

Thursday, January 28, 2010

LOS ALAMOS
NATIONAL LABORATORY

ATTN: Valerie Davis

General Engineering Laboratories, Inc., Charleston, SC.

2040 Savage Rd

Charleston, SC 29407

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/28/2010

TURNAROUND/REPORT DUE: 2/27/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Not Required

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

[Handwritten Signature]

REQUEST NUMBER: 10-1475

These Samples are on:

LANL Request Number: 10-1475

Per Agreement Number: 126310011

Project Cost Code: MR3A05529E00

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:901.1	1	1	RE15-10-7952	R	1/26/2010	
	1	1	RE15-10-7953	R	1/26/2010	
	1	1	RE15-10-7954	R	1/26/2010	
	1	1	RE15-10-7955	R	1/26/2010	
	1	1	RE15-10-7956	R	1/26/2010	
	1	1	RE15-10-8058	R	1/26/2010	
	1	1	RE15-10-8059	R	1/26/2010	
	1	1	RE15-10-8060	R	1/26/2010	
EPA:906.0	1	1	RE15-10-7952	R	1/26/2010	

Thursday, January 28, 2010

REQUEST NUMBER: 10-1475

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
EPA:906.0						
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
HASL-300:AM-241						
		1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
HASL-300:ISOPU						
		1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
HASL-300:ISOU						
		1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	

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REQUEST NUMBER: 10-1475

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	

Final Page of REQUEST NUMBER 10-1475

Thursday, January 28, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1475

LOS ALAMOS

REQUEST NUMBER: 10-1475

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/27/2010

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
RE15-10-7954	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7954	1	POLY	H3	Ice	R
RE15-10-7956	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7956	1	POLY	H3	Ice	R
RE15-10-7955	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7955	1	POLY	H3	Ice	R
RE15-10-7953	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7953	1	POLY	H3	Ice	R
RE15-10-7952	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7952	1	POLY	H3	Ice	R
RE15-10-8060	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8060	1	POLY	H3	Ice	R
RE15-10-8058	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8058	1	POLY	H3	Ice	R
RE15-10-8059	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8059	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-7952

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA:	OBT3		ok
TIME COLLECTED (HH:MM)		1400		SUB-MEDIA:	TUFF 1		↓
PRS ID:	15-008(b)		ok	SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610745		↓	FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC		↓	FIELD PREP:	NA		↓
TOP DEPTH:	0		2.5	SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0		3.5	SCREEN/PORT DESC:			NA
FIELD MATRIX:	R		R	EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA				BOREHOLE DECLINATION:	NA		BOREHOLE DIRECTION: NA

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

SAMPLE DESC:

Pinkish gray, moist Tuff

SAMPLE COMMENTS:

Hit tuff at 1.5 ft

LOCATION DESC:

8b-65 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 16 dpm
Beta/Gamma = 1997 dpm

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

COLLECTED BY (PRINT)

REVIEWED BY (PRINT)

TL McFarland

R Saunders

RELINQUISHED BY (Printed Name) <i>Estevan Lujan</i> (Signature) <i>[Signature]</i>	Date/Time 1/27/10 09:16 AM	RECEIVED BY (Printed Name) <i>[Signature]</i> (Signature) <i>[Signature]</i>	Date/Time 1/27/10 938
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-7953

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA:	QBT3		A/H
TIME COLLECTED (HH:MM)		1457		SUB-MEDIA:	TUFF 1		NA
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	HA		ok
LOCATION ID:	15-610746	↓		FIELD QC TYPE:	NA		↓
LOCATION TYPE:	GENERIC	↓		FIELD PREP:	NA		↓
TOP DEPTH:	0	0.0		SAMPLE USAGE:	INV		↓
BOTTOM DEPTH:	0	0.8		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		WATER FLOWING: YES/NO/NA
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION:	NA	BOREHOLE DIRECTION:	NA		

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

SAMPLE DESC:

Brown sand

FD RE15-10-8060

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-46 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha = 22 dpm

Beta/Gamma = 170 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) <i>Estevan Lujan</i> (Signature) <i>[Signature]</i>	Date/Time 1/27/10 09:15 AM	RECEIVED BY (Printed Name) <i>[Signature]</i> (Signature) <i>[Signature]</i>	Date/Time 1/27/10 935
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-7954

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA: QBT3		Allh	
TIME COLLECTED (HH:MM)		1512		SUB-MEDIA: TUFF 1		NA	
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID:	15-610746	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP: NA		↓	
TOP DEPTH:	0	3.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	3.4		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC:

Gray tuff

SAMPLE COMMENTS:

NA

LOCATION DESC: 86-46 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = 33 dpm
Beta/Gamma = 3340 dpm

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

COLLECTED BY (PRINT)

TLMcFarland

REVIEWED BY (PRINT) R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujon (Signature) [Signature]	Date/Time 1/27/10 09:16 AM	RECEIVED BY (Printed Name) Sherrill Sherwood (Signature) [Signature]	Date/Time 1/27/10 0916
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-7955

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA: OBT3		ALLH	
TIME COLLECTED (HH:MM)		1515		SUB-MEDIA: TUFF1		NA	
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID:	15-610747	↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE:	GENERIC	↓		FIELD PREP: NA		↓	
TOP DEPTH:	0	0.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH:	0	0.5		SCREEN/PORT DESC:		NA	
FIELD MATRIX:	R	S		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES/NO/NA			
BOREHOLE: YES/NO/NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC: light brown silty sand with some tuff

SAMPLE COMMENTS:

NA

LOCATION DESC: 8b-35 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE NEG

Alpha = 5 dpm

Beta/Gamma = 4250 dpm

PID Ambient 0.0
Reading 8.9 ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

T MCFarlane

RELINQUISHED BY (Printed Name) Esteven Lujan (Signature) <i>E. Lujan</i>	Date/Time 1/27/10 09:16 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) <i>Sherri Sherwood</i>	Date/Time 1/27/10 0916
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-7956

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA: QBT3		OK	
TIME COLLECTED (HH:MM)		1530		SUB-MEDIA: TUFF 1		↓	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE: HA		ok	
LOCATION ID: 15-610747		↓		FIELD QC TYPE: NA		↓	
LOCATION TYPE: GENERIC		↓		FIELD PREP: NA		↓	
TOP DEPTH: 0		3.0		SAMPLE USAGE: INV		↓	
BOTTOM DEPTH: 0		3.7		SCREEN/PORT DESC:		NA	
FIELD MATRIX: R		R		EXCAVATED: YES (NO) / NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		WATER FLOWING: YES (NO) / NA			
BOREHOLE: YES (NO) / NA		BOREHOLE DECLINATION: NA		BOREHOLE DIRECTION: NA			

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

SAMPLE DESC: pinkish grey tuff, tuff fragments
FR RE15-10-8082

SAMPLE COMMENTS:
NA

LOCATION DESC: 8b-35 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

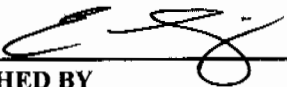
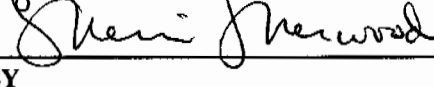
Alpha \leq 44 dpm
Beta/Gamma \leq 2910 dpm

PID $\frac{\text{Ambient } 0.0}{\text{Reading } 7.1}$ ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) Estwan Lujan (Signature) 	Date/Time 1/27/10 09:15 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature) 	Date/Time 1/27/10 0915
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8058

WORK ORDER:

AS PLANNED	AS COLLECTED	AS PLANNED	AS COLLECTED
DATE COLLECTED(MM/DD/YYYY):	01/26/2010	MEDIA:	QBT3
TIME COLLECTED (HH:MM)	1029	SUB-MEDIA:	TUFF1
PRS ID: 15-008(b)	OK	SAMPLE TECH CODE:	HA
LOCATION ID: UNK	↓	FIELD QC TYPE:	ED
LOCATION TYPE: GENERIC	✓	FIELD PREP:	NA
TOP DEPTH: 0	0.0	SAMPLE USAGE:	QC
BOTTOM DEPTH: 0	0.5	SCREEN/PORT DESC:	NA
FIELD MATRIX: R	S	EXCAVATED: YES/NO/NA	NA
COMPOSITE TYPE: NA	COMPOSITE TIME INTERVAL: NA	WATER FLOWING: YES/NO/NA	NA
BOREHOLE: YES/NO/NA	BOREHOLE DECLINATION: NA	BOREHOLE DIRECTION: NA	

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	normal	72m 1/26/10 8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1.11.10 LC	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE 15-10-7947
brown sandy silt, rocks, some roots, pine needles

SAMPLE COMMENTS:
NA

LOCATION DESC: 86-43 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 16 dpm
Beta/Gamma \leq 2360 dpm

HE NEG
PID Ambient 0.1
Reading 1.5 ppm

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT)

TLMcFarland

RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name) Esteban Lujan	1/27/10	(Printed Name)	1/27/10
(Signature)	09:21 AM	(Signature)	938
RELINQUISHED BY	Date/Time	RECEIVED BY	Date/Time
(Printed Name)		(Printed Name)	
(Signature)		(Signature)	

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8059

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA:	QBT3		OK
TIME COLLECTED (HH:MM)		1047		SUB-MEDIA:	TUFF 1		
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:	HA		
LOCATION ID:	UNK	15-610742		FIELD QC TYPE:	ED		
LOCATION TYPE:	GENERIC	OK		FIELD PREP:	NA		
TOP DEPTH:	0	2.5		SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0	3.5		SCREEN/PORT DESC:			NA
FIELD MATRIX:	R	R		EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
BOREHOLE: YES/NO/NA	NO			BOREHOLE DECLINATION:	NA		
				BOREHOLE DIRECTION:	NA		

#	PRIORITY	ORDER	CNTNR	PRESERVATIVE	COLLECTED Y/N	SPECIAL INSTRUCTIONS
1	Normal	72m 1/26/10 80827-NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 GAL POLY 1 liter 1.11.10 LC	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE15-10-7946

Gray tuff

SAMPLE COMMENTS:

Tuff at 2 ft

LOCATION DESC: 8b-41 mesa top edge

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha \leq 16 dpm
Beta/Gamma \leq 2670 dpm

PID $\frac{\text{Ambient } 0.1}{\text{Reading } 8.3}$ ppm

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) Estevan Lujan (Signature)	Date/Time 1/27/10 09:20 AM	RECEIVED BY (Printed Name) Sherri Sherwood (Signature)	Date/Time 1/27/10 0920
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8060

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA:		QBT3	
TIME COLLECTED (HH:MM)		1457		SUB-MEDIA:		TUFF 1	
PRS ID:	15-008(b)	OK		SAMPLE TECH CODE:		HA	
LOCATION ID:	UNK	15-610746		FIELD QC TYPE:		FD	
LOCATION TYPE:	GENERIC	OK		FIELD PREP:		NA	
TOP DEPTH:	0	0.0		SAMPLE USAGE:		QC	
BOTTOM DEPTH:	0	0.8		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	13m 1/26/10 8082+NMED-HEXP	250 ML AMBER GLASS	Ice	Y	
1		AM241+GS+ISO PU+ISOU	1 LITER POLY	None	Y	
1		H3	500 ML POLY	Ice	Y	
1		Met+U+CLO4+C N	1 LITER POLY 1 liter 1-11-10 LC	Ice	Y	
1		RADVANA+B+G	1 EA 8 IN RESEALABLE POLY BAG	None	Y	

SAMPLE DESC: QC Sample of RE15-10-7953

Brown sand

SAMPLE COMMENTS:

NA

LOCATION DESC:

8b-46 mesa top

FIELD SCREENING/MEASUREMENT RESULTS:

HE negative

Alpha \leq 22 dpm
Beta/Gamma \leq 7970 dpm

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

COLLECTED BY (PRINT)

TL McFarlane

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) <i>Estevan Lujan</i> (Signature) <i>[Signature]</i>	Date/Time 1/27/10 09:15 AM	RECEIVED BY (Printed Name) <i>[Signature]</i> (Signature) <i>[Signature]</i>	Date/Time 1/27/10 938
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8081

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA:		NA	
TIME COLLECTED (HH:MM)		1028		SUB-MEDIA:		OTHER	
PRS ID: 15-008(b)		ok		SAMPLE TECH CODE:		DC	
LOCATION ID: UNK		15- 610742		FIELD QC TYPE:		ER	
LOCATION TYPE: GENERIC		OK		FIELD PREP:		UF	
TOP DEPTH: 0		↓		SAMPLE USAGE:		QC	
BOTTOM DEPTH: 0		↓		SCREEN/PORT DESC:		NA	
FIELD MATRIX: W		W		EXCAVATED: YES (NO) NA			
COMPOSITE TYPE: NA		COMPOSITE TIME INTERVAL: NA		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	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1	↓	SW-846:6850	250 ML POLY	Ice	Y	
1	↓	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of

RE15-10-7945

Rinsate

SAMPLE COMMENTS: NA

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = $\frac{RS_{01-26-10}}{dpm}$
 Beta/Gamma = $\frac{dpm}{dpm}$

RS $\frac{01-26-10}{Ambient}$
 PID $\frac{Reading}{Reading} = ppm$

COLLECTED BY (PRINT)

R Saunders

REVIEWED BY (PRINT) TLMcFarland

RELINQUISHED BY (Printed Name) Eskovar Lujan (Signature)	Date/Time 1/27/10 09:19 AM	RECEIVED BY (Printed Name) Sheri Sherwood (Signature)	Date/Time 1/27/10 0919
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

SAMPLE COLLECTION LOG/FIELD CHAIN OF CUSTODY

EVENT ID: 2499

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

SAMPLE ID: RE15-10-8082

WORK ORDER:

AS PLANNED		AS COLLECTED		AS PLANNED		AS COLLECTED	
DATE COLLECTED(MM/DD/YYYY):		01/26/2010		MEDIA:	NA		ok
TIME COLLECTED (HH:MM)		1547		SUB-MEDIA:	OTHER		
PRS ID:	15-008(b)	ok		SAMPLE TECH CODE:	DC		
LOCATION ID:	UNK	15-610747		FIELD QC TYPE:	ER		
LOCATION TYPE:	GENERIC	ok		FIELD PREP:	UF		
TOP DEPTH:	0			SAMPLE USAGE:	QC		
BOTTOM DEPTH:	0			SCREEN/PORT DESC:			NA
FIELD MATRIX:	W			EXCAVATED: YES/NO/NA			
COMPOSITE TYPE:	NA			COMPOSITE TIME INTERVAL:	NA		
				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	METALS+U-GEL	1 LITER POLY	Nitric Acid	Y	
1	↓	SW-846:6850	250 ML POLY	Ice	Y	
1	↓	TCN	500 ML POLY	Sodium Hydroxide	Y	

SAMPLE DESC: QC Sample of RE15-10-7956

SAMPLE COMMENTS:

Rinsate

LOCATION DESC:

NA

FIELD SCREENING/MEASUREMENT RESULTS:

Alpha = dpm ^{12m 1/26/10}
 Beta/Gamma = dpm

PID ^{12m 1/26/10} $\frac{\text{Ambient Reading}}{\text{Reading}} = \text{ppm}$

COLLECTED BY (PRINT)

TL McFarland

REVIEWED BY (PRINT)

R Saunders

RELINQUISHED BY (Printed Name) <i>Estevan Lujan</i> (Signature) <i>E Lujan</i>	Date/Time 1/27/10 09:14A	RECEIVED BY (Printed Name) <i>Sherrin Sherwood</i> (Signature) <i>Sherrin Sherwood</i>	Date/Time 1/27/10 0914
RELINQUISHED BY (Printed Name) (Signature)	Date/Time	RECEIVED BY (Printed Name) (Signature)	Date/Time

Rad Screening Data Release Form

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

RE15-10-7890	RE15-10-7886	RE15-10-7948
" " 7889	" " 7885	" " 7947
" " 7956	" " 7882	" " 8058
" " 7953	" " 7881	" " 7950
" " 8060	" " 7941	
" " 7954	" " 7942	
" " 7955	" " 7943	
" " 7952	" " 7944	
" " 7951	" " 8059	
" " 7949	" " 7946	
	" " 7945	

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

.....


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

RE15-10-8082
RE15-10-8081

Reason: *Field Release*

.....

Print Last Name Lujan

Signature 

Date 1/27/10



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00026

Client Sample ID: RE15-10-7954

Sample Collection Date: 01/26/10 15:12

Sample Matrix: Soil/Solid

Request or PO Number:

ARS Sample ID: ARS2-10-00026-009

Date Received: 01/27/10 00:00

Report Date: 01/28/10 17:07

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Trace/Chem Recovery
GROSS ALPHA	109.48	47.65	36.02	49.50		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
GROSS BETA	103.84	21.78	17.51	25.22		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
NA-22	0.00	0.00	0.14	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
K-40	27.12	10.11	2.13	10.14		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CO-60	0.00	13.97	0.14	13.97		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-134	0.00	0.00	0.10	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	0.04	0.11	0.09	0.11		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
EU-152	1.18	0.83	0.16	0.83		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
PB-212	1.86	0.61	0.13	0.62		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
RA-228	2.92	1.45	0.37	1.46		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-235	0.09	157.74	0.35	157.74		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-238	20.50	6.40	2.05	7.93		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
AM-241	0.09	0.29	0.15	0.29		pCi/g	EPA 901.1M	1/27/2010	ME	N/A

NOTES: % Moisture: 0.64

[Signature]
 Quality Assurance Review

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

LELAP Certificate # 30658

NELAP Certificate # E97558



133 State Road 4, White Rock, NM 87544

505-872-2770 FAX 505-872-9534

ARS Sample Delivery Group: AR52-10-00026

Request or PO Number:

Client Sample ID: RE15-10-7955

ARS Sample ID: AR52-10-00026-010

Sample Collection Date: 01/26/10 15:15

Date Received: 01/27/10 00:00

Sample Matrix: Soil/Solid

Report Date: 01/28/10 12:07

Analysis Description	Analysis Results	Analysis Error +/- %	MDL	TPH	Qval	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	62.00	35.06	31.68	35.68		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
GROSS BETA	94.28	20.75	18.10	23.74		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
NA-22	0.00	0.00	0.09	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
K-40	21.17	7.18	1.39	7.21		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CO-60	0.00	9.13	0.09	9.13		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-134	0.16	0.16	0.07	0.16		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	0.24	0.25	0.09	0.25		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
EU-152	0.61	0.46	0.11	0.46		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
PB-212	1.05	0.45	0.17	0.45		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
RA-228	1.72	0.72	0.24	0.72		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-235	3.40	1.46	0.46	1.47		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-238	47.98	7.34	2.12	13.30		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
AM-241	0.04	0.25	0.15	0.25		pCi/g	EPA 901.1M	1/27/2010	ME	N/A

NOTES: % Moisture: 1.72

Matt J. Elder
Quality Assurance Review

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

LELAP Certificate # 30658

NELAP Certificate # E67558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: AR52-10-00026

Request or PO Number:

Client Sample ID: RE15-10-7956

ARS Sample ID: AR52-10-00026-011

Sample Collection Date: 01/26/10 15:30

Date Received: 01/27/10 00:00

Sample Matrix: Soil/Solid

Report Date: 01/28/10 12:07

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDC	TPU	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	91.15	42.42	30.56	43.87		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
GROSS BETA	83.97	21.62	19.68	23.94		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
NA-22	0.00	0.00	0.12	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
K-40	28.32	9.81	1.93	9.85		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	0.00	12.64	0.13	12.64		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-134	0.11	0.13	0.09	0.13		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	-0.01	16.54	0.08	16.54		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
EU-152	0.00	13.15	0.15	13.15		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
PB-212	1.71	0.55	0.11	0.56		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
RA-228	1.20	0.57	0.34	0.57		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-235	1.49	1.03	0.38	1.03		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-238	19.18	7.15	2.41	8.39		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
AM-241	0.61	0.84	0.20	0.54		pCi/g	EPA 901.1M	1/27/2010	ME	N/A

NOTES: % Moisture: 0.57

Matthew L. Edin
Quality Assurance Review

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

LELAP Certificate # 30658

NELAP Certificate # F87558



133 State Road 4, White Rock, NM 87544

505-672-2770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00026

Request or PO Number:

Client Sample ID: RE15-10-8060

ARS Sample ID: ARS2-10-00026-012

Sample Collection Date: 01/26/10 14:57

Date Received: 01/27/10 00:00

Sample Matrix: Soil/Solid

Report Date: 01/28/10 12:07

Analysis Description	Analysis Results	Analysis Error +/- 2 s	MDA	TPH	Chem	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	182.61	54.21	38.20	57.34		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
GROSS BETA	223.82	30.34	18.71	40.86		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
NA-22	0.00	0.00	0.07	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
K-40	21.72	6.49	1.13	6.93		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CO-60	0.00	7.37	0.07	7.37		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-134	0.26	0.17	0.05	0.17		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	0.13	0.15	0.05	0.15		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
EU-152	0.32	0.36	0.09	0.36		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
PB-212	0.62	0.36	0.16	0.36		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
RA-228	1.94	0.98	0.20	0.99		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-235	2.66	1.34	0.49	1.34		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-238	88.93	10.06	2.90	22.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
AM-241	0.69	0.70	0.31	0.70		pCi/g	EPA 901.1M	1/27/2010	ME	N/A

NOTES: % Moisture: 1.51

[Signature]
Quality Assurance Review

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

LELAP Certificate # 30658

NELAP Certificate # E87558



123 State Road 4, White Rock, NM 87544

505-672-1770 FAX 505-672-9534

ARS Sample Delivery Group: ARS2-10-00025

Request or PO Number:

Client Sample ID: RE15-10-8058

ARS Sample ID: ARS2-10-00025-014

Sample Collection Date: 01/26/10 10:29

Date Received: 01/27/10 00:00

Sample Matrix: Soil/Solid

Report Date: 01/28/10 09:24

Analysis Description	Analysis Results	Analysis Error +/- 2 s	Moist	PM10	PM2.5	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
GROSS ALPHA	182.13	58.02	31.78	62.15		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
GROSS BETA	154.91	25.46	18.25	32.55		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
NA-22	0.00	0.00	0.13	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
K-40	-1.75	2369.70	4.25	2369.70		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CO-60	0.08	0.16	0.13	0.16		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-134	0.10	0.11	0.09	0.11		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	0.08	0.42	0.08	0.42		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
EU-152	0.73	0.52	0.15	0.52		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
PB-212	1.07	0.45	0.33	0.45		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
RA-228	1.80	0.83	0.34	0.83		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-235	1.85	1.12	0.48	1.12		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-238	15.92	5.50	1.66	6.60		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
AM-241	0.44	0.33	0.11	0.33		pCi/g	EPA 901.1M	1/27/2010	ME	N/A

NOTES: % Moisture: 3.74

Matthew J. Eddy
Quality Assurance Review

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

LELAP Certificate # 30658

NELAP Certificate # EB7558



133 State Road 4, White Rock, NM 87544

905-672-2770 FAX 905-672-9534

ARS Sample Delivery Group: ARS2-10-00025

Request or PO Number:

Client Sample ID: RE15-10-8059

ARS Sample ID:

ARS2-10-00025-015

Sample Collection Date: 01/26/10 10:47

Date Received:

01/27/10 00:00

Sample Matrix: Soil/Solid

Report Date:

01/28/10 09:34

Analysis Description	Analysis Result	Analysis Error +/- 2 s	mnr	Ynet	Qual	Analysis Units	Analysis Test Method	Analysis Date/Time	Analysis Technician	Tracew/Chem Recovery
GROSS ALPHA	149.10	53.62	30.56	56.64		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
GROSS BETA	114.64	24.84	19.68	24.54		pCi/g	EPA 900.0M	1/28/2010	ME	N/A
NA-22	0.00	0.00	0.13	0.00		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
K-40	0.71	9.53	5.30	9.53		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CO-60	0.08	0.17	0.14	0.17		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-134	0.36	0.30	0.10	0.30		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
CS-137	0.02	0.12	0.11	0.12		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
EU-152	1.05	0.64	0.16	0.64		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
PB-212	1.21	0.53	0.17	0.54		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
RA-228	1.00	0.66	0.43	0.66		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-235	2.42	1.28	0.36	1.29		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
U-238	2.14	2.80	1.36	2.84		pCi/g	EPA 901.1M	1/27/2010	ME	N/A
AM-241	0.29	0.35	0.14	0.35		pCi/g	EPA 901.1M	1/27/2010	ME	N/A


NOTES: % Moisture: 0.83

Quality Assurance Review

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


LELAP Certificate# 30658


NELAP Certificate # E87558

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


Section I.			
REQUEST NUMBER: <u>10-1475</u>	VALIDATION DATE: <u>3/5/10</u>	LAB CODE: <u>GEL</u>	
CONTRACT LABORATORY NAME: <u>GEL Laboratories LLC</u>			
VALIDATOR: <u>Allison Felix</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"/> LCMSMS PERCHLORATES
<input type="checkbox"/> TPH-DRO	<input type="checkbox"/> METALS	<input type="checkbox"/> PCB CONGENERS	<input type="checkbox"/> ORGANOCHLORINE
<input type="checkbox"/> GENERAL CHEMISTRY	<input checked="" type="checkbox"/> RADIOCHEMISTRY	<input type="checkbox"/> LCMSMS HIGH EXPLOSIVES	<input type="checkbox"/> 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. Gamma spec results that were rejected by the laboratory due to interference, low abundance, or no valid peak were qualified R,R5a. The duplicate results for Am-241; Bi-211; Cs-134; Cd-109; Ra-224; Sr-85; and Th-227 were also rejected by the laboratory. The rejections occurred in a QC sample, thus, no sample results were qualified.							
2. Alpha spec analyte U-238 was detected in the MB associated with all samples <u>except</u> RE15-10-7956, -7953 and -8060. The alpha spec U-238 results for samples -7952 and -8059 were detects >5X but ≤50X the MB concentration and, thus, were qualified J,R4a. The alpha spec U-238 results for all other associated samples were detects >50X the MB concentration and, based on professional judgment, were not qualified.							
3. The duplicate for alpha spec isotopic U that was associated with samples -7956, -7953 and -8060 was performed on a LANL sample from another RN. It should be noted that an MS was not analyzed for tritium. However, an LCS was analyzed and passed acceptance criteria. Thus, no sample data were qualified.							
Reviewed by: <u>Mary Donovan</u>			Level: <u>I</u>		Date: <u>03/08/10</u>		
VALIDATOR'S SIGNATURE: <u>Allison Felix</u>				DATE: <u>3/5/10</u>			


DATA VALIDATION COVER SHEET	
5119-1 Data Validation Cover Sheet	Records Use only  Los Alamos NATIONAL LABORATORY EST. 1945
Form 5119-1, Revision 0.0	LOS ALAMOS Environmental Restoration Project

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

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

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

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

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

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

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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 23, 2010

Client Sample ID: RE15-10-7954
Sample ID: 245808001
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 5.84%

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	-0.000204	0.0258	+/-0.00229	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00111	0.0181	+/-0.00367	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	0.00443	0.0136	+/-0.00351	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		5.10	0.126	+/-0.405	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236		0.499	0.0803	+/-0.0669	0.100	pCi/g						
Uranium-238		27.9	0.086	+/-2.07	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.124	0.271	+/-0.0807	0.200	pCi/g		RXF2	02/11/10	2226	947554	5
Bismuth-211	UI	3.71	R,R5a 0.178	+/-0.179		pCi/g						
Bismuth-214		1.07	0.0641	+/-0.0584	0.200	pCi/g						
Cadmium-109	UI	4.21	R,R5a 0.885	+/-0.473		pCi/g						
Cerium-139	U	-0.000924	0.0286	+/-0.00934	0.050	pCi/g						
Cesium-134	UI	0.086	R,R5a 0.0526	+/-0.0227	0.100	pCi/g						
Cesium-137	U	-0.0144	0.0375	+/-0.0119	0.100	pCi/g						
Cobalt-60	U	-0.000189	0.0353	+/-0.0105	0.100	pCi/g						
Europium-152	U	0.00256	0.0879	+/-0.0261	0.200	pCi/g						
Lanthanum-140	U	-0.0504	0.0715	+/-0.0241		pCi/g						
Lead-212		1.63	0.0505	+/-0.0724	0.100	pCi/g						
Lead-214		1.29	0.062	+/-0.0707	0.100	pCi/g						
Mercury-203	U	0.0169	0.0387	+/-0.0121	0.100	pCi/g						
Potassium-40		32.9	0.256	+/-1.28	1.00	pCi/g						
Protactinium-234m		31.5	4.24	+/-2.79		pCi/g						
Radium-223	U	-0.0779	0.585	+/-0.192		pCi/g						
Radium-224	UI	4.27	R,R5a 0.574	+/-0.379		pCi/g						
Radium-226		1.07	0.0641	+/-0.0584		pCi/g						
Radium-228		1.56	0.119	+/-0.125	0.500	pCi/g						
Ruthenium-106	U	0.106	0.301	+/-0.0891	0.800	pCi/g						
Sodium-22	U	0.0144	0.0434	+/-0.0125	0.080	pCi/g						

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7954
Sample ID: 245808001

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>											
Strontium-85	UI	0.0532	R,R5a	0.0355	+/-0.0108	pCi/g					
Thallium-208		0.496		0.031	+/-0.0285	pCi/g	0.080				
Thorium-227	U	0.233		0.365	+/-0.114	pCi/g					
Thorium-231	U	-0.0779		0.585	+/-0.192	pCi/g					
Thorium-234		24.4		1.99	+/-2.63	pCi/g	2.00				
Tin-113	U	-0.00103		0.0396	+/-0.0115	pCi/g	0.100				
Uranium-235		0.418		0.201	+/-0.0979	pCi/g	0.500				
Yttrium-88	U	0.0122		0.0293	+/-0.00828	pCi/g	0.100				
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		79900		197	+/-5620	pCi/L	250	KXK2	02/09/10 0937	948404	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	59.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.3	(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

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 Contact: Ms. Joylene Valdez
 Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7956
 Sample ID: 245808002
 Matrix: R
 Collect Date: 26-JAN-10
 Receive Date: 29-JAN-10
 Collector: Client
 Moisture: 6.14%

Project: LANL01004
 Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00181	0.0192	+/-0.00148	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00656	0.0179	+/-0.00559	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	0.00437	0.0134	+/-0.0041	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		7.74	0.429	+/-0.695	0.100	pCi/g		AYB1	02/22/10	1242	954559	4
Uranium-235/236		0.736	0.274	+/-0.137	0.100	pCi/g						
Uranium-238		35.0	0.293	+/-2.78	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0773	0.089	+/-0.0272	0.200	pCi/g		RXF2	02/11/10	2226	947554	6
Bismuth-211	UI	3.78	R,R5a	0.224	+/-0.230	pCi/g						
Bismuth-214		1.23		0.0806	+/-0.0888	pCi/g						
Cadmium-109	UI	3.87	R,R5a	0.776	+/-0.358	pCi/g						
Cerium-139	U	0.00512		0.0318	+/-0.0104	pCi/g						
Cesium-134	UI	0.121	R,R5a	0.0729	+/-0.0266	pCi/g						
Cesium-137	U	0.0196		0.0513	+/-0.019	pCi/g						
Cobalt-60	U	-0.0167		0.0462	+/-0.0143	pCi/g						
Europium-152	U	-0.00892		0.102	+/-0.0308	pCi/g						
Lanthanum-140	U	0.0476		0.107	+/-0.0341	pCi/g						
Lead-212		1.63		0.0578	+/-0.0895	pCi/g						
Lead-214		1.32		0.0766	+/-0.0871	pCi/g						
Mercury-203	U	0.0306		0.0465	+/-0.0144	pCi/g						
Potassium-40		30.5		0.383	+/-1.49	pCi/g						
Protactinium-234m		37.3		5.51	+/-4.21	pCi/g						
Radium-223	U	0.390		0.734	+/-0.233	pCi/g						
Radium-224	UI	4.52	R,R5a	0.658	+/-0.429	pCi/g						
Radium-226		1.23		0.0806	+/-0.0888	pCi/g						
Radium-228		1.50		0.158	+/-0.146	pCi/g						
Ruthenium-106	U	0.00643		0.392	+/-0.119	pCi/g						
Sodium-22	U	-0.0309		0.0523	+/-0.0175	pCi/g						
Strontium-85	UI	0.0603	R,R5a	0.0466	+/-0.0144	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID:
Sample ID:

RE15-10-7956
245808002

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		0.553	0.0431	+/-0.0378	0.080	pCi/g						
Thorium-227	U	0.0178	0.399	+/-0.136		pCi/g						
Thorium-231	U	0.390	0.734	+/-0.233		pCi/g						
Thorium-234		26.3	0.796	+/-2.50	2.00	pCi/g						
Tin-113	U	-0.0325	0.0485	+/-0.0149	0.100	pCi/g						
Uranium-235		0.561	0.230	+/-0.113	0.500	pCi/g						
Yttrium-88	U	-0.00405	0.0424	+/-0.0133	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1.22E+05	239	+/-8570	250	pCi/L		KXK2	02/09/10	1000	948404	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, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7955
Sample ID: 245808003
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-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	0.00884	0.017	+/-0.00346	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00123	0.0201	+/-0.00325	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.0307	0.0151	+/-0.0068	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		7.34	0.166	+/-0.599	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236		0.822	0.106	+/-0.104	0.100	pCi/g						
Uranium-238		31.6	0.113	+/-2.45	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.186	0.268	+/-0.0809	0.200	pCi/g		RXF2	02/11/10	2227	947554	5
Bismuth-211	UI	3.08	R,R5a	0.160	+/-0.142	pCi/g						
Bismuth-214		0.896		0.0518	+/-0.0547	0.200	pCi/g					
Cadmium-109	UI	2.59	R,R5a	1.05	+/-0.424	pCi/g						
Cerium-139	U	0.0062		0.0287	+/-0.009	0.050	pCi/g					
Cesium-134	UI	0.069	R,R5a	0.0404	+/-0.0165	0.100	pCi/g					
Cesium-137		0.180		0.0295	+/-0.0173	0.100	pCi/g					
Cobalt-60	U	0.00104		0.0276	+/-0.00833	0.100	pCi/g					
Europium-152	U	-0.0191		0.0758	+/-0.0249	0.200	pCi/g					
Lanthanum-140	U	0.0397		0.0624	+/-0.0201	pCi/g						
Lead-212		1.26		0.0453	+/-0.051	0.100	pCi/g					
Lead-214		1.07		0.054	+/-0.0568	0.100	pCi/g					
Mercury-203	U	0.0231		0.0349	+/-0.0113	0.100	pCi/g					
Potassium-40		26.9		0.192	+/-1.09	1.00	pCi/g					
Protactinium-234m		95.6		3.13	+/-5.74	pCi/g						
Radium-223	U	0.313		0.515	+/-0.171	pCi/g						
Radium-224	UI	4.02	R,R5a	0.515	+/-0.328	pCi/g						
Radium-226		0.896		0.0518	+/-0.0547	pCi/g						
Radium-228		1.30		0.0905	+/-0.104	0.500	pCi/g					
Ruthenium-106	U	-0.081		0.229	+/-0.0707	0.800	pCi/g					
Sodium-22	U	-0.00575		0.0291	+/-0.0089	0.080	pCi/g					
Strontium-85	UI	0.0824	R,R5a	0.0336	+/-0.0103	pCi/g						

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Certificate of Analysis

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7955
Sample ID: 245808003

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		0.409	0.0266	+/-0.0245	0.080	pCi/g						
Thorium-227	UI	0.425	R,R5a 0.341	+/-0.112		pCi/g						
Thorium-231	U	0.313	0.515	+/-0.171		pCi/g						
Thorium-234		67.6	1.98	+/-6.08	2.00	pCi/g						
Tin-113	U	-0.00121	0.035	+/-0.0101	0.100	pCi/g						
Uranium-235		1.19	0.207	+/-0.134	0.500	pCi/g						
Yttrium-88	U	-0.00816	0.0227	+/-0.00726	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	1.89E+05	296	+/-13300	250	pCi/L	KXK2	02/09/10	1017	948404	6
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	53.9	(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

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7953
Sample ID: 245808004
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 14.1%

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	0.00966		0.0183	+/-0.00338	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>													
Plutonium-238	U	-0.0021		0.0171	+/-0.00257	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.0576		0.0129	+/-0.00903	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>													
Uranium-233/234		43.4		0.658	+/-3.66	0.100	pCi/g		AYB1	02/22/10	1242	954559	4
Uranium-235/236		6.57		0.419	+/-0.703	0.100	pCi/g						
Uranium-238		291		0.449	+/-23.7	0.100	pCi/g						
Rad Gamma Spec Analysis													
<i>GAMMA SPEC "Dry Weight Corrected"</i>													
Americium-241	UI	1.13	R,R5a	0.384	+/-0.122	0.200	pCi/g		RXF2	02/11/10	2227	947554	6
Bismuth-211	UI	2.35	R,R5a	0.214	+/-0.141		pCi/g						
Bismuth-214		0.730		0.069	+/-0.0535	0.200	pCi/g						
Cadmium-109	UI	3.97	R,R5a	1.88	+/-0.654		pCi/g						
Cerium-139	UI	0.0606	▼	0.045	+/-0.0142	0.050	pCi/g						
Cesium-134	UI	0.0813		0.0527	+/-0.0245	0.100	pCi/g						
Cesium-137		0.114		0.0394	+/-0.0179	0.100	pCi/g						
Cobalt-60	U	0.00823		0.0305	+/-0.00879	0.100	pCi/g						
Europium-152	U	-0.0199		0.107	+/-0.0398	0.200	pCi/g						
Lanthanum-140	U	0.00942		0.0634	+/-0.0217		pCi/g						
Lead-212		0.914		0.0644	+/-0.0433	0.100	pCi/g						
Lead-214		0.816		0.0746	+/-0.0533	0.100	pCi/g						
Mercury-203	U	0.0254		0.0475	+/-0.013	0.100	pCi/g						
Potassium-40		22.3		0.224	+/-0.918	1.00	pCi/g						
Protactinium-234m		227		3.71	+/-11.4		pCi/g						
Radium-223	U	-0.691		0.708	+/-0.214		pCi/g						
Radium-224	UI	2.38	R,R5a	0.732	+/-0.346		pCi/g						
Radium-226		0.730		0.069	+/-0.0535		pCi/g						
Radium-228		0.981		0.108	+/-0.0873	0.500	pCi/g						
Ruthenium-106	U	0.0433		0.326	+/-0.0947	0.800	pCi/g						
Sodium-22	U	-0.0102		0.0335	+/-0.0102	0.080	pCi/g						
Strontium-85	UI	0.054	R,R5a	0.0407	+/-0.0126		pCi/g						

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7953
Sample ID: 245808004

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		0.320	0.0361	+/-0.0254	0.080	pCi/g					
Thorium-227	UI	1.54	R,R5a 0.534	+/-0.206		pCi/g					
Thorium-231	U	-0.691	0.708	+/-0.214		pCi/g					
Thorium-234		159	2.88	+/-14.0	2.00	pCi/g					
Tin-113	U	-0.0161	0.0474	+/-0.0137	0.100	pCi/g					
Uranium-235		2.74	0.312	+/-0.261	0.500	pCi/g					
Yttrium-88	U	0.012	0.0252	+/-0.00797	0.100	pCi/g					

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	4.46E+05	478	+/-31300	250	pCi/L	KXK2	02/09/10	1029	948404	7
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	104	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	65.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7952
Sample ID: 245808005
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 6.69%

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	0.000181	0.0158	+/-0.000996	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0036	0.0196	+/-0.00209	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	0.0024	0.0148	+/-0.0038	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.634	0.097	+/-0.067	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236	U	0.038	0.0618	+/-0.0153	0.100	pCi/g						
Uranium-238		0.872	J,R4a	0.0662	+/-0.0848	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0521	0.383	+/-0.118	0.200	pCi/g		RXF2	02/12/10	1657	947554	5
Bismuth-211	UI	3.63	R,R5a	0.307	+/-0.257	pCi/g						
Bismuth-214		1.00		0.104	+/-0.0787	0.200	pCi/g					
Cadmium-109	UI	3.29	R,R5a	1.28	+/-0.592	pCi/g						
Cerium-139	U	0.0106		0.048	+/-0.0141	0.050	pCi/g					
Cesium-134	UI	0.104	R,R5a	0.0854	+/-0.0319	0.100	pCi/g					
Cesium-137	U	-0.0142		0.0576	+/-0.0174	0.100	pCi/g					
Cobalt-60	U	0.0019		0.0678	+/-0.0202	0.100	pCi/g					
Europium-152	U	-0.0696		0.149	+/-0.0494	0.200	pCi/g					
Lanthanum-140	U	0.0306		0.123	+/-0.0396	pCi/g						
Lead-212		1.67		0.0889	+/-0.0823	0.100	pCi/g					
Lead-214		1.26		0.107	+/-0.0954	0.100	pCi/g					
Mercury-203	U	0.000269		0.0652	+/-0.0188	0.100	pCi/g					
Potassium-40		35.9		0.490	+/-1.81	1.00	pCi/g					
Radium-223	U	-1.05		0.928	+/-0.313	pCi/g						
Radium-224	UI	4.58	R,R5a	1.01	+/-0.529	pCi/g						
Radium-226		1.00		0.104	+/-0.0787	pCi/g						
Radium-228		1.55		0.219	+/-0.186	0.500	pCi/g					
Ruthenium-106	U	0.189		0.508	+/-0.142	0.800	pCi/g					
Sodium-22	U	-0.0352		0.0701	+/-0.0226	0.080	pCi/g					
Strontium-85	U	0.0361		0.0585	+/-0.0186	pCi/g						
Thallium-208		0.483		0.0585	+/-0.041	0.080	pCi/g					

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID:
Sample ID:

RE15-10-7952
245808005

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	-0.0531	0.583	+/-0.168		pCi/g						
Thorium-231	U	-1.05	0.928	+/-0.313		pCi/g						
Thorium-234	UI	3.49	R,R5a	+/-1.12	2.00	pCi/g						
Tin-113	U	-0.00559	0.0715	+/-0.0213	0.100	pCi/g						
Uranium-235	U	0.0934	0.356	+/-0.105	0.500	pCi/g						
Yttrium-88	U	0.0103	0.0498	+/-0.0143	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		335	157	+/-62.0	250	pCi/L		KXK2	02/09/10	1035	948404	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	87.9	(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

AMF
3/5/10

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-8060
Sample ID: 245808006
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 14.6%

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	0.0153	0.0171	+/-0.00442	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00321	0.0175	+/-0.0024	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.0631	0.0131	+/-0.00892	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		34.6	0.566	+/-2.86	0.100	pCi/g		AYB1	02/22/10	1242	954559	4
Uranium-235/236		4.69	0.361	+/-0.516	0.100	pCi/g						
Uranium-238		234	0.387	+/-18.5	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.243	0.462	+/-0.139	0.200	pCi/g		RXF2	02/12/10	1658	947554	6
Bismuth-211	UI	2.05	R,R5a	0.333	+/-0.224	pCi/g						
Bismuth-214		0.769		0.0964	+/-0.0786	pCi/g						
Cadmium-109	U	-2.23		2.75	+/-0.894	pCi/g						
Cerium-139	U	-0.0108		0.0619	+/-0.0192	pCi/g						
Cesium-134	U	0.0303		0.0846	+/-0.0246	pCi/g						
Cesium-137		0.162		0.0595	+/-0.0299	pCi/g						
Cobalt-60	U	-0.00421		0.0445	+/-0.0138	pCi/g						
Europium-152	U	-0.00641		0.157	+/-0.0468	pCi/g						
Lanthanum-140	U	0.000436		0.104	+/-0.0309	pCi/g						
Lead-212		0.963		0.0909	+/-0.0796	pCi/g						
Lead-214		0.714		0.116	+/-0.0802	pCi/g						
Mercury-203	U	0.00891		0.072	+/-0.0207	pCi/g						
Potassium-40		22.1		0.463	+/-1.17	pCi/g						
Protactinium-234m		242		6.47	+/-14.8	pCi/g						
Radium-223	U	0.514		1.09	+/-0.313	pCi/g						
Radium-224	UI	2.77	R,R5a	1.03	+/-0.523	pCi/g						
Radium-226		0.769		0.0964	+/-0.0786	pCi/g						
Radium-228		1.17		0.169	+/-0.128	pCi/g						
Ruthenium-106	U	0.171		0.545	+/-0.155	pCi/g						
Sodium-22	U	0.00728		0.060	+/-0.0178	pCi/g						
Strontium-85	U	0.0402		0.0618	+/-0.0169	pCi/g						

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Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID:
Sample ID:

RE15-10-8060
245808006

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		0.338	0.0525	+/-0.0412	0.080	pCi/g						
Thorium-227	U	0.267	0.722	+/-0.228		pCi/g						
Thorium-231	U	0.514	1.09	+/-0.313		pCi/g						
Thorium-234		166	3.48	+/-14.7	2.00	pCi/g						
Tin-113	U	0.0162	0.0749	+/-0.0206	0.100	pCi/g						
Uranium-235		2.96	0.449	+/-0.344	0.500	pCi/g						
Yttrium-88	U	-0.027	0.0417	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		3.98E+05	444	+/-28000	250	pCi/L		KXK2	02/09/10	1118	948404	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, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.5	(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

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Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-8058
Sample ID: 245808007
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 35.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241		0.0222	0.0159	+/-0.00527	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00119	0.0194	+/-0.00206	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.051	0.0146	+/-0.00853	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		5.37	0.126	+/-0.425	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236		0.526	0.0805	+/-0.0693	0.100	pCi/g						
Uranium-238		24.3	0.0862	+/-1.80	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.344	0.505	+/-0.165	0.200	pCi/g		RXF2	02/12/10	1700	947554	5
Bismuth-211	UI	4.40	R,R5a	0.453	+/-0.329	pCi/g						
Bismuth-214		1.27		0.142	+/-0.120	pCi/g						
Cadmium-109	UI	3.82	R,R5a	1.98	+/-0.863	pCi/g						
Cerium-139	U	-0.0331	0.0665	+/-0.0214	0.050	pCi/g						
Cesium-134	U	0.0612	0.113	+/-0.0314	0.100	pCi/g						
Cesium-137		0.896	0.0876	+/-0.0685	0.100	pCi/g						
Cobalt-60	U	0.0127	0.0846	+/-0.0254	0.100	pCi/g						
Europium-152	U	0.199	0.230	+/-0.101	0.200	pCi/g						
Lanthanum-140	U	-0.101	0.172	+/-0.061	pCi/g							
Lead-212		1.61	0.121	+/-0.0893	0.100	pCi/g						
Lead-214		1.53	0.148	+/-0.121	0.100	pCi/g						
Mercury-203	U	-0.0267	0.0953	+/-0.029	0.100	pCi/g						
Potassium-40		22.5	0.490	+/-1.27	1.00	pCi/g						
Protactinium-234m		36.1	8.47	+/-5.29	pCi/g							
Radium-223	U	-1.29	1.43	+/-0.476	pCi/g							
Radium-224	UI	4.12	R,R5a	1.38	+/-0.865	pCi/g						
Radium-226		1.27	0.142	+/-0.120	pCi/g							
Radium-228		1.59	0.244	+/-0.200	0.500	pCi/g						
Ruthenium-106	U	-0.027	0.677	+/-0.211	0.800	pCi/g						
Sodium-22	U	-0.00812	0.0972	+/-0.0305	0.080	pCi/g						
Strontium-85	U	0.0833	0.093	+/-0.029	pCi/g							

AMF
3/5/10

GEL LABORATORIES LLC

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

Certificate of Analysis

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-8058
Sample ID: 245808007

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		0.459	0.0797	+/-0.0594	0.080	pCi/g					
Thorium-227	U	0.085	0.870	+/-0.271		pCi/g					
Thorium-231	U	-1.29	1.43	+/-0.476		pCi/g					
Thorium-234		22.8	3.75	+/-2.87	2.00	pCi/g					
Tin-113	U	0.00626	0.107	+/-0.032	0.100	pCi/g					
Uranium-235		0.870	0.472	+/-0.237	0.500	pCi/g					
Yttrium-88	U	-0.0438	0.044	+/-0.0198	0.100	pCi/g					
Rad Liquid Scintillation Analysis											
<i>H3 "As Received"</i>											
Tritium		4860	159	+/-370	250	pCi/L		KXK2	02/09/10	1124 948404	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	97.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

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

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 23, 2010

Client Sample ID: RE15-10-8059
 Sample ID: 245808008
 Matrix: R
 Collect Date: 26-JAN-10
 Receive Date: 29-JAN-10
 Collector: Client
 Moisture: 7.28%

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	0.00729	0.0181	+/-0.00291	0.050	pCi/g		AYB1	02/20/10	1458	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00322	0.0175	+/-0.00186	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	-1.28E-10	0.0132	+/-0.00152	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.638	0.162	+/-0.0801	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236	U	0.0238	0.103	+/-0.0139	0.100	pCi/g						
Uranium-238		0.957	J,R4a	0.111	+/-0.107	0.100	pCi/g					
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0527	0.517	+/-0.149	0.200	pCi/g		RXF2	02/12/10	1737	947554	5
Bismuth-211	UI	3.58	R,R5a	0.408	+/-0.322	pCi/g						
Bismuth-214		0.987		0.148	+/-0.105	0.200	pCi/g					
Cadmium-109	UI	3.32	R,R5a	2.03	+/-0.947	pCi/g						
Cerium-139	U	0.0237		0.063	+/-0.0184	0.050	pCi/g					
Cesium-134	UI	0.146	R,R5a	0.103	+/-0.034	0.100	pCi/g					
Cesium-137	U	0.00527		0.0783	+/-0.0232	0.100	pCi/g					
Cobalt-60	U	-0.0246		0.0719	+/-0.0239	0.100	pCi/g					
Europium-152	U	0.0311		0.204	+/-0.0722	0.200	pCi/g					
Lanthanum-140	U	-0.0255		0.147	+/-0.0554	pCi/g						
Lead-212		1.61		0.114	+/-0.116	0.100	pCi/g					
Lead-214		1.25		0.152	+/-0.117	0.100	pCi/g					
Mercury-203	U	0.0891		0.0994	+/-0.0274	0.100	pCi/g					
Potassium-40		34.6		0.618	+/-1.99	1.00	pCi/g					
Radium-223	U	-0.648		1.43	+/-0.441	pCi/g						
Radium-224	UI	4.67	R,R5a	1.30	+/-0.806	pCi/g						
Radium-226		0.987		0.148	+/-0.105	pCi/g						
Radium-228		1.50		0.256	+/-0.178	0.500	pCi/g					
Ruthenium-106	U	0.106		0.642	+/-0.192	0.800	pCi/g					
Sodium-22	U	-0.0114		0.0875	+/-0.0276	0.080	pCi/g					
Strontium-85	UI	0.117	R,R5a	0.0914	+/-0.0274	pCi/g						
Thallium-208		0.533		0.0689	+/-0.0524	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 23, 2010

Client Sample ID:
Sample ID:

RE15-10-8059
245808008

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	-0.382	0.783	+/-0.239		pCi/g						
Thorium-231	U	-0.648	1.43	+/-0.441		pCi/g						
Thorium-234	U	0.849	4.08	+/-1.16	2.00	pCi/g						
Tin-113	U	-0.0307	0.0904	+/-0.0278	0.100	pCi/g						
Uranium-235	U	0.0349	0.477	+/-0.142	0.500	pCi/g						
Yttrium-88	U	0.0266	0.0665	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		744	161	+/-88.7	250	pCi/L		KXK2	02/09/10	1207	948404	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	54.0	(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

Thursday, January 28, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1475

LOS ALAMOS

REQUEST NUMBER: 10-1475

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/27/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

245808%.

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7954	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7954	1	POLY	H3	Ice	R
RE15-10-7956	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7956	1	POLY	H3	Ice	R
RE15-10-7955	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7955	1	POLY	H3	Ice	R
RE15-10-7953	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7953	1	POLY	H3	Ice	R
RE15-10-7952	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7952	1	POLY	H3	Ice	R
RE15-10-8060	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8060	1	POLY	H3	Ice	R
RE15-10-8058	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8058	1	POLY	H3	Ice	R
RE15-10-8059	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8059	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Thursday, January 28, 2010
LOS ALAMOS
NATIONAL LABORATORY

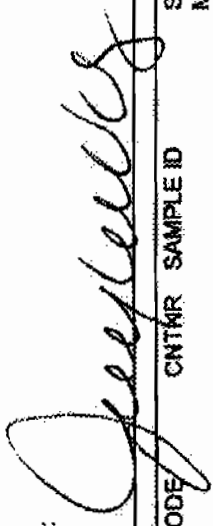
These Samples are on:
LANL Request Number: 10-1475
Per Agreement Number: 126310011
Project Cost Code: MR3A05529ED0

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

Please analyse the enclosed samples
according to the schedule indicated:

SHIP DATE: 1/28/2010
TURNAROUND/REPORT DUE: 2/27/2010
TURNAROUND REQ'D: 30 Days

RAD SCREENING: Not Required
LAB REQUEST COMMENTS:

LANL ERM SMO CONTACT:
Signature: 

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-901.1	1	RE15-10-7952	R	1/28/2010	
		1	RE15-10-7953	R	1/28/2010	
		1	RE15-10-7954	R	1/28/2010	
		1	RE15-10-7955	R	1/28/2010	
		1	RE15-10-7956	R	1/28/2010	
		1	RE15-10-8058	R	1/28/2010	
		1	RE15-10-8059	R	1/28/2010	
		1	RE15-10-8060	R	1/28/2010	
	EPA-906.0	1	RE15-10-7952	R	1/28/2010	

Thursday, January 28, 2010

Page 2 of 3

REQUEST NUMBER: 10-1475

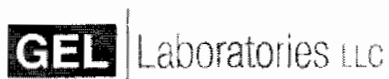
PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-808.0	1	RE15-10-7953	R	1/28/2010	
		1	RE15-10-7954	R	1/28/2010	
		1	RE15-10-7955	R	1/28/2010	
		1	RE15-10-7956	R	1/28/2010	
		1	RE15-10-8058	R	1/28/2010	
		1	RE15-10-8059	R	1/28/2010	
		1	RE15-10-8060	R	1/28/2010	
	HASL-300:NM-241	1	RE15-10-7952	R	1/28/2010	
		1	RE15-10-7953	R	1/28/2010	
		1	RE15-10-7954	R	1/28/2010	
		1	RE15-10-7955	R	1/28/2010	
		1	RE15-10-7956	R	1/28/2010	
		1	RE15-10-8058	R	1/28/2010	
		1	RE15-10-8059	R	1/28/2010	
		1	RE15-10-8080	R	1/28/2010	
	HASL-300:ISOPU	1	RE15-10-7952	R	1/28/2010	
		1	RE15-10-7953	R	1/28/2010	
		1	RE15-10-7954	R	1/28/2010	
		1	RE15-10-7955	R	1/28/2010	
		1	RE15-10-7956	R	1/28/2010	
		1	RE15-10-8058	R	1/28/2010	
		1	RE15-10-8059	R	1/28/2010	
		1	RE15-10-8080	R	1/28/2010	
	HASL-300:ISOU	1	RE15-10-7952	R	1/28/2010	
		1	RE15-10-7953	R	1/28/2010	
		1	RE15-10-7954	R	1/28/2010	
		1	RE15-10-7955	R	1/28/2010	
		1	RE15-10-7956	R	1/28/2010	

REQUEST NUMBER: 10-1475

Thursday, January 28, 2010

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	

Final Page of REQUEST NUMBER 10-1475



a member of **The GEL Group** INC.



PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171 F 843.766.1178

February 04, 2010

www.gel.com

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

Re: LANL ER Project
Work Order: 245808
SDG: 10-1475

Dear Ms. Valdez:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the following analytical results for the sample(s) we received on January 29, 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: 10-1475
Enclosures

Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Work Order #: 245808
SDG: 10-1475

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Case Narrative

**Case Narrative for
Los Alamos National Laboratory (72733-001-09)
LANL ER Project
Workorder #: 245808
SDG # : 10-1475**

February 04, 2010

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on January 29, 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 10-12C 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>
245808001	RE15-10-7954
245808002	RE15-10-7956
245808003	RE15-10-7955
245808004	RE15-10-7953
245808005	RE15-10-7952
245808006	RE15-10-8060
245808007	RE15-10-8058
245808008	RE15-10-8059

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package The enclosed data package contains the following sections: Case Narrative, Chain of Custody, Cooler Receipt Checklist, Data Package Qualifier Definitions and data from the following fractions: Radiochemistry.

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



Valerie Davis
Project Manager

List of current GEL Certifications as of 04 February 2010

State	Certification
Arizona	AZ0668
Arkansas	88-0651
CLIA	42D0904046
California – NELAP	01151CA
Colorado	GEL
Connecticut	PH-0169
Dept. of Navy	NFESC 413
EPA Region 5	WG-15J
Florida – NELAP	E87156
Georgia	E87156 (FL/NELAP)
Georgia DW	967
Hawaii	N/A
ISO 17025	2567.01
Idaho	SC00012
Illinois – NELAP	200029
Indiana	C-SC-01
Kansas – NELAP	E-10332
Kentucky	90129
Louisiana – NELAP	03046
Maryland	270
Massachusetts	M-SC012
Nevada	SC00012
New Jersey – NELAP	SC002
New Mexico	FL NELAP E87156
New York – NELAP	11501
North Carolina	233
North Carolina DW	45709
Oklahoma	9904
Pennsylvania – NELAP	68-00485
South Carolina	10120001/10120002
Tennessee	TN 02934
Texas – NELAP	T104704235-07B-TX
U.S. Dept. of Agriculture	S-52597
Utah – NELAP	GEL
Vermont	VT87156
Virginia	00151
Washington	C1641

Chain of Custody and Supporting Documentation

Thursday, January 28, 2010

LAB CHAIN OF CUSTODY DOCUMENT NUMBER: 10-1475

LOS ALAMOS

REQUEST NUMBER: 10-1475

NATIONAL LABORATORY

ATTN: Valerie Davis

TURNAROUND/REPORT DUE: 2/27/2010

General Engineering Laboratories, Inc.,
Charleston, SC.

TURNAROUND REQ'D: 30

2040 Savage Rd

Charleston, SC 29407

LAB REQUEST COMMENTS:

245808%

SAMPLE ID	CTNR	CTNR DESC	ORDER	PRESERV	MATRIX
RE15-10-7954	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7954	1	POLY	H3	Ice	R
RE15-10-7956	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7956	1	POLY	H3	Ice	R
RE15-10-7955	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7955	1	POLY	H3	Ice	R
RE15-10-7953	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7953	1	POLY	H3	Ice	R
RE15-10-7952	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-7952	1	POLY	H3	Ice	R
RE15-10-8060	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8060	1	POLY	H3	Ice	R
RE15-10-8058	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8058	1	POLY	H3	Ice	R
RE15-10-8059	1	POLY	AM241+GS+ISOPU+ISO U	None	R
RE15-10-8059	1	POLY	H3	Ice	R

Relinquished By:

Date

Time

Received By:

Date

Time

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Printed Name

Signature

Received for DISPOSAL By:

Date

Time

Remarks:

Printed Name

Signature

Thursday, January 28, 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:10-1475

Per Agreement Number:126310011

Project Cost Code: MR3A05529E00

Please analyse the enclosed samples according to the schedule indicated:

SHIP DATE: 1/28/2010

TURNAROUND/REPORT DUE: 2/27/2010

TURNAROUND REQ'D: 30 Days

RAD SCREENING: Not Required

LAB REQUEST COMMENTS:

LANL ER SMO CONTACT:

Signature:

PRIORITY	METHOD CODE	CNTR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA:901.1	1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
	EPA:906.0	1	RE15-10-7952	R	1/26/2010	

Thursday, January 28, 2010

Page 2 of 3

REQUEST NUMBER: 10-1475

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	EPA-906.0	1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
	HASL-300:AM-241	1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
	HASL-300:ISOPU	1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	
		1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	
	HASL-300:ISOU	1	RE15-10-7952	R	1/26/2010	
		1	RE15-10-7953	R	1/26/2010	
		1	RE15-10-7954	R	1/26/2010	
		1	RE15-10-7955	R	1/26/2010	
		1	RE15-10-7956	R	1/26/2010	

Thursday, January 28, 2010

Page 3 of 3

REQUEST NUMBER: 10-1475

PRIORITY	METHOD CODE	CNTNR	SAMPLE ID	SAMPLE MATRIX	DATE SAMPLED	SPECIAL INSTRUCTIONS
	HASL-300:ISOU	1	RE15-10-8058	R	1/26/2010	
		1	RE15-10-8059	R	1/26/2010	
		1	RE15-10-8060	R	1/26/2010	

Final Page of REQUEST NUMBER 10-1475



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: LANL			SDG/ARCOC/Work Order: 10-1475		
Received By: Patricia Dover-Dent			Date Received: January 29, 2009		
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*: 60 CPM	
Classified Radioactive II by RSO?			X		
COC/Samples marked containing PCBs?			X		
Shipped as a DOT Hazardous?			X	Hazard Class Shipped: UN#:	
Samples identified as Foreign Soil?			X		

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

Comments: FEDEX#S

7209 7849 7419 11C	7209 7849 7522 6C
7209 7849 7500 5C	7209 7849 7533 1C
7209 7849 7452 2C	7209 7849 7544 1C
7209 7849 7474 1C	7209 7849 7420 10C
7209 7849 7441 4C	7209 7849 7496 2C
7209 7849 7463 3C	7209 7849 7485 3C
7209 7849 7430 10C	7209 7849 7408 12C
7209 7849 7511 6C	

ORIGIN ID: SAFA (505) 665-9868
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T880 BLDG 1237 DPU 03
LOS ALAMOS NM 87845
UNITED STATES US
BILL SENDER

SHIP DATE: 28JAN10
ACTWGT: 50.0 LB MGN
CRD: 0014176/CAFE2449

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR2005158YD0



FRI - 29JAN A1
PRIORITY OVERNIGHT

3 of 3
NPS# 7209 7849 7419
Master 7209 7849 7393 0201

XX CHSA

29407
SC-US
CHS



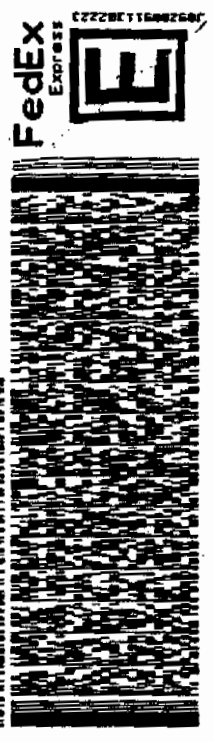
ORIGIN ID: SAFA (505) 665-9338
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T880 BLDG 1237 DPU 03
LOS ALAMOS NM 87845
UNITED STATES US
BILL SENDER

SHIP DATE: 28JAN10
ACTWGT: 50.0 LB MGN
CRD: 0014176/CAFE2449

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR100159GK0



FRI - 29JAN A1
PRIORITY OVERNIGHT

1 of 2
TRK# 7209 7849 7500
Master 7209 7849 7500

XX CHSA

29407
SC-US
CHS



SHIP DATE: 28 JAN 80
ACTWGT: 53.0 LB
CRD: 0014176/CAFE2449

BILL SENDER

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

LOS ALAMOS, NM 87546
UNITED STATES US

VALERIE DAVIS

GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR1A015AGWKO

FedEx
Express



FRI - 29 JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

2 of 2
NPS# 7209 7849 7474
Matr-N 7209 7849 7463 0201

XX CHSA



SHIP DATE: 28 JAN 80
ACTWGT: 47.0 LB
CRD: 0014176/CAFE2449

BILL SENDER

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

LOS ALAMOS, NM 87546
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 556-8171
REF: 68010AMR3A03529E00

FedEx
Express



FRI - 29 JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

TRK# 7209 7849 7452
0201

XX CHSA





ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T800 BLDG 1237 DPU 03

SHIP DATE: 28JAN10
ACTWT: 52.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

LOS ALAMOS, NM 87645
UNITED STATES US

VALERIE DAVIS

GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 856-8171
REF: 680100NR3003520ED0

FedEx
Express



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FRI - 29 JAN A1
PRIORITY OVERNIGHT

1 of 2

TRK# 7209 7849 7430

(9201)

MR MASTER MM

29407

SC-US
CHS

XX CHSA



Part # 156148-434 NRT V3 04-09

ORIGIN ID: SAFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T800 BLDG 1237 DPU 03

SHIP DATE: 28JAN10
ACTWT: 50.0 LB MAN
CRD: 0014176/CAFE2449

BILL SENDER

LOS ALAMOS, NM 87645
UNITED STATES US

VALERIE DAVIS

GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 856-8171
REF: 680100NR100150GUK0

FedEx
Express



0222001100223

FRI - 29 JAN A1
PRIORITY OVERNIGHT

2 of 2

TRK# 7209 7849 7511

(9263)

Matr# 7209 7849 7500 (0201)

29407

SC-US
CHS

XX CHSA



Part # 156148-434 NRT V3 04-09

ORIGIN ID: SAFA (605) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
7600 BLDG-3237 CPU 03
LOS ALAMOS, NM 87545
UNITED STATES US

SHIP DATE: 28JAN10
ACTWT: 54.0 LB NRM
CRD: 0014176/CRFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407

(843) 595-8171
REF: 680104R1001500NKO



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Express



FRI - 29JAN A1
PRIORITY OVERNIGHT

7209 7849 7522

29407

XX CHSA

SC-US
CHS



Part # 150148-434 NRIT V3 04-08

FZ

RT 238

Page 15 of 87

ORIGIN ID: SARA (505) 665-5968
 JOYLENE VALDEZ
 LOS ALAMOS NATL LAB
 TAGO BLDG 1237 DPU 03

SHIP DATE: 28 JAN 10
 ACTUAT: 50.0 LB. MAN
 CAD: 0614176/CAFE2449

BILL SENDER

LOS ALAMOS, NM 87545
 UNITED STATES US

VALERIE DAVIS
 GENERAL ENGINEERING LAB
 2840 SAVAGE RD

CHARLESTON SC 29407

(843) 566-8171

REF: 69010000001503590

FedEx



FRI - 29 JAN A1
 PRIORITY OVERNIGHT

TRK# 7209 7849 7533
 0201

29407
 SC-US
 CHS

XX CHSA



Part # 156148-434 NRT V3 04-0

ORIGIN ID: SARA (505) 665-5968

JOYLENE VALDEZ
 LOS ALAMOS NATL LAB
 TAGO BLDG 1237 DPU 03

LOS ALAMOS, NM 87545
 UNITED STATES US

VALERIE DAVIS
 GENERAL ENGINEERING LAB
 2840 SAVAGE RD

CHARLESTON SC 29407

(843) 566-8171

REF: 690100X49A008500000

FedEx



FRI - 29 JAN A1
 PRIORITY OVERNIGHT

TRK# 7209 7849 7544
 0201

29407
 SC-US
 CHS

XX CHSA



Part # 156148-434 NRT V3 04-0

RT 238

FZ

7544
 01.29

ORIGIN ID: SOFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T860 BLDG 1237 DPU 03

SHIP DATE: 28 JAN 10
ACTNCT: 51 8 LB MON
CAD: 6014176/CRFE2449

BILL SENDER
LOS ALAMOS NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 856-8171
REF: 680100MR1A015AGMKO

FedEx
Express



FRI - 29 JAN A1
PRIORITY OVERNIGHT

2 of 2
TRK# 7209 7849 7496

Met# 7209 7849 7485 0201

29407
SC-US
CHS

XX CHSA



Part # 156148-434 MRIT V3 04-00

SHIP DATE: 28 JAN 10
ACTNCT: 51 8 LB MON
CAD: 6014176/CRFE2449

ORIGIN ID: SOFA (505) 665-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
T860 BLDG 1237 DPU 03

BILL SENDER
LOS ALAMOS NM 87545
UNITED STATES US

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 856-8171
REF: 680100MR2A0515BYDO

FedEx
Express



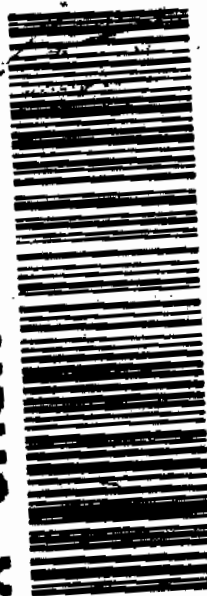
FRI - 29 JAN A1
PRIORITY OVERNIGHT

TRK# 7209 7849 7420

29407

SC-US
CHS

XX CHSA



Part # 156148-434 MRIT V3 04-00

ORIGIN ID: 5067 646-9968
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DRU 83
LOS ALAMOS NM 87645
UNITED STATES US

SHIP DATE: 28JAN10
ACTWGT: 48.0 LB MAN
CPO: 6014176/SAFE2449

BILL SENDER

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD

CHARLESTON SC 29407
(843) 556-8171
REF: 680160WR100159GMR0

FedEx
Express



FRI - 29JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

1 of 2
TRACK 7209 7849 7485
0263
NON MASTER NM

XX CHSA



Print # 158148-434 NMRT V3 04-00

ORIGIN ID: 5067 601 605-1066
JOYLENE VALDEZ
LOS ALAMOS NATL LAB
TAGS BLDG 1237 DRU 83
LOS ALAMOS NM 87645
UNITED STATES US

SHIP DATE: 28JAN10
ACTWGT: 48.0 LB MAN
CPO: 6014176/SAFE2449

VALERIE DAVIS
GENERAL ENGINEERING LAB
2040 SAVAGE RD
CHARLESTON SC 29407

CHARLESTON SC 29407
(843) 556-8171
REF: 680160WR100159GMR0

FedEx
Express



FRI - 29JAN A1
PRIORITY OVERNIGHT

29407
SC-US
CHS

1 of 3
TRACK 7209 7849 7485
0263
NON MASTER NM

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Print # 158148-434 NMRT V3 04-00

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 10-1475**

Method/Analysis Information

Product: AM241
Analytical Method: DOE EML HASL-300, Am-05-RC Modified
Prep Method: Dry Soil Prep
Analytical Batch Number: 954558
Prep Batch Number: 947375

Sample ID	Client ID
245808001	RE15-10-7954
245808002	RE15-10-7956
245808003	RE15-10-7955
245808004	RE15-10-7953
245808005	RE15-10-7952
245808006	RE15-10-8060
245808007	RE15-10-8058
245808008	RE15-10-8059
1202046259	Method Blank (MB)
1202046260	245808002(RE15-10-7956) Sample Duplicate (DUP)
1202046261	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 1202046259 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245808002 (RE15-10-7956). The QC was from LANL work order 245808.

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 reprepared due to low carrier/tracer yield.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The 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:	950408
Prep Batch Number:	947375

Sample ID	Client ID
245808001	RE15-10-7954
245808002	RE15-10-7956
245808003	RE15-10-7955
245808004	RE15-10-7953
245808005	RE15-10-7952
245808006	RE15-10-8060
245808007	RE15-10-8058
245808008	RE15-10-8059
1202036746	Method Blank (MB)
1202036747	245808001(RE15-10-7954) Sample Duplicate (DUP)
1202036748	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 1202036746 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245808001 (RE15-10-7954). The QC was from LANL work order 245808.

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:	ISOU
Analytical Method:	DOE EML HASL-300, U-02-RC Modified
Prep Method:	Dry Soil Prep
Analytical Batch Number:	950409
Prep Batch Number:	947375

Sample ID	Client ID
245808001	RE15-10-7954
245808003	RE15-10-7955
245808005	RE15-10-7952
245808007	RE15-10-8058
245808008	RE15-10-8059
1202036749	Method Blank (MB)
1202036750	245808001(RE15-10-7954) Sample Duplicate (DUP)
1202036751	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 1202036749 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 245808001 (RE15-10-7954). The QC was from LANL work order 245808.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U-233/234 blank result is greater than 1.65 times the CSU but less than the MDC. The U-238 blank result is greater than 1.65 times the CSU but the sample results are greater than 5 times the blank result.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Sample 1202036749 (MB) was recounted due to a suspected blank false positive.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population.

Blank Decision Level

The U-238 blank result is greater than the decision level but the sample results are greater than 5 times the blank result.

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: 954559
Prep Batch Number: 947375

Sample ID	Client ID
245808002	RE15-10-7956
245808004	RE15-10-7953
245808006	RE15-10-8060
1202046263	Method Blank (MB)
1202046264	246271002(RE16-10-1311) Sample Duplicate (DUP)
1202046265	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 1202046263 (MB) was changed to 1.0 per client request.

Designated QC

The following sample was used for QC: 246271002 (RE16-10-1311). The QC was from LANL work order 246271.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The U238 blank result is greater than 1.65 times the CSU but less than the MDC.

Technical Information:

Holding Time

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

Sample Re-prep/Re-analysis

Samples 245808002 (RE15-10-7956), 245808004 (RE15-10-7953) and 245808006 (RE15-10-8060) were reprepared with reduced aliquot size to reduce the effects of tailing from high levels of U238 in the samples.

Miscellaneous Information:

Data Exception (DER) Documentation

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

Manual Integration

No manual integrations were performed on data in this batch.

Additional Comments

The MDCs are calculated using a blank population. Sample, 1202046263 (MB), did not meet the client tracer yield requirements, however it is less than 110 percent and does meet the GEL standard tracer yield requirements.

Blank Decision Level

The U238 blank result is greater than the decision level but less than the MDC.

Qualifier information

Manual qualifiers were not required.

Method/Analysis Information

Product:	GAMMA SPEC
Analytical Method:	DOE HASL 300, 4.5.2.3/Ga-01-R
Prep Method:	Dry Soil Prep
Analytical Batch Number:	947554
Prep Batch Number:	947375

Sample ID	Client ID
245808001	RE15-10-7954
245808002	RE15-10-7956
245808003	RE15-10-7955
245808004	RE15-10-7953
245808005	RE15-10-7952
245808006	RE15-10-8060
245808007	RE15-10-8058
245808008	RE15-10-8059

1202029817	Method Blank (MB)
1202029818	245808006(RE15-10-8060) Sample Duplicate (DUP)
1202029819	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, August 2009, November 2009, December 2009, January 2010 and February 2010.

Standards Information

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

Sample Geometry

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

Quality Control (QC) Information:

Blank Information

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

Designated QC

The following sample was used for QC: 245808006 (RE15-10-8060). The QC was from LANL work order 245808.

QC Information

All of the QC samples met the required acceptance limits.

CSU

The blank result is greater than 1.65 times the CSU but less than the MDC for Co-60. 1202029817 (MB).

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

Pa-234m was positively identified and added to samples 1202029818 (RE15-10-8060), 245808001

(RE15-10-7954), 245808002 (RE15-10-7956), 245808003 (RE15-10-7955), 245808004 (RE15-10-7953), 245808006 (RE15-10-8060) and 245808007 (RE15-10-8058).

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 high peak-width.	Cadmium-109	245808008	RE15-10-8059
UI	Data rejected due to interference.	Bismuth-211	245808001	RE15-10-7954
			245808002	RE15-10-7956
			245808003	RE15-10-7955
			245808004	RE15-10-7953
			245808005	RE15-10-7952
			245808006	RE15-10-8060
			245808007	RE15-10-8058
			245808008	RE15-10-8059
			1202029818	RE15-10-8060(245808006DUP)
		Cadmium-109	245808001	RE15-10-7954
			245808002	RE15-10-7956
			245808003	RE15-10-7955
			245808004	RE15-10-7953
			245808005	RE15-10-7952
			245808007	RE15-10-8058
		Radium-224	245808001	RE15-10-7954
			245808002	RE15-10-7956
			245808003	RE15-10-7955
			245808004	RE15-10-7953
			245808005	RE15-10-7952
			245808006	RE15-10-8060
			245808007	RE15-10-8058
			245808008	RE15-10-8059
			1202029818	RE15-10-8060(245808006DUP)

UI	Data rejected due to low abundance.	Americium-241	245808004	RE15-10-7953
			1202029818	RE15-10-8060(245808006DUP)
		Cerium-139	245808004	RE15-10-7953
			245808001	RE15-10-7954
		Cesium-134	245808002	RE15-10-7956
			245808003	RE15-10-7955
			245808004	RE15-10-7953
			245808005	RE15-10-7952
			245808008	RE15-10-8059
			1202029818	RE15-10-8060(245808006DUP)
		Strontium-85	245808001	RE15-10-7954
			245808002	RE15-10-7956
			245808003	RE15-10-7955
			245808004	RE15-10-7953
			245808008	RE15-10-8059
			1202029818	RE15-10-8060(245808006DUP)
		Thorium-227	245808003	RE15-10-7955
			245808004	RE15-10-7953
			1202029818	RE15-10-8060(245808006DUP)
			245808005	RE15-10-7952
		Thorium-234	245808005	RE15-10-7952

Method/Analysis Information

Product: H3
Analytical Method: GL-RAD-A-002
Analytical Batch Number: 948404

Sample ID	Client ID
245808001	RE15-10-7954
245808002	RE15-10-7956
245808003	RE15-10-7955
245808004	RE15-10-7953
245808005	RE15-10-7952

245808006	RE15-10-8060
245808007	RE15-10-8058
245808008	RE15-10-8059
1202031688	Method Blank (MB)
1202031689	245808003(RE15-10-7955) Sample Duplicate (DUP)
1202031690	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 July 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: 245808003 (RE15-10-7955). The QC was from LANL work order 245808.

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:_____

 2/28/16

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: 10-1475 GEL Work Order: 245808

The Qualifiers in this report are defined as follows:

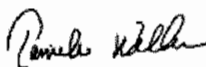
- * Indicates that a quality control analyte recovery is outside of specified acceptance criteria.
- ** Indicates the analyte is a surrogate compound.

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

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

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

Reviewed by



GEL LABORATORIES LLC

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Certificate of Analysis

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7954
Sample ID: 245808001
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 5.84%

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	-0.000204	0.0258	+/-0.00229	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00111	0.0181	+/-0.00367	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	0.00443	0.0136	+/-0.00351	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		5.10	0.126	+/-0.405	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236		0.499	0.0803	+/-0.0669	0.100	pCi/g						
Uranium-238		27.9	0.086	+/-2.07	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.124	0.271	+/-0.0807	0.200	pCi/g		RXF2	02/11/10	2226	947554	5
Bismuth-211	UI	3.71	0.178	+/-0.179		pCi/g						
Bismuth-214		1.07	0.0641	+/-0.0584	0.200	pCi/g						
Cadmium-109	UI	4.21	0.885	+/-0.473		pCi/g						
Cerium-139	U	-0.000924	0.0286	+/-0.00934	0.050	pCi/g						
Cesium-134	UI	0.086	0.0526	+/-0.0227	0.100	pCi/g						
Cesium-137	U	-0.0144	0.0375	+/-0.0119	0.100	pCi/g						
Cobalt-60	U	-0.000189	0.0353	+/-0.0105	0.100	pCi/g						
Europium-152	U	0.00256	0.0879	+/-0.0261	0.200	pCi/g						
Lanthanum-140	U	-0.0504	0.0715	+/-0.0241		pCi/g						
Lead-212		1.63	0.0505	+/-0.0724	0.100	pCi/g						
Lead-214		1.29	0.062	+/-0.0707	0.100	pCi/g						
Mercury-203	U	0.0169	0.0387	+/-0.0121	0.100	pCi/g						
Potassium-40		32.9	0.256	+/-1.28	1.00	pCi/g						
Protactinium-234m		31.5	4.24	+/-2.79		pCi/g						
Radium-223	U	-0.0779	0.585	+/-0.192		pCi/g						
Radium-224	UI	4.27	0.574	+/-0.379		pCi/g						
Radium-226		1.07	0.0641	+/-0.0584		pCi/g						
Radium-228		1.56	0.119	+/-0.125	0.500	pCi/g						
Ruthenium-106	U	0.106	0.301	+/-0.0891	0.800	pCi/g						
Sodium-22	U	0.0144	0.0434	+/-0.0125	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 23, 2010

Client Sample ID: RE15-10-7954
Sample ID: 245808001

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Strontium-85	UI	0.0532	0.0355	+/-0.0108		pCi/g					
Thallium-208		0.496	0.031	+/-0.0285	0.080	pCi/g					
Thorium-227	U	0.233	0.365	+/-0.114		pCi/g					
Thorium-231	U	-0.0779	0.585	+/-0.192		pCi/g					
Thorium-234		24.4	1.99	+/-2.63	2.00	pCi/g					
Tin-113	U	-0.00103	0.0396	+/-0.0115	0.100	pCi/g					
Uranium-235		0.418	0.201	+/-0.0979	0.500	pCi/g					
Yttrium-88	U	0.0122	0.0293	+/-0.00828	0.100	pCi/g					

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		79900	197	+/-5620	250	pCi/L	KXK2	02/09/10	0937	948404	6
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	59.9	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	96.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	68.3	(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

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7954
Sample ID: 245808001

Project: LANL01004
Client ID: LANL010

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

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7956
Sample ID: 245808002
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 6.14%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241	U	0.00181	0.0192	+/-0.00148	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00656	0.0179	+/-0.00559	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	0.00437	0.0134	+/-0.0041	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		7.74	0.429	+/-0.695	0.100	pCi/g		AYB1	02/22/10	1242	954559	4
Uranium-235/236		0.736	0.274	+/-0.137	0.100	pCi/g						
Uranium-238		35.0	0.293	+/-2.78	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0773	0.089	+/-0.0272	0.200	pCi/g		RXF2	02/11/10	2226	947554	6
Bismuth-211	UI	3.78	0.224	+/-0.230		pCi/g						
Bismuth-214		1.23	0.0806	+/-0.0888	0.200	pCi/g						
Cadmium-109	UI	3.87	0.776	+/-0.358		pCi/g						
Cerium-139	U	0.00512	0.0318	+/-0.0104	0.050	pCi/g						
Cesium-134	UI	0.121	0.0729	+/-0.0266	0.100	pCi/g						
Cesium-137	U	0.0196	0.0513	+/-0.019	0.100	pCi/g						
Cobalt-60	U	-0.0167	0.0462	+/-0.0143	0.100	pCi/g						
Europium-152	U	-0.00892	0.102	+/-0.0308	0.200	pCi/g						
Lanthanum-140	U	0.0476	0.107	+/-0.0341		pCi/g						
Lead-212		1.63	0.0578	+/-0.0895	0.100	pCi/g						
Lead-214		1.32	0.0766	+/-0.0871	0.100	pCi/g						
Mercury-203	U	0.0306	0.0465	+/-0.0144	0.100	pCi/g						
Potassium-40		30.5	0.383	+/-1.49	1.00	pCi/g						
Protactinium-234m		37.3	5.51	+/-4.21		pCi/g						
Radium-223	U	0.390	0.734	+/-0.233		pCi/g						
Radium-224	UI	4.52	0.658	+/-0.429		pCi/g						
Radium-226		1.23	0.0806	+/-0.0888		pCi/g						
Radium-228		1.50	0.158	+/-0.146	0.500	pCi/g						
Ruthenium-106	U	0.00643	0.392	+/-0.119	0.800	pCi/g						
Sodium-22	U	-0.0309	0.0523	+/-0.0175	0.080	pCi/g						
Strontium-85	UI	0.0603	0.0466	+/-0.0144		pCi/g						

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Certificate of Analysis

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-7956
Sample ID: 245808002

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		0.553	0.0431	+/-0.0378	0.080	pCi/g						
Thorium-227	U	0.0178	0.399	+/-0.136		pCi/g						
Thorium-231	U	0.390	0.734	+/-0.233		pCi/g						
Thorium-234		26.3	0.796	+/-2.50	2.00	pCi/g						
Tin-113	U	-0.0325	0.0485	+/-0.0149	0.100	pCi/g						
Uranium-235		0.561	0.230	+/-0.113	0.500	pCi/g						
Yttrium-88	U	-0.00405	0.0424	+/-0.0133	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		1.22E+05	239	+/-8570	250	pCi/L		KXK2	02/09/10	1000	948404	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, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	79.6	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	99.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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 23, 2010

Client Sample ID: RE15-10-7956
Sample ID: 245808002

Project: LANL01004
Client ID: LANL010

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

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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 23, 2010

Client Sample ID: RE15-10-7955
Sample ID: 245808003
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-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	0.00884	0.017	+/-0.00346	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00123	0.0201	+/-0.00325	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.0307	0.0151	+/-0.0068	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		7.34	0.166	+/-0.599	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236		0.822	0.106	+/-0.104	0.100	pCi/g						
Uranium-238		31.6	0.113	+/-2.45	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.186	0.268	+/-0.0809	0.200	pCi/g		RXF2	02/11/10	2227	947554	5
Bismuth-211	UI	3.08	0.160	+/-0.142		pCi/g						
Bismuth-214		0.896	0.0518	+/-0.0547	0.200	pCi/g						
Cadmium-109	UI	2.59	1.05	+/-0.424		pCi/g						
Cerium-139	U	0.0062	0.0287	+/-0.009	0.050	pCi/g						
Cesium-134	UI	0.069	0.0404	+/-0.0165	0.100	pCi/g						
Cesium-137		0.180	0.0295	+/-0.0173	0.100	pCi/g						
Cobalt-60	U	0.00104	0.0276	+/-0.00833	0.100	pCi/g						
Europium-152	U	-0.0191	0.0758	+/-0.0249	0.200	pCi/g						
Lanthanum-140	U	0.0397	0.0624	+/-0.0201		pCi/g						
Lead-212		1.26	0.0453	+/-0.051	0.100	pCi/g						
Lead-214		1.07	0.054	+/-0.0568	0.100	pCi/g						
Mercury-203	U	0.0231	0.0349	+/-0.0113	0.100	pCi/g						
Potassium-40		26.9	0.192	+/-1.09	1.00	pCi/g						
Protactinium-234m		95.6	3.13	+/-5.74		pCi/g						
Radium-223	U	0.313	0.515	+/-0.171		pCi/g						
Radium-224	UI	4.02	0.515	+/-0.328		pCi/g						
Radium-226		0.896	0.0518	+/-0.0547		pCi/g						
Radium-228		1.30	0.0905	+/-0.104	0.500	pCi/g						
Ruthenium-106	U	-0.081	0.229	+/-0.0707	0.800	pCi/g						
Sodium-22	U	-0.00575	0.0291	+/-0.0089	0.080	pCi/g						
Strontium-85	UI	0.0824	0.0336	+/-0.0103		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 23, 2010

Client Sample ID: RE15-10-7955
Sample ID: 245808003

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		0.409	0.0266	+/-0.0245	0.080	pCi/g						
Thorium-227	UI	0.425	0.341	+/-0.112		pCi/g						
Thorium-231	U	0.313	0.515	+/-0.171		pCi/g						
Thorium-234		67.6	1.98	+/-6.08	2.00	pCi/g						
Tin-113	U	-0.00121	0.035	+/-0.0101	0.100	pCi/g						
Uranium-235		1.19	0.207	+/-0.134	0.500	pCi/g						
Yttrium-88	U	-0.00816	0.0227	+/-0.00726	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		1.89E+05	296	+/-13300	250	pCi/L		KXK2	02/09/10	1017	948404	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery%	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	89.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	91.3	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	53.9	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7955
Sample ID: 245808003

Project: LANL01004
Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7953
Sample ID: 245808004
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 14.1%

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	0.00966	0.0183	+/-0.00338	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.0021	0.0171	+/-0.00257	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.0576	0.0129	+/-0.00903	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		43.4	0.658	+/-3.66	0.100	pCi/g		AYB1	02/22/10	1242	954559	4
Uranium-235/236		6.57	0.419	+/-0.703	0.100	pCi/g						
Uranium-238		291	0.449	+/-23.7	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	UI	1.13	0.384	+/-0.122	0.200	pCi/g		RXF2	02/11/10	2227	947554	6
Bismuth-211	UI	2.35	0.214	+/-0.141		pCi/g						
Bismuth-214		0.730	0.069	+/-0.0535	0.200	pCi/g						
Cadmium-109	UI	3.97	1.88	+/-0.654		pCi/g						
Cerium-139	UI	0.0606	0.045	+/-0.0142	0.050	pCi/g						
Cesium-134	UI	0.0813	0.0527	+/-0.0245	0.100	pCi/g						
Cesium-137		0.114	0.0394	+/-0.0179	0.100	pCi/g						
Cobalt-60	U	0.00823	0.0305	+/-0.00879	0.100	pCi/g						
Europium-152	U	-0.0199	0.107	+/-0.0398	0.200	pCi/g						
Lanthanum-140	U	0.00942	0.0634	+/-0.0217		pCi/g						
Lead-212		0.914	0.0644	+/-0.0433	0.100	pCi/g						
Lead-214		0.816	0.0746	+/-0.0533	0.100	pCi/g						
Mercury-203	U	0.0254	0.0475	+/-0.013	0.100	pCi/g						
Potassium-40		22.3	0.224	+/-0.918	1.00	pCi/g						
Protactinium-234m		227	3.71	+/-11.4		pCi/g						
Radium-223	U	-0.691	0.708	+/-0.214		pCi/g						
Radium-224	UI	2.38	0.732	+/-0.346		pCi/g						
Radium-226		0.730	0.069	+/-0.0535		pCi/g						
Radium-228		0.981	0.108	+/-0.0873	0.500	pCi/g						
Ruthenium-106	U	0.0433	0.326	+/-0.0947	0.800	pCi/g						
Sodium-22	U	-0.0102	0.0335	+/-0.0102	0.080	pCi/g						
Strontium-85	UI	0.054	0.0407	+/-0.0126		pCi/g						

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Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7953
Sample ID: 245808004

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Thallium-208		0.320	0.0361	+/-0.0254	0.080	pCi/g						
Thorium-227	UI	1.54	0.534	+/-0.206		pCi/g						
Thorium-231	U	-0.691	0.708	+/-0.214		pCi/g						
Thorium-234		159	2.88	+/-14.0	2.00	pCi/g						
Tin-113	U	-0.0161	0.0474	+/-0.0137	0.100	pCi/g						
Uranium-235		2.74	0.312	+/-0.261	0.500	pCi/g						
Yttrium-88	U	0.012	0.0252	+/-0.00797	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		4.46E+05	478	+/-31300	250	pCi/L		KXX2	02/09/10	1029	948404	7
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	82.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	104	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	65.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7953 Project: LANL01004
Sample ID: 245808004 Client ID: LANL010

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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7952
Sample ID: 245808005
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 6.69%

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	0.000181	0.0158	+/-0.000996	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.0036	0.0196	+/-0.00209	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	0.0024	0.0148	+/-0.0038	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.634	0.097	+/-0.067	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236	U	0.038	0.0618	+/-0.0153	0.100	pCi/g						
Uranium-238		0.872	0.0662	+/-0.0848	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.0521	0.383	+/-0.118	0.200	pCi/g		RXF2	02/12/10	1657	947554	5
Bismuth-211	UI	3.63	0.307	+/-0.257		pCi/g						
Bismuth-214		1.00	0.104	+/-0.0787	0.200	pCi/g						
Cadmium-109	UI	3.29	1.28	+/-0.592		pCi/g						
Cerium-139	U	0.0106	0.048	+/-0.0141	0.050	pCi/g						
Cesium-134	UI	0.104	0.0854	+/-0.0319	0.100	pCi/g						
Cesium-137	U	-0.0142	0.0576	+/-0.0174	0.100	pCi/g						
Cobalt-60	U	0.0019	0.0678	+/-0.0202	0.100	pCi/g						
Europium-152	U	-0.0696	0.149	+/-0.0494	0.200	pCi/g						
Lanthanum-140	U	0.0306	0.123	+/-0.0396		pCi/g						
Lead-212		1.67	0.0889	+/-0.0823	0.100	pCi/g						
Lead-214		1.26	0.107	+/-0.0954	0.100	pCi/g						
Mercury-203	U	0.000269	0.0652	+/-0.0188	0.100	pCi/g						
Potassium-40		35.9	0.490	+/-1.81	1.00	pCi/g						
Radium-223	U	-1.05	0.928	+/-0.313		pCi/g						
Radium-224	UI	4.58	1.01	+/-0.529		pCi/g						
Radium-226		1.00	0.104	+/-0.0787		pCi/g						
Radium-228		1.55	0.219	+/-0.186	0.500	pCi/g						
Ruthenium-106	U	0.189	0.508	+/-0.142	0.800	pCi/g						
Sodium-22	U	-0.0352	0.0701	+/-0.0226	0.080	pCi/g						
Strontium-85	U	0.0361	0.0585	+/-0.0186		pCi/g						
Thallium-208		0.483	0.0585	+/-0.041	0.080	pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7952
Sample ID: 245808005

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	-0.0531	0.583	+/-0.168		pCi/g						
Thorium-231	U	-1.05	0.928	+/-0.313		pCi/g						
Thorium-234	UI	3.49	3.15	+/-1.12	2.00	pCi/g						
Tin-113	U	-0.00559	0.0715	+/-0.0213	0.100	pCi/g						
Uranium-235	U	0.0934	0.356	+/-0.105	0.500	pCi/g						
Yttrium-88	U	0.0103	0.0498	+/-0.0143	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium	335	157	+/-62.0	250	pCi/L	KXK2	02/09/10	1035	948404	6
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	92.8	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	90.4	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	87.9	(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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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-7952
Sample ID: 245808005

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 23, 2010

Client Sample ID: RE15-10-8060
Sample ID: 245808006
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 14.6%

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	0.0153	0.0171	+/-0.00442	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00321	0.0175	+/-0.0024	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.0631	0.0131	+/-0.00892	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		34.6	0.566	+/-2.86	0.100	pCi/g		AYB1	02/22/10	1242	954559	4
Uranium-235/236		4.69	0.361	+/-0.516	0.100	pCi/g						
Uranium-238		234	0.387	+/-18.5	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.243	0.462	+/-0.139	0.200	pCi/g		RXF2	02/12/10	1658	947554	6
Bismuth-211	UI	2.05	0.333	+/-0.224		pCi/g						
Bismuth-214		0.769	0.0964	+/-0.0786	0.200	pCi/g						
Cadmium-109	U	-2.23	2.75	+/-0.894		pCi/g						
Cerium-139	U	-0.0108	0.0619	+/-0.0192	0.050	pCi/g						
Cesium-134	U	0.0303	0.0846	+/-0.0246	0.100	pCi/g						
Cesium-137		0.162	0.0595	+/-0.0299	0.100	pCi/g						
Cobalt-60	U	-0.00421	0.0445	+/-0.0138	0.100	pCi/g						
Europium-152	U	-0.00641	0.157	+/-0.0468	0.200	pCi/g						
Lanthanum-140	U	0.000436	0.104	+/-0.0309		pCi/g						
Lead-212		0.963	0.0909	+/-0.0796	0.100	pCi/g						
Lead-214		0.714	0.116	+/-0.0802	0.100	pCi/g						
Mercury-203	U	0.00891	0.072	+/-0.0207	0.100	pCi/g						
Potassium-40		22.1	0.463	+/-1.17	1.00	pCi/g						
Protactinium-234m		242	6.47	+/-14.8		pCi/g						
Radium-223	U	0.514	1.09	+/-0.313		pCi/g						
Radium-224	UI	2.77	1.03	+/-0.523		pCi/g						
Radium-226		0.769	0.0964	+/-0.0786		pCi/g						
Radium-228		1.17	0.169	+/-0.128	0.500	pCi/g						
Ruthenium-106	U	0.171	0.545	+/-0.155	0.800	pCi/g						
Sodium-22	U	0.00728	0.060	+/-0.0178	0.080	pCi/g						
Strontium-85	U	0.0402	0.0618	+/-0.0169		pCi/g						

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Certificate of Analysis

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-8060
Sample ID: 245808006

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		0.338	0.0525	+/-0.0412	0.080	pCi/g						
Thorium-227	U	0.267	0.722	+/-0.228		pCi/g						
Thorium-231	U	0.514	1.09	+/-0.313		pCi/g						
Thorium-234		166	3.48	+/-14.7	2.00	pCi/g						
Tin-113	U	0.0162	0.0749	+/-0.0206	0.100	pCi/g						
Uranium-235		2.96	0.449	+/-0.344	0.500	pCi/g						
Yttrium-88	U	-0.027	0.0417	+/-0.015	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
<i>H3 "As Received"</i>												
Tritium		3.98E+05	444	+/-28000	250	pCi/L		KXK2	02/09/10	1118	948404	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, U-02-RC Modified
5	DOE EML HASL-300, U-02-RC Modified
6	DOE HASL 300, 4.5.2.3/Ga-01-R
7	GL-RAD-A-002

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	88.5	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.9	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	79.5	(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

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-8060
Sample ID: 245808006
Project: LANL01004
Client ID: LANL010

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

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-8058
Sample ID: 245808007
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 35.9%

Project: LANL01004
Client ID: LANL010

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis												
<i>AM241 "Dry Weight Corrected"</i>												
Americium-241		0.0222	0.0159	+/-0.00527	0.050	pCi/g		AYB1	02/20/10	1337	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	-0.00119	0.0194	+/-0.00206	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240		0.051	0.0146	+/-0.00853	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		5.37	0.126	+/-0.425	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236		0.526	0.0805	+/-0.0693	0.100	pCi/g						
Uranium-238		24.3	0.0862	+/-1.80	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	0.344	0.505	+/-0.165	0.200	pCi/g		RXF2	02/12/10	1700	947554	5
Bismuth-211	UI	4.40	0.453	+/-0.329		pCi/g						
Bismuth-214		1.27	0.142	+/-0.120	0.200	pCi/g						
Cadmium-109	UI	3.82	1.98	+/-0.863		pCi/g						
Cerium-139	U	-0.0331	0.0665	+/-0.0214	0.050	pCi/g						
Cesium-134	U	0.0612	0.113	+/-0.0314	0.100	pCi/g						
Cesium-137		0.896	0.0876	+/-0.0685	0.100	pCi/g						
Cobalt-60	U	0.0127	0.0846	+/-0.0254	0.100	pCi/g						
Europium-152	U	0.199	0.230	+/-0.101	0.200	pCi/g						
Lanthanum-140	U	-0.101	0.172	+/-0.061		pCi/g						
Lead-212		1.61	0.121	+/-0.0893	0.100	pCi/g						
Lead-214		1.53	0.148	+/-0.121	0.100	pCi/g						
Mercury-203	U	-0.0267	0.0953	+/-0.029	0.100	pCi/g						
Potassium-40		22.5	0.490	+/-1.27	1.00	pCi/g						
Protactinium-234m		36.1	8.47	+/-5.29		pCi/g						
Radium-223	U	-1.29	1.43	+/-0.476		pCi/g						
Radium-224	UI	4.12	1.38	+/-0.865		pCi/g						
Radium-226		1.27	0.142	+/-0.120		pCi/g						
Radium-228		1.59	0.244	+/-0.200	0.500	pCi/g						
Ruthenium-106	U	-0.027	0.677	+/-0.211	0.800	pCi/g						
Sodium-22	U	-0.00812	0.0972	+/-0.0305	0.080	pCi/g						
Strontium-85	U	0.0833	0.093	+/-0.029		pCi/g						

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Contact: Ms. Joylene Valdez
Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-8058
Sample ID: 245808007

Project: LANL01004
Client ID: LANL010

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

GAMMA SPEC "Dry Weight Corrected"

Thallium-208		0.459	0.0797	+/-0.0594	0.080	pCi/g						
Thorium-227	U	0.085	0.870	+/-0.271		pCi/g						
Thorium-231	U	-1.29	1.43	+/-0.476		pCi/g						
Thorium-234		22.8	3.75	+/-2.87	2.00	pCi/g						
Tin-113	U	0.00626	0.107	+/-0.032	0.100	pCi/g						
Uranium-235		0.870	0.472	+/-0.237	0.500	pCi/g						
Yttrium-88	U	-0.0438	0.044	+/-0.0198	0.100	pCi/g						

Rad Liquid Scintillation Analysis

H3 "As Received"

Tritium		4860	159	+/-370	250	pCi/L		KXK2	02/09/10	1124	948404	6
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The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	97.7	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	88.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	71.4	(50%-105%)

Notes:

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

The Qualifiers in this report are defined as follows :

** Analyte is a surrogate compound

< Result is less than value reported

> Result is greater than value reported

A The TIC is a suspected aldol-condensation product

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

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

C Analyte has been confirmed by GC/MS analysis

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Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-8058
Sample ID: 245808007

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 23, 2010

Client Sample ID: RE15-10-8059
Sample ID: 245808008
Matrix: R
Collect Date: 26-JAN-10
Receive Date: 29-JAN-10
Collector: Client
Moisture: 7.28%

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	0.00729	0.0181	+/-0.00291	0.050	pCi/g		AYB1	02/20/10	1458	954558	1
<i>ISOPU "Dry Weight Corrected"</i>												
Plutonium-238	U	0.00322	0.0175	+/-0.00186	0.050	pCi/g		AYB1	02/16/10	1433	950408	3
Plutonium-239/240	U	-1.28E-10	0.0132	+/-0.00152	0.050	pCi/g						
<i>ISOU "Dry Weight Corrected"</i>												
Uranium-233/234		0.638	0.162	+/-0.0801	0.100	pCi/g		AYB1	02/15/10	2111	950409	4
Uranium-235/236	U	0.0238	0.103	+/-0.0139	0.100	pCi/g						
Uranium-238		0.957	0.111	+/-0.107	0.100	pCi/g						
Rad Gamma Spec Analysis												
<i>GAMMA SPEC "Dry Weight Corrected"</i>												
Americium-241	U	-0.0527	0.517	+/-0.149	0.200	pCi/g		RXF2	02/12/10	1737	947554	5
Bismuth-211	UI	3.58	0.408	+/-0.322		pCi/g						
Bismuth-214		0.987	0.148	+/-0.105	0.200	pCi/g						
Cadmium-109	UI	3.32	2.03	+/-0.947		pCi/g						
Cerium-139	U	0.0237	0.063	+/-0.0184	0.050	pCi/g						
Cesium-134	UI	0.146	0.103	+/-0.034	0.100	pCi/g						
Cesium-137	U	0.00527	0.0783	+/-0.0232	0.100	pCi/g						
Cobalt-60	U	-0.0246	0.0719	+/-0.0239	0.100	pCi/g						
Europium-152	U	0.0311	0.204	+/-0.0722	0.200	pCi/g						
Lanthanum-140	U	-0.0255	0.147	+/-0.0554		pCi/g						
Lead-212		1.61	0.114	+/-0.116	0.100	pCi/g						
Lead-214		1.25	0.152	+/-0.117	0.100	pCi/g						
Mercury-203	U	0.0891	0.0994	+/-0.0274	0.100	pCi/g						
Potassium-40		34.6	0.618	+/-1.99	1.00	pCi/g						
Radium-223	U	-0.648	1.43	+/-0.441		pCi/g						
Radium-224	UI	4.67	1.30	+/-0.806		pCi/g						
Radium-226		0.987	0.148	+/-0.105		pCi/g						
Radium-228		1.50	0.256	+/-0.178	0.500	pCi/g						
Ruthenium-106	U	0.106	0.642	+/-0.192	0.800	pCi/g						
Sodium-22	U	-0.0114	0.0875	+/-0.0276	0.080	pCi/g						
Strontium-85	UI	0.117	0.0914	+/-0.0274		pCi/g						
Thallium-208		0.533	0.0689	+/-0.0524	0.080	pCi/g						

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

Report Date: February 23, 2010

Client Sample ID: RE15-10-8059
Sample ID: 245808008

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	-0.382	0.783	+/-0.239		pCi/g						
Thorium-231	U	-0.648	1.43	+/-0.441		pCi/g						
Thorium-234	U	0.849	4.08	+/-1.16	2.00	pCi/g						
Tin-113	U	-0.0307	0.0904	+/-0.0278	0.100	pCi/g						
Uranium-235	U	0.0349	0.477	+/-0.142	0.500	pCi/g						
Yttrium-88	U	0.0266	0.0665	+/-0.0177	0.100	pCi/g						
Rad Liquid Scintillation Analysis												
H3 "As Received"												
Tritium		744	161	+/-88.7	250	pCi/L		KXK2	02/09/10	1207	948404	6

The following Analytical Methods were performed

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

Surrogate/Tracer recovery	Test	Recovery %	Acceptable Limits
Americium-243 Tracer	AM241 "Dry Weight Corrected"	84.3	(50%-105%)
Plutonium-242 Tracer	ISOPU "Dry Weight Corrected"	99.5	(50%-105%)
Uranium-232 Tracer	ISOU "Dry Weight Corrected"	54.0	(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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Project: LANL ER Project

Report Date: February 23, 2010

Client Sample ID: RE15-10-8059
Sample ID: 245808008

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.

QUALITY CONTROL DATA

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QC Summary

Report Date: February 23, 2010

Page 1 of 7

Client : Los Alamos National Laboratory
PO Box 1663
TA-03, SM271, Drop Pt. 02U, Rm
Los Alamos, New Mexico
Contact: Ms. Joylene Valdez
Workorder: 245808

Parname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch	950408									
QC1202036747	245808001	DUP								
Plutonium-238	U	-0.00111	U	-0.00216	pCi/g	0.068		(0-1)	AYB1	02/16/1014:33
	TPU:	+/-0.00367		+/-0.00403						
	Yield:	96.4		97.1						
Plutonium-239/240	U	0.00443	U	0.00754	pCi/g	0.210		(0-1)		
	TPU:	+/-0.00351		+/-0.0039						
	Yield:	96.4		97.1						
QC1202036748	LCS									
Plutonium-238				8.07	pCi/g			(75%-125%)		
	TPU:			+/-0.586						
	Yield:			102						
Plutonium-239/240	41.8			43.2	pCi/g		103	(75%-125%)		
	TPU:			+/-2.67						
	Yield:			102						
QC1202036746	MB									
Plutonium-238			U	-1.99E-10	pCi/g					
	TPU:			+/-0.00236						
	Yield:			80.8						
Plutonium-239/240			U	-0.00167	pCi/g					
	TPU:			+/-0.00289						
	Yield:			80.8						
Batch	950409									
QC1202036750	245808001	DUP								
Uranium-233/234		5.10		4.49	pCi/g	0.395		(0-1)	AYB1	02/15/1021:12
	TPU:	+/-0.405		+/-0.363						
	Yield:	68.3		66.5						
Uranium-235/236		0.499		0.482	pCi/g	0.0639		(0-1)		
	TPU:	+/-0.0669		+/-0.066						
	Yield:	68.3		66.5						
Uranium-238		27.9		25.1	pCi/g	0.364		(0-1)		
	TPU:	+/-2.07		+/-1.87						
	Yield:	68.3		66.5						
QC1202036751	LCS									
Uranium-233/234				5.54	pCi/g			(75%-125%)		02/15/1021:12
	TPU:			+/-0.529						
	Yield:			98.8						
Uranium-235/236				0.327	pCi/g			(75%-125%)		
	TPU:			+/-0.0882						
	Yield:			98.8						
Uranium-238	5.75			5.52	pCi/g		96.1	(75%-125%)		
	TPU:			+/-0.528						
	Yield:			98.8						
QC1202036749	MB									
Uranium-233/234			U	0.00866	pCi/g					02/18/1017:13

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QC Summary

Workorder: 245808

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Parmname	NOM	Sample	Qual	QC	Units	RER	REC%	Range	Anlst	Date	Time
Rad Alpha Spec											
Batch	950409										
Uranium-235/236											
		TPU:		+/-0.00369							
		Yield:		99.2							
			U	0.00378	pCi/g						
Uranium-238											
		TPU:		+/-0.00269							
		Yield:		99.2							
				0.0291	pCi/g						
		TPU:		+/-0.00761							
		Yield:		99.2							
	Batch	954558									
QC1202046260	245808002	DUP									
Americium-241											
		U	0.00181	U	0.0019	pCi/g	0.016	(0-1)	AYB1	02/20/1013:37	
		TPU:	+/-0.00148		+/-0.00154						
		Yield:	79.6		78.9						
QC1202046261	LCS										
Americium-241											
		33.2			32.1	pCi/g	96.7	(75%-125%)		02/20/1013:39	
		TPU:			+/-2.40						
		Yield:			85.5						
QC1202046259	MB										
Americium-241											
				U	-0.00503	pCi/g				02/20/1013:37	
		TPU:			+/-0.00307						
		Yield:			83.4						
Batch	954559										
QC1202046264	246271002	DUP									
Uranium-233/234											
			0.993		0.804	pCi/g	0.542	(0-1)	AYB1	02/22/1012:42	
		TPU:	+/-0.0932		+/-0.081						
		Yield:	102		89.5						
Uranium-235/236											
			0.0712	U	0.0544	pCi/g	0.237	(0-1)			
		TPU:	+/-0.0185		+/-0.0169						
		Yield:	102		89.5						
Uranium-238											
			0.868		0.832	pCi/g	0.106	(0-1)			
		TPU:	+/-0.0837		+/-0.0827						
		Yield:	102		89.5						
QC1202046265	LCS										
Uranium-233/234											
					6.49	pCi/g		(75%-125%)		02/22/1012:42	
		TPU:			+/-0.596						
		Yield:			100						
Uranium-235/236											
					0.292	pCi/g		(75%-125%)			
		TPU:			+/-0.0811						
		Yield:			100						
Uranium-238		5.75									
					5.29	pCi/g	92	(75%-125%)			
		TPU:			+/-0.502						
		Yield:			100						
QC1202046263	MB										
Uranium-233/234											
				U	-0.00037	pCi/g				02/22/1012:42	
		TPU:			+/-0.00327						
		Yield:			109						
Uranium-235/236											
				U	0.00	pCi/g					
		TPU:			+/-0.00209						
		Yield:			109						

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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	954559									
Uranium-238			U	0.0135	pCi/g					
	TPU:			+/-0.00541						
	Yield:			109						
Rad Gamma Spec										
Batch	947554									
QC1202029818	245808006	DUP								
Americium-241	U	0.243	UI	0.536	pCi/g	0.496		(0-1)	RXF2	02/12/1017:52
	TPU:	+/-0.139		+/-0.156						
Bismuth-211	UI	2.05	UI	2.27	pCi/g	0.244		(0-1)		
	TPU:	+/-0.224		+/-0.208						
Bismuth-214		0.769		0.689	pCi/g	0.278		(0-1)		
	TPU:	+/-0.0786		+/-0.0653						
Cadmium-109	U	-2.23	U	-0.951	pCi/g	0.303		(0-1)		
	TPU:	+/-0.894		+/-1.21						
Cerium-139	U	-0.0108	U	0.0265	pCi/g	0.459		(0-1)		
	TPU:	+/-0.0192		+/-0.0213						
Cesium-134	U	0.0303	UI	0.0896	pCi/g	0.618		(0-1)		
	TPU:	+/-0.0246		+/-0.0234						
Cesium-137		0.162		0.178	pCi/g	0.127		(0-1)		
	TPU:	+/-0.0299		+/-0.0319						
Cobalt-60	U	-0.00421	U	-0.00541	pCi/g	0.0215		(0-1)		
	TPU:	+/-0.0138		+/-0.014						
Europium-152	U	-0.00641	U	0.0496	pCi/g	0.290		(0-1)		
	TPU:	+/-0.0468		+/-0.0498						
Lanthanum-140	U	0.000436	U	-0.0857	pCi/g	0.648		(0-1)		
	TPU:	+/-0.0309		+/-0.0356						
Lead-212		0.963		1.02	pCi/g	0.191		(0-1)		
	TPU:	+/-0.0796		+/-0.0798						
Lead-214		0.714		0.788	pCi/g	0.237		(0-1)		
	TPU:	+/-0.0802		+/-0.0751						
Mercury-203	U	0.00891	U	0.0215	pCi/g	0.149		(0-1)		
	TPU:	+/-0.0207		+/-0.0214						
Potassium-40		22.1		23.0	pCi/g	0.182		(0-1)		
	TPU:	+/-1.17		+/-1.19						
Protactinium-234m		242		247	pCi/g	0.0779		(0-1)		
	TPU:	+/-14.8		+/-15.4						
Radium-223	U	0.514	U	-0.837	pCi/g	1.06		(0-1)		
	TPU:	+/-0.313		+/-0.322						
Radium-224	UI	2.77	UI	2.76	pCi/g	0.00379		(0-1)		
	TPU:	+/-0.523		+/-0.532						
Radium-226		0.769		0.689	pCi/g	0.278		(0-1)		
	TPU:	+/-0.0786		+/-0.0653						
Radium-228		1.17		1.01	pCi/g	0.327		(0-1)		
	TPU:	+/-0.128		+/-0.123						
Ruthenium-106	U	0.171	U	0.164	pCi/g	0.0114		(0-1)		
	TPU:	+/-0.155		+/-0.142						
Sodium-22	U	0.00728	U	-0.017	pCi/g	0.361		(0-1)		
	TPU:	+/-0.0178		+/-0.0159						
Strontium-85	U	0.0402	UI	0.0812	pCi/g	0.584		(0-1)		
	TPU:	+/-0.0169		+/-0.0182						

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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	947554										
Thallium-208		0.338		0.275	pCi/g	0.415		(0-1)			
	TPU:	+/-0.0412		+/-0.0348							
Thorium-227		0.267	UI	1.19	pCi/g	0.923		(0-1)			
	TPU:	+/-0.228		+/-0.270							
Thorium-231		0.514	U	-0.837	pCi/g	1.06		(0-1)			
	TPU:	+/-0.313		+/-0.322							
Thorium-234		166		158	pCi/g	0.150		(0-1)			
	TPU:	+/-14.7		+/-13.9							
Tin-113		0.0162	U	0.0115	pCi/g	0.0559		(0-1)			
	TPU:	+/-0.0206		+/-0.0212							
Uranium-235		2.96		3.11	pCi/g	0.106		(0-1)			
	TPU:	+/-0.344		+/-0.347							
Yttrium-88		-0.027	U	0.0137	pCi/g	0.739		(0-1)			
	TPU:	+/-0.015		+/-0.0125							
QC1202029819 LCS											
Americium-241	15.9			13.5	pCi/g		84.9	(75%-125%)		02/12/10	18:28
	TPU:			+/-0.602							
Bismuth-211				2.01	pCi/g						
	TPU:			+/-0.303							
Bismuth-214				0.713	pCi/g						
	TPU:			+/-0.114							
Cadmium-109				33.2	pCi/g						
	TPU:			+/-1.85							
Cerium-139			U	0.00524	pCi/g						
	TPU:			+/-0.0212							
Cesium-134			U	0.0929	pCi/g						
	TPU:			+/-0.0408							
Cesium-137	5.56			6.07	pCi/g		109	(75%-125%)			
	TPU:			+/-0.334							
Cobalt-60	6.41			6.73	pCi/g		105	(75%-125%)			
	TPU:			+/-0.323							
Europium-152			U	0.0363	pCi/g						
	TPU:			+/-0.0857							
Lanthanum-140			U	0.0102	pCi/g						
	TPU:			+/-0.0459							
Lead-212				1.02	pCi/g						
	TPU:			+/-0.120							
Lead-214				0.699	pCi/g						
	TPU:			+/-0.107							
Mercury-203			U	0.0448	pCi/g						
	TPU:			+/-0.0302							
Potassium-40			U	0.621	pCi/g						
	TPU:			+/-0.261							
Protactinium-234m			U	3.62	pCi/g						
	TPU:			+/-4.92							
Radium-223			U	-0.872	pCi/g						
	TPU:			+/-0.570							
Radium-224				4.09	pCi/g						
	TPU:			+/-0.651							
Radium-226				0.713	pCi/g						
	TPU:			+/-0.114							

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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	947554								
Radium-228			0.769	pCi/g					
	TPU:		+/-0.233						
Ruthenium-106		U	0.757	pCi/g					
	TPU:		+/-0.285						
Sodium-22		U	-0.00132	pCi/g					
	TPU:		+/-0.0208						
Strontium-85		U	0.0552	pCi/g					
	TPU:		+/-0.0309						
Thallium-208			0.390	pCi/g					
	TPU:		+/-0.0552						
Thorium-227		U	-0.224	pCi/g					
	TPU:		+/-0.301						
Thorium-231		U	-0.872	pCi/g					
	TPU:		+/-0.570						
Thorium-234		U	0.385	pCi/g					
	TPU:		+/-0.823						
Tin-113		U	-0.0272	pCi/g					
	TPU:		+/-0.0383						
Uranium-235		U	-0.146	pCi/g					
	TPU:		+/-0.150						
Yttrium-88		U	-0.0228	pCi/g					
	TPU:		+/-0.0214						
QC1202029817 MB									
Americium-241		U	0.019	pCi/g					02/12/1017:51
	TPU:		+/-0.0256						
Bismuth-211		U	-0.0511	pCi/g					
	TPU:		+/-0.0446						
Bismuth-214		U	-0.0212	pCi/g					
	TPU:		+/-0.0198						
Cadmium-109		U	-0.0905	pCi/g					
	TPU:		+/-0.161						
Cerium-139		U	-0.00881	pCi/g					
	TPU:		+/-0.00544						
Cesium-134		U	0.001	pCi/g					
	TPU:		+/-0.00957						
Cesium-137		U	-0.0103	pCi/g					
	TPU:		+/-0.00876						
Cobalt-60		U	0.0149	pCi/g					
	TPU:		+/-0.00737						
Europium-152		U	-0.0332	pCi/g					
	TPU:		+/-0.0197						
Lanthanum-140		U	-0.0169	pCi/g					
	TPU:		+/-0.0135						
Lead-212		U	-0.00788	pCi/g					
	TPU:		+/-0.0134						
Lead-214		U	-0.0237	pCi/g					
	TPU:		+/-0.0165						
Mercury-203		U	0.0125	pCi/g					
	TPU:		+/-0.00802						
Potassium-40		U	-0.0292	pCi/g					
	TPU:		+/-0.112						

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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	947554									
Protactinium-234m		U	0.532	pCi/g						
	TPU:		+/-1.07							
Radium-223		U	-0.139	pCi/g						
	TPU:		+/-0.132							
Radium-224		U	0.0415	pCi/g						
	TPU:		+/-0.140							
Radium-226		U	-0.0212	pCi/g						
	TPU:		+/-0.0198							
Radium-228		U	0.0563	pCi/g						
	TPU:		+/-0.038							
Ruthenium-106		U	0.0465	pCi/g						
	TPU:		+/-0.0704							
Sodium-22		U	0.00128	pCi/g						
	TPU:		+/-0.0076							
Strontium-85		U	-0.0805	pCi/g						
	TPU:		+/-0.014							
Thallium-208		U	-0.00786	pCi/g						
	TPU:		+/-0.0087							
Thorium-227		U	-0.195	pCi/g						
	TPU:		+/-0.0732							
Thorium-231		U	-0.139	pCi/g						
	TPU:		+/-0.132							
Thorium-234		U	0.112	pCi/g						
	TPU:		+/-0.341							
Tin-113		U	0.000491	pCi/g						
	TPU:		+/-0.00913							
Uranium-235		U	0.0196	pCi/g						
	TPU:		+/-0.0413							
Yttrium-88		U	-0.00331	pCi/g						
	TPU:		+/-0.00933							
Rad Liquid Scintillation										
Batch	948404									
QC1202031689	245808003	DUP								
Tritium			1.89E+05	1.85E+05	pCi/L	0.0785	(0-1)	KXK2	02/09/1013:32	
		TPU:	+/-13300	+/-13000						
QC1202031690	LCS									
Tritium		5560		5840	pCi/L		105	(75%-125%)	02/09/1013:44	
		TPU:		+/-482						
QC1202031688	MB									
Tritium		U	-107	pCi/L					02/09/1012:49	
		TPU:		+/-38.7						

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

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QC Summary

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

950408

Batch#

Product: Pu

Date: 2/17/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/19/2010

Primary Review Performed By:

[Signature] 2/17/10

Secondary Review Performed By:

[Signature] 2/18/10

2/19-2/20
UANL

Plutonium Que Sheet

08-FEB-10

Batch #: 950408 Analyst: AYB1 First Client Due Date: 26-FEB-10 Internal Due Date: 15-FEB-10
 Tracer Isotope(s): Pu-242/Pu-238 Tracer Code: B75-A Expiration Date: 01/01/11 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: 2/10/10 Initials: AYB Pipet ID: 2971058 Balance ID: 50410272
 Witness: JEN 2-11-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet/Ally	Pu Det #
245000001-1	RE15-10-7954	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	1	1	1.256	38
245000002-1	RE15-10-7956	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	2	2	1.254	39
245000003-1	RE15-10-7955	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	3	3	1.252	40
245000004-1	RE15-10-7953	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	4	4	1.254	41
245000005-1	RE15-10-7952	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	5	5	1.252	42
245000006-1	RE15-10-8060	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	6	6	1.255	43
245000007-1	RE15-10-8058	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	7	7	1.253	44
245000008-1	RE15-10-8059	SAMPLE	.05 pCi/g		SOIL	LANL010	26-JAN-10	8	8	1.257	45
1202036746-1	MEB for batch 950408	MEB	.05 pCi/g		SOIL	QC ACCOUNT		9	9	1	46
1202036747-1	RE15-10-7954(245000001DUP)	DUP	.05 pCi/g		SOIL	QC ACCOUNT	26-JAN-10	10	10	1.253	47
1202036748-1	LCS for batch 950408	LCS	.05 pCi/g		SOIL	QC ACCOUNT		11	11	0.101	48

2PM 0244-B exp: 4/30/20

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Cheese 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:

Handwritten signature and date: 2/17/10

Blank Correction Report

Batch ID 950408

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202036747	DUP	Plutonium-238	1.25 g	-0.00216	0.00403	0.0176	-0.00000000	pCi/g	YES
		Plutonium-239/240	1.25 g	0.00754	0.0039	0.0133	-0.001336	pCi/g	NO
1202036748	LCS	Plutonium-238	0.101 g	8.07	0.586	0.223	-0.00000000	pCi/g	NO
		Plutonium-239/240	0.101 g	43.2	2.67	0.168	-0.01653465	pCi/g	NO
1202036746	MB	Plutonium-238	1.00 g	-1.99E-10	0.00236	0.0273	-0.00000000	pCi/g	NO
		Plutonium-239/240	1.00 g	-0.00167	0.00289	0.0205	-0.00167	pCi/g	NO
245808001	RE15-10-7954	Plutonium-238	1.26 g	-0.00111	0.00367	0.0181	-0.00000000	pCi/g	YES
		Plutonium-239/240	1.26 g	0.00443	0.00351	0.0136	-0.00132540	pCi/g	NO
245808002	RE15-10-7956	Plutonium-238	1.25 g	0.00656	0.00559	0.0179	-0.00000000	pCi/g	NO
		Plutonium-239/240	1.25 g	0.00437	0.0041	0.0134	-0.001336	pCi/g	NO
245808003	RE15-10-7955	Plutonium-238	1.25 g	0.00123	0.00325	0.0201	-0.00000000	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0307	0.0068	0.0151	-0.001336	pCi/g	NO
245808004	RE15-10-7953	Plutonium-238	1.25 g	-0.0021	0.00257	0.0171	-0.00000000	pCi/g	YES
		Plutonium-239/240	1.25 g	0.0576	0.00903	0.0129	-0.001336	pCi/g	NO
245808005	RE15-10-7952	Plutonium-238	1.25 g	0.0036	0.00209	0.0196	-0.00000000	pCi/g	NO
		Plutonium-239/240	1.25 g	0.0024	0.0038	0.0148	-0.001336	pCi/g	NO
245808006	RE15-10-8060	Plutonium-238	1.26 g	0.00321	0.0024	0.0175	-0.00000000	pCi/g	NO
		Plutonium-239/240	1.26 g	0.0631	0.00892	0.0131	-0.00132540	pCi/g	NO
245808007	RE15-10-8058	Plutonium-238	1.25 g	-0.00119	0.00208	0.0194	-0.00000000	pCi/g	YES
		Plutonium-239/240	1.25 g	0.051	0.00853	0.0146	-0.001336	pCi/g	NO
245808008	RE15-10-8059	Plutonium-238	1.26 g	0.00322	0.00186	0.0175	-0.00000000	pCi/g	NO
		Plutonium-239/240	1.26 g	-1.28E-10	0.00152	0.0132	-0.00132540	pCi/g	NO

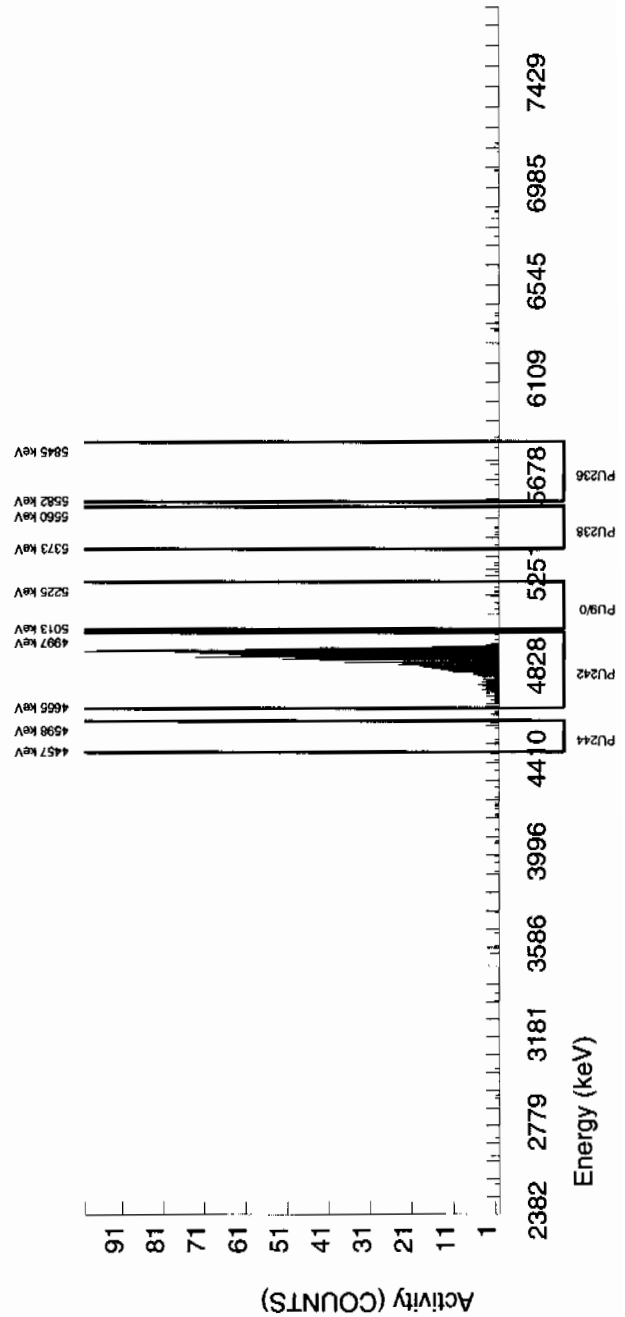
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950408 SAMPLE ID : S0245808001_PU SAMPLE QTY : 1.256 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 96.372				CHAMBER : 038 DETECTOR S/N : 72532 AVERAGE %EFFICIENCY : 33.6391 COUNT DATE : 16-FEB-2010 14:33:21 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B038.CNF;1113 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W038.CNF;321 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.2581E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5737.217	4.934	5.000	-1.000	6.000	2.6925	100.0000	-1.12E-03	3.72E-03	6.93E-03	1.69E-02	3.72E-03
PU-238	5499.000	5447.052	78.947	5.000	-1.000	6.000	2.9312	99.900000	-1.11E-03	3.67E-03	7.55E-03	1.81E-02	3.67E-03
PU-9/0	5155.000	5164.007	4.934	7.000	4.000	3.000	2.0604	99.900000	4.43E-03	3.51E-03	5.31E-03	1.36E-02	3.50E-03
PU242	4890.000	4886.390	47.778	1098.000	1096.000	2.000	1.4142	100.0000	1.21E+00	7.08E-02	3.64E-03	1.03E-02	3.67E-02
PU-244	4589.000	4539.464	4.934	6.000	6.000	0.000	3.7241	99.900000	6.64E-03	2.73E-03	9.59E-03	2.22E-02	2.71E-03

NOTES:

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

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

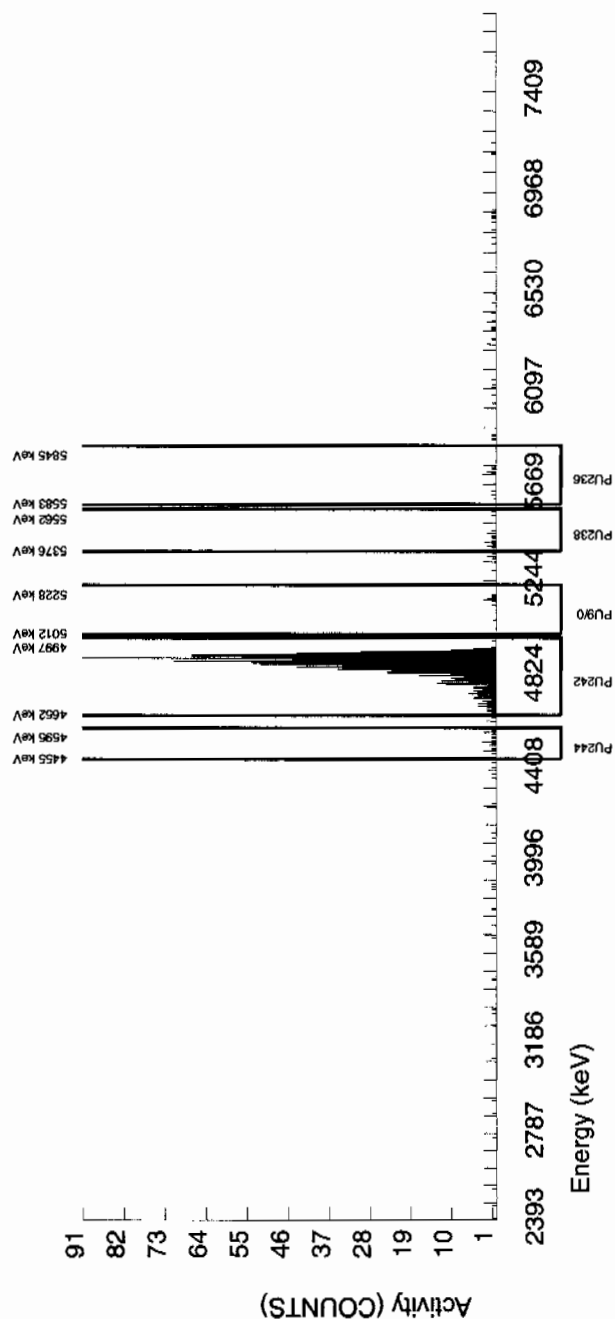


NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



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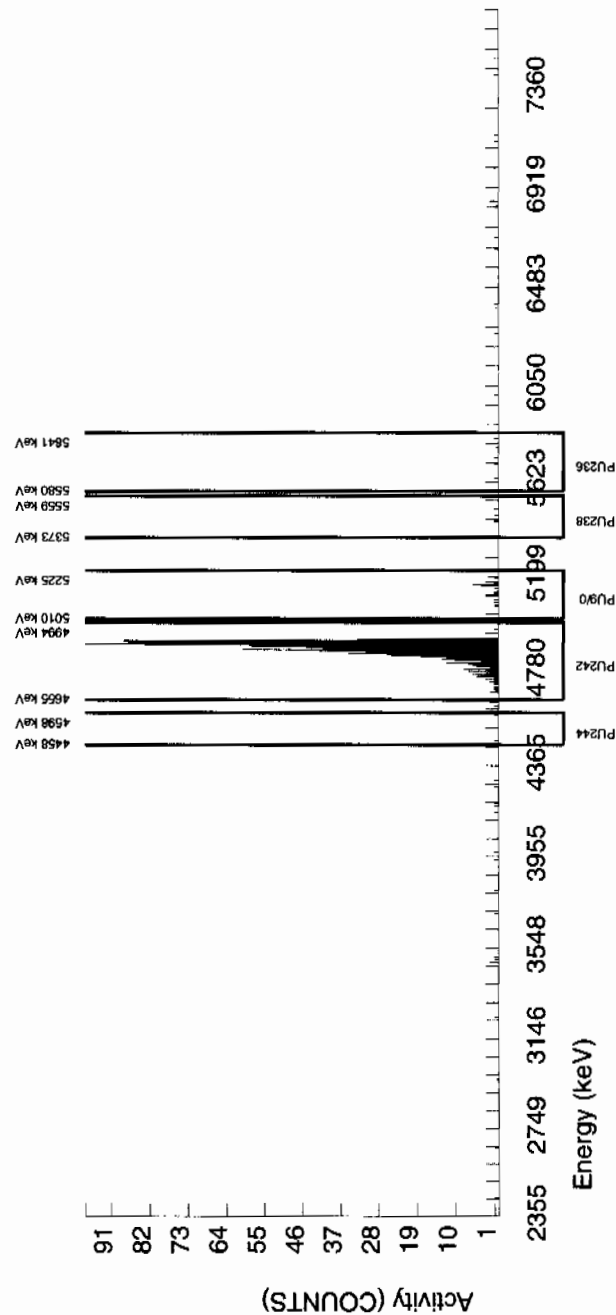
BATCH NUMBER : 950408 SAMPLE ID : S0245808003_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 91.254				CHAMBER : 040 DETECTOR S/N : 78773 AVERAGE %EFFICIENCY : 32.1221 COUNT DATE : 16-FEB-2010 14:33:21 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B040.CNF;1116 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W040.CNF;317 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0851E+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	5736.663	166.228	5.000	3.000	2.000	2.6925	100.0000	3.74E-03	3.30E-03	7.69E-03	1.87E-02	3.30E-03
PU-238	5499.000	5471.284	58.058	4.000	1.000	3.000	2.9312	99.900000	1.23E-03	3.25E-03	8.38E-03	2.01E-02	3.25E-03
PU-9/0	5155.000	5145.156	8.868	27.000	25.000	2.000	2.0604	99.900000	3.07E-02	6.80E-03	5.89E-03	1.51E-02	6.62E-03
PU242	4890.000	4883.489	45.732	994.000	991.000	3.000	1.7321	100.0000	1.22E+00	7.31E-02	4.95E-03	1.32E-02	3.88E-02
PU-244	4589.000	4535.708	112.448	2.000	0.000	2.000	3.7241	99.900000	0.00E+00	2.46E-03	1.06E-02	2.46E-02	2.46E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



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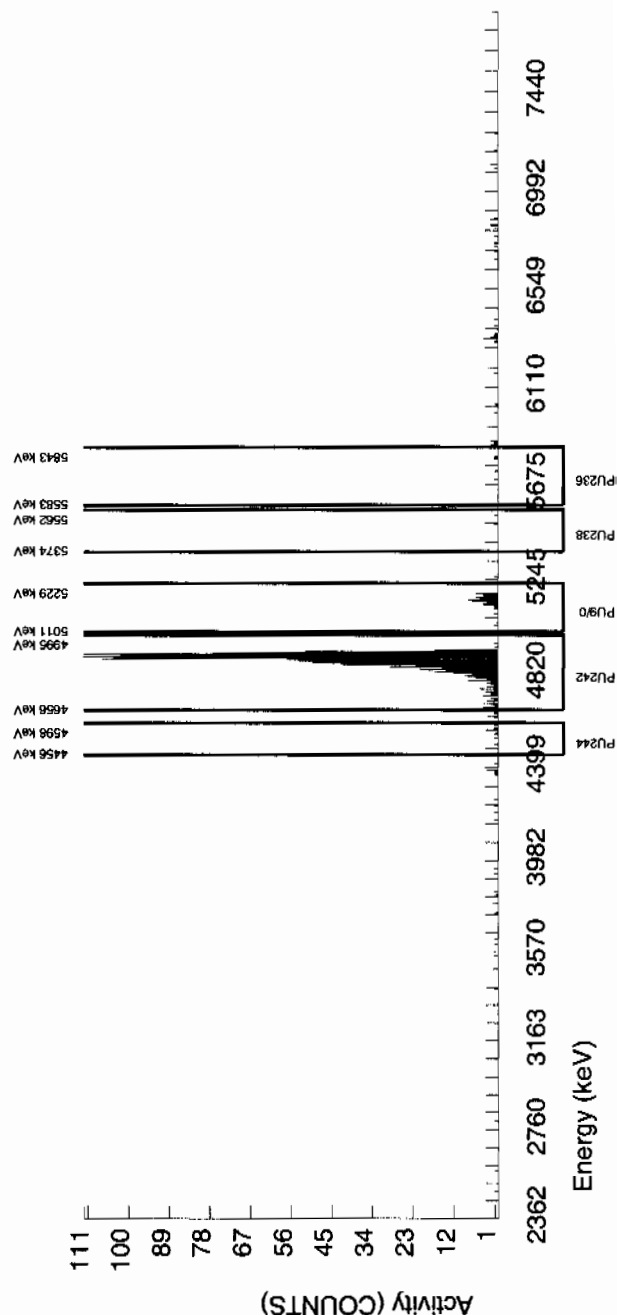
BATCH NUMBER : 950408 SAMPLE ID : S0245808004_PU SAMPLE QTY : 1.254 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 103.756				CHAMBER : 041 DETECTOR S/N : 78205 AVERAGE %EFFICIENCY : 33.0982 COUNT DATE : 16-FEB-2010 14:33:21 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B041.CNF;1109 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W041.CNF;321 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.5077E+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	5768.101	99.000	5.000	1.000	4.000	2.6925	100.0000	1.06E-03	3.18E-03	6.55E-03	1.59E-02	3.18E-03
PU-238	5499.000	5524.072	44.550	2.000	-2.000	4.000	2.9312	99.900000	-2.10E-03	2.57E-03	7.14E-03	1.71E-02	2.57E-03
PU-9/0	5155.000	5154.420	35.253	61.000	55.000	6.000	2.0604	99.900000	5.76E-02	9.03E-03	5.02E-03	1.29E-02	8.57E-03
PU242	4890.000	4883.723	35.482	1164.000	1161.000	3.000	1.7321	100.0000	1.21E+00	6.99E-02	4.21E-03	1.13E-02	3.57E-02
PU-244	4589.000	4563.306	0.000	8.000	6.000	2.000	3.7241	99.900000	6.28E-03	3.33E-03	9.07E-03	2.10E-02	3.31E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



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BATCH NUMBER : 950408 SAMPLE ID : S0245808005_PU SAMPLE QTY : 1.252 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 90.405	CHAMBER : 042 DETECTOR S/N : 78793 AVERAGE %EFFICIENCY : 33.2094 COUNT DATE : 16-FEB-2010 14:33:21 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_PU BKG FILE : B042.CNF:1108 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W042.CNF:294 CAL DATE : 3-FEB-2010
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TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.0564E+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

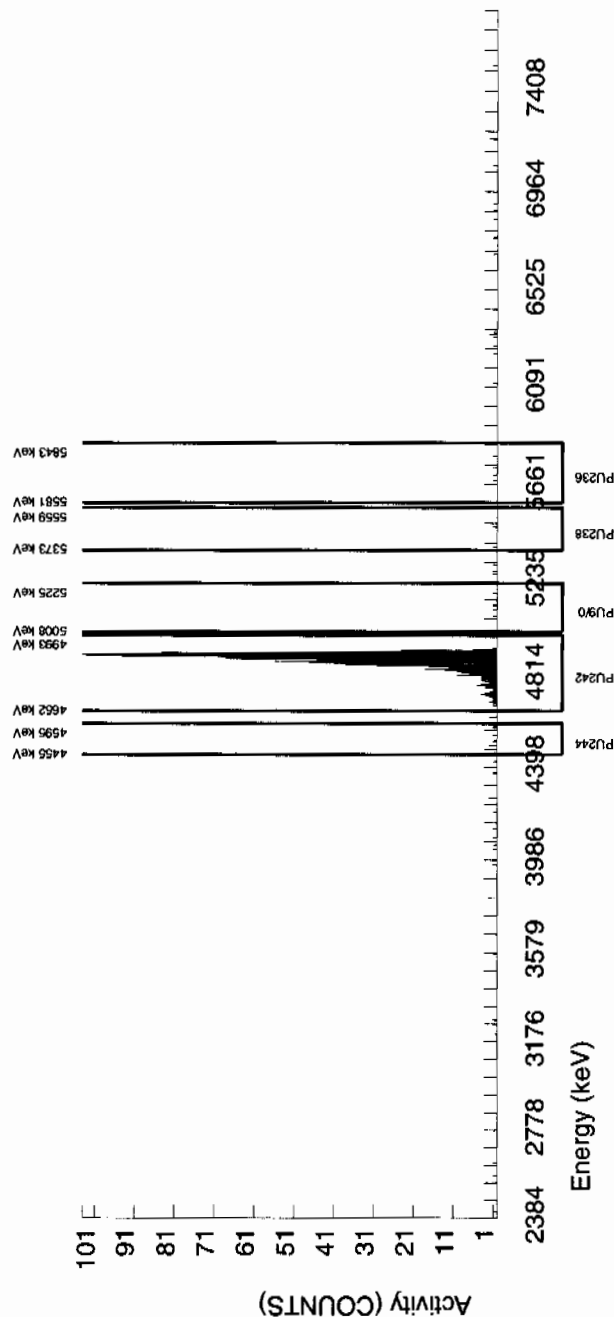
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
PU-236	5749.000	5751.647	146.730	5.000	2.000	3.000	2.6925	100.0000	2.43E-03	3.44E-03	7.51E-03	1.83E-02	3.44E-03
PU-238	5499.000	5452.641	88.038	3.000	3.000	0.000	2.9312	99.900000	3.60E-03	2.09E-03	8.18E-03	1.96E-02	2.08E-03
PU-9/0	5155.000	5145.309	0.000	6.000	2.000	4.000	2.0604	99.900000	2.40E-03	3.80E-03	5.75E-03	1.48E-02	3.79E-03
PU242	4890.000	4885.981	40.410	1018.000	1015.000	3.000	1.7321	100.0000	1.22E+00	7.26E-02	4.83E-03	1.29E-02	3.83E-02
PU-244	4589.000	4534.941	4.891	9.000	7.000	2.000	3.7241	99.900000	8.40E-03	4.00E-03	1.04E-02	2.40E-02	3.98E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

