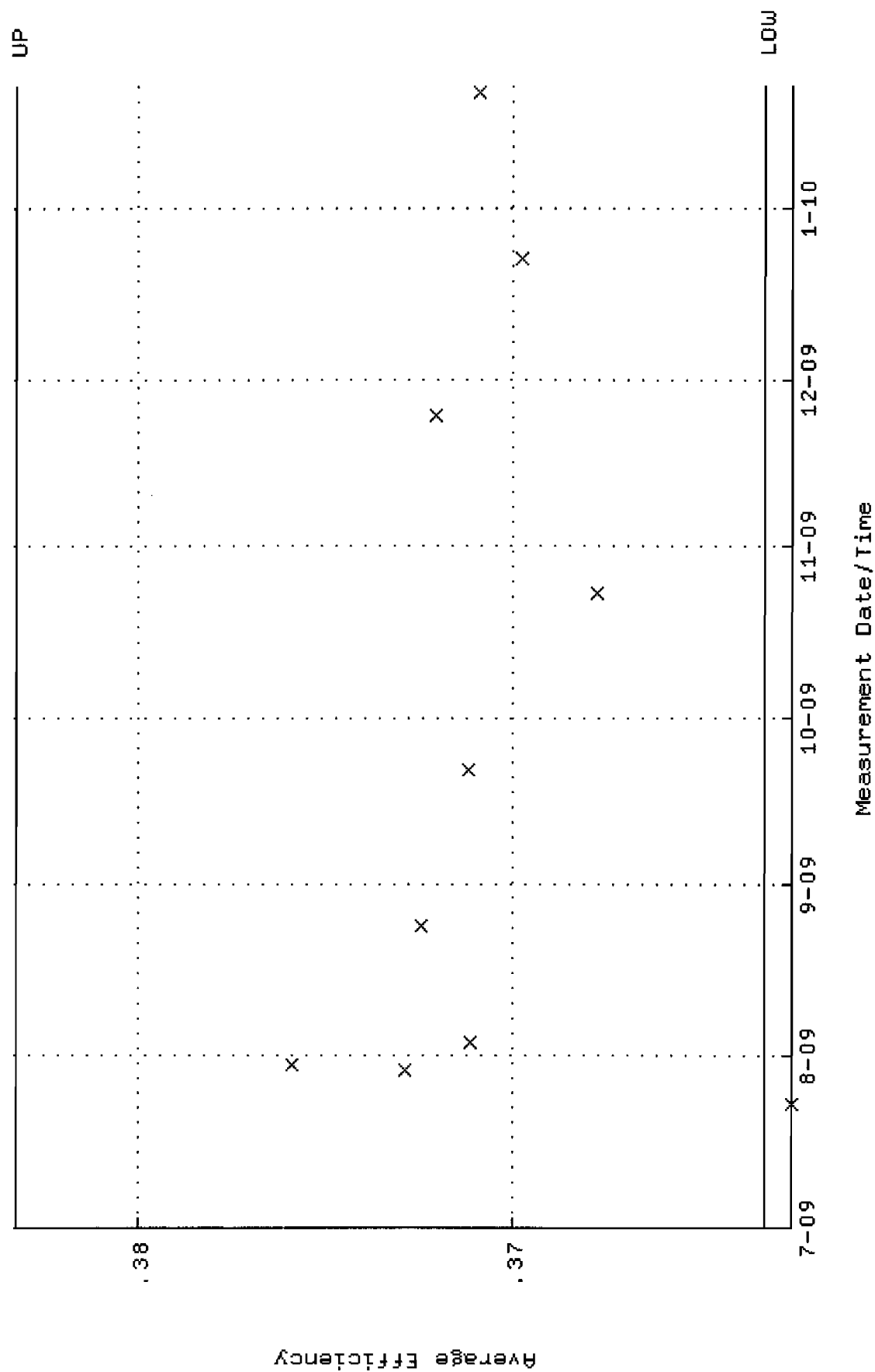
QA filename : DKA100:[ENV_ALPHA.QA.W]w161.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 23-JUL-2009 08:06:57 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 89.0418 through 91.5702



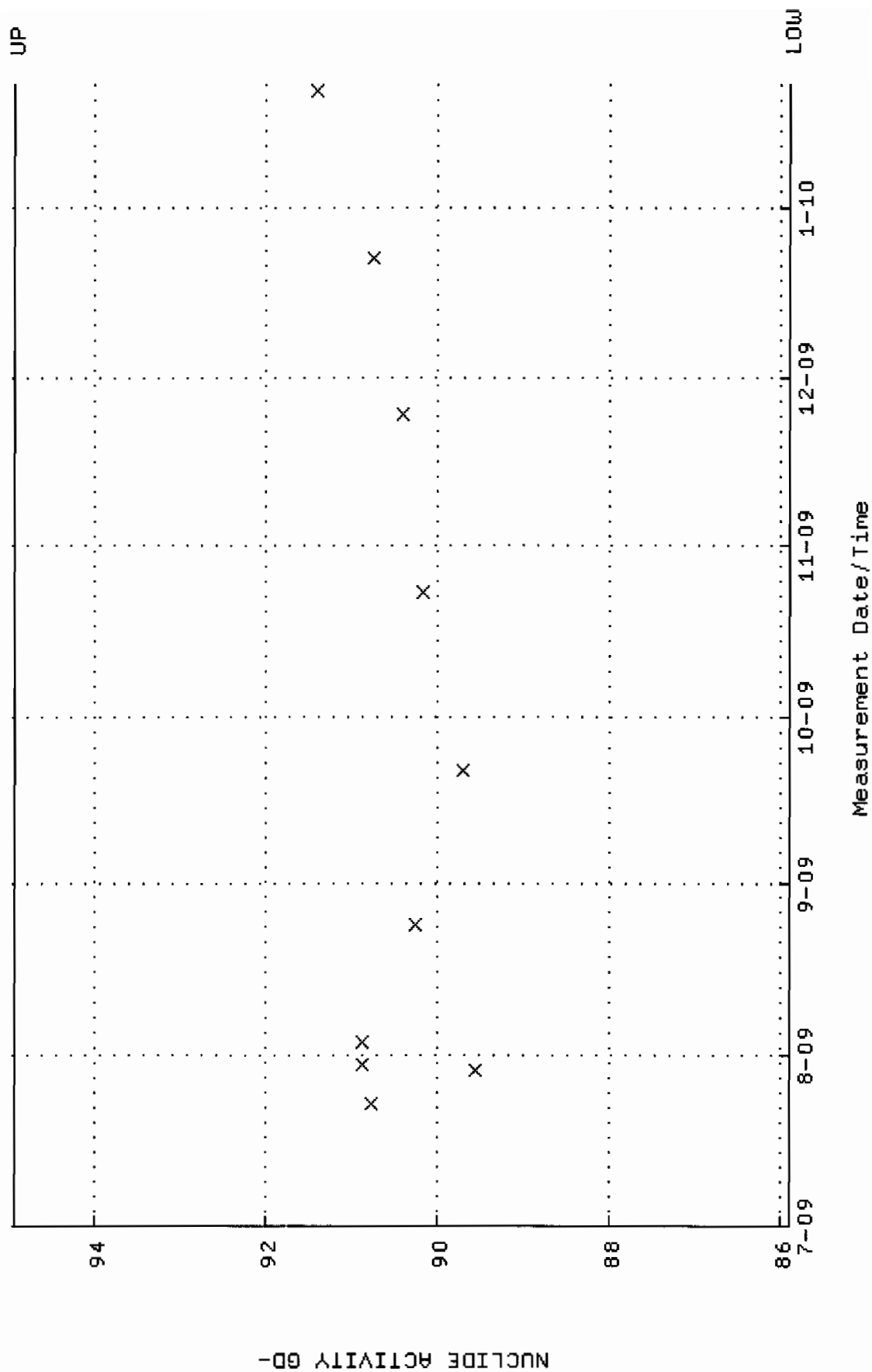
QA filename : DKA100:[ENV_ALPHA.QA.B]B161.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:59:28 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



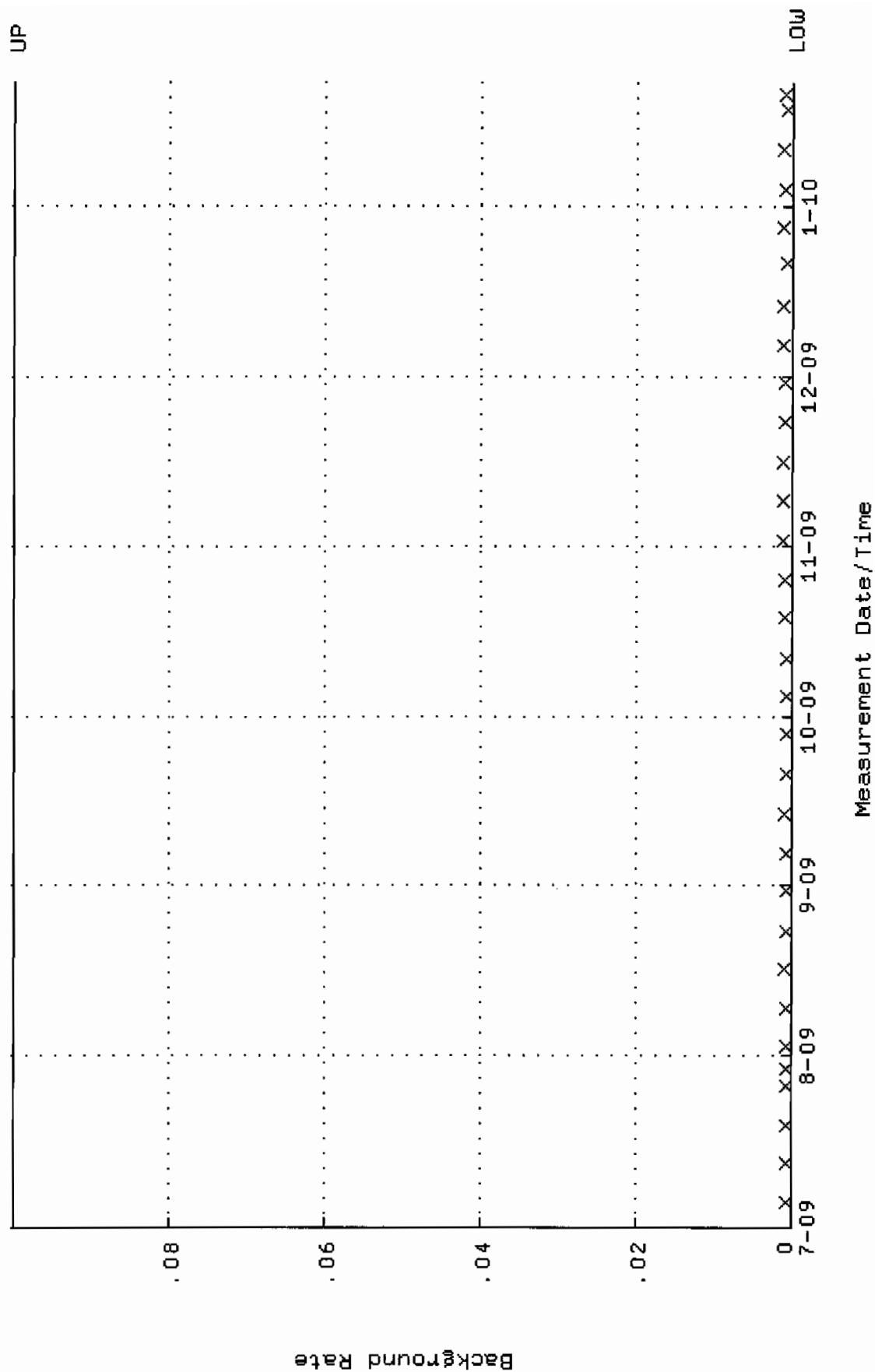
QA filename : DKA100:[ENV_ALPHA.QA.W]W162.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 23-JUL-2009 08:07:02 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.363287 through 0.383287



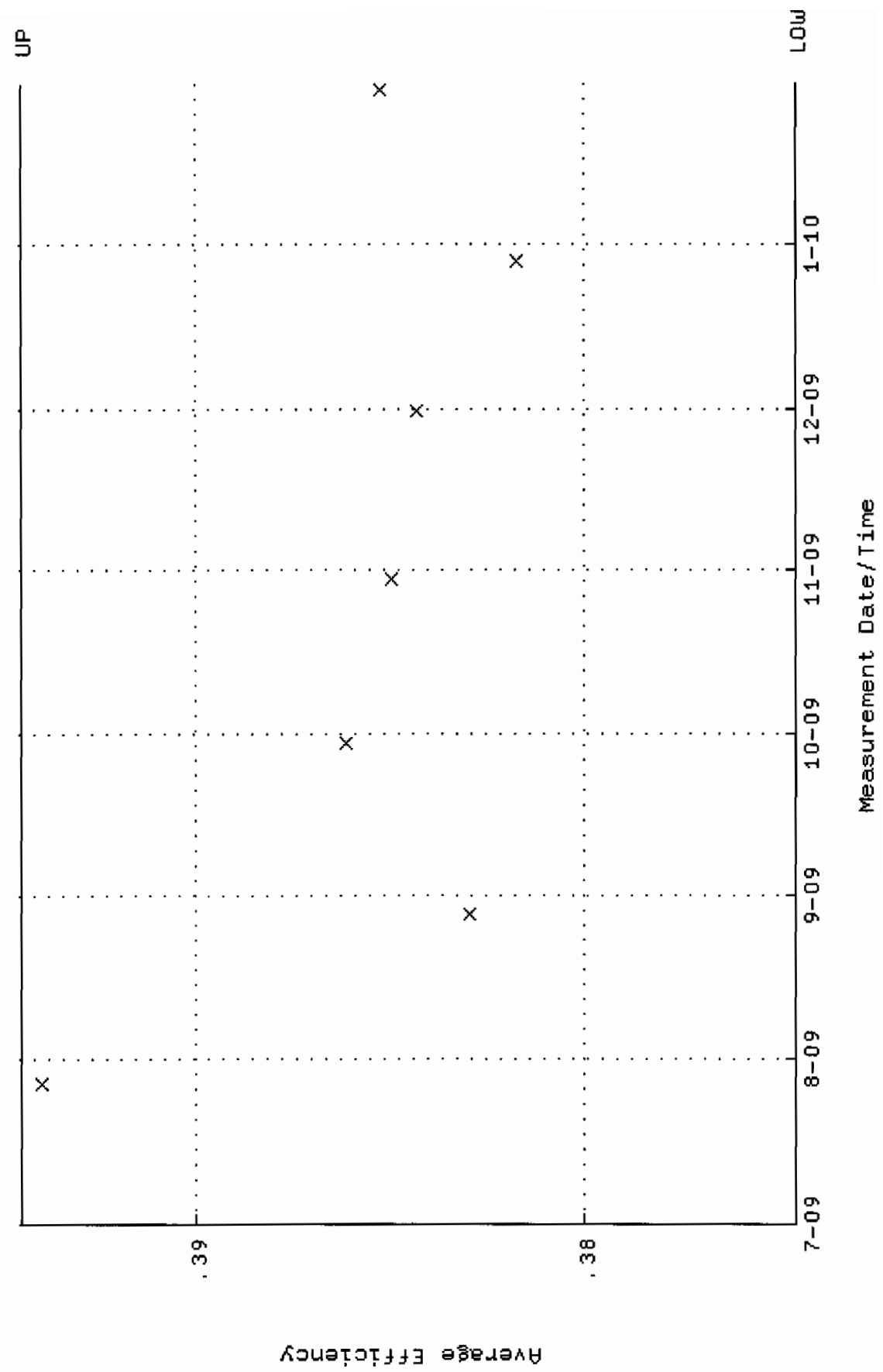
QA filename : DKA100:[ENV_ALPHA.QA.W]w162.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 23-JUL-2009 08:07:02 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.8969 through 94.9387



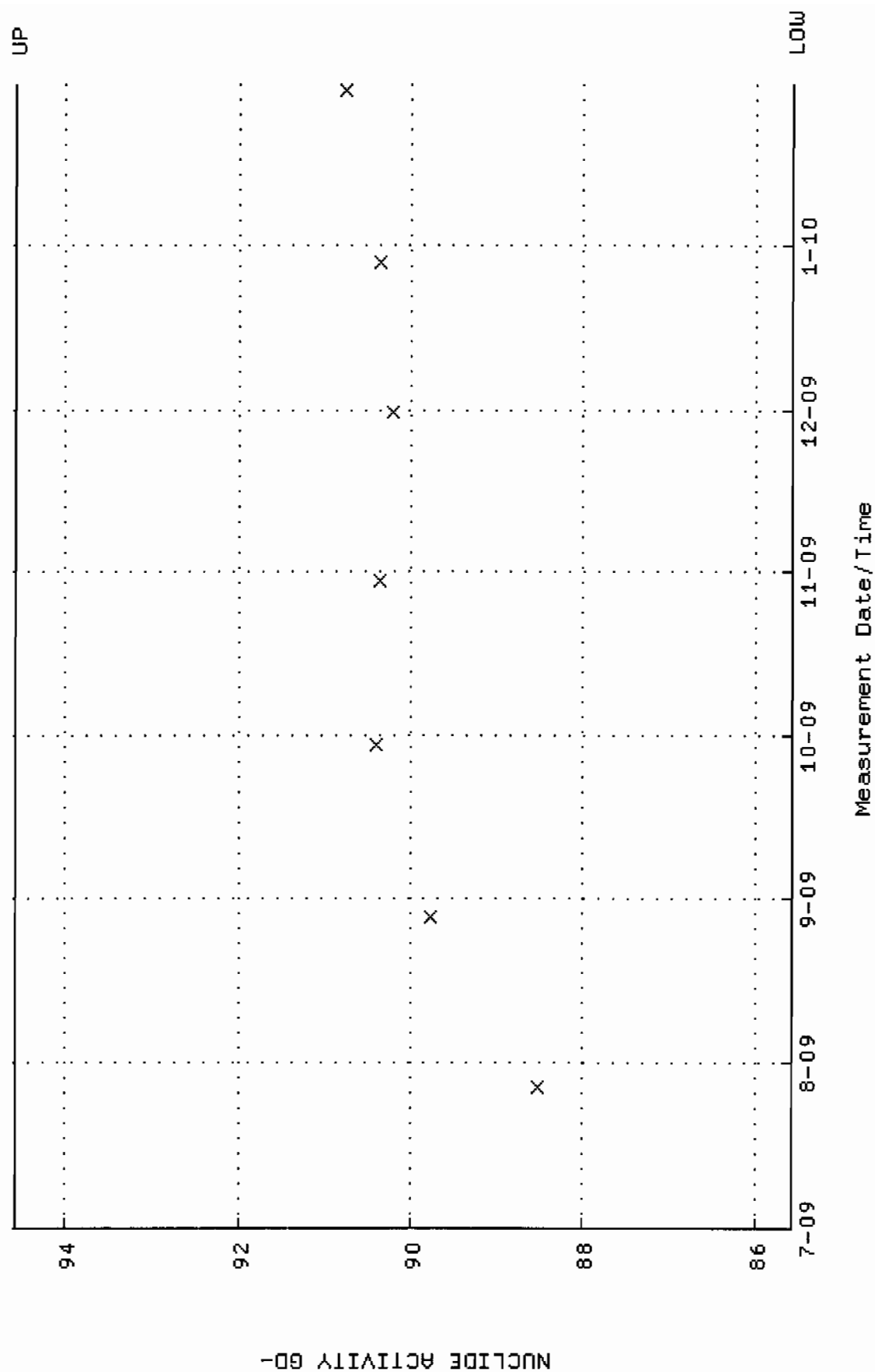
QA filename : DKA100:[ENV_ALPHA.QA.B]B162.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 14:59:33 through 22-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



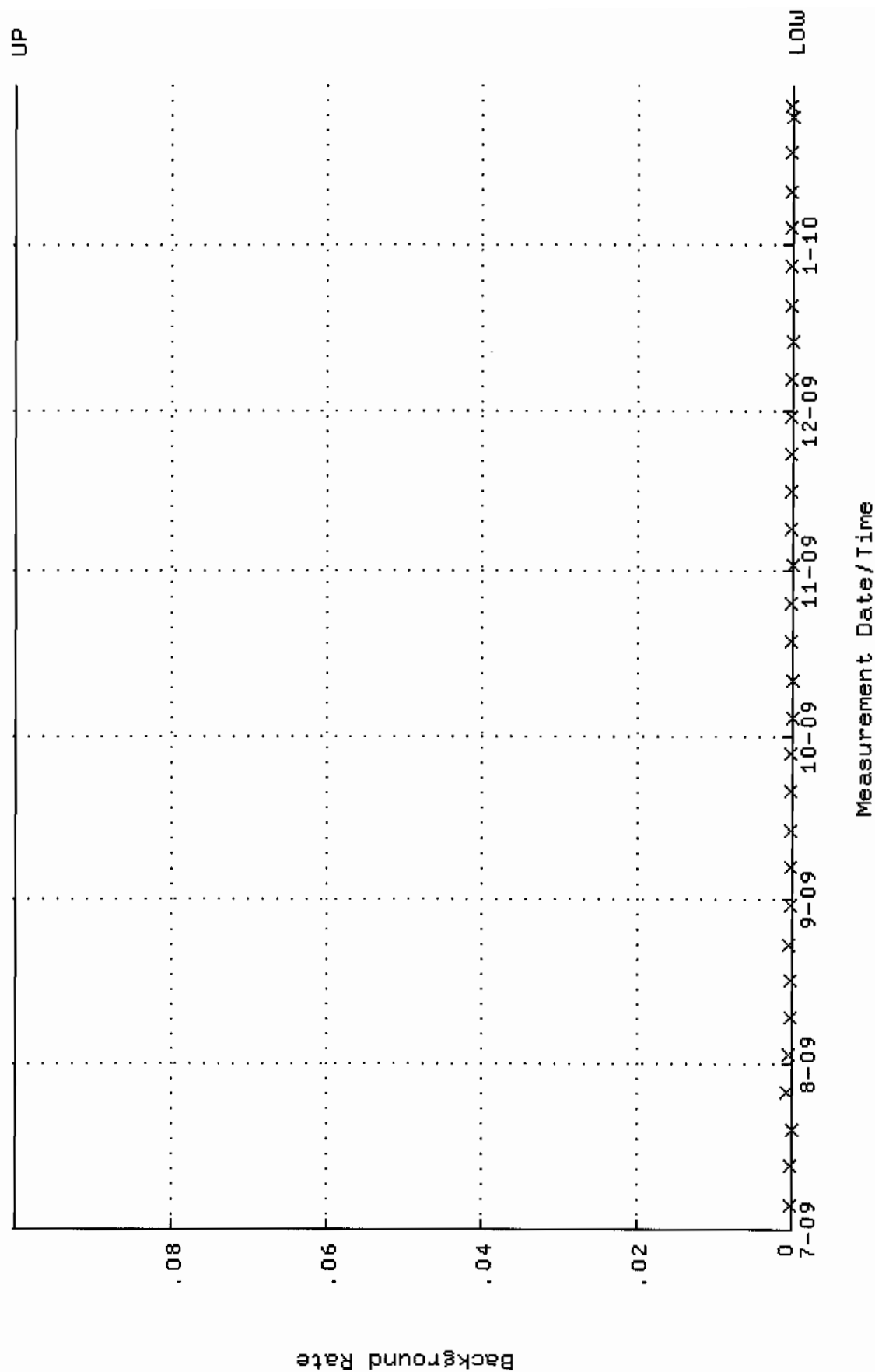
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:47:19 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.374526 through 0.394526



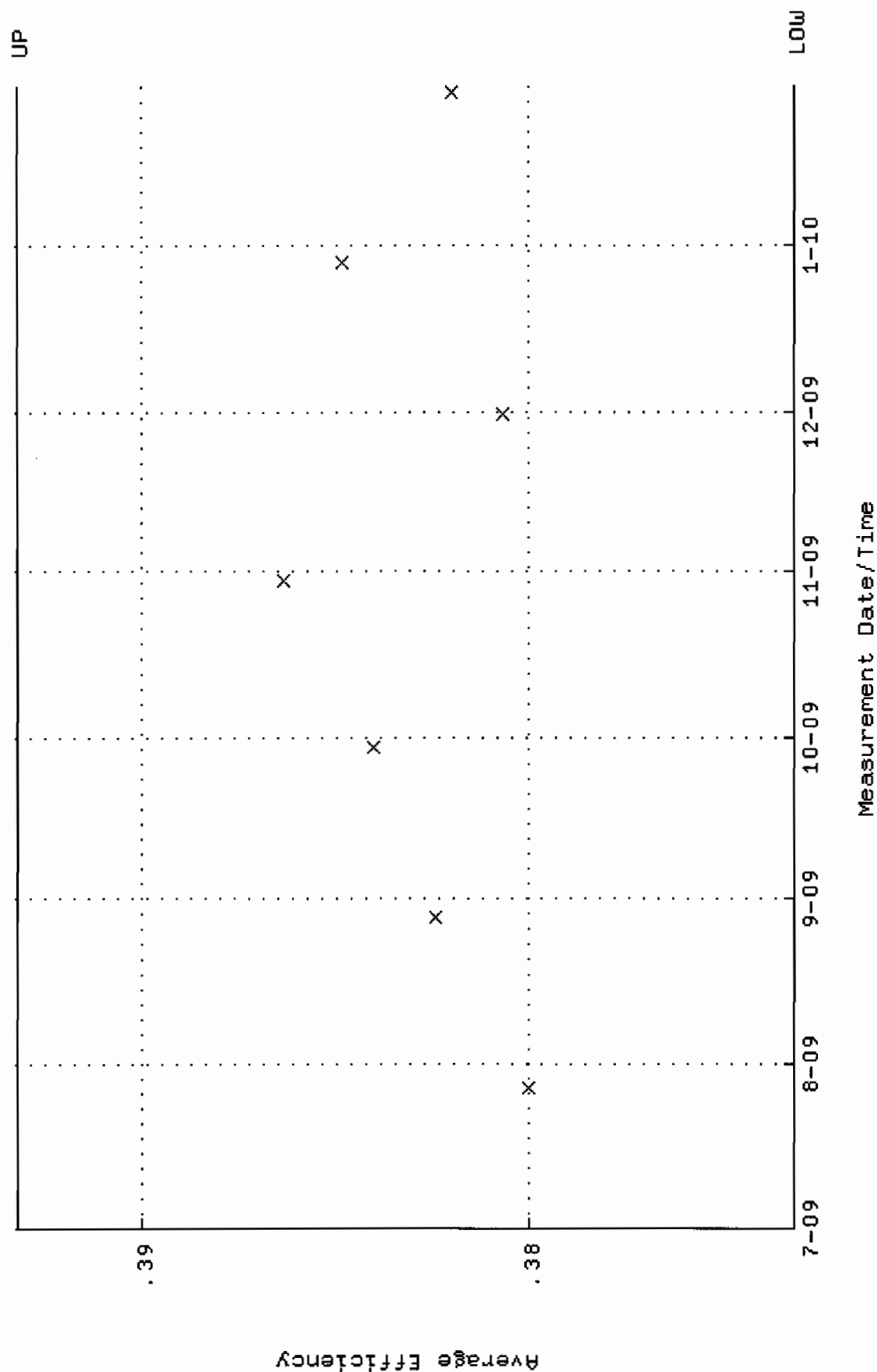
QA filename : DKA100:[ENV_ALPHA.QA.W]W210.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:19 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.5688 through 94.5760



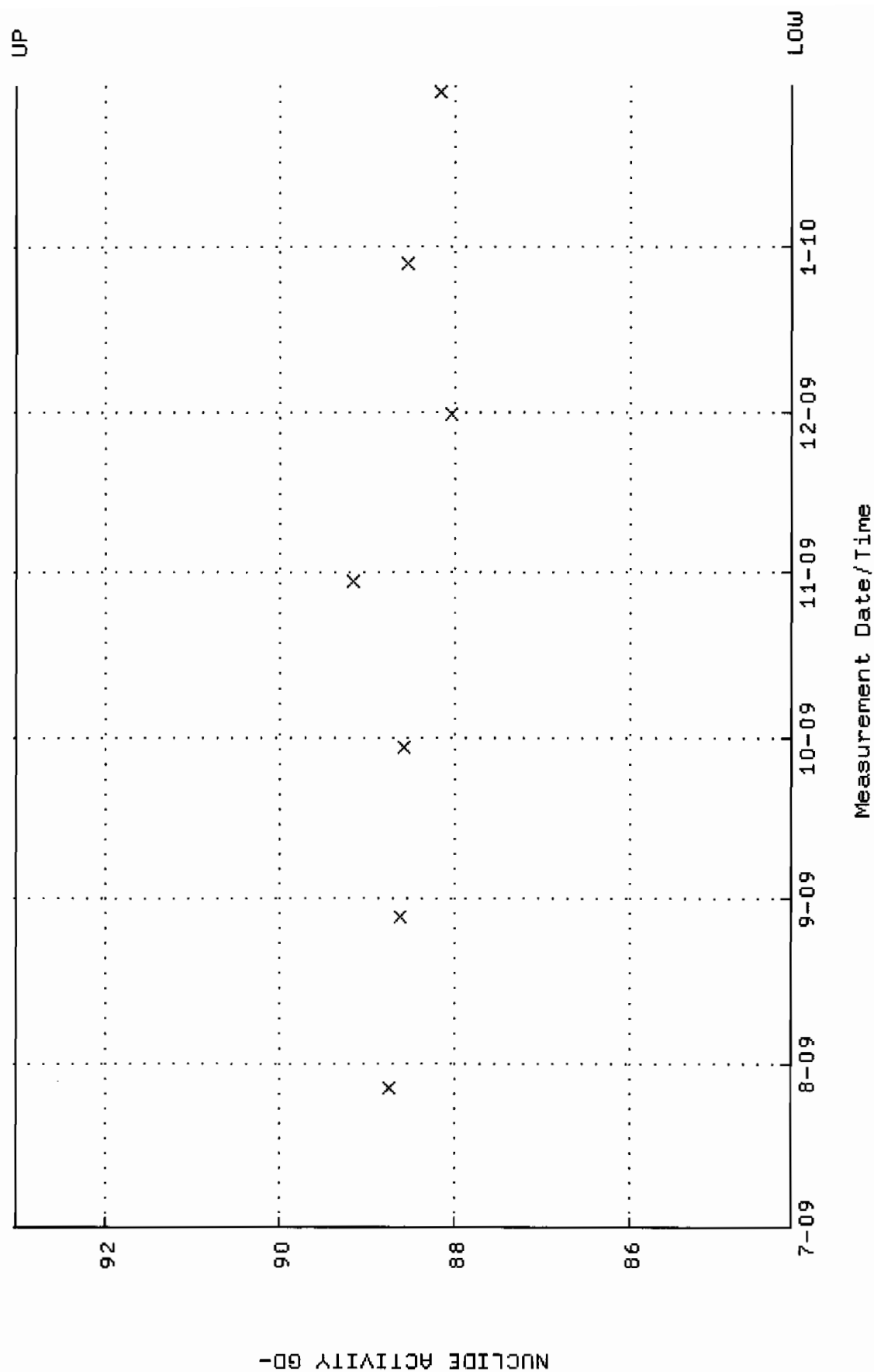
QA filename : DKA100:[ENV_ALPHA.QA.B]B210.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:03:24 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



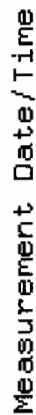
QA filename : DKA100:[ENV_ALPHA.QA.W]U211.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:47:25 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.373189 through 0.393189



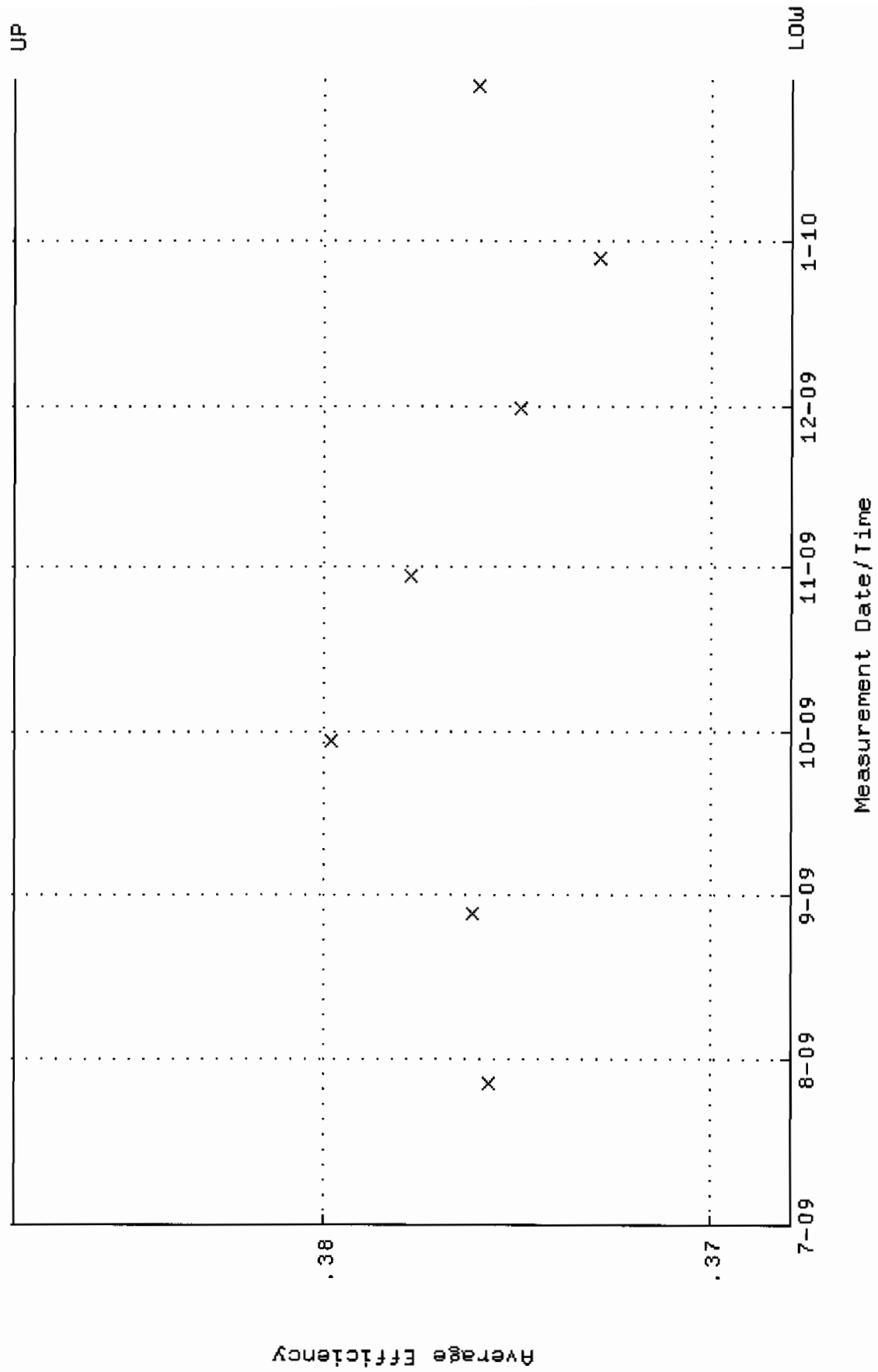
QA filename : DKA100:[ENV_ALPHA.QA.W]W211.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:47:25 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.1583 through 93.0171



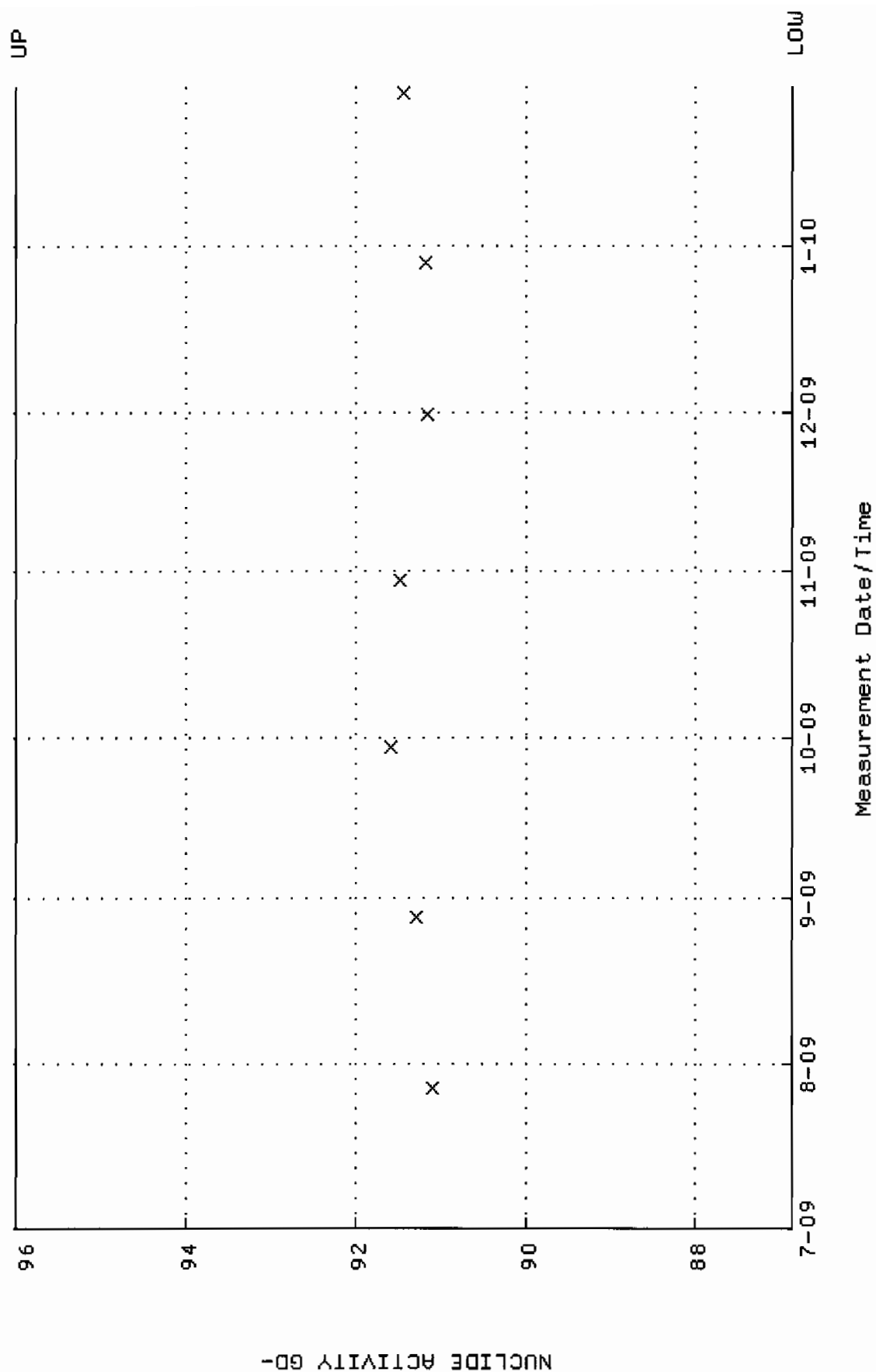
Lower/Upper Lmts: 0.000000E+00 through 0.100000



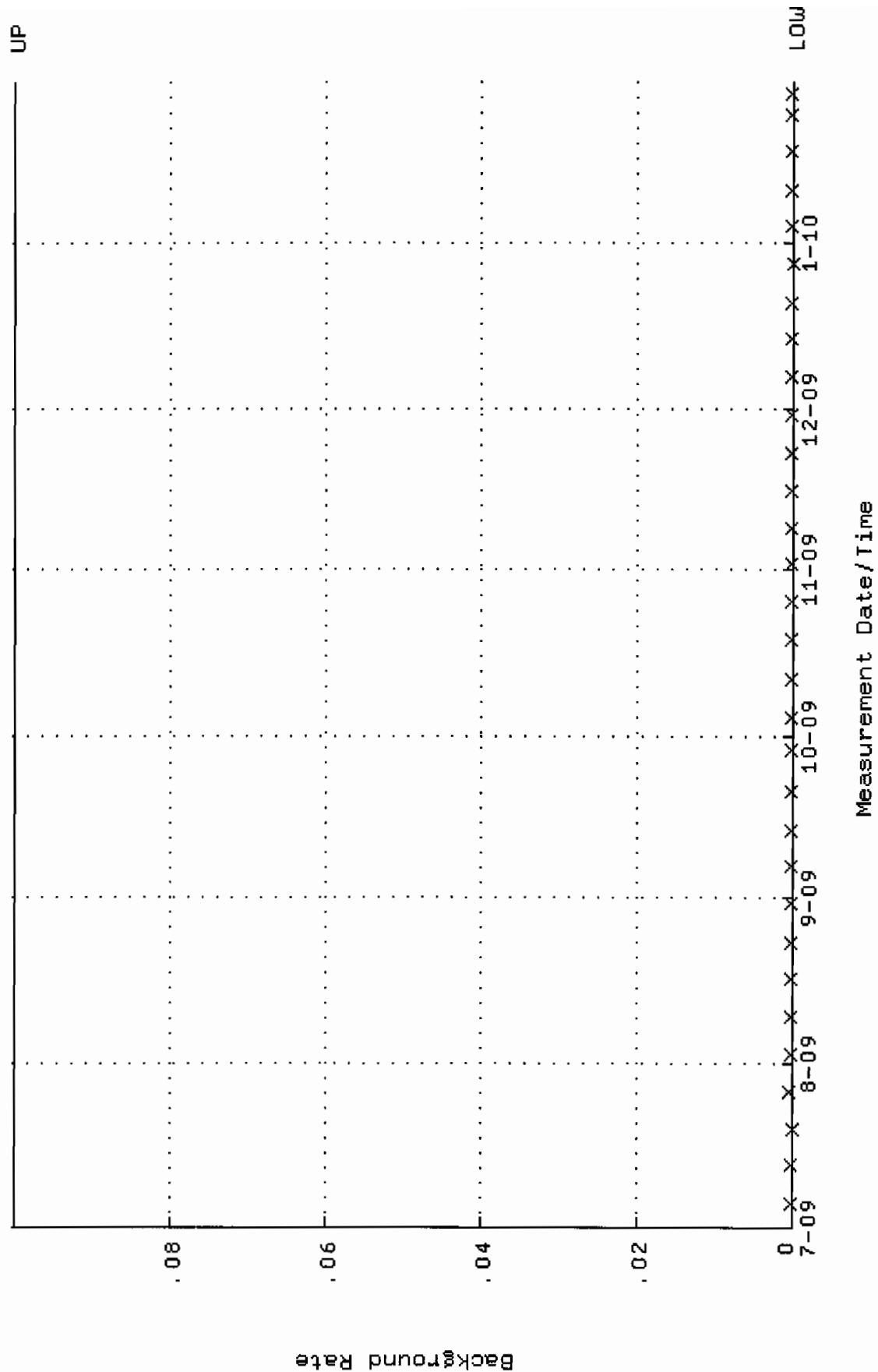
QA filename : DKA100:[ENV_ALPHA.QA.W]W221.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.367948 through 0.387948



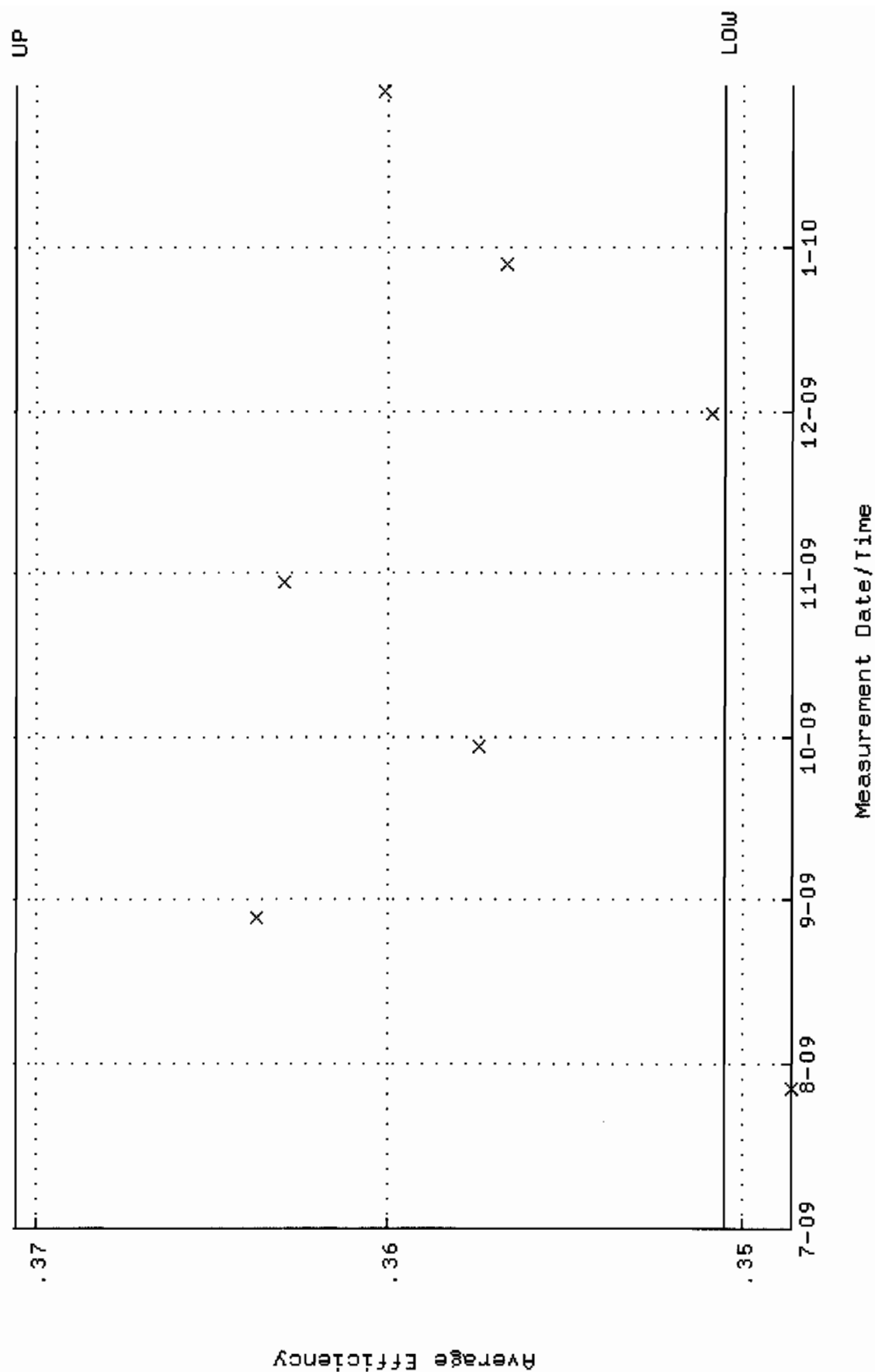
QA filename : DKA100:[ENV_ALPHA,QA.W]W221.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:48:29 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 86.8591 through 96.0021



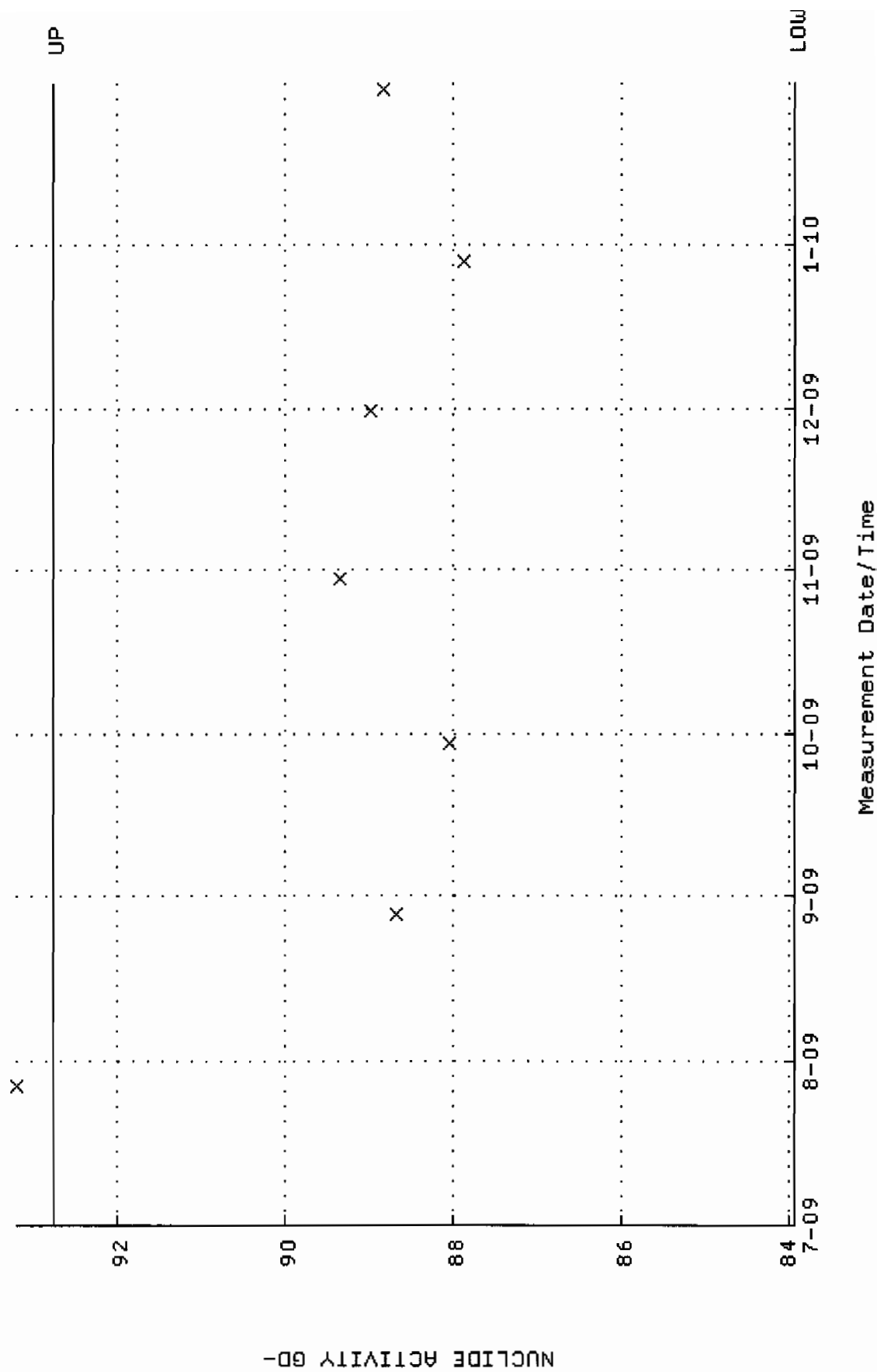
QA filename : DKA100:[ENV_ALPHA.QA.B]B221.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:15 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



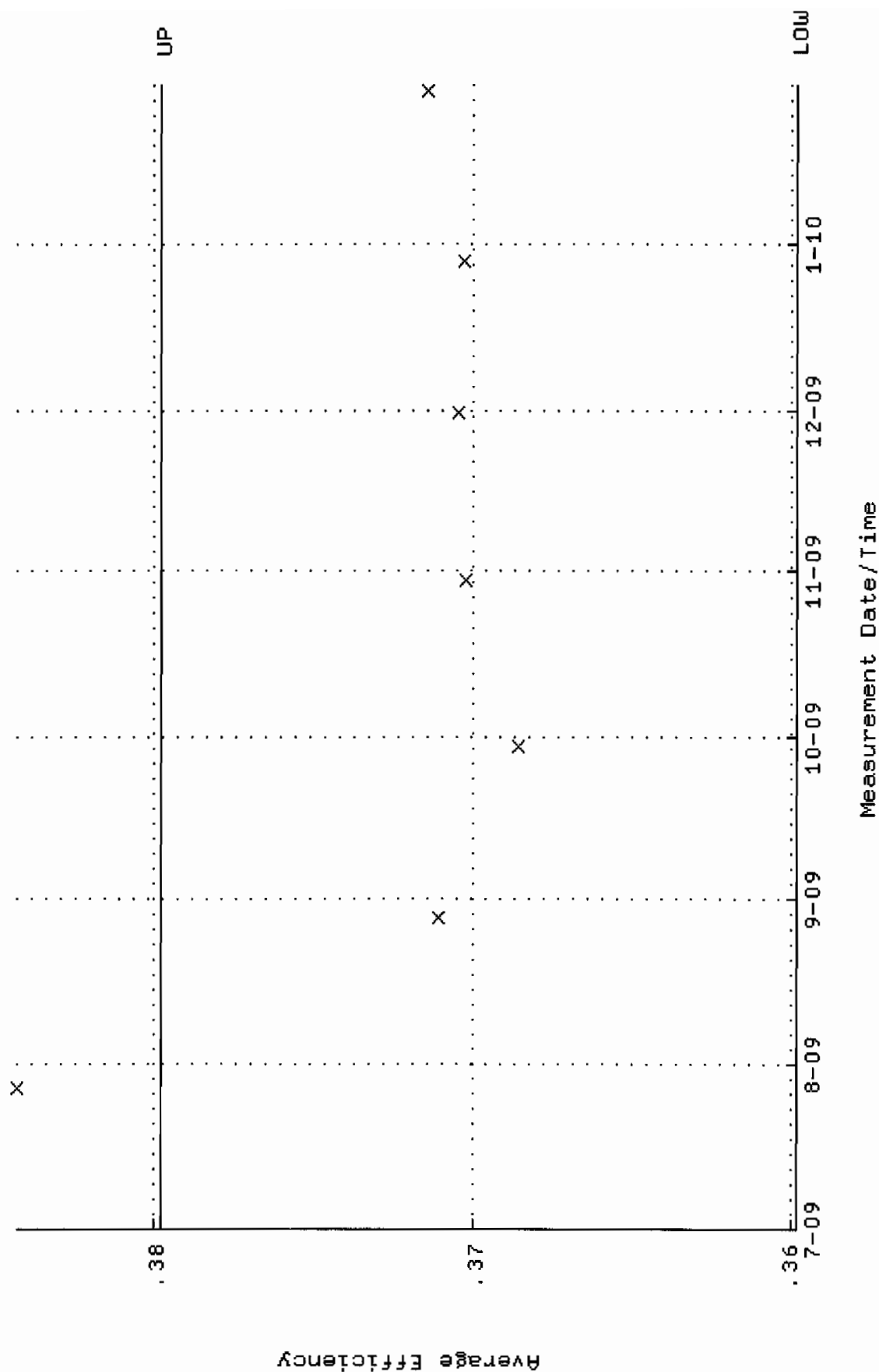
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:37 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.350566 through 0.370566



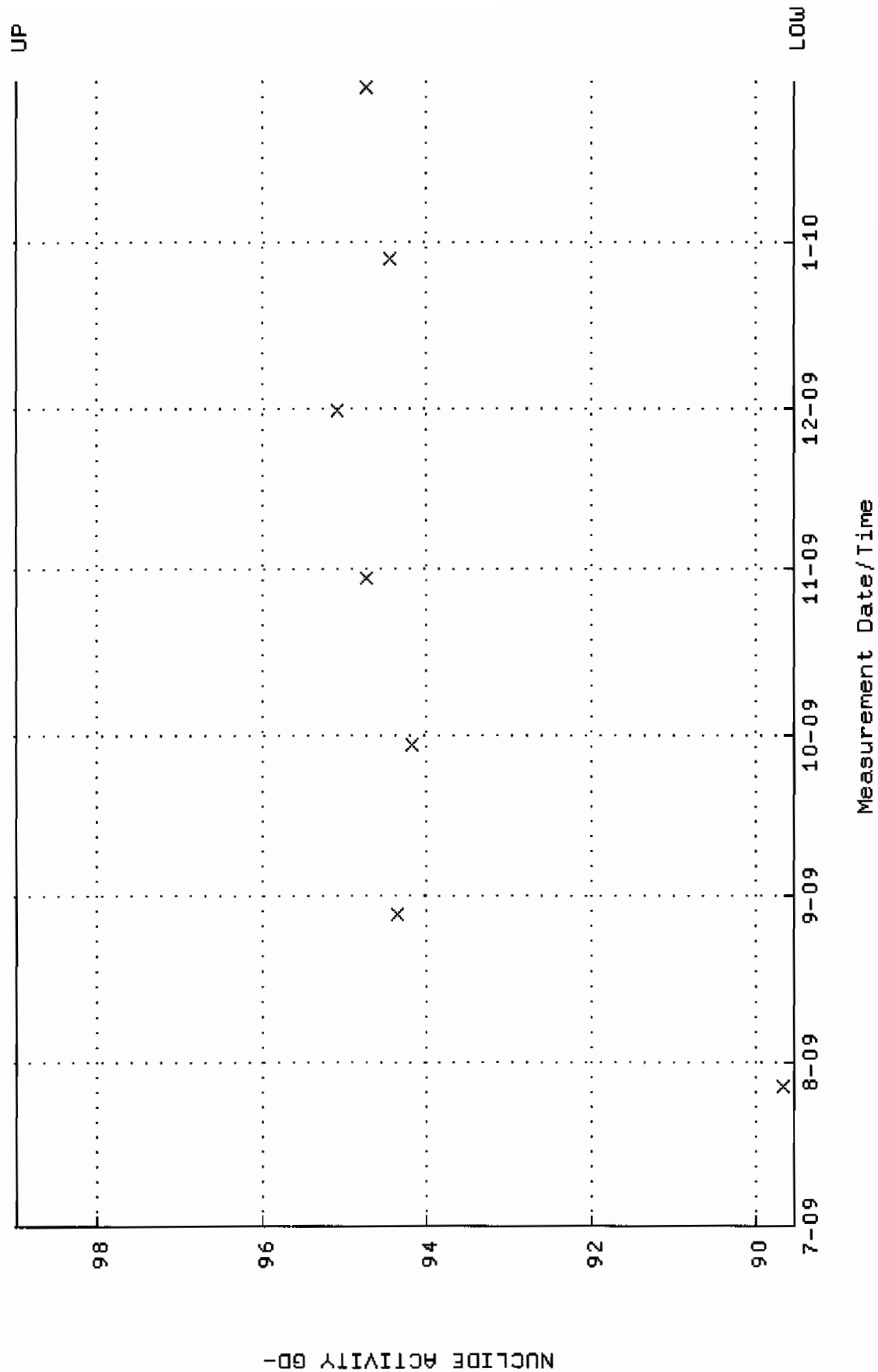
QA filename : DKA100:[ENV_ALPHA.QA.W]W222.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:37 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.9445 through 92.7807



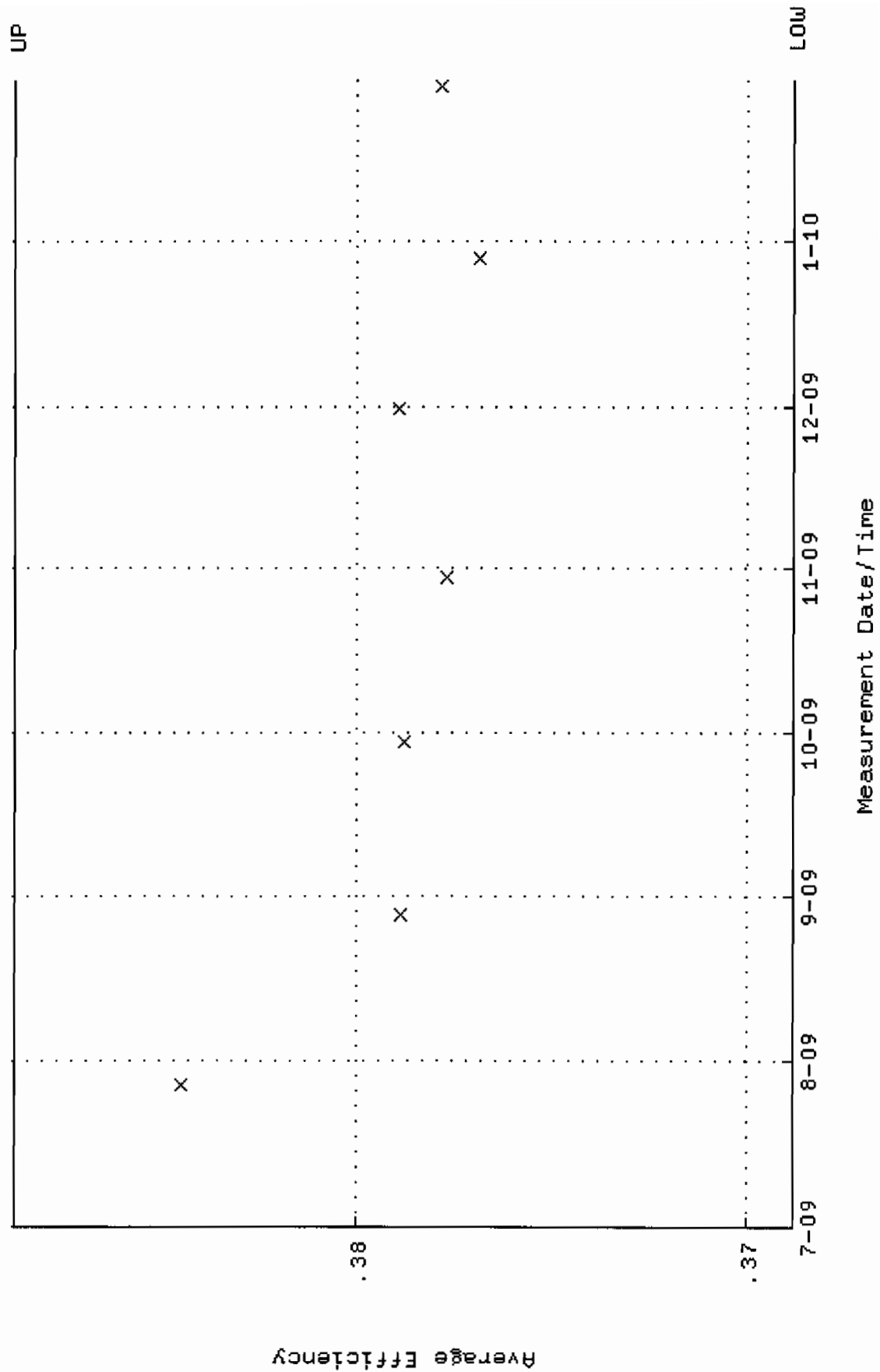
QA filename : DKA100:[ENV_ALPHA.QA.W]W223.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:43 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.359804 through 0.379804



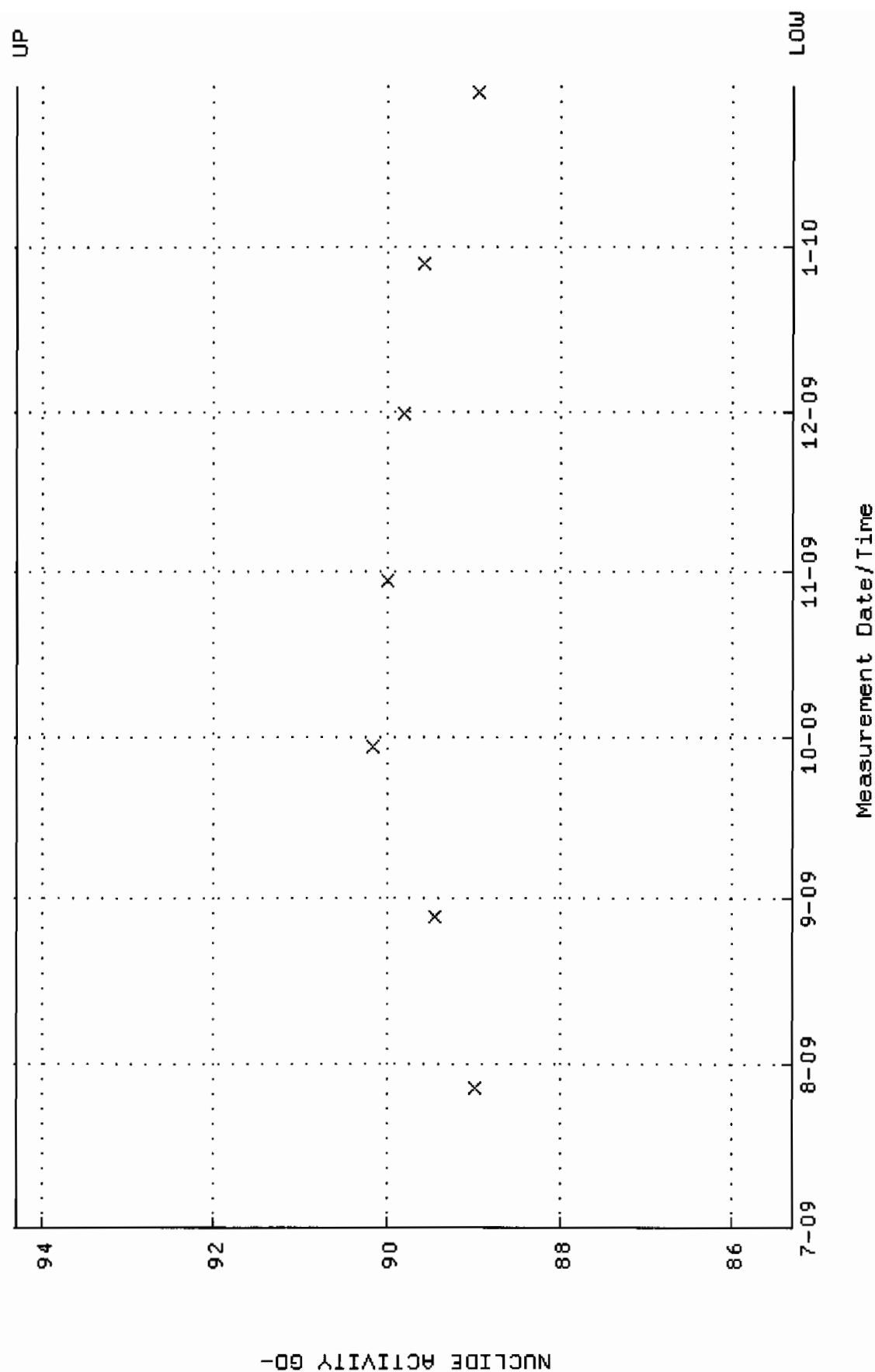
QA filename : DKA100:[ENV_ALPHA.QA.W]W223.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:43 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 89.5441 through 98.9697



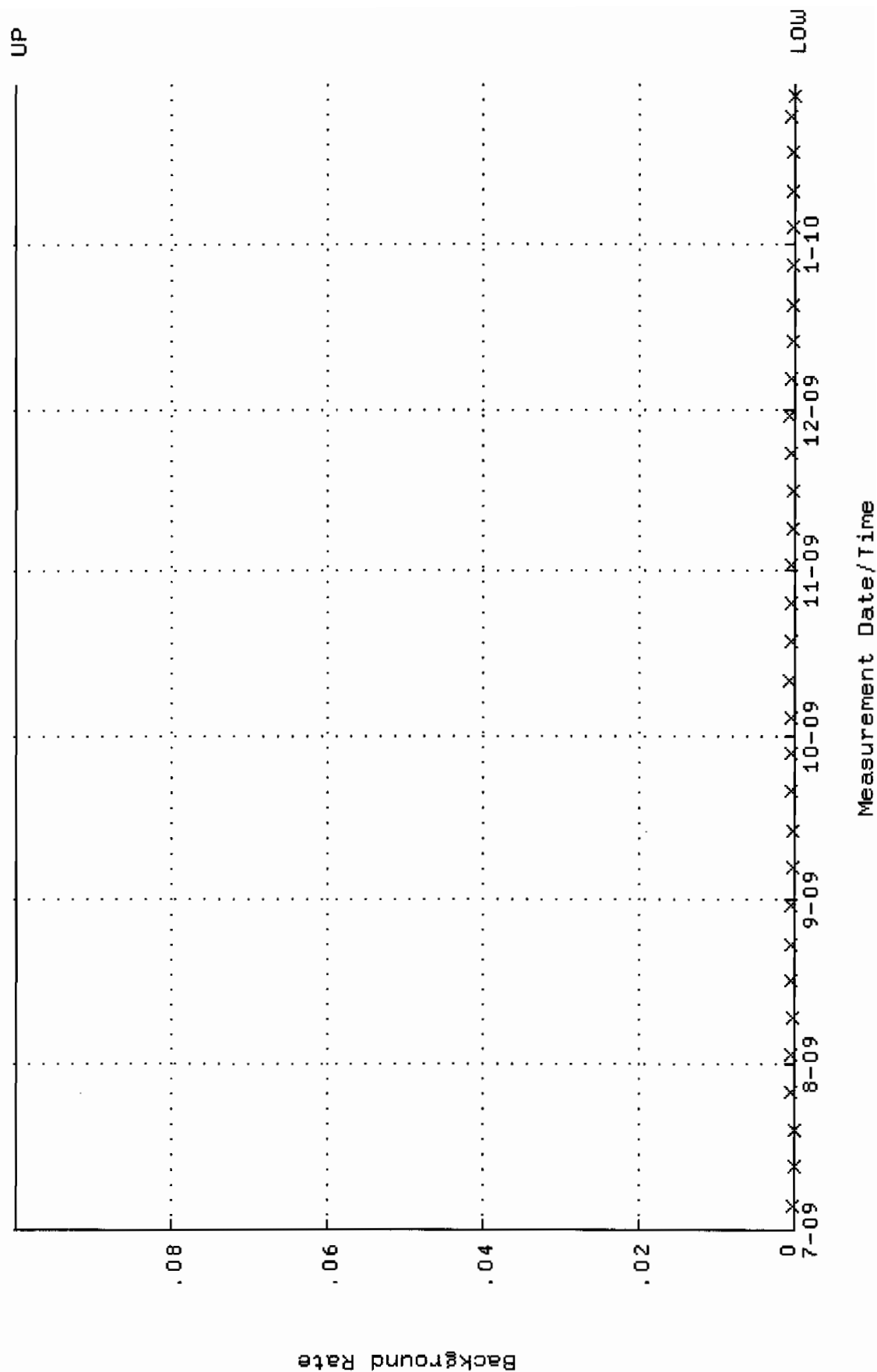
QA filename : DKA100:[ENV_ALPHA.QA.W]U224.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:51 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.368812 through 0.388812



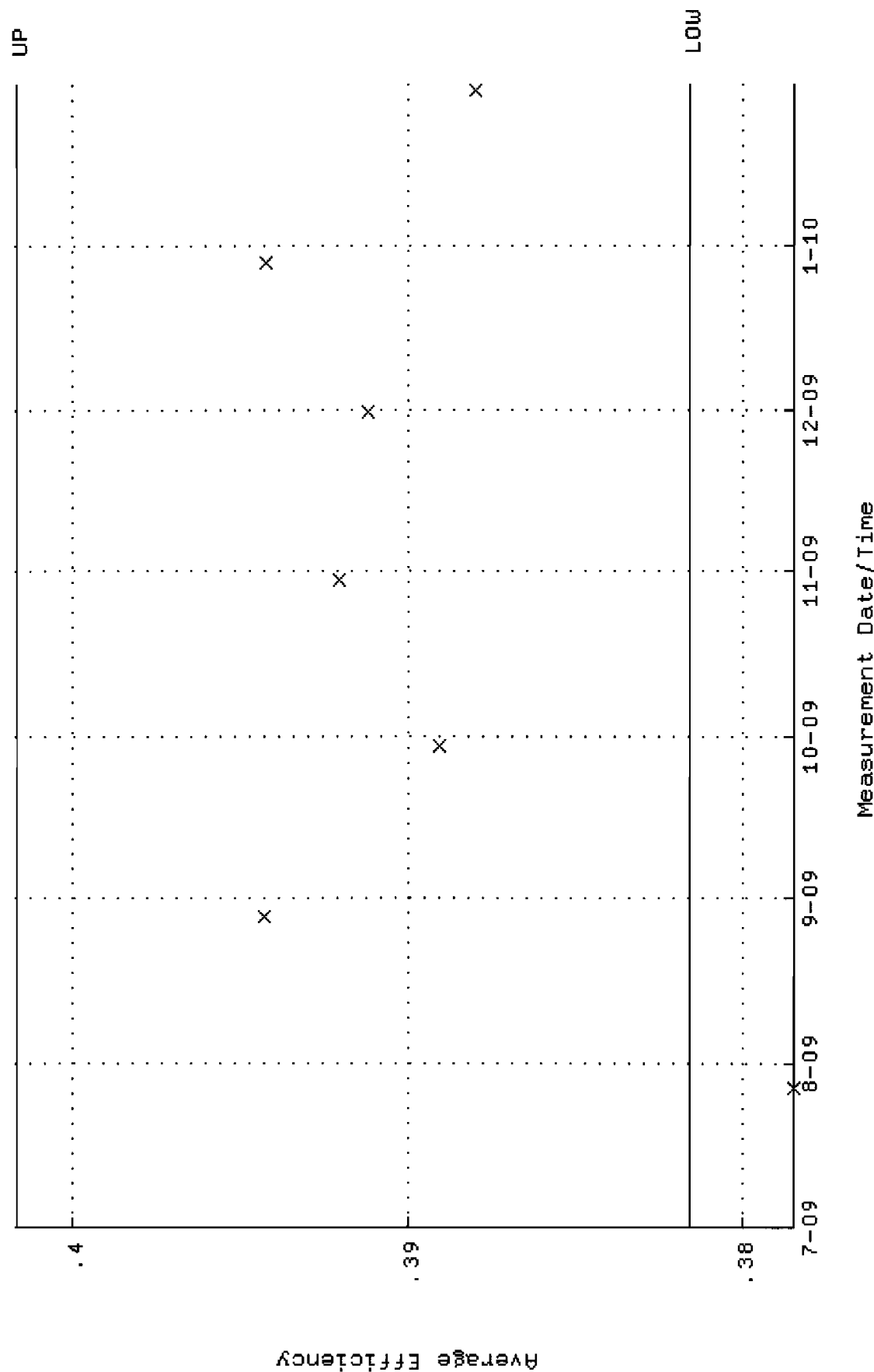
QA filename : DKA100:[ENV_ALPHA.QA.W]W224.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:51 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.3066 through 94.2862



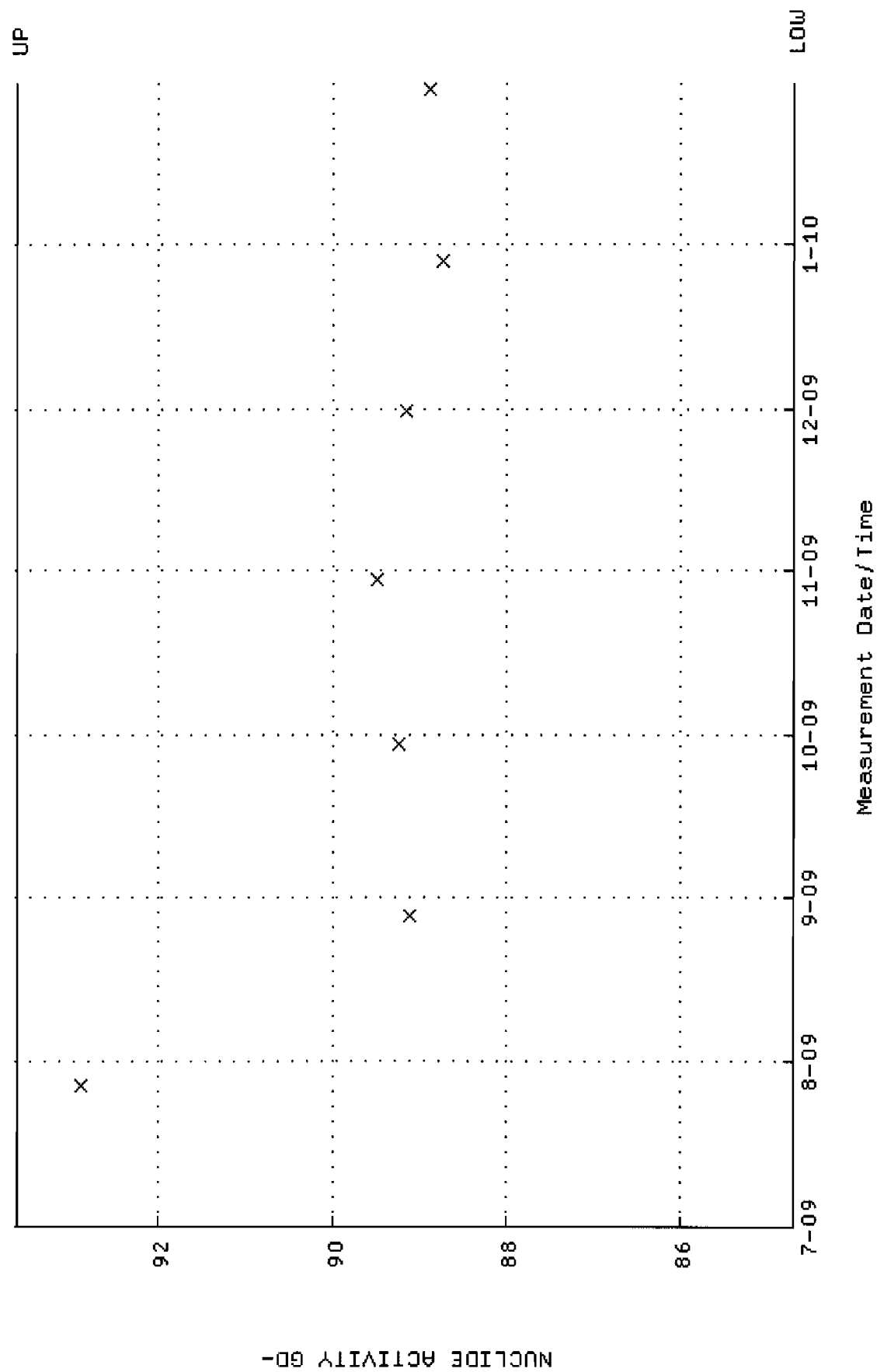
QA filename : DKA100:[ENV_ALPHA.QA.B]B224.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



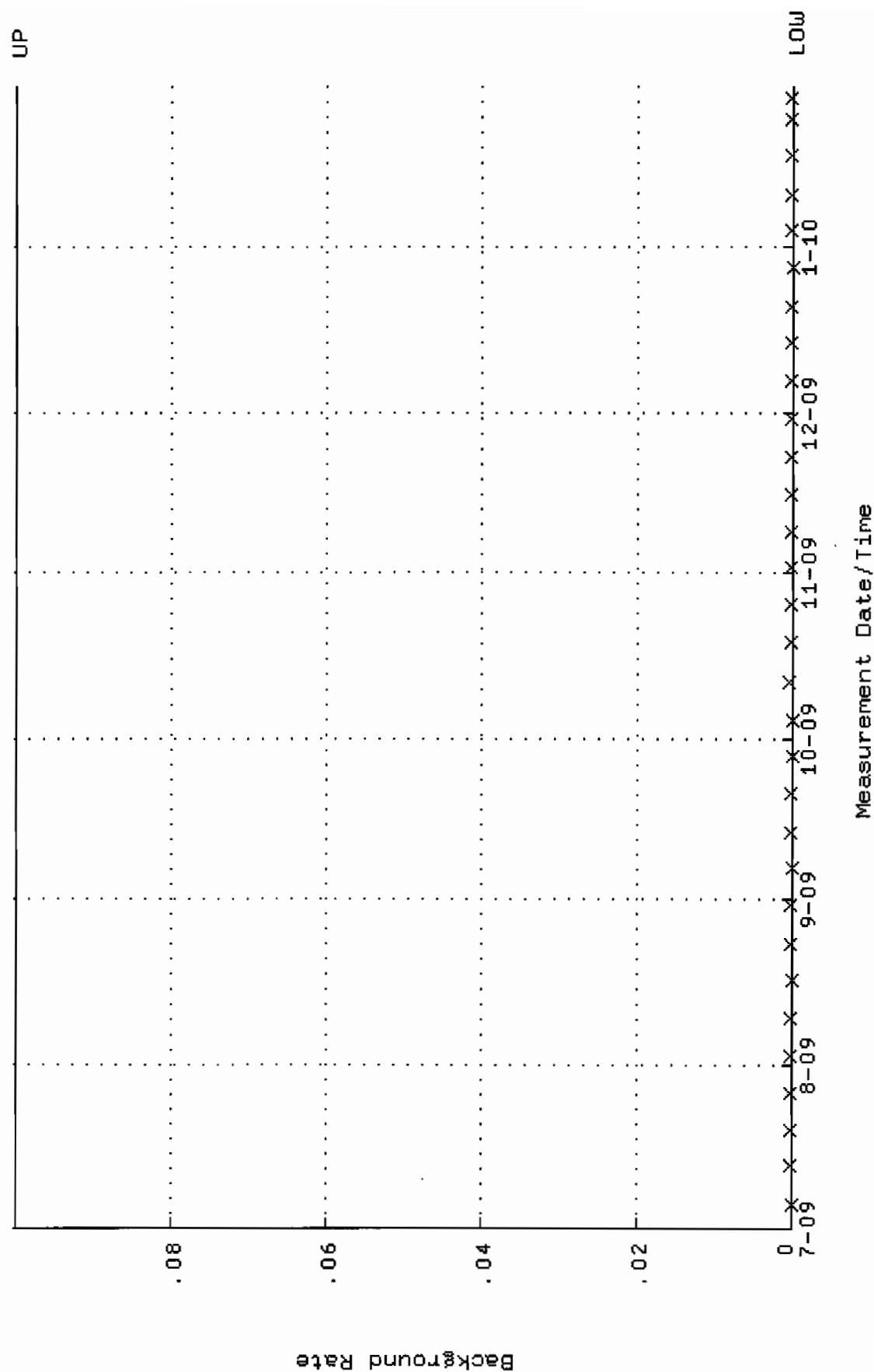
QA filename : DKA100:[ENV_ALPHA.QA.W]W225.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:48:57 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.381631 through 0.401631



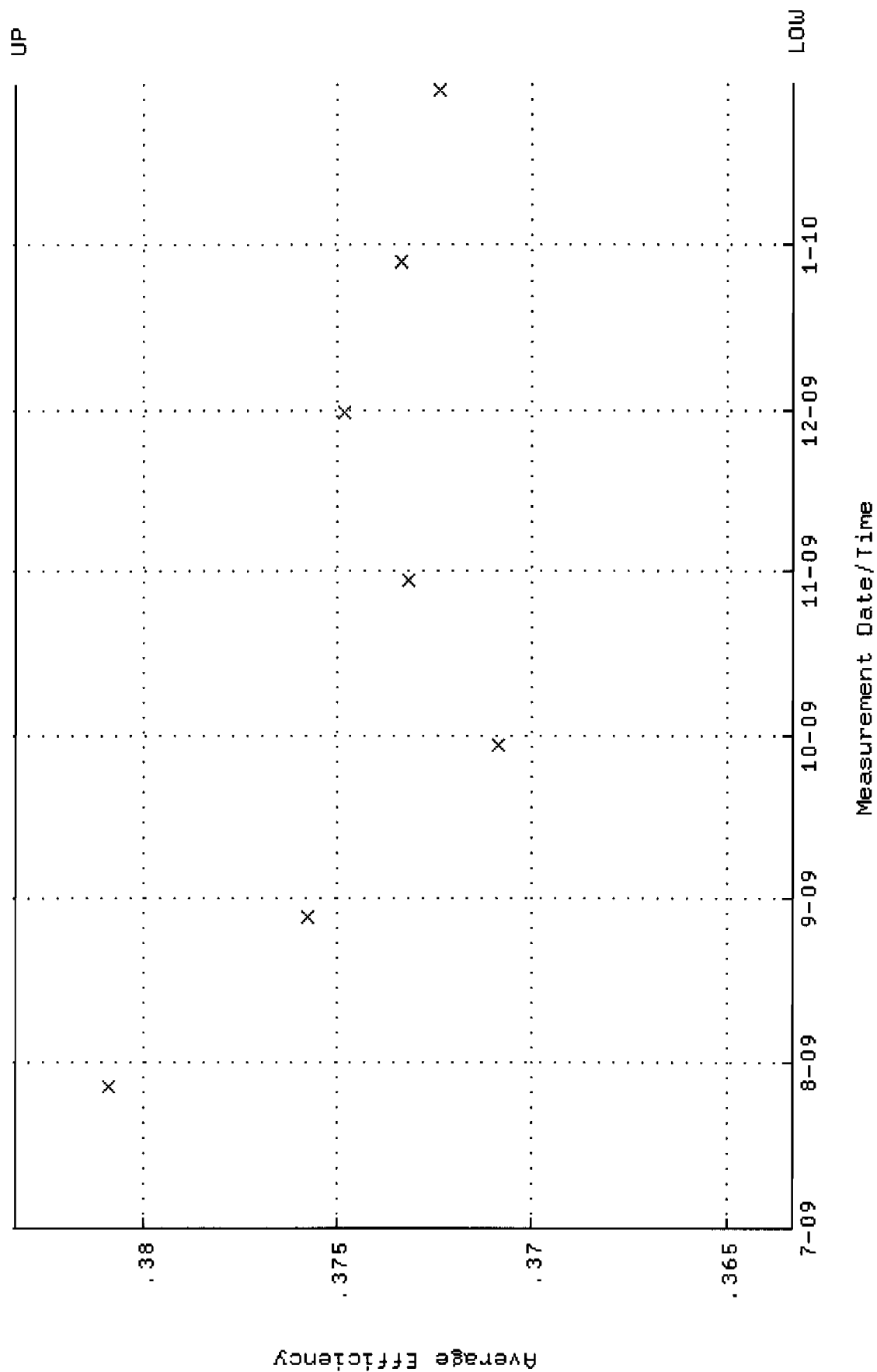
QA filename : DKA100:[ENV_ALPHA.QA.W]W225.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:48:57 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.7082 through 93.6248



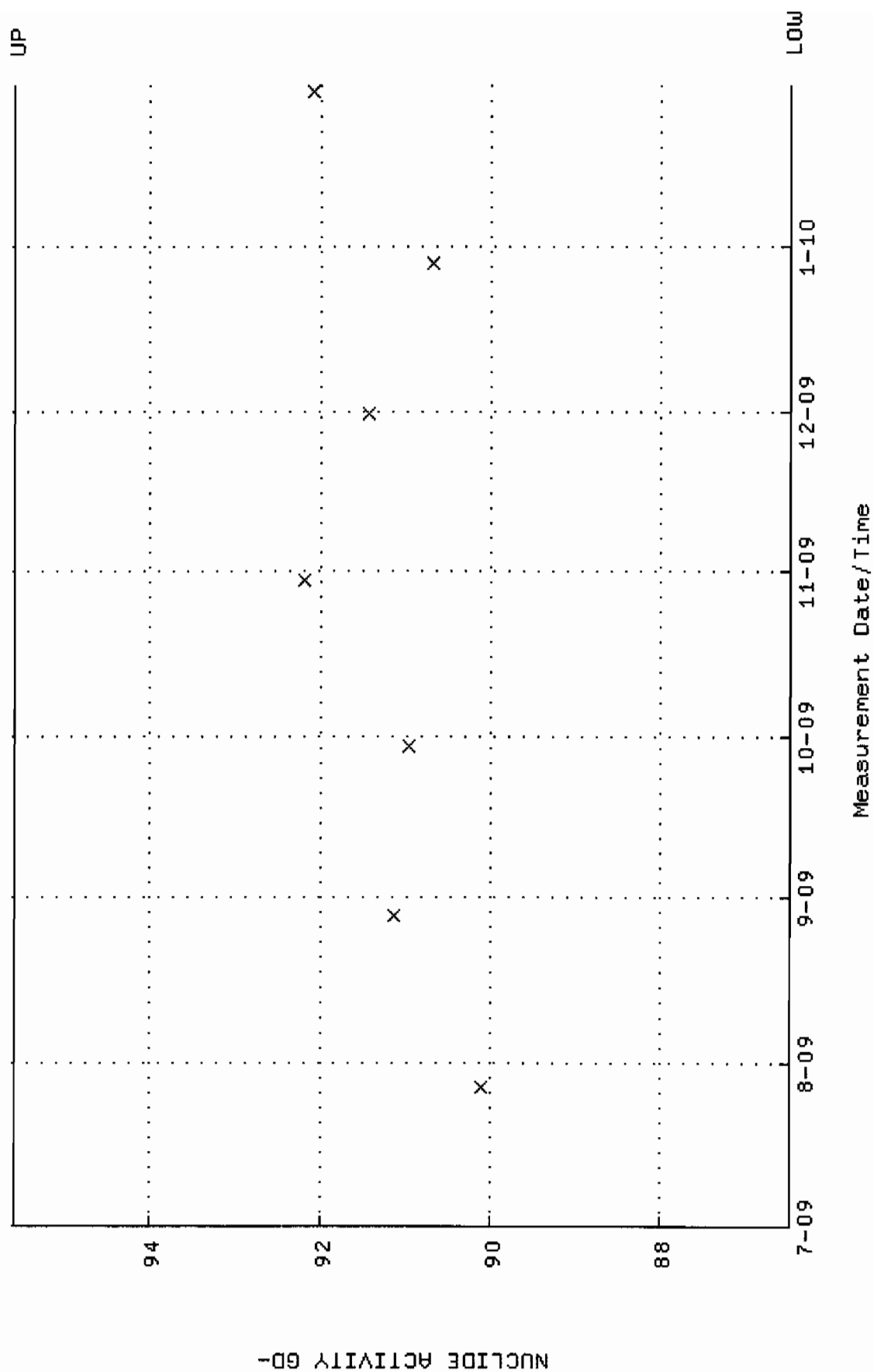
QA filename : DKA100:[ENV_ALPHA.QA.B]B225.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:34 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