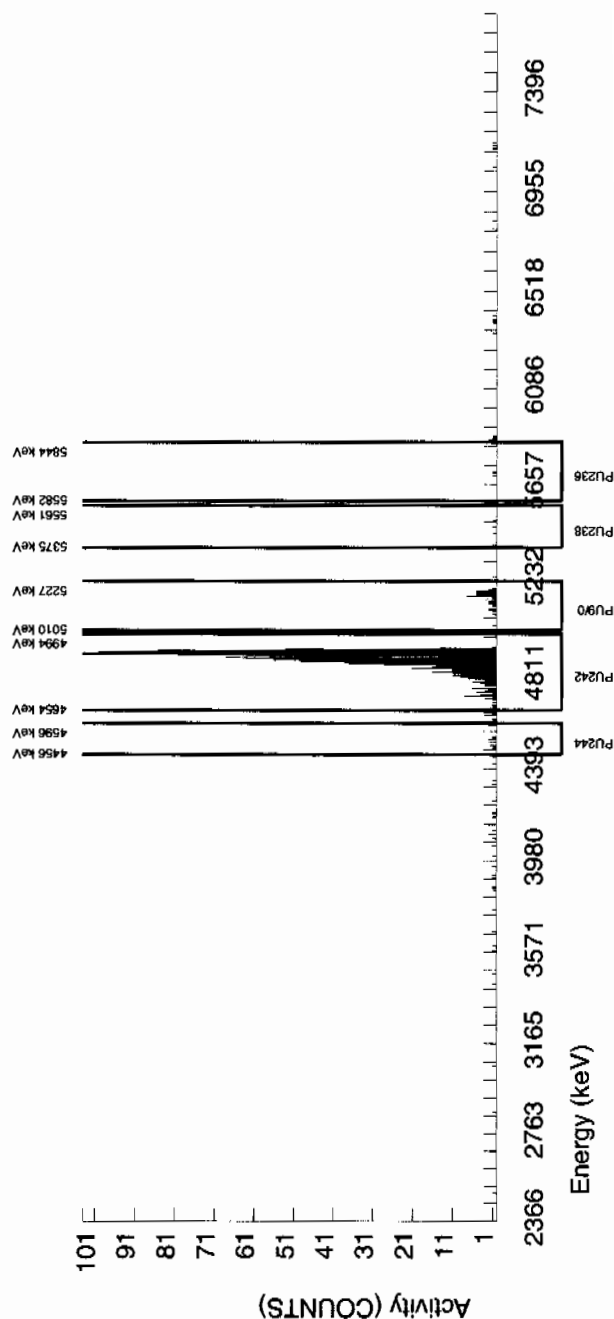


NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



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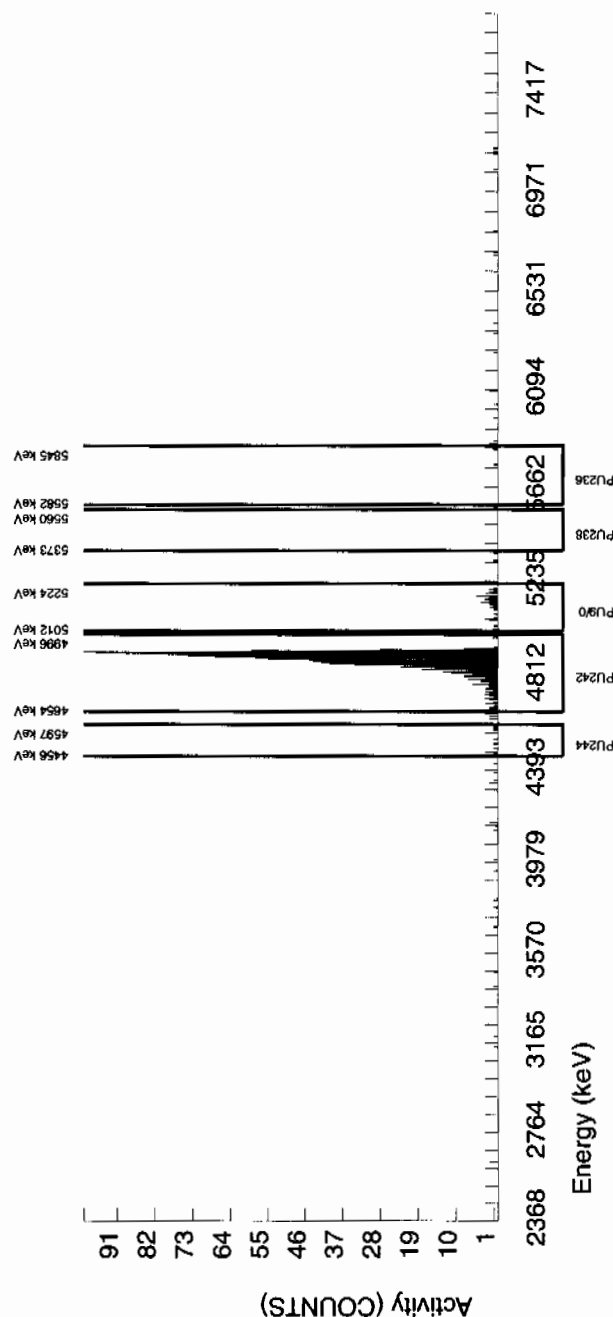
BATCH NUMBER : 950408 SAMPLE ID : S0245808007_PU SAMPLE QTY : 1.253 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 88.524				CHAMBER : 044 DETECTOR S/N : 79459 AVERAGE %EFFICIENCY : 34.2824 COUNT DATE : 16-FEB-2010 14:33:23 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B044.CNF;1116 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W044.CNF;307 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.9928E+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	5789.578	68.304	3.000	1.000	2.000	2.6925	100.0000	1.20E-03	2.69E-03	7.42E-03	1.81E-02	2.69E-03
PU-238	5499.000	5466.717	0.000	1.000	-1.000	2.000	2.9312	99.900000	-1.19E-03	2.06E-03	8.09E-03	1.94E-02	2.05E-03
PU-9/0	5155.000	5145.442	45.444	45.000	43.000	2.000	2.0604	99.900000	5.10E-02	8.53E-03	5.68E-03	1.46E-02	8.13E-03
PU242	4890.000	4885.453	37.380	1029.000	1026.000	3.000	1.7321	100.0000	1.22E+00	7.23E-02	4.77E-03	1.28E-02	3.81E-02
PU-244	4589.000	4535.137	117.533	11.000	11.000	0.000	3.7241	99.900000	1.30E-02	3.99E-03	1.03E-02	2.38E-02	3.93E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



CHAMBER : 045
DETECTOR S/N : 78783
AVERAGE %EFFICIENCY : 33.6564
COUNT DATE : 16-FEB-2010 14:33:23
ELAPSED LIVE TIME(SEC) : 60000.00

```
LIB FILE : ENV_ALPHA_PU
BKG FILE : B045.CNF;1105
BKG DATE : 14-FEB-2010
TIME(SEC) : 59999.99
EFF FILE : W045.CNF;298
CAL DATE : 3-FEB-2010
```

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

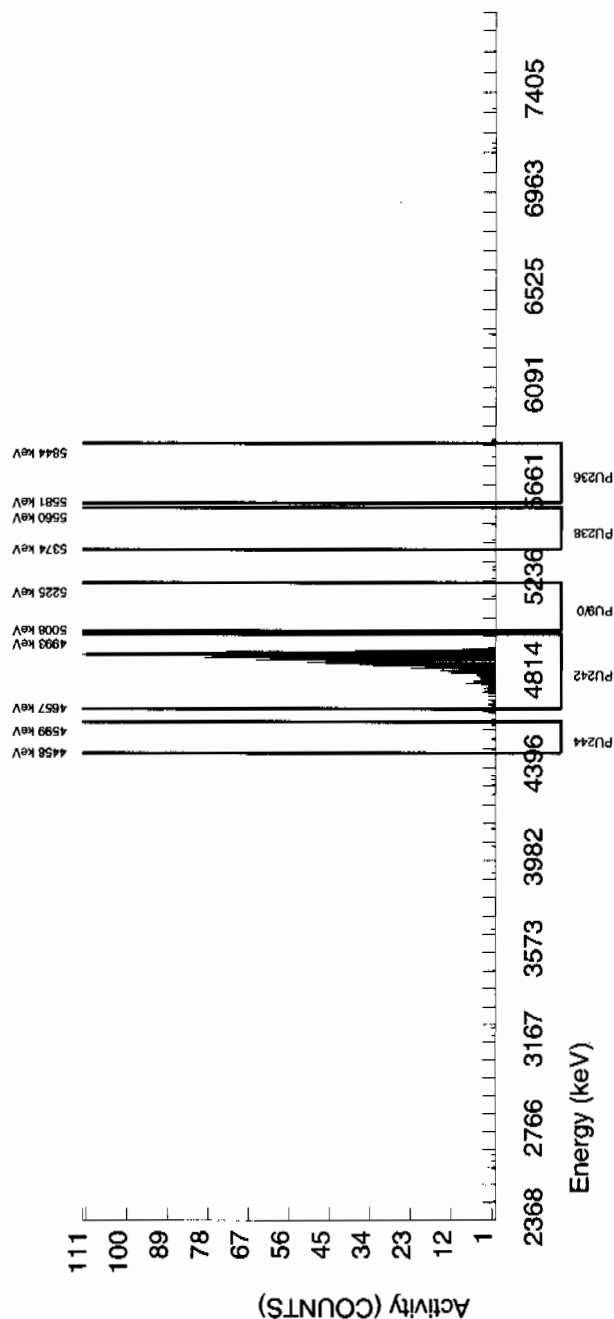
NUCLIDE ACTIVITY SUMMARY

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	5816.784	0.000	2.000	-3.000	5.000	2.6925	100.0000	-3.26E-03	2.87E-03	6.70E-03	1.63E-02	2.87E-03
PU-238	5499.000	5432.019	103.779	3.000	3.000	0.000	2.9312	99.900000	3.22E-03	1.86E-03	7.31E-03	1.75E-02	1.86E-03
PU-9/0	5155.000	5172.046	4.942	1.000	0.000	1.000	2.0604	99.900000	-1.28E-10	1.52E-03	5.14E-03	1.32E-02	1.52E-03
PU242	4890.000	4881.682	39.334	1135.000	1132.000	3.000	1.7321	100.0000	1.21E+00	7.02E-02	4.31E-03	1.15E-02	3.61E-02
PU-244	4589.000	4542.850	113.663	5.000	5.000	0.000	3.7241	99.900000	5.36E-03	2.41E-03	9.28E-03	2.15E-02	2.40E-03

NOTES:

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

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



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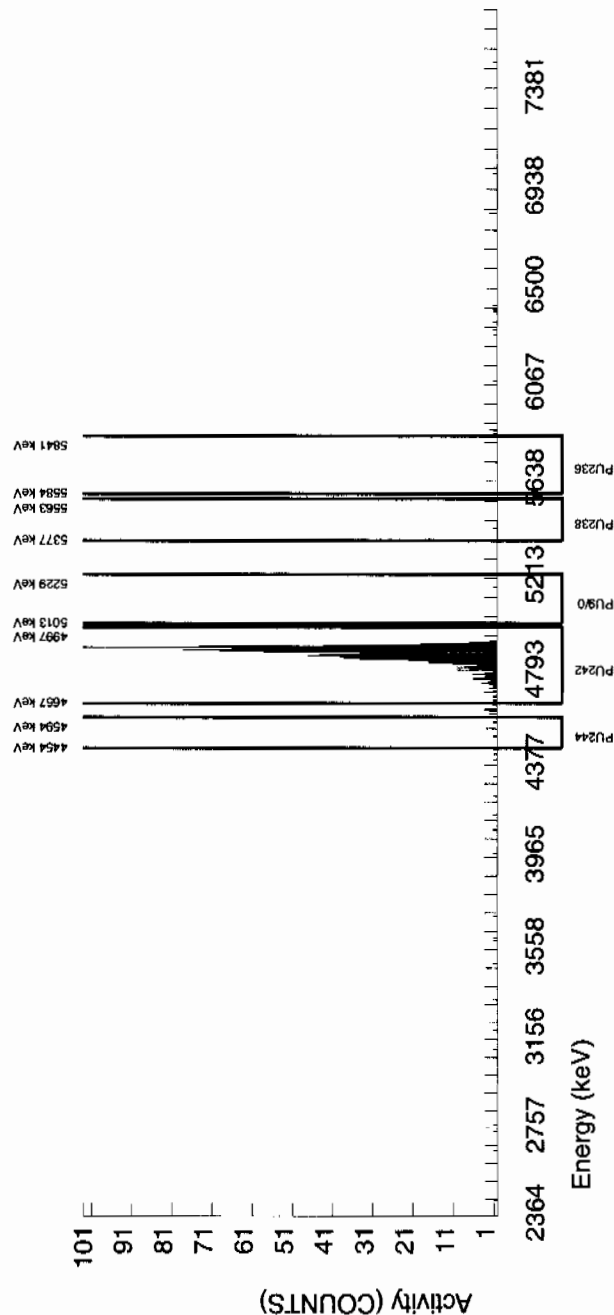
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TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 2.7321E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : PU-9/0 NOMINAL : 4.1778E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
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	5712.416	0.000	0.000	-6.000	6.000	2.6925	100.0000	-1.01E-02	4.43E-03	1.04E-02	2.54E-02	4.43E-03
PU-238	5499.000	5435.316	4.894	1.000	0.000	1.000	2.9312	99.900000	-1.99E-10	2.36E-03	1.14E-02	2.73E-02	2.36E-03
PU-9/0	5155.000	5175.916	4.894	1.000	-1.000	2.000	2.0604	99.900000	-1.67E-03	2.89E-03	8.00E-03	2.05E-02	2.89E-03
PU242	4890.000	4883.043	29.323	916.000	913.000	3.000	1.7321	100.0000	1.52E+00	9.38E-02	6.72E-03	1.80E-02	5.06E-02
PU-244	4589.000	4540.249	0.000	7.000	7.000	0.000	3.7241	99.900000	1.17E-02	4.46E-03	1.45E-02	3.35E-02	4.42E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



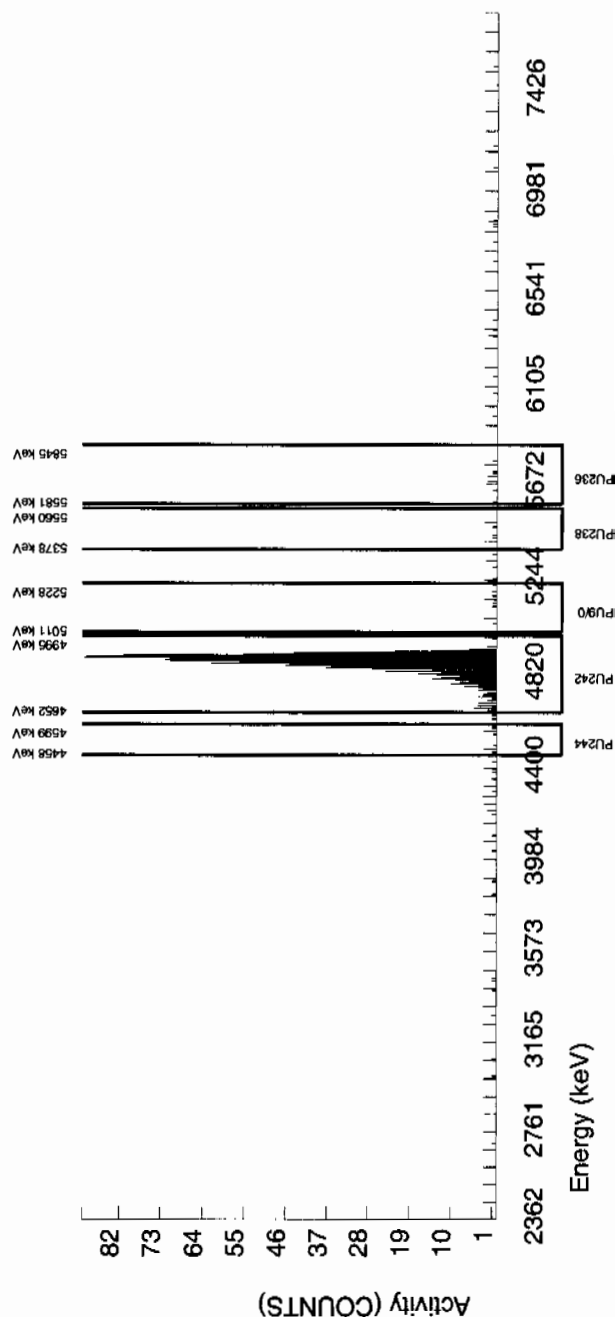
GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950408 SAMPLE ID : S1202036747_PU SAMPLE QTY : 1.253 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 97.081				CHAMBER : 047 DETECTOR S/N : 46-089B1 AVERAGE %EFFICIENCY : 34.3991 COUNT DATE : 16-FEB-2010 14:33:23 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B047.CNF,1111 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W047.CNF,303 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.2821E+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	5699.781	24.841	10.000	2.000	8.000	2.6925	100.0000	2.18E-03	4.64E-03	6.74E-03	1.64E-02	4.63E-03
PU-238	5499.000	5439.067	4.968	6.000	-2.000	8.000	2.9312	99.900000	-2.16E-03	4.03E-03	7.35E-03	1.76E-02	4.03E-03
PU-9/0	5155.000	5155.402	163.948	10.000	7.000	3.000	2.0604	99.900000	7.54E-03	3.90E-03	5.17E-03	1.33E-02	3.89E-03
PU242	4890.000	4877.226	48.476	1136.000	1129.000	7.000	2.6458	100.0000	1.22E+00	7.06E-02	6.63E-03	1.62E-02	3.64E-02
PU-244	4589.000	4533.708	118.614	8.000	6.000	2.000	3.7241	99.900000	6.47E-03	3.42E-03	9.34E-03	2.16E-02	3.41E-03

NOTES:

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

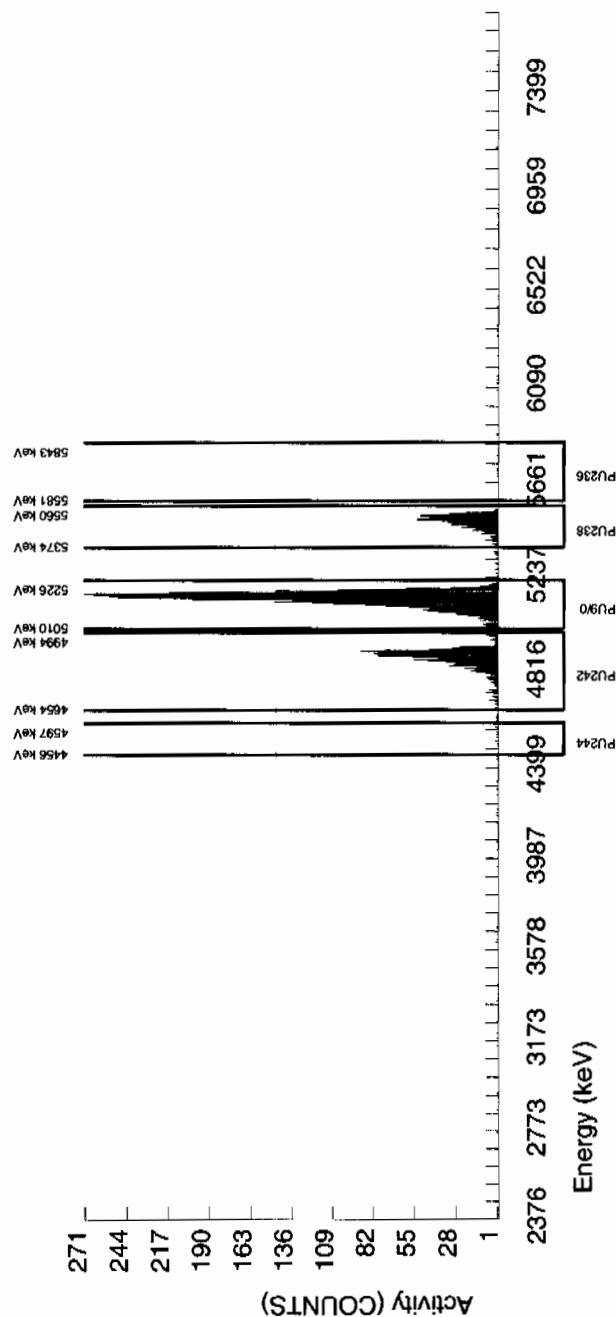
BATCH NUMBER : 950408 SAMPLE ID : S1202036748_PU SAMPLE QTY : 0.101 G SAMPLE DATE : 10-FEB-2010 00:00:00 ANALYST : AYB1 % YIELD : 102.102				CHAMBER : 048 DETECTOR S/N : 42483 AVERAGE %EFFICIENCY : 32.0990 COUNT DATE : 16-FEB-2010 14:33:23 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_PU BKG FILE : B048.CNF;1112 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W048.CNF;316 CAL DATE : 3-FEB-2010					
TRACER ID : 1375-A NUCLIDE : PU242 NOMINAL : 3.3808E+00 dpm RESULTS : 3.4518E+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	5732.146	88.810	7.000	-4.000	11.000	2.6925	100.0000	-5.47E-02	5.80E-02	8.52E-02	2.07E-01	5.80E-02
PU-238	5499.000	5493.757	47.993	606.000	592.000	14.000	2.9312	99.900000	8.07E+00	5.86E-01	9.29E-02	2.23E-01	3.39E-01
PU-9/0	5155.000	5148.432	47.778	3181.000	3170.000	11.000	2.0604	99.900000	4.32E+01	2.67E+00	6.53E-02	1.68E-01	7.70E-01
PU242	4890.000	4885.161	49.738	1115.000	1108.000	7.000	2.6458	100.0000	1.51E+01	1.00E+00	8.38E-02	2.04E-01	4.56E-01
PU-244	4589.000	4554.176	64.140	10.000	10.000	0.000	3.7241	99.900000	1.36E-01	4.38E-02	1.18E-01	2.73E-01	4.31E-02

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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



Radiochemistry Batch Checklist, Rev10

Batch# 952409 Product: () Date: 2/19/10

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 RPD acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.	✓		
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/LLD. (If real samples, < 5% of lowest activity)	✓		Case narrative
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			N/A
Smears Taken for Radioactive batches.			N/A
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line cuts initiated and dated.	✓		
No transcription errors are apparent.			
Ass 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 (DBR) completed, if applicable.			NA
Batch Data Exception Reports (DBR) second reviewed and disposition verified to be completed.			NA
Aliquot Correction completed if required.			NA
Review sample historical results if available (If REMAP, results above MDG have been verified by historical results, recount or re-analysis.)	✓		

GEL Laboratories, LLC

RADcheckRev10, revised 1/3/2010

Primary Review Performed By:

Denise Green 2/19/10

Secondary Review Performed By:

J. L. M. C. 2/19/10

2/26
LANX

74

Uranium Que Sheet

08-FEB-10

Batch #: 950409 Analyst: AYB1 First Client Due Date: 26-FEB-10 Internal Due Date: 15-FEB-10
 Tracer Isotope: U-232 U-236 Tracer Code: 1283-H Expiration Date: 12/9/10 Vol: 0.1
 LCS Isotope: U-238 LCS Code: Expiration Date: Vol:
 Spike Isotope: U-238 Spike Code: Expiration Date: Vol:
 Prep Date: 2/11/10 Initials: AYB Pipet ID: 2971058 Balance ID: 50110272 - Witness: JEH 2-11-10

Wet/Dry

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Aliquot (g/1/1)	U Det #
245808001-1	RE15-10-7954	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	1	1	0.509	115
245808002-1	RE15-10-7956	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	2	2	0.503	119
245808003-1	RE15-10-7955	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	3	3	0.506	117
245808004-1	RE15-10-7953	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	4	4	0.508	118
245808005-1	RE15-10-7952	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	5	5	0.513	120
245808006-1	RE15-10-4060	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	6	6	0.511	121
245808007-1	RE15-10-8058	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	7	7	0.505	122
245808008-1	RE15-10-8059	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	8	8	0.500	123
1202036749-1	MB for batch 950409	MB		.1 pCi/g	SOIL	QC ACCOUNT		9	9	1	11 124
1202036750-1	RE15-10-7954(245808001DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	26-JAN-10	10	10	0.503	125
1202036751-1	LCS for batch 950409	LCS		.1 pCi/g	SOIL	QC ACCOUNT		11	11	0.103	126

SRM 0244-A exp: 10/3/20

Choose SOP used: GL-RAD-A-011

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: OS 2/19/10

Blank Correction Report

Batch ID 950409

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Aliquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202036750	DUP	Uranium-233/234	0.503 g	4.49	0.363	0.131	.017216700	pCi/g	NO
		Uranium-235/236	0.503 g	0.482	0.066	0.0837	.007514911	pCi/g	NO
		Uranium-238	0.503 g	25.1	1.87	0.0897	.057852883	pCi/g	NO
1202036751	LCS	Uranium-233/234	0.103 g	5.54	0.529	0.445	.084077670	pCi/g	NO
		Uranium-235/236	0.103 g	0.327	0.0882	0.284	.036699029	pCi/g	NO
		Uranium-238	0.103 g	5.52	0.528	0.304	.282524272	pCi/g	NO
1202036749	MB	Uranium-233/234	1.00 g	0.00866	0.00369	0.0386	.00866	pCi/g	YES
		Uranium-235/236	1.00 g	0.00378	0.00269	0.0246	.00378	pCi/g	YES
		Uranium-238	1.00 g	0.0291	0.00761	0.0264	.0291	pCi/g	YES
245808001	RE15-10-7954	Uranium-233/234	0.509 g	5.10	0.405	0.128	.017013752	pCi/g	NO
		Uranium-235/236	0.509 g	0.499	0.0669	0.0803	.007426326	pCi/g	NO
		Uranium-238	0.509 g	27.9	2.07	0.086	.057170923	pCi/g	NO
245808003	RE15-10-7955	Uranium-233/234	0.506 g	7.34	0.599	0.166	.017114625	pCi/g	NO
		Uranium-235/236	0.506 g	0.822	0.104	0.106	.007470356	pCi/g	NO
		Uranium-238	0.506 g	31.6	2.45	0.113	.057509881	pCi/g	NO
245808005	RE15-10-7952	Uranium-233/234	0.513 g	0.634	0.067	0.097	.016881092	pCi/g	NO
		Uranium-235/236	0.513 g	0.038	0.0153	0.0618	.007368421	pCi/g	NO
		Uranium-238	0.513 g	0.872	0.0848	0.0662	.056725146	pCi/g	NO
245808007	RE15-10-8058	Uranium-233/234	0.505 g	5.37	0.425	0.126	.017148515	pCi/g	NO
		Uranium-235/236	0.505 g	0.526	0.0693	0.0805	.007485149	pCi/g	NO
		Uranium-238	0.505 g	24.3	1.80	0.0862	.057623762	pCi/g	NO
245808008	RE15-10-8059	Uranium-233/234	0.500 g	0.638	0.0801	0.162	.01732	pCi/g	NO
		Uranium-235/236	0.500 g	0.0238	0.0139	0.103	.00756	pCi/g	YES
		Uranium-238	0.500 g	0.957	0.107	0.111	.0582	pCi/g	NO

Handwritten signature
2/19/10

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950409	CHAMBER : 115	LIB FILE : ENV_ALPHA_UU
SAMPLE ID : S0245808001_UU	DETECTOR S/N : 79995	BKG FILE : B115.CNF:454
SAMPLE QTY : 0.509 G	AVERAGE %EFFICIENCY : 25.9560	BKG DATE : 14-FEB-2010
SAMPLE DATE : 26-JAN-2010 00:00:00	COUNT DATE : 15-FEB-2010 21:11:40	BKG LIVE TIME(SEC) : 60000.00
ANALYST : AYB1	ELAPSED LIVE TIME(SEC) : 60000.00	EFF FILE : W115.CNF:147
% YIELD : 68.349		CAL DATE : 18-JAN-2010

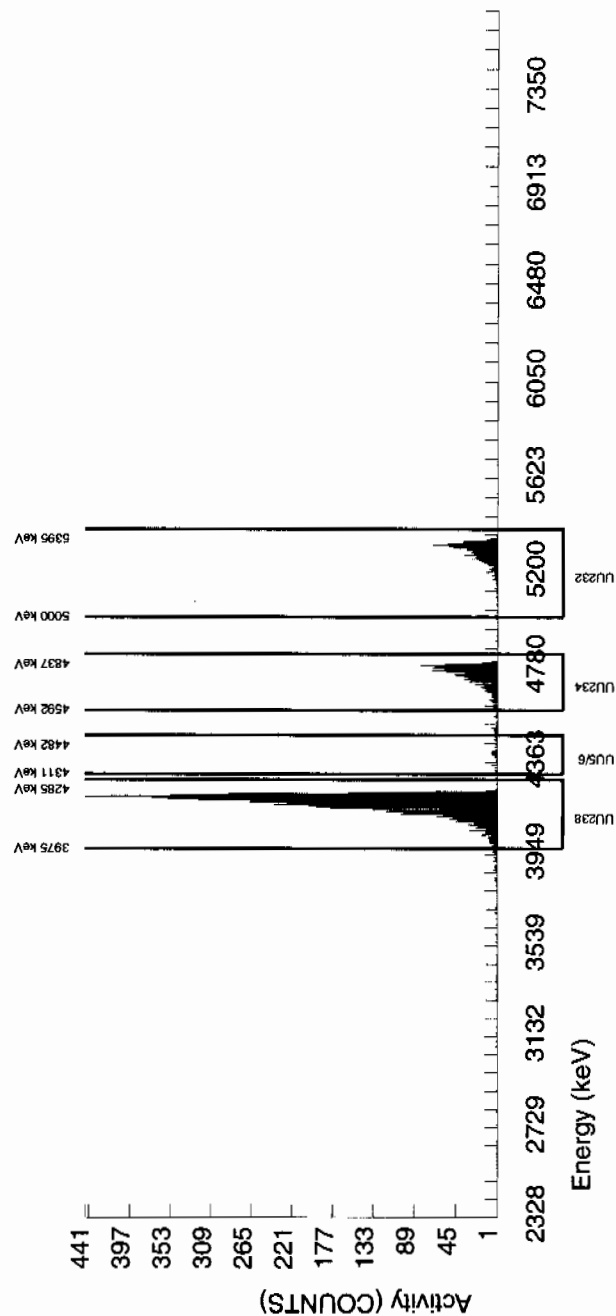
TRACER ID : 1283-H	MS/MSD ID : 0244-A	LCS/LCSD ID : 0244-A
NUCLIDE : U232	NUCLIDE : U-238	NUCLIDE : U-238
NOMINAL : 4.5064E+00 dpm	NOMINAL : 5.7500E+00 pCi/G	NOMINAL : 5.7500E+00 pCi/G
RESULTS : 3.0801E+00 dpm		

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
U232	5302.100	5292.514	60.674	801.000	799.000	2.000	1.4142	100.0000	3.99E+00	3.23E-01	1.64E-02	4.63E-02	1.41E-01
U-3/4	4763.020	4750.914	53.738	1026.000	1022.191	3.000	4.8416	100.0000	5.10E+00	4.05E-01	5.62E-02	1.26E-01	1.60E-01
U-235	4391.000	4402.635	107.883	82.000	81.000	1.000	2.2152	80.90000	4.99E-01	6.69E-02	3.18E-02	8.03E-02	5.62E-02
U-238	4184.730	4181.881	54.481	5601.000	5600.000	1.000	3.1208	100.0000	2.79E+01	2.07E+00	3.62E-02	8.60E-02	3.73E-01

NOTES:

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

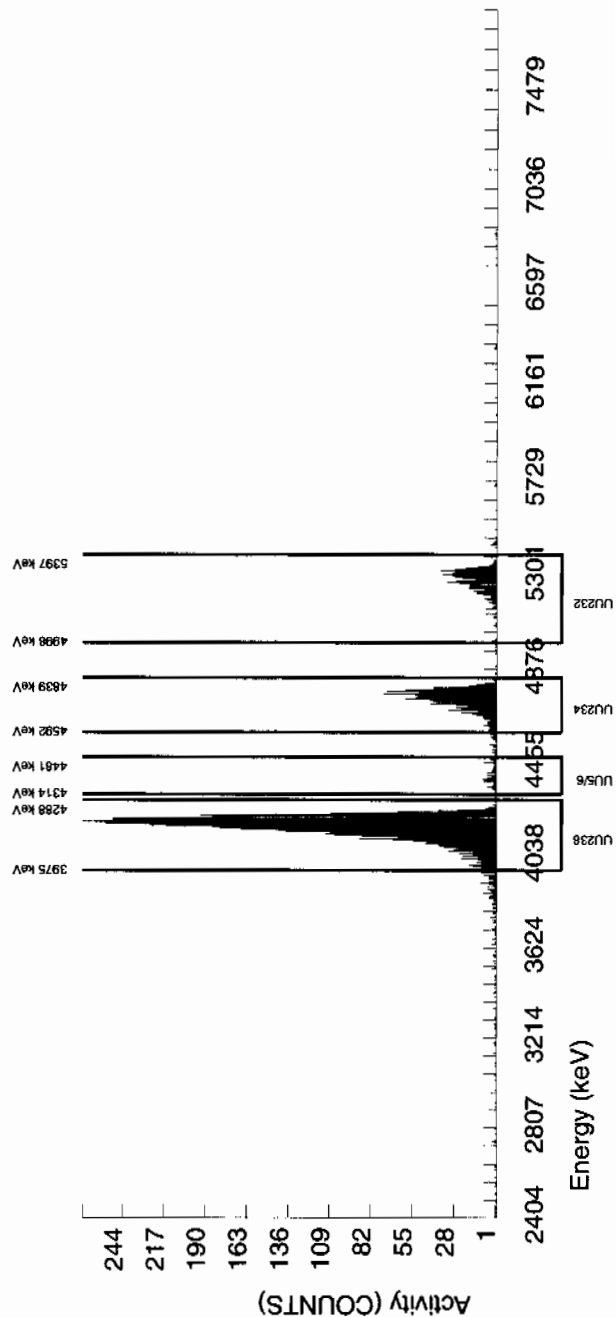


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950409 SAMPLE ID : S0245808003_UU SAMPLE QTY : 0.506 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 53.900				CHAMBER : 117 DETECTOR S/N : 33450 AVERAGE %EFFICIENCY : 25.0873 COUNT DATE : 15-FEB-2010 21:11:45 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B117.CNF;452 BKG DATE : 14-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 : 4.5064E+00 dpm RESULTS : 2.4289E+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	5279.695	76.438	622.000	609.000	13.000	3.6056	100.0000	4.01E+00	3.47E-01	5.52E-02	1.28E-01	1.66E-01
U-3/4	4763.020	4743.678	74.147	1117.000	1114.384	2.000	4.8416	100.0000	7.34E+00	5.99E-01	7.42E-02	1.66E-01	2.20E-01
U-235	4391.000	4399.772	68.675	103.000	101.000	2.000	2.2152	80.90000	8.22E-01	1.04E-01	4.19E-02	1.06E-01	8.34E-02
U-238	4184.730	4171.574	77.818	4808.000	4807.000	1.000	3.1208	100.0000	3.16E+01	2.45E+00	4.78E-02	1.13E-01	4.57E-01

NOTES:

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

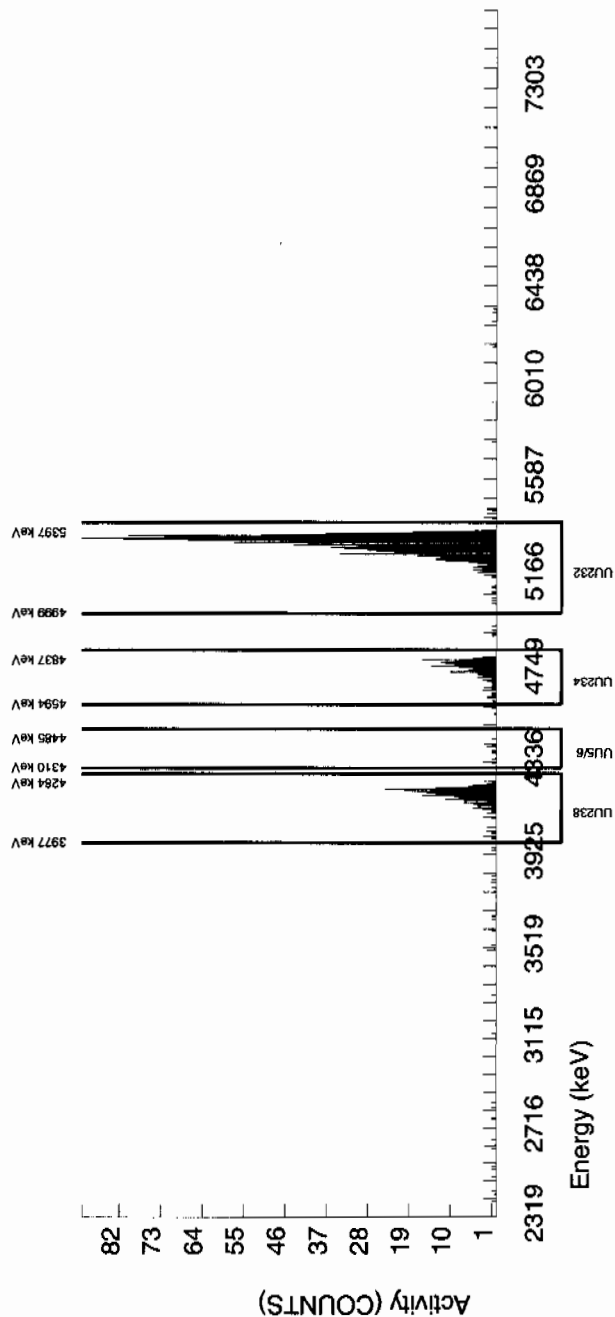


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950409 SAMPLE ID : S0245808005_UU SAMPLE QTY : 0.513 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 87.936				CHAMBER : 120 DETECTOR S/N : 74430 AVERAGE %EFFICIENCY : 25.9820 COUNT DATE : 15-FEB-2010 21:11:49 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B120.CNF;464 BKG DATE : 14-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 : 4.5064E+00 dpm RESULTS : 3.9628E+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	5306.706	40.225	1031.000	1029.000	2.000	1.4142	100.0000	3.96E+00	3.07E-01	1.26E-02	3.57E-02	1.24E-01
U-3/4	4763.020	4754.479	55.906	167.000	164.959	1.000	4.8416	100.0000	6.34E-01	6.70E-02	4.33E-02	9.70E-02	4.97E-02
U-235	4391.000	4392.245	4.933	9.000	8.000	1.000	2.2152	80.90000	3.80E-02	1.53E-02	2.45E-02	6.18E-02	1.50E-02
U-238	4184.730	4189.013	38.054	227.000	227.000	0.000	3.1208	100.0000	8.72E-01	8.48E-02	2.79E-02	6.62E-02	5.79E-02

NOTES:

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

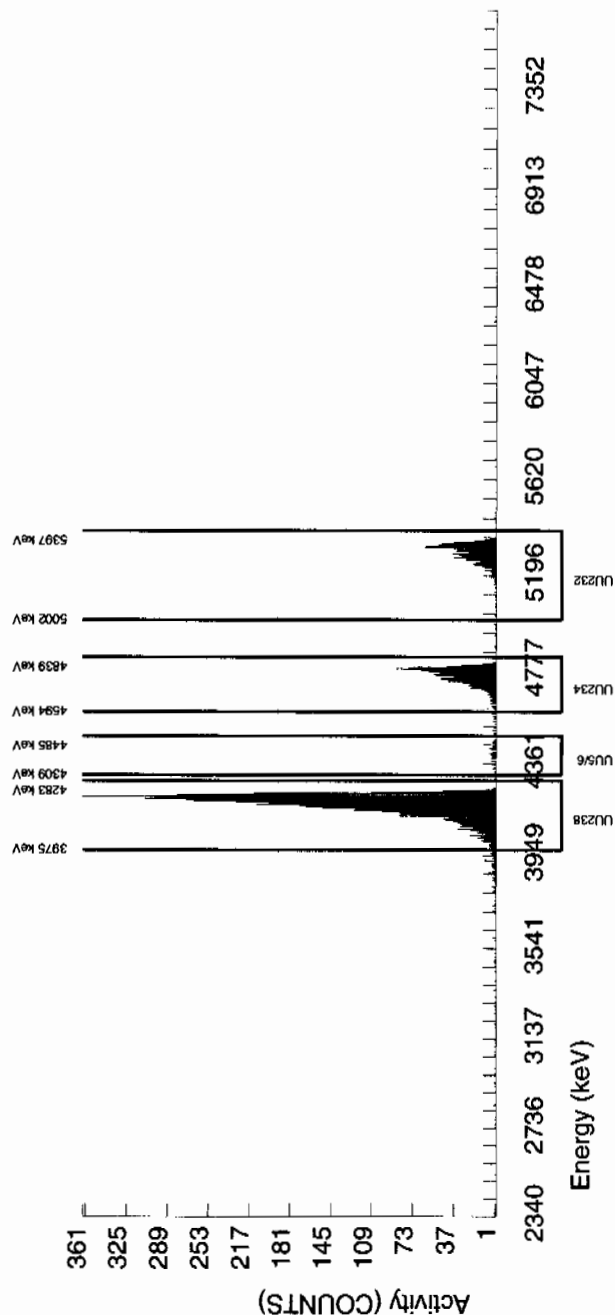


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950409 SAMPLE ID : S0245808007_UU SAMPLE QTY : 0.505 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 71.414				CHAMBER : 122 DETECTOR S/N : 75546 AVERAGE %EFFICIENCY : 24.9662 COUNT DATE : 15-FEB-2010 21:11:54 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B122.CNF;448 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W122.CNF;120 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5064E+00 dpm RESULTS : 3.2182E+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	5298.545	67.683	807.000	803.000	4.000	2.0000	100.0000	4.02E+00	3.26E-01	2.33E-02	6.01E-02	1.43E-01
U-3/4	4763.020	4756.229	57.830	1075.000	1074.187	0.000	4.8416	100.0000	5.37E+00	4.25E-01	5.63E-02	1.26E-01	1.64E-01
U-235	4391.000	4405.343	26.253	86.000	85.000	1.000	2.2152	80.90000	5.26E-01	6.93E-02	3.19E-02	8.05E-02	5.77E-02
U-238	4184.730	4180.827	54.373	4853.000	4853.000	0.000	3.1208	100.0000	2.43E+01	1.80E+00	3.63E-02	8.62E-02	3.49E-01

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

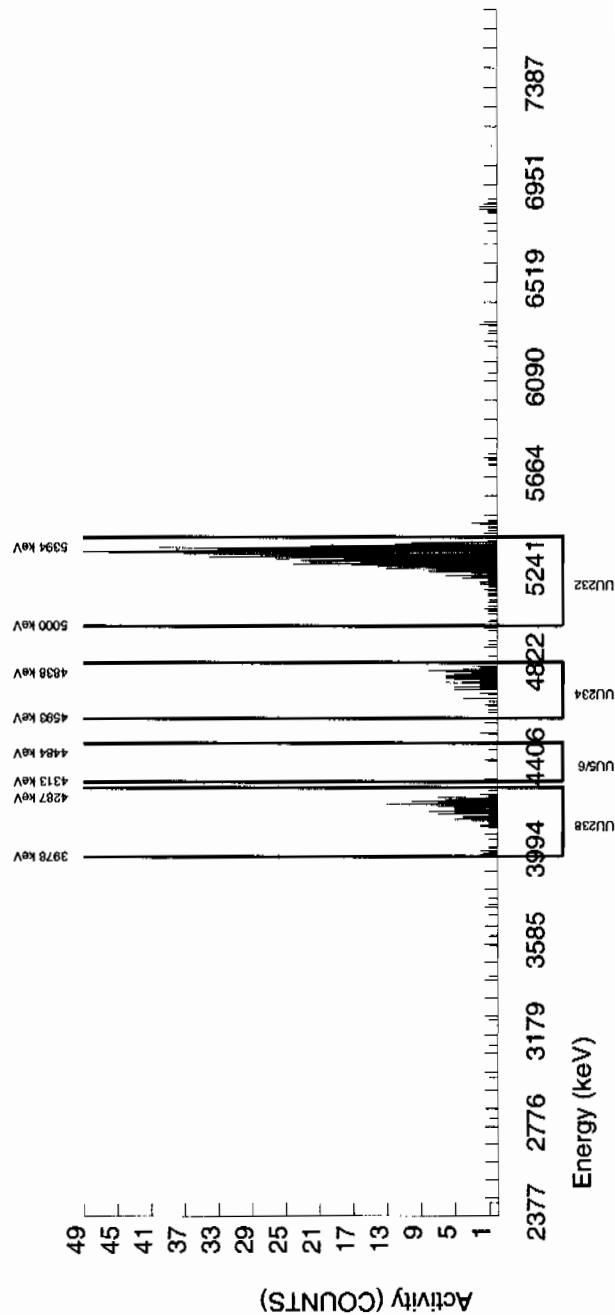
<p>BATCH NUMBER : 950409 SAMPLE ID : S0245808008_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 53.977</p>	<p>CHAMBER : 123 DETECTOR S/N : 45-142V3 AVERAGE %EFFICIENCY : 25.9975 COUNT DATE : 15-FEB-2010 21:11:57 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_UU BKG FILE : B123.CNF:446 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W123.CNF:116 CAL DATE : 18-JAN-2010</p>
<p>TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5064E+00 dpm RESULTS : 2.4324E+00 dpm</p>	<p>MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>	<p>LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G</p>

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5309.925	55.905	644.000	632.000	12.000	3.4641	100.0000	4.06E+00	3.48E-01	5.17E-02	1.21E-01	1.65E-01
U-3/4	4763.020	4763.550	85.379	100.000	99.360	0.000	4.8416	100.0000	6.38E-01	8.01E-02	7.23E-02	1.62E-01	6.40E-02
U-235	4391.000	4428.842	54.663	3.000	3.000	0.000	2.2152	80.90000	2.38E-02	1.39E-02	4.09E-02	1.03E-01	1.37E-02
U-238	4184.730	4187.244	70.192	149.000	149.000	0.000	3.1208	100.0000	9.57E-01	1.07E-01	4.66E-02	1.11E-01	7.84E-02

NOTES:

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

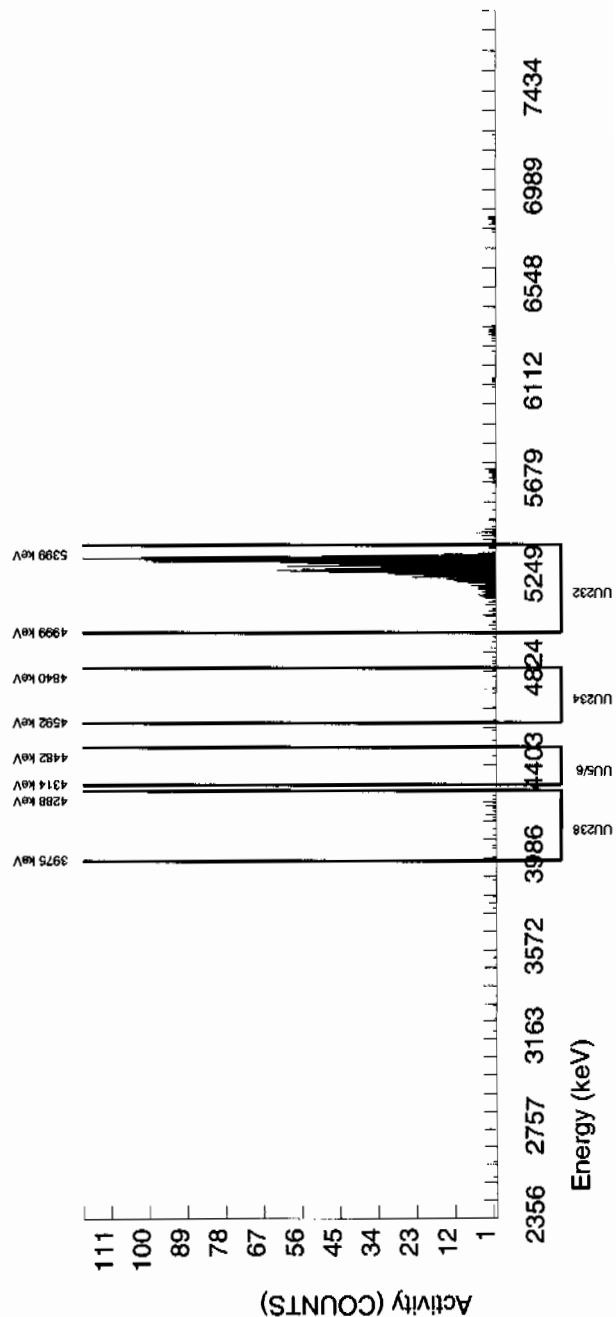


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950409 SAMPLE ID : S1202036749_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 11-FEB-2010 00:00:00 ANALYST : AYB1 % YIELD : 99.234				CHAMBER : 011 DETECTOR S/N : 72531 AVERAGE %EFFICIENCY : 29.6489 COUNT DATE : 18-FEB-2010 17:13:01 ELAPSED LIVE TIME(SEC) : 59999.99				LIB FILE : ENV_ALPHA_UU BKG FILE : B011.CNF;1116 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 59999.99 EFF FILE : W011.CNF;313 CAL DATE : 3-FEB-2010						
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5044E+00 dpm RESULTS : 4.4700E+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	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.625	65.145	1331.000	1325.000	5.659	6.000	2.4495	100.0000	2.03E+00	1.51E-01	8.72E-03	2.16E-02	5.60E-02
U-3/4	4763.020	4735.147	219.798	7.000	7.000	2.000	0.000	4.8416	100.0000	8.66E-03	3.69E-03	1.72E-02	3.86E-02	3.64E-03
U-235	4391.000	4387.263	124.885	2.000	2.000	2.000	0.000	2.2152	80.90000	3.78E-03	2.69E-03	9.75E-03	2.46E-02	2.68E-03
U-238	4184.730	4173.710	44.959	21.000	19.000	19.000	2.000	3.1208	100.0000	2.91E-02	7.61E-03	1.11E-02	2.64E-02	7.34E-03

NOTES:

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

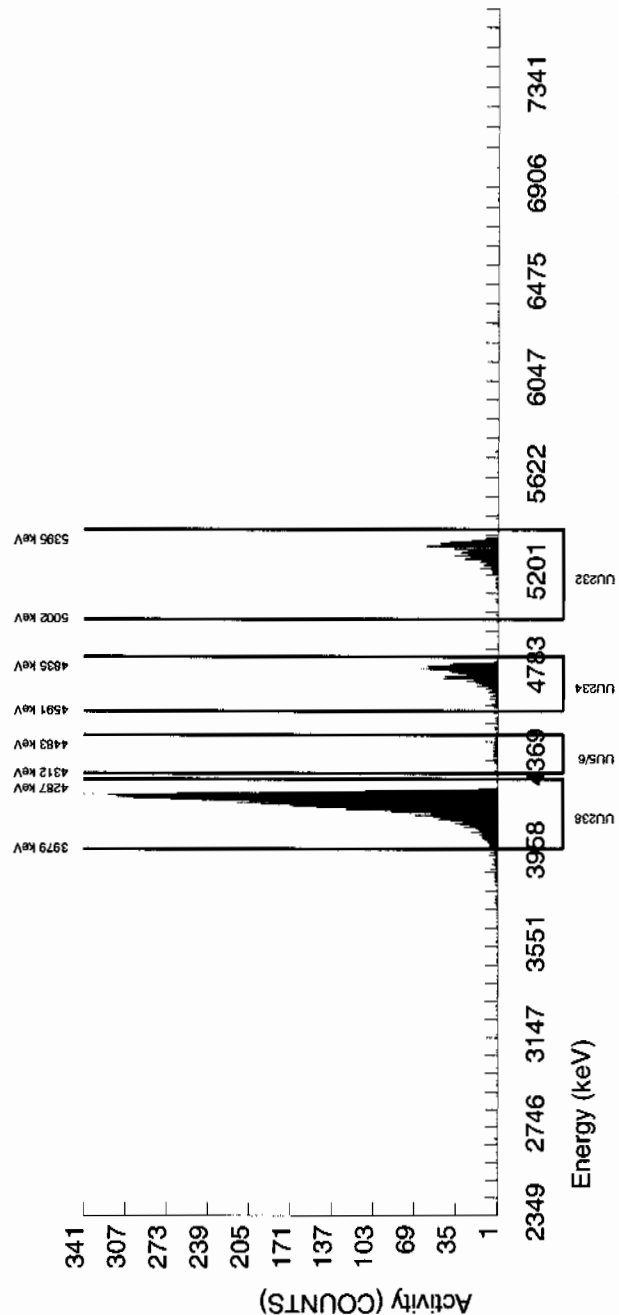


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 950409 SAMPLE ID : S1202036750_UU SAMPLE QTY : 0.503 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 66.504				CHAMBER : 125 DETECTOR S/N : 75547 AVERAGE %EFFICIENCY : 25.8749 COUNT DATE : 15-FEB-2010 21:12:02 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B125.CNF;452 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W125.CNF;130 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5064E+00 dpm RESULTS : 2.9969E+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	5298.306	64.335	776.000	775.000	1.000	1.0000	100.0000	4.04E+00	3.29E-01	1.21E-02	3.83E-02	1.45E-01
U-3/4	4763.020	4757.623	67.503	864.000	863.216	0.000	4.8416	100.0000	4.49E+00	3.63E-01	5.86E-02	1.31E-01	1.53E-01
U-235	4391.000	4409.703	145.006	75.000	75.000	0.000	2.2152	80.90000	4.82E-01	6.60E-02	3.32E-02	8.37E-02	5.57E-02
U-238	4184.730	4183.470	60.322	4817.000	4817.000	0.000	3.1208	100.0000	2.51E+01	1.87E+00	3.78E-02	8.97E-02	3.61E-01

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

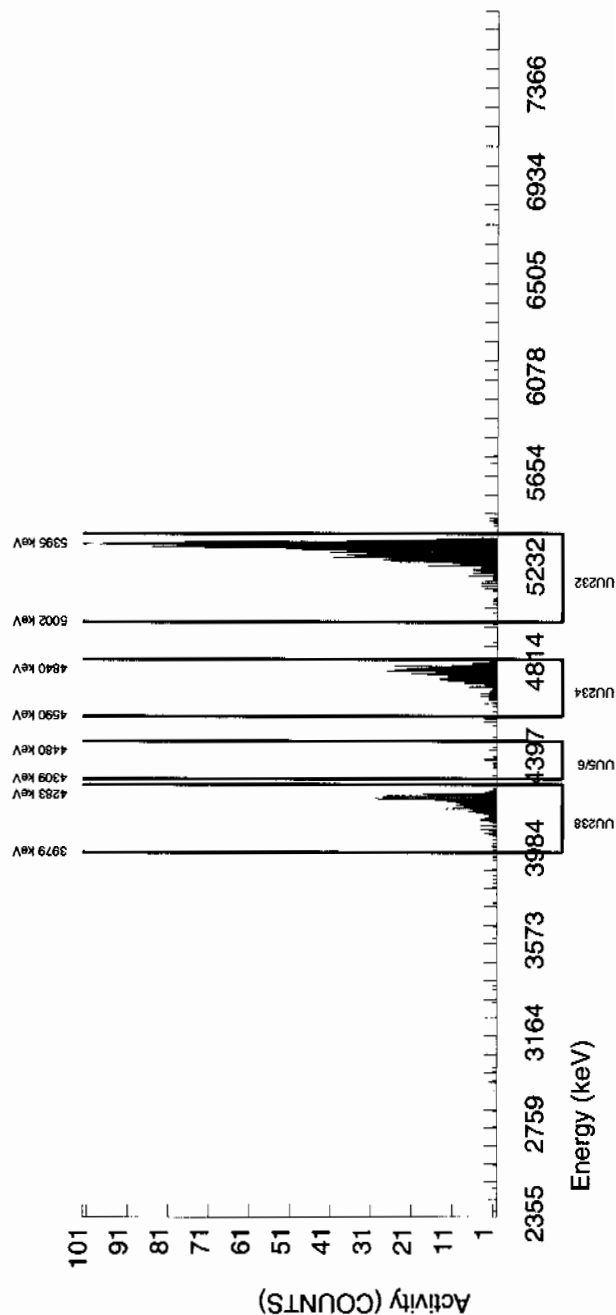
BATCH NUMBER : 950409 SAMPLE ID : S1202036751_UU SAMPLE QTY : 0.103 G SAMPLE DATE : 11-FEB-2010 00:00:00 ANALYST : AYB1 % YIELD : 98.833				CHAMBER : 126 DETECTOR S/N : 75548 AVERAGE %EFFICIENCY : 25.0717 COUNT DATE : 15-FEB-2010 21:12:05 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B126.CNF,451 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W126.CNF,132 CAL DATE : 18-JAN-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5044E+00 dpm RESULTS : 4.4519E+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	5322.349	33.664	1118.000	1116.000	2.000	1.4142	100.0000	1.97E+01	1.62E+00	5.81E-02	1.64E-01	5.91E-01
U-3/4	4763.020	4774.793	59.361	316.000	313.871	1.000	4.8416	100.0000	5.54E+00	5.29E-01	1.99E-01	4.45E-01	3.14E-01
U-235	4391.000	4392.277	48.980	15.000	15.000	0.000	2.2152	80.90000	3.27E-01	8.82E-02	1.12E-01	2.84E-01	8.45E-02
U-238	4184.730	4197.652	31.132	315.000	313.000	2.000	3.1208	100.0000	5.52E+00	5.28E-01	1.28E-01	3.04E-01	3.14E-01

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

Radiochemistry Batch Checklist, Rev10

Batch# 954558 Product: Am Date: 2/21/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By: [Signature] 2/21/10

Secondary Review Performed By: J. P. M. - 2/22/10

LANL

2/20 - 2/26 93 of 817

Am/Cm Que Sheet

17-FEB-10

Batch #: 954558 Analyst: AYB1 First Client Due Date: 26-FEB-10 Internal Due Date: 20-FEB-10 Comments:
 Tracer(s): (Am243)/Cm244 Tracer Code: 445-96-2-SS Expiration Date: 05/11/10 Vol: 0.1
 LCS Isotope(s): Am241/Cm244 LCS Code(s): Expiration Date: Expiration Date: Vol(s):
 Spike Isotope(s): Am241/Cm244 Spike Code(s): Expiration Date: Expiration Date: Vol(s):
 Prep Date: 2/10/10 Initials: WJB Pipet ID: 2471058 Balance ID: 50410272 Witness: JEH 2-18-10

Sample ID	Client Description	Type	Hazard		Matrix	Client	Collection Date	Pos.	Label #	Wet/Dry	Am/Cm
			Code	Min						Aliquot (g/l/n)	
245808001-2	RE15-10-7954	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	1	1	1,251	226	
245808002-2	RE15-10-7956	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	2	2	1,261	229	
245808003-2	RE15-10-7955	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	3	3	1,257	230	
245808004-2	RE15-10-7953	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	4	4	1,267	235	
245808005-2	RE15-10-7952	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	5	5	1,262	236	
245808006-2	RE15-10-8060	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	6	6	1,258	235	
245808007-2	RE15-10-8058	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	7	7	1,252	240	
245808008-2	RE15-10-8059	SAMPLE	.05 pCi/g	SOIL	LANL010	26-JAN-10	8	8	1,263	241	
1202046259-1	MB for batch 954558	MB	UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT	26-JAN-10	9	9	1	238	
1202046264-2	RE15-10-7956(245808002DUP)	DUP	.05 pCi/g	SOIL	QC ACCOUNT	26-JAN-10	10	10	1,251	244	
1202046261-1	LCS for batch 954558	LCS	UCF pCi/g to pCi/soil	QC ACCOUNT	QC ACCOUNT	26-JAN-10	11	11	0.103	198	

SRM 0244-B Exp 4/30/20

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

Solid Sample Dissolution by: LEACH or DIGESTION

Circle One

Data Reviewed By: 2/21/10

GEL Laboratories LLC, Radiochemistry Division

2/22/10

Page 1 of 1

Blank Correction Report

Batch ID 954558

GEL Sample ID	Client sample ID	Parameter	Allquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202046260	DUP	Americium-241	1.25 g	0.0019	0.00154	0.0198	-.004024	pCi/g	NO
1202046261	LCS	Americium-241	0.103 g	32.1	2.40	0.320	-.04883495	pCi/g	NO
1202046259	MB	Americium-241	1.00 g	-0.00503	0.00307	0.0219	-.00503	pCi/g	NO
245808001	RE15-10-7954	Americium-241	1.25 g	-0.000204	0.00229	0.0258	-.004024	pCi/g	NO
245808002	RE15-10-7956	Americium-241	1.26 g	0.00181	0.00148	0.0192	-.00399206	pCi/g	NO
245808003	RE15-10-7955	Americium-241	1.26 g	0.00884	0.00346	0.017	-.00399206	pCi/g	NO
245808004	RE15-10-7953	Americium-241	1.27 g	0.00966	0.00338	0.0183	-.00396063	pCi/g	NO
245808005	RE15-10-7952	Americium-241	1.26 g	0.000181	0.000996	0.0158	-.00399206	pCi/g	NO
245808006	RE15-10-8060	Americium-241	1.26 g	0.0153	0.00442	0.0171	-.00399206	pCi/g	NO
245808007	RE15-10-8058	Americium-241	1.25 g	0.0222	0.00527	0.0159	-.004024	pCi/g	NO
245808008	RE15-10-8059	Americium-241	1.26 g	0.00729	0.00291	0.0181	-.00399206	pCi/g	NO

2/22/10

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 954558 SAMPLE ID : S0245808001_AM SAMPLE QTY : 1.251 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 59.868</p>	<p>CHAMBER : 228 DETECTOR S/N : 79421 AVERAGE %EFFICIENCY : 37.1363 COUNT DATE : 20-FEB-2010 13:37:12 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B228.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W228.CNF:28 CAL DATE : 29-JAN-2010</p>
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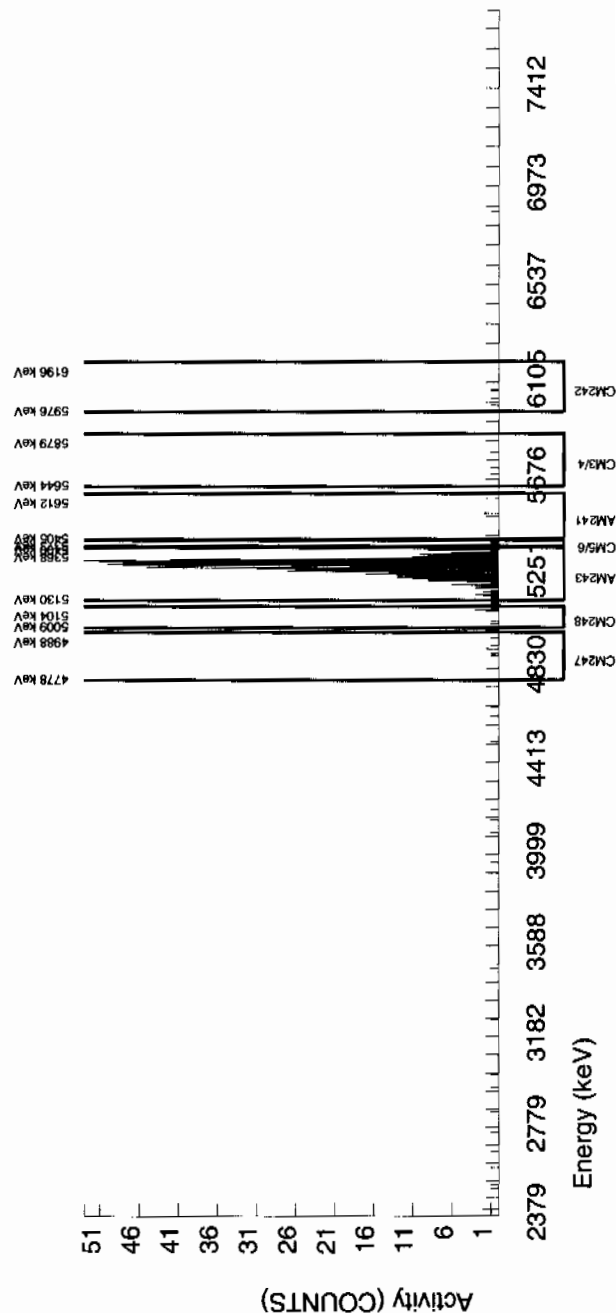
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 1.7461E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G</p>
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NUCLIDE ACTIVITY 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	5527.172	4.969	2.000	-0.126	1.000	2.8409	99.94000	-2.04E-04	2.29E-03	1.07E-02	2.58E-02	2.29E-03
AM243	5270.000	5288.820	53.001	647.000	647.000	0.000	0.0000	99.78000	1.05E+00	7.79E-02	0.00E+00	4.40E-03	4.13E-02
CM-242	6102.000	6049.707	69.572	4.000	4.000	0.000	4.3413	100.0000	7.23E-03	3.65E-03	1.64E-02	3.71E-02	3.62E-03
CM-3/4	5795.020	5743.901	94.419	3.000	3.000	0.000	5.1799	100.0000	4.87E-03	2.83E-03	1.95E-02	4.34E-02	2.81E-03
CM-5/6	5386.000	5383.040	14.287	7.000	7.000	0.000	14.2480	86.09000	1.32E-02	5.05E-03	6.24E-02	1.30E-01	4.98E-03
CM-247	4946.000	4895.222	173.930	5.000	5.000	0.000	13.7917	79.30000	1.02E-02	4.61E-03	6.55E-02	1.37E-01	4.57E-03
CM-248	5078.600	5079.843	7.454	8.000	8.000	0.000	19.5080	91.00000	1.42E-02	5.11E-03	8.08E-02	1.66E-01	5.03E-03

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 954558 SAMPLE ID : S0245808002_AM SAMPLE QTY : 1.261 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 79.609</p>	<p>CHAMBER : 229 DETECTOR S/N : 79422 AVERAGE %EFFICIENCY : 37.2509 COUNT DATE : 20-FEB-2010 13:37:15 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B229.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W229.CNF:28 CAL DATE : 29-JAN-2010</p>
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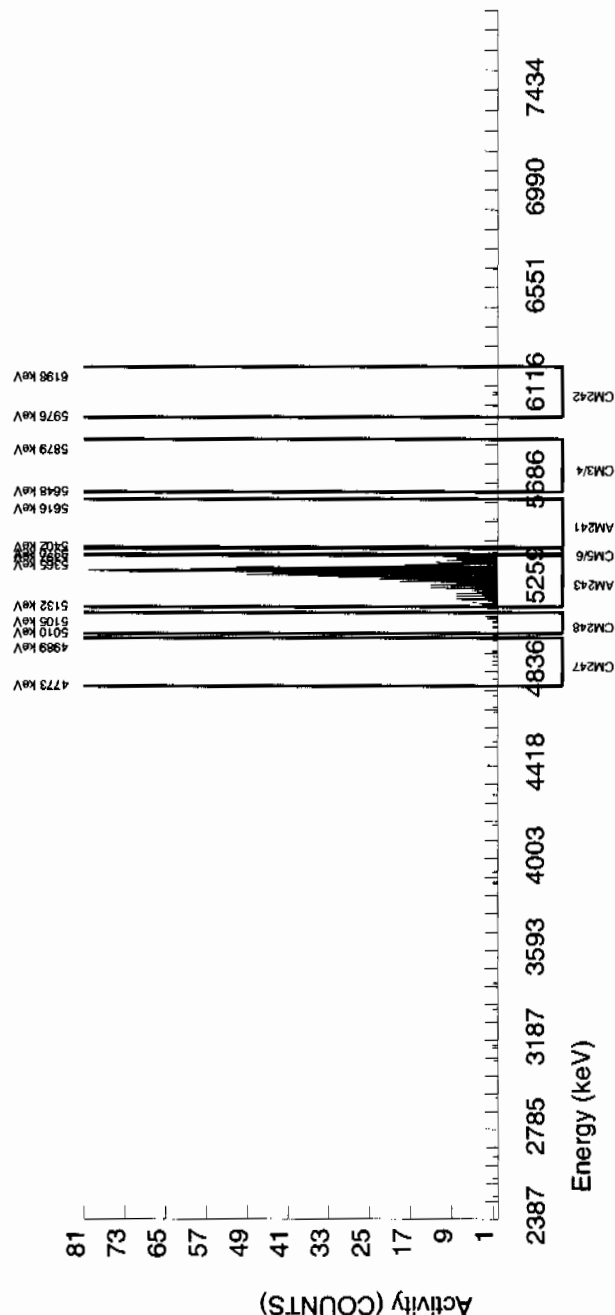
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3218E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G</p>
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NUCLIDE ACTIVITY 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	5484.119	0.000	3.000	1.498	0.000	2.8409	99.94000	1.81E-03	1.48E-03	7.97E-03	1.92E-02	1.48E-03
AM243	5270.000	5284.972	39.245	864.000	863.000	1.000	1.0000	99.78000	1.04E+00	7.17E-02	2.81E-03	8.89E-03	3.55E-02
CM-242	6102.000	6065.885	59.364	3.000	2.000	1.000	4.3413	100.0000	2.69E-03	2.69E-03	1.22E-02	2.76E-02	2.69E-03
CM-3/4	5795.020	5763.319	0.000	0.000	-2.000	2.000	5.1799	100.0000	-2.42E-03	2.09E-03	1.45E-02	3.23E-02	2.09E-03
CM-5/6	5386.000	5374.248	0.000	14.000	14.000	0.000	14.2480	86.09000	1.96E-02	5.36E-03	4.64E-02	9.65E-02	5.24E-03
CM-247	4946.000	4904.643	168.197	7.000	6.000	1.000	13.7917	79.30000	9.11E-03	4.33E-03	4.87E-02	1.02E-01	4.30E-03
CM-248	5078.600	5065.521	0.000	12.000	12.000	0.000	19.5080	91.00000	1.59E-02	4.68E-03	6.01E-02	1.24E-01	4.59E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S0245808003_AM SAMPLE QTY : 1.257 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 89.680				CHAMBER : 230 DETECTOR S/N : 79423 AVERAGE %EFFICIENCY : 37.5123 COUNT DATE : 20-FEB-2010 13:37:17 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B230.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W230.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.6156E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5530.452	98.783	11.000	8.296	1.000	2.8409	99.94000	8.84E-03	3.46E-03	7.04E-03	1.70E-02	3.42E-03
AM243	5270.000	5281.953	37.108	979.000	979.000	0.000	0.0000	99.78000	1.05E+00	6.98E-02	0.00E+00	2.89E-03	3.34E-02
CM-242	6102.000	6054.385	4.939	1.000	1.000	0.000	4.3413	100.0000	1.19E-03	1.19E-03	1.08E-02	2.44E-02	1.19E-03
CM-3/4	5795.020	5756.418	118.539	3.000	2.000	1.000	5.1799	100.0000	2.14E-03	2.14E-03	1.28E-02	2.86E-02	2.14E-03
CM-5/6	5386.000	5379.230	0.000	12.000	12.000	0.000	14.2480	86.09000	1.48E-02	4.37E-03	4.10E-02	8.54E-02	4.29E-03
CM-247	4946.000	4870.247	123.479	7.000	7.000	0.000	13.7917	79.30000	9.40E-03	3.60E-03	4.31E-02	8.98E-02	3.55E-03
CM-248	5078.600	5058.074	61.585	10.000	10.000	0.000	19.5080	91.00000	1.17E-02	3.76E-03	5.31E-02	1.09E-01	3.70E-03

NOTES:

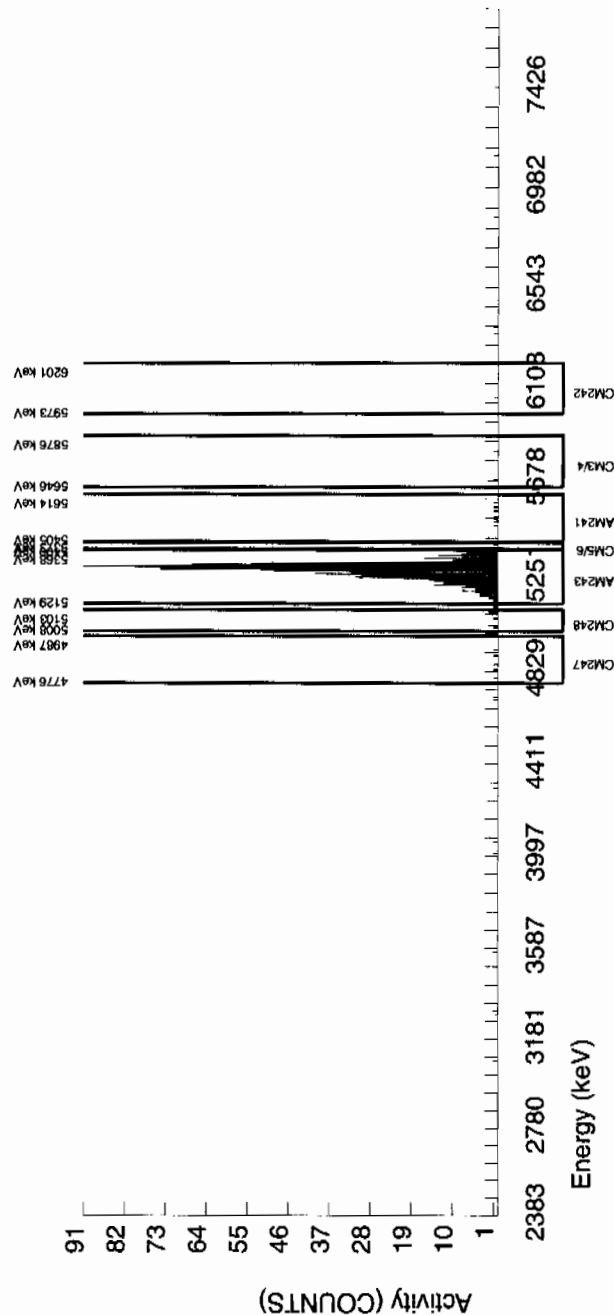
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S0245808004_AM SAMPLE QTY : 1.267 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 82.345				CHAMBER : 235 DETECTOR S/N : 79428 AVERAGE %EFFICIENCY : 37.6823 COUNT DATE : 20-FEB-2010 13:37:30 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B235.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W235.CNF;28 CAL DATE : 29-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4016E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5495.771	10.866	10.000	8.429	0.000	2.8409	99.94000	9.66E-03	3.38E-03	7.58E-03	1.83E-02	3.33E-03
AM243	5270.000	5278.494	36.271	904.000	903.000	1.000	1.0000	99.78000	1.04E+00	7.21E-02	2.67E-03	8.45E-03	3.45E-02
CM-242	6102.000	6075.772	4.897	1.000	1.000	0.000	4.3413	100.0000	1.28E-03	1.28E-03	1.16E-02	2.62E-02	1.28E-03
CM-3/4	5795.020	5762.360	146.309	3.000	3.000	0.000	5.1799	100.0000	3.45E-03	2.00E-03	1.38E-02	3.07E-02	1.99E-03
CM-5/6	5386.000	5373.549	0.000	5.000	5.000	0.000	14.2480	86.09000	6.65E-03	3.00E-03	4.41E-02	9.18E-02	2.98E-03
CM-247	4946.000	4903.610	0.000	6.000	5.000	1.000	13.7917	79.30000	7.22E-03	3.85E-03	4.64E-02	9.66E-02	3.82E-03
CM-248	5078.600	5071.535	0.000	14.000	14.000	0.000	19.5080	91.00000	1.76E-02	4.83E-03	5.71E-02	1.18E-01	4.71E-03

NOTES:

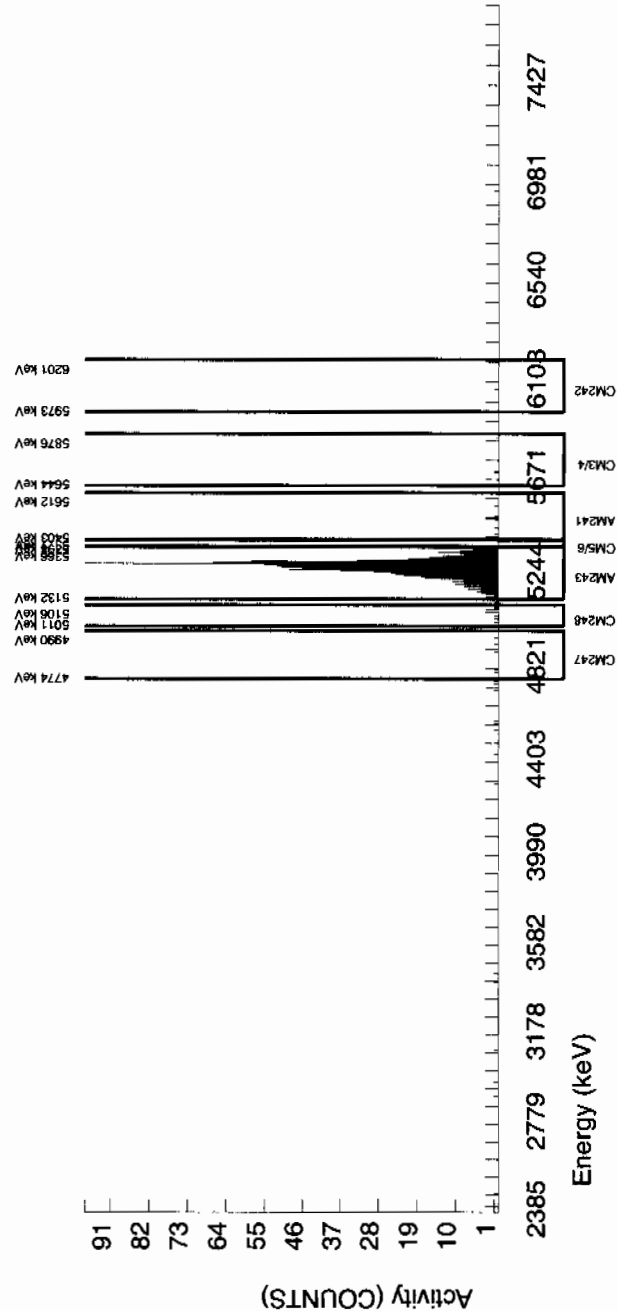
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558
SAMPLE ID : S0245808005_AM
SAMPLE QTY : 1.262 G
SAMPLE DATE : 26-JAN-2010 00:00:00
ANALYST : AYB1
% YIELD : 92.799

CHAMBER : 236
DETECTOR S/N : 79429
AVERAGE %EFFICIENCY : 38.6953
COUNT DATE : 20-FEB-2010 13:37:33
ELAPSED LIVE TIME(SEC) : 60000.00

LIB FILE	:	ENV_ALPHA_AM
BKG FILE	:	B236.CNF;80
BKG DATE	:	14-FEB-2010
BKG LIVE TIME(SEC)	:	60000.00
EFF FILE	:	W236.CNF;28
CAL DATE	:	29-JAN-2010

TRACER	:	445-96-2-SS
ID	:	AM243
NUCLIDE	:	2.9166E+00
NOMINAL	:	2.7066E+00
RESULTS	:	

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

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

NUCLIDE ACTIVITY SUMMARY

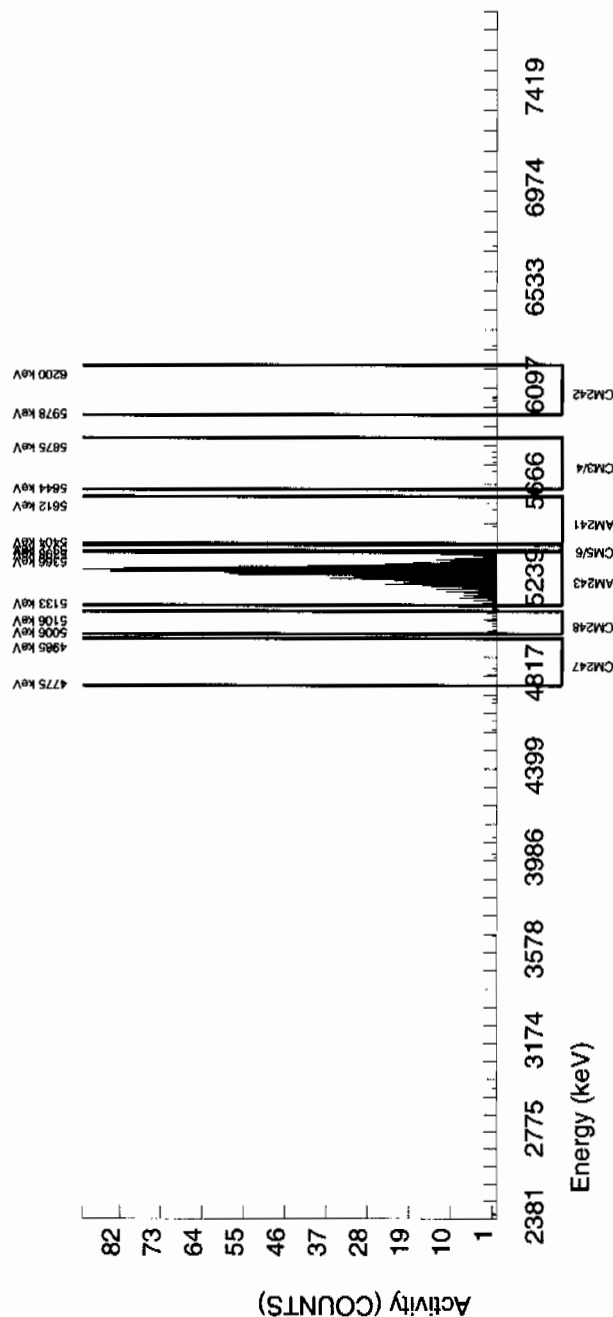
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5521.112	73.504	2.000	0.182	0.000	2.8409	99.94000	1.81E-04	9.96E-04	6.57E-03	1.58E-02	9.95E-04
AM243	5270.000	5277.359	39.949	1047.000	1045.000	2.000	1.4142	99.78000	1.04E+00	6.86E-02	3.28E-03	9.25E-03	3.23E-02
CM-242	6102.000	6038.848	78.405	4.000	4.000	0.000	4.3413	100.0000	4.44E-03	2.23E-03	1.00E-02	2.28E-02	2.22E-03
CM-3/4	5795.020	5756.959	137.208	5.000	5.000	0.000	5.1799	100.0000	4.98E-03	2.25E-03	1.20E-02	2.66E-02	2.23E-03
CM-5/6	5386.000	5378.411	9.596	8.000	8.000	0.000	14.2480	86.09000	9.24E-03	3.31E-03	3.83E-02	7.97E-02	3.27E-03
CM-247	4946.000	4888.510	0.000	6.000	5.000	1.000	13.7917	79.30000	6.27E-03	3.34E-03	4.02E-02	8.38E-02	3.32E-03
CM-248	5078.600	5062.124	0.000	18.000	18.000	0.000	19.5980	91.00000	1.97E-02	4.77E-03	4.96E-02	1.02E-01	4.63E-03

NOTES:

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

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

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S0245808006_AM SAMPLE QTY : 1.258 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 88.498		CHAMBER : 239 DETECTOR S/N : 79432 AVERAGE %EFFICIENCY : 37.8194 COUNT DATE : 20-FEB-2010 13:37:41 ELAPSED LIVE TIME(SEC) : 60000.00		LIB FILE : ENV_ALPHA_AM BKG FILE : B239.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W239.CNF:28 CAL DATE : 29-JAN-2010	
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.5811E+00 dpm		MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G		LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5502.639	68.648	17.000	14.305	1.000	2.8409	99.94000	1.53E-02	4.42E-03	7.07E-03	1.71E-02	4.32E-03
AM243	5270.000	5282.690	32.747	976.000	974.000	2.000	1.4142	99.78000	1.04E+00	7.14E-02	3.53E-03	9.96E-03	3.35E-02
CM-242	6102.000	6084.432	0.000	0.000	0.000	0.000	4.3413	100.0000	0.00E+00	1.20E-03	1.08E-02	2.45E-02	1.19E-03
CM-3/4	5795.020	5778.928	53.986	2.000	2.000	0.000	5.1799	100.0000	2.15E-03	1.52E-03	1.29E-02	2.87E-02	1.52E-03
CM-5/6	5386.000	5376.265	0.000	15.000	15.000	0.000	14.2480	86.09000	1.86E-02	4.94E-03	4.12E-02	8.57E-02	4.81E-03
CM-247	4946.000	4928.128	9.202	9.000	7.000	2.000	13.7917	79.30000	9.44E-03	4.51E-03	4.33E-02	9.02E-02	4.47E-03
CM-248	5078.600	5073.218	52.291	21.000	21.000	0.000	19.5080	91.00000	2.47E-02	5.59E-03	5.34E-02	1.10E-01	5.39E-03

NOTES:

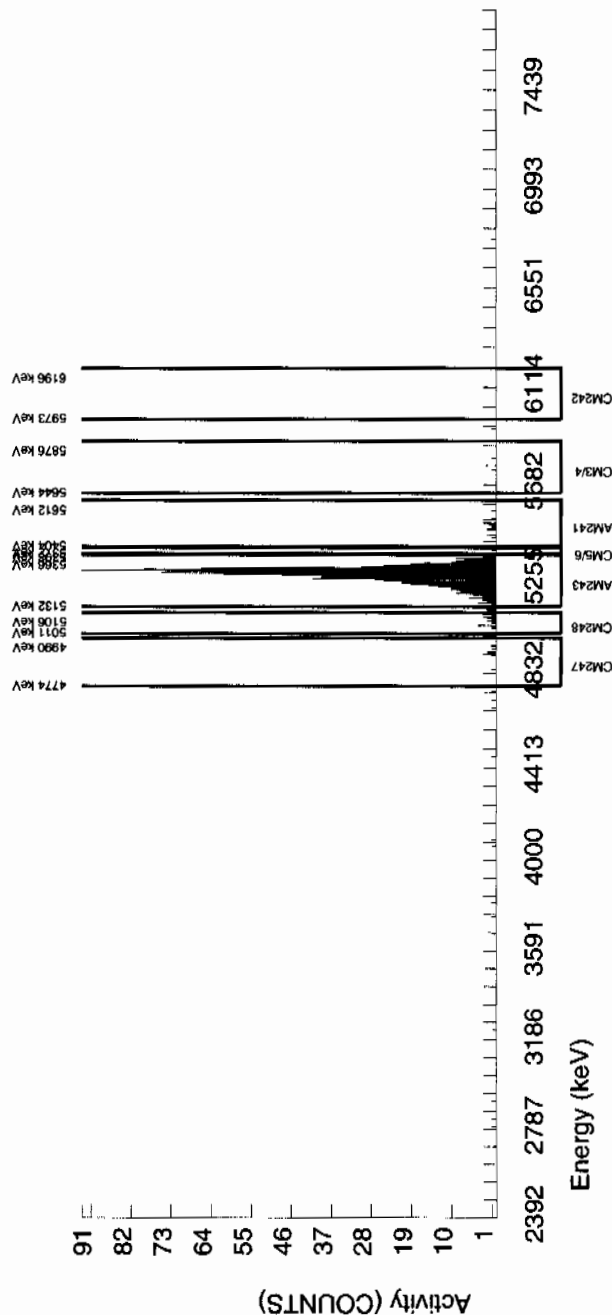
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

AM-241



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S0245808007_AM SAMPLE QTY : 1.252 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 97.749	CHAMBER : 240 DETECTOR S/N : 79433 AVERAGE %EFFICIENCY : 36.8412 COUNT DATE : 20-FEB-2010 13:37:44 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B240.CNF-80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W240.CNF-28 CAL DATE : 29-JAN-2010
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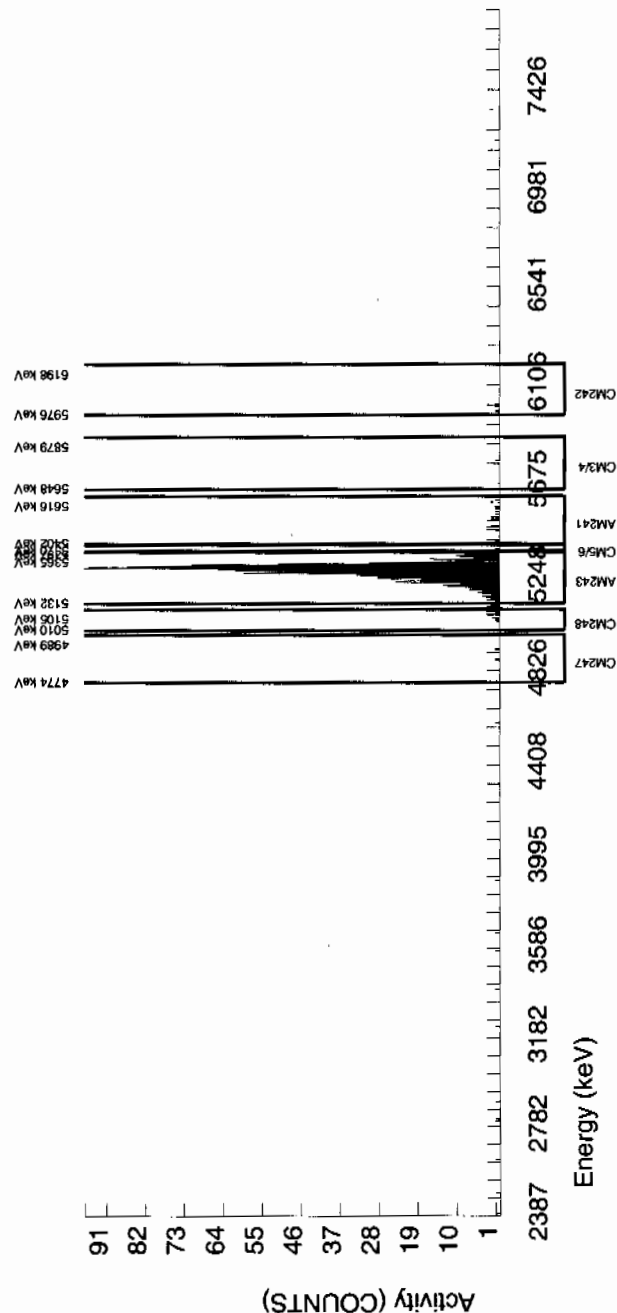
TRACER ID : 445-96-2-SS NUCLEIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.8509E+00 dpm	MS/MSD ID : 0244-B NUCLEIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLEIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G
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NUCLEIDE ACTIVITY SUMMARY

NUCLEIDE	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	5509.350	58.905	26.000	22.176	2.000	2.8409	99.94000	2.22E-02	5.27E-03	6.61E-03	1.59E-02	5.12E-03
AM243	5270.000	5283.698	41.348	1048.000	1048.000	0.000	0.0000	99.78000	1.05E+00	6.90E-02	0.00E+00	2.71E-03	3.24E-02
CM-242	6102.000	6006.272	49.139	5.000	5.000	0.000	4.3413	100.00000	5.58E-03	2.52E-03	1.01E-02	2.29E-02	2.49E-03
CM-3/4	5795.020	5782.109	4.914	1.000	1.000	0.000	5.1799	100.00000	1.00E-03	1.00E-03	1.20E-02	2.68E-02	1.00E-03
CM-5/6	5386.000	5376.102	0.000	13.000	13.000	0.000	14.2480	86.09000	1.51E-02	4.27E-03	3.85E-02	8.01E-02	4.18E-03
CM-247	4946.000	4863.694	146.802	6.000	6.000	0.000	13.7917	79.30000	7.56E-03	3.12E-03	4.04E-02	8.43E-02	3.09E-03
CM-248	5078.600	5079.933	30.620	14.000	14.000	0.000	19.5080	91.00000	1.54E-02	4.20E-03	4.98E-02	1.03E-01	4.11E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S0245808008_AM SAMPLE QTY : 1.263 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 84.345	CHAMBER : 241 DETECTOR S/N : 79434 AVERAGE %EFFICIENCY : 37.1962 COUNT DATE : 20-FEB-2010 14:58:05 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B241.CNF:80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W241.CNF:28 CAL DATE : 29-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4600E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

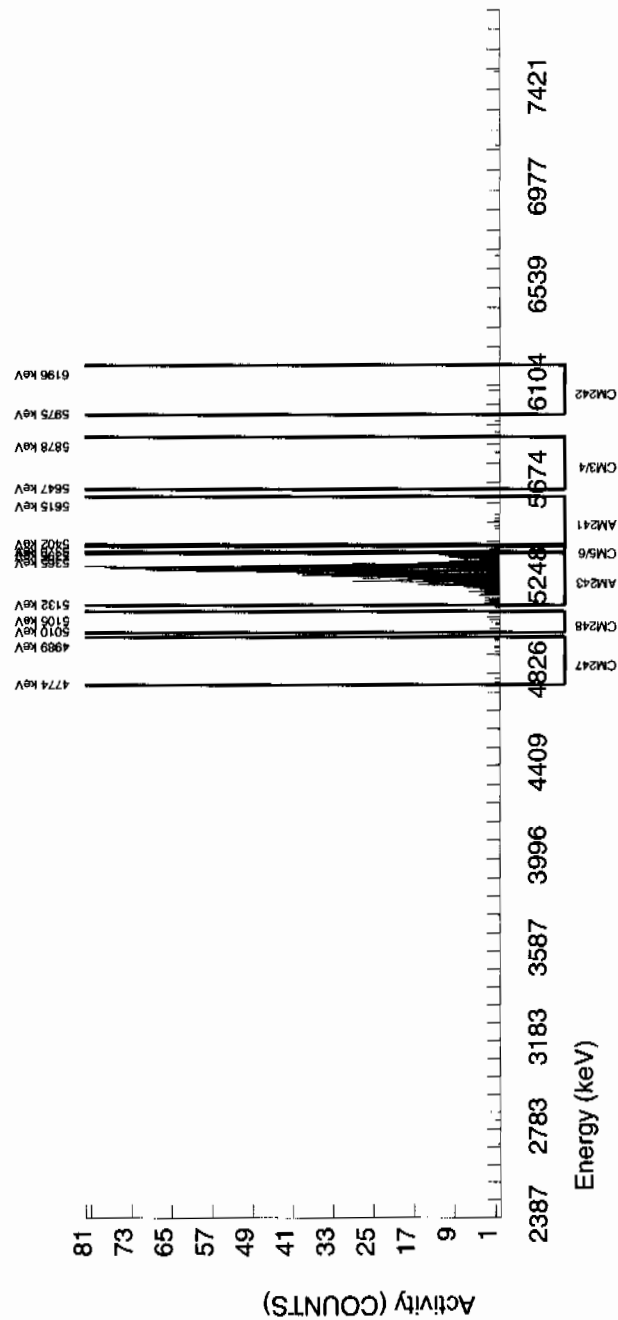
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5494.292	122.980	8.000	6.411	0.000	2.8409	99.94000	7.29E-03	2.91E-03	7.52E-03	1.81E-02	2.88E-03
AM243	5270.000	5285.417	34.964	913.000	913.000	0.000	0.0000	99.78000	1.04E+00	7.21E-02	0.00E+00	3.09E-03	3.44E-02
CM-242	6102.000	6087.860	4.919	2.000	2.000	0.000	4.3413	100.0000	2.54E-03	1.80E-03	1.15E-02	2.60E-02	1.80E-03
CM-3/4	5795.020	5813.191	4.919	1.000	-1.000	2.000	5.1799	100.0000	-1.14E-03	1.98E-03	1.37E-02	3.05E-02	1.97E-03
CM-5/6	5386.000	5378.052	0.000	17.000	17.000	0.000	14.2480	86.09000	2.24E-02	5.61E-03	4.38E-02	9.11E-02	5.44E-03
CM-247	4946.000	4913.283	186.930	7.000	5.000	2.000	13.7917	79.30000	7.17E-03	4.32E-03	4.60E-02	9.59E-02	4.30E-03
CM-248	5078.600	5080.072	0.000	16.000	16.000	0.000	19.5080	91.00000	2.00E-02	5.14E-03	5.67E-02	1.17E-01	5.00E-03

NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

<p>BATCH NUMBER : 954558 SAMPLE ID : S1202046259_AM SAMPLE QTY : 1.000 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : AYB1 % YIELD : 83.400</p>	<p>CHAMBER : 238 DETECTOR S/N : 79431 AVERAGE %EFFICIENCY : 39.3479 COUNT DATE : 20-FEB-2010 13:37:39 ELAPSED LIVE TIME(SEC) : 60000.00</p>	<p>LIB FILE : ENV_ALPHA_AM BKG FILE : B238.CNF;82 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W238.CNF;30 CAL DATE : 29-JAN-2010</p>
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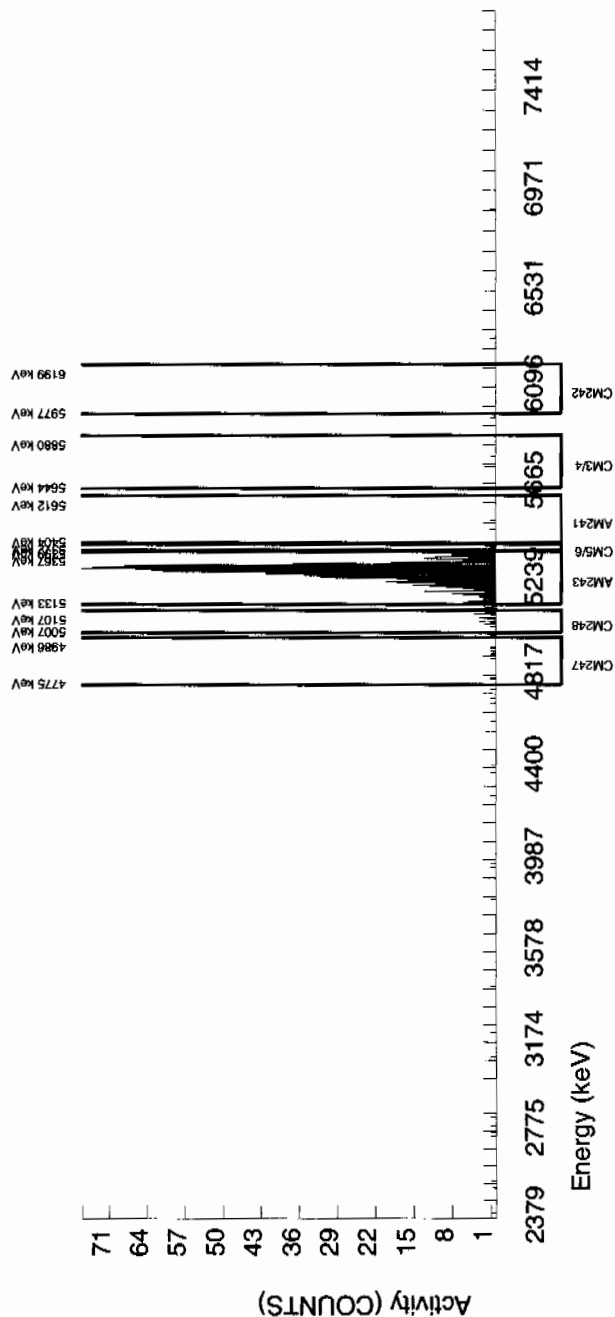
<p>TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4324E+00 dpm</p>	<p>MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G</p>	<p>LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G</p>
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5489.111	44.223	2.000	-3.662	4.000	2.8409	99.94000	-5.03E-03	3.07E-03	9.08E-03	2.19E-02	3.07E-03
AM-243	5270.000	5281.004	46.562	956.000	955.000	1.000	1.0000	99.78000	1.31E+00	8.83E-02	3.20E-03	1.01E-02	4.26E-02
CM-242	6102.000	6087.979	0.000	0.000	0.000	0.000	4.3413	100.0000	0.00E+00	1.39E-03	1.39E-02	3.14E-02	1.39E-03
CM-3/4	5795.020	5760.180	4.914	3.000	3.000	0.000	5.1799	100.0000	4.12E-03	2.39E-03	1.65E-02	3.68E-02	2.38E-03
CM-5/6	5386.000	5379.938	0.000	10.000	10.000	0.000	14.2480	86.09000	1.59E-02	5.13E-03	5.28E-02	1.10E-01	5.04E-03
CM-247	4946.000	4898.285	0.000	10.000	10.000	0.000	13.7917	79.30000	1.73E-02	5.57E-03	5.55E-02	1.16E-01	5.47E-03
CM-248	5078.600	5069.758	41.705	23.000	23.000	0.000	19.5080	91.00000	3.47E-02	7.52E-03	6.85E-02	1.41E-01	7.23E-03

NOTES:

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



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S1202046260_AM SAMPLE QTY : 1.251 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 78.860	CHAMBER : 244 DETECTOR S/N : 79437 AVERAGE %EFFICIENCY : 36.7768 COUNT DATE : 20-FEB-2010 13:37:55 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_AM BKG FILE : B244.CNF;80 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W244.CNF;28 CAL DATE : 29-JAN-2010
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TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.3000E+00 dpm	MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G	LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3156E+01 pCi/G
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5493.263	88.598	3.000	1.531	0.000	2.8409	99.94000	1.90E-03	1.54E-03	8.21E-03	1.98E-02	1.54E-03
AM243	5270.000	5285.286	52.846	844.000	844.000	0.000	0.0000	99.78000	1.05E+00	7.27E-02	0.00E+00	3.37E-03	3.61E-02
CM-242	6102.000	6063.704	103.364	4.000	4.000	0.000	4.3413	100.0000	5.54E-03	2.79E-03	1.25E-02	2.84E-02	2.77E-03
CM-3/4	5795.020	5852.086	44.299	2.000	0.000	2.000	5.1799	100.0000	0.00E+00	2.49E-03	1.50E-02	3.33E-02	2.49E-03
CM-5/6	5386.000	5378.430	0.000	16.000	16.000	0.000	14.2480	86.09000	2.31E-02	5.93E-03	4.78E-02	9.95E-02	5.77E-03
CM-247	4946.000	4873.946	172.273	3.000	3.000	0.000	13.7917	79.30000	4.70E-03	2.73E-03	5.02E-02	1.05E-01	2.71E-03
CM-248	5078.600	5053.443	73.831	11.000	11.000	0.000	19.5080	91.00000	1.50E-02	4.61E-03	6.19E-02	1.28E-01	4.52E-03

NOTES:

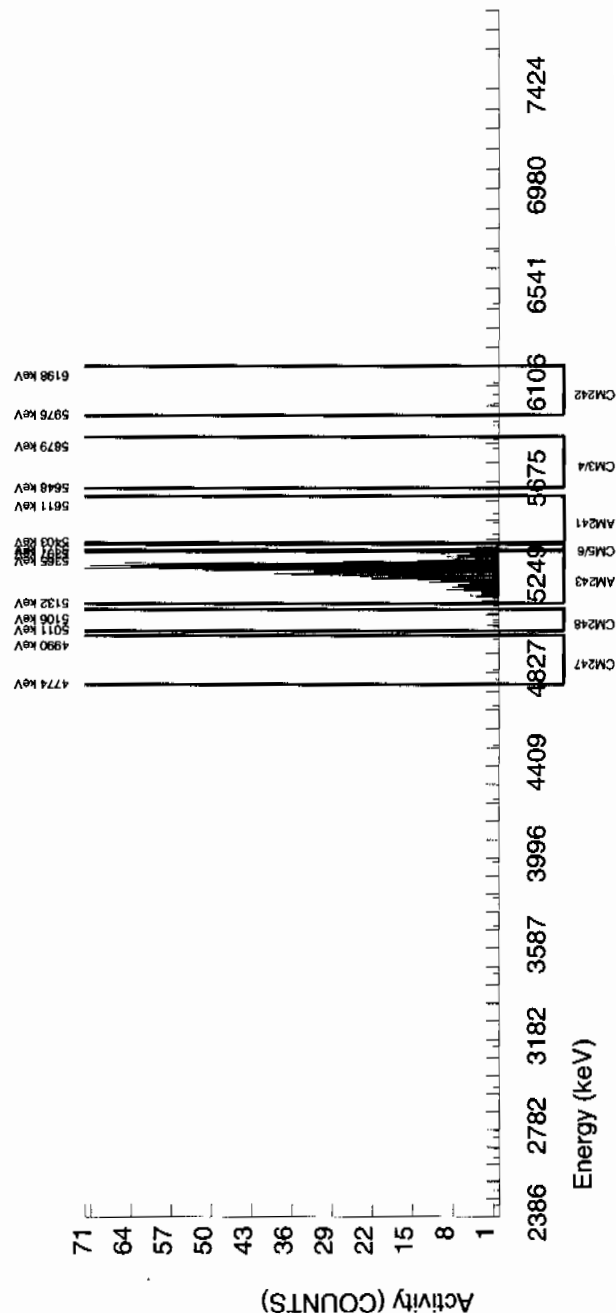
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

AM-241



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954558 SAMPLE ID : S1202046261_AM SAMPLE QTY : 0.103 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : AYB1 % YIELD : 85.528				CHAMBER : 198 DETECTOR S/N : 78895 AVERAGE %EFFICIENCY : 25.4320 COUNT DATE : 20-FEB-2010 13:39:42 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_AM BKG FILE : B198.CNF;100 BKG DATE : 14-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W198.CNF;49 CAL DATE : 22-JAN-2010					
TRACER ID : 445-96-2-SS NUCLIDE : AM243 NOMINAL : 2.9166E+00 dpm RESULTS : 2.4945E+00 dpm				MS/MSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G				LCS/LCSD ID : 0244-B NUCLIDE : AM-241 NOMINAL : 3.3153E+01 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
AM-241	5479.150	5498.834	34.029	1598.000	1594.899	2.000	2.8409	99.94000	3.21E+01	2.40E+00	1.33E-01	3.20E-01	8.04E-01
AM243	5270.000	5283.467	32.669	633.000	633.000	0.000	0.0000	99.78000	1.28E+01	1.03E+00	0.00E+00	5.46E-02	5.07E-01
CM-242	6102.000	6047.179	9.903	7.000	3.000	4.000	4.3413	100.0000	6.11E-02	6.77E-02	2.03E-01	4.61E-01	6.75E-02
CM-3/4	5795.020	5799.824	44.480	17.000	11.000	6.000	5.1799	100.0000	2.21E-01	9.77E-02	2.42E-01	5.39E-01	9.65E-02
CM-5/6	5386.000	5383.068	0.000	15.000	15.000	0.000	14.2480	86.09000	3.50E-01	9.38E-02	7.74E-01	1.61E+00	9.05E-02
CM-247	4946.000	4833.092	64.368	2.000	1.000	1.000	13.7917	79.30000	2.54E-02	4.40E-02	8.13E-01	1.70E+00	4.39E-02
CM-248	5078.600	5080.044	39.611	3.000	3.000	0.000	19.5080	91.00000	6.63E-02	3.86E-02	1.00E+00	2.07E+00	3.83E-02

NOTES:

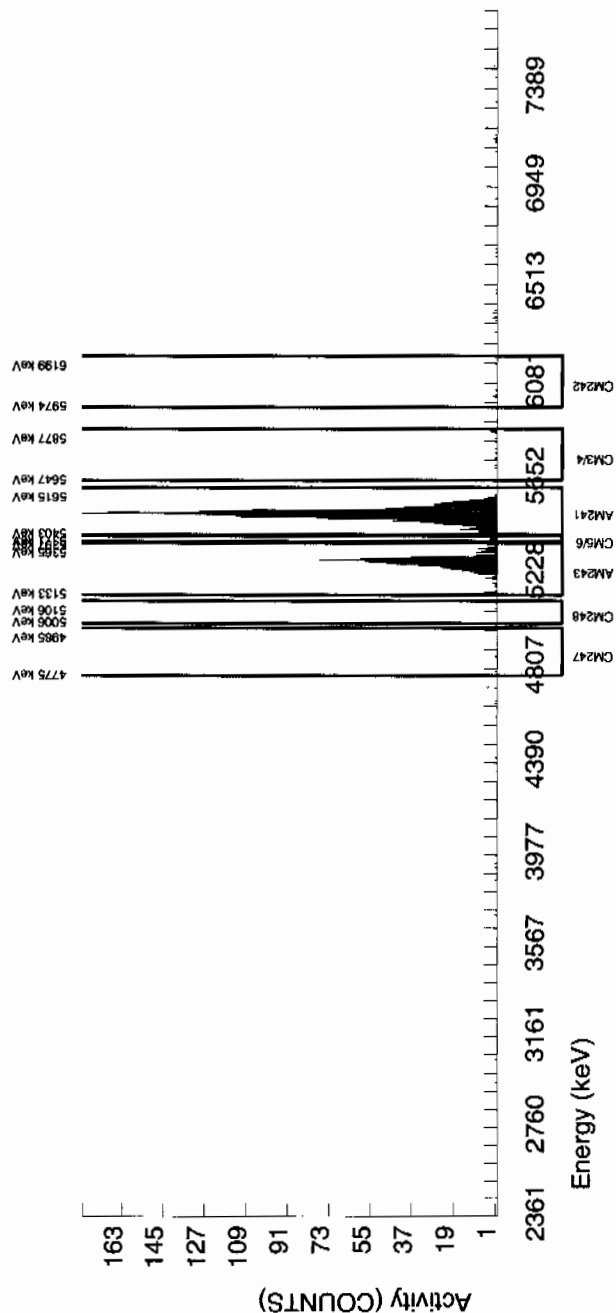
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

AM-241



Radiochemistry Batch Checklist, Rev10

Batch# 454559 Product: U Date: 2/23/10

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

Jod MLI - 2/23/10

Secondary Review Performed By:

Quil 2/23/10

2/20

2/26

LANL

Uranium Que Sheet

17-FEB-10

Batch #: 954559 Analyst: AYB1 First Client Due Date: 26-FEB-10 Internal Due Date: 20-FEB-10
 Tracer Isotope: U-232 U-236 Tracer Code: 083-H Expiration Date: 12/09/10 Vol: 0.1 u
 LCS Isotope: U-238 LCS Code: Expiration Date: Vol:
 Spike Isotope: U-238 Spike Code: Expiration Date: Vol:
 Prep Date: 2/18/10 Initials: AYB Pipet ID: 2971058 Balance ID: 50410272

Witness: JEH 2-18-10

Sample ID	Client Description	Type	Hazard Code	Min CRDL	Matrix	Client	Collection Date	Pos.	Label #	Wet Aliquot (g/l/g)	U Det #
24580802-2	RE15-10-7956	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	1	1	0.106	144
24580804-2	RE15-10-7953	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	2	2	0.106	145
24580806-2	RE15-10-8060	SAMPLE		.1 pCi/g	SOIL	LANL010	26-JAN-10	3	3	0.102	146
246271002-2	RE16-10-1311	SAMPLE		.1 pCi/g	SOIL	LANL010	30-JAN-10	4	4	0.800	147
1202046263-1	MB for batch 954559	MB		UCF pCi/g to pCi	SOIL	QC ACCOUNT		5	5	1	148
1202046264-2	RE16-10-1311(246271002DUP)	DUP		.1 pCi/g	SOIL	QC ACCOUNT	30-JAN-10	6	6	0.501	150
1202046265-1	LCS for batch 954559	LCS		UCF pCi/g to pCi	SOIL	QC ACCOUNT		7	7	0.108	151

SRM 0244-A Exp 10/31/20

Choose SOP used: (GL-RAD-A-011)

Solid Sample Dissolution by: LEACH or DIGESTION
 Circle One

Data Reviewed By: J. M. L. - 2/23/10

Blank Correction Report

Batch ID 954559

GEL Sample ID	Client sample ID	Parameter	Aliquot	Result	TPU	MDA	Allquot Corrected Blank Result	Units	Activity <5X Corrected Blank
1202046264	DUP	Uranium-233/234	0.501 g	0.804	0.081	0.101	-.00073852	pCi/g	NO
		Uranium-235/236	0.501 g	0.0544	0.0169	0.0644	0	pCi/g	NO
		Uranium-238	0.501 g	0.832	0.0827	0.0689	.026946108	pCi/g	NO
1202046265	LCS	Uranium-233/234	0.108 g	6.49	0.596	0.425	-.00342593	pCi/g	NO
		Uranium-235/236	0.108 g	0.292	0.0811	0.271	0	pCi/g	NO
		Uranium-238	0.108 g	5.29	0.502	0.290	.125	pCi/g	NO
1202046263	MB	Uranium-233/234	1.00 g	-0.00037	0.00327	0.0425	-.00037	pCi/g	NO
		Uranium-235/236	1.00 g	0.00	0.00209	0.0271	0	pCi/g	NO
		Uranium-238	1.00 g	0.0135	0.00541	0.029	.0135	pCi/g	YES
245808002	RE15-10-7956	Uranium-233/234	0.106 g	7.74	0.695	0.429	-.00349057	pCi/g	NO
		Uranium-235/236	0.106 g	0.736	0.137	0.274	0	pCi/g	NO
		Uranium-238	0.106 g	35.0	2.78	0.293	.127358491	pCi/g	NO
245808004	RE15-10-7953	Uranium-233/234	0.106 g	43.4	3.66	0.658	-.00349057	pCi/g	NO
		Uranium-235/236	0.106 g	6.57	0.703	0.419	0	pCi/g	NO
		Uranium-238	0.106 g	291	23.7	0.449	.127358491	pCi/g	NO
245808006	RE15-10-8060	Uranium-233/234	0.102 g	34.8	2.86	0.566	-.00362745	pCi/g	NO
		Uranium-235/236	0.102 g	4.69	0.516	0.361	0	pCi/g	NO
		Uranium-238	0.102 g	234	18.5	0.387	.132352941	pCi/g	NO
246271002	RE16-10-1311	Uranium-233/234	0.500 g	0.993	0.0932	0.0908	-.00074	pCi/g	NO
		Uranium-235/236	0.500 g	0.0712	0.0185	0.0579	0	pCi/g	NO
		Uranium-238	0.500 g	0.868	0.0837	0.062	.027	pCi/g	NO

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954559 SAMPLE ID : S0245808002_UU SAMPLE QTY : 0.106 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 99.383				CHAMBER : 144 DETECTOR S/N : 75551 AVERAGE %EFFICIENCY : 25.1386 COUNT DATE : 22-FEB-2010 12:42:39 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B144.CNF:397 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W144.CNF:108 CAL DATE : 19-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5064E+00 dpm RESULTS : 4.4786E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5304.175	61.971	1128.000	1125.000	3.000	1.7321	100.0000	1.92E+01	1.57E+00	6.85E-02	1.83E-01	5.72E-01
U-3/4	4763.020	4756.740	62.446	458.000	454.861	2.000	4.8416	100.0000	7.74E+00	6.95E-01	1.92E-01	4.29E-01	3.64E-01
U-235	4391.000	4406.612	118.637	35.000	35.000	0.000	2.2152	80.90000	7.36E-01	1.37E-01	1.08E-01	2.74E-01	1.24E-01
U-238	4184.730	4187.376	35.414	2055.000	2055.000	0.000	3.1208	100.0000	3.50E+01	2.78E+00	1.23E-01	2.93E-01	7.71E-01

NOTES:

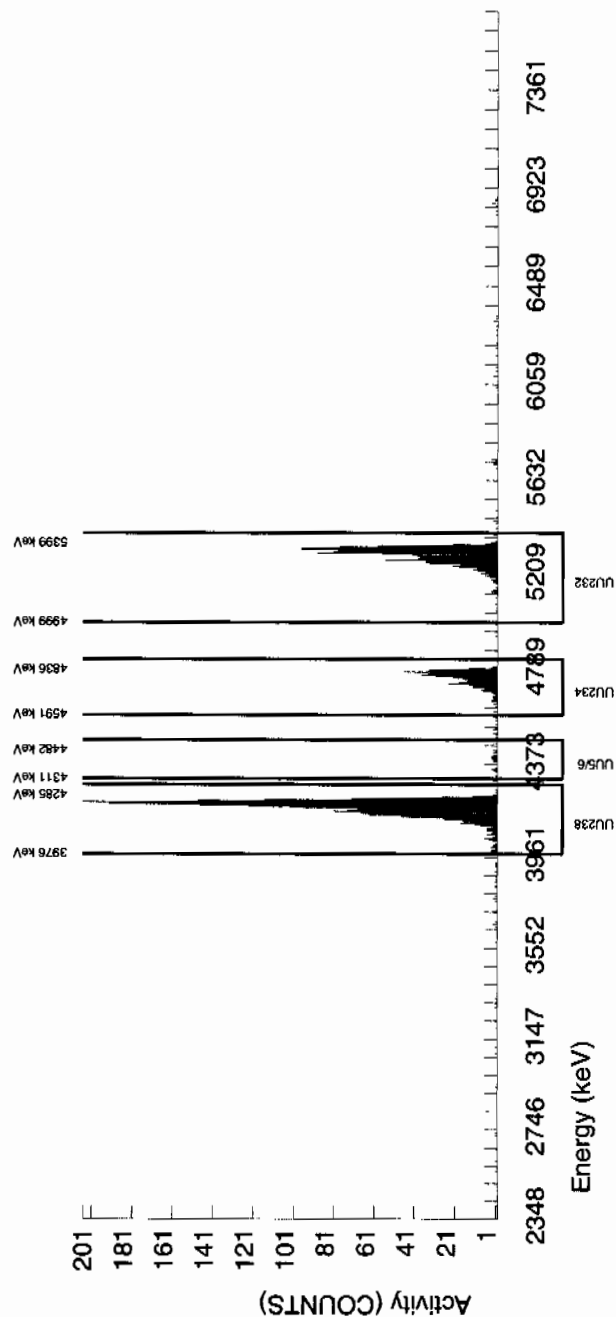
* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

U-3/4



BATCH NUMBER : 954559 SAMPLE ID : S0245808004_UU SAMPLE QTY : 0.106 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 65.383				CHAMBER : 145 DETECTOR S/N : 72526 AVERAGE %EFFICIENCY : 24.9308 COUNT DATE : 22-FEB-2010 12:42:41 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B145.CNF:395 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W145.CNF:113 CAL DATE : 19-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5064E+00 dpm RESULTS : 2.9464E+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	5282.886	76.997	737.000	734.000	3.000	1.7321	100.0000	1.92E+01	1.70E+00	1.05E-01	2.81E-01	7.10E-01
U-3/4	4763.020	4741.287	69.712	1664.000	1663.257	0.000	4.8416	100.0000	4.34E+01	3.66E+00	2.94E-01	6.58E-01	1.06E+00
U-235	4391.000	4406.116	111.704	204.000	204.000	0.000	2.2152	80.900000	6.57E+00	7.03E-01	1.66E-01	4.19E-01	4.60E-01
U-238	4184.730	4169.660	72.684	11155.000	11155.000	0.000	3.1208	100.0000	2.91E+02	2.37E+01	1.89E-01	4.49E-01	2.75E+00

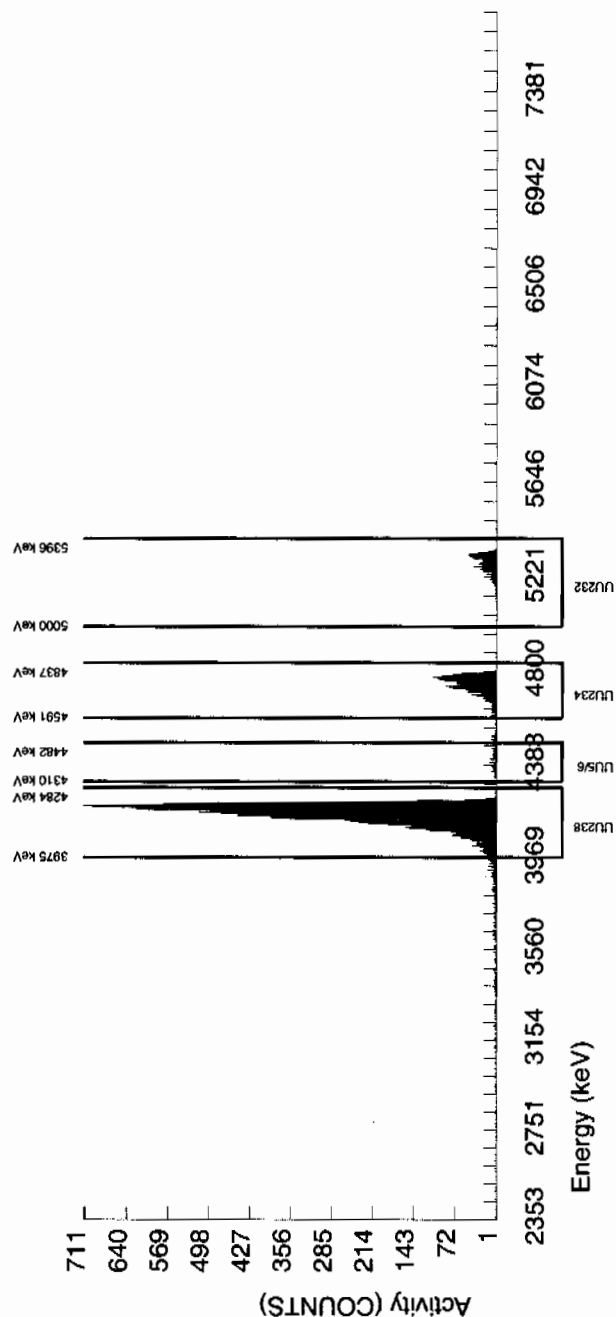
NOTES:

* Sg calculated via blank population.

(Sg updated 10-FEB-2010)

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

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

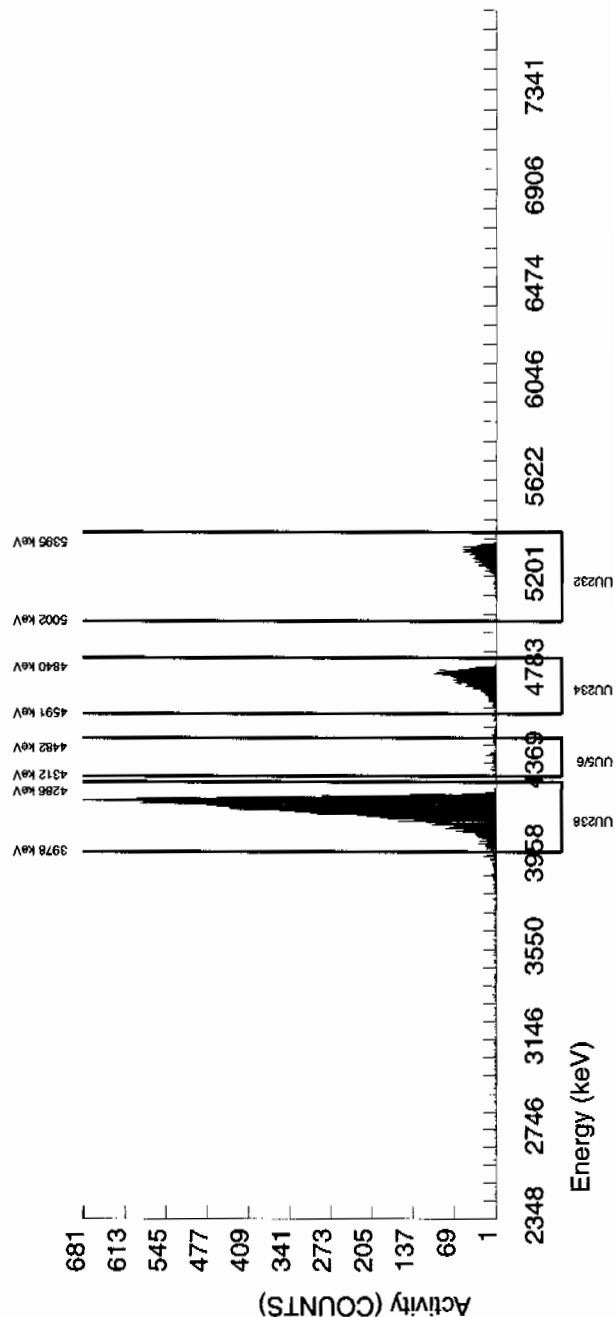


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954559 SAMPLE ID : S0245808006_UU SAMPLE QTY : 0.102 G SAMPLE DATE : 26-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 79.540				CHAMBER : 146 DETECTOR S/N : 72527 AVERAGE %EFFICIENCY : 24.7373 COUNT DATE : 22-FEB-2010 12:42:44 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B146.CNF;400 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W146.CNF;115 CAL DATE : 19-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5064E+00 dpm RESULTS : 3.5844E+00 dpm				MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G				LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G					
NUCLIDE ACTIVITY SUMMARY													
NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5286.989	87.992	893.000	886.000	7.000	2.6458	100.0000	1.99E+01	1.70E+00	1.38E-01	3.37E-01	6.74E-01
U-3/4	4763.020	4744.570	66.374	1541.000	1540.103	0.000	4.8416	100.0000	3.46E+01	2.86E+00	2.53E-01	5.66E-01	8.81E-01
U-235	4391.000	4399.838	73.489	169.000	169.000	0.000	2.2152	80.90000	4.69E+00	5.16E-01	1.43E-01	3.61E-01	3.61E-01
U-238	4184.730	4173.756	64.793	10435.000	10435.000	0.000	3.1208	100.0000	2.34E+02	1.85E+01	1.63E-01	3.87E-01	2.29E+00

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954559 SAMPLE ID : S0246271002_UU SAMPLE QTY : 0.500 G SAMPLE DATE : 30-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 102.233	CHAMBER : 147 DETECTOR S/N : 75550 AVERAGE %EFFICIENCY : 24.4814 COUNT DATE : 22-FEB-2010 12:42:46 ELAPSED LIVE TIME(SEC) : 60000.00	LIB FILE : ENV_ALPHA_UU BKG FILE : B147.CNF:400 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W147.CNF:114 CAL DATE : 19-FEB-2010
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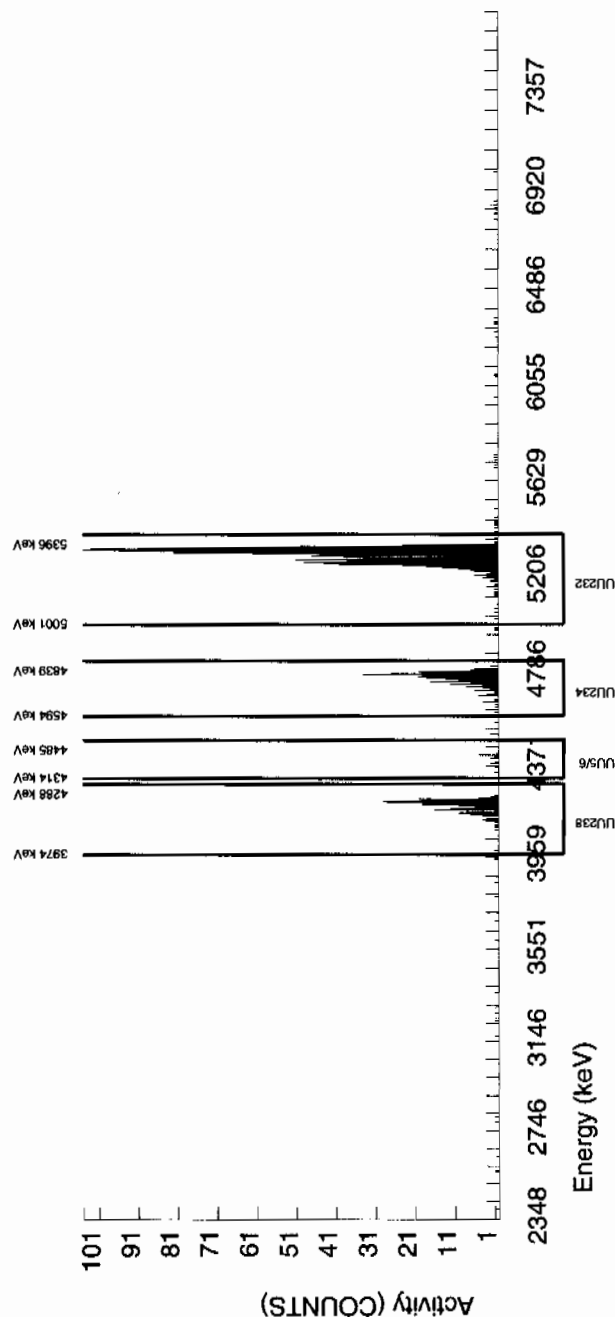
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5059E+00 dpm RESULTS : 4.6065E+00 dpm	MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5307.685	31.963	1129.000	1127.000	2.000	1.4142	100.0000	4.06E+00	3.16E-01	1.18E-02	3.34E-02	1.21E-01
U-3/4	4763.020	4762.587	31.520	278.000	275.859	1.000	4.8416	100.0000	9.93E-01	9.32E-02	4.05E-02	9.08E-02	6.00E-02
U-235	4391.000	4407.789	5.542	16.000	16.000	0.000	2.2152	80.90000	7.12E-02	1.85E-02	2.29E-02	5.79E-02	1.78E-02
U-238	4184.730	4194.383	46.463	241.000	241.000	0.000	3.1208	100.0000	8.67E-01	8.37E-02	2.61E-02	6.20E-02	5.59E-02

NOTES:

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



GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954559 SAMPLE ID : S1202046263_UU SAMPLE QTY : 1.000 G SAMPLE DATE : 18-FEB-2010 00:00:00 ANALYST : AYB1 % YIELD : 108.905		CHAMBER : 148 DETECTOR S/N : 74429 AVERAGE %EFFICIENCY : 24.5720 COUNT DATE : 22-FEB-2010 12:42:49 ELAPSED LIVE TIME(SEC) : 60000.00		LIB FILE : ENV_ALPHA_UU BKG FILE : B148.CNF:399 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W148.CNF:129 CAL DATE : 19-FEB-2010	
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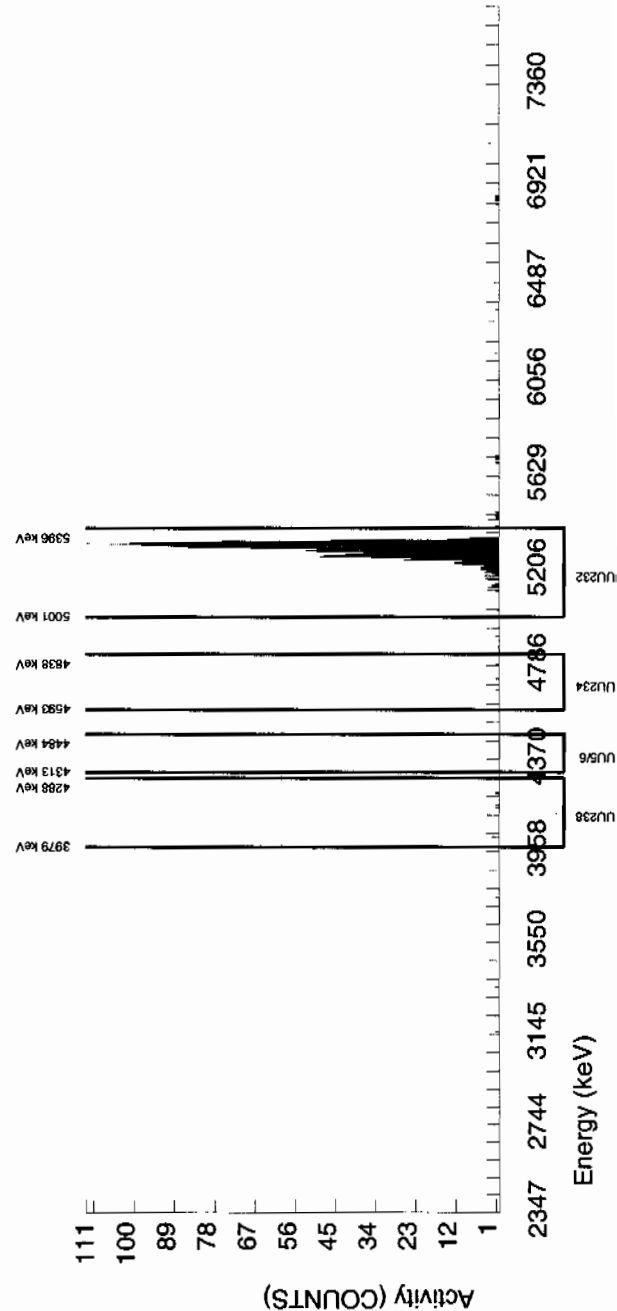
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5036E+00 dpm RESULTS : 4.9046E+00 dpm		MS/MSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G		LCS/LCSD ID : 0244-A NUCLIDE : U-238 NOMINAL : 5.7500E+00 pCi/G	
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NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG Sg	%ABUN	ACTIVITY pCi/G	TPU 1-SIGMA	DLC pCi/G	MDC pCi/G	UNC pCi/G
U232	5302.100	5305.875	36.006	1208.000	1205.000	3.000	1.7321	100.0000	2.03E+00	1.53E-01	6.78E-03	1.81E-02	5.86E-02
U-3/4	4763.020	4739.190	108.704	3.000	-0.220	2.000	4.8416	100.0000	-3.70E-04	3.27E-03	1.90E-02	4.25E-02	3.27E-03
U-235	4391.000	4398.767	0.000	0.000	0.000	0.000	2.2152	80.90000	0.00E+00	2.09E-03	1.07E-02	2.71E-02	2.08E-03
U-238	4184.730	4150.028	4.941	9.000	8.000	1.000	3.1208	100.0000	1.35E-02	5.41E-03	1.22E-02	2.90E-02	5.32E-03

NOTES:

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

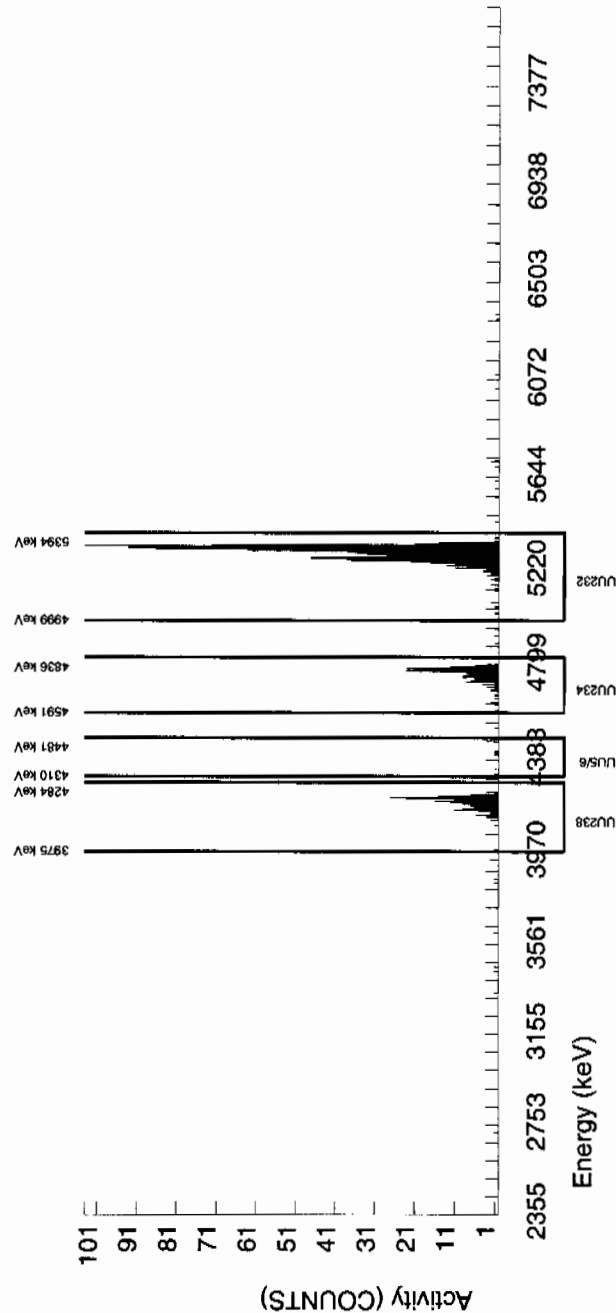


GEL Laboratories LLC ALPHA SPECTROSCOPY REPORT

BATCH NUMBER : 954559 SAMPLE ID : S1202046264_UU SAMPLE QTY : 0.501 G SAMPLE DATE : 30-JAN-2010 00:00:00 ANALYST : AYB1 % YIELD : 89.521				CHAMBER : 150 DETECTOR S/N : 75552 AVERAGE %EFFICIENCY : 25.1049 COUNT DATE : 22-FEB-2010 12:42:54 ELAPSED LIVE TIME(SEC) : 60000.00				LIB FILE : ENV_ALPHA_UU BKG FILE : B150.CNF:404 BKG DATE : 21-FEB-2010 BKG LIVE TIME(SEC) : 60000.00 EFF FILE : W150.CNF:122 CAL DATE : 19-FEB-2010					
TRACER ID : 1283-H NUCLIDE : U232 NOMINAL : 4.5059E+00 dpm RESULTS : 4.0337E+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	5309.051	30.926	1015.000	1012.000	3.000	1.7321	100.0000	4.05E+00	3.15E-01	1.61E-02	4.31E-02	1.28E-01
U-3/4	4763.020	4766.223	24.600	204.000	200.976	2.000	4.8416	100.0000	8.04E-01	8.10E-02	4.51E-02	1.01E-01	5.73E-02
U-235	4391.000	4393.222	4.954	11.000	11.000	0.000	2.2152	80.90000	5.44E-02	1.69E-02	2.55E-02	6.44E-02	1.64E-02
U-238	4184.730	4197.955	26.163	208.000	208.000	0.000	3.1208	100.0000	8.32E-01	8.27E-02	2.90E-02	6.89E-02	5.77E-02

NOTES:

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




```
LIB FILE      : ENV_ALPHA_UU
BKG FILE      : B151.CNF:399
3BKG DATE     : 21-FEB-2010
TIME(SEC)     : 60000.00
EFF FILE      : W151.CNF:120
CAL DATE      : 19-FEB-2010
```

CHAMBER : 151
DETECTOR S/N : 75556
AVERAGE %EFFICIENCY : 24.6627
COUNT DATE : 22-FEB-2010 12:42:56
ELAPSED LIVE TIME(SEC) : 60000.00

BATCH NUMBER	: 954559
SAMPLE ID	: S1202046265_UU
SAMPLE QTY	: 0.108 G
SAMPLE DATE	: 18-FEB-2010 00:00:00
ANALYST	: AYB1
% YIELD	: 100.310

LCS/LCSD	ID : 0244-A
	NUCLIDE : U-238
	NOMINAL : 5.7500E+00 pCi/G

MS/MSD	ID : 0244-A
	NUCLIDE : U-238
	NOMINAL : 5.7500E+00 pCi/g

TRACER	:	1283-H
ID	:	U232
NUCLIDE	:	4.5036E+00 dpm
NOMINAL	:	4.5175E+00 dpm
RESULTS	:	

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
U-232	5302.100	5303.268	31.563	1116.000	1114.000	2.000	1.4142	100.0000	1.88E+01	1.54E+00	5.55E-02	1.57E-01	5.64E-01
U-3/4	4763.020	4761.569	33.548	387.000	384.872	1.000	4.8416	100.0000	6.49E+00	5.96E-01	1.90E-01	4.25E-01	3.32E-01
U-235	4391.000	4393.153	14.112	14.000	14.000	0.000	2.2152	80.90000	2.92E-01	8.11E-01	1.07E-01	2.71E-01	7.80E-02
U-238	4184.730	4192.905	24.315	314.000	314.000	0.000	3.1208	100.0000	5.29E+00	5.02E-01	1.22E-01	2.90E-01	2.99E-01

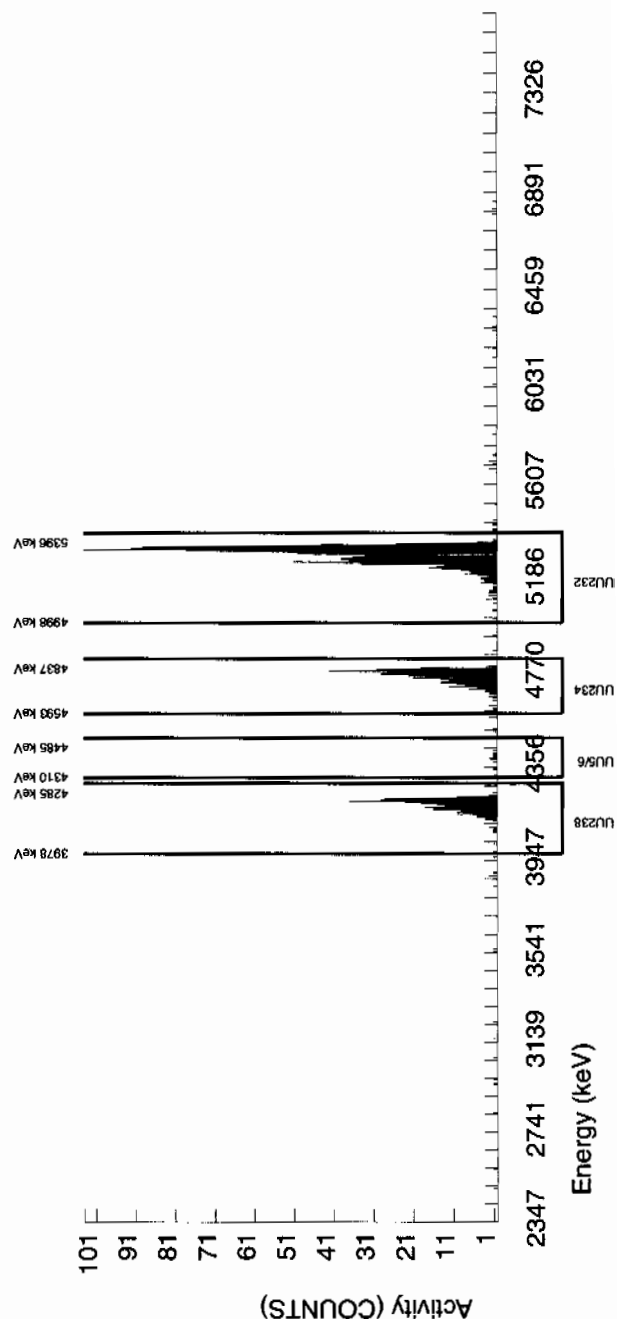
NOTES:

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

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

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

U-3/4



Radiochemistry Batch Checklist, Rev10

 Batch# 947554 Product: 85 Date: 2/15/10

Critera:	Yes	No	Comments
Sample Solids are less than or equal to 100 mg for GAB.			NA
Samples have been blank corrected (if required)			NA
If activity less 10% MDA/ MDC, error is 150% or less of sample activity; if greater 10% MDA/ MDC, error is 40% or less. If below the MDA/ MDC, error is okay.	✓		
Instrument source check is within limits.	✓		
Instrument bkg check is within limits.	✓		
Method RDL/ LLD has been met.	✓		
If duplicate activities are less 5% MDA/ MDC, then RPD is 100% or less. If greater 5% MDA/ MDC, then RPD 20% or less. If below the MDA/ MDC, the RPD is 0%.	✓		
Or meets the client's required RER acceptance criteria.			
Tracer yield is 15-125% . Carrier yield 25-125%.			NA
Or meets the client's contract acceptance criteria.			
Method blank is less than the RDL/ LLD.	✓		
(If rad samples, < 5% of lowest activity)	✓		
Sample was run within hold time.	✓		
Sample was correctly preserved if required.			NA
Smears Taken for Radioactive batches.			NA
Method Spike and LCS are within 75-125% or meets the client's contract acceptance criteria.	✓		
No blank spaces on data forms.	✓		
All line outs initialed and dated.	✓		
No transcription errors are apparent.			
Aux data is correct.			NA
Client Special requirements page has been checked.	✓		
Raw Data and/ or spectrum are included and properly 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] 2/15/10Secondary Review Performed By: [Signature] 2/16/10

Gamma Spec Que Sheet

I.G. - 2/9/10

02/01/2010

Batch #: 947554

Analyst: RXF2

First Client Due Date: 02/26/2010

Internal Due Date: 02/15/2010

Gamma Spike Isotope: Mixed Gamma

Gamma LCS Isotope: Mixed Gamma

Spike Code: N/A

Expiration Date: 10/31/10

Expiration Date: 12/2/10

Vol: N/A

Nominal Concentration: N/A

Initials: u Prep Date: 2/2/10 Library: Solid Wet/Dry: Wet Aliquot: 1 Detector: 4 Sealing Date/Time: 2/2/10

Witness: N/A

Sample ID	Client Description / Container ID	Type	Hazard Code	Client	Matrix	Collect Date	Geometry	Detector	Sealing Date/Time (If Applicable)
245808001-1	RE15-10-7954	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00	Cam	4	2/2/10
245808002-1	RE15-10-7956	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		17	
245808003-1	RE15-10-7955	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		18	
245808004-1	RE15-10-7953	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		19	
245808005-1	RE15-10-7952	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		10	
245808006-1	RE15-10-8060	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		11	
245808007-1	RE15-10-8058	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		23	
245808008-1	RE15-10-8059	SAMPLE		LANL010	SOIL	26-JAN-10 12:00:00		15	
1202029817-1	MB	MB		QC ACCOUNT	SOIL	2/2/10		12	
1202029818-1	DUP RE15-10-7954(245808001)	DUP		QC ACCOUNT	SOIL	26-JAN-10 12:00:00		22	
1202029819-1	LCS	LCS		QC ACCOUNT	SOIL	2/2/10		20	