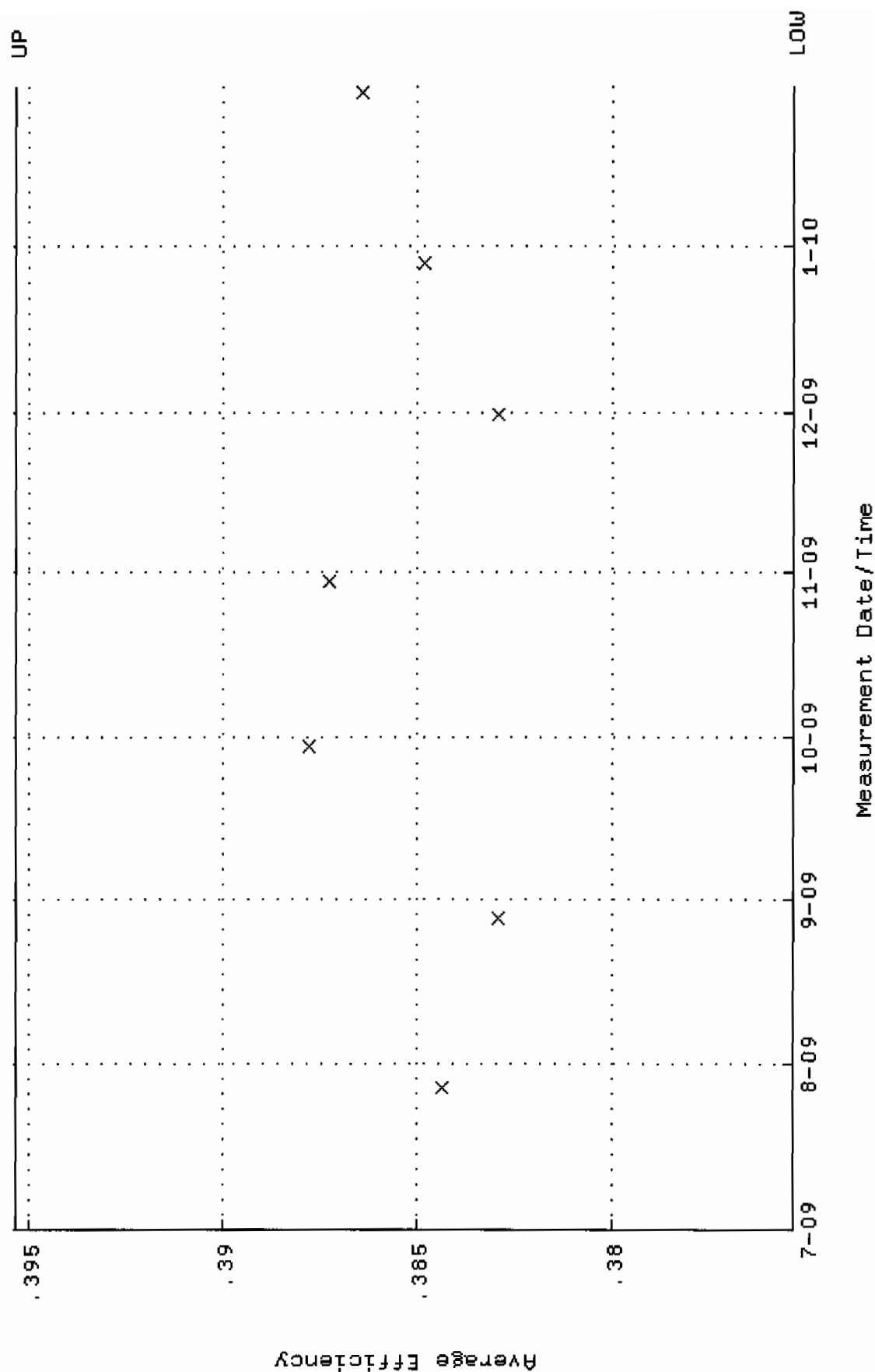
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:04 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.363285 through 0.383285



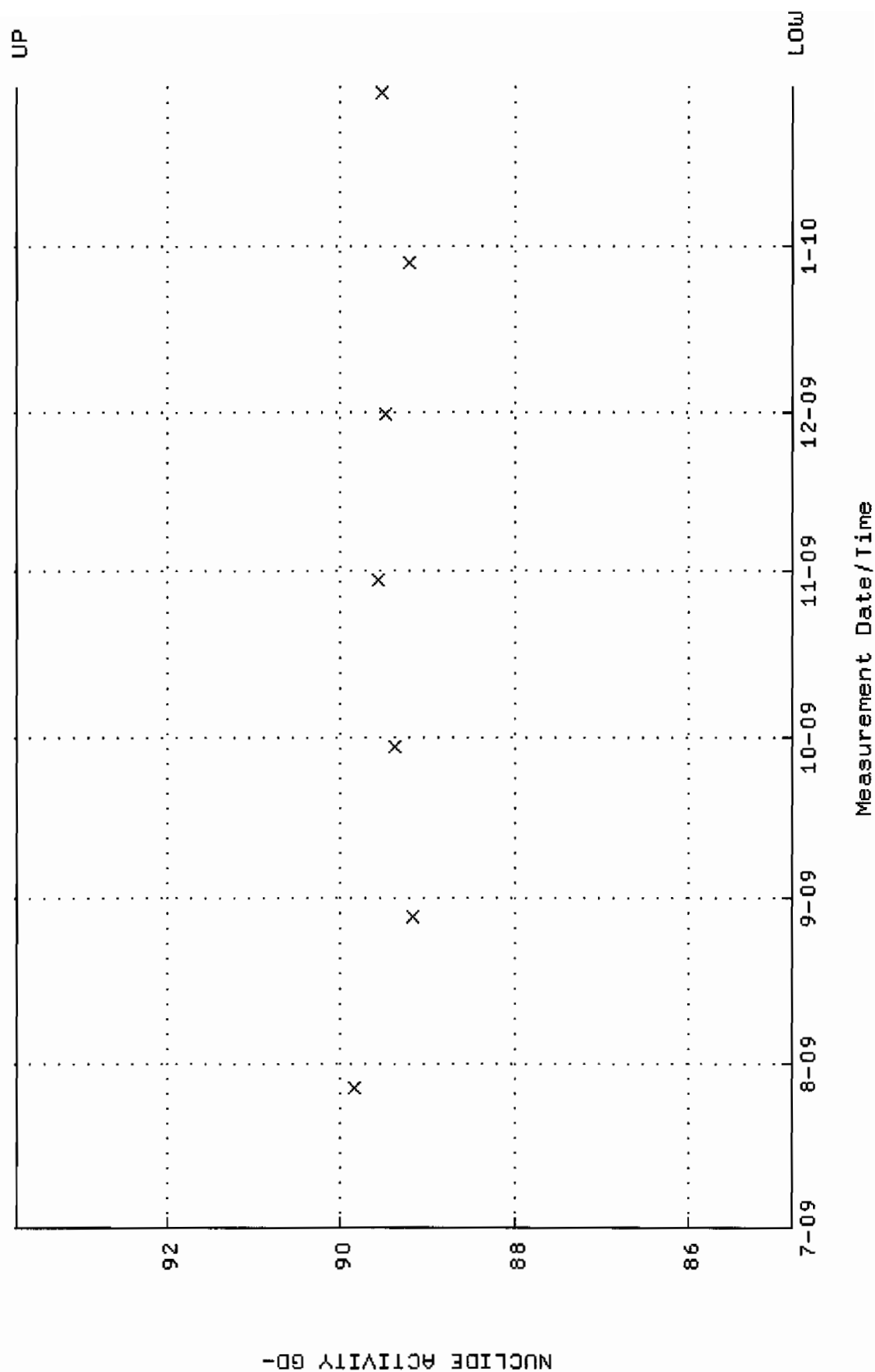
QA filename : DKA100:[ENV_ALPHA.QA.W]W226.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:04 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 86.4888 through 95.5928



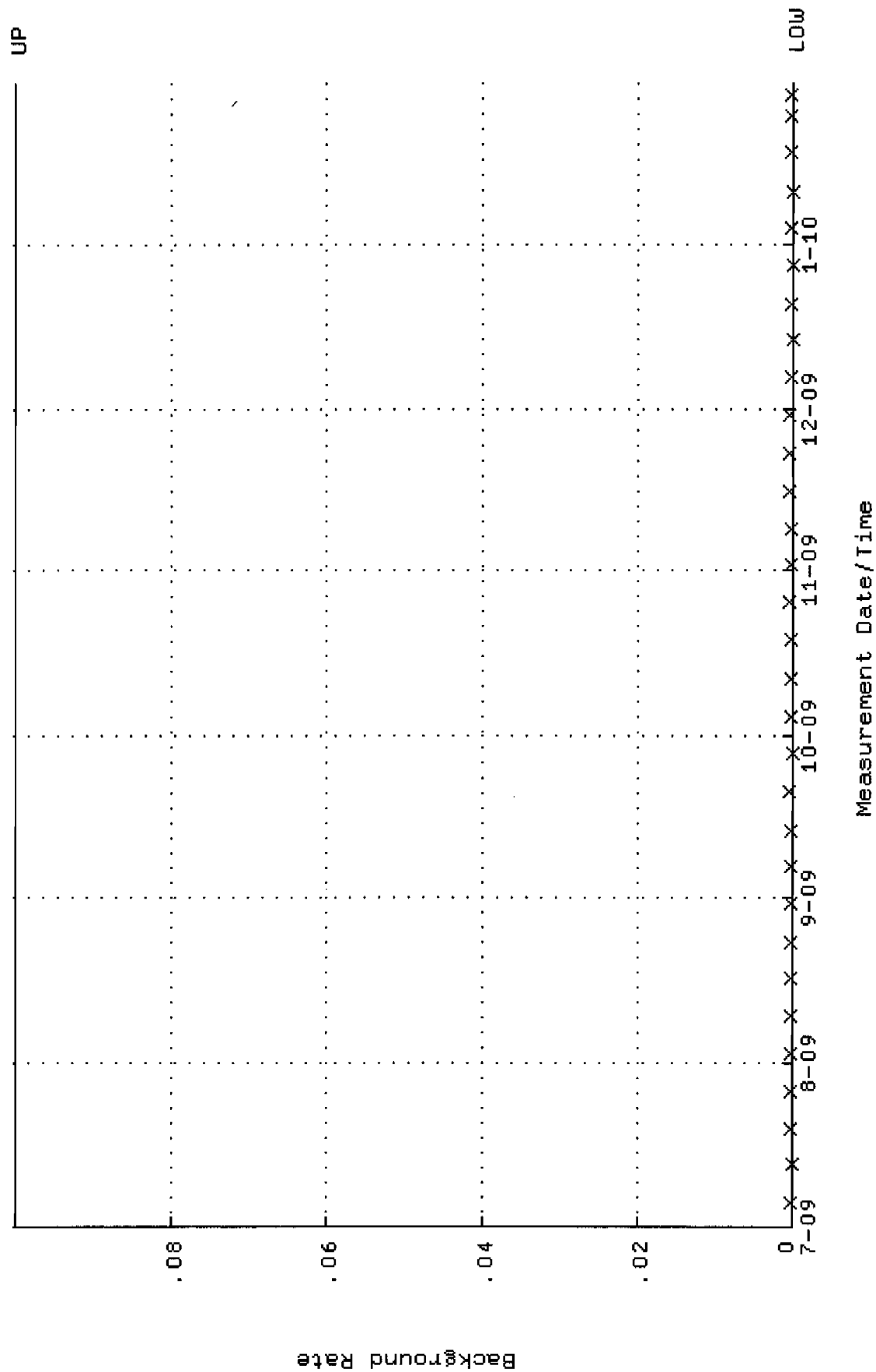
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.375328 through 0.395328



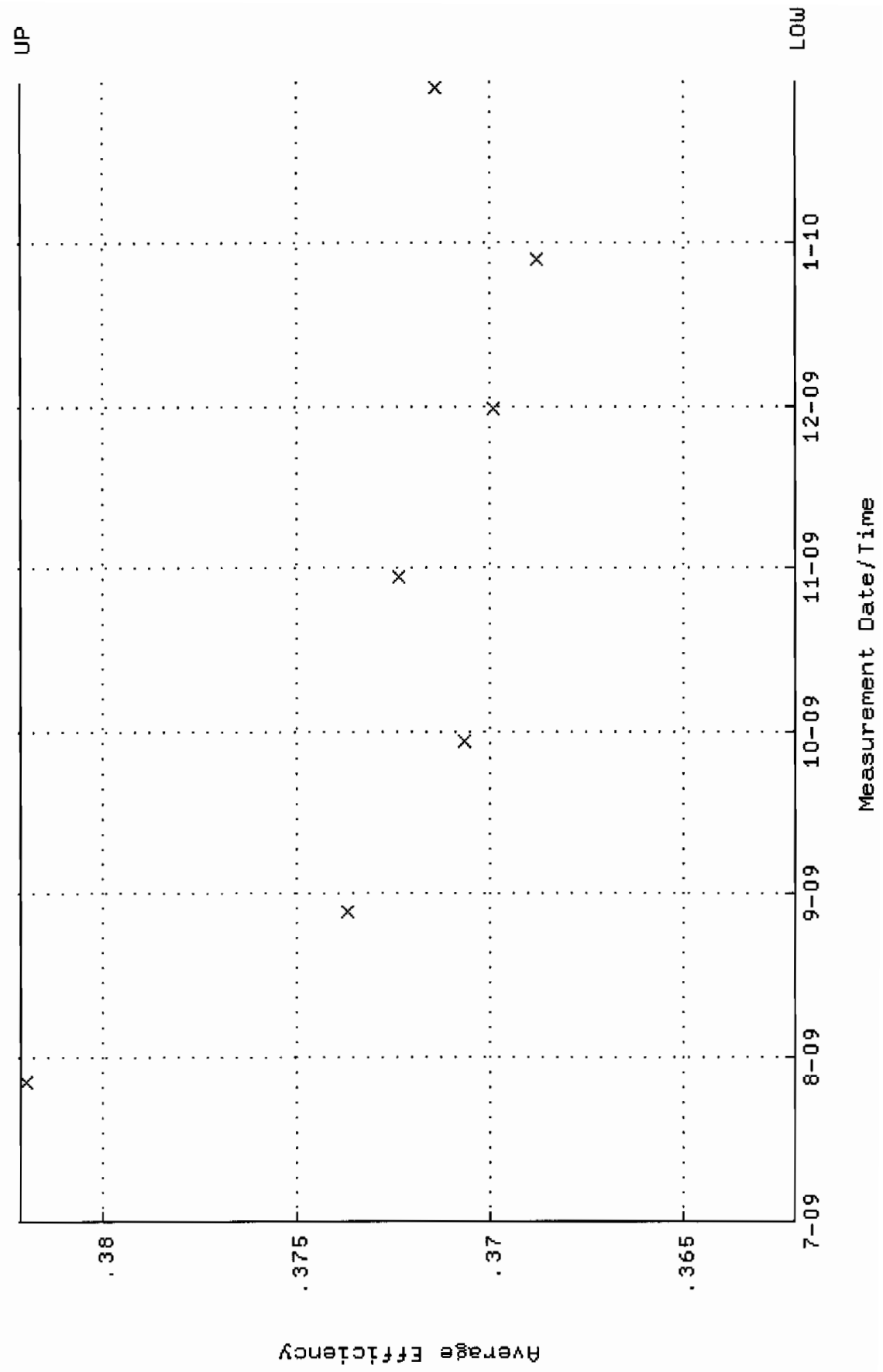
QA filename : DKA100:[ENV_ALPHA.QA.W]W227.QAF;1
 Parameter Name : NLACTVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:10 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 84.8011 through 93.7275



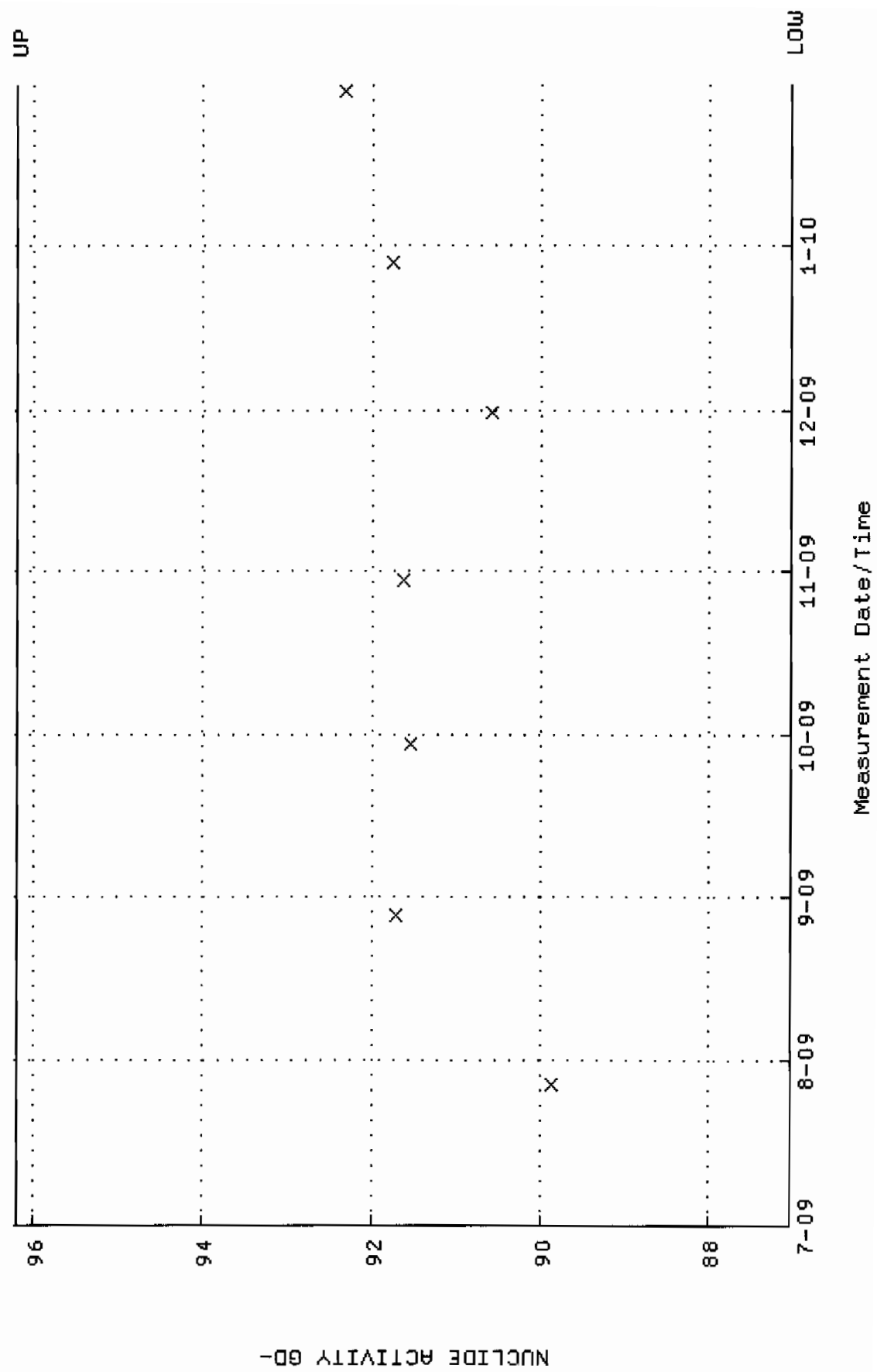
QA filename : DKA100:[ENV_ALPHA.QA.B]B227.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:43 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



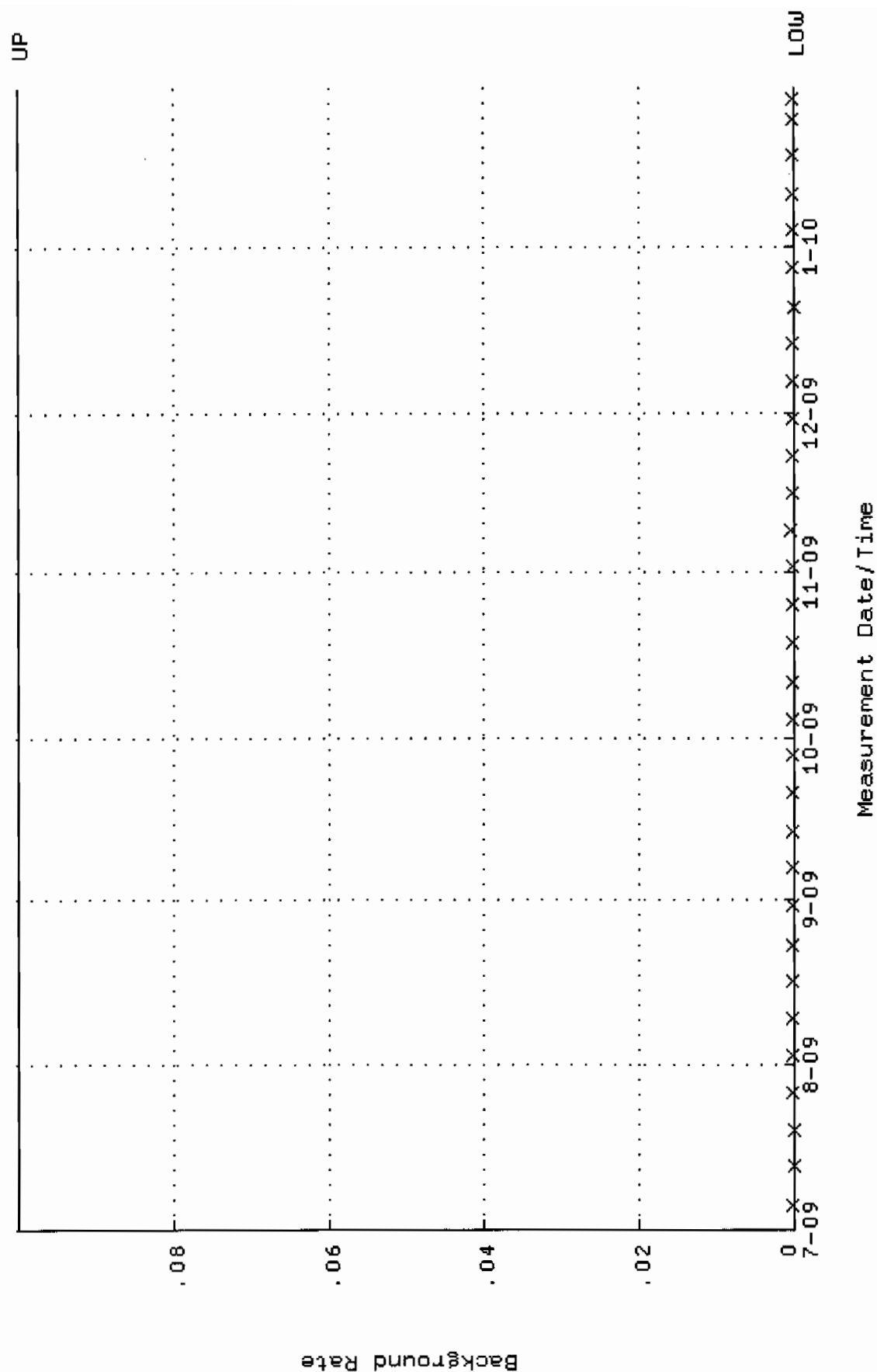
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 27-JUL-2009 11:49:16 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 0.362134 through 0.382134



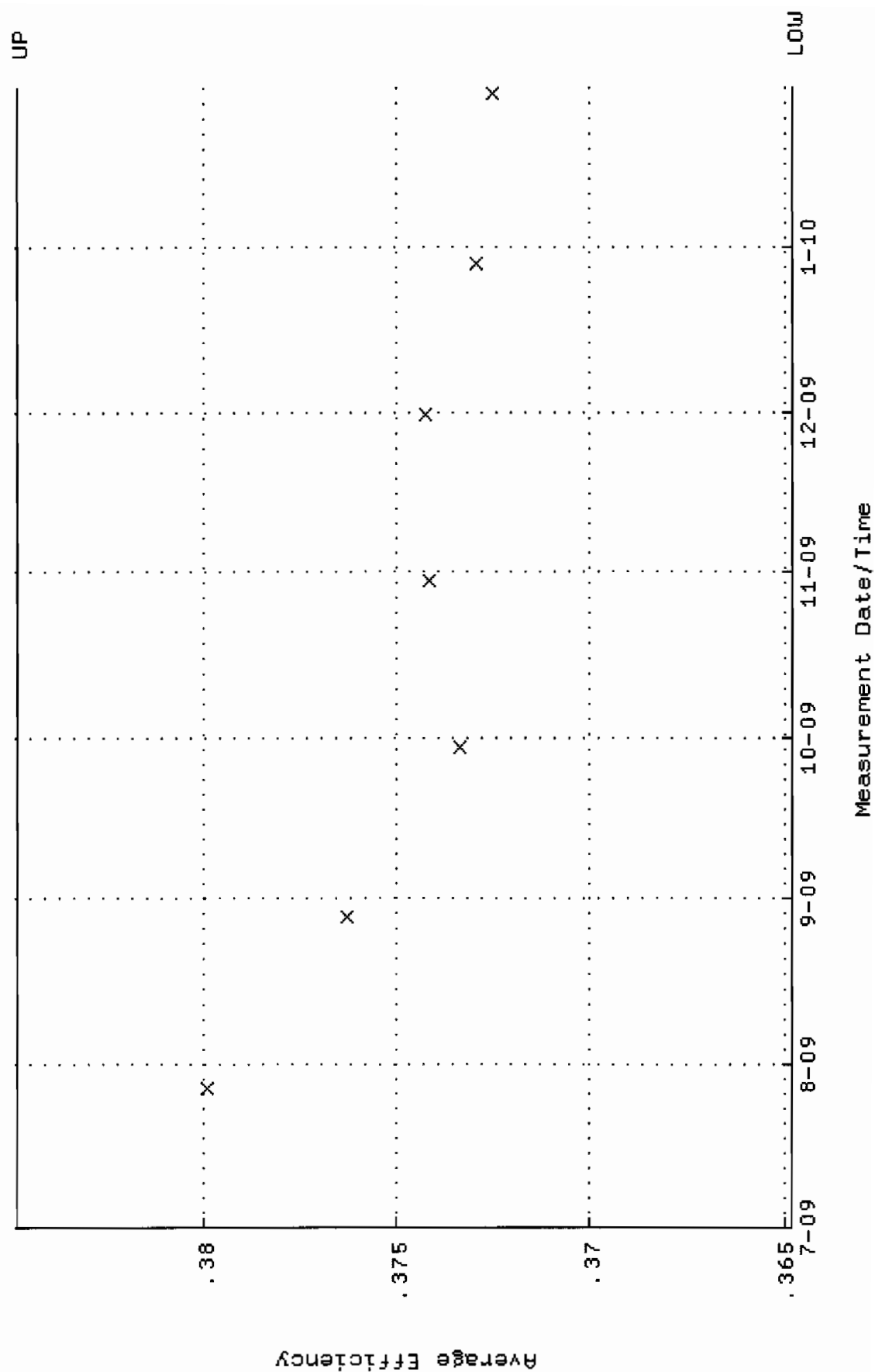
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:16 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.0370 through 96.1988



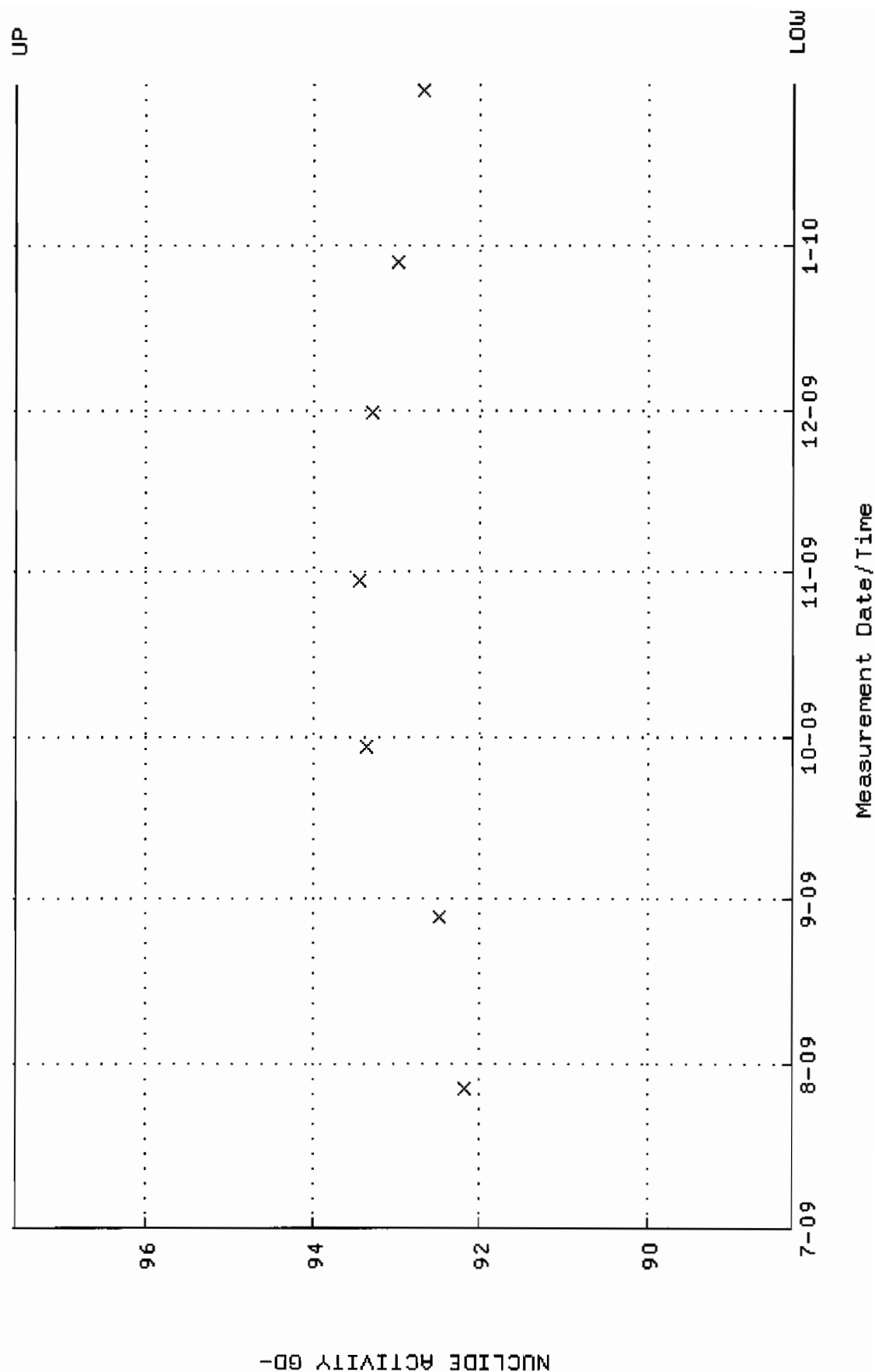
QA filename : DKA100:[ENV_ALPHA.QA.B]B228.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:22 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.364789 through 0.384789



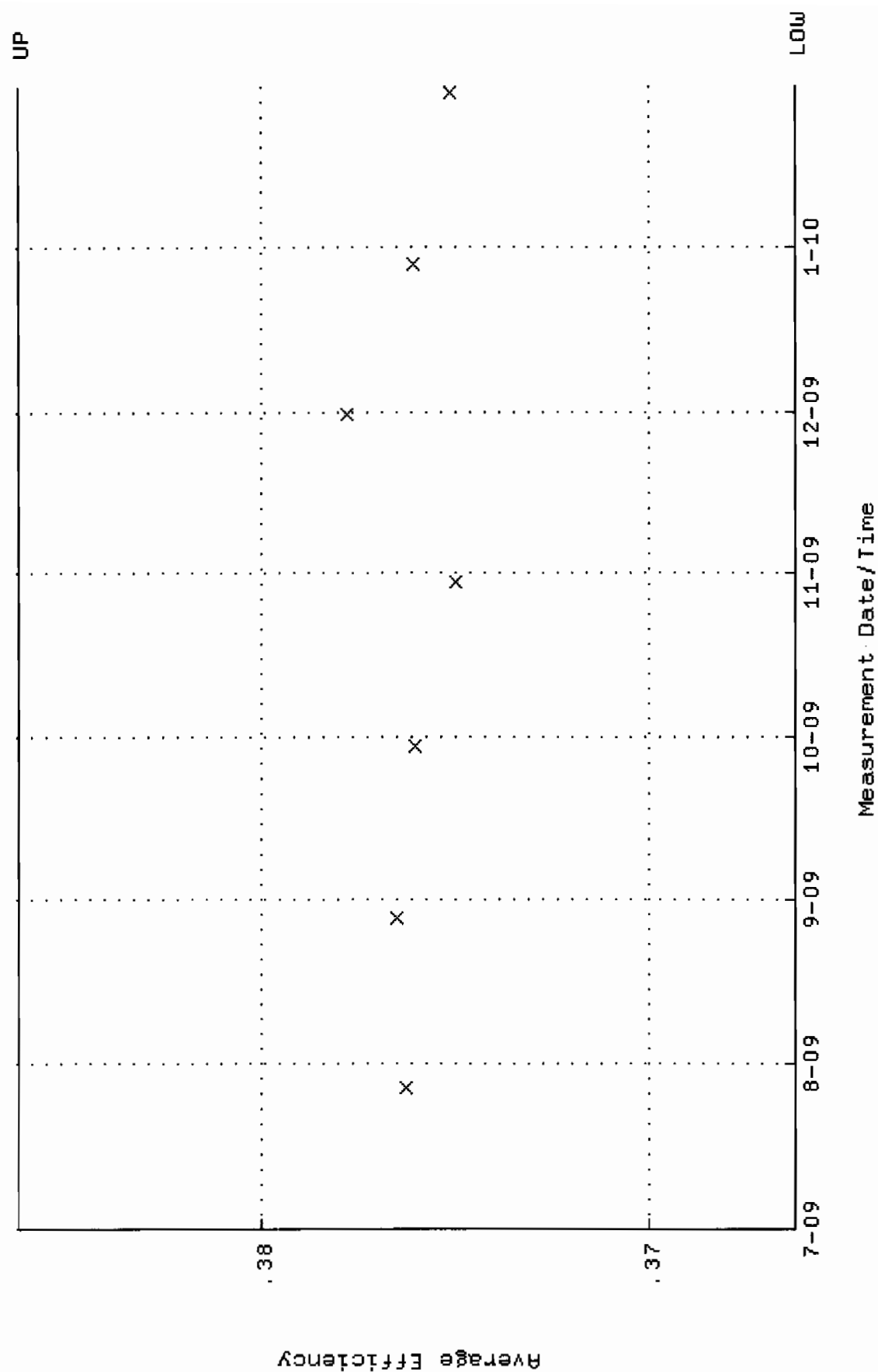
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:22 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.2691 through 97.5605



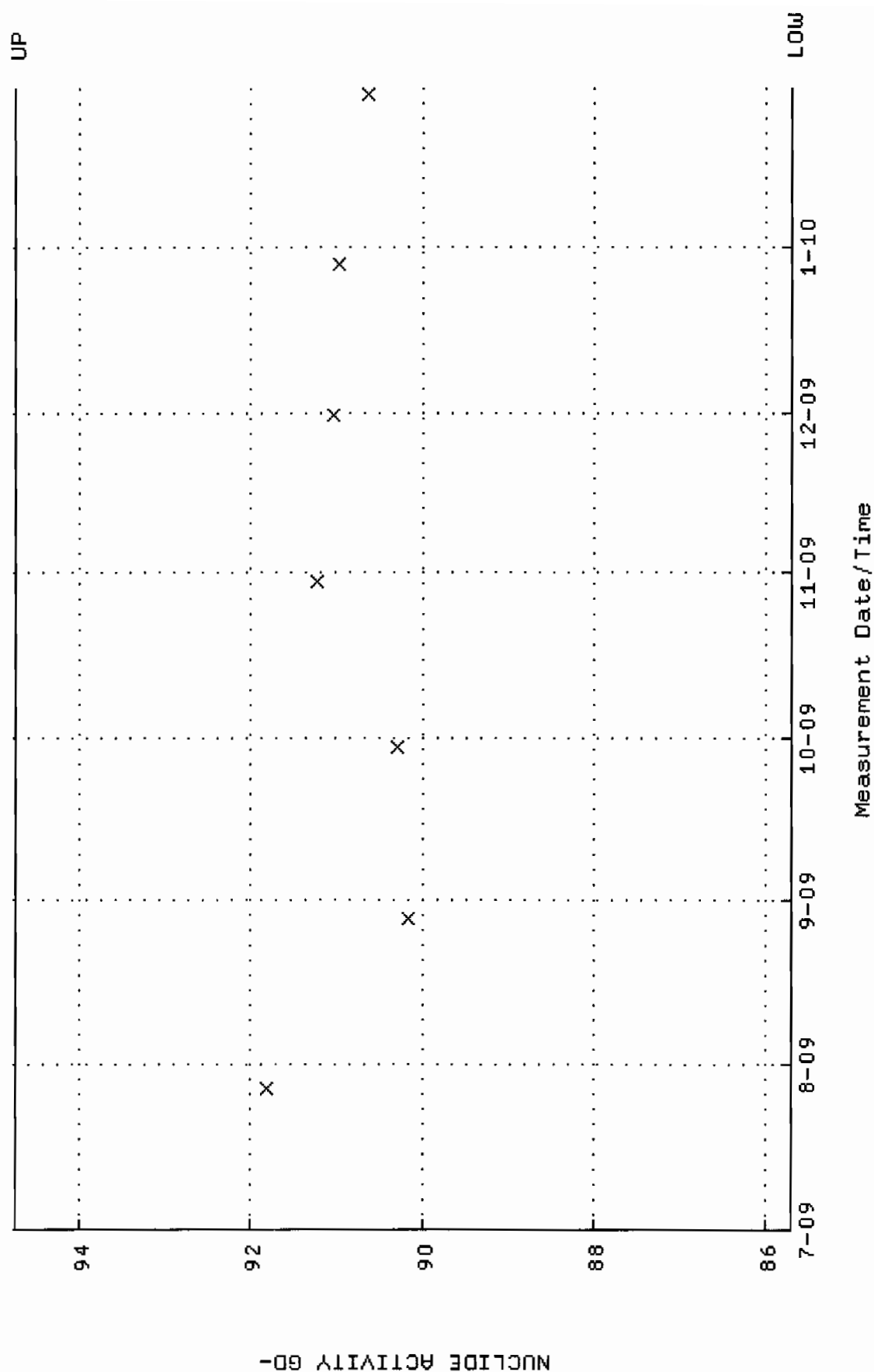
Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W230.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.366240 through 0.386240



QA filename : DKA100:[ENV_ALPHA.QA.W]W230.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 85.7127 through 94.7351



: DKA100:[ENV_ALPHA.QA.B]B230.QAF;1

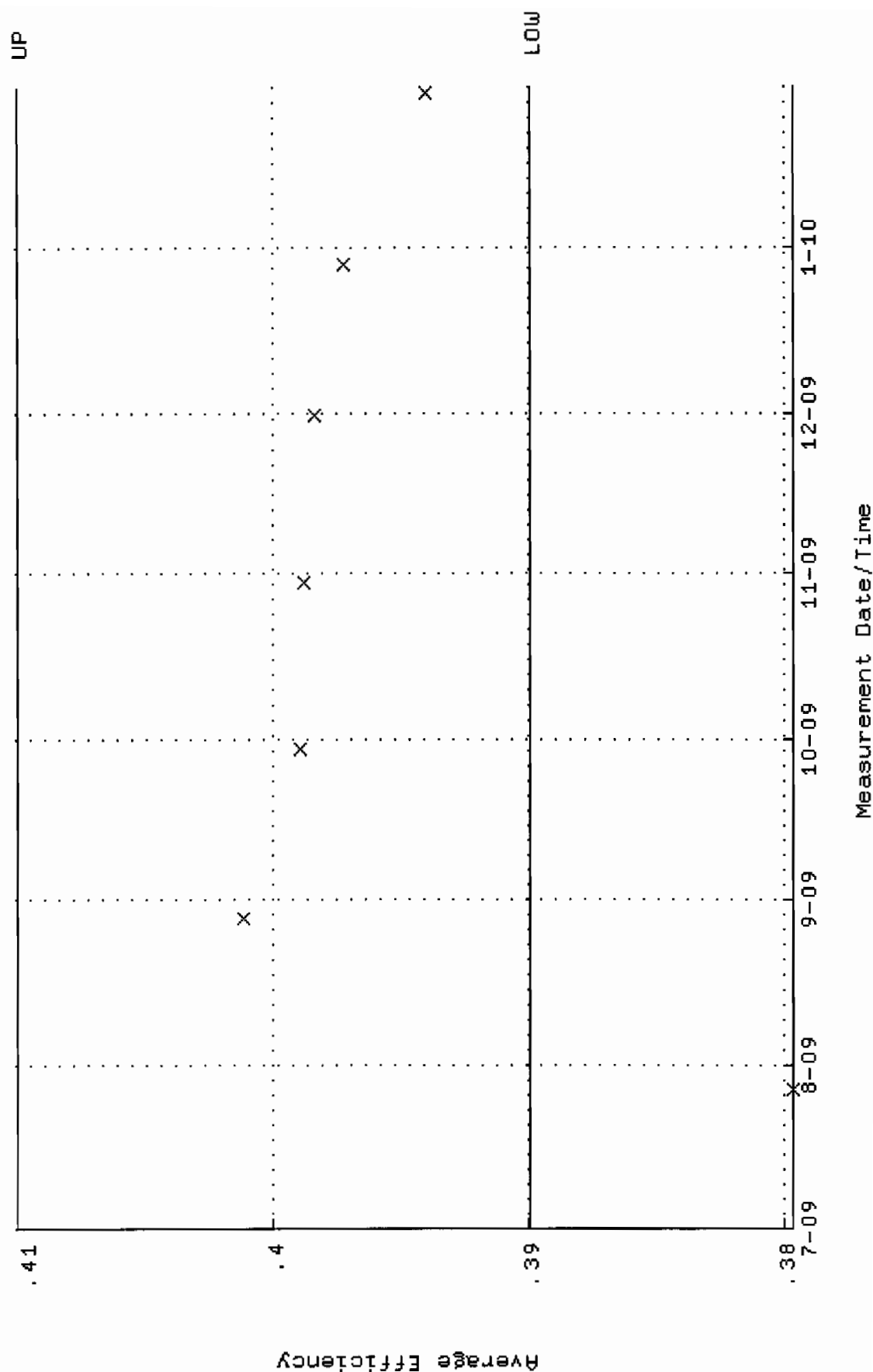
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:04:57 through 30-JAN-2010 12:00:00