GEL Laboratories LLC, Radiochemistry Division

data's ✓

Data Reviewed By: [Signature] 2/15/10

Page 1 of 1

[Signature] 2/16/10

Failed RDL Report

Batch Id	Samp Id	Sample Type	Run Date	YIELD	Parmname	Result	MDA	RDL
947554	245808001	SAMPLE	11-FEB-10		Americium-241	0.1238	0.2708	0.200
947554	245808002	SAMPLE	11-FEB-10					
947554	245808003	SAMPLE	11-FEB-10		Americium-241	0.1862	0.2676	0.200
947554	245808004	SAMPLE	11-FEB-10					
947554	245808005	SAMPLE	12-FEB-10		Americium-241	0.05206	0.3828	0.200
947554	245808006	SAMPLE	12-FEB-10		Americium-241	0.243	0.4622	0.200
					Cerium-139	-0.01078	0.06188	0.050
947554	245808007	SAMPLE	12-FEB-10		Americium-241	0.3443	0.5049	0.200
					Cerium-139	-0.03305	0.06648	0.050
					Cesium-134	0.06119	0.1125	0.100
					Europium-152	0.1992	0.2301	0.200
					Sodium-22	-0.00812	0.09719	0.080
					Tin-113	0.00626	0.1065	0.100
947554	245808008	SAMPLE	12-FEB-10		Americium-241	-0.05271	0.5171	0.200
					Cerium-139	0.02368	0.06299	0.050
					Europium-152	0.03107	0.2044	0.200
					Sodium-22	-0.01137	0.08751	0.080
					Thorium-234	0.849	4.078	2.00
947554	1202029817	MB	12-FEB-10					
947554	1202029818	DUP	12-FEB-10		Cerium-139	0.02647	0.06892	0.050
947554	1202029819	LCS	12-FEB-10		Cerium-139	0.00524	0.07249	0.050
					Cesium-134	0.09293	0.1491	0.100
					Europium-152	0.03627	0.2791	0.200
					Mercury-203	0.04482	0.1096	0.100
					Potassium-40	0.621	1.002	1.00
					Ruthenium-106	0.7569	1.025	0.800
					Thorium-234	0.3851	2.739	2.00
					Tin-113	-0.02722	0.1285	0.100
					Uranium-235	-0.1458	0.5022	0.500

GEL QUALS

Batch ID: 947554

Report run on: February 15, 2010 6:16 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
245808001-1 11-FEB-2010 22:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.712			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		4.206			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08598		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.269			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.05318			
245808002-1 11-FEB-2010 22:26	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.781			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.871			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.121		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.517			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.06027			
245808003-1 11-FEB-2010 22:27	Bismuth-211	UI	UI	UI	Data rejected due to interference.		3.078			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		2.585			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.06902		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		4.016			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08241			
245808004-1 11-FEB-2010 22:27	Thorium-227	UI	UI	UI	Data rejected due to low abundance.		.4254			
	Americium-241	UI	UI	UI	Data rejected due to low abundance.		1.126		.2	.2
	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.346			
	Cadmium-109	UI	UI	UI	Data rejected due to interference.		3.969			
	Cerium-139	UI	UI	UI	Data rejected due to low abundance.		.06082		.05	.05
245808004-1 11-FEB-2010 22:27	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.08131		.1	.1

GEL QUALS

Batch ID: 947554

Report run on: February 15, 2010 6:16 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
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245808004-1
11-FEB-2010 22:27

Radium-224	UI	UI	UI	UI	Data rejected due to interference.		2.377			
Strontium-85	UI	UI	UI	UI	Data rejected due to low abundance.		.05396			
Thorium-227	UI	UI	UI	UI	Data rejected due to low abundance.		1.543			

245808005-1
12-FEB-2010 16:57

Bismuth-211	UI	UI	UI	UI	Data rejected due to interference.		3.633			
Cadmium-109	UI	UI	UI	UI	Data rejected due to interference.		3.292			
Cesium-134	UI	UI	UI	UI	Data rejected due to low abundance.		.1039		.1	.1
Radium-224	UI	UI	UI	UI	Data rejected due to interference.		4.584			
Thorium-234	UI	UI	UI	UI	Data rejected due to low abundance.		3.487		2	2

245808006-1
12-FEB-2010 16:58

Bismuth-211	UI	UI	UI	UI	Data rejected due to interference.		2.054			
Radium-224	UI	UI	UI	UI	Data rejected due to interference.		2.765			

245808007-1
12-FEB-2010 17:00

Bismuth-211	UI	UI	UI	UI	Data rejected due to interference.		4.401			
Cadmium-109	UI	UI	UI	UI	Data rejected due to interference.		3.818			
Radium-224	UI	UI	UI	UI	Data rejected due to interference.		4.122			

245808008-1
12-FEB-2010 17:37

Bismuth-211	UI	UI	UI	UI	Data rejected due to interference.		3.583			
Cadmium-109	UI	UI	UI	UI	Data rejected due to high peak-width.		3.324			
Cesium-134	UI	UI	UI	UI	Data rejected due to low abundance.		.1464		.1	.1
Radium-224	UI	UI	UI	UI	Data rejected due to interference.		4.669			
Strontium-85	UI	UI	UI	UI	Data rejected due to low abundance.		.1169			

120202818-1 DUP
12-FEB-2010 17:52

Americium-241	UI	UI	UI	UI	Data rejected due to low abundance.		.5361		.2	.2
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GEL QUALS

Batch ID: 947554

Report run on: February 15, 2010 6:16 PM

Samp Id	Parname	Cofa	Edd	Qual	Comments	Auto	Result	MDA	Uncert	SQL
1202029818-1 DUP 12-FEB-2010 17:52	Bismuth-211	UI	UI	UI	Data rejected due to interference.		2.265			
	Cesium-134	UI	UI	UI	Data rejected due to low abundance.		.0896		.1	.1
	Radium-224	UI	UI	UI	Data rejected due to interference.		2.757			
	Strontium-85	UI	UI	UI	Data rejected due to low abundance.		.08123			
	Thorium-227	UI	UI	UI	Data rejected due to low abundance.		1.186			

Gamma Review Report based on Result > MDA for Batch:947554

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245808001	26-JAN-10 12:00	11-FEB-10 22:26	16.4	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	1.562	0.1251	pCi/g 0.1189	N	911.2 3	1.742	IDENTIFIED 5.872	<input type="checkbox"/>	
Americium-243	NR	0.2809	0.02832	pCi/g 0.07363	N	74.81 1	0.8856	IDENTIFIED 8.297	<input type="checkbox"/>	
Annihilation Rad.		0.1158	0.02021	pCi/g 0.02539	N	510.8 1	2.081	IDENTIFIED 17.22	<input type="checkbox"/>	
Bismuth-211	NR	3.712	0.1787	pCi/g 0.178	Y	351.8 4	1.307	IDENTIFIED 3.434	<input checked="" type="checkbox"/>	
Bismuth-212	NR	0.935	0.1492	pCi/g 0.2555	N	727.4 1	1.36	IDENTIFIED 15.5	<input type="checkbox"/>	
Bismuth-214	✓	1.068	0.05842	pCi/g 0.06411	0.200	609.3 4	1.482	IDENTIFIED 4.054	<input type="checkbox"/>	
Cadmium-109	NR	4.206	0.4729	pCi/g 0.8849	Y	87.21 3	1.295	IDENTIFIED 9.52	<input checked="" type="checkbox"/>	
Cerium-143		949	137	pCi/g 0	N	0 12 0		SHORT_HLIF 0	<input type="checkbox"/>	
Cesium-134	LA	0.08598	0.02274	pCi/g 0.05264	0.100	0 12 0		FAIL_ABUND 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Europium-155	HE	0.1221	0.04125	pCi/g 0.1142	N	105.5 1	0.9031	IDENTIFIED 33.52	<input type="checkbox"/>	
Gadolinium-153	LA	0.2963	0.04209	pCi/g 0.1002	N	0 12 0		FAIL_ABUND 0	<input type="checkbox"/>	
Gold-195	LA	0.8637	0.1227	pCi/g 0.2965	N	0 12 0		FAIL_ABUND 0	<input type="checkbox"/>	
Gross Gamma		12.85	1.322	pCi/g 3.037	N	0			<input type="checkbox"/>	
Iodine-123	HE	1.91E+07	1.06E+07	pCi/g 0	N	0 12 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-133	HE	2727	4987	pCi/g 0	N	0 12 0		SHORT_HLIF 0	<input type="checkbox"/>	
Iodine-135		2.35E+16 0		pCi/g 0	N	0 12 0		SHORT_HLIF 0	<input type="checkbox"/>	
Krypton-85	HE	10.22	2.07	pCi/g 6.831	N	0 12 0		NOT_IDENTI 0	<input type="checkbox"/>	
Lead-212	✓	1.627	0.07239	pCi/g 0.05046	0.100	238.6 4	1.104	IDENTIFIED 1.916	<input type="checkbox"/>	
Lead-214	✓	1.291	0.0707	pCi/g 0.06204	0.100	351.8 4	1.307	IDENTIFIED 3.434	<input type="checkbox"/>	
Lutetium-177	NR	3.161	0.5012	pCi/g 1.06	N	209.1 1	1.168	IDENTIFIED 15.51	<input type="checkbox"/>	
Neptunium-237	NR	1.211	0.1849	pCi/g 0.2617	N	87.21 3	1.295	IDENTIFIED 9.52	<input type="checkbox"/>	
Niobium-95	NR	0.152	0.02392	pCi/g 0.03665	N	767 1	2.227	IDENTIFIED 15.42	<input type="checkbox"/>	
Polonium-212	NR	1.627	0.07239	pCi/g 0.05046	N	238.6 4	1.104	IDENTIFIED 1.916	<input type="checkbox"/>	
Polonium-214	NR	1.291	0.0707	pCi/g 0.06204	N	351.8 4	1.307	IDENTIFIED 3.434	<input type="checkbox"/>	
Polonium-216	NR	1.627	0.07239	pCi/g 0.05046	N	238.6 4	1.104	IDENTIFIED 1.916	<input type="checkbox"/>	
Polonium-218	NR	1.291	0.0707	pCi/g 0.06204	N	351.8 4	1.307	IDENTIFIED 3.434	<input type="checkbox"/>	
Potassium-40	✓	32.9	1.28	pCi/g 0.2564	1.00	1461 1	2.019	IDENTIFIED 1.586	<input type="checkbox"/>	
Protactinium-234m	NR	31.5	2.789	pCi/g 4.238	N	1001 1	1.644	IDENTIFIED 7.589	<input type="checkbox"/>	
Radium-224	NR	4.269	0.3791	pCi/g 0.5742	Y	241.6 1	1.734	IDENTIFIED 8.231	<input checked="" type="checkbox"/>	
Radium-226	✓	1.068	0.05842	pCi/g 0.06411	Y	609.3 4	1.482	IDENTIFIED 4.054	<input type="checkbox"/>	
Radium-228	✓	1.562	0.1251	pCi/g 0.1189	0.500	911.2 3	1.742	IDENTIFIED 5.872	<input type="checkbox"/>	
Rhenium-183	HE	0.1343	0.03844	pCi/g 0.1145	N	0 12 0		FAIL_ABUND 0	<input type="checkbox"/>	
Strontium-85	LA	0.05318	0.01077	pCi/g 0.03554	Y	0 12 0		NOT_IDENTI 0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Thallium-208	✓	0.4959	0.02849	pCi/g 0.03097	0.080	583.3 1	1.408	IDENTIFIED 4.808	<input type="checkbox"/>	
Thorium-228	NR	1.654	0.07359	pCi/g 0.05129	N	238.6 4	1.104	IDENTIFIED 1.916	<input type="checkbox"/>	
Thorium-230	NR	1.068	0.05842	pCi/g 0.06411	N	609.3 4	1.482	IDENTIFIED 4.054	<input type="checkbox"/>	
Thorium-232	NR	1.562	0.1251	pCi/g 0.1189	N	911.2 3	1.742	IDENTIFIED 5.872	<input type="checkbox"/>	
Thorium-234	✓	24.39	2.633	pCi/g 1.989	2.00	63.24 2	1.044	IDENTIFIED 4.317	<input type="checkbox"/>	
Tin-126	NR	0.4125	0.04638	pCi/g 0.08747	N	87.21 3	1.295	IDENTIFIED 9.52	<input type="checkbox"/>	
Titanium-44	LA	0.3228	0.02538	pCi/g 0.05321	N	0 12 0		FAIL_ABUND 0	<input type="checkbox"/>	
Total Uranium		72.764	7.83E-06	ug/g 2.9608	N	0			<input type="checkbox"/>	
Uranium-231	NR	3.821	0.9653	pCi/g 1.449	N	94.54 1	1.399	IDENTIFIED 24.73	<input type="checkbox"/>	
Uranium-234	NR	1.068	0.05842	pCi/g 0.06411	N	609.3 4	1.482	IDENTIFIED 4.054	<input type="checkbox"/>	
Uranium-235	✓	0.4179	0.09792	pCi/g 0.2013	0.500	143.6 1	1.018	IDENTIFIED 21.92	<input type="checkbox"/>	
Uranium-238	NR	24.39	2.633	pCi/g 1.989	N	63.24 2	1.044	IDENTIFIED 4.317	<input type="checkbox"/>	
Zirconium-97		6.82E+06	2.12E+06	pCi/g 0	N	0 12 0		SHORT_HLIF 0	<input type="checkbox"/>	
*** = Number of isotopes identified with a keyline at this energy.										
Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245808002	26-JAN-10 12:00	11-FEB-10 22:26	16.4	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	1.504	0.146	pCi/g 0.1582	N	910.7 3	1.425	IDENTIFIED	7.875	<input type="checkbox"/>	
Americium-243	INT	0.3652	0.02543	pCi/g 0.0462	N	74.84 1	0.9169	IDENTIFIED	4.965	<input type="checkbox"/>	
Annihilation Rad.		0.1401	0.02888	pCi/g 0.0325	N	510.9 1	1.733	IDENTIFIED	20.12	<input type="checkbox"/>	
Bismuth-210	HE	0.8585	0.2805	pCi/g 0.6631	N	46.63 3	0.8327	IDENTIFIED	32.23	<input type="checkbox"/>	
Bismuth-211	INT	3.781	0.2301	pCi/g 0.2238	Y	351.8 4	1.19	IDENTIFIED	3.91	<input checked="" type="checkbox"/>	UI
Bismuth-212	NR	1.556	0.1732	pCi/g 0.3216	N	726.7 1	1.106	IDENTIFIED	9.931	<input type="checkbox"/>	
Bismuth-214	✓	1.226	0.08879	pCi/g 0.08059	0.200	609 4	1.439	IDENTIFIED	5.155	<input type="checkbox"/>	
Cadmium-109	INT	3.871	0.3579	pCi/g 0.7755	Y	87.2 3	1.188	IDENTIFIED	7.855	<input checked="" type="checkbox"/>	UI
Cerium-141	HE	0.08779	0.02352	pCi/g 0.07504	N	0 14 0		NOT_IDENTI	0	<input type="checkbox"/>	
Cerium-143		1090	162.8	pCi/g 0	N	0 14 0		SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.121	0.02658	pCi/g 0.07294	0.100	0 14 0		FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Cesium-135	HE	0.2261	0.05921	pCi/g 0.1836	N	0 14 0		NOT_IDENTI	0	<input type="checkbox"/>	
Europium-155	INT	0.2064	0.04684	pCi/g 0.1085	N	105.3 1	1.485	IDENTIFIED	22.05	<input type="checkbox"/>	
Gadolinium-153	LA	0.3112	0.03774	pCi/g 0.09151	N	0 14 0		FAIL_ABUND	0	<input type="checkbox"/>	
Gold-195	LA	0.9072	0.11	pCi/g 0.2828	N	0 14 0		FAIL_ABUND	0	<input type="checkbox"/>	
Gross Gamma		13.77	1.384	pCi/g 6.055	N	0				<input type="checkbox"/>	
Krypton-85	HE	11.58	2.769	pCi/g 8.948	N	0 14 0		NOT_IDENTI	0	<input type="checkbox"/>	
Lead-210	HE	0.8585	0.2805	pCi/g 0.6631	N	46.63 3	0.8327	IDENTIFIED	32.23	<input type="checkbox"/>	
Lead-212	✓	1.63	0.08953	pCi/g 0.05779	0.100	238.6 4	1.012	IDENTIFIED	2.177	<input type="checkbox"/>	
Lead-214	✓	1.315	0.08707	pCi/g 0.07658	0.100	351.8 4	1.19	IDENTIFIED	3.91	<input type="checkbox"/>	
Lutetium-177	INT	3.055	0.5424	pCi/g 1.252	N	209.2 1	1.032	IDENTIFIED	17.2	<input type="checkbox"/>	
Neptunium-237	INT	1.115	0.1545	pCi/g 0.2224	N	87.2 3	1.188	IDENTIFIED	7.855	<input type="checkbox"/>	
Niobium-95	INT	0.1409	0.02302	pCi/g 0.05358	N	765.9 1	1.501	IDENTIFIED	15.75	<input type="checkbox"/>	
Polonium-210	HE	0.8585	0.28	pCi/g 0.6631	N	46.63 3	0.8327	IDENTIFIED	32.23	<input type="checkbox"/>	
Polonium-212	NR	1.63	0.08953	pCi/g 0.05779	N	238.6 4	1.012	IDENTIFIED	2.177	<input type="checkbox"/>	
Polonium-214	NR	1.315	0.08707	pCi/g 0.07658	N	351.8 4	1.19	IDENTIFIED	3.91	<input type="checkbox"/>	
Polonium-216	NR	1.63	0.08953	pCi/g 0.05779	N	238.6 4	1.012	IDENTIFIED	2.177	<input type="checkbox"/>	
Polonium-218	NR	1.315	0.08707	pCi/g 0.07658	N	351.8 4	1.19	IDENTIFIED	3.91	<input type="checkbox"/>	
Potassium-40	✓	30.48	1.489	pCi/g 0.3831	1.00	1460 1	2.081	IDENTIFIED	2.036	<input type="checkbox"/>	
Protactinium-234m	✓	37.31	4.208	pCi/g 5.509	N	1000 1	1.807	IDENTIFIED	10.1	<input type="checkbox"/>	
Radium-224	INT	4.517	0.4292	pCi/g 0.6581	Y	241.6 1	1.657	IDENTIFIED	8.354	<input checked="" type="checkbox"/>	UI
Radium-226	✓	1.226	0.08879	pCi/g 0.08059	Y	609 4	1.439	IDENTIFIED	5.155	<input type="checkbox"/>	
Radium-228	✓	1.504	0.146	pCi/g 0.1582	0.500	910.7 3	1.425	IDENTIFIED	7.875	<input type="checkbox"/>	
Rhenium-183	HE	0.17	0.04907	pCi/g 0.1319	N	0 14 0		FAIL_ABUND	0	<input type="checkbox"/>	
Sodium-24	HE	2.21E+06	1.31E+06	pCi/g 0	N	0 14 0		SHORT_HLIF	0	<input type="checkbox"/>	
Strontium-85	LA	0.06027	0.01441	pCi/g 0.04656	Y	0 14 0		NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Technetium-99m		3.47E+17	0	pCi/g 0	N	0 14 0		SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.553	0.03776	pCi/g 0.04306	0.080	582.8 1	1.303	IDENTIFIED	4.925	<input type="checkbox"/>	
Thorium-228	NR	1.658	0.09101	pCi/g 0.05875	N	238.6 4	1.012	IDENTIFIED	2.177	<input type="checkbox"/>	
Thorium-230	NR	1.226	0.08879	pCi/g 0.08059	N	609 4	1.439	IDENTIFIED	5.155	<input type="checkbox"/>	
Thorium-232	NR	1.504	0.146	pCi/g 0.1582	N	910.7 3	1.425	IDENTIFIED	7.875	<input type="checkbox"/>	
Thorium-234	✓	26.29	2.503	pCi/g 0.7961	2.00	63.28 2	0.9458	IDENTIFIED	1.873	<input type="checkbox"/>	
Tin-126	INT	0.3797	0.0351	pCi/g 0.07596	N	87.2 3	1.188	IDENTIFIED	7.855	<input type="checkbox"/>	
Titanium-44	LA	0.3789	0.02254	pCi/g 0.04099	N	0 14 0		FAIL_ABUND	0	<input type="checkbox"/>	
Total Uranium		78.483	7.45E-06	ug/g 1.1862	N	0				<input type="checkbox"/>	
Uranium-231	LA	2.946	0.5346	pCi/g 1.439	N	0 14 0		FAIL_ABUND	0	<input type="checkbox"/>	
Uranium-234	NR	1.226	0.08879	pCi/g 0.08059	N	609 4	1.439	IDENTIFIED	5.155	<input type="checkbox"/>	
Uranium-235	✓	0.5606	0.1133	pCi/g 0.2298	0.500	143.7 1	0.8978	IDENTIFIED	18	<input type="checkbox"/>	
Uranium-238	NR	26.29	2.503	pCi/g 0.7961	N	63.28 2	0.9458	IDENTIFIED	1.873	<input type="checkbox"/>	
Zirconium-97		1.11E+07	2.71E+06	pCi/g 0	N	0 14 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	
245808003	26-JAN-10 12:00	11-FEB-10 22:27	16.4	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP	
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-227	HE	0.4254	0.1104	pCi/g	0.3405	N	0 19 0	FAIL_ABUND	0	<input type="checkbox"/>	
Actinium-228	NR	1.297	0.1042	pCi/g	0.09046	N	910.9 3 1.893	IDENTIFIED	4.537	<input type="checkbox"/>	
Americium-243	INT	0.3063	0.03251	pCi/g	0.08055	N	74.96 1 1.185	IDENTIFIED	9.756	<input type="checkbox"/>	

Annihilation Rad.		0.08863	0.01664	pCi/g	0.02191	N	510.8	1	1.763	IDENTIFIED	18.48	<input type="checkbox"/>
Barium-137m	NR	0.17	0.01632	pCi/g	0.02788	N	661.4	2	1.548	IDENTIFIED	8.812	<input type="checkbox"/>
Bismuth-211	INT	3.078	0.1423	pCi/g	0.1598	Y	352	4	1.334	IDENTIFIED	3.328	<input checked="" type="checkbox"/>
Bismuth-212	NR	0.6041	0.107	pCi/g	0.2109	N	727.3	1	1.66	IDENTIFIED	17	<input type="checkbox"/>
Bismuth-214	✓	0.8958	0.05473	pCi/g	0.05176	0.200	609.2	4	1.596	IDENTIFIED	4.169	<input type="checkbox"/>
Cadmium-109	INT	2.585	0.4236	pCi/g	1.053	Y	87.46	3	1.142	IDENTIFIED	15.72	<input checked="" type="checkbox"/>
Cerium-141	LA	0.263	0.02363	pCi/g	0.07574	N	0	19	0	NOT_IDENTI	0	<input type="checkbox"/>
Cerium-143		915.1	128.7	pCi/g	0	N	0	19	0	SHORT_HLIF	0	<input type="checkbox"/>
Cesium-134	LA	0.06902	0.01648	pCi/g	0.04036	0.100	0	19	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Cesium-137	✓	0.1797	0.01726	pCi/g	0.02947	0.100	661.4	2	1.548	IDENTIFIED	8.812	<input type="checkbox"/>
Gadolinium-153	LA	0.8189	0.05337	pCi/g	0.123	N	0	19	0	FAIL_ABUND	0	<input type="checkbox"/>
Gold-195	LA	2.388	0.1556	pCi/g	0.3668	N	0	19	0	FAIL_ABUND	0	<input type="checkbox"/>
Gross Gamma		16.96	1.326	pCi/g	3.182	N	0					<input type="checkbox"/>
Iodine-133	HE	3199	4080	pCi/g	0	N	0	19	0	SHORT_HLIF	0	<input type="checkbox"/>
Iodine-135		2.03E+16	0	pCi/g	0	N	0	19	0	SHORT_HLIF	0	<input type="checkbox"/>
Krypton-85	LA	15.84	1.984	pCi/g	6.465	N	0	19	0	NOT_IDENTI	0	<input type="checkbox"/>
Lead-212	✓	1.257	0.051	pCi/g	0.04531	0.100	238.7	4	1.184	IDENTIFIED	1.922	<input type="checkbox"/>
Lead-214	✓	1.071	0.05684	pCi/g	0.05398	0.100	352	4	1.334	IDENTIFIED	3.328	<input type="checkbox"/>
Lutetium-177	INT	2.203	0.4045	pCi/g	1.009	N	209.3	1	1.079	IDENTIFIED	18.16	<input type="checkbox"/>
Molybdenum-99	HE	16.47	4.8	pCi/g	14.63	N	0	19	0	NOT_IDENTI	0	<input type="checkbox"/>
Neptunium-237	INT	0.7447	0.1442	pCi/g	0.3486	N	87.46	3	1.142	IDENTIFIED	15.72	<input type="checkbox"/>
Niobium-95	INT	0.3766	0.02773	pCi/g	0.03204	N	766.3	1	1.762	IDENTIFIED	5.766	<input type="checkbox"/>
Niobium-95m	HE	0.1143	0.03366	pCi/g	0.1065	N	0	19	0	NOT_IDENTI	0	<input type="checkbox"/>
Niobium-97		2.98E+05	1.02E+05	pCi/g	0	N	0	19	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.257	0.051	pCi/g	0.04531	N	238.7	4	1.184	IDENTIFIED	1.922	<input type="checkbox"/>
Polonium-214	NR	1.071	0.05684	pCi/g	0.05398	N	352	4	1.334	IDENTIFIED	3.328	<input type="checkbox"/>
Polonium-216	NR	1.257	0.051	pCi/g	0.04531	N	238.7	4	1.184	IDENTIFIED	1.922	<input type="checkbox"/>
Polonium-218	NR	1.071	0.05684	pCi/g	0.05398	N	352	4	1.334	IDENTIFIED	3.328	<input type="checkbox"/>
Potassium-40	✓	26.9	1.086	pCi/g	0.1919	1.00	1460	1	2.31	IDENTIFIED	1.377	<input type="checkbox"/>
Protactinium-234m	✓	95.56	5.741	pCi/g	3.134	N	1001	1	2.036	IDENTIFIED	2.64	<input type="checkbox"/>
Radium-224	INT	4.016	0.3281	pCi/g	0.5149	Y	241.8	1	1.945	IDENTIFIED	7.679	<input checked="" type="checkbox"/>
Radium-226	✓	0.8958	0.05473	pCi/g	0.05176	Y	609.2	4	1.596	IDENTIFIED	4.169	<input type="checkbox"/>
Radium-228	✓	1.297	0.1042	pCi/g	0.09046	0.500	910.9	3	1.893	IDENTIFIED	4.537	<input type="checkbox"/>
Rhenium-183	LA	0.2412	0.04611	pCi/g	0.1184	N	0	19	0	FAIL_ABUND	0	<input type="checkbox"/>
Strontium-85	LA	0.08241	0.01032	pCi/g	0.03364	Y	0	19	0	NOT_IDENTI	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Technetium-99m		1.69E+17	0	pCi/g	0	N	0	19	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4086	0.02446	pCi/g	0.02663	0.080	583.1	1	1.524	IDENTIFIED	4.525	<input type="checkbox"/>
Thorium-227	LA	0.4254	0.1123	pCi/g	0.3405	Y	0	19	0	FAIL_ABUND	0	<input checked="" type="checkbox"/> UI Data rejected due to low abundance.
Thorium-228	NR	1.278	0.05185	pCi/g	0.04606	N	238.7	4	1.184	IDENTIFIED	1.922	<input type="checkbox"/>
Thorium-230	NR	0.8958	0.05473	pCi/g	0.05176	N	609.2	4	1.596	IDENTIFIED	4.169	<input type="checkbox"/>
Thorium-232	NR	1.297	0.1042	pCi/g	0.09046	N	910.9	3	1.893	IDENTIFIED	4.537	<input type="checkbox"/>
Thorium-234	✓	67.62	6.082	pCi/g	1.982	2.00	63.45	2	0.9815	IDENTIFIED	1.775	<input type="checkbox"/>
Tin-126	INT	0.2536	0.04155	pCi/g	0.1039	N	87.46	3	1.142	IDENTIFIED	15.72	<input type="checkbox"/>
Titanium-44	LA	0.3285	0.02257	pCi/g	0.058	N	0	19	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		201.72	1.81E-05	ug/g	2.9501	N	0					<input type="checkbox"/>
Tungsten-181	LA	4.033	0.2506	pCi/g	0.7075	N	0	19	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	NR	7.054	0.8286	pCi/g	1.627	N	94.9	1	0.9719	IDENTIFIED	11.02	<input type="checkbox"/>
Uranium-234	NR	0.8958	0.05473	pCi/g	0.05176	N	609.2	4	1.596	IDENTIFIED	4.169	<input type="checkbox"/>
Uranium-235	NR	1.194	0.1343	pCi/g	0.2065	0.500	143.9	1	1.227	IDENTIFIED	7.803	<input type="checkbox"/>
Uranium-238	NR	67.62	6.082	pCi/g	1.982	N	63.45	2	0.9815	IDENTIFIED	1.775	<input type="checkbox"/>
Zirconium-97		1.35E+07	1.92E+06	pCi/g	0	N	0	19	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
245808004	26-JAN-10 12:00	11-FEB-10 22:27	16.4	SAMPLE	LOAD	1	LANL	LANL01004JGEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-227	LA	1.543	0.1919	pCi/g	0.5339	N	0	23	0	FAIL_ABUND 0
Actinium-228	NR	0.9813	0.08726	pCi/g	0.1079	N	911.5	3	1.629	IDENTIFIED 6.863
Americium-241	LA	1.126	0.1224	pCi/g	0.3836	0.200	0	23	0	NOT_IDENTI 0

Sample ID	Collect Date	Run Date	Days Past	Sample Type	Status	Instance	Client	Project Quals	Zero?	queue
245808005	26-JAN-10 12:00	12-FEB-10 16:57	17.2	SAMPLE	LOAD	1	LANL	LANL01004GEL	N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.553	0.1862	pCi/g	0.2186	N	910.3	3	1.762 IDENTIFIED	10.28	
Americium-243	0.4019	0.05113	pCi/g	0.102	N	74.56	1	1.3 IDENTIFIED	11.48	
Annihilation Rad. HE	0.08086	0.03181	pCi/g	0.04627	N	510.2	1	1.828 IDENTIFIED	39.21	
Bismuth-211	3.633	0.2574	pCi/g	0.3068	Y	351.4	4	1.254 IDENTIFIED	6.076	✓ UT
Bismuth-212	1.018	0.1965	pCi/g	0.6321	N	0	15	0 FAIL_ABUND	0	
Bismuth-214	1.003	0.07867	pCi/g	0.1035	0.200	608.7	4	1.292 IDENTIFIED	6.854	
Cadmium-109	3.292	0.5917	pCi/g	1.276	Y	87.04	3	1.374 IDENTIFIED	17.07	✓ UT
Cerium-143	3915	529.9	pCi/g	0	N	0	15	0 SHORT_HLIF	0	
Cesium-134	0.1039	0.0319	pCi/g	0.08535	0.100	0	15	0 FAIL_ABUND	0	✓ UT
Cesium-135	0.5007	0.1114	pCi/g	0.2328	N	270	1	1.751 IDENTIFIED	21.87	
Gross Gamma	9.766	1.447	pCi/g	3.116	N	0				
Iodine-123	2.45E+07	3.72E+07	pCi/g	0	N	0	15	0 SHORT_HLIF	0	
Iodine-133	23660	14650	pCi/g	0	N	0	15	0 SHORT_HLIF	0	
Lead-212	1.668	0.08226	pCi/g	0.0889	0.100	238.3	4	1.139 IDENTIFIED	3.156	
Lead-214	1.264	0.09542	pCi/g	0.1069	0.100	351.4	4	1.254 IDENTIFIED	6.076	
Lutetium-177	3.09	0.897	pCi/g	2.434	N	0	15	0 FAIL_ABUND	0	
Neptunium-237	0.9472	0.1963	pCi/g	0.3766	N	87.04	3	1.374 IDENTIFIED	17.07	
Niobium-95	0.08698	0.03142	pCi/g	0.06709	N	767.1	1	1.135 IDENTIFIED	35.96	
Niobium-95m	0.3258	0.06685	pCi/g	0.2296	N	0	15	0 NOT_IDENTI	0	
Niobium-97	2.18E+05	3.22E+05	pCi/g	0	N	0	15	0 SHORT_HLIF	0	
Polonium-212	1.668	0.08226	pCi/g	0.0889	N	238.3	4	1.139 IDENTIFIED	3.156	
Polonium-214	1.264	0.09542	pCi/g	0.1069	N	351.4	4	1.254 IDENTIFIED	6.076	
Polonium-216	1.668	0.08226	pCi/g	0.0889	N	238.3	4	1.139 IDENTIFIED	3.156	
Polonium-218	1.264	0.09542	pCi/g	0.1069	N	351.4	4	1.254 IDENTIFIED	6.076	
Potassium-40	35.87	1.808	pCi/g	0.4903	1.00	1459	1	2.124 IDENTIFIED	2.615	
Radium-224	4.584	0.5289	pCi/g	1.011	Y	241.4	1	1.616 IDENTIFIED	11.12	✓ UT
Radium-226	1.003	0.07867	pCi/g	0.1035	Y	608.7	4	1.292 IDENTIFIED	6.854	
Radium-228	1.553	0.1862	pCi/g	0.2186	0.500	910.3	3	1.762 IDENTIFIED	10.28	
Rhenium-188	0.342	0.1289	pCi/g	0.2557	N	154	1	1.848 IDENTIFIED	37.58	
Sodium-24	8.31E+05	3.08E+06	pCi/g	0	N	0	15	0 SHORT_HLIF	0	
Technetium-99m	1.73E+18	0	pCi/g	0	N	0	15	0 SHORT_HLIF	0	
Thallium-208	0.4826	0.04103	pCi/g	0.05847	0.080	582.7	1	1.32 IDENTIFIED	7.809	
Thorium-228	1.696	0.08368	pCi/g	0.09043	N	238.3	4	1.139 IDENTIFIED	3.156	
Thorium-230	1.003	0.07867	pCi/g	0.1035	N	608.7	4	1.292 IDENTIFIED	6.854	
Thorium-232	1.553	0.1862	pCi/g	0.2186	N	910.3	3	1.762 IDENTIFIED	10.28	
Thorium-234	3.487	1.118	pCi/g	3.15	2.00	0	15	0 FAIL_ABUND	0	✓ UT
Tin-126	0.3225	0.05797	pCi/g	0.126	N	87.04	3	1.374 IDENTIFIED	17.07	
Titanium-44	0.3921	0.03201	pCi/g	0.07641	N	0	15	0 FAIL_ABUND	0	
Total Uranium	10.416	3.33E-06	ug/g	4.6897	N	0				
Tungsten-181	1.06	0.3295	pCi/g	0.7643	N	0	15	0 FAIL_ABUND	0	
Uranium-234	1.003	0.07867	pCi/g	0.1035	N	608.7	4	1.292 IDENTIFIED	6.854	
Uranium-238	3.487	1.118	pCi/g	3.15	N	0	15	0 FAIL_ABUND	0	
Zirconium-97	3.65E+07	8.23E+06	pCi/g	0	N	0	15	0 SHORT_HLIF	0	

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

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	1.553	0.1862	pCi/g	0.2186	N	910.3 3	1.762	IDENTIFIED	10.28	<input type="checkbox"/>	
Americium-243	0.4019	0.05113	pCi/g	0.102	N	74.56 1	1.3	IDENTIFIED	11.48	<input type="checkbox"/>	
Annihilation Rad. HE	0.08086	0.03181	pCi/g	0.04627	N	510.2 1	1.828	IDENTIFIED	39.21	<input type="checkbox"/>	
Bismuth-211	3.633	0.2574	pCi/g	0.3068	Y	351.4 4	1.254	IDENTIFIED	6.076	<input checked="" type="checkbox"/>	VI
Bismuth-212	1.018	0.1965	pCi/g	0.6321	N	0 15 0		FAIL_ABUND	0	<input type="checkbox"/>	
Bismuth-214	1.003	0.07867	pCi/g	0.1035	0.200	608.7 4	1.292	IDENTIFIED	6.854	<input type="checkbox"/>	
Cadmium-109	3.292	0.5917	pCi/g	1.276	Y	87.04 3	1.374	IDENTIFIED	17.07	<input checked="" type="checkbox"/>	VI
Cerium-143	2396	355.1	pCi/g	0	N	0 15 0		SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	0.1039	0.0319	pCi/g	0.08535	0.100	0 15 0		FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gross Gamma	9.809	1.451	pCi/g	3.116	N	0				<input type="checkbox"/>	
Iodine-123	2.45E+07	3.72E+07	pCi/g	0	N	0 15 0		SHORT_HLIF	0	<input type="checkbox"/>	
Iodine-133	23660	14650	pCi/g	0	N	0 15 0		SHORT_HLIF	0	<input type="checkbox"/>	
Lead-212	1.668	0.08226	pCi/g	0.0889	0.100	238.3 4	1.139	IDENTIFIED	3.156	<input type="checkbox"/>	
Lead-214	1.264	0.09542	pCi/g	0.1069	0.100	351.4 4	1.254	IDENTIFIED	6.076	<input type="checkbox"/>	
Lutetium-177	3.09	0.897	pCi/g	2.434	N	0 15 0		FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	0.9472	0.1963	pCi/g	0.3766	N	87.04 3	1.374	IDENTIFIED	17.07	<input type="checkbox"/>	
Niobium-95	0.08698	0.03142	pCi/g	0.06709	N	767.1 1	1.135	IDENTIFIED	35.96	<input type="checkbox"/>	
Niobium-95m	0.3258	0.06685	pCi/g	0.2296	N	0 15 0		NOT_IDENTI	0	<input type="checkbox"/>	
Niobium-97	2.18E+05	3.22E+05	pCi/g	0	N	0 15 0		SHORT_HLIF	0	<input type="checkbox"/>	
Polonium-212	1.668	0.08226	pCi/g	0.0889	N	238.3 4	1.139	IDENTIFIED	3.156	<input type="checkbox"/>	
Polonium-214	1.264	0.09542	pCi/g	0.1069	N	351.4 4	1.254	IDENTIFIED	6.076	<input type="checkbox"/>	
Polonium-216	1.668	0.08226	pCi/g	0.0889	N	238.3 4	1.139	IDENTIFIED	3.156	<input type="checkbox"/>	
Polonium-218	1.264	0.09542	pCi/g	0.1069	N	351.4 4	1.254	IDENTIFIED	6.076	<input type="checkbox"/>	
Potassium-40	33.33	1.685	pCi/g	4.085	1.00	0 15 0		NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Radium-224	4.584	0.5289	pCi/g	1.011	Y	241.4 1	1.616	IDENTIFIED	11.12	<input type="checkbox"/>	
Radium-226	1.003	0.07867	pCi/g	0.1035	Y	608.7 4	1.292	IDENTIFIED	6.854	<input type="checkbox"/>	
Radium-228	1.553	0.1862	pCi/g	0.2186	0.500	910.3 3	1.762	IDENTIFIED	10.28	<input type="checkbox"/>	
Rhenium-188	0.342	0.1289	pCi/g	0.2557	N	154 1	1.848	IDENTIFIED	37.58	<input type="checkbox"/>	
Sodium-24	8.31E+05	3.08E+06	pCi/g	0	N	0 15 0		SHORT_HLIF	0	<input type="checkbox"/>	
Technetium-99m	1.73E+18	0	pCi/g	0	N	0 15 0		SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	0.4826	0.04103	pCi/g	0.05847	0.080	582.7 1	1.32	IDENTIFIED	7.809	<input type="checkbox"/>	
Thorium-228	1.696	0.08368	pCi/g	0.09043	N	238.3 4	1.139	IDENTIFIED	3.156	<input type="checkbox"/>	
Thorium-230	1.003	0.07867	pCi/g	0.1035	N	608.7 4	1.292	IDENTIFIED	6.854	<input type="checkbox"/>	
Thorium-232	1.553	0.1862	pCi/g	0.2186	N	910.3 3	1.762	IDENTIFIED	10.28	<input type="checkbox"/>	
Thorium-234	3.487	1.118	pCi/g	3.15	2.00	0 15 0		FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Tin-126	0.3225	0.05797	pCi/g	0.126	N	87.04 3	1.374	IDENTIFIED	17.07	<input type="checkbox"/>	
Titanium-44	0.1559	0.02417	pCi/g	0.07641	N	0 15 0		NOT_IDENTI	0	<input type="checkbox"/>	
Total Uranium	10.416	3.33E-06	ug/g	4.6897	N	0				<input type="checkbox"/>	
Uranium-234	1.003	0.07867	pCi/g	0.1035	N	608.7 4	1.292	IDENTIFIED	6.854	<input type="checkbox"/>	
Uranium-238	3.487	1.118	pCi/g	3.15	N	0 15 0		FAIL_ABUND	0	<input type="checkbox"/>	
Zirconium-97	3.65E+07	8.23E+06	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
245808006	26-JAN-10 12:00	12-FEB-10 16:58	17.2	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	1.169	0.1275	pCi/g	0.1688	N	911.5 3	1.724	IDENTIFIED	9.052	<input type="checkbox"/>	
Americium-243	0.266	0.05985	pCi/g	0.1748	N	74.96 1	0.7617	IDENTIFIED	22.13	<input type="checkbox"/>	
Annihilation Rad. HE	0.07612	0.02987	pCi/g	0.04451	N	511.3 1	1.874	IDENTIFIED	38.88	<input type="checkbox"/>	
Barium-137m	0.1536	0.02832	pCi/g	0.05629	N	661.7 2	1.4	IDENTIFIED	17.82	<input type="checkbox"/>	
Bismuth-211	2.054	0.2242	pCi/g	0.3327	Y	351.9 4	1.198	IDENTIFIED	8.714	<input checked="" type="checkbox"/>	VI
Bismuth-212	0.4842	0.2026	pCi/g	0.4596	N	727.3 1	1.471	IDENTIFIED	41.48	<input type="checkbox"/>	
Bismuth-214	0.7687	0.07856	pCi/g	0.09642	0.200	609.7 4	1.402	IDENTIFIED	8.517	<input type="checkbox"/>	
Cerium-141	0.1972	0.04451	pCi/g	0.1528	N	0 12 0		NOT_IDENTI	0	<input type="checkbox"/>	
Cerium-143	589.6	217	pCi/g	0	N	0 12 0		SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-137	0.1623	0.02994	pCi/g	0.0595	0.100	661.7 2	1.4	IDENTIFIED	17.82	<input type="checkbox"/>	
Gadolinium-153	1.83	0.1272	pCi/g	0.2852	N	0 12 0		FAIL_ABUND	0	<input type="checkbox"/>	
Gold-195	5.34	0.371	pCi/g	0.8787	N	0 12 0		FAIL_ABUND	0	<input type="checkbox"/>	

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Niobium-97		5.88E+06	7.99E+05	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>
Polonium-212	NR	1.613	0.08927	pCi/g	0.121	N	238.4	4	1.226	IDENTIFIED	4.21	<input type="checkbox"/>
Polonium-214	NR	1.531	0.1212	pCi/g	0.1479	N	351.3	4	1.375	IDENTIFIED	6.73	<input type="checkbox"/>
Polonium-216	NR	1.613	0.08927	pCi/g	0.121	N	238.4	4	1.226	IDENTIFIED	4.21	<input type="checkbox"/>
Polonium-218	NR	1.531	0.1212	pCi/g	0.1479	N	351.3	4	1.375	IDENTIFIED	6.73	<input type="checkbox"/>
Potassium-40	✓	22.5	1.267	pCi/g	0.4898	1.00	1459	1	2.059	IDENTIFIED	4.213	<input type="checkbox"/>
Protactinium-234m	✓	36.11	5.286	pCi/g	8.468	N	999.9	1	1.818	IDENTIFIED	13.84	<input type="checkbox"/>
Radium-224	INT	4.122	0.8649	pCi/g	1.377	Y	241.3	1	1.777	IDENTIFIED	20.79	<input checked="" type="checkbox"/>
Radium-226	✓	1.273	0.1197	pCi/g	0.1419	Y	608.7	4	1.673	IDENTIFIED	8.624	<input type="checkbox"/>
Radium-228	✓	1.592	0.2002	pCi/g	0.2439	0.500	910.1	3	1.948	IDENTIFIED	11.17	<input type="checkbox"/>
Silver-110m	LA	0.2093	0.03485	pCi/g	0.122	N	0	16	0	NOT_IDENTI	0	<input type="checkbox"/>
Sodium-24	HE	7.13E+05	5.03E+06	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-200	HE	510.5	1209	pCi/g	0	N	0	16	0	SHORT_HLIF	0	<input type="checkbox"/>
Thallium-208	✓	0.4586	0.05935	pCi/g	0.07968	0.080	582.7	1	1.328	IDENTIFIED	12.53	<input type="checkbox"/>
Thorium-228	NR	1.641	0.09081	pCi/g	0.123	N	238.4	4	1.226	IDENTIFIED	4.21	<input type="checkbox"/>
Thorium-230	NR	1.273	0.1197	pCi/g	0.1419	N	608.7	4	1.673	IDENTIFIED	8.624	<input type="checkbox"/>
Thorium-232	NR	1.592	0.2002	pCi/g	0.2439	N	910.1	3	1.948	IDENTIFIED	11.17	<input type="checkbox"/>
Thorium-234	✓	22.81	2.868	pCi/g	3.747	2.00	63.2	2	1.027	IDENTIFIED	8.773	<input type="checkbox"/>
Tin-126	INT	0.3741	0.08451	pCi/g	0.1954	N	87.13	3	1.408	IDENTIFIED	22.07	<input type="checkbox"/>
Titanium-44	LA	0.3914	0.04074	pCi/g	0.1147	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		68.262	8.53E-06	ug/g	5.5782	N		0				<input type="checkbox"/>
Tungsten-181	LA	2.147	0.3939	pCi/g	1.251	N	0	16	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	HE	5.999	1.699	pCi/g	4.073	N	0	16	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	1.273	0.1197	pCi/g	0.1419	N	608.7	4	1.673	IDENTIFIED	8.624	<input type="checkbox"/>
Uranium-235	✓	0.8698	0.2368	pCi/g	0.4722	0.500	143.2	1	1.462	IDENTIFIED	26	<input type="checkbox"/>
Uranium-238	NR	22.81	2.868	pCi/g	3.747	N	63.2	2	1.027	IDENTIFIED	8.773	<input type="checkbox"/>
Zirconium-97		5.98E+07	1.23E+07	pCi/g	0	N	0	16	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		
245808008	26-JAN-10 12:00	12-FEB-10 17:37	17.2	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	1.5	0.178	pCi/g	0.2561	N	911	3	1.873	IDENTIFIED	10.31	<input type="checkbox"/>	
Americium-243	INT	0.4079	0.06674	pCi/g	0.1339	N	74.99	1	1.602	IDENTIFIED	15.31	<input type="checkbox"/>	
Annihilation Rad.	HE	0.08912	0.04064	pCi/g	0.05941	N	511	1	1.873	IDENTIFIED	45.39	<input type="checkbox"/>	
Bismuth-211	INT	3.583	0.3219	pCi/g	0.4084	Y	352	4	1.358	IDENTIFIED	7.484	<input checked="" type="checkbox"/>	✓✓✓
Bismuth-214	✓	0.9865	0.1049	pCi/g	0.1481	0.200	609.5	4	1.424	IDENTIFIED	9.404	<input type="checkbox"/>	
Cadmium-109	✓ PW	3.324	0.9465	pCi/g	2.028	Y	86.82	3	4.154	IDENTIFIED	27.8	<input checked="" type="checkbox"/>	UI Data rejected due to high peak-width.
Cerium-143		2087	391.6	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>	
Cesium-134	LA	0.1464	0.03396	pCi/g	0.1025	0.100	0	9	0	FAIL_ABUND	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Gross Gamma		9.454	1.669	pCi/g	3.816	N	0					<input type="checkbox"/>	
Krypton-85	HE	22.29	5.232	pCi/g	17.42	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>	
Lead-212	✓	1.607	0.1163	pCi/g	0.1143	0.100	238.8	4	1.412	IDENTIFIED	4.118	<input type="checkbox"/>	
Lead-214	✓	1.247	0.1166	pCi/g	0.1516	0.100	352	4	1.358	IDENTIFIED	7.484	<input type="checkbox"/>	
Lutetium-177	HE	3.248	0.983	pCi/g	3.111	N	0	9	0	FAIL_ABUND	0	<input type="checkbox"/>	
Neptunium-237	HE	0.9564	0.2896	pCi/g	0.5488	N	86.82	3	4.154	IDENTIFIED	27.8	<input type="checkbox"/>	
Niobium-95m	HE	0.3125	0.09439	pCi/g	0.3041	N	0	9	0	NOT_IDENTI	0	<input type="checkbox"/>	
Polonium-212	NR	1.607	0.1163	pCi/g	0.1143	N	238.8	4	1.412	IDENTIFIED	4.118	<input type="checkbox"/>	
Polonium-214	NR	1.247	0.1166	pCi/g	0.1516	N	352	4	1.358	IDENTIFIED	7.484	<input type="checkbox"/>	
Polonium-216	NR	1.607	0.1163	pCi/g	0.1143	N	238.8	4	1.412	IDENTIFIED	4.118	<input type="checkbox"/>	
Polonium-218	NR	1.247	0.1166	pCi/g	0.1516	N	352	4	1.358	IDENTIFIED	7.484	<input type="checkbox"/>	
Potassium-40	✓	34.56	1.993	pCi/g	0.6177	1.00	1460	1	2.199	IDENTIFIED	3.022	<input type="checkbox"/>	
Radium-224	INT	4.669	0.8058	pCi/g	1.3	Y	241.7	1	1.854	IDENTIFIED	16.35	<input checked="" type="checkbox"/>	✓✓
Radium-226	✓	0.9865	0.1049	pCi/g	0.1481	Y	609.5	4	1.424	IDENTIFIED	9.404	<input type="checkbox"/>	
Radium-228	✓	1.5	0.178	pCi/g	0.2561	0.500	911	3	1.873	IDENTIFIED	10.31	<input type="checkbox"/>	
Strontium-85	LA	0.1169	0.02743	pCi/g	0.09135	Y	0	9	0	NOT_IDENTI	0	<input checked="" type="checkbox"/>	UI Data rejected due to low abundance.
Technetium-99m		6.32E+18	0	pCi/g	0	N	0	9	0	SHORT_HLIF	0	<input type="checkbox"/>	
Thallium-208	✓	0.5333	0.05238	pCi/g	0.06894	0.080	583.4	1	1.526	IDENTIFIED	8.688	<input type="checkbox"/>	
Thorium-228	NR	1.634	0.1183	pCi/g	0.1163	N	238.8	4	1.412	IDENTIFIED	4.118	<input type="checkbox"/>	

Thorium-230	NR	0.9865	0.1049	pCi/g	0.1481	N	609.5	4	1.424	IDENTIFIED	9.404	<input type="checkbox"/>
Thorium-232	NR	1.5	0.178	pCi/g	0.2561	N	911	3	1.873	IDENTIFIED	10.31	<input type="checkbox"/>
Tin-126	HE	0.3257	0.09273	pCi/g	0.2114	N	86.82	3	4.154	IDENTIFIED	27.8	<input type="checkbox"/>
Titanium-44	LA	0.3023	0.0385	pCi/g	0.109	N	0	9	0	FAIL_ABUND	0	<input type="checkbox"/>
Uranium-234	NR	0.9865	0.1049	pCi/g	0.1481	N	609.5	4	1.424	IDENTIFIED	9.404	<input type="checkbox"/>
Zirconium-97		5.51E+07	1.03E+07	pCi/g	0	N	0	9	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
1202029817		12-FEB-10 17:51	0	MB	LOAD	1		GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Niobium-97 HE	101.2	258.1	pCi/g	0	N	0	1	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
1202029818	26-JAN-10 12:00	12-FEB-10 17:52	17.2	DUP	LOAD	1		LANL01004GEL	N	RGSP

Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-227	HE	1.186	0.2638	pCi/g	0.7927	N	0	21	0	NOT_IDENTI	0
Actinium-228	NR	1.005	0.1232	pCi/g	0.1714	N	911	3	1.749	IDENTIFIED	10.31
Americium-241	LA	0.5361	0.1564	pCi/g	0.5309	0.200	0	21	0	NOT_IDENTI	0
Americium-243	INT	0.359	0.05949	pCi/g	0.1908	N	74.93	1	0.8874	IDENTIFIED	16.06
Annihilation Rad.	HE	0.07602	0.034	pCi/g	0.04501	N	511.2	1	2.735	IDENTIFIED	44.45
Barium-137m	NR	0.1684	0.03014	pCi/g	0.05686	N	661.5	2	1.367	IDENTIFIED	17.11
Bismuth-211	INT	2.265	0.2076	pCi/g	0.3303	Y	352	4	1.439	IDENTIFIED	7.087
Bismuth-212	HE	0.7393	0.1833	pCi/g	0.4407	N	727.8	1	1.224	IDENTIFIED	24.06
Bismuth-214	✓	0.6886	0.06533	pCi/g	0.1028	0.200	609.4	4	1.609	IDENTIFIED	7.496
Cerium-141	LA	0.6667	0.05984	pCi/g	0.1896	N	0	21	0	NOT_IDENTI	0
Cerium-143		1502	294	pCi/g	0	N	0	21	0	SHORT_HLIF	0
Cesium-134	LA	0.0896	0.02335	pCi/g	0.07963	0.100	0	21	0	NOT_IDENTI	0
Cesium-137	✓	0.178	0.03186	pCi/g	0.06011	0.100	661.5	2	1.367	IDENTIFIED	17.11
Gadolinium-153	LA	2.132	0.1414	pCi/g	0.3113	N	0	21	0	FAIL_ABUND	0
Gold-195	LA	6.22	0.4126	pCi/g	0.9008	N	0	21	0	FAIL_ABUND	0
Gross Gamma		27.91	1.899	pCi/g	5.664	N	0				
Krypton-85	HE	15.49	3.479	pCi/g	12.38	N	0	21	0	NOT_IDENTI	0
Lead-212	✓	1.024	0.07982	pCi/g	0.09937	0.100	238.7	4	1.35	IDENTIFIED	4.139
Lead-214	✓	0.7879	0.07509	pCi/g	0.1109	0.100	352	4	1.439	IDENTIFIED	7.087
Molybdenum-99	HE	47.47	12.89	pCi/g	39.24	N	0	21	0	NOT_IDENTI	0
Niobium-95	NT	0.9437	0.06888	pCi/g	0.06053	N	766.4	1	1.891	IDENTIFIED	4.833
Niobium-97	HE	5.66E+05	4.24E+05	pCi/g	0	N	0	21	0	SHORT_HLIF	0
Polonium-212	NR	1.024	0.07982	pCi/g	0.09937	N	238.7	4	1.35	IDENTIFIED	4.139
Polonium-214	NR	0.7879	0.07509	pCi/g	0.1109	N	352	4	1.439	IDENTIFIED	7.087
Polonium-216	NR	1.024	0.07982	pCi/g	0.09937	N	238.7	4	1.35	IDENTIFIED	4.139
Polonium-218	NR	0.7879	0.07509	pCi/g	0.1109	N	352	4	1.439	IDENTIFIED	7.087
Potassium-40	✓	22.97	1.191	pCi/g	0.3854	1.00	1461	1	2.743	IDENTIFIED	2.432
Protactinium-234m	✓	246.6	15.4	pCi/g	4.981	N	1001	1	2.161	IDENTIFIED	2.483
Radium-224	INT	2.757	0.5322	pCi/g	1.129	Y	241.4	1	1.713	IDENTIFIED	18.26
Radium-226	✓	0.6886	0.06533	pCi/g	0.1028	Y	609.4	4	1.609	IDENTIFIED	7.496
Radium-228	✓	1.005	0.1232	pCi/g	0.1714	0.500	911	3	1.749	IDENTIFIED	10.31
Rhenium-183	LA	0.8409	0.117	pCi/g	0.2955	N	0	21	0	FAIL_ABUND	0
Rubidium-84	HE	0.1466	0.03428	pCi/g	0.1252	N	0	21	0	NOT_IDENTI	0
Strontium-85	LA	0.08123	0.01824	pCi/g	0.06492	Y	0	21	0	NOT_IDENTI	0
Technetium-99m		2.20E+18	0	pCi/g	0	N	0	21	0	SHORT_HLIF	0
Tellurium-125m	HE	42.28	9.487	pCi/g	30.23	N	0	21	0	NOT_IDENTI	0
Thallium-200	HE	212.2	806.4	pCi/g	0	N	0	21	0	SHORT_HLIF	0
Thallium-208	✓	0.2748	0.03482	pCi/g	0.0547	0.080	583.4	1	1.553	IDENTIFIED	11.45
Thorium-227	LA	1.186	0.2698	pCi/g	0.7927	Y	0	21	0	FAIL_ABUND	0
Thorium-228	NR	1.042	0.08121	pCi/g	0.1011	N	238.7	4	1.35	IDENTIFIED	4.139
Thorium-230	NR	0.6886	0.06532	pCi/g	0.1028	N	609.4	4	1.609	IDENTIFIED	7.496
Thorium-232	NR	1.005	0.1232	pCi/g	0.1714	N	911	3	1.749	IDENTIFIED	10.31

Thorium-234	✓	157.8	13.94	pCi/g	3.978	2.00	63.26	2	1.029	IDENTIFIED	1.505	<input type="checkbox"/>
Titanium-44	HE	0.1624	0.03669	pCi/g	0.1177	N	0	21	0	FAIL_ABUND	0	<input type="checkbox"/>
Total Uranium		470.92	4.15E-05	ug/g	5.9215	N		0				<input type="checkbox"/>
Tungsten-181	✓	6.392	0.4348	pCi/g	1.352	N	0	21	0	NOT_IDENTI	0	<input type="checkbox"/>
Uranium-231	✓	22.63	2.988	pCi/g	4.294	N	94.7	1	1.192	IDENTIFIED	12.42	<input type="checkbox"/>
Uranium-234	✓	0.6886	0.06532	pCi/g	0.1028	N	609.4	4	1.609	IDENTIFIED	7.496	<input type="checkbox"/>
Uranium-235	✓	3.107	0.3466	pCi/g	0.5003	0.500	143.9	1	1.149	IDENTIFIED	6.831	<input type="checkbox"/>
Uranium-238	✓	157.8	13.94	pCi/g	3.978	N	63.26	2	1.029	IDENTIFIED	1.505	<input type="checkbox"/>
Xenon-127	HE	0.1384	0.03274	pCi/g	0.1055	N	0	21	0	FAIL_ABUND	0	<input type="checkbox"/>
Zirconium-97		3.69E+07	7.94E+06	pCi/g	0	N	0	21	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
1202029819		12-FEB-10 18:28	0	LCS	LOAD	1		GEL		N	RGSP
Name	Result	Uncert.	Units	MDA	RDL	Energy ***	FWHM	Comb Act	Rpt Err(%)	Qual	Qual Comment
Actinium-228	HE	0.7688	0.2329	pCi/g	0.466	N	911.2	3	1.131	IDENTIFIED	29.67 <input type="checkbox"/>
Americium-241	✓	13.5	0.602	pCi/g	0.4163	0.200	59.65	1	1.055	IDENTIFIED	2.138 <input type="checkbox"/>
Annihilation Rad.	HE	0.09397	0.04721	pCi/g	0.08296	N	510.8	1	2.094	IDENTIFIED	50.03 <input type="checkbox"/>
Barium-137m		5.743	0.3154	pCi/g	0.1118	N	661.7	2	1.414	IDENTIFIED	2.232 <input type="checkbox"/>
Bismuth-211		2.009	0.3026	pCi/g	0.5691	Y	351.7	4	1.38	IDENTIFIED	14.28 <input type="checkbox"/>
Bismuth-214		0.7127	0.1139	pCi/g	0.1895	0.200	609.5	4	1.412	IDENTIFIED	14.98 <input type="checkbox"/>
Cadmium-109		33.21	1.85	pCi/g	1.841	Y	88.1	2	1.151	IDENTIFIED	2.949 <input type="checkbox"/>
Cerium-143	HE	57.85	14.83	pCi/g	46.7	N	0	10	0	FAIL_ABUND	0 <input type="checkbox"/>
Cesium-137	✓	6.071	0.3338	pCi/g	0.1182	0.100	661.7	2	1.414	IDENTIFIED	2.232 <input type="checkbox"/>
Cobalt-57		0.232	0.03151	pCi/g	0.0603	N	122.2	1	0.9451	IDENTIFIED	12.92 <input type="checkbox"/>
Cobalt-60	✓	6.725	0.3234	pCi/g	0.06859	0.100	1333	1	1.829	IDENTIFIED	2.364 <input type="checkbox"/>
Gross Gamma		27.16	2.836	pCi/g	4.754	N	0				<input type="checkbox"/>
Iodine-123	HE	10340	16530	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Iodine-133		342.2	161.2	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Iodine-135	HE	1.83E+10	4.88E+10	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Lead-212		1.018	0.1204	pCi/g	0.1576	0.100	238.6	4	1.142	IDENTIFIED	10.56 <input type="checkbox"/>
Lead-214		0.6987	0.1068	pCi/g	0.2041	0.100	351.7	4	1.38	IDENTIFIED	14.28 <input type="checkbox"/>
Lutetium-177	HE	2.205	0.6841	pCi/g	1.913	N	0	10	0	FAIL_ABUND	0 <input type="checkbox"/>
Neptunium-237		4.175	0.5323	pCi/g	0.9801	N	0	10	0	NOT_IDENTI	0 <input type="checkbox"/>
Niobium-97	HE	977.7	1451	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Polonium-212		1.018	0.1204	pCi/g	0.1576	N	238.6	4	1.142	IDENTIFIED	10.56 <input type="checkbox"/>
Polonium-214		0.6987	0.1068	pCi/g	0.2041	N	351.7	4	1.38	IDENTIFIED	14.28 <input type="checkbox"/>
Polonium-216		1.018	0.1204	pCi/g	0.1576	N	238.6	4	1.142	IDENTIFIED	10.56 <input type="checkbox"/>
Polonium-218		0.6987	0.1068	pCi/g	0.2041	N	351.7	4	1.38	IDENTIFIED	14.28 <input type="checkbox"/>
Radium-224		4.094	0.6511	pCi/g	2.272	Y	0	10	0	NOT_IDENTI	0 <input type="checkbox"/>
Radium-226		0.7127	0.1139	pCi/g	0.1895	Y	609.5	4	1.412	IDENTIFIED	14.98 <input type="checkbox"/>
Radium-228		0.7688	0.2329	pCi/g	0.466	0.500	911.2	3	1.131	IDENTIFIED	29.67 <input type="checkbox"/>
Technetium-99m	HE	3.67E+10	1.53E+11	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>
Thallium-208		0.3898	0.05519	pCi/g	0.1053	0.080	583.3	1	1.399	IDENTIFIED	13.19 <input type="checkbox"/>
Thorium-228		1.029	0.1217	pCi/g	0.1593	N	238.6	4	1.142	IDENTIFIED	10.56 <input type="checkbox"/>
Thorium-230		0.7127	0.1139	pCi/g	0.1895	N	609.5	4	1.412	IDENTIFIED	14.98 <input type="checkbox"/>
Thorium-232	HE	0.7688	0.2329	pCi/g	0.466	N	911.2	3	1.131	IDENTIFIED	29.67 <input type="checkbox"/>
Tin-126		3.286	0.183	pCi/g	0.1826	N	88.1	2	1.151	IDENTIFIED	2.949 <input type="checkbox"/>
Uranium-234		0.7127	0.1139	pCi/g	0.1895	N	609.5	4	1.412	IDENTIFIED	14.98 <input type="checkbox"/>
Zirconium-97	HE	6771	23490	pCi/g	0	N	0	10	0	SHORT_HLIF	0 <input type="checkbox"/>

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

Result Greater Than DL

Batch Id	Sample Id	Sample Type	Run Date	Parmname	Result	Uncertainty	Units	DL	RDL
947554	245808007	SAMPLE	12-FEB-10	Polonium-210	12.15	4.17	pCi/g	7.307	N
				Potassium-40	22.5	1.267	pCi/g	0.245	1.00
				Protactinium-234m	36.11	5.286	pCi/g	4.237	N
				Radium-224	4.122	0.8649	pCi/g	0.8887	Y
				Radium-226	1.273	0.1197	pCi/g	0.071	Y
				Radium-228	1.582	0.2002	pCi/g	0.122	0.500
				Sodium-24	7.13E+05	5.03E+06	pCi/g	0	N
				Strontium-85	0.06328	0.029	pCi/g	0.04655	Y
				Thallium-200	510.5	1209	pCi/g	0	N
				Thallium-208	0.4586	0.05935	pCi/g	0.03986	0.080
				Thorium-234	22.81	2.868	pCi/g	1.875	2.00
				Uranium-231	5.999	1.699	pCi/g	2.038	N
				Uranium-235	0.8698	0.2368	pCi/g	0.2362	0.500
				Uranium-238	22.81	2.868	pCi/g	1.875	N
				Zirconium-97	5.98E+07	1.23E+07	pCi/g	0	N
947554	245808008	SAMPLE	12-FEB-10	Bismuth-211	3.583	0.3219	pCi/g	0.2043	Y
				Bismuth-214	0.9865	0.1049	pCi/g	0.07407	0.200
				Cadmium-109	3.324	0.9465	pCi/g	1.014	Y
				Cerium-143	2087	391.6	pCi/g	0	N
				Cesium-134	0.1464	0.03396	pCi/g	0.05126	0.100
				Gross Gamma	9.454	1.669	pCi/g	1.849	N
				Krypton-85	22.29	5.232	pCi/g	8.717	N
				Lead-212	1.807	0.1163	pCi/g	0.05719	0.100
				Lead-214	1.247	0.1168	pCi/g	0.07583	0.100
				Mercury-203	0.08906	0.02744	pCi/g	0.04974	0.100
				Potassium-40	34.56	1.993	pCi/g	0.309	1.00
				Radium-224	4.669	0.8058	pCi/g	0.8505	Y
				Radium-226	0.9865	0.1049	pCi/g	0.07407	Y
				Radium-228	1.5	0.178	pCi/g	0.1281	0.500
				Strontium-85	0.1189	0.02743	pCi/g	0.0457	Y
				Technetium-99m	6.32E+18	0	pCi/g	0	N
				Thallium-208	0.5333	0.05238	pCi/g	0.03449	0.080
				Yttrium-91	30.84	13.63	pCi/g	24.02	N
				Zirconium-97	5.51E+07	1.03E+07	pCi/g	0	N
947554	1202029817	MB	12-FEB-10	Niobium-97	101.2	258.1	pCi/g	0	N
				Yttrium-91	6.489	2.682	pCi/g	5.83	N
947554	1202029818	DOP	12-FEB-10	Americium-241	0.5361	0.1564	pCi/g	0.2856	0.200

MLP
2/15/10

MLP
2/15/10

VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 04:26:41.26

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808001.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:26:17
Sample ID          : G245808001 Sample quantity : 1.49809E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time: 0 06:00:00.00 Elapsed real time: 0 06:00:04.97 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 Detector SN# :
Matrix Spike ID    : LCS ID : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.24*	2286	2217	1.04	126.51	122	9	1.06E-01	4.3	
2	2	74.81	808	1645	0.89	149.66	146	15	3.74E-02	8.3	1.26E+00
3	2	77.09	1480	1911	1.06	154.22	146	15	6.85E-02	5.4	
4	4	83.96	480	2401	1.37	167.96	162	32	2.22E-02	17.8	1.66E+00
5	4	87.21	916	2302	1.30	174.47	162	32	4.24E-02	9.5	
6	4	89.94	788	2226	1.28	179.92	162	32	3.65E-02	11.1	
7	4	92.58*	8414	1754	1.14	185.19	162	32	3.90E-01	1.4	
8	4	94.54	466	1852	1.40	189.11	162	32	2.16E-02	24.7	
9	0	98.62	618	1901	1.03	197.28	194	9	2.86E-02	13.4	
10	0	105.54	185	1329	0.90	211.13	208	7	8.56E-03	33.5	
11	0	112.36	475	2205	1.01	224.77	220	10	2.20E-02	19.1	
12	0	128.98	212	1119	0.89	258.01	255	6	9.82E-03	25.9	
13	0	143.58	336	1572	1.02	287.21	283	9	1.56E-02	21.9	
14	0	163.13	195	1049	1.44	326.33	323	7	9.03E-03	28.4	
15	0	185.80*	1961	1346	1.19	371.66	367	10	9.08E-02	4.3	
16	0	205.27	164	837	1.16	410.60	407	7	7.61E-03	30.3	
17	0	209.08	398	1053	1.17	418.22	414	9	1.84E-02	15.5	
18	5	238.62*	4192	671	1.10	477.31	470	20	1.94E-01	1.9	2.06E+00
19	5	241.58*	966	902	1.73	483.24	470	20	4.47E-02	8.2	
20	0	257.86	171	858	1.17	515.78	511	10	7.93E-03	32.9	
21	0	270.22	380	649	1.37	540.51	536	9	1.76E-02	13.2	
22	0	277.01	249	849	0.96	554.10	548	12	1.15E-02	24.3	
23	0	295.16	1196	831	1.17	590.41	584	12	5.54E-02	5.6	
24	0	300.10	256	704	1.09	600.27	596	10	1.18E-02	20.4	
25	0	328.03	237	672	1.44	656.14	651	11	1.10E-02	22.2	
26	0	338.32*	825	587	1.26	676.73	672	10	3.82E-02	6.6	
27	0	351.83*	2086	679	1.31	703.75	697	13	9.66E-02	3.4	
28	0	409.91	108	341	1.40	819.91	816	8	4.99E-03	31.3	
29	0	438.77	40	374	1.34	877.64	871	9	1.85E-03	88.7	
30	0	462.88	232	302	1.55	925.86	921	9	1.08E-02	15.0	
31	0	510.79*	379	582	2.08	1021.68	1014	16	1.75E-02	17.2	
32	0	583.29*	1227	432	1.41	1166.68	1160	15	5.68E-02	4.8	
33	0	609.34*	1401	390	1.48	1218.78	1213	13	6.49E-02	4.1	
34	0	727.38	269	343	1.36	1454.85	1450	13	1.24E-02	15.5	
35	0	767.02	294	394	2.23	1534.12	1528	14	1.36E-02	15.4	
36	0	786.53	59	326	1.58	1573.14	1566	12	2.74E-03	62.7	
37	0	795.21	146	295	1.78	1590.50	1584	14	6.77E-03	26.2	
38	0	837.88	185	370	4.01	1675.83	1667	23	8.56E-03	28.1	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	860.63	173	160	1.20	1721.34	1717	10	8.00E-03	15.7	
40	0	911.24*	856	292	1.74	1822.54	1816	17	3.96E-02	5.9	
41	0	934.07	115	162	1.36	1868.20	1862	11	5.31E-03	23.4	
42	3	965.06	167	133	1.89	1930.17	1926	18	7.73E-03	13.1	1.85E+00
43	3	969.11*	528	170	1.72	1938.27	1926	18	2.44E-02	6.8	
44	0	1000.97*	479	202	1.64	2001.98	1997	12	2.22E-02	7.6	
45	0	1120.20*	287	252	2.15	2240.42	2233	14	1.33E-02	13.4	
46	0	1237.42	229	252	2.37	2474.82	2466	15	1.06E-02	16.5	
47	0	1377.93	70	80	1.95	2755.78	2750	10	3.23E-03	25.6	
48	0	1460.89*	4516	95	2.02	2921.66	2911	19	2.09E-01	1.6	
49	0	1631.31	40	27	1.77	3262.42	3256	12	1.86E-03	30.3	
50	0	1730.26	55	31	2.59	3460.27	3453	15	2.57E-03	25.4	
51	0	1764.73*	296	37	2.19	3529.18	3518	21	1.37E-02	8.1	