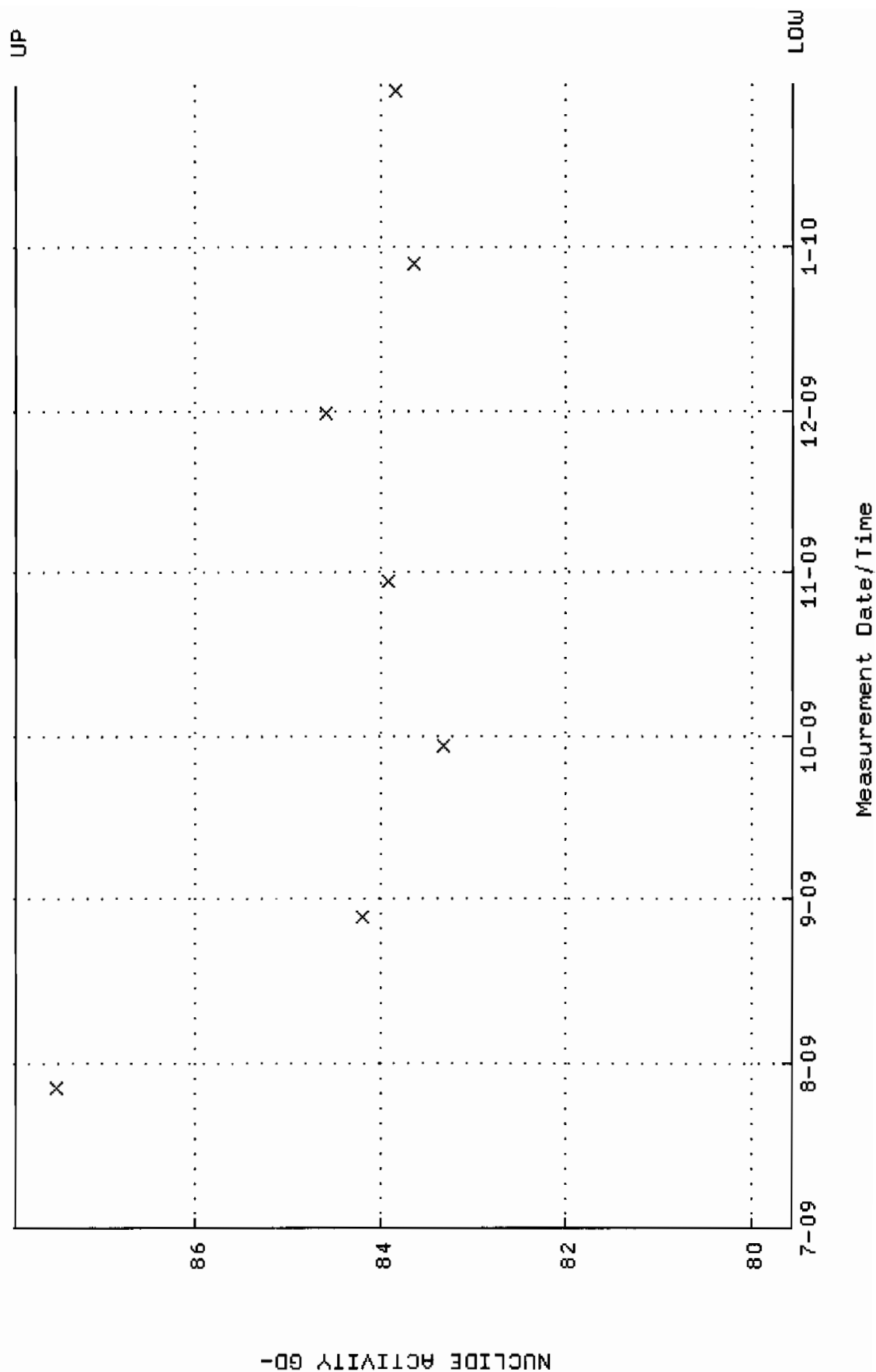
Lower/Upper Lmts: 0.00000E+00 through 0.100000



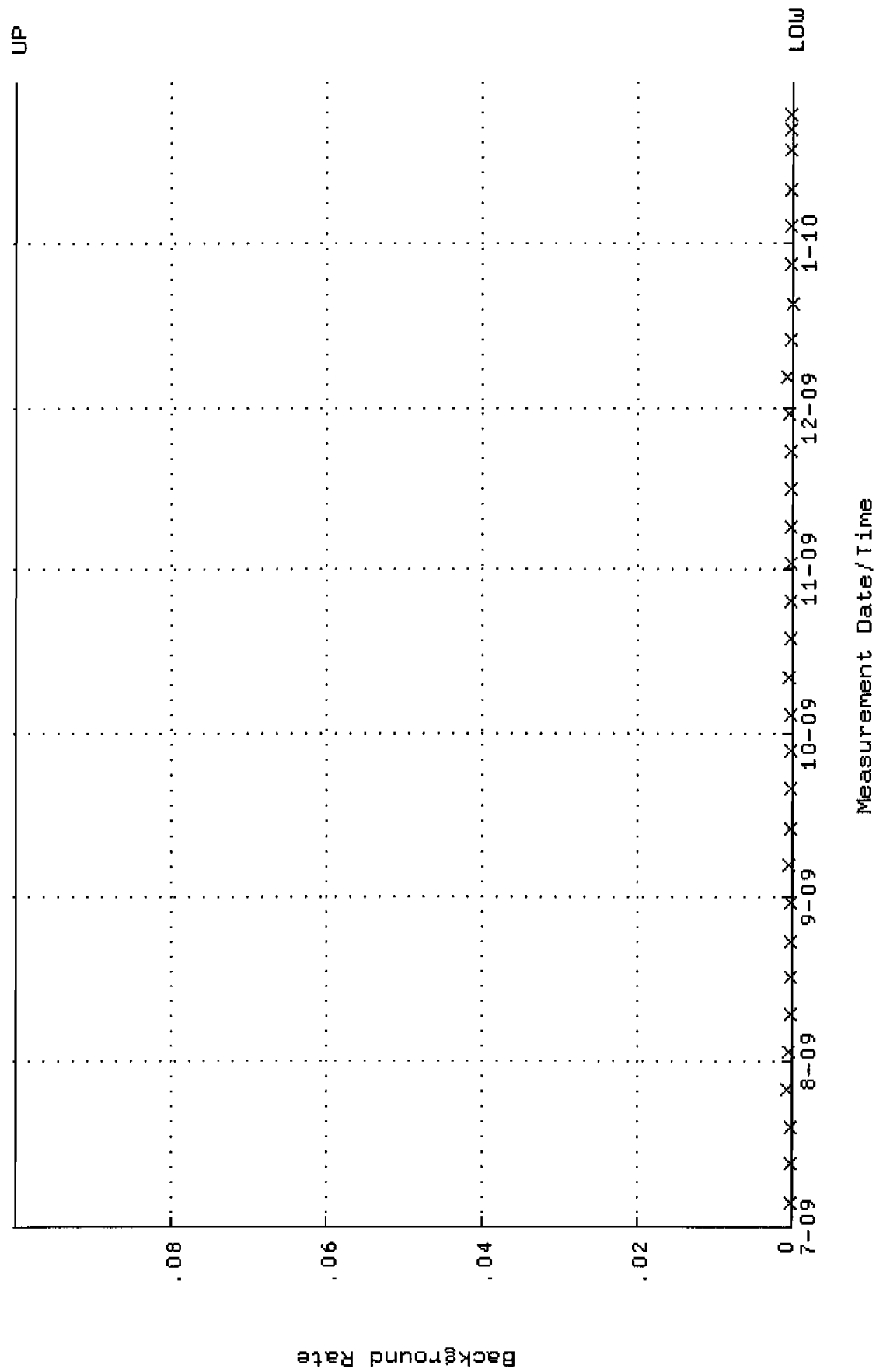
QA filename : DKA100:[ENV_ALPHA.QA.W]W237.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:14 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.390000 through 0.410000



QA filename : DKA100:[ENV_ALPHA.QA.W]W237.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:14 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 79.5642 through 87.9394



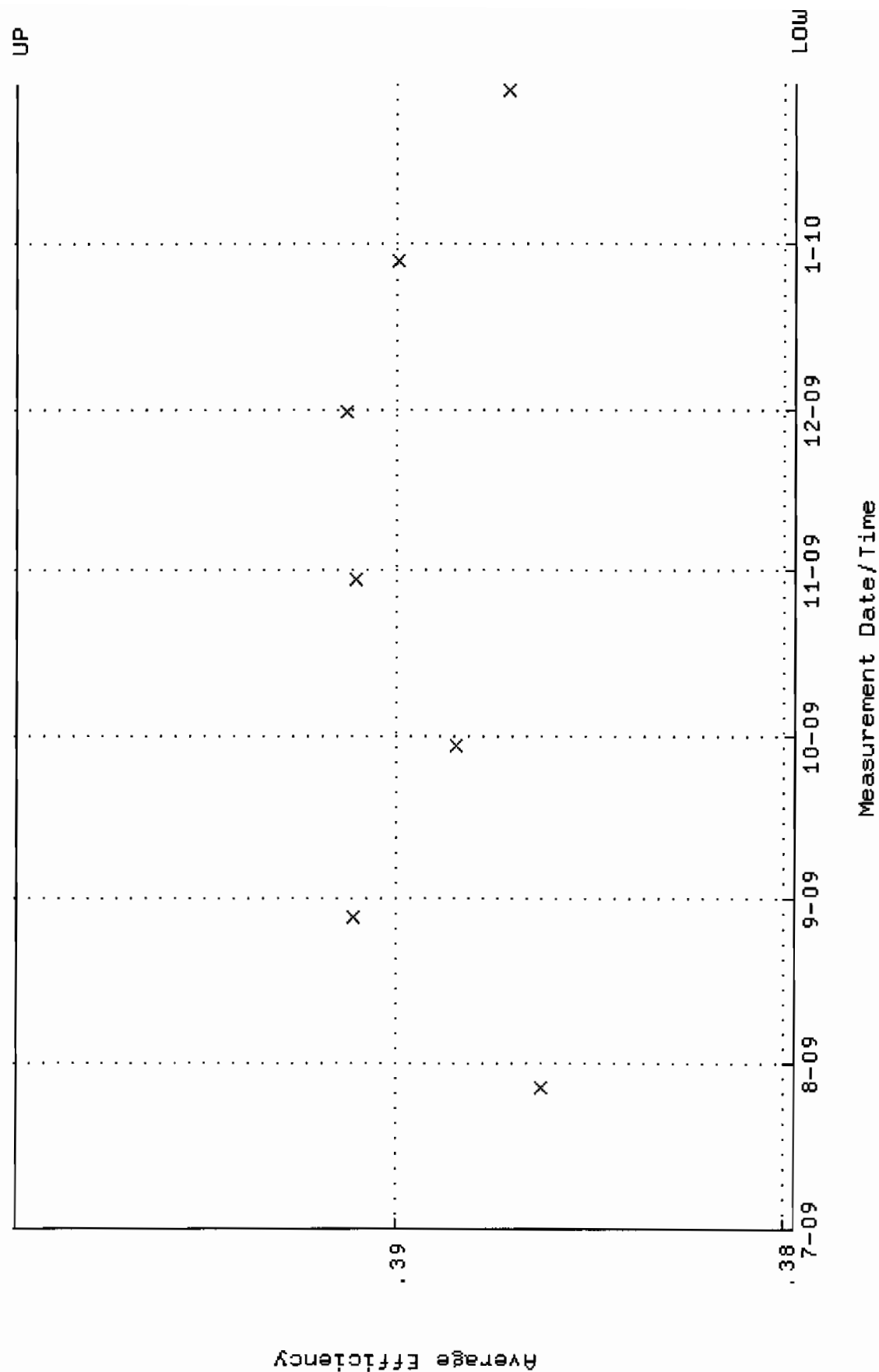
QA filename : DKA100:[ENV_ALPHA.QA.B]B237.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:29 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



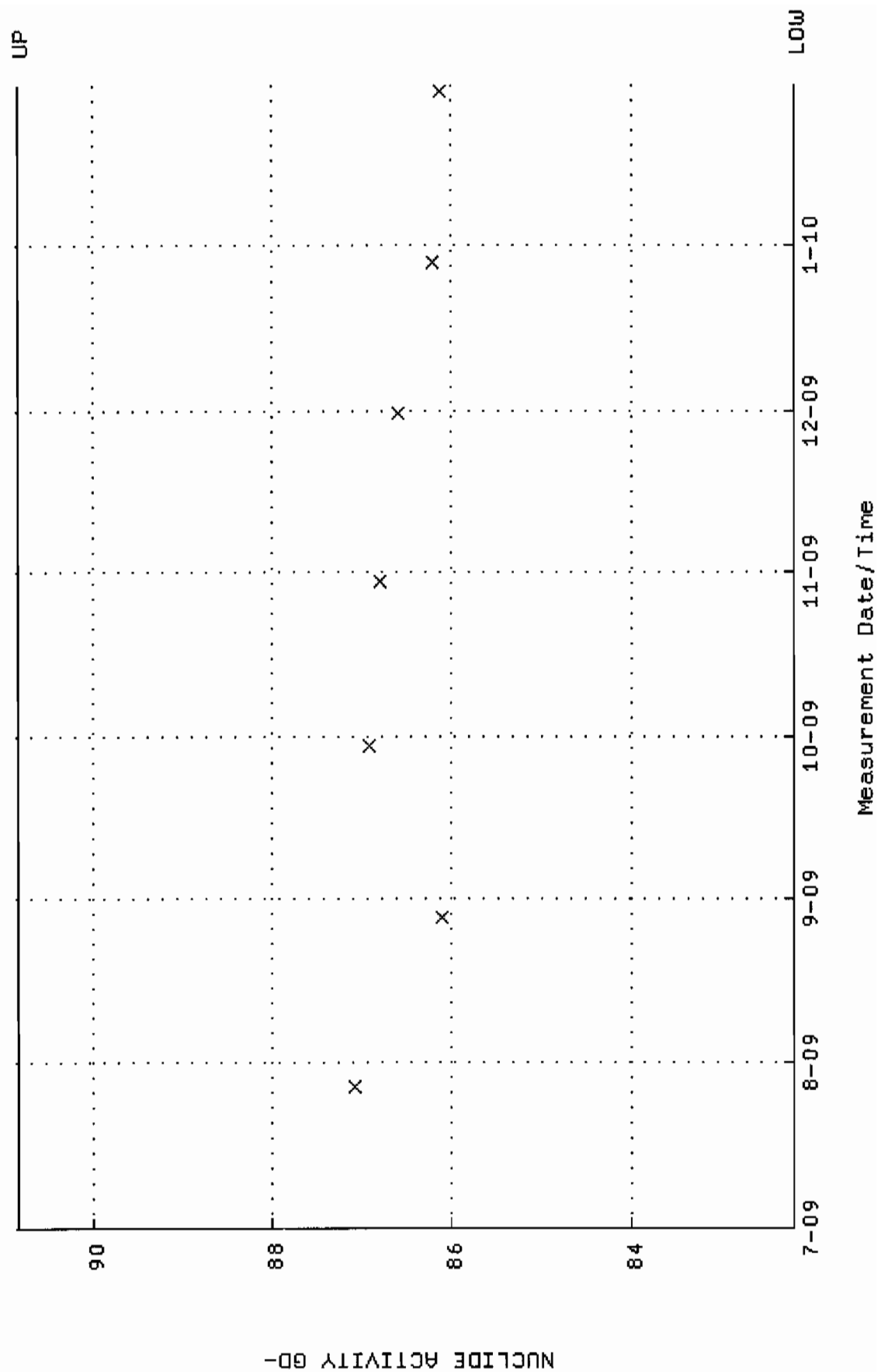
UP

LOW

QA filename : DKA100:[ENV_ALPHA.QA.W]W251.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:51:36 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.379733 through 0.399733



QA filename : DKA100:[ENV_ALPHA,QA.W]w251.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:51:36 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 82.1799 through 90.8305

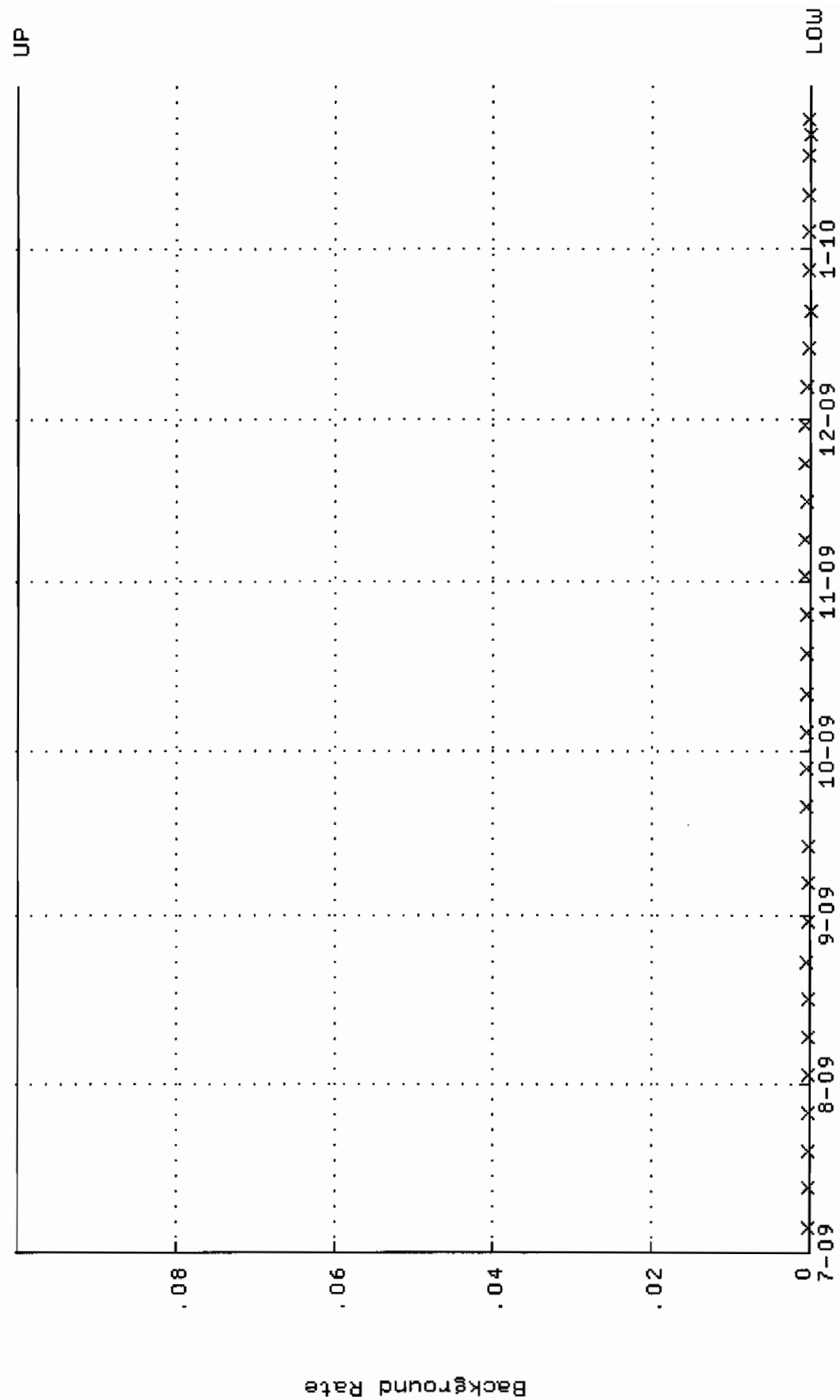


: DKA100:[ENV_ALPHA.QA.B]B251.QAF;1

: BACKRATE (Background Rate)

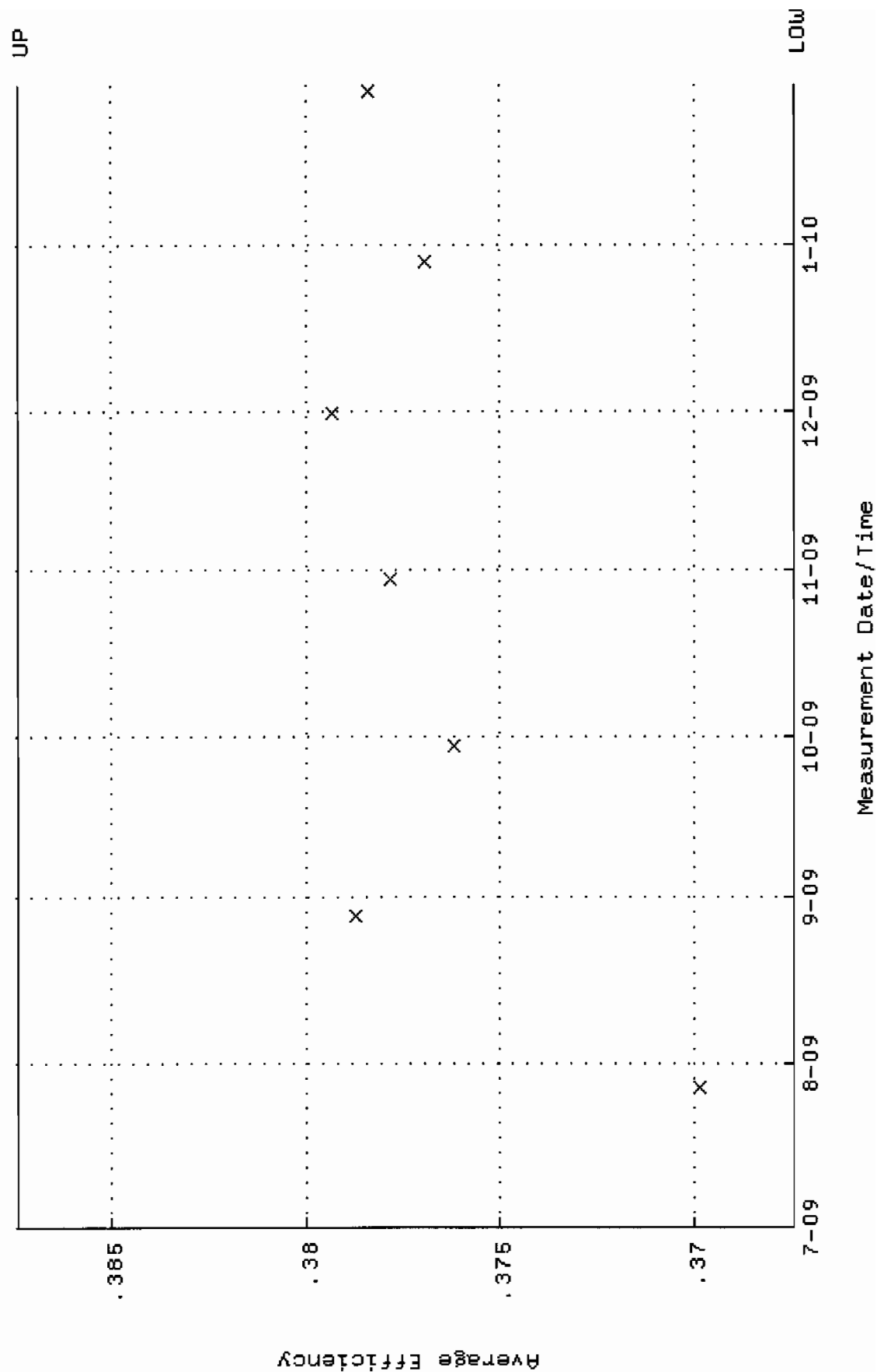
Start/End Dates	: 5-JUL-2009 15:06:36 through 30-JAN-2010 12:00:00
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Lower/Upper Lmts: 0.000000E+00 through 0.100000

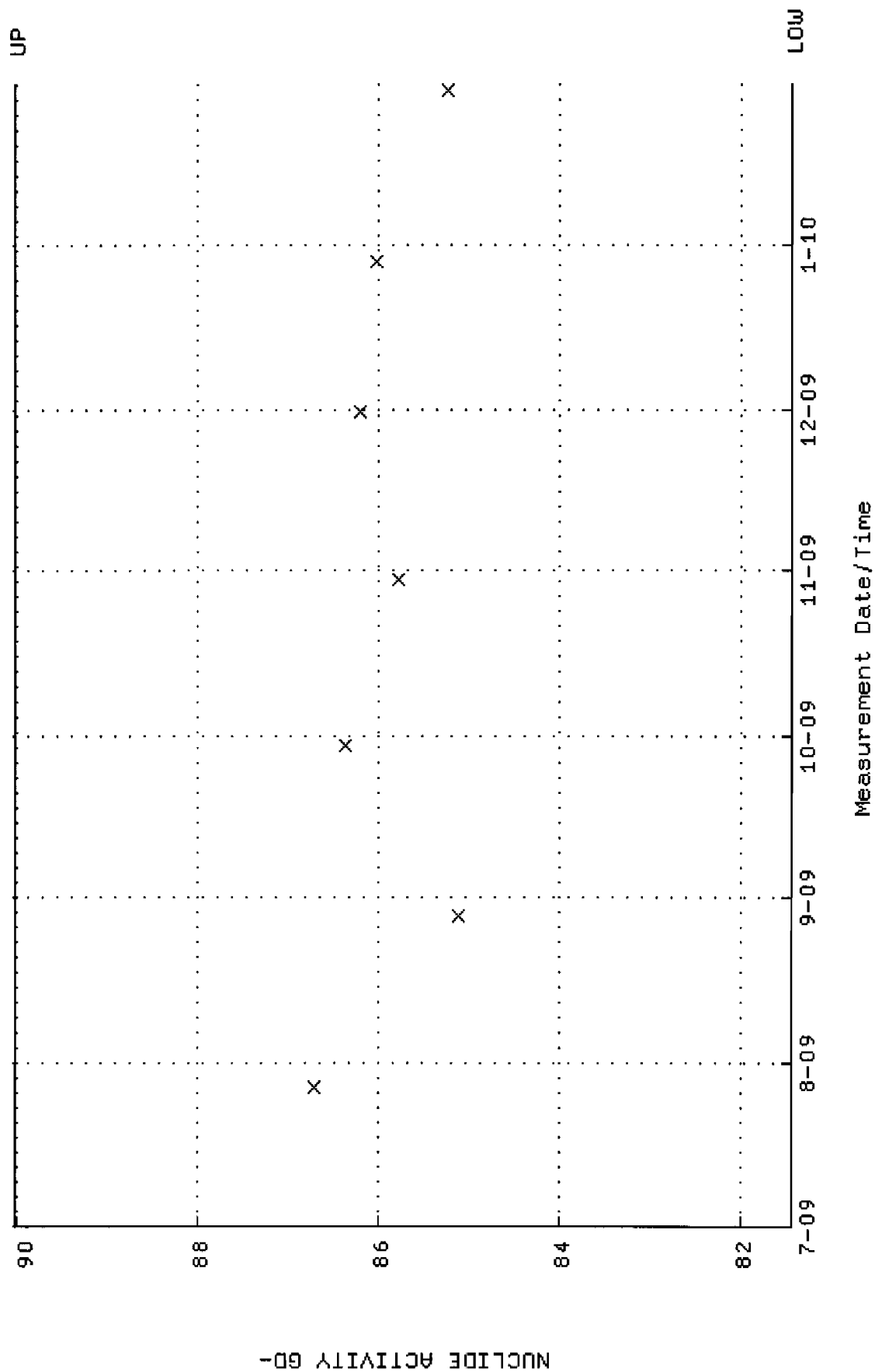


Measurement Date/Time

QA filename : DKA100:[ENV_ALPHA.QA.W]W252.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:51:43 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.367415 through 0.387415

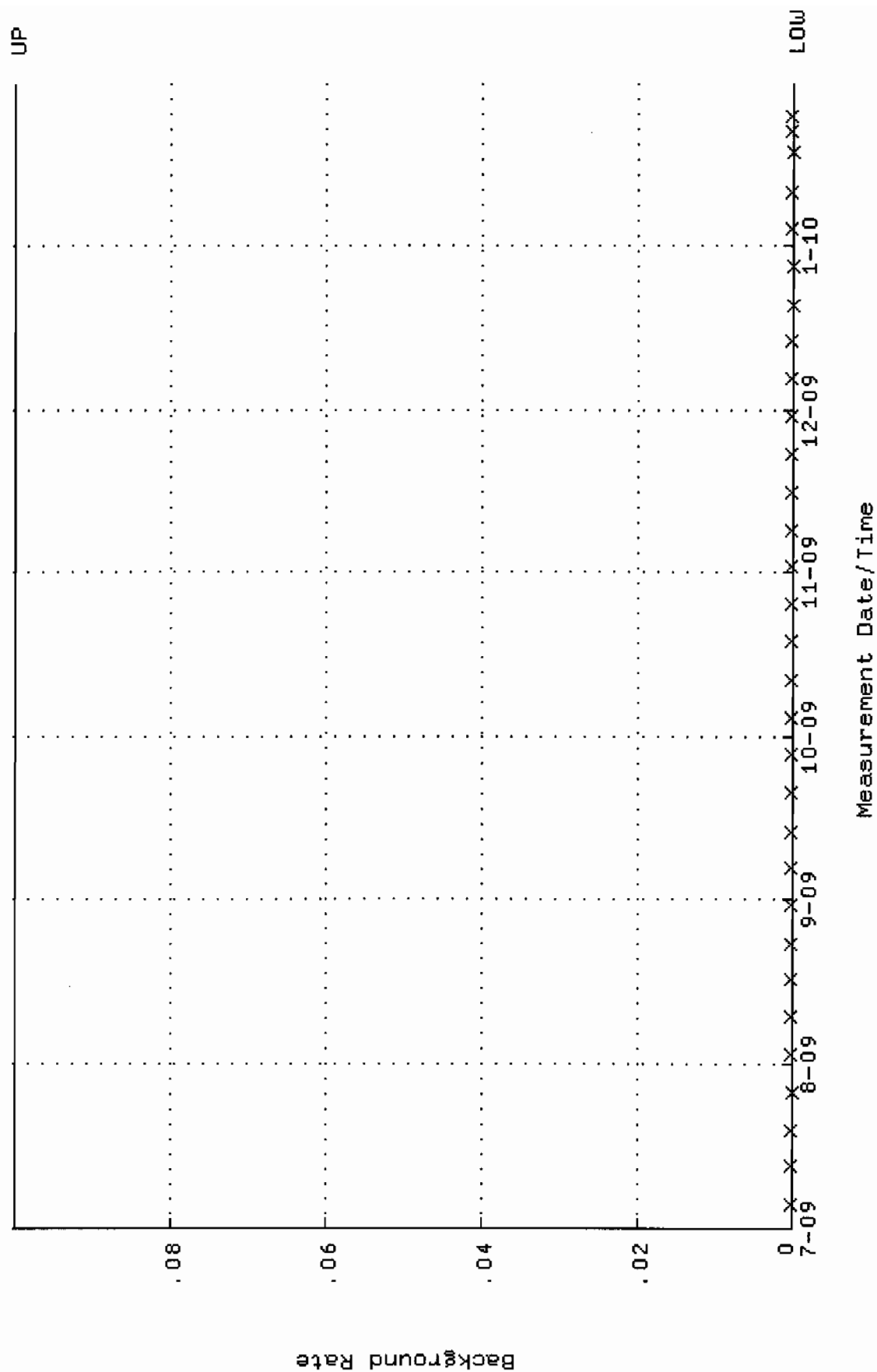


QA filename : DKA100:[ENV_ALPHA.QA.w]w252.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:51:43 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.4437 through 90.0167

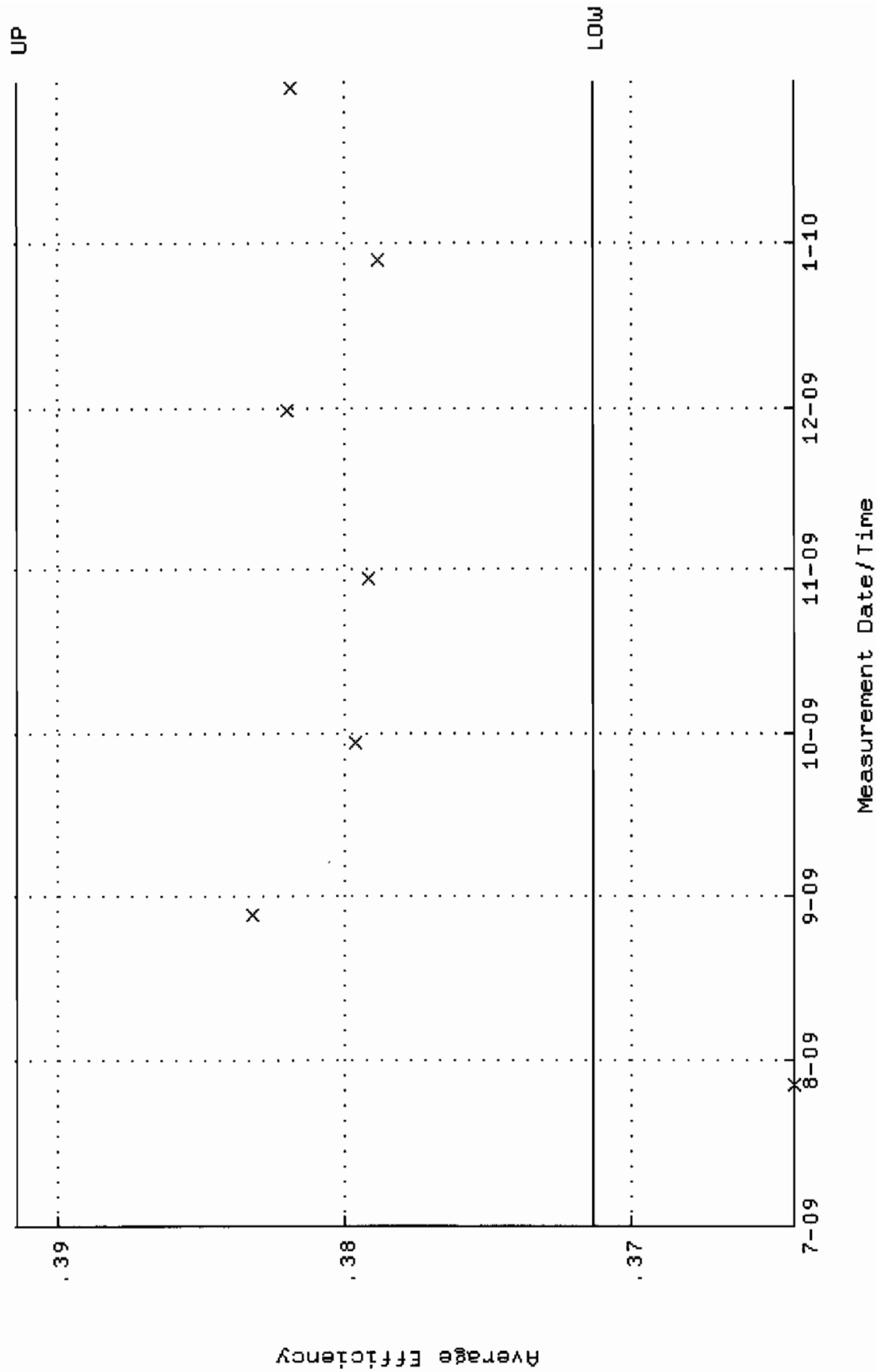


NUCLEIDE ACTIVITY GD-

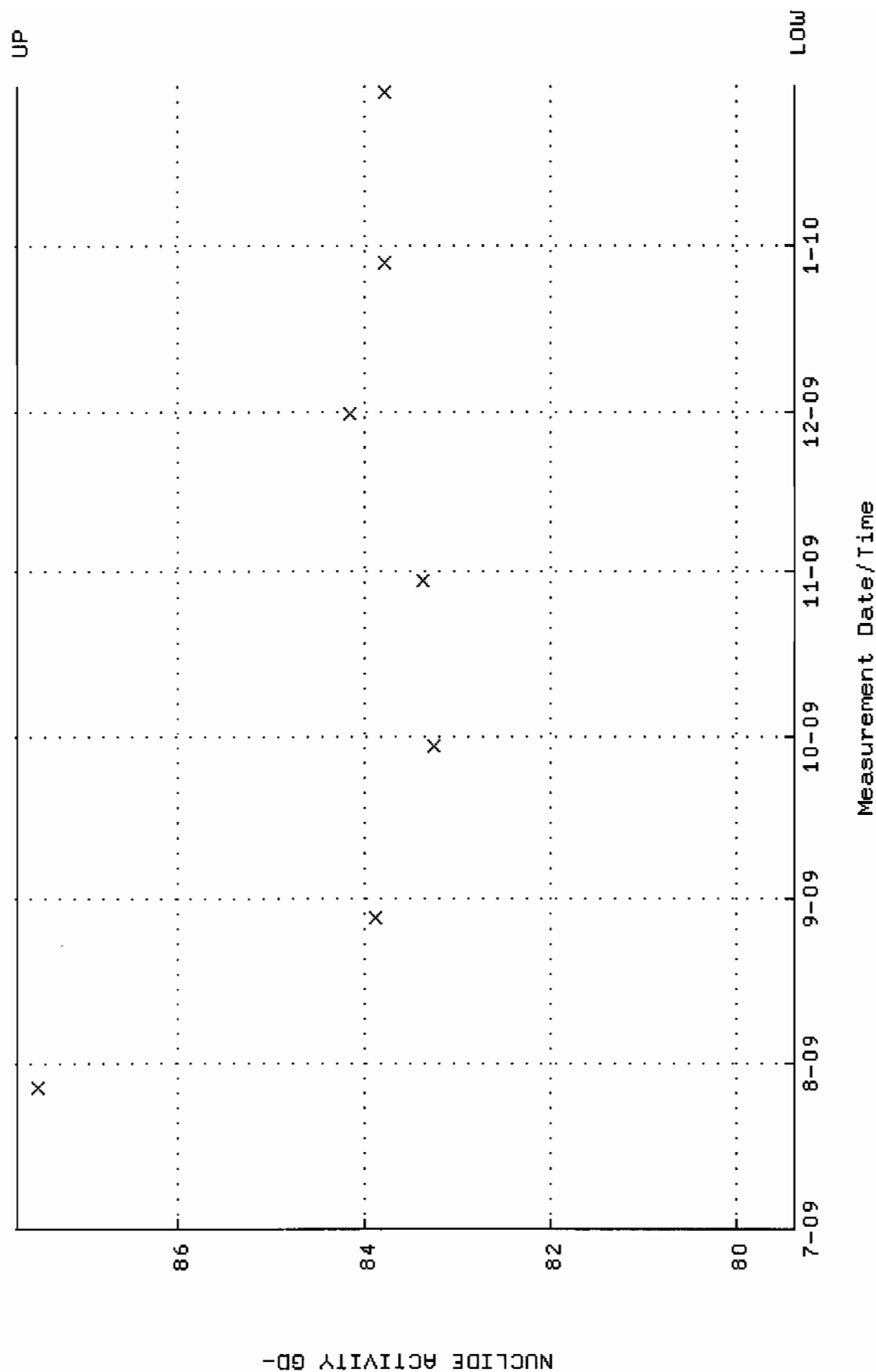
QA filename : DKA100:[ENV_ALPHA.QA.B]B252.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:06:41 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



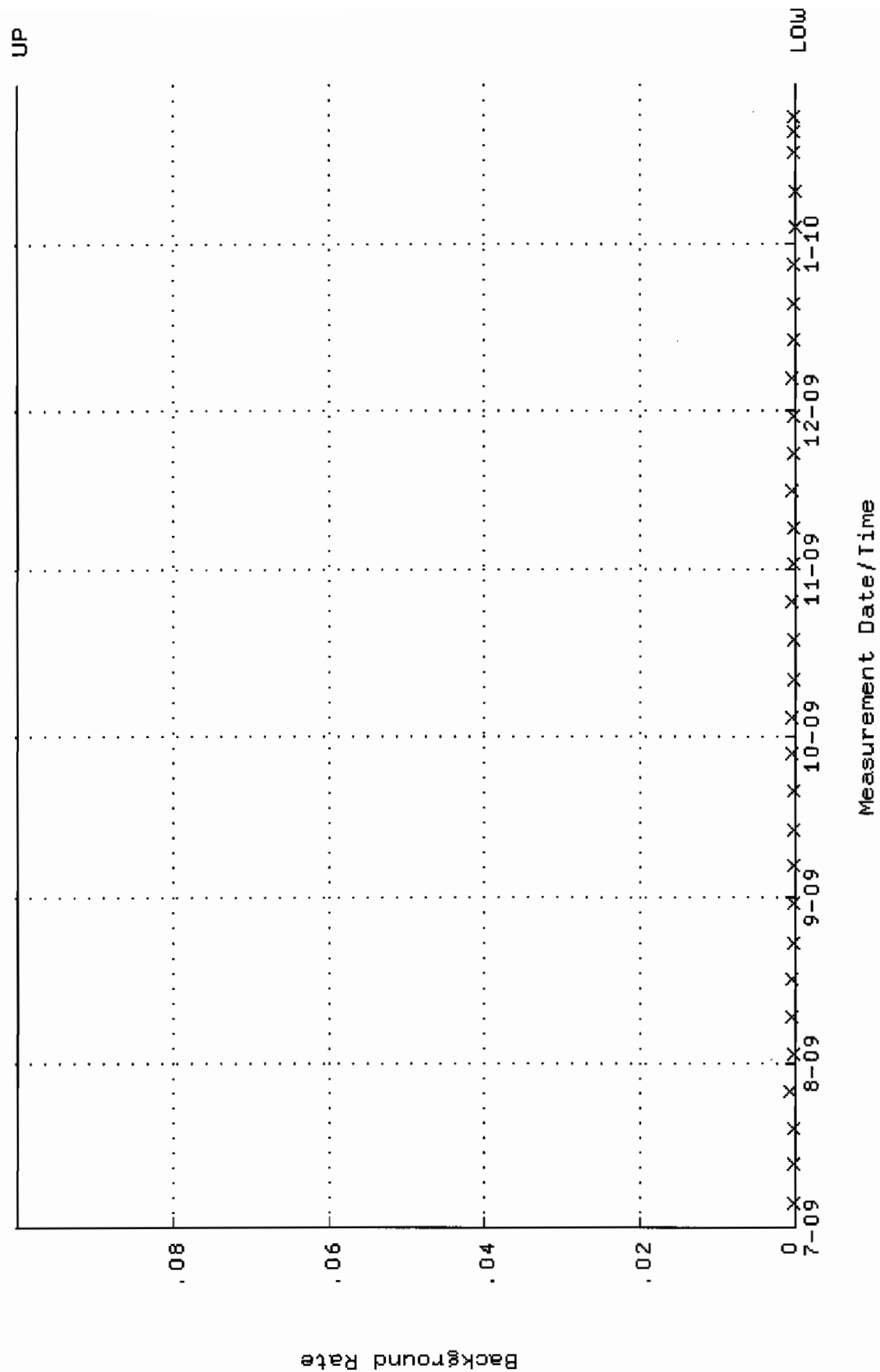
QA filename : DKA100:[ENV_ALPHA,QA.W]W255.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:52:00 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.371403 through 0.391403



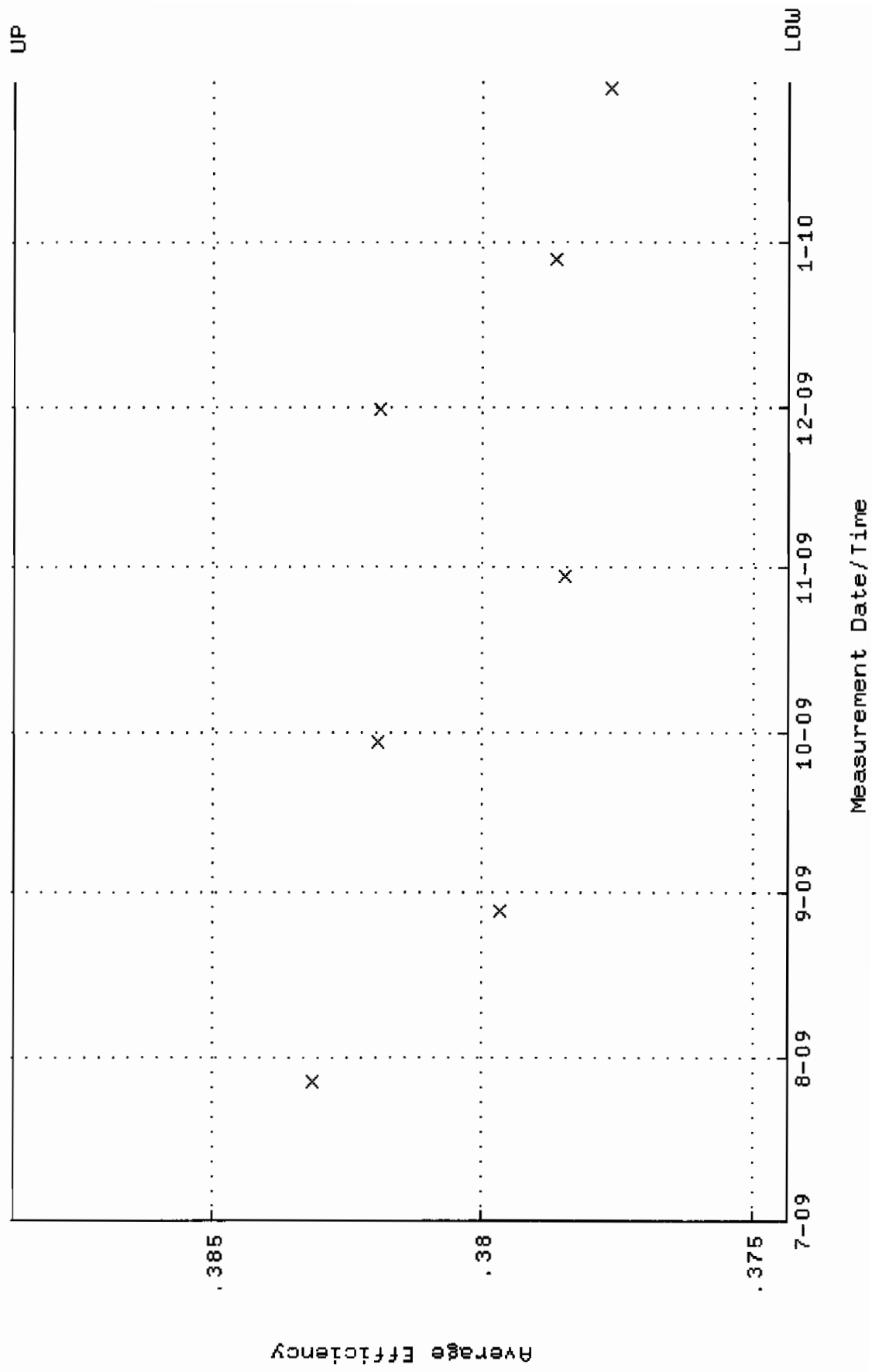
QA filename : DKA100:[ENV_ALPHA.QA.W]w255.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:52:00 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 79.3783 through 87.7339



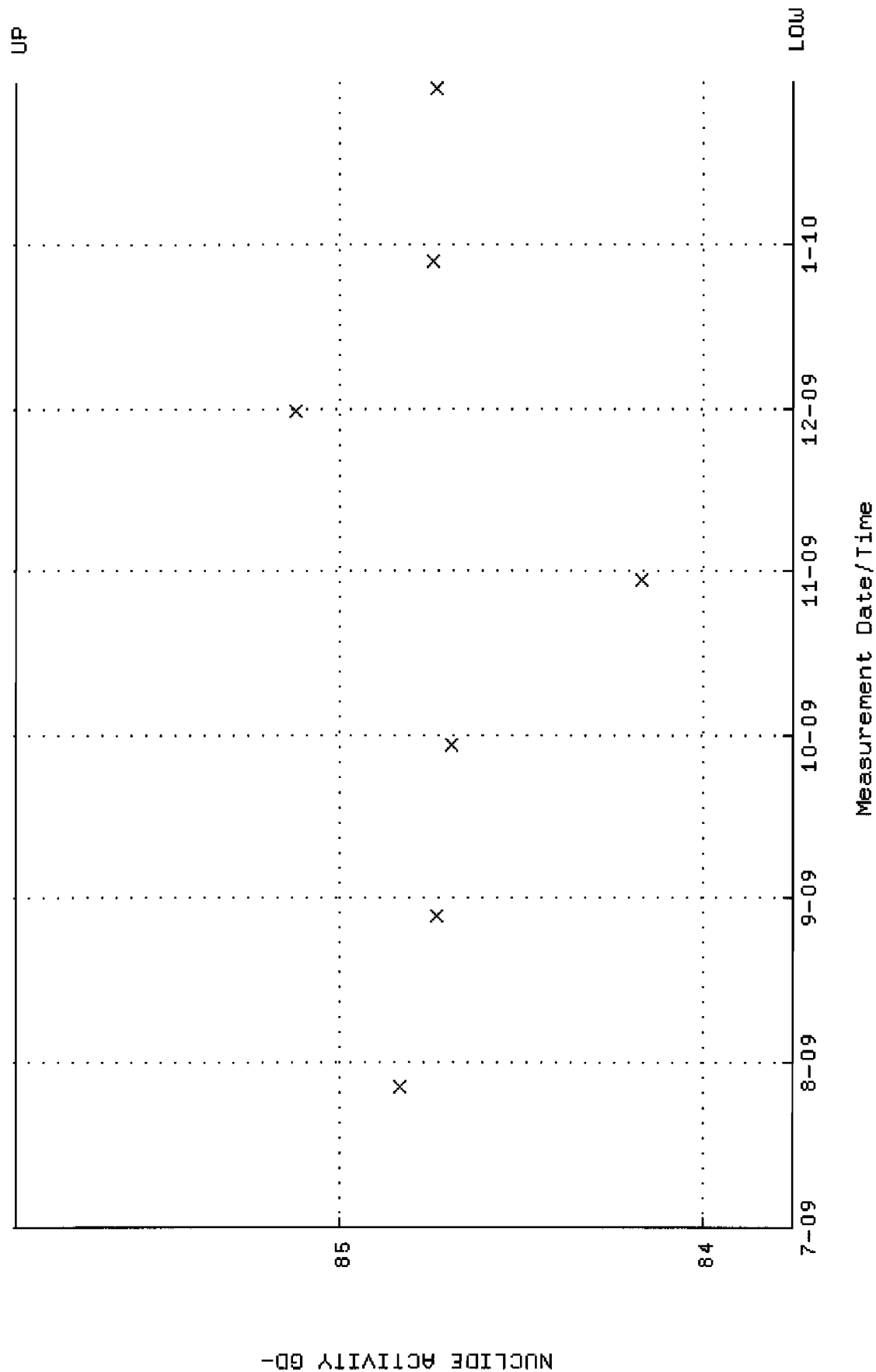
QA filename : DKA100:[ENV_ALPHA.QA.B]B255.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:06:55 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



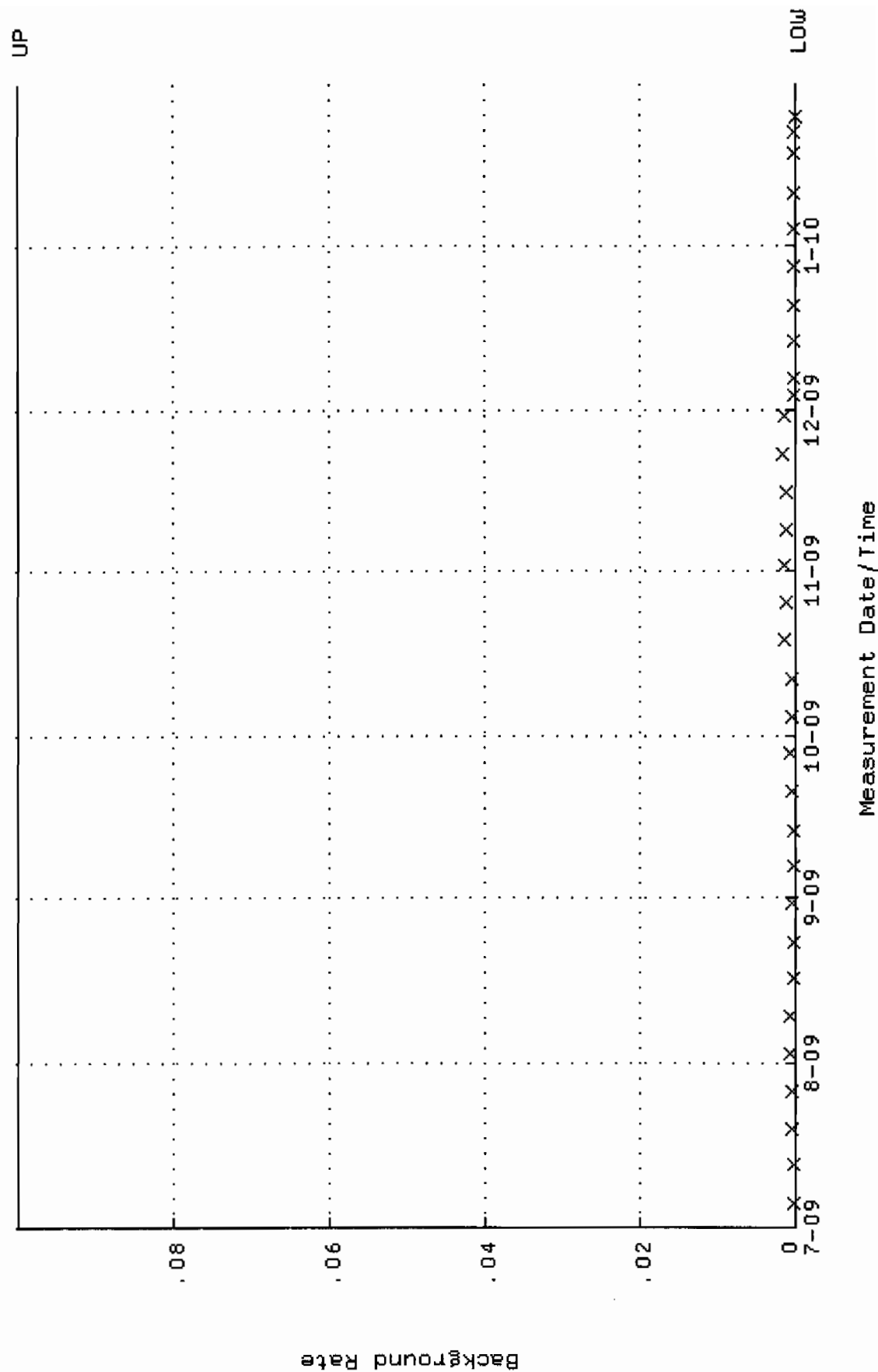
QA filename : DKA100:[ENV_ALPHA.QA.W]W256.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:52:06 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.374371 through 0.388647



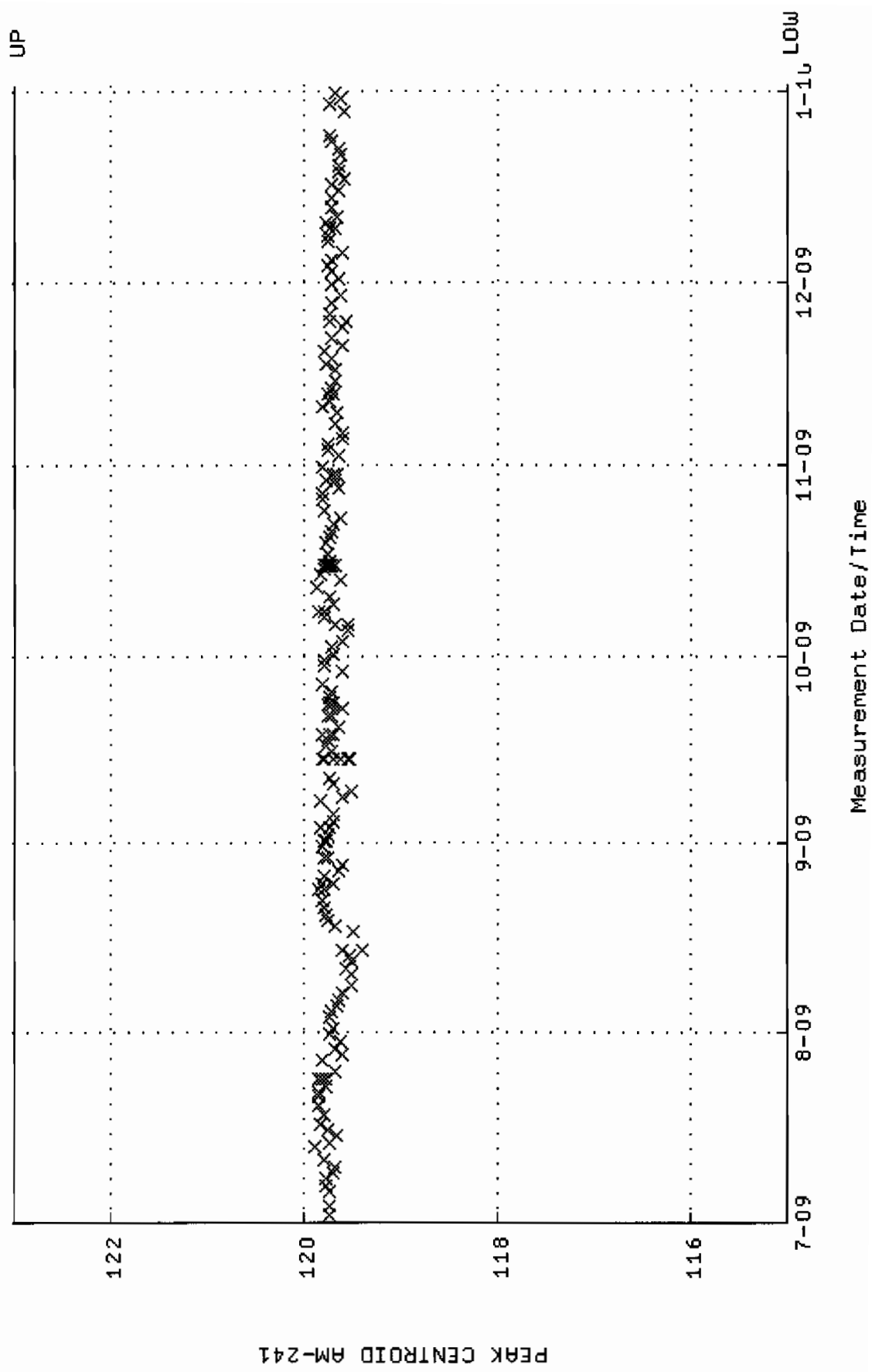
QA filename : DKA100:[ENV_ALPHA.QA.W]W256.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:52:06 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.7553 through 85.8901



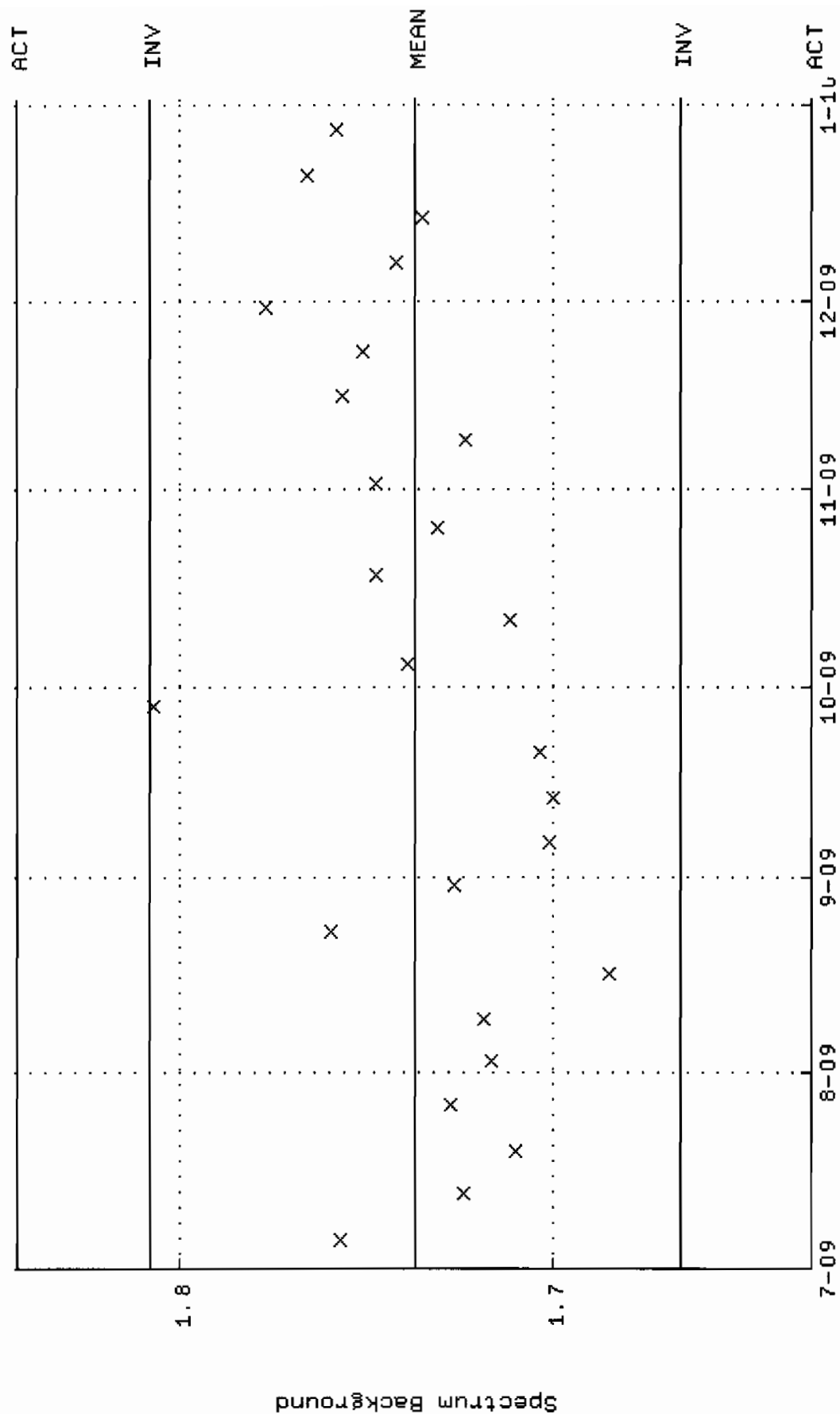
QA filename : DKA100:[ENV_ALPHA.QA.B]B256.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:06:59 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



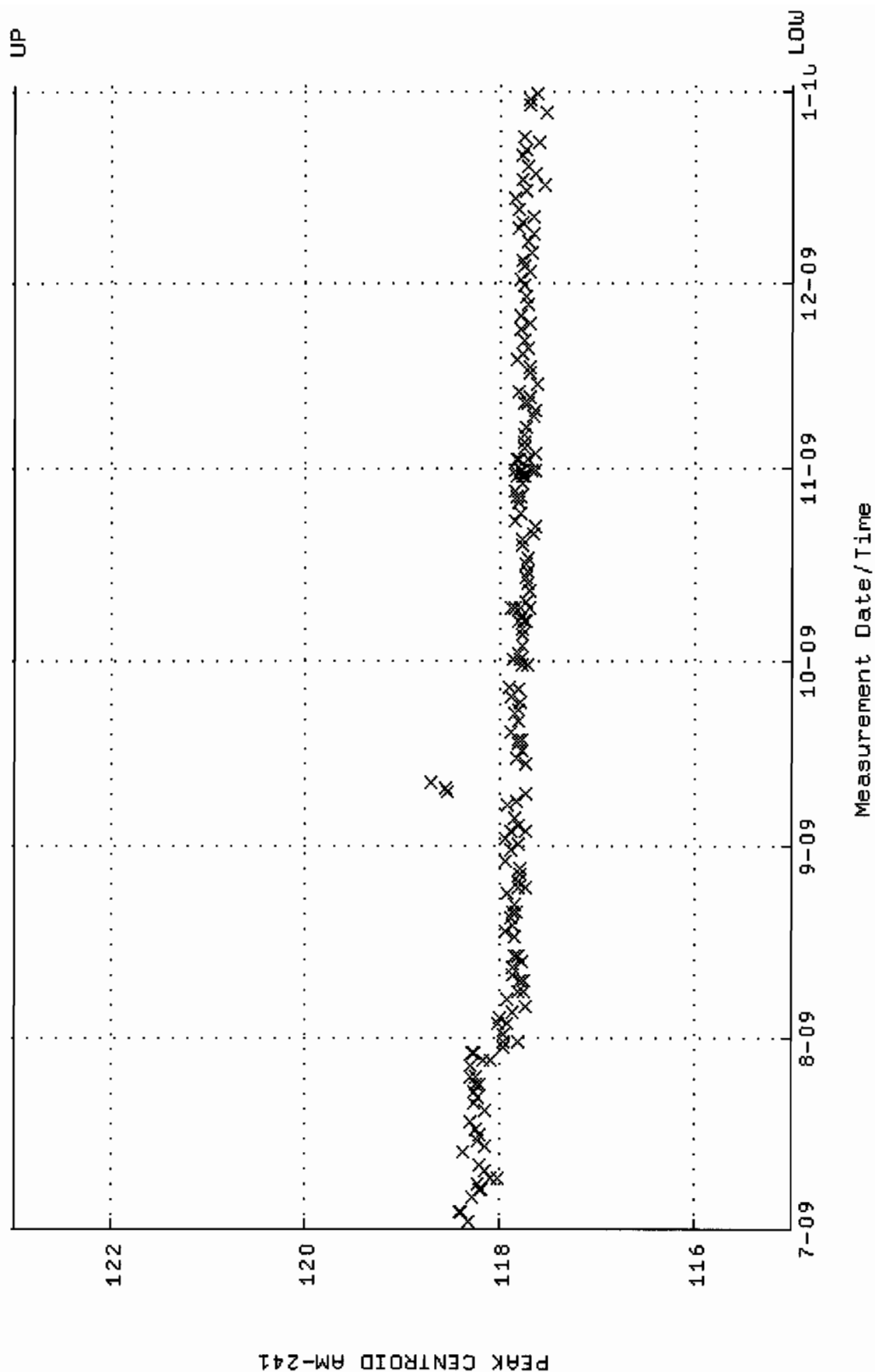
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM01_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:58:53 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



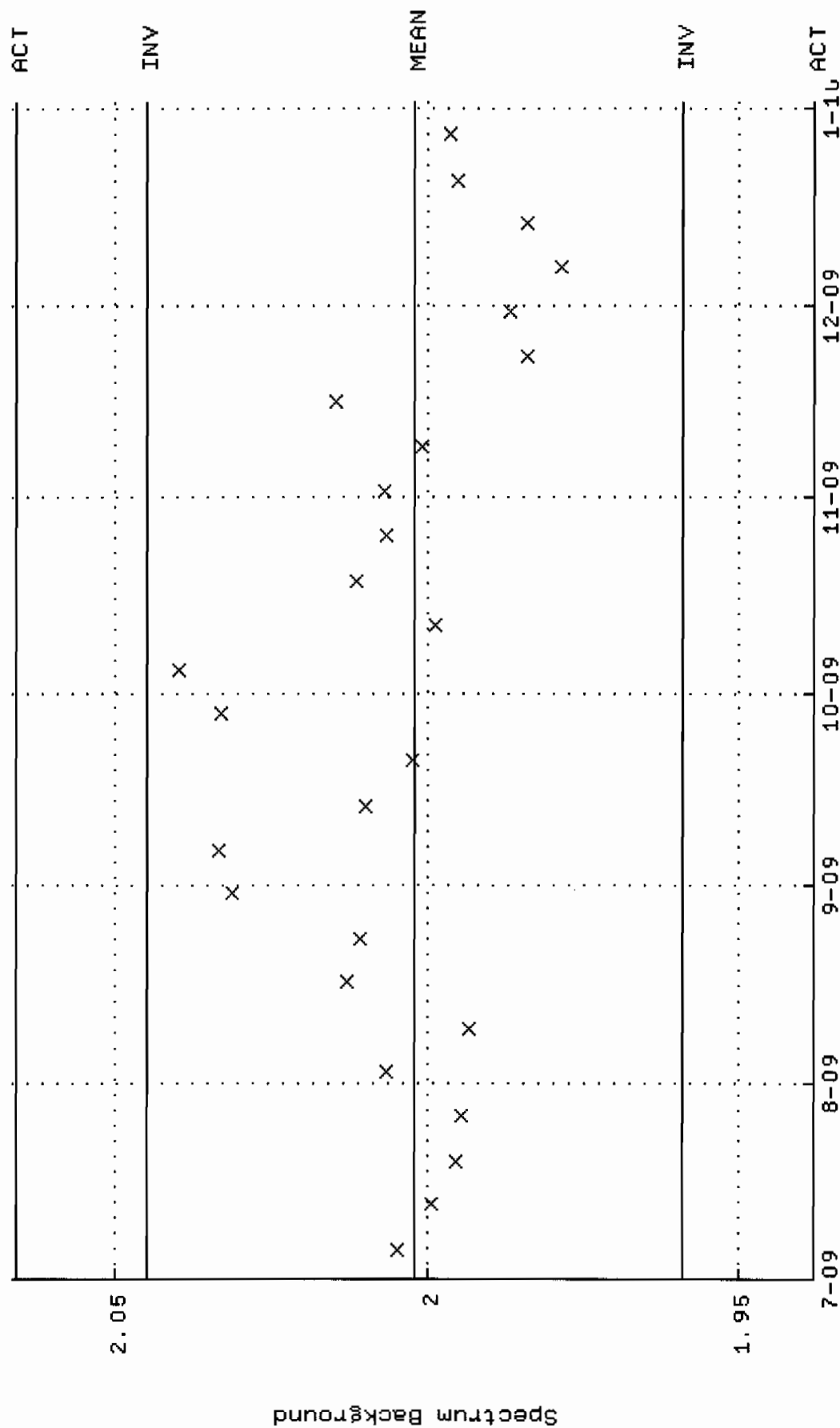
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM01.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:24 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73723 +- 3.552524E-02 (2.04 %)



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

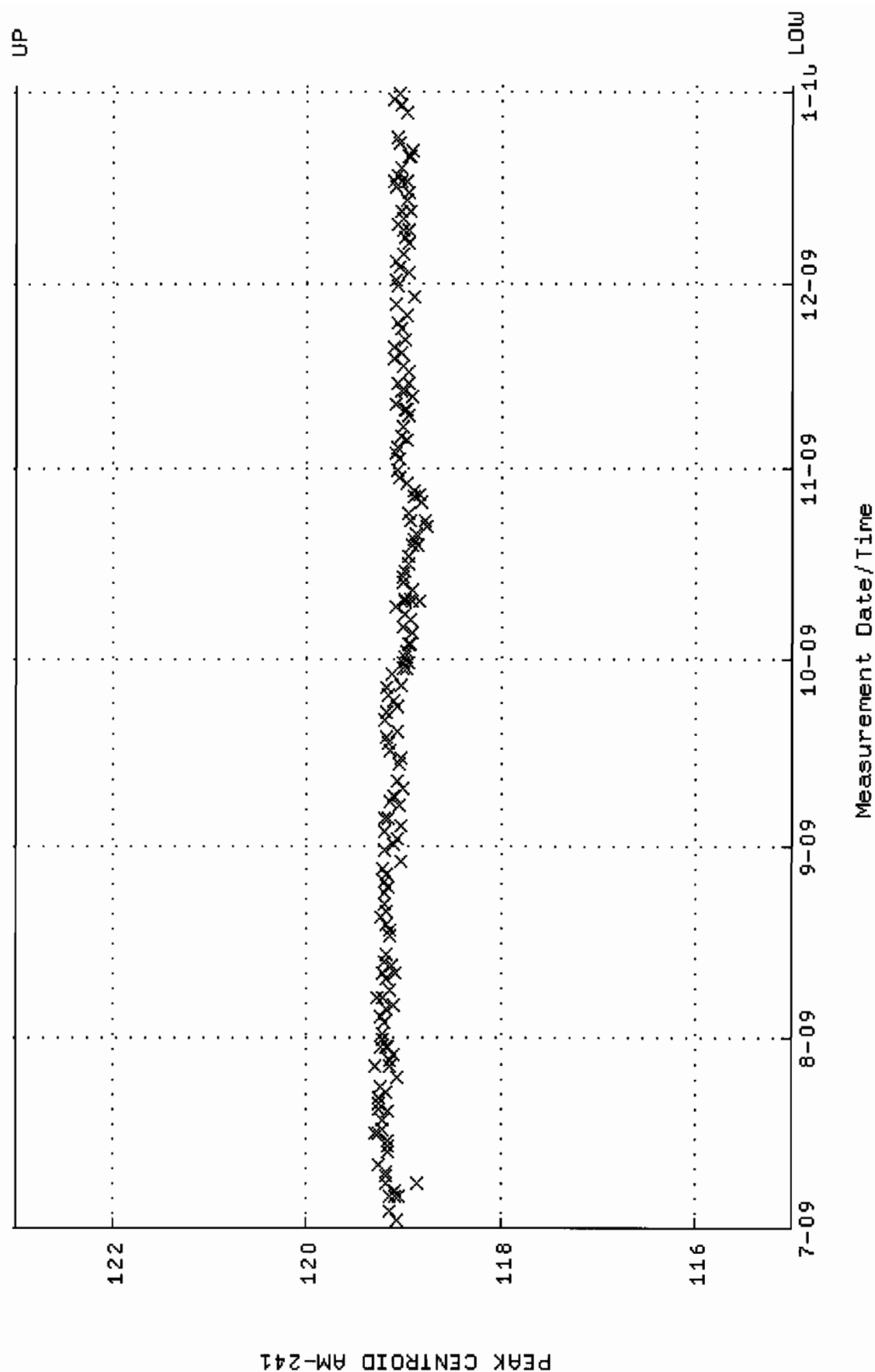


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM02.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:39 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.00226 +- 2.139827E-02 (1.07 %)

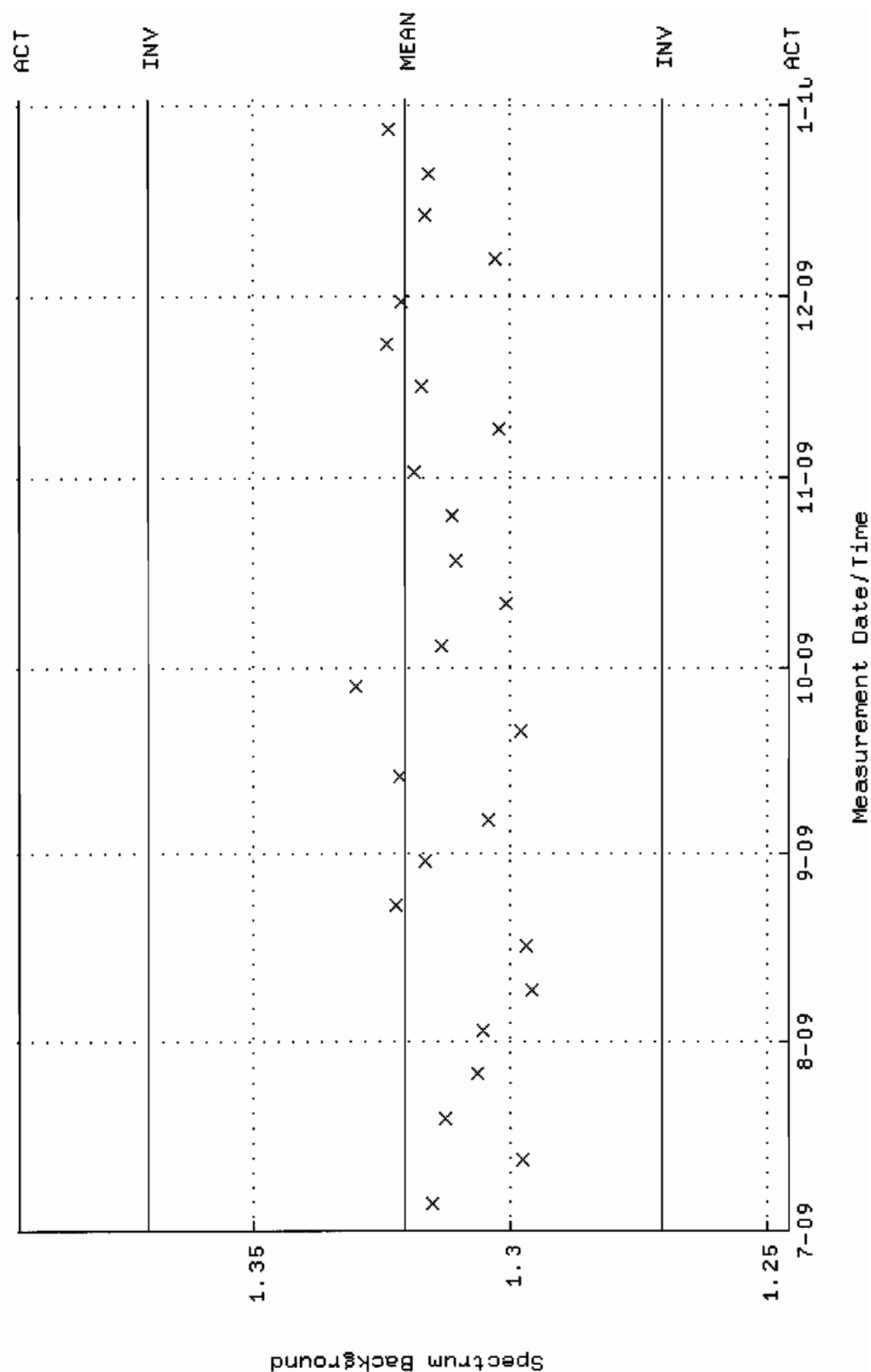


Measurement Date/Time

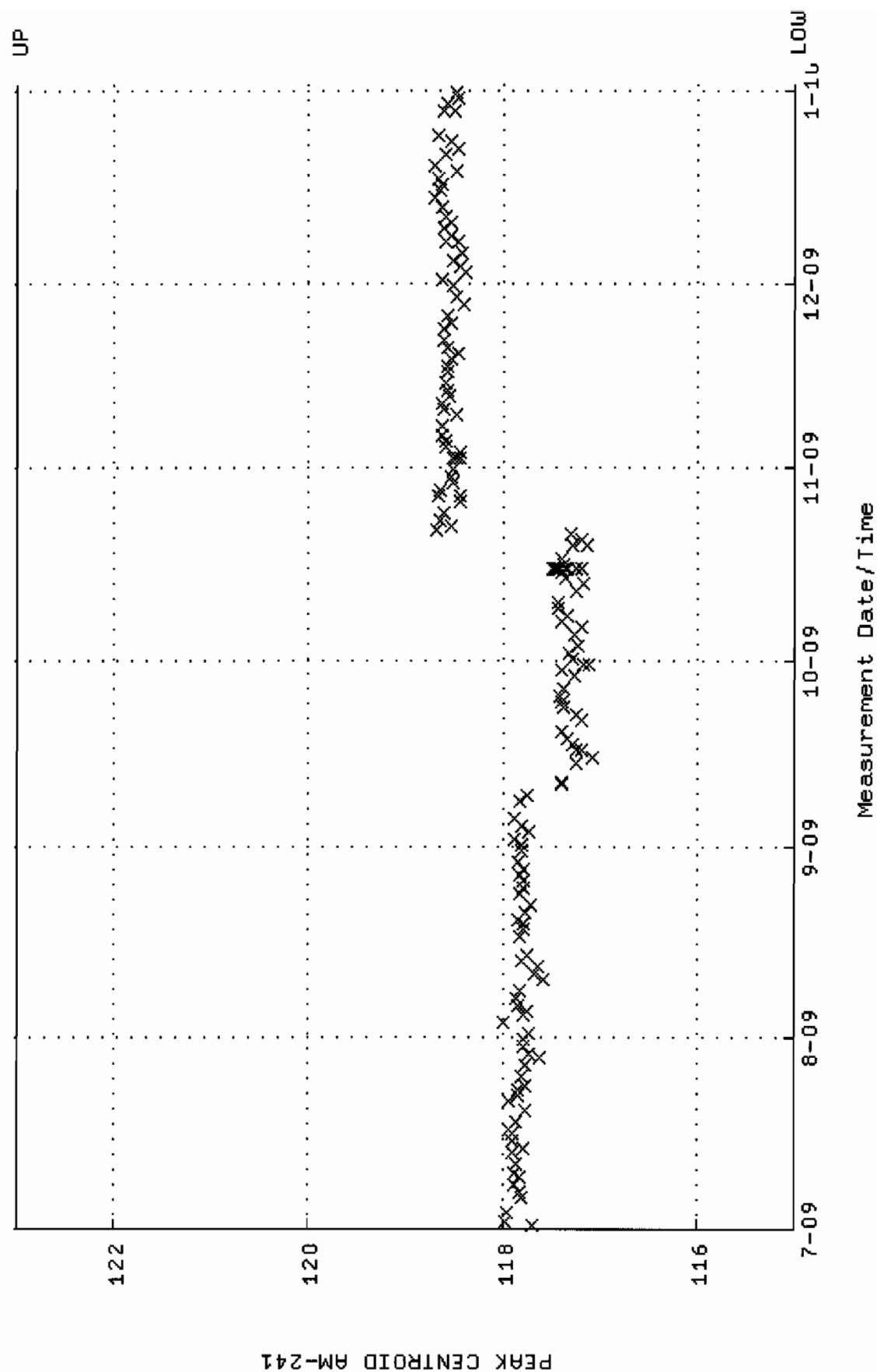
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 04:59:00 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



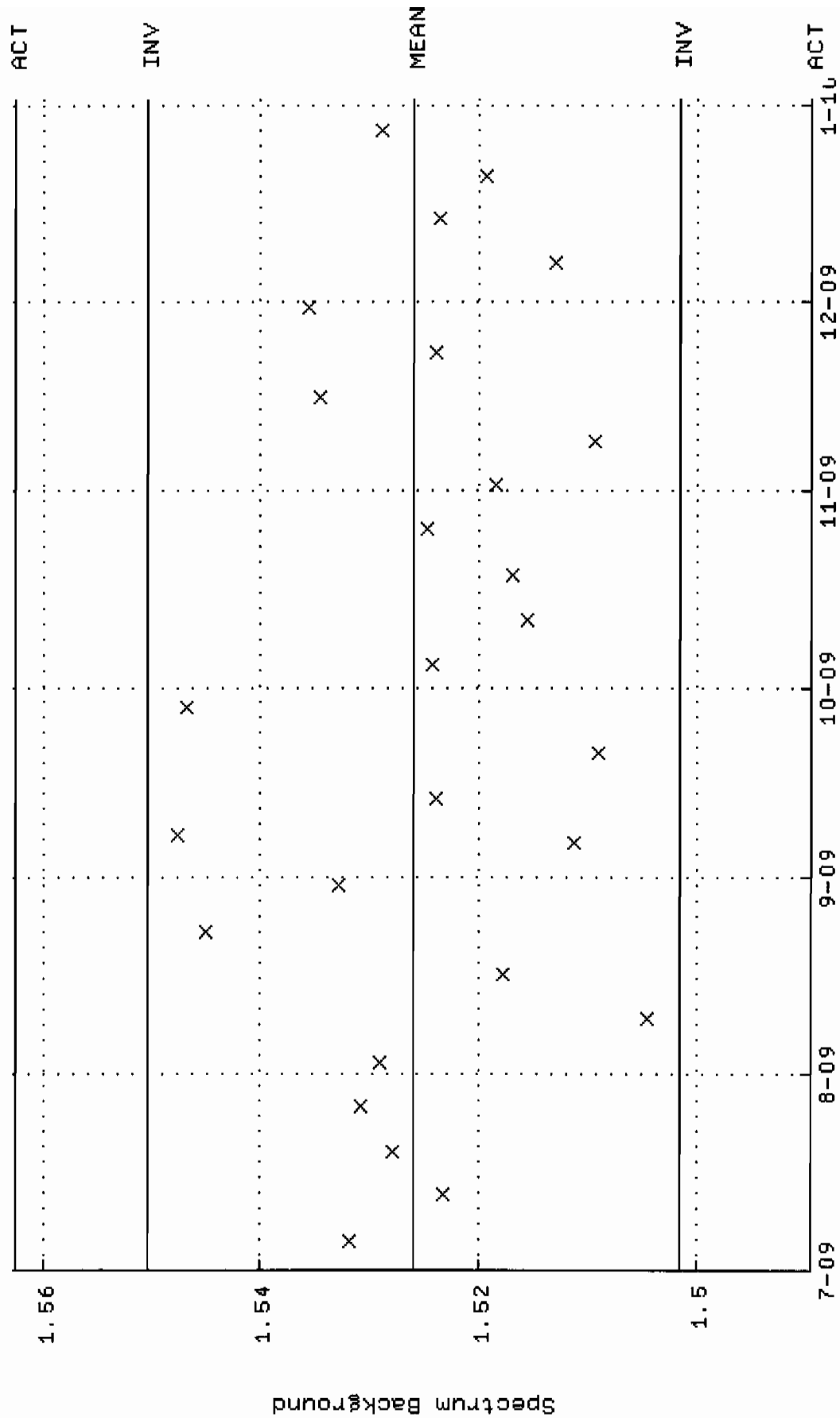
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:49:51 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



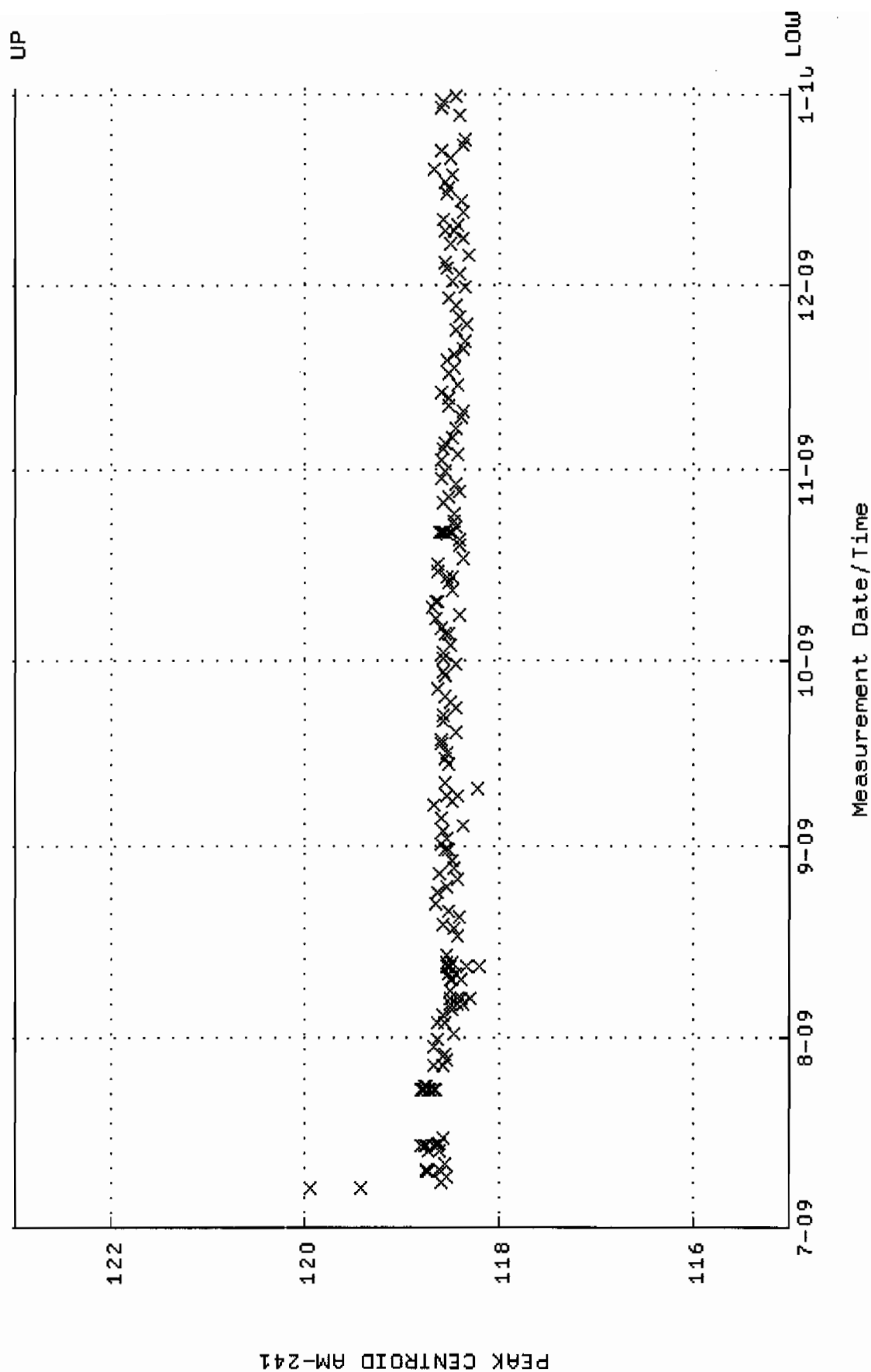
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM06_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-JUL-2009 14:30:59 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