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

```

Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808001.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:26:17
Sample ID        : G245808001 Sample quantity : 149.81 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA4 Detector geometry: CAN
Elapsed live time: 0 06:00:00.00 Elapsed real time: 0 06:00:04.97 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	Energy	Activity	Act error	MDA	MDA error	Act/MDA
	Idea	(keV)	(pCi/GRAM)		(pCi/GRAM)		
K-40	+	1460.81 *	3.290E+01	2.561E+00	2.547E-01	1.810E-02	129.190
NB-95	+	765.79 *	1.520E-01	4.784E-02	3.581E-02	2.232E-03	4.244
CD-109	+	88.03 *	4.206E+00	9.458E-01	8.214E-01	9.872E-02	5.120
SN-126	+	64.28	9.656E+00	1.865E+00	6.863E-01	1.182E-01	14.070
	+	86.94	1.715E+00	7.937E-01	3.412E-01	1.439E-01	5.027
	+	87.57 *	4.125E-01	9.277E-02	8.119E-02	9.736E-03	5.081
EU-155		48.70	-5.417E+00	3.485E+00	5.659E+00	6.520E-01	-0.957
		60.01	4.583E+00	5.105E+00	7.900E+00	9.597E-01	0.580
	+	86.54	4.971E-01	1.120E-01	9.959E-02	1.193E-02	4.991
	+	105.31 *	1.221E-01	8.250E-02	1.064E-01	9.278E-03	1.147
LU-177	+	112.95	5.396E+00	2.103E+00	1.909E+00	1.478E-01	2.827
	+	208.36 *	3.161E+00	1.002E+00	1.004E+00	6.588E-02	3.149
TL-208	+	277.35	7.052E-01	3.517E-01	3.061E-01	3.382E-02	2.304
	+	510.84	5.361E-01	1.924E-01	1.137E-01	1.141E-02	4.716
	+	583.14 *	4.959E-01	5.698E-02	3.006E-02	1.891E-03	16.498
	+	860.37	6.648E-01	2.163E-01	2.531E-01	2.111E-02	2.626
BI-211		72.87	3.749E+00	2.541E+00	3.900E+00	4.472E-01	0.961
	+	351.07 *	3.712E+00	3.574E-01	1.706E-01	1.153E-02	21.755
BI-212	+	727.18 *	9.350E-01	2.985E-01	2.493E-01	1.906E-02	3.751
	+	785.46	1.324E+00	1.662E+00	1.626E+00	1.058E-01	0.814
		1620.62	9.208E-01	6.736E-01	1.231E+00	8.036E-02	0.748
PB-212	+	74.81	1.733E+00	3.851E-01	4.180E-01	6.179E-02	4.145
	+	77.11	1.749E+00	2.750E-01	2.308E-01	2.647E-02	7.579
	+	87.30	1.908E+00	4.696E-01	3.772E-01	5.884E-02	5.058
	+	238.63 *	1.627E+00	1.448E-01	4.793E-02	3.849E-03	33.946
	+	300.09	1.534E+00	6.406E-01	6.262E-01	5.513E-02	2.449
PO-212	+	74.81	1.733E+00	3.851E-01	4.180E-01	6.179E-02	4.145
	+	77.11	1.749E+00	2.750E-01	2.308E-01	2.647E-02	7.579
	+	87.30	1.908E+00	4.696E-01	3.772E-01	5.884E-02	5.058
	+	115.19	1.492E+00	2.332E+00	3.495E+00	2.630E-01	0.427
	+	238.63 *	1.627E+00	1.448E-01	4.793E-02	3.849E-03	33.946
	+	300.09	1.534E+00	6.406E-01	6.262E-01	5.513E-02	2.449
BI-214	+	609.31 *	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
	+	1120.29	1.170E+00	3.320E-01	2.765E-01	2.576E-02	4.231

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PB-214	+	1764.49		1.643E+00	2.835E-01	1.465E-01	8.931E-03	11.213
	+	74.81		2.986E+00	6.413E-01	7.203E-01	9.825E-02	4.145
	+	77.11		2.998E+00	5.239E-01	3.956E-01	5.448E-02	7.579
	+	87.30		3.269E+00	7.770E-01	6.462E-01	9.201E-02	5.058
	+	241.98		2.251E+00	4.193E-01	2.887E-01	2.516E-02	7.797
PO-214	+	295.21		1.259E+00	1.820E-01	1.131E-01	1.027E-02	11.135
	+	351.92	*	1.291E+00	1.414E-01	5.948E-02	5.074E-03	21.709
	+	74.81		2.986E+00	6.413E-01	7.203E-01	9.825E-02	4.145
	+	77.11		2.998E+00	5.239E-01	3.956E-01	5.448E-02	7.579
	+	87.30		3.269E+00	7.770E-01	6.462E-01	9.201E-02	5.058
PO-216	+	241.98		2.251E+00	4.193E-01	2.887E-01	2.516E-02	7.797
	+	295.21		1.259E+00	1.820E-01	1.131E-01	1.027E-02	11.135
	+	351.92	*	1.291E+00	1.414E-01	5.948E-02	5.074E-03	21.709
	+	74.81		1.733E+00	3.851E-01	4.180E-01	6.179E-02	4.145
	+	77.11		1.749E+00	2.750E-01	2.308E-01	2.647E-02	7.579
PO-218	+	87.30		1.908E+00	4.696E-01	3.772E-01	5.884E-02	5.058
	+	238.63	*	1.627E+00	1.448E-01	4.793E-02	3.849E-03	33.946
	+	300.09		1.534E+00	6.406E-01	6.262E-01	5.513E-02	2.449
	+	74.81		2.986E+00	6.413E-01	7.203E-01	9.825E-02	4.145
	+	77.11		2.998E+00	5.239E-01	3.956E-01	5.448E-02	7.579
RA-224	+	87.30		3.269E+00	7.770E-01	6.462E-01	9.201E-02	5.058
	+	241.98		2.251E+00	4.193E-01	2.887E-01	2.516E-02	7.797
	+	295.21		1.259E+00	1.820E-01	1.131E-01	1.027E-02	11.135
	+	351.92	*	1.291E+00	1.414E-01	5.948E-02	5.074E-03	21.709
	+	240.98	*	4.269E+00	7.581E-01	5.456E-01	3.637E-02	7.824
AC-228	+	609.31	*	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
	+	1120.29		1.170E+00	3.320E-01	2.765E-01	2.576E-02	4.231
	+	1764.49		1.643E+00	2.835E-01	1.465E-01	8.931E-03	11.213
	+	338.32		1.618E+00	6.948E-01	1.929E-01	7.877E-02	8.388
	+	911.07	*	1.562E+00	2.503E-01	1.167E-01	1.272E-02	13.383
RA-228	+	969.11		1.703E+00	4.551E-01	2.069E-01	4.771E-02	8.232
	+	338.32		1.618E+00	6.948E-01	1.929E-01	7.877E-02	8.388
	+	911.07	*	1.562E+00	2.503E-01	1.167E-01	1.272E-02	13.383
	+	969.11		1.703E+00	4.551E-01	2.069E-01	4.771E-02	8.232
	+	74.81		1.762E+00	3.557E-01	4.250E-01	4.890E-02	4.145
TH-228	+	77.11		1.778E+00	2.796E-01	2.346E-01	2.691E-02	7.579
	+	87.30		1.940E+00	4.362E-01	3.835E-01	4.591E-02	5.058
	+	238.63	*	1.654E+00	1.472E-01	4.872E-02	3.913E-03	33.945
	+	300.09		1.559E+00	1.119E+00	6.365E-01	3.757E-01	2.449
	+	85.43		5.174E-01	1.939E-01	1.892E-01	2.239E-02	2.735
TH-229	+	88.47		5.632E-01	1.267E-01	1.092E-01	1.298E-02	5.157
	+	100.00		7.131E-01	2.026E-01	1.813E-01	1.700E-02	3.933
	+	193.63	*	-2.658E-03	2.827E-01	4.534E-01	2.942E-02	-0.006
	+	210.97		6.993E-01	4.812E-01	7.130E-01	4.687E-02	0.981
	+	609.31	*	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
TH-230	+	1120.29		1.170E+00	3.320E-01	2.764E-01	2.575E-02	4.231
	+	1764.49		1.643E+00	2.835E-01	1.465E-01	8.931E-03	11.213
	+	84.21		1.875E+01	7.028E+00	7.023E+00	8.256E-01	2.670
U-231	+	92.29		1.145E+02	1.280E+01	2.491E+00	2.711E-01	45.970

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	95.87	*	3.821E+00	1.931E+00	1.347E+00	1.362E-01	2.836
		108.00		5.638E-01	2.198E+00	2.603E+00	2.155E-01	0.217
TH-232	+	338.32		1.618E+00	2.379E-01	1.929E-01	1.212E-02	8.388
	+	911.07	*	1.562E+00	2.503E-01	1.167E-01	1.272E-02	13.383
	+	969.11		1.703E+00	4.551E-01	2.069E-01	4.771E-02	8.232
PA-234M	+	766.42		3.962E+01	2.341E+01	1.011E+01	5.093E+00	3.920
	+	1001.03	*	3.150E+01	5.578E+00	4.169E+00	3.801E-01	7.555
TH-234	+	63.29	*	2.439E+01	5.266E+00	1.833E+00	3.626E-01	13.308
	+	92.38		2.382E+01	4.629E+00	5.175E-01	9.963E-02	46.023
U-234	+	609.31	*	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
	+	1120.29		1.170E+00	3.320E-01	2.764E-01	2.575E-02	4.231
	+	1764.49		1.643E+00	2.835E-01	1.465E-01	8.931E-03	11.213
U-235	+	89.95		4.643E+00	1.802E+00	1.072E+00	3.405E-01	4.332
	+	93.35		2.863E+01	8.280E+00	6.148E-01	1.765E-01	46.573
	+	105.00		1.196E+00	8.772E-01	1.054E+00	3.148E-01	1.134
	+	143.76	*	4.179E-01	1.958E-01	1.890E-01	3.133E-02	2.211
	+	163.35		5.676E-01	3.390E-01	4.254E-01	7.730E-02	1.334
	+	185.71		5.321E-01	5.712E-02	3.810E-02	2.457E-03	13.965
	+	205.31		5.455E-01	3.455E-01	4.470E-01	8.152E-02	1.220
NP-237	+	86.50	*	1.211E+00	3.697E-01	2.429E-01	5.787E-02	4.988
	+	95.87		2.676E+00	1.486E+00	9.436E-01	2.377E-01	2.836
U-238	+	63.29	*	2.439E+01	5.266E+00	1.833E+00	3.626E-01	13.308
	+	92.38		2.382E+01	2.663E+00	5.175E-01	5.620E-02	46.023
AM-243	+	74.67	*	2.809E-01	5.664E-02	6.810E-02	7.799E-03	4.125
	+	86.72		4.543E+01	1.022E+01	9.072E+00	1.082E+00	5.007
		117.66		-1.024E+00	2.307E+00	3.581E+00	2.614E-01	-0.286
	+	142.18		3.510E+01	1.556E+01	1.609E+01	1.053E+00	2.181
ANH-511	+	511.00	*	1.158E-01	4.041E-02	2.456E-02	1.374E-03	4.715

---- 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	*	-1.462E-03	1.787E-01	2.913E-01	1.930E-02	-0.005
NA-22		1274.54	*	1.437E-02	2.493E-02	4.294E-02	2.807E-03	0.335
NA-24		1368.53	*	-1.149E+00	2.493E-02	Half-Life too short		
AL-26		1129.67		1.070E+00	1.031E+00	1.748E+00	1.128E-01	0.612
		1808.65	*	-5.779E-03	1.354E-02	2.064E-02	1.224E-03	-0.280
TI-44		67.85		-2.740E-02	3.749E-02	5.930E-02	6.895E-03	-0.462
	+	78.38	*	3.228E-01	5.075E-02	4.927E-02	5.666E-03	6.551
SC-46		889.25	*	-6.355E-03	2.218E-02	3.598E-02	2.910E-03	-0.177
	+	1120.51		2.026E-01	5.590E-02	7.242E-02	4.744E-03	2.797
V-48		944.10		-1.553E-01	5.589E-01	9.029E-01	7.218E-02	-0.172
		983.50	*	-2.706E-02	4.382E-02	6.915E-02	5.357E-03	-0.391
		1312.09		-2.388E-02	4.736E-02	7.661E-02	5.162E-03	-0.312
CR-51		320.08	*	9.416E-02	1.945E-01	3.302E-01	2.325E-02	0.285
MN-52		744.21		2.074E-01	1.684E-01	2.941E-01	1.746E-02	0.705
		848.13		4.196E+00	5.144E+00	7.771E+00	5.781E-01	0.540
	+	935.52		4.896E-01	2.328E-01	3.173E-01	2.552E-02	1.543

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1246.25			7.786E-01	5.164E+00	8.714E+00	5.547E-01	0.089
	1333.61			2.648E+00	3.113E+00	5.471E+00	3.749E-01	0.484
	1434.06	*		-4.136E-03	1.547E-01	2.400E-01	1.638E-02	-0.017
MN-54	834.83	*		2.444E-02	2.416E-02	3.679E-02	2.663E-03	0.664
CO-56	846.75	*		-1.443E-02	2.609E-02	3.593E-02	2.666E-03	-0.402
	977.42			-3.056E-01	1.727E+00	2.796E+00	2.177E-01	-0.109
	1037.82			-3.558E-02	1.773E-01	2.850E-01	2.243E-02	-0.125
	1175.09			4.012E-01	1.416E+00	2.312E+00	1.377E-01	0.174
	1238.25	+		2.669E-01	8.969E-02	1.073E-01	7.142E-03	2.488
	1360.21			-3.270E-02	4.883E-01	8.086E-01	5.542E-02	-0.040
	1771.40			2.368E-02	1.230E-01	1.775E-01	1.078E-02	0.133
CO-57	122.06	*		2.668E-03	1.456E-02	2.403E-02	1.668E-03	0.111
	136.48			-6.114E-02	1.196E-01	1.932E-01	1.437E-02	-0.316
CO-58	810.76	*		-7.210E-03	2.079E-02	3.387E-02	2.338E-03	-0.213
FE-59	142.65	+		5.509E+00	2.442E+00	2.842E+00	1.858E-01	1.938
	192.34			-1.116E-01	5.358E-01	8.549E-01	1.040E-01	-0.131
	1099.22	*		-3.899E-02	5.485E-02	8.451E-02	6.458E-03	-0.461
	1291.56			-1.590E-02	7.116E-02	1.175E-01	9.492E-03	-0.135
CO-60	1173.22			-5.708E-03	2.753E-02	4.384E-02	2.607E-03	-0.130
	1332.49	*		-1.891E-04	2.097E-02	3.494E-02	2.394E-03	-0.005
ZN-65	1115.52	*		-2.513E-03	6.211E-02	8.634E-02	5.711E-03	-0.029
GE-68	1077.35	*		4.157E-01	7.609E-01	1.267E+00	8.853E-02	0.328
AS-73	53.44	*		-1.277E-01	9.967E-01	1.652E+00	2.161E-01	-0.077
AS-74	595.88	*		-1.131E-02	5.267E-02	8.365E-02	4.416E-03	-0.135
	634.78			1.154E-02	2.055E-01	3.290E-01	1.664E-02	0.035
SE-75	66.05			-2.596E+00	4.243E+00	6.322E+00	8.297E-01	-0.411
	96.73			9.073E-01	6.902E-01	8.418E-01	1.221E-01	1.078
	121.11			-1.953E-03	7.852E-02	1.290E-01	1.295E-02	-0.015
	136.00			-1.283E-02	2.252E-02	3.633E-02	2.435E-03	-0.353
	198.60			3.162E-01	1.053E+00	1.635E+00	1.262E-01	0.193
	264.65	*		1.461E-02	2.510E-02	4.020E-02	2.704E-03	0.363
	279.53			2.713E-02	6.197E-02	9.379E-02	6.622E-03	0.289
	303.91			-1.767E-01	1.199E+00	1.763E+00	1.765E-01	-0.100
	400.65			5.659E-02	1.472E-01	2.328E-01	2.096E-02	0.243
BR-77	87.88	+		1.364E+03	3.068E+02	3.441E+02	4.135E+01	3.965
	200.40			-1.307E+02	1.451E+02	2.146E+02	1.400E+01	-0.609
	239.00	+		3.931E+02	3.021E+01	3.110E+01	2.072E+00	12.642
	249.79			-4.350E+00	4.953E+01	8.390E+01	5.602E+00	-0.052
	281.68			1.564E+01	7.724E+01	1.158E+02	7.693E+00	0.135
	297.23			2.588E+02	6.727E+01	8.722E+01	5.739E+00	2.967
	303.76			-2.257E+01	1.524E+02	2.241E+02	1.467E+01	-0.101
	439.47	+		8.706E+01	1.546E+02	2.051E+02	1.163E+01	0.425
	484.57			-9.386E+01	1.832E+02	2.918E+02	1.647E+01	-0.322
	520.65	*		7.961E+00	8.193E+00	1.382E+01	7.698E-01	0.576
	574.64			-6.432E+01	1.713E+02	2.708E+02	1.457E+01	-0.238
	578.91			3.367E+01	7.795E+01	1.123E+02	6.022E+00	0.300
	585.48			1.564E+03	2.086E+02	3.612E+02	1.925E+01	4.331
	755.35			9.177E+01	1.354E+02	2.323E+02	1.414E+01	0.395
	817.79			-1.548E+01	1.004E+02	1.650E+02	1.152E+01	-0.094

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-82	698.33			-4.512E+00	1.847E+01	3.065E+01	1.634E+00	-0.147
	776.49	*		-2.814E-01	2.132E-01	3.313E-01	2.114E-02	-0.849
	1395.20			3.611E-01	5.906E+00	9.855E+00	6.747E-01	0.037
RB-83	520.41	*		3.533E-02	3.676E-02	6.197E-02	3.451E-03	0.570
	529.64			-3.760E-05	5.779E-02	9.353E-02	5.185E-03	0.000
	552.65			-7.841E-02	1.131E-01	1.768E-01	9.669E-03	-0.443
RB-84	881.50	*		2.244E-02	3.997E-02	6.766E-02	5.388E-03	0.332
KR-85	513.99	*		1.022E+01	4.141E+00	6.609E+00	3.692E-01	1.546
SR-85	513.99	*		5.318E-02	2.155E-02	3.439E-02	1.921E-03	1.546
RB-86	1076.63	*		1.670E-01	5.035E-01	8.302E-01	5.804E-02	0.201
Y-88	898.02			-2.545E-02	2.318E-02	3.577E-02	2.960E-03	-0.711
	1836.01	*		1.215E-02	1.655E-02	2.922E-02	1.705E-03	0.416
ZR-88	392.90	*		-3.233E-03	1.586E-02	2.601E-02	1.464E-03	-0.124
Y-91	1204.90	*		3.478E+00	1.200E+01	1.954E+01	1.198E+00	0.178
NB-94	702.63	*		1.309E-02	1.832E-02	3.155E-02	1.699E-03	0.415
	871.10			-1.396E-02	1.851E-02	2.925E-02	2.281E-03	-0.477
NB-95M	235.69	*		5.463E-02	7.640E-02	1.102E-01	9.044E-03	0.496
ZR-95	724.18			2.440E-02	5.901E-02	8.788E-02	5.929E-03	0.278
	756.15	*		4.214E-02	3.877E-02	6.752E-02	4.917E-03	0.624
NB-97	657.90	*		-2.264E-01	3.877E-02	Half-Life	too short	
	1024.50			1.987E+00	3.877E-02	Half-Life	too short	
ZR-97	254.15			2.945E+00	3.877E-02	Half-Life	too short	
	355.39			-1.910E+00	3.877E-02	Half-Life	too short	
	507.63	*		6.816E+00	3.877E-02	Half-Life	too short	
	602.52			1.229E+01	3.877E-02	Half-Life	too short	
	1021.30			2.991E-01	3.877E-02	Half-Life	too short	
	1147.95			5.148E+00	3.877E-02	Half-Life	too short	
	1362.66			-4.114E+00	3.877E-02	Half-Life	too short	
	1750.46			2.119E+00	3.877E-02	Half-Life	too short	
MO-99	140.51			-1.004E+01	2.455E+01	3.414E+01	9.260E+00	-0.294
	181.06			-5.627E+00	1.490E+01	2.106E+01	3.656E+00	-0.267
	366.43			2.980E+01	6.529E+01	1.099E+02	6.572E+00	0.271
	739.58	*		-7.581E+00	9.672E+00	1.552E+01	2.144E+00	-0.488
	778.00			-4.733E+01	2.695E+01	3.938E+01	2.522E+00	-1.202
TC-99M	140.51	*		-4.841E+11	2.695E+01	Half-Life	too short	
RH-101	127.23			1.672E-02	2.070E-02	3.098E-02	2.104E-03	0.540
	198.01	*		4.815E-04	1.919E-02	2.960E-02	1.928E-03	0.016
	325.23			2.097E-02	1.307E-01	1.937E-01	1.240E-02	0.108
RH-102	418.52			-2.526E-03	1.499E-01	2.465E-01	1.396E-02	-0.010
	475.06	*		6.383E-03	1.601E-02	2.652E-02	1.499E-03	0.241
	631.29			-4.987E-03	3.057E-02	4.843E-02	2.461E-03	-0.103
	697.49			1.055E-02	3.940E-02	6.682E-02	3.556E-03	0.158
+	766.84			3.770E-01	1.187E-01	1.399E-01	8.737E-03	2.695
	1046.59			4.138E-02	6.594E-02	1.107E-01	8.036E-03	0.374
	1112.84			1.128E-02	1.603E-01	2.246E-01	1.490E-02	0.050
RU-103	497.08	*		6.008E-03	2.256E-02	3.706E-02	4.657E-03	0.162
+	610.33			1.182E+01	2.037E+00	1.599E+00	2.431E-01	7.393
RH-106	511.85	+		5.799E-01	2.024E-01	2.268E-01	1.268E-02	2.558
	621.84	*		1.059E-01	1.785E-01	2.927E-01	3.344E-02	0.362

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-106	+	1050.47		-8.719E-01	1.332E+00	2.084E+00	1.506E-01	-0.418
		511.85		5.799E-01	2.024E-01	2.268E-01	1.268E-02	2.558
		621.84	*	1.059E-01	1.782E-01	2.927E-01	1.504E-02	0.362
AG-108M	*	1050.47		-8.719E-01	1.332E+00	2.084E+00	1.506E-01	-0.418
		433.93		-2.680E-03	1.947E-02	2.781E-02	1.718E-03	-0.096
		614.37		3.228E-03	2.377E-02	3.346E-02	1.916E-03	0.096
AG-110M	*	722.95		3.260E-05	2.541E-02	3.697E-02	2.275E-03	0.001
		657.75		-2.181E-02	1.922E-02	3.083E-02	1.647E-03	-0.708
		677.61		9.428E-02	1.698E-01	2.916E-01	1.596E-02	0.323
		706.67		-4.397E-02	1.175E-01	1.939E-01	1.126E-02	-0.227
		763.93		2.849E-01	1.040E-01	1.718E-01	1.124E-02	1.658
		884.67		-3.394E-02	2.852E-02	4.389E-02	3.648E-03	-0.773
IN-111		937.48		1.504E-02	6.930E-02	9.997E-02	8.362E-03	0.150
		1384.27		4.892E-02	9.565E-02	1.537E-01	1.099E-02	0.318
		171.28		-2.673E-01	7.919E-01	1.268E+00	8.084E-02	-0.211
		245.39	*	4.414E-01	8.783E-01	1.259E+00	8.399E-02	0.351
IN-113M		391.69	*	-1.027E-03	2.306E-02	3.804E-02	2.292E-03	-0.027
SN-113		391.69	*	-1.027E-03	2.306E-02	3.804E-02	2.292E-03	-0.027
IN-114M		190.27	*	4.002E-02	1.118E-01	1.617E-01	1.046E-02	0.248
CD-115		260.90		7.597E+00	1.219E+02	1.827E+02	1.220E+01	0.042
		492.35		-1.651E+01	2.975E+01	4.723E+01	2.659E+00	-0.350
		527.90	*	3.063E+00	8.850E+00	1.454E+01	8.070E-01	0.211
SN-117M		156.02		-5.001E-01	1.387E+00	2.233E+00	1.432E-01	-0.224
		158.56	*	3.229E-02	3.482E-02	5.499E-02	3.518E-03	0.587
SB-122		563.90	*	1.605E+00	1.670E+00	2.795E+00	1.516E-01	0.574
		692.80		-2.132E+01	3.245E+01	5.287E+01	2.782E+00	-0.403
I-123		159.00	*	1.914E+01	3.245E+01	Half-Life too short		
		528.96		5.207E+02	3.245E+01	Half-Life too short		
TE-123M		159.00	*	1.621E-02	1.787E-02	2.653E-02	1.715E-03	0.611
I-124		602.71	*	3.767E-01	5.087E-01	7.808E-01	4.095E-02	0.482
		722.78		2.660E-02	3.349E+00	4.875E+00	2.754E-01	0.005
		1325.50		1.937E+00	2.410E+01	4.039E+01	2.752E+00	0.048
		1376.25		5.643E+01	2.530E+01	4.267E+01	2.924E+00	1.322
		1509.49		1.677E+01	1.054E+01	1.938E+01	1.307E+00	0.865
SB-124		1691.02		-9.827E-02	2.339E+00	3.803E+00	2.411E-01	-0.026
		602.71		1.764E-02	2.382E-02	3.656E-02	1.918E-03	0.482
		645.85		1.204E-01	2.699E-01	4.632E-01	2.703E-02	0.260
		709.31		-6.001E-01	1.712E+00	2.595E+00	1.420E-01	-0.231
		713.82		5.368E-01	8.893E-01	1.524E+00	1.534E-01	0.352
		722.78		1.805E-03	2.273E-01	3.309E-01	1.962E-02	0.005
	+	968.20		1.782E+01	2.782E+00	4.289E+00	3.366E-01	4.154
		1045.16		5.460E-01	1.471E+00	2.436E+00	1.772E-01	0.224
		1325.50		1.404E-01	1.747E+00	2.928E+00	1.995E-01	0.048
		1368.21		-8.014E-01	9.347E-01	1.446E+00	1.796E-01	-0.554
		1436.60		-5.059E-01	2.051E+00	3.108E+00	2.120E-01	-0.163
SB-125		1691.02	*	-1.573E-03	3.745E-02	6.089E-02	4.137E-03	-0.026
		427.89	*	6.402E-03	4.882E-02	8.059E-02	4.771E-03	0.079
	+	463.38		6.429E-01	1.975E-01	2.915E-01	1.938E-02	2.205
		600.56		2.819E-02	9.880E-02	1.604E-01	1.001E-02	0.176

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M	635.90			6.077E-02	1.457E-01	2.373E-01	1.463E-02	0.256
	109.28	*		7.255E+00	8.208E+00	9.921E+00	9.849E-01	0.731
	388.63			2.997E-02	1.156E-01	1.928E-01	1.093E-02	0.155
I-126	666.33	*		-7.874E-02	1.082E-01	1.768E-01	8.721E-03	-0.445
	753.82			4.036E-01	8.607E-01	1.464E+00	8.882E-02	0.276
	223.80			-2.823E-01	2.501E+00	3.966E+00	2.627E-01	-0.071
SB-126	278.60			2.362E+00	1.558E+00	2.437E+00	1.620E-01	0.969
	296.50	+		1.356E+01	1.767E+00	2.068E+00	1.362E-01	6.556
	414.70			1.826E-02	4.636E-02	7.190E-02	4.068E-03	0.254
	415.30			1.211E+00	3.703E+00	5.966E+00	3.376E-01	0.203
	555.20			7.513E-01	2.383E+00	3.896E+00	2.127E-01	0.193
	573.80			9.068E-02	6.127E-01	9.923E-01	5.342E-02	0.091
	593.00			-1.890E-02	5.499E-01	8.811E-01	4.665E-02	-0.021
	656.30			-1.745E+00	1.934E+00	3.133E+00	1.540E-01	-0.557
	666.33			-3.301E-02	4.538E-02	7.412E-02	3.656E-03	-0.445
	675.00			-7.280E-02	1.168E+00	1.959E+00	9.870E-02	-0.037
	695.00			-2.407E-02	4.402E-02	7.209E-02	3.814E-03	-0.334
	697.00			6.568E-02	1.489E-01	2.544E-01	1.352E-02	0.258
	720.50	*		4.794E-02	8.898E-02	1.443E-01	8.109E-03	0.332
	856.80			7.568E-02	3.056E-01	4.453E-01	3.373E-02	0.170
	989.30			8.821E-01	7.840E-01	1.350E+00	1.040E-01	0.653
SB-127	1034.80			-7.331E-01	5.209E+00	8.404E+00	6.186E-01	-0.087
	1213.00			-4.710E-01	3.312E+00	5.281E+00	3.261E-01	-0.089
	61.10			1.177E+02	7.568E+01	1.165E+02	1.671E+01	1.011
	252.40			-3.384E-01	3.002E+00	4.715E+00	1.971E+00	-0.072
	290.80			-9.638E+00	1.591E+01	2.301E+01	2.342E+00	-0.419
	411.60			7.467E+00	9.458E+00	1.411E+01	2.067E+00	0.529
	444.90			-1.875E+00	6.742E+00	1.092E+01	1.219E+00	-0.172
	473.00			-2.545E-01	1.181E+00	1.910E+00	2.202E-01	-0.133
	543.00			3.151E+00	1.181E+01	1.929E+01	2.536E+00	0.163
	603.60			9.142E+00	9.349E+00	1.376E+01	1.503E+00	0.665
	685.20	*		-4.660E-01	9.457E-01	1.553E+00	1.487E-01	-0.300
	698.50			-7.436E+00	1.033E+01	1.670E+01	2.444E+00	-0.445
	722.20			-7.089E-01	2.357E+01	3.424E+01	3.280E+00	-0.021
	783.80			4.252E+00	3.154E+00	4.818E+00	5.528E-01	0.883
	57.60			-1.114E+00	6.274E+00	1.060E+01	1.327E+00	-0.105
XE-127	145.22			1.022E+00	4.569E-01	6.995E-01	4.552E-02	1.461
	172.10			7.879E-03	6.906E-02	1.118E-01	7.132E-03	0.070
	202.84	*		-6.255E-03	3.006E-02	4.247E-02	2.776E-03	-0.147
I-131	374.96			3.483E-02	1.079E-01	1.807E-01	1.060E-02	0.193
	80.18			-5.629E-01	5.031E+00	5.989E+00	6.950E-01	-0.094
	284.30			-1.009E-01	8.697E-01	1.461E+00	1.055E-01	-0.069
	364.48	*		2.024E-02	7.095E-02	1.189E-01	7.928E-03	0.170
	636.97			-3.760E-01	9.485E-01	1.483E+00	8.671E-02	-0.253
	722.89			1.755E-02	4.829E+00	7.027E+00	4.041E-01	0.002
TE-132	49.72	+		-1.183E+01	3.431E+01	5.798E+01	8.279E+00	-0.204
	111.76			1.143E+02	4.530E+01	4.721E+01	5.036E+00	2.421
	116.30			1.559E+01	2.400E+01	3.593E+01	3.718E+00	0.434
	228.16	*		2.782E-01	5.317E-01	8.541E-01	1.282E-01	0.326

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133		53.15		-4.259E-01	4.283E+00	7.103E+00	9.299E-01	-0.060
		79.62		-7.289E-02	1.262E+00	1.506E+00	2.567E-01	-0.048
		81.00		-5.342E-03	9.427E-02	1.124E-01	1.985E-02	-0.048
	+	276.40		6.970E-01	3.515E-01	3.524E-01	4.712E-02	1.978
		302.84		5.433E-02	8.110E-02	1.230E-01	1.482E-02	0.442
		356.01	*	-1.668E-02	2.562E-02	3.620E-02	4.241E-03	-0.461
I-133		383.85		-7.183E-02	1.591E-01	2.588E-01	2.806E-02	-0.278
	+	510.53		3.608E+00	1.591E-01	Half-Life	too short	
		529.87	*	2.727E-03	1.591E-01	Half-Life	too short	
		706.58		-2.569E-01	1.591E-01	Half-Life	too short	
		856.28		-1.099E-01	1.591E-01	Half-Life	too short	
		875.33		2.683E-02	1.591E-01	Half-Life	too short	
CS-134	+	1236.41		5.852E+00	1.591E-01	Half-Life	too short	
		1298.22		1.898E-01	1.591E-01	Half-Life	too short	
		475.35		7.365E-01	1.039E+00	1.740E+00	9.838E-02	0.423
		563.23		1.218E-01	2.034E-01	3.359E-01	1.866E-02	0.363
		569.32		-2.012E-02	1.197E-01	1.818E-01	1.016E-02	-0.111
		604.70		3.896E-03	2.142E-02	3.026E-02	1.595E-03	0.129
CS-135	+	795.84	*	8.598E-02	4.548E-02	5.148E-02	3.470E-03	1.670
		801.93		-3.204E-02	2.537E-01	3.625E-01	2.469E-02	-0.088
		1038.57		1.396E-01	2.195E+00	3.583E+00	2.626E-01	0.039
		1167.94		-7.868E-01	1.482E+00	2.318E+00	1.393E-01	-0.339
		1365.15		4.712E-01	6.199E-01	1.088E+00	7.984E-02	0.433
		268.24	*	7.068E-02	9.181E-02	1.406E-01	1.172E-02	0.503
I-135		288.45		2.250E+11	9.181E-02	Half-Life	too short	
		417.63		2.694E+11	9.181E-02	Half-Life	too short	
		546.56		-7.109E+09	9.181E-02	Half-Life	too short	
	+	836.80		1.603E+12	9.181E-02	Half-Life	too short	
		1038.76		-1.687E+10	9.181E-02	Half-Life	too short	
		1124.00		1.405E+11	9.181E-02	Half-Life	too short	
CS-136		1131.51		7.292E+10	9.181E-02	Half-Life	too short	
		1260.41	*	2.352E+10	9.181E-02	Half-Life	too short	
		1457.56		1.564E+13	9.181E-02	Half-Life	too short	
		1678.03		1.145E+11	9.181E-02	Half-Life	too short	
		1706.46		1.671E+11	9.181E-02	Half-Life	too short	
		1791.20		-1.502E+11	9.181E-02	Half-Life	too short	
CS-137		66.91		-5.664E-01	7.320E-01	1.080E+00	1.871E-01	-0.525
	+	86.29		5.796E+00	1.416E+00	1.491E+00	2.273E-01	3.886
		153.22		4.497E-01	4.019E-01	6.667E-01	5.163E-02	0.674
	+	163.89		1.384E+00	7.947E-01	1.123E+00	8.663E-02	1.232
		176.55		1.655E-02	2.224E-01	3.592E-01	2.536E-02	0.046
		273.65		1.506E-01	3.589E-01	4.015E-01	2.964E-02	0.375
CE-139		340.57		1.889E-01	8.188E-02	1.297E-01	8.569E-03	1.457
		818.51		-8.646E-03	3.937E-02	6.445E-02	4.514E-03	-0.134
		1048.07	*	-2.267E-02	6.723E-02	1.072E-01	8.236E-03	-0.211
		1235.34		7.853E-01	4.461E-01	6.989E-01	7.191E-02	1.124
		661.65	*	-1.366E-02	2.248E-02	3.453E-02	1.684E-03	-0.396
		661.65	*	-1.444E-02	2.376E-02	3.650E-02	1.791E-03	-0.396

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-140	+	162.64		9.769E-01	5.599E-01	7.920E-01	5.572E-02	1.234
		304.84		7.189E-02	7.668E-01	1.139E+00	3.126E-01	0.063
		423.70		7.075E-01	1.115E+00	1.838E+00	5.836E-01	0.385
LA-140	+	537.32	*	-4.288E-02	1.587E-01	2.527E-01	8.206E-02	-0.170
		328.77		6.200E-01	2.784E-01	3.139E-01	2.201E-02	1.975
		432.53		-1.678E-01	1.337E+00	1.911E+00	1.202E-01	-0.088
		487.03		6.970E-02	7.818E-02	1.318E-01	8.465E-03	0.529
		751.79		-1.031E+00	1.009E+00	1.601E+00	1.168E-01	-0.644
		815.85		-6.729E-03	1.748E-01	2.892E-01	2.357E-02	-0.023
		867.82		6.740E-01	8.256E-01	1.382E+00	1.141E-01	0.488
		919.63		-4.855E-01	1.906E+00	2.656E+00	2.723E-01	-0.183
		925.24		7.103E-01	7.136E-01	1.224E+00	1.062E-01	0.580
		1596.49	*	-5.041E-02	4.816E-02	7.115E-02	4.686E-03	-0.709
CE-141		145.44	*	6.309E-02	4.081E-02	6.170E-02	4.141E-03	1.023
CE-143		57.37		-7.181E-04	4.081E-02	Half-Life	too short	
		231.56		-2.218E-04	4.081E-02	Half-Life	too short	
		293.26	*	9.490E-04	4.081E-02	Half-Life	too short	
	+	350.59		5.960E-02	4.081E-02	Half-Life	too short	
		490.36		-1.109E-03	4.081E-02	Half-Life	too short	
		664.57		-6.062E-04	4.081E-02	Half-Life	too short	
		721.93		9.288E-04	4.081E-02	Half-Life	too short	
CE-144		80.11		-2.378E-01	2.061E+00	2.453E+00	2.835E-01	-0.097
		133.54	*	-5.890E-02	1.193E-01	1.926E-01	2.807E-02	-0.306
PM-144		476.78		2.654E-03	3.703E-02	6.055E-02	4.130E-03	0.044
		618.01		-6.879E-03	1.876E-02	2.878E-02	1.597E-03	-0.239
		696.49	*	9.574E-03	1.756E-02	3.011E-02	1.600E-03	0.318
PR-144		778.57		-2.009E+00	1.341E+00	1.920E+00	1.232E-01	-1.046
		696.49	*	6.492E-01	1.190E+00	2.042E+00	1.084E-01	0.318
PM-146		1489.15		-6.147E+00	5.997E+00	8.925E+00	6.042E-01	-0.689
		453.90	*	1.212E-02	2.336E-02	3.895E-02	3.324E-03	0.311
		633.02		-2.588E-01	7.798E-01	1.216E+00	4.464E-01	-0.213
		735.90		1.645E-02	8.407E-02	1.379E-01	3.844E-02	0.119
		747.13		-4.035E-02	5.245E-02	8.421E-02	1.060E-02	-0.479
		91.11		1.274E+00	3.224E-01	5.765E-01	6.761E-02	2.209
		319.41		2.011E-01	1.822E+00	3.061E+00	1.974E-01	0.066
ND-147	+	439.89		2.573E+00	4.568E+00	6.056E+00	3.437E-01	0.425
		531.02	*	-2.008E-01	3.383E-01	5.314E-01	7.127E-02	-0.378
PM-149		285.90	*	-2.706E+01	7.332E+01	1.221E+02	1.775E+01	-0.222
EU-152		121.78		4.672E-03	4.206E-02	6.930E-02	5.906E-03	0.067
		244.69		4.424E-02	1.945E-01	2.757E-01	1.839E-02	0.160
		344.27	*	2.564E-03	5.220E-02	8.424E-02	5.830E-03	0.030
		443.98		-3.073E-01	5.184E-01	8.295E-01	4.706E-02	-0.371
		778.89		-1.129E-01	1.570E-01	2.269E-01	1.456E-02	-0.498
		867.32		4.199E-01	4.673E-01	7.645E-01	5.916E-02	0.549
		964.01	+	6.206E-01	1.697E-01	3.184E-01	2.507E-02	1.949
		1085.78		-9.402E-02	2.339E-01	3.704E-01	2.557E-02	-0.254
		1112.02		5.067E-02	2.033E-01	3.140E-01	2.085E-02	0.161
		1407.95		1.222E-01	1.037E-01	1.790E-01	1.225E-02	0.683
GD-153		69.67		-7.307E-02	1.283E+00	2.126E+00	2.455E-01	-0.034

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	+	83.37		4.069E+01	1.525E+01	1.881E+01	2.202E+00	2.163
	+	97.43	*	2.963E-01	8.417E-02	9.323E-02	9.152E-03	3.178
		103.18		-4.654E-02	9.070E-02	1.042E-01	9.273E-03	-0.447
		123.07		-8.777E-03	2.980E-02	4.863E-02	4.922E-03	-0.180
		247.94		-5.489E-02	2.050E-01	3.046E-01	3.076E-02	-0.180
		591.81		1.234E-01	3.336E-01	5.443E-01	5.164E-02	0.227
		723.30		-2.173E-02	1.080E-01	1.552E-01	1.081E-02	-0.140
		756.87		5.274E-01	4.156E-01	7.256E-01	7.486E-02	0.727
		873.19		-4.149E-02	1.594E-01	2.592E-01	3.033E-02	-0.160
		996.32		1.561E-01	2.264E-01	3.346E-01	5.796E-02	0.466
TB-160		1004.76		1.111E-01	1.389E-01	2.068E-01	2.254E-02	0.537
		1274.45	*	1.935E-02	7.058E-02	1.197E-01	1.174E-02	0.162
	+	86.79		1.345E+00	3.025E-01	3.468E-01	4.139E-02	3.878
		197.04		-5.255E-02	3.350E-01	5.150E-01	3.352E-02	-0.102
		215.65		4.433E-02	4.199E-01	6.712E-01	4.426E-02	0.066
		298.57		1.543E-01	9.033E-02	1.080E-01	7.100E-03	1.429
		879.36	*	3.128E-03	7.896E-02	1.304E-01	1.034E-02	0.024
		962.29		2.478E-01	3.463E-01	5.128E-01	4.044E-02	0.483
	+	966.15		4.318E-01	1.181E-01	2.652E-01	2.085E-02	1.628
		1177.93		1.866E-02	2.774E-01	3.810E-01	2.276E-02	0.049
HO-166M		1271.85		7.139E-02	4.294E-01	7.245E-01	4.717E-02	0.099
		80.57		-1.873E-02	2.617E-01	3.120E-01	3.610E-02	-0.060
	+	184.41		3.991E-01	4.284E-02	4.557E-02	2.935E-03	8.758
		280.46		2.039E-02	4.748E-02	7.186E-02	4.774E-03	0.284
	+	410.95		2.487E-01	1.561E-01	2.292E-01	1.296E-02	1.085
		711.68	*	-1.157E-02	3.313E-02	5.465E-02	3.008E-03	-0.212
		752.31		-1.272E-01	1.498E-01	2.400E-01	1.451E-02	-0.530
		810.29		-8.669E-03	3.088E-02	5.049E-02	3.469E-03	-0.172
		51.35		-2.073E+00	3.801E+01	6.463E+01	8.370E+00	-0.032
		52.39		1.725E+00	1.932E+01	3.216E+01	4.206E+00	0.054
TM-171		59.40		1.309E+01	2.794E+01	4.300E+01	5.243E+00	0.304
		66.72	*	-1.269E+01	2.455E+01	3.670E+01	4.291E+00	-0.346
	+	88.36		9.785E-01	2.200E-01	2.447E-01	2.917E-02	3.998
		201.83		-9.639E-03	1.785E-02	2.491E-02	1.627E-03	-0.387
		306.84	*	-6.657E-03	1.259E-02	2.077E-02	1.356E-03	-0.320
		401.10		-1.736E+00	3.881E+00	5.969E+00	3.367E-01	-0.291
		52.97		-9.349E-02	1.956E+00	3.247E+00	4.251E-01	-0.029
		54.07		3.648E-01	9.912E-01	1.657E+00	2.161E-01	0.220
		61.30		3.201E+00	1.545E+00	2.388E+00	2.881E-01	1.341
		121.62		2.432E-02	2.168E-01	3.572E-01	2.488E-02	0.068
LU-176		147.16		-1.099E-01	4.014E-01	5.785E-01	3.754E-02	-0.190
		171.86		-5.853E-03	2.717E-01	4.386E-01	2.797E-02	-0.013
		218.09		-3.683E-01	4.806E-01	7.482E-01	4.941E-02	-0.492
	+	268.79		2.272E+00	6.164E-01	7.679E-01	5.121E-02	2.958
		319.02		-5.878E-02	1.325E-01	2.185E-01	1.409E-02	-0.269
		367.43		-1.182E-01	4.952E-01	8.151E-01	4.861E-02	-0.145
		413.65	*	-5.177E-03	1.067E-01	1.538E-01	8.701E-03	-0.034
		56.28		-4.080E-01	1.015E+00	1.707E+00	2.176E-01	-0.239
		57.53		-1.762E-01	5.284E-01	8.896E-01	1.115E-01	-0.198
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		1.195E+00	8.731E-01	1.350E+00	1.591E-01	0.885
		133.02		1.144E-02	4.057E-02	6.371E-02	4.252E-03	0.179
		136.25		-1.618E-01	2.670E-01	4.304E-01	2.850E-02	-0.376
		345.85		2.949E-02	1.159E-01	1.717E-01	1.067E-02	0.172
		482.03	*	-2.573E-03	2.444E-02	3.735E-02	2.109E-03	-0.069
		56.28		-1.559E-01	3.914E-01	6.582E-01	8.391E-02	-0.237
		57.53		-6.825E-02	2.040E-01	3.434E-01	4.303E-02	-0.199
		65.20	*	4.575E-01	3.343E-01	5.167E-01	6.091E-02	0.885
		67.75		-7.332E-02	9.037E-02	1.426E-01	1.659E-02	-0.514
	+	100.10		6.931E-01	1.969E-01	1.943E-01	1.818E-02	3.568
TA-182		152.43		-2.406E-02	1.920E-01	3.112E-01	2.004E-02	-0.077
		222.10		2.180E-02	1.980E-01	3.160E-01	2.091E-02	0.069
	+	1001.68		1.399E+01	2.377E+00	3.492E+00	2.660E-01	4.007
	+	1121.28		5.578E-01	1.539E-01	1.969E-01	1.288E-02	2.833
		1189.05		-1.161E-01	1.888E-01	2.937E-01	1.773E-02	-0.395
		1221.42	*	3.084E-02	1.225E-01	2.078E-01	1.293E-02	0.148
		1230.97		-1.888E-01	3.302E-01	4.607E-01	2.892E-02	-0.410
		57.98		3.600E-02	2.092E-01	3.402E-01	4.236E-02	0.106
		59.32		5.037E-02	1.166E-01	1.793E-01	2.189E-02	0.281
		67.20		-1.778E-01	1.766E-01	2.597E-01	3.028E-02	-0.685
RE-183	+	162.32	*	1.343E-01	7.689E-02	1.078E-01	6.867E-03	1.246
	+	208.81		2.493E+00	7.906E-01	9.988E-01	6.557E-02	2.496
		291.72		-1.646E-01	5.447E-01	7.986E-01	5.275E-02	-0.206
		57.98		1.316E-01	7.646E-01	1.244E+00	1.548E-01	0.106
		59.32		1.840E-01	4.257E-01	6.548E-01	7.994E-02	0.281
		67.20		-6.496E-01	6.454E-01	9.487E-01	1.107E-01	-0.685
		161.27		4.462E-02	2.273E-01	3.305E-01	2.108E-02	0.135
		216.55		1.257E-02	1.489E-01	2.377E-01	1.568E-02	0.053
		252.85	*	7.659E-04	1.332E-01	1.997E-01	1.334E-02	0.004
		318.01		-2.081E-01	2.292E-01	3.720E-01	2.401E-02	-0.559
RE-184		792.07		-1.272E-01	9.161E-01	8.686E-01	5.736E-02	-0.146
		903.28		2.899E-01	5.982E-01	9.528E-01	7.818E-02	0.304
		920.93		-1.749E-01	2.648E-01	4.068E-01	3.303E-02	-0.430
		59.72		2.319E-01	3.087E-01	4.769E-01	5.802E-02	0.486
		61.14		2.812E-01	1.683E-01	2.609E-01	3.151E-02	1.078
		69.30		1.258E-02	2.308E-01	3.829E-01	4.427E-02	0.033
		592.07		-2.307E-01	1.410E+00	2.245E+00	1.190E-01	-0.103
		646.12	*	8.823E-03	2.285E-02	3.913E-02	1.950E-03	0.225
		717.42		-1.806E-01	4.926E-01	8.112E-01	4.526E-02	-0.223
		874.81		6.779E-02	3.208E-01	5.346E-01	4.200E-02	0.127
OS-185		880.27		6.832E-02	4.439E-01	7.370E-01	5.855E-02	0.093
		155.03	*	6.580E-02	9.964E-02	1.640E-01	1.053E-02	0.401
		477.96		2.807E-01	1.709E+00	2.805E+00	1.585E-01	0.100
		633.10		-5.847E-01	1.584E+00	2.483E+00	1.259E-01	-0.235
	+	63.58		9.942E+02	1.464E+02	1.187E+02	1.413E+01	8.375
		227.08		2.781E+00	7.426E+00	1.192E+01	7.905E-01	0.233
		290.67	*	-2.645E+00	4.337E+00	6.277E+00	4.148E-01	-0.421
	+	295.96		9.729E-01	1.272E-01	1.544E-01	1.029E-02	6.303
		308.46		-2.414E-02	5.052E-02	8.347E-02	5.491E-03	-0.289
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	*		-4.358E-03	1.761E-02	2.926E-02	1.900E-03	-0.149
	468.07			-1.087E-02	3.851E-02	5.734E-02	3.765E-03	-0.190
	604.41			1.520E-01	2.911E-01	4.188E-01	4.637E-02	0.363
	612.46			7.916E-01	4.476E-01	6.848E-01	4.875E-02	1.156
	65.12			2.605E-01	1.566E-01	2.421E-01	2.855E-02	1.076
	66.83			-4.405E-02	8.124E-02	1.214E-01	1.418E-02	-0.363
	+ 75.70			9.139E-01	1.843E-01	2.903E-01	3.325E-02	3.149
	+ 98.88	*		8.637E-01	2.454E-01	2.760E-01	2.639E-02	3.130
	+ 129.76			3.579E+00	1.871E+00	2.883E+00	1.942E-01	1.241
	367.94	*		-2.866E-04	1.871E+00	Half-Life	too short	
TL-200	579.30			2.266E-03	1.871E+00	Half-Life	too short	
	828.27			-1.487E-03	1.871E+00	Half-Life	too short	
	1205.75			2.878E-03	1.871E+00	Half-Life	too short	
TL-201	68.90			-1.201E+00	5.005E+00	8.393E+00	9.719E-01	-0.143
	70.82			3.973E-01	3.124E+00	4.684E+00	5.390E-01	0.085
	80.30			-6.874E-01	6.674E+00	7.948E+00	9.188E-01	-0.086
	135.34			-9.612E+00	1.990E+01	3.218E+01	2.135E+00	-0.299
TL-202	167.43	*		1.192E+00	5.598E+00	8.556E+00	5.439E-01	-0.169
	68.90			-8.501E-02	3.542E-01	5.941E-01	6.879E-02	-0.143
	70.82			2.804E-02	2.205E-01	3.306E-01	3.805E-02	0.085
	80.30			-4.854E-02	4.713E-01	5.612E-01	6.488E-02	-0.086
HG-203	+ 439.56	*		3.032E-02	5.384E-02	7.159E-02	4.061E-03	0.424
	70.83			1.192E-01	9.012E-01	1.351E+00	2.107E-01	0.088
	72.87			7.614E-01	5.216E-01	7.921E-01	1.205E-01	0.961
BI-207	+ 82.60			3.076E+00	1.199E+00	1.389E+00	2.199E-01	2.215
	279.20	*		1.692E-02	2.417E-02	3.690E-02	2.569E-03	0.459
	72.80			2.019E-01	1.480E-01	2.271E-01	2.604E-02	0.889
	+ 74.97			5.043E-01	1.017E-01	1.504E-01	1.722E-02	3.353
TL-207	+ 84.90			5.242E-01	1.965E-01	2.330E-01	2.749E-02	2.250
	569.67			-4.645E-03	1.879E-02	2.846E-02	1.537E-03	-0.163
	1063.62	*		5.844E-03	3.012E-02	4.939E-02	3.513E-03	0.118
	1770.23			1.973E-01	2.302E-01	3.710E-01	2.254E-02	0.532
	81.07			-1.105E-02	2.078E-01	2.478E-01	2.872E-02	-0.045
	+ 83.78			3.456E-01	1.295E-01	1.596E-01	1.872E-02	2.166
	+ 94.90			6.212E-01	3.139E-01	2.877E-01	2.965E-02	2.159
	122.32			8.265E-02	1.007E+00	1.658E+00	1.275E-01	0.050
	+ 144.24			1.354E+00	6.030E-01	7.094E-01	5.547E-02	1.909
	154.21			3.865E-01	2.270E-01	3.794E-01	2.861E-02	1.019
PO-209	+ 269.46			5.286E-01	1.437E-01	1.896E-01	1.308E-02	2.788
	323.87	*		-7.793E-02	3.836E-01	5.596E-01	9.367E-02	-0.139
	+ 338.28			6.756E+00	1.157E+00	1.366E+00	1.476E-01	4.947
	445.03			-3.698E-01	1.219E+00	1.973E+00	2.012E-01	-0.187
	260.50			1.422E+00	5.828E+00	8.795E+00	5.873E-01	0.162
	262.80			-1.231E-01	1.614E+01	2.413E+01	1.611E+00	-0.005
	896.60	*		1.515E+00	3.934E+00	6.603E+00	5.419E-01	0.229
	BI-210			46.50	6.029E+00	9.734E+00	8.483E-01	0.619
	PB-210			46.50	6.029E+00	9.734E+00	8.483E-01	0.619
	PO-210			46.50	6.029E+00	9.734E+00	7.561E-01	0.619
PB-211	404.84	*		2.452E-01	6.008E-01	8.578E-01	5.346E-01	0.286

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-215		427.08		3.054E-01	1.109E+00	1.815E+00	1.122E+00	0.168
		831.96		5.379E-01	7.750E-01	1.059E+00	6.614E-01	0.508
		81.07		-1.105E-02	2.078E-01	2.478E-01	2.872E-02	-0.045
	+	83.78		3.456E-01	1.295E-01	1.596E-01	1.872E-02	2.166
	+	94.90		6.212E-01	3.139E-01	2.877E-01	2.965E-02	2.159
		122.32		8.265E-02	1.007E+00	1.658E+00	1.275E-01	0.050
	+	144.24		1.354E+00	6.030E-01	7.094E-01	5.547E-02	1.909
		154.21		3.865E-01	2.270E-01	3.794E-01	2.861E-02	1.019
	+	269.46		5.286E-01	1.437E-01	1.896E-01	1.308E-02	2.788
		323.87	*	-7.793E-02	3.836E-01	5.596E-01	9.367E-02	-0.139
RN-219	+	338.28		6.756E+00	1.157E+00	1.366E+00	1.476E-01	4.947
		445.03		-3.698E-01	1.219E+00	1.973E+00	2.012E-01	-0.187
	+	271.23		6.782E-01	1.880E-01	2.420E-01	2.116E-02	2.803
RN-220		401.81	*	-1.571E-01	2.407E-01	3.661E-01	4.957E-02	-0.429
RA-223		549.76	*	-3.256E+00	1.429E+01	2.282E+01	1.250E+00	-0.143
AC-227		81.07		-1.105E-02	2.078E-01	2.478E-01	2.872E-02	-0.045
	+	83.78		3.456E-01	1.295E-01	1.596E-01	1.872E-02	2.166
	+	94.90		6.212E-01	3.139E-01	2.877E-01	2.965E-02	2.159
		122.32		8.265E-02	1.007E+00	1.658E+00	1.275E-01	0.050
	+	144.24		1.354E+00	6.030E-01	7.094E-01	5.547E-02	1.909
		154.21		3.865E-01	2.270E-01	3.794E-01	2.861E-02	1.019
	+	269.46		5.286E-01	1.437E-01	1.896E-01	1.308E-02	2.788
		323.87	*	-7.793E-02	3.836E-01	5.596E-01	9.367E-02	-0.139
	+	338.28		6.756E+00	1.157E+00	1.366E+00	1.476E-01	4.947
		445.03		-3.698E-01	1.219E+00	1.973E+00	2.012E-01	-0.187
TH-227		79.80		-1.460E-01	1.596E+00	1.902E+00	4.343E-01	-0.077
		236.00		1.936E-01	1.426E-01	2.083E-01	2.281E-02	0.930
		256.20	*	2.325E-01	2.261E-01	3.475E-01	4.986E-02	0.669
		286.10		-1.694E-01	7.906E-01	1.324E+00	1.588E-01	-0.128
	+	299.80		2.842E+00	1.252E+00	1.444E+00	2.393E-01	1.969
		304.40		-3.782E-02	1.052E+00	1.555E+00	2.730E-01	-0.024
		334.20		-7.673E-01	1.467E+00	1.918E+00	3.549E-01	-0.400
		79.80		-1.460E-01	1.596E+00	1.902E+00	4.393E-01	-0.077
	+	94.00		4.969E+00	2.701E+00	3.894E+00	8.795E-01	1.276
		236.00		1.936E-01	1.423E-01	2.083E-01	2.006E-02	0.930
PA-231		256.20	*	2.325E-01	2.272E-01	3.475E-01	5.984E-02	0.669
		286.10		-1.694E-01	8.084E-01	1.324E+00	1.326E+00	-0.128
	+	299.80		2.842E+00	1.252E+00	1.444E+00	2.393E-01	1.969
		304.40		-3.782E-02	1.052E+00	1.555E+00	2.730E-01	-0.024
		334.20		-7.673E-01	1.467E+00	1.918E+00	3.549E-01	-0.400
		283.67	*	1.713E-01	7.813E-01	1.325E+00	1.874E-01	0.129
	+	301.29		1.137E+00	4.804E-01	5.665E-01	6.170E-02	2.007
		81.07		-1.105E-02	2.078E-01	2.478E-01	2.872E-02	-0.045
	+	83.78		3.456E-01	1.295E-01	1.596E-01	1.872E-02	2.166
	+	94.90		6.212E-01	3.139E-01	2.877E-01	2.965E-02	2.159
TH-231		122.32		8.265E-02	1.007E+00	1.658E+00	1.275E-01	0.050
	+	144.24		1.354E+00	6.030E-01	7.094E-01	5.547E-02	1.909
		154.21		3.865E-01	2.270E-01	3.794E-01	2.861E-02	1.019
	+	269.46		5.286E-01	1.437E-01	1.896E-01	1.308E-02	2.788

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		323.87	*	-7.793E-02	3.836E-01	5.596E-01	9.367E-02	-0.139
	+	338.28		6.756E+00	1.157E+00	1.366E+00	1.476E-01	4.947
		445.03		-3.698E-01	1.219E+00	1.973E+00	2.012E-01	-0.187
	+	75.28		1.471E+01	3.506E+00	4.453E+00	7.615E-01	3.305
	+	86.59		8.076E+00	2.740E+00	2.080E+00	5.835E-01	3.883
	+	300.12		7.923E-01	3.415E-01	4.024E-01	5.548E-02	1.969
		311.98	*	1.115E-02	3.288E-02	5.567E-02	3.796E-03	0.200
		340.50		1.068E+00	4.449E-01	6.039E-01	1.394E-01	1.768
		398.62		8.211E-01	1.121E+00	1.864E+00	4.813E-01	0.440
		415.76		2.148E-01	8.859E-01	1.469E+00	3.019E-01	0.146
PA-234	+	63.00		2.843E+01	5.563E+00	3.556E+00	6.246E-01	7.997
	+	94.67		4.431E-01	2.274E-01	2.210E-01	3.020E-02	2.005
	+	98.44		3.481E-01	2.159E-01	1.119E-01	6.260E-02	3.112
	+	99.86		1.805E+00	5.127E-01	5.306E-01	4.987E-02	3.401
	+	111.00		5.290E-01	2.110E-01	2.041E-01	2.371E-02	2.591
		131.20		2.387E-02	6.814E-02	1.007E-01	6.754E-03	0.237
		152.70		1.074E-01	1.824E-01	2.989E-01	4.799E-02	0.359
	+	186.00		1.437E+01	4.578E+00	1.842E+00	5.654E-01	7.798
		226.40		-1.462E-02	2.313E-01	3.669E-01	4.402E-02	-0.040
		227.20		7.363E-02	2.469E-01	3.954E-01	2.623E-02	0.186
		248.90		-2.950E-02	4.369E-01	6.885E-01	1.497E-01	-0.043
	+	293.70		6.045E+00	1.201E+00	8.699E-01	1.425E-01	6.949
		369.80		-4.315E-02	4.572E-01	7.558E-01	1.577E-01	-0.057
		568.70		-1.542E-01	6.040E-01	9.131E-01	4.936E-02	-0.169
		569.50		-3.037E-03	1.649E-01	2.519E-01	1.361E-02	-0.012
		574.00		1.317E-01	8.078E-01	1.309E+00	7.047E-02	0.101
		699.00		-4.723E-01	3.898E-01	6.049E-01	1.079E-01	-0.781
		706.10		-2.202E-01	5.885E-01	9.578E-01	4.222E-01	-0.230
		733.00		-4.300E-02	2.309E-01	3.312E-01	7.040E-02	-0.130
		742.81		1.009E+00	1.052E+00	1.414E+00	9.466E-01	0.713
	+	796.30		1.669E+00	9.808E-01	9.935E-01	2.632E-01	1.680
		805.60		2.315E-01	5.406E-01	9.076E-01	2.740E-01	0.255
		819.60		-1.228E-01	6.233E-01	1.019E+00	3.842E-01	-0.120
		826.30		8.611E-02	4.538E-01	7.557E-01	3.361E-01	0.114
		831.60		2.164E-01	3.737E-01	5.510E-01	1.623E-01	0.393
		876.40		-2.715E-01	5.400E-01	7.392E-01	7.594E-01	-0.367
		880.51		1.675E-02	1.585E-01	2.625E-01	2.086E-02	0.064
		883.24		-2.636E-02	1.630E-01	2.648E-01	1.778E-01	-0.100
		899.00		-5.036E-01	5.159E-01	7.246E-01	3.162E-01	-0.695
		925.00		4.639E-01	6.902E-01	1.169E+00	9.464E-02	0.397
		926.50		6.548E-02	1.107E-01	1.751E-01	4.396E-02	0.374
		946.00	*	-2.256E-03	1.793E-01	2.935E-01	5.425E-02	-0.008
		949.00		1.964E-01	2.720E-01	4.522E-01	3.602E-02	0.434
		980.50		2.722E-01	4.219E-01	7.115E-01	5.527E-02	0.383
NP-236		1394.10		-3.755E-01	6.428E-01	9.384E-01	6.088E-01	-0.400
	+	94.67		3.361E-01	1.698E-01	1.679E-01	1.738E-02	2.002
	+	98.44		2.632E-01	7.477E-02	8.457E-02	8.150E-03	3.112
	+	111.00		4.001E-01	1.560E-01	1.544E-01	1.227E-02	2.591
		160.31	*	-3.101E-02	5.083E-02	7.204E-02	4.600E-03	-0.430

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		6.015E-01	1.709E-01	1.844E-01	1.742E-02	3.262
		117.00	*	3.423E-02	1.219E-01	1.811E-01	1.332E-02	0.189
	+	209.75		1.940E+00	6.151E-01	7.745E-01	5.088E-02	2.505
		228.18		6.660E-02	1.287E-01	2.073E-01	1.376E-02	0.321
	+	277.60		3.401E-01	1.669E-01	1.685E-01	1.121E-02	2.018
AM-241		334.30		-4.610E-01	8.271E-01	1.084E+00	6.853E-02	-0.425
		59.54	*	1.238E-01	1.613E-01	2.493E-01	3.147E-02	0.496
	+	99.55		6.190E-01	1.759E-01	1.897E-01	1.793E-02	3.262
		103.76	*	-1.341E-02	7.124E-02	9.596E-02	8.461E-03	-0.140
		117.00		3.522E-02	1.254E-01	1.863E-01	1.371E-02	0.189
CM-243	+	209.75		1.913E+00	6.064E-01	7.636E-01	5.016E-02	2.505
		228.18		6.730E-02	1.301E-01	2.095E-01	1.390E-02	0.321
	+	277.60		3.429E-01	1.683E-01	1.699E-01	1.130E-02	2.018
		798.80		-1.845E-02	8.880E-02	1.263E-01	8.461E-03	-0.146
		1036.00		-2.010E-01	1.713E-01	2.591E-01	1.905E-02	-0.776
AM-246		1062.04		6.884E-02	1.297E-01	2.164E-01	1.542E-02	0.318
		1078.86	*	4.157E-02	8.661E-02	1.438E-01	1.002E-02	0.289
	+	278.00		1.410E+00	6.922E-01	6.891E-01	4.583E-02	2.047
		287.40		2.330E-01	6.311E-01	1.074E+00	7.111E-02	0.217
		402.60	*	-1.108E-02	2.036E-02	3.294E-02	1.859E-03	-0.336
CF-249		252.85		2.857E-03	4.968E-01	7.450E-01	4.976E-02	0.004
		333.44		6.648E-02	1.304E-01	1.440E-01	9.119E-03	0.462
		387.95	*	6.946E-03	2.094E-02	3.502E-02	1.990E-03	0.198
CF-251		176.60	*	4.098E-03	7.121E-02	1.150E-01	7.359E-03	0.036
		227.00		1.119E-01	2.195E-01	3.535E-01	2.345E-02	0.317
		285.00		-8.567E-01	9.038E-01	1.479E+00	9.805E-02	-0.579

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]G245808001          *
* Acquisition date   : 11-FEB-2010 22:26:17 Detector SN#      :                *
* Detector ID        : GAM04                      Sensitivity   : 5.000          *
* Geometry           : CAN                        Energy tolerance: 1.500         *
* Elapsed live time  : 0 06:00:00.00              Abundance limit : 75.000        *
* Elapsed real time  : 0 06:00:04.97              Half life ratio : 8.000         *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID              *
* Sample ID          : G245808001                  Analyst initials: RXF2          *
* Batch Number       : 947554                      Sample Quantity : 1.4981E+02 GRAM  *
* Recovery           : 1.00000                      Carrier Weight  : 0.00000        *
*****
*                               QC DATA                                   *
*
* Standard Weight    : 0.00000                                                                *
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope      :                    *
* MSD DPM             : 0.000                      MSD Isotope :                    *
* LCS DPM             : 0.000                      LCS Isotope  :                    *
* LCSD DPM            : 0.000                      LCSD Isotope :                    *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.290E+01	2.509E+00	2.564E-01	0.000E+00
NB-95	1.520E-01	4.688E-02	3.665E-02	0.000E+00
CD-109	4.206E+00	9.269E-01	8.849E-01	0.000E+00
SN-126	4.125E-01	9.091E-02	8.747E-02	0.000E+00
EU-155	1.221E-01	8.085E-02	1.142E-01	0.000E+00
LU-177	3.161E+00	9.823E-01	1.060E+00	0.000E+00
TL-208	4.959E-01	5.584E-02	3.097E-02	0.000E+00
BI-211	3.712E+00	3.502E-01	1.780E-01	0.000E+00
BI-212	9.350E-01	2.925E-01	2.555E-01	0.000E+00
PB-212	1.627E+00	1.419E-01	5.046E-02	0.000E+00
PO-212	1.627E+00	1.419E-01	5.046E-02	0.000E+00
BI-214	1.068E+00	1.145E-01	6.411E-02	0.000E+00
PB-214	1.291E+00	1.386E-01	6.204E-02	0.000E+00
PO-214	1.291E+00	1.386E-01	6.204E-02	0.000E+00
PO-216	1.627E+00	1.419E-01	5.046E-02	0.000E+00
PO-218	1.291E+00	1.386E-01	6.204E-02	0.000E+00
RA-224	4.269E+00	7.430E-01	5.742E-01	0.000E+00
RA-226	1.068E+00	1.145E-01	6.411E-02	0.000E+00
AC-228	1.562E+00	2.453E-01	1.189E-01	0.000E+00
RA-228	1.562E+00	2.453E-01	1.189E-01	0.000E+00
TH-228	1.654E+00	1.442E-01	5.129E-02	0.000E+00
TH-229	-2.658E-03	2.771E-01	4.796E-01	0.000E+00
TH-230	1.068E+00	1.145E-01	6.411E-02	0.000E+00
U-231	3.821E+00	1.892E+00	1.449E+00	0.000E+00
TH-232	1.562E+00	2.453E-01	1.189E-01	0.000E+00
PA-234M	3.150E+01	5.466E+00	4.238E+00	0.000E+00
TH-234	2.439E+01	5.161E+00	1.989E+00	0.000E+00
U-234	1.068E+00	1.145E-01	6.411E-02	0.000E+00
U-235	4.179E-01	1.919E-01	2.013E-01	0.000E+00
NP-237	1.211E+00	3.623E-01	2.617E-01	0.000E+00
U-238	2.439E+01	5.161E+00	1.989E+00	0.000E+00
AM-243	2.809E-01	5.551E-02	7.363E-02	0.000E+00
ANH-511	1.158E-01	3.961E-02	2.539E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.462E-03	1.752E-01	3.016E-01	0.000E+00	NOT IDENT.
NA-22	1.437E-02	2.444E-02	4.338E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.790E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-5.779E-03	1.326E-02	2.067E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.974E-02	5.321E-02	0.000E+00	FAIL ABUN
SC-46	-6.355E-03	2.174E-02	3.668E-02	0.000E+00	FAIL ABUN
V-48	-2.706E-02	4.294E-02	7.032E-02	0.000E+00	NOT IDENT.
CR-51	9.416E-02	1.906E-01	3.452E-01	0.000E+00	NOT IDENT.
MN-52	-4.136E-03	1.516E-01	2.418E-01	0.000E+00	FAIL ABUN
MN-54	2.444E-02	2.367E-02	3.757E-02	0.000E+00	NOT IDENT.
CO-56	-1.443E-02	2.557E-02	3.668E-02	0.000E+00	FAIL ABUN
CO-57	2.668E-03	1.427E-02	2.569E-02	0.000E+00	NOT IDENT.
CO-58	-7.210E-03	2.037E-02	3.461E-02	0.000E+00	NOT IDENT.
FE-59	-3.899E-02	5.375E-02	8.571E-02	0.000E+00	FAIL ABUN
CO-60	-1.891E-04	2.055E-02	3.526E-02	0.000E+00	NOT IDENT.
ZN-65	-2.513E-03	6.086E-02	8.752E-02	0.000E+00	NOT IDENT.
GE-68	4.157E-01	7.457E-01	1.286E+00	0.000E+00	NOT IDENT.
AS-73	-1.277E-01	9.768E-01	1.800E+00	0.000E+00	NOT IDENT.
AS-74	-1.131E-02	5.162E-02	8.614E-02	0.000E+00	NOT IDENT.
SE-75	1.461E-02	2.459E-02	4.222E-02	0.000E+00	NOT IDENT.
BR-77	7.961E+00	8.029E+00	1.428E+01	0.000E+00	FAIL ABUN
SR-82	-2.814E-01	2.089E-01	3.389E-01	0.000E+00	NOT IDENT.
RB-83	3.533E-02	3.602E-02	6.403E-02	0.000E+00	NOT IDENT.
RB-84	2.244E-02	3.918E-02	6.900E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	4.058E+00	6.831E+00	0.000E+00	NOT IDENT.
SR-85	0.000E+00	2.112E-02	3.554E-02	0.000E+00	NOT IDENT.
RB-86	1.670E-01	4.934E-01	8.424E-01	0.000E+00	NOT IDENT.
Y-88	1.215E-02	1.622E-02	2.925E-02	0.000E+00	NOT IDENT.
ZR-88	-3.233E-03	1.554E-02	2.706E-02	0.000E+00	NOT IDENT.
Y-91	3.478E+00	1.176E+01	1.977E+01	0.000E+00	NOT IDENT.
NB-94	1.309E-02	1.795E-02	3.235E-02	0.000E+00	NOT IDENT.
NB-95M	5.463E-02	7.487E-02	1.160E-01	0.000E+00	NOT IDENT.
ZR-95	4.214E-02	3.800E-02	6.912E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.079E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.155E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-7.581E+00	9.479E+00	1.590E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.163E+18	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.815E-04	1.880E-02	3.130E-02	0.000E+00	NOT IDENT.
RH-102	6.383E-03	1.569E-02	2.746E-02	0.000E+00	FAIL ABUN
RU-103	6.008E-03	2.211E-02	3.834E-02	0.000E+00	FAIL ABUN
RH-106	1.059E-01	1.749E-01	3.011E-01	0.000E+00	FAIL ABUN
RU-106	1.059E-01	1.746E-01	3.011E-01	0.000E+00	FAIL ABUN
AG-108M	-2.680E-03	1.908E-02	2.886E-02	0.000E+00	NOT IDENT.
AG-110M	-2.181E-02	1.884E-02	3.167E-02	0.000E+00	NOT IDENT.
IN-111	4.414E-01	8.608E-01	1.324E+00	0.000E+00	NOT IDENT.
IN-113M	-1.027E-03	2.260E-02	3.957E-02	0.000E+00	NOT IDENT.
SN-113	-1.027E-03	2.260E-02	3.957E-02	0.000E+00	NOT IDENT.
IN-114M	4.002E-02	1.095E-01	1.711E-01	0.000E+00	NOT IDENT.
CD-115	3.063E+00	8.673E+00	1.502E+01	0.000E+00	NOT IDENT.
SN-117M	3.229E-02	3.412E-02	5.845E-02	0.000E+00	NOT IDENT.
SB-122	1.605E+00	1.637E+00	2.882E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.068E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.621E-02	1.751E-02	2.820E-02	0.000E+00	NOT IDENT.
I-124	3.767E-01	4.985E-01	8.039E-01	0.000E+00	NOT IDENT.
SB-124	-1.573E-03	3.670E-02	6.107E-02	0.000E+00	FAIL ABUN
SB-125	6.402E-03	4.784E-02	8.367E-02	0.000E+00	FAIL ABUN
TE-125M	7.255E+00	8.044E+00	1.063E+01	0.000E+00	NOT IDENT.
I-126	-7.874E-02	1.061E-01	1.816E-01	0.000E+00	NOT IDENT.
SB-126	4.794E-02	8.720E-02	1.479E-01	0.000E+00	FAIL ABUN
SB-127	-4.660E-01	9.268E-01	1.594E+00	0.000E+00	NOT IDENT.
XE-127	-6.255E-03	2.946E-02	4.489E-02	0.000E+00	NOT IDENT.
I-131	2.024E-02	6.953E-02	1.239E-01	0.000E+00	NOT IDENT.
TE-132	2.782E-01	5.210E-01	9.001E-01	0.000E+00	FAIL ABUN
BA-133	-1.668E-02	2.511E-02	3.775E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	9.774E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.457E-02	5.264E-02	0.000E+00	FAIL ABUN
CS-135	7.068E-02	8.997E-02	1.476E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.100E+17	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.267E-02	6.588E-02	1.088E-01	0.000E+00	FAIL ABUN
BA-137M	-1.366E-02	2.203E-02	3.547E-02	0.000E+00	NOT IDENT.
CS-137	-1.444E-02	2.329E-02	3.749E-02	0.000E+00	NOT IDENT.
CE-139	-9.242E-04	1.831E-02	2.857E-02	0.000E+00	NOT IDENT.

BA-140	-4.288E-02	1.556E-01	2.609E-01	0.000E+00	FAIL ABUN
LA-140	-5.041E-02	4.720E-02	7.147E-02	0.000E+00	FAIL ABUN
CE-141	6.309E-02	3.999E-02	6.570E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.684E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-5.890E-02	1.169E-01	2.055E-01	0.000E+00	NOT IDENT.
PM-144	9.574E-03	1.720E-02	3.089E-02	0.000E+00	NOT IDENT.
PR-144	6.492E-01	1.167E+00	2.095E+00	0.000E+00	NOT IDENT.
PM-146	1.212E-02	2.289E-02	4.037E-02	0.000E+00	NOT IDENT.
ND-147	-2.008E-01	3.315E-01	5.487E-01	0.000E+00	FAIL ABUN
PM-149	-2.706E+01	7.185E+01	1.280E+02	0.000E+00	NOT IDENT.
EU-152	2.564E-03	5.115E-02	8.791E-02	0.000E+00	FAIL ABUN
GD-153	0.000E+00	8.249E-02	1.002E-01	0.000E+00	FAIL ABUN
EU-154	1.935E-02	6.917E-02	1.210E-01	0.000E+00	NOT IDENT.
TB-160	3.128E-03	7.738E-02	1.330E-01	0.000E+00	FAIL ABUN
HO-166M	-1.157E-02	3.247E-02	5.603E-02	0.000E+00	FAIL ABUN
TM-171	-1.269E+01	2.406E+01	3.978E+01	0.000E+00	NOT IDENT.
LU-176	-6.657E-03	1.234E-02	2.174E-02	0.000E+00	FAIL ABUN
LU-177M	-5.177E-03	1.046E-01	1.598E-01	0.000E+00	FAIL ABUN
HF-181	-2.573E-03	2.395E-02	3.867E-02	0.000E+00	NOT IDENT.
W-181	4.575E-01	3.276E-01	5.604E-01	0.000E+00	NOT IDENT.
TA-182	3.084E-02	1.201E-01	2.102E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	7.535E-02	1.145E-01	0.000E+00	FAIL ABUN
RE-184	7.659E-04	1.305E-01	2.099E-01	0.000E+00	NOT IDENT.
OS-185	8.823E-03	2.239E-02	4.021E-02	0.000E+00	NOT IDENT.
RE-188	6.580E-02	9.765E-02	1.744E-01	0.000E+00	NOT IDENT.
W-188	-2.645E+00	4.251E+00	6.577E+00	0.000E+00	FAIL ABUN
IR-192	-4.358E-03	1.726E-02	3.059E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.405E-01	2.965E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	5.971E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.447E+00	5.486E+00	9.082E+00	0.000E+00	NOT IDENT.
TL-202	3.032E-02	5.276E-02	7.428E-02	0.000E+00	FAIL ABUN
HG-203	1.692E-02	2.369E-02	3.870E-02	0.000E+00	FAIL ABUN
BI-207	5.844E-03	2.952E-02	5.013E-02	0.000E+00	FAIL ABUN
TL-207	-7.793E-02	3.759E-01	5.848E-01	0.000E+00	FAIL ABUN
PO-209	1.515E+00	3.856E+00	6.731E+00	0.000E+00	NOT IDENT.
BI-210	6.029E+00	5.791E+00	1.063E+01	0.000E+00	NOT IDENT.
PB-210	6.029E+00	5.791E+00	1.063E+01	0.000E+00	NOT IDENT.
PO-210	6.029E+00	5.786E+00	1.063E+01	0.000E+00	NOT IDENT.
PB-211	2.452E-01	5.888E-01	8.917E-01	0.000E+00	NOT IDENT.
PO-215	-7.793E-02	3.759E-01	5.848E-01	0.000E+00	FAIL ABUN
RN-219	-1.571E-01	2.359E-01	3.807E-01	0.000E+00	FAIL ABUN
RN-220	-3.256E+00	1.400E+01	2.355E+01	0.000E+00	NOT IDENT.
RA-223	-7.793E-02	3.759E-01	5.848E-01	0.000E+00	FAIL ABUN
AC-227	2.325E-01	2.216E-01	3.652E-01	0.000E+00	FAIL ABUN
TH-227	2.325E-01	2.227E-01	3.652E-01	0.000E+00	FAIL ABUN
PA-231	1.713E-01	7.657E-01	1.389E+00	0.000E+00	FAIL ABUN
TH-231	-7.793E-02	3.759E-01	5.848E-01	0.000E+00	FAIL ABUN
PA-233	1.115E-02	3.222E-02	5.823E-02	0.000E+00	FAIL ABUN
PA-234	-2.256E-03	1.757E-01	2.988E-01	0.000E+00	FAIL ABUN
NP-236	-3.101E-02	4.981E-02	7.655E-02	0.000E+00	FAIL ABUN
NP-239	3.423E-02	1.195E-01	1.938E-01	0.000E+00	FAIL ABUN
AM-241	1.238E-01	1.581E-01	2.708E-01	0.000E+00	NOT IDENT.
CM-243	-1.341E-02	6.981E-02	1.030E-01	0.000E+00	FAIL ABUN
AM-246	4.157E-02	8.488E-02	1.459E-01	0.000E+00	NOT IDENT.
CM-247	-1.108E-02	1.995E-02	3.425E-02	0.000E+00	FAIL ABUN
CF-249	6.946E-03	2.052E-02	3.644E-02	0.000E+00	NOT IDENT.
CF-251	4.098E-03	6.979E-02	1.219E-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]G245808001.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:26:17
Sample ID          : G245808001 Sample quantity : 1.49809E+02 GRAM
Detector name      : GAM04 Detector geometry: CAN
Elapsed live time  : 0 06:00:00.00 Elapsed real time: 0 06:00:04.97 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	4516	10.67*	1.075E+00	3.290E+01	3.290E+01	7.78
NB-95	765.79	294	99.81*	1.938E+00	1.270E-01	1.520E-01	31.48
CD-109	88.03	916	3.72*	5.014E+00	4.103E+00	4.206E+00	22.49
SN-126	64.28	2286	9.60	2.060E+00	9.656E+00	9.656E+00	19.31
	86.94	916	8.90	5.014E+00	1.715E+00	1.715E+00	46.28
	87.57	916	37.00*	5.014E+00	4.125E-01	4.125E-01	22.49
EU-155	48.70	-----	4.60	4.576E-01	-----	Line Not Found	-----
	60.01	-----	1.11	1.630E+00	-----	Line Not Found	-----
	86.54	916	30.90	5.014E+00	4.940E-01	4.971E-01	22.52
	105.31	185	20.70*	6.154E+00	1.213E-01	1.221E-01	67.59
LU-177	112.95	475	6.40	6.353E+00	9.753E-01	5.396E+00	38.98
	208.36	398	11.00*	5.288E+00	5.714E-01	3.161E+00	31.71
TL-208	277.35	249	6.80	4.330E+00	7.052E-01	7.052E-01	49.87
	510.84	379	21.60	2.731E+00	5.361E-01	5.361E-01	35.88
	583.14	1227	84.20*	2.454E+00	4.959E-01	4.959E-01	11.49
	860.37	173	12.46	1.744E+00	6.648E-01	6.648E-01	32.54
BI-211	72.87	-----	1.27	3.384E+00	-----	Line Not Found	-----
	351.07	2086	12.94*	3.627E+00	3.712E+00	3.712E+00	9.63
BI-212	727.18	269	11.80*	2.033E+00	9.350E-01	9.350E-01	31.92
	785.46	59	1.97	1.895E+00	1.324E+00	1.324E+00	125.54
	1620.62	-----	2.75	9.985E-01	-----	Line Not Found	-----
PB-212	74.81	808	10.70	3.639E+00	1.733E+00	1.733E+00	22.22
	77.11	1480	18.00	3.926E+00	1.749E+00	1.749E+00	15.72
	87.30	916	8.00	5.014E+00	1.908E+00	1.908E+00	24.61
	238.63	4192	44.60*	4.826E+00	1.627E+00	1.627E+00	8.90
	300.09	256	3.41	4.082E+00	1.534E+00	1.534E+00	41.77
PO-212	74.81	808	10.70	3.639E+00	1.733E+00	1.733E+00	22.22
	77.11	1480	18.00	3.926E+00	1.749E+00	1.749E+00	15.72
	87.30	916	8.00	5.014E+00	1.908E+00	1.908E+00	24.61
	115.19	-----	0.60	6.408E+00	-----	Line Not Found	-----
	238.63	4192	44.60*	4.826E+00	1.627E+00	1.627E+00	8.90
	300.09	256	3.41	4.082E+00	1.534E+00	1.534E+00	41.77

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BI-214	609.31	1401	46.30*	2.367E+00	1.068E+00	1.068E+00	10.94
	1120.29	287	15.10	1.358E+00	1.170E+00	1.170E+00	28.38
	1764.49	296	15.80	9.529E-01	1.643E+00	1.643E+00	17.26
PB-214	74.81	808	6.21	3.639E+00	2.986E+00	2.986E+00	21.48
	77.11	1480	10.50	3.926E+00	2.998E+00	2.998E+00	17.47
	87.30	916	4.67	5.014E+00	3.269E+00	3.269E+00	23.77
	241.98	966	7.49	4.783E+00	2.251E+00	2.251E+00	18.62
	295.21	1196	19.20	4.132E+00	1.259E+00	1.259E+00	14.45
PO-214	351.92	2086	37.20*	3.627E+00	1.291E+00	1.291E+00	10.95
	74.81	808	6.21	3.639E+00	2.986E+00	2.986E+00	21.48
	77.11	1480	10.50	3.926E+00	2.998E+00	2.998E+00	17.47
	87.30	916	4.67	5.014E+00	3.269E+00	3.269E+00	23.77
	241.98	966	7.49	4.783E+00	2.251E+00	2.251E+00	18.62
PO-216	295.21	1196	19.20	4.132E+00	1.259E+00	1.259E+00	14.45
	351.92	2086	37.20*	3.627E+00	1.291E+00	1.291E+00	10.95
	74.81	808	10.70	3.639E+00	1.733E+00	1.733E+00	22.22
	77.11	1480	18.00	3.926E+00	1.749E+00	1.749E+00	15.72
	87.30	916	8.00	5.014E+00	1.908E+00	1.908E+00	24.61
PO-218	238.63	4192	44.60*	4.826E+00	1.627E+00	1.627E+00	8.90
	300.09	256	3.41	4.082E+00	1.534E+00	1.534E+00	41.77
	74.81	808	6.21	3.639E+00	2.986E+00	2.986E+00	21.48
	77.11	1480	10.50	3.926E+00	2.998E+00	2.998E+00	17.47
	87.30	916	4.67	5.014E+00	3.269E+00	3.269E+00	23.77
RA-224	241.98	966	7.49	4.783E+00	2.251E+00	2.251E+00	18.62
	295.21	1196	19.20	4.132E+00	1.259E+00	1.259E+00	14.45
	351.92	2086	37.20*	3.627E+00	1.291E+00	1.291E+00	10.95
	240.98	966	3.95*	4.783E+00	4.269E+00	4.269E+00	17.76
	609.31	1401	46.30*	2.367E+00	1.068E+00	1.068E+00	10.94
AC-228	1120.29	287	15.10	1.358E+00	1.170E+00	1.170E+00	28.38
	1764.49	296	15.80	9.529E-01	1.643E+00	1.643E+00	17.26
	338.32	825	11.40	3.734E+00	1.618E+00	1.618E+00	42.95
RA-228	911.07	856	27.70*	1.652E+00	1.562E+00	1.562E+00	16.02
	969.11	528	16.60	1.559E+00	1.703E+00	1.703E+00	26.72
	338.32	825	11.40	3.734E+00	1.618E+00	1.618E+00	42.95
TH-228	911.07	856	27.70*	1.652E+00	1.562E+00	1.562E+00	16.02
	969.11	528	16.60	1.559E+00	1.703E+00	1.703E+00	26.72
	74.81	808	10.70	3.639E+00	1.733E+00	1.762E+00	20.19
TH-229	77.11	1480	18.00	3.926E+00	1.749E+00	1.778E+00	15.72
	87.30	916	8.00	5.014E+00	1.908E+00	1.940E+00	22.49
	238.63	4192	44.60*	4.826E+00	1.627E+00	1.654E+00	8.90
	300.09	256	3.41	4.082E+00	1.534E+00	1.559E+00	71.77
	85.43	480	16.50	4.700E+00	5.174E-01	5.174E-01	37.48
TH-230	88.47	916	27.10	5.014E+00	5.632E-01	5.632E-01	22.49
	100.00	618	12.40	5.840E+00	7.131E-01	7.131E-01	28.41
	193.63	-----	4.59*	5.557E+00	-----	Line Not Found	-----
TH-230	210.97	-----	3.26	5.257E+00	-----	Line Not Found	-----
	609.31	1401	46.30*	2.367E+00	1.068E+00	1.068E+00	10.94
	1120.29	287	15.10	1.358E+00	1.170E+00	1.170E+00	28.38
TH-230	1764.49	296	15.80	9.529E-01	1.643E+00	1.643E+00	17.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-231	84.21	480	7.00	4.700E+00	1.219E+00	1.875E+01	37.48
	92.29	8414	17.30	5.454E+00	7.448E+00	1.145E+02	11.18
	95.87	466	28.00*	5.591E+00	2.485E-01	3.821E+00	50.53
	108.00	-----	13.10	6.237E+00	-----	Line Not Found	-----
TH-232	338.32	825	11.40	3.734E+00	1.618E+00	1.618E+00	14.70
	911.07	856	27.70*	1.652E+00	1.562E+00	1.562E+00	16.02
	969.11	528	16.60	1.559E+00	1.703E+00	1.703E+00	26.72
PA-234M	766.42	294	0.32	1.938E+00	3.962E+01	3.962E+01	59.08
	1001.03	479	0.84*	1.511E+00	3.150E+01	3.150E+01	17.71
TH-234	63.29	2286	3.80*	2.060E+00	2.439E+01	2.439E+01	21.59
	92.38	8414	5.41	5.454E+00	2.382E+01	2.382E+01	19.43
U-234	609.31	1401	46.30*	2.367E+00	1.068E+00	1.068E+00	10.94
	1120.29	287	15.10	1.358E+00	1.170E+00	1.170E+00	28.38
	1764.49	296	15.80	9.529E-01	1.643E+00	1.643E+00	17.26
U-235	89.95	788	2.70	5.250E+00	4.643E+00	4.643E+00	38.81
	93.35	8414	4.50	5.454E+00	2.863E+01	2.863E+01	28.92
	105.00	185	2.10	6.154E+00	1.196E+00	1.196E+00	73.37
	143.76	336	10.50*	6.401E+00	4.179E-01	4.179E-01	46.86
	163.35	195	4.70	6.107E+00	5.676E-01	5.676E-01	59.71
	185.71	1961	54.00	5.699E+00	5.321E-01	5.321E-01	10.73
	205.31	164	4.70	5.353E+00	5.455E-01	5.455E-01	63.34
NP-237	86.50	916	12.60*	5.014E+00	1.211E+00	1.211E+00	30.52
	95.87	466	2.60	5.591E+00	2.676E+00	2.676E+00	55.55
U-238	63.29	2286	3.80*	2.060E+00	2.439E+01	2.439E+01	21.59
	92.38	8414	5.41	5.454E+00	2.382E+01	2.382E+01	11.18
AM-243	74.67	808	66.00*	3.639E+00	2.809E-01	2.809E-01	20.16
	86.72	916	0.34	5.014E+00	4.543E+01	4.543E+01	22.49
	117.66	-----	0.55	6.445E+00	-----	Line Not Found	-----
	142.18	336	0.13	6.401E+00	3.510E+01	3.510E+01	44.32
ANH-511	511.00	379	100.00*	2.731E+00	1.158E-01	1.158E-01	34.90

Flag: "*" = Keyline

Total number of lines in spectrum 51
Number of unidentified lines 4
Number of lines tentatively identified by NID 47 92.16%

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	3.290E+01	3.290E+01	0.256E+01	7.78	
NB-95	64.02D	1.20	1.270E-01	1.520E-01	0.478E-01	31.48	
CD-109	464.00D	1.03	4.103E+00	4.206E+00	0.946E+00	22.49	
SN-126	1.00E+05Y	1.00	4.125E-01	4.125E-01	0.928E-01	22.49	
EU-155	4.96Y	1.01	1.213E-01	1.221E-01	0.825E-01	67.59	
LU-177	6.71D	5.53	5.714E-01	3.161E+00	1.002E+00	31.71	
TL-208	1.41E+10Y	1.00	4.959E-01	4.959E-01	0.570E-01	11.49	
BI-211	7.04E+08Y	1.00	3.712E+00	3.712E+00	0.357E+00	9.63	
BI-212	1.41E+10Y	1.00	9.350E-01	9.350E-01	2.985E-01	31.92	
PB-212	1.41E+10Y	1.00	1.627E+00	1.627E+00	0.145E+00	8.90	
PO-212	1.41E+10Y	1.00	1.627E+00	1.627E+00	0.145E+00	8.90	
BI-214	1600.00Y	1.00	1.068E+00	1.068E+00	0.117E+00	10.94	
PB-214	1600.00Y	1.00	1.291E+00	1.291E+00	0.141E+00	10.95	
PO-214	1600.00Y	1.00	1.291E+00	1.291E+00	0.141E+00	10.95	
PO-216	1.41E+10Y	1.00	1.627E+00	1.627E+00	0.145E+00	8.90	
PO-218	1600.00Y	1.00	1.291E+00	1.291E+00	0.141E+00	10.95	
RA-224	1.41E+10Y	1.00	4.269E+00	4.269E+00	0.758E+00	17.76	
RA-226	1600.00Y	1.00	1.068E+00	1.068E+00	0.117E+00	10.94	
AC-228	1.41E+10Y	1.00	1.562E+00	1.562E+00	0.250E+00	16.02	
RA-228	1.41E+10Y	1.00	1.562E+00	1.562E+00	0.250E+00	16.02	
TH-228	1.91Y	1.02	1.627E+00	1.654E+00	0.147E+00	8.90	
TH-229	7340.00Y	1.00	5.632E-01	5.632E-01	1.267E-01	22.49	K
TH-230	4.47E+09Y	1.00	1.068E+00	1.068E+00	0.117E+00	10.94	
U-231	4.20D	15.4	2.485E-01	3.821E+00	1.931E+00	50.53	
TH-232	1.41E+10Y	1.00	1.562E+00	1.562E+00	0.250E+00	16.02	
PA-234M	4.47E+09Y	1.00	3.150E+01	3.150E+01	0.558E+01	17.71	
TH-234	4.47E+09Y	1.00	2.439E+01	2.439E+01	0.527E+01	21.59	
U-234	4.47E+09Y	1.00	1.068E+00	1.068E+00	0.117E+00	10.94	
U-235	7.04E+08Y	1.00	4.179E-01	4.179E-01	1.958E-01	46.86	
NP-237	2.14E+06Y	1.00	1.211E+00	1.211E+00	0.370E+00	30.52	
U-238	4.47E+09Y	1.00	2.439E+01	2.439E+01	0.527E+01	21.59	
AM-243	7380.00Y	1.00	2.809E-01	2.809E-01	0.566E-01	20.16	
ANH-511	1.00E+09Y	1.00	1.158E-01	1.158E-01	0.404E-01	34.90	

Total Activity : 1.501E+02 1.564E+02

Grand Total Activity : 1.501E+02 1.564E+02

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.98	212	1119	0.89	258.01	255	6	9.82E-03	51.8	6.50E+00	T
0	257.86	171	858	1.17	515.78	511	10	7.93E-03	65.7	4.56E+00	
0	270.22	380	649	1.37	540.51	536	9	1.76E-02	26.3	4.41E+00	T
0	328.03	237	672	1.44	656.14	651	11	1.10E-02	44.3	3.82E+00	T
0	409.91	108	341	1.40	819.91	816	8	4.99E-03	62.5	3.23E+00	T
0	438.77	40	374	1.34	877.64	871	9	1.85E-03	****	3.07E+00	T
0	462.88	232	302	1.55	925.86	921	9	1.08E-02	30.0	2.95E+00	T
0	795.21	146	295	1.78	1590.50	1584	14	6.77E-03	52.5	1.88E+00	T
0	837.88	185	370	4.01	1675.83	1667	23	8.56E-03	56.3	1.79E+00	T
0	934.07	115	162	1.36	1868.20	1862	11	5.31E-03	46.9	1.61E+00	T
3	965.06	167	133	1.89	1930.17	1926	18	7.73E-03	26.2	1.56E+00	T
0	1237.42	229	252	2.37	2474.82	2466	15	1.06E-02	32.9	1.24E+00	T
0	1377.93	70	80	1.95	2755.78	2750	10	3.23E-03	51.2	1.13E+00	
0	1631.31	40	27	1.77	3262.42	3256	12	1.86E-03	60.5	9.94E-01	
0	1730.26	55	31	2.59	3460.27	3453	15	2.57E-03	50.8	9.62E-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]G245808001.CNF;1
* Acquisition date   : 11-FEB-2010 22:26:17   Detector SN#      :
* Detector ID        : GAM04                   Sensitivity       : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 06:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 06:00:04.97           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245808001             Analyst initials: RXF2
* Batch Number       : 947554                 Sample Quantity : 1.49809E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41.36MS Isotope      :
* MSD ID              :                          MSD Isotope   :
* LCS ID              : 1032-A                   LCS Isotope     :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.290E+01	2.561E+00	2.547E-01	1.810E-02	129.190
NB-95	1.520E-01	4.784E-02	3.581E-02	2.232E-03	4.244
CD-109	4.206E+00	9.458E-01	8.214E-01	9.872E-02	5.120
SN-126	4.125E-01	9.277E-02	8.119E-02	9.736E-03	5.081
EU-155	1.221E-01	8.250E-02	1.064E-01	9.278E-03	1.147
LU-177	3.161E+00	1.002E+00	1.004E+00	6.588E-02	3.149
TL-208	4.959E-01	5.698E-02	3.006E-02	1.891E-03	16.498
BI-211	3.712E+00	3.574E-01	1.706E-01	1.153E-02	21.755
BI-212	9.350E-01	2.985E-01	2.493E-01	1.906E-02	3.751
PB-212	1.627E+00	1.448E-01	4.793E-02	3.849E-03	33.946
PO-212	1.627E+00	1.448E-01	4.793E-02	3.849E-03	33.946
BI-214	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
PB-214	1.291E+00	1.414E-01	5.948E-02	5.074E-03	21.709
PO-214	1.291E+00	1.414E-01	5.948E-02	5.074E-03	21.709
PO-216	1.627E+00	1.448E-01	4.793E-02	3.849E-03	33.946
PO-218	1.291E+00	1.414E-01	5.948E-02	5.074E-03	21.709
RA-224	4.269E+00	7.581E-01	5.456E-01	3.637E-02	7.824
RA-226	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.562E+00	2.503E-01	1.167E-01	1.272E-02	13.383
RA-228	1.562E+00	2.503E-01	1.167E-01	1.272E-02	13.383
TH-228	1.654E+00	1.472E-01	4.872E-02	3.913E-03	33.945
TH-229	5.632E-01	1.267E-01	4.534E-01	2.942E-02	1.242
TH-230	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
U-231	3.821E+00	1.931E+00	1.347E+00	1.362E-01	2.836
TH-232	1.562E+00	2.503E-01	1.167E-01	1.272E-02	13.383
PA-234M	3.150E+01	5.578E+00	4.169E+00	3.801E-01	7.555
TH-234	2.439E+01	5.266E+00	1.833E+00	3.626E-01	13.308
U-234	1.068E+00	1.168E-01	6.229E-02	4.577E-03	17.144
U-235	4.179E-01	1.958E-01	1.890E-01	3.133E-02	2.211
NP-237	1.211E+00	3.697E-01	2.429E-01	5.787E-02	4.988
U-238	2.439E+01	5.266E+00	1.833E+00	3.626E-01	13.308
AM-243	2.809E-01	5.664E-02	6.810E-02	7.799E-03	4.125
ANH-511	1.158E-01	4.041E-02	2.456E-02	1.374E-03	4.715

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.462E-03		1.787E-01	2.913E-01	1.930E-02	-0.005
NA-22	1.437E-02		2.493E-02	4.294E-02	2.807E-03	0.335
NA-24	-1.149E+00		9.134E-01	Half-Life too short		
AL-26	-5.779E-03		1.354E-02	2.064E-02	1.224E-03	-0.280
TI-44	3.228E-01	+	5.075E-02	4.927E-02	5.666E-03	6.551
SC-46	-6.355E-03		2.218E-02	3.598E-02	2.910E-03	-0.177
V-48	-2.706E-02		4.382E-02	6.915E-02	5.357E-03	-0.391
CR-51	9.416E-02		1.945E-01	3.302E-01	2.325E-02	0.285
MN-52	-4.136E-03		1.547E-01	2.400E-01	1.638E-02	-0.017
MN-54	2.444E-02		2.416E-02	3.679E-02	2.663E-03	0.664
CO-56	-1.443E-02		2.609E-02	3.593E-02	2.666E-03	-0.402
CO-57	2.668E-03		1.456E-02	2.403E-02	1.668E-03	0.111
CO-58	-7.210E-03		2.079E-02	3.387E-02	2.338E-03	-0.213
FE-59	-3.899E-02		5.485E-02	8.451E-02	6.458E-03	-0.461
CO-60	-1.891E-04		2.097E-02	3.494E-02	2.394E-03	-0.005
ZN-65	-2.513E-03		6.211E-02	8.634E-02	5.711E-03	-0.029
GE-68	4.157E-01		7.609E-01	1.267E+00	8.853E-02	0.328
AS-73	-1.277E-01		9.967E-01	1.652E+00	2.161E-01	-0.077
AS-74	-1.131E-02		5.267E-02	8.365E-02	4.416E-03	-0.135
SE-75	1.461E-02		2.510E-02	4.020E-02	2.704E-03	0.363
BR-77	7.961E+00		8.193E+00	1.382E+01	7.698E-01	0.576
SR-82	-2.814E-01		2.132E-01	3.313E-01	2.114E-02	-0.849
RB-83	3.533E-02		3.676E-02	6.197E-02	3.451E-03	0.570
RB-84	2.244E-02		3.997E-02	6.766E-02	5.388E-03	0.332
KR-85	1.022E+01		4.141E+00	6.609E+00	3.692E-01	1.546
SR-85	5.318E-02		2.155E-02	3.439E-02	1.921E-03	1.546
RB-86	1.670E-01		5.035E-01	8.302E-01	5.804E-02	0.201
Y-88	1.215E-02		1.655E-02	2.922E-02	1.705E-03	0.416

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-88	-3.233E-03		1.586E-02	2.601E-02	1.464E-03	-0.124
Y-91	3.478E+00		1.200E+01	1.954E+01	1.198E+00	0.178
NB-94	1.309E-02		1.832E-02	3.155E-02	1.699E-03	0.415
NB-95M	5.463E-02		7.640E-02	1.102E-01	9.044E-03	0.496
ZR-95	4.214E-02		3.877E-02	6.752E-02	4.917E-03	0.624
NB-97	-2.264E-01		1.061E-01	Half-Life too short		
ZR-97	6.816E+00		2.120E+00	Half-Life too short		
MO-99	-7.581E+00		9.672E+00	1.552E+01	2.144E+00	-0.488
TC-99M	-4.841E+11		5.932E+11	Half-Life too short		
RH-101	4.815E-04		1.919E-02	2.960E-02	1.928E-03	0.016
RH-102	6.383E-03		1.601E-02	2.652E-02	1.499E-03	0.241
RU-103	6.008E-03		2.256E-02	3.706E-02	4.657E-03	0.162
RH-106	1.059E-01		1.785E-01	2.927E-01	3.344E-02	0.362
RU-106	1.059E-01		1.782E-01	2.927E-01	1.504E-02	0.362
AG-108M	-2.680E-03		1.947E-02	2.781E-02	1.718E-03	-0.096
AG-110M	-2.181E-02		1.922E-02	3.083E-02	1.647E-03	-0.708
IN-111	4.414E-01		8.783E-01	1.259E+00	8.399E-02	0.351
IN-113M	-1.027E-03		2.306E-02	3.804E-02	2.292E-03	-0.027
SN-113	-1.027E-03		2.306E-02	3.804E-02	2.292E-03	-0.027
IN-114M	4.002E-02		1.118E-01	1.617E-01	1.046E-02	0.248
CD-115	3.063E+00		8.850E+00	1.454E+01	8.070E-01	0.211
SN-117M	3.229E-02		3.482E-02	5.499E-02	3.518E-03	0.587
SB-122	1.605E+00		1.670E+00	2.795E+00	1.516E-01	0.574
I-123	1.914E+01		1.055E+01	Half-Life too short		
TE-123M	1.621E-02		1.787E-02	2.653E-02	1.715E-03	0.611
I-124	3.767E-01		5.087E-01	7.808E-01	4.095E-02	0.482
SB-124	-1.573E-03		3.745E-02	6.089E-02	4.137E-03	-0.026
SB-125	6.402E-03		4.882E-02	8.059E-02	4.771E-03	0.079
TE-125M	7.255E+00		8.208E+00	9.921E+00	9.849E-01	0.731
I-126	-7.874E-02		1.082E-01	1.768E-01	8.721E-03	-0.445
SB-126	4.794E-02		8.898E-02	1.443E-01	8.109E-03	0.332
SB-127	-4.660E-01		9.457E-01	1.553E+00	1.487E-01	-0.300
XE-127	-6.255E-03		3.006E-02	4.247E-02	2.776E-03	-0.147
I-131	2.024E-02		7.095E-02	1.189E-01	7.928E-03	0.170
TE-132	2.782E-01		5.317E-01	8.541E-01	1.282E-01	0.326
BA-133	-1.668E-02		2.562E-02	3.620E-02	4.241E-03	-0.461
I-133	2.727E-03		4.987E-03	Half-Life too short		
CS-134	8.598E-02	+	4.548E-02	5.148E-02	3.470E-03	1.670
CS-135	7.068E-02		9.181E-02	1.406E-01	1.172E-02	0.503
I-135	2.352E+10		5.611E+10	Half-Life too short		
CS-136	-2.267E-02		6.723E-02	1.072E-01	8.236E-03	-0.211
BA-137M	-1.366E-02		2.248E-02	3.453E-02	1.684E-03	-0.396
CS-137	-1.444E-02		2.376E-02	3.650E-02	1.791E-03	-0.396
CE-139	-9.242E-04		1.868E-02	2.690E-02	1.709E-03	-0.034
LA-140	-4.288E-02		1.587E-01	2.527E-01	8.206E-02	-0.170
BA-140	-5.041E-02		4.816E-02	7.115E-02	4.686E-03	-0.709
CE-141	6.309E-02		4.081E-02	6.170E-02	4.141E-03	1.023
CE-143	9.490E-04		1.370E-04	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144	-5.890E-02		1.193E-01	1.926E-01	2.807E-02	-0.306
PM-144	9.574E-03		1.756E-02	3.011E-02	1.600E-03	0.318
PR-144	6.492E-01		1.190E+00	2.042E+00	1.084E-01	0.318
PM-146	1.212E-02		2.336E-02	3.895E-02	3.324E-03	0.311
ND-147	-2.008E-01		3.383E-01	5.314E-01	7.127E-02	-0.378
PM-149	-2.706E+01		7.332E+01	1.221E+02	1.775E+01	-0.222
EU-152	2.564E-03		5.220E-02	8.424E-02	5.830E-03	0.030
GD-153	2.963E-01	+	8.417E-02	9.323E-02	9.152E-03	3.178
EU-154	1.935E-02		7.058E-02	1.197E-01	1.174E-02	0.162
TB-160	3.128E-03		7.896E-02	1.304E-01	1.034E-02	0.024
HO-166M	-1.157E-02		3.313E-02	5.465E-02	3.008E-03	-0.212
TM-171	-1.269E+01		2.455E+01	3.670E+01	4.291E+00	-0.346
LU-176	-6.657E-03		1.259E-02	2.077E-02	1.356E-03	-0.320
LU-177M	-5.177E-03		1.067E-01	1.538E-01	8.701E-03	-0.034
HF-181	-2.573E-03		2.444E-02	3.735E-02	2.109E-03	-0.069
W-181	4.575E-01		3.343E-01	5.167E-01	6.091E-02	0.885
TA-182	3.084E-02		1.225E-01	2.078E-01	1.293E-02	0.148
RE-183	1.343E-01	+	7.689E-02	1.078E-01	6.867E-03	1.246
RE-184	7.659E-04		1.332E-01	1.997E-01	1.334E-02	0.004
OS-185	8.823E-03		2.285E-02	3.913E-02	1.950E-03	0.225
RE-188	6.580E-02		9.964E-02	1.640E-01	1.053E-02	0.401
W-188	-2.645E+00		4.337E+00	6.277E+00	4.148E-01	-0.421
IR-192	-4.358E-03		1.761E-02	2.926E-02	1.900E-03	-0.149
AU-195	8.637E-01	+	2.454E-01	2.760E-01	2.639E-02	3.130
TL-200	-2.866E-04		3.046E-04	Half-Life too short		
TL-201	-1.447E+00		5.598E+00	8.556E+00	5.439E-01	-0.169
TL-202	3.032E-02	+	5.384E-02	7.159E-02	4.061E-03	0.424
HG-203	1.692E-02		2.417E-02	3.690E-02	2.569E-03	0.459
BI-207	5.844E-03		3.012E-02	4.939E-02	3.513E-03	0.118
TL-207	-7.793E-02		3.836E-01	5.596E-01	9.367E-02	-0.139
PO-209	1.515E+00		3.934E+00	6.603E+00	5.419E-01	0.229
BI-210	6.029E+00		5.909E+00	9.734E+00	8.483E-01	0.619
PB-210	6.029E+00		5.909E+00	9.734E+00	8.483E-01	0.619
PO-210	6.029E+00		5.904E+00	9.734E+00	7.561E-01	0.619
PB-211	2.452E-01		6.008E-01	8.578E-01	5.346E-01	0.286
PO-215	-7.793E-02		3.836E-01	5.596E-01	9.367E-02	-0.139
RN-219	-1.571E-01		2.407E-01	3.661E-01	4.957E-02	-0.429
RN-220	-3.256E+00		1.429E+01	2.282E+01	1.250E+00	-0.143
RA-223	-7.793E-02		3.836E-01	5.596E-01	9.367E-02	-0.139
AC-227	2.325E-01		2.261E-01	3.475E-01	4.986E-02	0.669
TH-227	2.325E-01		2.272E-01	3.475E-01	5.984E-02	0.669
PA-231	1.713E-01		7.813E-01	1.325E+00	1.874E-01	0.129
TH-231	-7.793E-02		3.836E-01	5.596E-01	9.367E-02	-0.139
PA-233	1.115E-02		3.288E-02	5.567E-02	3.796E-03	0.200
PA-234	-2.256E-03		1.793E-01	2.935E-01	5.425E-02	-0.008
NP-236	-3.101E-02		5.083E-02	7.204E-02	4.600E-03	-0.430
NP-239	3.423E-02		1.219E-01	1.811E-01	1.332E-02	0.189
AM-241	1.238E-01		1.613E-01	2.493E-01	3.147E-02	0.496

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	-1.341E-02		7.124E-02	9.596E-02	8.461E-03	-0.140
AM-246	4.157E-02		8.661E-02	1.438E-01	1.002E-02	0.289
CM-247	-1.108E-02		2.036E-02	3.294E-02	1.859E-03	-0.336
CF-249	6.946E-03		2.094E-02	3.502E-02	1.990E-03	0.198
CF-251	4.098E-03		7.121E-02	1.150E-01	7.359E-03	0.036

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]G245808001          *
* Acquisition date   : 11-FEB-2010 22:26:17 Detector SN# :                  *
* Detector ID        : GAM04                      Sensitivity      : 5.000    *
* Geometry           : CAN                        Energy tolerance: 1.500    *
* Elapsed live time  : 0 06:00:00.00             Abundance limit : 75.000    *
* Elapsed real time  : 0 06:00:04.97             Half life ratio : 8.000    *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808001              Analyst initials: RXF2        *
* Batch Number       : 947554                  Sample Quantity : 1.4981E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 5-MAY-2009 14:25:41 MS Isotope      :                  *
* MSD DPM             : 0.000                     MSD Isotope :                  *
* LCS DPM             : 0.000                     LCS Isotope  :                  *
* LCSD DPM            : 0.000                     LCSD Isotope :                  *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.290E+01	2.509E+00	1.283E-01	1.280E+00
NB-95	1.520E-01	4.688E-02	1.833E-02	2.392E-02
CD-109	4.206E+00	9.269E-01	4.427E-01	4.729E-01
SN-126	4.125E-01	9.091E-02	4.376E-02	4.638E-02
EU-155	1.221E-01	8.085E-02	5.713E-02	4.125E-02
LU-177	3.161E+00	9.823E-01	5.304E-01	5.012E-01
TL-208	4.959E-01	5.584E-02	1.549E-02	2.849E-02
BI-211	3.712E+00	3.502E-01	8.904E-02	1.787E-01
BI-212	9.350E-01	2.925E-01	1.278E-01	1.492E-01
PB-212	1.627E+00	1.419E-01	2.524E-02	7.239E-02
PO-212	1.627E+00	1.419E-01	2.524E-02	7.239E-02
BI-214	1.068E+00	1.145E-01	3.207E-02	5.842E-02
PB-214	1.291E+00	1.386E-01	3.104E-02	7.070E-02
PO-214	1.291E+00	1.386E-01	3.104E-02	7.070E-02
PO-216	1.627E+00	1.419E-01	2.524E-02	7.239E-02
PO-218	1.291E+00	1.386E-01	3.104E-02	7.070E-02
RA-224	4.269E+00	7.430E-01	2.873E-01	3.791E-01
RA-226	1.068E+00	1.145E-01	3.207E-02	5.842E-02
AC-228	1.562E+00	2.453E-01	5.949E-02	1.251E-01
RA-228	1.562E+00	2.453E-01	5.949E-02	1.251E-01
TH-228	1.654E+00	1.442E-01	2.566E-02	7.359E-02
TH-229	-2.658E-03	2.771E-01	2.400E-01	1.414E-01
TH-230	1.068E+00	1.145E-01	3.207E-02	5.842E-02
U-231	3.821E+00	1.892E+00	7.247E-01	9.653E-01
TH-232	1.562E+00	2.453E-01	5.949E-02	1.251E-01
PA-234M	3.150E+01	5.466E+00	2.120E+00	2.789E+00
TH-234	2.439E+01	5.161E+00	9.951E-01	2.633E+00
U-234	1.068E+00	1.145E-01	3.207E-02	5.842E-02
U-235	4.179E-01	1.919E-01	1.007E-01	9.792E-02
NP-237	1.211E+00	3.623E-01	1.309E-01	1.849E-01
U-238	2.439E+01	5.161E+00	9.951E-01	2.633E+00
AM-243	2.809E-01	5.551E-02	3.684E-02	2.832E-02
ANH-511	1.158E-01	3.961E-02	1.270E-02	2.021E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.462E-03	1.752E-01	1.509E-01	8.937E-02 NOT IDENT.
NA-22	1.437E-02	2.444E-02	2.170E-02	1.247E-02 NOT IDENT.
NA-24	-1.149E+06	1.790E+06	0.000E+00	9.134E+05 SHORT HLIF
AL-26	-5.779E-03	1.326E-02	1.034E-02	6.768E-03 NOT IDENT.
TI-44	3.228E-01	4.974E-02	2.662E-02	2.538E-02 FAIL ABUN
SC-46	-6.355E-03	2.174E-02	1.835E-02	1.109E-02 FAIL ABUN
V-48	-2.706E-02	4.294E-02	3.518E-02	2.191E-02 NOT IDENT.
CR-51	9.416E-02	1.906E-01	1.727E-01	9.723E-02 NOT IDENT.
MN-52	-4.136E-03	1.516E-01	1.210E-01	7.733E-02 FAIL ABUN
MN-54	2.444E-02	2.367E-02	1.880E-02	1.208E-02 NOT IDENT.
CO-56	-1.443E-02	2.557E-02	1.835E-02	1.305E-02 FAIL ABUN
CO-57	2.668E-03	1.427E-02	1.285E-02	7.282E-03 NOT IDENT.
CO-58	-7.210E-03	2.037E-02	1.731E-02	1.039E-02 NOT IDENT.
FE-59	-3.899E-02	5.375E-02	4.288E-02	2.743E-02 FAIL ABUN
CO-60	-1.891E-04	2.055E-02	1.764E-02	1.048E-02 NOT IDENT.
ZN-65	-2.513E-03	6.086E-02	4.379E-02	3.105E-02 NOT IDENT.
GE-68	4.157E-01	7.457E-01	6.434E-01	3.805E-01 NOT IDENT.
AS-73	-1.277E-01	9.768E-01	9.003E-01	4.983E-01 NOT IDENT.
AS-74	-1.131E-02	5.162E-02	4.310E-02	2.633E-02 NOT IDENT.
SE-75	1.461E-02	2.459E-02	2.112E-02	1.255E-02 NOT IDENT.
BR-77	7.961E+00	8.029E+00	7.145E+00	4.096E+00 FAIL ABUN
SR-82	-2.814E-01	2.089E-01	1.696E-01	1.066E-01 NOT IDENT.
RB-83	3.533E-02	3.602E-02	3.203E-02	1.838E-02 NOT IDENT.
RB-84	2.244E-02	3.918E-02	3.452E-02	1.999E-02 NOT IDENT.
KR-85	1.022E+01	4.058E+00	3.418E+00	2.070E+00 NOT IDENT.
SR-85	5.318E-02	2.112E-02	1.778E-02	1.077E-02 NOT IDENT.
RB-86	1.670E-01	4.934E-01	4.214E-01	2.517E-01 NOT IDENT.
Y-88	1.215E-02	1.622E-02	1.463E-02	8.276E-03 NOT IDENT.
ZR-88	-3.233E-03	1.554E-02	1.354E-02	7.930E-03 NOT IDENT.
Y-91	3.478E+00	1.176E+01	9.891E+00	6.001E+00 NOT IDENT.
NB-94	1.309E-02	1.795E-02	1.619E-02	9.158E-03 NOT IDENT.
NB-95M	5.463E-02	7.487E-02	5.806E-02	3.820E-02 NOT IDENT.
ZR-95	4.214E-02	3.800E-02	3.458E-02	1.939E-02 NOT IDENT.
NB-97	-2.264E+05	2.079E+05	0.000E+00	1.061E+05 SHORT HLIF
ZR-97	6.816E+06	4.155E+06	0.000E+00	2.120E+06 SHORT HLIF
MO-99	-7.581E+00	9.479E+00	7.956E+00	4.836E+00 NOT IDENT.
TC-99M	-4.841E+17	1.163E+18	0.000E+00	0.000E+00 SHORT HLIF
RH-101	4.815E-04	1.880E-02	1.566E-02	9.594E-03 NOT IDENT.
RH-102	6.383E-03	1.569E-02	1.374E-02	8.005E-03 FAIL ABUN
RU-103	6.008E-03	2.211E-02	1.918E-02	1.128E-02 FAIL ABUN
RH-106	1.059E-01	1.749E-01	1.506E-01	8.926E-02 FAIL ABUN
RU-106	1.059E-01	1.746E-01	1.506E-01	8.909E-02 FAIL ABUN
AG-108M	-2.680E-03	1.908E-02	1.444E-02	9.737E-03 NOT IDENT.
AG-110M	-2.181E-02	1.884E-02	1.584E-02	9.611E-03 NOT IDENT.
IN-111	4.414E-01	8.608E-01	6.625E-01	4.392E-01 NOT IDENT.
IN-113M	-1.027E-03	2.260E-02	1.980E-02	1.153E-02 NOT IDENT.
SN-113	-1.027E-03	2.260E-02	1.980E-02	1.153E-02 NOT IDENT.
IN-114M	4.002E-02	1.095E-01	8.561E-02	5.588E-02 NOT IDENT.
CD-115	3.063E+00	8.673E+00	7.515E+00	4.425E+00 NOT IDENT.
SN-117M	3.229E-02	3.412E-02	2.924E-02	1.741E-02 NOT IDENT.
SB-122	1.605E+00	1.637E+00	1.442E+00	8.350E-01 NOT IDENT.
I-123	1.914E+07	2.068E+07	0.000E+00	1.055E+07 SHORT HLIF
TE-123M	1.621E-02	1.751E-02	1.411E-02	8.936E-03 NOT IDENT.
I-124	3.767E-01	4.985E-01	4.022E-01	2.543E-01 NOT IDENT.
SB-124	-1.573E-03	3.670E-02	3.055E-02	1.873E-02 FAIL ABUN
SB-125	6.402E-03	4.784E-02	4.186E-02	2.441E-02 FAIL ABUN
TE-125M	7.255E+00	8.044E+00	5.320E+00	4.104E+00 NOT IDENT.
I-126	-7.874E-02	1.061E-01	9.083E-02	5.412E-02 NOT IDENT.
SB-126	4.794E-02	8.720E-02	7.400E-02	4.449E-02 FAIL ABUN
SB-127	-4.660E-01	9.268E-01	7.974E-01	4.729E-01 NOT IDENT.
XE-127	-6.255E-03	2.946E-02	2.246E-02	1.503E-02 NOT IDENT.
I-131	2.024E-02	6.953E-02	6.198E-02	3.547E-02 NOT IDENT.
TE-132	2.782E-01	5.210E-01	4.503E-01	2.658E-01 FAIL ABUN
BA-133	-1.668E-02	2.511E-02	1.889E-02	1.281E-02 FAIL ABUN
I-133	2.727E+03	9.774E+03	0.000E+00	4.987E+03 SHORT HLIF
CS-134	8.598E-02	4.457E-02	2.633E-02	2.274E-02 FAIL ABUN
CS-135	7.068E-02	8.997E-02	7.386E-02	4.590E-02 NOT IDENT.
I-135	2.352E+16	1.100E+17	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-2.267E-02	6.588E-02	5.446E-02	3.361E-02 FAIL ABUN
BA-137M	-1.366E-02	2.203E-02	1.774E-02	1.124E-02 NOT IDENT.
CS-137	-1.444E-02	2.329E-02	1.876E-02	1.188E-02 NOT IDENT.
CE-139	-9.242E-04	1.831E-02	1.429E-02	9.339E-03 NOT IDENT.

BA-140	-4.288E-02	1.556E-01	1.305E-01	7.937E-02	FAIL ABUN
LA-140	-5.041E-02	4.720E-02	3.576E-02	2.408E-02	FAIL ABUN
CE-141	6.309E-02	3.999E-02	3.287E-02	2.041E-02	NOT IDENT.
CE-143	9.490E+02	2.684E+02	0.000E+00	1.370E+02	SHORT HLIF
CE-144	-5.890E-02	1.169E-01	1.028E-01	5.963E-02	NOT IDENT.
PM-144	9.574E-03	1.720E-02	1.546E-02	8.778E-03	NOT IDENT.
PR-144	6.492E-01	1.167E+00	1.048E+00	5.952E-01	NOT IDENT.
PM-146	1.212E-02	2.289E-02	2.020E-02	1.168E-02	NOT IDENT.
ND-147	-2.008E-01	3.315E-01	2.745E-01	1.691E-01	FAIL ABUN
PM-149	-2.706E+01	7.185E+01	6.402E+01	3.666E+01	NOT IDENT.
EU-152	2.564E-03	5.115E-02	4.398E-02	2.610E-02	FAIL ABUN
GD-153	2.963E-01	8.249E-02	5.013E-02	4.209E-02	FAIL ABUN
EU-154	1.935E-02	6.917E-02	6.051E-02	3.529E-02	NOT IDENT.
TB-160	3.128E-03	7.738E-02	6.654E-02	3.948E-02	FAIL ABUN
HO-166M	-1.157E-02	3.247E-02	2.803E-02	1.656E-02	FAIL ABUN
TM-171	-1.269E+01	2.406E+01	1.990E+01	1.227E+01	NOT IDENT.
LU-176	-6.657E-03	1.234E-02	1.087E-02	6.295E-03	FAIL ABUN
LU-177M	-5.177E-03	1.046E-01	7.994E-02	5.336E-02	FAIL ABUN
HF-181	-2.573E-03	2.395E-02	1.935E-02	1.222E-02	NOT IDENT.
W-181	4.575E-01	3.276E-01	2.804E-01	1.671E-01	NOT IDENT.
TA-182	3.084E-02	1.201E-01	1.052E-01	6.127E-02	FAIL ABUN
RE-183	1.343E-01	7.535E-02	5.727E-02	3.844E-02	FAIL ABUN
RE-184	7.659E-04	1.305E-01	1.050E-01	6.658E-02	NOT IDENT.
OS-185	8.823E-03	2.239E-02	2.012E-02	1.142E-02	NOT IDENT.
RE-188	6.580E-02	9.765E-02	8.726E-02	4.982E-02	NOT IDENT.
W-188	-2.645E+00	4.251E+00	3.290E+00	2.169E+00	FAIL ABUN
IR-192	-4.358E-03	1.726E-02	1.531E-02	8.805E-03	FAIL ABUN
AU-195	8.637E-01	2.405E-01	1.483E-01	1.227E-01	FAIL ABUN
TL-200	-2.866E+02	5.971E+02	0.000E+00	3.046E+02	SHORT HLIF
TL-201	-1.447E+00	5.486E+00	4.544E+00	2.799E+00	NOT IDENT.
TL-202	3.032E-02	5.276E-02	3.716E-02	2.692E-02	FAIL ABUN
HG-203	1.692E-02	2.369E-02	1.936E-02	1.208E-02	FAIL ABUN
BI-207	5.844E-03	2.952E-02	2.508E-02	1.506E-02	FAIL ABUN
TL-207	-7.793E-02	3.759E-01	2.926E-01	1.918E-01	FAIL ABUN
PO-209	1.515E+00	3.856E+00	3.368E+00	1.967E+00	NOT IDENT.
BI-210	6.029E+00	5.791E+00	5.320E+00	2.955E+00	NOT IDENT.
PB-210	6.029E+00	5.791E+00	5.320E+00	2.955E+00	NOT IDENT.
PO-210	6.029E+00	5.786E+00	5.320E+00	2.952E+00	NOT IDENT.
PB-211	2.452E-01	5.888E-01	4.461E-01	3.004E-01	NOT IDENT.
PO-215	-7.793E-02	3.759E-01	2.926E-01	1.918E-01	FAIL ABUN
RN-219	-1.571E-01	2.359E-01	1.904E-01	1.204E-01	FAIL ABUN
RN-220	-3.256E+00	1.400E+01	1.178E+01	7.143E+00	NOT IDENT.
RA-223	-7.793E-02	3.759E-01	2.926E-01	1.918E-01	FAIL ABUN
AC-227	2.325E-01	2.216E-01	1.827E-01	1.131E-01	FAIL ABUN
TH-227	2.325E-01	2.227E-01	1.827E-01	1.136E-01	FAIL ABUN
PA-231	1.713E-01	7.657E-01	6.948E-01	3.907E-01	FAIL ABUN
TH-231	-7.793E-02	3.759E-01	2.926E-01	1.918E-01	FAIL ABUN
PA-233	1.115E-02	3.222E-02	2.913E-02	1.644E-02	FAIL ABUN
PA-234	-2.256E-03	1.757E-01	1.495E-01	8.963E-02	FAIL ABUN
NP-236	-3.101E-02	4.981E-02	3.830E-02	2.541E-02	FAIL ABUN
NP-239	3.423E-02	1.195E-01	9.695E-02	6.096E-02	FAIL ABUN
AM-241	1.238E-01	1.581E-01	1.355E-01	8.065E-02	NOT IDENT.
CM-243	-1.341E-02	6.981E-02	5.152E-02	3.562E-02	FAIL ABUN
AM-246	4.157E-02	8.488E-02	7.299E-02	4.330E-02	NOT IDENT.
CM-247	-1.108E-02	1.995E-02	1.713E-02	1.018E-02	FAIL ABUN
CF-249	6.946E-03	2.052E-02	1.823E-02	1.047E-02	NOT IDENT.
CF-251	4.098E-03	6.979E-02	6.099E-02	3.561E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
--------	------------

46.50	921.7474
46.50	921.7474
46.50	921.7474
48.70	1064.3402
49.72	977.0201
51.35	1010.9858
52.39	1022.6074
52.97	1045.9861
53.15	1060.4249
53.44	1077.8096
54.07	1056.1202
56.28	1178.1989
56.28	1178.2091
57.37	0.0000
57.53	1227.8586
57.53	1227.8658
57.60	1216.6412
57.98	1203.3931
57.98	1203.3931
59.32	1244.1710
59.32	1244.1710
59.40	1244.4252
59.54	1223.6344
59.72	1237.4747
60.01	1238.3884
61.10	1285.7745
61.14	1285.9034
61.30	1286.4225
63.00	1373.5271
63.29	1374.5074
63.29	1374.5074
63.58	1375.4860
64.28	1396.6351
65.12	1353.7256
65.20	1353.9865
65.20	1353.9865
66.05	1434.9697
66.72	1453.4603
66.83	1453.8462
66.91	1482.5050
67.20	1521.3833
67.20	1521.3833
67.75	1513.3370
67.85	1513.6952
68.90	1531.5248
68.90	1531.5248
69.30	1513.9188
69.67	1556.9395
70.82	1580.5824
70.82	1580.5824
70.83	1580.6177
72.80	1669.8660
72.87	1670.1263
72.87	1670.1263
74.67	1755.2107
74.81	1755.7559
74.81	1755.7559
74.81	1755.7559
74.81	1755.7559
74.81	1755.7559
74.81	1755.7559
74.97	1756.3691
75.28	1757.5665
75.70	1759.1826
77.11	1764.5662
77.11	1764.5662

77.11	1764.5662
77.11	1764.5662
77.11	1764.5662
77.11	1764.5662
77.11	1764.5662
78.38	1769.3752
79.62	1746.2322
79.80	1746.8933
79.80	1746.8933
80.11	1748.0337
80.18	1748.2876
80.30	1748.7236
80.30	1748.7236
80.57	1749.7202
81.00	1751.2917
81.07	1751.5409
81.07	1751.5409
81.07	1751.5409
81.07	1751.5409
82.60	1508.0913
83.37	1510.4600
83.78	1511.7347
83.78	1511.7347
83.78	1511.7347
83.78	1511.7347
84.21	1513.0590
84.90	1515.1809
85.43	1516.7928
86.29	1519.4165
86.50	1520.0498
86.54	1520.1731
86.59	1520.3212
86.72	1520.7159
86.79	1520.9215
86.94	1521.3821
87.30	1522.4760
87.30	1522.4760
87.30	1522.4760
87.30	1522.4760
87.30	1522.4760
87.30	1522.4760
87.57	1523.2902
87.88	1524.2196
88.03	1524.6719
88.36	1525.6671
88.47	1525.9961
89.95	1530.4126
91.11	1533.8505
92.29	1537.3293
92.38	1537.5925
92.38	1537.5925
93.35	1540.4301
94.00	1542.3298
94.67	1544.2544
94.67	1544.2709
94.90	1544.9370
94.90	1544.9370
94.90	1544.9370
94.90	1544.9370
95.87	1286.4346
95.87	1286.4346
96.73	1288.4922
97.43	1290.1533
98.44	1190.1232
98.44	1190.1232
98.88	1191.0800
99.55	1192.5339
99.55	1192.5339
99.86	1171.5065
100.00	1171.8031
100.10	1172.0256
103.18	1257.0557
103.76	1215.6260
105.00	1223.1404
105.31	1200.4391
108.00	1232.4491
109.28	1258.6737

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111.00	1381.8019
111.76	1307.2703
112.95	1309.8774
115.19	1136.0371
116.30	1090.4963
117.00	1079.8225
117.00	1079.8225
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121.11	1069.4775
121.62	1062.3403
121.78	1064.6061
122.06	1065.0769
122.32	1078.5338
122.32	1078.5338
122.32	1078.5338
122.32	1078.5338
123.07	1103.8672
127.23	1133.7145
129.76	1121.3802
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133.02	1118.9244
133.54	1161.3611
135.34	1119.5023
136.00	1114.4492
136.25	1119.9735
136.48	1117.2772
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143.76	1069.0262
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144.24	1002.5046
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153.22	1021.2387
154.21	1000.5626
154.21	1000.5626
154.21	1000.5626
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156.02	1088.1482
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161.27	1017.8672
162.32	1014.4761
162.64	1026.5601
163.35	987.1695
163.89	951.2046
165.85	967.9670
167.43	961.5862
171.28	955.2980
171.86	942.0386
172.10	942.3156
176.55	939.9241
176.60	939.9861
181.06	935.8315
184.41	937.9263
185.71	912.0873
186.00	912.3935
190.27	835.7707
192.34	890.5353
193.63	887.4412
197.04	909.6585
198.01	876.3530
198.60	859.2094
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201.83	888.4174
202.84	879.3975
205.31	838.2745

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208.81	807.8710
209.75	838.9559
209.75	838.9559
210.97	848.4697
215.65	794.0410
216.55	797.0509
218.09	827.7444
222.10	797.1268
223.80	815.5817
226.40	810.9120
227.00	779.4499
227.08	786.3602
227.20	786.4584
228.16	766.6563
228.18	766.6699
228.18	766.6699
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236.00	770.3735
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238.63	705.4059
238.63	705.4059
238.63	705.4059
239.00	705.6608
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241.98	707.7119
241.98	707.7119
241.98	707.7119
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247.94	606.6941
248.90	584.1586
249.79	582.9025
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252.85	587.0420
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256.20	587.4676
256.20	587.4676
260.50	637.8963
260.90	638.1276
262.80	633.5701
264.65	591.5629
268.24	599.6577
268.79	601.3809
269.46	571.7970
269.46	571.7970
269.46	571.7970
269.46	571.7970
271.23	528.4243
273.65	529.5625
276.40	536.9940
277.35	537.4417
277.60	537.5605
277.60	537.5605
278.00	541.6430
278.60	546.2407
279.20	558.0342
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280.46	512.5757
281.68	530.4105
283.67	525.1818
284.30	545.3382
285.00	571.8597
285.90	551.5094
286.10	545.2726
286.10	545.2726
287.40	519.6270
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290.67	566.4617
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291.72	553.8732
293.26	0.0000
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295.21	533.6309

295.21	533.6309
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297.23	518.4681
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300.09	503.5955
300.09	503.5955
300.09	503.5955
300.12	503.6039
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303.91	494.8947
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304.40	478.9319
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308.46	506.6788
311.98	460.9979
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323.87	478.9687
323.87	478.9687
323.87	478.9687
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334.20	486.9371
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338.28	446.9498
338.28	446.9498
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338.32	446.9643
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340.57	462.4590
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351.92	426.7402
351.92	426.7402
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366.43	415.8237
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367.94	0.0000
369.80	421.6434
374.96	398.9615
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387.95	383.9870
388.63	386.1159
391.69	373.2040
391.69	373.2040
392.90	370.5653
398.62	364.1171
400.65	387.2732
401.10	428.7872
401.81	437.8687
402.60	439.0790
404.84	409.4932
410.95	369.8590
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413.65	380.0485
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415.30	361.5819

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427.89	348.0219
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433.93	335.0445
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443.98	363.6727
444.90	347.6633
445.03	347.6895
445.03	347.6895
445.03	347.6895
445.03	347.6895
453.90	323.0705
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468.07	331.6324
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475.06	323.0153
475.35	309.6497
476.78	330.5664
477.59	329.6891
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513.99	256.5519
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555.20	279.2581
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569.32	308.4323
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574.00	273.2367
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602.71	290.0010
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609.31	309.0133
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661.65	282.3221
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666.33	307.4760
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692.80	260.4484
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696.49	225.8384
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698.50	274.9297
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722.78	254.7819
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723.30	267.2663
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727.18	237.1948
733.00	238.7014
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911.07	189.2261
911.07	189.2261
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969.11	189.9053
969.11	189.9053
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1099.22	195.6617
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1291.56	152.3549
1298.22	0.0000
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1325.50	115.9731
1332.49	107.6798
1333.61	88.8135
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1368.53	0.0000
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1384.27	90.5797
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1395.20	81.5483
1407.95	71.2148
1434.06	59.0714
1436.60	57.1683
1457.56	0.0000
1460.81	56.5226
1489.15	71.6099
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1596.49	75.3601
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1678.03	0.0000
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1750.46	0.0000
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1764.49	32.2576
1764.49	32.2576
1764.49	32.2576
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1771.40	30.3666
1791.20	0.0000
1808.65	31.4893

1836.01

27.4367

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808001

Total Uranium Activity	7.2764E+01	ug/g
Total Uranium Counting Unc.	1.5354E+01	ug/g
Total Uranium Tpu	7.8338E-06	ug/g
Total Uranium Mda	2.9608E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G245808001
*  ANALYST       : RXF2            DETECTOR    : GAM04
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 06:00:00.00
*  ANALYSIS DATE: 11-FEB-2010 22:26:17.17  SAMPLE ALQT: 149.809 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.285E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.322E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.037E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.496E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 04:27:40.32

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808002.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:26:46
Sample ID          : G245808002      Sample quantity   : 1.36574E+02 GRAM
Detector name      : GAM17           Detector geometry: CAN
Elapsed live time  : 0 06:00:00.00   Elapsed real time: 0 06:00:30.99 0.1%
Energy tolerance   : 1.50000 keV     Analyst Initials  : RXF2
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 947554          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	46.63*	239	1838	0.83	92.89	90	7	1.11E-02	32.2	
2	0	63.28*	7390	3459	0.95	126.21	121	9	3.42E-01	1.9	
3	3	72.95	215	1579	1.04	145.55	143	15	9.95E-03	26.5	9.18E-01
4	3	74.84*	1788	2290	0.92	149.32	143	15	8.28E-02	5.0	
5	3	77.11*	2735	2201	0.94	153.86	143	15	1.27E-01	3.4	
6	9	84.03*	869	2259	1.53	167.71	164	29	4.02E-02	9.4	5.43E+00
7	9	87.20	1024	2137	1.19	174.05	164	29	4.74E-02	7.9	
8	9	89.99	938	2288	1.28	179.64	164	29	4.34E-02	9.6	
9	9	92.61*	10959	1433	1.08	184.87	164	29	5.07E-01	1.1	
10	9	94.36	511	1408	1.24	188.38	164	29	2.37E-02	22.1	
11	0	98.67	658	1524	1.17	197.01	193	8	3.05E-02	11.0	
12	0	105.32	295	1315	1.49	210.31	207	8	1.37E-02	22.1	
13	0	112.97	333	1298	0.90	225.61	222	6	1.54E-02	18.0	
14	0	128.50	219	1379	0.88	256.69	253	9	1.01E-02	31.2	
15	0	143.71*	359	1163	0.90	287.12	283	8	1.66E-02	18.0	
16	0	163.02	192	939	1.03	325.74	323	8	8.90E-03	28.5	
17	0	185.74*	1996	1146	1.07	371.21	366	11	9.24E-02	4.2	
18	0	205.40*	170	776	0.75	410.54	407	8	7.86E-03	30.5	
19	0	209.23	294	753	1.03	418.21	415	8	1.36E-02	17.2	
20	4	238.57*	3193	477	1.01	476.91	470	21	1.48E-01	2.2	1.82E+00
21	4	241.64	776	708	1.66	483.06	470	21	3.59E-02	8.4	
22	0	258.23	165	775	2.32	516.25	511	12	7.63E-03	34.6	
23	0	270.40	336	798	1.54	540.59	535	13	1.56E-02	18.3	
24	0	277.29	94	377	1.04	554.38	552	6	4.34E-03	34.3	
25	0	295.05*	916	455	1.16	589.92	585	9	4.24E-02	5.5	
26	0	299.88	211	547	0.73	599.58	595	10	9.77E-03	21.9	
27	0	327.80	171	375	1.15	655.44	652	8	7.91E-03	21.0	
28	0	338.12*	636	537	1.07	676.10	670	12	2.94E-02	8.5	
29	0	351.76*	1553	495	1.19	703.40	699	11	7.19E-02	3.9	
30	0	409.46	113	349	2.38	818.85	814	10	5.23E-03	32.3	
31	0	462.63	137	314	1.10	925.23	921	10	6.36E-03	25.7	
32	0	510.94*	314	525	1.73	1021.91	1014	18	1.46E-02	20.1	
33	0	582.84*	921	267	1.30	1165.78	1161	11	4.26E-02	4.9	
34	0	609.04*	1076	375	1.44	1218.20	1211	15	4.98E-02	5.2	
35	0	661.11*	29	215	1.09	1322.41	1318	9	1.35E-03	97.0	
36	0	683.76	39	148	1.25	1367.74	1365	8	1.79E-03	56.6	
37	0	726.74	294	148	1.11	1453.74	1448	11	1.36E-02	9.9	
38	0	742.59	72	163	2.08	1485.47	1481	10	3.33E-03	35.4	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	3	765.88	179	179	1.50	1532.09	1527	14	8.27E-03	15.7	1.57E+00
40	3	768.18	91	138	1.41	1536.68	1527	14	4.23E-03	28.4	
41	0	785.73	83	184	1.63	1571.80	1566	12	3.86E-03	34.4	
42	0	794.43	134	189	1.60	1589.22	1585	11	6.23E-03	21.5	
43	0	860.27	154	164	1.64	1720.98	1714	15	7.11E-03	19.9	
44	0	910.72*	537	247	1.43	1821.94	1814	15	2.49E-02	7.9	
45	2	963.93	140	129	1.93	1928.43	1922	21	6.47E-03	18.0	1.97E+00
46	2	968.46*	361	100	1.82	1937.50	1922	21	1.67E-02	7.9	
47	0	1000.32	370	199	1.81	2001.27	1994	17	1.72E-02	10.1	
48	0	1119.13	225	230	1.65	2239.06	2232	16	1.04E-02	16.4	
49	0	1153.85	76	160	1.60	2308.56	2300	15	3.50E-03	38.4	
50	0	1236.94	131	198	1.11	2474.86	2468	14	6.08E-03	24.4	
51	0	1377.20	60	51	1.94	2755.62	2748	12	2.79E-03	27.0	
52	0	1459.83*	2763	55	2.08	2921.03	2911	20	1.28E-01	2.0	
53	0	1508.44	27	33	1.47	3018.32	3014	9	1.25E-03	43.1	
54	0	1588.95	55	90	5.60	3179.49	3170	20	2.55E-03	44.4	
55	0	1620.17	17	35	1.42	3242.00	3235	10	7.95E-04	68.8	
56	0	1763.61*	164	26	2.01	3529.16	3522	16	7.61E-03	11.1	
57	0	1846.61	24	15	1.28	3695.33	3690	10	1.11E-03	36.4	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808002.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:26:46
Sample ID         : G245808002 Sample quantity : 136.57 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA17 Detector geometry: CAN
Elapsed live time : 0 06:00:00.00 Elapsed real time: 0 06:00:30.99 0.1%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type   : Empirical Efficiencies at : Peak Energy
Abundance limit   : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.048E+01	2.977E+00	3.821E-01	3.392E-02	79.777
NB-95	+	765.79	*	1.409E-01	4.605E-02	5.277E-02	4.609E-03	2.670
CD-109	+	88.03	*	3.871E+00	7.158E-01	7.337E-01	7.163E-02	5.275
SN-126	+	64.28		1.041E+01	1.708E+00	2.799E-01	4.468E-02	37.184
	+	86.94		1.578E+00	7.020E-01	2.982E-01	1.241E-01	5.293
	+	87.57	*	3.797E-01	7.021E-02	7.186E-02	7.013E-03	5.283
BA-137M	+	661.65	*	1.852E-02	3.598E-02	4.762E-02	4.012E-03	0.389
CS-137	+	661.65	*	1.958E-02	3.803E-02	5.034E-02	4.249E-03	0.389
EU-155		48.70		-2.059E-01	3.716E-01	5.675E-01	5.700E-02	-0.363
		60.01		1.382E+00	1.787E+00	2.734E+00	2.750E-01	0.506
	+	86.54		4.575E-01	8.479E-02	8.633E-02	8.487E-03	5.299
	+	105.31	*	2.064E-01	9.368E-02	1.030E-01	1.107E-02	2.003
LU-177	+	112.95		4.242E+00	1.599E+00	2.048E+00	2.277E-01	2.071
	+	208.36	*	3.055E+00	1.085E+00	1.203E+00	1.058E-01	2.539
TL-208	+	277.35		3.539E-01	2.472E-01	3.864E-01	4.920E-02	0.916
	+	510.84		6.487E-01	2.728E-01	1.470E-01	1.796E-02	4.413
	+	583.14	*	5.530E-01	7.552E-02	4.218E-02	3.990E-03	13.111
	+	860.37		9.057E-01	3.709E-01	3.241E-01	3.049E-02	2.794
BI-210	+	46.50	*	8.585E-01	5.611E-01	6.204E-01	6.730E-02	1.384
PB-210	+	46.50	*	8.585E-01	5.611E-01	6.204E-01	6.730E-02	1.384
PO-210	+	46.50	*	8.585E-01	5.600E-01	6.204E-01	6.268E-02	1.384
BI-211	+	72.87		2.278E+00	1.228E+00	2.258E+00	2.208E-01	1.009
	+	351.07	*	3.781E+00	4.601E-01	2.172E-01	2.027E-02	17.406
BI-212	+	727.18	*	1.556E+00	3.464E-01	3.164E-01	3.175E-02	4.919
	+	785.46		2.856E+00	1.982E+00	2.171E+00	1.903E-01	1.315
	+	1620.62		7.988E-01	1.101E+00	1.409E+00	1.214E-01	0.567
PB-212	+	74.81		2.253E+00	3.778E-01	2.689E-01	3.635E-02	8.376
	+	77.11		2.053E+00	2.443E-01	1.606E-01	1.566E-02	12.783
	+	87.30		1.756E+00	3.692E-01	3.321E-01	4.640E-02	5.287
	+	238.63	*	1.630E+00	1.791E-01	5.568E-02	5.613E-03	29.283
	+	300.09		1.697E+00	7.662E-01	7.353E-01	8.007E-02	2.308
PO-212	+	74.81		2.253E+00	3.778E-01	2.689E-01	3.635E-02	8.376
	+	77.11		2.053E+00	2.443E-01	1.606E-01	1.566E-02	12.783
	+	87.30		1.756E+00	3.692E-01	3.321E-01	4.640E-02	5.287

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		115.19		2.798E+00	2.526E+00	3.839E+00	4.322E-01	0.729
	+	238.63	*	1.630E+00	1.791E-01	5.568E-02	5.613E-03	29.283
	+	300.09		1.697E+00	7.662E-01	7.353E-01	8.007E-02	2.308
BI-214	+	609.31	*	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
	+	1120.29		1.397E+00	4.826E-01	3.610E-01	3.859E-02	3.871
	+	1764.49		1.419E+00	3.365E-01	2.028E-01	1.715E-02	6.995
PB-214	+	74.81		3.882E+00	6.122E-01	4.634E-01	5.678E-02	8.376
	+	77.11		3.519E+00	4.973E-01	2.753E-01	3.406E-02	12.783
	+	87.30		3.008E+00	6.027E-01	5.689E-01	7.074E-02	5.287
	+	241.98		2.382E+00	4.720E-01	3.357E-01	3.574E-02	7.097
	+	295.21		1.290E+00	2.023E-01	1.355E-01	1.505E-02	9.521
	+	351.92	*	1.315E+00	1.741E-01	7.431E-02	7.941E-03	17.697
PO-214	+	74.81		3.882E+00	6.122E-01	4.634E-01	5.678E-02	8.376
	+	77.11		3.519E+00	4.973E-01	2.753E-01	3.406E-02	12.783
	+	87.30		3.008E+00	6.027E-01	5.689E-01	7.074E-02	5.287
	+	241.98		2.382E+00	4.720E-01	3.357E-01	3.574E-02	7.097
	+	295.21		1.290E+00	2.023E-01	1.355E-01	1.505E-02	9.521
	+	351.92	*	1.315E+00	1.741E-01	7.431E-02	7.941E-03	17.697
PO-216	+	74.81		2.253E+00	3.778E-01	2.689E-01	3.635E-02	8.376
	+	77.11		2.053E+00	2.443E-01	1.606E-01	1.566E-02	12.783
	+	87.30		1.756E+00	3.692E-01	3.321E-01	4.640E-02	5.287
	+	238.63	*	1.630E+00	1.791E-01	5.568E-02	5.613E-03	29.283
	+	300.09		1.697E+00	7.662E-01	7.353E-01	8.007E-02	2.308
PO-218	+	74.81		3.882E+00	6.122E-01	4.634E-01	5.678E-02	8.376
	+	77.11		3.519E+00	4.973E-01	2.753E-01	3.406E-02	12.783
	+	87.30		3.008E+00	6.027E-01	5.689E-01	7.074E-02	5.287
	+	241.98		2.382E+00	4.720E-01	3.357E-01	3.574E-02	7.097
	+	295.21		1.290E+00	2.023E-01	1.355E-01	1.505E-02	9.521
	+	351.92	*	1.315E+00	1.741E-01	7.431E-02	7.941E-03	17.697
RA-224	+	240.98	*	4.517E+00	8.583E-01	6.342E-01	5.735E-02	7.123
RA-226	+	609.31	*	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
	+	1120.29		1.397E+00	4.826E-01	3.610E-01	3.859E-02	3.871
	+	1764.49		1.419E+00	3.365E-01	2.028E-01	1.715E-02	6.995
AC-228	+	338.32		1.697E+00	7.582E-01	2.384E-01	9.856E-02	7.117
	+	911.07	*	1.504E+00	2.920E-01	1.563E-01	1.773E-02	9.621
	+	969.11		1.787E+00	5.041E-01	2.788E-01	6.517E-02	6.411
RA-228	+	338.32		1.697E+00	7.582E-01	2.384E-01	9.856E-02	7.117
	+	911.07	*	1.504E+00	2.920E-01	1.563E-01	1.773E-02	9.621
	+	969.11		1.787E+00	5.041E-01	2.788E-01	6.517E-02	6.411
TH-228	+	74.81		2.290E+00	3.199E-01	2.734E-01	2.686E-02	8.376
	+	77.11		2.087E+00	2.484E-01	1.633E-01	1.592E-02	12.783
	+	87.30		1.785E+00	3.301E-01	3.376E-01	3.294E-02	5.287
	+	238.63	*	1.658E+00	1.820E-01	5.660E-02	5.707E-03	29.283
	+	300.09		1.725E+00	1.273E+00	7.475E-01	4.437E-01	2.308
TH-229	+	85.43		7.183E-01	1.520E-01	1.601E-01	1.561E-02	4.485
	+	88.47		5.183E-01	9.586E-02	9.839E-02	9.625E-03	5.268
	+	100.00		7.490E-01	1.817E-01	1.659E-01	1.718E-02	4.516
	+	193.63	*	-6.187E-02	3.182E-01	5.106E-01	4.416E-02	-0.121
		210.97		8.890E-01	5.320E-01	8.012E-01	7.066E-02	1.110

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230	+	609.31	*	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
	+	1120.29		1.397E+00	4.826E-01	3.610E-01	3.859E-02	3.871
	+	1764.49		1.419E+00	3.365E-01	2.028E-01	1.715E-02	6.995
TH-232	+	338.32		1.697E+00	3.258E-01	2.384E-01	2.148E-02	7.117
	+	911.07	*	1.504E+00	2.920E-01	1.563E-01	1.773E-02	9.621
	+	969.11		1.787E+00	5.041E-01	2.788E-01	6.517E-02	6.411
PA-234M	+	766.42		3.673E+01	2.194E+01	1.377E+01	6.989E+00	2.668
	+	1001.03	*	3.731E+01	8.416E+00	5.454E+00	5.473E-01	6.841
TH-234	+	63.29	*	2.629E+01	5.006E+00	7.489E-01	1.398E-01	35.109
	+	92.38		2.813E+01	5.319E+00	4.991E-01	9.365E-02	56.368
U-234	+	609.31	*	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
	+	1120.29		1.397E+00	4.826E-01	3.610E-01	3.859E-02	3.871
	+	1764.49		1.419E+00	3.365E-01	2.028E-01	1.715E-02	6.995
U-235	+	89.95		4.796E+00	1.756E+00	9.922E-01	3.098E-01	4.834
	+	93.35		3.382E+01	9.661E+00	6.020E-01	1.715E-01	56.184
	+	105.00		2.021E+00	1.084E+00	1.008E+00	3.073E-01	2.005
	+	143.76	*	5.606E-01	2.265E-01	2.193E-01	4.021E-02	2.556
	+	163.35		7.185E-01	4.324E-01	4.912E-01	9.361E-02	1.463
	+	185.71		7.039E-01	8.397E-02	4.267E-02	3.654E-03	16.496
	+	205.31		7.367E-01	4.713E-01	5.134E-01	9.829E-02	1.435
NP-237	+	86.50	*	1.115E+00	3.089E-01	2.104E-01	4.801E-02	5.300
	+	95.87		2.063E+00	8.873E-01	9.549E-01	2.407E-01	2.161
U-238	+	63.29	*	2.629E+01	5.006E+00	7.489E-01	1.398E-01	35.109
	+	92.38		2.813E+01	2.880E+00	4.991E-01	4.975E-02	56.368
AM-243	+	74.67	*	3.652E-01	5.086E-02	4.359E-02	4.256E-03	8.378
	+	86.72		4.181E+01	7.731E+00	7.893E+00	7.699E-01	5.296
		117.66		-1.783E+00	2.383E+00	3.867E+00	4.415E-01	-0.461
		142.18		2.044E+01	1.316E+01	1.994E+01	2.057E+00	1.025
ANH-511	+	511.00	*	1.401E-01	5.776E-02	3.176E-02	2.837E-03	4.411

---- 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	*	-2.700E-02	2.194E-01	3.575E-01	3.402E-02	-0.076
NA-22		1274.54	*	-3.094E-02	3.505E-02	5.204E-02	4.384E-03	-0.595
NA-24		1368.53	*	2.206E+00	3.505E-02	Half-Life too short		
AL-26		1129.67		-3.632E-01	1.376E+00	2.199E+00	1.837E-01	-0.165
		1808.65	*	5.775E-03	1.845E-02	3.153E-02	2.643E-03	0.183
TI-44		67.85		6.177E-03	1.801E-02	3.066E-02	3.019E-03	0.201
	+	78.38	*	3.789E-01	4.509E-02	3.870E-02	3.771E-03	9.790
SC-46		889.25	*	8.499E-03	2.781E-02	4.687E-02	4.103E-03	0.181
	+	1120.51		2.420E-01	8.202E-02	9.641E-02	8.090E-03	2.510
V-48		944.10		-3.848E-01	7.255E-01	1.156E+00	1.012E-01	-0.333
		983.50	*	-9.251E-04	5.817E-02	9.542E-02	8.323E-03	-0.010
		1312.09		-1.203E-02	6.179E-02	1.023E-01	8.680E-03	-0.118
CR-51		320.08	*	-1.482E-01	2.403E-01	3.950E-01	3.773E-02	-0.375
MN-52		744.21		2.236E-01	2.425E-01	3.753E-01	3.262E-02	0.596
		848.13		-4.500E+00	5.570E+00	8.779E+00	7.717E-01	-0.513

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		935.52		9.263E-02	2.270E-01	3.826E-01	3.348E-02	0.242