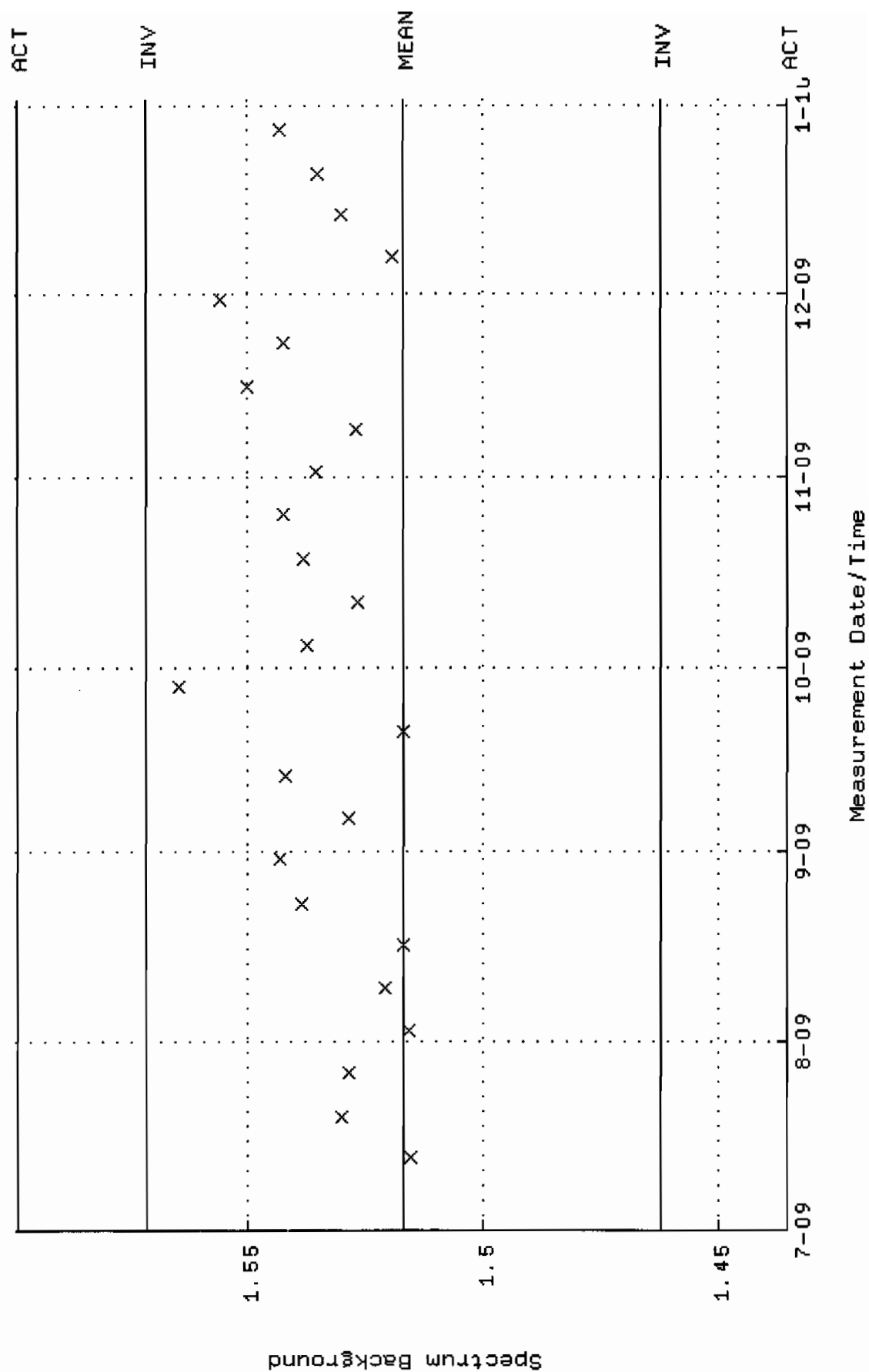
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM06.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:50:15 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.52603 +- 1.215987E-02 (0.80 %)



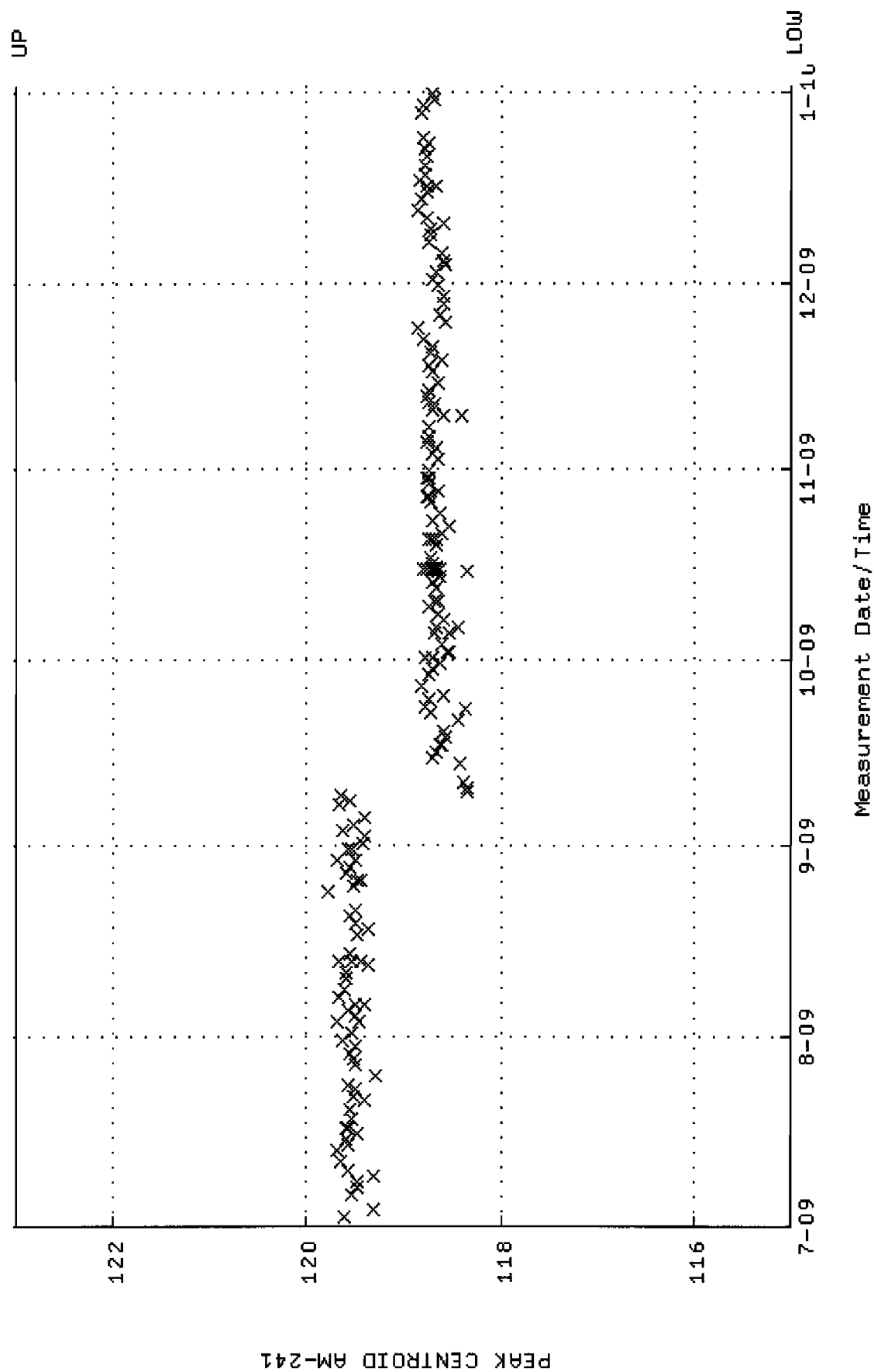
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM07_JAR.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 7-JUL-2009 09:02:00 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



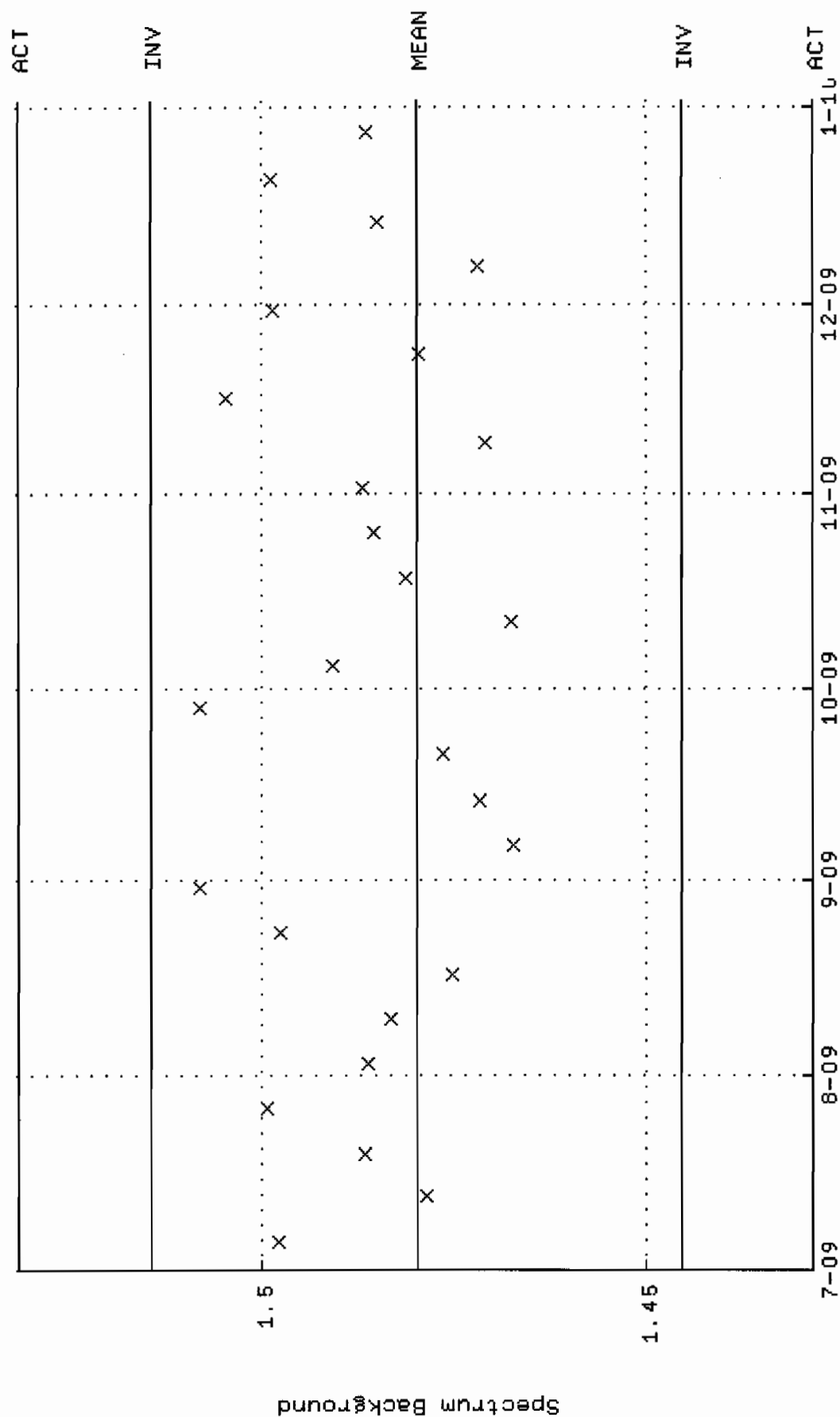
QA filename : DKA100:[CANNBERRA.GAMMA.SCUSR.QA]LBC_GAM07.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 12-JUL-2009 17:17:31 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.51715 +- 2.726376E-02 (1.80 %)



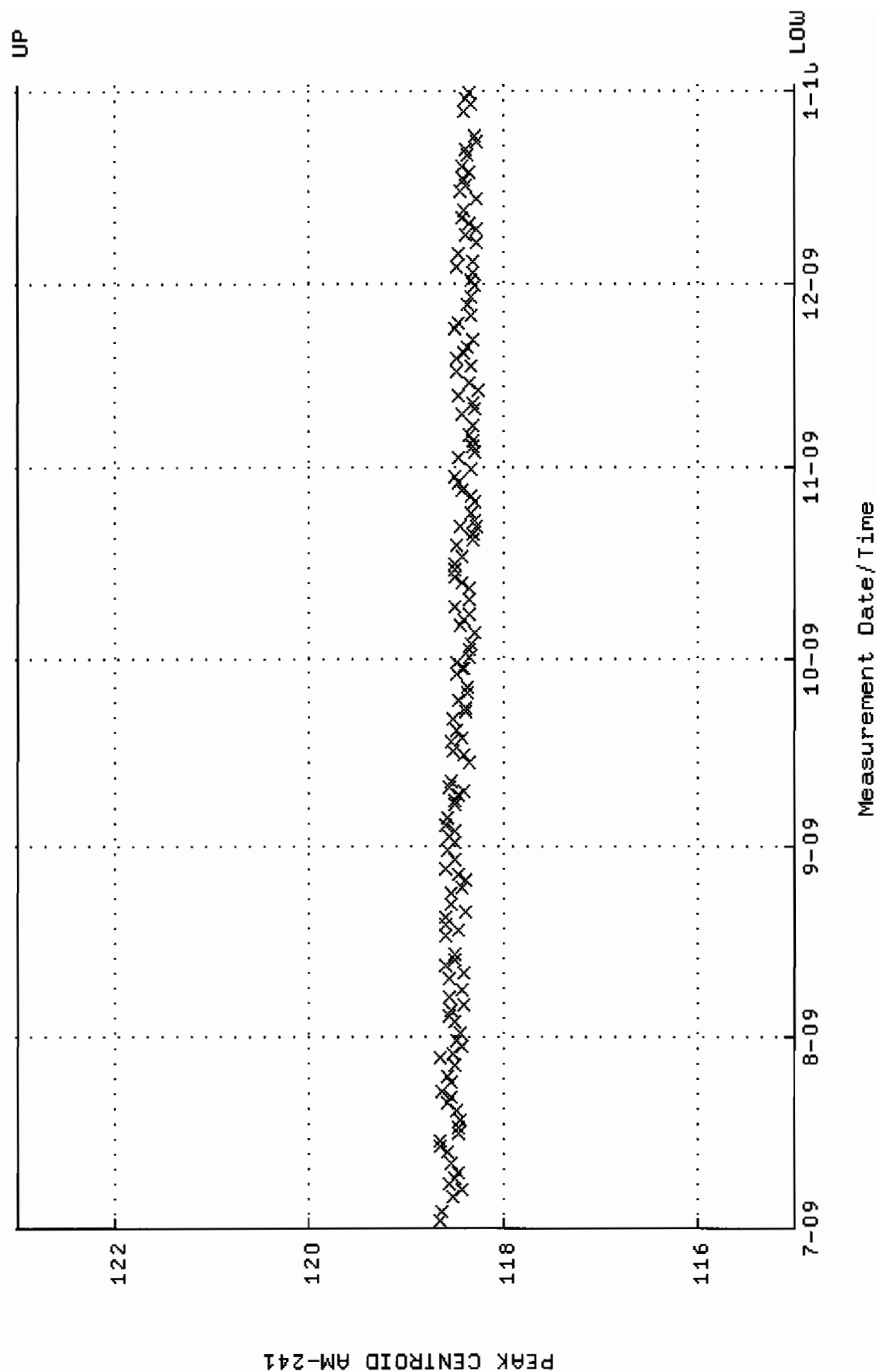
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM10_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:17 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



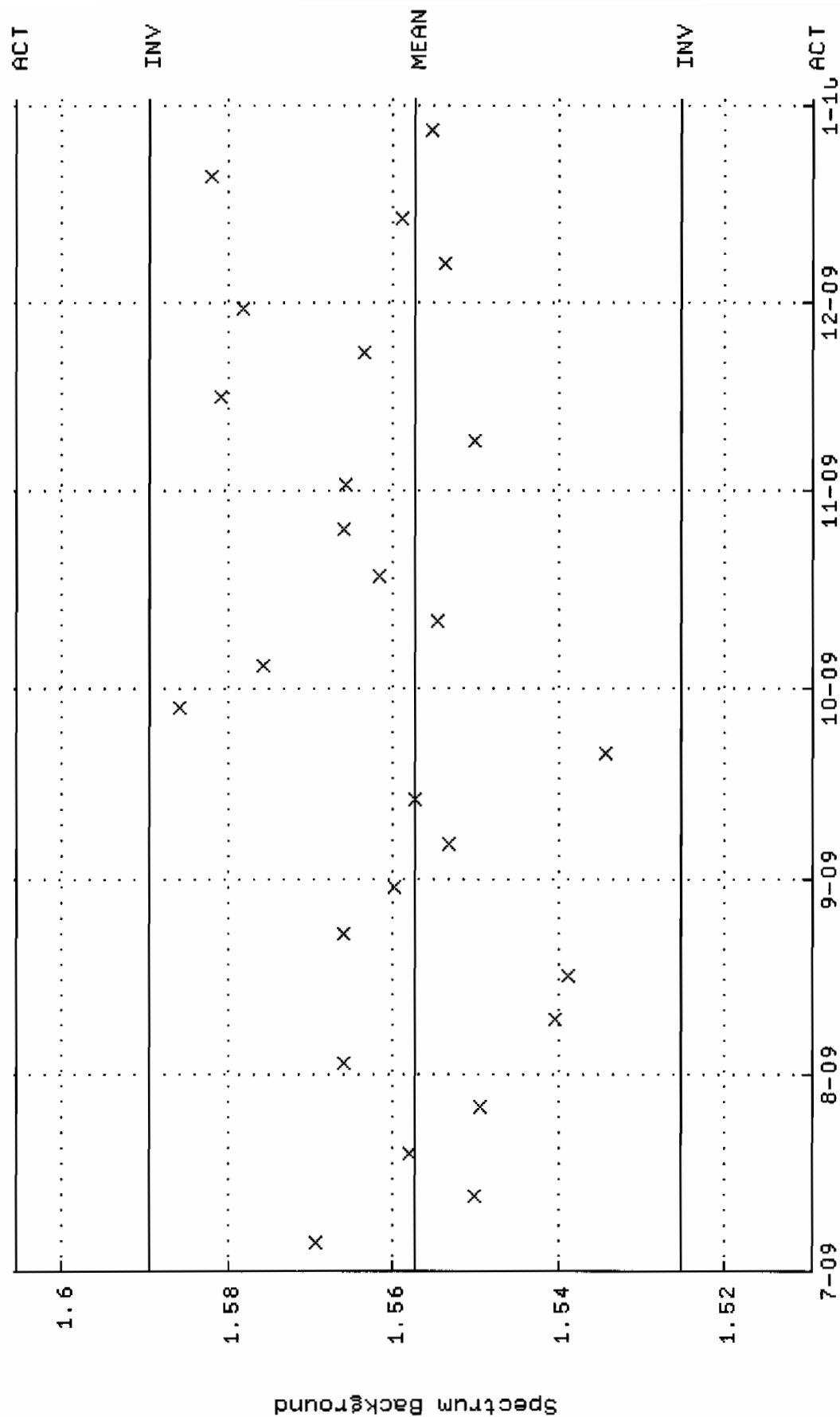
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:51:14 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



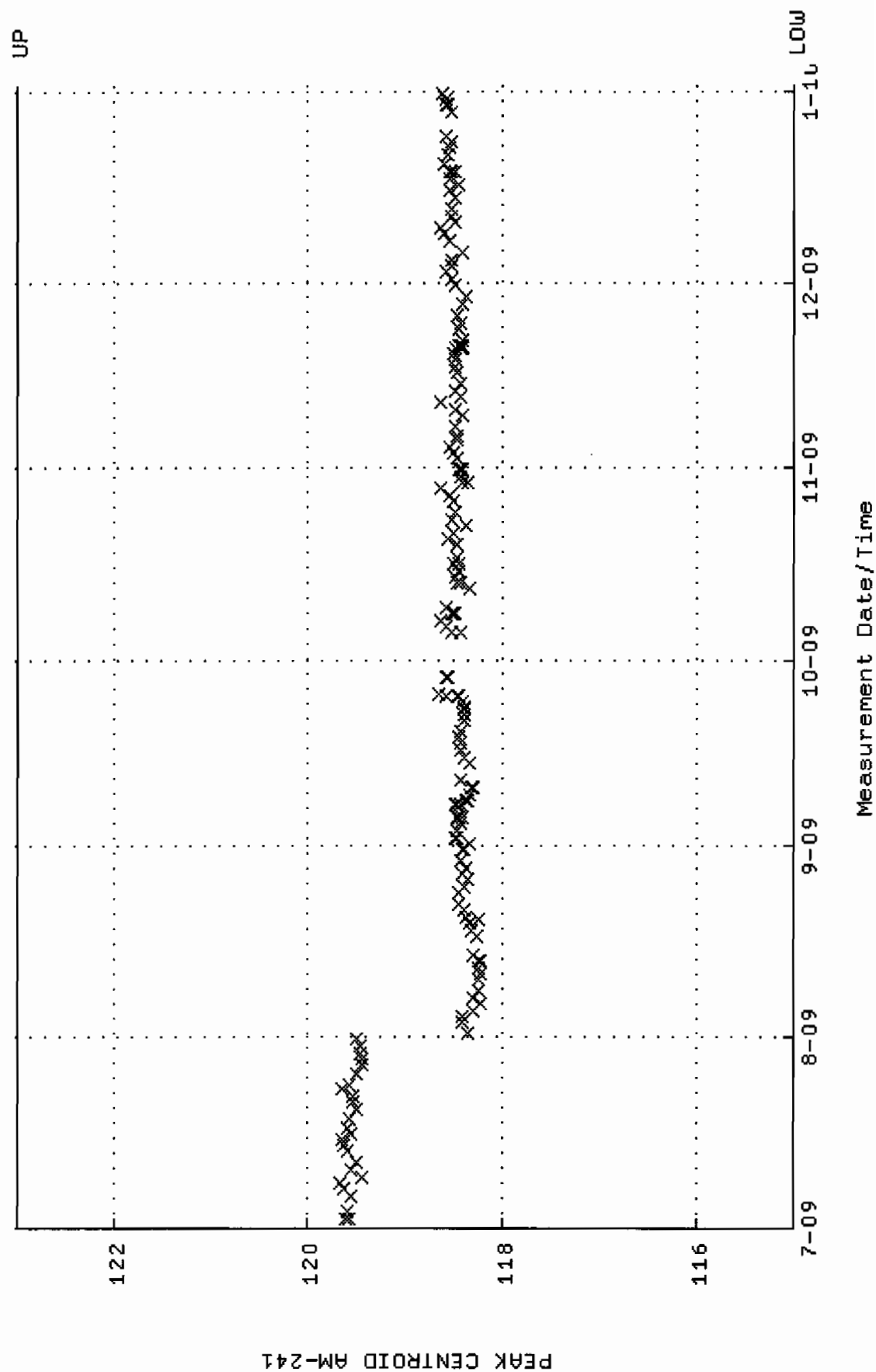
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 05:29:11 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



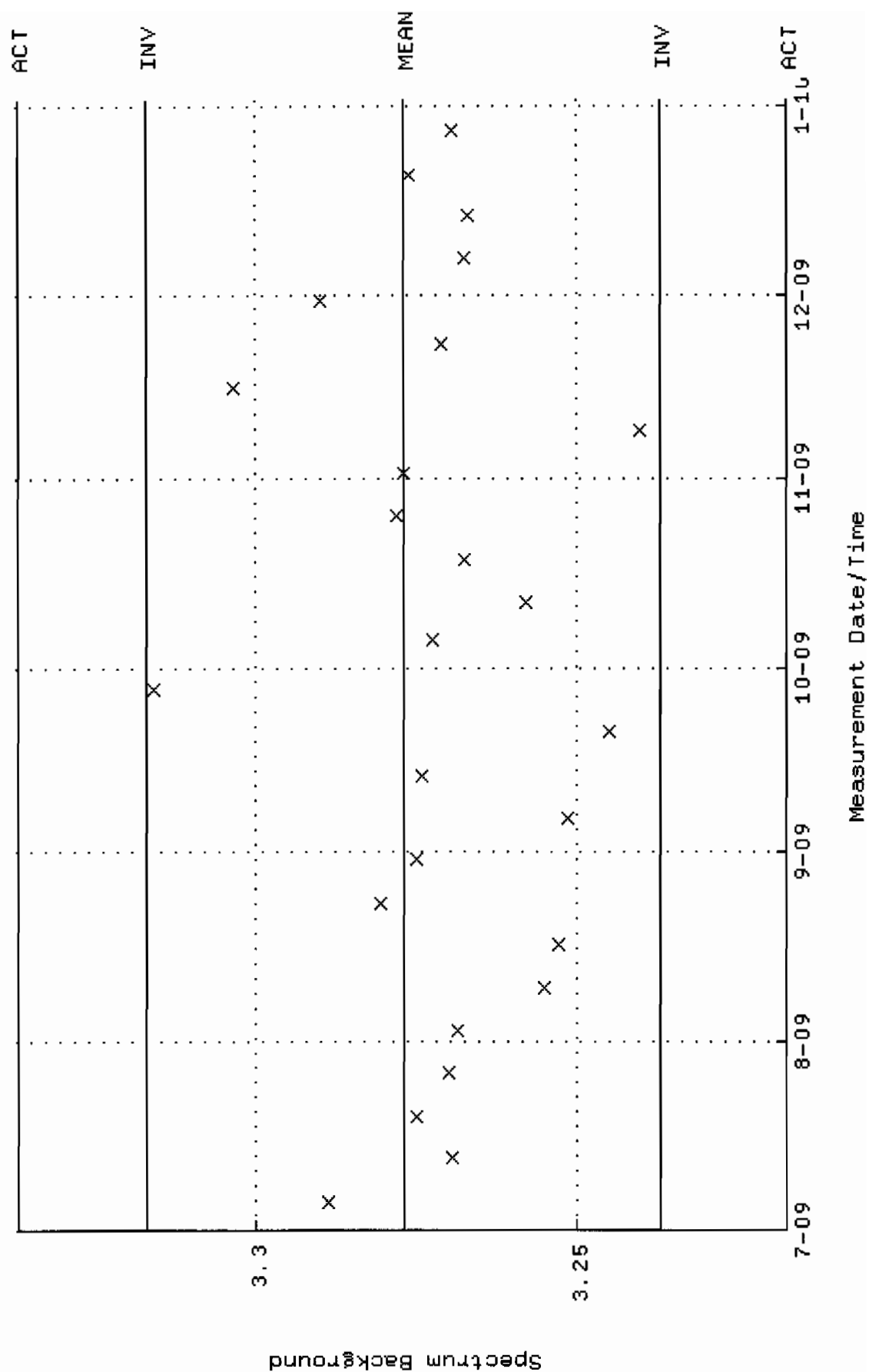
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:04 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



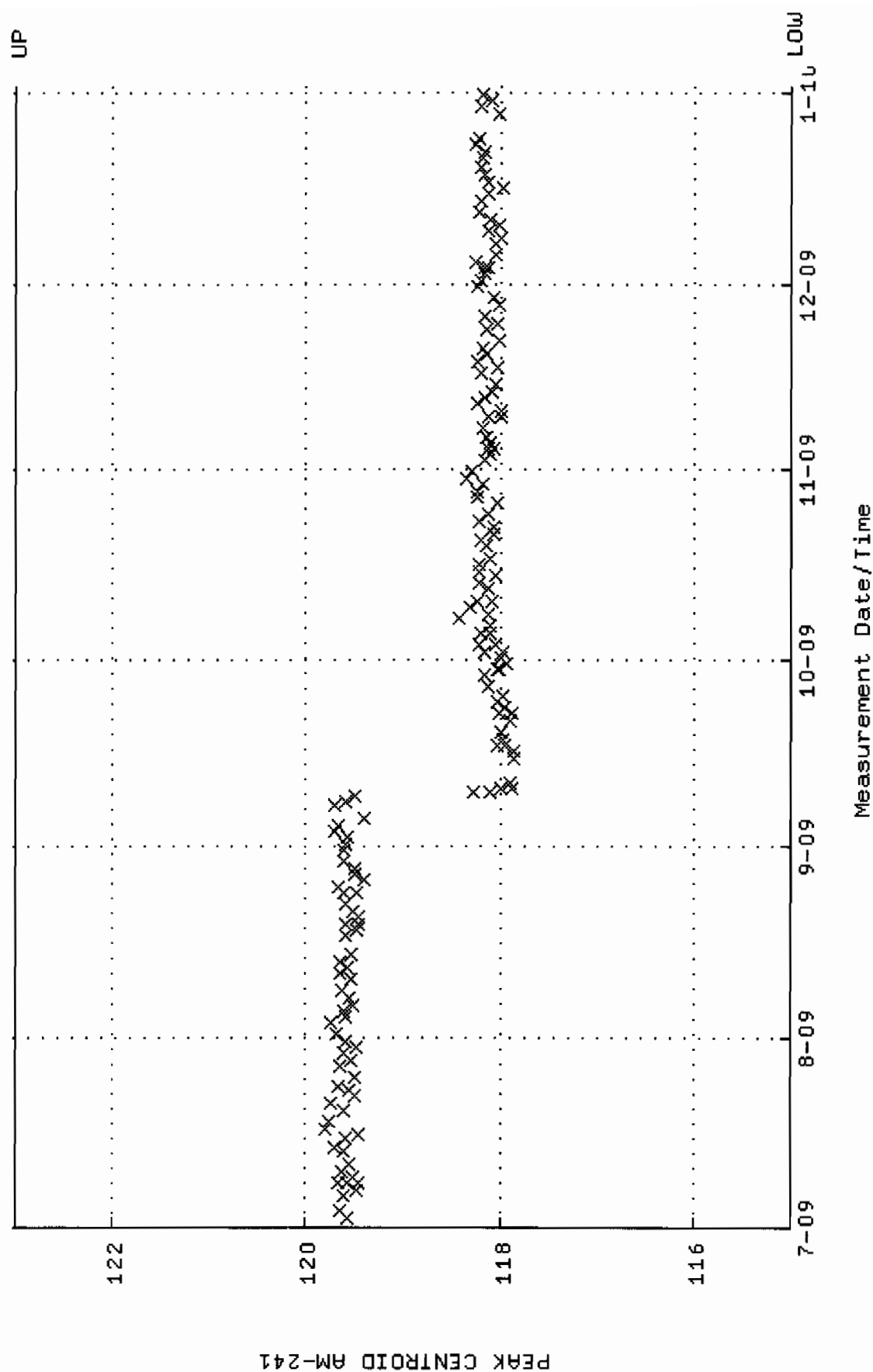
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM13_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:30 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



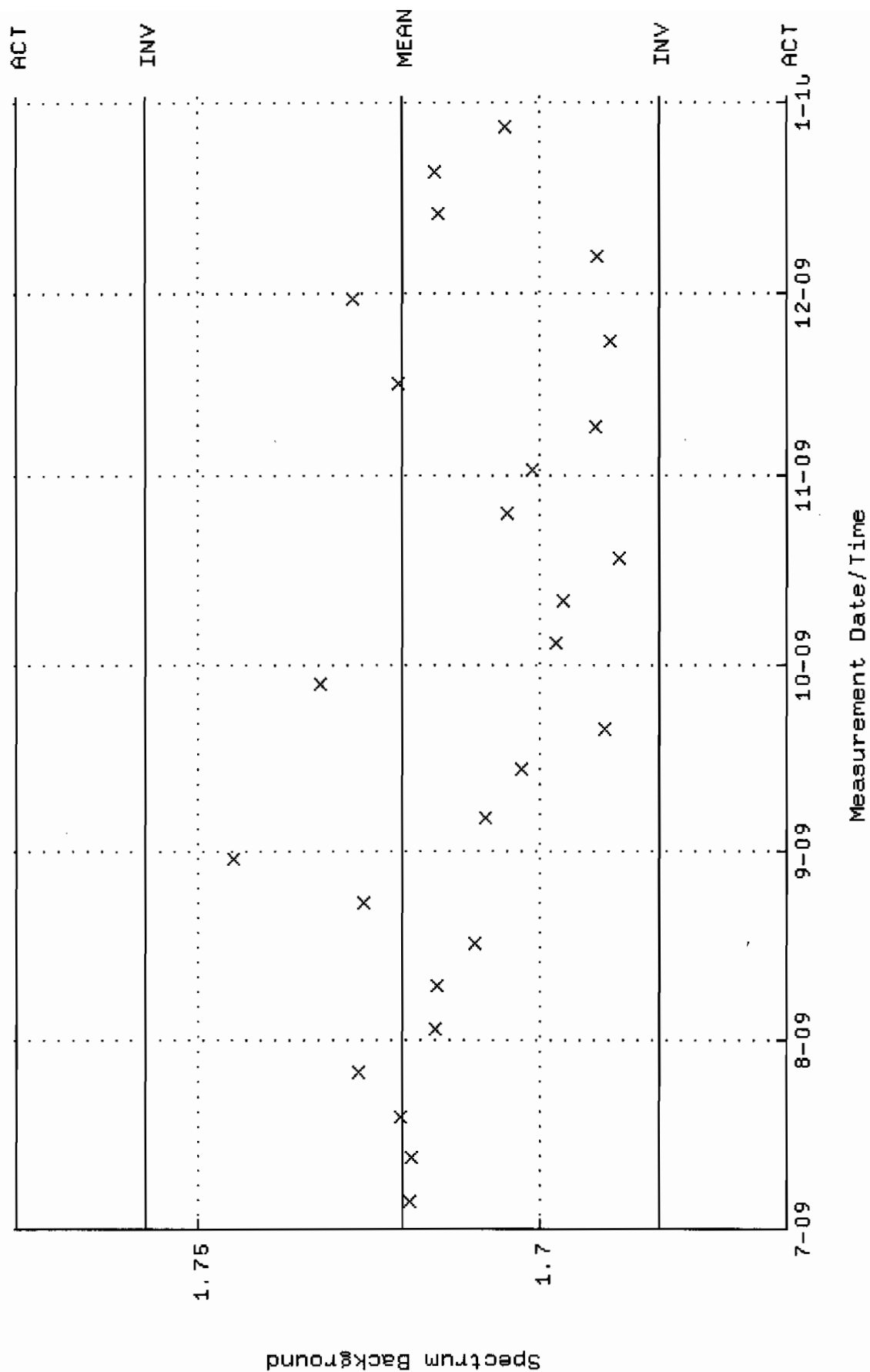
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM13.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:16 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.27712 +- 1.999120E-02 (0.61 %)



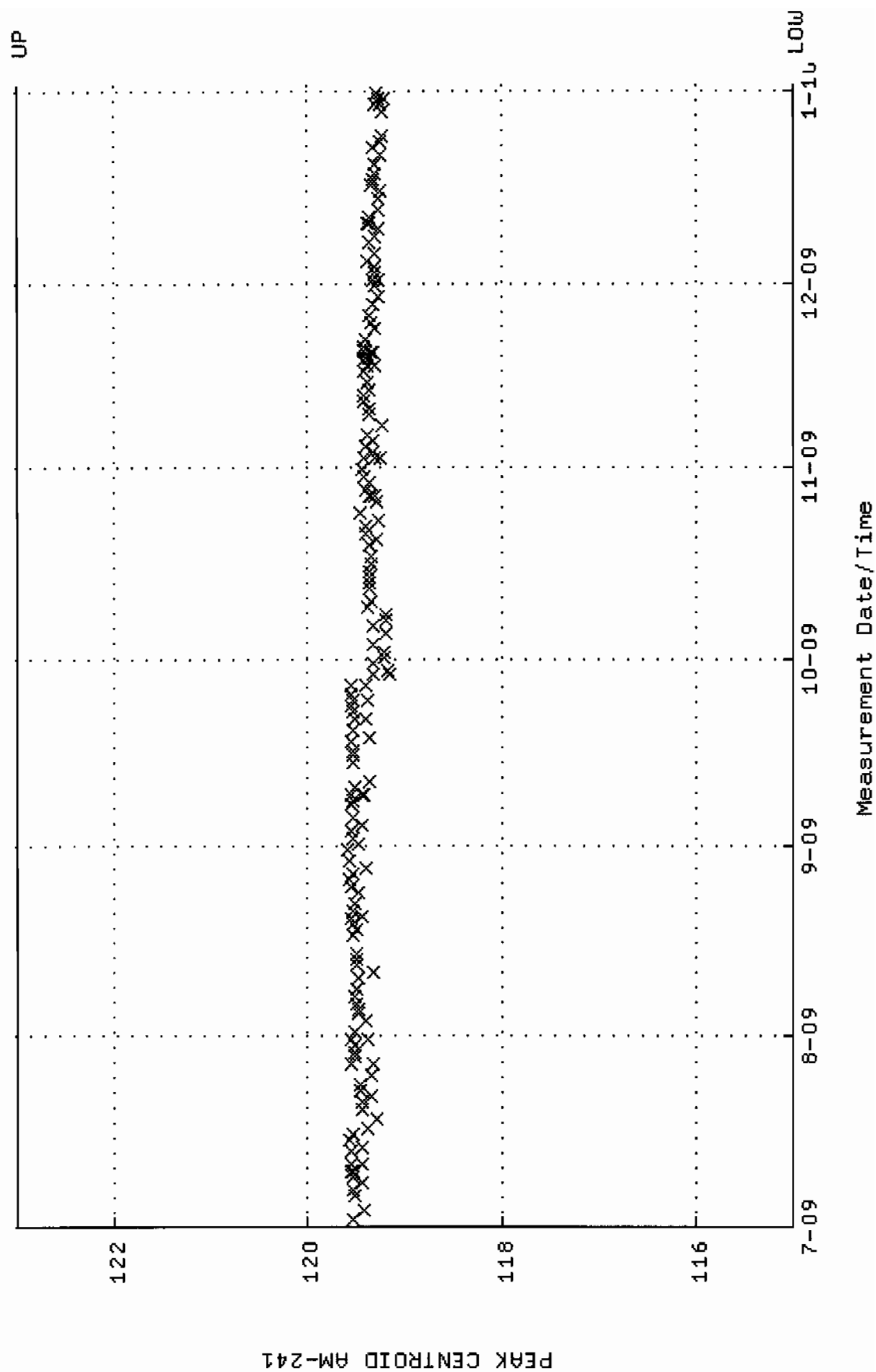
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:40 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



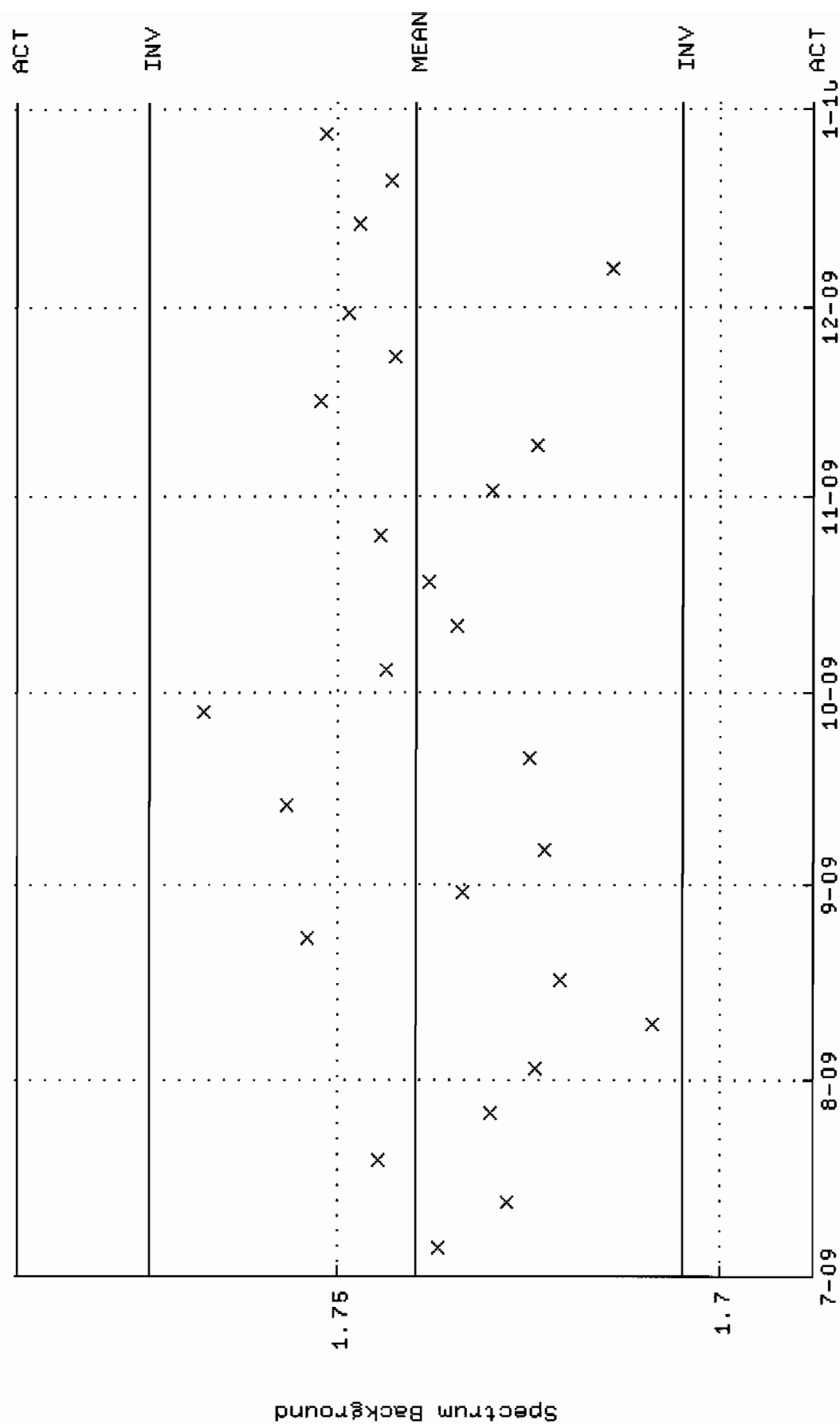
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:45 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



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

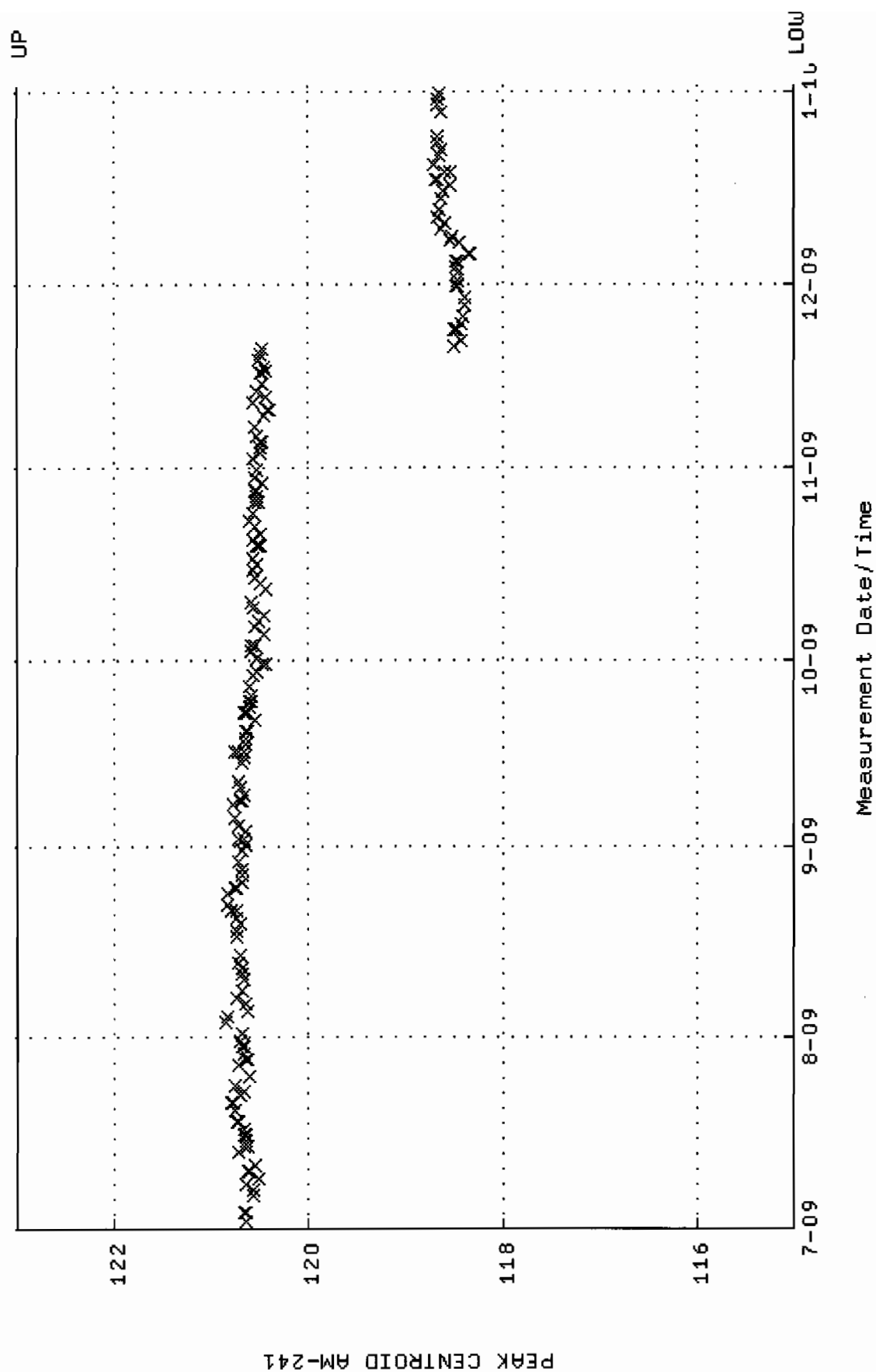


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:52:58 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.73980 +- 1.729897E-02 (0.99 %)

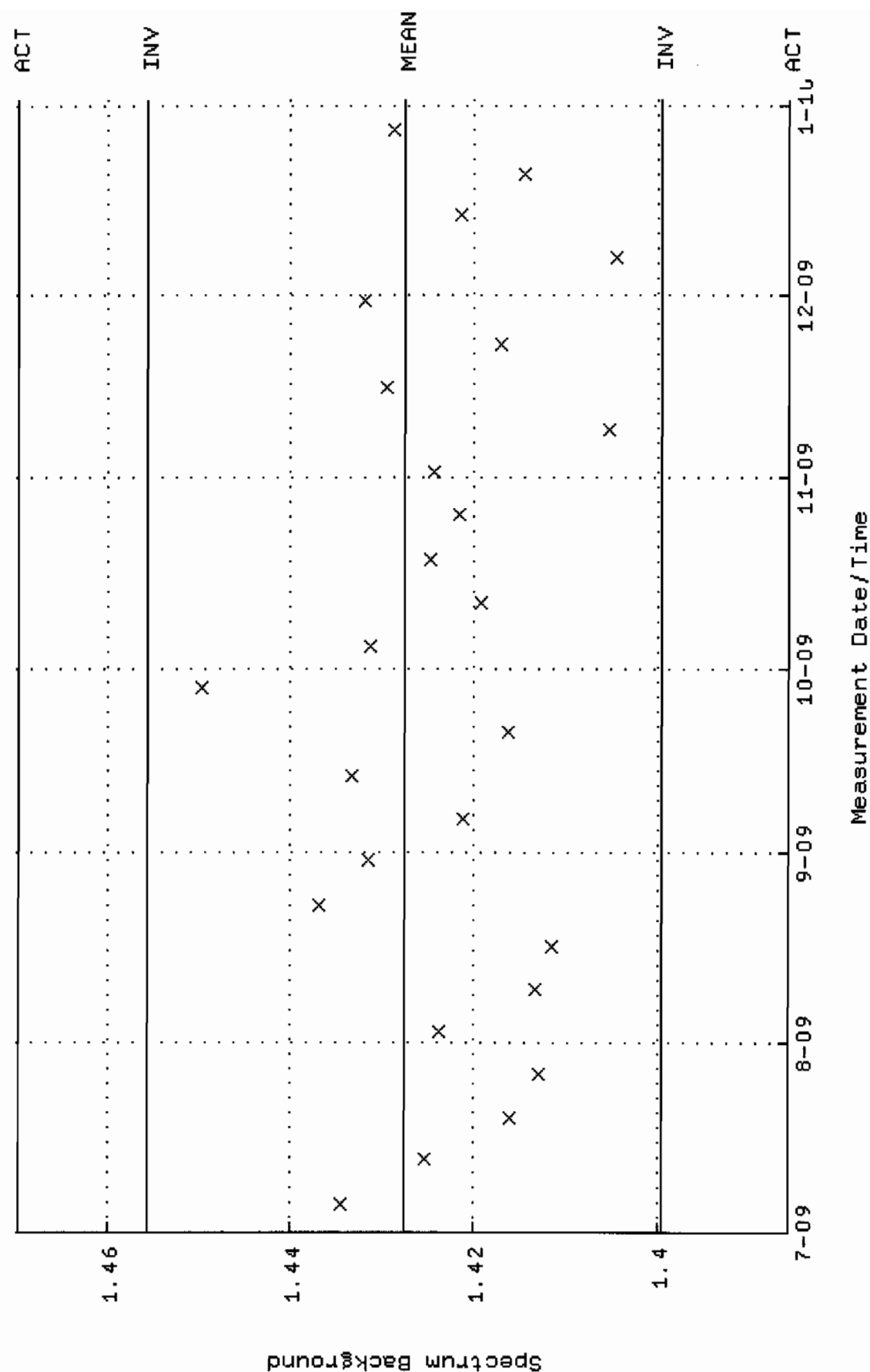


Measurement Date/Time

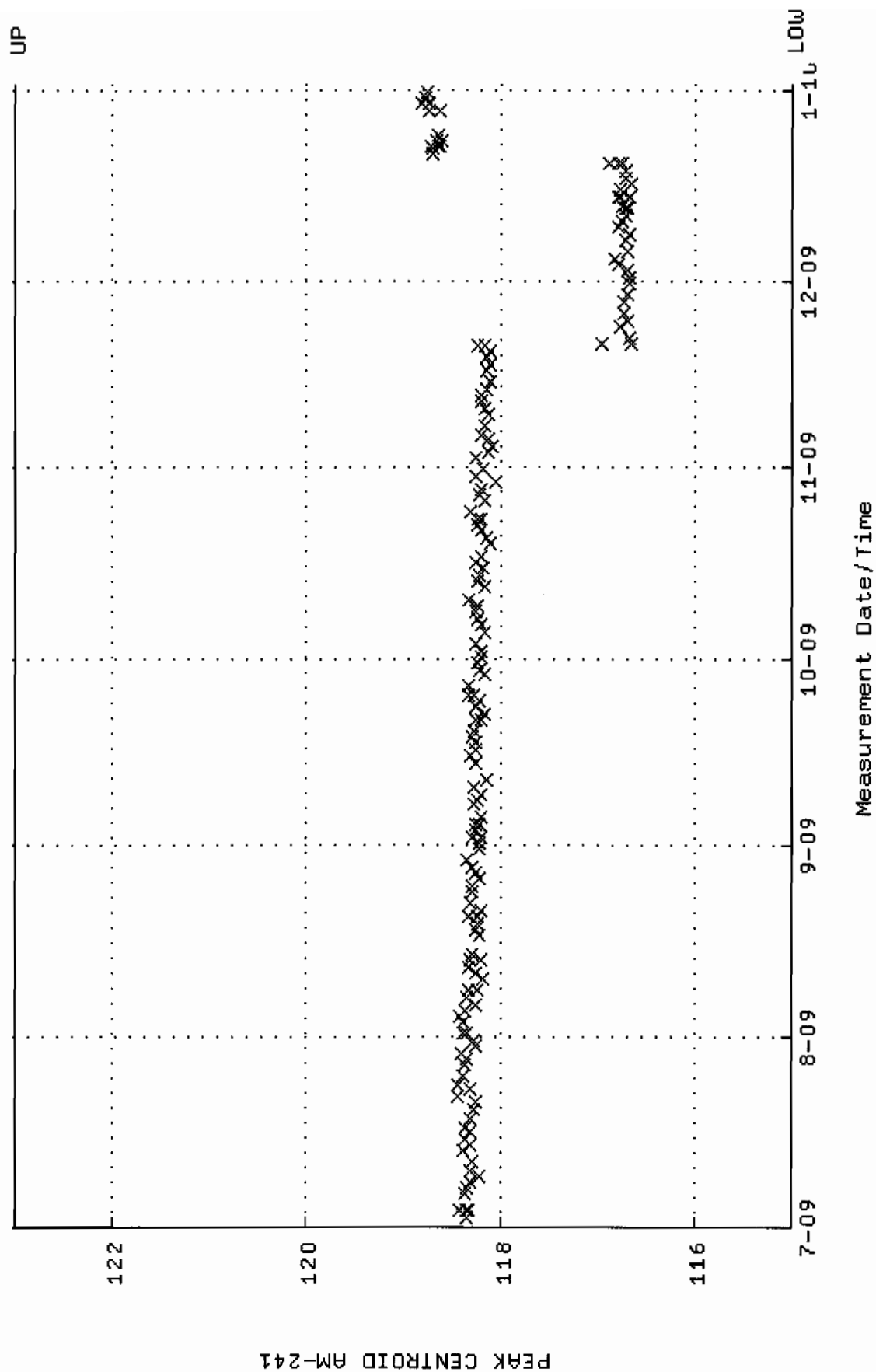
QA filename : DKA100:[CANNBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:26 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



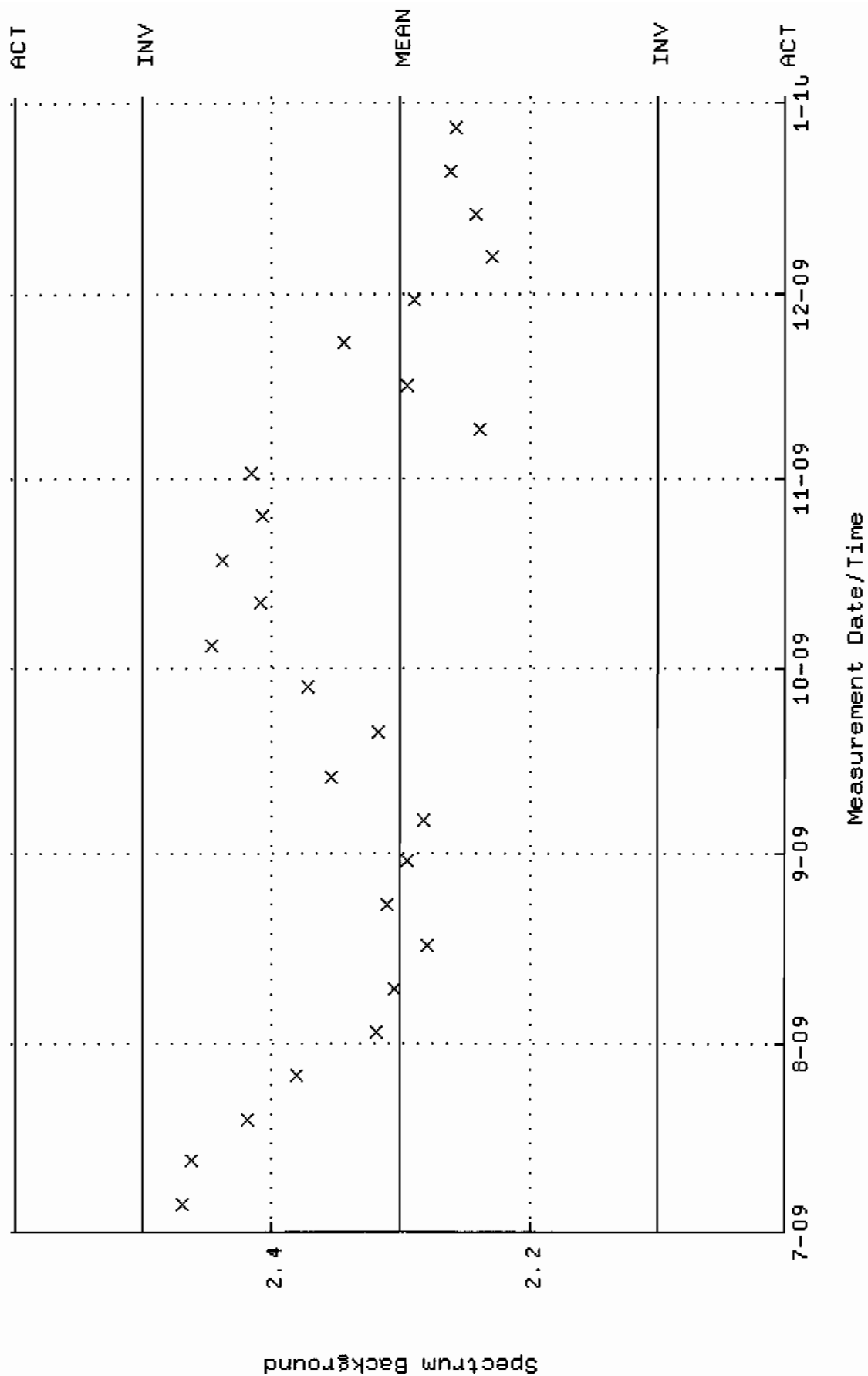
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:11 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



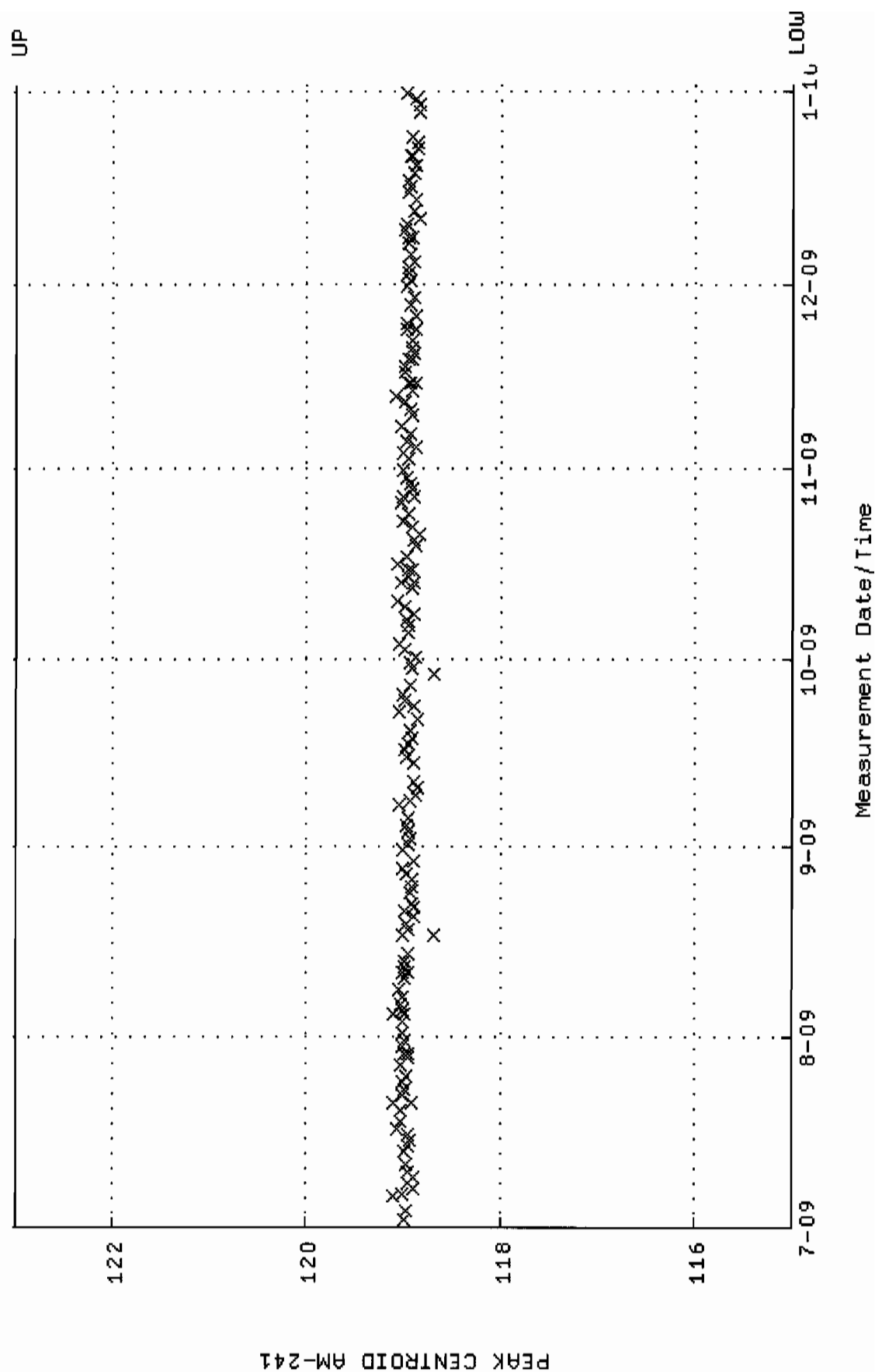
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 11:04:02 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



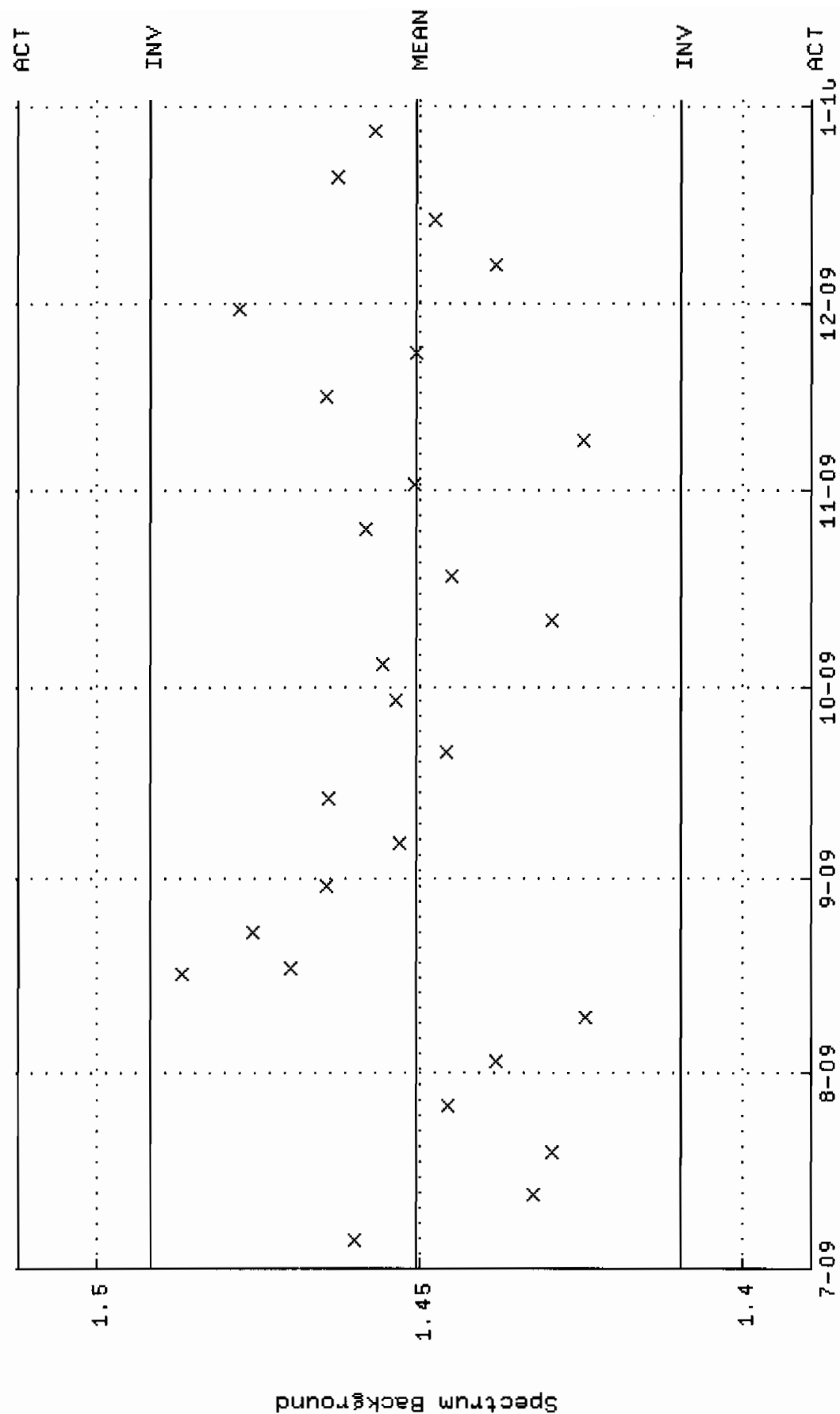
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:23 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



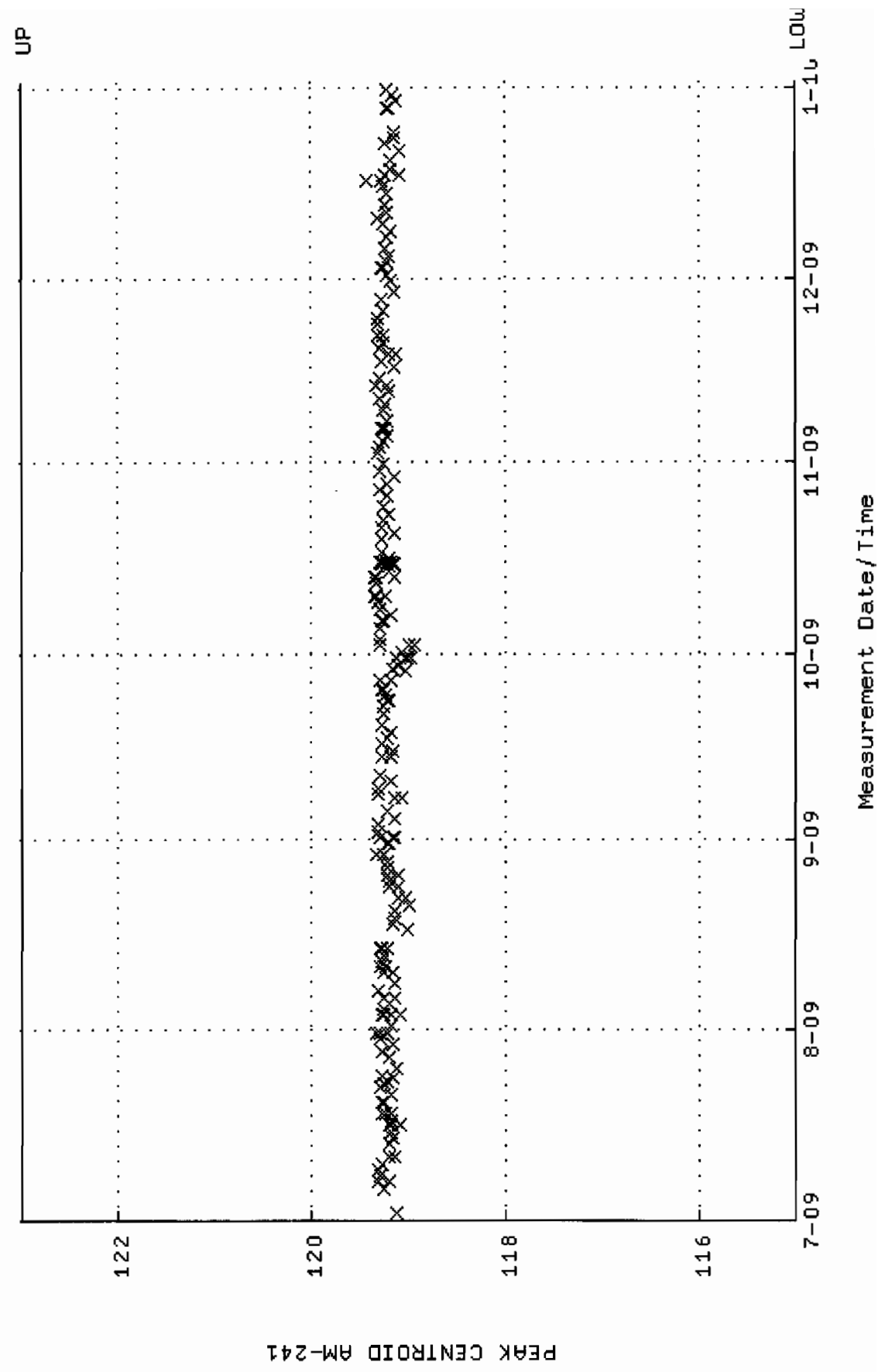
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM19_CAN.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:41:19 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



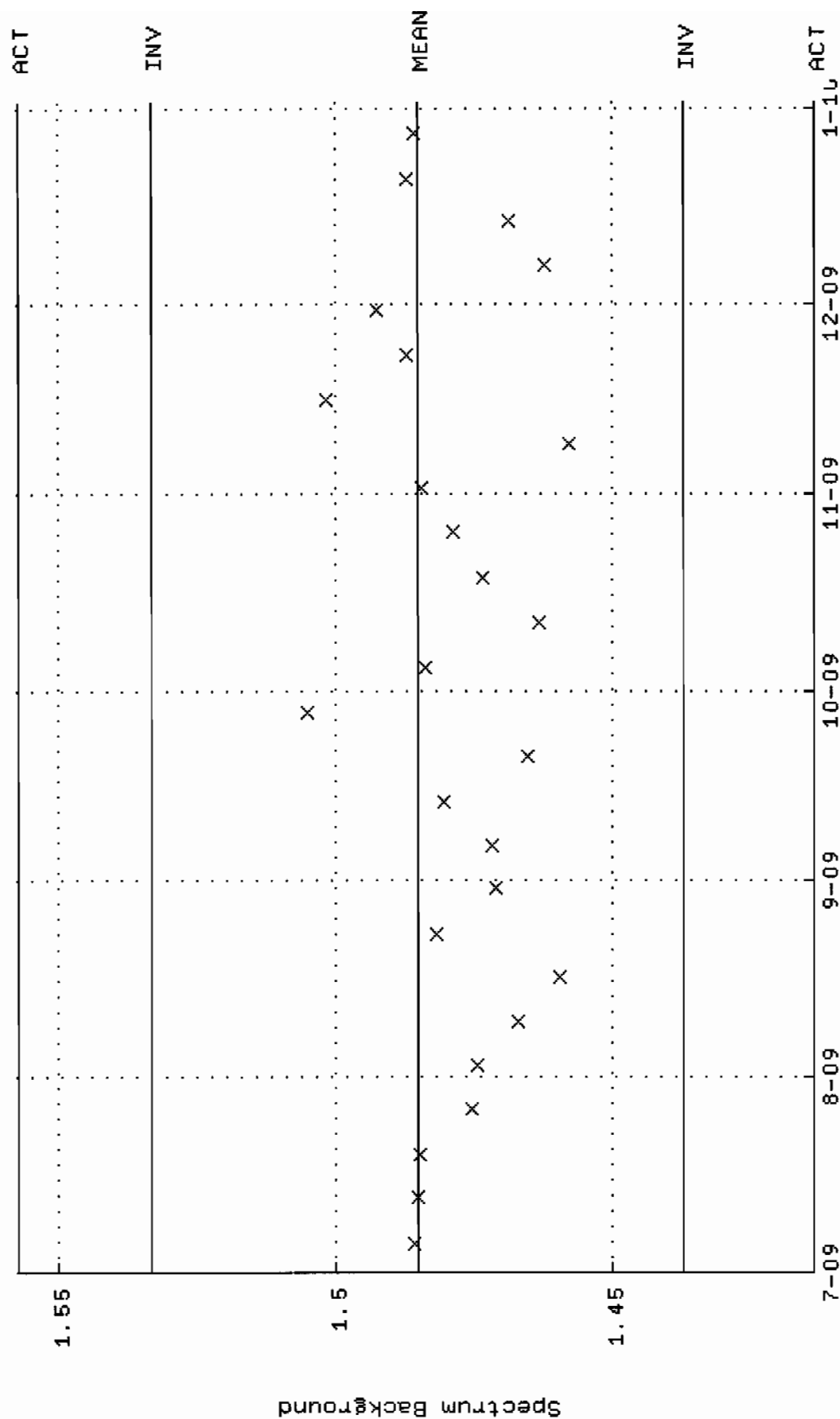
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM19.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:35 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.45067 +- 2.046038E-02 (1.41 %)



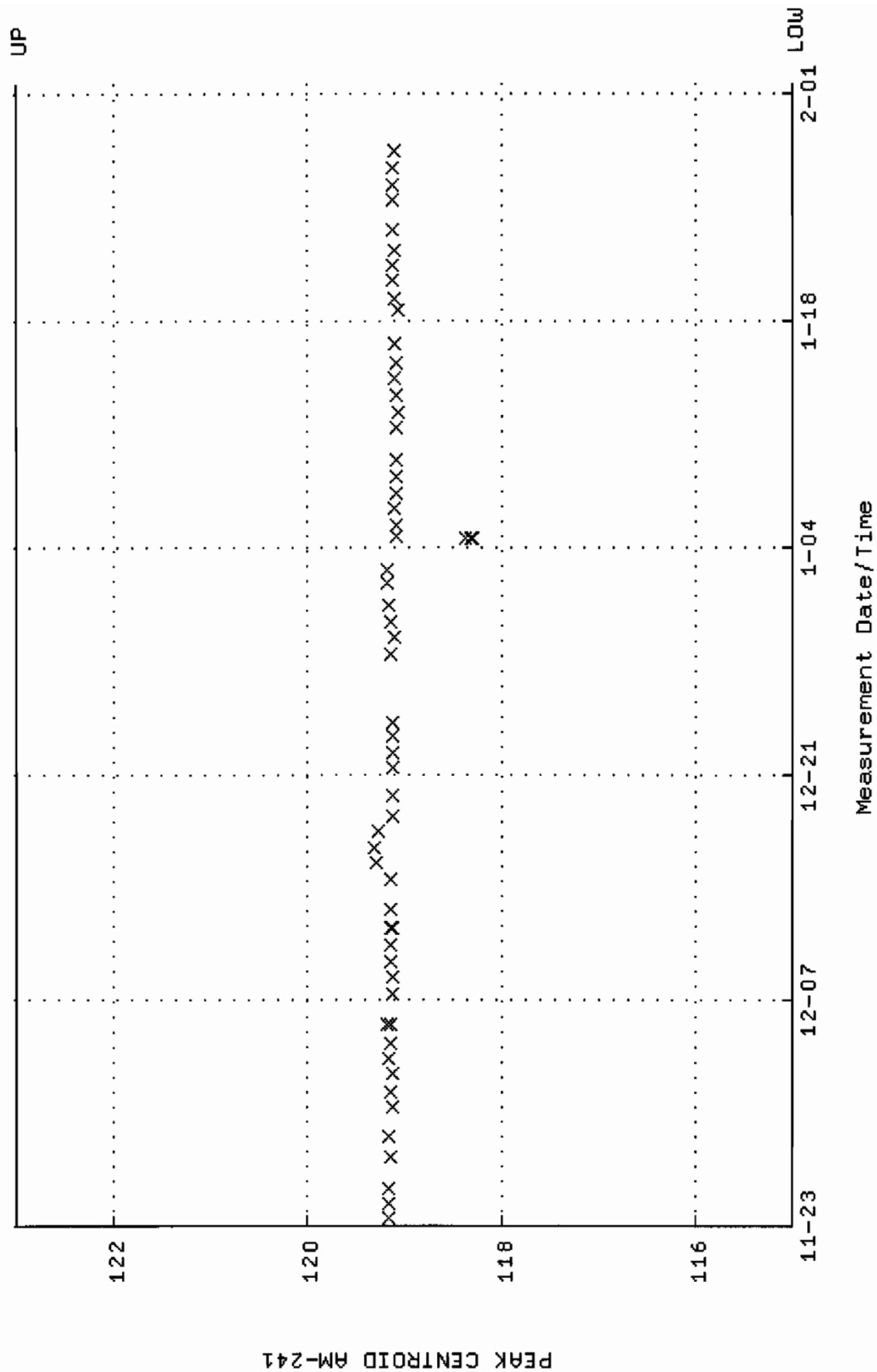
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM20_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 2-JUL-2009 05:29:34 through 1-JAN-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



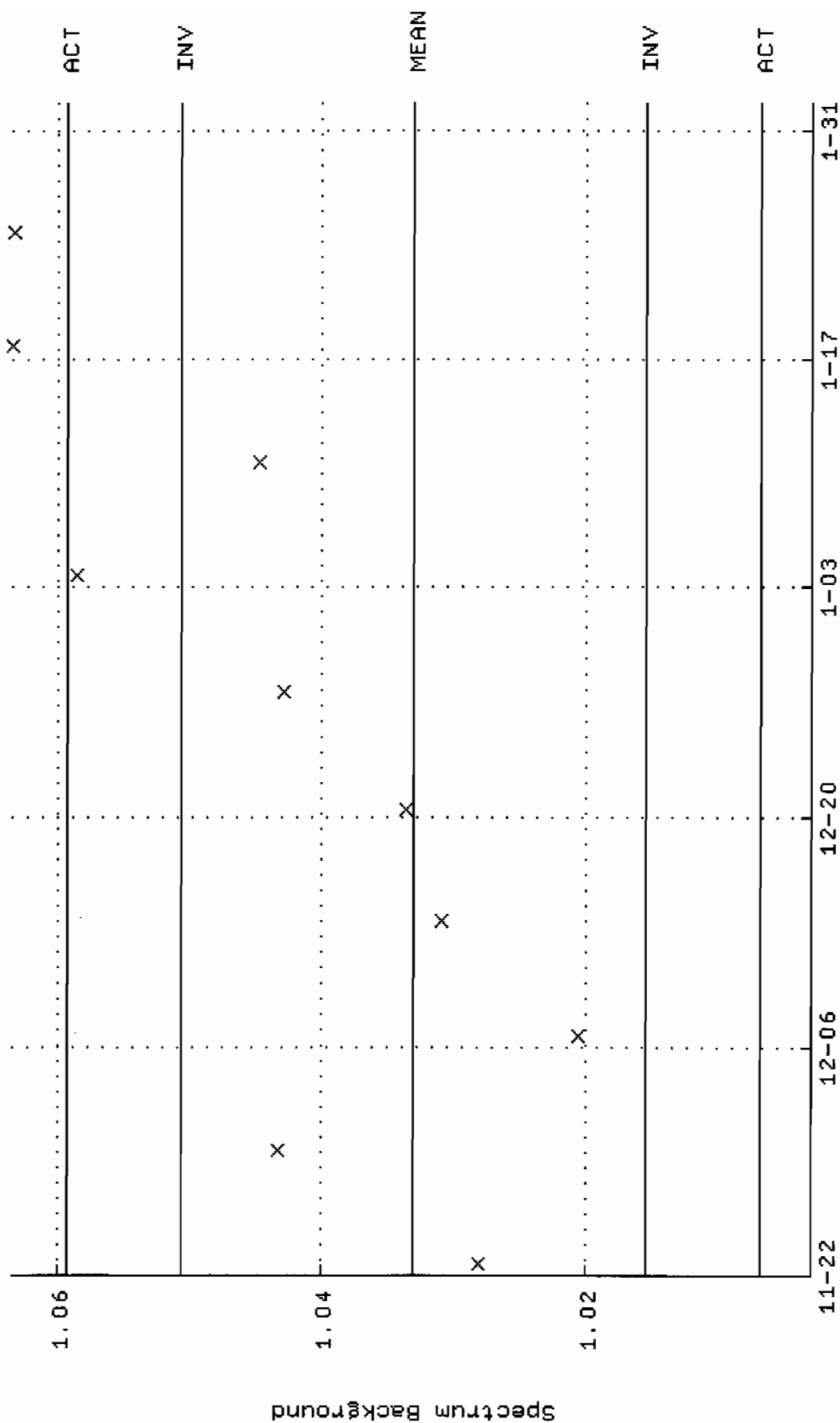
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM20.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:53:49 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



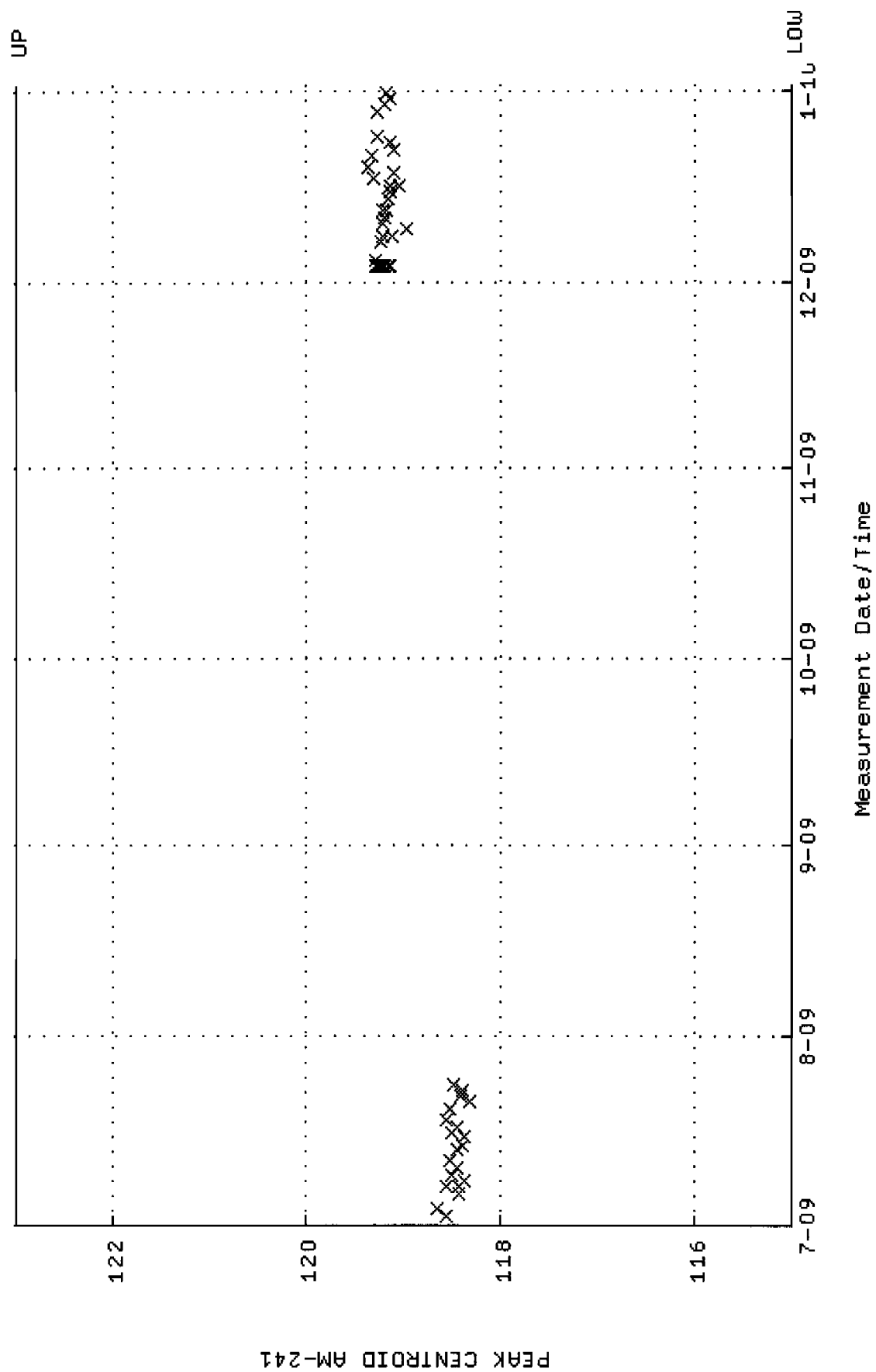
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM21_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 23-NOV-2009 10:56:51 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



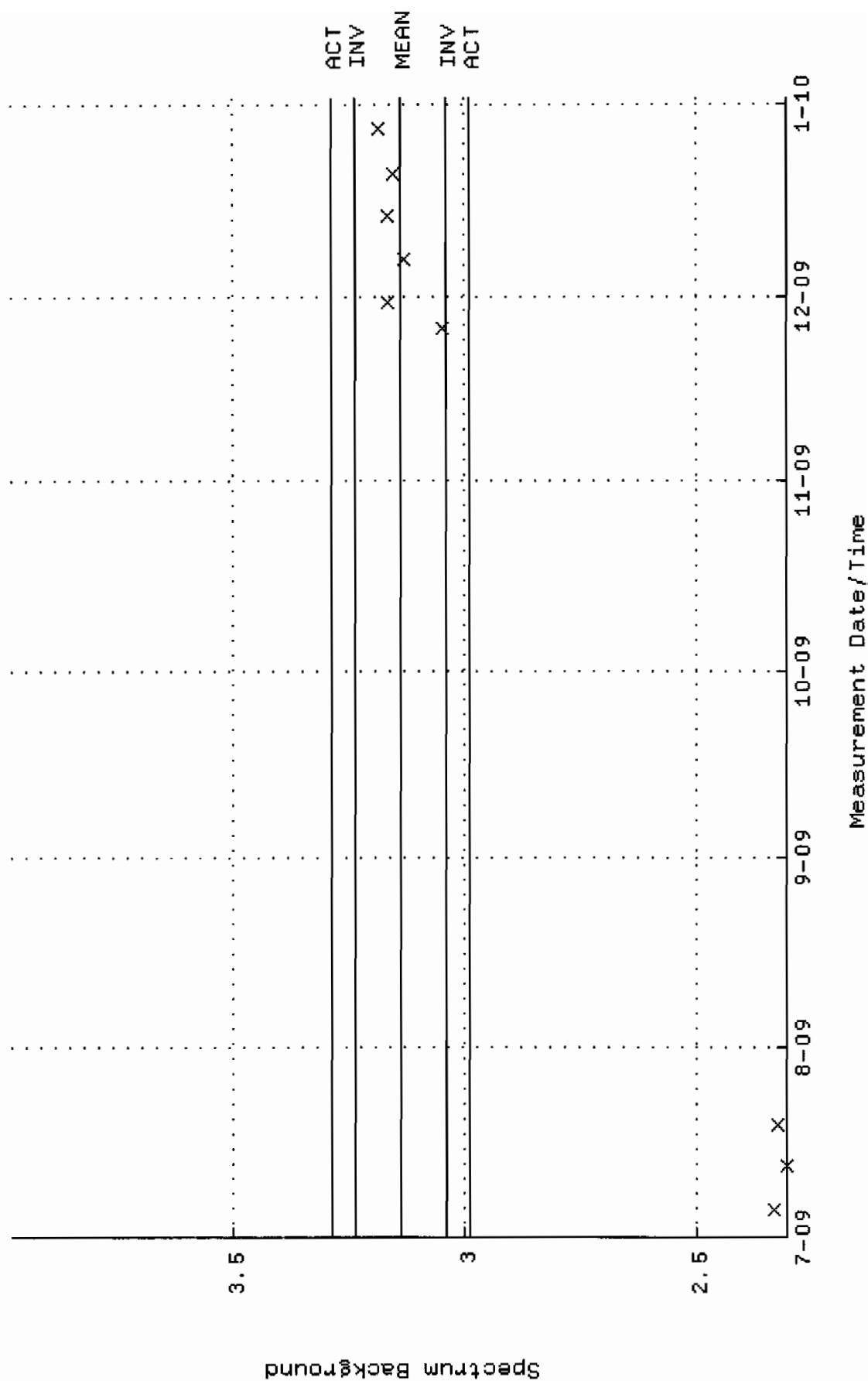
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM21.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 22-NOV-2009 17:05:16 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.03312 +- 8.784250E-03 (0.85 %)