		1246.25		-4.749E+00	6.756E+00	1.038E+01	8.668E-01	-0.458
		1333.61		-2.867E-01	4.300E+00	7.169E+00	6.111E-01	-0.040
		1434.06	*	7.436E-02	1.897E-01	3.268E-01	2.817E-02	0.228
MN-54		834.83	*	6.216E-03	2.909E-02	4.887E-02	4.297E-03	0.127
CO-56		846.75	*	-7.610E-03	2.785E-02	4.553E-02	4.002E-03	-0.167
		977.42		-1.003E-01	2.305E+00	3.777E+00	3.297E-01	-0.027
		1037.82		-1.363E-01	2.313E-01	3.631E-01	3.302E-02	-0.375
		1175.09		-1.839E-01	1.794E+00	2.884E+00	2.358E-01	-0.064
	+	1238.25		2.323E-01	1.150E-01	1.333E-01	1.145E-02	1.743
		1360.21		7.965E-02	6.843E-01	1.155E+00	9.886E-02	0.069
		1771.40		1.269E-02	1.569E-01	2.239E-01	1.891E-02	0.057
CO-57		122.06	*	5.294E-03	1.563E-02	2.602E-02	3.048E-03	0.203
		136.48		-3.723E-02	1.316E-01	2.148E-01	2.418E-02	-0.173
CO-58		810.76	*	-7.720E-03	2.949E-02	4.846E-02	4.267E-03	-0.159
FE-59	+	142.65		7.391E+00	2.766E+00	3.310E+00	3.402E-01	2.233
		192.34		4.031E-01	5.980E-01	9.802E-01	1.317E-01	0.411
		1099.22	*	3.026E-02	7.361E-02	1.226E-01	1.125E-02	0.247
		1291.56		4.691E-02	9.200E-02	1.531E-01	1.475E-02	0.306
CO-60		1173.22		4.301E-02	3.526E-02	6.079E-02	4.965E-03	0.708
		1332.49	*	-1.674E-02	2.867E-02	4.595E-02	3.916E-03	-0.364
ZN-65		1115.52	*	3.069E-02	7.526E-02	1.093E-01	9.206E-03	0.281
GE-68		1077.35	*	6.283E-01	9.581E-01	1.621E+00	1.384E-01	0.388
AS-73		53.44	*	1.695E-01	1.921E-01	3.209E-01	3.210E-02	0.528
AS-74		595.88	*	4.656E-02	7.171E-02	1.192E-01	1.050E-02	0.391
		634.78		1.066E-01	2.746E-01	4.497E-01	3.873E-02	0.237
SE-75		66.05		-2.514E+00	1.955E+00	2.877E+00	3.309E-01	-0.874
		96.73		1.182E+00	6.217E-01	7.691E-01	1.128E-01	1.537
		121.11		-8.872E-02	8.535E-02	1.363E-01	1.865E-02	-0.651
		136.00		-2.907E-03	2.483E-02	4.072E-02	4.403E-03	-0.071
		198.60		-2.074E-01	1.220E+00	1.843E+00	1.775E-01	-0.113
		264.65	*	-6.547E-03	3.214E-02	4.473E-02	4.109E-03	-0.146
		279.53		5.339E-02	7.516E-02	1.157E-01	1.098E-02	0.461
		303.91		4.783E-01	1.392E+00	2.106E+00	2.505E-01	0.227
		400.65		-6.944E-02	1.682E-01	2.742E-01	3.018E-02	-0.253
BR-77	+	87.88		1.256E+03	2.322E+02	2.946E+02	2.875E+01	4.263
		200.40		-1.083E+02	1.648E+02	2.467E+02	2.151E+01	-0.439
	+	239.00		3.940E+02	3.950E+01	3.607E+01	3.258E+00	10.923
		249.79		-1.376E+01	6.270E+01	9.882E+01	8.983E+00	-0.139
		281.68		1.217E+01	8.919E+01	1.413E+02	1.298E+01	0.086
		297.23		1.632E+02	7.724E+01	9.499E+01	8.720E+00	1.718
		303.76		6.082E+01	1.770E+02	2.678E+02	2.456E+01	0.227
		439.47		-2.034E+01	1.432E+02	2.347E+02	2.045E+01	-0.087
		484.57		-1.855E+02	2.235E+02	3.500E+02	3.110E+01	-0.530
		520.65	*	-1.480E+00	1.103E+01	1.785E+01	1.595E+00	-0.083
		574.64		-1.079E+02	2.240E+02	3.532E+02	3.136E+01	-0.306
		578.91		7.264E+00	1.025E+02	1.455E+02	1.290E+01	0.050
		585.48		7.233E+02	2.381E+02	3.804E+02	3.366E+01	1.901
		755.35		1.313E+01	1.893E+02	3.182E+02	2.773E+01	0.041

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-82		817.79		1.432E+02	1.513E+02	2.636E+02	2.317E+01	0.543
		698.33		2.098E+00	2.696E+01	4.558E+01	3.903E+00	0.046
		776.49	*	-3.776E-01	2.958E-01	4.592E-01	4.019E-02	-0.822
RB-83		1395.20		1.287E+00	7.784E+00	1.317E+01	1.132E+00	0.098
		520.41	*	-1.090E-02	4.879E-02	7.864E-02	7.028E-03	-0.139
		529.64		-5.287E-02	7.681E-02	1.206E-01	1.078E-02	-0.438
RB-84		552.65		-1.461E-02	1.393E-01	2.247E-01	2.005E-02	-0.065
		881.50	*	6.753E-02	5.699E-02	9.972E-02	8.740E-03	0.677
KR-85		513.99	*	1.158E+01	5.538E+00	8.746E+00	7.813E-01	1.324
SR-85		513.99	*	6.027E-02	2.882E-02	4.551E-02	4.066E-03	1.324
RB-86		1076.63	*	6.464E-01	6.359E-01	1.096E+00	9.359E-02	0.590
Y-88		898.02		-7.564E-03	3.254E-02	5.060E-02	4.444E-03	-0.150
ZR-88		1836.01	*	-4.046E-03	2.655E-02	4.246E-02	3.541E-03	-0.095
		392.90	*	-3.008E-03	2.051E-02	3.388E-02	2.854E-03	-0.089
Y-91		1204.90	*	-3.733E+00	1.593E+01	2.538E+01	2.094E+00	-0.147
NB-94		702.63	*	6.002E-03	2.508E-02	4.268E-02	3.661E-03	0.141
NB-95M		871.10		1.918E-02	2.505E-02	4.323E-02	3.794E-03	0.444
		235.69	*	-3.439E-03	8.804E-02	1.247E-01	1.273E-02	-0.028
ZR-95		724.18		3.655E-02	8.021E-02	1.207E-01	1.133E-02	0.303
NB-97		756.15	*	3.791E-04	5.388E-02	9.032E-02	8.654E-03	0.004
		657.90	*	-3.060E-02	5.388E-02	Half-Life	too short	
ZR-97		1024.50		-1.007E+01	5.388E-02	Half-Life	too short	
		254.15		-1.907E+00	5.388E-02	Half-Life	too short	
		355.39		-3.726E+00	5.388E-02	Half-Life	too short	
		507.63	*	1.106E+01	5.388E-02	Half-Life	too short	
		602.52		-1.234E+00	5.388E-02	Half-Life	too short	
		1021.30		-6.793E+00	5.388E-02	Half-Life	too short	
		1147.95		-3.595E+00	5.388E-02	Half-Life	too short	
		1362.66		-1.408E+01	5.388E-02	Half-Life	too short	
MO-99		1750.46		-2.923E+00	5.388E-02	Half-Life	too short	
		140.51		7.185E+00	2.703E+01	3.879E+01	1.098E+01	0.185
		181.06		-7.368E+00	1.720E+01	2.437E+01	4.445E+00	-0.302
		366.43		2.887E+01	7.825E+01	1.323E+02	1.158E+01	0.218
		739.58	*	1.808E+00	1.341E+01	1.979E+01	3.011E+00	0.091
		778.00		-5.372E+01	3.729E+01	5.533E+01	4.844E+00	-0.971
TC-99M		140.51	*	3.469E+11	3.729E+01	Half-Life	too short	
RH-101	+	127.23		5.050E-02	3.199E-02	3.245E-02	3.690E-03	1.556
		198.01	*	6.725E-03	2.205E-02	3.374E-02	2.933E-03	0.199
		325.23		1.331E-02	1.571E-01	2.338E-01	2.125E-02	0.057
RH-102		418.52		1.477E-01	1.846E-01	3.148E-01	2.706E-02	0.469
		475.06	*	-1.826E-02	1.938E-02	3.025E-02	2.679E-03	-0.604
		631.29		-2.654E-02	3.916E-02	6.039E-02	5.214E-03	-0.439
		697.49		-3.617E-02	5.789E-02	9.475E-02	8.112E-03	-0.382
	+	766.84		3.495E-01	1.142E-01	1.919E-01	1.676E-02	1.821
		1046.59		5.193E-02	8.546E-02	1.447E-01	1.246E-02	0.359
		1112.84		-1.233E-01	1.965E-01	2.597E-01	2.187E-02	-0.475
RU-103		497.08	*	2.916E-03	2.947E-02	4.838E-02	6.938E-03	0.060
RH-106	+	610.33		1.357E+01	2.670E+00	2.053E+00	3.438E-01	6.611
	+	511.85		7.017E-01	2.892E-01	2.884E-01	2.576E-02	2.433

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RU-106	+	621.84	*	6.428E-03	2.386E-01	3.843E-01	5.150E-02	0.017
		1050.47		1.810E-01	1.713E+00	2.816E+00	2.424E-01	0.064
		511.85		7.017E-01	2.892E-01	2.884E-01	2.576E-02	2.433
		621.84	*	6.428E-03	2.386E-01	3.843E-01	3.338E-02	0.017
AG-108M		1050.47		1.810E-01	1.713E+00	2.816E+00	2.424E-01	0.064
		433.93	*	1.780E-02	2.199E-02	3.741E-02	3.376E-03	0.476
		614.37		-1.532E-02	3.120E-02	4.219E-02	3.823E-03	-0.363
		722.95		-2.130E-02	3.309E-02	4.615E-02	4.142E-03	-0.461
AG-110M		657.75	*	-1.250E-02	2.853E-02	3.841E-02	3.347E-03	-0.325
		677.61		3.037E-01	2.230E-01	3.807E-01	3.326E-02	0.798
		706.67		5.433E-02	1.529E-01	2.614E-01	2.308E-02	0.208
		763.93		3.996E-01	1.565E-01	2.558E-01	2.295E-02	1.562
		884.67		1.506E-04	3.714E-02	6.152E-02	5.557E-03	0.002
		937.48		-1.078E-01	8.537E-02	1.293E-01	1.171E-02	-0.834
		1384.27		1.414E-01	1.114E-01	1.976E-01	1.744E-02	0.716
		171.28		1.062E-01	8.887E-01	1.449E+00	1.216E-01	0.073
IN-111		245.39	*	4.943E-01	1.005E+00	1.453E+00	1.318E-01	0.340
IN-113M		391.69	*	-3.246E-02	2.980E-02	4.719E-02	4.101E-03	-0.688
SN-113		391.69	*	-3.246E-02	2.980E-02	4.719E-02	4.101E-03	-0.688
IN-114M		190.27	*	-4.430E-03	1.270E-01	1.826E-01	1.573E-02	-0.024
CD-115		260.90		-3.511E+01	1.506E+02	2.095E+02	1.915E+01	-0.168
		492.35		1.597E+00	3.971E+01	6.508E+01	5.793E+00	0.025
		527.90	*	3.824E-01	1.217E+01	1.983E+01	1.773E+00	0.019
		156.02		-9.876E-01	1.572E+00	2.522E+00	2.322E-01	-0.392
		158.56	*	-2.193E-02	3.895E-02	5.945E-02	5.344E-03	-0.369
SB-122		563.90	*	1.500E+00	2.120E+00	3.544E+00	3.156E-01	0.423
		692.80		2.309E+01	4.541E+01	7.823E+01	6.685E+00	0.295
		159.00	*	-3.834E+00	4.541E+01	Half-Life too short		
I-123		528.96		-1.513E+03	4.541E+01	Half-Life too short		
TE-123M		159.00	*	-3.245E-03	2.020E-02	2.926E-02	2.633E-03	-0.111
I-124		602.71	*	2.731E-01	6.789E-01	9.814E-01	8.618E-02	0.278
		722.78		-2.973E+00	4.371E+00	6.078E+00	5.251E-01	-0.489
		1325.50		9.413E+00	3.166E+01	5.416E+01	4.609E+00	0.174
		1376.25		6.492E+01	3.550E+01	5.189E+01	4.449E+00	1.251
		1509.49		1.753E+01	1.517E+01	2.560E+01	2.214E+00	0.685
SB-124		1691.02		3.543E+00	3.165E+00	5.882E+00	5.031E-01	0.602
		602.71		1.279E-02	3.178E-02	4.595E-02	4.036E-03	0.278
		645.85		-9.457E-02	3.768E-01	5.956E-01	5.397E-02	-0.159
		709.31		-5.195E-02	2.234E+00	3.483E+00	2.995E-01	-0.015
		713.82		-1.401E-01	1.226E+00	2.051E+00	2.469E-01	-0.068
		722.78		-2.018E-01	2.967E-01	4.125E-01	3.640E-02	-0.489
		968.20	+	1.870E+01	3.373E+00	5.174E+00	4.520E-01	3.613
		1045.16		1.158E+00	1.861E+00	3.154E+00	2.718E-01	0.367
		1325.50		6.823E-01	2.295E+00	3.926E+00	3.341E-01	0.174
		1368.21		1.554E+00	1.293E+00	2.259E+00	3.036E-01	0.688
		1436.60		1.799E+00	2.645E+00	4.655E+00	4.014E-01	0.386
		1691.02	*	5.672E-02	5.069E-02	9.416E-02	8.378E-03	0.602
SB-125		427.89	*	1.526E-02	6.225E-02	1.038E-01	9.157E-03	0.147
	+	463.38		5.441E-01	2.843E-01	3.610E-01	3.422E-02	1.507

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M I-126		600.56		-8.373E-02	1.321E-01	2.059E-01	1.939E-02	-0.407
		635.90		-1.810E-02	1.998E-01	3.191E-01	2.968E-02	-0.057
		109.28	*	1.978E+00	8.287E+00	9.890E+00	1.216E+00	0.200
		388.63		1.054E-01	1.473E-01	2.508E-01	2.122E-02	0.420
		666.33	*	8.846E-02	1.684E-01	2.435E-01	2.056E-02	0.363
		753.82		8.055E-01	1.191E+00	2.057E+00	1.792E-01	0.392
		223.80		-2.725E+00	2.935E+00	4.547E+00	4.058E-01	-0.599
	+	278.60		2.530E+00	1.753E+00	2.915E+00	2.676E-01	0.868
	+	296.50		1.389E+01	1.998E+00	2.338E+00	2.147E-01	5.940
		414.70		-2.526E-02	5.993E-02	8.494E-02	7.283E-03	-0.297
SB-126		415.30		-2.165E+00	4.478E+00	6.996E+00	6.002E-01	-0.309
		555.20		3.602E-01	2.989E+00	4.876E+00	4.350E-01	0.074
		573.80		-5.663E-01	8.048E-01	1.253E+00	1.113E-01	-0.452
		593.00		-3.512E-01	7.620E-01	1.201E+00	1.059E-01	-0.293
		656.30		-2.977E+00	3.018E+00	3.866E+00	3.272E-01	-0.770
		666.33		3.709E-02	7.060E-02	1.021E-01	8.618E-03	0.363
		675.00		1.842E+00	1.543E+00	2.617E+00	2.219E-01	0.704
		695.00		-1.693E-02	6.182E-02	1.029E-01	8.802E-03	-0.164
		697.00		-1.944E-01	2.188E-01	3.532E-01	3.023E-02	-0.550
		720.50	*	-3.770E-02	1.336E-01	1.920E-01	1.657E-02	-0.196
SB-127		856.80		-3.130E-01	4.074E-01	5.472E-01	4.807E-02	-0.572
		989.30		5.121E-02	1.018E+00	1.676E+00	1.461E-01	0.031
		1034.80		1.149E+00	7.037E+00	1.162E+01	1.005E+00	0.099
		1213.00		1.509E+00	4.233E+00	6.957E+00	5.757E-01	0.217
		61.10		2.730E+01	2.765E+01	4.280E+01	5.421E+00	0.638
		252.40		1.830E+00	3.752E+00	5.657E+00	2.390E+00	0.323
		290.80		-5.960E+00	1.838E+01	2.705E+01	3.249E+00	-0.220
		411.60		1.196E+01	1.155E+01	1.754E+01	2.806E+00	0.682
		444.90		3.879E+00	8.306E+00	1.393E+01	1.811E+00	0.278
		473.00		-5.370E-02	1.441E+00	2.359E+00	3.159E-01	-0.023
XE-127		543.00		7.278E+00	1.550E+01	2.567E+01	3.829E+00	0.283
		603.60		-3.990E+00	1.255E+01	1.727E+01	2.245E+00	-0.231
	+	685.20	*	1.260E+00	1.433E+00	2.224E+00	2.609E-01	0.567
		698.50		3.016E+00	1.484E+01	2.522E+01	4.058E+00	0.120
		722.20		-2.547E+01	3.112E+01	4.272E+01	4.955E+00	-0.596
		783.80		5.293E+00	4.082E+00	6.364E+00	8.208E-01	0.832
		57.60		-2.411E+00	1.787E+00	2.962E+00	2.975E-01	-0.814
		145.22		9.730E-01	5.631E-01	8.179E-01	8.245E-02	1.190
		172.10		2.753E-02	7.704E-02	1.263E-01	1.062E-02	0.218
		202.84	*	-1.584E-03	3.393E-02	4.855E-02	4.244E-03	-0.033
I-131		374.96		-1.250E-02	1.344E-01	2.232E-01	1.930E-02	-0.056
		80.18		2.731E+00	3.665E+00	4.512E+00	4.421E-01	0.605
		284.30		-1.148E-01	1.045E+00	1.764E+00	1.697E-01	-0.065
		364.48	*	9.733E-02	8.291E-02	1.436E-01	1.328E-02	0.678
TE-132		636.97		-1.229E+00	1.336E+00	2.031E+00	1.847E-01	-0.605
		722.89		-4.318E+00	6.303E+00	8.761E+00	7.625E-01	-0.493
		49.72		-9.077E-01	4.477E+00	6.892E+00	8.511E-01	-0.132
	+	111.76		8.987E+01	3.449E+01	4.961E+01	6.543E+00	1.811
		116.30		-8.200E-01	2.597E+01	3.851E+01	5.172E+00	-0.021

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133	228.16	*		-5.159E-01	6.132E-01	9.448E-01	1.527E-01	-0.546
	53.15			6.038E-01	8.025E-01	1.339E+00	1.340E-01	0.451
	79.62			2.197E-01	9.080E-01	1.103E+00	1.752E-01	0.199
	81.00			6.549E-03	7.030E-02	8.498E-02	1.403E-02	0.077
	+ 276.40			3.498E-01	2.457E-01	4.103E-01	6.067E-02	0.853
I-133	302.84			-1.776E-02	9.368E-02	1.383E-01	1.888E-02	-0.128
	356.01	*		5.745E-03	3.071E-02	4.562E-02	6.095E-03	0.126
	383.85			-7.213E-02	1.988E-01	3.259E-01	4.088E-02	-0.221
	+ 510.53			4.368E+00	1.988E-01	Half-Life	too short	
	529.87	*		-1.003E-02	1.988E-01	Half-Life	too short	
CS-134	706.58			3.277E-01	1.988E-01	Half-Life	too short	
	856.28			-1.486E+00	1.988E-01	Half-Life	too short	
	875.33			-2.078E-01	1.988E-01	Half-Life	too short	
	+ 1236.41			5.094E+00	1.988E-01	Half-Life	too short	
	1298.22			-7.172E-02	1.988E-01	Half-Life	too short	
I-135	475.35			-1.184E+00	1.270E+00	1.984E+00	1.758E-01	-0.597
	563.23			2.079E-01	2.557E-01	4.295E-01	3.859E-02	0.484
	569.32			4.658E-02	1.425E-01	2.342E-01	2.109E-02	0.199
	604.70			3.773E-04	2.845E-02	4.007E-02	3.523E-03	0.009
	+ 795.84	*		1.210E-01	5.317E-02	7.189E-02	6.352E-03	1.684
CS-135	801.93			-4.306E-01	3.296E-01	4.656E-01	4.110E-02	-0.925
	1038.57			-1.562E+00	2.834E+00	4.461E+00	3.851E-01	-0.350
	1167.94			-4.560E-01	1.967E+00	3.139E+00	2.572E-01	-0.145
	1365.15			-5.784E-01	8.577E-01	1.351E+00	1.210E-01	-0.428
	268.24	*		2.261E-01	1.184E-01	1.772E-01	1.849E-02	1.276
I-135	288.45			7.176E+09	1.184E-01	Half-Life	too short	
	417.63			-3.478E+10	1.184E-01	Half-Life	too short	
	546.56			3.750E+10	1.184E-01	Half-Life	too short	
	836.80			4.896E+11	1.184E-01	Half-Life	too short	
	1038.76			-2.415E+11	1.184E-01	Half-Life	too short	
CS-136	1124.00			1.515E+11	1.184E-01	Half-Life	too short	
	1131.51			1.565E+11	1.184E-01	Half-Life	too short	
	1260.41	*		-7.069E+10	1.184E-01	Half-Life	too short	
	1457.56			3.451E+13	1.184E-01	Half-Life	too short	
	1678.03			1.155E+10	1.184E-01	Half-Life	too short	
I-136	1706.46			-8.104E+11	1.184E-01	Half-Life	too short	
	1791.20			7.692E+10	1.184E-01	Half-Life	too short	
	66.91			-2.903E-01	3.510E-01	5.225E-01	8.446E-02	-0.556
	+ 86.29			5.334E+00	1.110E+00	1.232E+00	1.680E-01	4.329
	153.22			7.110E-01	4.586E-01	7.678E-01	7.968E-02	0.926
CE-139	163.89			1.752E+00	1.014E+00	1.284E+00	1.228E-01	1.365
	176.55			-7.399E-02	2.500E-01	4.021E-01	3.606E-02	-0.184
	273.65			3.215E-01	4.117E-01	4.780E-01	4.641E-02	0.673
	340.57			1.245E-01	9.291E-02	1.448E-01	1.337E-02	0.860
	818.51			2.371E-02	5.976E-02	1.016E-01	8.936E-03	0.233
BA-140	1048.07	*		-3.376E-02	8.858E-02	1.412E-01	1.268E-02	-0.239
	1235.34			6.955E-01	7.103E-01	9.494E-01	1.105E-01	0.733
	165.85	*		5.115E-03	2.079E-02	3.047E-02	2.541E-03	0.168
	+ 162.64			1.237E+00	7.147E-01	9.198E-01	8.399E-02	1.344

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LA-140	+	304.84		2.434E-01	9.112E-01	1.370E+00	3.864E-01	0.178
		423.70		-1.441E+00	1.552E+00	2.202E+00	7.138E-01	-0.654
		537.32	*	-4.865E-03	1.970E-01	3.199E-01	1.063E-01	-0.015
		328.77		6.054E-01	2.609E-01	3.750E-01	3.574E-02	1.614
		432.53		-8.788E-01	1.526E+00	2.455E+00	2.233E-01	-0.358
		487.03		-8.599E-02	9.888E-02	1.545E-01	1.454E-02	-0.557
		751.79		-9.294E-03	1.402E+00	2.349E+00	2.260E-01	-0.004
		815.85		1.098E-01	2.587E-01	4.403E-01	4.300E-02	0.249
		867.82		-2.973E-01	1.217E+00	1.801E+00	1.662E-01	-0.165
		919.63		5.256E-01	2.236E+00	3.740E+00	4.022E-01	0.141
CE-141	+	925.24		6.948E-01	8.974E-01	1.544E+00	1.434E-01	0.450
		1596.49	*	4.756E-02	6.827E-02	1.069E-01	9.229E-03	0.445
		145.44	*	8.779E-02	4.704E-02	7.164E-02	7.307E-03	1.225
CE-143		57.37		-9.412E-04	4.704E-02	Half-Life	too short	
		231.56		-2.267E-03	4.704E-02	Half-Life	too short	
	+	293.26	*	1.090E-03	4.704E-02	Half-Life	too short	
		350.59		6.072E-02	4.704E-02	Half-Life	too short	
		490.36		2.273E-03	4.704E-02	Half-Life	too short	
		664.57		9.493E-04	4.704E-02	Half-Life	too short	
		721.93		-1.731E-03	4.704E-02	Half-Life	too short	
CE-144		80.11		1.114E+00	1.498E+00	1.845E+00	1.797E-01	0.604
		133.54	*	-1.373E-01	1.398E-01	2.107E-01	3.574E-02	-0.652
PM-144		476.78		-3.342E-02	4.549E-02	7.185E-02	6.933E-03	-0.465
		618.01		1.437E-02	2.333E-02	3.867E-02	3.459E-03	0.371
	*	696.49		-2.424E-02	2.617E-02	4.217E-02	3.610E-03	-0.575
		778.57		-1.938E+00	1.812E+00	2.663E+00	2.332E-01	-0.728
		696.49	*	-1.644E+00	1.775E+00	2.860E+00	2.447E-01	-0.575
PR-144	+	1489.15		-2.753E-01	8.037E+00	1.330E+01	1.149E+00	-0.021
		453.90	*	7.719E-03	2.931E-02	4.874E-02	5.291E-03	0.158
PM-146		633.02		6.213E-02	1.005E+00	1.618E+00	6.047E-01	0.038
		735.90		-3.724E-03	1.136E-01	1.800E-01	5.150E-02	-0.021
ND-147	+	747.13		-2.224E-02	7.676E-02	1.096E-01	1.544E-02	-0.203
		91.11		1.316E+00	2.868E-01	5.328E-01	5.611E-02	2.469
		319.41		-1.572E+00	2.218E+00	3.633E+00	3.313E-01	-0.433
		439.89		1.364E+00	4.190E+00	7.003E+00	6.105E-01	0.195
PM-149	*	531.02		1.239E-01	4.276E-01	7.049E-01	1.067E-01	0.176
		285.90	*	-4.196E+01	8.658E+01	1.440E+02	2.285E+01	-0.291
EU-152		121.78		-1.622E-02	4.559E-02	7.468E-02	9.475E-03	-0.217
		244.69		2.147E-01	2.188E-01	3.226E-01	2.924E-02	0.666
	*	344.27		-8.919E-03	6.160E-02	9.922E-02	9.386E-03	-0.090
		443.98		1.540E-01	6.372E-01	1.061E+00	9.266E-02	0.145
		778.89		-1.375E-01	2.157E-01	3.138E-01	2.747E-02	-0.438
		867.32		1.465E-01	6.898E-01	1.010E+00	8.867E-02	0.145
		964.01		7.951E-01	2.953E-01	4.189E-01	3.661E-02	1.898
		1085.78		2.011E-01	3.005E-01	5.089E-01	4.331E-02	0.395
		1112.02		-1.181E-01	2.790E-01	3.766E-01	3.172E-02	-0.314
		1407.95		1.495E-01	1.401E-01	2.507E-01	2.157E-02	0.596
GD-153	+	69.67		1.067E+00	7.661E-01	1.187E+00	1.166E-01	0.899
		83.37		5.649E+01	1.195E+01	1.520E+01	1.480E+00	3.718

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	+	97.43	*	3.112E-01	7.549E-02	8.675E-02	8.868E-03	3.587
		103.18		2.096E-02	7.207E-02	9.946E-02	1.048E-02	0.211
		123.07		1.643E-02	3.182E-02	5.308E-02	7.327E-03	0.310
		247.94		4.523E-02	2.498E-01	3.560E-01	4.210E-02	0.127
		591.81		-2.246E-01	4.672E-01	7.349E-01	8.688E-02	-0.306
		723.30		-8.019E-02	1.388E-01	1.946E-01	1.858E-02	-0.412
		756.87		-6.049E-02	5.746E-01	9.577E-01	1.154E-01	-0.063
		873.19		-1.342E-03	2.219E-01	3.677E-01	4.542E-02	-0.004
		996.32		-9.593E-02	3.172E-01	4.376E-01	7.792E-02	-0.219
		1004.76		2.177E-02	1.825E-01	2.616E-01	3.059E-02	0.083
TB-160		1274.45	*	-5.209E-02	9.566E-02	1.456E-01	1.625E-02	-0.358
	+	86.79		1.238E+00	2.289E-01	2.920E-01	2.848E-02	4.240
		197.04		-7.616E-03	3.829E-01	5.813E-01	5.048E-02	-0.013
		215.65		2.510E-02	4.675E-01	7.510E-01	6.653E-02	0.033
	+	298.57		2.503E-01	1.120E-01	1.331E-01	1.221E-02	1.881
		879.36	*	1.005E-01	1.119E-01	1.935E-01	1.696E-02	0.519
		962.29		5.940E-01	5.108E-01	7.567E-01	6.614E-02	0.785
		966.15		1.079E+00	2.080E-01	3.730E-01	3.260E-02	2.892
		1177.93		-2.294E-01	2.917E-01	4.486E-01	3.670E-02	-0.511
		1271.85		-3.034E-02	5.399E-01	8.641E-01	7.266E-02	-0.035
HO-166M		80.57		1.729E-01	1.911E-01	2.361E-01	2.300E-02	0.732
	+	184.41		5.280E-01	6.298E-02	5.704E-02	4.876E-03	9.256
		280.46		2.359E-02	5.853E-02	8.913E-02	8.184E-03	0.265
	+	410.95		3.650E-01	2.377E-01	2.847E-01	2.434E-02	1.282
		711.68	*	-2.182E-02	4.439E-02	7.292E-02	6.275E-03	-0.299
		752.31		8.531E-02	2.056E-01	3.513E-01	3.059E-02	0.243
		810.29		-1.710E-02	4.385E-02	7.153E-02	6.285E-03	-0.239
	TM-171	51.35		-6.001E+00	5.656E+00	9.476E+00	9.486E-01	-0.633
		52.39		1.464E+00	3.318E+00	5.522E+00	5.525E-01	0.265
		59.40		1.315E+01	9.322E+00	1.433E+01	1.444E+00	0.918
LU-176		66.72	*	-1.047E+01	1.167E+01	1.743E+01	1.721E+00	-0.600
	+	88.36		9.005E-01	1.665E-01	2.096E-01	2.049E-02	4.296
		201.83		-6.466E-03	2.027E-02	2.870E-02	2.506E-03	-0.225
		306.84	*	-6.337E-03	1.498E-02	2.490E-02	2.281E-03	-0.255
		401.10		-3.773E+00	4.418E+00	7.062E+00	5.992E-01	-0.534
	LU-177M	52.97		2.527E-01	3.604E-01	6.013E-01	6.015E-02	0.420
		54.07		2.293E-01	2.051E-01	3.428E-01	3.430E-02	0.669
		61.30		1.623E+00	5.997E-01	9.268E-01	9.282E-02	1.751
		121.62		-1.048E-01	2.346E-01	3.834E-01	4.478E-02	-0.273
		147.16		3.480E-01	4.500E-01	6.738E-01	6.690E-02	0.517
HF-181		171.86		2.010E-01	3.021E-01	4.990E-01	4.193E-02	0.403
		218.09		-2.225E-01	5.462E-01	8.635E-01	7.668E-02	-0.258
		268.79		1.803E+00	6.312E-01	9.632E-01	8.824E-02	1.872
		319.02		-7.516E-02	1.593E-01	2.634E-01	2.402E-02	-0.285
		367.43		-1.241E-01	5.974E-01	9.888E-01	8.643E-02	-0.125
		413.65	*	-5.705E-04	1.276E-01	1.855E-01	1.589E-02	-0.003
		56.28		-3.791E-01	2.563E-01	4.233E-01	4.244E-02	-0.896
		57.53		-2.098E-01	1.493E-01	2.470E-01	2.481E-02	-0.850
		65.20		6.325E-01	3.914E-01	6.088E-01	6.029E-02	1.039

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181		133.02		-2.645E-02	4.822E-02	6.970E-02	7.651E-03	-0.380
		136.25		-5.206E-02	2.937E-01	4.809E-01	5.169E-02	-0.108
		345.85		-6.406E-02	1.249E-01	1.979E-01	1.772E-02	-0.324
		482.03	*	-1.265E-03	2.899E-02	4.740E-02	4.208E-03	-0.027
		56.28		-1.461E-01	9.885E-02	1.633E-01	1.637E-02	-0.894
TA-182		57.53		-8.108E-02	5.761E-02	9.532E-02	9.572E-03	-0.851
		65.20	*	2.422E-01	1.499E-01	2.331E-01	2.308E-02	1.039
		67.75		-2.070E-03	4.532E-02	7.342E-02	7.231E-03	-0.028
	+	100.10		7.280E-01	1.766E-01	1.861E-01	1.929E-02	3.911
		152.43		6.922E-02	2.137E-01	3.520E-01	3.346E-02	0.197
RE-183		222.10		1.294E-01	2.279E-01	3.706E-01	3.303E-02	0.349
	+	1001.68		1.657E+01	3.645E+00	4.503E+00	3.918E-01	3.681
		1121.28		4.905E-01	1.594E-01	2.581E-01	2.165E-02	1.900
		1189.05		4.278E-03	2.541E-01	4.111E-01	3.376E-02	0.010
		1221.42	*	8.926E-02	1.540E-01	2.562E-01	2.125E-02	0.348
RE-184		1230.97		2.780E-01	4.335E-01	6.319E-01	5.256E-02	0.440
		57.98		-3.315E-02	6.265E-02	9.940E-02	9.990E-03	-0.334
		59.32		5.437E-02	3.867E-02	5.944E-02	5.989E-03	0.915
		67.20		-4.241E-02	8.512E-02	1.285E-01	1.267E-02	-0.330
	+	162.32	*	1.700E-01	9.814E-02	1.262E-01	1.093E-02	1.347
OS-185	+	208.81		2.409E+00	8.555E-01	1.150E+00	1.011E-01	2.096
		291.72		-2.420E-01	6.357E-01	9.330E-01	8.569E-02	-0.259
		57.98		-1.212E-01	2.290E-01	3.633E-01	3.651E-02	-0.334
		59.32		1.985E-01	1.412E-01	2.171E-01	2.187E-02	0.915
		67.20		-1.550E-01	3.110E-01	4.696E-01	4.631E-02	-0.330
RE-188		161.27		6.036E-02	2.527E-01	3.708E-01	3.245E-02	0.163
		216.55		5.958E-02	1.648E-01	2.671E-01	2.368E-02	0.223
		252.85	*	9.098E-02	1.632E-01	2.362E-01	2.151E-02	0.385
		318.01		-1.433E-01	2.794E-01	4.615E-01	4.211E-02	-0.311
		792.07		1.393E+00	1.050E+00	1.365E+00	1.197E-01	1.020
W-188		903.28		7.409E-02	8.918E-01	1.287E+00	1.125E-01	0.058
		920.93		-4.120E-01	3.466E-01	5.284E-01	4.624E-02	-0.780
		59.72		1.525E-01	1.053E-01	1.617E-01	1.629E-02	0.943
		61.14		6.890E-02	6.186E-02	9.611E-02	9.631E-03	0.717
		69.30		1.593E-01	1.364E-01	2.113E-01	2.075E-02	0.754
IR-192		592.07		-6.962E-01	1.922E+00	3.044E+00	2.686E-01	-0.229
		646.12	*	-6.776E-03	3.185E-02	5.045E-02	4.308E-03	-0.134
		717.42		7.011E-02	6.913E-01	1.168E+00	1.007E-01	0.060
		874.81		-3.832E-02	4.471E-01	7.373E-01	6.467E-02	-0.052
		880.27		8.987E-01	6.149E-01	1.088E+00	9.541E-02	0.826
W-188		155.03	*	1.318E-01	1.120E-01	1.871E-01	1.739E-02	0.704
		477.96		1.229E+00	2.072E+00	3.484E+00	3.089E-01	0.353
		633.10		1.027E-01	2.056E+00	3.311E+00	2.855E-01	0.031
	+	63.58		1.072E+03	1.140E+02	6.512E+01	6.477E+00	16.456
		227.08		8.078E+00	8.494E+00	1.392E+01	1.246E+00	0.580
IR-192		290.67	*	-1.626E+00	5.013E+00	7.379E+00	6.778E-01	-0.220
	+	295.96		9.966E-01	1.437E-01	1.801E-01	1.664E-02	5.534
		308.46		-5.295E-02	5.973E-02	9.737E-02	8.957E-03	-0.544
		316.51	*	7.750E-03	2.132E-02	3.633E-02	3.324E-03	0.213

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195		468.07		-1.940E-02	5.216E-02	7.329E-02	6.919E-03	-0.265
		604.41		-4.486E-02	3.874E-01	5.407E-01	7.095E-02	-0.083
		612.46		3.090E-01	5.494E-01	8.021E-01	8.023E-02	0.385
		65.12		3.055E-01	7.711E-02	1.167E-01	1.156E-02	2.619
		66.83		-3.582E-02	3.905E-02	5.831E-02	5.753E-03	-0.614
	+	75.70		1.188E+00	1.655E-01	2.160E-01	2.108E-02	5.500
TL-200	+	98.88	*	9.072E-01	2.201E-01	2.682E-01	2.762E-02	3.383
	+	129.76		4.471E+00	2.832E+00	3.232E+00	3.621E-01	1.383
		367.94	*	-3.034E-04	2.832E+00	Half-Life	too short	
		579.30		2.057E-03	2.832E+00	Half-Life	too short	
		828.27		-4.351E-03	2.832E+00	Half-Life	too short	
TL-201		1205.75		6.548E-04	2.832E+00	Half-Life	too short	
		68.90		1.513E+00	2.782E+00	4.540E+00	4.462E-01	0.333
		70.82		3.536E-01	1.780E+00	2.720E+00	2.666E-01	0.130
		80.30		6.191E+00	4.820E+00	6.005E+00	5.849E-01	1.031
		135.34		9.592E+00	2.179E+01	3.618E+01	3.912E+00	0.265
TL-202		167.43	*	1.503E+00	6.688E+00	9.789E+00	8.174E-01	0.153
		68.90		1.071E-01	1.969E-01	3.213E-01	3.158E-02	0.333
		70.82		2.495E-02	1.256E-01	1.920E-01	1.882E-02	0.130
		80.30		4.371E-01	3.403E-01	4.240E-01	4.130E-02	1.031
		439.56	*	-5.142E-03	4.997E-02	8.203E-02	7.149E-03	-0.063
HG-203		70.83		1.019E-01	5.136E-01	7.848E-01	1.129E-01	0.130
	+	72.87		4.627E-01	2.536E-01	4.938E-01	6.906E-02	0.937
	+	82.60		4.271E+00	1.013E+00	1.074E+00	1.554E-01	3.977
		279.20	*	3.056E-02	2.884E-02	4.488E-02	4.224E-03	0.681
BI-207	+	72.80		1.329E-01	7.158E-02	1.408E-01	1.377E-02	0.944
	+	74.97		6.556E-01	9.129E-02	1.081E-01	1.055E-02	6.066
	+	84.90		7.277E-01	1.540E-01	1.925E-01	1.876E-02	3.780
		569.67		1.906E-02	2.203E-02	3.703E-02	3.293E-03	0.515
TL-207		1063.62	*	1.163E-02	4.120E-02	6.832E-02	5.857E-03	0.170
		1770.23		5.721E-02	2.860E-01	4.201E-01	3.548E-02	0.136
		81.07		7.261E-03	1.552E-01	1.873E-01	1.824E-02	0.039
	+	83.78		4.798E-01	1.015E-01	1.309E-01	1.276E-02	3.664
	+	94.90		6.367E-01	2.889E-01	2.635E-01	2.660E-02	2.416
		122.32		5.372E-01	1.083E+00	1.807E+00	2.200E-01	0.297
	+	144.24		1.817E+00	6.844E-01	8.435E-01	9.310E-02	2.154
		154.21		4.388E-01	2.574E-01	4.315E-01	4.383E-02	1.017
	+	269.46		6.213E-01	2.345E-01	2.337E-01	2.180E-02	2.659
	+	323.87	*	3.900E-01	4.667E-01	7.112E-01	1.276E-01	0.548
	+	338.28		7.085E+00	1.496E+00	1.611E+00	2.028E-01	4.399
		445.03		6.761E-01	1.502E+00	2.519E+00	3.067E-01	0.268
PO-209		260.50		3.111E+00	7.187E+00	1.031E+01	9.421E-01	0.302
		262.80		4.840E+00	1.916E+01	2.728E+01	2.494E+00	0.177
		896.60	*	6.061E-01	5.380E+00	8.957E+00	7.832E-01	0.068
PB-211		404.84	*	7.550E-01	8.208E-01	1.038E+00	6.504E-01	0.727
		427.08		2.867E-01	1.397E+00	2.308E+00	1.434E+00	0.124
PO-215		831.96		-9.799E-02	9.250E-01	1.527E+00	9.573E-01	-0.064
		81.07		7.261E-03	1.552E-01	1.873E-01	1.824E-02	0.039
	+	83.78		4.798E-01	1.015E-01	1.309E-01	1.276E-02	3.664

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	94.90		6.367E-01	2.889E-01	2.635E-01	2.660E-02	2.416
		122.32		5.372E-01	1.083E+00	1.807E+00	2.200E-01	0.297
	+	144.24		1.817E+00	6.844E-01	8.435E-01	9.310E-02	2.154
		154.21		4.388E-01	2.574E-01	4.315E-01	4.383E-02	1.017
	+	269.46		6.213E-01	2.345E-01	2.337E-01	2.180E-02	2.659
		323.87	*	3.900E-01	4.667E-01	7.112E-01	1.276E-01	0.548
	+	338.28		7.085E+00	1.496E+00	1.611E+00	2.028E-01	4.399
		445.03		6.761E-01	1.502E+00	2.519E+00	3.067E-01	0.268
RN-219	+	271.23		7.971E-01	3.039E-01	2.901E-01	3.125E-02	2.748
		401.81	*	-2.674E-01	2.732E-01	4.306E-01	6.439E-02	-0.621
RN-220		549.76	*	-9.866E+00	1.859E+01	2.934E+01	2.620E+00	-0.336
RA-223		81.07		7.261E-03	1.552E-01	1.873E-01	1.824E-02	0.039
	+	83.78		4.798E-01	1.015E-01	1.309E-01	1.276E-02	3.664
	+	94.90		6.367E-01	2.889E-01	2.635E-01	2.660E-02	2.416
		122.32		5.372E-01	1.083E+00	1.807E+00	2.200E-01	0.297
	+	144.24		1.817E+00	6.844E-01	8.435E-01	9.310E-02	2.154
		154.21		4.388E-01	2.574E-01	4.315E-01	4.383E-02	1.017
	+	269.46		6.213E-01	2.345E-01	2.337E-01	2.180E-02	2.659
		323.87	*	3.900E-01	4.667E-01	7.112E-01	1.276E-01	0.548
	+	338.28		7.085E+00	1.496E+00	1.611E+00	2.028E-01	4.399
		445.03		6.761E-01	1.502E+00	2.519E+00	3.067E-01	0.268
AC-227		79.80		3.355E-01	1.157E+00	1.406E+00	3.089E-01	0.239
		236.00		1.548E-01	1.652E-01	2.414E-01	3.023E-02	0.641
		256.20	*	1.782E-02	2.724E-01	3.851E-01	6.021E-02	0.046
		286.10		-3.006E-01	9.322E-01	1.562E+00	2.120E-01	-0.193
	+	299.80		3.145E+00	1.487E+00	1.703E+00	3.026E-01	1.847
		304.40		3.257E-01	1.239E+00	1.866E+00	3.489E-01	0.175
		334.20		9.604E-01	1.583E+00	2.394E+00	4.692E-01	0.401
TH-227		79.80		3.355E-01	1.157E+00	1.406E+00	3.127E-01	0.239
	+	94.00		5.094E+00	2.526E+00	3.994E+00	8.938E-01	1.275
		236.00		1.548E-01	1.650E-01	2.414E-01	2.748E-02	0.641
		256.20	*	1.782E-02	2.724E-01	3.851E-01	7.050E-02	0.046
		286.10		-3.006E-01	9.791E-01	1.562E+00	1.568E+00	-0.193
	+	299.80		3.145E+00	1.487E+00	1.703E+00	3.026E-01	1.847
		304.40		3.257E-01	1.239E+00	1.866E+00	3.489E-01	0.175
		334.20		9.604E-01	1.583E+00	2.394E+00	4.692E-01	0.401
PA-231		283.67	*	4.137E-02	9.372E-01	1.590E+00	2.467E-01	0.026
	+	301.29		1.258E+00	5.737E-01	6.500E-01	8.216E-02	1.936
TH-231		81.07		7.261E-03	1.552E-01	1.873E-01	1.824E-02	0.039
	+	83.78		4.798E-01	1.015E-01	1.309E-01	1.276E-02	3.664
	+	94.90		6.367E-01	2.889E-01	2.635E-01	2.660E-02	2.416
		122.32		5.372E-01	1.083E+00	1.807E+00	2.200E-01	0.297
	+	144.24		1.817E+00	6.844E-01	8.435E-01	9.310E-02	2.154
		154.21		4.388E-01	2.574E-01	4.315E-01	4.383E-02	1.017
	+	269.46		6.213E-01	2.345E-01	2.337E-01	2.180E-02	2.659
		323.87	*	3.900E-01	4.667E-01	7.112E-01	1.276E-01	0.548
	+	338.28		7.085E+00	1.496E+00	1.611E+00	2.028E-01	4.399
		445.03		6.761E-01	1.502E+00	2.519E+00	3.067E-01	0.268
U-231	+	84.21		2.604E+01	5.509E+00	7.099E+00	6.918E-01	3.668

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		1.353E+02	1.385E+01	6.431E+00	6.406E-01	21.040
		95.87	*	2.946E+00	1.069E+00	1.364E+00	1.383E-01	2.161
		108.00		-2.932E+00	1.999E+00	2.555E+00	2.763E-01	-1.148
	+	75.28		1.913E+01	3.605E+00	3.262E+00	5.225E-01	5.864
	+	86.59		7.432E+00	2.335E+00	1.752E+00	4.766E-01	4.242
	+	300.12		8.769E-01	4.067E-01	4.730E-01	7.190E-02	1.854
		311.98	*	2.773E-02	4.026E-02	6.923E-02	6.493E-03	0.401
		340.50		7.404E-01	4.570E-01	6.721E-01	1.611E-01	1.102
		398.62		7.981E-01	1.396E+00	2.340E+00	6.220E-01	0.341
		415.76		-6.786E-01	1.072E+00	1.711E+00	3.685E-01	-0.397
PA-234	+	63.00		3.065E+01	5.120E+00	1.878E+00	3.058E-01	16.320
	+	94.67		4.542E-01	2.100E-01	2.193E-01	2.952E-02	2.071
	+	98.44		3.656E-01	2.202E-01	1.080E-01	6.057E-02	3.385
	+	99.86		1.895E+00	4.598E-01	5.065E-01	5.244E-02	3.742
		111.00		8.386E-02	1.365E-01	2.057E-01	2.856E-02	0.408
		131.20		4.026E-02	7.521E-02	1.125E-01	1.249E-02	0.358
		152.70		1.272E-01	2.085E-01	3.441E-01	6.021E-02	0.370
	+	186.00		1.901E+01	6.136E+00	2.332E+00	7.275E-01	8.150
		226.40		2.914E-01	2.668E-01	4.361E-01	5.851E-02	0.668
		227.20		2.809E-01	2.813E-01	4.617E-01	4.133E-02	0.608
		248.90		-1.342E-01	5.125E-01	8.054E-01	1.820E-01	-0.167
	+	293.70		6.192E+00	1.287E+00	1.041E+00	1.830E-01	5.950
		369.80		6.324E-03	5.521E-01	9.210E-01	2.009E-01	0.007
		568.70		-3.379E-01	7.278E-01	1.151E+00	1.023E-01	-0.294
		569.50		1.752E-01	1.944E-01	3.273E-01	2.910E-02	0.535
		574.00		-8.925E-01	1.071E+00	1.654E+00	1.469E-01	-0.540
		699.00		4.788E-01	5.380E-01	9.281E-01	1.769E-01	0.516
		706.10		-2.154E-01	7.713E-01	1.272E+00	5.672E-01	-0.169
		733.00		6.797E-02	2.792E-01	4.488E-01	9.970E-02	0.151
	+	742.81		1.913E+00	1.867E+00	1.828E+00	1.229E+00	1.046
		796.30		2.076E+00	9.747E-01	1.347E+00	3.650E-01	1.541
		805.60		3.201E-01	7.516E-01	1.270E+00	3.898E-01	0.252
		819.60		-6.912E-01	9.652E-01	1.484E+00	5.650E-01	-0.466
		826.30		-3.085E-01	6.091E-01	9.587E-01	4.293E-01	-0.322
		831.60		-1.849E-01	4.775E-01	7.733E-01	2.312E-01	-0.239
		876.40		-6.890E-01	9.689E-01	1.033E+00	1.062E+00	-0.667
		880.51		3.161E-01	2.210E-01	3.906E-01	3.424E-02	0.809
		883.24		-1.179E-01	2.324E-01	3.507E-01	2.358E-01	-0.336
		899.00		-3.857E-01	6.896E-01	1.021E+00	4.467E-01	-0.378
		925.00		4.795E-01	8.670E-01	1.475E+00	1.291E-01	0.325
		926.50		1.002E-01	1.280E-01	2.169E-01	5.493E-02	0.462
		946.00	*	7.950E-02	2.409E-01	4.031E-01	7.589E-02	0.197
		949.00		5.218E-01	3.498E-01	6.178E-01	5.404E-02	0.845
		980.50		-1.167E-01	5.646E-01	9.157E-01	7.990E-02	-0.127
NP-236		1394.10		-1.563E-02	7.824E-01	1.304E+00	8.485E-01	-0.012
	+	94.67		3.445E-01	1.563E-01	1.670E-01	1.684E-02	2.063
	+	98.44		2.764E-01	6.706E-02	8.167E-02	8.392E-03	3.385
		111.00		6.343E-02	1.031E-01	1.556E-01	1.711E-02	0.408
		160.31	*	1.601E-02	5.497E-02	8.085E-02	7.143E-03	0.198

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NP-239	+	99.55		6.318E-01	1.533E-01	1.782E-01	1.842E-02	3.546
		117.00	*	-1.365E-01	1.203E-01	1.927E-01	2.192E-02	-0.708
	+	209.75		1.875E+00	6.656E-01	8.973E-01	7.903E-02	2.089
		228.18		-1.274E-01	1.479E-01	2.292E-01	2.053E-02	-0.556
	+	277.60		1.707E-01	1.182E-01	1.979E-01	1.816E-02	0.862
		334.30		5.384E-01	8.920E-01	1.356E+00	1.225E-01	0.397
AM-241		59.54	*	7.731E-02	5.449E-02	8.364E-02	8.880E-03	0.924
CM-243	+	99.55		6.502E-01	1.577E-01	1.834E-01	1.895E-02	3.546
		103.76	*	6.125E-02	6.188E-02	9.454E-02	9.992E-03	0.648
		117.00		-1.404E-01	1.238E-01	1.983E-01	2.255E-02	-0.708
	+	209.75		1.848E+00	6.562E-01	8.847E-01	7.792E-02	2.089
		228.18		-1.287E-01	1.494E-01	2.316E-01	2.075E-02	-0.556
	+	277.60		1.721E-01	1.192E-01	1.995E-01	1.831E-02	0.862
AM-246		798.80		2.571E-02	1.127E-01	1.663E-01	1.460E-02	0.155
		1036.00		1.763E-02	2.222E-01	3.652E-01	3.155E-02	0.048
		1062.04		7.576E-02	1.764E-01	2.951E-01	2.531E-02	0.257
		1078.86	*	2.199E-03	1.118E-01	1.823E-01	1.556E-02	0.012
CM-247	+	278.00		7.077E-01	4.903E-01	8.266E-01	7.587E-02	0.856
		287.40		-1.949E-01	7.473E-01	1.255E+00	1.152E-01	-0.155
		402.60	*	-2.507E-02	2.453E-02	3.888E-02	3.303E-03	-0.645
CF-249		252.85		3.394E-01	6.090E-01	8.814E-01	8.025E-02	0.385
		333.44		9.564E-02	1.238E-01	1.778E-01	1.608E-02	0.538
		387.95	*	3.905E-02	2.704E-02	4.696E-02	3.979E-03	0.832
CF-251		176.60	*	-2.099E-02	8.015E-02	1.290E-01	1.092E-02	-0.163
		227.00		2.466E-01	2.516E-01	4.127E-01	3.694E-02	0.598
		285.00		3.607E-02	1.074E+00	1.821E+00	1.672E-01	0.020

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]G245808002      *
* Acquisition date   : 11-FEB-2010 22:26:46 Detector SN#                   *
* Detector ID        : GAM17 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 06:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 06:00:30.99 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245808002 Analyst initials: RXF2                  *
* Batch Number       : 947554 Sample Quantity : 1.3657E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope :                   *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM           : 0.000 LCSD Isotope :                               *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.048E+01	2.918E+00	3.831E-01	0.000E+00
NB-95	1.409E-01	4.513E-02	5.358E-02	0.000E+00
CD-109	3.871E+00	7.015E-01	7.755E-01	0.000E+00
SN-126	3.797E-01	6.881E-02	7.596E-02	0.000E+00
BA-137M	1.852E-02	3.526E-02	4.849E-02	0.000E+00
CS-137	1.958E-02	3.727E-02	5.126E-02	0.000E+00
EU-155	2.064E-01	9.180E-02	1.085E-01	0.000E+00
LU-177	3.055E+00	1.063E+00	1.252E+00	0.000E+00
TL-208	5.530E-01	7.401E-02	4.306E-02	0.000E+00
BI-210	8.585E-01	5.498E-01	6.631E-01	0.000E+00
PB-210	8.585E-01	5.498E-01	6.631E-01	0.000E+00
PO-210	8.585E-01	5.488E-01	6.631E-01	0.000E+00
BI-211	3.781E+00	4.509E-01	2.238E-01	0.000E+00
BI-212	1.556E+00	3.394E-01	3.216E-01	0.000E+00
PB-212	1.630E+00	1.755E-01	5.779E-02	0.000E+00
PO-212	1.630E+00	1.755E-01	5.779E-02	0.000E+00
BI-214	1.226E+00	1.740E-01	8.059E-02	0.000E+00
PB-214	1.315E+00	1.707E-01	7.658E-02	0.000E+00
PO-214	1.315E+00	1.707E-01	7.658E-02	0.000E+00
PO-216	1.630E+00	1.755E-01	5.779E-02	0.000E+00
PO-218	1.315E+00	1.707E-01	7.658E-02	0.000E+00
RA-224	4.517E+00	8.411E-01	6.581E-01	0.000E+00
RA-226	1.226E+00	1.740E-01	8.059E-02	0.000E+00
AC-228	1.504E+00	2.861E-01	1.582E-01	0.000E+00
RA-228	1.504E+00	2.861E-01	1.582E-01	0.000E+00
TH-228	1.658E+00	1.784E-01	5.875E-02	0.000E+00
TH-229	-6.187E-02	3.119E-01	5.320E-01	0.000E+00
TH-230	1.226E+00	1.740E-01	8.059E-02	0.000E+00
TH-232	1.504E+00	2.861E-01	1.582E-01	0.000E+00
PA-234M	3.731E+01	8.247E+00	5.509E+00	0.000E+00
TH-234	2.629E+01	4.905E+00	7.961E-01	0.000E+00
U-234	1.226E+00	1.740E-01	8.059E-02	0.000E+00
U-235	5.606E-01	2.220E-01	2.298E-01	0.000E+00
NP-237	1.115E+00	3.027E-01	2.224E-01	0.000E+00

U-238	2.629E+01	4.905E+00	7.961E-01	0.000E+00
AM-243	3.652E-01	4.984E-02	4.620E-02	0.000E+00
ANH-511	1.401E-01	5.660E-02	3.250E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-2.700E-02	2.150E-01	3.663E-01	0.000E+00	NOT IDENT.
NA-22	-3.094E-02	3.435E-02	5.232E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	2.564E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	5.775E-03	1.808E-02	3.148E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.419E-02	4.099E-02	0.000E+00	FAIL ABUN
SC-46	8.499E-03	2.726E-02	4.745E-02	0.000E+00	FAIL ABUN
V-48	-9.251E-04	5.700E-02	9.642E-02	0.000E+00	NOT IDENT.
CR-51	-1.482E-01	2.355E-01	4.078E-01	0.000E+00	NOT IDENT.
MN-52	7.436E-02	1.859E-01	3.278E-01	0.000E+00	NOT IDENT.
MN-54	6.216E-03	2.851E-02	4.954E-02	0.000E+00	NOT IDENT.
CO-56	-7.610E-03	2.730E-02	4.614E-02	0.000E+00	FAIL ABUN
CO-57	5.294E-03	1.531E-02	2.734E-02	0.000E+00	NOT IDENT.
CO-58	-7.720E-03	2.890E-02	4.915E-02	0.000E+00	NOT IDENT.
FE-59	3.026E-02	7.213E-02	1.236E-01	0.000E+00	FAIL ABUN
CO-60	-1.674E-02	2.810E-02	4.616E-02	0.000E+00	NOT IDENT.
ZN-65	3.069E-02	7.376E-02	1.102E-01	0.000E+00	NOT IDENT.
GE-68	6.283E-01	9.389E-01	1.635E+00	0.000E+00	NOT IDENT.
AS-73	1.695E-01	1.883E-01	3.421E-01	0.000E+00	NOT IDENT.
AS-74	4.656E-02	7.028E-02	1.216E-01	0.000E+00	NOT IDENT.
SE-75	-6.547E-03	3.150E-02	4.634E-02	0.000E+00	NOT IDENT.
BR-77	-1.480E+00	1.081E+01	1.826E+01	0.000E+00	FAIL ABUN
SR-82	-3.776E-01	2.899E-01	4.662E-01	0.000E+00	NOT IDENT.
RB-83	-1.090E-02	4.782E-02	8.044E-02	0.000E+00	NOT IDENT.
RB-84	6.753E-02	5.585E-02	1.010E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	5.427E+00	8.948E+00	0.000E+00	NOT IDENT.
SR-85	0.000E+00	2.824E-02	4.656E-02	0.000E+00	NOT IDENT.
RB-86	6.464E-01	6.232E-01	1.106E+00	0.000E+00	NOT IDENT.
Y-88	-4.046E-03	2.602E-02	4.238E-02	0.000E+00	NOT IDENT.
ZR-88	-3.008E-03	2.010E-02	3.484E-02	0.000E+00	NOT IDENT.
Y-91	-3.733E+00	1.561E+01	2.554E+01	0.000E+00	NOT IDENT.
NB-94	6.002E-03	2.458E-02	4.341E-02	0.000E+00	NOT IDENT.
NB-95M	-3.439E-03	8.628E-02	1.294E-01	0.000E+00	NOT IDENT.
ZR-95	3.791E-04	5.281E-02	9.173E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	3.020E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	5.306E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.808E+00	1.314E+01	2.010E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.280E+18	0.000E+00	0.000E+00	SHORT HLIF
RH-101	6.725E-03	2.160E-02	3.514E-02	0.000E+00	FAIL ABUN
RH-102	-1.826E-02	1.899E-02	3.100E-02	0.000E+00	FAIL ABUN
RU-103	2.916E-03	2.888E-02	4.953E-02	0.000E+00	FAIL ABUN
RH-106	6.428E-03	2.339E-01	3.917E-01	0.000E+00	FAIL ABUN
RU-106	6.428E-03	2.339E-01	3.917E-01	0.000E+00	FAIL ABUN
AG-108M	1.780E-02	2.155E-02	3.840E-02	0.000E+00	NOT IDENT.
AG-110M	-1.250E-02	2.796E-02	3.911E-02	0.000E+00	NOT IDENT.
IN-111	4.943E-01	9.849E-01	1.507E+00	0.000E+00	NOT IDENT.
IN-113M	-3.246E-02	2.921E-02	4.854E-02	0.000E+00	NOT IDENT.
SN-113	-3.246E-02	2.921E-02	4.854E-02	0.000E+00	NOT IDENT.
IN-114M	-4.430E-03	1.245E-01	1.903E-01	0.000E+00	NOT IDENT.
CD-115	3.824E-01	1.192E+01	2.028E+01	0.000E+00	NOT IDENT.
SN-117M	-2.193E-02	3.817E-02	6.217E-02	0.000E+00	NOT IDENT.
SB-122	1.500E+00	2.077E+00	3.619E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.339E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-3.245E-03	1.979E-02	3.059E-02	0.000E+00	NOT IDENT.
I-124	2.731E-01	6.653E-01	1.001E+00	0.000E+00	FAIL ABUN
SB-124	5.672E-02	4.968E-02	9.414E-02	0.000E+00	FAIL ABUN
SB-125	1.526E-02	6.100E-02	1.066E-01	0.000E+00	FAIL ABUN
TE-125M	1.978E+00	8.122E+00	1.041E+01	0.000E+00	NOT IDENT.
I-126	8.846E-02	1.650E-01	2.479E-01	0.000E+00	NOT IDENT.
SB-126	-3.770E-02	1.310E-01	1.952E-01	0.000E+00	FAIL ABUN
SB-127	1.260E+00	1.405E+00	2.263E+00	0.000E+00	FAIL ABUN
XE-127	-1.584E-03	3.325E-02	5.054E-02	0.000E+00	NOT IDENT.
I-131	9.733E-02	8.125E-02	1.479E-01	0.000E+00	NOT IDENT.
TE-132	-5.159E-01	6.010E-01	9.815E-01	0.000E+00	FAIL ABUN
BA-133	5.745E-03	3.009E-02	4.700E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	1.311E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.210E-02	7.294E-02	0.000E+00	FAIL ABUN
CS-135	0.000E+00	1.161E-01	1.836E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.442E+17	0.000E+00	0.000E+00	SHORT HLIF

CS-136	-3.376E-02	8.681E-02	1.425E-01	0.000E+00	FAIL ABUN
CE-139	5.115E-03	2.038E-02	3.184E-02	0.000E+00	NOT IDENT.
BA-140	-4.865E-03	1.931E-01	3.270E-01	0.000E+00	FAIL ABUN
LA-140	4.756E-02	6.690E-02	1.070E-01	0.000E+00	FAIL ABUN
CE-141	0.000E+00	4.610E-02	7.504E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.190E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.373E-01	1.370E-01	2.210E-01	0.000E+00	NOT IDENT.
PM-144	-2.424E-02	2.564E-02	4.290E-02	0.000E+00	NOT IDENT.
PR-144	-1.644E+00	1.739E+00	2.909E+00	0.000E+00	NOT IDENT.
PM-146	7.719E-03	2.872E-02	4.999E-02	0.000E+00	NOT IDENT.
ND-147	1.239E-01	4.191E-01	7.208E-01	0.000E+00	FAIL ABUN
PM-149	-4.196E+01	8.485E+01	1.490E+02	0.000E+00	NOT IDENT.
EU-152	-8.919E-03	6.037E-02	1.023E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	7.398E-02	9.151E-02	0.000E+00	FAIL ABUN
EU-154	-5.209E-02	9.375E-02	1.464E-01	0.000E+00	NOT IDENT.
TB-160	1.005E-01	1.096E-01	1.960E-01	0.000E+00	FAIL ABUN
HO-166M	-2.182E-02	4.350E-02	7.415E-02	0.000E+00	FAIL ABUN
TM-171	-1.047E+01	1.143E+01	1.851E+01	0.000E+00	NOT IDENT.
LU-176	-6.337E-03	1.468E-02	2.572E-02	0.000E+00	FAIL ABUN
LU-177M	-5.705E-04	1.250E-01	1.906E-01	0.000E+00	NOT IDENT.
HF-181	-1.265E-03	2.841E-02	4.856E-02	0.000E+00	NOT IDENT.
W-181	2.422E-01	1.469E-01	2.477E-01	0.000E+00	NOT IDENT.
TA-182	8.926E-02	1.509E-01	2.578E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	9.617E-02	1.319E-01	0.000E+00	FAIL ABUN
RE-184	9.098E-02	1.600E-01	2.449E-01	0.000E+00	NOT IDENT.
OS-185	-6.776E-03	3.121E-02	5.140E-02	0.000E+00	NOT IDENT.
RE-188	1.318E-01	1.098E-01	1.958E-01	0.000E+00	NOT IDENT.
W-188	-1.626E+00	4.913E+00	7.632E+00	0.000E+00	FAIL ABUN
IR-192	7.750E-03	2.090E-02	3.751E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	2.157E-01	2.828E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	7.146E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	1.503E+00	6.554E+00	1.023E+01	0.000E+00	NOT IDENT.
TL-202	-5.142E-03	4.897E-02	8.418E-02	0.000E+00	NOT IDENT.
HG-203	3.056E-02	2.826E-02	4.645E-02	0.000E+00	FAIL ABUN
BI-207	1.163E-02	4.037E-02	6.894E-02	0.000E+00	FAIL ABUN
TL-207	3.900E-01	4.574E-01	7.341E-01	0.000E+00	FAIL ABUN
PO-209	6.061E-01	5.272E+00	9.068E+00	0.000E+00	NOT IDENT.
PB-211	7.550E-01	8.044E-01	1.067E+00	0.000E+00	NOT IDENT.
PO-215	3.900E-01	4.574E-01	7.341E-01	0.000E+00	FAIL ABUN
RN-219	-2.674E-01	2.678E-01	4.427E-01	0.000E+00	FAIL ABUN
RN-220	-9.866E+00	1.822E+01	2.998E+01	0.000E+00	NOT IDENT.
RA-223	3.900E-01	4.574E-01	7.341E-01	0.000E+00	FAIL ABUN
AC-227	1.782E-02	2.670E-01	3.992E-01	0.000E+00	FAIL ABUN
TH-227	1.782E-02	2.670E-01	3.992E-01	0.000E+00	FAIL ABUN
PA-231	4.137E-02	9.184E-01	1.645E+00	0.000E+00	FAIL ABUN
TH-231	3.900E-01	4.574E-01	7.341E-01	0.000E+00	FAIL ABUN
U-231	0.000E+00	1.048E+00	1.439E+00	0.000E+00	FAIL ABUN
PA-233	2.773E-02	3.946E-02	7.151E-02	0.000E+00	FAIL ABUN
PA-234	7.950E-02	2.361E-01	4.077E-01	0.000E+00	FAIL ABUN
NP-236	1.601E-02	5.387E-02	8.453E-02	0.000E+00	FAIL ABUN
NP-239	-1.365E-01	1.179E-01	2.026E-01	0.000E+00	FAIL ABUN
AM-241	7.731E-02	5.340E-02	8.901E-02	0.000E+00	NOT IDENT.
CM-243	6.125E-02	6.064E-02	9.962E-02	0.000E+00	FAIL ABUN
AM-246	2.199E-03	1.095E-01	1.839E-01	0.000E+00	NOT IDENT.
CM-247	-2.507E-02	2.404E-02	3.996E-02	0.000E+00	FAIL ABUN
CF-249	3.905E-02	2.649E-02	4.830E-02	0.000E+00	NOT IDENT.
CF-251	-2.099E-02	7.855E-02	1.347E-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]G245808002.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:26:46
Sample ID          : G245808002          Sample quantity  : 1.36574E+02 GRAM
Detector name      : GAM17              Detector geometry: CAN
Elapsed live time  : 0 06:00:00.00      Elapsed real time: 0 06:00:30.99 0.1%
Energy tolerance   : 1.50000 keV        Analyst Initials : RXF2
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 947554             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	2763	10.67*	7.782E-01	3.048E+01	3.048E+01	9.77
NB-95	765.79	179	99.81*	1.393E+00	1.178E-01	1.409E-01	32.68
CD-109	88.03	1024	3.72*	6.676E+00	3.776E+00	3.871E+00	18.49
SN-126	64.28	7390	9.60	6.776E+00	1.041E+01	1.041E+01	16.41
	86.94	1024	8.90	6.676E+00	1.578E+00	1.578E+00	44.48
	87.57	1024	37.00*	6.676E+00	3.797E-01	3.797E-01	18.49
BA-137M	661.65	29	89.98*	1.605E+00	1.850E-02	1.852E-02	194.26
CS-137	661.65	29	85.12*	1.605E+00	1.956E-02	1.958E-02	194.26
EU-155	48.70	-----	4.60	6.416E+00	-----	Line Not Found	-----
	60.01	-----	1.11	6.736E+00	-----	Line Not Found	-----
	86.54	1024	30.90	6.676E+00	4.546E-01	4.575E-01	18.53
	105.31	295	20.70*	6.372E+00	2.051E-01	2.064E-01	45.39
LU-177	112.95	333	6.40	6.222E+00	7.668E-01	4.242E+00	37.70
	208.36	294	11.00*	4.433E+00	5.522E-01	3.055E+00	35.51
TL-208	277.35	94	6.80	3.569E+00	3.539E-01	3.539E-01	69.84
	510.84	314	21.60	2.056E+00	6.487E-01	6.487E-01	42.05
	583.14	921	84.20*	1.812E+00	5.530E-01	5.530E-01	13.66
	860.37	154	12.46	1.247E+00	9.057E-01	9.057E-01	40.95
BI-210	46.50	239	4.05*	6.318E+00	8.573E-01	8.585E-01	65.36
PB-210	46.50	239	4.05*	6.318E+00	8.573E-01	8.585E-01	65.36
PO-210	46.50	239	4.05*	6.318E+00	8.573E-01	8.585E-01	65.24
BI-211	72.87	215	1.27	6.803E+00	2.278E+00	2.278E+00	53.88
	351.07	1553	12.94*	2.908E+00	3.781E+00	3.781E+00	12.17
BI-212	727.18	294	11.80*	1.465E+00	1.556E+00	1.556E+00	22.25
	785.46	83	1.97	1.359E+00	2.856E+00	2.856E+00	69.39
	1620.62	17	2.75	7.162E-01	7.988E-01	7.988E-01	137.82
PB-212	74.81	1788	10.70	6.795E+00	2.253E+00	2.253E+00	16.77
	77.11	2735	18.00	6.782E+00	2.053E+00	2.053E+00	11.90
	87.30	1024	8.00	6.676E+00	1.756E+00	1.756E+00	21.02
	238.63	3193	44.60*	4.023E+00	1.630E+00	1.630E+00	10.98
	300.09	211	3.41	3.342E+00	1.697E+00	1.697E+00	45.14
PO-212	74.81	1788	10.70	6.795E+00	2.253E+00	2.253E+00	16.77

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	2735	18.00	6.782E+00	2.053E+00	2.053E+00	11.90
	87.30	1024	8.00	6.676E+00	1.756E+00	1.756E+00	21.02
	115.19	-----	0.60	6.177E+00	-----	Line Not Found	-----
	238.63	3193	44.60*	4.023E+00	1.630E+00	1.630E+00	10.98
	300.09	211	3.41	3.342E+00	1.697E+00	1.697E+00	45.14
BI-214	609.31	1076	46.30*	1.737E+00	1.226E+00	1.226E+00	14.48
	1120.29	225	15.10	9.778E-01	1.397E+00	1.397E+00	34.53
	1764.49	164	15.80	6.717E-01	1.419E+00	1.419E+00	23.72
PB-214	74.81	1788	6.21	6.795E+00	3.882E+00	3.882E+00	15.77
	77.11	2735	10.50	6.782E+00	3.519E+00	3.519E+00	14.13
	87.30	1024	4.67	6.676E+00	3.008E+00	3.008E+00	20.04
	241.98	776	7.49	3.983E+00	2.382E+00	2.382E+00	19.81
	295.21	916	19.20	3.389E+00	1.290E+00	1.290E+00	15.68
	351.92	1553	37.20*	2.908E+00	1.315E+00	1.315E+00	13.24
PO-214	74.81	1788	6.21	6.795E+00	3.882E+00	3.882E+00	15.77
	77.11	2735	10.50	6.782E+00	3.519E+00	3.519E+00	14.13
	87.30	1024	4.67	6.676E+00	3.008E+00	3.008E+00	20.04
	241.98	776	7.49	3.983E+00	2.382E+00	2.382E+00	19.81
	295.21	916	19.20	3.389E+00	1.290E+00	1.290E+00	15.68
	351.92	1553	37.20*	2.908E+00	1.315E+00	1.315E+00	13.24
PO-216	74.81	1788	10.70	6.795E+00	2.253E+00	2.253E+00	16.77
	77.11	2735	18.00	6.782E+00	2.053E+00	2.053E+00	11.90
	87.30	1024	8.00	6.676E+00	1.756E+00	1.756E+00	21.02
	238.63	3193	44.60*	4.023E+00	1.630E+00	1.630E+00	10.98
	300.09	211	3.41	3.342E+00	1.697E+00	1.697E+00	45.14
PO-218	74.81	1788	6.21	6.795E+00	3.882E+00	3.882E+00	15.77
	77.11	2735	10.50	6.782E+00	3.519E+00	3.519E+00	14.13
	87.30	1024	4.67	6.676E+00	3.008E+00	3.008E+00	20.04
	241.98	776	7.49	3.983E+00	2.382E+00	2.382E+00	19.81
	295.21	916	19.20	3.389E+00	1.290E+00	1.290E+00	15.68
	351.92	1553	37.20*	2.908E+00	1.315E+00	1.315E+00	13.24
RA-224	240.98	776	3.95*	3.983E+00	4.517E+00	4.517E+00	19.00
RA-226	609.31	1076	46.30*	1.737E+00	1.226E+00	1.226E+00	14.48
	1120.29	225	15.10	9.778E-01	1.397E+00	1.397E+00	34.53
	1764.49	164	15.80	6.717E-01	1.419E+00	1.419E+00	23.72
AC-228	338.32	636	11.40	3.012E+00	1.697E+00	1.697E+00	44.69
	911.07	537	27.70*	1.182E+00	1.504E+00	1.504E+00	19.41
	969.11	361	16.60	1.116E+00	1.787E+00	1.787E+00	28.21
RA-228	338.32	636	11.40	3.012E+00	1.697E+00	1.697E+00	44.69
	911.07	537	27.70*	1.182E+00	1.504E+00	1.504E+00	19.41
	969.11	361	16.60	1.116E+00	1.787E+00	1.787E+00	28.21
TH-228	74.81	1788	10.70	6.795E+00	2.253E+00	2.290E+00	13.97
	77.11	2735	18.00	6.782E+00	2.053E+00	2.087E+00	11.90
	87.30	1024	8.00	6.676E+00	1.756E+00	1.785E+00	18.49
	238.63	3193	44.60*	4.023E+00	1.630E+00	1.658E+00	10.98
	300.09	211	3.41	3.342E+00	1.697E+00	1.725E+00	73.78
TH-229	85.43	869	16.50	6.716E+00	7.183E-01	7.183E-01	21.16
	88.47	1024	27.10	6.676E+00	5.183E-01	5.183E-01	18.49
	100.00	658	12.40	6.494E+00	7.490E-01	7.490E-01	24.26

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	193.63	-----	4.59*	4.678E+00	-----	Line Not Found	-----
	210.97	-----	3.26	4.407E+00	-----	Line Not Found	-----
TH-230	609.31	1076	46.30*	1.737E+00	1.226E+00	1.226E+00	14.48
	1120.29	225	15.10	9.778E-01	1.397E+00	1.397E+00	34.53
	1764.49	164	15.80	6.717E-01	1.419E+00	1.419E+00	23.72
TH-232	338.32	636	11.40	3.012E+00	1.697E+00	1.697E+00	19.20
	911.07	537	27.70*	1.182E+00	1.504E+00	1.504E+00	19.41
	969.11	361	16.60	1.116E+00	1.787E+00	1.787E+00	28.21
PA-234M	766.42	179	0.32	1.393E+00	3.673E+01	3.673E+01	59.73
	1001.03	370	0.84*	1.083E+00	3.731E+01	3.731E+01	22.55
TH-234	63.29	7390	3.80*	6.776E+00	2.629E+01	2.629E+01	19.04
	92.38	10959	5.41	6.596E+00	2.813E+01	2.813E+01	18.91
U-234	609.31	1076	46.30*	1.737E+00	1.226E+00	1.226E+00	14.48
	1120.29	225	15.10	9.778E-01	1.397E+00	1.397E+00	34.53
	1764.49	164	15.80	6.717E-01	1.419E+00	1.419E+00	23.72
U-235	89.95	938	2.70	6.636E+00	4.796E+00	4.796E+00	36.61
	93.35	10959	4.50	6.596E+00	3.382E+01	3.382E+01	28.56
	105.00	295	2.10	6.372E+00	2.021E+00	2.021E+00	53.62
	143.76	359	10.50*	5.593E+00	5.606E-01	5.606E-01	40.41
	163.35	192	4.70	5.217E+00	7.185E-01	7.185E-01	60.18
	185.71	1996	54.00	4.810E+00	7.039E-01	7.039E-01	11.93
	205.31	170	4.70	4.491E+00	7.367E-01	7.367E-01	63.98
NP-237	86.50	1024	12.60*	6.676E+00	1.115E+00	1.115E+00	27.71
	95.87	-----	2.60	6.543E+00	-----	Line Not Found	-----
U-238	63.29	7390	3.80*	6.776E+00	2.629E+01	2.629E+01	19.04
	92.38	10959	5.41	6.596E+00	2.813E+01	2.813E+01	10.24
AM-243	74.67	1788	66.00*	6.795E+00	3.652E-01	3.652E-01	13.92
	86.72	1024	0.34	6.676E+00	4.181E+01	4.181E+01	18.49
	117.66	-----	0.55	6.127E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.624E+00	-----	Line Not Found	-----
ANH-511	511.00	314	100.00*	2.056E+00	1.401E-01	1.401E-01	41.22

Flag: "*" = Keyline

Total number of lines in spectrum 57
Number of unidentified lines 5
Number of lines tentatively identified by NID 52 91.23%

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	3.048E+01	3.048E+01	0.298E+01	9.77	
NB-95	64.02D	1.20	1.178E-01	1.409E-01	0.460E-01	32.68	
CD-109	464.00D	1.03	3.776E+00	3.871E+00	0.716E+00	18.49	
SN-126	1.00E+05Y	1.00	3.797E-01	3.797E-01	0.702E-01	18.49	
BA-137M	30.17Y	1.00	1.850E-02	1.852E-02	3.598E-02	194.26	
CS-137	30.17Y	1.00	1.956E-02	1.958E-02	3.803E-02	194.26	
EU-155	4.96Y	1.01	2.051E-01	2.064E-01	0.937E-01	45.39	
LU-177	6.71D	5.53	5.522E-01	3.055E+00	1.085E+00	35.51	
TL-208	1.41E+10Y	1.00	5.530E-01	5.530E-01	0.755E-01	13.66	
BI-210	22.26Y	1.00	8.573E-01	8.585E-01	5.611E-01	65.36	
PB-210	22.26Y	1.00	8.573E-01	8.585E-01	5.611E-01	65.36	
PO-210	22.26Y	1.00	8.573E-01	8.585E-01	5.600E-01	65.24	
BI-211	7.04E+08Y	1.00	3.781E+00	3.781E+00	0.460E+00	12.17	
BI-212	1.41E+10Y	1.00	1.556E+00	1.556E+00	0.346E+00	22.25	
PB-212	1.41E+10Y	1.00	1.630E+00	1.630E+00	0.179E+00	10.98	
PO-212	1.41E+10Y	1.00	1.630E+00	1.630E+00	0.179E+00	10.98	
BI-214	1600.00Y	1.00	1.226E+00	1.226E+00	0.178E+00	14.48	
PB-214	1600.00Y	1.00	1.315E+00	1.315E+00	0.174E+00	13.24	
PO-214	1600.00Y	1.00	1.315E+00	1.315E+00	0.174E+00	13.24	
PO-216	1.41E+10Y	1.00	1.630E+00	1.630E+00	0.179E+00	10.98	
PO-218	1600.00Y	1.00	1.315E+00	1.315E+00	0.174E+00	13.24	
RA-224	1.41E+10Y	1.00	4.517E+00	4.517E+00	0.858E+00	19.00	
RA-226	1600.00Y	1.00	1.226E+00	1.226E+00	0.178E+00	14.48	
AC-228	1.41E+10Y	1.00	1.504E+00	1.504E+00	0.292E+00	19.41	
RA-228	1.41E+10Y	1.00	1.504E+00	1.504E+00	0.292E+00	19.41	
TH-228	1.91Y	1.02	1.630E+00	1.658E+00	0.182E+00	10.98	
TH-229	7340.00Y	1.00	5.183E-01	5.183E-01	0.959E-01	18.49	K
TH-230	4.47E+09Y	1.00	1.226E+00	1.226E+00	0.178E+00	14.48	
TH-232	1.41E+10Y	1.00	1.504E+00	1.504E+00	0.292E+00	19.41	
PA-234M	4.47E+09Y	1.00	3.731E+01	3.731E+01	0.842E+01	22.55	
TH-234	4.47E+09Y	1.00	2.629E+01	2.629E+01	0.501E+01	19.04	
U-234	4.47E+09Y	1.00	1.226E+00	1.226E+00	0.178E+00	14.48	
U-235	7.04E+08Y	1.00	5.606E-01	5.606E-01	2.265E-01	40.41	
NP-237	2.14E+06Y	1.00	1.115E+00	1.115E+00	0.309E+00	27.71	
U-238	4.47E+09Y	1.00	2.629E+01	2.629E+01	0.501E+01	19.04	
AM-243	7380.00Y	1.00	3.652E-01	3.652E-01	0.509E-01	13.92	
ANH-511	1.00E+09Y	1.00	1.401E-01	1.401E-01	0.578E-01	41.22	

Total Activity : 1.610E+02 1.637E+02

Grand Total Activity : 1.610E+02 1.637E+02

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
9	94.36	511	1408	1.24	188.38	164	29	2.37E-02	44.2	6.57E+00	T
0	128.50	219	1379	0.88	256.69	253	9	1.01E-02	62.3	5.90E+00	T
0	258.23	165	775	2.32	516.25	511	12	7.63E-03	69.2	3.78E+00	
0	270.40	336	798	1.54	540.59	535	13	1.56E-02	36.6	3.64E+00	T
0	327.80	171	375	1.15	655.44	652	8	7.91E-03	42.0	3.10E+00	T
0	409.46	113	349	2.38	818.85	814	10	5.23E-03	64.5	2.53E+00	T
0	462.63	137	314	1.10	925.23	921	10	6.36E-03	51.4	2.26E+00	T
0	683.76	39	148	1.25	1367.74	1365	8	1.79E-03	****	1.55E+00	T
0	742.59	72	163	2.08	1485.47	1481	10	3.33E-03	70.8	1.43E+00	T
3	768.18	91	138	1.41	1536.68	1527	14	4.23E-03	56.9	1.39E+00	
0	794.43	134	189	1.60	1589.22	1585	11	6.23E-03	43.0	1.34E+00	T
2	963.93	140	129	1.93	1928.43	1922	21	6.47E-03	36.1	1.12E+00	T
0	1153.85	76	160	1.60	2308.56	2300	15	3.50E-03	76.8	9.51E-01	
0	1236.94	131	198	1.11	2474.86	2468	14	6.08E-03	48.8	8.95E-01	T
0	1377.20	60	51	1.94	2755.62	2748	12	2.79E-03	54.0	8.17E-01	T
0	1508.44	27	33	1.47	3018.32	3014	9	1.25E-03	86.1	7.58E-01	T
0	1588.95	55	90	5.60	3179.49	3170	20	2.55E-03	88.7	7.27E-01	
0	1846.61	24	15	1.28	3695.33	3690	10	1.11E-03	72.9	6.50E-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]G245808002.CNF;1
* Acquisition date   : 11-FEB-2010 22:26:46  Detector SN#      :
* Detector ID        : GAM17                      Sensitivity    : 5.00000
* Geometry           : CAN                      Energy tolerance: 1.50000
* Elapsed live time  : 0 06:00:00.00             Abundance limit : 75.00000
* Elapsed real time  : 0 06:00:30.99             Half life ratio : 8.00000
*****
*                               SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245808002             Analyst initials: RXF2
* Batch Number       : 947554                 Sample Quantity : 1.36574E+02 GRAM
*****
*                               QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36.18MS Isotope      :
* MSD ID              :                               MSD Isotope :
* LCS ID              : 1032-A                       LCS Isotope  :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.048E+01	2.977E+00	3.821E-01	3.392E-02	79.777
NB-95	1.409E-01	4.605E-02	5.277E-02	4.609E-03	2.670
CD-109	3.871E+00	7.158E-01	7.337E-01	7.163E-02	5.275
SN-126	3.797E-01	7.021E-02	7.186E-02	7.013E-03	5.283
BA-137M	1.852E-02	3.598E-02	4.762E-02	4.012E-03	0.389
CS-137	1.958E-02	3.803E-02	5.034E-02	4.249E-03	0.389
EU-155	2.064E-01	9.368E-02	1.030E-01	1.107E-02	2.003
LU-177	3.055E+00	1.085E+00	1.203E+00	1.058E-01	2.539
TL-208	5.530E-01	7.552E-02	4.218E-02	3.990E-03	13.111
BI-210	8.585E-01	5.611E-01	6.204E-01	6.730E-02	1.384
PB-210	8.585E-01	5.611E-01	6.204E-01	6.730E-02	1.384
PO-210	8.585E-01	5.600E-01	6.204E-01	6.268E-02	1.384
BI-211	3.781E+00	4.601E-01	2.172E-01	2.027E-02	17.406
BI-212	1.556E+00	3.464E-01	3.164E-01	3.175E-02	4.919
PB-212	1.630E+00	1.791E-01	5.568E-02	5.613E-03	29.283
PO-212	1.630E+00	1.791E-01	5.568E-02	5.613E-03	29.283
BI-214	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
PB-214	1.315E+00	1.741E-01	7.431E-02	7.941E-03	17.697

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	1.315E+00	1.741E-01	7.431E-02	7.941E-03	17.697
PO-216	1.630E+00	1.791E-01	5.568E-02	5.613E-03	29.283
PO-218	1.315E+00	1.741E-01	7.431E-02	7.941E-03	17.697
RA-224	4.517E+00	8.583E-01	6.342E-01	5.735E-02	7.123
RA-226	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
AC-228	1.504E+00	2.920E-01	1.563E-01	1.773E-02	9.621
RA-228	1.504E+00	2.920E-01	1.563E-01	1.773E-02	9.621
TH-228	1.658E+00	1.820E-01	5.660E-02	5.707E-03	29.283
TH-229	5.183E-01	9.586E-02	5.106E-01	4.416E-02	1.015
TH-230	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
TH-232	1.504E+00	2.920E-01	1.563E-01	1.773E-02	9.621
PA-234M	3.731E+01	8.416E+00	5.454E+00	5.473E-01	6.841
TH-234	2.629E+01	5.006E+00	7.489E-01	1.398E-01	35.109
U-234	1.226E+00	1.776E-01	7.902E-02	8.037E-03	15.516
U-235	5.606E-01	2.265E-01	2.193E-01	4.021E-02	2.556
NP-237	1.115E+00	3.089E-01	2.104E-01	4.801E-02	5.300
U-238	2.629E+01	5.006E+00	7.489E-01	1.398E-01	35.109
AM-243	3.652E-01	5.086E-02	4.359E-02	4.256E-03	8.378
ANH-511	1.401E-01	5.776E-02	3.176E-02	2.837E-03	4.411

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-2.700E-02		2.194E-01	3.575E-01	3.402E-02	-0.076
NA-22	-3.094E-02		3.505E-02	5.204E-02	4.384E-03	-0.595
NA-24	2.206E+00		1.308E+00	Half-Life	too short	
AL-26	5.775E-03		1.845E-02	3.153E-02	2.643E-03	0.183
TI-44	3.789E-01	+	4.509E-02	3.870E-02	3.771E-03	9.790
SC-46	8.499E-03		2.781E-02	4.687E-02	4.103E-03	0.181
V-48	-9.251E-04		5.817E-02	9.542E-02	8.323E-03	-0.010
CR-51	-1.482E-01		2.403E-01	3.950E-01	3.773E-02	-0.375
MN-52	7.436E-02		1.897E-01	3.268E-01	2.817E-02	0.228
MN-54	6.216E-03		2.909E-02	4.887E-02	4.297E-03	0.127
CO-56	-7.610E-03		2.785E-02	4.553E-02	4.002E-03	-0.167
CO-57	5.294E-03		1.563E-02	2.602E-02	3.048E-03	0.203
CO-58	-7.720E-03		2.949E-02	4.846E-02	4.267E-03	-0.159
FE-59	3.026E-02		7.361E-02	1.226E-01	1.125E-02	0.247
CO-60	-1.674E-02		2.867E-02	4.595E-02	3.916E-03	-0.364
ZN-65	3.069E-02		7.526E-02	1.093E-01	9.206E-03	0.281
GE-68	6.283E-01		9.581E-01	1.621E+00	1.384E-01	0.388
AS-73	1.695E-01		1.921E-01	3.209E-01	3.210E-02	0.528
AS-74	4.656E-02		7.171E-02	1.192E-01	1.050E-02	0.391
SE-75	-6.547E-03		3.214E-02	4.473E-02	4.109E-03	-0.146
BR-77	-1.480E+00		1.103E+01	1.785E+01	1.595E+00	-0.083
SR-82	-3.776E-01		2.958E-01	4.592E-01	4.019E-02	-0.822
RB-83	-1.090E-02		4.879E-02	7.864E-02	7.028E-03	-0.139
RB-84	6.753E-02		5.699E-02	9.972E-02	8.740E-03	0.677

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
KR-85	1.158E+01		5.538E+00	8.746E+00	7.813E-01	1.324
SR-85	6.027E-02		2.882E-02	4.551E-02	4.066E-03	1.324
RB-86	6.464E-01		6.359E-01	1.096E+00	9.359E-02	0.590
Y-88	-4.046E-03		2.655E-02	4.246E-02	3.541E-03	-0.095
ZR-88	-3.008E-03		2.051E-02	3.388E-02	2.854E-03	-0.089
Y-91	-3.733E+00		1.593E+01	2.538E+01	2.094E+00	-0.147
NB-94	6.002E-03		2.508E-02	4.268E-02	3.661E-03	0.141
NB-95M	-3.439E-03		8.804E-02	1.247E-01	1.273E-02	-0.028
ZR-95	3.791E-04		5.388E-02	9.032E-02	8.654E-03	0.004
NB-97	-3.060E-02		1.541E-01	Half-Life	too short	
ZR-97	1.106E+01		2.707E+00	Half-Life	too short	
MO-99	1.808E+00		1.341E+01	1.979E+01	3.011E+00	0.091
TC-99M	3.469E+11		6.529E+11	Half-Life	too short	
RH-101	6.725E-03		2.205E-02	3.374E-02	2.933E-03	0.199
RH-102	-1.826E-02		1.938E-02	3.025E-02	2.679E-03	-0.604
RU-103	2.916E-03		2.947E-02	4.838E-02	6.938E-03	0.060
RU-106	6.428E-03		2.386E-01	3.843E-01	5.150E-02	0.017
RU-106	6.428E-03		2.386E-01	3.843E-01	3.338E-02	0.017
AG-108M	1.780E-02		2.199E-02	3.741E-02	3.376E-03	0.476
AG-110M	-1.250E-02		2.853E-02	3.841E-02	3.347E-03	-0.325
IN-111	4.943E-01		1.005E+00	1.453E+00	1.318E-01	0.340
IN-113M	-3.246E-02		2.980E-02	4.719E-02	4.101E-03	-0.688
SN-113	-3.246E-02		2.980E-02	4.719E-02	4.101E-03	-0.688
IN-114M	-4.430E-03		1.270E-01	1.826E-01	1.573E-02	-0.024
CD-115	3.824E-01		1.217E+01	1.983E+01	1.773E+00	0.019
SN-117M	-2.193E-02		3.895E-02	5.945E-02	5.344E-03	-0.369
SB-122	1.500E+00		2.120E+00	3.544E+00	3.156E-01	0.423
I-123	-3.834E+00		1.193E+01	Half-Life	too short	
TE-123M	-3.245E-03		2.020E-02	2.926E-02	2.633E-03	-0.111
I-124	2.731E-01		6.789E-01	9.814E-01	8.618E-02	0.278
SB-124	5.672E-02		5.069E-02	9.416E-02	8.378E-03	0.602
SB-125	1.526E-02		6.225E-02	1.038E-01	9.157E-03	0.147
TE-125M	1.978E+00		8.287E+00	9.890E+00	1.216E+00	0.200
I-126	8.846E-02		1.684E-01	2.435E-01	2.056E-02	0.363
SB-126	-3.770E-02		1.336E-01	1.920E-01	1.657E-02	-0.196
SB-127	1.260E+00	+	1.433E+00	2.224E+00	2.609E-01	0.567
XE-127	-1.584E-03		3.393E-02	4.855E-02	4.244E-03	-0.033
I-131	9.733E-02		8.291E-02	1.436E-01	1.328E-02	0.678
TE-132	-5.159E-01		6.132E-01	9.448E-01	1.527E-01	-0.546
BA-133	5.745E-03		3.071E-02	4.562E-02	6.095E-03	0.126
I-133	-1.003E-02		6.691E-03	Half-Life	too short	
CS-134	1.210E-01	+	5.317E-02	7.189E-02	6.352E-03	1.684
CS-135	2.261E-01		1.184E-01	1.772E-01	1.849E-02	1.276
I-135	-7.069E+10		7.358E+10	Half-Life	too short	
CS-136	-3.376E-02		8.858E-02	1.412E-01	1.268E-02	-0.239
CE-139	5.115E-03		2.079E-02	3.047E-02	2.541E-03	0.168
BA-140	-4.865E-03		1.970E-01	3.199E-01	1.063E-01	-0.015
LA-140	4.756E-02		6.827E-02	1.069E-01	9.229E-03	0.445

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-141	8.779E-02		4.704E-02	7.164E-02	7.307E-03	1.225
CE-143	1.090E-03		1.628E-04	Half-Life too short		
CE-144	-1.373E-01		1.398E-01	2.107E-01	3.574E-02	-0.652
PM-144	-2.424E-02		2.617E-02	4.217E-02	3.610E-03	-0.575
PR-144	-1.644E+00		1.775E+00	2.860E+00	2.447E-01	-0.575
PM-146	7.719E-03		2.931E-02	4.874E-02	5.291E-03	0.158
ND-147	1.239E-01		4.276E-01	7.049E-01	1.067E-01	0.176
PM-149	-4.196E+01		8.658E+01	1.440E+02	2.285E+01	-0.291
EU-152	-8.919E-03		6.160E-02	9.922E-02	9.386E-03	-0.090
GD-153	3.112E-01	+	7.549E-02	8.675E-02	8.868E-03	3.587
EU-154	-5.209E-02		9.566E-02	1.456E-01	1.625E-02	-0.358
TB-160	1.005E-01		1.119E-01	1.935E-01	1.696E-02	0.519
HO-166M	-2.182E-02		4.439E-02	7.292E-02	6.275E-03	-0.299
TM-171	-1.047E+01		1.167E+01	1.743E+01	1.721E+00	-0.600
LU-176	-6.337E-03		1.498E-02	2.490E-02	2.281E-03	-0.255
LU-177M	-5.705E-04		1.276E-01	1.855E-01	1.589E-02	-0.003
HF-181	-1.265E-03		2.899E-02	4.740E-02	4.208E-03	-0.027
W-181	2.422E-01		1.499E-01	2.331E-01	2.308E-02	1.039
TA-182	8.926E-02		1.540E-01	2.562E-01	2.125E-02	0.348
RE-183	1.700E-01	+	9.814E-02	1.262E-01	1.093E-02	1.347
RE-184	9.098E-02		1.632E-01	2.362E-01	2.151E-02	0.385
OS-185	-6.776E-03		3.185E-02	5.045E-02	4.308E-03	-0.134
RE-188	1.318E-01		1.120E-01	1.871E-01	1.739E-02	0.704
W-188	-1.626E+00		5.013E+00	7.379E+00	6.778E-01	-0.220
IR-192	7.750E-03		2.132E-02	3.633E-02	3.324E-03	0.213
AU-195	9.072E-01	+	2.201E-01	2.682E-01	2.762E-02	3.383
TL-200	-3.034E-04		3.646E-04	Half-Life too short		
TL-201	1.503E+00		6.688E+00	9.789E+00	8.174E-01	0.153
TL-202	-5.142E-03		4.997E-02	8.203E-02	7.149E-03	-0.063
HG-203	3.056E-02		2.884E-02	4.488E-02	4.224E-03	0.681
BI-207	1.163E-02		4.120E-02	6.832E-02	5.857E-03	0.170
TL-207	3.900E-01		4.667E-01	7.112E-01	1.276E-01	0.548
PO-209	6.061E-01		5.380E+00	8.957E+00	7.832E-01	0.068
PB-211	7.550E-01		8.208E-01	1.038E+00	6.504E-01	0.727
PO-215	3.900E-01		4.667E-01	7.112E-01	1.276E-01	0.548
RN-219	-2.674E-01		2.732E-01	4.306E-01	6.439E-02	-0.621
RN-220	-9.866E+00		1.859E+01	2.934E+01	2.620E+00	-0.336
RA-223	3.900E-01		4.667E-01	7.112E-01	1.276E-01	0.548
AC-227	1.782E-02		2.724E-01	3.851E-01	6.021E-02	0.046
TH-227	1.782E-02		2.724E-01	3.851E-01	7.050E-02	0.046
PA-231	4.137E-02		9.372E-01	1.590E+00	2.467E-01	0.026
TH-231	3.900E-01		4.667E-01	7.112E-01	1.276E-01	0.548
U-231	2.946E+00		1.069E+00	1.364E+00	1.383E-01	2.161
PA-233	2.773E-02		4.026E-02	6.923E-02	6.493E-03	0.401
PA-234	7.950E-02		2.409E-01	4.031E-01	7.589E-02	0.197
NP-236	1.601E-02		5.497E-02	8.085E-02	7.143E-03	0.198
NP-239	-1.365E-01		1.203E-01	1.927E-01	2.192E-02	-0.708
AM-241	7.731E-02		5.449E-02	8.364E-02	8.880E-03	0.924

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	6.125E-02		6.188E-02	9.454E-02	9.992E-03	0.648
AM-246	2.199E-03		1.118E-01	1.823E-01	1.556E-02	0.012
CM-247	-2.507E-02		2.453E-02	3.888E-02	3.303E-03	-0.645
CF-249	3.905E-02		2.704E-02	4.696E-02	3.979E-03	0.832
CF-251	-2.099E-02		8.015E-02	1.290E-01	1.092E-02	-0.163

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                    *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : SYS$SYSROOT:[ALPHA.ARCHIVE.GAMMA]G245808002          *
* Acquisition date   : 11-FEB-2010 22:26:46 Detector SN#      :             *
* Detector ID        : GAM17                      Sensitivity   : 5.000        *
* Geometry           : CAN                      Energy tolerance: 1.500        *
* Elapsed live time  : 0 06:00:00.00             Abundance limit: 75.000       *
* Elapsed real time  : 0 06:00:30.99             Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808002             Analyst initials: RXF2          *
* Batch Number       : 947554                 Sample Quantity : 1.3657E+02 GRAM *
* Recovery           : 1.00000                Carrier Weight  : 0.00000       *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 6-JAN-2010 11:41:36 MS Isotope         :             *
* MSD DPM             : 0.000                  MSD Isotope     :             *
* LCS DPM             : 0.000                  LCS Isotope      :             *
* LCSD DPM            : 0.000                  LCSD Isotope     :             *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.048E+01	2.918E+00	1.917E-01	1.489E+00
NB-95	1.409E-01	4.513E-02	2.681E-02	2.302E-02
CD-109	3.871E+00	7.015E-01	3.880E-01	3.579E-01
SN-126	3.797E-01	6.881E-02	3.800E-02	3.510E-02
BA-137M	1.852E-02	3.526E-02	2.426E-02	1.799E-02
CS-137	1.958E-02	3.727E-02	2.565E-02	1.902E-02
EU-155	2.064E-01	9.180E-02	5.430E-02	4.684E-02
LU-177	3.055E+00	1.063E+00	6.264E-01	5.424E-01
TL-208	5.530E-01	7.401E-02	2.154E-02	3.776E-02
BI-210	8.585E-01	5.498E-01	3.317E-01	2.805E-01
PB-210	8.585E-01	5.498E-01	3.317E-01	2.805E-01
PO-210	8.585E-01	5.488E-01	3.317E-01	2.800E-01
BI-211	3.781E+00	4.509E-01	1.120E-01	2.301E-01
BI-212	1.556E+00	3.394E-01	1.609E-01	1.732E-01
PB-212	1.630E+00	1.755E-01	2.891E-02	8.953E-02
PO-212	1.630E+00	1.755E-01	2.891E-02	8.953E-02
BI-214	1.226E+00	1.740E-01	4.032E-02	8.879E-02
PB-214	1.315E+00	1.707E-01	3.831E-02	8.707E-02
PO-214	1.315E+00	1.707E-01	3.831E-02	8.707E-02
PO-216	1.630E+00	1.755E-01	2.891E-02	8.953E-02
PO-218	1.315E+00	1.707E-01	3.831E-02	8.707E-02
RA-224	4.517E+00	8.411E-01	3.293E-01	4.292E-01
RA-226	1.226E+00	1.740E-01	4.032E-02	8.879E-02
AC-228	1.504E+00	2.861E-01	7.915E-02	1.460E-01
RA-228	1.504E+00	2.861E-01	7.915E-02	1.460E-01
TH-228	1.658E+00	1.784E-01	2.939E-02	9.101E-02
TH-229	-6.187E-02	3.119E-01	2.662E-01	1.591E-01
TH-230	1.226E+00	1.740E-01	4.032E-02	8.879E-02
TH-232	1.504E+00	2.861E-01	7.915E-02	1.460E-01
PA-234M	3.731E+01	8.247E+00	2.756E+00	4.208E+00
TH-234	2.629E+01	4.905E+00	3.983E-01	2.503E+00
U-234	1.226E+00	1.740E-01	4.032E-02	8.879E-02
U-235	5.606E-01	2.220E-01	1.150E-01	1.133E-01
NP-237	1.115E+00	3.027E-01	1.113E-01	1.545E-01

U-238	2.629E+01	4.905E+00	3.983E-01	2.503E+00
AM-243	3.652E-01	4.984E-02	2.312E-02	2.543E-02
ANH-511	1.401E-01	5.660E-02	1.626E-02	2.888E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-2.700E-02	2.150E-01	1.833E-01	1.097E-01 NOT IDENT.
NA-22	-3.094E-02	3.435E-02	2.618E-02	1.753E-02 NOT IDENT.
NA-24	2.206E+06	2.564E+06	0.000E+00	1.308E+06 SHORT HLIF
AL-26	5.775E-03	1.808E-02	1.575E-02	9.224E-03 NOT IDENT.
TI-44	3.789E-01	4.419E-02	2.051E-02	2.254E-02 FAIL ABUN
SC-46	8.499E-03	2.726E-02	2.374E-02	1.391E-02 FAIL ABUN
V-48	-9.251E-04	5.700E-02	4.824E-02	2.908E-02 NOT IDENT.
CR-51	-1.482E-01	2.355E-01	2.040E-01	1.201E-01 NOT IDENT.
MN-52	7.436E-02	1.859E-01	1.640E-01	9.486E-02 NOT IDENT.
MN-54	6.216E-03	2.851E-02	2.479E-02	1.454E-02 NOT IDENT.
CO-56	-7.610E-03	2.730E-02	2.308E-02	1.393E-02 FAIL ABUN
CO-57	5.294E-03	1.531E-02	1.368E-02	7.814E-03 NOT IDENT.
CO-58	-7.720E-03	2.890E-02	2.459E-02	1.474E-02 NOT IDENT.
FE-59	3.026E-02	7.213E-02	6.184E-02	3.680E-02 FAIL ABUN
CO-60	-1.674E-02	2.810E-02	2.309E-02	1.434E-02 NOT IDENT.
ZN-65	3.069E-02	7.376E-02	5.514E-02	3.763E-02 NOT IDENT.
GE-68	6.283E-01	9.389E-01	8.182E-01	4.791E-01 NOT IDENT.
AS-73	1.695E-01	1.883E-01	1.712E-01	9.606E-02 NOT IDENT.
AS-74	4.656E-02	7.028E-02	6.083E-02	3.586E-02 NOT IDENT.
SE-75	-6.547E-03	3.150E-02	2.318E-02	1.607E-02 NOT IDENT.
BR-77	-1.480E+00	1.081E+01	9.135E+00	5.513E+00 FAIL ABUN
SR-82	-3.776E-01	2.899E-01	2.332E-01	1.479E-01 NOT IDENT.
RB-83	-1.090E-02	4.782E-02	4.024E-02	2.440E-02 NOT IDENT.
RB-84	6.753E-02	5.585E-02	5.052E-02	2.849E-02 NOT IDENT.
KR-85	1.158E+01	5.427E+00	4.477E+00	2.769E+00 NOT IDENT.
SR-85	6.027E-02	2.824E-02	2.329E-02	1.441E-02 NOT IDENT.
RB-86	6.464E-01	6.232E-01	5.532E-01	3.180E-01 NOT IDENT.
Y-88	-4.046E-03	2.602E-02	2.120E-02	1.328E-02 NOT IDENT.
ZR-88	-3.008E-03	2.010E-02	1.743E-02	1.026E-02 NOT IDENT.
Y-91	-3.733E+00	1.561E+01	1.278E+01	7.964E+00 NOT IDENT.
NB-94	6.002E-03	2.458E-02	2.172E-02	1.254E-02 NOT IDENT.
NB-95M	-3.439E-03	8.628E-02	6.475E-02	4.402E-02 NOT IDENT.
ZR-95	3.791E-04	5.281E-02	4.589E-02	2.694E-02 NOT IDENT.
NB-97	-3.060E+04	3.020E+05	0.000E+00	1.541E+05 SHORT HLIF
ZR-97	1.106E+07	5.306E+06	0.000E+00	2.707E+06 SHORT HLIF
MO-99	1.808E+00	1.314E+01	1.006E+01	6.706E+00 NOT IDENT.
TC-99M	3.469E+17	1.280E+18	0.000E+00	0.000E+00 SHORT HLIF
RH-101	6.725E-03	2.160E-02	1.758E-02	1.102E-02 FAIL ABUN
RH-102	-1.826E-02	1.899E-02	1.551E-02	9.688E-03 FAIL ABUN
RU-103	2.916E-03	2.888E-02	2.478E-02	1.473E-02 FAIL ABUN
RH-106	6.428E-03	2.339E-01	1.960E-01	1.193E-01 FAIL ABUN
RU-106	6.428E-03	2.339E-01	1.960E-01	1.193E-01 FAIL ABUN
AG-108M	1.780E-02	2.155E-02	1.921E-02	1.099E-02 NOT IDENT.
AG-110M	-1.250E-02	2.796E-02	1.957E-02	1.427E-02 NOT IDENT.
IN-111	4.943E-01	9.849E-01	7.542E-01	5.025E-01 NOT IDENT.
IN-113M	-3.246E-02	2.921E-02	2.428E-02	1.490E-02 NOT IDENT.
SN-113	-3.246E-02	2.921E-02	2.428E-02	1.490E-02 NOT IDENT.
IN-114M	-4.430E-03	1.245E-01	9.523E-02	6.350E-02 NOT IDENT.
CD-115	3.824E-01	1.192E+01	1.015E+01	6.084E+00 NOT IDENT.
SN-117M	-2.150E-02	3.817E-02	3.110E-02	1.947E-02 NOT IDENT.
SB-122	1.503E+00	2.077E+00	1.811E+00	1.060E+00 NOT IDENT.
I-123	-3.834E+06	2.339E+07	0.000E+00	1.193E+07 SHORT HLIF
TE-123M	-3.245E-03	1.979E-02	1.531E-02	1.010E-02 NOT IDENT.
I-124	2.731E-01	6.653E-01	5.009E-01	3.394E-01 FAIL ABUN
SB-124	5.672E-02	4.968E-02	4.710E-02	2.535E-02 FAIL ABUN
SB-125	1.526E-02	6.100E-02	5.333E-02	3.112E-02 FAIL ABUN
TE-125M	1.978E+00	8.122E+00	5.209E+00	4.144E+00 NOT IDENT.
I-126	8.846E-02	1.650E-01	1.240E-01	8.421E-02 NOT IDENT.
SB-126	-3.770E-02	1.310E-01	9.765E-02	6.682E-02 FAIL ABUN
SB-127	1.260E+00	1.405E+00	1.132E+00	7.167E-01 FAIL ABUN
XE-127	-1.584E-03	3.325E-02	2.529E-02	1.697E-02 NOT IDENT.
I-131	9.733E-02	8.125E-02	7.400E-02	4.146E-02 NOT IDENT.
TE-132	-5.159E-01	6.010E-01	4.910E-01	3.066E-01 FAIL ABUN
BA-133	5.745E-03	3.009E-02	2.351E-02	1.535E-02 FAIL ABUN
I-133	-1.003E+04	1.311E+04	0.000E+00	6.691E+03 SHORT HLIF
CS-134	1.210E-01	5.210E-02	3.649E-02	2.658E-02 FAIL ABUN
CS-135	2.261E-01	1.161E-01	9.183E-02	5.921E-02 NOT IDENT.
I-135	-7.069E+16	1.442E+17	0.000E+00	0.000E+00 SHORT HLIF

CS-136	-3.376E-02	8.681E-02	7.128E-02	4.429E-02	FAIL ABUN
CE-139	5.115E-03	2.038E-02	1.593E-02	1.040E-02	NOT IDENT.
BA-140	-4.865E-03	1.931E-01	1.636E-01	9.851E-02	FAIL ABUN
LA-140	4.756E-02	6.690E-02	5.355E-02	3.413E-02	FAIL ABUN
CE-141	8.779E-02	4.610E-02	3.754E-02	2.352E-02	NOT IDENT.
CE-143	1.090E+03	3.190E+02	0.000E+00	1.628E+02	SHORT HLIF
CE-144	-1.373E-01	1.370E-01	1.106E-01	6.992E-02	NOT IDENT.
PM-144	-2.424E-02	2.564E-02	2.146E-02	1.308E-02	NOT IDENT.
PR-144	-1.644E+00	1.739E+00	1.455E+00	8.873E-01	NOT IDENT.
PM-146	7.719E-03	2.872E-02	2.501E-02	1.465E-02	NOT IDENT.
ND-147	1.239E-01	4.191E-01	3.606E-01	2.138E-01	FAIL ABUN
PM-149	-4.196E+01	8.485E+01	7.452E+01	4.329E+01	NOT IDENT.
EU-152	-8.919E-03	6.037E-02	5.118E-02	3.080E-02	FAIL ABUN
GD-153	3.112E-01	7.398E-02	4.578E-02	3.774E-02	FAIL ABUN
EU-154	-5.209E-02	9.375E-02	7.326E-02	4.783E-02	NOT IDENT.
TB-160	1.005E-01	1.096E-01	9.804E-02	5.594E-02	FAIL ABUN
HO-166M	-2.182E-02	4.350E-02	3.710E-02	2.220E-02	FAIL ABUN
TM-171	-1.047E+01	1.143E+01	9.263E+00	5.834E+00	NOT IDENT.
LU-176	-6.337E-03	1.468E-02	1.287E-02	7.492E-03	FAIL ABUN
LU-177M	-5.705E-04	1.250E-01	9.535E-02	6.379E-02	NOT IDENT.
HF-181	-1.265E-03	2.841E-02	2.430E-02	1.450E-02	NOT IDENT.
W-181	2.422E-01	1.469E-01	1.239E-01	7.493E-02	NOT IDENT.
TA-182	8.926E-02	1.509E-01	1.290E-01	7.698E-02	FAIL ABUN
RE-183	1.700E-01	9.617E-02	6.601E-02	4.907E-02	FAIL ABUN
RE-184	9.098E-02	1.600E-01	1.225E-01	8.162E-02	NOT IDENT.
OS-185	-6.776E-03	3.121E-02	2.571E-02	1.592E-02	NOT IDENT.
RE-188	1.318E-01	1.098E-01	9.795E-02	5.601E-02	NOT IDENT.
W-188	-1.626E+00	4.913E+00	3.818E+00	2.507E+00	FAIL ABUN
IR-192	7.750E-03	2.090E-02	1.877E-02	1.066E-02	FAIL ABUN
AU-195	9.072E-01	2.157E-01	1.415E-01	1.100E-01	FAIL ABUN
TL-200	-3.034E+02	7.146E+02	0.000E+00	3.646E+02	SHORT HLIF
TL-201	1.503E+00	6.554E+00	5.116E+00	3.344E+00	NOT IDENT.
TL-202	-5.142E-03	4.897E-02	4.211E-02	2.499E-02	NOT IDENT.
HG-203	3.056E-02	2.826E-02	2.324E-02	1.442E-02	FAIL ABUN
BI-207	1.163E-02	4.037E-02	3.449E-02	2.060E-02	FAIL ABUN
TL-207	3.900E-01	4.574E-01	3.673E-01	2.334E-01	FAIL ABUN
PO-209	6.061E-01	5.272E+00	4.537E+00	2.690E+00	NOT IDENT.
PB-211	7.550E-01	8.044E-01	5.338E-01	4.104E-01	NOT IDENT.
PO-215	3.900E-01	4.574E-01	3.673E-01	2.334E-01	FAIL ABUN
RN-219	-2.674E-01	2.678E-01	2.215E-01	1.366E-01	FAIL ABUN
RN-220	-9.866E+00	1.822E+01	1.500E+01	9.297E+00	NOT IDENT.
RA-223	3.900E-01	4.574E-01	3.673E-01	2.334E-01	FAIL ABUN
AC-227	1.782E-02	2.670E-01	1.997E-01	1.362E-01	FAIL ABUN
TH-227	1.782E-02	2.670E-01	1.997E-01	1.362E-01	FAIL ABUN
PA-231	4.137E-02	9.184E-01	8.232E-01	4.686E-01	FAIL ABUN
TH-231	3.900E-01	4.574E-01	3.673E-01	2.334E-01	FAIL ABUN
U-231	2.946E+00	1.048E+00	7.199E-01	5.346E-01	FAIL ABUN
PA-233	2.773E-02	3.946E-02	3.578E-02	2.013E-02	FAIL ABUN
PA-234	7.950E-02	2.361E-01	2.040E-01	1.204E-01	FAIL ABUN
NP-236	1.601E-02	5.387E-02	4.229E-02	2.749E-02	FAIL ABUN
NP-239	-1.365E-01	1.179E-01	1.014E-01	6.017E-02	FAIL ABUN
AM-241	7.731E-02	5.340E-02	4.453E-02	2.724E-02	NOT IDENT.
CM-243	6.125E-02	6.064E-02	4.984E-02	3.094E-02	FAIL ABUN
AM-246	2.199E-03	1.095E-01	9.202E-02	5.588E-02	NOT IDENT.
CM-247	-2.507E-02	2.404E-02	1.999E-02	1.226E-02	FAIL ABUN
CF-249	3.905E-02	2.649E-02	2.417E-02	1.352E-02	NOT IDENT.
CF-251	-2.099E-02	7.855E-02	6.738E-02	4.008E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	1381.9510
46.50	1381.9510
46.50	1381.9510
48.70	1592.0969
49.72	1657.3342
51.35	1834.3529
52.39	1799.1024
52.97	1817.2848
53.15	1818.1896
53.44	1817.1082
54.07	1808.3566
56.28	2068.2090
56.28	2068.2212
57.37	0.0000
57.53	2146.3584
57.53	2146.3711
57.60	2146.7527
57.98	2101.1101
57.98	2101.1101
59.32	2014.5184
59.32	2014.5184
59.40	2014.9342
59.54	2015.6648
59.72	2016.5973
60.01	2132.1609
61.10	2242.0776
61.14	2242.3013
61.30	2278.3206
63.00	2047.7568
63.29	2049.2283
63.29	2049.2283
63.58	2050.6997
64.28	1831.5153
65.12	1949.4902
65.20	1949.8669
65.20	1949.8669
66.05	1982.8240
66.72	1991.2802
66.83	2011.5836
66.91	2011.9678
67.20	2009.4067
67.20	2009.4067
67.75	2019.6835
67.85	1981.2358
68.90	2025.1655
68.90	2025.1655
69.30	1979.5988
69.67	1968.0480
70.82	2139.5999
70.82	2139.5999
70.83	2139.6489
72.80	2097.5969
72.87	2097.9202
72.87	2097.9202
74.67	2106.3972
74.81	2107.0437
74.81	2107.0437
74.81	2107.0437
74.81	2107.0437
74.81	2107.0437
74.81	2107.0437
74.97	2107.7979
75.28	2109.2346
75.70	2111.1982
77.11	2117.7117
77.11	2117.7117

77.11	2117.7117
77.11	2117.7117
77.11	2117.7117
77.11	2117.7117
77.11	2117.7117
78.38	2014.8281
79.62	1940.1313
79.80	1940.8733
79.80	1940.8733
80.11	1895.9728
80.18	1896.2604
80.30	1807.0657
80.30	1807.0657
80.57	1854.3124
81.00	1945.8046
81.07	1946.0883
81.07	1946.0883
81.07	1946.0883
81.07	1946.0883
82.60	1975.5272
83.37	1718.8519
83.78	1720.3193
83.78	1720.3193
83.78	1720.3193
83.78	1720.3193
84.21	1721.8345
84.90	1724.2609
85.43	1726.1213
86.29	1729.1326
86.50	1729.8615
86.54	1729.9957
86.59	1730.1780
86.72	1730.6287
86.79	1730.8589
86.94	1731.3864
87.30	1732.6426
87.30	1732.6426
87.30	1732.6426
87.30	1732.6426
87.30	1732.6426
87.30	1732.6426
87.57	1733.5729
87.88	1734.6470
88.03	1735.1648
88.36	1736.2965
88.47	1736.6801
89.95	1741.7533
91.11	1745.6948
92.29	1749.6843
92.38	1749.9912
92.38	1749.9912
93.35	1753.2518
94.00	1755.4192
94.67	1757.6345
94.67	1757.6537
94.90	1758.4209
94.90	1758.4209
94.90	1758.4209
94.90	1758.4209
95.87	1070.7145
95.87	1070.7145
96.73	1072.4457
97.43	1073.8387
98.44	1054.7213
98.44	1054.7213
98.88	1055.5785
99.55	975.0348
99.55	975.0348
99.86	975.5883
100.00	975.8361
100.10	976.0206
103.18	973.4021
103.76	966.8231
105.00	1004.0984
105.31	1004.6468
108.00	1214.6847
109.28	1119.7504

111.00	1205.1096
111.00	1205.1096
111.76	1223.9612
112.95	1197.5253
115.19	1009.1607
116.30	1018.2716
117.00	1051.9215
117.00	1051.9215
117.66	1015.2065
121.11	953.5301
121.62	930.8676
121.78	931.1051
122.06	884.5992
122.32	884.9628
122.32	884.9628
122.32	884.9628
122.32	884.9628
123.07	871.3315
127.23	892.7792
129.76	997.1514
131.20	939.8512
133.02	967.7761
133.54	975.3934
135.34	855.9053
136.00	883.7036
136.25	884.0277
136.48	888.3218
140.51	868.4209
140.51	0.0000
142.18	926.4310
142.65	943.6838
143.76	913.8747
144.24	907.9233
144.24	907.9233
144.24	907.9233
144.24	907.9233
145.22	869.7209
145.44	828.9893
147.16	786.8520
152.43	817.6269
152.70	833.2642
153.22	791.9044
154.21	782.7223
154.21	782.7223
154.21	782.7223
154.21	782.7223
155.03	801.0208
156.02	878.0832
158.56	802.5354
159.00	0.0000
159.00	785.6807
160.31	735.9108
161.27	772.5095
162.32	754.9330
162.64	764.5684
163.35	797.4198
163.89	790.7114
165.85	724.0513
167.43	719.2554
171.28	714.3850
171.86	678.2101
172.10	700.4337
176.55	729.6044
176.60	729.6537
181.06	752.1621
184.41	737.6237
185.71	676.9290
186.00	677.1615
190.27	657.5104
192.34	626.3229
193.63	676.7458
197.04	661.0140
198.01	635.7917
198.60	664.3422
200.40	706.4568
201.83	677.6123
202.84	662.0670
205.31	647.5213

208.36	623.4317
208.81	623.7390
209.75	606.3028
209.75	606.3028
210.97	592.2949
215.65	582.0332
216.55	566.0409
218.09	622.2186
222.10	603.7490
223.80	684.8538
226.40	580.7880
227.00	578.9122
227.08	578.9598
227.20	570.1083
228.16	635.4366
228.18	635.4482
228.18	635.4482
231.56	0.0000
235.69	619.4469
236.00	619.6429
236.00	619.6429
238.63	549.5941
238.63	549.5941
238.63	549.5941
238.63	549.5941
239.00	549.7922
240.98	550.8622
241.98	551.3973
241.98	551.3973
241.98	551.3973
244.69	429.1144
245.39	443.0347
247.94	447.5380
248.90	471.8860
249.79	473.4269
252.40	440.5208
252.85	432.4713
252.85	432.4713
254.15	0.0000
256.20	464.8206
256.20	464.8206
260.50	483.9673
260.90	499.7086
262.80	443.4219
264.65	461.5223
268.24	450.8472
268.79	458.0348
269.46	467.0208
269.46	467.0208
269.46	467.0208
269.46	467.0208
271.23	467.7650
273.65	391.8154
276.40	427.8414
277.35	484.3561
277.60	479.4504
277.60	479.4504
278.00	478.4883
278.60	449.7500
279.20	438.7424
279.53	438.8643
280.46	444.8533
281.68	448.6200
283.67	434.9783
284.30	447.5782
285.00	433.7157
285.90	440.2409
286.10	434.1277
286.10	434.1277
287.40	431.0741
288.45	0.0000
290.67	424.6442
290.80	424.6880
291.72	430.7097
293.26	0.0000
293.70	411.5004
295.21	427.7051
295.21	427.7051

295.21	427.7051
295.96	406.5773
296.50	406.7582
297.23	407.0087
298.57	407.4679
299.80	386.4111
299.80	386.4111
300.09	386.5100
300.09	386.5100
300.09	386.5100
300.09	386.5100
300.12	386.5166
301.29	388.3253
302.84	375.9086
303.76	363.2737
303.91	363.3169
304.40	364.9018
304.40	364.9018
304.84	362.1577
306.84	389.5652
308.46	407.1904
311.98	373.1217
316.51	353.6279
318.01	387.6399
319.02	377.9585
319.41	383.5257
320.08	395.5463
323.87	358.9762
323.87	358.9762
323.87	358.9762
323.87	358.9762
325.23	394.4202
328.77	377.9297
333.44	339.9646
334.20	350.0912
334.20	350.0912
334.30	350.1203
338.28	368.8904
338.28	368.8904
338.28	368.8904
338.28	368.8904
338.32	368.9026
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338.32	368.9026
340.50	342.9080
340.57	342.9250
344.27	340.9177
345.85	350.8621
350.59	0.0000
351.07	369.4631
351.92	355.9042
351.92	355.9042
351.92	355.9042
355.39	0.0000
356.01	328.9365
364.48	283.9499
366.43	319.1833
367.43	339.1974
367.94	0.0000
369.80	324.6678
374.96	338.1684
383.85	336.4531
387.95	300.1245
388.63	314.6073
391.69	349.7620
391.69	349.7620
392.90	322.2393
398.62	299.4115
400.65	317.1725
401.10	335.5904
401.81	335.7497
402.60	341.7167
404.84	266.0457
410.95	274.8815
411.60	268.7835
413.65	278.4814
414.70	294.2374
415.30	288.1230

415.76	294.0509
417.63	0.0000
418.52	253.6087
423.70	307.3018
427.08	284.4244
427.89	283.5892
432.53	304.1059
433.93	257.0931
439.47	271.8235
439.56	271.8361
439.89	255.0868
443.98	257.7148
444.90	246.9521
445.03	246.9711
445.03	246.9711
445.03	246.9711
445.03	246.9711
453.90	257.2874
463.38	248.7266
468.07	270.3422
473.00	243.0887
475.06	257.5175
475.35	258.5742
476.78	259.8000
477.59	244.7510
477.96	223.5595
482.03	235.2427
484.57	236.6051
487.03	247.1083
490.36	0.0000
492.35	253.9811
497.08	249.5475
507.63	0.0000
510.53	0.0000
510.84	234.9841
511.00	235.0050
511.85	235.1163
511.85	235.1163
513.99	218.0465
513.99	218.0465
520.41	235.1883
520.65	235.2160
527.90	242.3860
528.96	0.0000
529.64	253.0261
529.87	0.0000
531.02	215.6987
537.32	225.8350
543.00	224.4166
546.56	0.0000
549.76	233.6325
552.65	212.9051
555.20	206.8563
563.23	207.7117
563.90	214.1442
568.70	246.5496
569.32	225.3665
569.50	206.2493
569.67	209.4568
573.80	236.5322
574.00	239.7491
574.64	230.2383
578.91	213.6414
579.30	0.0000
583.14	228.0091
585.48	229.7760
591.81	240.8164
592.07	237.6182
593.00	243.1045
595.88	214.3647
600.56	252.6454
602.52	0.0000
602.71	214.4328
602.71	214.4328
603.60	250.8542
604.41	249.2227
604.70	249.2578
609.31	222.2731

609.31	222.2731
609.31	222.2731
609.31	222.2731
610.33	222.3795
612.46	194.5945
614.37	219.1157
618.01	194.8908
621.84	211.6073
621.84	211.6073
631.29	200.4969
633.02	190.7904
633.10	190.8010
634.78	186.5601
635.90	198.7365
636.97	229.5951
645.85	199.6535
646.12	198.5724
656.30	207.4751
657.75	191.6420
657.90	0.0000
661.65	259.5278
661.65	259.5278
664.57	0.0000
666.33	201.2923
666.33	201.2923
675.00	154.2350
677.61	151.0551
685.20	206.5732
692.80	200.0493
695.00	223.6965
696.49	250.9126
696.49	250.9126
697.00	248.2654
697.49	243.7976
698.33	234.8569
698.50	231.2625
699.00	205.1036
702.63	219.9043
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706.58	0.0000
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709.31	206.9200
711.68	210.7654
713.82	203.6836
717.42	211.2809
720.50	214.2883
721.93	0.0000
722.20	208.3597
722.78	200.8037
722.78	200.8037
722.89	200.8145
722.95	199.2931
723.30	199.3251
724.18	210.0547
727.18	164.5972
733.00	171.8719
735.90	180.1082
739.58	168.5091
742.81	181.3112
744.21	171.9010
747.13	185.9361
751.79	196.7598
752.31	183.8661
753.82	179.3553
755.35	195.1905
756.15	190.6305
756.87	190.6858
763.93	188.7535
765.79	207.1624
766.42	207.2169
766.84	207.2495
776.49	208.0499
778.00	208.4863
778.57	199.5818
778.89	190.7697
783.80	171.5348
785.46	186.3147
792.07	159.5742

795.84	155.1105
796.30	155.1387
798.80	158.4249
801.93	191.5980
805.60	165.1306
810.29	172.9922
810.76	170.1870
815.85	153.4650
817.79	146.9435
818.51	154.5714
819.60	177.4035
826.30	160.7315
828.27	0.0000
831.60	185.8308
831.96	182.9953
834.83	192.7335
836.80	0.0000
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848.13	149.5787
856.28	0.0000
856.80	155.5094
860.37	139.6581
867.32	140.0121
867.82	153.1438
871.10	130.5341
873.19	148.0507
874.81	153.9458
875.33	0.0000
876.40	186.0047
879.36	149.3492
880.27	133.8762
880.51	135.8267
881.50	142.6682
883.24	163.1519
884.67	147.6879
889.25	124.5719
896.60	136.6060
898.02	139.6031
899.00	155.2773
903.28	161.3785
911.07	144.1648
911.07	144.1648
911.07	144.1648
919.63	137.7065
920.93	167.2898
925.00	128.1084
925.24	123.1903
926.50	117.3295
935.52	143.4070
937.48	174.1824
944.10	155.7274
946.00	155.8271
949.00	128.1654
962.29	159.6719
964.01	136.7993
966.15	136.8963
968.20	136.9866
969.11	146.6989
969.11	146.6989
969.11	146.6989
977.42	146.4313
980.50	147.5850
983.50	144.7137
989.30	132.9056
996.32	142.9637
1001.03	135.4329
1001.68	135.4624
1004.76	134.9219
1021.30	0.0000
1024.50	0.0000
1034.80	123.6114
1036.00	127.7466
1037.82	136.0003
1038.57	133.9872
1038.76	0.0000
1045.16	119.9136
1046.59	120.9903
1048.07	143.6162

1050.47	128.3264
1050.47	128.3264
1062.04	132.9053
1063.62	141.2144
1076.63	119.0093
1077.35	126.2831
1078.86	143.9410
1085.78	121.4161
1099.22	141.6977
1112.02	149.9121
1112.84	151.6907
1115.52	132.6165
1120.29	156.2172
1120.29	156.2172
1120.29	156.2172
1120.29	156.2172
1120.51	156.2245
1121.28	185.2757
1124.00	0.0000
1129.67	166.1083
1131.51	0.0000
1147.95	0.0000
1167.94	159.4409
1173.22	133.0688
1175.09	159.7632
1177.93	174.8186
1189.05	173.2245
1204.90	190.0935
1205.75	0.0000
1213.00	184.0671
1221.42	156.4343
1230.97	164.0562
1235.34	189.5178
1236.41	0.0000
1238.25	184.2524
1246.25	161.8411
1260.41	0.0000
1271.85	113.7348
1274.45	118.1883
1274.54	129.1374
1291.56	92.3385
1298.22	0.0000
1312.09	99.4614
1325.50	85.0184
1325.50	85.0184
1332.49	96.2770
1333.61	86.1204
1360.21	66.1898
1362.66	0.0000
1365.15	76.5380
1368.21	52.6822
1368.53	0.0000
1376.25	54.2853
1384.27	47.2664
1394.10	59.2240
1395.20	61.1226
1407.95	67.9131
1434.06	52.2070
1436.60	51.2886
1457.56	0.0000
1460.81	55.4040
1489.15	48.0794
1509.49	44.7150
1596.49	35.4609
1620.62	42.4369
1678.03	0.0000
1691.02	21.1060
1691.02	21.1060
1706.46	0.0000
1750.46	0.0000
1764.49	25.5056
1764.49	25.5056
1764.49	25.5056
1764.49	25.5056
1770.23	17.5098
1771.40	21.0167
1791.20	0.0000
1808.65	19.5543

1836.01

36.2148

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808002

Total Uranium Activity	7.8483E+01	ug/g
Total Uranium Counting Unc.	1.4594E+01	ug/g
Total Uranium Tpu	7.4459E-06	ug/g
Total Uranium Mda	1.1862E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G245808002
*  ANALYST       : RXF2            DETECTOR    : GAM17
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 06:00:00.00
*  ANALYSIS DATE : 11-FEB-2010 22:26:46.04  SAMPLE ALQT: 136.574 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.377E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.384E+00
GROSS GAMMA MDA (pCi/GRAM ) : 6.055E+00
GROSS GAMMA DLC (pCi/GRAM ) : 2.990E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 04:28:39.78

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                        *
*                               Charleston, SC 29414                    *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808003.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:27:19
Sample ID          : G245808003 Sample quantity : 1.49854E+02 GRAM
Detector name      : GAM18 Detector geometry: CAN
Elapsed live time: 0 06:00:00.00 Elapsed real time: 0 06:00:07.44 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	63.45*	9563	5353	0.98	126.03	121	10	4.43E-01	1.8	
2	2	74.96	1194	4445	1.18	149.04	142	16	5.53E-02	9.8	2.21E+00
3	2	77.28	2017	3787	1.06	153.67	142	16	9.34E-02	5.4	
4	0	84.21*	756	5865	1.55	167.54	164	8	3.50E-02	18.0	
5	2	87.46	726	5110	1.14	174.02	171	22	3.36E-02	15.7	4.08E+00
6	2	90.16	1123	4881	1.24	179.43	171	22	5.20E-02	10.5	
7	2	92.76*	29986	3959	1.16	184.63	171	22	1.39E+00	0.7	
8	2	94.90	1093	2602	0.97	188.90	171	22	5.06E-02	11.0	
9	0	98.73	2158	3264	1.15	196.56	193	9	9.99E-02	5.3	
10	0	105.63	223	2510	1.16	210.36	208	7	1.03E-02	37.9	
11	9	111.34	469	2521	1.27	221.77	219	10	2.17E-02	17.9	1.40E+00
12	9	112.99	1601	2441	0.95	225.06	219	10	7.41E-02	5.6	
13	0	128.58	104	1794	1.05	256.24	255	6	4.80E-03	65.2	
14	0	131.64	307	1868	0.85	262.35	260	7	1.42E-02	24.1	
15	0	143.93*	1234	2364	1.23	286.92	283	9	5.71E-02	7.8	
16	0	163.58*	459	2093	1.07	326.20	322	9	2.13E-02	18.9	
17	0	185.89*	6446	2024	1.14	370.81	366	10	2.98E-01	1.8	
18	0	205.50*	456	1422	1.24	410.03	406	8	2.11E-02	15.6	
19	0	209.32*	381	1366	1.08	417.65	414	8	1.76E-02	18.2	
20	5	238.73*	4562	937	1.18	476.47	469	21	2.11E-01	1.9	1.77E+00
21	5	241.75	1282	1389	1.94	482.51	469	21	5.93E-02	7.7	
22	0	258.32	642	1638	1.57	515.62	508	15	2.97E-02	14.3	
23	0	270.29	251	1204	1.78	539.56	535	10	1.16E-02	26.6	
24	0	277.20	106	1058	1.28	553.38	550	9	4.88E-03	56.4	
25	0	295.29*	1396	1161	1.28	589.55	583	12	6.46E-02	5.8	
26	0	300.23	332	926	1.24	599.42	595	10	1.54E-02	18.0	
27	0	327.86	295	918	1.87	654.65	649	11	1.37E-02	20.7	
28	0	338.25*	927	1104	1.36	675.45	668	13	4.29E-02	8.3	
29	0	352.02*	2600	1022	1.33	702.96	698	13	1.20E-01	3.3	
30	0	409.27	153	628	1.67	817.44	813	10	7.10E-03	31.5	
31	0	462.87	276	730	1.37	924.61	919	13	1.28E-02	21.1	
32	0	510.78*	458	907	1.76	1020.39	1013	16	2.12E-02	18.5	
33	0	583.13*	1621	668	1.52	1165.06	1158	16	7.50E-02	4.5	
34	0	609.20*	1894	745	1.60	1217.18	1209	17	8.77E-02	4.2	
35	0	661.35	657	621	1.55	1321.45	1313	14	3.04E-02	8.8	
36	0	727.28*	285	454	1.66	1453.28	1447	12	1.32E-02	17.0	
37	0	742.23	170	571	1.34	1483.18	1478	13	7.88E-03	30.0	
38	0	766.29*	1205	634	1.76	1531.28	1522	18	5.58E-02	5.8	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	786.12*	199	386	1.55	1570.93	1566	10	9.23E-03	20.7	
40	0	794.66*	195	398	1.87	1588.01	1582	13	9.01E-03	23.4	
41	0	859.70	247	326	1.56	1718.06	1710	14	1.15E-02	16.7	
42	0	910.86*	1196	329	1.89	1820.36	1812	15	5.54E-02	4.5	
43	1	964.64	253	265	2.07	1927.90	1922	21	1.17E-02	14.5	6.07E-01
44	1	968.66*	647	234	1.91	1935.94	1922	21	2.99E-02	6.4	
45	0	1000.66*	2469	320	2.04	1999.93	1992	16	1.14E-01	2.6	
46	0	1119.54*	386	421	1.82	2237.64	2228	18	1.79E-02	13.9	
47	0	1237.93	150	329	1.58	2474.39	2468	12	6.94E-03	25.6	
48	0	1377.35	150	191	2.75	2753.19	2741	19	6.95E-03	23.5	
49	0	1409.87	90	169	1.38	2818.24	2807	23	4.19E-03	39.6	
50	0	1460.09*	6508	212	2.31	2918.66	2906	22	3.01E-01	1.4	
51	0	1509.63	63	112	1.80	3017.75	3012	14	2.92E-03	37.8	
52	8	1587.70	88	103	2.97	3173.86	3167	25	4.08E-03	26.5	1.86E+00
53	8	1593.45	42	83	2.80	3185.38	3167	25	1.92E-03	49.7	
54	0	1728.65	102	92	2.98	3455.75	3447	21	4.74E-03	25.1	
55	0	1763.63*	391	50	2.47	3525.71	3515	20	1.81E-02	7.2	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808003.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:27:19
Sample ID        : G245808003 Sample quantity : 149.85 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA18 Detector geometry: CAN
Elapsed live time: 0 06:00:00.00 Elapsed real time: 0 06:00:07.44 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	*	2.690E+01	2.172E+00	1.906E-01	1.446E-02	141.159
NB-95	+	765.79	*	3.766E-01	5.546E-02	3.130E-02	2.863E-03	12.032
CD-109	+	88.03	*	2.585E+00	8.472E-01	9.772E-01	9.034E-02	2.646
SN-126	+	64.28		2.677E+01	4.064E+00	6.676E-01	9.869E-02	40.092
	+	86.94		1.054E+00	5.488E-01	4.550E-01	1.887E-01	2.317
	+	87.57	*	2.536E-01	8.309E-02	9.646E-02	8.888E-03	2.629
BA-137M	+	661.65	*	1.700E-01	3.264E-02	2.714E-02	2.069E-03	6.263
CS-137	+	661.65	*	1.797E-01	3.452E-02	2.869E-02	2.192E-03	6.263
EU-155		48.70		-1.392E+00	2.541E+00	4.255E+00	3.228E-01	-0.327
		60.01		7.284E+00	5.153E+00	7.866E+00	6.002E-01	0.926
	+	86.54		3.056E-01	1.002E-01	1.327E-01	1.222E-02	2.303
	+	105.31	*	1.169E-01	8.894E-02	1.163E-01	8.314E-03	1.005
LU-177	+	112.95		1.444E+01	1.866E+00	2.148E+00	1.384E-01	6.725
	+	208.36	*	2.203E+00	8.091E-01	9.552E-01	5.181E-02	2.306
TL-208	+	277.35		2.069E-01	2.345E-01	2.790E-01	2.930E-02	0.742
	+	510.84		4.103E-01	1.578E-01	9.811E-02	1.043E-02	4.182
	+	583.14	*	4.086E-01	4.893E-02	2.585E-02	2.026E-03	15.811
	+	860.37		5.684E-01	2.005E-01	1.935E-01	2.165E-02	2.937
BI-211		72.87		3.114E+00	2.516E+00	4.199E+00	3.467E-01	0.741
	+	351.07	*	3.078E+00	2.846E-01	1.532E-01	9.832E-03	20.094
BI-212	+	727.18	*	6.041E-01	2.140E-01	2.058E-01	2.050E-02	2.934
	+	785.46		2.692E+00	1.142E+00	1.273E+00	1.203E-01	2.116
		1620.62		7.020E-01	5.080E-01	9.119E-01	6.166E-02	0.770
PB-212	+	74.81		1.889E+00	4.382E-01	4.577E-01	5.736E-02	4.128
	+	77.11		1.780E+00	2.445E-01	2.560E-01	2.170E-02	6.953
	+	87.30		1.173E+00	4.018E-01	4.469E-01	6.070E-02	2.625
	+	238.63	*	1.257E+00	1.020E-01	4.304E-02	3.075E-03	29.215
	+	300.09		1.358E+00	5.021E-01	5.446E-01	4.472E-02	2.494
PO-212	+	74.81		1.889E+00	4.382E-01	4.577E-01	5.736E-02	4.128
	+	77.11		1.780E+00	2.445E-01	2.560E-01	2.170E-02	6.953
	+	87.30		1.173E+00	4.018E-01	4.469E-01	6.070E-02	2.625
		115.19		7.983E+00	2.704E+00	4.046E+00	2.549E-01	1.973
	+	238.63	*	1.257E+00	1.020E-01	4.304E-02	3.075E-03	29.215
	+	300.09		1.358E+00	5.021E-01	5.446E-01	4.472E-02	2.494

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BI-214	+	609.31	*	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
	+	1120.29		9.139E-01	2.681E-01	1.944E-01	1.861E-02	4.701
	+	1764.49		1.218E+00	1.911E-01	1.076E-01	6.542E-03	11.322
PB-214	+	74.81		3.255E+00	7.319E-01	7.886E-01	8.804E-02	4.128
	+	77.11		3.052E+00	4.794E-01	4.389E-01	5.003E-02	6.953
	+	87.30		2.009E+00	6.763E-01	7.655E-01	9.183E-02	2.625
	+	241.98		2.118E+00	3.658E-01	2.587E-01	2.046E-02	8.186
	+	295.21		1.005E+00	1.438E-01	9.860E-02	8.365E-03	10.196
PO-214	+	351.92	*	1.071E+00	1.137E-01	5.175E-02	4.281E-03	20.691
	+	74.81		3.255E+00	7.319E-01	7.886E-01	8.804E-02	4.128
	+	77.11		3.052E+00	4.794E-01	4.389E-01	5.003E-02	6.953
	+	87.30		2.009E+00	6.763E-01	7.655E-01	9.183E-02	2.625
	+	241.98		2.118E+00	3.658E-01	2.587E-01	2.046E-02	8.186
PO-216	+	295.21		1.005E+00	1.438E-01	9.860E-02	8.365E-03	10.196
	+	351.92	*	1.071E+00	1.137E-01	5.175E-02	4.281E-03	20.691
	+	74.81		1.889E+00	4.382E-01	4.577E-01	5.736E-02	4.128
	+	77.11		1.780E+00	2.445E-01	2.560E-01	2.170E-02	6.953
	+	87.30		1.173E+00	4.018E-01	4.469E-01	6.070E-02	2.625
PO-218	+	238.63	*	1.257E+00	1.020E-01	4.304E-02	3.075E-03	29.215
	+	300.09		1.358E+00	5.021E-01	5.446E-01	4.472E-02	2.494
	+	74.81		3.255E+00	7.319E-01	7.886E-01	8.804E-02	4.128
	+	77.11		3.052E+00	4.794E-01	4.389E-01	5.003E-02	6.953
	+	87.30		2.009E+00	6.763E-01	7.655E-01	9.183E-02	2.625
RA-224	+	241.98		2.118E+00	3.658E-01	2.587E-01	2.046E-02	8.186
	+	295.21		1.005E+00	1.438E-01	9.860E-02	8.365E-03	10.196
	+	351.92	*	1.071E+00	1.137E-01	5.175E-02	4.281E-03	20.691
	+	240.98	*	4.016E+00	6.561E-01	4.892E-01	2.725E-02	8.209
	+	609.31	*	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
RA-226	+	1120.29		9.139E-01	2.681E-01	1.944E-01	1.861E-02	4.701
	+	1764.49		1.218E+00	1.911E-01	1.076E-01	6.542E-03	11.322
	+	338.32		1.217E+00	5.357E-01	1.691E-01	6.893E-02	7.197
AC-228	+	911.07	*	1.297E+00	2.083E-01	8.878E-02	1.176E-02	14.611
	+	969.11		1.232E+00	3.343E-01	1.565E-01	3.747E-02	7.874
	+	338.32		1.217E+00	5.357E-01	1.691E-01	6.893E-02	7.197
RA-228	+	911.07	*	1.297E+00	2.083E-01	8.878E-02	1.176E-02	14.611
	+	969.11		1.232E+00	3.343E-01	1.565E-01	3.747E-02	7.874
	+	74.81		1.921E+00	4.082E-01	4.653E-01	3.921E-02	4.128
TH-228	+	77.11		1.810E+00	2.486E-01	2.603E-01	2.206E-02	6.953
	+	87.30		1.192E+00	3.907E-01	4.543E-01	4.175E-02	2.625
	+	238.63	*	1.278E+00	1.037E-01	4.375E-02	3.126E-03	29.215
TH-229	+	300.09		1.381E+00	9.538E-01	5.536E-01	3.263E-01	2.494
	+	85.43		6.251E-01	2.325E-01	2.511E-01	2.270E-02	2.489
	+	88.47		3.462E-01	1.134E-01	1.301E-01	1.192E-02	2.661
TH-230	+	100.00		1.971E+00	2.569E-01	1.937E-01	1.459E-02	10.174
	+	193.63	*	1.969E-01	2.509E-01	4.251E-01	2.276E-02	0.463
	+	210.97		1.185E+00	4.390E-01	6.546E-01	3.559E-02	1.810
TH-230	+	609.31	*	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
	+	1120.29		9.139E-01	2.681E-01	1.944E-01	1.861E-02	4.701
	+	1764.49		1.218E+00	1.911E-01	1.076E-01	6.541E-03	11.322

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-231	+	84.21		2.266E+01	8.428E+00	9.221E+00	8.248E-01	2.458
	+	92.29		3.206E+02	2.742E+01	2.993E+00	2.548E-01	107.088
	+	95.87	*	7.054E+00	1.657E+00	1.513E+00	1.212E-01	4.662
		108.00		-4.247E-01	2.585E+00	2.918E+00	1.984E-01	-0.146
TH-232	+	338.32		1.217E+00	2.139E-01	1.691E-01	9.782E-03	7.197
	+	911.07	*	1.297E+00	2.083E-01	8.878E-02	1.176E-02	14.611
	+	969.11		1.232E+00	3.343E-01	1.565E-01	3.747E-02	7.874
PA-234M	+	766.42		9.819E+01	5.118E+01	8.168E+00	4.152E+00	12.022
	+	1001.03	*	9.556E+01	1.148E+01	3.082E+00	3.325E-01	31.000
TH-234	+	63.29	*	6.762E+01	1.216E+01	1.826E+00	3.219E-01	37.029
	+	92.38		6.665E+01	1.203E+01	6.218E-01	1.121E-01	107.191
U-234	+	609.31	*	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
	+	1120.29		9.139E-01	2.681E-01	1.944E-01	1.861E-02	4.701
	+	1764.49		1.218E+00	1.911E-01	1.076E-01	6.541E-03	11.322
U-235	+	89.95		5.168E+00	1.930E+00	1.281E+00	3.963E-01	4.034
	+	93.35		8.013E+01	2.244E+01	7.401E-01	2.068E-01	108.276
	+	105.00		1.145E+00	9.304E-01	1.129E+00	3.324E-01	1.014
	+	143.76	*	1.194E+00	2.685E-01	1.939E-01	3.140E-02	6.158
	+	163.35		1.019E+00	4.265E-01	4.137E-01	7.372E-02	2.464
	+	185.71		1.303E+00	8.440E-02	3.761E-02	2.000E-03	34.649
	+	205.31		1.106E+00	3.984E-01	4.367E-01	7.799E-02	2.532
NP-237	+	86.50	*	7.447E-01	2.884E-01	3.235E-01	7.299E-02	2.302
	+	95.87		4.939E+00	1.627E+00	1.060E+00	2.588E-01	4.662
U-238	+	63.29	*	6.762E+01	1.216E+01	1.826E+00	3.219E-01	37.029
	+	92.38		6.665E+01	5.701E+00	6.218E-01	5.285E-02	107.191
AM-243	+	74.67	*	3.063E-01	6.502E-02	7.449E-02	6.216E-03	4.112
	+	86.72		2.792E+01	9.150E+00	1.209E+01	1.106E+00	2.309
		117.66		-3.893E+00	2.573E+00	3.806E+00	2.341E-01	-1.023
		142.18		3.757E+01	1.303E+01	1.898E+01	1.046E+00	1.979
ANH-511	+	511.00	*	8.863E-02	3.327E-02	2.120E-02	1.400E-03	4.181

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7		477.59	*	-7.856E-03	1.505E-01	2.479E-01	1.796E-02	-0.032
NA-22		1274.54	*	-5.750E-03	1.779E-02	2.878E-02	1.958E-03	-0.200
NA-24		1368.53	*	-1.334E-01	1.779E-02	Half-Life too short		
AL-26		1129.67		2.456E-01	7.564E-01	1.224E+00	8.176E-02	0.201
		1808.65	*	7.869E-03	1.118E-02	1.945E-02	1.135E-03	0.405
TI-44		67.85		-9.955E-02	4.427E-02	6.169E-02	4.961E-03	-1.614
	+	78.38	*	3.285E-01	4.513E-02	5.370E-02	4.592E-03	6.118
SC-46		889.25	*	-1.294E-02	1.727E-02	2.727E-02	3.041E-03	-0.475
	+	1120.51		1.583E-01	4.524E-02	5.154E-02	3.560E-03	3.071
V-48		944.10		5.064E-01	4.450E-01	7.491E-01	7.929E-02	0.676
		983.50	*	-1.274E-02	3.290E-02	5.234E-02	5.177E-03	-0.243
		1312.09		-1.308E-03	3.582E-02	5.855E-02	4.265E-03	-0.022
CR-51		320.08	*	-7.177E-02	1.815E-01	2.891E-01	1.861E-02	-0.248
MN-52		744.21		5.143E-01	1.659E-01	2.594E-01	2.287E-02	1.983

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MN-54 CO-56		848.13		-2.084E-01	3.599E+00	5.895E+00	6.167E-01	-0.035
		935.52		1.749E-01	1.335E-01	2.261E-01	2.425E-02	0.774
		1246.25		7.109E-02	3.934E+00	6.080E+00	3.909E-01	0.012
		1333.61		-2.073E+00	2.965E+00	4.127E+00	3.117E-01	-0.502
		1434.06	*	6.503E-02	1.128E-01	1.895E-01	1.396E-02	0.343
		834.83	*	-1.093E-02	1.713E-02	2.748E-02	2.815E-03	-0.398
		846.75	*	-8.971E-03	1.801E-02	2.898E-02	3.025E-03	-0.310
		977.42		3.889E-01	1.380E+00	2.157E+00	2.158E-01	0.180
		1037.82		-1.480E-02	1.257E-01	2.094E-01	1.940E-02	-0.071
		1175.09		7.432E-01	9.859E-01	1.675E+00	9.297E-02	0.444
	+	1238.25		1.006E-01	5.203E-02	7.169E-02	4.778E-03	1.404
		1360.21		-7.791E-02	4.062E-01	6.555E-01	4.926E-02	-0.119
		1771.40		-5.914E-02	9.654E-02	1.229E-01	7.426E-03	-0.481
	CO-57	122.06	*	-2.843E-03	1.583E-02	2.532E-02	1.500E-03	-0.112
CO-58 FE-59		136.48		5.724E-02	1.325E-01	2.023E-01	1.324E-02	0.283
		810.76	*	-3.374E-02	1.806E-02	2.719E-02	2.684E-03	-1.241
CO-60	+	142.65		1.574E+01	2.604E+00	3.195E+00	1.758E-01	4.927
		192.34		-4.925E-01	4.836E-01	7.886E-01	9.145E-02	-0.624
		1099.22	*	-2.225E-02	3.910E-02	6.356E-02	5.232E-03	-0.350
		1291.56		-3.620E-03	5.185E-02	8.476E-02	7.124E-03	-0.043
ZN-65 GE-68		1173.22		1.259E-03	1.942E-02	3.222E-02	1.781E-03	0.039
		1332.49	*	1.043E-03	1.665E-02	2.732E-02	2.064E-03	0.038
AS-73 AS-74		1115.52	*	-9.553E-03	4.637E-02	6.523E-02	4.595E-03	-0.146
		1077.35	*	6.532E-02	5.117E-01	8.580E-01	6.816E-02	0.076
SE-75		53.44	*	-9.423E-02	8.379E-01	1.407E+00	1.116E-01	-0.067
		595.88	*	-7.103E-02	4.709E-02	6.858E-02	4.928E-03	-1.036
		634.78		6.300E-02	1.699E-01	2.769E-01	2.061E-02	0.228
		66.05		-9.337E+00	4.551E+00	6.327E+00	6.267E-01	-1.476
BR-77		96.73		3.039E+00	8.938E-01	1.012E+00	1.334E-01	3.003
		121.11		-1.250E-02	8.512E-02	1.363E-01	1.272E-02	-0.092
		136.00		2.796E-03	2.678E-02	3.801E-02	2.165E-03	0.074
		198.60		-1.180E+00	9.720E-01	1.497E+00	1.016E-01	-0.788
		264.65	*	1.734E-02	2.814E-02	3.483E-02	1.992E-03	0.498
		279.53		4.364E-02	5.943E-02	8.660E-02	5.350E-03	0.504
		303.91		-1.088E-02	1.110E+00	1.568E+00	1.492E-01	-0.007
		400.65		7.212E-02	1.152E-01	1.955E-01	1.781E-02	0.369
	+	87.88		8.389E+02	2.749E+02	3.865E+02	3.571E+01	2.171
		200.40		1.207E+02	1.386E+02	2.077E+02	1.119E+01	0.581
	+	239.00		3.039E+02	2.054E+01	2.397E+01	1.334E+00	12.675
		249.79		2.555E+01	4.791E+01	7.956E+01	4.459E+00	0.321
		281.68		2.255E+01	7.269E+01	1.045E+02	5.966E+00	0.216
		297.23		3.778E+02	6.560E+01	8.091E+01	4.645E+00	4.669
		303.76		-3.275E+00	1.411E+02	1.993E+02	1.146E+01	-0.016
		439.47		-2.169E+00	9.651E+01	1.602E+02	9.764E+00	-0.014
		484.57		1.416E+01	1.562E+02	2.580E+02	1.656E+01	0.055
		520.65	*	3.759E+00	6.952E+00	1.157E+01	7.720E-01	0.325
		574.64		-2.489E+02	1.513E+02	2.234E+02	1.573E+01	-1.114
		578.91		6.831E+01	6.557E+01	9.605E+01	6.791E+00	0.711
		585.48		1.868E+03	2.106E+02	3.097E+02	2.203E+01	6.033

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SR-82	755.35			1.259E+01	1.112E+02	1.851E+02	1.663E+01	0.068
	817.79			8.239E+00	8.747E+01	1.446E+02	1.441E+01	0.057
	698.33			-1.710E+01	1.610E+01	2.591E+01	2.110E+00	-0.660
	776.49	*		-1.190E-01	1.835E-01	2.966E-01	2.762E-02	-0.401
RB-83	1395.20			-3.849E+00	4.803E+00	7.434E+00	5.540E-01	-0.518
	520.41	*		1.576E-02	3.085E-02	5.132E-02	3.422E-03	0.307
	529.64			1.070E-02	4.711E-02	7.758E-02	5.224E-03	0.138
	552.65			-6.589E-02	9.130E-02	1.450E-01	9.994E-03	-0.454
RB-84	881.50	*		4.049E-02	3.360E-02	5.690E-02	6.271E-03	0.712
KR-85	513.99	*		1.584E+01	3.968E+00	6.255E+00	4.144E-01	2.532
SR-85	513.99	*		8.241E-02	2.065E-02	3.255E-02	2.156E-03	2.532
RB-86	1076.63	*		-5.014E-04	3.444E-01	5.746E-01	4.574E-02	-0.001
Y-88	898.02			4.204E-03	1.833E-02	3.019E-02	3.423E-03	0.139
ZR-88	1836.01	*		-8.161E-03	1.453E-02	2.271E-02	1.294E-03	-0.359
	392.90	*		4.704E-03	1.380E-02	2.333E-02	1.342E-03	0.202
	1204.90	*		4.349E+00	7.938E+00	1.337E+01	7.905E-01	0.325
	702.63	*		1.242E-02	1.544E-02	2.632E-02	2.159E-03	0.472
Y-91	871.10			-9.066E-03	1.459E-02	2.323E-02	2.519E-03	-0.390
NB-94	235.69	*		1.143E-01	6.732E-02	1.011E-01	7.421E-03	1.130
NB-95M	724.18			7.730E-02	5.046E-02	7.641E-02	7.085E-03	1.012
	756.15	*		2.205E-02	3.355E-02	5.432E-02	5.344E-03	0.406
	657.90	*		2.978E-01	3.355E-02	Half-Life	too short	
	1024.50			-2.011E+01	3.355E-02	Half-Life	too short	
ZR-97	254.15			2.627E+00	3.355E-02	Half-Life	too short	
	355.39			7.706E+00	3.355E-02	Half-Life	too short	
	507.63	*		1.352E+01	3.355E-02	Half-Life	too short	
	602.52			-8.927E+00	3.355E-02	Half-Life	too short	
MO-99	1021.30			1.144E+00	3.355E-02	Half-Life	too short	
	1147.95			-5.880E+00	3.355E-02	Half-Life	too short	
	1362.66			-3.729E+00	3.355E-02	Half-Life	too short	
	1750.46			-8.792E+00	3.355E-02	Half-Life	too short	
TC-99M	140.51			3.501E+00	2.593E+01	3.598E+01	9.675E+00	0.097
	181.06			1.364E+00	1.433E+01	2.126E+01	3.610E+00	0.064
	366.43			3.742E+01	5.319E+01	9.111E+01	5.264E+00	0.411
	739.58	*		1.647E+01	9.599E+00	1.429E+01	2.180E+00	1.153
RH-101	778.00			-2.937E+01	2.404E+01	3.592E+01	3.354E+00	-0.818
RH-101	140.51	*		1.691E+11	2.404E+01	Half-Life	too short	
	127.23	+		1.558E-02	2.033E-02	3.109E-02	1.796E-03	0.501
	198.01	*		-1.381E-02	1.745E-02	2.714E-02	1.459E-03	-0.509
	325.23			6.008E-02	1.179E-01	1.685E-01	9.736E-03	0.357
RH-102	418.52			9.603E-02	1.289E-01	2.189E-01	1.301E-02	0.439
	475.06	*		7.602E-03	1.345E-02	2.253E-02	1.431E-03	0.337
	631.29			-4.854E-03	2.473E-02	3.953E-02	2.934E-03	-0.123
	697.49			-2.966E-02	3.513E-02	5.705E-02	4.638E-03	-0.520
RU-103	766.84	+		9.343E-01	1.376E-01	1.447E-01	1.326E-02	6.454
	1046.59			-2.770E-02	4.765E-02	7.776E-02	6.709E-03	-0.356
	1112.84			6.070E-02	1.083E-01	1.589E-01	1.128E-02	0.382
	497.08	*		-1.373E-02	1.873E-02	2.994E-02	3.888E-03	-0.458
	610.33	+		9.915E+00	1.792E+00	1.201E+00	1.926E-01	8.255

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-106	+	511.85		4.439E-01	1.666E-01	1.896E-01	1.253E-02	2.342
		621.84	*	-8.104E-02	1.415E-01	2.228E-01	2.803E-02	-0.364
		1050.47		7.868E-01	9.484E-01	1.633E+00	1.396E-01	0.482
RU-106	+	511.85		4.439E-01	1.666E-01	1.896E-01	1.253E-02	2.342
		621.84	*	-8.104E-02	1.413E-01	2.228E-01	1.640E-02	-0.364
		1050.47		7.868E-01	9.484E-01	1.633E+00	1.396E-01	0.482
AG-108M		433.93	*	2.634E-03	1.474E-02	2.462E-02	1.608E-03	0.107
		614.37		2.040E-02	1.947E-02	2.838E-02	2.187E-03	0.719
		722.95		-7.178E-03	2.100E-02	2.962E-02	2.619E-03	-0.242
AG-110M		657.75	*	2.054E-02	1.831E-02	2.772E-02	2.187E-03	0.741
		677.61		-3.948E-02	1.333E-01	2.209E-01	1.792E-02	-0.179
		706.67		2.083E-03	9.725E-02	1.624E-01	1.382E-02	0.013
		763.93		1.064E+00	1.480E-01	2.048E-01	1.915E-02	5.193
		884.67		1.209E-03	2.259E-02	3.701E-02	4.179E-03	0.033
		937.48		-6.048E-02	5.035E-02	7.720E-02	8.451E-03	-0.783
		1384.27		8.816E-02	7.269E-02	1.109E-01	8.600E-03	0.795
IN-111		171.28		-4.932E-01	7.465E-01	1.244E+00	6.546E-02	-0.396
		245.39	*	-7.576E-01	8.034E-01	1.123E+00	6.276E-02	-0.675
IN-113M		391.69	*	-1.208E-03	2.012E-02	3.367E-02	2.065E-03	-0.036
SN-113		391.69	*	-1.208E-03	2.012E-02	3.367E-02	2.065E-03	-0.036
IN-114M		190.27	*	3.278E-02	1.018E-01	1.514E-01	8.081E-03	0.217
CD-115		260.90		9.504E+01	1.095E+02	1.611E+02	9.096E+00	0.590
		492.35		-1.144E+00	2.465E+01	4.050E+01	2.622E+00	-0.028
		527.90	*	-3.892E-01	7.415E+00	1.211E+01	8.136E-01	-0.032
SN-117M		156.02		-6.262E-01	1.304E+00	2.194E+00	1.172E-01	-0.285
		158.56	*	-1.288E-02	3.560E-02	5.285E-02	2.809E-03	-0.244
SB-122		563.90	*	3.415E-01	1.374E+00	2.251E+00	1.568E-01	0.152
		692.80		2.314E+01	2.801E+01	4.788E+01	3.860E+00	0.483
I-123		159.00	*	-2.337E+00	2.801E+01	Half-Life	too short	
		528.96		6.128E+02	2.801E+01	Half-Life	too short	
TE-123M		159.00	*	-1.977E-03	1.730E-02	2.581E-02	1.393E-03	-0.077
I-124		602.71	*	-3.647E-01	4.879E-01	6.201E-01	4.484E-02	-0.588
		722.78		-1.123E+00	2.763E+00	3.884E+00	3.300E-01	-0.289
		1325.50		9.885E+00	1.854E+01	3.110E+01	2.321E+00	0.318
	+	1376.25		6.102E+01	2.903E+01	3.229E+01	2.418E+00	1.890
	+	1509.49		1.522E+01	1.156E+01	1.533E+01	1.098E+00	0.993
		1691.02		8.224E-01	1.772E+00	3.036E+00	1.958E-01	0.271
SB-124		602.71		-1.708E-02	2.284E-02	2.903E-02	2.100E-03	-0.588
		645.85		-1.890E-01	2.352E-01	3.660E-01	2.967E-02	-0.516
		709.31		-1.814E-01	1.272E+00	2.112E+00	1.753E-01	-0.086
		713.82		-4.509E-01	7.513E-01	1.225E+00	1.453E-01	-0.368
		722.78		-7.621E-02	1.875E-01	2.636E-01	2.290E-02	-0.289
	+	968.20		1.289E+01	2.102E+00	2.982E+00	3.033E-01	4.323
		1045.16		-1.012E+00	1.028E+00	1.644E+00	1.424E-01	-0.616
		1325.50		7.165E-01	1.344E+00	2.254E+00	1.682E-01	0.318
		1368.21		-1.270E-01	8.208E-01	1.123E+00	1.436E-01	-0.113
		1436.60		-3.199E-01	1.556E+00	2.492E+00	1.835E-01	-0.128
		1691.02	*	1.316E-02	2.837E-02	4.860E-02	3.353E-03	0.271
SB-125		427.89	*	-5.444E-05	4.028E-02	6.704E-02	4.189E-03	-0.001

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TE-125M I-126	+	463.38		4.891E-01	2.096E-01	2.366E-01	1.696E-02	2.067
		600.56		4.634E-02	9.437E-02	1.371E-01	1.092E-02	0.338
		635.90		1.115E-01	1.213E-01	2.010E-01	1.658E-02	0.555
		109.28	*	9.000E+00	9.696E+00	1.126E+01	9.900E-01	0.800
		388.63		9.280E-03	9.877E-02	1.660E-01	9.542E-03	0.056
		666.33	*	2.419E-02	9.788E-02	1.432E-01	1.101E-02	0.169
		753.82		5.147E-01	6.973E-01	1.183E+00	1.060E-01	0.435
	SB-126	223.80		-1.932E+00	2.181E+00	3.544E+00	1.948E-01	-0.545
	+	278.60		1.480E+00	1.672E+00	2.152E+00	1.227E-01	0.687
	+	296.50		1.082E+01	1.393E+00	1.671E+00	9.589E-02	6.480
SB-127		414.70		1.606E-02	4.188E-02	6.161E-02	3.644E-03	0.261
		415.30		1.056E+00	3.351E+00	5.141E+00	3.043E-01	0.205
		555.20		1.652E+00	1.931E+00	3.226E+00	2.229E-01	0.512
		573.80		-8.052E-01	5.286E-01	8.108E-01	5.705E-02	-0.993
		593.00		-2.806E-01	4.440E-01	7.021E-01	5.031E-02	-0.400
		656.30		3.212E-02	1.840E+00	2.670E+00	2.026E-01	0.012
		666.33		1.014E-02	4.104E-02	6.004E-02	4.615E-03	0.169
		675.00		-6.477E-01	9.257E-01	1.513E+00	1.181E-01	-0.428
		695.00		1.342E-02	3.740E-02	6.314E-02	5.111E-03	0.213
		697.00		-6.568E-02	1.328E-01	2.183E-01	1.774E-02	-0.301
		720.50	*	-1.841E-02	8.050E-02	1.142E-01	9.669E-03	-0.161
		856.80		1.289E-01	2.624E-01	3.783E-01	4.012E-02	0.341
		989.30		-5.078E-01	5.938E-01	9.214E-01	9.014E-02	-0.551
		1034.80		-3.681E+00	4.060E+00	6.246E+00	5.546E-01	-0.589
		1213.00		3.512E-01	2.130E+00	3.535E+00	2.125E-01	0.099
		61.10		1.469E+02	7.770E+01	1.174E+02	1.283E+01	1.251
		252.40		-3.519E+00	3.401E+00	4.253E+00	1.771E+00	-0.827
		290.80		-4.604E+00	1.483E+01	2.082E+01	2.006E+00	-0.221
		411.60		6.597E+00	8.140E+00	1.208E+01	1.782E+00	0.546
		444.90		-2.641E+00	5.555E+00	9.075E+00	1.035E+00	-0.291
XE-127		473.00		-2.851E-01	9.978E-01	1.633E+00	1.939E-01	-0.175
		543.00		-6.063E+00	9.794E+00	1.560E+01	2.146E+00	-0.389
		603.60		-1.006E+01	8.709E+00	1.076E+01	1.292E+00	-0.936
		685.20	*	-2.688E-01	7.763E-01	1.283E+00	1.453E-01	-0.209
		698.50		-8.663E+00	8.972E+00	1.437E+01	2.281E+00	-0.603
		722.20		-5.822E+00	1.952E+01	2.760E+01	3.171E+00	-0.211
		783.80		7.744E+00	2.832E+00	4.216E+00	5.632E-01	1.837
		57.60		-2.917E+00	6.057E+00	1.008E+01	7.771E-01	-0.289
	+	145.22		4.052E+00	6.703E-01	8.050E-01	4.401E-02	5.034
		172.10		-4.160E-02	6.451E-02	1.075E-01	5.659E-03	-0.387
I-131		202.84	*	1.410E-02	2.773E-02	4.117E-02	2.222E-03	0.343
		374.96		-1.186E-02	8.910E-02	1.493E-01	8.611E-03	-0.079
		80.18		-5.377E+00	6.056E+00	6.888E+00	6.012E-01	-0.781
		284.30		-3.102E-01	8.076E-01	1.300E+00	8.303E-02	-0.239
		364.48	*	6.393E-02	5.838E-02	1.008E-01	6.521E-03	0.634
TE-132		636.97		1.986E-02	7.957E-01	1.281E+00	1.028E-01	0.016
		722.89		-1.454E+00	3.989E+00	5.619E+00	4.813E-01	-0.259
		49.72		2.771E+00	2.681E+01	4.531E+01	4.807E+00	0.061
	+	111.76		9.029E+01	3.351E+01	5.958E+01	5.792E+00	1.515

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-133		116.30		7.617E+00	2.720E+01	3.922E+01	3.737E+00	0.194
		228.16	*	1.744E-01	4.605E-01	7.656E-01	1.113E-01	0.228
		53.15		-8.175E-01	3.575E+00	5.996E+00	4.758E-01	-0.136
		79.62		-1.330E+00	1.320E+00	1.723E+00	2.624E-01	-0.772
		81.00		9.210E-02	1.121E-01	1.319E-01	2.102E-02	0.698
I-133	+	276.40		2.045E-01	2.323E-01	2.957E-01	3.820E-02	0.692
		302.84		8.540E-02	7.513E-02	1.096E-01	1.275E-02	0.779
		356.01	*	1.209E-02	2.293E-02	3.252E-02	3.756E-03	0.372
		383.85		-3.981E-02	1.344E-01	2.237E-01	2.427E-02	-0.178
	+	510.53		2.763E+00	1.344E-01	Half-Life	too short	
CS-134		529.87	*	3.199E-03	1.344E-01	Half-Life	too short	
		706.58		1.427E-02	1.344E-01	Half-Life	too short	
		856.28		-6.456E-02	1.344E-01	Half-Life	too short	
		875.33		-2.068E-01	1.344E-01	Half-Life	too short	
		1236.41		2.036E+00	1.344E-01	Half-Life	too short	
I-135		1298.22		-4.576E-02	1.344E-01	Half-Life	too short	
		475.35		4.269E-01	8.764E-01	1.466E+00	9.311E-02	0.291
		563.23		8.543E-02	1.654E-01	2.731E-01	1.930E-02	0.313
		569.32		1.221E-01	9.924E-02	1.585E-01	1.133E-02	0.770
		604.70		-2.049E-02	1.943E-02	2.429E-02	1.766E-03	-0.844
CS-135	+	795.84	*	6.902E-02	3.296E-02	3.948E-02	3.818E-03	1.748
		801.93		-3.532E-01	2.330E-01	3.045E-01	2.970E-02	-1.160
		1038.57		5.538E-01	1.552E+00	2.635E+00	2.318E-01	0.210
		1167.94		-3.567E-02	1.082E+00	1.790E+00	1.015E-01	-0.020
		1365.15		-5.401E-01	5.356E-01	7.570E-01	6.022E-02	-0.713
I-135		268.24	*	1.249E-01	8.606E-02	1.278E-01	9.663E-03	0.977
		288.45		2.429E+11	8.606E-02	Half-Life	too short	
		417.63		6.153E+10	8.606E-02	Half-Life	too short	
		546.56		4.653E+10	8.606E-02	Half-Life	too short	
		836.80		3.426E+11	8.606E-02	Half-Life	too short	
CS-136		1038.76		6.879E+10	8.606E-02	Half-Life	too short	
		1124.00		4.032E+11	8.606E-02	Half-Life	too short	
		1131.51		8.201E+10	8.606E-02	Half-Life	too short	
		1260.41	*	2.026E+10	8.606E-02	Half-Life	too short	
		1457.56		3.596E+13	8.606E-02	Half-Life	too short	
CE-139		1678.03		5.313E+10	8.606E-02	Half-Life	too short	
		1706.46		-9.836E+10	8.606E-02	Half-Life	too short	
		1791.20		3.781E+10	8.606E-02	Half-Life	too short	
		66.91		-1.546E+00	8.080E-01	1.101E+00	1.662E-01	-1.405
	+	86.29		3.563E+00	1.216E+00	1.668E+00	2.199E-01	2.136
CE-139		153.22		4.148E-01	3.828E-01	6.587E-01	4.535E-02	0.630
	+	163.89		2.486E+00	9.565E-01	1.175E+00	8.025E-02	2.117
		176.55		-4.198E-02	2.051E-01	3.438E-01	2.084E-02	-0.122
		273.65		3.168E-02	3.514E-01	3.626E-01	2.363E-02	0.087
		340.57		3.952E-01	7.930E-02	1.232E-01	7.580E-03	3.208
CE-139		818.51		-1.443E-02	3.555E-02	5.761E-02	5.753E-03	-0.250
		1048.07	*	-2.687E-03	4.786E-02	7.987E-02	7.160E-03	-0.034
		1235.34		5.547E-01	3.361E-01	5.025E-01	5.166E-02	1.104
		165.85	*	6.197E-03	1.800E-02	2.705E-02	1.420E-03	0.229

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BA-140	+	162.64		1.754E+00	6.727E-01	8.180E-01	4.959E-02	2.145
		304.84		3.035E-01	7.217E-01	1.029E+00	2.806E-01	0.295
		423.70		-1.644E-02	8.904E-01	1.482E+00	4.716E-01	-0.011
		537.32	*	9.928E-02	1.301E-01	2.109E-01	6.898E-02	0.471
LA-140	+	328.77		5.183E-01	2.176E-01	2.582E-01	1.673E-02	2.008
		432.53		2.176E-01	9.954E-01	1.665E+00	1.104E-01	0.131
		487.03		3.324E-02	6.773E-02	1.131E-01	8.067E-03	0.294
		751.79		4.200E-02	8.134E-01	1.352E+00	1.328E-01	0.031
		815.85		-7.040E-02	1.498E-01	2.421E-01	2.616E-02	-0.291
		867.82		4.105E-01	6.576E-01	1.054E+00	1.176E-01	0.390
		919.63		-4.509E-01	1.371E+00	2.151E+00	2.718E-01	-0.210
		925.24		2.793E-02	5.451E-01	8.895E-01	1.007E-01	0.031
		1596.49	*	3.969E-02	4.013E-02	6.207E-02	4.258E-03	0.639
CE-141		145.44	*	2.630E-01	4.725E-02	7.112E-02	4.060E-03	3.698
CE-143		57.37		-8.254E-04	4.725E-02	Half-Life	too short	
		231.56		-1.144E-03	4.725E-02	Half-Life	too short	
		293.26	*	9.151E-04	4.725E-02	Half-Life	too short	
	+	350.59		4.944E-02	4.725E-02	Half-Life	too short	
		490.36		5.727E-04	4.725E-02	Half-Life	too short	
		664.57		5.406E-03	4.725E-02	Half-Life	too short	
		721.93		-3.941E-04	4.725E-02	Half-Life	too short	
CE-144		80.11		-2.239E+00	2.480E+00	2.820E+00	2.441E-01	-0.794
		133.54	*	5.089E-02	1.374E-01	1.964E-01	2.777E-02	0.259
PM-144		476.78		-6.976E-03	3.073E-02	5.035E-02	3.736E-03	-0.139
		618.01		6.807E-03	1.512E-02	2.336E-02	1.778E-03	0.291
		696.49	*	-8.384E-03	1.579E-02	2.593E-02	2.105E-03	-0.323
		778.57		-1.051E+00	1.155E+00	1.697E+00	1.586E-01	-0.619
PR-144		696.49	*	-5.686E-01	1.071E+00	1.758E+00	1.427E-01	-0.323
		1489.15		-2.863E+00	4.742E+00	7.330E+00	5.296E-01	-0.391
PM-146		453.90	*	1.039E-02	1.968E-02	3.304E-02	2.940E-03	0.315
		633.02		-2.596E-01	6.370E-01	9.983E-01	3.705E-01	-0.260
		735.90		-3.521E-02	7.894E-02	1.096E-01	3.137E-02	-0.321
		747.13		2.743E-02	4.603E-02	6.751E-02	9.579E-03	0.406
ND-147	+	91.11		1.418E+00	3.260E-01	7.710E-01	7.252E-02	1.839
		319.41		-7.435E-01	1.698E+00	2.702E+00	1.561E-01	-0.275
		439.89		-2.664E-01	2.841E+00	4.705E+00	2.871E-01	-0.057
		531.02	*	2.230E-02	2.730E-01	4.474E-01	6.242E-02	0.050
PM-149		285.90	*	-3.856E+01	6.860E+01	1.096E+02	1.551E+01	-0.352
EU-152		121.78		-2.632E-02	4.602E-02	7.304E-02	5.629E-03	-0.360
		244.69		2.049E-01	1.722E-01	2.568E-01	1.434E-02	0.798
		344.27	*	-1.906E-02	4.984E-02	7.262E-02	4.739E-03	-0.263
		443.98		2.158E-02	4.212E-01	6.999E-01	4.289E-02	0.031
		778.89		-9.357E-02	1.325E-01	1.967E-01	1.839E-02	-0.476
		867.32		3.218E-01	3.739E-01	5.884E-01	6.344E-02	0.547
	+	964.01		5.545E-01	1.700E-01	2.402E-01	2.461E-02	2.308
		1085.78		-9.147E-02	1.591E-01	2.586E-01	2.004E-02	-0.354
		1112.02		1.362E-01	1.501E-01	2.245E-01	1.598E-02	0.607
		1407.95		4.465E-02	7.933E-02	1.328E-01	9.864E-03	0.336
GD-153		69.67		2.256E+00	1.507E+00	2.277E+00	1.848E-01	0.991

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	+	83.37		4.916E+01	1.828E+01	2.187E+01	1.943E+00	2.248
	+	97.43	*	8.189E-01	1.067E-01	1.144E-01	8.946E-03	7.157
		103.18		1.841E-02	9.902E-02	1.135E-01	8.186E-03	0.162
		123.07		7.522E-03	3.200E-02	5.151E-02	4.871E-03	0.146
		247.94		3.023E-01	1.948E-01	2.912E-01	2.743E-02	1.038
		591.81		-1.522E-01	2.915E-01	4.340E-01	4.616E-02	-0.351
		723.30		-9.381E-03	8.887E-02	1.268E-01	1.195E-02	-0.074
		756.87		3.561E-01	3.684E-01	5.849E-01	7.171E-02	0.609
		873.19		-7.416E-02	1.288E-01	2.053E-01	2.859E-02	-0.361
		996.32		9.151E-01	2.652E-01	3.482E-01	6.367E-02	2.628
		1004.76		7.422E-01	1.538E-01	2.196E-01	2.700E-02	3.380
		1274.45	*	-8.730E-03	4.928E-02	8.024E-02	8.015E-03	-0.109
TB-160	+	86.79		8.268E-01	2.709E-01	3.847E-01	3.520E-02	2.149
		197.04		1.946E-02	2.792E-01	4.669E-01	2.508E-02	0.042
		215.65		2.176E-02	3.651E-01	6.066E-01	3.311E-02	0.036
		298.57		1.688E-01	8.097E-02	9.187E-02	5.277E-03	1.837
		879.36	*	4.085E-02	6.424E-02	1.074E-01	1.179E-02	0.380
		962.29		7.777E-01	2.889E-01	4.257E-01	4.373E-02	1.827
		966.15		1.155E+00	1.633E-01	2.307E-01	2.354E-02	5.006
		1177.93		6.289E-02	1.583E-01	2.657E-01	1.484E-02	0.237
		1271.85		-3.443E-02	2.895E-01	4.729E-01	3.195E-02	-0.073
		80.57		-1.035E-02	3.126E-01	3.638E-01	3.160E-02	-0.028
	+	184.41		9.774E-01	6.331E-02	5.828E-02	3.097E-03	16.770
		280.46		1.930E-02	4.484E-02	6.477E-02	3.694E-03	0.298
HO-166M		410.95		1.717E-01	1.261E-01	1.916E-01	1.128E-02	0.896
		711.68	*	-1.306E-02	2.726E-02	4.473E-02	3.728E-03	-0.292
		752.31		9.405E-02	1.198E-01	2.035E-01	1.820E-02	0.462
		810.29		-4.239E-02	2.669E-02	4.086E-02	4.023E-03	-1.038
		51.35		-1.617E+01	3.110E+01	5.199E+01	4.121E+00	-0.311
		52.39		-8.275E+00	1.584E+01	2.645E+01	2.102E+00	-0.313
		59.40		2.867E+01	2.787E+01	4.243E+01	3.221E+00	0.676
		66.72	*	-4.539E+01	2.623E+01	3.711E+01	2.967E+00	-1.223
	+	88.36		6.014E-01	1.971E-01	2.793E-01	2.564E-02	2.154
		201.83		2.490E-04	1.658E-02	2.434E-02	1.313E-03	0.010
		306.84	*	2.811E-03	1.205E-02	1.892E-02	1.090E-03	0.149
		401.10		2.652E+00	3.001E+00	5.126E+00	2.980E-01	0.517
LU-177M		52.97		-6.543E-01	1.629E+00	2.725E+00	2.163E-01	-0.240
		54.07		-1.704E-01	8.511E-01	1.427E+00	1.128E-01	-0.119
		61.30		4.397E+00	1.583E+00	2.418E+00	1.869E-01	1.818
		121.62		-1.405E-01	2.373E-01	3.766E-01	2.234E-02	-0.373
		147.16		-6.888E-02	4.218E-01	5.909E-01	3.216E-02	-0.117
		171.86		-2.335E-01	2.561E-01	4.246E-01	2.235E-02	-0.550
		218.09		1.326E-01	4.148E-01	6.921E-01	3.786E-02	0.192
		268.79		8.292E-01	4.394E-01	6.607E-01	3.746E-02	1.255
		319.02		-5.334E-02	1.222E-01	1.946E-01	1.123E-02	-0.274
		367.43		-1.832E-01	4.080E-01	6.791E-01	3.922E-02	-0.270
		413.65	*	-5.386E-02	9.277E-02	1.315E-01	7.770E-03	-0.409
		56.28		6.965E-02	9.446E-01	1.586E+00	1.236E-01	0.044
HF-181		57.53		-1.561E-01	5.066E-01	8.454E-01	6.519E-02	-0.185

---- 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		1.053E+01	1.309E+00	1.704E+00	1.351E-01	6.182
	+	133.02		9.748E-02	4.740E-02	6.537E-02	3.698E-03	1.491
		136.25		6.029E-02	3.174E-01	4.514E-01	2.527E-02	0.134
		345.85		-1.362E-02	1.000E-01	1.469E-01	8.501E-03	-0.093
		482.03	*	-5.888E-03	1.977E-02	3.229E-02	2.067E-03	-0.182
		56.28		2.790E-02	3.643E-01	6.117E-01	4.765E-02	0.046
TA-182		57.53		-6.045E-02	1.955E-01	3.263E-01	2.516E-02	-0.185
		65.20	*	4.033E+00	5.012E-01	6.524E-01	5.174E-02	6.182
		67.75		-2.076E-01	1.054E-01	1.482E-01	1.191E-02	-1.401
	+	100.10		1.916E+00	2.497E-01	2.389E-01	1.796E-02	8.021
		152.43		1.133E-01	1.968E-01	3.141E-01	1.690E-02	0.361
		222.10		7.259E-02	1.697E-01	2.834E-01	1.555E-02	0.256
RE-183	+	1001.68		4.245E+01	4.638E+00	4.160E+00	3.971E-01	10.205
		1121.28		4.245E-01	8.866E-02	1.409E-01	9.710E-03	3.012
		1189.05		-7.933E-03	1.280E-01	2.110E-01	1.207E-02	-0.038
		1221.42	*	1.936E-02	8.573E-02	1.425E-01	8.716E-03	0.136
		1230.97		-1.783E-02	2.408E-01	3.372E-01	2.103E-02	-0.053
		57.98		4.462E-02	2.032E-01	3.262E-01	2.506E-02	0.137
RE-184		59.32		1.112E-01	1.161E-01	1.766E-01	1.342E-02	0.629
		67.20		-2.876E-01	1.871E-01	2.662E-01	2.133E-02	-1.081
	+	162.32	*	2.412E-01	9.221E-02	1.115E-01	5.885E-03	2.163
	+	208.81		1.738E+00	6.381E-01	8.741E-01	4.743E-02	1.988
		291.72		-5.627E-01	5.150E-01	7.020E-01	4.023E-02	-0.801
		57.98		1.631E-01	7.428E-01	1.192E+00	9.159E-02	0.137
OS-185		59.32		4.060E-01	4.239E-01	6.450E-01	4.901E-02	0.629
		67.20		-1.051E+00	6.836E-01	9.725E-01	7.795E-02	-1.081
		161.27		3.979E-02	2.157E-01	3.237E-01	1.712E-02	0.123
		216.55		-3.741E-02	1.289E-01	2.126E-01	1.161E-02	-0.176
		252.85	*	-2.357E-01	1.306E-01	1.761E-01	9.891E-03	-1.339
		318.01		8.066E-03	2.132E-01	3.438E-01	1.985E-02	0.023
RE-188		792.07		1.420E+00	7.597E-01	7.987E-01	7.633E-02	1.777
		903.28		8.253E-02	5.118E-01	7.221E-01	8.106E-02	0.114
		920.93		-7.822E-02	2.046E-01	3.279E-01	3.593E-02	-0.239
		59.72		3.500E-01	3.098E-01	4.720E-01	3.590E-02	0.742
		61.14		3.476E-01	1.720E-01	2.627E-01	2.027E-02	1.323
		69.30		5.345E-01	2.704E-01	4.097E-01	3.319E-02	1.305
W-188		592.07		-8.227E-01	1.161E+00	1.776E+00	1.272E-01	-0.463
		646.12	*	-1.391E-02	1.993E-02	3.116E-02	2.343E-03	-0.446
		717.42		1.784E-01	4.055E-01	6.847E-01	5.765E-02	0.261
		874.81		-4.243E-01	2.677E-01	4.037E-01	4.404E-02	-1.051
		880.27		1.970E-01	3.635E-01	6.055E-01	6.660E-02	0.325
		155.03	*	2.630E-02	9.359E-02	1.594E-01	8.532E-03	0.165
IR-192		477.96		4.022E-01	1.421E+00	2.363E+00	1.506E-01	0.170
		633.10		-5.998E-01	1.290E+00	2.040E+00	1.517E-01	-0.294
	+	63.58		2.756E+03	2.375E+02	1.489E+02	1.170E+01	18.516
W-188		227.08		9.158E+00	6.380E+00	1.081E+01	5.959E-01	0.847
		290.67	*	-1.245E+00	4.047E+00	5.683E+00	3.255E-01	-0.219
	+	295.96		7.767E-01	1.002E-01	1.221E-01	7.119E-03	6.362
IR-192		308.46		9.686E-03	4.542E-02	7.377E-02	4.298E-03	0.131

---- 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	*	1.015E-02	1.635E-02	2.677E-02	1.553E-03	0.379
		468.07		-2.859E-03	3.464E-02	4.945E-02	3.524E-03	-0.058
		604.41		-3.488E-01	2.697E-01	3.299E-01	4.009E-02	-1.057
		612.46		1.956E+00	4.327E-01	6.604E-01	5.793E-02	2.961
		65.12		2.231E+00	2.539E-01	3.134E-01	2.485E-02	7.118
		66.83		-1.793E-01	8.799E-02	1.234E-01	9.870E-03	-1.454
	+	75.70		9.964E-01	2.115E-01	2.870E-01	2.410E-02	3.472
	+	98.88	*	2.388E+00	3.112E-01	3.414E-01	2.612E-02	6.994
	+	129.76		1.379E+00	1.800E+00	2.912E+00	1.666E-01	0.474
		367.94	*	-1.114E-04	1.800E+00	Half-Life	too short	
TL-200		579.30		8.382E-03	1.800E+00	Half-Life	too short	
		828.27		-8.009E-04	1.800E+00	Half-Life	too short	
		1205.75		4.632E-04	1.800E+00	Half-Life	too short	
		68.90		9.466E+00	5.884E+00	8.909E+00	7.202E-01	1.063
TL-201		70.82		4.858E+00	3.392E+00	5.114E+00	4.176E-01	0.950
		80.30		-2.741E+00	7.949E+00	9.181E+00	7.960E-01	-0.299
		135.34		4.013E+00	2.337E+01	3.324E+01	1.866E+00	0.121
		167.43	*	4.195E+00	5.654E+00	8.563E+00	4.495E-01	0.490
TL-202		68.90		6.699E-01	4.164E-01	6.305E-01	5.097E-02	1.063
		70.82		3.428E-01	2.394E-01	3.610E-01	2.947E-02	0.950
		80.30		-1.935E-01	5.612E-01	6.482E-01	5.620E-02	-0.299
		439.56	*	-1.903E-03	3.358E-02	5.567E-02	3.394E-03	-0.034
HG-203		70.83		1.412E+00	9.896E-01	1.475E+00	1.966E-01	0.957
		72.87		6.324E-01	5.148E-01	8.528E-01	1.106E-01	0.741
		82.60		2.873E+00	1.125E+00	1.607E+00	2.230E-01	1.788
		279.20	*	2.313E-02	2.265E-02	3.327E-02	2.018E-03	0.695
BI-207		72.80		1.511E-01	1.464E-01	2.443E-01	2.016E-02	0.619
	+	74.97		5.498E-01	1.167E-01	1.525E-01	1.275E-02	3.606
	+	84.90		6.334E-01	2.356E-01	2.780E-01	2.501E-02	2.279
		569.67		1.825E-02	1.538E-02	2.453E-02	1.719E-03	0.744
TL-207		1063.62	*	9.431E-03	2.403E-02	3.740E-02	3.087E-03	0.252
		1770.23		-3.522E-02	1.872E-01	2.543E-01	1.538E-02	-0.139
		81.07		2.056E-01	2.458E-01	2.910E-01	2.538E-02	0.706
	+	83.78		4.176E-01	1.553E-01	1.863E-01	1.660E-02	2.242
	+	94.90		1.147E+00	2.694E-01	4.340E-01	3.532E-02	2.642
		122.32		8.096E-03	1.094E+00	1.755E+00	1.192E-01	0.005
	+	144.24		3.869E+00	6.615E-01	8.098E-01	5.651E-02	4.778
		154.21		1.696E-01	2.126E-01	3.646E-01	2.426E-02	0.465
	+	269.46		2.430E-01	1.300E-01	1.575E-01	9.354E-03	1.543
		323.87	*	3.134E-01	3.426E-01	4.923E-01	8.127E-02	0.636
PO-209	+	338.28		5.082E+00	9.988E-01	1.055E+00	1.111E-01	4.816
		445.03		-7.219E-01	1.011E+00	1.637E+00	1.713E-01	-0.441
		260.50		1.003E+01	5.385E+00	8.119E+00	4.582E-01	1.235
		262.80		-7.559E+00	1.438E+01	2.025E+01	1.144E+00	-0.373
		896.60	*	1.302E+00	3.218E+00	5.335E+00	6.018E-01	0.244
		46.50	*	-1.613E+00	3.970E+00	6.424E+00	4.970E-01	-0.251
BI-210		46.50	*	-1.613E+00	3.970E+00	6.424E+00	4.970E-01	-0.251
PB-210		46.50	*	-1.613E+00	3.970E+00	6.424E+00	4.273E-01	-0.251
PO-210		46.50	*	-1.613E+00	3.970E+00	6.424E+00	4.273E-01	-0.251
PB-211		404.84	*	-3.516E-01	5.200E-01	6.657E-01	4.150E-01	-0.528

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-215		427.08		3.171E-01	9.225E-01	1.515E+00	9.368E-01	0.209
		831.96		3.595E-01	5.850E-01	9.081E-01	5.712E-01	0.396
		81.07		2.056E-01	2.458E-01	2.910E-01	2.538E-02	0.706
	+	83.78		4.176E-01	1.553E-01	1.863E-01	1.660E-02	2.242
	+	94.90		1.147E+00	2.694E-01	4.340E-01	3.532E-02	2.642
		122.32		8.096E-03	1.094E+00	1.755E+00	1.192E-01	0.005
	+	144.24		3.869E+00	6.615E-01	8.098E-01	5.651E-02	4.778
		154.21		1.696E-01	2.126E-01	3.646E-01	2.426E-02	0.465
	+	269.46		2.430E-01	1.300E-01	1.575E-01	9.354E-03	1.543
		323.87	*	3.134E-01	3.426E-01	4.923E-01	8.127E-02	0.636
RN-219	+	338.28		5.082E+00	9.988E-01	1.055E+00	1.111E-01	4.816
		445.03		-7.219E-01	1.011E+00	1.637E+00	1.713E-01	-0.441
	+	271.23		3.118E-01	1.676E-01	2.034E-01	1.630E-02	1.533
RN-220		401.81	*	2.586E-01	1.851E-01	3.150E-01	4.289E-02	0.821
RA-223		549.76	*	-4.459E+00	1.191E+01	1.917E+01	1.317E+00	-0.233
		81.07		2.056E-01	2.458E-01	2.910E-01	2.538E-02	0.706
	+	83.78		4.176E-01	1.553E-01	1.863E-01	1.660E-02	2.242
	+	94.90		1.147E+00	2.694E-01	4.340E-01	3.532E-02	2.642
		122.32		8.096E-03	1.094E+00	1.755E+00	1.192E-01	0.005
	+	144.24		3.869E+00	6.615E-01	8.098E-01	5.651E-02	4.778
		154.21		1.696E-01	2.126E-01	3.646E-01	2.426E-02	0.465
	+	269.46		2.430E-01	1.300E-01	1.575E-01	9.354E-03	1.543
		323.87	*	3.134E-01	3.426E-01	4.923E-01	8.127E-02	0.636
	+	338.28		5.082E+00	9.988E-01	1.055E+00	1.111E-01	4.816
		445.03		-7.219E-01	1.011E+00	1.637E+00	1.713E-01	-0.441
AC-227		79.80		-1.856E+00	1.952E+00	2.176E+00	4.681E-01	-0.853
		236.00		4.913E-01	1.368E-01	2.018E-01	2.082E-02	2.434
		256.20	*	4.254E-01	2.209E-01	3.240E-01	4.500E-02	1.313
		286.10		-3.793E-01	7.408E-01	1.187E+00	1.367E-01	-0.320
	+	299.80		2.517E+00	9.954E-01	1.177E+00	1.915E-01	2.138
		304.40		1.085E-02	9.880E-01	1.397E+00	2.414E-01	0.008
		334.20		3.865E-01	1.250E+00	1.646E+00	3.016E-01	0.235
	TH-227	79.80		-1.856E+00	1.953E+00	2.176E+00	4.741E-01	-0.853
	+	94.00		9.173E+00	2.830E+00	6.308E+00	1.365E+00	1.454
		236.00		4.913E-01	1.344E-01	2.018E-01	1.796E-02	2.434
		256.20	*	4.254E-01	2.245E-01	3.240E-01	5.456E-02	1.313
		286.10		-3.793E-01	8.314E-01	1.187E+00	1.189E+00	-0.320
	+	299.80		2.517E+00	9.954E-01	1.177E+00	1.915E-01	2.138
		304.40		1.085E-02	9.880E-01	1.397E+00	2.414E-01	0.008
		334.20		3.865E-01	1.250E+00	1.646E+00	3.016E-01	0.235
	PA-231	283.67	*	-4.897E-01	7.616E-01	1.170E+00	1.608E-01	-0.418
	+	301.29		1.007E+00	3.778E-01	4.670E-01	4.868E-02	2.156
	TH-231	81.07		2.056E-01	2.458E-01	2.910E-01	2.538E-02	0.706
	+	83.78		4.176E-01	1.553E-01	1.863E-01	1.660E-02	2.242
	+	94.90		1.147E+00	2.694E-01	4.340E-01	3.532E-02	2.642
		122.32		8.096E-03	1.094E+00	1.755E+00	1.192E-01	0.005
	+	144.24		3.869E+00	6.615E-01	8.098E-01	5.651E-02	4.778
		154.21		1.696E-01	2.126E-01	3.646E-01	2.426E-02	0.465
	+	269.46		2.430E-01	1.300E-01	1.575E-01	9.354E-03	1.543

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233		323.87	*	3.134E-01	3.426E-01	4.923E-01	8.127E-02	0.636
	+	338.28		5.082E+00	9.988E-01	1.055E+00	1.111E-01	4.816
		445.03		-7.219E-01	1.011E+00	1.637E+00	1.713E-01	-0.441
	+	75.28		1.604E+01	3.968E+00	4.461E+00	6.786E-01	3.597
	+	86.59		4.964E+00	2.058E+00	2.317E+00	6.253E-01	2.143
	+	300.12		7.017E-01	2.699E-01	3.281E-01	4.402E-02	2.138
		311.98	*	-1.612E-02	2.966E-02	4.714E-02	2.888E-03	-0.342
		340.50		1.929E+00	5.602E-01	5.644E-01	1.296E-01	3.418
		398.62		-4.779E-01	9.379E-01	1.535E+00	3.969E-01	-0.311
		415.76		4.349E-01	7.941E-01	1.264E+00	2.607E-01	0.344
PA-234	+	63.00		7.882E+01	1.222E+01	4.393E+00	6.623E-01	17.940
	+	94.67		8.180E-01	2.056E-01	3.679E-01	4.450E-02	2.223
	+	98.44		9.623E-01	5.450E-01	1.383E-01	7.696E-02	6.959
	+	99.86		4.988E+00	6.502E-01	6.600E-01	4.979E-02	7.558
	+	111.00		4.178E-01	1.562E-01	2.449E-01	2.628E-02	1.706
	+	131.20		1.520E-01	7.391E-02	1.071E-01	6.095E-03	1.419
		152.70		1.438E-01	1.890E-01	3.006E-01	4.707E-02	0.478
	+	186.00		3.519E+01	1.080E+01	2.295E+00	6.994E-01	15.328
		226.40		2.433E-01	2.013E-01	3.375E-01	3.853E-02	0.721
		227.20		2.655E-01	2.128E-01	3.596E-01	1.982E-02	0.738
		248.90		4.801E-01	4.167E-01	6.592E-01	1.413E-01	0.728
		293.70		3.892E+00	7.466E-01	7.193E-01	1.155E-01	5.410
		369.80		-2.697E-01	3.788E-01	6.190E-01	1.288E-01	-0.436
		568.70		6.250E-01	5.028E-01	8.037E-01	5.627E-02	0.778
		569.50		1.716E-01	1.368E-01	2.186E-01	1.532E-02	0.785
		574.00		-1.174E+00	7.029E-01	1.071E+00	7.539E-02	-1.096
		699.00		-1.075E-01	3.247E-01	5.358E-01	1.011E-01	-0.201
		706.10		1.170E-01	4.806E-01	8.031E-01	3.575E-01	0.146
		733.00		1.277E-01	1.890E-01	2.766E-01	6.144E-02	0.462
	+	742.81		1.803E+00	1.625E+00	1.286E+00	8.646E-01	1.402
NP-236		796.30		1.238E+00	6.142E-01	7.648E-01	2.095E-01	1.618
		805.60		1.180E+00	5.873E-01	8.221E-01	2.548E-01	1.435
		819.60		-1.880E-01	5.594E-01	9.021E-01	3.461E-01	-0.208
		826.30		-1.735E-01	3.865E-01	6.126E-01	2.760E-01	-0.283
		831.60		-1.077E-02	2.818E-01	4.628E-01	1.404E-01	-0.023
		876.40		-7.882E-02	3.824E-01	6.066E-01	6.250E-01	-0.130
		880.51		1.240E-01	1.298E-01	2.187E-01	2.406E-02	0.567
		883.24		1.325E-01	1.576E-01	2.203E-01	1.488E-01	0.602
		899.00		-2.169E-02	3.686E-01	6.003E-01	2.660E-01	-0.036
		925.00		2.165E-01	5.187E-01	8.579E-01	9.346E-02	0.252
		926.50		-4.171E-02	8.088E-02	1.278E-01	3.339E-02	-0.326
		946.00	*	2.238E-01	1.468E-01	2.412E-01	4.758E-02	0.928
		949.00		3.219E-02	2.066E-01	3.375E-01	3.544E-02	0.095
		980.50		5.220E-02	3.197E-01	5.212E-01	5.184E-02	0.100
		1394.10		-5.288E-02	4.842E-01	7.810E-01	5.072E-01	-0.068
	+	94.67		6.204E-01	1.458E-01	2.805E-01	2.292E-02	2.212
	+	98.44		7.274E-01	9.482E-02	1.045E-01	8.051E-03	6.958
	+	111.00		3.160E-01	1.151E-01	1.853E-01	1.219E-02	1.706
		160.31	*	-1.792E-02	4.774E-02	7.078E-02	3.750E-03	-0.253

---- 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		1.663E+00	2.167E-01	2.292E-01	1.736E-02	7.256
		117.00	*	-6.923E-02	1.373E-01	1.945E-01	1.204E-02	-0.356
	+	209.75		1.352E+00	4.965E-01	6.844E-01	3.717E-02	1.975
		228.18		4.143E-02	1.116E-01	1.858E-01	1.025E-02	0.223
	+	277.60		9.980E-02	1.127E-01	1.446E-01	8.237E-03	0.690
		334.30		1.986E-01	7.069E-01	9.307E-01	5.383E-02	0.213
AM-241		59.54	*	1.862E-01	1.617E-01	2.463E-01	2.042E-02	0.756
CM-243	+	99.55		1.711E+00	2.230E-01	2.358E-01	1.787E-02	7.256
		103.76	*	5.084E-02	9.162E-02	1.061E-01	7.598E-03	0.479
		117.00		-7.123E-02	1.413E-01	2.001E-01	1.238E-02	-0.356
	+	209.75		1.333E+00	4.895E-01	6.747E-01	3.664E-02	1.975
		228.18		4.186E-02	1.128E-01	1.878E-01	1.036E-02	0.223
	+	277.60		1.006E-01	1.137E-01	1.458E-01	8.305E-03	0.690
AM-246		798.80		-4.781E-02	7.527E-02	1.032E-01	9.971E-03	-0.463
		1036.00		-9.307E-02	1.203E-01	1.945E-01	1.722E-02	-0.478
		1062.04		-1.767E-02	1.037E-01	1.572E-01	1.304E-02	-0.112
		1078.86	*	4.363E-02	5.739E-02	9.849E-02	7.790E-03	0.443
CM-247	+	278.00		4.139E-01	4.676E-01	5.998E-01	3.417E-02	0.690
		287.40		6.514E-01	5.890E-01	9.804E-01	5.608E-02	0.664
		402.60	*	2.330E-02	1.711E-02	2.808E-02	1.635E-03	0.830
CF-249		252.85		-8.795E-01	4.873E-01	6.570E-01	3.690E-02	-1.339
		333.44		9.695E-02	1.162E-01	1.231E-01	7.117E-03	0.788
		387.95	*	-1.023E-02	1.789E-02	2.955E-02	1.699E-03	-0.346
CF-251		176.60	*	-1.223E-02	6.570E-02	1.102E-01	5.819E-03	-0.111
		227.00		2.760E-01	1.889E-01	3.203E-01	1.765E-02	0.862
		285.00		-5.779E-01	8.399E-01	1.341E+00	7.666E-02	-0.431

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]G245808003      *
* Acquisition date   : 11-FEB-2010 22:27:19 Detector SN# :                  *
* Detector ID        : GAM18 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time: 0 06:00:00.00 Abundance limit : 75.000               *
* Elapsed real time: 0 06:00:07.44 Half life ratio : 8.000               *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245808003 Analyst initials: RXF2                  *
* Batch Number       : 947554 Sample Quantity : 1.4985E+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	2.690E+01	2.129E+00	1.919E-01	0.000E+00
NB-95	3.766E-01	5.435E-02	3.204E-02	0.000E+00
CD-109	2.585E+00	8.302E-01	1.053E+00	0.000E+00
SN-126	2.536E-01	8.143E-02	1.039E-01	0.000E+00
BA-137M	1.700E-01	3.199E-02	2.788E-02	0.000E+00
CS-137	1.797E-01	3.383E-02	2.947E-02	0.000E+00
EU-155	1.169E-01	8.716E-02	1.248E-01	0.000E+00
LU-177	2.203E+00	7.929E-01	1.009E+00	0.000E+00
TL-208	4.086E-01	4.795E-02	2.663E-02	0.000E+00
BI-211	3.078E+00	2.789E-01	1.598E-01	0.000E+00
BI-212	6.041E-01	2.097E-01	2.109E-01	0.000E+00
PB-212	1.257E+00	9.997E-02	4.531E-02	0.000E+00
PO-212	1.257E+00	9.997E-02	4.531E-02	0.000E+00
BI-214	8.958E-01	1.073E-01	5.176E-02	0.000E+00
PB-214	1.071E+00	1.114E-01	5.398E-02	0.000E+00
PO-214	1.071E+00	1.114E-01	5.398E-02	0.000E+00
PO-216	1.257E+00	9.997E-02	4.531E-02	0.000E+00
PO-218	1.071E+00	1.114E-01	5.398E-02	0.000E+00
RA-224	4.016E+00	6.430E-01	5.149E-01	0.000E+00
RA-226	8.958E-01	1.073E-01	5.176E-02	0.000E+00
AC-228	1.297E+00	2.042E-01	9.046E-02	0.000E+00
RA-228	1.297E+00	2.042E-01	9.046E-02	0.000E+00
TH-228	1.278E+00	1.016E-01	4.606E-02	0.000E+00
TH-229	1.969E-01	2.459E-01	4.498E-01	0.000E+00
TH-230	8.958E-01	1.073E-01	5.176E-02	0.000E+00
U-231	7.054E+00	1.624E+00	1.627E+00	0.000E+00
TH-232	1.297E+00	2.042E-01	9.046E-02	0.000E+00
PA-234M	9.556E+01	1.125E+01	3.134E+00	0.000E+00
TH-234	6.762E+01	1.192E+01	1.982E+00	0.000E+00
U-234	8.958E-01	1.073E-01	5.176E-02	0.000E+00
U-235	1.194E+00	2.631E-01	2.065E-01	0.000E+00
NP-237	7.447E-01	2.826E-01	3.486E-01	0.000E+00
U-238	6.762E+01	1.192E+01	1.982E+00	0.000E+00
AM-243	3.063E-01	6.371E-02	8.055E-02	0.000E+00

ANH-511 8.863E-02 3.260E-02 2.191E-02 0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-7.856E-03	1.475E-01	2.566E-01	0.000E+00	NOT IDENT.
NA-22	-5.750E-03	1.744E-02	2.908E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.581E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	7.869E-03	1.095E-02	1.947E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.423E-02	5.800E-02	0.000E+00	FAIL ABUN
SC-46	-1.294E-02	1.693E-02	2.780E-02	0.000E+00	FAIL ABUN
V-48	-1.274E-02	3.224E-02	5.323E-02	0.000E+00	NOT IDENT.
CR-51	-7.177E-02	1.779E-01	3.023E-01	0.000E+00	NOT IDENT.
MN-52	6.503E-02	1.105E-01	1.909E-01	0.000E+00	NOT IDENT.
MN-54	-1.093E-02	1.679E-02	2.807E-02	0.000E+00	NOT IDENT.
CO-56	-8.971E-03	1.765E-02	2.958E-02	0.000E+00	FAIL ABUN
CO-57	-2.843E-03	1.552E-02	2.708E-02	0.000E+00	NOT IDENT.
CO-58	-3.374E-02	1.770E-02	2.778E-02	0.000E+00	NOT IDENT.
FE-59	-2.225E-02	3.832E-02	6.446E-02	0.000E+00	FAIL ABUN
CO-60	1.043E-03	1.632E-02	2.757E-02	0.000E+00	NOT IDENT.
ZN-65	-9.553E-03	4.544E-02	6.613E-02	0.000E+00	NOT IDENT.
GE-68	6.532E-02	5.015E-01	8.706E-01	0.000E+00	NOT IDENT.
AS-73	-9.423E-02	8.212E-01	1.533E+00	0.000E+00	NOT IDENT.
AS-74	-7.103E-02	4.614E-02	7.063E-02	0.000E+00	NOT IDENT.
SE-75	1.734E-02	2.758E-02	3.658E-02	0.000E+00	NOT IDENT.
BR-77	3.759E+00	6.813E+00	1.196E+01	0.000E+00	FAIL ABUN
SR-82	-1.190E-01	1.799E-01	3.035E-01	0.000E+00	NOT IDENT.
RB-83	1.576E-02	3.024E-02	5.302E-02	0.000E+00	NOT IDENT.
RB-84	4.049E-02	3.293E-02	5.803E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	3.888E+00	6.465E+00	0.000E+00	NOT IDENT.
SR-85	0.000E+00	2.023E-02	3.364E-02	0.000E+00	NOT IDENT.
RB-86	-5.014E-04	3.375E-01	5.830E-01	0.000E+00	NOT IDENT.
Y-88	-8.161E-03	1.424E-02	2.273E-02	0.000E+00	NOT IDENT.
ZR-88	4.704E-03	1.353E-02	2.427E-02	0.000E+00	NOT IDENT.
Y-91	4.349E+00	7.780E+00	1.353E+01	0.000E+00	NOT IDENT.
NB-94	1.242E-02	1.513E-02	2.700E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	6.597E-02	1.065E-01	0.000E+00	NOT IDENT.
ZR-95	2.205E-02	3.288E-02	5.561E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.001E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	3.756E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	0.000E+00	9.407E+00	1.463E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.228E+18	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.381E-02	1.710E-02	2.870E-02	0.000E+00	FAIL ABUN
RH-102	7.602E-03	1.318E-02	2.333E-02	0.000E+00	FAIL ABUN
RU-103	-1.373E-02	1.835E-02	3.097E-02	0.000E+00	FAIL ABUN
RH-106	-8.104E-02	1.387E-01	2.292E-01	0.000E+00	FAIL ABUN
RU-106	-8.104E-02	1.385E-01	2.292E-01	0.000E+00	FAIL ABUN
AG-108M	2.634E-03	1.444E-02	2.555E-02	0.000E+00	NOT IDENT.
AG-110M	2.054E-02	1.795E-02	2.848E-02	0.000E+00	NOT IDENT.
IN-111	-7.576E-01	7.873E-01	1.182E+00	0.000E+00	NOT IDENT.
IN-113M	-1.208E-03	1.972E-02	3.503E-02	0.000E+00	NOT IDENT.
SN-113	-1.208E-03	1.972E-02	3.503E-02	0.000E+00	NOT IDENT.
IN-114M	3.278E-02	9.978E-02	1.602E-01	0.000E+00	NOT IDENT.
CD-115	-3.892E-01	7.266E+00	1.250E+01	0.000E+00	NOT IDENT.
SN-117M	-1.288E-02	3.489E-02	5.617E-02	0.000E+00	NOT IDENT.
SB-122	3.415E-01	1.346E+00	2.321E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	2.003E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.977E-03	1.695E-02	2.744E-02	0.000E+00	NOT IDENT.
I-124	-3.647E-01	4.781E-01	6.384E-01	0.000E+00	FAIL ABUN
SB-124	1.316E-02	2.781E-02	4.874E-02	0.000E+00	FAIL ABUN
SB-125	-5.444E-05	3.948E-02	6.960E-02	0.000E+00	FAIL ABUN
TE-125M	9.000E+00	9.502E+00	1.207E+01	0.000E+00	NOT IDENT.
I-126	2.419E-02	9.593E-02	1.471E-01	0.000E+00	NOT IDENT.
SB-126	-1.841E-02	7.889E-02	1.171E-01	0.000E+00	FAIL ABUN
SB-127	-2.688E-01	7.608E-01	1.317E+00	0.000E+00	NOT IDENT.
XE-127	1.410E-02	2.718E-02	4.351E-02	0.000E+00	FAIL ABUN
I-131	6.393E-02	5.722E-02	1.050E-01	0.000E+00	NOT IDENT.
TE-132	1.744E-01	4.512E-01	8.069E-01	0.000E+00	FAIL ABUN
BA-133	1.209E-02	2.248E-02	3.391E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	7.997E+03	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	3.230E-02	4.036E-02	0.000E+00	FAIL ABUN
CS-135	1.249E-01	8.434E-02	1.342E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.841E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.687E-03	4.691E-02	8.109E-02	0.000E+00	FAIL ABUN
CE-139	6.197E-03	1.764E-02	2.872E-02	0.000E+00	NOT IDENT.

BA-140	9.928E-02	1.275E-01	2.177E-01	0.000E+00	FAIL ABUN
LA-140	3.969E-02	3.933E-02	6.235E-02	0.000E+00	FAIL ABUN
CE-141	0.000E+00	4.631E-02	7.574E-02	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.522E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	5.089E-02	1.347E-01	2.096E-01	0.000E+00	NOT IDENT.
PM-144	-8.384E-03	1.547E-02	2.660E-02	0.000E+00	NOT IDENT.
PR-144	-5.686E-01	1.049E+00	1.804E+00	0.000E+00	NOT IDENT.
PM-146	1.039E-02	1.929E-02	3.426E-02	0.000E+00	NOT IDENT.
ND-147	2.230E-02	2.675E-01	4.620E-01	0.000E+00	FAIL ABUN
PM-149	-3.856E+01	6.723E+01	1.149E+02	0.000E+00	NOT IDENT.
EU-152	-1.906E-02	4.885E-02	7.579E-02	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.046E-01	1.230E-01	0.000E+00	FAIL ABUN
EU-154	-8.730E-03	4.829E-02	8.107E-02	0.000E+00	NOT IDENT.
TB-160	4.085E-02	6.296E-02	1.095E-01	0.000E+00	FAIL ABUN
HO-166M	-1.306E-02	2.672E-02	4.586E-02	0.000E+00	FAIL ABUN
TM-171	-4.539E+01	2.570E+01	4.022E+01	0.000E+00	NOT IDENT.
LU-176	2.811E-03	1.181E-02	1.980E-02	0.000E+00	FAIL ABUN
LU-177M	-5.386E-02	9.092E-02	1.367E-01	0.000E+00	NOT IDENT.
HF-181	-5.888E-03	1.937E-02	3.342E-02	0.000E+00	FAIL ABUN
W-181	0.000E+00	4.912E-01	7.075E-01	0.000E+00	NOT IDENT.
TA-182	1.936E-02	8.402E-02	1.441E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	9.037E-02	1.184E-01	0.000E+00	FAIL ABUN
RE-184	-2.357E-01	1.280E-01	1.851E-01	0.000E+00	NOT IDENT.
OS-185	-1.391E-02	1.953E-02	3.202E-02	0.000E+00	NOT IDENT.
RE-188	2.630E-02	9.172E-02	1.696E-01	0.000E+00	NOT IDENT.
W-188	-1.245E+00	3.966E+00	5.955E+00	0.000E+00	FAIL ABUN
IR-192	1.015E-02	1.602E-02	2.800E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	3.050E-01	3.668E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	4.910E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.195E+00	5.541E+00	9.090E+00	0.000E+00	NOT IDENT.
TL-202	-1.903E-03	3.291E-02	5.776E-02	0.000E+00	NOT IDENT.
HG-203	2.313E-02	2.220E-02	3.489E-02	0.000E+00	NOT IDENT.
BI-207	9.431E-03	2.355E-02	3.796E-02	0.000E+00	FAIL ABUN
TL-207	3.134E-01	3.357E-01	5.146E-01	0.000E+00	FAIL ABUN
PO-209	1.302E+00	3.154E+00	5.439E+00	0.000E+00	NOT IDENT.
BI-210	-1.613E+00	3.891E+00	7.019E+00	0.000E+00	NOT IDENT.
PB-210	-1.613E+00	3.891E+00	7.019E+00	0.000E+00	NOT IDENT.
PO-210	-1.613E+00	3.891E+00	7.019E+00	0.000E+00	NOT IDENT.
PB-211	-3.516E-01	5.096E-01	6.921E-01	0.000E+00	NOT IDENT.
PO-215	3.134E-01	3.357E-01	5.146E-01	0.000E+00	FAIL ABUN
RN-219	2.586E-01	1.814E-01	3.276E-01	0.000E+00	FAIL ABUN
RN-220	-4.459E+00	1.167E+01	1.978E+01	0.000E+00	NOT IDENT.
RA-223	3.134E-01	3.357E-01	5.146E-01	0.000E+00	FAIL ABUN
AC-227	0.000E+00	2.164E-01	3.405E-01	0.000E+00	FAIL ABUN
TH-227	0.000E+00	2.201E-01	3.405E-01	0.000E+00	FAIL ABUN
PA-231	-4.897E-01	7.464E-01	1.227E+00	0.000E+00	FAIL ABUN
TH-231	3.134E-01	3.357E-01	5.146E-01	0.000E+00	FAIL ABUN
PA-233	-1.612E-02	2.907E-02	4.931E-02	0.000E+00	FAIL ABUN
PA-234	2.238E-01	1.439E-01	2.455E-01	0.000E+00	FAIL ABUN
NP-236	-1.792E-02	4.679E-02	7.521E-02	0.000E+00	FAIL ABUN
NP-239	-6.923E-02	1.345E-01	2.081E-01	0.000E+00	FAIL ABUN
AM-241	1.862E-01	1.585E-01	2.676E-01	0.000E+00	NOT IDENT.
CM-243	5.084E-02	8.979E-02	1.139E-01	0.000E+00	FAIL ABUN
AM-246	4.363E-02	5.624E-02	9.993E-02	0.000E+00	NOT IDENT.
CM-247	2.330E-02	1.677E-02	2.919E-02	0.000E+00	FAIL ABUN
CF-249	-1.023E-02	1.753E-02	3.075E-02	0.000E+00	NOT IDENT.
CF-251	-1.223E-02	6.439E-02	1.168E-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]G245808003.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:27:19
Sample ID          : G245808003          Sample quantity  : 1.49854E+02 GRAM
Detector name      : GAM18              Detector geometry: CAN
Elapsed live time  : 0 06:00:00.00      Elapsed real time: 0 06:00:07.44  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : RXF2
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 947554             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	6508	10.67*	1.893E+00	2.690E+01	2.690E+01	8.07
NB-95	765.79	1205	99.81*	3.202E+00	3.148E-01	3.766E-01	14.72
CD-109	88.03	726	3.72*	6.463E+00	2.522E+00	2.585E+00	32.77
SN-126	64.28	9563	9.60	3.107E+00	2.677E+01	2.677E+01	15.18
	86.94	726	8.90	6.463E+00	1.054E+00	1.054E+00	52.06
	87.57	726	37.00*	6.463E+00	2.536E-01	2.536E-01	32.77
BA-137M	661.65	657	89.98*	3.588E+00	1.698E-01	1.700E-01	19.20
CS-137	661.65	657	85.12*	3.588E+00	1.795E-01	1.797E-01	19.21
EU-155	48.70	-----	4.60	9.095E-01	-----	Line Not Found	-----
	60.01	-----	1.11	2.537E+00	-----	Line Not Found	-----
	86.54	726	30.90	6.463E+00	3.036E-01	3.056E-01	32.79
	105.31	223	20.70*	7.738E+00	1.161E-01	1.169E-01	76.09
LU-177	112.95	1601	6.40	8.001E+00	2.611E+00	1.444E+01	12.92
	208.36	381	11.00*	7.257E+00	3.982E-01	2.203E+00	36.73
TL-208	277.35	106	6.80	6.260E+00	2.069E-01	2.069E-01	113.32
	510.84	458	21.60	4.310E+00	4.103E-01	4.103E-01	38.45
	583.14	1621	84.20*	3.934E+00	4.086E-01	4.086E-01	11.97
	860.37	247	12.46	2.917E+00	5.684E-01	5.684E-01	35.27
BI-211	72.87	-----	1.27	4.622E+00	-----	Line Not Found	-----
	351.07	2600	12.94*	5.450E+00	3.078E+00	3.078E+00	9.25
BI-212	727.18	285	11.80*	3.337E+00	6.041E-01	6.041E-01	35.42
	785.46	199	1.97	3.137E+00	2.692E+00	2.692E+00	42.43
	1620.62	-----	2.75	1.770E+00	-----	Line Not Found	-----
PB-212	74.81	1194	10.70	4.931E+00	1.889E+00	1.889E+00	23.19
	77.11	2017	18.00	5.257E+00	1.780E+00	1.780E+00	13.74
	87.30	726	8.00	6.463E+00	1.173E+00	1.173E+00	34.26
	238.63	4562	44.60*	6.792E+00	1.257E+00	1.257E+00	8.11
	300.09	332	3.41	5.983E+00	1.358E+00	1.358E+00	36.97
PO-212	74.81	1194	10.70	4.931E+00	1.889E+00	1.889E+00	23.19
	77.11	2017	18.00	5.257E+00	1.780E+00	1.780E+00	13.74
	87.30	726	8.00	6.463E+00	1.173E+00	1.173E+00	34.26
	115.19	-----	0.60	8.058E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BI-214	238.63	4562	44.60*	6.792E+00	1.257E+00	1.257E+00	8.11
	300.09	332	3.41	5.983E+00	1.358E+00	1.358E+00	36.97
	609.31	1894	46.30*	3.812E+00	8.958E-01	8.958E-01	12.22
	1120.29	386	15.10	2.335E+00	9.139E-01	9.139E-01	29.34
	1764.49	391	15.80	1.695E+00	1.218E+00	1.218E+00	15.69
PB-214	74.81	1194	6.21	4.931E+00	3.255E+00	3.255E+00	22.48
	77.11	2017	10.50	5.257E+00	3.052E+00	3.052E+00	15.71
	87.30	726	4.67	6.463E+00	2.009E+00	2.009E+00	33.66
	241.98	1282	7.49	6.747E+00	2.118E+00	2.118E+00	17.27
	295.21	1396	19.20	6.040E+00	1.005E+00	1.005E+00	14.30
PO-214	351.92	2600	37.20*	5.450E+00	1.071E+00	1.071E+00	10.62
	74.81	1194	6.21	4.931E+00	3.255E+00	3.255E+00	22.48
	77.11	2017	10.50	5.257E+00	3.052E+00	3.052E+00	15.71
	87.30	726	4.67	6.463E+00	2.009E+00	2.009E+00	33.66
	241.98	1282	7.49	6.747E+00	2.118E+00	2.118E+00	17.27
PO-216	295.21	1396	19.20	6.040E+00	1.005E+00	1.005E+00	14.30
	351.92	2600	37.20*	5.450E+00	1.071E+00	1.071E+00	10.62
	74.81	1194	10.70	4.931E+00	1.889E+00	1.889E+00	23.19
	77.11	2017	18.00	5.257E+00	1.780E+00	1.780E+00	13.74
	87.30	726	8.00	6.463E+00	1.173E+00	1.173E+00	34.26
PO-218	238.63	4562	44.60*	6.792E+00	1.257E+00	1.257E+00	8.11
	300.09	332	3.41	5.983E+00	1.358E+00	1.358E+00	36.97
	74.81	1194	6.21	4.931E+00	3.255E+00	3.255E+00	22.48
	77.11	2017	10.50	5.257E+00	3.052E+00	3.052E+00	15.71
	87.30	726	4.67	6.463E+00	2.009E+00	2.009E+00	33.66
RA-224	241.98	1282	7.49	6.747E+00	2.118E+00	2.118E+00	17.27
	295.21	1396	19.20	6.040E+00	1.005E+00	1.005E+00	14.30
	351.92	2600	37.20*	5.450E+00	1.071E+00	1.071E+00	10.62
	240.98	1282	3.95*	6.747E+00	4.016E+00	4.016E+00	16.34
	609.31	1894	46.30*	3.812E+00	8.958E-01	8.958E-01	12.22
AC-228	1120.29	386	15.10	2.335E+00	9.139E-01	9.139E-01	29.34
	1764.49	391	15.80	1.695E+00	1.218E+00	1.218E+00	15.69
	338.32	927	11.40	5.581E+00	1.217E+00	1.217E+00	44.01
	911.07	1196	27.70*	2.780E+00	1.297E+00	1.297E+00	16.06
	969.11	647	16.60	2.640E+00	1.232E+00	1.232E+00	27.13
RA-228	338.32	927	11.40	5.581E+00	1.217E+00	1.217E+00	44.01
	911.07	1196	27.70*	2.780E+00	1.297E+00	1.297E+00	16.06
	969.11	647	16.60	2.640E+00	1.232E+00	1.232E+00	27.13
	74.81	1194	10.70	4.931E+00	1.889E+00	1.921E+00	21.26
	77.11	2017	18.00	5.257E+00	1.780E+00	1.810E+00	13.74
TH-228	87.30	726	8.00	6.463E+00	1.173E+00	1.192E+00	32.77
	238.63	4562	44.60*	6.792E+00	1.257E+00	1.278E+00	8.11
	300.09	332	3.41	5.983E+00	1.358E+00	1.381E+00	69.08
	85.43	756	16.50	6.120E+00	6.251E-01	6.251E-01	37.19
	88.47	726	27.10	6.463E+00	3.462E-01	3.462E-01	32.77
TH-229	100.00	2158	12.40	7.372E+00	1.971E+00	1.971E+00	13.04
	193.63	-----	4.59*	7.519E+00	-----	Line Not Found	-----
	210.97	-----	3.26	7.230E+00	-----	Line Not Found	-----
	609.31	1894	46.30*	3.812E+00	8.958E-01	8.958E-01	12.22

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-231	1120.29	386	15.10	2.335E+00	9.139E-01	9.139E-01	29.34
	1764.49	391	15.80	1.695E+00	1.218E+00	1.218E+00	15.69
	84.21	756	7.00	6.120E+00	1.473E+00	2.266E+01	37.19
	92.29	29986	17.30	6.943E+00	2.084E+01	3.206E+02	8.55
	95.87	1093	28.00*	7.109E+00	4.587E-01	7.054E+00	23.49
TH-232	108.00	-----	13.10	7.835E+00	-----	Line Not Found	-----
	338.32	927	11.40	5.581E+00	1.217E+00	1.217E+00	17.58
	911.07	1196	27.70*	2.780E+00	1.297E+00	1.297E+00	16.06
	969.11	647	16.60	2.640E+00	1.232E+00	1.232E+00	27.13
PA-234M	766.42	1205	0.32	3.202E+00	9.819E+01	9.819E+01	52.12
	1001.03	2469	0.84*	2.568E+00	9.556E+01	9.556E+01	12.02
TH-234	63.29	9563	3.80*	3.107E+00	6.762E+01	6.762E+01	17.99
	92.38	29986	5.41	6.943E+00	6.665E+01	6.665E+01	18.05
U-234	609.31	1894	46.30*	3.812E+00	8.958E-01	8.958E-01	12.22
	1120.29	386	15.10	2.335E+00	9.139E-01	9.139E-01	29.34
U-235	1764.49	391	15.80	1.695E+00	1.218E+00	1.218E+00	15.69
	89.95	1123	2.70	6.720E+00	5.168E+00	5.168E+00	37.33
	93.35	29986	4.50	6.943E+00	8.013E+01	8.013E+01	28.00
	105.00	223	2.10	7.738E+00	1.145E+00	1.145E+00	81.27
	143.76	1234	10.50*	8.221E+00	1.194E+00	1.194E+00	22.49
NP-237	163.35	459	4.70	8.001E+00	1.019E+00	1.019E+00	41.85
	185.71	6446	54.00	7.649E+00	1.303E+00	1.303E+00	6.48
	205.31	456	4.70	7.320E+00	1.106E+00	1.106E+00	36.03
	86.50	726	12.60*	6.463E+00	7.447E-01	7.447E-01	38.72
	95.87	1093	2.60	7.109E+00	4.939E+00	4.939E+00	32.93
	63.29	9563	3.80*	3.107E+00	6.762E+01	6.762E+01	17.99
	92.38	29986	5.41	6.943E+00	6.665E+01	6.665E+01	8.55
AM-243	74.67	1194	66.00*	4.931E+00	3.063E-01	3.063E-01	21.23
	86.72	726	0.34	6.463E+00	2.792E+01	2.792E+01	32.77
ANH-511	117.66	-----	0.55	8.112E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.232E+00	-----	Line Not Found	-----
	511.00	458	100.00*	4.310E+00	8.863E-02	8.863E-02	37.54

Flag: "*" = Keyline

Total number of lines in spectrum 55
Number of unidentified lines 6
Number of lines tentatively identified by NID 49 89.09%

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	2.690E+01	2.690E+01	0.217E+01	8.07	
NB-95	64.02D	1.20	3.148E-01	3.766E-01	0.555E-01	14.72	
CD-109	464.00D	1.03	2.522E+00	2.585E+00	0.847E+00	32.77	
SN-126	1.00E+05Y	1.00	2.536E-01	2.536E-01	0.831E-01	32.77	
BA-137M	30.17Y	1.00	1.698E-01	1.700E-01	0.326E-01	19.20	
CS-137	30.17Y	1.00	1.795E-01	1.797E-01	0.345E-01	19.21	
EU-155	4.96Y	1.01	1.161E-01	1.169E-01	0.889E-01	76.09	
LU-177	6.71D	5.53	3.982E-01	2.203E+00	0.809E+00	36.73	
TL-208	1.41E+10Y	1.00	4.086E-01	4.086E-01	0.489E-01	11.97	
BI-211	7.04E+08Y	1.00	3.078E+00	3.078E+00	0.285E+00	9.25	
BI-212	1.41E+10Y	1.00	6.041E-01	6.041E-01	2.140E-01	35.42	
PB-212	1.41E+10Y	1.00	1.257E+00	1.257E+00	0.102E+00	8.11	
PO-212	1.41E+10Y	1.00	1.257E+00	1.257E+00	0.102E+00	8.11	
BI-214	1600.00Y	1.00	8.958E-01	8.958E-01	1.095E-01	12.22	
PB-214	1600.00Y	1.00	1.071E+00	1.071E+00	0.114E+00	10.62	
PO-214	1600.00Y	1.00	1.071E+00	1.071E+00	0.114E+00	10.62	
PO-216	1.41E+10Y	1.00	1.257E+00	1.257E+00	0.102E+00	8.11	
PO-218	1600.00Y	1.00	1.071E+00	1.071E+00	0.114E+00	10.62	
RA-224	1.41E+10Y	1.00	4.016E+00	4.016E+00	0.656E+00	16.34	
RA-226	1600.00Y	1.00	8.958E-01	8.958E-01	1.095E-01	12.22	
AC-228	1.41E+10Y	1.00	1.297E+00	1.297E+00	0.208E+00	16.06	
RA-228	1.41E+10Y	1.00	1.297E+00	1.297E+00	0.208E+00	16.06	
TH-228	1.91Y	1.02	1.257E+00	1.278E+00	0.104E+00	8.11	
TH-229	7340.00Y	1.00	3.462E-01	3.462E-01	1.134E-01	32.77	K
TH-230	4.47E+09Y	1.00	8.958E-01	8.958E-01	1.095E-01	12.22	
U-231	4.20D	15.4	4.587E-01	7.054E+00	1.657E+00	23.49	
TH-232	1.41E+10Y	1.00	1.297E+00	1.297E+00	0.208E+00	16.06	
PA-234M	4.47E+09Y	1.00	9.556E+01	9.556E+01	1.148E+01	12.02	
TH-234	4.47E+09Y	1.00	6.762E+01	6.762E+01	1.216E+01	17.99	
U-234	4.47E+09Y	1.00	8.958E-01	8.958E-01	1.095E-01	12.22	
U-235	7.04E+08Y	1.00	1.194E+00	1.194E+00	0.269E+00	22.49	
NP-237	2.14E+06Y	1.00	7.447E-01	7.447E-01	2.884E-01	38.72	
U-238	4.47E+09Y	1.00	6.762E+01	6.762E+01	1.216E+01	17.99	
AM-243	7380.00Y	1.00	3.063E-01	3.063E-01	0.650E-01	21.23	
ANH-511	1.00E+09Y	1.00	8.863E-02	8.863E-02	3.327E-02	37.54	
Total Activity :			2.886E+02	2.972E+02			

Grand Total Activity : 2.886E+02 2.972E+02

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
9	111.34	469	2521	1.27	221.77	219	10	2.17E-02	35.8	7.95E+00	T
0	128.58	104	1794	1.05	256.24	255	6	4.80E-03	****	8.24E+00	T
0	131.64	307	1868	0.85	262.35	260	7	1.42E-02	48.3	8.26E+00	T
0	258.32	642	1638	1.57	515.62	508	15	2.97E-02	28.6	6.51E+00	
0	270.29	251	1204	1.78	539.56	535	10	1.16E-02	53.2	6.35E+00	T
0	327.86	295	918	1.87	654.65	649	11	1.37E-02	41.5	5.68E+00	T
0	409.27	153	628	1.67	817.44	813	10	7.10E-03	63.1	4.97E+00	
0	462.87	276	730	1.37	924.61	919	13	1.28E-02	42.3	4.60E+00	T
0	742.23	170	571	1.34	1483.18	1478	13	7.88E-03	60.1	3.28E+00	T
0	794.66	195	398	1.87	1588.01	1582	13	9.01E-03	46.8	3.11E+00	T
1	964.64	253	265	2.07	1927.90	1922	21	1.17E-02	28.9	2.65E+00	T
0	1237.93	150	329	1.58	2474.39	2468	12	6.94E-03	51.3	2.15E+00	T
0	1377.35	150	191	2.75	2753.19	2741	19	6.95E-03	47.0	1.98E+00	T
0	1409.87	90	169	1.38	2818.24	2807	23	4.19E-03	79.3	1.94E+00	
0	1509.63	63	112	1.80	3017.75	3012	14	2.92E-03	75.6	1.85E+00	T
8	1587.70	88	103	2.97	3173.86	3167	25	4.08E-03	53.1	1.79E+00	
8	1593.45	42	83	2.80	3185.38	3167	25	1.92E-03	99.5	1.79E+00	
0	1728.65	102	92	2.98	3455.75	3447	21	4.74E-03	50.3	1.71E+00	

Flags: "T" = Tentatively associated

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808003.CNF;1
* Acquisition date   : 11-FEB-2010 22:27:19   Detector SN#      :
* Detector ID        : GAM18                   Sensitivity       : 5.00000
* Geometry           : CAN                     Energy tolerance: 1.50000
* Elapsed live time  : 0 06:00:00.00           Abundance limit  : 75.00000
* Elapsed real time  : 0 06:00:07.44           Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00   Nuclide Library : SOLID
* Sample ID          : G245808003             Analyst initials: RXF2
* Batch Number       : 947554                 Sample Quantity  : 1.49854E+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	2.690E+01	2.172E+00	1.906E-01	1.446E-02	141.159
NB-95	3.766E-01	5.546E-02	3.130E-02	2.863E-03	12.032
CD-109	2.585E+00	8.472E-01	9.772E-01	9.034E-02	2.646
SN-126	2.536E-01	8.309E-02	9.646E-02	8.888E-03	2.629
BA-137M	1.700E-01	3.264E-02	2.714E-02	2.069E-03	6.263
CS-137	1.797E-01	3.452E-02	2.869E-02	2.192E-03	6.263
EU-155	1.169E-01	8.894E-02	1.163E-01	8.314E-03	1.005
LU-177	2.203E+00	8.091E-01	9.552E-01	5.181E-02	2.306
TL-208	4.086E-01	4.893E-02	2.585E-02	2.026E-03	15.811
BI-211	3.078E+00	2.846E-01	1.532E-01	9.832E-03	20.094
BI-212	6.041E-01	2.140E-01	2.058E-01	2.050E-02	2.934
PB-212	1.257E+00	1.020E-01	4.304E-02	3.075E-03	29.215
PO-212	1.257E+00	1.020E-01	4.304E-02	3.075E-03	29.215
BI-214	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
PB-214	1.071E+00	1.137E-01	5.175E-02	4.281E-03	20.691
PO-214	1.071E+00	1.137E-01	5.175E-02	4.281E-03	20.691
PO-216	1.257E+00	1.020E-01	4.304E-02	3.075E-03	29.215
PO-218	1.071E+00	1.137E-01	5.175E-02	4.281E-03	20.691

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-224	4.016E+00	6.561E-01	4.892E-01	2.725E-02	8.209
RA-226	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
AC-228	1.297E+00	2.083E-01	8.878E-02	1.176E-02	14.611
RA-228	1.297E+00	2.083E-01	8.878E-02	1.176E-02	14.611
TH-228	1.278E+00	1.037E-01	4.375E-02	3.126E-03	29.215
TH-229	3.462E-01	1.134E-01	4.251E-01	2.276E-02	0.814
TH-230	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
U-231	7.054E+00	1.657E+00	1.513E+00	1.212E-01	4.662
TH-232	1.297E+00	2.083E-01	8.878E-02	1.176E-02	14.611
PA-234M	9.556E+01	1.148E+01	3.082E+00	3.325E-01	31.000
TH-234	6.762E+01	1.216E+01	1.826E+00	3.219E-01	37.029
U-234	8.958E-01	1.095E-01	5.029E-02	4.492E-03	17.813
U-235	1.194E+00	2.685E-01	1.939E-01	3.140E-02	6.158
NP-237	7.447E-01	2.884E-01	3.235E-01	7.299E-02	2.302
U-238	6.762E+01	1.216E+01	1.826E+00	3.219E-01	37.029
AM-243	3.063E-01	6.502E-02	7.449E-02	6.216E-03	4.112
ANH-511	8.863E-02	3.327E-02	2.120E-02	1.400E-03	4.181

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-7.856E-03		1.505E-01	2.479E-01	1.796E-02	-0.032
NA-22	-5.750E-03		1.779E-02	2.878E-02	1.958E-03	-0.200
NA-24	-1.334E-01		8.067E-01	Half-Life	too short	
AL-26	7.869E-03		1.118E-02	1.945E-02	1.135E-03	0.405
TI-44	3.285E-01	+	4.513E-02	5.370E-02	4.592E-03	6.118
SC-46	-1.294E-02		1.727E-02	2.727E-02	3.041E-03	-0.475
V-48	-1.274E-02		3.290E-02	5.234E-02	5.177E-03	-0.243
CR-51	-7.177E-02		1.815E-01	2.891E-01	1.861E-02	-0.248
MN-52	6.503E-02		1.128E-01	1.895E-01	1.396E-02	0.343
MN-54	-1.093E-02		1.713E-02	2.748E-02	2.815E-03	-0.398
CO-56	-8.971E-03		1.801E-02	2.898E-02	3.025E-03	-0.310
CO-57	-2.843E-03		1.583E-02	2.532E-02	1.500E-03	-0.112
CO-58	-3.374E-02		1.806E-02	2.719E-02	2.684E-03	-1.241
FE-59	-2.225E-02		3.910E-02	6.356E-02	5.232E-03	-0.350
CO-60	1.043E-03		1.665E-02	2.732E-02	2.064E-03	0.038
ZN-65	-9.553E-03		4.637E-02	6.523E-02	4.595E-03	-0.146
GE-68	6.532E-02		5.117E-01	8.580E-01	6.816E-02	0.076
AS-73	-9.423E-02		8.379E-01	1.407E+00	1.116E-01	-0.067
AS-74	-7.103E-02		4.709E-02	6.858E-02	4.928E-03	-1.036
SE-75	1.734E-02		2.814E-02	3.483E-02	1.992E-03	0.498
BR-77	3.759E+00		6.952E+00	1.157E+01	7.720E-01	0.325
SR-82	-1.190E-01		1.835E-01	2.966E-01	2.762E-02	-0.401
RB-83	1.576E-02		3.085E-02	5.132E-02	3.422E-03	0.307
RB-84	4.049E-02		3.360E-02	5.690E-02	6.271E-03	0.712
KR-85	1.584E+01		3.968E+00	6.255E+00	4.144E-01	2.532
SR-85	8.241E-02		2.065E-02	3.255E-02	2.156E-03	2.532

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RB-86	-5.014E-04		3.444E-01	5.746E-01	4.574E-02	-0.001
Y-88	-8.161E-03		1.453E-02	2.271E-02	1.294E-03	-0.359
ZR-88	4.704E-03		1.380E-02	2.333E-02	1.342E-03	0.202
Y-91	4.349E+00		7.938E+00	1.337E+01	7.905E-01	0.325
NB-94	1.242E-02		1.544E-02	2.632E-02	2.159E-03	0.472
NB-95M	1.143E-01		6.732E-02	1.011E-01	7.421E-03	1.130
ZR-95	2.205E-02		3.355E-02	5.432E-02	5.344E-03	0.406
NB-97	2.978E-01		1.021E-01	Half-Life	too short	
ZR-97	1.352E+01		1.917E+00	Half-Life	too short	
MO-99	1.647E+01		9.599E+00	1.429E+01	2.180E+00	1.153
TC-99M	1.691E+11		6.266E+11	Half-Life	too short	
RH-101	-1.381E-02		1.745E-02	2.714E-02	1.459E-03	-0.509
RH-102	7.602E-03		1.345E-02	2.253E-02	1.431E-03	0.337
RU-103	-1.373E-02		1.873E-02	2.994E-02	3.888E-03	-0.458
RH-106	-8.104E-02		1.415E-01	2.228E-01	2.803E-02	-0.364
RU-106	-8.104E-02		1.413E-01	2.228E-01	1.640E-02	-0.364
AG-108M	2.634E-03		1.474E-02	2.462E-02	1.608E-03	0.107
AG-110M	2.054E-02		1.831E-02	2.772E-02	2.187E-03	0.741
IN-111	-7.576E-01		8.034E-01	1.123E+00	6.276E-02	-0.675
IN-113M	-1.208E-03		2.012E-02	3.367E-02	2.065E-03	-0.036
SN-113	-1.208E-03		2.012E-02	3.367E-02	2.065E-03	-0.036
IN-114M	3.278E-02		1.018E-01	1.514E-01	8.081E-03	0.217
CD-115	-3.892E-01		7.415E+00	1.211E+01	8.136E-01	-0.032
SN-117M	-1.288E-02		3.560E-02	5.285E-02	2.809E-03	-0.244
SB-122	3.415E-01		1.374E+00	2.251E+00	1.568E-01	0.152
I-123	-2.337E+00		1.022E+01	Half-Life	too short	
TE-123M	-1.977E-03		1.730E-02	2.581E-02	1.393E-03	-0.077
I-124	-3.647E-01		4.879E-01	6.201E-01	4.484E-02	-0.588
SB-124	1.316E-02		2.837E-02	4.860E-02	3.353E-03	0.271
SB-125	-5.444E-05		4.028E-02	6.704E-02	4.189E-03	-0.001
TE-125M	9.000E+00		9.696E+00	1.126E+01	9.900E-01	0.800
I-126	2.419E-02		9.788E-02	1.432E-01	1.101E-02	0.169
SB-126	-1.841E-02		8.050E-02	1.142E-01	9.669E-03	-0.161
SB-127	-2.688E-01		7.763E-01	1.283E+00	1.453E-01	-0.209
XE-127	1.410E-02		2.773E-02	4.117E-02	2.222E-03	0.343
I-131	6.393E-02		5.838E-02	1.008E-01	6.521E-03	0.634
TE-132	1.744E-01		4.605E-01	7.656E-01	1.113E-01	0.228
BA-133	1.209E-02		2.293E-02	3.252E-02	3.756E-03	0.372
I-133	3.199E-03		4.080E-03	Half-Life	too short	
CS-134	6.902E-02	+	3.296E-02	3.948E-02	3.818E-03	1.748
CS-135	1.249E-01		8.606E-02	1.278E-01	9.663E-03	0.977
I-135	2.026E+10		4.001E+10	Half-Life	too short	
CS-136	-2.687E-03		4.786E-02	7.987E-02	7.160E-03	-0.034
CE-139	6.197E-03		1.800E-02	2.705E-02	1.420E-03	0.229
BA-140	9.928E-02		1.301E-01	2.109E-01	6.898E-02	0.471
LA-140	3.969E-02		4.013E-02	6.207E-02	4.258E-03	0.639
CE-141	2.630E-01		4.725E-02	7.112E-02	4.060E-03	3.698
CE-143	9.151E-04		1.287E-04	Half-Life	too short	

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CE-144	5.089E-02		1.374E-01	1.964E-01	2.777E-02	0.259
PM-144	-8.384E-03		1.579E-02	2.593E-02	2.105E-03	-0.323
PR-144	-5.686E-01		1.071E+00	1.758E+00	1.427E-01	-0.323
PM-146	1.039E-02		1.968E-02	3.304E-02	2.940E-03	0.315
ND-147	2.230E-02		2.730E-01	4.474E-01	6.242E-02	0.050
PM-149	-3.856E+01		6.860E+01	1.096E+02	1.551E+01	-0.352
EU-152	-1.906E-02		4.984E-02	7.262E-02	4.739E-03	-0.263
GD-153	8.189E-01	+	1.067E-01	1.144E-01	8.946E-03	7.157
EU-154	-8.730E-03		4.928E-02	8.024E-02	8.015E-03	-0.109
TB-160	4.085E-02		6.424E-02	1.074E-01	1.179E-02	0.380
HO-166M	-1.306E-02		2.726E-02	4.473E-02	3.728E-03	-0.292
TM-171	-4.539E+01		2.623E+01	3.711E+01	2.967E+00	-1.223
LU-176	2.811E-03		1.205E-02	1.892E-02	1.090E-03	0.149
LU-177M	-5.386E-02		9.277E-02	1.315E-01	7.770E-03	-0.409
HF-181	-5.888E-03		1.977E-02	3.229E-02	2.067E-03	-0.182
W-181	4.033E+00		5.012E-01	6.524E-01	5.174E-02	6.182
TA-182	1.936E-02		8.573E-02	1.425E-01	8.716E-03	0.136
RE-183	2.412E-01	+	9.221E-02	1.115E-01	5.885E-03	2.163
RE-184	-2.357E-01		1.306E-01	1.761E-01	9.891E-03	-1.339
OS-185	-1.391E-02		1.993E-02	3.116E-02	2.343E-03	-0.446
RE-188	2.630E-02		9.359E-02	1.594E-01	8.532E-03	0.165
W-188	-1.245E+00		4.047E+00	5.683E+00	3.255E-01	-0.219
IR-192	1.015E-02		1.635E-02	2.677E-02	1.553E-03	0.379
AU-195	2.388E+00	+	3.112E-01	3.414E-01	2.612E-02	6.994
TL-200	-1.114E-04		2.505E-04	Half-Life too short		
TL-201	4.195E+00		5.654E+00	8.563E+00	4.495E-01	0.490
TL-202	-1.903E-03		3.358E-02	5.567E-02	3.394E-03	-0.034
HG-203	2.313E-02		2.265E-02	3.327E-02	2.018E-03	0.695
BI-207	9.431E-03		2.403E-02	3.740E-02	3.087E-03	0.252
TL-207	3.134E-01		3.426E-01	4.923E-01	8.127E-02	0.636
PO-209	1.302E+00		3.218E+00	5.335E+00	6.018E-01	0.244
BI-210	-1.613E+00		3.970E+00	6.424E+00	4.970E-01	-0.251
PB-210	-1.613E+00		3.970E+00	6.424E+00	4.970E-01	-0.251
PO-210	-1.613E+00		3.970E+00	6.424E+00	4.273E-01	-0.251
PB-211	-3.516E-01		5.200E-01	6.657E-01	4.150E-01	-0.528
PO-215	3.134E-01		3.426E-01	4.923E-01	8.127E-02	0.636
RN-219	2.586E-01		1.851E-01	3.150E-01	4.289E-02	0.821
RN-220	-4.459E+00		1.191E+01	1.917E+01	1.317E+00	-0.233
RA-223	3.134E-01		3.426E-01	4.923E-01	8.127E-02	0.636
AC-227	4.254E-01		2.209E-01	3.240E-01	4.500E-02	1.313
TH-227	4.254E-01		2.245E-01	3.240E-01	5.456E-02	1.313
PA-231	-4.897E-01		7.616E-01	1.170E+00	1.608E-01	-0.418
TH-231	3.134E-01		3.426E-01	4.923E-01	8.127E-02	0.636
PA-233	-1.612E-02		2.966E-02	4.714E-02	2.888E-03	-0.342
PA-234	2.238E-01		1.468E-01	2.412E-01	4.758E-02	0.928
NP-236	-1.792E-02		4.774E-02	7.078E-02	3.750E-03	-0.253
NP-239	-6.923E-02		1.373E-01	1.945E-01	1.204E-02	-0.356
AM-241	1.862E-01		1.617E-01	2.463E-01	2.042E-02	0.756

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	5.084E-02		9.162E-02	1.061E-01	7.598E-03	0.479
AM-246	4.363E-02		5.739E-02	9.849E-02	7.790E-03	0.443
CM-247	2.330E-02		1.711E-02	2.808E-02	1.635E-03	0.830
CF-249	-1.023E-02		1.789E-02	2.955E-02	1.699E-03	-0.346
CF-251	-1.223E-02		6.570E-02	1.102E-01	5.819E-03	-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]G245808003
* Acquisition date   : 11-FEB-2010 22:27:19 Detector SN#      :
* Detector ID        : GAM18                               Sensitivity      : 5.000
* Geometry           : CAN                                   Energy tolerance: 1.500
* Elapsed live time   : 0 06:00:00.00                      Abundance limit : 75.000
* Elapsed real time   : 0 06:00:07.44                      Half life ratio  : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245808003                      Analyst initials: RXF2
* Batch Number       : 947554                          Sample Quantity : 1.4985E+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	2.690E+01	2.129E+00	9.598E-02	1.086E+00
NB-95	3.766E-01	5.435E-02	1.603E-02	2.773E-02
CD-109	2.585E+00	8.302E-01	5.267E-01	4.236E-01
SN-126	2.536E-01	8.143E-02	5.199E-02	4.155E-02
BA-137M	1.700E-01	3.199E-02	1.395E-02	1.632E-02
CS-137	1.797E-01	3.383E-02	1.474E-02	1.726E-02
EU-155	1.169E-01	8.716E-02	6.242E-02	4.447E-02
LU-177	2.203E+00	7.929E-01	5.047E-01	4.045E-01
TL-208	4.086E-01	4.795E-02	1.332E-02	2.446E-02
BI-211	3.078E+00	2.789E-01	7.994E-02	1.423E-01
BI-212	6.041E-01	2.097E-01	1.055E-01	1.070E-01
PB-212	1.257E+00	9.997E-02	2.267E-02	5.100E-02
PO-212	1.257E+00	9.997E-02	2.267E-02	5.100E-02
BI-214	8.958E-01	1.073E-01	2.590E-02	5.473E-02
PB-214	1.071E+00	1.114E-01	2.700E-02	5.684E-02
PO-214	1.071E+00	1.114E-01	2.700E-02	5.684E-02
PO-216	1.257E+00	9.997E-02	2.267E-02	5.100E-02
PO-218	1.071E+00	1.114E-01	2.700E-02	5.684E-02
RA-224	4.016E+00	6.430E-01	2.576E-01	3.281E-01
RA-226	8.958E-01	1.073E-01	2.590E-02	5.473E-02
AC-228	1.297E+00	2.042E-01	4.526E-02	1.042E-01
RA-228	1.297E+00	2.042E-01	4.526E-02	1.042E-01
TH-228	1.278E+00	1.016E-01	2.305E-02	5.185E-02
TH-229	1.969E-01	2.459E-01	2.250E-01	1.255E-01
TH-230	8.958E-01	1.073E-01	2.590E-02	5.473E-02
U-231	7.054E+00	1.624E+00	8.139E-01	8.286E-01
TH-232	1.297E+00	2.042E-01	4.526E-02	1.042E-01
PA-234M	9.556E+01	1.125E+01	1.568E+00	5.741E+00
TH-234	6.762E+01	1.192E+01	9.915E-01	6.082E+00
U-234	8.958E-01	1.073E-01	2.590E-02	5.473E-02
U-235	1.194E+00	2.631E-01	1.033E-01	1.343E-01
NP-237	7.447E-01	2.826E-01	1.744E-01	1.442E-01
U-238	6.762E+01	1.192E+01	9.915E-01	6.082E+00
AM-243	3.063E-01	6.371E-02	4.030E-02	3.251E-02

ANH-511 8.863E-02 3.260E-02 1.096E-02 1.664E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	-7.856E-03	1.475E-01	1.284E-01	7.525E-02	NOT IDENT.
NA-22	-5.750E-03	1.744E-02	1.455E-02	8.897E-03	NOT IDENT.
NA-24	-1.334E+05	1.581E+06	0.000E+00	8.067E+05	SHORT HLIF
AL-26	7.869E-03	1.095E-02	9.742E-03	5.588E-03	NOT IDENT.
TI-44	3.285E-01	4.423E-02	2.902E-02	2.257E-02	FAIL ABUN
SC-46	-1.294E-02	1.693E-02	1.391E-02	8.636E-03	FAIL ABUN
V-48	-1.274E-02	3.224E-02	2.663E-02	1.645E-02	NOT IDENT.
CR-51	-7.177E-02	1.779E-01	1.512E-01	9.074E-02	NOT IDENT.
MN-52	6.503E-02	1.105E-01	9.550E-02	5.640E-02	NOT IDENT.
MN-54	-1.093E-02	1.679E-02	1.404E-02	8.565E-03	NOT IDENT.
CO-56	-8.971E-03	1.765E-02	1.480E-02	9.003E-03	FAIL ABUN
CO-57	-2.843E-03	1.552E-02	1.355E-02	7.917E-03	NOT IDENT.
CO-58	-3.374E-02	1.770E-02	1.390E-02	9.031E-03	NOT IDENT.
FE-59	-2.225E-02	3.832E-02	3.225E-02	1.955E-02	FAIL ABUN
CO-60	1.043E-03	1.632E-02	1.379E-02	8.327E-03	NOT IDENT.
ZN-65	-9.553E-03	4.544E-02	3.308E-02	2.318E-02	NOT IDENT.
GE-68	6.532E-02	5.015E-01	4.356E-01	2.559E-01	NOT IDENT.
AS-73	-9.423E-02	8.212E-01	7.669E-01	4.190E-01	NOT IDENT.
AS-74	-7.103E-02	4.614E-02	3.533E-02	2.354E-02	NOT IDENT.
SE-75	1.734E-02	2.758E-02	1.830E-02	1.407E-02	NOT IDENT.
BR-77	3.759E+00	6.813E+00	5.982E+00	3.476E+00	FAIL ABUN
SR-82	-1.190E-01	1.799E-01	1.518E-01	9.177E-02	NOT IDENT.
RB-83	1.576E-02	3.024E-02	2.653E-02	1.543E-02	NOT IDENT.
RB-84	4.049E-02	3.293E-02	2.903E-02	1.680E-02	NOT IDENT.
KR-85	1.584E+01	3.888E+00	3.235E+00	1.984E+00	NOT IDENT.
SR-85	8.241E-02	2.023E-02	1.683E-02	1.032E-02	NOT IDENT.
RB-86	-5.014E-04	3.375E-01	2.917E-01	1.722E-01	NOT IDENT.
Y-88	-8.161E-03	1.424E-02	1.137E-02	7.263E-03	NOT IDENT.
ZR-88	4.704E-03	1.353E-02	1.214E-02	6.902E-03	NOT IDENT.
Y-91	4.349E+00	7.780E+00	6.768E+00	3.969E+00	NOT IDENT.
NB-94	1.242E-02	1.513E-02	1.351E-02	7.719E-03	NOT IDENT.
NB-95M	1.143E-01	6.597E-02	5.329E-02	3.366E-02	NOT IDENT.
ZR-95	2.205E-02	3.288E-02	2.782E-02	1.677E-02	NOT IDENT.
NB-97	2.978E+05	2.001E+05	0.000E+00	1.021E+05	SHORT HLIF
ZR-97	1.352E+07	3.756E+06	0.000E+00	1.917E+06	SHORT HLIF
MO-99	1.647E+01	9.407E+00	7.321E+00	4.800E+00	NOT IDENT.
TC-99M	1.691E+17	1.228E+18	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-1.381E-02	1.710E-02	1.436E-02	8.726E-03	FAIL ABUN
RH-102	7.602E-03	1.318E-02	1.167E-02	6.724E-03	FAIL ABUN
RU-103	-1.373E-02	1.835E-02	1.549E-02	9.363E-03	FAIL ABUN
RH-106	-8.104E-02	1.387E-01	1.147E-01	7.077E-02	FAIL ABUN
RU-106	-8.104E-02	1.385E-01	1.147E-01	7.065E-02	FAIL ABUN
AG-108M	2.634E-03	1.444E-02	1.278E-02	7.369E-03	NOT IDENT.
AG-110M	2.054E-02	1.795E-02	1.425E-02	9.157E-03	NOT IDENT.
IN-111	-7.576E-01	7.873E-01	5.912E-01	4.017E-01	NOT IDENT.
IN-113M	-1.208E-03	1.972E-02	1.752E-02	1.006E-02	NOT IDENT.
SN-113	-1.208E-03	1.972E-02	1.752E-02	1.006E-02	NOT IDENT.
IN-114M	3.278E-02	9.978E-02	8.014E-02	5.091E-02	NOT IDENT.
CD-115	-3.892E-01	7.266E+00	6.255E+00	3.707E+00	NOT IDENT.
SN-117M	-1.288E-02	3.489E-02	2.810E-02	1.780E-02	NOT IDENT.
SB-122	3.415E-01	1.346E+00	1.161E+00	6.868E-01	NOT IDENT.
I-123	-2.337E+06	2.003E+07	0.000E+00	1.022E+07	SHORT HLIF
TE-123M	-1.977E-03	1.695E-02	1.373E-02	8.648E-03	NOT IDENT.
I-124	-3.647E-01	4.781E-01	3.194E-01	2.439E-01	FAIL ABUN
SB-124	1.316E-02	2.781E-02	2.439E-02	1.419E-02	FAIL ABUN
SB-125	-5.444E-05	3.948E-02	3.482E-02	2.014E-02	FAIL ABUN
TE-125M	9.000E+00	9.502E+00	6.037E+00	4.848E+00	NOT IDENT.
I-126	2.419E-02	9.593E-02	7.358E-02	4.894E-02	NOT IDENT.
SB-126	-1.841E-02	7.889E-02	5.857E-02	4.025E-02	FAIL ABUN
SB-127	-2.688E-01	7.608E-01	6.589E-01	3.882E-01	NOT IDENT.
XE-127	1.410E-02	2.718E-02	2.177E-02	1.387E-02	FAIL ABUN
I-131	6.393E-02	5.722E-02	5.256E-02	2.919E-02	NOT IDENT.
TE-132	1.744E-01	4.512E-01	4.037E-01	2.302E-01	FAIL ABUN
BA-133	1.209E-02	2.248E-02	1.696E-02	1.147E-02	FAIL ABUN
I-133	3.199E+03	7.997E+03	0.000E+00	4.080E+03	SHORT HLIF
CS-134	6.902E-02	3.230E-02	2.019E-02	1.648E-02	FAIL ABUN
CS-135	1.249E-01	8.434E-02	6.715E-02	4.303E-02	NOT IDENT.
I-135	2.026E+16	7.841E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.687E-03	4.691E-02	4.057E-02	2.393E-02	FAIL ABUN
CE-139	6.197E-03	1.764E-02	1.437E-02	9.002E-03	NOT IDENT.

BA-140	9.928E-02	1.275E-01	1.089E-01	6.506E-02	FAIL ABUN
LA-140	3.969E-02	3.933E-02	3.119E-02	2.007E-02	FAIL ABUN
CE-141	2.630E-01	4.631E-02	3.789E-02	2.363E-02	NOT IDENT.
CE-143	9.151E+02	2.522E+02	0.000E+00	1.287E+02	SHORT HLIF
CE-144	5.089E-02	1.347E-01	1.048E-01	6.872E-02	NOT IDENT.
PM-144	-8.384E-03	1.547E-02	1.331E-02	7.894E-03	NOT IDENT.
PR-144	-5.686E-01	1.049E+00	9.024E-01	5.353E-01	NOT IDENT.
PM-146	1.039E-02	1.929E-02	1.714E-02	9.840E-03	NOT IDENT.
ND-147	2.230E-02	2.675E-01	2.312E-01	1.365E-01	FAIL ABUN
PM-149	-3.856E+01	6.723E+01	5.749E+01	3.430E+01	NOT IDENT.
EU-152	-1.906E-02	4.885E-02	3.792E-02	2.492E-02	FAIL ABUN
GD-153	8.189E-01	1.046E-01	6.152E-02	5.337E-02	FAIL ABUN
EU-154	-8.730E-03	4.829E-02	4.056E-02	2.464E-02	NOT IDENT.
TB-160	4.085E-02	6.296E-02	5.478E-02	3.212E-02	FAIL ABUN
HO-166M	-1.306E-02	2.672E-02	2.294E-02	1.363E-02	FAIL ABUN
TM-171	-4.539E+01	2.570E+01	2.012E+01	1.311E+01	NOT IDENT.
LU-176	2.811E-03	1.181E-02	9.908E-03	6.027E-03	FAIL ABUN
LU-177M	-5.386E-02	9.092E-02	6.838E-02	4.639E-02	NOT IDENT.
HF-181	-5.888E-03	1.937E-02	1.672E-02	9.885E-03	FAIL ABUN
W-181	4.033E+00	4.912E-01	3.540E-01	2.506E-01	NOT IDENT.
TA-182	1.936E-02	8.402E-02	7.210E-02	4.287E-02	FAIL ABUN
RE-183	2.412E-01	9.037E-02	5.926E-02	4.611E-02	FAIL ABUN
RE-184	-2.357E-01	1.280E-01	9.263E-02	6.531E-02	NOT IDENT.
OS-185	-1.391E-02	1.953E-02	1.602E-02	9.963E-03	NOT IDENT.
RE-188	2.630E-02	9.172E-02	8.483E-02	4.679E-02	NOT IDENT.
W-188	-1.245E+00	3.966E+00	2.979E+00	2.023E+00	FAIL ABUN
IR-192	1.015E-02	1.602E-02	1.401E-02	8.175E-03	FAIL ABUN
AU-195	2.388E+00	3.050E-01	1.835E-01	1.556E-01	FAIL ABUN
TL-200	-1.114E+02	4.910E+02	0.000E+00	2.505E+02	SHORT HLIF
TL-201	4.195E+00	5.541E+00	4.548E+00	2.827E+00	NOT IDENT.
TL-202	-1.903E-03	3.291E-02	2.890E-02	1.679E-02	NOT IDENT.
HG-203	2.313E-02	2.220E-02	1.746E-02	1.132E-02	NOT IDENT.
BI-207	9.431E-03	2.355E-02	1.899E-02	1.202E-02	FAIL ABUN
TL-207	3.134E-01	3.357E-01	2.574E-01	1.713E-01	FAIL ABUN
PO-209	1.302E+00	3.154E+00	2.721E+00	1.609E+00	NOT IDENT.
BI-210	-1.613E+00	3.891E+00	3.512E+00	1.985E+00	NOT IDENT.
PB-210	-1.613E+00	3.891E+00	3.512E+00	1.985E+00	NOT IDENT.
PO-210	-1.613E+00	3.891E+00	3.512E+00	1.985E+00	NOT IDENT.
PB-211	-3.516E-01	5.096E-01	3.463E-01	2.600E-01	NOT IDENT.
PO-215	3.134E-01	3.357E-01	2.574E-01	1.713E-01	FAIL ABUN
RN-219	2.586E-01	1.814E-01	1.639E-01	9.254E-02	FAIL ABUN
RN-220	-4.459E+00	1.167E+01	9.896E+00	5.956E+00	NOT IDENT.
RA-223	3.134E-01	3.357E-01	2.574E-01	1.713E-01	FAIL ABUN
AC-227	4.254E-01	2.164E-01	1.704E-01	1.104E-01	FAIL ABUN
TH-227	4.254E-01	2.201E-01	1.704E-01	1.123E-01	FAIL ABUN
PA-231	-4.897E-01	7.464E-01	6.139E-01	3.808E-01	FAIL ABUN
TH-231	3.134E-01	3.357E-01	2.574E-01	1.713E-01	FAIL ABUN
PA-233	-1.612E-02	2.907E-02	2.467E-02	1.483E-02	FAIL ABUN
PA-234	2.238E-01	1.439E-01	1.228E-01	7.341E-02	FAIL ABUN
NP-236	-1.792E-02	4.679E-02	3.763E-02	2.387E-02	FAIL ABUN
NP-239	-6.923E-02	1.345E-01	1.041E-01	6.865E-02	FAIL ABUN
AM-241	1.862E-01	1.585E-01	1.339E-01	8.085E-02	NOT IDENT.
CM-243	5.084E-02	8.979E-02	5.699E-02	4.581E-02	FAIL ABUN
AM-246	4.363E-02	5.624E-02	5.000E-02	2.869E-02	NOT IDENT.
CM-247	2.330E-02	1.677E-02	1.460E-02	8.556E-03	FAIL ABUN
CF-249	-1.023E-02	1.753E-02	1.539E-02	8.946E-03	NOT IDENT.
CF-251	-1.223E-02	6.439E-02	5.845E-02	3.285E-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	2080.4272
46.50	2080.4272
46.50	2080.4272
48.70	2144.9312
49.72	2141.1721
51.35	2287.7996
52.39	2357.8157
52.97	2396.6982
53.15	2401.9800
53.44	2431.0466
54.07	2482.4871
56.28	2695.2737
56.28	2695.3035
57.37	0.0000
57.53	2881.3982
57.53	2881.4138
57.60	2914.4924
57.98	2866.4221
57.98	2866.4221
59.32	2939.8394
59.32	2939.8394
59.40	2940.6667
59.54	2942.1128
59.72	2967.7329
60.01	2970.7456
61.10	3156.1836
61.14	3156.6208
61.30	3158.3608
63.00	3028.2683
63.29	3031.2261
63.29	3031.2261
63.58	3034.1758
64.28	2869.4849
65.12	3011.3118
65.20	3012.1064
65.20	3012.1064
66.05	3160.4709
66.72	3183.0864
66.83	3262.9873
66.91	3263.8218
67.20	3223.8779
67.20	3223.8779
67.75	3409.0750
67.85	3487.7493
68.90	3074.2429
68.90	3074.2429
69.30	3104.1082
69.67	3243.5618
70.82	3424.8386
70.82	3424.8386
70.83	3424.9468
72.80	3810.4487
72.87	3811.2659
72.87	3811.2659
74.67	3831.9910
74.81	3833.5950
74.81	3833.5950
74.81	3833.5950
74.81	3833.5950
74.81	3833.5950
74.81	3833.5950
74.81	3833.5950
74.97	3835.4185
75.28	3838.9656
75.70	3843.7483
77.11	3859.6907
77.11	3859.6907

77.11	3859.6907
77.11	3859.6907
77.11	3859.6907
77.11	3859.6907
77.11	3859.6907
78.38	4091.9595
79.62	4171.5410
79.80	4175.6650
79.80	4175.6650
80.11	4179.3447
80.18	4180.1787
80.30	4074.2175
80.30	4074.2175
80.57	4077.3440
81.00	3911.9397
81.07	3912.7188
81.07	3912.7188
81.07	3912.7188
81.07	3912.7188
82.60	4079.5713
83.37	4231.1323
83.78	4369.9819
83.78	4369.9819
83.78	4369.9819
83.78	4369.9819
84.21	4375.1406
84.90	4446.8164
85.43	4453.2178
86.29	4463.5723
86.50	4466.0879
86.54	4466.5596
86.59	4467.1660
86.72	4468.7158
86.79	4469.5244
86.94	4471.3438
87.30	3523.9712
87.30	3523.9712
87.30	3523.9712
87.30	3523.9712
87.30	3523.9712
87.30	3523.9712
87.30	3523.9712
87.57	3541.7136
87.88	3544.6265
88.03	3546.0474
88.36	3549.1379
88.47	3550.1680
89.95	3563.9863
91.11	3574.7319
92.29	3585.6018
92.38	3586.4365
92.38	3586.4365
93.35	3595.2993
94.00	3601.2317
94.67	3607.2527
94.67	3607.3059
94.90	3609.3840
94.90	3609.3840
94.90	3609.3840
94.90	3609.3840
95.87	2595.4873
95.87	2595.4873
96.73	2601.0552
97.43	2605.5271
98.44	2300.7271
98.44	2300.7271
98.88	2303.1960
99.55	2306.9443
99.55	2306.9443
99.86	2123.4768
100.00	2124.1992
100.10	2124.7258
103.18	2189.4045
103.76	2201.8975
105.00	2217.8137
105.31	2263.9375
108.00	2549.9233
109.28	2618.3071

111.00	2689.6438
111.00	2689.6438
111.76	2613.5281
112.95	2620.4124
115.19	2091.9937
116.30	2144.2781
117.00	2101.8145
117.00	2101.8145
117.66	2150.5483
121.11	1912.7804
121.62	1974.1426
121.78	1974.8007
122.06	1937.4668
122.32	1938.5065
122.32	1938.5065
122.32	1938.5065
122.32	1938.5065
123.07	1896.3494
127.23	1966.9563
129.76	1928.3456
131.20	1935.5273
133.02	1927.2603
133.54	1824.5504
135.34	1837.6923
136.00	1875.6232
136.25	1876.5176
136.48	1852.2227
140.51	1907.0829
140.51	0.0000
142.18	2024.5420
142.65	2002.2655
143.76	1858.3759
144.24	1860.0073
144.24	1860.0073
144.24	1860.0073
144.24	1860.0073
145.22	1733.9379
145.44	1734.6433
147.16	1769.4747
152.43	1754.6868
152.70	1741.5259
153.22	1725.6204
154.21	1719.8336
154.21	1719.8336
154.21	1719.8336
154.21	1719.8336
155.03	1761.7905
156.02	1780.6349
158.56	1711.2175
159.00	0.0000
159.00	1692.6912
160.31	1686.5258
161.27	1682.1591
162.32	1650.9952
162.64	1664.6792
163.35	1606.9998
163.89	1608.4457
165.85	1640.6636
167.43	1537.3621
171.28	1630.6650
171.86	1643.9182
172.10	1613.8380
176.55	1556.1287
176.60	1556.2461
181.06	1623.6555
184.41	1640.8110
185.71	1602.1583
186.00	1602.8606
190.27	1349.1759
192.34	1463.3917
193.63	1346.7024
197.04	1400.2571
198.01	1447.2858
198.60	1507.7272
200.40	1363.0846
201.83	1483.6926
202.84	1443.4374
205.31	1498.5364

208.36	1265.5068
208.81	1266.2870
209.75	1280.1392
209.75	1280.1392
210.97	1233.3118
215.65	1245.3684
216.55	1257.4684
218.09	1222.4001
222.10	1209.4675
223.80	1335.6980
226.40	1203.5465
227.00	1167.3569
227.08	1167.4753
227.20	1182.3146
228.16	1230.7327
228.18	1230.7615
228.18	1230.7615
231.56	0.0000
235.69	1189.9644
236.00	1206.2330
236.00	1206.2330
238.63	1128.1023
238.63	1128.1023
238.63	1128.1023
238.63	1128.1023
239.00	1128.6145
240.98	1131.3668
241.98	1132.7560
241.98	1132.7560
241.98	1132.7560
244.69	974.7118
245.39	1092.2831
247.94	919.1852
248.90	959.0150
249.79	997.7880
252.40	1062.7743
252.85	1114.9713
252.85	1114.9713
254.15	0.0000
256.20	971.9568
256.20	971.9568
260.50	952.3960
260.90	936.5509
262.80	967.9827
264.65	907.8640
268.24	975.6189
268.79	976.2280
269.46	999.9789
269.46	999.9789
269.46	999.9789
269.46	999.9789
271.23	926.9852
273.65	958.4019
276.40	961.3188
277.35	935.3625
277.60	935.6103
277.60	935.6103
278.00	916.5141
278.60	918.7819
279.20	937.6638
279.53	937.9943
280.46	885.6839
281.68	903.5230
283.67	946.2787
284.30	933.0335
285.00	948.3808
285.90	949.2942
286.10	949.4880
286.10	949.4880
287.40	863.8069
288.45	0.0000
290.67	940.8560
290.80	940.9924
291.72	985.7164
293.26	0.0000
293.70	886.4502
295.21	867.5662
295.21	867.5662

295.21	867.5662
295.96	795.4658
296.50	795.9133
297.23	796.5100
298.57	797.6230
299.80	798.6328
299.80	798.6328
300.09	819.2706
300.09	819.2706
300.09	819.2706
300.09	819.2706
300.12	819.2941
301.29	833.8853
302.84	780.6686
303.76	829.1782
303.91	829.2968
304.40	829.7121
304.40	829.7121
304.84	790.8076
306.84	809.2714
308.46	791.7728
311.98	795.6445
316.51	756.0226
318.01	795.0014
319.02	805.5308
319.41	801.5048
320.08	809.6110
323.87	710.1351
323.87	710.1351
323.87	710.1351
323.87	710.1351
325.23	791.2302
328.77	813.1597
333.44	663.0858
334.20	720.6831
334.20	720.6831
334.30	720.7532
338.28	767.5583
338.28	767.5583
338.28	767.5583
338.28	767.5583
338.32	767.5902
338.32	767.5902
338.32	767.5902
340.50	744.3970
340.57	744.4484
344.27	779.2314
345.85	759.6266
350.59	0.0000
351.07	776.6385
351.92	730.3412
351.92	730.3412
351.92	730.3412
355.39	0.0000
356.01	688.6406
364.48	648.6629
366.43	644.3461
367.43	705.5979
367.94	0.0000
369.80	691.6229
374.96	665.5369
383.85	689.8712
387.95	707.9156
388.63	684.3392
391.69	681.4551
391.69	681.4551
392.90	650.6698
398.62	680.7010
400.65	645.4916
401.10	642.9415
401.81	602.2854
402.60	593.5718
404.84	680.7143
410.95	637.0885
411.60	651.5150
413.65	701.2021
414.70	635.8447
415.30	643.5545

415.76	632.8448
417.63	0.0000
418.52	608.4668
423.70	588.1675
427.08	579.2414
427.89	586.2678
432.53	594.0814
433.93	601.4122
439.47	599.1375
439.56	599.1756
439.89	596.4465
443.98	566.4811
444.90	586.1500
445.03	598.7435
445.03	598.7435
445.03	598.7435
445.03	598.7435
453.90	574.5334
463.38	557.9796
468.07	580.1251
473.00	604.1364
475.06	569.5402
475.35	568.6746
476.78	582.0704
477.59	588.3245
477.96	564.7802
482.03	573.3245
484.57	555.4883
487.03	544.5148
490.36	0.0000
492.35	515.5927
497.08	554.2773
507.63	0.0000
510.53	0.0000
510.84	553.3649
511.00	553.4218
511.85	553.7362
511.85	553.7362
513.99	543.0475
513.99	543.0475
520.41	480.6447
520.65	480.7255
527.90	492.1790
528.96	0.0000
529.64	482.5094
529.87	0.0000
531.02	491.1211
537.32	480.7854
543.00	535.0920
546.56	0.0000
549.76	519.7710
552.65	525.8887
555.20	459.1901
563.23	513.6691
563.90	534.7625
568.70	513.2917
569.32	512.4352
569.50	508.2909
569.67	508.3501
573.80	588.4238
574.00	593.7466
574.64	585.2203
578.91	458.4811
579.30	0.0000
583.14	486.0547
585.48	439.1138
591.81	472.6169
592.07	476.8239
593.00	475.0685
595.88	525.9122
600.56	487.0380
602.52	0.0000
602.71	555.7881
602.71	555.7881
603.60	577.4546
604.41	588.4302
604.70	574.2570
609.31	522.4906

609.31	522.4906
609.31	522.4906
609.31	522.4906
610.33	522.7997
612.46	465.7487
614.37	439.3571
618.01	440.7135
621.84	453.8174
621.84	453.8174
631.29	450.7958
633.02	459.9196
633.10	461.0276
634.78	430.9884
635.90	402.9351
636.97	447.8555
645.85	476.3123
646.12	475.2915
656.30	462.4922
657.75	458.1281
657.90	0.0000
661.65	507.9990
661.65	507.9990
664.57	0.0000
666.33	457.0659
666.33	457.0659
675.00	447.6437
677.61	435.2601
685.20	457.4855
692.80	456.4675
695.00	470.0939
696.49	526.6806
696.49	526.6806
697.00	527.7552
697.49	539.1444
698.33	541.2427
698.50	541.2897
699.00	518.9100
702.63	488.8436
706.10	495.3509
706.58	0.0000
706.67	515.2831
709.31	480.1182
711.68	475.9658
713.82	477.4239
717.42	434.7202
720.50	460.1810
721.93	0.0000
722.20	468.7031
722.78	463.9600
722.78	463.9600
722.89	463.9799
722.95	463.9898
723.30	468.9643
724.18	465.9071
727.18	435.8697
733.00	387.7618
735.90	447.2908
739.58	443.1665
742.81	422.9031
744.21	406.3198
747.13	377.2446
751.79	409.3150
752.31	380.5186
753.82	388.5041
755.35	417.7333
756.15	398.3967
756.87	382.3118
763.93	428.4283
765.79	464.4016
766.42	464.5380
766.84	464.6257
776.49	464.7819
778.00	489.0886
778.57	466.8539
778.89	459.1183
783.80	430.7385
785.46	410.9424
792.07	323.8635

795.84	389.3049
796.30	375.9003
798.80	460.7065
801.93	495.3743
805.60	342.6441
810.29	424.5051
810.76	432.5190
815.85	355.1303
817.79	348.4935
818.51	374.4229
819.60	380.5688
826.30	405.6172
828.27	0.0000
831.60	402.5654
831.96	375.6558
834.83	453.1475
836.80	0.0000
846.75	390.1392
848.13	367.2352
856.28	0.0000
856.80	363.5522
860.37	327.6980
867.32	285.3800
867.82	292.2070
871.10	329.1877
873.19	333.5454
874.81	383.6346
875.33	0.0000
876.40	349.2666
879.36	336.4453
880.27	351.8716
880.51	336.6064
881.50	333.6861
883.24	322.6926
884.67	351.4956
889.25	339.8826
896.60	310.1042
898.02	324.6728
899.00	336.1077
903.28	335.3694
911.07	309.8755
911.07	309.8755
911.07	309.8755
919.63	339.2112
920.93	345.3303
925.00	309.5376
925.24	327.2278
926.50	359.6142
935.52	299.3612
937.48	374.7545
944.10	325.4958
946.00	316.3098
949.00	354.4351
962.29	290.9141
964.01	287.4943
966.15	297.6858
968.20	297.9153
969.11	311.6120
969.11	311.6120
969.11	311.6120
977.42	304.0598
980.50	299.3209
983.50	312.4109
989.30	317.3586
996.32	272.7388
1001.03	293.0872
1001.68	271.4503
1004.76	260.7477
1021.30	0.0000
1024.50	0.0000
1034.80	296.7441
1036.00	286.9717
1037.82	270.4274
1038.57	260.2734
1038.76	0.0000
1045.16	305.6239
1046.59	304.8518
1048.07	288.2218

1050.47	263.2636
1050.47	263.2636
1062.04	279.3438
1063.62	272.9343
1076.63	287.3842
1077.35	278.0235
1078.86	253.6605
1085.78	279.7918
1099.22	315.2796
1112.02	273.7371
1112.84	293.8525
1115.52	376.0071
1120.29	311.3320
1120.29	311.3320
1120.29	311.3320
1120.29	311.3320
1120.51	311.3547
1121.28	314.7830
1124.00	0.0000
1129.67	316.7974
1131.51	0.0000
1147.95	0.0000
1167.94	341.0718
1173.22	339.7126
1175.09	324.3359
1177.93	333.4118
1189.05	319.9290
1204.90	319.5818
1205.75	0.0000
1213.00	346.0420
1221.42	369.6824
1230.97	385.1667
1235.34	408.2809
1236.41	0.0000
1238.25	355.7275
1246.25	325.8246
1260.41	0.0000
1271.85	238.9380
1274.45	243.1395
1274.54	250.1811
1291.56	232.2702
1298.22	0.0000
1312.09	217.4333
1325.50	192.7837
1325.50	192.7837
1332.49	198.2897
1333.61	192.2161
1360.21	162.7832
1362.66	0.0000
1365.15	173.3320
1368.21	148.1796
1368.53	0.0000
1376.25	151.1074
1384.27	121.6256
1394.10	152.9063
1395.20	174.8027
1407.95	167.0647
1434.06	125.1467
1436.60	141.0197
1457.56	0.0000
1460.81	98.2460
1489.15	121.6657
1509.49	115.4739
1596.49	90.4267
1620.62	89.7844
1678.03	0.0000
1691.02	65.7814
1691.02	65.7814
1706.46	0.0000
1750.46	0.0000
1764.49	55.0304
1764.49	55.0304
1764.49	55.0304
1764.49	55.0304
1770.23	62.2108
1771.40	67.5617
1791.20	0.0000
1808.65	54.4548

1836.01

90.2901

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808003

Total Uranium Activity	2.0172E+02	ug/g
Total Uranium Counting Unc.	3.5462E+01	ug/g
Total Uranium Tpu	1.8093E-05	ug/g
Total Uranium Mda	2.9501E+00	ug/g


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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G245808003   *
*  ANALYST       : RXF2            DETECTOR    : GAM18        *
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 06:00:00.00 *
*  ANALYSIS DATE: 11-FEB-2010 22:27:19.07  SAMPLE ALQT: 149.854 GRAM *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.696E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.326E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 3.182E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 1.575E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 04:29:38.59

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808004.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:27:52
Sample ID          : G245808004          Sample quantity  : 1.69141E+02 GRAM
Detector name      : GAM19              Detector geometry: CAN
Elapsed live time  : 0 06:00:00.00      Elapsed real time: 0 06:00:09.65  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials  : RXF2
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 947554             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	63.29*	29501	17029	1.25	126.45	120	13	1.37E+00	1.1	
2	5	74.83	2890	19515	2.15	149.50	142	17	1.34E-01	10.2	6.84E+00
3	5	77.20	1196	9070	1.03	154.25	142	17	5.54E-02	13.1	
4	7	84.34*	3615	21458	2.63	168.51	162	33	1.67E-01	8.3	6.27E+01
5	7	87.59	1191	11867	1.35	175.00	162	33	5.51E-02	15.9	
6	7	92.64*	72591	10036	1.39	185.09	162	33	3.36E+00	0.4	
7	0	98.53*	4885	6409	1.28	196.87	194	9	2.26E-01	3.3	
8	0	112.68	5824	9283	1.41	225.15	219	14	2.70E-01	3.8	
9	0	131.49	451	3202	1.50	262.73	260	7	2.09E-02	21.4	
10	0	143.83*	2576	3880	1.17	287.39	283	10	1.19E-01	5.0	
11	0	163.42	1066	3449	1.34	326.55	322	10	4.93E-02	10.8	
12	0	185.67*	12505	3932	1.31	371.02	365	14	5.79E-01	1.4	
13	0	205.33	1019	1987	1.34	410.30	406	9	4.72E-02	8.5	
14	0	209.31	346	1589	1.88	418.27	415	8	1.60E-02	20.6	
15	2	238.51*	2765	1386	1.38	476.62	470	18	1.28E-01	3.1	2.33E+00
16	2	241.39	632	1669	1.70	482.39	470	18	2.92E-02	14.3	
17	0	258.10	895	1359	1.25	515.78	511	10	4.14E-02	8.4	
18	0	269.82	182	1251	1.41	539.20	535	9	8.42E-03	35.8	
19	0	294.95	1056	1094	1.36	589.43	585	10	4.89E-02	6.6	
20	0	299.94	200	951	1.24	599.40	595	9	9.26E-03	28.7	
21	0	338.23	477	1023	1.35	675.93	672	10	2.21E-02	13.4	
22	0	351.75*	1554	1034	1.52	702.95	697	13	7.20E-02	5.1	
23	0	462.79	152	705	1.01	924.92	920	11	7.03E-03	34.8	
24	0	510.80*	381	1006	1.71	1020.91	1012	19	1.76E-02	22.5	
25	0	568.32*	425	779	2.65	1135.90	1128	15	1.97E-02	15.6	
26	0	583.28*	930	657	1.55	1165.80	1159	16	4.30E-02	7.2	
27	0	609.22*	1125	679	1.58	1217.67	1211	16	5.21E-02	6.2	
28	0	661.66	300	497	1.47	1322.51	1317	11	1.39E-02	15.5	
29	0	727.05	178	381	1.54	1453.28	1449	10	8.22E-03	21.8	
30	0	742.64	539	576	1.32	1484.44	1476	14	2.50E-02	10.4	
31	0	766.54	1963	596	1.95	1532.24	1524	17	9.09E-02	3.6	
32	0	786.25	305	354	1.65	1571.65	1567	10	1.41E-02	12.9	
33	0	795.08	164	469	3.45	1589.30	1582	15	7.58E-03	29.9	
34	0	860.71	132	203	2.12	1720.56	1716	10	6.10E-03	22.0	
35	0	911.52	641	270	1.63	1822.17	1816	15	2.97E-02	6.9	
36	0	946.18	153	252	1.92	1891.47	1887	12	7.10E-03	22.1	
37	2	964.71	100	258	2.02	1928.53	1922	23	4.65E-03	31.7	9.30E-01
38	2	969.19*	338	189	1.77	1937.51	1922	23	1.56E-02	10.0	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1001.28*	4131	293	1.89	2001.68	1994	18	1.91E-01	1.9	
40	0	1120.47	253	411	2.17	2240.09	2231	22	1.17E-02	21.3	
41	0	1193.73	113	210	1.92	2386.63	2378	15	5.23E-03	29.5	
42	0	1238.26	126	313	2.21	2475.71	2471	17	5.83E-03	33.6	
43	0	1378.10	90	71	2.17	2755.49	2751	10	4.18E-03	20.5	
44	0	1461.10*	3751	101	2.13	2921.55	2911	20	1.74E-01	1.8	
45	0	1588.55	37	98	1.40	3176.59	3171	14	1.73E-03	57.8	
46	0	1730.12	54	26	1.62	3459.92	3454	11	2.50E-03	23.7	
47	0	1738.80	66	39	1.58	3477.28	3472	13	3.06E-03	24.5	
48	0	1765.01*	207	39	1.97	3529.74	3522	16	9.58E-03	10.6	
49	0	1831.37	46	46	1.88	3662.56	3654	14	2.14E-03	34.2	
50	0	1875.84	44	45	1.76	3751.58	3742	20	2.05E-03	39.9	
51	0	1911.49	39	11	1.41	3822.95	3817	12	1.83E-03	23.5	

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

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808004.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:27:52
Sample ID         : G245808004 Sample quantity : 169.14 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA19 Detector geometry: CAN
Elapsed live time : 0 06:00:00.00 Elapsed real time: 0 06:00:09.65 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	*	2.226E+01	1.837E+00	2.211E-01	1.647E-02	100.677
NB-95	+	765.79	*	8.571E-01	8.694E-02	4.170E-02	2.947E-03	20.553
CD-109	+	88.03	*	3.969E+00	1.308E+00	1.696E+00	1.519E-01	2.340
SN-126	+	64.28		6.272E+01	9.257E+00	9.842E-01	1.437E-01	63.726
	+	86.94		1.618E+00	8.445E-01	6.988E-01	2.894E-01	2.316
	+	87.57	*	3.893E-01	1.283E-01	1.671E-01	1.490E-02	2.330
BA-137M	+	661.65	*	1.075E-01	3.387E-02	3.580E-02	2.085E-03	3.002
CS-137	+	661.65	*	1.136E-01	3.581E-02	3.784E-02	2.213E-03	3.002
LU-177	+	112.95		5.434E+01	5.432E+00	3.133E+00	2.040E-01	17.346
	+	208.36	*	2.353E+00	9.804E-01	1.305E+00	7.165E-02	1.803
TL-208		277.35		1.204E-01	2.306E-01	3.917E-01	4.133E-02	0.307
	+	510.84		4.588E-01	2.117E-01	1.274E-01	1.301E-02	3.601
	+	583.14	*	3.198E-01	5.070E-02	3.457E-02	2.351E-03	9.251
	+	860.37		4.264E-01	1.914E-01	2.419E-01	2.166E-02	1.763
BI-211		72.87		2.072E+01	4.298E+00	6.543E+00	5.127E-01	3.167
	+	351.07	*	2.346E+00	2.810E-01	2.018E-01	1.288E-02	11.626
BI-212	+	727.18	*	5.240E-01	2.328E-01	2.917E-01	2.429E-02	1.796
	+	785.46		5.773E+00	1.546E+00	1.936E+00	1.416E-01	2.981
		1620.62		7.796E-01	6.038E-01	1.088E+00	7.263E-02	0.717
PB-212	+	74.81		3.941E+00	9.396E-01	6.967E-01	8.543E-02	5.657
	+	77.11		9.262E-01	2.531E-01	3.965E-01	3.203E-02	2.336
	+	87.30		1.800E+00	6.202E-01	7.747E-01	1.037E-01	2.324
	+	238.63	*	9.139E-01	8.653E-02	5.993E-02	4.326E-03	15.249
	+	300.09		1.017E+00	5.901E-01	7.541E-01	6.229E-02	1.349
PO-212	+	74.81		3.941E+00	9.396E-01	6.967E-01	8.543E-02	5.657
	+	77.11		9.262E-01	2.531E-01	3.965E-01	3.203E-02	2.336
	+	87.30		1.800E+00	6.202E-01	7.747E-01	1.037E-01	2.324
		115.19		4.410E+01	4.968E+00	6.695E+00	4.262E-01	6.587
	+	238.63	*	9.139E-01	8.653E-02	5.993E-02	4.326E-03	15.249
	+	300.09		1.017E+00	5.901E-01	7.541E-01	6.229E-02	1.349
BI-214	+	609.31	*	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
	+	1120.29		8.520E-01	3.710E-01	2.126E-01	1.945E-02	4.008
	+	1764.49		9.409E-01	2.070E-01	1.502E-01	9.100E-03	6.266
PB-214	+	74.81		6.791E+00	1.572E+00	1.200E+00	1.303E-01	5.657

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	77.11		1.588E+00	4.504E-01	6.796E-01	7.547E-02	2.336
	+	87.30		3.084E+00	1.044E+00	1.327E+00	1.562E-01	2.324
	+	241.98		1.254E+00	3.712E-01	3.549E-01	2.831E-02	3.532
	+	295.21		9.431E-01	1.486E-01	1.390E-01	1.186E-02	6.786
	+	351.92	*	8.159E-01	1.066E-01	7.032E-02	5.798E-03	11.603
	+	74.81		6.791E+00	1.572E+00	1.200E+00	1.303E-01	5.657
	+	77.11		1.588E+00	4.504E-01	6.796E-01	7.547E-02	2.336
	+	87.30		3.084E+00	1.044E+00	1.327E+00	1.562E-01	2.324
	+	241.98		1.254E+00	3.712E-01	3.549E-01	2.831E-02	3.532
	+	295.21		9.431E-01	1.486E-01	1.390E-01	1.186E-02	6.786
PO-216	+	351.92	*	8.159E-01	1.066E-01	7.032E-02	5.798E-03	11.603
	+	74.81		3.941E+00	9.396E-01	6.967E-01	8.543E-02	5.657
	+	77.11		9.262E-01	2.531E-01	3.965E-01	3.203E-02	2.336
	+	87.30		1.800E+00	6.202E-01	7.747E-01	1.037E-01	2.324
	+	238.63	*	9.139E-01	8.653E-02	5.993E-02	4.326E-03	15.249
PO-218	+	300.09		1.017E+00	5.901E-01	7.541E-01	6.229E-02	1.349
	+	74.81		6.791E+00	1.572E+00	1.200E+00	1.303E-01	5.657
	+	77.11		1.588E+00	4.504E-01	6.796E-01	7.547E-02	2.336
	+	87.30		3.084E+00	1.044E+00	1.327E+00	1.562E-01	2.324
	+	241.98		1.254E+00	3.712E-01	3.549E-01	2.831E-02	3.532
RA-224	+	295.21		9.431E-01	1.486E-01	1.390E-01	1.186E-02	6.786
	+	351.92	*	8.159E-01	1.066E-01	7.032E-02	5.798E-03	11.603
	+	240.98	*	2.377E+00	6.912E-01	6.817E-01	3.863E-02	3.487
	+	609.31	*	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
	+	1120.29		8.520E-01	3.710E-01	2.126E-01	1.945E-02	4.008
AC-228	+	1764.49		9.409E-01	2.070E-01	1.502E-01	9.100E-03	6.266
	+	338.32		7.937E-01	3.869E-01	2.361E-01	9.622E-02	3.362
	+	911.07	*	9.813E-01	1.745E-01	1.048E-01	1.186E-02	9.360
	+	969.11		9.098E-01	2.791E-01	1.849E-01	4.285E-02	4.921
	+	338.32		7.937E-01	3.869E-01	2.361E-01	9.622E-02	3.362
RA-228	+	911.07	*	9.813E-01	1.745E-01	1.048E-01	1.186E-02	9.360
	+	969.11		9.098E-01	2.791E-01	1.849E-01	4.285E-02	4.921
	+	74.81		4.007E+00	8.799E-01	7.082E-01	5.678E-02	5.657
	+	77.11		9.416E-01	2.573E-01	4.030E-01	3.256E-02	2.336
	+	87.30		1.830E+00	6.034E-01	7.876E-01	7.005E-02	2.324
TH-228	+	238.63	*	9.291E-01	8.796E-02	6.093E-02	4.398E-03	15.249
	+	300.09		1.034E+00	8.510E-01	7.666E-01	4.518E-01	1.349
	+	85.43		2.746E+00	5.157E-01	3.829E-01	3.339E-02	7.173
	+	88.47		5.315E-01	1.752E-01	2.262E-01	2.011E-02	2.349
	+	100.00		4.412E+00	4.482E-01	3.084E-01	2.321E-02	14.303
TH-229	+	193.63	*	1.700E-01	3.785E-01	6.133E-01	3.310E-02	0.277
	+	210.97		5.078E-01	6.096E-01	8.698E-01	4.789E-02	0.584
	+	609.31	*	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
	+	1120.29		8.520E-01	3.710E-01	2.126E-01	1.945E-02	4.008
	+	1764.49		9.409E-01	2.070E-01	1.502E-01	9.100E-03	6.266
TH-230	+	338.32		7.937E-01	2.170E-01	2.361E-01	1.365E-02	3.362
	+	911.07	*	9.813E-01	1.745E-01	1.048E-01	1.186E-02	9.360
	+	969.11		9.098E-01	2.791E-01	1.849E-01	4.285E-02	4.921
	+	766.42		2.235E+02	1.140E+02	1.088E+01	5.495E+00	20.537
	+	766.42		2.235E+02	1.140E+02	1.088E+01	5.495E+00	20.537

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-234	+	1001.03	*	2.265E+02	2.273E+01	3.619E+00	3.369E-01	62.571
	+	63.29	*	1.585E+02	2.794E+01	2.582E+00	4.517E-01	61.378
	+	92.38		1.556E+02	2.794E+01	1.099E+00	1.974E-01	141.533
U-234	+	609.31	*	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
	+	1120.29		8.520E-01	3.710E-01	2.126E-01	1.945E-02	4.008
	+	1764.49		9.409E-01	2.070E-01	1.502E-01	9.100E-03	6.266
U-235		89.95		5.708E+01	1.773E+01	3.231E+00	9.975E-01	17.665
	+	93.35		1.870E+02	5.227E+01	1.313E+00	3.664E-01	142.445
		105.00		-5.619E-01	1.184E+00	1.840E+00	5.417E-01	-0.305
	+	143.76	*	2.736E+00	5.213E-01	2.861E-01	4.639E-02	9.561
	+	163.35		2.663E+00	7.447E-01	6.258E-01	1.115E-01	4.255
	+	185.71		2.910E+00	1.758E-01	5.343E-02	2.855E-03	54.463
	+	205.31		2.895E+00	7.152E-01	6.393E-01	1.143E-01	4.528
NP-237	+	86.50	*	1.143E+00	4.446E-01	4.958E-01	1.113E-01	2.306
		95.87		2.149E+01	5.522E+00	2.195E+00	5.358E-01	9.787
U-238	+	63.29	*	1.585E+02	2.794E+01	2.582E+00	4.517E-01	61.378
	+	92.38		1.556E+02	1.302E+01	1.099E+00	9.179E-02	141.533
AM-243	+	74.67	*	6.390E-01	1.401E-01	1.133E-01	8.983E-03	5.641
	+	86.72		4.287E+01	1.413E+01	1.855E+01	1.640E+00	2.311
		117.66		-7.875E-01	4.127E+00	5.866E+00	3.644E-01	-0.134
		142.18		1.680E+02	2.143E+01	3.083E+01	1.716E+00	5.450
ANH-511	+	511.00	*	9.909E-02	4.497E-02	2.753E-02	1.624E-03	3.600

---- 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	*	2.325E-01	2.015E-01	3.432E-01	2.330E-02	0.677
NA-22		1274.54	*	-1.015E-02	2.038E-02	3.289E-02	2.194E-03	-0.309
NA-24		1368.53	*	-6.996E-01	2.038E-02	Half-Life	too short	
AL-26		1129.67		3.206E-01	9.065E-01	1.338E+00	8.255E-02	0.240
		1808.65	*	-1.860E-03	1.232E-02	1.970E-02	1.150E-03	-0.094
TI-44		67.85		-7.325E-02	8.674E-02	8.884E-02	6.782E-03	-0.824
	+	78.38	*	1.709E-01	4.671E-02	7.553E-02	6.165E-03	2.263
SC-46		889.25	*	-2.249E-02	2.132E-02	3.246E-02	2.820E-03	-0.693
	+	1120.51		1.476E-01	6.350E-02	5.655E-02	3.567E-03	2.609
V-48		944.10		1.595E+00	6.368E-01	1.001E+00	8.430E-02	1.594
		983.50	*	-1.641E-02	3.974E-02	6.241E-02	5.017E-03	-0.263
		1312.09		-3.409E-02	3.961E-02	6.208E-02	4.418E-03	-0.549
CR-51		320.08	*	3.180E-01	2.390E-01	4.108E-01	2.658E-02	0.774
MN-52		744.21		1.547E+00	2.674E-01	4.297E-01	2.921E-02	3.600
		848.13		-1.358E+00	4.777E+00	7.630E+00	6.204E-01	-0.178
		935.52		1.426E-01	1.589E-01	2.661E-01	2.262E-02	0.536
		1246.25		-6.818E-02	4.455E+00	6.368E+00	4.025E-01	-0.011
		1333.61		-2.331E-01	2.692E+00	4.434E+00	3.267E-01	-0.053
		1434.06	*	2.076E-01	1.346E-01	2.441E-01	1.761E-02	0.850
MN-54		834.83	*	1.190E-03	2.187E-02	3.547E-02	2.821E-03	0.034
CO-56		846.75	*	5.094E-03	2.326E-02	3.795E-02	3.079E-03	0.134
		977.42		-3.721E-01	1.641E+00	2.444E+00	1.980E-01	-0.152

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	1037.82			-3.428E-02	1.466E-01	2.429E-01	1.932E-02	-0.141
	1175.09			1.100E+00	1.106E+00	1.923E+00	1.058E-01	0.572
	1238.25		+	1.205E-01	8.141E-02	8.235E-02	5.409E-03	1.464
	1360.21			3.960E-01	4.203E-01	7.415E-01	5.440E-02	0.534
	1771.40			2.207E-02	1.159E-01	1.670E-01	1.007E-02	0.132
CO-57	122.06		*	2.113E-02	2.414E-02	3.962E-02	2.364E-03	0.533
	136.48			1.236E-01	2.035E-01	3.078E-01	2.032E-02	0.402
CO-58	810.76		*	-2.422E-02	2.312E-02	3.567E-02	2.734E-03	-0.679
FE-59	142.65		+	3.607E+01	4.128E+00	4.968E+00	2.762E-01	7.260
	192.34			-7.691E-01	8.325E-01	1.139E+00	1.322E-01	-0.676
	1099.22		*	-1.889E-02	4.326E-02	7.072E-02	5.308E-03	-0.267
	1291.56			1.841E-02	5.764E-02	9.735E-02	8.061E-03	0.189
CO-60	1173.22			3.761E-03	2.174E-02	3.652E-02	2.001E-03	0.103
	1332.49		*	8.234E-03	1.759E-02	3.000E-02	2.211E-03	0.274
ZN-65	1115.52		*	-5.961E-03	4.657E-02	6.646E-02	4.249E-03	-0.090
GE-68	1077.35		*	3.511E-01	5.972E-01	1.027E+00	7.104E-02	0.342
AS-73	53.44		*	-1.752E-01	1.028E+00	1.696E+00	1.254E-01	-0.103
AS-74	595.88		*	4.941E-02	5.809E-02	9.784E-02	5.796E-03	0.505
	634.78			1.815E-01	2.262E-01	3.802E-01	2.234E-02	0.477
SE-75	66.05			2.169E+01	7.128E+00	1.014E+01	9.731E-01	2.139
	96.73			1.846E+01	2.831E+00	1.847E+00	2.429E-01	9.996
	121.11			1.099E-01	1.304E-01	2.136E-01	2.001E-02	0.515
	136.00			4.540E-02	4.037E-02	5.829E-02	3.357E-03	0.779
	198.60			-3.597E+00	1.433E+00	2.104E+00	1.436E-01	-1.709
	264.65		*	-3.654E-02	3.768E-02	4.684E-02	2.724E-03	-0.780
	279.53			7.849E-02	6.830E-02	1.172E-01	7.340E-03	0.670
	303.91			4.781E-01	1.448E+00	2.139E+00	2.043E-01	0.224
	400.65			5.063E-02	1.560E-01	2.618E-01	2.350E-02	0.193
BR-77	87.88		+	1.288E+03	4.246E+02	6.172E+02	5.523E+01	2.087
	200.40			1.138E+02	2.087E+02	2.964E+02	1.612E+01	0.384
	239.00		+	2.209E+02	1.842E+01	2.507E+01	1.418E+00	8.811
	249.79			2.968E+01	6.878E+01	1.108E+02	6.321E+00	0.268
	281.68			-9.925E+01	8.922E+01	1.418E+02	8.219E+00	-0.700
	297.23			3.180E+02	8.263E+01	9.606E+01	5.584E+00	3.311
	303.76			5.764E+01	1.840E+02	2.718E+02	1.581E+01	0.212
	439.47			-2.324E+01	1.295E+02	2.140E+02	1.229E+01	-0.109
	484.57			-1.387E+02	2.038E+02	3.299E+02	1.932E+01	-0.420
	520.65		*	3.345E+00	9.775E+00	1.629E+01	9.631E-01	0.205
	574.64			1.028E+01	2.349E+02	3.160E+02	1.875E+01	0.033
	578.91			5.827E+01	8.815E+01	1.291E+02	7.661E+00	0.451
	585.48			1.177E+03	2.053E+02	3.351E+02	1.987E+01	3.511
	755.35			-1.166E+01	1.578E+02	2.558E+02	1.774E+01	-0.046
	817.79			7.745E+01	1.123E+02	1.870E+02	1.445E+01	0.414
SR-82	698.33			-2.418E+01	2.171E+01	3.396E+01	2.121E+00	-0.712
	776.49		*	-2.500E-01	2.569E-01	4.013E-01	2.890E-02	-0.623
	1395.20			-1.156E+00	5.140E+00	8.356E+00	6.087E-01	-0.138
RB-83	520.41		*	2.487E-02	4.413E-02	7.214E-02	4.265E-03	0.345
	529.64			-2.189E-02	6.653E-02	1.086E-01	6.430E-03	-0.202
	552.65			1.655E-02	1.224E-01	2.023E-01	1.201E-02	0.082

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RB-84	881.50	*		9.529E-02	4.615E-02	7.934E-02	6.810E-03	1.201
KR-85	513.99	*		1.037E+01	4.834E+00	7.451E+00	4.399E-01	1.392
SR-85	513.99	*		5.396E-02	2.515E-02	3.877E-02	2.289E-03	1.392
RB-86	1076.63	*		2.509E-01	3.927E-01	6.769E-01	4.690E-02	0.371
Y-88	898.02			1.774E-02	2.255E-02	3.762E-02	3.330E-03	0.472
	1836.01	*		1.201E-02	1.594E-02	2.510E-02	1.433E-03	0.478
ZR-88	392.90	*		-9.280E-03	1.885E-02	3.101E-02	1.727E-03	-0.299
Y-91	1204.90	*		-8.111E+00	9.096E+00	1.449E+01	8.461E-01	-0.560
NB-94	702.63	*		1.453E-02	2.083E-02	3.471E-02	2.186E-03	0.419
	871.10			-1.561E-02	1.954E-02	3.033E-02	2.560E-03	-0.515
NB-95M	235.69	*		3.391E-01	9.951E-02	1.461E-01	1.082E-02	2.322
ZR-95	724.18			2.772E-02	6.405E-02	9.204E-02	6.911E-03	0.301
	756.15	*		-1.845E-02	4.561E-02	7.301E-02	5.844E-03	-0.253
NB-97	657.90	*		1.257E-01	4.561E-02	Half-Life	too short	
	1024.50			3.108E+00	4.561E-02	Half-Life	too short	
ZR-97	254.15			-1.348E+01	4.561E-02	Half-Life	too short	
	355.39			-8.149E-01	4.561E-02	Half-Life	too short	
	507.63	*		1.288E+01	4.561E-02	Half-Life	too short	
	602.52			4.072E+00	4.561E-02	Half-Life	too short	
	1021.30			-5.155E+00	4.561E-02	Half-Life	too short	
	1147.95			2.647E+00	4.561E-02	Half-Life	too short	
	1362.66			5.042E+00	4.561E-02	Half-Life	too short	
	1750.46			2.820E+00	4.561E-02	Half-Life	too short	
MO-99	140.51			-2.404E+01	3.816E+01	5.277E+01	1.420E+01	-0.456
	181.06			2.795E+00	2.227E+01	3.142E+01	5.336E+00	0.089
	366.43			-6.696E+00	7.266E+01	1.211E+02	6.892E+00	-0.055
	739.58	*		2.388E+01	1.341E+01	1.978E+01	2.810E+00	1.207
	778.00			-3.720E+01	3.186E+01	4.937E+01	3.565E+00	-0.754
TC-99M	140.51	*		-1.163E+12	3.186E+01	Half-Life	too short	
RH-101	127.23			1.151E-02	3.365E-02	4.812E-02	2.808E-03	0.239
	198.01	*		-6.556E-02	2.582E-02	3.809E-02	2.066E-03	-1.721
	325.23			-8.920E-03	1.360E-01	2.276E-01	1.321E-02	-0.039
RH-102	418.52			6.654E-02	1.752E-01	2.942E-01	1.668E-02	0.226
	475.06	*		-8.227E-04	1.826E-02	3.019E-02	1.762E-03	-0.027
	631.29			-2.104E-02	3.261E-02	5.215E-02	3.068E-03	-0.404
	697.49			-5.052E-02	4.690E-02	7.346E-02	4.582E-03	-0.688
+	766.84			2.126E+00	2.157E-01	2.416E-01	1.711E-02	8.799
	1046.59			1.994E-03	5.605E-02	9.409E-02	6.885E-03	0.021
	1112.84			2.024E-03	1.169E-01	1.686E-01	1.083E-02	0.012
RU-103	497.08	*		2.536E-02	2.569E-02	4.334E-02	5.496E-03	0.585
+	610.33			8.075E+00	1.600E+00	1.329E+00	2.054E-01	6.077
RH-106	511.85	+		4.963E-01	2.252E-01	2.178E-01	1.285E-02	2.279
	621.84	*		4.329E-02	1.894E-01	3.127E-01	3.685E-02	0.138
	1050.47			-7.529E-01	1.107E+00	1.792E+00	1.303E-01	-0.420
RU-106	511.85	+		4.963E-01	2.252E-01	2.178E-01	1.285E-02	2.279
	621.84	*		4.329E-02	1.894E-01	3.127E-01	1.844E-02	0.138
	1050.47			-7.529E-01	1.107E+00	1.792E+00	1.303E-01	-0.420
AG-108M	433.93	*		-1.975E-02	1.968E-02	3.171E-02	1.975E-03	-0.623
	614.37			-1.168E-02	2.554E-02	3.541E-02	2.263E-03	-0.330

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AG-110M	722.95			5.861E-03	2.778E-02	3.951E-02	2.758E-03	0.148
	657.75	*		9.387E-03	2.441E-02	3.515E-02	2.181E-03	0.267
	677.61			-1.803E-01	1.820E-01	2.856E-01	1.814E-02	-0.631
	706.67			-8.208E-02	1.316E-01	2.098E-01	1.399E-02	-0.391
	763.93			1.689E+00	1.994E-01	2.961E-01	2.173E-02	5.705
	884.67			-5.402E-03	3.061E-02	4.902E-02	4.365E-03	-0.110
	937.48			-7.778E-02	5.984E-02	8.939E-02	7.867E-03	-0.870
IN-111	1384.27			6.437E-02	7.660E-02	1.187E-01	9.007E-03	0.542
	171.28			-4.763E-01	1.163E+00	1.867E+00	9.800E-02	-0.255
	245.39	*		-6.826E-01	1.187E+00	1.627E+00	9.250E-02	-0.420
IN-113M	391.69	*		-1.605E-02	2.733E-02	4.484E-02	2.676E-03	-0.358
SN-113	391.69	*		-1.605E-02	2.733E-02	4.484E-02	2.676E-03	-0.358
IN-114M	190.27	*		-2.157E-01	1.582E-01	2.149E-01	1.155E-02	-1.004
CD-115	260.90			2.068E+02	1.590E+02	2.288E+02	1.314E+01	0.904
	492.35			-4.790E+01	3.623E+01	5.586E+01	3.280E+00	-0.857
	527.90	*		4.511E+00	1.048E+01	1.750E+01	1.036E+00	0.258
SN-117M	156.02			3.858E-01	2.047E+00	3.320E+00	1.780E-01	0.116
	158.56	*		-3.918E-02	5.761E-02	8.035E-02	4.277E-03	-0.488
SB-122	563.90	*		3.012E+00	2.150E+00	3.234E+00	1.920E-01	0.931
	692.80			4.175E+01	3.829E+01	6.461E+01	3.994E+00	0.646
I-123	159.00	*		-2.358E+01	3.829E+01	Half-Life	too short	
	528.96			-5.461E+02	3.829E+01	Half-Life	too short	
TE-123M	159.00	*		-1.994E-02	2.800E-02	3.903E-02	2.108E-03	-0.511
I-124	602.71	*		2.890E-01	5.613E-01	8.159E-01	4.829E-02	0.354
	722.78			8.861E-01	3.664E+00	5.220E+00	3.413E-01	0.170
	1325.50			-1.594E+00	1.905E+01	3.139E+01	2.286E+00	-0.051
SB-124	1376.25			4.662E+01	2.170E+01	3.599E+01	2.632E+00	1.296
	1509.49			1.759E+01	1.004E+01	1.829E+01	1.287E+00	0.962
	1691.02			-1.944E-01	2.037E+00	3.299E+00	2.110E-01	-0.059
	602.71			1.353E-02	2.628E-02	3.820E-02	2.262E-03	0.354
	645.85			4.944E-02	3.086E-01	5.077E-01	3.348E-02	0.097
	709.31			-2.810E-01	1.733E+00	2.808E+00	1.791E-01	-0.100
	713.82			-2.853E-02	1.006E+00	1.638E+00	1.733E-01	-0.017
	722.78			6.013E-02	2.487E-01	3.542E-01	2.403E-02	0.170
	968.20	+		9.518E+00	2.066E+00	3.062E+00	2.509E-01	3.108
	1045.16			5.329E-01	1.244E+00	2.125E+00	1.559E-01	0.251
SB-125	1325.50			-1.155E-01	1.381E+00	2.275E+00	1.657E-01	-0.051
	1368.21			-2.455E-01	7.874E-01	1.272E+00	1.614E-01	-0.193
	1436.60			1.125E+00	1.807E+00	3.110E+00	2.242E-01	0.362
	1691.02	*		-3.111E-03	3.261E-02	5.280E-02	3.616E-03	-0.059
	427.89	*		6.853E-02	5.492E-02	9.406E-02	5.600E-03	0.729
	463.38	+		3.571E-01	2.496E-01	3.055E-01	2.069E-02	1.169
	600.56			-5.387E-02	1.065E-01	1.718E-01	1.171E-02	-0.313
	635.90			-5.131E-03	1.650E-01	2.699E-01	1.850E-02	-0.019
	109.28	*		4.098E+01	1.279E+01	1.823E+01	1.612E+00	2.248
	388.63			5.641E-02	1.324E-01	2.229E-01	1.244E-02	0.253
TE-125M	666.33	*		8.352E-02	1.303E-01	1.900E-01	1.116E-02	0.440
	753.82			7.240E-01	9.918E-01	1.652E+00	1.143E-01	0.438
SB-126	223.80			-3.196E+00	3.106E+00	4.875E+00	2.720E-01	-0.656

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

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	278.60			1.634E+00	1.659E+00	2.841E+00	1.645E-01	0.575
	296.50			8.809E+00	1.618E+00	1.948E+00	1.133E-01	4.521
	414.70			-1.154E-03	4.879E-02	8.111E-02	4.588E-03	-0.014
	415.30			-2.949E-01	4.084E+00	6.780E+00	3.837E-01	-0.043
	555.20			1.349E-01	2.664E+00	4.392E+00	2.607E-01	0.031
	573.80			-1.804E-01	7.880E-01	1.110E+00	6.587E-02	-0.162
	593.00			-1.099E-01	6.066E-01	9.899E-01	5.866E-02	-0.111
	656.30			2.822E-01	2.505E+00	3.562E+00	2.078E-01	0.079
	666.33			3.501E-02	5.464E-02	7.965E-02	4.680E-03	0.440
	675.00			4.938E-01	1.278E+00	2.115E+00	1.264E-01	0.233
	695.00			-4.462E-02	5.151E-02	8.138E-02	5.052E-03	-0.548
	697.00			-1.966E-01	1.778E-01	2.781E-01	1.733E-02	-0.707
	720.50	*		8.745E-02	9.741E-02	1.549E-01	1.008E-02	0.565
	856.80			-3.710E-01	3.277E-01	4.209E-01	3.472E-02	-0.881
	989.30			-2.319E-01	6.888E-01	1.085E+00	8.658E-02	-0.214
	1034.80			-6.123E-01	4.324E+00	7.198E+00	5.371E-01	-0.085
	1213.00			-1.635E+00	2.417E+00	3.894E+00	2.310E-01	-0.420
SB-127	61.10			3.266E+03	3.733E+02	2.120E+02	2.288E+01	15.408
	252.40			-7.733E+00	5.534E+00	5.947E+00	2.477E+00	-1.300
	290.80			-1.858E+00	1.938E+01	2.832E+01	2.742E+00	-0.066
	411.60			7.475E+00	9.222E+00	1.556E+01	2.279E+00	0.480
	444.90			6.101E+00	7.626E+00	1.288E+01	1.444E+00	0.474
	473.00			-6.573E-02	1.341E+00	2.217E+00	2.575E-01	-0.030
	543.00			-3.268E+00	1.334E+01	2.180E+01	2.907E+00	-0.150
	603.60			3.345E-01	9.929E+00	1.412E+01	1.591E+00	0.024
	685.20	*		-1.613E-01	1.071E+00	1.739E+00	1.757E-01	-0.093
	698.50			-1.333E+01	1.211E+01	1.872E+01	2.806E+00	-0.712
	722.20			1.160E+01	2.553E+01	3.674E+01	3.722E+00	0.316
	783.80			1.016E+01	3.819E+00	5.718E+00	6.832E-01	1.777
XE-127	57.60			2.480E+01	9.207E+00	1.341E+01	1.005E+00	1.850
	145.22	+		9.286E+00	1.063E+00	1.246E+00	6.879E-02	7.450
	172.10			1.848E-02	1.007E-01	1.630E-01	8.565E-03	0.113
	202.84	*		1.272E-01	4.263E-02	6.282E-02	3.427E-03	2.025
	374.96			9.169E-02	1.229E-01	2.086E-01	1.179E-02	0.439
I-131	80.18			2.605E+00	1.060E+01	1.103E+01	9.225E-01	0.236
	284.30			-9.301E-02	1.063E+00	1.786E+00	1.154E-01	-0.052
	364.48	*		-2.927E-02	7.902E-02	1.308E-01	8.368E-03	-0.224
	636.97			-2.098E-01	1.065E+00	1.732E+00	1.138E-01	-0.121
	722.89			1.172E+00	5.281E+00	7.515E+00	4.980E-01	0.156
TE-132	49.72			-3.855E+01	2.959E+01	4.801E+01	4.874E+00	-0.803
	111.76	+		1.151E+03	1.419E+02	9.670E+01	9.445E+00	11.905
	116.30			1.328E+02	4.276E+01	6.104E+01	5.842E+00	2.176
	228.16	*		6.350E-01	6.657E-01	1.075E+00	1.567E-01	0.591
BA-133	53.15			1.400E+00	4.354E+00	7.210E+00	5.325E-01	0.194
	79.62			9.388E-01	2.646E+00	2.757E+00	4.140E-01	0.341
	81.00			1.807E-01	2.026E-01	2.110E-01	3.319E-02	0.857
	276.40			1.403E-01	2.352E-01	3.897E-01	5.050E-02	0.360
	302.84			3.783E-02	9.872E-02	1.460E-01	1.703E-02	0.259
	356.01	*		-6.269E-03	2.961E-02	4.273E-02	4.925E-03	-0.147

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I-133	+	383.85		-4.943E-02	1.844E-01	3.053E-01	3.288E-02	-0.162
		510.53		3.090E+00	1.844E-01	Half-Life	too short	
		529.87	*	-3.396E-03	1.844E-01	Half-Life	too short	
		706.58		-4.605E-01	1.844E-01	Half-Life	too short	
		856.28		-1.214E+00	1.844E-01	Half-Life	too short	
		875.33		2.157E-03	1.844E-01	Half-Life	too short	
		1236.41		3.004E+00	1.844E-01	Half-Life	too short	
CS-134		1298.22		-7.154E-03	1.844E-01	Half-Life	too short	
		475.35		2.133E-01	1.192E+00	1.984E+00	1.158E-01	0.108
		563.23		2.258E-01	2.634E-01	3.884E-01	2.352E-02	0.581
	+	569.32		7.936E-01	2.518E-01	2.683E-01	1.638E-02	2.958
		604.70		1.487E-02	2.205E-02	3.227E-02	1.920E-03	0.461
	+	795.84	*	8.131E-02	4.896E-02	5.101E-02	3.836E-03	1.594
		801.93		-5.167E-01	3.003E-01	3.690E-01	2.797E-02	-1.400
		1038.57		-1.929E-01	1.810E+00	3.018E+00	2.238E-01	-0.064
		1167.94		-1.634E-01	1.173E+00	1.943E+00	1.081E-01	-0.084
		1365.15		-4.152E-01	5.410E-01	8.424E-01	6.561E-02	-0.493
CS-135		268.24	*	1.703E-01	1.147E-01	1.740E-01	1.328E-02	0.979
I-135		288.45		-3.717E+11	1.147E-01	Half-Life	too short	
		417.63		-1.059E+11	1.147E-01	Half-Life	too short	
		546.56		1.192E+11	1.147E-01	Half-Life	too short	
		836.80		1.593E+11	1.147E-01	Half-Life	too short	
		1038.76		-3.555E+10	1.147E-01	Half-Life	too short	
		1124.00		1.505E+12	1.147E-01	Half-Life	too short	
		1131.51		-4.995E+10	1.147E-01	Half-Life	too short	
		1260.41	*	-6.322E+10	1.147E-01	Half-Life	too short	
		1457.56		8.995E+12	1.147E-01	Half-Life	too short	
		1678.03		1.721E+11	1.147E-01	Half-Life	too short	