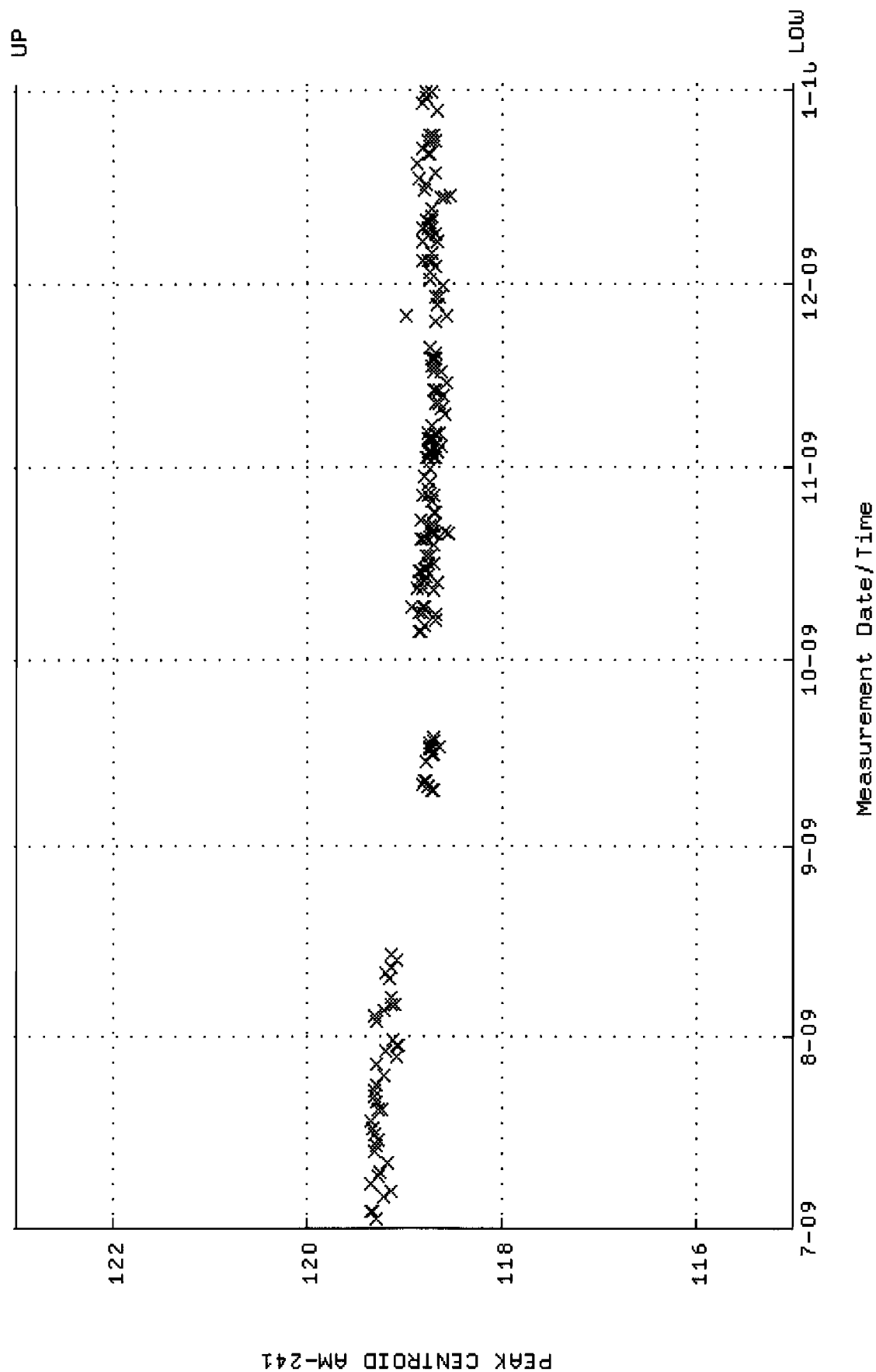
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 10:47:50 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



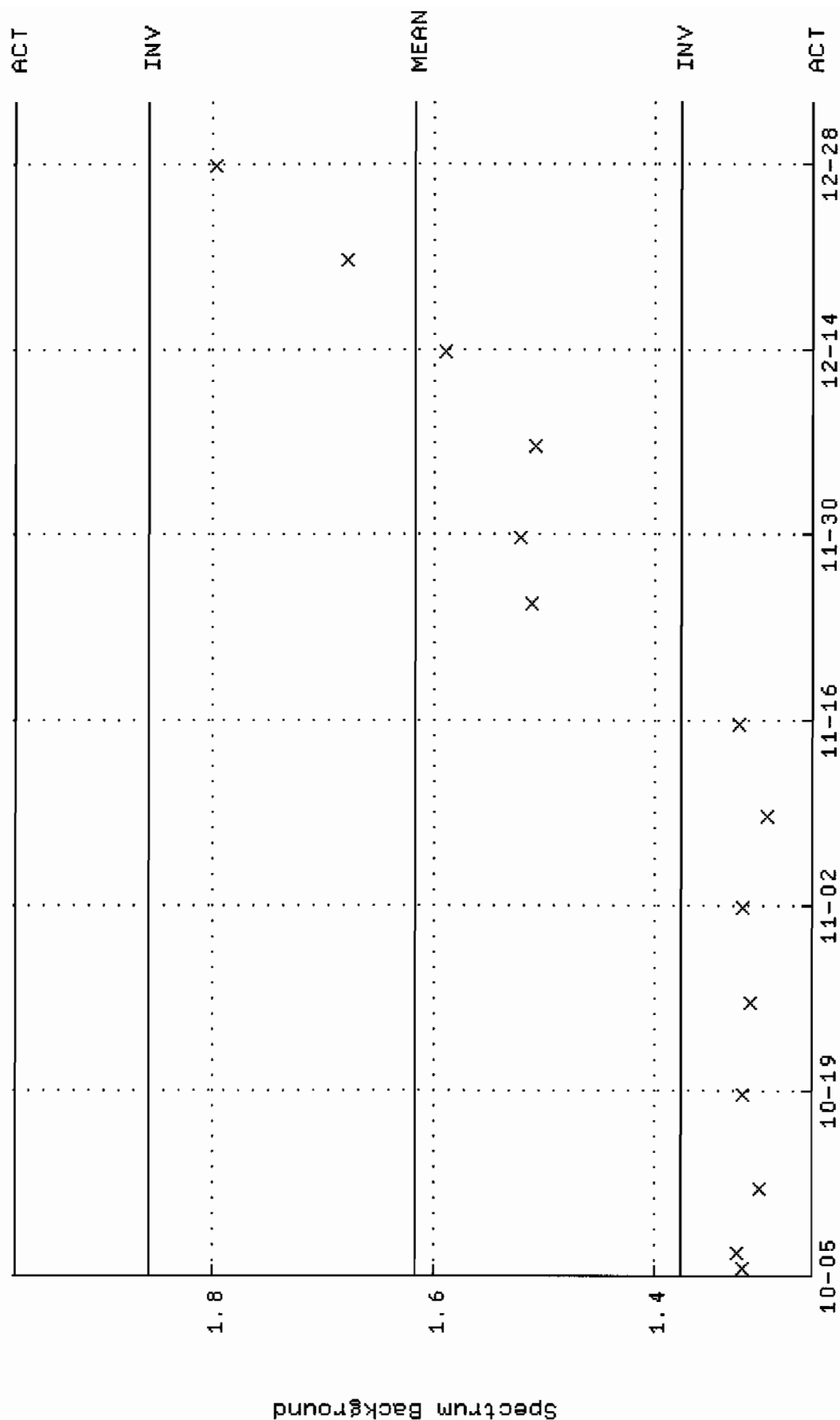
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-JUL-2009 13:54:18 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM23_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 2-JUL-2009 11:00:38 through 1-JAN-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000

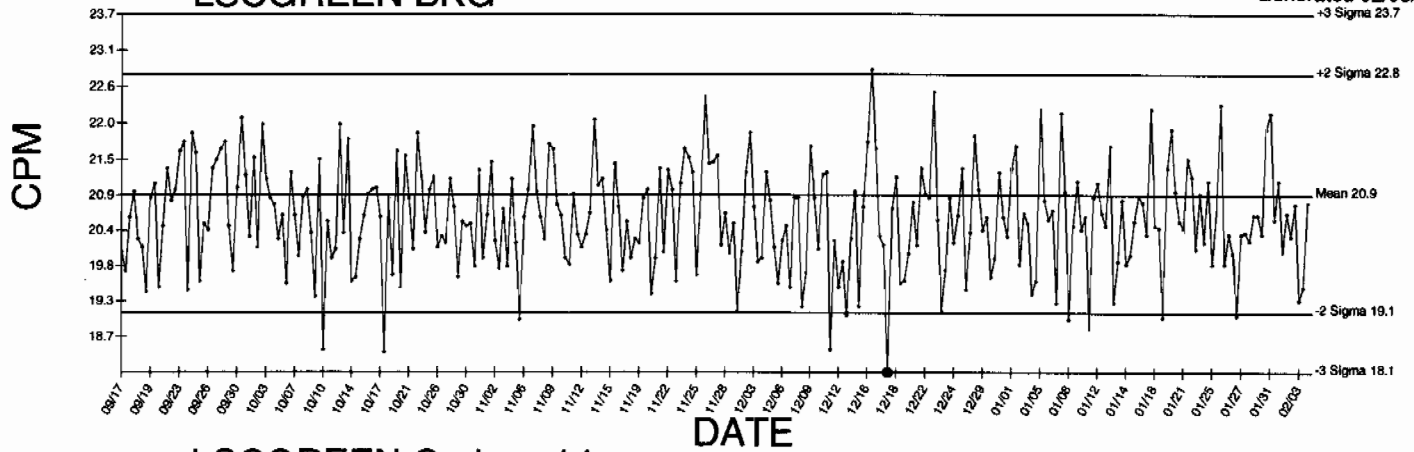


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-JAN-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)

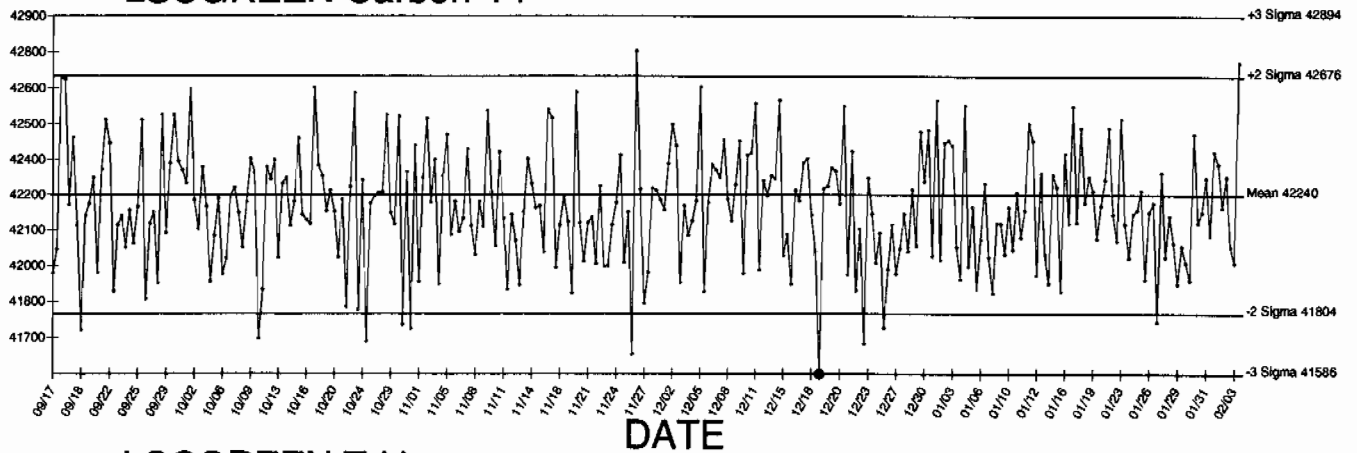


LSCGREEN BKG

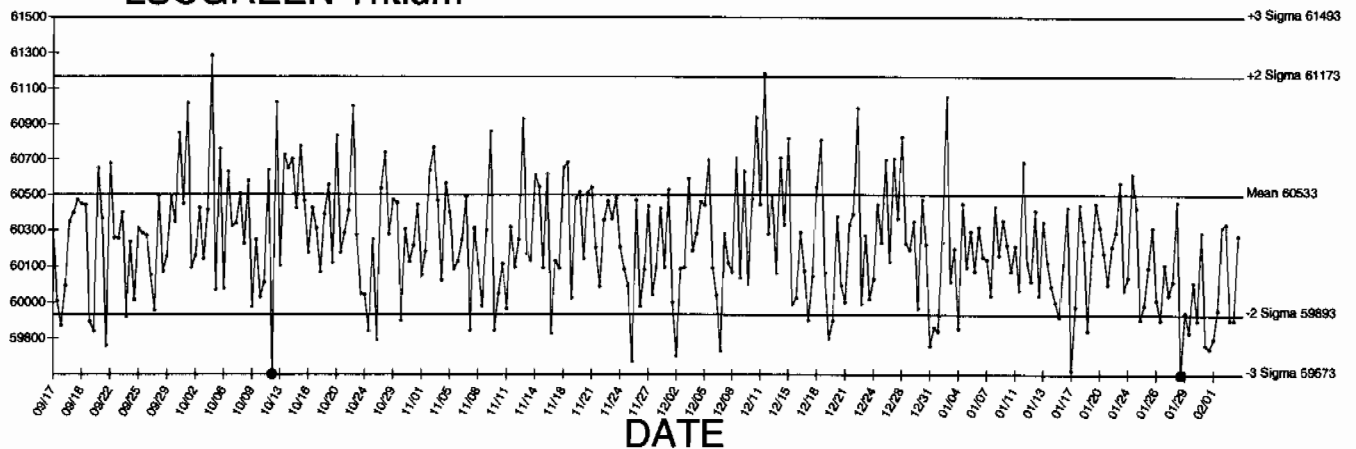
Generated 02/03/2010



LSCGREEN Carbon-14



LSCGREEN Tritium



● Denotes Outlier

STANDARDS DATA

0134



CALIBRATION
No. 0146

Description Radionuclide: TRITIUM (HYDROGEN-3) Product code: TRY-64
Chemical form: water Batch: 111

Measurement Reference time: 1200 GMT on 1 March 1996
Radioactive concentration of tritium: 488.0 kilobecquerels per gram of water
which is equivalent to: 13.19 microcuries per gram of water
or: 2.93×10^7 disintegrations per minute per gram of water

Method of Measurement

This reference material was calibrated by direct comparison with a standard of tritium-labelled water obtained from the National Institute of Standards and Technology, USA.

Accuracy The OVERALL UNCERTAINTY of the result quoted above is estimated to be less than $\pm 2.5\%$

This estimate of uncertainty was calculated in accordance with the recommendations of the International Commission on Radiation Units and Measurements (ICRU Report 12). The limits of uncertainty were taken as the arithmetic sum of the uncertainty due to random variations, calculated at the 99.7% confidence level, and the estimated systematic uncertainties.

Purity No radioactive impurities were detected. (Impurities with total activity greater than 0.001% of the activity of the tritium would have been detected).

Physical Data Half-life of tritium: 12.43 ± 0.11 years
Maximum beta energy of tritium: 18.6 keV

Remarks: The S.I. unit of radioactivity is the becquerel.

1 becquerel (Bq) = 1 nuclear transformation per second, therefore
1 curie (Ci) = 3.7×10^{10} becquerels exactly.

Useful conversion factors are:

1 microcurie (μCi) = 3.7×10^4 Bq = 37 kilobecquerels (kBq)
1 kilobecquerel (kBq) = 27.027 nanocuries (nCi)

This product meets the quality assurance requirements of NRC Regulatory Guide 4.15 for achieving implicit NIST (NBS) traceability as defined in NCRP58 (1985).

Approved
signatory

W. F. Case

2C-5-023-061a

Amersham
The Health Science Group

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	0134	Isotope:	Tritium
Prepared By:	Angela Johnson	Prepared By:	Angela Johnson
Carrier Conc:	DI WATER	Prep Date:	02/21/2001
Reference Date:	03/01/1996	Verification Date:	09/10/2008
Ampoule Mass (g):	5 g	Expiration Date:	03/27/2010
Uncertainty:	+/- 2.5 %	Primary Code:	0134-A
LogBook No:	RC S 023 061	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)	Standard Source DPM/mL
4/9/2009	0134-K N1	1097.2000	54.0000	1043.2000	0.380548	2741.3099
	0134-K N2	1073.2000	54.0000	1019.2000	0.380548	2678.242955
	0134-K N3	1085.2000	54.0000	1031.2000	0.380548	2709.776428
						2709.776428

Mean Value (Counting) = 2709.776428
 Stdev = 31.53347278

Certificate Value = 2581.86 dpm/mL
 Lower Limit = 2846.709482 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 Ecocint 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 Ecocint 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 D. Edwards 4/12/09
 Amanda L. Fehr 4/19/09

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. Analytics maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE		GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432	y	3339	3.0
Cd-109	88	462.6	d	4815	3.3
Co-57	122	271.79	d	2409	3.0
Ce-139	166	137.6	d	3408	2.8
Hg-203	279	46.61	d	7522	2.7
Sn-113	392	115.1	d	4728	2.6
Cs-137	662	30.07	y	2973	3.0
Y-88	898	106.6	d	11600	2.6
Co-60	1173	5.2714	y	5780	2.7
Co-60	1332	5.2714	y	5783	2.6
Y-88	1836	106.6	d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova
M. Dimitrova, Radiochemist

Q A APPROVED:

J.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

1380 Seaboard Industrial Blvd.
 Atlanta, Georgia 30318

Tel 404-352-8677

Fax 404-352-2837

www.analytiscinc.com

ANALYSIS OF UNCERTAINTY FOR MIXED GAMMA STANDARDS BATCH 127

CALIBRATION DATE: October 1, 2006 12:00 EST

Isotope	Energy (keV)	Calibration Method ¹	Statistics ²	Calibration ²	Peak Fitting ²	Geometry ²	Impurities ²	Weighing	Combined Standard Uncertainty	Relative Expanded Uncertainty (k=2)
Cd-109	88	HPGe	0.16	1.1	0.88	0.8	0	0.2	1.64	3.3
Co-57	122	HPGe	0.23	1.1	0.71	0.7	0	0.2	1.52	3.0
Ce-139	166	HPGe	0.17	1.0	0.58	0.7	0	0.2	1.38	2.8
Hg-203	279	HPGe	0.11	1.1	0.34	0.7	0	0.2	1.37	2.7
Sn-113	392	HPGe	0.21	1.0	0.35	0.7	0	0.2	1.30	2.6
Cs-137	662	HPGe	0.36	1.1	0.60	0.7	0	0.2	1.49	3.0
Y-88	898	HPGe	0.19	1.0	0.33	0.7	0	0.2	1.29	2.6
Co-60	1173	HPGe	0.31	.97	0.45	0.7	0	0.2	1.33	2.7
Co-60	1332	HPGe	0.33	.93	0.48	0.7	0	0.2	1.32	2.6
Y-88	1836	HPGe	0.24	1.0	0.35	0.7	0	0.2	1.31	2.6

Optional Additional Isotopes

Pb-210	46.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Am-241	59.5	4π LS	0.33	1.1	0	0.9	0.30	0.2	1.50	3.0
Sr-85	514	IC	0.30	1.1	0	0.7	0.17	0.2	1.36	2.7
Cs-134	605	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Cs-134	796	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Mn-54	835	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7
Zn-65	1116	IC	0.30	1.0	0	0.8	0.17	0.2	1.34	2.7

Calibration Methods:

4π LS (4 pi Liquid Scintillation Counting)

HPGe (High Purity Germanium Gamma Ray Spectrometer)

IC (Gamma Ray Ionization Chamber)

²As Percent (%) from counting data

No interfering gamma emitting impurities were detected during calibration. Depending on the resolution and energy dispersion (keV/channel) of the measuring system, the following spectral conflicts may occur: (1) between the 88 keV gamma-ray and the X-rays emitted in the decay of Hg-203, (2) between the 1333 keV gamma-ray and the 1325 keV single escape peak from the 1836 keV gamma-ray.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1032	Isotope:	Mixed Gamma
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	4 M HCL	Prep Date:	11/30/2006
Reference Date:	10/01/2006	Verification Date:	12/02/2009
Ampoule Mass (g):	5.31725 g	Expiration Date:	12/02/2010
Uncertainty:	+/- 2.81 %	Primary Code:	1032-A
LogBook No:	RC-S-045-073	Dilution(mL):	100 mL
		Mass of Parent(g):	5.2579 g
		Density(g/mL):	1.0611
		Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm)}) * (\text{conversion dpm to dpm}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (dpm)}) * (\text{conversion dpm to dpm}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2163.7461 \text{ dpm/mL}$
$(5.2579 \text{ g}) * (218817 \text{ dpm}) * (1 \text{ dpm/dpm}) / (1.0611 \text{ g/mL}) / (5.31725 \text{ g} * 100 \text{ mL}) = 2039.2400 \text{ dpm/g}$

Secondary Standards

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

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Am-241

Isotope	Result	pCi/L - Ver. Jar-1
Mixed Gamma N1	2534	pCi/L
Mixed Gamma N2	2510	pCi/L
Mixed Gamma N3	2413	pCi/L

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 = 248.5666667
Rule 2 (Pass/Fail) Pass

M. Stamps
12/2/09
independent
12/2/09

Verification Rules

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

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Ce-137

Isotope	Result	pCi/L - Ver-Tab-1
Mixed Gamma N1	854.2	pCi/L
Mixed Gamma N2	907.6	pCi/L - Ver-Tab-3
Mixed Gamma N3	898.9	pCi/L - Ver-Tab-1

Mean Value (Counting) = 886.90
Sidev = 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

Handwritten:
11-8-2009
12/2/09
12/2/09

Verification Rules

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

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - Ver-Int-5
Mixed Gamma N1	1572	pCi/L - Ver-Int-2
Mixed Gamma N2	1495	pCi/L - Ver-Int-3
Mixed Gamma N3	1501	

Mean Value (Counting) =
Stdev =

1522.67
42.829

98.50

Pass
Rule 3 (Pass/Fail)

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

1545.8378
1437.008431
1608.324902
Pass
85.65823564
152.26666667
Pass

pCi/L
pCi/L
pCi/L

U. Stamps issued 12/2/09
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 *lett 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 NRM-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	425 ± 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 DATE 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.

9911627-01-20
Page 1 of 1
AR/COC- 602945

Attention Nancy Slater At GEL
Not for Log-In
ANALYSIS REQUEST AND CHAIN OF CUSTODY
Press F1 for Instructions for each field.

SF 2001-COC (10-97)
Supervisor (S-97) name
Internal Lab
Batch No.

Dept. No./Mail Stop: 7132/1042 Project/Task Manager: PAM PUISSANT Project Name: Record Center Code: N/A Logbook Ref. No.: N/A Service Order No.:		Date Samples Shipped: 11-16-99 Container No.: 5-26-799 Lab Contact: EDIE KENT Lab Destination: G.E.L. SMO Contact/Phone: Doug Salm / 844-3110 Send Report to SMO: Suzl Jensen/844-3184		Contract No.: AJ-2480A Case No.: 10204 1-3 SMO Authorization: [Signature] Bill to: Sandia National Laboratories Supplier Services, Dept. P.O. Box 5800 MS 0154				
Location Building N/A Sample No. - Fraction	Tech Area VI Room N/A ER Sample ID or Sample Location Detail	Date/Time Collected	Sample ID	Reference LOV (available at SMO)		Sample Type	Parameter & Method Requested	Lab Sample ID
				Container Type	Volume			
050484 - 001	PEM-1	N/A	N/A	P	1 L	4 C	G	SA
050485 - 001	TRM-2	N/A	N/A	G	1 L	4 C	G	SA
050486 - 001	NRM-2	N/A	N/A	G	1 L	4 C	G	SA
-								
-								
-								
-								
-								
-								
-								
RMMA <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Ref. No.		Sample Disposal <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal by lab		Sample Tracking (initials)		Special Instructions/QC Requirements		Abnormal Conditions on Receipt (Lab Use)
Turnaround Time <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush Required Report Delay		Signature Douglas E. Perry		Company/Organization/Phone Weston/7577/845-0867		EDD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Raw data package <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Sample Team Members		Date 11-16-99 Time 0900		4. Relinquished by		Org.		Date
1. Relinquished by [Signature]		Date		4. Received by		Org.		Date
2. Relinquished by		Date		5. Relinquished by		Org.		Date
2. Received by		Date		5. Received by		Org.		Date
3. Relinquished by		Date		6. Relinquished by		Org.		Date
3. Received by		Date		6. Received by		Org.		Date

Original To Accompany Samples, Laboratory Copy (White) 1st Copy To Accompany Samples, Return to SMO (Blue) 2nd Copy SMO Suspense Copy (Yellow) 3rd Copy Field Copy (Pink)

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	Isotope	Value	Uncertainty
5/15/2009	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 0533-0 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.

May 15, 2009 515109
 T. Aders
 007509

1375



National Institute of Standards & Technology Certificate

Standard Reference Material 4334H Plutonium-242 Radioactivity Standard

This Standard Reference Material (SRM) consists of radioactive plutonium-242 nitrate and nitric acid dissolved in 5 mL of distilled water. The solution is contained in a flame-sealed NIST borosilicate-glass ampoule. The SRM is intended for the calibration of alpha-particle counting instruments and for the monitoring of radiochemical procedures.

Radiological Hazard: The SRM ampoule contains plutonium-242 with a total activity of approximately 150 Bq. Plutonium-242 decays by alpha-particle emission. None of the alpha particles escape from the SRM ampoule. During the decay process, X-rays and gamma rays with energies from 10 keV to 160 keV are also emitted. Most of these photons escape from the SRM ampoule but their intensities are so small that they do not represent a radiation hazard. Approximate unshielded dose rates at several distances (as of the reference time) are given in note [a]*. The SRM should be used only by persons qualified to handle radioactive material.

Chemical Hazard: The SRM ampoule contains nitric acid (HNO_3) with a concentration of 3 moles per liter of water. The solution is corrosive and represents a health hazard if it comes in contact with eyes or skin. If the ampoule is to be opened to transfer the solution, the recommended procedure is given on page 2. The ampoule should be opened only by persons qualified to handle both radioactive material and strong acid solution.

Storage and Handling: The SRM should be stored and used at a temperature between 5 °C and 65 °C. The solution in an unopened ampoule should remain stable and homogeneous until at least January 2015. The ampoule (or any subsequent container) should always be clearly marked as containing radioactive material. If the ampoule is transported it should be packed, marked, labeled, and shipped in accordance with the applicable national, international, and carrier regulations. The solution in the ampoule is a dangerous good (hazardous material) both because of the radioactivity and because of the strong acid.

Preparation: This Standard Reference Material was prepared in the Physics Laboratory, Ionizing Radiation Division, Radioactivity Group, M.P. Unterweger, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED
2/2/07

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 HNO ₃ ²⁴² Pu ⁺⁶	50 3.2 8 × 10 ⁻⁷	0.81 0.19 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 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 , $u_i(y) = |\partial y / \partial x_i| \cdot u(x_i)$, called a **component of combined standard uncertainty** of y . The **combined standard uncertainty** of y , $u_c(y)$, is the positive square root of the sum of the squares of the components of combined standard uncertainty. The combined standard uncertainty is multiplied by a **coverage factor** of $k=2$ to obtain U , the **expanded uncertainty** of y .

Since it can be assumed that the possible estimated values of the massic activity are approximately normally distributed with approximate standard deviation $u_c(y)$, the unknown value of the massic activity is believed to lie in the interval $y \pm U$ with a level of confidence of approximately 95 percent.

For further information on the expression of uncertainties, see references [2] and [3].

- [e] The value of each component of combined standard uncertainty, and hence the value of the expanded uncertainty itself, is a best estimate based upon all available information, but is only approximately known. That is to say, the "uncertainty of the uncertainty" is large and not well known. This is true for uncertainties evaluated by statistical methods (e.g., the relative standard deviation of the standard deviation of the mean for the massic response is approximately 50%) and for uncertainties evaluated by other methods (which could easily be over estimated or under estimated by substantial amounts). The unknown value of the expanded uncertainty is believed to lie in the interval $U/2$ to $2U$ (i.e., within a factor of 2 of the estimated value).
- [f] The stated uncertainty is two times the standard uncertainty.
- [g] Estimated limits of detection for alpha-particle-emitting impurities, expressed as massic alpha-particle emission rates (numbers of alpha particles per second per gram), are:
 $0.003 \text{ s}^{-1}\text{g}^{-1}$ for energies less than 3.1 MeV,
 $0.03 \text{ s}^{-1}\text{g}^{-1}$ for energies between 3.1 and 4.4 MeV, and
 $0.003 \text{ s}^{-1}\text{g}^{-1}$ 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:
 $5 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 19 and 39 keV,
 $7 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 49 and 92 keV,
 $2 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 106 and 507 keV,
 $1 \times 10^{-5} \text{ s}^{-1}\text{g}^{-1}$ for energies between 515 and 1456 keV, and
 $5 \times 10^{-6} \text{ s}^{-1}\text{g}^{-1}$ for energies between 1465 and 2750 keV,
provided that the photons are separated in energy by 4 keV or more from photons emitted in the decay of plutonium-242, plutonium-241, or americium-241.
- [j] The stated uncertainty is the standard uncertainty.
- [k] Relative standard uncertainty of the input quantity x_i .
- [m] The relative change in the output quantity y divided by the relative change in the input quantity x_i . If $|\partial y / \partial x_i| \cdot (x_i / y) = 1.0$, then a 1% change in x_i results in a 1% change in y . If $|\partial y / \partial x_i| \cdot (x_i / y) = 0.05$, then a 1% change in x_i results in a 0.05% change in y .
- [n] Relative component of combined standard uncertainty of output quantity y , rounded to two significant figures or less. The relative component of combined standard uncertainty of y is given by $u_c(y)/y = \sqrt{|\partial y / \partial x_i| \cdot u(x_i)/y} = \sqrt{|\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i}$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u_c(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of λt 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 $u_i(y) / y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.
- [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
-----------	----------	--------------	---------------	------	-------------	-------------------	-----------------

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.

Handwritten signature 1/12/10
Handwritten signature 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 4.18, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.18%
5.20453 grams 1M HNO₃ solution.

Source Prepared By: WLS
W. Mao, Radiochemist

QA Approved: DM Montgomery
D. M. Montgomery, QA Manager

Date: 12-11-08



Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1283	Isotope:	Uranium-232
Prepared By:	Daniel Roy	Prepared By:	Daniel Roy
Carrier Conc:	1M HNO3	Prep Date:	12/16/2008
Reference Date:	12/09/2008	Verification Date:	12/30/2008
Ampoule Mass (g):	5.20453 g	Expiration Date:	12/30/2009
Uncertainty:	+/- 5 %	Primary Code:	1283-A
LogBook No:	RC-S-051-002	Dilution(mL):	100 mL
		Mass of Parent(g):	5.0245 g
		Density(g/mL):	1.0285
		Balance ID:	

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
12/16/2008	Daniel Roy	25.1813	1000	1283-B	53.2375 dpm/ml	12/16/2008	12/16/2009
12/30/2008	Tina Schoneman	2.05	250	1283-C	17.336 dpm/mL	12/02/2009	12/02/2010
12/30/2008	Tina Schoneman	.49	250	1283-D	4.1438 dpm/mL	01/09/2009	01/09/2010
01/14/2009	Mary Aders	25.0528	1000	1283-E	52.9659 dpm/ml	01/15/2009	01/15/2010
12/02/2009	Julie Strock	2.076	250	1283-F	17.5561 dpm/mL	01/09/2009	12/30/2009
12/02/2009	Julie Strock	.517	250	1283-G	4.3721 dpm/mL	01/08/2010	12/02/2010
12/09/2009	Ashley Drochter	21.56	1000	1283-H	45.58 dpm/mL	12/09/2009	12/09/2010

Verification for Uranium-232 Standard 1283-H

Analyst: A. Drochter
Date: 12/10/09

Serial #	Value	Uncertainty
1283-H N1	2.020	pCi/L 0.238
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: 944038

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245107001	SAMPLE	MXR1	GAM13	01-FEB-10 11:26	DONE	CAN	02-FEB-09 00:00
245107002	SAMPLE	MXR1	GAM16	01-FEB-10 11:30	DONE	CAN	16-NOV-09 00:00
245107003	SAMPLE	MXR1	GAM18	01-FEB-10 12:37	DONE	CAN	23-APR-09 00:00
245107004	SAMPLE	MXR1	GAM19	01-FEB-10 12:38	DONE	CAN	12-MAR-09 00:00
245107005	SAMPLE	MXR1	GAM20	01-FEB-10 12:38	DONE	CAN	26-AUG-09 00:00
245107006	SAMPLE	MXR1	GAM21	01-FEB-10 12:38	DONE	CAN	28-JUL-09 00:00
245107007	SAMPLE	MXR1	GAM22	01-FEB-10 12:39	DONE	CAN	02-DEC-09 00:00
245107008	SAMPLE	MXR1	GAM23	01-FEB-10 12:39	DONE	CAN	02-JUN-09 00:00
245107009	SAMPLE	MXR1	GAM01	01-FEB-10 13:28	DONE	CAN	12-JAN-10 00:00
245107010	SAMPLE	MXR1	GAM02	01-FEB-10 13:28	DONE	CAN	29-OCT-09 00:00
245107011	SAMPLE	MXR1	GAM06	01-FEB-10 13:29	DONE	CAN	04-FEB-09 00:00
245107012	SAMPLE	MXR1	GAM07	01-FEB-10 13:29	DONE	CAN	20-JUL-09 00:00
245107013	SAMPLE	MXR1	GAM10	01-FEB-10 13:30	DONE	CAN	16-MAR-09 00:00
245107014	SAMPLE	MXR1	GAM12	01-FEB-10 13:30	DONE	CAN	10-FEB-09 00:00
245107015	SAMPLE	MXR1	GAM15	01-FEB-10 13:30	DONE	CAN	16-FEB-09 00:00
245107016	SAMPLE	MXR1	GAM04	01-FEB-10 13:33	DONE	CAN	05-MAY-09 00:00
1202021396	MB	MXR1	GAM13	01-FEB-10 13:34	DONE	CAN	02-FEB-09 00:00
1202021398	LCS	MXR1	GAM16	01-FEB-10 13:35	DONE	CAN	16-NOV-09 00:00
1202021397	DUP	MXR1	GAM17	01-FEB-10 13:47	DONE	CAN	06-JAN-10 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944922

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202023620	DUP	JXD2	1237	08-FEB-10 11:01	DONE		
245107001	SAMPLE	JXD2	1089	08-FEB-10 12:19	DONE		
245107002	SAMPLE	JXD2	1090	08-FEB-10 12:19	DONE		
245107003	SAMPLE	JXD2	1091	08-FEB-10 12:19	DONE		
245107004	SAMPLE	JXD2	1092	08-FEB-10 12:19	DONE		
245107005	SAMPLE	JXD2	1093	08-FEB-10 12:19	DONE		
245107006	SAMPLE	JXD2	1094	08-FEB-10 12:19	DONE		
245107007	SAMPLE	JXD2	1095	08-FEB-10 12:19	DONE		
245107008	SAMPLE	JXD2	1097	08-FEB-10 12:19	DONE		
245107009	SAMPLE	JXD2	1099	08-FEB-10 12:19	DONE		
245107010	SAMPLE	JXD2	1100	08-FEB-10 12:19	DONE		
245107011	SAMPLE	JXD2	1101	08-FEB-10 12:19	DONE		
245107012	SAMPLE	JXD2	1102	08-FEB-10 12:19	DONE		
245107013	SAMPLE	JXD2	1103	08-FEB-10 12:19	DONE		
245107014	SAMPLE	JXD2	1104	08-FEB-10 12:19	DONE		
245107015	SAMPLE	JXD2	1105	08-FEB-10 12:19	DONE		
245107016	SAMPLE	JXD2	1106	08-FEB-10 12:19	DONE		
1202023619	MB	JXD2	1107	08-FEB-10 12:19	DONE		
1202023621	LCS	JXD2	1108	08-FEB-10 12:19	DONE		
245107010	SAMPLE	JXD2	1227	10-FEB-10 14:05	DUSE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944928

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245107001	SAMPLE	JXD2	1221	06-FEB-10 12:20	DUSE		
245107002	SAMPLE	JXD2	1222	06-FEB-10 12:20	DUSE		
245107003	SAMPLE	JXD2	1224	06-FEB-10 12:20	DUSE		
245107004	SAMPLE	JXD2	1225	06-FEB-10 12:20	DUSE		
245107005	SAMPLE	JXD2	1226	06-FEB-10 12:20	DUSE		
245107006	SAMPLE	JXD2	1229	06-FEB-10 12:20	DUSE		
245107007	SAMPLE	JXD2	1230	06-FEB-10 12:20	DUSE		
245107008	SAMPLE	JXD2	1231	06-FEB-10 12:20	DUSE		
245107009	SAMPLE	JXD2	1232	06-FEB-10 12:20	DUSE		
245107010	SAMPLE	JXD2	1233	06-FEB-10 12:20	DUSE		
245107011	SAMPLE	JXD2	1234	06-FEB-10 12:20	DUSE		
245107012	SAMPLE	JXD2	1235	06-FEB-10 12:21	DUSE		
245107013	SAMPLE	JXD2	1236	06-FEB-10 12:21	DUSE		
245107014	SAMPLE	JXD2	1237	06-FEB-10 12:21	DUSE		
245107015	SAMPLE	JXD2	1238	06-FEB-10 12:21	DUSE		
245107016	SAMPLE	JXD2	1239	06-FEB-10 12:21	DUSE		
1202023622	MB	JXD2	1240	06-FEB-10 12:21	DUSE		
1202023623	DUP	JXD2	1241	06-FEB-10 12:21	DUSE		
1202023624	LCS	JXD2	1242	06-FEB-10 12:21	DUSE		
245107016	SAMPLE	JXD2	1210	09-FEB-10 11:41	DONE		
1202023622	MB	JXD2	1211	09-FEB-10 11:41	DONE		
245107001	SAMPLE	JXD2	1109	09-FEB-10 18:57	DONE		
245107002	SAMPLE	JXD2	1111	09-FEB-10 18:57	DONE		
245107003	SAMPLE	JXD2	1112	09-FEB-10 18:57	DONE		
245107004	SAMPLE	JXD2	1221	09-FEB-10 19:25	DONE		
245107005	SAMPLE	JXD2	1222	09-FEB-10 19:25	DONE		
245107006	SAMPLE	JXD2	1223	09-FEB-10 19:25	DONE		
245107007	SAMPLE	JXD2	1224	09-FEB-10 19:25	DONE		
245107008	SAMPLE	JXD2	1225	09-FEB-10 19:25	DONE		
245107009	SAMPLE	JXD2	1226	09-FEB-10 19:25	DONE		
245107010	SAMPLE	JXD2	1227	09-FEB-10 19:25	DONE		
245107011	SAMPLE	JXD2	1228	09-FEB-10 19:25	DONE		
245107012	SAMPLE	JXD2	1229	09-FEB-10 19:25	DONE		
245107013	SAMPLE	JXD2	1230	09-FEB-10 19:25	DONE		
245107014	SAMPLE	JXD2	1251	09-FEB-10 19:26	DONE		
245107015	SAMPLE	JXD2	1252	09-FEB-10 19:26	DONE		
1202023623	DUP	JXD2	1255	09-FEB-10 19:26	DONE		
1202023624	LCS	JXD2	1256	09-FEB-10 19:26	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 944930

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
1202023625	MB	JXD2	1001	08-FEB-10 11:55	DONE		
1202023626	DUP	JXD2	1161	09-FEB-10 11:26	DONE		
1202023627	LCS	JXD2	1162	09-FEB-10 11:26	DONE		
245107013	SAMPLE	JXD2	1117	09-FEB-10 14:35	DONE		
245107014	SAMPLE	JXD2	1118	09-FEB-10 14:35	DONE		
245107015	SAMPLE	JXD2	1119	09-FEB-10 14:35	DONE		
245107016	SAMPLE	JXD2	1120	09-FEB-10 14:35	DONE		
245107001	SAMPLE	JXD2	1001	09-FEB-10 14:39	DONE		
245107002	SAMPLE	JXD2	1002	09-FEB-10 14:39	DONE		
245107003	SAMPLE	JXD2	1003	09-FEB-10 14:39	DONE		
245107004	SAMPLE	JXD2	1004	09-FEB-10 14:39	DONE		
245107005	SAMPLE	JXD2	1005	09-FEB-10 14:39	DONE		
245107006	SAMPLE	JXD2	1006	09-FEB-10 14:39	DONE		
245107007	SAMPLE	JXD2	1007	09-FEB-10 14:39	DONE		
245107008	SAMPLE	JXD2	1008	09-FEB-10 14:39	DONE		
245107009	SAMPLE	JXD2	1009	09-FEB-10 14:39	DONE		
245107010	SAMPLE	JXD2	1010	09-FEB-10 14:39	DONE		
245107011	SAMPLE	JXD2	1011	09-FEB-10 14:39	DONE		
245107012	SAMPLE	JXD2	1012	09-FEB-10 14:39	DONE		

Instrument Run Log

Instrument Type: LSC

Batch ID: 946394

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245107001	SAMPLE	KXK2	LSCGREEN	01-FEB-10 17:39	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107002	SAMPLE	KXK2	LSCGREEN	01-FEB-10 19:17	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107003	SAMPLE	KXK2	LSCGREEN	01-FEB-10 20:55	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107004	SAMPLE	KXK2	LSCGREEN	01-FEB-10 22:33	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107005	SAMPLE	KXK2	LSCGREEN	02-FEB-10 00:11	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107006	SAMPLE	KXK2	LSCGREEN	02-FEB-10 03:01	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107007	SAMPLE	KXK2	LSCGREEN	02-FEB-10 04:39	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107008	SAMPLE	KXK2	LSCGREEN	02-FEB-10 06:17	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107009	SAMPLE	KXK2	LSCGREEN	02-FEB-10 07:55	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107010	SAMPLE	KXK2	LSCGREEN	02-FEB-10 09:33	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107011	SAMPLE	KXK2	LSCGREEN	02-FEB-10 11:12	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107012	SAMPLE	KXK2	LSCGREEN	02-FEB-10 12:50	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107013	SAMPLE	KXK2	LSCGREEN	02-FEB-10 14:28	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107014	SAMPLE	KXK2	LSCGREEN	02-FEB-10 16:06	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107015	SAMPLE	KXK2	LSCGREEN	02-FEB-10 17:44	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
245107016	SAMPLE	KXK2	LSCGREEN	02-FEB-10 19:23	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
1202027110	MB	KXK2	LSCGREEN	02-FEB-10 21:01	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
1202027111	DUP	KXK2	LSCGREEN	02-FEB-10 22:39	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00
1202027112	LCS	KXK2	LSCGREEN	03-FEB-10 00:15	DONE	10mL DW/13mL Ecoscint Ultra	20-AUG-09 00:00