		1706.46		-1.475E+11	1.147E-01	Half-Life	too short	
		1791.20		-6.893E+10	1.147E-01	Half-Life	too short	
CS-136		66.91		-5.292E+00	1.455E+00	1.563E+00	2.328E-01	-3.386
	+	86.29		5.469E+00	1.877E+00	2.678E+00	3.475E-01	2.042
		153.22		-2.721E-02	5.950E-01	9.628E-01	6.651E-02	-0.028
	+	163.89		6.495E+00	1.469E+00	1.790E+00	1.220E-01	3.629
		176.55		1.390E-01	3.238E-01	5.255E-01	3.186E-02	0.264
		273.65		-2.245E-01	3.455E-01	4.980E-01	3.286E-02	-0.451
		340.57		2.740E-01	9.567E-02	1.490E-01	9.158E-03	1.839
		818.51		3.193E-02	4.542E-02	7.566E-02	5.864E-03	0.422
		1048.07	*	2.963E-03	5.573E-02	9.364E-02	7.238E-03	0.032
		1235.34		5.488E-01	3.359E-01	5.237E-01	5.353E-02	1.048
CE-139		165.85	*	6.062E-02	2.834E-02	4.140E-02	2.161E-03	1.465
BA-140	+	162.64		4.583E+00	1.026E+00	1.270E+00	7.685E-02	3.609
		304.84		7.549E-02	9.590E-01	1.406E+00	3.837E-01	0.054
		423.70		-8.184E-01	1.328E+00	2.044E+00	6.492E-01	-0.400
LA-140		537.32	*	9.493E-02	1.739E-01	2.868E-01	9.333E-02	0.331
		328.77		1.575E-01	1.951E-01	3.273E-01	2.126E-02	0.481
		432.53		-1.720E+00	1.342E+00	2.141E+00	1.357E-01	-0.803
		487.03		4.446E-02	8.903E-02	1.493E-01	9.888E-03	0.298
		751.79		-3.037E-01	1.164E+00	1.874E+00	1.502E-01	-0.162

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

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		815.85		-1.646E-01	1.974E-01	3.071E-01	2.703E-02	-0.536
		867.82		7.097E-01	8.606E-01	1.363E+00	1.208E-01	0.521
		919.63		-8.688E-01	1.880E+00	2.659E+00	2.835E-01	-0.327
		925.24		1.493E+00	7.787E-01	1.332E+00	1.217E-01	1.121
	1596.49	*		9.421E-03	4.333E-02	6.281E-02	4.250E-03	0.150
CE-141	145.44	*		7.223E-01	8.033E-02	1.115E-01	6.419E-03	6.480
CE-143	57.37			7.017E-03	8.033E-02	Half-Life	too short	
	231.56			-7.587E-03	8.033E-02	Half-Life	too short	
	293.26	*		1.451E-03	8.033E-02	Half-Life	too short	
	+	350.59		3.768E-02	8.033E-02	Half-Life	too short	
	490.36			2.309E-04	8.033E-02	Half-Life	too short	
	664.57			4.056E-03	8.033E-02	Half-Life	too short	
	721.93			1.555E-04	8.033E-02	Half-Life	too short	
CE-144	80.11			9.468E-01	4.339E+00	4.515E+00	3.741E-01	0.210
	133.54	*		2.425E-01	2.156E-01	3.080E-01	4.363E-02	0.787
PM-144	476.78			4.107E-02	4.173E-02	7.081E-02	4.941E-03	0.580
	618.01			-4.484E-03	2.031E-02	3.061E-02	1.912E-03	-0.146
	696.49	*		-2.511E-02	2.118E-02	3.302E-02	2.057E-03	-0.760
	778.57			-8.148E-01	1.537E+00	2.374E+00	1.717E-01	-0.343
PR-144	696.49	*		-1.703E+00	1.436E+00	2.239E+00	1.394E-01	-0.760
	1489.15			-9.686E-01	4.807E+00	7.769E+00	5.506E-01	-0.125
PM-146	453.90	*		1.185E-02	2.672E-02	4.481E-02	3.859E-03	0.264
	633.02			6.023E-01	8.557E-01	1.387E+00	5.110E-01	0.434
	735.90			-2.436E-02	1.155E-01	1.604E-01	4.506E-02	-0.152
	747.13			-7.831E-03	6.750E-02	9.423E-02	1.227E-02	-0.083
ND-147	91.11			7.052E+01	6.556E+00	1.479E+00	1.366E-01	47.673
	319.41			2.070E+00	2.253E+00	3.848E+00	2.237E-01	0.538
	439.89			-2.964E+00	3.830E+00	6.215E+00	3.572E-01	-0.477
	531.02	*		6.252E-02	3.783E-01	6.268E-01	8.508E-02	0.100
PM-149	285.90	*		4.086E+01	8.958E+01	1.518E+02	2.153E+01	0.269
EU-152	121.78			7.432E-02	6.983E-02	1.146E-01	8.875E-03	0.648
	244.69			8.607E-02	2.545E-01	3.579E-01	2.034E-02	0.241
	344.27	*		-1.992E-02	7.968E-02	1.005E-01	6.541E-03	-0.198
	443.98			1.586E-01	5.795E-01	9.689E-01	5.577E-02	0.164
	778.89			-3.526E-02	1.768E-01	2.770E-01	2.003E-02	-0.127
	867.32			3.193E-01	4.942E-01	7.489E-01	6.283E-02	0.426
	+	964.01		3.112E-01	1.991E-01	2.576E-01	2.122E-02	1.208
	1085.78			1.002E-01	1.868E-01	3.205E-01	2.181E-02	0.313
	1112.02			1.273E-01	1.611E-01	2.453E-01	1.578E-02	0.519
	1407.95			2.429E-02	8.759E-02	1.473E-01	1.070E-02	0.165
GD-153	69.67			6.942E+00	2.710E+00	3.342E+00	2.572E-01	2.077
	+	83.37		2.160E+02	4.056E+01	3.497E+01	2.987E+00	6.177
	+	97.43	*	1.833E+00	1.862E-01	1.893E-01	1.472E-02	9.684
	103.18			-6.918E-02	1.267E-01	1.798E-01	1.302E-02	-0.385
EU-154	123.07			7.503E-03	4.893E-02	7.975E-02	7.566E-03	0.094
	247.94			2.799E-01	2.611E-01	4.100E-01	3.886E-02	0.683
	591.81			-6.711E-02	4.009E-01	6.164E-01	6.072E-02	-0.109
	723.30			5.024E-02	1.150E-01	1.654E-01	1.274E-02	0.304
	756.87			3.107E-02	4.844E-01	7.891E-01	8.554E-02	0.039

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155		873.19		-1.177E-01	1.706E-01	2.658E-01	3.227E-02	-0.443
		996.32		2.032E-01	2.209E-01	3.216E-01	5.605E-02	0.632
		1004.76		1.863E+00	2.704E-01	3.581E-01	3.959E-02	5.202
		1274.45	*	-2.481E-02	5.677E-02	9.190E-02	9.096E-03	-0.270
		48.70		-4.309E+00	2.675E+00	4.339E+00	3.043E-01	-0.993
		60.01		4.346E+01	8.007E+00	1.115E+01	8.386E-01	3.898
TB-160	+	86.54		4.691E-01	1.547E-01	2.276E-01	2.027E-02	2.061
		105.31	*	-1.019E-01	1.258E-01	1.878E-01	1.351E-02	-0.542
	+	86.79		1.269E+00	4.184E-01	6.105E-01	5.400E-02	2.079
		197.04		6.635E-02	4.167E-01	6.720E-01	3.641E-02	0.099
		215.65		2.720E-01	5.386E-01	8.716E-01	4.824E-02	0.312
	+	298.57		1.501E-01	8.658E-02	1.202E-01	6.987E-03	1.249
HO-166M		879.36	*	2.605E-02	8.978E-02	1.466E-01	1.254E-02	0.178
		962.29		4.093E-01	3.087E-01	4.621E-01	3.814E-02	0.886
	+	966.15		2.165E-01	1.385E-01	2.041E-01	1.677E-02	1.061
		1177.93		4.302E-02	1.784E-01	3.005E-01	1.663E-02	0.143
		1271.85		-1.340E-01	3.361E-01	5.456E-01	3.615E-02	-0.246
		80.57		2.450E-01	5.541E-01	5.783E-01	4.812E-02	0.424
TM-171	+	184.41		2.182E+00	1.318E-01	9.755E-02	5.204E-03	22.372
		280.46		-1.804E-02	5.327E-02	8.910E-02	5.161E-03	-0.202
		410.95		1.619E-01	1.426E-01	2.437E-01	1.375E-02	0.664
		711.68	*	2.092E-02	3.675E-02	6.106E-02	3.911E-03	0.343
		752.31		3.753E-02	1.722E-01	2.821E-01	1.946E-02	0.133
		810.29		-4.240E-02	3.508E-02	5.373E-02	4.101E-03	-0.789
LU-176		51.35		2.965E+01	3.584E+01	5.952E+01	4.341E+00	0.498
		52.39		5.216E+00	1.893E+01	3.134E+01	2.304E+00	0.166
		59.40		1.792E+02	4.125E+01	5.884E+01	4.426E+00	3.046
		66.72	*	-1.733E+02	4.053E+01	5.290E+01	4.022E+00	-3.276
	+	88.36		9.233E-01	3.044E-01	4.467E-01	3.978E-02	2.067
		201.83		2.205E-02	2.448E-02	3.499E-02	1.907E-03	0.630
LU-177M		306.84	*	-3.812E-03	1.538E-02	2.569E-02	1.494E-03	-0.148
		401.10		1.131E+00	4.026E+00	6.752E+00	3.783E-01	0.167
		52.97		2.569E-01	1.979E+00	3.273E+00	2.415E-01	0.078
		54.07		-3.837E-01	1.062E+00	1.749E+00	1.297E-01	-0.219
		61.30		8.724E+01	7.062E+00	4.633E+00	3.486E-01	18.828
		121.62		3.740E-01	3.596E-01	5.910E-01	3.533E-02	0.633
HF-181		147.16		2.241E-01	6.214E-01	8.861E-01	4.864E-02	0.253
		171.86		6.024E-02	3.972E-01	6.426E-01	3.375E-02	0.094
		218.09		-2.806E-01	6.101E-01	9.702E-01	5.383E-02	-0.289
	+	268.79		9.244E-01	6.631E-01	8.912E-01	5.139E-02	1.037
		319.02		1.266E-01	1.614E-01	2.750E-01	1.598E-02	0.460
		367.43		2.991E-01	5.493E-01	9.292E-01	5.284E-02	0.322
HF-181		413.65	*	-8.015E-02	1.068E-01	1.741E-01	9.842E-03	-0.460
		56.28		-6.839E-01	1.279E+00	2.031E+00	1.517E-01	-0.337
		57.53		1.967E+00	7.696E-01	1.122E+00	8.403E-02	1.754
		65.20		6.364E+01	5.085E+00	2.983E+00	2.257E-01	21.334
		133.02		1.444E-01	7.018E-02	1.023E-01	5.857E-03	1.410
		136.25		5.062E-01	4.775E-01	6.889E-01	3.903E-02	0.735
		345.85		-8.831E-03	1.393E-01	2.023E-01	1.166E-02	-0.044

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
W-181		482.03	*	-3.295E-02	2.601E-02	4.129E-02	2.416E-03	-0.798
		56.28		-2.439E-01	4.932E-01	7.834E-01	5.850E-02	-0.311
		57.53		7.580E-01	2.970E-01	4.329E-01	3.243E-02	1.751
TA-182		65.20	*	2.437E+01	1.947E+00	1.142E+00	8.644E-02	21.334
		67.75		-4.216E-01	1.837E-01	2.131E-01	1.626E-02	-1.978
		100.10		3.405E+00	3.481E-01	3.924E-01	2.949E-02	8.677
		152.43		7.722E-02	2.852E-01	4.634E-01	2.508E-02	0.167
		222.10		-2.301E-01	2.477E-01	3.898E-01	2.172E-02	-0.590
RE-183	+	1001.68		1.006E+02	8.753E+00	7.450E+00	5.845E-01	13.502
	+	1121.28		4.063E-01	1.748E-01	1.548E-01	9.744E-03	2.625
		1189.05		-9.729E-02	1.661E-01	2.281E-01	1.291E-02	-0.427
		1221.42	*	1.528E-02	9.967E-02	1.669E-01	1.006E-02	0.092
		1230.97		-3.838E-01	2.487E-01	3.482E-01	2.138E-02	-1.102
		57.98		1.072E+00	3.026E-01	4.375E-01	3.280E-02	2.449
		59.32		7.128E-01	1.708E-01	2.444E-01	1.838E-02	2.917
		67.20		-1.166E+00	3.084E-01	3.794E-01	2.889E-02	-3.073
	+	162.32	*	6.302E-01	1.398E-01	1.743E-01	9.183E-03	3.615
	+	208.81		1.856E+00	7.732E-01	1.145E+00	6.291E-02	1.621
RE-184		291.72		8.283E-01	6.779E-01	1.025E+00	5.952E-02	0.808
		57.98		3.917E+00	1.106E+00	1.599E+00	1.199E-01	2.449
		59.32		2.603E+00	6.239E-01	8.924E-01	6.712E-02	2.917
		67.20		-4.260E+00	1.127E+00	1.386E+00	1.056E-01	-3.073
		161.27		1.080E+00	3.597E-01	5.289E-01	2.794E-02	2.042
OS-185		216.55		1.044E-01	1.897E-01	3.072E-01	1.702E-02	0.340
		252.85	*	-2.834E-01	1.873E-01	2.481E-01	1.418E-02	-1.143
		318.01		3.236E-02	2.798E-01	4.706E-01	2.735E-02	0.069
		792.07		2.139E-01	1.036E+00	9.827E-01	7.270E-02	0.218
		903.28		4.210E-02	5.417E-01	8.526E-01	7.477E-02	0.049
		920.93		-7.134E-02	2.664E-01	4.237E-01	3.656E-02	-0.168
		59.72		2.370E+00	4.704E-01	6.615E-01	4.977E-02	3.582
		61.14		7.809E+00	6.492E-01	4.813E-01	3.621E-02	16.223
		69.30		7.376E-01	5.645E-01	5.980E-01	4.594E-02	1.233
		592.07		-2.769E-01	1.653E+00	2.542E+00	1.506E-01	-0.109
RE-188		646.12	*	-4.528E-03	2.612E-02	4.248E-02	2.488E-03	-0.107
		717.42		-2.754E-01	5.494E-01	8.781E-01	5.685E-02	-0.314
		874.81		1.114E-01	3.420E-01	5.600E-01	4.755E-02	0.199
		880.27		3.083E-01	4.995E-01	8.251E-01	7.068E-02	0.374
		155.03	*	1.366E-01	1.458E-01	2.385E-01	1.282E-02	0.573
		477.96		2.463E+00	1.912E+00	3.270E+00	1.911E-01	0.753
		633.10		1.303E+00	1.697E+00	2.850E+00	1.676E-01	0.457
W-188	+	63.58		6.458E+03	5.067E+02	1.991E+02	1.502E+01	32.437
IR-192		227.08		1.231E+01	9.237E+00	1.512E+01	8.462E-01	0.815
		290.67	*	-2.035E+00	5.308E+00	7.690E+00	4.466E-01	-0.265
	+	295.96		7.286E-01	1.057E-01	1.424E-01	8.411E-03	5.115
		308.46		2.893E-02	6.051E-02	1.026E-01	6.035E-03	0.282
		316.51	*	-1.688E-02	2.159E-02	3.557E-02	2.078E-03	-0.475
		468.07		-2.024E-02	4.719E-02	6.661E-02	4.466E-03	-0.304
		604.41		1.003E-01	3.041E-01	4.382E-01	5.000E-02	0.229
	612.46		1.270E+00	5.035E-01	7.779E-01	5.956E-02	1.633	

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AU-195		65.12		1.233E+01	9.778E-01	5.429E-01	4.107E-02	22.706
		66.83		-5.961E-01	1.349E-01	1.750E-01	1.331E-02	-3.406
	+	75.70		2.079E+00	4.559E-01	4.096E-01	3.273E-02	5.075
	+	98.88	*	5.344E+00	5.429E-01	5.282E-01	4.031E-02	10.116
		129.76		5.851E+00	3.057E+00	4.449E+00	2.573E-01	1.315
TL-200		367.94	*	-5.479E-06	3.057E+00	Half-Life	too short	
		579.30		2.386E-03	3.057E+00	Half-Life	too short	
		828.27		-3.254E-03	3.057E+00	Half-Life	too short	
		1205.75		-7.694E-04	3.057E+00	Half-Life	too short	
TL-201		68.90		1.161E+01	1.235E+01	1.304E+01	9.996E-01	0.891
		70.82		2.653E+01	5.441E+00	7.624E+00	5.902E-01	3.480
		80.30		4.127E+00	1.409E+01	1.467E+01	1.218E+00	0.281
		135.34		1.680E+01	3.569E+01	5.107E+01	2.901E+00	0.329
		167.43	*	-2.655E+00	8.895E+00	1.248E+01	6.519E-01	-0.213
TL-202		68.90		8.216E-01	8.740E-01	9.225E-01	7.074E-02	0.891
		70.82		1.872E+00	3.840E-01	5.380E-01	4.165E-02	3.480
		80.30		2.913E-01	9.945E-01	1.036E+00	8.597E-02	0.281
		439.56	*	-1.123E-02	4.502E-02	7.421E-02	4.262E-03	-0.151
HG-203		70.83		5.939E+00	1.662E+00	2.199E+00	2.874E-01	2.700
		72.87		4.209E+00	9.690E-01	1.329E+00	1.688E-01	3.167
		82.60		1.040E+01	2.487E+00	2.620E+00	3.578E-01	3.971
		279.20	*	2.538E-02	2.598E-02	4.447E-02	2.735E-03	0.571
BI-207		72.80		1.468E+00	2.763E-01	3.807E-01	2.982E-02	3.856
	+	74.97		1.147E+00	2.516E-01	2.268E-01	1.802E-02	5.058
	+	84.90		2.783E+00	5.225E-01	4.476E-01	3.883E-02	6.216
	+	569.67		1.235E-01	3.915E-02	4.106E-02	2.437E-03	3.009
		1063.62	*	2.701E-02	2.634E-02	4.529E-02	3.216E-03	0.596
		1770.23		1.213E-01	2.251E-01	3.414E-01	2.059E-02	0.355
TL-207		81.07		4.527E-01	4.444E-01	4.665E-01	3.899E-02	0.970
	+	83.78		1.835E+00	3.445E-01	2.963E-01	2.542E-02	6.191
		94.90		2.330E+01	1.941E+00	8.870E-01	7.141E-02	26.269
		122.32		9.989E-01	1.665E+00	2.726E+00	1.862E-01	0.366
	+	144.24		8.865E+00	1.085E+00	1.225E+00	8.601E-02	7.237
		154.21		2.013E-01	3.323E-01	5.418E-01	3.616E-02	0.372
	+	269.46		2.151E-01	1.544E-01	2.079E-01	1.254E-02	1.035
		323.87	*	-6.910E-01	4.272E-01	6.651E-01	1.099E-01	-1.039
	+	338.28		3.314E+00	9.518E-01	1.223E+00	1.287E-01	2.711
		445.03		1.234E+00	1.382E+00	2.340E+00	2.397E-01	0.528
PO-209		260.50		2.163E+01	7.903E+00	1.169E+01	6.710E-01	1.851
		262.80		1.254E+01	2.039E+01	2.885E+01	1.659E+00	0.435
		896.60	*	1.374E+00	3.975E+00	6.514E+00	5.727E-01	0.211
BI-210		46.50	*	-5.539E+00	3.677E+00	5.899E+00	4.496E-01	-0.939
PB-210		46.50	*	-5.539E+00	3.677E+00	5.899E+00	4.496E-01	-0.939
PO-210		46.50	*	-5.539E+00	3.670E+00	5.899E+00	3.845E-01	-0.939
PB-211		404.84	*	-3.098E-01	5.824E-01	9.012E-01	5.616E-01	-0.344
		427.08		5.031E-01	1.271E+00	2.070E+00	1.279E+00	0.243
		831.96		-1.831E-01	7.653E-01	1.157E+00	7.242E-01	-0.158
PO-215		81.07		4.527E-01	4.444E-01	4.665E-01	3.899E-02	0.970
	+	83.78		1.835E+00	3.445E-01	2.963E-01	2.542E-02	6.191

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		94.90		2.330E+01	1.941E+00	8.870E-01	7.141E-02	26.269
		122.32		9.989E-01	1.665E+00	2.726E+00	1.862E-01	0.366
	+	144.24		8.865E+00	1.085E+00	1.225E+00	8.601E-02	7.237
		154.21		2.013E-01	3.323E-01	5.418E-01	3.616E-02	0.372
	+	269.46		2.151E-01	1.544E-01	2.079E-01	1.254E-02	1.035
		323.87	*	-6.910E-01	4.272E-01	6.651E-01	1.099E-01	-1.039
	+	338.28		3.314E+00	9.518E-01	1.223E+00	1.287E-01	2.711
		445.03		1.234E+00	1.382E+00	2.340E+00	2.397E-01	0.528
RN-219	+	271.23		2.760E-01	1.986E-01	2.695E-01	2.179E-02	1.024
		401.81	*	1.411E-01	2.467E-01	4.155E-01	5.619E-02	0.340
RN-220		549.76	*	-1.138E+01	1.614E+01	2.597E+01	1.541E+00	-0.438
RA-223		81.07		4.527E-01	4.444E-01	4.665E-01	3.899E-02	0.970
	+	83.78		1.835E+00	3.445E-01	2.963E-01	2.542E-02	6.191
		94.90		2.330E+01	1.941E+00	8.870E-01	7.141E-02	26.269
		122.32		9.989E-01	1.665E+00	2.726E+00	1.862E-01	0.366
	+	144.24		8.865E+00	1.085E+00	1.225E+00	8.601E-02	7.237
		154.21		2.013E-01	3.323E-01	5.418E-01	3.616E-02	0.372
	+	269.46		2.151E-01	1.544E-01	2.079E-01	1.254E-02	1.035
		323.87	*	-6.910E-01	4.272E-01	6.651E-01	1.099E-01	-1.039
	+	338.28		3.314E+00	9.518E-01	1.223E+00	1.287E-01	2.711
		445.03		1.234E+00	1.382E+00	2.340E+00	2.397E-01	0.528
AC-227		79.80		5.418E-01	3.350E+00	3.481E+00	7.437E-01	0.156
		236.00		1.225E+00	2.234E-01	2.955E-01	3.063E-02	4.145
		256.20	*	1.543E+00	3.837E-01	4.982E-01	6.940E-02	3.097
		286.10		4.748E-01	9.678E-01	1.642E+00	1.898E-01	0.289
	+	299.80		1.886E+00	1.125E+00	1.497E+00	2.438E-01	1.260
		304.40		2.900E-03	1.303E+00	1.906E+00	3.299E-01	0.002
		334.20		3.244E-01	1.604E+00	2.351E+00	4.310E-01	0.138
TH-227		79.80		5.418E-01	3.350E+00	3.481E+00	7.533E-01	0.156
	+	94.00		6.011E+02	1.303E+02	1.034E+01	2.234E+00	58.126
		236.00		1.225E+00	2.140E-01	2.955E-01	2.647E-02	4.145
		256.20	*	1.543E+00	4.109E-01	4.982E-01	8.407E-02	3.097
		286.10		4.748E-01	1.077E+00	1.642E+00	1.645E+00	0.289
	+	299.80		1.886E+00	1.125E+00	1.497E+00	2.438E-01	1.260
		304.40		2.900E-03	1.303E+00	1.906E+00	3.299E-01	0.002
		334.20		3.244E-01	1.604E+00	2.351E+00	4.310E-01	0.138
PA-231		283.67	*	-3.524E-01	1.007E+00	1.624E+00	2.238E-01	-0.217
	+	301.29		7.543E-01	4.401E-01	5.959E-01	6.234E-02	1.266
TH-231		81.07		4.527E-01	4.444E-01	4.665E-01	3.899E-02	0.970
	+	83.78		1.835E+00	3.445E-01	2.963E-01	2.542E-02	6.191
		94.90		2.330E+01	1.941E+00	8.870E-01	7.141E-02	26.269
		122.32		9.989E-01	1.665E+00	2.726E+00	1.862E-01	0.366
	+	144.24		8.865E+00	1.085E+00	1.225E+00	8.601E-02	7.237
		154.21		2.013E-01	3.323E-01	5.418E-01	3.616E-02	0.372
	+	269.46		2.151E-01	1.544E-01	2.079E-01	1.254E-02	1.035
		323.87	*	-6.910E-01	4.272E-01	6.651E-01	1.099E-01	-1.039
	+	338.28		3.314E+00	9.518E-01	1.223E+00	1.287E-01	2.711
		445.03		1.234E+00	1.382E+00	2.340E+00	2.397E-01	0.528
U-231	+	84.21		9.956E+01	1.870E+01	1.604E+01	1.382E+00	6.207

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		7.482E+02	6.260E+01	1.388E+01	1.161E+00	53.893
		95.87	*	3.069E+01	3.472E+00	3.135E+00	2.490E-01	9.787
		108.00		-7.718E-01	3.257E+00	4.638E+00	3.181E-01	-0.166
	+	75.28		3.347E+01	8.482E+00	6.610E+00	9.909E-01	5.063
	+	86.59		7.621E+00	3.171E+00	3.690E+00	9.923E-01	2.065
	+	300.12		5.257E-01	3.099E-01	4.179E-01	5.619E-02	1.258
		311.98	*	7.885E-03	3.952E-02	6.662E-02	4.113E-03	0.118
		340.50		1.341E+00	5.259E-01	6.784E-01	1.558E-01	1.976
		398.62		-1.483E-02	1.277E+00	2.127E+00	5.489E-01	-0.007
		415.76		-2.456E-01	1.003E+00	1.655E+00	3.401E-01	-0.148
PA-234	+	63.00		1.847E+02	2.786E+01	5.875E+00	8.769E-01	31.437
		94.67		2.495E+01	3.027E+00	7.296E-01	8.778E-02	34.195
	+	98.44		2.154E+00	1.207E+00	2.150E-01	1.196E-01	10.019
	+	99.86		1.116E+01	1.134E+00	1.059E+00	7.980E-02	10.546
		111.00		3.634E+00	4.703E-01	4.285E-01	4.614E-02	8.480
	+	131.20		2.405E-01	1.040E-01	1.644E-01	9.462E-03	1.463
		152.70		7.444E-03	2.727E-01	4.417E-01	6.921E-02	0.017
	+	186.00		7.856E+01	2.404E+01	3.590E+00	1.094E+00	21.883
		226.40		4.646E-01	2.891E-01	4.688E-01	5.372E-02	0.991
		227.20		4.000E-01	3.074E-01	5.028E-01	2.815E-02	0.796
		248.90		3.831E-01	5.741E-01	9.203E-01	1.975E-01	0.416
	+	293.70		4.527E+00	9.434E-01	8.923E-01	1.435E-01	5.073
		369.80		1.795E-01	5.216E-01	8.760E-01	1.821E-01	0.205
	+	568.70		4.020E+00	1.274E+00	1.376E+00	8.167E-02	2.922
	+	569.50		1.096E+00	3.475E-01	3.676E-01	2.182E-02	2.983
		574.00		-1.823E-01	1.048E+00	1.480E+00	8.782E-02	-0.123
		699.00		-3.048E-01	4.416E-01	6.976E-01	1.265E-01	-0.437
		706.10		-1.409E-01	6.572E-01	1.059E+00	4.680E-01	-0.133
		733.00		-7.981E-02	3.048E-01	4.038E-01	8.686E-02	-0.198
	+	742.81		7.965E+00	5.587E+00	2.104E+00	1.410E+00	3.785
	+	796.30		1.578E+00	1.033E+00	9.900E-01	2.644E-01	1.594
		805.60		7.805E-01	6.389E-01	1.011E+00	3.070E-01	0.772
		819.60		1.383E-01	7.226E-01	1.177E+00	4.452E-01	0.118
		826.30		9.419E-02	4.918E-01	7.995E-01	3.565E-01	0.118
		831.60		-4.689E-02	3.749E-01	6.034E-01	1.789E-01	-0.078
		876.40		-5.440E-01	7.589E-01	7.909E-01	8.130E-01	-0.688
		880.51		2.625E-01	1.763E-01	2.993E-01	2.565E-02	0.877
		883.24		2.654E-01	2.511E-01	3.026E-01	2.034E-01	0.877
		899.00		1.915E-01	4.590E-01	7.424E-01	3.248E-01	0.258
		925.00		1.527E+00	7.533E-01	1.293E+00	1.111E-01	1.181
		926.50		1.641E-01	1.184E-01	1.892E-01	4.781E-02	0.867
	+	946.00	*	5.595E-01	2.689E-01	3.293E-01	6.148E-02	1.699
		949.00		5.425E-01	2.902E-01	4.455E-01	3.733E-02	1.218
		980.50		4.259E-01	3.788E-01	6.407E-01	5.171E-02	0.665
NP-236		1394.10		4.524E-01	6.044E-01	9.260E-01	6.012E-01	0.489
	+	94.67		1.906E+01	1.568E+00	5.549E-01	4.482E-02	34.354
	+	98.44		1.628E+00	1.654E-01	1.625E-01	1.247E-02	10.019
		111.00		2.748E+00	2.689E-01	3.241E-01	2.153E-02	8.480
		160.31	*	-2.008E-02	7.741E-02	1.089E-01	5.766E-03	-0.184

---- 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		3.722E+00	3.781E-01	3.599E-01	2.723E-02	10.340
		117.00	*	2.759E-01	2.083E-01	3.021E-01	1.889E-02	0.914
	+	209.75		1.444E+00	6.016E-01	8.898E-01	4.893E-02	1.623
		228.18		1.524E-01	1.602E-01	2.608E-01	1.461E-02	0.585
		277.60		7.324E-02	1.115E-01	1.901E-01	1.100E-02	0.385
		334.30		1.967E-01	9.087E-01	1.333E+00	7.720E-02	0.148
AM-241		59.54	*	1.126E+00	2.448E-01	3.429E-01	2.824E-02	3.282
CM-243	+	99.55		3.830E+00	3.891E-01	3.704E-01	2.803E-02	10.340
		103.76	*	1.106E-01	1.158E-01	1.674E-01	1.204E-02	0.661
	+	117.00		2.839E-01	2.144E-01	3.108E-01	1.944E-02	0.914
		209.75		1.424E+00	5.931E-01	8.772E-01	4.824E-02	1.623
		228.18		1.540E-01	1.619E-01	2.635E-01	1.477E-02	0.585
		277.60		7.384E-02	1.125E-01	1.916E-01	1.109E-02	0.385
AM-246		798.80		3.590E-02	9.348E-02	1.336E-01	1.000E-02	0.269
		1036.00		-1.304E-01	1.373E-01	2.184E-01	1.626E-02	-0.597
		1062.04		9.855E-02	1.094E-01	1.907E-01	1.358E-02	0.517
		1078.86	*	2.179E-02	6.851E-02	1.164E-01	8.028E-03	0.187
CM-247		278.00		4.347E-01	4.636E-01	7.934E-01	4.592E-02	0.548
		287.40		-1.365E-01	7.748E-01	1.299E+00	7.540E-02	-0.105
		402.60	*	1.124E-02	2.198E-02	3.706E-02	2.079E-03	0.303
CF-249		252.85		-1.057E+00	6.989E-01	9.255E-01	5.289E-02	-1.143
		333.44		4.410E-02	1.179E-01	1.738E-01	1.007E-02	0.254
		387.95	*	1.746E-02	2.402E-02	4.073E-02	2.275E-03	0.429
CF-251		176.60	*	4.216E-02	1.037E-01	1.683E-01	8.892E-03	0.251
		227.00		3.666E-01	2.734E-01	4.474E-01	2.504E-02	0.819
		285.00		4.654E-01	1.102E+00	1.870E+00	1.085E-01	0.249

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]G245808004      *
* Acquisition date   : 11-FEB-2010 22:27:52 Detector SN# :                  *
* Detector ID        : GAM19                      Sensitivity : 5.000        *
* Geometry           : CAN                        Energy tolerance: 1.500      *
* Elapsed live time  : 0 06:00:00.00             Abundance limit : 75.000     *
* Elapsed real time  : 0 06:00:09.65             Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808004              Analyst initials: RXF2         *
* Batch Number       : 947554                  Sample Quantity : 1.6914E+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	2.226E+01	1.800E+00	2.239E-01	0.000E+00
NB-95	8.571E-01	8.520E-02	4.316E-02	0.000E+00
CD-109	3.969E+00	1.282E+00	1.876E+00	0.000E+00
SN-126	3.893E-01	1.258E-01	1.849E-01	0.000E+00
BA-137M	1.075E-01	3.319E-02	3.723E-02	0.000E+00
CS-137	1.136E-01	3.509E-02	3.936E-02	0.000E+00
LU-177	2.353E+00	9.608E-01	1.407E+00	0.000E+00
TL-208	3.198E-01	4.968E-02	3.610E-02	0.000E+00
BI-211	2.346E+00	2.754E-01	2.141E-01	0.000E+00
BI-212	5.240E-01	2.282E-01	3.025E-01	0.000E+00
PB-212	9.139E-01	8.480E-02	6.437E-02	0.000E+00
PO-212	9.139E-01	8.480E-02	6.437E-02	0.000E+00
BI-214	7.295E-01	1.049E-01	6.899E-02	0.000E+00
PB-214	8.159E-01	1.045E-01	7.462E-02	0.000E+00
PO-214	8.159E-01	1.045E-01	7.462E-02	0.000E+00
PO-216	9.139E-01	8.480E-02	6.437E-02	0.000E+00
PO-218	8.159E-01	1.045E-01	7.462E-02	0.000E+00
RA-224	2.377E+00	6.773E-01	7.319E-01	0.000E+00
RA-226	7.295E-01	1.049E-01	6.899E-02	0.000E+00
AC-228	9.813E-01	1.710E-01	1.079E-01	0.000E+00
RA-228	9.813E-01	1.710E-01	1.079E-01	0.000E+00
TH-228	9.291E-01	8.620E-02	6.543E-02	0.000E+00
TH-229	1.700E-01	3.709E-01	6.629E-01	0.000E+00
TH-230	7.295E-01	1.049E-01	6.899E-02	0.000E+00
TH-232	9.813E-01	1.710E-01	1.079E-01	0.000E+00
PA-234M	2.265E+02	2.227E+01	3.713E+00	0.000E+00
TH-234	1.585E+02	2.738E+01	2.883E+00	0.000E+00
U-234	7.295E-01	1.049E-01	6.899E-02	0.000E+00
U-235	2.736E+00	5.109E-01	3.120E-01	0.000E+00
NP-237	1.143E+00	4.357E-01	5.487E-01	0.000E+00
U-238	1.585E+02	2.738E+01	2.883E+00	0.000E+00
AM-243	6.390E-01	1.373E-01	1.259E-01	0.000E+00
ANH-511	9.909E-02	4.407E-02	2.887E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	2.325E-01	1.974E-01	3.607E-01	0.000E+00	NOT IDENT.
NA-22	-1.015E-02	1.997E-02	3.347E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	1.498E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.860E-03	1.207E-02	1.980E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	4.577E-02	8.383E-02	0.000E+00	FAIL ABUN
SC-46	-2.249E-02	2.089E-02	3.343E-02	0.000E+00	FAIL ABUN
V-48	-1.641E-02	3.894E-02	6.405E-02	0.000E+00	NOT IDENT.
CR-51	3.180E-01	2.342E-01	4.372E-01	0.000E+00	NOT IDENT.
MN-52	2.076E-01	1.319E-01	2.474E-01	0.000E+00	NOT IDENT.
MN-54	1.190E-03	2.143E-02	3.660E-02	0.000E+00	NOT IDENT.
CO-56	5.094E-03	2.279E-02	3.915E-02	0.000E+00	FAIL ABUN
CO-57	2.113E-02	2.365E-02	4.341E-02	0.000E+00	NOT IDENT.
CO-58	-2.422E-02	2.266E-02	3.685E-02	0.000E+00	NOT IDENT.
FE-59	-1.889E-02	4.240E-02	7.232E-02	0.000E+00	FAIL ABUN
CO-60	8.234E-03	1.723E-02	3.047E-02	0.000E+00	NOT IDENT.
ZN-65	-5.961E-03	4.564E-02	6.793E-02	0.000E+00	NOT IDENT.
GE-68	3.511E-01	5.853E-01	1.051E+00	0.000E+00	NOT IDENT.
AS-73	-1.752E-01	1.007E+00	1.903E+00	0.000E+00	NOT IDENT.
AS-74	4.941E-02	5.693E-02	1.021E-01	0.000E+00	NOT IDENT.
SE-75	-3.654E-02	3.693E-02	5.015E-02	0.000E+00	NOT IDENT.
BR-77	3.345E+00	9.580E+00	1.707E+01	0.000E+00	FAIL ABUN
SR-82	-2.500E-01	2.517E-01	4.152E-01	0.000E+00	NOT IDENT.
RB-83	2.487E-02	4.325E-02	7.560E-02	0.000E+00	NOT IDENT.
RB-84	0.000E+00	4.523E-02	8.174E-02	0.000E+00	NOT IDENT.
KR-85	0.000E+00	4.738E+00	7.812E+00	0.000E+00	NOT IDENT.
SR-85	0.000E+00	2.465E-02	4.065E-02	0.000E+00	NOT IDENT.
RB-86	2.509E-01	3.848E-01	6.926E-01	0.000E+00	NOT IDENT.
Y-88	1.201E-02	1.562E-02	2.522E-02	0.000E+00	NOT IDENT.
ZR-88	-9.280E-03	1.847E-02	3.279E-02	0.000E+00	NOT IDENT.
Y-91	-8.111E+00	8.915E+00	1.477E+01	0.000E+00	NOT IDENT.
NB-94	1.453E-02	2.041E-02	3.603E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	9.752E-02	1.569E-01	0.000E+00	NOT IDENT.
ZR-95	-1.845E-02	4.470E-02	7.560E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.643E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.762E+06	0.000E+00	0.000E+00	SHORT HLIF
MO-99	0.000E+00	1.315E+01	2.050E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.817E+18	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-6.556E-02	2.530E-02	4.113E-02	0.000E+00	NOT IDENT.
RH-102	-8.227E-04	1.789E-02	3.173E-02	0.000E+00	FAIL ABUN
RU-103	2.536E-02	2.517E-02	4.549E-02	0.000E+00	FAIL ABUN
RH-106	4.329E-02	1.856E-01	3.258E-01	0.000E+00	FAIL ABUN
RU-106	4.329E-02	1.856E-01	3.258E-01	0.000E+00	FAIL ABUN
AG-108M	-1.975E-02	1.929E-02	3.343E-02	0.000E+00	NOT IDENT.
AG-110M	9.387E-03	2.392E-02	3.656E-02	0.000E+00	NOT IDENT.
IN-111	-6.826E-01	1.164E+00	1.746E+00	0.000E+00	NOT IDENT.
IN-113M	-1.605E-02	2.678E-02	4.742E-02	0.000E+00	NOT IDENT.
SN-113	-1.605E-02	2.678E-02	4.742E-02	0.000E+00	NOT IDENT.
IN-114M	-2.157E-01	1.550E-01	2.324E-01	0.000E+00	NOT IDENT.
CD-115	4.511E+00	1.027E+01	1.834E+01	0.000E+00	NOT IDENT.
SN-117M	-3.918E-02	5.645E-02	8.737E-02	0.000E+00	NOT IDENT.
SB-122	3.012E+00	2.107E+00	3.381E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.245E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.994E-02	2.744E-02	4.243E-02	0.000E+00	NOT IDENT.
I-124	2.890E-01	5.501E-01	8.511E-01	0.000E+00	NOT IDENT.
SB-124	-3.111E-03	3.196E-02	5.320E-02	0.000E+00	FAIL ABUN
SB-125	6.853E-02	5.382E-02	9.920E-02	0.000E+00	FAIL ABUN
TE-125M	0.000E+00	1.253E+01	2.004E+01	0.000E+00	NOT IDENT.
I-126	8.352E-02	1.277E-01	1.975E-01	0.000E+00	NOT IDENT.
SB-126	8.745E-02	9.546E-02	1.606E-01	0.000E+00	NOT IDENT.
SB-127	-1.613E-01	1.050E+00	1.806E+00	0.000E+00	NOT IDENT.
XE-127	0.000E+00	4.178E-02	6.780E-02	0.000E+00	FAIL ABUN
I-131	-2.927E-02	7.744E-02	1.386E-01	0.000E+00	NOT IDENT.
TE-132	6.350E-01	6.524E-01	1.156E+00	0.000E+00	FAIL ABUN
BA-133	-6.269E-03	2.902E-02	4.532E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	1.133E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.798E-02	5.273E-02	0.000E+00	FAIL ABUN
CS-135	1.703E-01	1.124E-01	1.862E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.849E+16	0.000E+00	0.000E+00	SHORT HLIF
CS-136	2.963E-03	5.462E-02	9.591E-02	0.000E+00	FAIL ABUN
CE-139	0.000E+00	2.778E-02	4.495E-02	0.000E+00	NOT IDENT.
BA-140	9.493E-02	1.704E-01	3.003E-01	0.000E+00	FAIL ABUN
LA-140	9.421E-03	4.246E-02	6.342E-02	0.000E+00	NOT IDENT.

CE-141	0.000E+00	7.873E-02	1.215E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	3.753E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	2.425E-01	2.112E-01	3.366E-01	0.000E+00	NOT IDENT.
PM-144	-2.511E-02	2.075E-02	3.428E-02	0.000E+00	NOT IDENT.
PR-144	-1.703E+00	1.407E+00	2.325E+00	0.000E+00	NOT IDENT.
PM-146	1.185E-02	2.619E-02	4.717E-02	0.000E+00	NOT IDENT.
ND-147	6.252E-02	3.708E-01	6.565E-01	0.000E+00	NOT IDENT.
PM-149	4.086E+01	8.779E+01	1.621E+02	0.000E+00	NOT IDENT.
EU-152	-1.992E-02	7.809E-02	1.067E-01	0.000E+00	FAIL ABUN
GD-153	0.000E+00	1.825E-01	2.088E-01	0.000E+00	FAIL ABUN
EU-154	-2.481E-02	5.563E-02	9.350E-02	0.000E+00	NOT IDENT.
EU-155	-1.019E-01	1.233E-01	2.067E-01	0.000E+00	FAIL ABUN
TB-160	2.605E-02	8.799E-02	1.510E-01	0.000E+00	FAIL ABUN
HO-166M	2.092E-02	3.602E-02	6.335E-02	0.000E+00	FAIL ABUN
TM-171	-1.733E+02	3.972E+01	5.899E+01	0.000E+00	NOT IDENT.
LU-176	-3.812E-03	1.507E-02	2.738E-02	0.000E+00	FAIL ABUN
LU-177M	-8.015E-02	1.047E-01	1.838E-01	0.000E+00	FAIL ABUN
HF-181	-3.295E-02	2.549E-02	4.338E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	1.908E+00	1.274E+00	0.000E+00	NOT IDENT.
TA-182	1.528E-02	9.768E-02	1.701E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	1.370E-01	1.894E-01	0.000E+00	FAIL ABUN
RE-184	-2.834E-01	1.836E-01	2.659E-01	0.000E+00	NOT IDENT.
OS-185	-4.528E-03	2.560E-02	4.421E-02	0.000E+00	NOT IDENT.
RE-188	1.366E-01	1.428E-01	2.595E-01	0.000E+00	NOT IDENT.
W-188	-2.035E+00	5.202E+00	8.209E+00	0.000E+00	FAIL ABUN
IR-192	-1.688E-02	2.116E-02	3.787E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	5.320E-01	5.824E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	6.707E+02	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.655E+00	8.717E+00	1.354E+01	0.000E+00	NOT IDENT.
TL-202	-1.123E-02	4.412E-02	7.820E-02	0.000E+00	NOT IDENT.
HG-203	2.538E-02	2.546E-02	4.753E-02	0.000E+00	NOT IDENT.
BI-207	2.701E-02	2.581E-02	4.637E-02	0.000E+00	FAIL ABUN
TL-207	-6.910E-01	4.186E-01	7.076E-01	0.000E+00	FAIL ABUN
PO-209	1.374E+00	3.895E+00	6.707E+00	0.000E+00	NOT IDENT.
BI-210	-5.539E+00	3.603E+00	6.645E+00	0.000E+00	NOT IDENT.
PB-210	-5.539E+00	3.603E+00	6.645E+00	0.000E+00	NOT IDENT.
PO-210	-5.539E+00	3.597E+00	6.645E+00	0.000E+00	NOT IDENT.
PB-211	-3.098E-01	5.707E-01	9.521E-01	0.000E+00	NOT IDENT.
PO-215	-6.910E-01	4.186E-01	7.076E-01	0.000E+00	FAIL ABUN
RN-219	1.411E-01	2.417E-01	4.390E-01	0.000E+00	FAIL ABUN
RN-220	-1.138E+01	1.582E+01	2.717E+01	0.000E+00	NOT IDENT.
RA-223	-6.910E-01	4.186E-01	7.076E-01	0.000E+00	FAIL ABUN
AC-227	0.000E+00	3.761E-01	5.339E-01	0.000E+00	FAIL ABUN
TH-227	0.000E+00	4.027E-01	5.339E-01	0.000E+00	FAIL ABUN
PA-231	-3.524E-01	9.865E-01	1.735E+00	0.000E+00	FAIL ABUN
TH-231	-6.910E-01	4.186E-01	7.076E-01	0.000E+00	FAIL ABUN
U-231	0.000E+00	3.403E+00	3.460E+00	0.000E+00	FAIL ABUN
PA-233	7.885E-03	3.873E-02	7.096E-02	0.000E+00	FAIL ABUN
PA-234	0.000E+00	2.635E-01	3.385E-01	0.000E+00	FAIL ABUN
NP-236	-2.008E-02	7.587E-02	1.183E-01	0.000E+00	FAIL ABUN
NP-239	2.759E-01	2.042E-01	3.314E-01	0.000E+00	FAIL ABUN
AM-241	0.000E+00	2.399E-01	3.836E-01	0.000E+00	NOT IDENT.
CM-243	1.106E-01	1.135E-01	1.843E-01	0.000E+00	FAIL ABUN
AM-246	2.179E-02	6.714E-02	1.191E-01	0.000E+00	NOT IDENT.
CM-247	1.124E-02	2.154E-02	3.916E-02	0.000E+00	NOT IDENT.
CF-249	1.746E-02	2.354E-02	4.309E-02	0.000E+00	NOT IDENT.
CF-251	4.216E-02	1.017E-01	1.824E-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]G245808004.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 11-FEB-2010 22:27:52
Sample ID          : G245808004 Sample quantity : 1.69141E+02 GRAM
Detector name      : GAM19 Detector geometry: CAN
Elapsed live time  : 0 06:00:00.00 Elapsed real time: 0 06:00:09.65 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	3751	10.67*	1.168E+00	2.226E+01	2.226E+01	8.25
NB-95	765.79	1963	99.81*	2.031E+00	7.164E-01	8.571E-01	10.14
CD-109	88.03	1191	3.72*	6.115E+00	3.872E+00	3.969E+00	32.97
SN-126	64.28	29501	9.60	3.625E+00	6.272E+01	6.272E+01	14.76
	86.94	1191	8.90	6.115E+00	1.618E+00	1.618E+00	52.18
	87.57	1191	37.00*	6.115E+00	3.893E-01	3.893E-01	32.97
BA-137M	661.65	300	89.98*	2.301E+00	1.073E-01	1.075E-01	31.52
CS-137	661.65	300	85.12*	2.301E+00	1.135E-01	1.136E-01	31.52
LU-177	112.95	5824	6.40	6.854E+00	9.821E+00	5.434E+01	10.00
	208.36	346	11.00*	5.473E+00	4.253E-01	2.353E+00	41.66
TL-208	277.35	-----	6.80	4.511E+00	-----	Line Not Found	-----
	510.84	381	21.60	2.842E+00	4.588E-01	4.588E-01	46.14
	583.14	930	84.20*	2.554E+00	3.198E-01	3.198E-01	15.85
	860.37	132	12.46	1.836E+00	4.264E-01	4.264E-01	44.90
BI-211	72.87	-----	1.27	4.857E+00	-----	Line Not Found	-----
	351.07	1554	12.94*	3.788E+00	2.346E+00	2.346E+00	11.98
BI-212	727.18	178	11.80*	2.125E+00	5.240E-01	5.240E-01	44.44
	785.46	305	1.97	1.987E+00	5.773E+00	5.773E+00	26.77
	1620.62	-----	2.75	1.085E+00	-----	Line Not Found	-----
PB-212	74.81	2890	10.70	5.070E+00	3.941E+00	3.941E+00	23.84
	77.11	1196	18.00	5.308E+00	9.262E-01	9.262E-01	27.33
	87.30	1191	8.00	6.115E+00	1.800E+00	1.800E+00	34.45
	238.63	2765	44.60*	5.017E+00	9.139E-01	9.139E-01	9.47
	300.09	200	3.41	4.262E+00	1.017E+00	1.017E+00	58.00
PO-212	74.81	2890	10.70	5.070E+00	3.941E+00	3.941E+00	23.84
	77.11	1196	18.00	5.308E+00	9.262E-01	9.262E-01	27.33
	87.30	1191	8.00	6.115E+00	1.800E+00	1.800E+00	34.45
	115.19	-----	0.60	6.866E+00	-----	Line Not Found	-----
	238.63	2765	44.60*	5.017E+00	9.139E-01	9.139E-01	9.47
	300.09	200	3.41	4.262E+00	1.017E+00	1.017E+00	58.00
BI-214	609.31	1125	46.30*	2.465E+00	7.295E-01	7.295E-01	14.67
	1120.29	253	15.10	1.455E+00	8.520E-01	8.520E-01	43.54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PB-214	1764.49	207	15.80	1.029E+00	9.409E-01	9.409E-01	21.99
	74.81	2890	6.21	5.070E+00	6.791E+00	6.791E+00	23.15
	77.11	1196	10.50	5.308E+00	1.588E+00	1.588E+00	28.37
	87.30	1191	4.67	6.115E+00	3.084E+00	3.084E+00	33.86
	241.98	632	7.49	4.976E+00	1.254E+00	1.254E+00	29.61
PO-214	295.21	1056	19.20	4.315E+00	9.431E-01	9.431E-01	15.76
	351.92	1554	37.20*	3.788E+00	8.159E-01	8.159E-01	13.07
	74.81	2890	6.21	5.070E+00	6.791E+00	6.791E+00	23.15
	77.11	1196	10.50	5.308E+00	1.588E+00	1.588E+00	28.37
	87.30	1191	4.67	6.115E+00	3.084E+00	3.084E+00	33.86
PO-216	241.98	632	7.49	4.976E+00	1.254E+00	1.254E+00	29.61
	295.21	1056	19.20	4.315E+00	9.431E-01	9.431E-01	15.76
	351.92	1554	37.20*	3.788E+00	8.159E-01	8.159E-01	13.07
	74.81	2890	10.70	5.070E+00	3.941E+00	3.941E+00	23.84
	77.11	1196	18.00	5.308E+00	9.262E-01	9.262E-01	27.33
PO-218	87.30	1191	8.00	6.115E+00	1.800E+00	1.800E+00	34.45
	238.63	2765	44.60*	5.017E+00	9.139E-01	9.139E-01	9.47
	300.09	200	3.41	4.262E+00	1.017E+00	1.017E+00	58.00
	74.81	2890	6.21	5.070E+00	6.791E+00	6.791E+00	23.15
	77.11	1196	10.50	5.308E+00	1.588E+00	1.588E+00	28.37
RA-224	87.30	1191	4.67	6.115E+00	3.084E+00	3.084E+00	33.86
	241.98	632	7.49	4.976E+00	1.254E+00	1.254E+00	29.61
	295.21	1056	19.20	4.315E+00	9.431E-01	9.431E-01	15.76
	351.92	1554	37.20*	3.788E+00	8.159E-01	8.159E-01	13.07
	240.98	632	3.95*	4.976E+00	2.377E+00	2.377E+00	29.07
RA-226	609.31	1125	46.30*	2.465E+00	7.295E-01	7.295E-01	14.67
	1120.29	253	15.10	1.455E+00	8.520E-01	8.520E-01	43.54
	1764.49	207	15.80	1.029E+00	9.409E-01	9.409E-01	21.99
	338.32	477	11.40	3.901E+00	7.937E-01	7.937E-01	48.74
	911.07	641	27.70*	1.746E+00	9.813E-01	9.813E-01	17.79
AC-228	969.11	338	16.60	1.653E+00	9.098E-01	9.098E-01	30.68
	338.32	477	11.40	3.901E+00	7.937E-01	7.937E-01	48.74
	911.07	641	27.70*	1.746E+00	9.813E-01	9.813E-01	17.79
	969.11	338	16.60	1.653E+00	9.098E-01	9.098E-01	30.68
	74.81	2890	10.70	5.070E+00	3.941E+00	4.007E+00	21.96
TH-228	77.11	1196	18.00	5.308E+00	9.262E-01	9.416E-01	27.33
	87.30	1191	8.00	6.115E+00	1.800E+00	1.830E+00	32.97
	238.63	2765	44.60*	5.017E+00	9.139E-01	9.291E-01	9.47
	300.09	200	3.41	4.262E+00	1.017E+00	1.034E+00	82.28
	85.43	3615	16.50	5.902E+00	2.746E+00	2.746E+00	18.78
TH-229	88.47	1191	27.10	6.115E+00	5.315E-01	5.315E-01	32.97
	100.00	4885	12.40	6.606E+00	4.412E+00	4.412E+00	10.16
	193.63	-----	4.59*	5.744E+00	-----	Line Not Found	-----
	210.97	-----	3.26	5.445E+00	-----	Line Not Found	-----
	609.31	1125	46.30*	2.465E+00	7.295E-01	7.295E-01	14.67
TH-230	1120.29	253	15.10	1.455E+00	8.520E-01	8.520E-01	43.54
	1764.49	207	15.80	1.029E+00	9.409E-01	9.409E-01	21.99
	338.32	477	11.40	3.901E+00	7.937E-01	7.937E-01	27.34
	911.07	641	27.70*	1.746E+00	9.813E-01	9.813E-01	17.79

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	969.11	338	16.60	1.653E+00	9.098E-01	9.098E-01	30.68
PA-234M	766.42	1963	0.32	2.031E+00	2.235E+02	2.235E+02	51.02
	1001.03	4131	0.84*	1.607E+00	2.265E+02	2.265E+02	10.04
TH-234	63.29	29501	3.80*	3.625E+00	1.585E+02	1.585E+02	17.63
	92.38	72591	5.41	6.381E+00	1.556E+02	1.556E+02	17.96
U-234	609.31	1125	46.30*	2.465E+00	7.295E-01	7.295E-01	14.67
	1120.29	253	15.10	1.455E+00	8.520E-01	8.520E-01	43.54
	1764.49	207	15.80	1.029E+00	9.409E-01	9.409E-01	21.99
U-235	89.95	-----	2.70	6.249E+00	-----	Line Not Found	-----
	93.35	72591	4.50	6.381E+00	1.870E+02	1.870E+02	27.95
	105.00	-----	2.10	6.763E+00	-----	Line Not Found	-----
	143.76	2576	10.50*	6.635E+00	2.736E+00	2.736E+00	19.06
	163.35	1066	4.70	6.298E+00	2.663E+00	2.663E+00	27.97
	185.71	12505	54.00	5.888E+00	2.910E+00	2.910E+00	6.04
	205.31	1019	4.70	5.540E+00	2.895E+00	2.895E+00	24.71
NP-237	86.50	1191	12.60*	6.115E+00	1.143E+00	1.143E+00	38.89
	95.87	-----	2.60	6.515E+00	-----	Line Not Found	-----
U-238	63.29	29501	3.80*	3.625E+00	1.585E+02	1.585E+02	17.63
	92.38	72591	5.41	6.381E+00	1.556E+02	1.556E+02	8.37
AM-243	74.67	2890	66.00*	5.070E+00	6.390E-01	6.390E-01	21.93
	86.72	1191	0.34	6.115E+00	4.287E+01	4.287E+01	32.97
	117.66	-----	0.55	6.871E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.659E+00	-----	Line Not Found	-----
ANH-511	511.00	381	100.00*	2.842E+00	9.909E-02	9.909E-02	45.39

Flag: "*" = Keyline

Total number of lines in spectrum 51
Number of unidentified lines 9
Number of lines tentatively identified by NID 42 82.35%

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	2.226E+01	2.226E+01	0.184E+01	8.25	
NB-95	64.02D	1.20	7.164E-01	8.571E-01	0.869E-01	10.14	
CD-109	464.00D	1.03	3.872E+00	3.969E+00	1.308E+00	32.97	
SN-126	1.00E+05Y	1.00	3.893E-01	3.893E-01	1.283E-01	32.97	
BA-137M	30.17Y	1.00	1.073E-01	1.075E-01	0.339E-01	31.52	
CS-137	30.17Y	1.00	1.135E-01	1.136E-01	0.358E-01	31.52	
LU-177	6.71D	5.53	4.253E-01	2.353E+00	0.980E+00	41.66	
TL-208	1.41E+10Y	1.00	3.198E-01	3.198E-01	0.507E-01	15.85	
BI-211	7.04E+08Y	1.00	2.346E+00	2.346E+00	0.281E+00	11.98	
BI-212	1.41E+10Y	1.00	5.240E-01	5.240E-01	2.328E-01	44.44	
PB-212	1.41E+10Y	1.00	9.139E-01	9.139E-01	0.865E-01	9.47	
PO-212	1.41E+10Y	1.00	9.139E-01	9.139E-01	0.865E-01	9.47	
BI-214	1600.00Y	1.00	7.295E-01	7.295E-01	1.071E-01	14.67	
PB-214	1600.00Y	1.00	8.159E-01	8.159E-01	1.066E-01	13.07	
PO-214	1600.00Y	1.00	8.159E-01	8.159E-01	1.066E-01	13.07	
PO-216	1.41E+10Y	1.00	9.139E-01	9.139E-01	0.865E-01	9.47	
PO-218	1600.00Y	1.00	8.159E-01	8.159E-01	1.066E-01	13.07	
RA-224	1.41E+10Y	1.00	2.377E+00	2.377E+00	0.691E+00	29.07	
RA-226	1600.00Y	1.00	7.295E-01	7.295E-01	1.071E-01	14.67	
AC-228	1.41E+10Y	1.00	9.813E-01	9.813E-01	1.745E-01	17.79	
RA-228	1.41E+10Y	1.00	9.813E-01	9.813E-01	1.745E-01	17.79	
TH-228	1.91Y	1.02	9.139E-01	9.291E-01	0.880E-01	9.47	
TH-229	7340.00Y	1.00	5.315E-01	5.315E-01	1.752E-01	32.97	K
TH-230	4.47E+09Y	1.00	7.295E-01	7.295E-01	1.071E-01	14.67	
TH-232	1.41E+10Y	1.00	9.813E-01	9.813E-01	1.745E-01	17.79	
PA-234M	4.47E+09Y	1.00	2.265E+02	2.265E+02	0.227E+02	10.04	
TH-234	4.47E+09Y	1.00	1.585E+02	1.585E+02	0.279E+02	17.63	
U-234	4.47E+09Y	1.00	7.295E-01	7.295E-01	1.071E-01	14.67	
U-235	7.04E+08Y	1.00	2.736E+00	2.736E+00	0.521E+00	19.06	
NP-237	2.14E+06Y	1.00	1.143E+00	1.143E+00	0.445E+00	38.89	
U-238	4.47E+09Y	1.00	1.585E+02	1.585E+02	0.279E+02	17.63	
AM-243	7380.00Y	1.00	6.390E-01	6.390E-01	1.401E-01	21.93	
ANH-511	1.00E+09Y	1.00	9.909E-02	9.909E-02	4.497E-02	45.39	
Total Activity :			5.939E+02	5.961E+02			

Grand Total Activity : 5.939E+02 5.961E+02

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	131.49	451	3202	1.50	262.73	260	7	2.09E-02	42.9	6.80E+00	T
0	258.10	895	1359	1.25	515.78	511	10	4.14E-02	16.8	4.75E+00	
0	269.82	182	1251	1.41	539.20	535	9	8.42E-03	71.5	4.60E+00	T
0	462.79	152	705	1.01	924.92	920	11	7.03E-03	69.6	3.07E+00	T
0	568.32	425	779	2.65	1135.90	1128	15	1.97E-02	31.1	2.61E+00	T
0	742.64	539	576	1.32	1484.44	1476	14	2.50E-02	20.7	2.09E+00	T
0	795.08	164	469	3.45	1589.30	1582	15	7.58E-03	59.7	1.97E+00	T
0	946.18	153	252	1.92	1891.47	1887	12	7.10E-03	44.3	1.69E+00	T
2	964.71	100	258	2.02	1928.53	1922	23	4.65E-03	63.4	1.66E+00	T
0	1193.73	113	210	1.92	2386.63	2378	15	5.23E-03	59.0	1.38E+00	
0	1238.26	126	313	2.21	2475.71	2471	17	5.83E-03	67.2	1.34E+00	T
0	1378.10	90	71	2.17	2755.49	2751	10	4.18E-03	41.0	1.22E+00	
0	1588.55	37	98	1.40	3176.59	3171	14	1.73E-03	****	1.10E+00	
0	1730.12	54	26	1.62	3459.92	3454	11	2.50E-03	47.4	1.04E+00	
0	1738.80	66	39	1.58	3477.28	3472	13	3.06E-03	49.1	1.04E+00	
0	1831.37	46	46	1.88	3662.56	3654	14	2.14E-03	68.4	1.01E+00	
0	1875.84	44	45	1.76	3751.58	3742	20	2.05E-03	79.9	9.97E-01	
0	1911.49	39	11	1.41	3822.95	3817	12	1.83E-03	47.0	9.89E-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]G245808004.CNF;1
* Acquisition date   : 11-FEB-2010 22:27:52  Detector SN#      :
* Detector ID        : GAM19                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 1.50000
* Elapsed live time  : 0 06:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 06:00:09.65          Half life ratio  : 8.00000
*****
*
*                               SAMPLE DATA
*
* Sample date        : 26-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245808004            Analyst initials: RXF2
* Batch Number       : 947554                Sample Quantity  : 1.69141E+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	2.226E+01	1.837E+00	2.211E-01	1.647E-02	100.677
NB-95	8.571E-01	8.694E-02	4.170E-02	2.947E-03	20.553
CD-109	3.969E+00	1.308E+00	1.696E+00	1.519E-01	2.340
SN-126	3.893E-01	1.283E-01	1.671E-01	1.490E-02	2.330
BA-137M	1.075E-01	3.387E-02	3.580E-02	2.085E-03	3.002
CS-137	1.136E-01	3.581E-02	3.784E-02	2.213E-03	3.002
LU-177	2.353E+00	9.804E-01	1.305E+00	7.165E-02	1.803
TL-208	3.198E-01	5.070E-02	3.457E-02	2.351E-03	9.251
BI-211	2.346E+00	2.810E-01	2.018E-01	1.288E-02	11.626
BI-212	5.240E-01	2.328E-01	2.917E-01	2.429E-02	1.796
PB-212	9.139E-01	8.653E-02	5.993E-02	4.326E-03	15.249
PO-212	9.139E-01	8.653E-02	5.993E-02	4.326E-03	15.249
BI-214	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
PB-214	8.159E-01	1.066E-01	7.032E-02	5.798E-03	11.603
PO-214	8.159E-01	1.066E-01	7.032E-02	5.798E-03	11.603
PO-216	9.139E-01	8.653E-02	5.993E-02	4.326E-03	15.249
PO-218	8.159E-01	1.066E-01	7.032E-02	5.798E-03	11.603
RA-224	2.377E+00	6.912E-01	6.817E-01	3.863E-02	3.487

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
AC-228	9.813E-01	1.745E-01	1.048E-01	1.186E-02	9.360
RA-228	9.813E-01	1.745E-01	1.048E-01	1.186E-02	9.360
TH-228	9.291E-01	8.796E-02	6.093E-02	4.398E-03	15.249
TH-229	5.315E-01	1.752E-01	6.133E-01	3.310E-02	0.867
TH-230	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
TH-232	9.813E-01	1.745E-01	1.048E-01	1.186E-02	9.360
PA-234M	2.265E+02	2.273E+01	3.619E+00	3.369E-01	62.571
TH-234	1.585E+02	2.794E+01	2.582E+00	4.517E-01	61.378
U-234	7.295E-01	1.071E-01	6.616E-02	5.202E-03	11.027
U-235	2.736E+00	5.213E-01	2.861E-01	4.639E-02	9.561
NP-237	1.143E+00	4.446E-01	4.958E-01	1.113E-01	2.306
U-238	1.585E+02	2.794E+01	2.582E+00	4.517E-01	61.378
AM-243	6.390E-01	1.401E-01	1.133E-01	8.983E-03	5.641
ANH-511	9.909E-02	4.497E-02	2.753E-02	1.624E-03	3.600

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	2.325E-01		2.015E-01	3.432E-01	2.330E-02	0.677
NA-22	-1.015E-02		2.038E-02	3.289E-02	2.194E-03	-0.309
NA-24	-6.996E-01		7.640E-01	Half-Life too short		
AL-26	-1.860E-03		1.232E-02	1.970E-02	1.150E-03	-0.094
TI-44	1.709E-01	+	4.671E-02	7.553E-02	6.165E-03	2.263
SC-46	-2.249E-02		2.132E-02	3.246E-02	2.820E-03	-0.693
V-48	-1.641E-02		3.974E-02	6.241E-02	5.017E-03	-0.263
CR-51	3.180E-01		2.390E-01	4.108E-01	2.658E-02	0.774
MN-52	2.076E-01		1.346E-01	2.441E-01	1.761E-02	0.850
MN-54	1.190E-03		2.187E-02	3.547E-02	2.821E-03	0.034
CO-56	5.094E-03		2.326E-02	3.795E-02	3.079E-03	0.134
CO-57	2.113E-02		2.414E-02	3.962E-02	2.364E-03	0.533
CO-58	-2.422E-02		2.312E-02	3.567E-02	2.734E-03	-0.679
FE-59	-1.889E-02		4.326E-02	7.072E-02	5.308E-03	-0.267
CO-60	8.234E-03		1.759E-02	3.000E-02	2.211E-03	0.274
ZN-65	-5.961E-03		4.657E-02	6.646E-02	4.249E-03	-0.090
GE-68	3.511E-01		5.972E-01	1.027E+00	7.104E-02	0.342
AS-73	-1.752E-01		1.028E+00	1.696E+00	1.254E-01	-0.103
AS-74	4.941E-02		5.809E-02	9.784E-02	5.796E-03	0.505
SE-75	-3.654E-02		3.768E-02	4.684E-02	2.724E-03	-0.780
BR-77	3.345E+00		9.775E+00	1.629E+01	9.631E-01	0.205
SR-82	-2.500E-01		2.569E-01	4.013E-01	2.890E-02	-0.623
RB-83	2.487E-02		4.413E-02	7.214E-02	4.265E-03	0.345
RB-84	9.529E-02		4.615E-02	7.934E-02	6.810E-03	1.201
KR-85	1.037E+01		4.834E+00	7.451E+00	4.399E-01	1.392
SR-85	5.396E-02		2.515E-02	3.877E-02	2.289E-03	1.392
RB-86	2.509E-01		3.927E-01	6.769E-01	4.690E-02	0.371
Y-88	1.201E-02		1.594E-02	2.510E-02	1.433E-03	0.478

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ZR-88	-9.280E-03		1.885E-02	3.101E-02	1.727E-03	-0.299
Y-91	-8.111E+00		9.096E+00	1.449E+01	8.461E-01	-0.560
NB-94	1.453E-02		2.083E-02	3.471E-02	2.186E-03	0.419
NB-95M	3.391E-01		9.951E-02	1.461E-01	1.082E-02	2.322
ZR-95	-1.845E-02		4.561E-02	7.301E-02	5.844E-03	-0.253
NB-97	1.257E-01		1.348E-01	Half-Life too short		
ZR-97	1.288E+01		2.429E+00	Half-Life too short		
MO-99	2.388E+01		1.341E+01	1.978E+01	2.810E+00	1.207
TC-99M	-1.163E+12		9.268E+11	Half-Life too short		
RH-101	-6.556E-02		2.582E-02	3.809E-02	2.066E-03	-1.721
RH-102	-8.227E-04		1.826E-02	3.019E-02	1.762E-03	-0.027
RU-103	2.536E-02		2.569E-02	4.334E-02	5.496E-03	0.585
RU-106	4.329E-02		1.894E-01	3.127E-01	3.685E-02	0.138
RU-106	4.329E-02		1.894E-01	3.127E-01	1.844E-02	0.138
AG-108M	-1.975E-02		1.968E-02	3.171E-02	1.975E-03	-0.623
AG-110M	9.387E-03		2.441E-02	3.515E-02	2.181E-03	0.267
IN-111	-6.826E-01		1.187E+00	1.627E+00	9.250E-02	-0.420
IN-113M	-1.605E-02		2.733E-02	4.484E-02	2.676E-03	-0.358
SN-113	-1.605E-02		2.733E-02	4.484E-02	2.676E-03	-0.358
IN-114M	-2.157E-01		1.582E-01	2.149E-01	1.155E-02	-1.004
CD-115	4.511E+00		1.048E+01	1.750E+01	1.036E+00	0.258
SN-117M	-3.918E-02		5.761E-02	8.035E-02	4.277E-03	-0.488
SB-122	3.012E+00		2.150E+00	3.234E+00	1.920E-01	0.931
I-123	-2.358E+01		1.656E+01	Half-Life too short		
TE-123M	-1.994E-02		2.800E-02	3.903E-02	2.108E-03	-0.511
I-124	2.890E-01		5.613E-01	8.159E-01	4.829E-02	0.354
SB-124	-3.111E-03		3.261E-02	5.280E-02	3.616E-03	-0.059
SB-125	6.853E-02		5.492E-02	9.406E-02	5.600E-03	0.729
TE-125M	4.098E+01		1.279E+01	1.823E+01	1.612E+00	2.248
I-126	8.352E-02		1.303E-01	1.900E-01	1.116E-02	0.440
SB-126	8.745E-02		9.741E-02	1.549E-01	1.008E-02	0.565
SB-127	-1.613E-01		1.071E+00	1.739E+00	1.757E-01	-0.093
XE-127	1.272E-01		4.263E-02	6.282E-02	3.427E-03	2.025
I-131	-2.927E-02		7.902E-02	1.308E-01	8.368E-03	-0.224
TE-132	6.350E-01		6.657E-01	1.075E+00	1.567E-01	0.591
BA-133	-6.269E-03		2.961E-02	4.273E-02	4.925E-03	-0.147
I-133	-3.396E-03		5.783E-03	Half-Life too short		
CS-134	8.131E-02	+	4.896E-02	5.101E-02	3.836E-03	1.594
CS-135	1.703E-01		1.147E-01	1.740E-01	1.328E-02	0.979
I-135	-6.322E+10		4.515E+10	Half-Life too short		
CS-136	2.963E-03		5.573E-02	9.364E-02	7.238E-03	0.032
CE-139	6.062E-02		2.834E-02	4.140E-02	2.161E-03	1.465
BA-140	9.493E-02		1.739E-01	2.868E-01	9.333E-02	0.331
LA-140	9.421E-03		4.333E-02	6.281E-02	4.250E-03	0.150
CE-141	7.223E-01		8.033E-02	1.115E-01	6.419E-03	6.480
CE-143	1.451E-03		1.915E-04	Half-Life too short		
CE-144	2.425E-01		2.156E-01	3.080E-01	4.363E-02	0.787
PM-144	-2.511E-02		2.118E-02	3.302E-02	2.057E-03	-0.760

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PR-144	-1.703E+00		1.436E+00	2.239E+00	1.394E-01	-0.760
PM-146	1.185E-02		2.672E-02	4.481E-02	3.859E-03	0.264
ND-147	6.252E-02		3.783E-01	6.268E-01	8.508E-02	0.100
PM-149	4.086E+01		8.958E+01	1.518E+02	2.153E+01	0.269
EU-152	-1.992E-02		7.968E-02	1.005E-01	6.541E-03	-0.198
GD-153	1.833E+00	+	1.862E-01	1.893E-01	1.472E-02	9.684
EU-154	-2.481E-02		5.677E-02	9.190E-02	9.096E-03	-0.270
EU-155	-1.019E-01		1.258E-01	1.878E-01	1.351E-02	-0.542
TB-160	2.605E-02		8.978E-02	1.466E-01	1.254E-02	0.178
HO-166M	2.092E-02		3.675E-02	6.106E-02	3.911E-03	0.343
TM-171	-1.733E+02		4.053E+01	5.290E+01	4.022E+00	-3.276
LU-176	-3.812E-03		1.538E-02	2.569E-02	1.494E-03	-0.148
LU-177M	-8.015E-02		1.068E-01	1.741E-01	9.842E-03	-0.460
HF-181	-3.295E-02		2.601E-02	4.129E-02	2.416E-03	-0.798
W-181	2.437E+01		1.947E+00	1.142E+00	8.644E-02	21.334
TA-182	1.528E-02		9.967E-02	1.669E-01	1.006E-02	0.092
RE-183	6.302E-01	+	1.398E-01	1.743E-01	9.183E-03	3.615
RE-184	-2.834E-01		1.873E-01	2.481E-01	1.418E-02	-1.143
OS-185	-4.528E-03		2.612E-02	4.248E-02	2.488E-03	-0.107
RE-188	1.366E-01		1.458E-01	2.385E-01	1.282E-02	0.573
W-188	-2.035E+00		5.308E+00	7.690E+00	4.466E-01	-0.265
IR-192	-1.688E-02		2.159E-02	3.557E-02	2.078E-03	-0.475
AU-195	5.344E+00	+	5.429E-01	5.282E-01	4.031E-02	10.116
TL-200	-5.479E-06		3.422E-04	Half-Life too short		
TL-201	-2.655E+00		8.895E+00	1.248E+01	6.519E-01	-0.213
TL-202	-1.123E-02		4.502E-02	7.421E-02	4.262E-03	-0.151
HG-203	2.538E-02		2.598E-02	4.447E-02	2.735E-03	0.571
BI-207	2.701E-02		2.634E-02	4.529E-02	3.216E-03	0.596
TL-207	-6.910E-01		4.272E-01	6.651E-01	1.099E-01	-1.039
PO-209	1.374E+00		3.975E+00	6.514E+00	5.727E-01	0.211
BI-210	-5.539E+00		3.677E+00	5.899E+00	4.496E-01	-0.939
PB-210	-5.539E+00		3.677E+00	5.899E+00	4.496E-01	-0.939
PO-210	-5.539E+00		3.670E+00	5.899E+00	3.845E-01	-0.939
PB-211	-3.098E-01		5.824E-01	9.012E-01	5.616E-01	-0.344
PO-215	-6.910E-01		4.272E-01	6.651E-01	1.099E-01	-1.039
RN-219	1.411E-01		2.467E-01	4.155E-01	5.619E-02	0.340
RN-220	-1.138E+01		1.614E+01	2.597E+01	1.541E+00	-0.438
RA-223	-6.910E-01		4.272E-01	6.651E-01	1.099E-01	-1.039
AC-227	1.543E+00		3.837E-01	4.982E-01	6.940E-02	3.097
TH-227	1.543E+00		4.109E-01	4.982E-01	8.407E-02	3.097
PA-231	-3.524E-01		1.007E+00	1.624E+00	2.238E-01	-0.217
TH-231	-6.910E-01		4.272E-01	6.651E-01	1.099E-01	-1.039
U-231	3.069E+01		3.472E+00	3.135E+00	2.490E-01	9.787
PA-233	7.885E-03		3.952E-02	6.662E-02	4.113E-03	0.118
PA-234	5.595E-01	+	2.689E-01	3.293E-01	6.148E-02	1.699
NP-236	-2.008E-02		7.741E-02	1.089E-01	5.766E-03	-0.184
NP-239	2.759E-01		2.083E-01	3.021E-01	1.889E-02	0.914
AM-241	1.126E+00		2.448E-01	3.429E-01	2.824E-02	3.282

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.106E-01		1.158E-01	1.674E-01	1.204E-02	0.661
AM-246	2.179E-02		6.851E-02	1.164E-01	8.028E-03	0.187
CM-247	1.124E-02		2.198E-02	3.706E-02	2.079E-03	0.303
CF-249	1.746E-02		2.402E-02	4.073E-02	2.275E-03	0.429
CF-251	4.216E-02		1.037E-01	1.683E-01	8.892E-03	0.251

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]G245808004
* Acquisition date   : 11-FEB-2010 22:27:52 Detector SN#      :
* Detector ID        : GAM19 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 1.500
* Elapsed live time  : 0 06:00:00.00 Abundance limit : 75.000
* Elapsed real time  : 0 06:00:09.65 Half life ratio : 8.000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245808004 Analyst initials: RXF2
* Batch Number       : 947554 Sample Quantity : 1.6914E+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	2.226E+01	1.800E+00	1.120E-01	9.183E-01
NB-95	8.571E-01	8.520E-02	2.159E-02	4.347E-02
CD-109	3.969E+00	1.282E+00	9.387E-01	6.542E-01
SN-126	3.893E-01	1.258E-01	9.248E-02	6.417E-02
BA-137M	1.075E-01	3.319E-02	1.863E-02	1.693E-02
CS-137	1.136E-01	3.509E-02	1.969E-02	1.790E-02
LU-177	2.353E+00	9.608E-01	7.041E-01	4.902E-01
TL-208	3.198E-01	4.968E-02	1.806E-02	2.535E-02
BI-211	2.346E+00	2.754E-01	1.071E-01	1.405E-01
BI-212	5.240E-01	2.282E-01	1.513E-01	1.164E-01
PB-212	9.139E-01	8.480E-02	3.220E-02	4.326E-02
PO-212	9.139E-01	8.480E-02	3.220E-02	4.326E-02
BI-214	7.295E-01	1.049E-01	3.451E-02	5.353E-02
PB-214	8.159E-01	1.045E-01	3.733E-02	5.331E-02
PO-214	8.159E-01	1.045E-01	3.733E-02	5.331E-02
PO-216	9.139E-01	8.480E-02	3.220E-02	4.326E-02
PO-218	8.159E-01	1.045E-01	3.733E-02	5.331E-02
RA-224	2.377E+00	6.773E-01	3.662E-01	3.456E-01
RA-226	7.295E-01	1.049E-01	3.451E-02	5.353E-02
AC-228	9.813E-01	1.710E-01	5.397E-02	8.726E-02
RA-228	9.813E-01	1.710E-01	5.397E-02	8.726E-02
TH-228	9.291E-01	8.620E-02	3.274E-02	4.398E-02
TH-229	1.700E-01	3.709E-01	3.316E-01	1.892E-01
TH-230	7.295E-01	1.049E-01	3.451E-02	5.353E-02
TH-232	9.813E-01	1.710E-01	5.397E-02	8.726E-02
PA-234M	2.265E+02	2.227E+01	1.857E+00	1.136E+01
TH-234	1.585E+02	2.738E+01	1.442E+00	1.397E+01
U-234	7.295E-01	1.049E-01	3.451E-02	5.353E-02
U-235	2.736E+00	5.109E-01	1.561E-01	2.607E-01
NP-237	1.143E+00	4.357E-01	2.745E-01	2.223E-01
U-238	1.585E+02	2.738E+01	1.442E+00	1.397E+01
AM-243	6.390E-01	1.373E-01	6.298E-02	7.007E-02
ANH-511	9.909E-02	4.407E-02	1.444E-02	2.249E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	2.325E-01	1.974E-01	1.805E-01	1.007E-01 NOT IDENT.
NA-22	-1.015E-02	1.997E-02	1.674E-02	1.019E-02 NOT IDENT.
NA-24	-6.996E+05	1.498E+06	0.000E+00	7.640E+05 SHORT HLIF
AL-26	-1.860E-03	1.207E-02	9.906E-03	6.158E-03 NOT IDENT.
TI-44	1.709E-01	4.577E-02	4.194E-02	2.335E-02 FAIL ABUN
SC-46	-2.249E-02	2.089E-02	1.672E-02	1.066E-02 FAIL ABUN
V-48	-1.641E-02	3.894E-02	3.205E-02	1.987E-02 NOT IDENT.
CR-51	3.180E-01	2.342E-01	2.187E-01	1.195E-01 NOT IDENT.
MN-52	2.076E-01	1.319E-01	1.238E-01	6.731E-02 NOT IDENT.
MN-54	1.190E-03	2.143E-02	1.831E-02	1.094E-02 NOT IDENT.
CO-56	5.094E-03	2.279E-02	1.959E-02	1.163E-02 FAIL ABUN
CO-57	2.113E-02	2.365E-02	2.172E-02	1.207E-02 NOT IDENT.
CO-58	-2.422E-02	2.266E-02	1.844E-02	1.156E-02 NOT IDENT.
FE-59	-1.889E-02	4.240E-02	3.618E-02	2.163E-02 FAIL ABUN
CO-60	8.234E-03	1.723E-02	1.525E-02	8.793E-03 NOT IDENT.
ZN-65	-5.961E-03	4.564E-02	3.399E-02	2.328E-02 NOT IDENT.
GE-68	3.511E-01	5.853E-01	5.257E-01	2.986E-01 NOT IDENT.
AS-73	-1.752E-01	1.007E+00	9.521E-01	5.139E-01 NOT IDENT.
AS-74	4.941E-02	5.693E-02	5.108E-02	2.904E-02 NOT IDENT.
SE-75	-3.654E-02	3.693E-02	2.509E-02	1.884E-02 NOT IDENT.
BR-77	3.345E+00	9.580E+00	8.541E+00	4.888E+00 FAIL ABUN
SR-82	-2.500E-01	2.517E-01	2.077E-01	1.284E-01 NOT IDENT.
RB-83	2.487E-02	4.325E-02	3.782E-02	2.206E-02 NOT IDENT.
RB-84	9.529E-02	4.523E-02	4.089E-02	2.308E-02 NOT IDENT.
KR-85	1.037E+01	4.738E+00	3.908E+00	2.417E+00 NOT IDENT.
SR-85	5.396E-02	2.465E-02	2.034E-02	1.258E-02 NOT IDENT.
RB-86	2.509E-01	3.848E-01	3.465E-01	1.963E-01 NOT IDENT.
Y-88	1.201E-02	1.562E-02	1.262E-02	7.972E-03 NOT IDENT.
ZR-88	-9.280E-03	1.847E-02	1.641E-02	9.426E-03 NOT IDENT.
Y-91	-8.111E+00	8.915E+00	7.391E+00	4.548E+00 NOT IDENT.
NB-94	1.453E-02	2.041E-02	1.802E-02	1.041E-02 NOT IDENT.
NB-95M	3.391E-01	9.752E-02	7.851E-02	4.976E-02 NOT IDENT.
ZR-95	-1.845E-02	4.470E-02	3.782E-02	2.280E-02 NOT IDENT.
NB-97	1.257E+05	2.643E+05	0.000E+00	1.348E+05 SHORT HLIF
ZR-97	1.288E+07	4.762E+06	0.000E+00	2.429E+06 SHORT HLIF
MO-99	2.388E+01	1.315E+01	1.025E+01	6.707E+00 NOT IDENT.
TC-99M	-1.163E+18	1.817E+18	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-6.556E-02	2.530E-02	2.058E-02	1.291E-02 NOT IDENT.
RH-102	-8.227E-04	1.789E-02	1.588E-02	9.129E-03 FAIL ABUN
RU-103	2.536E-02	2.517E-02	2.276E-02	1.284E-02 FAIL ABUN
RH-106	4.329E-02	1.856E-01	1.630E-01	9.470E-02 FAIL ABUN
RU-106	4.329E-02	1.856E-01	1.630E-01	9.468E-02 FAIL ABUN
AG-108M	-1.975E-02	1.929E-02	1.673E-02	9.842E-03 NOT IDENT.
AG-110M	9.387E-03	2.392E-02	1.829E-02	1.220E-02 NOT IDENT.
IN-111	-6.826E-01	1.164E+00	8.734E-01	5.937E-01 NOT IDENT.
IN-113M	-1.605E-02	2.678E-02	2.373E-02	1.366E-02 NOT IDENT.
SN-113	-1.605E-02	2.678E-02	2.373E-02	1.366E-02 NOT IDENT.
IN-114M	-2.157E-01	1.550E-01	1.163E-01	7.910E-02 NOT IDENT.
CD-115	4.511E+00	1.027E+01	9.174E+00	5.241E+00 NOT IDENT.
SN-117M	-3.918E-02	5.645E-02	4.371E-02	2.880E-02 NOT IDENT.
SB-122	3.012E+00	2.107E+00	1.691E+00	1.075E+00 NOT IDENT.
I-123	-2.358E+07	3.245E+07	0.000E+00	1.656E+07 SHORT HLIF
TE-123M	-1.994E-02	2.744E-02	2.123E-02	1.400E-02 NOT IDENT.
I-124	2.890E-01	5.501E-01	4.258E-01	2.807E-01 NOT IDENT.
SB-124	-3.111E-03	3.196E-02	2.662E-02	1.631E-02 FAIL ABUN
SB-125	6.853E-02	5.382E-02	4.963E-02	2.746E-02 FAIL ABUN
TE-125M	4.098E+01	1.253E+01	1.003E+01	6.393E+00 NOT IDENT.
I-126	8.352E-02	1.277E-01	9.883E-02	6.517E-02 NOT IDENT.
SB-126	8.745E-02	9.546E-02	8.035E-02	4.870E-02 NOT IDENT.
SB-127	-1.613E-01	1.050E+00	9.036E-01	5.355E-01 NOT IDENT.
XE-127	1.272E-01	4.178E-02	3.392E-02	2.131E-02 FAIL ABUN
I-131	-2.927E-02	7.744E-02	6.934E-02	3.951E-02 NOT IDENT.
TE-132	6.350E-01	6.524E-01	5.783E-01	3.329E-01 FAIL ABUN
BA-133	-6.269E-03	2.902E-02	2.268E-02	1.481E-02 NOT IDENT.
I-133	-3.396E+03	1.133E+04	0.000E+00	5.783E+03 SHORT HLIF
CS-134	8.131E-02	4.798E-02	2.638E-02	2.448E-02 FAIL ABUN
CS-135	1.703E-01	1.124E-01	9.314E-02	5.735E-02 NOT IDENT.
I-135	-6.322E+16	8.849E+16	0.000E+00	0.000E+00 SHORT HLIF
CS-136	2.963E-03	5.462E-02	4.798E-02	2.787E-02 FAIL ABUN
CE-139	6.062E-02	2.778E-02	2.249E-02	1.417E-02 NOT IDENT.
BA-140	9.493E-02	1.704E-01	1.502E-01	8.694E-02 FAIL ABUN
LA-140	9.421E-03	4.246E-02	3.173E-02	2.166E-02 NOT IDENT.

CE-141	7.223E-01	7.873E-02	6.079E-02	4.017E-02	NOT IDENT.
CE-143	1.451E+03	3.753E+02	0.000E+00	1.915E+02	SHORT HLIF
CE-144	2.425E-01	2.112E-01	1.684E-01	1.078E-01	NOT IDENT.
PM-144	-2.511E-02	2.075E-02	1.715E-02	1.059E-02	NOT IDENT.
PR-144	-1.703E+00	1.407E+00	1.163E+00	7.180E-01	NOT IDENT.
PM-146	1.185E-02	2.619E-02	2.360E-02	1.336E-02	NOT IDENT.
ND-147	6.252E-02	3.708E-01	3.284E-01	1.892E-01	NOT IDENT.
PM-149	4.086E+01	8.779E+01	8.110E+01	4.479E+01	NOT IDENT.
EU-152	-1.992E-02	7.809E-02	5.339E-02	3.984E-02	FAIL ABUN
GD-153	1.833E+00	1.825E-01	1.044E-01	9.310E-02	FAIL ABUN
EU-154	-2.481E-02	5.563E-02	4.678E-02	2.838E-02	NOT IDENT.
EU-155	-1.019E-01	1.233E-01	1.034E-01	6.289E-02	FAIL ABUN
TB-160	2.605E-02	8.799E-02	7.555E-02	4.489E-02	FAIL ABUN
HO-166M	2.092E-02	3.602E-02	3.169E-02	1.838E-02	FAIL ABUN
TM-171	-1.733E+02	3.972E+01	2.951E+01	2.026E+01	NOT IDENT.
LU-176	-3.812E-03	1.507E-02	1.370E-02	7.690E-03	FAIL ABUN
LU-177M	-8.015E-02	1.047E-01	9.196E-02	5.342E-02	FAIL ABUN
HF-181	-3.295E-02	2.549E-02	2.170E-02	1.301E-02	NOT IDENT.
W-181	2.437E+01	1.908E+00	6.376E-01	9.735E-01	NOT IDENT.
TA-182	1.528E-02	9.768E-02	8.509E-02	4.983E-02	FAIL ABUN
RE-183	6.302E-01	1.370E-01	9.476E-02	6.992E-02	FAIL ABUN
RE-184	-2.834E-01	1.836E-01	1.330E-01	9.367E-02	NOT IDENT.
OS-185	-4.528E-03	2.560E-02	2.212E-02	1.306E-02	NOT IDENT.
RE-188	1.366E-01	1.428E-01	1.298E-01	7.288E-02	NOT IDENT.
W-188	-2.035E+00	5.202E+00	4.107E+00	2.654E+00	FAIL ABUN
IR-192	-1.688E-02	2.116E-02	1.894E-02	1.080E-02	FAIL ABUN
AU-195	5.344E+00	5.320E-01	2.914E-01	2.714E-01	FAIL ABUN
TL-200	-5.479E+00	6.707E+02	0.000E+00	3.422E+02	SHORT HLIF
TL-201	-2.655E+00	8.717E+00	6.776E+00	4.448E+00	NOT IDENT.
TL-202	-1.123E-02	4.412E-02	3.912E-02	2.251E-02	NOT IDENT.
HG-203	2.538E-02	2.546E-02	2.378E-02	1.299E-02	NOT IDENT.
BI-207	2.701E-02	2.581E-02	2.320E-02	1.317E-02	FAIL ABUN
TL-207	-6.910E-01	4.186E-01	3.540E-01	2.136E-01	FAIL ABUN
PO-209	1.374E+00	3.895E+00	3.355E+00	1.987E+00	NOT IDENT.
BI-210	-5.539E+00	3.603E+00	3.324E+00	1.838E+00	NOT IDENT.
PB-210	-5.539E+00	3.603E+00	3.324E+00	1.838E+00	NOT IDENT.
PO-210	-5.539E+00	3.597E+00	3.324E+00	1.835E+00	NOT IDENT.
PB-211	-3.098E-01	5.707E-01	4.763E-01	2.912E-01	NOT IDENT.
PO-215	-6.910E-01	4.186E-01	3.540E-01	2.136E-01	FAIL ABUN
RN-219	1.411E-01	2.417E-01	2.197E-01	1.233E-01	FAIL ABUN
RN-220	-1.138E+01	1.582E+01	1.359E+01	8.070E+00	NOT IDENT.
RA-223	-6.910E-01	4.186E-01	3.540E-01	2.136E-01	FAIL ABUN
AC-227	1.543E+00	3.761E-01	2.671E-01	1.919E-01	FAIL ABUN
TH-227	1.543E+00	4.027E-01	2.671E-01	2.055E-01	FAIL ABUN
PA-231	-3.524E-01	9.865E-01	8.681E-01	5.033E-01	FAIL ABUN
TH-231	-6.910E-01	4.186E-01	3.540E-01	2.136E-01	FAIL ABUN
U-231	3.069E+01	3.403E+00	1.731E+00	1.736E+00	FAIL ABUN
PA-233	7.885E-03	3.873E-02	3.550E-02	1.976E-02	FAIL ABUN
PA-234	5.595E-01	2.635E-01	1.693E-01	1.344E-01	FAIL ABUN
NP-236	-2.008E-02	7.587E-02	5.920E-02	3.871E-02	FAIL ABUN
NP-239	2.759E-01	2.042E-01	1.658E-01	1.042E-01	FAIL ABUN
AM-241	1.126E+00	2.399E-01	1.919E-01	1.224E-01	NOT IDENT.
CM-243	1.106E-01	1.135E-01	9.220E-02	5.791E-02	FAIL ABUN
AM-246	2.179E-02	6.714E-02	5.957E-02	3.426E-02	NOT IDENT.
CM-247	1.124E-02	2.154E-02	1.959E-02	1.099E-02	NOT IDENT.
CF-249	1.746E-02	2.354E-02	2.156E-02	1.201E-02	NOT IDENT.
CF-251	4.216E-02	1.017E-01	9.126E-02	5.187E-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	6884.3652
46.50	6884.3652
46.50	6884.3652
48.70	7486.3853
49.72	7801.8066
51.35	8009.2676
52.39	8527.7656
52.97	8759.6299
53.15	8761.4385
53.44	8974.9785
54.07	9213.7520
56.28	10118.9590
56.28	10108.8877
57.37	0.0000
57.53	9826.8857
57.53	9826.9150
57.60	9827.6387
57.98	9771.8223
57.98	9771.8223
59.32	10409.1797
59.32	10409.1797
59.40	10410.0654
59.54	10411.6357
59.72	10413.6289
60.01	10582.6484
61.10	10999.5557
61.14	11000.0020
61.30	11329.1533
63.00	10679.0352
63.29	10682.2344
63.29	10682.2344
63.58	10685.4238
64.28	10693.0977
65.12	10224.6250
65.20	10225.4512
65.20	10225.4512
66.05	10901.5947
66.72	11094.9521
66.83	11096.1865
66.91	11128.0918
67.20	11131.2949
67.20	11131.2949
67.75	11006.0518
67.85	10545.5732
68.90	10556.4912
68.90	10556.4912
69.30	10560.6563
69.67	10346.5625
70.82	10250.5947
70.82	10250.5947
70.83	10654.6113
72.80	11565.6719
72.87	12037.8809
72.87	12037.8809
74.67	12058.3672
74.81	12059.9756
74.81	12059.9756
74.81	12059.9756
74.81	12059.9756
74.81	12059.9756
74.81	12059.9756
74.81	12059.9756
74.97	12061.7666
75.28	12065.2578
75.70	12069.9883
77.11	12085.7900
77.11	12085.7900

77.11	12085.7900
77.11	12085.7900
77.11	12085.7900
77.11	12085.7900
77.11	12085.7900
78.38	12717.7490
79.62	12514.7891
79.80	12516.8291
79.80	12516.8291
80.11	12520.3408
80.18	12521.1006
80.30	12522.4766
80.30	12522.4766
80.57	12525.5137
81.00	12530.3545
81.07	12531.1133
81.07	12531.1133
81.07	12531.1133
81.07	12531.1133
82.60	12637.0098
83.37	12027.8213
83.78	12032.1855
83.78	12032.1855
83.78	12032.1855
83.78	12032.1855
84.21	12036.7314
84.90	12044.0039
85.43	12049.5498
86.29	12058.5498
86.50	12060.7314
86.54	12061.1406
86.59	12061.6865
86.72	12063.0498
86.79	12063.7314
86.94	12065.3223
87.30	12069.0498
87.30	12069.0498
87.30	12069.0498
87.30	12069.0498
87.30	12069.0498
87.30	12069.0498
87.57	12071.8682
87.88	12075.0508
88.03	12076.5957
88.36	12080.0049
88.47	12081.1416
89.95	12096.3232
91.11	12108.0967
92.29	12120.0518
92.38	12120.9609
92.38	12120.9609
93.35	12130.6885
94.00	12137.1885
94.67	12143.8252
94.67	12143.8701
94.90	12146.1885
94.90	12146.1885
94.90	12146.1885
94.90	12146.1885
95.87	6765.4526
95.87	6765.4526
96.73	6770.1836
97.43	6774.0039
98.44	6779.4937
98.44	6779.5190
98.88	5940.9092
99.55	5425.1377
99.55	5425.1377
99.86	5464.1338
100.00	5464.7451
100.10	5465.1934
103.18	5670.5132
103.76	5444.7822
105.00	5878.6279
105.31	5970.6865
108.00	6176.0562
109.28	6177.0786

111.00	6147.0703
111.00	6147.0703
111.76	5211.5410
112.95	5216.1416
115.19	4007.5022
116.30	4164.9307
117.00	4200.2236
117.00	4200.2236
117.66	4253.6816
121.11	4031.4919
121.62	4005.8955
121.78	4006.3511
122.06	4037.3201
122.32	4077.6082
122.32	4077.6082
122.32	4077.6082
122.32	4077.6082
123.07	4091.2295
127.23	4075.3213
129.76	4082.3997
131.20	3894.3496
133.02	3695.5378
133.54	3727.0344
135.34	3650.8628
136.00	3556.6470
136.25	3557.2410
136.48	3638.7695
140.51	3730.7366
140.51	0.0000
142.18	3674.0063
142.65	3578.8975
143.76	3358.6741
144.24	3359.7178
144.24	3359.7178
144.24	3359.7178
144.24	3359.7178
145.22	3129.9570
145.44	3083.0332
147.16	3160.8865
152.43	3177.5051
152.70	3206.6995
153.22	3206.6741
154.21	3128.9209
154.21	3128.9209
154.21	3128.9209
154.21	3128.9209
155.03	3080.5159
156.02	3141.9783
158.56	3196.9299
159.00	0.0000
159.00	3189.2495
160.31	3128.6079
161.27	3039.9063
162.32	3079.4138
162.64	3091.9722
163.35	2901.5486
163.89	2716.2515
165.85	2715.9670
167.43	2756.2126
171.28	2783.0105
171.86	2716.2747
172.10	2719.8640
176.55	2684.7986
176.60	2688.1055
181.06	2694.8848
184.41	2712.0271
185.71	2437.7136
186.00	2438.1089
190.27	2304.0425
192.34	2250.9951
193.63	2149.2815
197.04	2133.5989
198.01	2385.3171
198.60	2404.5994
200.40	2110.5552
201.83	2112.1343
202.84	2088.7847
205.31	2341.7451

208.36	1713.5007
208.81	1760.3582
209.75	1857.6841
209.75	1857.6841
210.97	1897.4637
215.65	1791.3383
216.55	1771.2432
218.09	1817.7601
222.10	1796.0142
223.80	1796.4130
226.40	1610.7570
227.00	1645.5165
227.08	1645.5846
227.20	1644.5695
228.16	1645.3409
228.18	1645.3523
228.18	1645.3523
231.56	0.0000
235.69	1529.8199
236.00	1530.0511
236.00	1530.0511
238.63	1519.0643
238.63	1519.0643
238.63	1519.0643
238.63	1519.0643
239.00	1519.3248
240.98	1520.7422
241.98	1473.7903
241.98	1473.7903
241.98	1473.7903
244.69	1425.6962
245.39	1508.2611
247.94	1344.1064
248.90	1355.3983
249.79	1342.5393
252.40	1473.7548
252.85	1440.0256
252.85	1440.0256
254.15	0.0000
256.20	1270.0183
256.20	1270.0183
260.50	1259.9003
260.90	1236.7539
262.80	1180.2234
264.65	1316.6963
268.24	1227.8604
268.79	1216.1334
269.46	1224.3148
269.46	1224.3148
269.46	1224.3148
269.46	1224.3148
271.23	1205.3949
273.65	1291.0271
276.40	1183.4813
277.35	1170.5817
277.60	1170.7080
277.60	1170.7080
278.00	1157.3295
278.60	1153.0968
279.20	1137.0834
279.53	1116.4022
280.46	1190.2749
281.68	1232.6222
283.67	1149.2443
284.30	1122.3127
285.00	1094.4878
285.90	1089.4479
286.10	1089.5503
286.10	1089.5503
287.40	1119.2378
288.45	0.0000
290.67	1127.4547
290.80	1107.7875
291.72	1083.9285
293.26	0.0000
293.70	1054.4276
295.21	1118.9440
295.21	1118.9440

295.21	1118.9440
295.96	971.7735
296.50	971.9945
297.23	972.2935
298.57	972.8265
299.80	1014.4468
299.80	1014.4468
300.09	1014.5687
300.09	1014.5687
300.09	1014.5687
300.09	1014.5687
300.12	1014.5823
301.29	967.8221
302.84	977.5798
303.76	958.1114
303.91	958.1753
304.40	994.9924
304.40	994.9924
304.84	989.0596
306.84	1001.7788
308.46	960.2441
311.98	941.4059
316.51	969.7906
318.01	938.1467
319.02	908.1262
319.41	905.5012
320.08	879.9360
323.87	1059.3495
323.87	1059.3495
323.87	1059.3495
323.87	1059.3495
325.23	970.3532
328.77	911.5926
333.44	916.9464
334.20	937.2859
334.20	937.2859
334.30	937.3230
338.28	930.7135
338.28	930.7135
338.28	930.7135
338.28	930.7135
338.32	930.7258
338.32	930.7258
338.32	930.7258
340.50	869.8926
340.57	869.9154
344.27	911.4287
345.85	882.5103
350.59	0.0000
351.07	828.9122
351.92	829.1727
351.92	829.1727
351.92	829.1727
355.39	0.0000
356.01	797.1146
364.48	773.9717
366.43	752.0219
367.43	723.2078
367.94	0.0000
369.80	750.1159
374.96	715.7599
383.85	766.1465
387.95	701.1049
388.63	711.6641
391.69	759.7329
391.69	759.7329
392.90	746.7955
398.62	733.0950
400.65	707.9806
401.10	704.2931
401.81	680.7299
402.60	678.0647
404.84	710.9014
410.95	631.4201
411.60	641.0834
413.65	725.4024
414.70	678.9379
415.30	685.7533

415.76	694.4438
417.63	0.0000
418.52	669.3044
423.70	676.1896
427.08	625.2364
427.89	582.3055
432.53	673.3527
433.93	659.2667
439.47	626.8018
439.56	626.8257
439.89	647.0806
443.98	608.4620
444.90	585.5266
445.03	583.6227
445.03	583.6227
445.03	583.6227
453.90	610.3830
463.38	581.2061
468.07	624.0852
473.00	612.0813
475.06	619.2788
475.35	609.6105
476.78	564.1619
477.59	552.6213
477.96	541.9803
482.03	592.3398
484.57	559.6500
487.03	531.7675
490.36	0.0000
492.35	624.4836
497.08	525.5481
507.63	0.0000
510.53	0.0000
510.84	516.8791
511.00	516.9016
511.85	517.0268
511.85	517.0268
513.99	531.1241
513.99	531.1241
520.41	521.1673
520.65	540.0396
527.90	533.2632
528.96	0.0000
529.64	556.2512
529.87	0.0000
531.02	523.8538
537.32	502.0241
543.00	543.4913
546.56	0.0000
549.76	540.5469
552.65	499.2057
555.20	513.4930
563.23	533.5894
563.90	508.7424
568.70	558.3586
569.32	504.5068
569.50	504.5315
569.67	491.2346
573.80	508.4574
574.00	508.4822
574.64	506.2347
578.91	472.4267
579.30	0.0000
583.14	467.2856
585.48	459.8887
591.81	484.9502
592.07	484.9855
593.00	475.5521
595.88	449.7610
600.56	512.7778
602.52	0.0000
602.71	461.9924
602.71	461.9924
603.60	480.5885
604.41	468.9280
604.70	452.1534
609.31	481.6466

609.31	481.6466
609.31	481.6466
609.31	481.6466
610.33	481.7747
612.46	451.3776
614.37	458.3470
618.01	428.8400
621.84	424.4523
621.84	424.4523
631.29	441.7332
633.02	401.2876
633.10	401.2972
634.78	404.5103
635.90	438.1763
636.97	445.4212
645.85	422.9738
646.12	433.1970
656.30	425.7813
657.75	427.6376
657.90	0.0000
661.65	463.5287
661.65	463.5287
664.57	0.0000
666.33	394.3994
666.33	394.3994
675.00	394.2094
677.61	421.1709
685.20	427.0873
692.80	414.4644
695.00	477.6100
696.49	488.1046
696.49	488.1046
697.00	486.0982
697.49	484.0914
698.33	491.4095
698.50	491.4328
699.00	481.1655
702.63	444.3718
706.10	473.6990
706.58	0.0000
706.67	486.1792
709.31	441.9700
711.68	398.7231
713.82	410.3182
717.42	421.0367
720.50	368.4165
721.93	0.0000
722.20	380.6763
722.78	391.1043
722.78	391.1043
722.89	391.1135
722.95	391.1227
723.30	377.3043
724.18	405.0820
727.18	452.1409
733.00	478.7661
735.90	475.6201
739.58	430.8516
742.81	418.9944
744.21	400.0012
747.13	424.6371
751.79	422.2964
752.31	406.6646
753.82	389.0288
755.35	420.5395
756.15	430.0348
756.87	409.1754
763.93	401.7887
765.79	422.5793
766.42	422.6384
766.84	422.6777
776.49	457.2279
778.00	467.8910
778.57	441.6665
778.89	432.3492
783.80	405.3215
785.46	486.2153
792.07	374.4227

795.84	355.7341
796.30	325.5040
798.80	332.7188
801.93	424.5546
805.60	307.8235
810.29	358.9626
810.76	341.0008
815.85	311.6859
817.79	267.2701
818.51	274.7386
819.60	303.4491
826.30	318.7573
828.27	0.0000
831.60	352.0915
831.96	348.9324
834.83	348.0762
836.80	0.0000
846.75	304.1345
848.13	323.4318
856.28	0.0000
856.80	311.8968
860.37	258.9802
867.32	238.8369
867.82	234.4566
871.10	294.9469
873.19	290.7825
874.81	274.7750
875.33	0.0000
876.40	344.6596
879.36	333.0457
880.27	324.5099
880.51	289.0699
881.50	281.5988
883.24	281.7012
884.67	322.6538
889.25	262.6693
896.60	232.8697
898.02	227.5462
899.00	237.3003
903.28	238.7039
911.07	217.3263
911.07	217.3263
911.07	217.3263
919.63	270.7703
920.93	286.0043
925.00	271.0571
925.24	271.0693
926.50	288.4892
935.52	216.2085
937.48	267.3748
944.10	208.5872
946.00	241.3277
949.00	216.0507
962.29	223.8834
964.01	217.4036
966.15	217.4911
968.20	217.5785
969.11	217.6174
969.11	217.6174
969.11	217.6174
977.42	214.9455
980.50	185.2110
983.50	225.8858
989.30	204.1777
996.32	194.1910
1001.03	201.6935
1001.68	201.7204
1004.76	165.1392
1021.30	0.0000
1024.50	0.0000
1034.80	172.5124
1036.00	192.8505
1037.82	186.4571
1038.57	184.6354
1038.76	0.0000
1045.16	198.7193
1046.59	200.6208
1048.07	193.2757

1050.47	207.2383
1050.47	207.2383
1062.04	174.2917
1063.62	165.0715
1076.63	173.8135
1077.35	179.4140
1078.86	187.8380
1085.78	173.1716
1099.22	193.1781
1112.02	158.7342
1112.84	181.2051
1115.52	192.5223
1120.29	184.5192
1120.29	184.5192
1120.29	184.5192
1120.29	184.5192
1120.51	184.5272
1121.28	184.5512
1124.00	0.0000
1129.67	181.7332
1131.51	0.0000
1147.95	0.0000
1167.94	203.0147
1173.22	210.7593
1175.09	195.6965
1177.93	213.7602
1189.05	209.5530
1204.90	238.4684
1205.75	0.0000
1213.00	240.6877
1221.42	251.4961
1230.97	272.2486
1235.34	199.6882
1236.41	0.0000
1238.25	224.3451
1246.25	177.0896
1260.41	0.0000
1271.85	167.1111
1274.45	167.1748
1274.54	169.1035
1291.56	137.7632
1298.22	0.0000
1312.09	146.9037
1325.50	109.4366
1325.50	109.4366
1332.49	104.7041
1333.61	113.4485
1360.21	73.0194
1362.66	0.0000
1365.15	102.3041
1368.21	97.4772
1368.53	0.0000
1376.25	97.0375
1384.27	70.3506
1394.10	79.2631
1395.20	95.9105
1407.95	104.9189
1434.06	73.8220
1436.60	84.6807
1457.56	0.0000
1460.81	64.2277
1489.15	60.5185
1509.49	77.6064
1596.49	55.2366
1620.62	57.5798
1678.03	0.0000
1691.02	44.8594
1691.02	44.8594
1706.46	0.0000
1750.46	0.0000
1764.49	50.4276
1764.49	50.4276
1764.49	50.4276
1764.49	50.4276
1770.23	37.0752
1771.40	40.6110
1791.20	0.0000
1808.65	36.2177

1836.01

28.4777

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808004

Total Uranium Activity	4.7266E+02	ug/g
Total Uranium Counting Unc.	8.1451E+01	ug/g
Total Uranium Tpu	4.1557E-05	ug/g
Total Uranium Mda	4.2913E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554                      SAMPLE ID   : G245808004
*  ANALYST       : RXF2                        DETECTOR    : GAM19
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00    COUNT TIME   : 0 06:00:00.00
*  ANALYSIS DATE : 11-FEB-2010 22:27:52.35    SAMPLE ALQT  : 169.141 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.793E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 1.505E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 8.100E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 4.029E+00

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VAX/VMS Nuclide Identification Report Generated 15-FEB-2010 16:35:11.88

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808005.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 16:57:44
Sample ID          : G245808005      Sample quantity   : 1.41695E+02 GRAM
Detector name      : GAM10           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.19  0.0%
Energy tolerance   : 2.00000 keV     Analyst Initials  : RXF2
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 947554          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	63.21*	113	375	1.49	126.58	123	7	1.57E-02	30.5	
2	3	74.56*	386	486	1.30	149.26	144	13	5.37E-02	11.5	2.38E+00
3	3	76.80	598	292	0.91	153.74	144	13	8.31E-02	6.1	
4	4	83.76*	78	376	1.07	167.64	163	29	1.08E-02	41.0	1.11E+01
5	4	87.04*	237	474	1.37	174.20	163	29	3.29E-02	17.1	
6	4	89.61	193	393	1.17	179.34	163	29	2.68E-02	18.6	
7	0	128.69	76	314	0.93	257.41	254	7	1.05E-02	40.5	
8	0	153.97	106	395	1.85	307.94	302	11	1.48E-02	37.6	
9	0	185.45*	181	410	0.91	370.85	365	10	2.52E-02	22.9	
10	0	208.93	120	336	1.14	417.78	414	9	1.67E-02	28.9	
11	3	238.27*	1437	208	1.14	476.41	470	19	2.00E-01	3.2	1.52E+00
12	3	241.39	347	256	1.62	482.65	470	19	4.82E-02	11.1	
13	0	270.01	142	218	1.75	539.84	536	11	1.97E-02	21.9	
14	0	294.81	459	181	1.24	589.41	584	11	6.37E-02	7.4	
15	0	299.92*	108	209	1.60	599.61	595	11	1.50E-02	27.8	
16	0	337.80	272	190	1.26	675.32	671	9	3.78E-02	10.9	
17	0	351.36*	691	230	1.25	702.43	695	14	9.59E-02	6.1	
18	0	462.27	101	168	1.50	924.11	917	14	1.40E-02	29.0	
19	0	510.22*	90	192	1.83	1019.96	1013	15	1.24E-02	39.2	
20	0	582.68*	403	123	1.32	1164.81	1159	14	5.60E-02	7.8	
21	0	608.69*	444	102	1.29	1216.81	1211	13	6.17E-02	6.9	
22	0	726.67*	98	62	1.36	1452.68	1449	10	1.36E-02	18.9	
23	0	767.09	56	87	1.13	1533.48	1527	12	7.76E-03	36.0	
24	0	794.36	59	66	1.62	1588.02	1583	12	8.19E-03	30.5	
25	0	860.11	41	62	1.36	1719.48	1714	10	5.74E-03	38.9	
26	0	910.25*	283	99	1.76	1819.74	1810	18	3.93E-02	10.3	
27	0	968.59*	139	134	1.43	1936.40	1929	15	1.93E-02	20.8	
28	0	1119.18*	117	72	2.04	2237.56	2230	18	1.63E-02	19.5	
29	0	1376.60*	25	39	1.38	2752.46	2747	14	3.47E-03	57.0	
30	0	1459.26*	1601	21	2.12	2917.84	2907	21	2.22E-01	2.6	
31	0	1589.30	35	20	7.23	3178.00	3168	19	4.82E-03	37.4	
32	0	1727.62*	28	4	0.93	3454.78	3447	15	3.85E-03	26.3	
33	0	1762.87*	87	7	1.74	3525.31	3519	14	1.21E-02	13.5	

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

VMS Nuclide Identification Report V3.1 Generated 15-FEB-2010 16:35:15

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808005.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 16:57:44
Sample ID        : G245808005 Sample quantity : 141.70 GRAM
Sample type      : SOLID Sample geometry :
Detector name    : GAMMA10 Detector geometry: CAN
Elapsed live time: 0 02:00:00.00 Elapsed real time: 0 02:00:01.19 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 2.00 keV Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 0.00 %
Efficiency type  : Empirical Efficiencies at : Peak Energy
Abundance limit  : 75.00 WTM error limit : 3.00

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Full Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	+	1460.81	*	3.587E+01	3.616E+00	4.882E-01	4.205E-02	73.468
NB-95	+	765.79	*	8.698E-02	6.285E-02	6.587E-02	4.597E-03	1.320
CD-109	+	88.03	*	3.292E+00	1.183E+00	1.199E+00	1.359E-01	2.746
SN-126	+	64.28		1.380E+00	8.753E-01	1.026E+00	1.753E-01	1.346
	+	86.94		1.341E+00	7.256E-01	4.968E-01	2.086E-01	2.699
	+	87.57	*	3.225E-01	1.159E-01	1.183E-01	1.339E-02	2.727
CS-135	+	268.24	*	5.007E-01	2.227E-01	2.236E-01	1.807E-02	2.239
RE-188	+	155.03	*	3.420E-01	2.578E-01	2.428E-01	1.380E-02	1.408
		477.96		1.652E+00	2.691E+00	4.545E+00	2.992E-01	0.363
		633.10		1.353E+00	2.491E+00	4.339E+00	2.299E-01	0.312
TL-208		277.35		1.569E-01	3.411E-01	5.809E-01	6.336E-02	0.270
	+	510.84		3.744E-01	2.962E-01	2.085E-01	2.191E-02	1.796
	+	583.14	*	4.826E-01	8.206E-02	5.707E-02	3.835E-03	8.456
	+	860.37		4.774E-01	3.747E-01	4.186E-01	4.087E-02	1.141
BI-211	+	72.87		2.089E+01	5.314E+00	5.501E+00	6.049E-01	3.797
	+	351.07	*	3.633E+00	5.148E-01	2.963E-01	2.160E-02	12.261
PB-212	+	74.81		2.479E+00	6.720E-01	5.862E-01	8.439E-02	4.229
	+	77.11		2.125E+00	3.469E-01	3.150E-01	3.444E-02	6.746
	+	87.30		1.492E+00	5.566E-01	5.495E-01	8.291E-02	2.715
	+	238.63	*	1.668E+00	1.645E-01	8.517E-02	6.461E-03	19.579
	+	300.09		1.929E+00	1.085E+00	1.045E+00	9.184E-02	1.846
PO-212	+	74.81		2.479E+00	6.720E-01	5.862E-01	8.439E-02	4.229
	+	77.11		2.125E+00	3.469E-01	3.150E-01	3.444E-02	6.746
	+	87.30		1.492E+00	5.566E-01	5.495E-01	8.291E-02	2.715
		115.19		-1.815E+00	3.410E+00	5.380E+00	3.849E-01	-0.337
	+	238.63	*	1.668E+00	1.645E-01	8.517E-02	6.461E-03	19.579
	+	300.09		1.929E+00	1.085E+00	1.045E+00	9.184E-02	1.846
BI-214	+	609.31	*	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
	+	1120.29		1.455E+00	5.848E-01	5.300E-01	5.180E-02	2.745
	+	1764.49		1.495E+00	4.149E-01	2.850E-01	1.903E-02	5.245
PB-214	+	74.81		4.272E+00	1.132E+00	1.010E+00	1.335E-01	4.229
	+	77.11		3.642E+00	6.563E-01	5.400E-01	7.196E-02	6.746
	+	87.30		2.556E+00	9.396E-01	9.413E-01	1.288E-01	2.715
	+	241.98		2.418E+00	5.741E-01	5.128E-01	4.266E-02	4.715

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		1.434E+00	2.475E-01	1.822E-01	1.646E-02	7.867
	+	351.92	*	1.264E+00	1.908E-01	1.033E-01	9.262E-03	12.236
	+	74.81		4.272E+00	1.132E+00	1.010E+00	1.335E-01	4.229
	+	77.11		3.642E+00	6.563E-01	5.400E-01	7.196E-02	6.746
	+	87.30		2.556E+00	9.396E-01	9.413E-01	1.288E-01	2.715
PO-216	+	241.98		2.418E+00	5.741E-01	5.128E-01	4.266E-02	4.715
	+	295.21		1.434E+00	2.475E-01	1.822E-01	1.646E-02	7.867
	+	351.92	*	1.264E+00	1.908E-01	1.033E-01	9.262E-03	12.236
	+	74.81		2.479E+00	6.720E-01	5.862E-01	8.439E-02	4.229
	+	77.11		2.125E+00	3.469E-01	3.150E-01	3.444E-02	6.746
PO-218	+	87.30		1.492E+00	5.566E-01	5.495E-01	8.291E-02	2.715
	+	238.63	*	1.668E+00	1.645E-01	8.517E-02	6.461E-03	19.579
	+	300.09		1.929E+00	1.085E+00	1.045E+00	9.184E-02	1.846
	+	74.81		4.272E+00	1.132E+00	1.010E+00	1.335E-01	4.229
	+	77.11		3.642E+00	6.563E-01	5.400E-01	7.196E-02	6.746
RA-224	+	87.30		2.556E+00	9.396E-01	9.413E-01	1.288E-01	2.715
	+	241.98		2.418E+00	5.741E-01	5.128E-01	4.266E-02	4.715
	+	295.21		1.434E+00	2.475E-01	1.822E-01	1.646E-02	7.867
	+	351.92	*	1.264E+00	1.908E-01	1.033E-01	9.262E-03	12.236
	+	240.98	*	4.584E+00	1.058E+00	9.691E-01	5.949E-02	4.731
RA-226	+	609.31	*	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
	+	1120.29		1.455E+00	5.848E-01	5.300E-01	5.180E-02	2.745
	+	1764.49		1.495E+00	4.149E-01	2.850E-01	1.903E-02	5.245
	+	338.32		1.581E+00	7.334E-01	3.666E-01	1.499E-01	4.313
	+	911.07	*	1.553E+00	3.724E-01	2.155E-01	2.659E-02	7.209
AC-228	+	969.11		1.357E+00	6.487E-01	4.918E-01	1.163E-01	2.760
	+	338.32		1.581E+00	7.334E-01	3.666E-01	1.499E-01	4.313
	+	911.07	*	1.553E+00	3.724E-01	2.155E-01	2.659E-02	7.209
	+	969.11		1.357E+00	6.487E-01	4.918E-01	1.163E-01	2.760
	+	74.81		2.522E+00	6.423E-01	5.963E-01	6.564E-02	4.229
TH-228	+	77.11		2.161E+00	3.529E-01	3.204E-01	3.503E-02	6.746
	+	87.30		1.518E+00	5.455E-01	5.590E-01	6.316E-02	2.715
	+	238.63	*	1.696E+00	1.674E-01	8.664E-02	6.573E-03	19.579
	+	300.09		1.962E+00	1.591E+00	1.063E+00	6.274E-01	1.846
	+	609.31	*	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
TH-230	+	1120.29		1.455E+00	5.848E-01	5.300E-01	5.180E-02	2.745
	+	1764.49		1.495E+00	4.149E-01	2.850E-01	1.903E-02	5.245
	+	338.32		1.581E+00	3.616E-01	3.666E-01	2.457E-02	4.313
	+	911.07	*	1.553E+00	3.724E-01	2.155E-01	2.659E-02	7.209
	+	969.11		1.357E+00	6.487E-01	4.918E-01	1.163E-01	2.760
U-234	+	609.31	*	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
	+	1120.29		1.455E+00	5.848E-01	5.300E-01	5.180E-02	2.745
	+	1764.49		1.495E+00	4.149E-01	2.850E-01	1.903E-02	5.245
	+	86.50	*	9.472E-01	3.926E-01	3.535E-01	8.309E-02	2.679
	+	95.87		-5.330E-01	1.030E+00	1.454E+00	3.633E-01	-0.367
NP-237	+	74.67	*	4.019E-01	1.023E-01	9.547E-02	1.046E-02	4.210
	+	86.72		3.552E+01	1.277E+01	1.321E+01	1.488E+00	2.689
	+	117.66		-2.826E+00	3.584E+00	5.612E+00	3.894E-01	-0.504
	+	142.18		-1.969E+00	1.764E+01	2.796E+01	1.669E+00	-0.070

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	+	511.00	*	8.086E-02	6.362E-02	4.504E-02	2.885E-03	1.795

---- 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	*	1.001E-01	2.870E-01	4.756E-01	3.537E-02	0.210
NA-22		1274.54	*	-3.517E-02	4.522E-02	6.958E-02	5.389E-03	-0.505
NA-24		1368.53	*	8.307E-01	4.522E-02	Half-Life too short		
AL-26		1129.67		1.446E-01	1.837E+00	3.040E+00	2.132E-01	0.048
		1808.65	*	-1.044E-02	2.211E-02	3.090E-02	1.959E-03	-0.338
TI-44		67.85		7.471E-03	5.401E-02	9.006E-02	1.017E-02	0.083
	+	78.38	*	3.921E-01	6.402E-02	7.160E-02	7.834E-03	5.477
SC-46		889.25	*	-2.969E-02	3.819E-02	5.761E-02	5.702E-03	-0.515
	+	1120.51		2.534E-01	1.005E-01	1.244E-01	8.936E-03	2.036
V-48		944.10		-6.993E-01	9.838E-01	1.490E+00	1.443E-01	-0.469
		983.50	*	-5.423E-03	8.135E-02	1.312E-01	1.213E-02	-0.041
		1312.09		2.964E-02	7.036E-02	1.229E-01	1.026E-02	0.241
CR-51		320.08	*	3.812E-01	3.465E-01	6.065E-01	4.381E-02	0.629
MN-52		744.21		-3.916E-02	2.756E-01	4.511E-01	2.943E-02	-0.087
		848.13		3.464E+00	8.244E+00	1.401E+01	1.242E+00	0.247
		935.52		-1.702E-01	3.428E-01	5.334E-01	5.215E-02	-0.319
		1246.25		-8.977E-01	1.047E+01	1.733E+01	1.262E+00	-0.052
		1333.61		5.348E-01	6.679E+00	1.117E+01	9.701E-01	0.048
		1434.06	*	-3.483E-02	2.700E-01	4.364E-01	3.688E-02	-0.080
MN-54		834.83	*	5.971E-04	3.756E-02	6.178E-02	5.278E-03	0.010
CO-56		846.75	*	1.123E-02	3.909E-02	6.568E-02	5.800E-03	0.171
		977.42		-9.297E-01	3.240E+00	5.124E+00	4.776E-01	-0.181
		1037.82		-1.248E-02	3.474E-01	5.593E-01	5.029E-02	-0.022
		1175.09		2.768E+00	2.396E+00	4.346E+00	2.692E-01	0.637
		1238.25		1.561E-01	1.020E-01	1.855E-01	1.384E-02	0.841
		1360.21		6.153E-01	9.480E-01	1.690E+00	1.460E-01	0.364
		1771.40		-5.863E-02	1.781E-01	2.641E-01	1.750E-02	-0.222
CO-57		122.06	*	-6.748E-03	2.444E-02	3.914E-02	2.582E-03	-0.172
		136.48		3.725E-02	1.953E-01	3.174E-01	2.220E-02	0.117
CO-58		810.76	*	4.666E-03	3.688E-02	6.137E-02	4.911E-03	0.076
FE-59		142.65		8.455E-01	2.769E+00	4.461E+00	2.658E-01	0.190
		192.34		-9.173E-01	9.343E-01	1.399E+00	1.645E-01	-0.656
		1099.22	*	-1.681E-02	9.887E-02	1.564E-01	1.305E-02	-0.107
		1291.56		-6.328E-02	1.330E-01	2.108E-01	1.951E-02	-0.300
CO-60		1173.22		2.631E-03	4.913E-02	8.250E-02	5.087E-03	0.032
		1332.49	*	1.900E-03	4.044E-02	6.737E-02	5.854E-03	0.028
ZN-65		1115.52	*	6.093E-02	1.124E-01	1.656E-01	1.206E-02	0.368
GE-68		1077.35	*	7.529E-02	1.290E+00	2.090E+00	1.655E-01	0.036
AS-73		53.44	*	3.555E-02	1.448E+00	2.426E+00	3.210E-01	0.015
AS-74		595.88	*	-3.105E-03	8.753E-02	1.468E-01	8.389E-03	-0.021
		634.78		4.262E-02	3.315E-01	5.607E-01	2.959E-02	0.076
SE-75		66.05		7.431E-01	6.253E+00	9.364E+00	1.206E+00	0.079
		96.73		-2.978E-01	8.505E-01	1.220E+00	1.727E-01	-0.244

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		121.11		5.393E-02	1.308E-01	2.155E-01	2.111E-02	0.250
		136.00		-1.109E-02	3.721E-02	5.921E-02	3.677E-03	-0.187
		198.60		1.221E+00	1.741E+00	2.803E+00	1.985E-01	0.436
		264.65	*	8.707E-05	4.456E-02	6.873E-02	4.384E-03	0.001
		279.53		-3.149E-02	9.903E-02	1.627E-01	1.115E-02	-0.194
		303.91		5.949E-01	2.055E+00	3.066E+00	3.073E-01	0.194
		400.65		5.170E-02	2.280E-01	3.779E-01	3.691E-02	0.137
BR-77	+	87.88		1.304E+03	4.688E+02	6.134E+02	6.955E+01	2.126
		200.40		-4.412E+01	2.900E+02	4.548E+02	2.623E+01	-0.097
	+	239.00		4.926E+02	4.329E+01	6.606E+01	4.044E+00	7.457
		249.79		-5.652E+01	1.097E+02	1.798E+02	1.116E+01	-0.314
		281.68		-4.038E+01	1.422E+02	2.337E+02	1.505E+01	-0.173
		297.23		2.307E+02	1.195E+02	1.576E+02	1.029E+01	1.464
		303.76		1.214E+02	3.196E+02	4.799E+02	3.150E+01	0.253
		439.47		3.771E+01	2.351E+02	3.860E+02	2.595E+01	0.098
		484.57		2.909E+02	3.766E+02	6.414E+02	4.202E+01	0.453
		520.65	*	-5.134E+00	1.810E+01	2.843E+01	1.803E+00	-0.181
		574.64		-1.299E+02	3.439E+02	5.647E+02	3.342E+01	-0.230
		578.91		1.607E+01	1.633E+02	2.421E+02	1.423E+01	0.066
		585.48		7.367E+02	3.369E+02	5.787E+02	3.366E+01	1.273
		755.35		1.223E+02	2.878E+02	4.917E+02	3.322E+01	0.249
		817.79		-1.195E+02	2.242E+02	3.504E+02	2.853E+01	-0.341
SR-82		698.33		8.136E-01	3.400E+01	5.667E+01	3.180E+00	0.014
		776.49	*	-4.241E-01	3.950E-01	5.893E-01	4.248E-02	-0.720
		1395.20		-8.750E+00	1.218E+01	1.830E+01	1.567E+00	-0.478
RB-83		520.41	*	-2.537E-02	6.571E-02	1.023E-01	6.492E-03	-0.248
		529.64		8.818E-02	9.678E-02	1.659E-01	1.043E-02	0.531
		552.65		5.721E-02	1.706E-01	2.806E-01	1.714E-02	0.204
RB-84		881.50	*	2.910E-03	7.489E-02	1.229E-01	1.192E-02	0.024
KR-85		513.99	*	6.884E+00	7.081E+00	1.087E+01	6.941E-01	0.634
SR-85		513.99	*	3.608E-02	3.711E-02	5.695E-02	3.638E-03	0.634
RB-86		1076.63	*	-1.260E-01	9.025E-01	1.434E+00	1.138E-01	-0.088
Y-88		898.02		2.142E-02	4.239E-02	7.214E-02	7.329E-03	0.297
		1836.01	*	1.027E-02	2.860E-02	4.986E-02	3.059E-03	0.206
ZR-88		392.90	*	1.911E-02	2.823E-02	4.808E-02	3.267E-03	0.398
Y-91		1204.90	*	-8.220E+00	2.231E+01	3.630E+01	2.411E+00	-0.226
NB-94		702.63	*	-1.868E-02	3.071E-02	4.870E-02	2.773E-03	-0.384
		871.10		2.385E-02	3.044E-02	5.338E-02	5.035E-03	0.447
NB-95M		235.69	*	3.258E-01	1.337E-01	2.199E-01	1.706E-02	1.481
ZR-95		724.18		2.234E-01	1.137E-01	1.906E-01	1.359E-02	1.172
		756.15	*	5.728E-02	6.879E-02	1.208E-01	9.489E-03	0.474
NB-97		657.90	*	2.178E-01	6.879E-02	Half-Life	too short	
		1024.50		6.085E+00	6.879E-02	Half-Life	too short	
ZR-97		254.15		-5.057E+00	6.879E-02	Half-Life	too short	
		355.39		-3.705E+00	6.879E-02	Half-Life	too short	
		507.63	*	3.647E+01	6.879E-02	Half-Life	too short	
		602.52		4.892E+01	6.879E-02	Half-Life	too short	
		1021.30		3.532E-01	6.879E-02	Half-Life	too short	
		1147.95		-2.540E+01	6.879E-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
MO-99	1362.66			3.972E+01	6.879E-02	Half-Life too short		
	1750.46			-3.939E+00	6.879E-02	Half-Life too short		
	140.51			6.268E+00	4.310E+01	6.920E+01	1.868E+01	0.091
	181.06			-6.801E-01	3.009E+01	4.241E+01	7.240E+00	-0.016
	366.43			-7.950E+01	1.274E+02	2.009E+02	1.360E+01	-0.396
	739.58	*		1.363E+01	1.764E+01	3.087E+01	4.340E+00	0.441
TC-99M	778.00			-7.136E+00	5.358E+01	8.692E+01	6.296E+00	-0.082
	140.51	*		1.733E+12	5.358E+01	Half-Life too short		
	127.23			4.419E-02	3.590E-02	4.895E-02	3.129E-03	0.903
RH-101	198.01	*		-3.624E-03	3.181E-02	4.938E-02	2.836E-03	-0.073
RH-102	325.23			-1.157E-01	2.046E-01	3.282E-01	2.185E-02	-0.353
	418.52			2.090E-02	2.555E-01	4.185E-01	2.833E-02	0.050
	475.06	*		1.835E-03	2.568E-02	4.171E-02	2.751E-03	0.044
	631.29			4.232E-02	4.637E-02	8.294E-02	4.413E-03	0.510
	697.49			-4.273E-03	7.174E-02	1.189E-01	6.650E-03	-0.036
RU-103	766.84			2.142E-01	1.548E-01	1.995E-01	1.396E-02	1.074
	1046.59			-8.335E-02	1.228E-01	1.866E-01	1.567E-02	-0.447
	1112.84			-1.477E-01	2.920E-01	3.774E-01	2.763E-02	-0.391
	497.08	*		-2.573E-02	4.095E-02	6.269E-02	8.134E-03	-0.410
RH-106	610.33			1.124E+01	2.312E+00	2.550E+00	3.909E-01	4.408
RU-106	511.85			4.055E-01	3.191E-01	3.509E-01	2.246E-02	1.156
	621.84	*		1.892E-01	2.836E-01	4.970E-01	5.745E-02	0.381
	1050.47			1.684E+00	2.455E+00	4.198E+00	3.502E-01	0.401
AG-108M	511.85			4.055E-01	3.191E-01	3.509E-01	2.246E-02	1.156
	621.84	*		1.892E-01	2.830E-01	4.970E-01	2.699E-02	0.381
	1050.47			1.684E+00	2.455E+00	4.198E+00	3.502E-01	0.401
AG-110M	433.93	*		-2.907E-03	3.034E-02	4.899E-02	3.513E-03	-0.059
	614.37			1.247E-02	3.599E-02	5.454E-02	3.289E-03	0.229
	722.95			3.072E-02	4.505E-02	6.938E-02	4.551E-03	0.443
IN-111	657.75	*		7.802E-03	2.948E-02	5.027E-02	2.723E-03	0.155
	677.61			5.853E-02	2.851E-01	4.825E-01	2.709E-02	0.121
	706.67			9.722E-02	2.001E-01	3.440E-01	2.105E-02	0.283
	763.93			1.487E-01	1.750E-01	2.734E-01	1.979E-02	0.544
	884.67			1.879E-03	4.966E-02	8.148E-02	8.167E-03	0.023
IN-113M	937.48			-1.879E-01	1.206E-01	1.663E-01	1.669E-02	-1.130
	1384.27			4.969E-02	1.735E-01	2.596E-01	2.292E-02	0.191
	171.28			-1.817E-01	1.548E+00	2.453E+00	1.349E-01	-0.074
SN-113	245.39	*		1.143E+00	1.701E+00	2.628E+00	1.623E-01	0.435
IN-114M	391.69	*		-5.594E-03	4.263E-02	6.918E-02	4.933E-03	-0.081
CD-115	391.69	*		-5.594E-03	4.263E-02	6.918E-02	4.933E-03	-0.081
SN-117M	190.27	*		5.605E-02	1.827E-01	2.797E-01	1.586E-02	0.200
	260.90			-2.144E+02	2.252E+02	3.593E+02	2.262E+01	-0.597
	492.35			6.148E+01	6.464E+01	1.111E+02	7.235E+00	0.553
SB-122	527.90	*		1.940E+00	1.921E+01	3.105E+01	1.955E+00	0.062
	156.02			-3.043E-02	2.463E+00	3.506E+00	1.985E-01	-0.009
	158.56	*		4.619E-02	5.881E-02	8.780E-02	4.924E-03	0.526
I-123	563.90	*		9.270E-01	3.335E+00	5.437E+00	3.270E-01	0.170
	692.80			3.798E+01	6.849E+01	1.185E+02	6.526E+00	0.320
	159.00	*		2.446E+01	6.849E+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
		528.96		2.650E+03	6.849E+01	Half-Life too short		
TE-123M		159.00	*	8.660E-03	2.637E-02	4.083E-02	2.319E-03	0.212
I-124		602.71	*	8.519E-01	9.036E-01	1.444E+00	8.148E-02	0.590
		722.78		4.090E+00	6.622E+00	1.014E+01	6.175E-01	0.403
		1325.50		-1.128E+01	5.174E+01	8.387E+01	7.190E+00	-0.134
	+	1376.25		6.122E+01	6.999E+01	8.824E+01	7.593E+00	0.694
		1509.49		-3.300E+00	2.330E+01	3.753E+01	3.069E+00	-0.088
		1691.02		-2.781E+00	4.687E+00	6.620E+00	4.761E-01	-0.420
SB-124		602.71		3.587E-02	3.804E-02	6.080E-02	3.432E-03	0.590
		645.85		1.546E-01	4.955E-01	8.466E-01	5.052E-02	0.183
		709.31		1.405E+00	2.632E+00	4.544E+00	2.646E-01	0.309
		713.82		-3.273E-01	1.487E+00	2.426E+00	2.492E-01	-0.135
		722.78		2.496E-01	4.042E-01	6.190E-01	3.930E-02	0.403
	+	968.20		1.431E+01	6.095E+00	7.694E+00	7.253E-01	1.860
		1045.16		-2.792E+00	2.682E+00	3.876E+00	3.264E-01	-0.720
		1325.50		-7.350E-01	3.373E+00	5.466E+00	4.686E-01	-0.134
		1368.21		1.988E-01	1.476E+00	2.383E+00	3.211E-01	0.083
		1436.60		-1.252E+00	3.212E+00	4.959E+00	4.186E-01	-0.253
		1691.02	*	-4.003E-02	6.747E-02	9.529E-02	7.240E-03	-0.420
SB-125		427.89	*	8.828E-03	8.341E-02	1.367E-01	9.516E-03	0.065
	+	463.38		8.240E-01	4.825E-01	5.379E-01	4.034E-02	1.532
		600.56		-1.141E-03	1.583E-01	2.660E-01	1.753E-02	-0.004
		635.90		-1.502E-01	2.387E-01	3.799E-01	2.409E-02	-0.395
TE-125M		109.28	*	5.640E+00	9.035E+00	1.506E+01	1.446E+00	0.375
I-126		388.63		1.298E-01	2.100E-01	3.563E-01	2.421E-02	0.364
		666.33	*	5.495E-02	1.986E-01	3.375E-01	1.693E-02	0.163
		753.82		2.602E-01	1.555E+00	2.608E+00	1.753E-01	0.100
SB-126		223.80		-1.218E+00	4.128E+00	6.888E+00	4.124E-01	-0.177
		278.60		8.815E-01	2.440E+00	4.143E+00	2.659E-01	0.213
	+	296.50		1.604E+01	2.582E+00	3.365E+00	2.195E-01	4.768
		414.70		3.241E-02	7.387E-02	1.239E-01	8.395E-03	0.262
		415.30		2.787E+00	6.167E+00	1.035E+01	7.013E-01	0.269
		555.20		-4.533E+00	4.042E+00	5.810E+00	3.537E-01	-0.780
		573.80		-5.663E-01	1.033E+00	1.674E+00	9.923E-02	-0.338
		593.00		-2.811E-02	9.263E-01	1.555E+00	8.930E-02	-0.018
		656.30		1.062E-01	3.209E+00	5.376E+00	2.691E-01	0.020
		666.33		2.307E-02	8.337E-02	1.417E-01	7.109E-03	0.163
		675.00		-3.380E-01	2.105E+00	3.470E+00	1.795E-01	-0.097
		695.00		4.878E-02	8.248E-02	1.429E-01	7.927E-03	0.341
		697.00		7.874E-03	2.839E-01	4.734E-01	2.644E-02	0.017
		720.50	*	-3.612E-02	1.688E-01	2.596E-01	1.569E-02	-0.139
		856.80		1.674E-01	6.011E-01	8.805E-01	7.992E-02	0.190
		989.30		-4.231E-01	1.491E+00	2.354E+00	2.161E-01	-0.180
		1034.80		-4.872E+00	1.083E+01	1.676E+01	1.436E+00	-0.291
		1213.00		1.939E+00	5.864E+00	1.002E+01	6.778E-01	0.194
SB-127		61.10		-2.347E+01	1.243E+02	1.834E+02	2.672E+01	-0.128
		252.40		2.219E+00	5.788E+00	9.759E+00	4.078E+00	0.227
		290.80		6.107E+00	2.978E+01	4.429E+01	4.586E+00	0.138
		411.60		-5.480E+00	1.613E+01	2.570E+01	3.929E+00	-0.213

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	444.90			-2.629E+00	1.248E+01	1.993E+01	2.379E+00	-0.132
	473.00			-1.552E+00	2.311E+00	3.541E+00	4.332E-01	-0.438
	543.00			1.162E+01	2.194E+01	3.650E+01	4.978E+00	0.318
	603.60			1.082E+01	1.649E+01	2.562E+01	2.906E+00	0.422
	685.20	*		5.120E-01	1.729E+00	2.946E+00	2.929E-01	0.174
	698.50			3.722E+00	2.042E+01	3.440E+01	5.129E+00	0.108
	722.20			3.291E+01	4.635E+01	7.155E+01	7.225E+00	0.460
	783.80			5.818E+00	5.457E+00	9.601E+00	1.172E+00	0.606
XE-127	57.60			1.109E-01	9.336E+00	1.559E+01	1.982E+00	0.007
	145.22			1.360E-02	7.128E-01	1.135E+00	6.691E-02	0.012
	172.10			4.296E-02	1.128E-01	1.828E-01	1.007E-02	0.235
	202.84	*		-2.069E-02	4.431E-02	7.385E-02	4.276E-03	-0.280
	374.96			3.516E-02	1.828E-01	3.035E-01	2.059E-02	0.116
I-131	80.18			1.149E+00	7.498E+00	8.862E+00	9.775E-01	0.130
	284.30			-1.002E+00	1.566E+00	2.520E+00	1.780E-01	-0.397
	364.48	*		7.665E-02	1.269E-01	2.157E-01	1.591E-02	0.355
	636.97			-8.046E-01	1.579E+00	2.536E+00	1.530E-01	-0.317
	722.89			5.979E+00	9.068E+00	1.394E+01	8.630E-01	0.429
TE-132	49.72			3.277E+01	6.234E+01	1.063E+02	1.564E+01	0.308
	111.76			-1.209E+01	4.523E+01	7.278E+01	7.712E+00	-0.166
	116.30			-3.306E+01	4.086E+01	6.343E+01	6.535E+00	-0.521
	228.16	*		3.270E-01	9.818E-01	1.677E+00	2.498E-01	0.195
BA-133	53.15			5.557E-01	6.227E+00	1.046E+01	1.385E+00	0.053
	79.62			1.829E-01	1.761E+00	2.074E+00	3.456E-01	0.088
	81.00			-1.011E-02	1.160E-01	1.555E-01	2.687E-02	-0.065
	276.40			3.726E-01	3.603E-01	5.859E-01	7.761E-02	0.636
	302.84			7.493E-02	1.399E-01	2.120E-01	2.556E-02	0.353
	356.01	*		-4.285E-03	4.410E-02	6.315E-02	7.619E-03	-0.068
	383.85			-2.445E-01	2.884E-01	4.459E-01	5.097E-02	-0.548
I-133	510.53	+		4.376E+00	2.884E-01	Half-Life	too short	
	529.87	*		2.366E-02	2.884E-01	Half-Life	too short	
	706.58			1.030E+00	2.884E-01	Half-Life	too short	
	856.28			4.630E-01	2.884E-01	Half-Life	too short	
	875.33			-5.670E-01	2.884E-01	Half-Life	too short	
	1236.41			4.282E+00	2.884E-01	Half-Life	too short	
	1298.22			-1.199E+00	2.884E-01	Half-Life	too short	
CS-134	475.35			-7.088E-02	1.722E+00	2.773E+00	1.829E-01	-0.026
	563.23			1.054E-01	3.392E-01	5.544E-01	3.403E-02	0.190
	569.32			4.727E-02	1.855E-01	3.018E-01	1.851E-02	0.157
	604.70			4.038E-03	3.262E-02	4.832E-02	2.732E-03	0.084
	795.84	+	*	1.039E-01	6.379E-02	8.387E-02	6.465E-03	1.239
	801.93			-2.375E-01	4.091E-01	5.896E-01	4.617E-02	-0.403
	1038.57			3.078E+00	4.075E+00	7.016E+00	5.975E-01	0.439
	1167.94			-1.692E+00	2.608E+00	4.136E+00	2.595E-01	-0.409
	1365.15			-1.410E+00	1.121E+00	1.504E+00	1.357E-01	-0.937
I-135	288.45			3.832E+12	1.121E+00	Half-Life	too short	
	417.63			-5.511E+11	1.121E+00	Half-Life	too short	
	546.56			7.030E+11	1.121E+00	Half-Life	too short	
	836.80			3.111E+12	1.121E+00	Half-Life	too short	

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	1038.76			3.023E+12	1.121E+00	Half-Life	too short	
	1124.00			-5.364E+12	1.121E+00	Half-Life	too short	
	1131.51			-1.829E+12	1.121E+00	Half-Life	too short	
	1260.41	*		-5.230E+11	1.121E+00	Half-Life	too short	
	+ 1457.56			3.163E+14	1.121E+00	Half-Life	too short	
	1678.03			1.598E+12	1.121E+00	Half-Life	too short	
	1706.46			1.532E+12	1.121E+00	Half-Life	too short	
	1791.20			8.300E+11	1.121E+00	Half-Life	too short	
CS-136	66.91			3.036E-01	1.134E+00	1.708E+00	2.926E-01	0.178
	+ 86.29			4.699E+00	1.748E+00	2.247E+00	3.311E-01	2.091
	+ 153.22			1.436E+00	1.084E+00	1.148E+00	8.226E-02	1.250
	163.89			5.812E-01	1.091E+00	1.784E+00	1.252E-01	0.326
	176.55			5.701E-02	3.861E-01	6.184E-01	3.893E-02	0.092
	273.65			-5.004E-01	5.099E-01	6.983E-01	4.984E-02	-0.717
	340.57			9.601E-02	1.446E-01	2.194E-01	1.543E-02	0.438
	818.51			-4.768E-02	7.530E-02	1.164E-01	9.507E-03	-0.410
	1048.07	*		-3.270E-02	1.292E-01	2.050E-01	1.795E-02	-0.160
	1235.34			8.437E-01	7.514E-01	1.333E+00	1.440E-01	0.633
BA-137M	661.65	*		-1.343E-02	3.292E-02	5.334E-02	2.632E-03	-0.252
CS-137	661.65	*		-1.420E-02	3.480E-02	5.639E-02	2.798E-03	-0.252
CE-139	165.85	*		1.060E-02	2.814E-02	4.567E-02	2.495E-03	0.232
BA-140	162.64			-2.021E-01	7.602E-01	1.199E+00	7.532E-02	-0.169
	304.84			7.812E-01	1.339E+00	2.020E+00	5.547E-01	0.387
	423.70			1.327E+00	1.982E+00	3.293E+00	1.053E+00	0.403
LA-140	537.32	*		3.073E-02	2.662E-01	4.300E-01	1.402E-01	0.071
	328.77			2.417E-01	3.039E-01	5.221E-01	3.803E-02	0.463
	432.53			5.385E-01	2.136E+00	3.531E+00	2.567E-01	0.153
	487.03			-2.962E-03	1.464E-01	2.358E-01	1.704E-02	-0.013
	751.79			-3.187E-01	1.729E+00	2.819E+00	2.208E-01	-0.113
	815.85			-1.965E-01	3.277E-01	5.084E-01	4.649E-02	-0.387
	867.82			-8.704E-01	1.451E+00	2.238E+00	2.187E-01	-0.389
	919.63			-1.500E-01	2.986E+00	4.846E+00	5.686E-01	-0.031
	925.24			-1.311E+00	1.157E+00	1.644E+00	1.703E-01	-0.797
	1596.49	*		3.064E-02	7.915E-02	1.231E-01	9.549E-03	0.249
CE-141	145.44	*		-1.842E-03	6.360E-02	1.021E-01	6.247E-03	-0.018
CE-143	57.37			7.627E-04	6.360E-02	Half-Life	too short	
	231.56			-4.017E-03	6.360E-02	Half-Life	too short	
	+ 293.26	*		3.915E-03	6.360E-02	Half-Life	too short	
	+ 350.59			8.258E-02	6.360E-02	Half-Life	too short	
	490.36			-5.452E-03	6.360E-02	Half-Life	too short	
	664.57			5.673E-04	6.360E-02	Half-Life	too short	
	721.93			4.502E-03	6.360E-02	Half-Life	too short	
CE-144	80.11			6.484E-01	2.882E+00	3.424E+00	3.758E-01	0.189
	133.54	*		4.561E-02	1.931E-01	3.144E-01	4.518E-02	0.145
PM-144	476.78			-2.321E-02	6.062E-02	9.503E-02	7.236E-03	-0.244
	618.01			-1.215E-03	2.899E-02	4.849E-02	2.834E-03	-0.025
	696.49	*		-6.879E-04	3.263E-02	5.423E-02	3.027E-03	-0.013
	778.57			-1.494E+00	2.201E+00	3.403E+00	2.470E-01	-0.439
PR-144	696.49	*		-4.667E-02	2.214E+00	3.679E+00	2.051E-01	-0.013

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

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PM-146		1489.15		-1.320E+01	1.207E+01	1.642E+01	1.356E+00	-0.804
		453.90	*	4.983E-04	3.907E-02	6.338E-02	5.854E-03	0.008
		633.02		5.926E-01	1.222E+00	2.088E+00	7.673E-01	0.284
		735.90		-1.340E-02	1.287E-01	2.114E-01	5.920E-02	-0.063
ND-147	+	747.13		3.777E-02	7.927E-02	1.363E-01	1.757E-02	0.277
		91.11		9.882E-01	3.852E-01	5.748E-01	6.408E-02	1.719
		319.41		2.168E+00	3.359E+00	5.755E+00	3.820E-01	0.377
		439.89		1.808E+00	5.940E+00	9.848E+00	6.623E-01	0.184
PM-149		531.02	*	1.524E-01	5.846E-01	9.559E-01	1.313E-01	0.159
		285.90	*	-5.009E+01	1.564E+02	2.561E+02	3.705E+01	-0.196
		121.78		-1.271E-07	6.918E-02	1.121E-01	9.239E-03	0.000
		244.69		2.722E-01	3.119E-01	4.876E-01	3.008E-02	0.558
EU-152		344.27	*	-6.955E-02	9.884E-02	1.434E-01	1.057E-02	-0.485
		443.98		-3.133E-01	8.584E-01	1.356E+00	9.101E-02	-0.231
		778.89		-2.138E-01	2.564E-01	3.910E-01	2.839E-02	-0.547
		867.32		-5.085E-01	7.750E-01	1.188E+00	1.109E-01	-0.428
GD-153		964.01		2.312E-01	3.832E-01	5.718E-01	5.417E-02	0.404
		1085.78		7.491E-02	4.203E-01	6.876E-01	5.353E-02	0.109
		1112.02		-3.161E-02	3.950E-01	5.407E-01	3.966E-02	-0.058
		1407.95		1.151E-01	1.894E-01	3.336E-01	2.844E-02	0.345
EU-154	+	69.67		2.220E-01	2.132E+00	3.182E+00	3.549E-01	0.070
		83.37		1.989E+01	1.647E+01	2.571E+01	2.849E+00	0.774
		97.43	*	4.754E-02	8.521E-02	1.281E-01	1.193E-02	0.371
		103.18		-9.738E-02	1.008E-01	1.574E-01	1.330E-02	-0.619
EU-155		123.07		1.986E-02	4.883E-02	8.037E-02	7.943E-03	0.247
		247.94		-2.408E-01	3.371E-01	5.266E-01	5.154E-02	-0.457
		591.81		1.158E-01	5.624E-01	9.594E-01	9.351E-02	0.121
		723.30		1.255E-01	1.950E-01	2.986E-01	2.188E-02	0.420
TB-160		756.87		1.781E-01	7.329E-01	1.235E+00	1.326E-01	0.144
		873.19		-1.307E-01	2.809E-01	4.388E-01	5.646E-02	-0.298
		996.32		-2.160E-01	3.965E-01	6.083E-01	1.095E-01	-0.355
		1004.76		-6.407E-02	2.065E-01	3.239E-01	3.858E-02	-0.198
HO-166M		1274.45	*	-9.972E-02	1.262E-01	1.936E-01	2.062E-02	-0.515
		48.70		4.953E+00	5.236E+00	9.038E+00	1.086E+00	0.548
		60.01		4.132E-01	7.454E+00	1.118E+01	1.377E+00	0.037
		86.54		3.888E-01	1.398E-01	1.864E-01	2.110E-02	2.086
TB-160	+	105.31	*	7.354E-02	1.016E-01	1.703E-01	1.412E-02	0.432
		86.79		1.059E+00	3.806E-01	5.072E-01	5.714E-02	2.087
		197.04		-3.570E-01	5.601E-01	8.475E-01	4.861E-02	-0.421
		215.65		4.854E-01	6.585E-01	1.147E+00	6.780E-02	0.423
HO-166M	+	298.57		2.864E-01	1.602E-01	1.845E-01	1.206E-02	1.552
		879.36	*	1.105E-01	1.388E-01	2.421E-01	2.335E-02	0.456
		962.29		3.241E-01	7.071E-01	1.043E+00	9.901E-02	0.311
		966.15		1.150E+00	3.623E-01	5.996E-01	5.666E-02	1.917
HO-166M		1177.93		-1.352E-01	3.952E-01	6.423E-01	4.006E-02	-0.211
		1271.85		3.279E-01	7.153E-01	1.240E+00	9.540E-02	0.264
		80.57		5.195E-02	3.675E-01	4.339E-01	4.766E-02	0.120
		184.41		1.114E-01	5.151E-02	6.292E-02	3.533E-03	1.771
		280.46		-3.677E-02	7.579E-02	1.234E-01	7.934E-03	-0.298

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TM-171		410.95		7.479E-02	2.185E-01	3.641E-01	2.469E-02	0.205
		711.68	*	-6.394E-02	5.642E-02	8.513E-02	4.996E-03	-0.751
		752.31		9.655E-02	2.439E-01	4.167E-01	2.789E-02	0.232
		810.29		-6.269E-03	5.447E-02	8.877E-02	7.072E-03	-0.071
		51.35		1.303E+01	5.799E+01	9.795E+01	1.288E+01	0.133
		52.39		-3.885E-01	2.862E+01	4.790E+01	6.344E+00	-0.008
		59.40		6.369E+00	4.079E+01	6.149E+01	7.638E+00	0.104
LU-176		66.72	*	1.997E+01	3.659E+01	5.578E+01	6.354E+00	0.358
	+	88.36		5.970E-01	2.317E-01	3.599E-01	4.048E-02	1.659
		201.83		-1.603E-02	2.575E-02	4.264E-02	2.465E-03	-0.376
		306.84	*	-9.887E-03	2.094E-02	3.381E-02	2.224E-03	-0.292
LU-177		401.10		-5.629E-01	5.889E+00	9.561E+00	6.493E-01	-0.059
		112.95		1.689E+00	1.905E+00	3.202E+00	2.357E-01	0.528
LU-177M	+	208.36	*	3.090E+00	1.794E+00	2.326E+00	1.359E-01	1.329
		52.97		-9.478E-01	2.912E+00	4.810E+00	6.372E-01	-0.197
		54.07		-3.334E-01	1.434E+00	2.375E+00	3.133E-01	-0.140
	+	61.30		3.757E+00	2.336E+00	3.280E+00	3.968E-01	1.145
		121.62		-5.665E-02	3.620E-01	5.827E-01	3.856E-02	-0.097
		147.16		-2.488E-01	6.261E-01	9.882E-01	5.784E-02	-0.252
		171.86		-7.816E-02	4.482E-01	7.081E-01	3.898E-02	-0.110
		218.09		-7.327E-01	7.611E-01	1.233E+00	7.318E-02	-0.594
	+	268.79		2.539E+00	1.122E+00	1.395E+00	8.863E-02	1.820
		319.02		1.582E-01	2.291E-01	3.937E-01	2.611E-02	0.402
		367.43		-8.311E-01	8.082E-01	1.235E+00	8.367E-02	-0.673
		413.65	*	-4.128E-02	1.584E-01	2.537E-01	1.719E-02	-0.163
		56.28		3.493E-01	1.508E+00	2.540E+00	3.281E-01	0.138
	+	57.53		1.161E-01	7.792E-01	1.308E+00	1.664E-01	0.089
HF-181		65.20		2.788E+00	1.734E+00	1.877E+00	2.169E-01	1.485
		133.02		3.190E-02	6.678E-02	1.049E-01	6.513E-03	0.304
		136.25		-4.697E-02	4.447E-01	7.135E-01	4.367E-02	-0.066
		345.85		-1.152E-01	2.030E-01	2.797E-01	1.881E-02	-0.412
W-181		482.03	*	-5.190E-03	3.883E-02	6.203E-02	4.071E-03	-0.084
		56.28		1.336E-01	5.771E-01	9.721E-01	1.256E-01	0.137
		57.53		4.455E-02	2.986E-01	5.011E-01	6.377E-02	0.089
TA-182	+	65.20	*	1.060E+00	6.590E-01	7.136E-01	8.245E-02	1.485
		67.75		1.617E-02	1.307E-01	2.179E-01	2.461E-02	0.074
		100.10		-4.038E-03	1.775E-01	2.899E-01	2.576E-02	-0.014
	+	152.43		6.685E-01	5.039E-01	5.106E-01	2.929E-02	1.309
		222.10		-8.617E-02	3.112E-01	5.196E-01	3.103E-02	-0.166
		1001.68		1.670E+00	2.051E+00	3.553E+00	3.205E-01	0.470
		1121.28		2.245E-01	1.794E-01	3.136E-01	2.248E-02	0.716
		1189.05		4.729E-02	3.141E-01	5.316E-01	3.404E-02	0.089
		1221.42	*	-1.454E-03	2.207E-01	3.682E-01	2.539E-02	-0.004
		1230.97		-2.510E-01	5.653E-01	9.144E-01	6.441E-02	-0.274
RE-183		57.98		-9.253E-03	2.976E-01	4.960E-01	6.275E-02	-0.019
		59.32		2.039E-02	1.711E-01	2.575E-01	3.202E-02	0.079
		67.20		1.242E-01	2.472E-01	3.991E-01	4.528E-02	0.311
		162.32	*	-4.021E-02	1.022E-01	1.603E-01	8.864E-03	-0.251
	+	208.81		2.286E+00	1.327E+00	1.728E+00	1.010E-01	1.323

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-184	291.72		-1.784E-01	9.227E-01	1.332E+00	8.656E-02	-0.134
	57.98		-3.368E-02	1.083E+00	1.806E+00	2.285E-01	-0.019
	59.32		7.415E-02	6.224E-01	9.365E-01	1.165E-01	0.079
	67.20		4.521E-01	8.997E-01	1.452E+00	1.648E-01	0.311
	161.27		-7.448E-02	3.195E-01	5.051E-01	2.805E-02	-0.147
	216.55		1.117E-01	2.370E-01	4.084E-01	2.418E-02	0.273
	252.85	*	1.132E-01	2.125E-01	3.651E-01	2.276E-02	0.310
	318.01		-6.005E-02	4.117E-01	6.767E-01	4.486E-02	-0.089
	792.07		1.004E+00	1.174E+00	1.821E+00	1.375E-01	0.551
	903.28		-1.615E-01	1.130E+00	1.565E+00	1.577E-01	-0.103
OS-185	920.93		2.557E-01	4.173E-01	7.191E-01	7.132E-02	0.356
	59.72		1.454E-01	4.512E-01	6.851E-01	8.473E-02	0.212
	61.14		-4.647E-02	2.462E-01	3.633E-01	4.404E-02	-0.128
	69.30		4.141E-02	3.863E-01	5.769E-01	6.449E-02	0.072
	592.07		1.601E-01	2.306E+00	3.898E+00	2.242E-01	0.041
	646.12	*	8.261E-04	4.194E-02	7.025E-02	3.609E-03	0.012
	717.42		5.944E-01	8.502E-01	1.484E+00	8.877E-02	0.401
	874.81		-5.059E-01	5.722E-01	8.549E-01	8.144E-02	-0.592
	880.27		1.876E-01	7.978E-01	1.331E+00	1.287E-01	0.141
	63.58	+	1.431E+02	8.897E+01	1.170E+02	1.375E+01	1.223
W-188	227.08		1.069E+01	1.186E+01	2.072E+01	1.247E+00	0.516
	290.67	*	5.041E-01	7.344E+00	1.081E+01	7.021E-01	0.047
IR-192	295.96	+	1.115E+00	1.798E-01	2.617E-01	1.728E-02	4.260
	308.46		-6.825E-02	8.396E-02	1.309E-01	8.701E-03	-0.521
	316.51	*	-9.194E-03	3.124E-02	5.091E-02	3.384E-03	-0.181
	468.07		4.591E-02	6.981E-02	1.049E-01	7.776E-03	0.438
AU-195	604.41		1.246E-01	4.536E-01	6.815E-01	7.675E-02	0.183
	612.46		-1.076E-01	6.553E-01	9.407E-01	6.936E-02	-0.114
	65.12	+	4.877E-01	3.032E-01	3.316E-01	3.834E-02	1.471
	66.83		3.104E-02	1.231E-01	1.854E-01	2.110E-02	0.167
	75.70	+	1.890E+00	3.086E-01	5.189E-01	5.676E-02	3.643
	98.88	*	1.528E-01	2.223E-01	3.725E-01	3.380E-02	0.410
TL-200	129.76	+	3.921E+00	3.185E+00	4.565E+00	2.880E-01	0.859
	367.94	*	-4.221E-04	3.185E+00	Half-Life	too short	
	579.30		8.495E-03	3.185E+00	Half-Life	too short	
	828.27		1.765E-02	3.185E+00	Half-Life	too short	
TL-201	1205.75		1.575E-03	3.185E+00	Half-Life	too short	
	68.90		3.819E+00	9.178E+00	1.475E+01	1.653E+00	0.259
	70.82		4.091E+00	5.326E+00	8.160E+00	9.046E-01	0.501
	80.30		1.625E+00	1.097E+01	1.295E+01	1.422E+00	0.125
TL-202	135.34		-2.444E+01	3.819E+01	5.982E+01	3.676E+00	-0.409
	167.43	*	4.703E-01	1.027E+01	1.643E+01	8.984E-01	0.029
	68.90		2.402E-01	5.774E-01	9.281E-01	1.040E-01	0.259
	70.82		2.567E-01	3.341E-01	5.120E-01	5.675E-02	0.501
HG-203	80.30		1.020E-01	6.882E-01	8.130E-01	8.925E-02	0.125
	439.56	*	1.412E-02	6.950E-02	1.145E-01	7.696E-03	0.123
	70.83		1.031E+00	1.332E+00	2.034E+00	3.109E-01	0.507
	72.87	+	4.286E+00	1.172E+00	1.280E+00	1.903E-01	3.348
	82.60	+	1.516E+00	1.266E+00	1.953E+00	3.005E-01	0.776

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BI-207		279.20	*	2.688E-04	3.753E-02	6.267E-02	4.229E-03	0.004
	+	72.80		1.218E+00	3.099E-01	3.579E-01	3.937E-02	3.403
	+	74.97		7.215E-01	1.836E-01	2.550E-01	2.791E-02	2.830
	+	84.90		2.558E-01	2.117E-01	3.275E-01	3.654E-02	0.781
		569.67		3.813E-03	2.862E-02	4.614E-02	2.752E-03	0.083
TL-207		1063.62	*	-2.543E-02	5.392E-02	8.286E-02	6.745E-03	-0.307
		1770.23		-4.822E-01	4.170E-01	4.892E-01	3.246E-02	-0.986
		81.07		-2.604E-02	2.556E-01	3.423E-01	3.765E-02	-0.076
	+	83.78		1.686E-01	1.396E-01	2.134E-01	2.369E-02	0.790
		94.90		5.597E-02	2.468E-01	3.654E-01	3.568E-02	0.153
		122.32		4.752E-02	1.678E+00	2.721E+00	2.009E-01	0.017
		144.24		1.196E-01	6.790E-01	1.088E+00	7.975E-02	0.110
	+	154.21		7.739E-01	5.842E-01	6.216E-01	4.308E-02	1.245
	+	269.46		5.891E-01	2.606E-01	3.275E-01	2.161E-02	1.799
		323.87	*	-1.046E+00	6.249E-01	8.947E-01	1.506E-01	-1.169
	+	338.28		6.603E+00	1.618E+00	2.382E+00	2.633E-01	2.772
PO-209		445.03		-4.024E-01	1.996E+00	3.191E+00	3.448E-01	-0.126
		260.50		-4.575E+00	8.588E+00	1.401E+01	8.818E-01	-0.327
		262.80		6.153E+00	2.404E+01	4.074E+01	2.571E+00	0.151
		896.60	*	3.435E+00	7.541E+00	1.279E+01	1.290E+00	0.269
		46.50	*	5.090E+00	8.293E+00	1.423E+01	1.396E+00	0.358
BI-210		46.50	*	5.090E+00	8.293E+00	1.423E+01	1.396E+00	0.358
PB-210		46.50	*	5.090E+00	8.290E+00	1.423E+01	1.277E+00	0.358
PB-211		404.84	*	-2.476E-01	8.536E-01	1.345E+00	8.395E-01	-0.184
		427.08		-5.241E-01	1.953E+00	3.077E+00	1.905E+00	-0.170
		831.96		1.394E-01	1.224E+00	2.023E+00	1.267E+00	0.069
BI-212	+	727.18	*	1.018E+00	3.930E-01	6.199E-01	4.959E-02	1.641
		785.46		1.916E+00	1.826E+00	3.225E+00	2.388E-01	0.594
PO-215		1620.62		1.602E+00	1.196E+00	2.328E+00	1.775E-01	0.688
		81.07		-2.604E-02	2.556E-01	3.423E-01	3.765E-02	-0.076
	+	83.78		1.686E-01	1.396E-01	2.134E-01	2.369E-02	0.790
		94.90		5.597E-02	2.468E-01	3.654E-01	3.568E-02	0.153
		122.32		4.752E-02	1.678E+00	2.721E+00	2.009E-01	0.017
		144.24		1.196E-01	6.790E-01	1.088E+00	7.975E-02	0.110
	+	154.21		7.739E-01	5.842E-01	6.216E-01	4.308E-02	1.245
	+	269.46		5.891E-01	2.606E-01	3.275E-01	2.161E-02	1.799
		323.87	*	-1.046E+00	6.249E-01	8.947E-01	1.506E-01	-1.169
	+	338.28		6.603E+00	1.618E+00	2.382E+00	2.633E-01	2.772
		445.03		-4.024E-01	1.996E+00	3.191E+00	3.448E-01	-0.126
RN-219	+	271.23		7.558E-01	3.368E-01	4.049E-01	3.451E-02	1.866
		401.81	*	-5.824E-02	3.707E-01	5.993E-01	8.424E-02	-0.097
RN-220		549.76	*	-9.240E+00	2.297E+01	3.544E+01	2.173E+00	-0.261
RA-223		81.07		-2.604E-02	2.556E-01	3.423E-01	3.765E-02	-0.076
	+	83.78		1.686E-01	1.396E-01	2.134E-01	2.369E-02	0.790
		94.90		5.597E-02	2.468E-01	3.654E-01	3.568E-02	0.153
		122.32		4.752E-02	1.678E+00	2.721E+00	2.009E-01	0.017
		144.24		1.196E-01	6.790E-01	1.088E+00	7.975E-02	0.110
	+	154.21		7.739E-01	5.842E-01	6.216E-01	4.308E-02	1.245
	+	269.46		5.891E-01	2.606E-01	3.275E-01	2.161E-02	1.799

---- 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	*	-1.046E+00	6.249E-01	8.947E-01	1.506E-01	-1.169
	+	338.28		6.603E+00	1.618E+00	2.382E+00	2.633E-01	2.772
		445.03		-4.024E-01	1.996E+00	3.191E+00	3.448E-01	-0.126
		79.80		3.920E-01	2.225E+00	2.634E+00	5.938E-01	0.149
		236.00		1.132E+00	2.835E-01	4.585E-01	4.869E-02	2.469
		256.20	*	-5.313E-02	3.359E-01	5.589E-01	7.913E-02	-0.095
		286.10		-4.298E-01	1.369E+00	2.243E+00	2.671E-01	-0.192
	+	299.80		3.575E+00	2.073E+00	2.428E+00	4.021E-01	1.473
		304.40		6.630E-01	1.777E+00	2.665E+00	4.682E-01	0.249
		334.20		-1.507E-01	2.430E+00	3.508E+00	6.537E-01	-0.043
TH-227		79.80		3.920E-01	2.225E+00	2.634E+00	6.007E-01	0.149
		94.00		2.120E+00	2.018E+00	3.405E+00	7.605E-01	0.623
		236.00		1.132E+00	2.773E-01	4.585E-01	4.241E-02	2.469
		256.20	*	-5.313E-02	3.359E-01	5.589E-01	9.537E-02	-0.095
		286.10		-4.298E-01	1.434E+00	2.243E+00	2.248E+00	-0.192
	+	299.80		3.575E+00	2.073E+00	2.428E+00	4.021E-01	1.473
		304.40		6.630E-01	1.777E+00	2.665E+00	4.682E-01	0.249
		334.20		-1.507E-01	2.430E+00	3.508E+00	6.537E-01	-0.043
	+	85.43		7.233E-01	2.600E-01	3.277E-01	3.666E-02	2.207
	+	88.47		3.437E-01	1.334E-01	2.066E-01	2.318E-02	1.663
PA-231		100.00		1.641E-03	1.822E-01	2.980E-01	2.653E-02	0.006
		193.63	*	-1.780E-02	4.656E-01	7.356E-01	4.195E-02	-0.024
		210.97		8.881E-01	7.372E-01	1.173E+00	6.883E-02	0.757
		283.67	*	-7.371E-01	1.348E+00	2.178E+00	3.064E-01	-0.338
	+	301.29		1.430E+00	8.096E-01	9.578E-01	1.043E-01	1.493
TH-231		81.07		-2.604E-02	2.556E-01	3.423E-01	3.765E-02	-0.076
	+	83.78		1.686E-01	1.396E-01	2.134E-01	2.369E-02	0.790
		94.90		5.597E-02	2.468E-01	3.654E-01	3.568E-02	0.153
		122.32		4.752E-02	1.678E+00	2.721E+00	2.009E-01	0.017
		144.24		1.196E-01	6.790E-01	1.088E+00	7.975E-02	0.110
	+	154.21		7.739E-01	5.842E-01	6.216E-01	4.308E-02	1.245
	+	269.46		5.891E-01	2.606E-01	3.275E-01	2.161E-02	1.799
		323.87	*	-1.046E+00	6.249E-01	8.947E-01	1.506E-01	-1.169
	+	338.28		6.603E+00	1.618E+00	2.382E+00	2.633E-01	2.772
		445.03		-4.024E-01	1.996E+00	3.191E+00	3.448E-01	-0.126
U-231	+	84.21		1.025E+01	8.485E+00	1.300E+01	1.446E+00	0.788
		92.29		9.326E+00	3.141E+00	5.458E+00	5.618E-01	1.709
		95.87	*	-8.527E-01	1.636E+00	2.326E+00	2.229E-01	-0.367
		108.00		-1.461E+00	2.790E+00	4.445E+00	3.499E-01	-0.329
PA-233	+	75.28		2.105E+01	5.987E+00	7.770E+00	1.302E+00	2.710
	+	86.59		6.314E+00	2.779E+00	3.029E+00	8.414E-01	2.085
	+	300.12		9.967E-01	5.705E-01	6.859E-01	9.449E-02	1.453
		311.98	*	1.051E-02	5.561E-02	9.218E-02	6.379E-03	0.114
		340.50		5.122E-01	6.432E-01	9.689E-01	2.249E-01	0.529
		398.62		3.266E-01	1.800E+00	2.974E+00	7.760E-01	0.110
		415.76		4.258E-01	1.447E+00	2.400E+00	5.012E-01	0.177
PA-234	+	63.00		4.064E+00	2.581E+00	3.529E+00	6.175E-01	1.152
		94.67		2.004E-01	1.765E-01	2.698E-01	3.577E-02	0.743
		98.44		7.139E-02	1.022E-01	1.515E-01	8.464E-02	0.471

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		99.86		2.388E-02	4.624E-01	7.574E-01	6.758E-02	0.032
		111.00		-3.974E-02	1.773E-01	2.858E-01	3.245E-02	-0.139
		131.20		5.549E-02	1.081E-01	1.600E-01	1.002E-02	0.347
	+	152.70		6.351E-01	4.878E-01	4.946E-01	7.806E-02	1.284
	+	186.00		4.011E+00	2.211E+00	2.339E+00	7.138E-01	1.715
		226.40		2.693E-01	3.711E-01	6.423E-01	7.494E-02	0.419
		227.20		1.971E-01	3.968E-01	6.827E-01	4.109E-02	0.289
		248.90		-8.376E-01	7.683E-01	1.189E+00	2.568E-01	-0.704
	+	293.70		6.882E+00	1.514E+00	1.612E+00	2.636E-01	4.268
		369.80		9.114E-02	7.266E-01	1.202E+00	2.539E-01	0.076
		568.70		1.166E-01	9.459E-01	1.523E+00	9.098E-02	0.077
		569.50		4.910E-02	2.550E-01	4.130E-01	2.463E-02	0.119
		574.00		-5.843E-01	1.330E+00	2.174E+00	1.288E-01	-0.269
		699.00		-1.672E-01	6.495E-01	1.059E+00	1.898E-01	-0.158
		706.10		4.971E-01	1.023E+00	1.719E+00	7.587E-01	0.289
		733.00		1.496E-01	3.585E-01	5.405E-01	1.157E-01	0.277
		742.81		-3.711E-01	1.290E+00	2.047E+00	1.371E+00	-0.181
	+	796.30		2.015E+00	1.341E+00	1.554E+00	4.158E-01	1.297
		805.60		5.979E-01	9.691E-01	1.647E+00	5.015E-01	0.363
		819.60		-6.139E-01	1.154E+00	1.766E+00	6.697E-01	-0.348
		826.30		-4.558E-01	8.687E-01	1.327E+00	5.930E-01	-0.343
		831.60		-7.270E-02	6.324E-01	1.029E+00	3.067E-01	-0.071
		876.40		-4.933E-01	9.547E-01	1.249E+00	1.285E+00	-0.395
		880.51		4.368E-02	2.820E-01	4.676E-01	4.522E-02	0.093
		883.24		-3.835E-02	2.936E-01	4.729E-01	3.186E-01	-0.081
		899.00		-3.403E-01	8.539E-01	1.324E+00	5.830E-01	-0.257
		925.00		-1.221E+00	1.072E+00	1.524E+00	1.506E-01	-0.801
		926.50		-2.067E-01	1.737E-01	2.349E-01	6.043E-02	-0.880
		946.00	*	-5.372E-02	3.054E-01	4.886E-01	9.415E-02	-0.110
		949.00		1.812E-01	4.590E-01	7.717E-01	7.438E-02	0.235
		980.50		2.649E-01	7.637E-01	1.277E+00	1.185E-01	0.207
		1394.10		-8.264E-01	1.309E+00	1.798E+00	1.170E+00	-0.460
PA-234M	+	766.42		2.251E+01	1.978E+01	2.107E+01	1.064E+01	1.068
		1001.03	*	4.489E+00	4.632E+00	8.104E+00	8.365E-01	0.554
TH-234	+	63.29	*	3.487E+00	2.237E+00	2.940E+00	5.794E-01	1.186
		92.38		1.734E+00	6.444E-01	1.012E+00	1.916E-01	1.713
U-235	+	89.95		3.449E+00	1.684E+00	1.897E+00	5.984E-01	1.819
		93.35		1.964E+00	8.627E-01	1.194E+00	3.404E-01	1.645
		105.00		5.266E-01	1.006E+00	1.655E+00	4.922E-01	0.318
		143.76	*	9.336E-02	2.090E-01	3.377E-01	5.523E-02	0.276
		163.35		-2.992E-02	4.335E-01	6.902E-01	1.235E-01	-0.043
	+	185.71		1.485E-01	6.868E-02	8.619E-02	4.851E-03	1.723
		205.31		2.570E-01	5.228E-01	8.012E-01	1.441E-01	0.321
NP-236		94.67		1.533E-01	1.332E-01	2.048E-01	2.009E-02	0.749
		98.44		5.398E-02	7.127E-02	1.145E-01	1.047E-02	0.471
		111.00		-3.006E-02	1.341E-01	2.162E-01	1.633E-02	-0.139
		160.31	*	-5.584E-02	7.129E-02	1.096E-01	6.108E-03	-0.509
U-238	+	63.29	*	3.487E+00	2.237E+00	2.940E+00	5.794E-01	1.186
		92.38		1.734E+00	5.825E-01	1.012E+00	1.040E-01	1.713

---- 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		1.361E-01	1.513E-01	2.552E-01	2.289E-02	0.533
		117.00	*	-2.591E-01	1.839E-01	2.773E-01	1.940E-02	-0.934
	+	209.75		1.766E+00	1.025E+00	1.338E+00	7.834E-02	1.320
		228.18		6.895E-02	2.057E-01	3.517E-01	2.120E-02	0.196
		277.60		1.267E-01	1.623E-01	2.806E-01	1.799E-02	0.452
		334.30		-5.308E-02	1.378E+00	1.994E+00	1.334E-01	-0.027
AM-241		59.54	*	5.206E-02	2.360E-01	3.568E-01	4.582E-02	0.146
CM-243		99.55		1.400E-01	1.557E-01	2.626E-01	2.356E-02	0.533
		103.76	*	2.916E-02	9.093E-02	1.503E-01	1.259E-02	0.194
		117.00		-2.666E-01	1.892E-01	2.853E-01	1.996E-02	-0.934
	+	209.75		1.741E+00	1.011E+00	1.319E+00	7.724E-02	1.320
		228.18		6.968E-02	2.079E-01	3.554E-01	2.142E-02	0.196
		277.60		1.277E-01	1.637E-01	2.829E-01	1.814E-02	0.452
AM-246		798.80		-8.752E-02	1.453E-01	1.913E-01	1.474E-02	-0.457
		1036.00		-1.918E-01	3.270E-01	4.991E-01	4.269E-02	-0.384
		1062.04		-2.211E-01	2.466E-01	3.626E-01	2.961E-02	-0.610
		1078.86	*	-9.014E-02	1.524E-01	2.312E-01	1.826E-02	-0.390
CM-247		278.00		2.741E-01	6.855E-01	1.165E+00	7.475E-02	0.235
		287.40		1.711E-01	1.100E+00	1.848E+00	1.196E-01	0.093
		402.60	*	2.873E-03	3.281E-02	5.388E-02	3.658E-03	0.053
CF-249		252.85		4.213E-01	7.907E-01	1.358E+00	8.469E-02	0.310
		333.44		6.106E-02	1.769E-01	2.632E-01	1.760E-02	0.232
		387.95	*	3.449E-02	3.716E-02	6.405E-02	4.352E-03	0.539
CF-251		176.60	*	1.869E-02	1.193E-01	1.912E-01	1.060E-02	0.098
		227.00		3.444E-01	3.483E-01	6.102E-01	3.671E-02	0.564
		285.00		-1.456E-01	1.531E+00	2.539E+00	1.640E-01	-0.057

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]G245808005
* Acquisition date   : 12-FEB-2010 16:57:44 Detector SN#      :
* Detector ID        : GAM10 Sensitivity      : 5.000
* Geometry           : CAN Energy tolerance: 2.000
* Elapsed live time: 0 02:00:00.00 Abundance limit : 75.000
* Elapsed real time: 0 02:00:01.19 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G245808005 Analyst initials: RXF2
* Batch Number       : 947554 Sample Quantity : 1.4170E+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	3.587E+01	3.544E+00	4.903E-01	0.000E+00
NB-95	8.698E-02	6.159E-02	6.709E-02	0.000E+00
CD-109	3.292E+00	1.160E+00	1.276E+00	0.000E+00
SN-126	3.225E-01	1.136E-01	1.260E-01	0.000E+00
CS-135	5.007E-01	2.183E-01	2.328E-01	0.000E+00
RE-188	3.420E-01	2.527E-01	2.557E-01	0.000E+00
TL-208	4.826E-01	8.042E-02	5.847E-02	0.000E+00
BI-211	3.633E+00	5.046E-01	3.068E-01	0.000E+00
PB-212	1.668E+00	1.612E-01	8.890E-02	0.000E+00
PO-212	1.668E+00	1.612E-01	8.890E-02	0.000E+00
BI-214	1.003E+00	1.542E-01	1.035E-01	0.000E+00
PB-214	1.264E+00	1.870E-01	1.069E-01	0.000E+00
PO-214	1.264E+00	1.870E-01	1.069E-01	0.000E+00
PO-216	1.668E+00	1.612E-01	8.890E-02	0.000E+00
PO-218	1.264E+00	1.870E-01	1.069E-01	0.000E+00
RA-224	4.584E+00	1.037E+00	1.011E+00	0.000E+00
RA-226	1.003E+00	1.542E-01	1.035E-01	0.000E+00
AC-228	1.553E+00	3.650E-01	2.186E-01	0.000E+00
RA-228	1.553E+00	3.650E-01	2.186E-01	0.000E+00
TH-228	1.696E+00	1.640E-01	9.043E-02	0.000E+00
TH-230	1.003E+00	1.542E-01	1.035E-01	0.000E+00
TH-232	1.553E+00	3.650E-01	2.186E-01	0.000E+00
U-234	1.003E+00	1.542E-01	1.035E-01	0.000E+00
NP-237	9.472E-01	3.847E-01	3.766E-01	0.000E+00
AM-243	4.019E-01	1.002E-01	1.020E-01	0.000E+00
ANH-511	8.086E-02	6.235E-02	4.627E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.001E-01	2.813E-01	4.893E-01	0.000E+00 NOT IDENT.

NA-22	-3.517E-02	4.432E-02	7.009E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.043E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	-1.044E-02	2.167E-02	3.089E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.274E-02	7.641E-02	0.000E+00	FAIL ABUN
SC-46	-2.969E-02	3.743E-02	5.849E-02	0.000E+00	FAIL ABUN
V-48	-5.423E-03	7.972E-02	1.329E-01	0.000E+00	NOT IDENT.
CR-51	3.812E-01	3.396E-01	6.292E-01	0.000E+00	NOT IDENT.
MN-52	-3.483E-02	2.646E-01	4.385E-01	0.000E+00	NOT IDENT.
MN-54	5.971E-04	3.681E-02	6.281E-02	0.000E+00	NOT IDENT.
CO-56	1.123E-02	3.831E-02	6.675E-02	0.000E+00	NOT IDENT.
CO-57	-6.748E-03	2.395E-02	4.141E-02	0.000E+00	NOT IDENT.
CO-58	4.666E-03	3.614E-02	6.243E-02	0.000E+00	NOT IDENT.
FE-59	-1.681E-02	9.689E-02	1.580E-01	0.000E+00	NOT IDENT.
CO-60	1.900E-03	3.963E-02	6.780E-02	0.000E+00	NOT IDENT.
ZN-65	6.093E-02	1.102E-01	1.673E-01	0.000E+00	NOT IDENT.
GE-68	7.529E-02	1.265E+00	2.113E+00	0.000E+00	NOT IDENT.
AS-73	3.555E-02	1.419E+00	2.608E+00	0.000E+00	NOT IDENT.
AS-74	-3.105E-03	8.578E-02	1.504E-01	0.000E+00	NOT IDENT.
SE-75	8.707E-05	4.367E-02	7.159E-02	0.000E+00	NOT IDENT.
BR-77	-5.134E+00	1.774E+01	2.919E+01	0.000E+00	FAIL ABUN
SR-82	-4.241E-01	3.871E-01	6.000E-01	0.000E+00	NOT IDENT.
RB-83	-2.537E-02	6.440E-02	1.051E-01	0.000E+00	NOT IDENT.
RB-84	2.910E-03	7.339E-02	1.248E-01	0.000E+00	NOT IDENT.
KR-85	6.884E+00	6.940E+00	1.116E+01	0.000E+00	NOT IDENT.
SR-85	3.608E-02	3.637E-02	5.850E-02	0.000E+00	NOT IDENT.
RB-86	-1.260E-01	8.844E-01	1.450E+00	0.000E+00	NOT IDENT.
Y-88	1.027E-02	2.803E-02	4.982E-02	0.000E+00	NOT IDENT.
ZR-88	1.911E-02	2.767E-02	4.966E-02	0.000E+00	NOT IDENT.
Y-91	-8.220E+00	2.186E+01	3.662E+01	0.000E+00	NOT IDENT.
NB-94	-1.868E-02	3.010E-02	4.970E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.310E-01	2.296E-01	0.000E+00	NOT IDENT.
ZR-95	5.728E-02	6.742E-02	1.231E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	6.306E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.612E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.363E+01	1.728E+01	3.147E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.168E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.624E-03	3.118E-02	5.173E-02	0.000E+00	FAIL ABUN
RH-102	1.835E-03	2.516E-02	4.291E-02	0.000E+00	FAIL ABUN
RU-103	-2.573E-02	4.013E-02	6.444E-02	0.000E+00	FAIL ABUN
RH-106	1.892E-01	2.780E-01	5.084E-01	0.000E+00	FAIL ABUN
RU-106	1.892E-01	2.773E-01	5.084E-01	0.000E+00	FAIL ABUN
AG-108M	-2.907E-03	2.973E-02	5.050E-02	0.000E+00	NOT IDENT.
AG-110M	7.802E-03	2.889E-02	5.137E-02	0.000E+00	NOT IDENT.
IN-111	1.143E+00	1.667E+00	2.742E+00	0.000E+00	NOT IDENT.
IN-113M	-5.594E-03	4.178E-02	7.147E-02	0.000E+00	NOT IDENT.
SN-113	-5.594E-03	4.178E-02	7.147E-02	0.000E+00	NOT IDENT.
IN-114M	5.605E-02	1.791E-01	2.933E-01	0.000E+00	NOT IDENT.
CD-115	1.940E+00	1.883E+01	3.188E+01	0.000E+00	NOT IDENT.
SN-117M	4.619E-02	5.764E-02	9.241E-02	0.000E+00	NOT IDENT.
SB-122	9.270E-01	3.268E+00	5.574E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	7.298E+07	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	8.660E-03	2.584E-02	4.296E-02	0.000E+00	NOT IDENT.
I-124	8.519E-01	8.856E-01	1.479E+00	0.000E+00	FAIL ABUN
SB-124	-4.003E-02	6.612E-02	9.539E-02	0.000E+00	FAIL ABUN
SB-125	8.828E-03	8.174E-02	1.409E-01	0.000E+00	FAIL ABUN
TE-125M	5.640E+00	8.855E+00	1.596E+01	0.000E+00	NOT IDENT.
I-126	5.495E-02	1.946E-01	3.448E-01	0.000E+00	NOT IDENT.
SB-126	-3.612E-02	1.654E-01	2.648E-01	0.000E+00	FAIL ABUN
SB-127	5.120E-01	1.694E+00	3.008E+00	0.000E+00	NOT IDENT.
XE-127	-2.069E-02	4.343E-02	7.733E-02	0.000E+00	NOT IDENT.
I-131	7.665E-02	1.243E-01	2.232E-01	0.000E+00	NOT IDENT.
TE-132	3.270E-01	9.621E-01	1.752E+00	0.000E+00	NOT IDENT.
BA-133	-4.285E-03	4.321E-02	6.537E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	2.872E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.252E-02	8.535E-02	0.000E+00	FAIL ABUN
I-135	0.000E+00	1.086E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.270E-02	1.267E-01	2.074E-01	0.000E+00	FAIL ABUN
BA-137M	-1.343E-02	3.226E-02	5.450E-02	0.000E+00	NOT IDENT.
CS-137	-1.420E-02	3.410E-02	5.761E-02	0.000E+00	NOT IDENT.
CE-139	1.060E-02	2.758E-02	4.802E-02	0.000E+00	NOT IDENT.
BA-140	3.073E-02	2.609E-01	4.413E-01	0.000E+00	NOT IDENT.
LA-140	3.064E-02	7.756E-02	1.233E-01	0.000E+00	NOT IDENT.
CE-141	-1.842E-03	6.232E-02	1.076E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.039E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.561E-02	1.892E-01	3.321E-01	0.000E+00	NOT IDENT.
PM-144	-6.879E-04	3.198E-02	5.535E-02	0.000E+00	NOT IDENT.
PR-144	-4.667E-02	2.170E+00	3.755E+00	0.000E+00	NOT IDENT.
PM-146	4.983E-04	3.829E-02	6.527E-02	0.000E+00	NOT IDENT.

ND-147	1.524E-01	5.729E-01	9.812E-01	0.000E+00	FAIL ABUN
PM-149	-5.009E+01	1.533E+02	2.663E+02	0.000E+00	NOT IDENT.
EU-152	-6.955E-02	9.686E-02	1.485E-01	0.000E+00	NOT IDENT.
GD-153	4.754E-02	8.351E-02	1.361E-01	0.000E+00	FAIL ABUN
EU-154	-9.972E-02	1.237E-01	1.950E-01	0.000E+00	NOT IDENT.
EU-155	7.354E-02	9.957E-02	1.807E-01	0.000E+00	FAIL ABUN
TB-160	1.105E-01	1.360E-01	2.459E-01	0.000E+00	FAIL ABUN
HO-166M	-6.394E-02	5.529E-02	8.684E-02	0.000E+00	FAIL ABUN
TM-171	1.997E+01	3.585E+01	5.971E+01	0.000E+00	NOT IDENT.
LU-176	-9.887E-03	2.052E-02	3.511E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.758E+00	2.434E+00	0.000E+00	FAIL ABUN
LU-177M	-4.128E-02	1.552E-01	2.618E-01	0.000E+00	FAIL ABUN
HF-181	-5.190E-03	3.806E-02	6.380E-02	0.000E+00	FAIL ABUN
W-181	0.000E+00	6.458E-01	7.643E-01	0.000E+00	FAIL ABUN
TA-182	-1.454E-03	2.163E-01	3.713E-01	0.000E+00	FAIL ABUN
RE-183	-4.021E-02	1.001E-01	1.686E-01	0.000E+00	FAIL ABUN
RE-184	1.132E-01	2.083E-01	3.806E-01	0.000E+00	NOT IDENT.
OS-185	8.261E-04	4.110E-02	7.181E-02	0.000E+00	NOT IDENT.
W-188	5.041E-01	7.197E+00	1.124E+01	0.000E+00	FAIL ABUN
IR-192	-9.194E-03	3.061E-02	5.282E-02	0.000E+00	FAIL ABUN
AU-195	1.528E-01	2.178E-01	3.957E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.459E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	4.703E-01	1.007E+01	1.727E+01	0.000E+00	NOT IDENT.
TL-202	1.412E-02	6.811E-02	1.180E-01	0.000E+00	NOT IDENT.
HG-203	2.688E-04	3.678E-02	6.520E-02	0.000E+00	FAIL ABUN
BI-207	-2.543E-02	5.284E-02	8.379E-02	0.000E+00	FAIL ABUN
TL-207	-1.046E+00	6.124E-01	9.280E-01	0.000E+00	FAIL ABUN
PO-209	3.435E+00	7.391E+00	1.298E+01	0.000E+00	NOT IDENT.
BI-210	5.090E+00	8.127E+00	1.534E+01	0.000E+00	NOT IDENT.
PB-210	5.090E+00	8.127E+00	1.534E+01	0.000E+00	NOT IDENT.
PO-210	5.090E+00	8.124E+00	1.534E+01	0.000E+00	NOT IDENT.
PB-211	-2.476E-01	8.366E-01	1.388E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	3.851E-01	6.321E-01	0.000E+00	FAIL ABUN
PO-215	-1.046E+00	6.124E-01	9.280E-01	0.000E+00	FAIL ABUN
RN-219	-5.824E-02	3.633E-01	6.188E-01	0.000E+00	FAIL ABUN
RN-220	-9.240E+00	2.251E+01	3.636E+01	0.000E+00	NOT IDENT.
RA-223	-1.046E+00	6.124E-01	9.280E-01	0.000E+00	FAIL ABUN
AC-227	-5.313E-02	3.292E-01	5.825E-01	0.000E+00	FAIL ABUN
TH-227	-5.313E-02	3.292E-01	5.825E-01	0.000E+00	FAIL ABUN
TH-229	-1.780E-02	4.563E-01	7.711E-01	0.000E+00	FAIL ABUN
PA-231	-7.371E-01	1.321E+00	2.265E+00	0.000E+00	FAIL ABUN
TH-231	-1.046E+00	6.124E-01	9.280E-01	0.000E+00	FAIL ABUN
U-231	-8.527E-01	1.603E+00	2.473E+00	0.000E+00	FAIL ABUN
PA-233	1.051E-02	5.450E-02	9.568E-02	0.000E+00	FAIL ABUN
PA-234	-5.372E-02	2.992E-01	4.954E-01	0.000E+00	FAIL ABUN
PA-234M	4.489E+00	4.539E+00	8.207E+00	0.000E+00	FAIL ABUN
TH-234	0.000E+00	2.192E+00	3.150E+00	0.000E+00	FAIL ABUN
U-235	9.336E-02	2.049E-01	3.561E-01	0.000E+00	FAIL ABUN
NP-236	-5.584E-02	6.986E-02	1.153E-01	0.000E+00	NOT IDENT.
U-238	0.000E+00	2.192E+00	3.150E+00	0.000E+00	FAIL ABUN
NP-239	-2.591E-01	1.802E-01	2.936E-01	0.000E+00	FAIL ABUN
AM-241	5.206E-02	2.313E-01	3.828E-01	0.000E+00	NOT IDENT.
CM-243	2.916E-02	8.911E-02	1.595E-01	0.000E+00	FAIL ABUN
AM-246	-9.014E-02	1.493E-01	2.338E-01	0.000E+00	NOT IDENT.
CM-247	2.873E-03	3.215E-02	5.563E-02	0.000E+00	NOT IDENT.
CF-249	3.449E-02	3.641E-02	6.618E-02	0.000E+00	NOT IDENT.
CF-251	1.869E-02	1.169E-01	2.008E-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]G245808005.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 16:57:44
Sample ID          : G245808005 Sample quantity : 1.41695E+02 GRAM
Detector name      : GAM10 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.19 0.0%
Energy tolerance   : 2.00000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	1601	10.67*	1.108E+00	3.587E+01	3.587E+01	10.08
NB-95	765.79	56	99.81*	2.056E+00	7.216E-02	8.698E-02	72.26
CD-109	88.03	237	3.72*	5.257E+00	3.208E+00	3.292E+00	35.95
SN-126	64.28	113	9.60	2.266E+00	1.380E+00	1.380E+00	63.42
	86.94	237	8.90	5.257E+00	1.341E+00	1.341E+00	54.11
	87.57	237	37.00*	5.257E+00	3.225E-01	3.225E-01	35.95
CS-135	268.24	142	16.00*	4.697E+00	5.007E-01	5.007E-01	44.48
RE-188	155.03	106	15.00*	6.524E+00	2.879E-01	3.420E-01	75.38
	477.96	-----	1.04	3.088E+00	-----	Line Not Found	-----
	633.10	-----	1.26	2.448E+00	-----	Line Not Found	-----
TL-208	277.35	-----	6.80	4.610E+00	-----	Line Not Found	-----
	510.84	90	21.60	2.932E+00	3.744E-01	3.744E-01	79.12
	583.14	403	84.20*	2.629E+00	4.826E-01	4.826E-01	17.00
	860.37	41	12.46	1.841E+00	4.774E-01	4.774E-01	78.49
BI-211	72.87	386	1.27	3.858E+00	2.089E+01	2.089E+01	25.44
	351.07	691	12.94*	3.891E+00	3.633E+00	3.633E+00	14.17
PB-212	74.81	386	10.70	3.858E+00	2.479E+00	2.479E+00	27.11
	77.11	598	18.00	4.145E+00	2.125E+00	2.125E+00	16.33
	87.30	237	8.00	5.257E+00	1.492E+00	1.492E+00	37.31
	238.63	1437	44.60*	5.119E+00	1.668E+00	1.668E+00	9.87
	300.09	108	3.41	4.361E+00	1.929E+00	1.929E+00	56.25
PO-212	74.81	386	10.70	3.858E+00	2.479E+00	2.479E+00	27.11
	77.11	598	18.00	4.145E+00	2.125E+00	2.125E+00	16.33
	87.30	237	8.00	5.257E+00	1.492E+00	1.492E+00	37.31
	115.19	-----	0.60	6.657E+00	-----	Line Not Found	-----
	238.63	1437	44.60*	5.119E+00	1.668E+00	1.668E+00	9.87
	300.09	108	3.41	4.361E+00	1.929E+00	1.929E+00	56.25
BI-214	609.31	444	46.30*	2.533E+00	1.003E+00	1.003E+00	15.68
	1120.29	117	15.10	1.417E+00	1.455E+00	1.455E+00	40.20
	1764.49	87	15.80	9.769E-01	1.495E+00	1.495E+00	27.76
PB-214	74.81	386	6.21	3.858E+00	4.272E+00	4.272E+00	26.50
	77.11	598	10.50	4.145E+00	3.642E+00	3.642E+00	18.02

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	87.30	237	4.67	5.257E+00	2.556E+00	2.556E+00	36.76
	241.98	347	7.49	5.074E+00	2.418E+00	2.418E+00	23.75
	295.21	459	19.20	4.415E+00	1.434E+00	1.434E+00	17.26
	351.92	691	37.20*	3.891E+00	1.264E+00	1.264E+00	15.10
	74.81	386	6.21	3.858E+00	4.272E+00	4.272E+00	26.50
	77.11	598	10.50	4.145E+00	3.642E+00	3.642E+00	18.02
	87.30	237	4.67	5.257E+00	2.556E+00	2.556E+00	36.76
PO-216	241.98	347	7.49	5.074E+00	2.418E+00	2.418E+00	23.75
	295.21	459	19.20	4.415E+00	1.434E+00	1.434E+00	17.26
	351.92	691	37.20*	3.891E+00	1.264E+00	1.264E+00	15.10
	74.81	386	10.70	3.858E+00	2.479E+00	2.479E+00	27.11
	77.11	598	18.00	4.145E+00	2.125E+00	2.125E+00	16.33
	87.30	237	8.00	5.257E+00	1.492E+00	1.492E+00	37.31
	238.63	1437	44.60*	5.119E+00	1.668E+00	1.668E+00	9.87
PO-218	300.09	108	3.41	4.361E+00	1.929E+00	1.929E+00	56.25
	74.81	386	6.21	3.858E+00	4.272E+00	4.272E+00	26.50
	77.11	598	10.50	4.145E+00	3.642E+00	3.642E+00	18.02
	87.30	237	4.67	5.257E+00	2.556E+00	2.556E+00	36.76
	241.98	347	7.49	5.074E+00	2.418E+00	2.418E+00	23.75
	295.21	459	19.20	4.415E+00	1.434E+00	1.434E+00	17.26
	351.92	691	37.20*	3.891E+00	1.264E+00	1.264E+00	15.10
RA-224	240.98	347	3.95*	5.074E+00	4.584E+00	4.584E+00	23.08
RA-226	609.31	444	46.30*	2.533E+00	1.003E+00	1.003E+00	15.68
	1120.29	117	15.10	1.417E+00	1.455E+00	1.455E+00	40.20
AC-228	1764.49	87	15.80	9.769E-01	1.495E+00	1.495E+00	27.76
	338.32	272	11.40	4.004E+00	1.581E+00	1.581E+00	46.38
	911.07	283	27.70*	1.741E+00	1.553E+00	1.553E+00	23.98
	969.11	139	16.60	1.637E+00	1.357E+00	1.357E+00	47.79
RA-228	338.32	272	11.40	4.004E+00	1.581E+00	1.581E+00	46.38
	911.07	283	27.70*	1.741E+00	1.553E+00	1.553E+00	23.98
	969.11	139	16.60	1.637E+00	1.357E+00	1.357E+00	47.79
TH-228	74.81	386	10.70	3.858E+00	2.479E+00	2.522E+00	25.47
	77.11	598	18.00	4.145E+00	2.125E+00	2.161E+00	16.33
	87.30	237	8.00	5.257E+00	1.492E+00	1.518E+00	35.95
	238.63	1437	44.60*	5.119E+00	1.668E+00	1.696E+00	9.87
TH-230	300.09	108	3.41	4.361E+00	1.929E+00	1.962E+00	81.05
	609.31	444	46.30*	2.533E+00	1.003E+00	1.003E+00	15.68
	1120.29	117	15.10	1.417E+00	1.455E+00	1.455E+00	40.20
	1764.49	87	15.80	9.769E-01	1.495E+00	1.495E+00	27.76
TH-232	338.32	272	11.40	4.004E+00	1.581E+00	1.581E+00	22.87
	911.07	283	27.70*	1.741E+00	1.553E+00	1.553E+00	23.98
	969.11	139	16.60	1.637E+00	1.357E+00	1.357E+00	47.79
U-234	609.31	444	46.30*	2.533E+00	1.003E+00	1.003E+00	15.68
	1120.29	117	15.10	1.417E+00	1.455E+00	1.455E+00	40.20
	1764.49	87	15.80	9.769E-01	1.495E+00	1.495E+00	27.76
NP-237	86.50	237	12.60*	5.257E+00	9.472E-01	9.472E-01	41.45
AM-243	95.87	-----	2.60	5.933E+00	-----	Line Not Found	-----
	74.67	386	66.00*	3.858E+00	4.019E-01	4.019E-01	25.44
	86.72	237	0.34	5.257E+00	3.552E+01	3.552E+01	35.95

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	117.66	-----	0.55	6.694E+00	-----	Line Not Found	-----
	142.18	-----	0.13	6.676E+00	-----	Line Not Found	-----
ANH-511	511.00	90	100.00*	2.932E+00	8.086E-02	8.086E-02	78.68

Flag: "*" = Keyline

Total number of lines in spectrum 33
Number of unidentified lines 2
Number of lines tentatively identified by NID 31 93.94%

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	3.587E+01	3.587E+01	0.362E+01	10.08	
NB-95	64.02D	1.21	7.216E-02	8.698E-02	6.285E-02	72.26	
CD-109	464.00D	1.03	3.208E+00	3.292E+00	1.183E+00	35.95	
SN-126	1.00E+05Y	1.00	3.225E-01	3.225E-01	1.159E-01	35.95	
CS-135	2.30E+06Y	1.00	5.007E-01	5.007E-01	2.227E-01	44.48	
RE-188	69.40D	1.19	2.879E-01	3.420E-01	2.578E-01	75.38	
TL-208	1.41E+10Y	1.00	4.826E-01	4.826E-01	0.821E-01	17.00	
BI-211	7.04E+08Y	1.00	3.633E+00	3.633E+00	0.515E+00	14.17	
PB-212	1.41E+10Y	1.00	1.668E+00	1.668E+00	0.165E+00	9.87	
PO-212	1.41E+10Y	1.00	1.668E+00	1.668E+00	0.165E+00	9.87	
BI-214	1600.00Y	1.00	1.003E+00	1.003E+00	0.157E+00	15.68	
PB-214	1600.00Y	1.00	1.264E+00	1.264E+00	0.191E+00	15.10	
PO-214	1600.00Y	1.00	1.264E+00	1.264E+00	0.191E+00	15.10	
PO-216	1.41E+10Y	1.00	1.668E+00	1.668E+00	0.165E+00	9.87	
PO-218	1600.00Y	1.00	1.264E+00	1.264E+00	0.191E+00	15.10	
RA-224	1.41E+10Y	1.00	4.584E+00	4.584E+00	1.058E+00	23.08	
RA-226	1600.00Y	1.00	1.003E+00	1.003E+00	0.157E+00	15.68	
AC-228	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.372E+00	23.98	
RA-228	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.372E+00	23.98	
TH-228	1.91Y	1.02	1.668E+00	1.696E+00	0.167E+00	9.87	
TH-230	4.47E+09Y	1.00	1.003E+00	1.003E+00	0.157E+00	15.68	
TH-232	1.41E+10Y	1.00	1.553E+00	1.553E+00	0.372E+00	23.98	
U-234	4.47E+09Y	1.00	1.003E+00	1.003E+00	0.157E+00	15.68	
NP-237	2.14E+06Y	1.00	9.472E-01	9.472E-01	3.926E-01	41.45	
AM-243	7380.00Y	1.00	4.019E-01	4.019E-01	1.023E-01	25.44	
ANH-511	1.00E+09Y	1.00	8.086E-02	8.086E-02	6.362E-02	78.68	

Total Activity : 6.953E+01 6.971E+01

Grand Total Activity : 6.953E+01 6.971E+01

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	83.76	78	376	1.07	167.64	163	29	1.08E-02	82.0	4.94E+00	T
4	89.61	193	393	1.17	179.34	163	29	2.68E-02	37.2	5.48E+00	T
0	128.69	76	314	0.93	257.41	254	7	1.05E-02	81.0	6.76E+00	T
0	185.45	181	410	0.91	370.85	365	10	2.52E-02	45.9	5.99E+00	T
0	208.93	120	336	1.14	417.78	414	9	1.67E-02	57.8	5.58E+00	T
0	462.27	101	168	1.50	924.11	917	14	1.40E-02	58.1	3.17E+00	T
0	726.67	98	62	1.36	1452.68	1449	10	1.36E-02	37.8	2.16E+00	T
0	794.36	59	66	1.62	1588.02	1583	12	8.19E-03	60.9	1.99E+00	T
0	1376.60	25	39	1.38	2752.46	2747	14	3.47E-03	****	1.16E+00	T
0	1589.30	35	20	7.23	3178.00	3168	19	4.82E-03	74.7	1.04E+00	
0	1727.62	28	4	0.93	3454.78	3447	15	3.85E-03	52.7	9.87E-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]G245808005.CNF;1
* Acquisition date   : 12-FEB-2010 16:57:44  Detector SN#      :
* Detector ID        : GAM10                  Sensitivity       : 5.00000
* Geometry           : CAN                    Energy tolerance: 2.00000
* Elapsed live time  : 0 02:00:00.00          Abundance limit  : 75.00000
* Elapsed real time  : 0 02:00:01.19          Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245808005           Analyst initials: RXF2
* Batch Number       : 947554               Sample Quantity : 1.41695E+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	3.587E+01	3.616E+00	4.882E-01	4.205E-02	73.468
NB-95	8.698E-02	6.285E-02	6.587E-02	4.597E-03	1.320
CD-109	3.292E+00	1.183E+00	1.199E+00	1.359E-01	2.746
SN-126	3.225E-01	1.159E-01	1.183E-01	1.339E-02	2.727
CS-135	5.007E-01	2.227E-01	2.236E-01	1.807E-02	2.239
RE-188	3.420E-01	2.578E-01	2.428E-01	1.380E-02	1.408
TL-208	4.826E-01	8.206E-02	5.707E-02	3.835E-03	8.456
BI-211	3.633E+00	5.148E-01	2.963E-01	2.160E-02	12.261
PB-212	1.668E+00	1.645E-01	8.517E-02	6.461E-03	19.579
PO-212	1.668E+00	1.645E-01	8.517E-02	6.461E-03	19.579
BI-214	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
PB-214	1.264E+00	1.908E-01	1.033E-01	9.262E-03	12.236
PO-214	1.264E+00	1.908E-01	1.033E-01	9.262E-03	12.236
PO-216	1.668E+00	1.645E-01	8.517E-02	6.461E-03	19.579
PO-218	1.264E+00	1.908E-01	1.033E-01	9.262E-03	12.236
RA-224	4.584E+00	1.058E+00	9.691E-01	5.949E-02	4.731
RA-226	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
AC-228	1.553E+00	3.724E-01	2.155E-01	2.659E-02	7.209

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.553E+00	3.724E-01	2.155E-01	2.659E-02	7.209
TH-228	1.696E+00	1.674E-01	8.664E-02	6.573E-03	19.579
TH-230	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
TH-232	1.553E+00	3.724E-01	2.155E-01	2.659E-02	7.209
U-234	1.003E+00	1.573E-01	1.011E-01	7.697E-03	9.921
NP-237	9.472E-01	3.926E-01	3.535E-01	8.309E-02	2.679
AM-243	4.019E-01	1.023E-01	9.547E-02	1.046E-02	4.210
ANH-511	8.086E-02	6.362E-02	4.504E-02	2.885E-03	1.795

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.001E-01		2.870E-01	4.756E-01	3.537E-02	0.210
NA-22	-3.517E-02		4.522E-02	6.958E-02	5.389E-03	-0.505
NA-24	8.307E-01		3.083E+00	Half-Life too short		
AL-26	-1.044E-02		2.211E-02	3.090E-02	1.959E-03	-0.338
TI-44	3.921E-01	+	6.402E-02	7.160E-02	7.834E-03	5.477
SC-46	-2.969E-02		3.819E-02	5.761E-02	5.702E-03	-0.515
V-48	-5.423E-03		8.135E-02	1.312E-01	1.213E-02	-0.041
CR-51	3.812E-01		3.465E-01	6.065E-01	4.381E-02	0.629
MN-52	-3.483E-02		2.700E-01	4.364E-01	3.688E-02	-0.080
MN-54	5.971E-04		3.756E-02	6.178E-02	5.278E-03	0.010
CO-56	1.123E-02		3.909E-02	6.568E-02	5.800E-03	0.171
CO-57	-6.748E-03		2.444E-02	3.914E-02	2.582E-03	-0.172
CO-58	4.666E-03		3.688E-02	6.137E-02	4.911E-03	0.076
FE-59	-1.681E-02		9.887E-02	1.564E-01	1.305E-02	-0.107
CO-60	1.900E-03		4.044E-02	6.737E-02	5.854E-03	0.028
ZN-65	6.093E-02		1.124E-01	1.656E-01	1.206E-02	0.368
GE-68	7.529E-02		1.290E+00	2.090E+00	1.655E-01	0.036
AS-73	3.555E-02		1.448E+00	2.426E+00	3.210E-01	0.015
AS-74	-3.105E-03		8.753E-02	1.468E-01	8.389E-03	-0.021
SE-75	8.707E-05		4.456E-02	6.873E-02	4.384E-03	0.001
BR-77	-5.134E+00		1.810E+01	2.843E+01	1.803E+00	-0.181
SR-82	-4.241E-01		3.950E-01	5.893E-01	4.248E-02	-0.720
RB-83	-2.537E-02		6.571E-02	1.023E-01	6.492E-03	-0.248
RB-84	2.910E-03		7.489E-02	1.229E-01	1.192E-02	0.024
KR-85	6.884E+00		7.081E+00	1.087E+01	6.941E-01	0.634
SR-85	3.608E-02		3.711E-02	5.695E-02	3.638E-03	0.634
RB-86	-1.260E-01		9.025E-01	1.434E+00	1.138E-01	-0.088
Y-88	1.027E-02		2.860E-02	4.986E-02	3.059E-03	0.206
ZR-88	1.911E-02		2.823E-02	4.808E-02	3.267E-03	0.398
Y-91	-8.220E+00		2.231E+01	3.630E+01	2.411E+00	-0.226
NB-94	-1.868E-02		3.071E-02	4.870E-02	2.773E-03	-0.384
NB-95M	3.258E-01		1.337E-01	2.199E-01	1.706E-02	1.481
ZR-95	5.728E-02		6.879E-02	1.208E-01	9.489E-03	0.474
NB-97	2.178E-01		3.217E-01	Half-Life too short		
ZR-97	3.647E+01		8.225E+00	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
MO-99	1.363E+01		1.764E+01	3.087E+01	4.340E+00	0.441
TC-99M	1.733E+12		5.961E+12	Half-Life too short		
RH-101	-3.624E-03		3.181E-02	4.938E-02	2.836E-03	-0.073
RH-102	1.835E-03		2.568E-02	4.171E-02	2.751E-03	0.044
RU-103	-2.573E-02		4.095E-02	6.269E-02	8.134E-03	-0.410
RH-106	1.892E-01		2.836E-01	4.970E-01	5.745E-02	0.381
RU-106	1.892E-01		2.830E-01	4.970E-01	2.699E-02	0.381
AG-108M	-2.907E-03		3.034E-02	4.899E-02	3.513E-03	-0.059
AG-110M	7.802E-03		2.948E-02	5.027E-02	2.723E-03	0.155
IN-111	1.143E+00		1.701E+00	2.628E+00	1.623E-01	0.435
IN-113M	-5.594E-03		4.263E-02	6.918E-02	4.933E-03	-0.081
SN-113	-5.594E-03		4.263E-02	6.918E-02	4.933E-03	-0.081
IN-114M	5.605E-02		1.827E-01	2.797E-01	1.586E-02	0.200
CD-115	1.940E+00		1.921E+01	3.105E+01	1.955E+00	0.062
SN-117M	4.619E-02		5.881E-02	8.780E-02	4.924E-03	0.526
SB-122	9.270E-01		3.335E+00	5.437E+00	3.270E-01	0.170
I-123	2.446E+01		3.724E+01	Half-Life too short		
TE-123M	8.660E-03		2.637E-02	4.083E-02	2.319E-03	0.212
I-124	8.519E-01		9.036E-01	1.444E+00	8.148E-02	0.590
SB-124	-4.003E-02		6.747E-02	9.529E-02	7.240E-03	-0.420
SB-125	8.828E-03		8.341E-02	1.367E-01	9.516E-03	0.065
TE-125M	5.640E+00		9.035E+00	1.506E+01	1.446E+00	0.375
I-126	5.495E-02		1.986E-01	3.375E-01	1.693E-02	0.163
SB-126	-3.612E-02		1.688E-01	2.596E-01	1.569E-02	-0.139
SB-127	5.120E-01		1.729E+00	2.946E+00	2.929E-01	0.174
XE-127	-2.069E-02		4.431E-02	7.385E-02	4.276E-03	-0.280
I-131	7.665E-02		1.269E-01	2.157E-01	1.591E-02	0.355
TE-132	3.270E-01		9.818E-01	1.677E+00	2.498E-01	0.195
BA-133	-4.285E-03		4.410E-02	6.315E-02	7.619E-03	-0.068
I-133	2.366E-02		1.465E-02	Half-Life too short		
CS-134	1.039E-01	+	6.379E-02	8.387E-02	6.465E-03	1.239
I-135	-5.230E+11		5.541E+11	Half-Life too short		
CS-136	-3.270E-02		1.292E-01	2.050E-01	1.795E-02	-0.160
BA-137M	-1.343E-02		3.292E-02	5.334E-02	2.632E-03	-0.252
CS-137	-1.420E-02		3.480E-02	5.639E-02	2.798E-03	-0.252
CE-139	1.060E-02		2.814E-02	4.567E-02	2.495E-03	0.232
BA-140	3.073E-02		2.662E-01	4.300E-01	1.402E-01	0.071
LA-140	3.064E-02		7.915E-02	1.231E-01	9.549E-03	0.249
CE-141	-1.842E-03		6.360E-02	1.021E-01	6.247E-03	-0.018
CE-143	3.915E-03	+	5.299E-04	Half-Life too short		
CE-144	4.561E-02		1.931E-01	3.144E-01	4.518E-02	0.145
PM-144	-6.879E-04		3.263E-02	5.423E-02	3.027E-03	-0.013
PR-144	-4.667E-02		2.214E+00	3.679E+00	2.051E-01	-0.013
PM-146	4.983E-04		3.907E-02	6.338E-02	5.854E-03	0.008
ND-147	1.524E-01		5.846E-01	9.559E-01	1.313E-01	0.159
PM-149	-5.009E+01		1.564E+02	2.561E+02	3.705E+01	-0.196
EU-152	-6.955E-02		9.884E-02	1.434E-01	1.057E-02	-0.485
GD-153	4.754E-02		8.521E-02	1.281E-01	1.193E-02	0.371

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-154	-9.972E-02		1.262E-01	1.936E-01	2.062E-02	-0.515
EU-155	7.354E-02		1.016E-01	1.703E-01	1.412E-02	0.432
TB-160	1.105E-01		1.388E-01	2.421E-01	2.335E-02	0.456
HO-166M	-6.394E-02		5.642E-02	8.513E-02	4.996E-03	-0.751
TM-171	1.997E+01		3.659E+01	5.578E+01	6.354E+00	0.358
LU-176	-9.887E-03		2.094E-02	3.381E-02	2.224E-03	-0.292
LU-177	3.090E+00	+	1.794E+00	2.326E+00	1.359E-01	1.329
LU-177M	-4.128E-02		1.584E-01	2.537E-01	1.719E-02	-0.163
HF-181	-5.190E-03		3.883E-02	6.203E-02	4.071E-03	-0.084
W-181	1.060E+00	+	6.590E-01	7.136E-01	8.245E-02	1.485
TA-182	-1.454E-03		2.207E-01	3.682E-01	2.539E-02	-0.004
RE-183	-4.021E-02		1.022E-01	1.603E-01	8.864E-03	-0.251
RE-184	1.132E-01		2.125E-01	3.651E-01	2.276E-02	0.310
OS-185	8.261E-04		4.194E-02	7.025E-02	3.609E-03	0.012
W-188	5.041E-01		7.344E+00	1.081E+01	7.021E-01	0.047
IR-192	-9.194E-03		3.124E-02	5.091E-02	3.384E-03	-0.181
AU-195	1.528E-01		2.223E-01	3.725E-01	3.380E-02	0.410
TL-200	-4.221E-04		7.445E-04	Half-Life too short		
TL-201	4.703E-01		1.027E+01	1.643E+01	8.984E-01	0.029
TL-202	1.412E-02		6.950E-02	1.145E-01	7.696E-03	0.123
HG-203	2.688E-04		3.753E-02	6.267E-02	4.229E-03	0.004
BI-207	-2.543E-02		5.392E-02	8.286E-02	6.745E-03	-0.307
TL-207	-1.046E+00		6.249E-01	8.947E-01	1.506E-01	-1.169
PO-209	3.435E+00		7.541E+00	1.279E+01	1.290E+00	0.269
BI-210	5.090E+00		8.293E+00	1.423E+01	1.396E+00	0.358
PB-210	5.090E+00		8.293E+00	1.423E+01	1.396E+00	0.358
PO-210	5.090E+00		8.290E+00	1.423E+01	1.277E+00	0.358
PB-211	-2.476E-01		8.536E-01	1.345E+00	8.395E-01	-0.184
BI-212	1.018E+00	+	3.930E-01	6.199E-01	4.959E-02	1.641
PO-215	-1.046E+00		6.249E-01	8.947E-01	1.506E-01	-1.169
RN-219	-5.824E-02		3.707E-01	5.993E-01	8.424E-02	-0.097
RN-220	-9.240E+00		2.297E+01	3.544E+01	2.173E+00	-0.261
RA-223	-1.046E+00		6.249E-01	8.947E-01	1.506E-01	-1.169
AC-227	-5.313E-02		3.359E-01	5.589E-01	7.913E-02	-0.095
TH-227	-5.313E-02		3.359E-01	5.589E-01	9.537E-02	-0.095
TH-229	-1.780E-02		4.656E-01	7.356E-01	4.195E-02	-0.024
PA-231	-7.371E-01		1.348E+00	2.178E+00	3.064E-01	-0.338
TH-231	-1.046E+00		6.249E-01	8.947E-01	1.506E-01	-1.169
U-231	-8.527E-01		1.636E+00	2.326E+00	2.229E-01	-0.367
PA-233	1.051E-02		5.561E-02	9.218E-02	6.379E-03	0.114
PA-234	-5.372E-02		3.054E-01	4.886E-01	9.415E-02	-0.110
PA-234M	4.489E+00		4.632E+00	8.104E+00	8.365E-01	0.554
TH-234	3.487E+00	+	2.237E+00	2.940E+00	5.794E-01	1.186
U-235	9.336E-02		2.090E-01	3.377E-01	5.523E-02	0.276
NP-236	-5.584E-02		7.129E-02	1.096E-01	6.108E-03	-0.509
U-238	3.487E+00	+	2.237E+00	2.940E+00	5.794E-01	1.186
NP-239	-2.591E-01		1.839E-01	2.773E-01	1.940E-02	-0.934
AM-241	5.206E-02		2.360E-01	3.568E-01	4.582E-02	0.146

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	2.916E-02		9.093E-02	1.503E-01	1.259E-02	0.194
AM-246	-9.014E-02		1.524E-01	2.312E-01	1.826E-02	-0.390
CM-247	2.873E-03		3.281E-02	5.388E-02	3.658E-03	0.053
CF-249	3.449E-02		3.716E-02	6.405E-02	4.352E-03	0.539
CF-251	1.869E-02		1.193E-01	1.912E-01	1.060E-02	0.098

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]G245808005          *
* Acquisition date   : 12-FEB-2010 16:57:44 Detector SN# :                  *
* Detector ID        : GAM10 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 2.000                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:01.19 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                          *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808005 Analyst initials: RXF2                  *
* Batch Number       : 947554 Sample Quantity : 1.4170E+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	3.587E+01	3.544E+00	2.453E-01	1.808E+00
NB-95	8.698E-02	6.159E-02	3.357E-02	3.142E-02
CD-109	3.292E+00	1.160E+00	6.385E-01	5.917E-01
SN-126	3.225E-01	1.136E-01	6.302E-02	5.797E-02
CS-135	5.007E-01	2.183E-01	1.165E-01	1.114E-01
RE-188	3.420E-01	2.527E-01	1.279E-01	1.289E-01
TL-208	4.826E-01	8.042E-02	2.925E-02	4.103E-02
BI-211	3.633E+00	5.046E-01	1.535E-01	2.574E-01
PB-212	1.668E+00	1.612E-01	4.447E-02	8.226E-02
PO-212	1.668E+00	1.612E-01	4.447E-02	8.226E-02
BI-214	1.003E+00	1.542E-01	5.179E-02	7.867E-02
PB-214	1.264E+00	1.870E-01	5.350E-02	9.542E-02
PO-214	1.264E+00	1.870E-01	5.350E-02	9.542E-02
PO-216	1.668E+00	1.612E-01	4.447E-02	8.226E-02
PO-218	1.264E+00	1.870E-01	5.350E-02	9.542E-02
RA-224	4.584E+00	1.037E+00	5.059E-01	5.289E-01
RA-226	1.003E+00	1.542E-01	5.179E-02	7.867E-02
AC-228	1.553E+00	3.650E-01	1.094E-01	1.862E-01
RA-228	1.553E+00	3.650E-01	1.094E-01	1.862E-01
TH-228	1.696E+00	1.640E-01	4.524E-02	8.368E-02
TH-230	1.003E+00	1.542E-01	5.179E-02	7.867E-02
TH-232	1.553E+00	3.650E-01	1.094E-01	1.862E-01
U-234	1.003E+00	1.542E-01	5.179E-02	7.867E-02
NP-237	9.472E-01	3.847E-01	1.884E-01	1.963E-01
AM-243	4.019E-01	1.002E-01	5.102E-02	5.113E-02
ANH-511	8.086E-02	6.235E-02	2.315E-02	3.181E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.001E-01	2.813E-01	2.448E-01	1.435E-01 NOT IDENT.

NA-22	-3.517E-02	4.432E-02	3.506E-02	2.261E-02	NOT IDENT.
NA-24	8.307E+05	6.043E+06	0.000E+00	3.083E+06	SHORT HLIF
AL-26	-1.044E-02	2.167E-02	1.545E-02	1.106E-02	NOT IDENT.
TI-44	3.921E-01	6.274E-02	3.823E-02	3.201E-02	FAIL ABUN
SC-46	-2.969E-02	3.743E-02	2.926E-02	1.910E-02	FAIL ABUN
V-48	-5.423E-03	7.972E-02	6.647E-02	4.067E-02	NOT IDENT.
CR-51	3.812E-01	3.396E-01	3.148E-01	1.733E-01	NOT IDENT.
MN-52	-3.483E-02	2.646E-01	2.194E-01	1.350E-01	NOT IDENT.
MN-54	5.971E-04	3.681E-02	3.142E-02	1.878E-02	NOT IDENT.
CO-56	1.123E-02	3.831E-02	3.339E-02	1.955E-02	NOT IDENT.
CO-57	-6.748E-03	2.395E-02	2.072E-02	1.222E-02	NOT IDENT.
CO-58	4.666E-03	3.614E-02	3.124E-02	1.844E-02	NOT IDENT.
FE-59	-1.681E-02	9.689E-02	7.907E-02	4.943E-02	NOT IDENT.
CO-60	1.900E-03	3.963E-02	3.392E-02	2.022E-02	NOT IDENT.
ZN-65	6.093E-02	1.102E-01	8.369E-02	5.622E-02	NOT IDENT.
GE-68	7.529E-02	1.265E+00	1.057E+00	6.452E-01	NOT IDENT.
AS-73	3.555E-02	1.419E+00	1.305E+00	7.242E-01	NOT IDENT.
AS-74	-3.105E-03	8.578E-02	7.523E-02	4.376E-02	NOT IDENT.
SE-75	8.707E-05	4.367E-02	3.581E-02	2.228E-02	NOT IDENT.
BR-77	-5.134E+00	1.774E+01	1.460E+01	9.052E+00	FAIL ABUN
SR-82	-4.241E-01	3.871E-01	3.002E-01	1.975E-01	NOT IDENT.
RB-83	-2.537E-02	6.440E-02	5.256E-02	3.286E-02	NOT IDENT.
RB-84	2.910E-03	7.339E-02	6.245E-02	3.745E-02	NOT IDENT.
KR-85	6.884E+00	6.940E+00	5.584E+00	3.541E+00	NOT IDENT.
SR-85	3.608E-02	3.637E-02	2.927E-02	1.856E-02	NOT IDENT.
RB-86	-1.260E-01	8.844E-01	7.255E-01	4.512E-01	NOT IDENT.
Y-88	1.027E-02	2.803E-02	2.493E-02	1.430E-02	NOT IDENT.
ZR-88	1.911E-02	2.767E-02	2.485E-02	1.412E-02	NOT IDENT.
Y-91	-8.220E+00	2.186E+01	1.832E+01	1.115E+01	NOT IDENT.
NB-94	-1.868E-02	3.010E-02	2.486E-02	1.536E-02	NOT IDENT.
NB-95M	3.258E-01	1.310E-01	1.149E-01	6.685E-02	NOT IDENT.
ZR-95	5.728E-02	6.742E-02	6.158E-02	3.440E-02	NOT IDENT.
NB-97	2.178E+05	6.306E+05	0.000E+00	3.217E+05	SHORT HLIF
ZR-97	3.647E+07	1.612E+07	0.000E+00	8.225E+06	SHORT HLIF
MO-99	1.363E+01	1.728E+01	1.574E+01	8.819E+00	NOT IDENT.
TC-99M	1.733E+18	1.168E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-3.624E-03	3.118E-02	2.588E-02	1.591E-02	FAIL ABUN
RH-102	1.835E-03	2.516E-02	2.147E-02	1.284E-02	FAIL ABUN
RU-103	-2.573E-02	4.013E-02	3.224E-02	2.047E-02	FAIL ABUN
RH-106	1.892E-01	2.780E-01	2.544E-01	1.418E-01	FAIL ABUN
RU-106	1.892E-01	2.773E-01	2.544E-01	1.415E-01	FAIL ABUN
AG-108M	-2.907E-03	2.973E-02	2.527E-02	1.517E-02	NOT IDENT.
AG-110M	7.802E-03	2.889E-02	2.570E-02	1.474E-02	NOT IDENT.
IN-111	1.143E+00	1.667E+00	1.372E+00	8.505E-01	NOT IDENT.
IN-113M	-5.594E-03	4.178E-02	3.576E-02	2.131E-02	NOT IDENT.
SN-113	-5.594E-03	4.178E-02	3.576E-02	2.131E-02	NOT IDENT.
IN-114M	5.605E-02	1.791E-01	1.467E-01	9.137E-02	NOT IDENT.
CD-115	1.940E+00	1.883E+01	1.595E+01	9.606E+00	NOT IDENT.
SN-117M	4.619E-02	5.764E-02	4.623E-02	2.941E-02	NOT IDENT.
SB-122	9.270E-01	3.268E+00	2.789E+00	1.667E+00	NOT IDENT.
I-123	2.446E+07	7.298E+07	0.000E+00	3.724E+07	SHORT HLIF
TE-123M	8.660E-03	2.584E-02	2.149E-02	1.318E-02	NOT IDENT.
I-124	8.519E-01	8.856E-01	7.397E-01	4.518E-01	FAIL ABUN
SB-124	-4.003E-02	6.612E-02	4.772E-02	3.374E-02	FAIL ABUN
SB-125	8.828E-03	8.174E-02	7.050E-02	4.170E-02	FAIL ABUN
TE-125M	5.640E+00	8.855E+00	7.986E+00	4.518E+00	NOT IDENT.
I-126	5.495E-02	1.946E-01	1.725E-01	9.928E-02	NOT IDENT.
SB-126	-3.612E-02	1.654E-01	1.325E-01	8.438E-02	FAIL ABUN
SB-127	5.120E-01	1.694E+00	1.505E+00	8.643E-01	NOT IDENT.
XE-127	-2.069E-02	4.343E-02	3.869E-02	2.216E-02	NOT IDENT.
I-131	7.665E-02	1.243E-01	1.117E-01	6.343E-02	NOT IDENT.
TE-132	3.270E-01	9.621E-01	8.765E-01	4.909E-01	NOT IDENT.
BA-133	-4.285E-03	4.321E-02	3.270E-02	2.205E-02	NOT IDENT.
I-133	2.366E+04	2.872E+04	0.000E+00	1.465E+04	SHORT HLIF
CS-134	1.039E-01	6.252E-02	4.270E-02	3.190E-02	FAIL ABUN
I-135	-5.230E+17	1.086E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-3.270E-02	1.267E-01	1.037E-01	6.462E-02	FAIL ABUN
BA-137M	-1.343E-02	3.226E-02	2.727E-02	1.646E-02	NOT IDENT.
CS-137	-1.420E-02	3.410E-02	2.882E-02	1.740E-02	NOT IDENT.
CE-139	1.060E-02	2.758E-02	2.403E-02	1.407E-02	NOT IDENT.
BA-140	3.073E-02	2.609E-01	2.208E-01	1.331E-01	NOT IDENT.
LA-140	3.064E-02	7.756E-02	6.171E-02	3.957E-02	NOT IDENT.
CE-141	-1.842E-03	6.232E-02	5.383E-02	3.180E-02	NOT IDENT.
CE-143	3.915E+03	1.039E+03	0.000E+00	5.299E+02	SHORT HLIF
CE-144	4.561E-02	1.892E-01	1.661E-01	9.653E-02	NOT IDENT.
PM-144	-6.879E-04	3.198E-02	2.769E-02	1.632E-02	NOT IDENT.
PR-144	-4.667E-02	2.170E+00	1.878E+00	1.107E+00	NOT IDENT.
PM-146	4.983E-04	3.829E-02	3.266E-02	1.954E-02	NOT IDENT.

ND-147	1.524E-01	5.729E-01	4.909E-01	2.923E-01	FAIL ABUN
PM-149	-5.009E+01	1.533E+02	1.332E+02	7.819E+01	NOT IDENT.
EU-152	-6.955E-02	9.686E-02	7.432E-02	4.942E-02	NOT IDENT.
GD-153	4.754E-02	8.351E-02	6.809E-02	4.261E-02	FAIL ABUN
EU-154	-9.972E-02	1.237E-01	9.757E-02	6.312E-02	NOT IDENT.
EU-155	7.354E-02	9.957E-02	9.038E-02	5.080E-02	FAIL ABUN
TB-160	1.105E-01	1.360E-01	1.230E-01	6.940E-02	FAIL ABUN
HO-166M	-6.394E-02	5.529E-02	4.345E-02	2.821E-02	FAIL ABUN
TM-171	1.997E+01	3.585E+01	2.987E+01	1.829E+01	NOT IDENT.
LU-176	-9.887E-03	2.052E-02	1.756E-02	1.047E-02	FAIL ABUN
LU-177	3.090E+00	1.758E+00	1.218E+00	8.970E-01	FAIL ABUN
LU-177M	-4.128E-02	1.552E-01	1.310E-01	7.919E-02	FAIL ABUN
HF-181	-5.190E-03	3.806E-02	3.192E-02	1.942E-02	FAIL ABUN
W-181	1.060E+00	6.458E-01	3.824E-01	3.295E-01	FAIL ABUN
TA-182	-1.454E-03	2.163E-01	1.858E-01	1.104E-01	FAIL ABUN
RE-183	-4.021E-02	1.001E-01	8.434E-02	5.109E-02	FAIL ABUN
RE-184	1.132E-01	2.083E-01	1.904E-01	1.063E-01	NOT IDENT.
OS-185	8.261E-04	4.110E-02	3.593E-02	2.097E-02	NOT IDENT.
W-188	5.041E-01	7.197E+00	5.624E+00	3.672E+00	FAIL ABUN
IR-192	-9.194E-03	3.061E-02	2.643E-02	1.562E-02	FAIL ABUN
AU-195	1.528E-01	2.178E-01	1.980E-01	1.111E-01	FAIL ABUN
TL-200	-4.221E+02	1.459E+03	0.000E+00	7.445E+02	SHORT HLIF
TL-201	4.703E-01	1.007E+01	8.639E+00	5.137E+00	NOT IDENT.
TL-202	1.412E-02	6.811E-02	5.902E-02	3.475E-02	NOT IDENT.
HG-203	2.688E-04	3.678E-02	3.262E-02	1.877E-02	FAIL ABUN
BI-207	-2.543E-02	5.284E-02	4.192E-02	2.696E-02	FAIL ABUN
TL-207	-1.046E+00	6.124E-01	4.643E-01	3.125E-01	FAIL ABUN
PO-209	3.435E+00	7.391E+00	6.493E+00	3.771E+00	NOT IDENT.
BI-210	5.090E+00	8.127E+00	7.675E+00	4.146E+00	NOT IDENT.
PB-210	5.090E+00	8.127E+00	7.675E+00	4.146E+00	NOT IDENT.
PO-210	5.090E+00	8.124E+00	7.675E+00	4.145E+00	NOT IDENT.
PB-211	-2.476E-01	8.366E-01	6.945E-01	4.268E-01	NOT IDENT.
BI-212	1.018E+00	3.851E-01	3.162E-01	1.965E-01	FAIL ABUN
PO-215	-1.046E+00	6.124E-01	4.643E-01	3.125E-01	FAIL ABUN
RN-219	-5.824E-02	3.633E-01	3.096E-01	1.854E-01	FAIL ABUN
RN-220	-9.240E+00	2.251E+01	1.819E+01	1.148E+01	NOT IDENT.
RA-223	-1.046E+00	6.124E-01	4.643E-01	3.125E-01	FAIL ABUN
AC-227	-5.313E-02	3.292E-01	2.914E-01	1.679E-01	FAIL ABUN
TH-227	-5.313E-02	3.292E-01	2.914E-01	1.680E-01	FAIL ABUN
TH-229	-1.780E-02	4.563E-01	3.858E-01	2.328E-01	FAIL ABUN
PA-231	-7.371E-01	1.321E+00	1.133E+00	6.741E-01	FAIL ABUN
TH-231	-1.046E+00	6.124E-01	4.643E-01	3.125E-01	FAIL ABUN
U-231	-8.527E-01	1.603E+00	1.237E+00	8.179E-01	FAIL ABUN
PA-233	1.051E-02	5.450E-02	4.787E-02	2.781E-02	FAIL ABUN
PA-234	-5.372E-02	2.992E-01	2.479E-01	1.527E-01	FAIL ABUN
PA-234M	4.489E+00	4.539E+00	4.106E+00	2.316E+00	FAIL ABUN
TH-234	3.487E+00	2.192E+00	1.576E+00	1.118E+00	FAIL ABUN
U-235	9.336E-02	2.049E-01	1.782E-01	1.045E-01	FAIL ABUN
NP-236	-5.584E-02	6.986E-02	5.770E-02	3.564E-02	NOT IDENT.
U-238	3.487E+00	2.192E+00	1.576E+00	1.118E+00	FAIL ABUN
NP-239	-2.591E-01	1.802E-01	1.469E-01	9.193E-02	FAIL ABUN
AM-241	5.206E-02	2.313E-01	1.915E-01	1.180E-01	NOT IDENT.
CM-243	2.916E-02	8.911E-02	7.981E-02	4.547E-02	FAIL ABUN
AM-246	-9.014E-02	1.493E-01	1.170E-01	7.618E-02	NOT IDENT.
CM-247	2.873E-03	3.215E-02	2.783E-02	1.640E-02	NOT IDENT.
CF-249	3.449E-02	3.641E-02	3.311E-02	1.858E-02	NOT IDENT.
CF-251	1.869E-02	1.169E-01	1.004E-01	5.966E-02	NOT IDENT.

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

ENERGY	MDA COUNTS
46.50	293.2238
46.50	293.2238
46.50	293.2238
48.70	286.7125
49.72	303.1571
51.35	301.6770
52.39	309.9091
52.97	321.5188
53.15	301.2130
53.44	302.3642
54.07	306.5717
56.28	304.5040
56.28	304.5065
57.37	0.0000
57.53	312.0107
57.53	312.0120
57.60	318.6427
57.98	323.6382
57.98	323.6382
59.32	319.9532
59.32	319.9532
59.40	320.0135
59.54	320.1195
59.72	316.0046
60.01	327.5640
61.10	342.6149
61.14	342.6461
61.30	342.7730
63.00	327.4546
63.29	327.1940
63.29	327.1940
63.58	327.4089
64.28	373.7498
65.12	378.7568
65.20	378.8238
65.20	378.8238
66.05	345.0348
66.72	346.9818
66.83	365.7878
66.91	365.8517
67.20	356.2836
67.20	356.2836
67.75	379.9902
67.85	380.0726
68.90	372.6407
68.90	372.6407
69.30	395.2577
69.67	399.9191
70.82	366.0318
70.82	366.0318
70.83	366.0395
72.80	424.4335
72.87	424.4956
72.87	424.4956
74.67	392.3921
74.81	392.5045
74.81	392.5045
74.81	392.5045
74.81	392.5045
74.81	392.5045
74.81	392.5045
74.97	392.6313
75.28	392.8787
75.70	393.2120
77.11	370.7845
77.11	370.7845

77.11	370.7845
77.11	370.7845
77.11	370.7845
77.11	370.7845
77.11	370.7845
78.38	355.9865
79.62	360.7969
79.80	357.9651
79.80	357.9651
80.11	358.1830
80.18	364.1522
80.30	364.2366
80.30	364.2366
80.57	364.4280
81.00	377.5817
81.07	377.6323
81.07	377.6323
81.07	377.6323
81.07	377.6323
82.60	370.3142
83.37	352.4866
83.78	352.7628
83.78	352.7628
83.78	352.7628
83.78	352.7628
84.21	353.0481
84.90	353.5067
85.43	353.8571
86.29	354.4222
86.50	354.5612
86.54	354.5865
86.59	354.6190
86.72	354.7057
86.79	354.7490
86.94	354.8483
87.30	355.0849
87.30	355.0849
87.30	355.0849
87.30	355.0849
87.30	355.0849
87.30	355.0849
87.57	355.2600
87.88	355.4622
88.03	355.5598
88.36	355.7746
88.47	355.8450
89.95	356.8020
91.11	357.5459
92.29	358.2971
92.38	358.3549
92.38	358.3549
93.35	358.9688
94.00	359.3786
94.67	335.9783
94.67	335.9817
94.90	366.5343
94.90	366.5343
94.90	366.5343
94.90	366.5343
95.87	362.5800
95.87	362.5800
96.73	355.4907
97.43	316.1996
98.44	319.4988
98.44	319.4988
98.88	319.5336
99.55	303.5425
99.55	303.5425
99.86	341.5359
100.00	341.6175
100.10	341.6769
103.18	339.3138
103.76	299.4987
105.00	298.0430
105.31	294.0672
108.00	344.0484
109.28	305.2900

111.00	335.2709
111.00	335.2709
111.76	351.3073
112.95	297.6491
115.19	324.8766
116.30	321.2262
117.00	342.5845
117.00	342.5845
117.66	325.0435
121.11	296.0573
121.62	312.1531
121.78	301.6427
122.06	320.8248
122.32	312.4727
122.32	312.4727
122.32	312.4727
122.32	312.4727
123.07	294.7910
127.23	292.8339
129.76	332.4300
131.20	291.2637
133.02	300.7128
133.54	305.6646
135.34	323.6847
136.00	315.3383
136.25	312.2043
136.48	299.3366
140.51	328.1282
140.51	0.0000
142.18	347.3714
142.65	327.9726
143.76	325.1797
144.24	335.2097
144.24	335.2097
144.24	335.2097
144.24	335.2097
145.22	330.1743
145.44	341.2056
147.16	335.3910
152.43	264.8291
152.70	264.9194
153.22	265.0928
154.21	265.4199
154.21	265.4199
154.21	265.4199
154.21	265.4199
155.03	262.3722
156.02	262.6953
158.56	231.8307
159.00	0.0000
159.00	248.3096
160.31	286.3695
161.27	272.2016
162.32	288.1871
162.64	280.4753
163.35	285.1889
163.89	267.4673
165.85	280.4337
167.43	271.9694
171.28	274.3292
171.86	273.3849
172.10	251.9911
176.55	277.1335
176.60	277.1484
181.06	282.5439
184.41	292.1927
185.71	302.9377
186.00	303.0344
190.27	264.3154
192.34	299.3476
193.63	258.0956
197.04	296.2004
198.01	275.5718
198.60	251.3101
200.40	286.7523
201.83	298.5623
202.84	300.6274
205.31	271.3403

208.36	301.7996
208.81	274.2486
209.75	241.4978
209.75	241.4978
210.97	236.1383
215.65	224.6332
216.55	240.8301
218.09	270.5645
222.10	251.9674
223.80	263.1201
226.40	242.2444
227.00	228.9167
227.08	231.6276
227.20	246.9193
228.16	244.4476
228.18	244.4518
228.18	244.4518
231.56	0.0000
235.69	233.1473
236.00	233.2161
236.00	233.2161
238.63	248.6658
238.63	248.6658
238.63	248.6658
238.63	248.6658
239.00	248.7494
240.98	249.2009
241.98	249.4288
241.98	249.4288
241.98	249.4288
244.69	182.5134
245.39	187.0109
247.94	225.9310
248.90	239.0801
249.79	219.1028
252.40	199.3946
252.85	197.6356
252.85	197.6356
254.15	0.0000
256.20	200.0601
256.20	200.0601
260.50	208.2115
260.90	219.3921
262.80	192.8608
264.65	198.1217
268.24	187.7941
268.79	201.3036
269.46	210.3675
269.46	210.3675
269.46	210.3675
269.46	210.3675
271.23	211.9881
273.65	226.0797
276.40	183.8278
277.35	199.9280
277.60	187.7655
277.60	187.7655
278.00	202.8527
278.60	186.0419
279.20	194.5931
279.53	203.1097
280.46	199.5005
281.68	178.0325
283.67	184.9254
284.30	184.0771
285.00	173.7915
285.90	182.4247
286.10	184.3449
286.10	184.3449
287.40	176.0183
288.45	0.0000
290.67	170.0289
290.80	162.4540
291.72	173.2099
293.26	0.0000
293.70	173.4826
295.21	156.9292
295.21	156.9292

295.21	156.9292
295.96	121.9590
296.50	122.0098
297.23	122.0801
298.57	122.2090
299.80	159.0240
299.80	159.0240
300.09	159.0596
300.09	159.0596
300.09	159.0596
300.09	159.0596
300.12	159.0621
301.29	165.3302
302.84	153.2690
303.76	153.3765
303.91	153.3960
304.40	144.2450
304.40	144.2450
304.84	133.5501
306.84	154.7011
308.46	152.9686
311.98	136.9796
316.51	159.7103
318.01	164.7342
319.02	138.6753
319.41	142.5947
320.08	132.9612
323.87	198.5402
323.87	198.5402
323.87	198.5402
323.87	198.5402
325.23	185.1004
328.77	164.0933
333.44	164.6470
334.20	177.2908
334.20	177.2908
334.30	177.3019
338.28	184.1008
338.28	184.1008
338.28	184.1008
338.28	184.1008
338.32	184.1065
338.32	184.1065
338.32	184.1065
340.50	163.9041
340.57	163.9117
344.27	175.1389
345.85	156.6138
350.59	0.0000
351.07	146.8641
351.92	146.9521
351.92	146.9521
351.92	146.9521
355.39	0.0000
356.01	143.3826
364.48	128.1875
366.43	139.3881
367.43	143.4953
367.94	0.0000
369.80	116.5859
374.96	125.0539
383.85	160.2711
387.95	123.0660
388.63	125.1546
391.69	143.7518
391.69	143.7518
392.90	117.3338
398.62	112.6402
400.65	117.9111
401.10	123.0725
401.81	129.2838
402.60	122.1613
404.84	132.6120
410.95	120.7330
411.60	134.2014
413.65	125.0674
414.70	107.5658
415.30	107.6055

415.76	108.6706
417.63	0.0000
418.52	114.0367
423.70	108.1545
427.08	128.1725
427.89	113.6404
432.53	113.9547
433.93	119.2794
439.47	106.0226
439.56	104.9789
439.89	103.9488
443.98	112.6181
444.90	105.3055
445.03	105.3146
445.03	105.3146
445.03	105.3146
453.90	105.8533
463.38	108.9781
468.07	97.3147
473.00	120.9074
475.06	95.3366
475.35	101.7797
476.78	105.0760
477.59	89.0322
477.96	82.6138
482.03	96.7772
484.57	86.1426
487.03	108.9014
490.36	0.0000
492.35	88.6690
497.08	119.2467
507.63	0.0000
510.53	0.0000
510.84	114.6571
511.00	114.6667
511.85	115.3719
511.85	115.3719
513.99	91.0006
513.99	91.0006
520.41	103.1567
520.65	103.1682
527.90	92.5364
528.96	0.0000
529.64	77.1820
529.87	0.0000
531.02	87.1657
537.32	89.6567
543.00	81.0312
546.56	0.0000
549.76	86.8728
552.65	71.3809
555.20	99.3889
563.23	91.9322
563.90	93.0837
568.70	95.5472
569.32	92.2025
569.50	92.2100
569.67	92.2175
573.80	100.0626
574.00	100.0707
574.64	100.1032
578.91	97.8967
579.30	0.0000
583.14	105.0344
585.48	84.6038
591.81	89.0972
592.07	89.1092
593.00	88.2378
595.88	89.2671
600.56	94.9355
602.52	0.0000
602.71	74.6225
602.71	74.6225
603.60	82.2722
604.41	88.3995
604.70	88.4113
609.31	92.5694

609.31	92.5694
609.31	92.5694
609.31	92.5694
610.33	88.6379
612.46	81.0743
614.37	73.4902
618.01	89.2537
621.84	73.7383
621.84	73.7383
631.29	62.0159
633.02	70.4002
633.10	70.4039
634.78	73.2370
635.90	86.2589
636.97	79.8041
645.85	88.4989
646.12	93.1665
656.30	73.9275
657.75	69.2919
657.90	0.0000
661.65	94.7319
661.65	94.7319
664.57	0.0000
666.33	96.7989
666.33	96.7989
675.00	88.6666
677.61	79.3201
685.20	69.1522
692.80	77.9220
695.00	82.7498
696.49	91.3641
696.49	91.3641
697.00	90.4332
697.49	90.4495
698.33	91.4344
698.50	85.7263
699.00	88.6020
702.63	93.5043
706.10	85.0367
706.58	0.0000
706.67	84.1006
709.31	76.5371
711.68	96.7193
713.82	76.6758
717.42	71.9879
720.50	94.9010
721.93	0.0000
722.20	76.9336
722.78	80.1575
722.78	80.1575
722.89	80.1615
722.95	80.1636
723.30	86.5898
724.18	81.8063
727.18	94.4303
733.00	57.9478
735.90	66.7174
739.58	60.0353
742.81	78.5320
744.21	70.8150
747.13	59.2412
751.79	72.9694
752.31	64.2259
753.82	75.9472
755.35	72.0940
756.15	67.2447
756.87	75.0618
763.93	70.0517
765.79	83.1427
766.42	96.8610
766.84	96.8755
776.49	90.3559
778.00	69.7710
778.57	80.5986
778.89	84.5387
783.80	77.8023
785.46	78.8359
792.07	80.6757

795.84	54.4092
796.30	52.7682
798.80	74.2749
801.93	78.0790
805.60	64.5319
810.29	66.6320
810.76	63.6594
815.85	67.7626
817.79	67.8107
818.51	67.8290
819.60	67.8556
826.30	85.0228
828.27	0.0000
831.60	82.1782
831.96	79.1813
834.83	83.2756
836.80	0.0000
846.75	66.4995
848.13	59.4753
856.28	0.0000
856.80	70.7776
860.37	60.7427
867.32	67.9929
867.82	66.9894
871.10	45.7262
873.19	65.0797
874.81	72.2376
875.33	0.0000
876.40	70.2415
879.36	55.0270
880.27	66.2568
880.51	66.2616
881.50	70.3628
883.24	71.4253
884.67	66.3552
889.25	69.5257
896.60	63.5485
898.02	62.5533
899.00	72.8322
903.28	66.7726
911.07	71.0653
911.07	71.0653
911.07	71.0653
919.63	59.9060
920.93	47.5318
925.00	64.1509
925.24	64.1555
926.50	70.3923
935.52	78.9057
937.48	94.5391
944.10	71.8385
946.00	67.7152
949.00	63.6092
962.29	92.5020
964.01	94.3000
966.15	122.3234
968.20	117.5070
969.11	117.5398
969.11	117.5398
969.11	117.5398
977.42	74.7077
980.50	62.1401
983.50	67.4703
989.30	69.7044
996.32	78.3233
1001.03	54.0580
1001.68	55.1281
1004.76	61.5471
1021.30	0.0000
1024.50	0.0000
1034.80	73.8886
1036.00	76.0581
1037.82	70.7405
1038.57	55.7477
1038.76	0.0000
1045.16	77.3402
1046.59	72.0021
1048.07	67.7312

1050.47	58.0975
1050.47	58.0975
1062.04	77.7270
1063.62	66.9618
1076.63	66.1320
1077.35	60.7250
1078.86	72.6858
1085.78	61.9597
1099.22	66.5639
1112.02	71.1858
1112.84	82.1558
1115.52	69.4286
1120.29	84.5233
1120.29	84.5233
1120.29	84.5233
1120.29	84.5233
1120.51	84.5308
1121.28	84.5496
1124.00	0.0000
1129.67	73.0405
1131.51	0.0000
1147.95	0.0000
1167.94	80.6385
1173.22	74.2578
1175.09	59.4349
1177.93	78.0698
1189.05	68.0484
1204.90	100.1645
1205.75	0.0000
1213.00	85.3680
1221.42	90.2578
1230.97	111.2156
1235.34	89.6423
1236.41	0.0000
1238.25	80.2651
1246.25	81.3774
1260.41	0.0000
1271.85	46.6692
1274.45	64.8097
1274.54	64.8097
1291.56	58.3888
1298.22	0.0000
1312.09	25.0140
1325.50	47.2973
1325.50	47.2973
1332.49	41.5758
1333.61	40.6208
1360.21	25.3081
1362.66	0.0000
1365.15	37.0321
1368.21	19.8953
1368.53	0.0000
1376.25	20.1002
1384.27	26.8516
1394.10	38.2684
1395.20	41.2224
1407.95	30.5169
1434.06	23.7686
1436.60	22.7913
1457.56	0.0000
1460.81	21.9212
1489.15	33.0900
1509.49	32.2318
1596.49	10.5557
1620.62	11.3455
1678.03	0.0000
1691.02	15.6940
1691.02	15.6940
1706.46	0.0000
1750.46	0.0000
1764.49	12.7373
1764.49	12.7373
1764.49	12.7373
1764.49	12.7373
1770.23	19.1272
1771.40	10.6287
1791.20	0.0000
1808.65	9.6339

1836.01

8.6074

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808005

Total Uranium Activity	1.0416E+01	ug/g
Total Uranium Counting Unc.	6.5218E+00	ug/g
Total Uranium Tpu	3.3274E-06	ug/g
Total Uranium Mda	4.6897E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON , SC 29417              *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G245808005
*  ANALYST       : RXF2            DETECTOR    : GAM10
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 12-FEB-2010 16:57:44.75  SAMPLE ALQT: 141.695 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.766E+00
GROSS GAMMA ERROR (pCi/GRAM ) : 1.447E+00
GROSS GAMMA MDA (pCi/GRAM ) : 3.116E+00
GROSS GAMMA DLC (pCi/GRAM ) : 1.509E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 18:59:06.40

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808006.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 16:58:17
Sample ID         : G245808006          Sample quantity  : 1.67461E+02 GRAM
Detector name     : GAM11              Detector geometry: CAN
Elapsed live time : 0 02:00:00.00      Elapsed real time: 0 02:00:05.38 0.1%
Energy tolerance  : 1.50000 keV        Analyst Initials  : RXF2
Abundance limit   : 75.00000           Sensitivity       : 5.00000
Batch ID          : 947554             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	52.81	123	2679	1.28	104.48	102	6	1.71E-02	66.7	
2	0	63.22*	12053	4739	0.99	125.32	120	9	1.67E+00	1.4	
3	0	74.96*	455	3832	0.76	148.82	146	6	6.32E-02	22.1	
4	0	76.95	347	2952	0.63	152.80	152	5	4.82E-02	24.1	
5	4	83.39*	324	3796	0.97	165.70	163	9	4.50E-02	31.4	3.89E+00
6	4	84.37*	575	3818	1.07	167.65	163	9	7.99E-02	17.8	
7	4	92.56*	27014	3354	0.99	184.05	180	13	3.75E+00	0.7	9.23E+00
8	4	94.71	1302	2203	1.21	188.35	180	13	1.81E-01	10.3	
9	0	98.53	1762	2372	0.90	195.99	192	8	2.45E-01	5.4	
10	4	111.22	363	1870	1.05	221.39	218	10	5.04E-02	19.5	2.25E+00
11	4	112.78*	1269	1488	0.77	224.52	218	10	1.76E-01	5.5	
12	0	131.59	223	1333	1.11	262.16	259	8	3.09E-02	29.2	
13	0	143.80*	976	1336	1.04	286.60	283	9	1.35E-01	7.5	
14	0	163.29	416	1166	1.05	325.61	322	9	5.77E-02	15.6	
15	0	185.70*	4939	994	1.06	370.46	365	10	6.86E-01	1.9	
16	0	205.28	481	563	0.98	409.66	407	7	6.69E-02	9.3	
17	0	209.35	86	449	0.93	417.81	415	6	1.19E-02	40.7	
18	5	238.60*	999	346	0.99	476.33	471	16	1.39E-01	4.4	1.23E+00
19	5	241.58	252	497	1.57	482.31	471	16	3.50E-02	17.7	
20	0	258.27	340	508	1.02	515.71	512	10	4.73E-02	13.6	
21	0	270.26*	116	411	0.81	539.70	535	9	1.62E-02	33.1	
22	0	295.15	348	403	0.98	589.53	585	10	4.84E-02	12.1	
23	0	338.49*	197	326	1.14	676.26	671	10	2.73E-02	18.7	
24	0	351.89*	465	331	1.20	703.07	698	10	6.46E-02	8.7	
25	0	462.93	81	208	1.13	925.30	921	11	1.13E-02	36.4	
26	0	511.27*	100	249	1.87	1022.05	1017	15	1.39E-02	38.9	
27	0	583.28*	338	210	1.39	1166.13	1159	15	4.69E-02	10.9	
28	0	609.66*	408	170	1.40	1218.93	1213	14	5.66E-02	8.5	
29	0	661.70	148	147	1.40	1323.07	1318	11	2.06E-02	17.8	
30	0	727.34*	57	139	1.47	1454.42	1450	10	7.87E-03	41.5	
31	0	743.14	180	164	0.88	1486.04	1481	10	2.51E-02	15.3	
32	0	766.57	655	175	1.48	1532.92	1528	12	9.10E-02	5.6	
33	0	786.87	109	143	1.35	1573.53	1568	11	1.51E-02	23.7	
34	0	880.70*	43	64	1.05	1761.28	1756	9	5.91E-03	38.0	
35	0	883.54	29	44	0.95	1766.96	1764	7	4.02E-03	42.3	
36	0	911.54*	265	65	1.72	1822.99	1817	14	3.68E-02	9.1	
37	0	946.43	58	72	2.02	1892.81	1888	11	7.99E-03	31.4	
38	0	969.30	145	74	1.17	1938.56	1933	11	2.01E-02	14.2	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1001.33*	1531	110	1.57	2002.64	1994	16	2.13E-01	3.0	
40	0	1120.54	103	54	1.42	2241.17	2235	14	1.44E-02	17.9	
41	0	1461.19*	1289	51	1.84	2922.67	2913	18	1.79E-01	3.1	
42	0	1737.96	22	6	1.37	3476.30	3471	9	3.06E-03	29.8	
43	0	1765.11*	79	5	2.32	3530.61	3524	16	1.10E-02	13.2	

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

VMS Nuclide Identification Report V3.1 Generated 12-FEB-2010 18:59:09

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808006.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 16:58:17
Sample ID         : G245808006 Sample quantity : 167.46 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA11 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:05.38 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	*	2.211E+01	2.347E+00	4.574E-01	3.955E-02	48.328
AS-73	+	53.44	*	1.227E+00	1.638E+00	2.073E+00	1.557E-01	0.592
RB-84	+	881.50	*	1.073E-01	8.221E-02	7.108E-02	7.004E-03	1.509
NB-95	+	765.79	*	8.339E-01	1.238E-01	6.546E-02	6.389E-03	12.740
BA-137M	+	661.65	*	1.536E-01	5.664E-02	5.418E-02	5.127E-03	2.834
CS-137	+	661.65	*	1.623E-01	5.988E-02	5.728E-02	5.429E-03	2.834
LU-177	+	112.95	*	3.564E+01	4.939E+00	5.113E+00	4.342E-01	6.972
	+	208.36	*	1.823E+00	1.499E+00	2.201E+00	2.576E-01	0.828
TL-208		277.35		4.073E-01	3.784E-01	6.263E-01	1.111E-01	0.650
	+	510.84		3.524E-01	2.781E-01	1.967E-01	2.666E-02	1.792
	+	583.14	*	3.379E-01	8.242E-02	5.033E-02	5.435E-03	6.713
		860.37		3.856E-01	2.479E-01	4.544E-01	4.733E-02	0.849
BI-211		72.87		4.502E+00	5.651E+00	8.283E+00	6.579E-01	0.544
	+	351.07	*	2.054E+00	4.484E-01	3.140E-01	4.143E-02	6.540
BI-212	+	727.18	*	4.842E-01	4.052E-01	4.438E-01	4.850E-02	1.091
	+	785.46		5.943E+00	2.871E+00	3.147E+00	3.083E-01	1.888
		1620.62		1.481E-01	9.208E-01	1.569E+00	1.317E-01	0.094
PB-212	+	74.81		1.641E+00	7.541E-01	9.702E-01	1.200E-01	1.691
	+	77.11		7.197E-01	3.524E-01	5.102E-01	4.240E-02	1.411
		87.30		1.147E-01	7.881E-01	1.133E+00	1.555E-01	0.101
	+	238.63	*	9.631E-01	1.591E-01	8.473E-02	1.187E-02	11.366
		300.09		1.003E+00	7.901E-01	1.194E+00	1.913E-01	0.840
PO-212	+	74.81		1.641E+00	7.541E-01	9.702E-01	1.200E-01	1.691
	+	77.11		7.197E-01	3.524E-01	5.102E-01	4.240E-02	1.411
		87.30		1.147E-01	7.881E-01	1.133E+00	1.555E-01	0.101
		115.19		5.973E+00	5.338E+00	8.378E+00	7.099E-01	0.713
	+	238.63	*	9.631E-01	1.591E-01	8.473E-02	1.187E-02	11.366
		300.09		1.003E+00	7.901E-01	1.194E+00	1.913E-01	0.840
BI-214	+	609.31	*	7.687E-01	1.571E-01	9.257E-02	1.046E-02	8.304
	+	1120.29		1.002E+00	3.740E-01	3.458E-01	3.734E-02	2.898
	+	1764.49		1.045E+00	2.887E-01	1.786E-01	1.472E-02	5.850
PB-214	+	74.81		2.827E+00	1.289E+00	1.672E+00	1.835E-01	1.691
	+	77.11		1.234E+00	6.114E-01	8.747E-01	9.861E-02	1.411
		87.30		1.964E-01	1.350E+00	1.941E+00	2.359E-01	0.101

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	241.98		1.458E+00	5.578E-01	5.105E-01	7.437E-02	2.856
	+	295.21		9.098E-01	2.649E-01	1.911E-01	3.116E-02	4.761
	+	351.92	*	7.143E-01	1.604E-01	1.095E-01	1.549E-02	6.526
	+	74.81		2.827E+00	1.289E+00	1.672E+00	1.835E-01	1.691
	+	77.11		1.234E+00	6.114E-01	8.747E-01	9.861E-02	1.411
	+	87.30		1.964E-01	1.350E+00	1.941E+00	2.359E-01	0.101
PO-216	+	241.98		1.458E+00	5.578E-01	5.105E-01	7.437E-02	2.856
	+	295.21		9.098E-01	2.649E-01	1.911E-01	3.116E-02	4.761
	+	351.92	*	7.143E-01	1.604E-01	1.095E-01	1.549E-02	6.526
	+	74.81		1.641E+00	7.541E-01	9.702E-01	1.200E-01	1.691
	+	77.11		7.197E-01	3.524E-01	5.102E-01	4.240E-02	1.411
	+	87.30		1.147E-01	7.881E-01	1.133E+00	1.555E-01	0.101
PO-218	+	238.63	*	9.631E-01	1.591E-01	8.473E-02	1.187E-02	11.366
	+	300.09		1.003E+00	7.901E-01	1.194E+00	1.913E-01	0.840
	+	74.81		2.827E+00	1.289E+00	1.672E+00	1.835E-01	1.691
	+	77.11		1.234E+00	6.114E-01	8.747E-01	9.861E-02	1.411
	+	87.30		1.964E-01	1.350E+00	1.941E+00	2.359E-01	0.101
	+	241.98		1.458E+00	5.578E-01	5.105E-01	7.437E-02	2.856
RA-224	+	295.21		9.098E-01	2.649E-01	1.911E-01	3.116E-02	4.761
	+	351.92	*	7.143E-01	1.604E-01	1.095E-01	1.549E-02	6.526
	+	240.98	*	2.765E+00	1.046E+00	9.646E-01	1.292E-01	2.866
	+	609.31	*	7.687E-01	1.571E-01	9.257E-02	1.046E-02	8.304
	+	1120.29		1.002E+00	3.740E-01	3.458E-01	3.734E-02	2.898
	+	1764.49		1.045E+00	2.887E-01	1.786E-01	1.472E-02	5.850
AC-228	+	338.32		9.579E-01	5.432E-01	3.372E-01	1.435E-01	2.841
	+	911.07	*	1.169E+00	2.550E-01	1.642E-01	1.999E-02	7.120
	+	969.11		1.126E+00	4.165E-01	3.639E-01	8.624E-02	3.095
	+	338.32		9.579E-01	5.432E-01	3.372E-01	1.435E-01	2.841
	+	911.07	*	1.169E+00	2.550E-01	1.642E-01	1.999E-02	7.120
	+	969.11		1.126E+00	4.165E-01	3.639E-01	8.624E-02	3.095
TH-228	+	74.81		1.669E+00	7.513E-01	9.869E-01	8.075E-02	1.691
	+	77.11		7.322E-01	3.585E-01	5.190E-01	4.313E-02	1.411
	+	87.30		1.166E-01	8.016E-01	1.153E+00	1.083E-01	0.101
	+	238.63	*	9.798E-01	1.619E-01	8.620E-02	1.207E-02	11.366
	+	300.09		1.020E+00	1.000E+00	1.214E+00	7.350E-01	0.840
	+	609.31	*	7.686E-01	1.571E-01	9.257E-02	1.046E-02	8.304
TH-230	+	1120.29		1.002E+00	3.740E-01	3.458E-01	3.734E-02	2.898
	+	1764.49		1.045E+00	2.887E-01	1.786E-01	1.472E-02	5.850
	+	84.21		4.797E+01	1.758E+01	2.223E+01	2.010E+00	2.158
	+	92.29		8.554E+02	7.913E+01	8.280E+00	7.586E-01	103.309
	+	95.87	*	2.518E+01	5.680E+00	3.358E+00	3.008E-01	7.499
	+	108.00		5.844E-01	4.602E+00	7.112E+00	6.090E-01	0.082
TH-232	+	338.32		9.579E-01	3.816E-01	3.372E-01	4.547E-02	2.841
	+	911.07	*	1.169E+00	2.550E-01	1.642E-01	1.999E-02	7.120
	+	969.11		1.126E+00	4.165E-01	3.639E-01	8.624E-02	3.095
	+	766.42		2.158E+02	1.126E+02	1.826E+01	9.304E+00	11.815
	+	1001.03	*	2.419E+02	2.950E+01	6.311E+00	6.713E-01	38.335
	+	63.29	*	1.664E+02	2.931E+01	3.127E+00	5.439E-01	53.231
TH-234	+	92.38		1.588E+02	2.920E+01	1.536E+00	2.818E-01	103.354

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-234	+	609.31	*	7.686E-01	1.571E-01	9.257E-02	1.046E-02	8.304
	+	1120.29		1.002E+00	3.740E-01	3.458E-01	3.734E-02	2.898
	+	1764.49		1.045E+00	2.887E-01	1.786E-01	1.472E-02	5.850
U-235		89.95		-2.331E-01	2.391E+00	3.417E+00	1.061E+00	-0.068
	+	93.35		1.909E+02	5.387E+01	1.839E+00	5.180E-01	103.807
		105.00		1.329E+00	1.452E+00	2.429E+00	7.251E-01	0.547
	+	143.76	*	2.961E+00	6.881E-01	4.125E-01	7.292E-02	7.179
	+	163.35		2.991E+00	1.101E+00	8.957E-01	1.751E-01	3.339
	+	185.71		3.328E+00	3.742E-01	7.675E-02	8.139E-03	43.363
	+	205.31		3.975E+00	1.105E+00	8.798E-01	1.810E-01	4.518
U-238	+	63.29	*	1.664E+02	2.931E+01	3.127E+00	5.439E-01	53.231
	+	92.38		1.588E+02	1.469E+01	1.536E+00	1.406E-01	103.354
AM-243	+	74.67	*	2.660E-01	1.197E-01	1.577E-01	1.276E-02	1.687
		86.72		1.043E+01	1.851E+01	2.678E+01	2.499E+00	0.390
		117.66		-5.556E+00	4.851E+00	8.029E+00	6.791E-01	-0.692
		142.18		5.365E+01	2.598E+01	4.074E+01	3.633E+00	1.317
ANH-511	+	511.00	*	7.612E-02	5.974E-02	4.249E-02	4.544E-03	1.791

---- 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	*	-6.065E-02	3.230E-01	5.338E-01	6.042E-02	-0.114
NA-22		1274.54	*	7.276E-03	3.562E-02	5.905E-02	4.849E-03	0.123
NA-24		1368.53	*	2.317E-01	3.562E-02	Half-Life too short		
AL-26		1129.67		-6.201E-01	1.236E+00	1.930E+00	1.630E-01	-0.321
		1808.65	*	2.392E-02	2.301E-02	4.445E-02	3.628E-03	0.538
TI-44		67.85		2.761E-02	7.038E-02	1.119E-01	8.476E-03	0.247
	+	78.38	*	1.328E-01	6.503E-02	9.314E-02	7.851E-03	1.426
SC-46		889.25	*	3.194E-03	3.657E-02	5.843E-02	5.755E-03	0.055
	+	1120.51		1.745E-01	6.411E-02	9.187E-02	7.835E-03	1.900
V-48		944.10		9.983E-01	9.310E-01	1.503E+00	1.454E-01	0.664
		983.50	*	7.477E-02	6.369E-02	1.152E-01	1.093E-02	0.649
		1312.09		5.363E-02	6.148E-02	1.098E-01	9.052E-03	0.488
CR-51		320.08	*	1.258E-01	3.824E-01	6.205E-01	9.005E-02	0.203
MN-52	+	744.21		1.748E+00	5.611E-01	7.795E-01	7.574E-02	2.242
		848.13		-1.677E-01	7.818E+00	1.315E+01	1.295E+00	-0.013
		935.52		1.757E-01	2.566E-01	4.512E-01	4.381E-02	0.389
		1246.25		6.187E-01	6.963E+00	1.144E+01	9.340E-01	0.054
		1333.61		-8.334E-01	4.583E+00	7.241E+00	5.985E-01	-0.115
		1434.06	*	1.018E-01	2.651E-01	4.463E-01	3.739E-02	0.228
MN-54		834.83	*	-6.443E-03	3.186E-02	5.300E-02	5.219E-03	-0.122
CO-56		846.75	*	1.715E-03	3.433E-02	5.803E-02	5.717E-03	0.030
		977.42		-7.978E-01	2.513E+00	4.073E+00	3.876E-01	-0.196
		1037.82		-2.657E-02	2.195E-01	3.591E-01	3.446E-02	-0.074
		1175.09		8.423E-01	1.767E+00	2.963E+00	2.381E-01	0.284
		1238.25		1.251E-01	7.592E-02	1.373E-01	1.155E-02	0.912
		1360.21		-3.550E-02	7.718E-01	1.240E+00	1.029E-01	-0.029
		1771.40		2.891E-02	1.039E-01	1.670E-01	1.375E-02	0.173

---- 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	*		2.204E-02	3.190E-02	5.484E-02	4.639E-03	0.402
	136.48			-1.534E-01	2.663E-01	4.230E-01	3.974E-02	-0.363
CO-58	810.76	*		1.062E-02	3.717E-02	6.072E-02	5.979E-03	0.175
FE-59	142.65		+	3.946E+01	6.924E+00	7.399E+00	6.608E-01	5.333
	192.34			-7.476E-01	1.034E+00	1.665E+00	2.497E-01	-0.449
	1099.22	*		-1.298E-02	7.189E-02	1.165E-01	1.095E-02	-0.111
	1291.56			2.753E-02	8.880E-02	1.494E-01	1.410E-02	0.184
CO-60	1173.22			3.802E-02	3.400E-02	5.996E-02	4.817E-03	0.634
	1332.49	*		-4.207E-03	2.762E-02	4.383E-02	3.622E-03	-0.096
ZN-65	1115.52	*		-1.782E-02	7.784E-02	1.076E-01	9.235E-03	-0.166
GE-68	1077.35	*		5.465E-01	9.488E-01	1.646E+00	1.462E-01	0.332
AS-74	595.88	*		-7.466E-03	9.255E-02	1.511E-01	1.537E-02	-0.049
	634.78			-1.844E-01	3.773E-01	5.961E-01	5.831E-02	-0.309
SE-75	66.05			-1.155E+01	7.624E+00	1.064E+01	1.011E+00	-1.085
	96.73			5.028E+00	1.642E+00	2.051E+00	2.834E-01	2.452
	121.11			3.516E-02	1.737E-01	2.963E-01	3.287E-02	0.119
	136.00			5.471E-04	5.266E-02	8.001E-02	7.044E-03	0.007
	198.60			-1.660E+00	1.929E+00	3.057E+00	3.656E-01	-0.543
	264.65	*		1.059E-02	4.543E-02	7.086E-02	1.042E-02	0.149
	279.53			-3.324E-02	1.095E-01	1.744E-01	2.731E-02	-0.191
	303.91			-6.465E-01	1.981E+00	3.125E+00	5.194E-01	-0.207
	400.65			-5.510E-02	2.254E-01	3.763E-01	4.813E-02	-0.146
BR-77	87.88			-5.675E+02	7.018E+02	9.895E+02	9.371E+01	-0.574
	200.40			-1.230E+02	3.157E+02	5.146E+02	5.819E+01	-0.239
	239.00		+	2.845E+02	4.525E+01	4.934E+01	6.556E+00	5.766
	249.79			-6.086E+01	1.205E+02	1.917E+02	2.657E+01	-0.318
	281.68			-4.709E+01	1.582E+02	2.516E+02	3.881E+01	-0.187
	297.23			-2.178E+01	1.053E+02	1.488E+02	2.233E+01	-0.146
	303.76			-1.733E+02	3.114E+02	4.849E+02	7.176E+01	-0.357
	439.47			3.542E+01	2.365E+02	4.002E+02	4.316E+01	0.089
	484.57			-1.219E+02	3.953E+02	6.478E+02	6.974E+01	-0.188
	520.65	*		-3.359E+00	1.888E+01	3.101E+01	3.304E+00	-0.108
	574.64			-1.250E+02	3.737E+02	6.028E+02	6.233E+01	-0.207
	578.91			4.609E+01	1.593E+02	2.355E+02	2.427E+01	0.196
	585.48			1.035E+03	3.578E+02	5.966E+02	6.118E+01	1.735
	755.35			2.449E+02	3.031E+02	5.124E+02	4.991E+01	0.478
	817.79			1.888E+02	2.273E+02	3.856E+02	3.792E+01	0.490
SR-82	698.33			9.050E+00	3.643E+01	5.987E+01	5.742E+00	0.151
	776.49	*		-8.417E-02	3.985E-01	6.299E-01	6.160E-02	-0.134
	1395.20			3.758E-02	8.191E+00	1.322E+01	1.103E+00	0.003
RB-83	520.41	*		6.501E-03	6.759E-02	1.127E-01	1.201E-02	0.058
	529.64			-1.789E-02	9.854E-02	1.614E-01	1.714E-02	-0.111
	552.65			-3.710E-02	1.887E-01	3.078E-01	3.229E-02	-0.121
KR-85	513.99	*		7.673E+00	6.440E+00	1.126E+01	1.203E+00	0.682
SR-85	513.99	*		4.021E-02	3.375E-02	5.901E-02	6.303E-03	0.682
RB-86	1076.63	*		-2.183E-01	6.634E-01	1.062E+00	9.434E-02	-0.206
Y-88	898.02			-2.485E-02	3.286E-02	5.143E-02	5.082E-03	-0.483
	1836.01	*		-2.703E-02	3.002E-02	4.152E-02	3.371E-03	-0.651
ZR-88	392.90	*		2.219E-02	2.822E-02	4.931E-02	5.259E-03	0.450

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91		1204.90	*	-1.523E+01	1.512E+01	2.238E+01	1.811E+00	-0.681
NB-94		702.63	*	-1.047E-02	3.400E-02	5.397E-02	5.183E-03	-0.194
		871.10		-1.966E-02	2.484E-02	3.865E-02	3.809E-03	-0.509
NB-95M		235.69	*	-2.624E-02	1.305E-01	1.885E-01	2.632E-02	-0.139
ZR-95		724.18		3.539E-02	1.008E-01	1.467E-01	1.516E-02	0.241
		756.15	*	-6.860E-03	7.369E-02	1.178E-01	1.240E-02	-0.058
NB-97		657.90	*	-5.347E-01	7.369E-02	Half-Life	too short	
		1024.50		9.192E+00	7.369E-02	Half-Life	too short	
ZR-97		254.15		6.991E+01	7.369E-02	Half-Life	too short	
		355.39		-5.425E+00	7.369E-02	Half-Life	too short	
		507.63	*	-1.655E+00	7.369E-02	Half-Life	too short	
		602.52		-2.613E+01	7.369E-02	Half-Life	too short	
		1021.30		1.661E+00	7.369E-02	Half-Life	too short	
		1147.95		1.499E+01	7.369E-02	Half-Life	too short	
		1362.66		2.526E+01	7.369E-02	Half-Life	too short	
		1750.46		-2.754E+01	7.369E-02	Half-Life	too short	
MO-99		140.51		5.184E+01	6.147E+01	9.248E+01	2.568E+01	0.561
		181.06		-3.807E+00	3.628E+01	5.382E+01	1.032E+01	-0.071
		366.43		7.343E+00	1.477E+02	2.343E+02	2.839E+01	0.031
		739.58	*	1.341E+01	2.489E+01	3.649E+01	5.775E+00	0.368
		778.00		-2.682E+01	5.778E+01	8.957E+01	8.764E+00	-0.299
TC-99M		140.51	*	1.435E+13	5.778E+01	Half-Life	too short	
RH-101		127.23		1.432E-02	4.063E-02	6.637E-02	5.668E-03	0.216
		198.01	*	-2.528E-02	3.488E-02	5.565E-02	6.228E-03	-0.454
		325.23		-1.079E-01	2.175E-01	3.382E-01	4.746E-02	-0.319
RH-102		418.52		-9.016E-02	2.491E-01	4.117E-01	4.426E-02	-0.219
		475.06	*	1.896E-02	2.837E-02	4.883E-02	5.264E-03	0.388
		631.29		1.744E-02	5.399E-02	8.988E-02	8.826E-03	0.194
		697.49		3.708E-02	7.771E-02	1.294E-01	1.240E-02	0.287
+		766.84		2.054E+00	3.050E-01	4.076E-01	3.980E-02	5.039
		1046.59		-2.137E-02	8.150E-02	1.313E-01	1.196E-02	-0.163
		1112.84		2.377E-01	1.823E-01	3.181E-01	2.733E-02	0.747
RU-103		497.08	*	-9.243E-04	3.919E-02	6.514E-02	1.012E-02	-0.014
+		610.33		8.611E+00	2.101E+00	2.162E+00	3.775E-01	3.982
RH-106	+	511.85		3.817E-01	2.996E-01	3.411E-01	3.647E-02	1.119
		621.84	*	1.708E-01	3.106E-01	5.233E-01	7.447E-02	0.326
		1050.47		-1.241E+00	1.723E+00	2.645E+00	2.401E-01	-0.469
RU-106	+	511.85		3.817E-01	2.996E-01	3.411E-01	3.647E-02	1.119
		621.84	*	1.708E-01	3.101E-01	5.233E-01	5.191E-02	0.326
		1050.47		-1.241E+00	1.723E+00	2.645E+00	2.401E-01	-0.469
AG-108M		433.93	*	-1.753E-02	3.004E-02	4.890E-02	5.406E-03	-0.359
		614.37		1.470E-02	3.717E-02	5.520E-02	5.680E-03	0.266
		722.95		3.044E-02	4.409E-02	6.602E-02	6.579E-03	0.461
CD-109		88.03	*	-2.226E+00	1.789E+00	2.493E+00	2.364E-01	-0.893
AG-110M		657.75	*	-2.521E-02	3.782E-02	5.039E-02	4.910E-03	-0.500
		677.61		-5.575E-02	2.918E-01	4.676E-01	4.555E-02	-0.119
		706.67		-3.019E-03	2.060E-01	3.330E-01	3.273E-02	-0.009
		763.93		8.088E-01	2.305E-01	3.830E-01	3.820E-02	2.111
+		884.67		4.976E-02	4.236E-02	7.958E-02	8.034E-03	0.625

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	937.48			-3.250E-02	8.753E-02	1.416E-01	1.413E-02	-0.230
	1384.27			-1.732E-02	1.154E-01	1.823E-01	1.564E-02	-0.095
IN-111	171.28			-1.092E+00	1.944E+00	3.188E+00	3.172E-01	-0.343
	245.39	*		4.303E-01	1.906E+00	2.803E+00	3.821E-01	0.153
IN-113M	391.69	*		1.621E-02	4.120E-02	7.093E-02	7.715E-03	0.229
SN-113	391.69	*		1.621E-02	4.120E-02	7.093E-02	7.715E-03	0.229
IN-114M	190.27	*		1.102E-01	1.982E-01	3.187E-01	3.448E-02	0.346
CD-115	260.90			-5.330E+00	2.667E+02	3.856E+02	5.579E+01	-0.014
	492.35			-5.352E+01	6.147E+01	9.664E+01	1.039E+01	-0.554
	527.90	*		4.157E+00	1.934E+01	3.242E+01	3.444E+00	0.128
SN-117M	156.02			-8.520E-01	2.876E+00	4.783E+00	4.478E-01	-0.178
	158.56	*		-3.205E-02	7.248E-02	1.143E-01	1.081E-02	-0.280
SB-122	563.90	*		-7.396E-01	3.458E+00	5.629E+00	5.864E-01	-0.131
	692.80			7.219E+01	7.444E+01	1.272E+02	1.218E+01	0.567
I-123	159.00	*		-4.689E+01	7.444E+01	Half-Life	too short	
	528.96			2.153E+03	7.444E+01	Half-Life	too short	
TE-123M	159.00	*		-1.660E-02	3.615E-02	5.344E-02	5.084E-03	-0.311
I-124	602.71	*		-5.232E-01	9.044E-01	1.374E+00	1.389E-01	-0.381
	722.78			4.435E+00	6.508E+00	9.740E+00	9.411E-01	0.455
	1325.50			9.106E+00	3.524E+01	5.892E+01	4.865E+00	0.155
	1376.25			2.902E+01	3.180E+01	5.684E+01	4.731E+00	0.510
	1509.49			3.816E+01	1.882E+01	3.757E+01	3.162E+00	1.016
	1691.02			-1.679E-01	3.971E+00	6.537E+00	5.451E-01	-0.026
SB-124	602.71			-2.202E-02	3.807E-02	5.785E-02	5.848E-03	-0.381
	645.85			1.620E-02	4.663E-01	7.620E-01	7.711E-02	0.021
	709.31			-2.034E+00	2.813E+00	4.321E+00	4.159E-01	-0.471
	713.82			6.544E-01	1.630E+00	2.702E+00	3.455E-01	0.242
	722.78			2.707E-01	3.972E-01	5.944E-01	5.842E-02	0.455
+	968.20			1.188E+01	3.558E+00	5.521E+00	5.280E-01	2.151
	1045.16			1.237E+00	1.704E+00	3.019E+00	2.751E-01	0.410
	1325.50			5.935E-01	2.297E+00	3.840E+00	3.171E-01	0.155
	1368.21			-1.492E-02	1.328E+00	2.142E+00	2.844E-01	-0.007
	1436.60			2.255E-01	3.427E+00	5.555E+00	4.655E-01	0.041
	1691.02	*		-2.417E-03	5.716E-02	9.410E-02	8.177E-03	-0.026
SB-125	427.89	*		5.889E-02	8.621E-02	1.494E-01	1.629E-02	0.394
+	463.38			5.579E-01	4.108E-01	4.740E-01	5.375E-02	1.177
	600.56			1.028E-01	1.623E-01	2.756E-01	2.942E-02	0.373
	635.90			-1.161E-01	2.663E-01	4.223E-01	4.387E-02	-0.275
TE-125M	109.28	*		4.084E+01	1.590E+01	2.497E+01	2.564E+00	1.636
I-126	388.63			-1.390E-01	2.054E-01	3.359E-01	3.644E-02	-0.414
	666.33	*		3.609E-02	2.306E-01	3.306E-01	3.134E-02	0.109
	753.82			1.596E+00	1.622E+00	2.770E+00	2.697E-01	0.576
SB-126	223.80			-5.346E+00	4.729E+00	7.375E+00	9.211E-01	-0.725
	278.60			2.928E+00	2.747E+00	4.569E+00	7.058E-01	0.641
+	296.50			1.018E+01	2.895E+00	3.079E+00	4.625E-01	3.307
	414.70			2.746E-02	7.426E-02	1.274E-01	1.368E-02	0.216
	415.30			4.651E+00	6.099E+00	1.064E+01	1.143E+00	0.437
	555.20			6.695E-01	4.034E+00	6.681E+00	6.998E-01	0.100
	573.80			-6.126E-01	1.161E+00	1.850E+00	1.914E-01	-0.331

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		593.00		-3.258E-01	9.547E-01	1.532E+00	1.562E-01	-0.213
		656.30		2.511E+00	3.776E+00	5.709E+00	5.440E-01	0.440
		666.33		1.515E-02	9.681E-02	1.388E-01	1.316E-02	0.109
		675.00		1.733E+00	2.016E+00	3.456E+00	3.287E-01	0.502
		695.00		-4.488E-02	8.914E-02	1.398E-01	1.339E-02	-0.321
		697.00		-2.756E-02	3.041E-01	4.898E-01	4.696E-02	-0.056
		720.50	*	4.502E-02	1.581E-01	2.600E-01	2.511E-02	0.173
		856.80		-6.996E-01	4.502E-01	6.605E-01	6.509E-02	-1.059
		989.30		-7.791E-01	1.090E+00	1.689E+00	1.597E-01	-0.461
		1034.80		-6.736E-01	7.278E+00	1.195E+01	1.097E+00	-0.056
		1213.00		-5.667E+00	4.181E+00	5.950E+00	4.825E-01	-0.952
SN-126	+	64.28		6.588E+01	9.707E+00	2.362E+00	3.426E-01	27.894
		86.94		5.239E-01	7.312E-01	1.015E+00	4.212E-01	0.516
		87.57	*	-1.377E-01	1.739E-01	2.453E-01	2.314E-02	-0.561
SB-127		61.10		3.244E+02	1.572E+02	2.327E+02	2.515E+01	1.394
		252.40		-5.033E+00	6.747E+00	1.005E+01	4.385E+00	-0.501
		290.80		-1.292E+01	3.327E+01	4.650E+01	7.997E+00	-0.278
		411.60		-7.950E+00	1.642E+01	2.698E+01	4.696E+00	-0.295
		444.90		1.108E+00	1.275E+01	2.148E+01	3.142E+00	0.052
		473.00		-4.084E-01	2.312E+00	3.825E+00	5.703E-01	-0.107
		543.00		4.647E+00	2.418E+01	4.036E+01	6.495E+00	0.115
		603.60		-1.260E+01	1.770E+01	2.374E+01	3.348E+00	-0.531
		685.20	*	-6.487E-01	1.768E+00	2.789E+00	3.541E-01	-0.233
		698.50		3.796E+00	2.221E+01	3.633E+01	6.108E+00	0.104
		722.20		4.099E+01	4.644E+01	7.040E+01	8.860E+00	0.582
		783.80		7.326E+00	6.448E+00	9.788E+00	1.351E+00	0.748
XE-127		57.60		-7.833E-01	1.028E+01	1.637E+01	1.178E+00	-0.048
	+	145.22		1.018E+01	1.787E+00	1.683E+00	1.516E-01	6.049
		172.10		-1.495E-01	1.448E-01	2.335E-01	2.332E-02	-0.640
		202.84	*	2.091E-02	5.703E-02	8.539E-02	9.760E-03	0.245
		374.96		-1.844E-02	2.009E-01	3.157E-01	3.677E-02	-0.058
I-131		80.18		-2.838E+00	1.188E+01	1.489E+01	1.293E+00	-0.191
		284.30		-4.374E-01	1.693E+00	2.695E+00	4.211E-01	-0.162
		364.48	*	-3.165E-02	1.422E-01	2.224E-01	2.794E-02	-0.142
		636.97		-1.310E+00	1.895E+00	2.916E+00	2.975E-01	-0.449
		722.89		6.110E+00	8.888E+00	1.331E+01	1.294E+00	0.459
TE-132		49.72		2.839E+01	4.256E+01	6.380E+01	6.972E+00	0.445
	+	111.76		2.327E+02	9.443E+01	1.592E+02	1.806E+01	1.462
		116.30		-6.586E+01	6.304E+01	9.344E+01	1.057E+01	-0.705
		228.16	*	8.741E-01	1.118E+00	1.859E+00	3.464E-01	0.470
BA-133	+	53.15		5.103E+00	6.815E+00	8.761E+00	6.604E-01	0.582
		79.62		-1.273E+00	2.778E+00	3.457E+00	5.249E-01	-0.368
		81.00		1.150E-01	1.858E-01	2.694E-01	4.288E-02	0.427
		276.40		2.262E-01	3.678E-01	6.050E-01	1.163E-01	0.374
		302.84		-1.544E-01	1.412E-01	2.106E-01	3.780E-02	-0.733
		356.01	*	3.211E-02	4.510E-02	6.639E-02	1.071E-02	0.484
		383.85		-6.108E-02	2.787E-01	4.676E-01	6.753E-02	-0.131
I-133	+	510.53		4.121E+00	2.787E-01	Half-Life too short		
		529.87	*	-8.625E-03	2.787E-01	Half-Life too short		

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

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CS-134	706.58			-1.248E-01	2.787E-01	Half-Life	too short	
	856.28			-3.959E+00	2.787E-01	Half-Life	too short	
	875.33			2.924E-01	2.787E-01	Half-Life	too short	
	1236.41			1.106E+00	2.787E-01	Half-Life	too short	
	1298.22			7.489E-01	2.787E-01	Half-Life	too short	
	475.35			1.332E+00	1.847E+00	3.186E+00	3.434E-01	0.418
	563.23			-4.851E-02	3.455E-01	5.648E-01	5.925E-02	-0.086
	569.32			-3.661E-02	2.002E-01	3.244E-01	3.399E-02	-0.113
	604.70			-3.304E-03	3.350E-02	4.770E-02	4.821E-03	-0.069
	795.84	*		3.029E-02	4.927E-02	8.191E-02	8.080E-03	0.370
	801.93			-2.834E-01	4.170E-01	6.336E-01	6.247E-02	-0.447
	1038.57			-7.454E-01	2.619E+00	4.207E+00	3.852E-01	-0.177
	1167.94			-1.674E+00	1.858E+00	2.768E+00	2.238E-01	-0.605
	1365.15			1.745E-01	9.500E-01	1.571E+00	1.369E-01	0.111
CS-135	268.24	*		-1.529E-02	1.757E-01	2.525E-01	3.962E-02	-0.061
I-135	288.45			3.928E+12	1.757E-01	Half-Life	too short	
	417.63			1.447E+12	1.757E-01	Half-Life	too short	
	546.56			-3.100E+11	1.757E-01	Half-Life	too short	
	836.80			2.562E+12	1.757E-01	Half-Life	too short	
	1038.76			-1.188E+12	1.757E-01	Half-Life	too short	
	1124.00			3.825E+12	1.757E-01	Half-Life	too short	
	1131.51			-7.768E+11	1.757E-01	Half-Life	too short	
	1260.41	*		3.493E+11	1.757E-01	Half-Life	too short	
	1457.56			2.941E+13	1.757E-01	Half-Life	too short	
	1678.03			4.724E+11	1.757E-01	Half-Life	too short	
	1706.46			4.903E+11	1.757E-01	Half-Life	too short	
	1791.20			-1.018E+12	1.757E-01	Half-Life	too short	
	66.91			-2.862E+00	1.476E+00	1.973E+00	2.930E-01	-1.450
	86.29			-4.874E-02	2.449E+00	3.513E+00	4.674E-01	-0.014
CS-136	153.22			-5.908E-03	8.397E-01	1.409E+00	1.440E-01	-0.004
	163.89	+		7.564E+00	2.492E+00	2.859E+00	3.026E-01	2.645
	176.55			2.282E-02	4.726E-01	7.874E-01	8.355E-02	0.029
	273.65			-2.425E-01	5.336E-01	7.476E-01	1.159E-01	-0.324
	340.57			1.644E-01	1.492E-01	2.235E-01	3.028E-02	0.735
	818.51			4.004E-02	7.697E-02	1.279E-01	1.259E-02	0.313
	1048.07	*		-4.219E-02	8.610E-02	1.353E-01	1.278E-02	-0.312
	1235.34			-2.974E-01	5.492E-01	8.564E-01	9.858E-02	-0.347
CE-139	165.85	*		-1.078E-02	3.848E-02	5.710E-02	5.549E-03	-0.189
BA-140	162.64	+		5.343E+00	1.752E+00	2.006E+00	2.016E-01	2.663
	304.84			-1.879E-01	1.347E+00	2.146E+00	6.540E-01	-0.088
	423.70			6.668E-01	1.876E+00	3.193E+00	1.055E+00	0.209
	537.32	*		-1.048E-01	2.803E-01	4.502E-01	1.517E-01	-0.233
LA-140	328.77			3.667E-01	3.188E-01	5.294E-01	7.515E-02	0.693
	432.53			-1.600E+00	2.169E+00	3.500E+00	3.891E-01	-0.457
	487.03			9.576E-02	1.399E-01	2.411E-01	2.699E-02	0.397
	751.79			-1.241E+00	1.917E+00	2.938E+00	3.102E-01	-0.422
	815.85			4.842E-02	3.328E-01	5.380E-01	5.764E-02	0.090
	867.82			-4.330E-01	1.107E+00	1.794E+00	1.840E-01	-0.241
	919.63			5.211E-01	2.539E+00	4.236E+00	4.913E-01	0.123

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	925.24			1.785E+00	1.234E+00	2.234E+00	2.286E-01	0.799
	1596.49	*		4.358E-04	6.174E-02	1.030E-01	8.666E-03	0.004
CE-141	145.44	*		1.972E-01	8.901E-02	1.404E-01	1.287E-02	1.405
CE-143	57.37			2.026E-04	8.901E-02	Half-Life	too short	
	231.56			9.113E-04	8.901E-02	Half-Life	too short	
	293.26	*		5.896E-04	8.901E-02	Half-Life	too short	
+	350.59			4.669E-02	8.901E-02	Half-Life	too short	
	490.36			-8.042E-03	8.901E-02	Half-Life	too short	
	664.57			1.718E-03	8.901E-02	Half-Life	too short	
	721.93			3.290E-03	8.901E-02	Half-Life	too short	
CE-144	80.11			-1.214E+00	4.590E+00	5.749E+00	4.945E-01	-0.211
	133.54	*		1.831E-01	2.763E-01	4.260E-01	6.647E-02	0.430
PM-144	476.78			2.263E-02	6.645E-02	1.127E-01	1.289E-02	0.201
	618.01			2.494E-03	2.995E-02	4.925E-02	5.007E-03	0.051
	696.49	*		-1.085E-02	3.549E-02	5.639E-02	5.407E-03	-0.192
	778.57			-1.545E+00	2.323E+00	3.543E+00	3.468E-01	-0.436
PR-144	696.49	*		-7.358E-01	2.407E+00	3.826E+00	3.667E-01	-0.192
	1489.15			1.299E+00	6.682E+00	1.159E+01	9.747E-01	0.112
PM-146	453.90	*		4.483E-02	4.104E-02	7.181E-02	9.004E-03	0.624
	633.02			-6.535E-02	1.355E+00	2.206E+00	8.308E-01	-0.030
	735.90			-4.857E-02	1.671E-01	2.637E-01	7.632E-02	-0.184
	747.13			3.342E-02	9.650E-02	1.413E-01	2.082E-02	0.237
ND-147	91.11	+		9.113E+01	9.038E+00	1.706E+00	1.691E-01	53.411
	319.41			3.244E+00	3.649E+00	6.040E+00	8.612E-01	0.537
	439.89			-2.599E+00	5.999E+00	9.837E+00	1.061E+00	-0.264
	531.02	*		-4.657E-01	5.864E-01	9.161E-01	1.482E-01	-0.508
PM-149	285.90	*		-4.751E+01	1.675E+02	2.660E+02	5.335E+01	-0.179
EU-152	121.78			7.119E-02	9.241E-02	1.590E-01	1.555E-02	0.448
	244.69			-2.001E-01	3.591E-01	5.061E-01	6.878E-02	-0.395
	344.27	*		-6.412E-03	9.353E-02	1.482E-01	2.009E-02	-0.043
	443.98			6.586E-02	8.603E-01	1.449E+00	1.564E-01	0.045
	778.89			-1.537E-01	2.673E-01	4.107E-01	4.019E-02	-0.374
	867.32			-3.099E-01	6.052E-01	9.708E-01	9.568E-02	-0.319
	964.01			3.492E-01	2.610E-01	4.265E-01	4.087E-02	0.819
	1085.78			1.224E-01	2.839E-01	4.877E-01	4.299E-02	0.251
	1112.02			2.960E-01	2.418E-01	4.378E-01	3.765E-02	0.676
	1407.95			1.029E-01	1.168E-01	2.149E-01	1.796E-02	0.479
GD-153	69.67			5.417E-01	2.690E+00	4.261E+00	3.281E-01	0.127
+	83.37			5.302E+01	3.362E+01	4.656E+01	4.164E+00	1.139
+	97.43	*		1.830E+00	2.543E-01	2.592E-01	2.303E-02	7.063
	103.18			-1.149E-01	1.392E-01	2.344E-01	2.034E-02	-0.490
EU-154	123.07			-1.203E-02	6.484E-02	1.096E-01	1.233E-02	-0.110
	247.94			1.055E-01	3.588E-01	5.902E-01	9.274E-02	0.179
	591.81			-9.748E-02	5.719E-01	9.288E-01	1.197E-01	-0.105
	723.30			6.835E-02	1.913E-01	2.784E-01	2.918E-02	0.246
	756.87			5.354E-02	7.956E-01	1.285E+00	1.646E-01	0.042
	873.19			3.196E-02	2.290E-01	3.797E-01	4.990E-02	0.084
	996.32			4.212E-01	3.555E-01	5.685E-01	1.033E-01	0.741
	1004.76			5.623E-01	2.323E-01	3.978E-01	4.854E-02	1.414

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EU-155	1274.45	*		2.280E-02	9.963E-02	1.655E-01	1.820E-02	0.138
	48.70			-8.700E-01	3.096E+00	4.944E+00	3.998E-01	-0.176
	60.01			1.097E+01	9.001E+00	1.344E+01	9.587E-01	0.817
	86.54			4.407E-02	2.028E-01	2.921E-01	2.742E-02	0.151
TB-160	105.31	*		4.866E-02	1.438E-01	2.474E-01	2.159E-02	0.197
	86.79			3.427E-01	5.519E-01	7.991E-01	7.462E-02	0.429
	197.04			-1.643E-02	5.993E-01	9.804E-01	1.093E-01	-0.017
	215.65			-2.874E-01	7.460E-01	1.208E+00	1.459E-01	-0.238
	298.57			5.266E-02	1.160E-01	1.703E-01	2.548E-02	0.309
	+	879.36	*	2.091E-01	1.602E-01	2.413E-01	2.378E-02	0.866
		962.29		-1.357E-01	4.703E-01	7.217E-01	6.922E-02	-0.188
		966.15		1.994E-01	2.030E-01	3.197E-01	3.060E-02	0.624
HO-166M	1177.93			-3.361E-01	2.877E-01	4.174E-01	3.358E-02	-0.805
	1271.85			1.181E-01	5.853E-01	9.705E-01	7.957E-02	0.122
	80.57			-7.108E-02	5.868E-01	7.374E-01	6.377E-02	-0.096
	+	184.41		2.496E+00	2.807E-01	1.438E-01	1.517E-02	17.355
		280.46		-7.753E-02	8.408E-02	1.289E-01	1.992E-02	-0.601
		410.95		4.465E-02	2.280E-01	3.880E-01	4.163E-02	0.115
		711.68	*	2.645E-02	5.853E-02	9.737E-02	9.377E-03	0.272
		752.31		-1.897E-01	2.756E-01	4.212E-01	4.100E-02	-0.450
		810.29		1.786E-02	5.432E-02	8.905E-02	8.751E-03	0.201
	+	51.35		3.819E+01	5.100E+01	6.832E+01	5.284E+00	0.559
TM-171	+	52.39		2.130E+01	2.844E+01	3.744E+01	2.852E+00	0.569
		59.40		6.174E+01	4.758E+01	7.116E+01	5.062E+00	0.868
		66.72	*	-1.056E+02	4.661E+01	6.372E+01	4.782E+00	-1.657
LU-176		88.36		-4.732E-01	4.739E-01	5.777E-01	5.462E-02	-0.819
		201.83		5.068E-02	3.314E-02	5.124E-02	5.831E-03	0.989
		306.84	*	6.207E-04	2.395E-02	3.846E-02	5.654E-03	0.016
		401.10		9.507E-01	5.816E+00	9.907E+00	1.060E+00	0.096
LU-177M	+	52.97		2.300E+00	3.072E+00	3.990E+00	3.014E-01	0.577
	+	54.07		1.303E+00	1.741E+00	2.120E+00	1.579E-01	0.615
		61.30		9.446E+00	2.868E+00	4.314E+00	3.106E-01	2.189
		121.62		3.841E-01	4.781E-01	8.235E-01	6.958E-02	0.466
		147.16		-6.645E-01	8.437E-01	1.240E+00	1.124E-01	-0.536
		171.86		-5.255E-01	5.667E-01	9.177E-01	9.154E-02	-0.573
		218.09		-5.755E-01	8.504E-01	1.359E+00	1.657E-01	-0.423
	+	268.79		1.734E+00	1.176E+00	1.331E+00	1.983E-01	1.303
		319.02		2.805E-01	2.512E-01	4.184E-01	5.970E-02	0.670
		367.43		4.369E-01	9.269E-01	1.500E+00	1.810E-01	0.291
		413.65	*	-1.373E-01	1.607E-01	2.586E-01	2.777E-02	-0.531
		56.28		-2.208E+00	1.717E+00	2.451E+00	1.784E-01	-0.901
		57.53		-9.778E-02	8.596E-01	1.368E+00	9.849E-02	-0.072
		65.20		-7.614E-03	1.529E+00	2.230E+00	1.653E-01	-0.003
HF-181	+	133.02		2.191E-01	1.293E-01	1.427E-01	1.237E-02	1.535
		136.25		-1.276E-01	5.939E-01	9.533E-01	8.343E-02	-0.134
		345.85		5.786E-02	1.871E-01	3.019E-01	3.969E-02	0.192
		482.03	*	-1.270E-02	4.162E-02	6.827E-02	7.352E-03	-0.186
		56.28		-8.431E-01	6.572E-01	9.383E-01	6.829E-02	-0.899
W-181		57.53		-3.783E-02	3.293E-01	5.239E-01	3.773E-02	-0.072

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TA-182		65.20	*	-2.894E-03	5.810E-01	8.476E-01	6.283E-02	-0.003
		67.75		3.251E-02	1.695E-01	2.687E-01	2.034E-02	0.121
		100.10		8.812E-01	2.792E-01	4.452E-01	3.907E-02	1.979
		152.43		-1.738E-01	3.929E-01	6.519E-01	6.023E-02	-0.267
		222.10		1.782E-01	3.543E-01	5.899E-01	7.316E-02	0.302
	+	1001.68		1.079E+02	1.200E+01	1.307E+01	1.227E+00	8.257
	+	1121.28		4.798E-01	1.762E-01	2.524E-01	2.151E-02	1.901
		1189.05		-2.877E-01	2.487E-01	3.623E-01	2.922E-02	-0.794
		1221.42	*	3.739E-02	1.548E-01	2.578E-01	2.095E-02	0.145
		1230.97		3.437E-02	3.551E-01	5.843E-01	4.756E-02	0.059
RE-183		57.98		-1.692E-01	3.350E-01	5.292E-01	3.799E-02	-0.320
		59.32		2.424E-01	1.990E-01	2.974E-01	2.117E-02	0.815
		67.20		-2.158E-01	3.008E-01	4.690E-01	3.534E-02	-0.460
	+	162.32	*	7.126E-01	2.327E-01	2.636E-01	2.527E-02	2.703
	+	208.81		1.348E+00	1.109E+00	1.708E+00	2.003E-01	0.789
		291.72		-5.203E-01	1.032E+00	1.431E+00	2.170E-01	-0.364
		57.98		-6.160E-01	1.219E+00	1.927E+00	1.383E-01	-0.320
		59.32		8.816E-01	7.239E-01	1.082E+00	7.699E-02	0.815
		67.20		-7.852E-01	1.095E+00	1.707E+00	1.286E-01	-0.460
		161.27		2.998E-01	4.544E-01	6.960E-01	6.645E-02	0.431
RE-184		216.55		-1.397E-01	2.622E-01	4.219E-01	5.112E-02	-0.331
		252.85	*	-1.064E-05	2.358E-01	3.834E-01	5.379E-02	0.000
		318.01		1.568E-01	4.419E-01	7.182E-01	1.028E-01	0.218
		792.07		-1.214E+00	1.235E+00	1.560E+00	1.529E-01	-0.778
		903.28		2.086E-01	8.313E-01	1.419E+00	1.394E-01	0.147
		920.93		-4.806E-03	3.895E-01	6.510E-01	6.358E-02	-0.007
		59.72		5.645E-01	5.385E-01	8.025E-01	5.715E-02	0.703
		61.14		6.637E-01	3.079E-01	4.623E-01	3.325E-02	1.436
		69.30		4.003E-01	4.799E-01	7.662E-01	5.881E-02	0.522
		592.07		-5.348E-01	2.380E+00	3.852E+00	3.930E-01	-0.139
OS-185		646.12	*	7.377E-03	3.866E-02	6.384E-02	6.162E-03	0.116
		717.42		-4.637E-01	8.894E-01	1.384E+00	1.336E-01	-0.335
		874.81		2.764E-01	5.128E-01	7.971E-01	7.855E-02	0.347
	+	880.27		1.159E+00	8.883E-01	1.324E+00	1.305E-01	0.876
		155.03	*	8.973E-02	1.994E-01	3.376E-01	3.149E-02	0.266
		477.96		-1.015E+00	3.070E+00	5.034E+00	5.425E-01	-0.202
		633.10		-1.484E-01	2.794E+00	4.547E+00	4.456E-01	-0.033
	+	63.58		6.830E+03	5.328E+02	3.036E+02	2.223E+01	22.496
		227.08		2.283E+01	1.369E+01	2.316E+01	2.932E+00	0.986
		290.67	*	-5.968E+00	8.279E+00	1.129E+01	1.716E+00	-0.528
IR-192	+	295.96		7.074E-01	2.013E-01	2.284E-01	3.444E-02	3.097
		308.46		-1.451E-02	9.624E-02	1.532E-01	2.247E-02	-0.095
		316.51	*	-2.257E-02	3.459E-02	5.333E-02	7.666E-03	-0.423
		468.07		8.922E-02	7.055E-02	1.121E-01	1.266E-02	0.796
		604.41		-1.392E-01	4.732E-01	6.619E-01	9.291E-02	-0.210
		612.46		7.560E-01	6.961E-01	1.085E+00	1.209E-01	0.697
		65.12		4.457E-01	2.656E-01	3.982E-01	2.950E-02	1.119
		66.83		-3.274E-01	1.550E-01	2.132E-01	1.601E-02	-1.536
	+	75.70		8.676E-01	3.904E-01	5.155E-01	4.218E-02	1.683

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	+	98.88	*	5.340E+00	7.420E-01	7.988E-01	7.047E-02	6.686
		129.76		2.299E+00	3.868E+00	5.983E+00	5.142E-01	0.384
TL-200		367.94	*	1.068E-03	3.868E+00	Half-Life	too short	
		579.30		-8.803E-03	3.868E+00	Half-Life	too short	
		828.27		-9.215E-03	3.868E+00	Half-Life	too short	
		1205.75		-2.061E-03	3.868E+00	Half-Life	too short	
TL-201		68.90		1.736E+01	1.202E+01	1.931E+01	1.477E+00	0.899
		70.82		-1.049E+01	7.365E+00	1.130E+01	8.799E-01	-0.928
		80.30		-3.395E+00	1.742E+01	2.185E+01	1.884E+00	-0.155
		135.34		1.254E+01	5.400E+01	8.260E+01	7.209E+00	0.152
		167.43	*	-7.782E+00	1.446E+01	2.123E+01	2.077E+00	-0.367
TL-202		68.90		1.092E+00	7.562E-01	1.215E+00	9.289E-02	0.899
		70.82		-6.581E-01	4.620E-01	7.090E-01	5.520E-02	-0.928
		80.30		-2.131E-01	1.093E+00	1.371E+00	1.182E-01	-0.155
		439.56	*	6.957E-03	6.985E-02	1.179E-01	1.272E-02	0.059
HG-203		70.83		-2.597E+00	1.855E+00	2.816E+00	3.687E-01	-0.922
		72.87		9.238E-01	1.163E+00	1.700E+00	2.170E-01	0.544
	+	82.60		4.042E+00	2.599E+00	3.382E+00	4.700E-01	1.195
		279.20	*	8.907E-03	4.142E-02	6.744E-02	1.053E-02	0.132
BI-207		72.80		2.508E-01	3.297E-01	4.832E-01	3.835E-02	0.519
	+	74.97		4.775E-01	2.149E-01	2.905E-01	2.358E-02	1.644
	+	84.90		1.197E+00	4.385E-01	5.816E-01	5.303E-02	2.058
		569.67		-1.328E-02	3.131E-02	5.003E-02	5.192E-03	-0.266
		1063.62	*	2.306E-02	4.524E-02	7.772E-02	6.981E-03	0.297
		1770.23		4.579E-02	2.382E-01	3.651E-01	3.005E-02	0.125
TL-207		81.07		2.804E-01	4.089E-01	5.955E-01	5.181E-02	0.471
	+	83.78		4.494E-01	2.850E-01	4.014E-01	3.609E-02	1.120
	+	94.90		3.653E+00	8.242E-01	7.210E-01	6.495E-02	5.067
		122.32		1.158E+00	2.185E+00	3.746E+00	3.408E-01	0.309
	+	144.24		9.596E+00	1.734E+00	1.927E+00	1.920E-01	4.978
		154.21		5.326E-01	4.526E-01	7.750E-01	7.828E-02	0.687
	+	269.46		4.023E-01	2.730E-01	3.221E-01	4.845E-02	1.249
		323.87	*	5.144E-01	6.250E-01	1.024E+00	2.142E-01	0.502
	+	338.28		4.000E+00	1.632E+00	1.983E+00	3.193E-01	2.017
		445.03		2.379E-01	2.042E+00	3.446E+00	4.728E-01	0.069
PO-209		260.50		6.277E+00	1.035E+01	1.543E+01	2.230E+00	0.407
		262.80		-2.496E+01	2.946E+01	4.024E+01	5.864E+00	-0.620
		896.60	*	-2.272E+00	5.600E+00	9.053E+00	8.913E-01	-0.251
BI-210		46.50	*	-1.675E+00	4.142E+00	6.621E+00	6.164E-01	-0.253
PB-210		46.50	*	-1.675E+00	4.142E+00	6.621E+00	6.164E-01	-0.253
PO-210		46.50	*	-1.675E+00	4.141E+00	6.621E+00	5.581E-01	-0.253
PB-211		404.84	*	-6.044E-01	9.180E-01	1.362E+00	8.581E-01	-0.444
		427.08		7.442E-02	1.914E+00	3.226E+00	2.015E+00	0.023
		831.96		-1.970E-01	1.130E+00	1.767E+00	1.110E+00	-0.112
PO-215		81.07		2.804E-01	4.089E-01	5.955E-01	5.181E-02	0.471
	+	83.78		4.494E-01	2.850E-01	4.014E-01	3.609E-02	1.120
	+	94.90		3.653E+00	8.242E-01	7.210E-01	6.495E-02	5.067
		122.32		1.158E+00	2.185E+00	3.746E+00	3.408E-01	0.309
	+	144.24		9.596E+00	1.734E+00	1.927E+00	1.920E-01	4.978

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		154.21		5.326E-01	4.526E-01	7.750E-01	7.828E-02	0.687
	+	269.46		4.023E-01	2.730E-01	3.221E-01	4.845E-02	1.249
		323.87	*	5.144E-01	6.250E-01	1.024E+00	2.142E-01	0.502
	+	338.28		4.000E+00	1.632E+00	1.983E+00	3.193E-01	2.017
		445.03		2.379E-01	2.042E+00	3.446E+00	4.728E-01	0.069
	+	271.23		5.161E-01	3.514E-01	4.030E-01	6.476E-02	1.281
		401.81	*	2.096E-01	3.567E-01	6.172E-01	1.007E-01	0.340
		549.76	*	-1.979E+01	2.628E+01	4.144E+01	4.354E+00	-0.478
		81.07		2.804E-01	4.089E-01	5.955E-01	5.181E-02	0.471
	+	83.78		4.494E-01	2.850E-01	4.014E-01	3.609E-02	1.120
AC-227	+	94.90		3.653E+00	8.242E-01	7.210E-01	6.495E-02	5.067
		122.32		1.158E+00	2.185E+00	3.746E+00	3.408E-01	0.309
	+	144.24		9.596E+00	1.734E+00	1.927E+00	1.920E-01	4.978
		154.21		5.326E-01	4.526E-01	7.750E-01	7.828E-02	0.687
	+	269.46		4.023E-01	2.730E-01	3.221E-01	4.845E-02	1.249
		323.87	*	5.144E-01	6.250E-01	1.024E+00	2.142E-01	0.502
	+	338.28		4.000E+00	1.632E+00	1.983E+00	3.193E-01	2.017
		445.03		2.379E-01	2.042E+00	3.446E+00	4.728E-01	0.069
		79.80		-1.247E+00	3.529E+00	4.400E+00	9.452E-01	-0.283
		236.00		-7.500E-02	2.367E-01	3.397E-01	5.350E-02	-0.221
TH-227		256.20	*	2.668E-01	4.552E-01	6.749E-01	1.286E-01	0.395
		286.10		-4.058E-01	1.466E+00	2.331E+00	4.263E-01	-0.174
		299.80		1.326E+00	1.485E+00	2.200E+00	4.689E-01	0.603
		304.40		-4.323E-01	1.746E+00	2.765E+00	6.083E-01	-0.156
		334.20		-4.383E-01	2.347E+00	3.280E+00	7.255E-01	-0.134
		79.80		-1.247E+00	3.529E+00	4.400E+00	9.574E-01	-0.283
	+	94.00		2.923E+01	8.811E+00	1.110E+01	2.438E+00	2.632
		236.00		-7.500E-02	2.367E-01	3.397E-01	5.048E-02	-0.221
		256.20	*	2.668E-01	4.559E-01	6.749E-01	1.438E-01	0.395
		286.10		-4.058E-01	1.521E+00	2.331E+00	2.358E+00	-0.174
TH-229		299.80		1.326E+00	1.485E+00	2.200E+00	4.689E-01	0.603
		304.40		-4.323E-01	1.746E+00	2.765E+00	6.083E-01	-0.156
		334.20		-4.383E-01	2.347E+00	3.280E+00	7.255E-01	-0.134
	+	85.43		1.181E+00	4.328E-01	5.549E-01	5.093E-02	2.129
		88.47		-2.708E-01	2.726E-01	3.324E-01	3.139E-02	-0.815
	+	100.00		4.397E+00	6.110E-01	4.713E-01	4.137E-02	9.331
		193.63	*	-6.900E-02	5.337E-01	8.795E-01	9.657E-02	-0.078
		210.97		4.298E-01	8.131E-01	1.223E+00	1.447E-01	0.351
		283.67	*	9.822E-01	1.432E+00	2.361E+00	4.678E-01	0.416
		301.29		4.438E-01	5.334E-01	8.800E-01	1.516E-01	0.504
TH-231		81.07		2.804E-01	4.089E-01	5.955E-01	5.181E-02	0.471
	+	83.78		4.494E-01	2.850E-01	4.014E-01	3.609E-02	1.120
	+	94.90		3.653E+00	8.242E-01	7.210E-01	6.495E-02	5.067
		122.32		1.158E+00	2.185E+00	3.746E+00	3.408E-01	0.309
	+	144.24		9.596E+00	1.734E+00	1.927E+00	1.920E-01	4.978
		154.21		5.326E-01	4.526E-01	7.750E-01	7.828E-02	0.687
	+	269.46		4.023E-01	2.730E-01	3.221E-01	4.845E-02	1.249
		323.87	*	5.144E-01	6.250E-01	1.024E+00	2.142E-01	0.502
	+	338.28		4.000E+00	1.632E+00	1.983E+00	3.193E-01	2.017

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

Nuclide	Line Ided	Energy (keV)	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	445.03	2.379E-01	2.042E+00	3.446E+00	4.728E-01	0.069
		75.28	1.393E+01	6.515E+00	8.392E+00	1.266E+00	1.660
		86.59	1.492E+00	3.310E+00	4.751E+00	1.285E+00	0.314
		300.12	5.241E-01	4.124E-01	6.177E-01	1.187E-01	0.849
		311.98 *	8.748E-03	6.281E-02	1.013E-01	1.486E-02	0.086
		340.50	8.006E-01	6.770E-01	9.828E-01	2.550E-01	0.815
PA-234	+	398.62	-2.178E-01	1.843E+00	3.098E+00	8.478E-01	-0.070
		415.76	6.496E-01	1.468E+00	2.516E+00	5.658E-01	0.258
		63.00	1.940E+02	2.922E+01	8.936E+00	1.323E+00	21.710
		94.67	2.606E+00	6.322E-01	5.467E-01	6.935E-02	4.767
		98.44	2.147E+00	1.220E+00	3.237E-01	1.807E-01	6.631
		99.86	1.113E+01	1.546E+00	1.287E+00	1.131E-01	8.646
		111.00	9.302E-01	3.792E-01	5.352E-01	6.430E-02	1.738
		131.20	3.378E-01	1.993E-01	2.325E-01	2.005E-02	1.453
		152.70	-8.141E-02	3.728E-01	6.218E-01	1.080E-01	-0.131
		186.00	8.986E+01	2.879E+01	6.284E+00	2.000E+00	14.301
		226.40	5.846E-01	4.205E-01	7.034E-01	1.133E-01	0.831
		227.20	6.625E-01	4.541E-01	7.666E-01	9.711E-02	0.864
		248.90	2.042E-01	8.084E-01	1.326E+00	3.300E-01	0.154
		293.70	4.367E+00	1.404E+00	1.280E+00	2.724E-01	3.413
		369.80	-4.236E-01	8.837E-01	1.353E+00	3.152E-01	-0.313
		568.70	-2.022E-01	1.005E+00	1.627E+00	1.690E-01	-0.124
		569.50	-8.975E-02	2.792E-01	4.490E-01	4.660E-02	-0.200
		574.00	-5.148E-01	1.469E+00	2.368E+00	2.449E-01	-0.217
		699.00	1.286E-01	7.266E-01	1.189E+00	2.322E-01	0.108
		706.10	-6.830E-02	1.020E+00	1.642E+00	7.357E-01	-0.042
		733.00	2.030E-01	4.509E-01	6.550E-01	1.482E-01	0.310
		742.81	7.722E+00	5.714E+00	3.581E+00	2.412E+00	2.157
		796.30	1.064E+00	9.697E-01	1.592E+00	4.370E-01	0.668
		805.60	9.855E-01	1.047E+00	1.711E+00	5.306E-01	0.576
		819.60	-4.122E-01	1.176E+00	1.808E+00	6.927E-01	-0.228
		826.30	-3.228E-01	7.751E-01	1.173E+00	5.277E-01	-0.275
		831.60	-1.599E-01	5.792E-01	9.004E-01	2.721E-01	-0.178
		876.40	5.983E-01	9.401E-01	1.142E+00	1.176E+00	0.524
		880.51	4.126E-01	3.161E-01	4.683E-01	4.614E-02	0.881
		883.24	2.870E-01	3.102E-01	4.672E-01	3.149E-01	0.614
		899.00	-3.134E-01	6.602E-01	1.038E+00	4.565E-01	-0.302
		925.00	1.529E+00	1.149E+00	2.070E+00	2.019E-01	0.739
		926.50	3.526E-01	1.881E-01	3.139E-01	8.062E-02	1.123
		946.00 *	6.059E-01	3.981E-01	5.258E-01	1.013E-01	1.152
		949.00	5.101E-01	4.483E-01	7.228E-01	6.976E-02	0.706
		980.50	-3.235E-01	6.334E-01	1.010E+00	9.594E-02	-0.320
		1394.10	6.668E-01	8.964E-01	1.423E+00	9.258E-01	0.468
NP-236	+	94.67	1.977E+00	4.459E-01	4.152E-01	3.746E-02	4.761
		98.44	1.623E+00	2.255E-01	2.447E-01	2.164E-02	6.631
		111.00	7.036E-01	2.805E-01	4.048E-01	3.448E-02	1.738
		160.31 *	-7.456E-02	1.016E-01	1.484E-01	1.412E-02	-0.502
NP-237	+	86.50 *	7.803E-02	4.941E-01	7.106E-01	1.608E-01	0.110
		95.87	1.574E+01	5.079E+00	2.644E+00	6.546E-01	5.951

---- 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		3.709E+00	5.154E-01	4.919E-01	4.327E-02	7.541
		117.00	*	-4.867E-01	2.602E-01	4.005E-01	3.389E-02	-1.215
	+	209.75		1.042E+00	8.568E-01	1.293E+00	1.522E-01	0.806
		228.18		2.050E-01	2.324E-01	3.895E-01	4.954E-02	0.526
		277.60		1.516E-01	1.825E-01	3.021E-01	4.651E-02	0.502
		334.30		-2.755E-01	1.328E+00	1.855E+00	2.533E-01	-0.149
AM-241		59.54	*	2.430E-01	2.786E-01	4.142E-01	3.255E-02	0.587
CM-243	+	99.55		3.817E+00	5.304E-01	5.062E-01	4.453E-02	7.541
		103.76	*	1.296E-02	1.275E-01	2.188E-01	1.895E-02	0.059
	+	117.00		-5.007E-01	2.677E-01	4.121E-01	3.487E-02	-1.215
		209.75		1.027E+00	8.448E-01	1.274E+00	1.500E-01	0.806
		228.18		2.072E-01	2.349E-01	3.937E-01	5.006E-02	0.526
		277.60		1.528E-01	1.840E-01	3.046E-01	4.689E-02	0.502
AM-246		798.80		-1.024E-01	1.479E-01	2.251E-01	2.209E-02	-0.455
		1036.00		-4.934E-02	2.160E-01	3.496E-01	3.208E-02	-0.141
		1062.04		-2.989E-02	1.904E-01	3.106E-01	2.793E-02	-0.096
		1078.86	*	1.488E-01	1.064E-01	1.962E-01	1.740E-02	0.758
CM-247		278.00		5.601E-01	7.446E-01	1.231E+00	1.898E-01	0.455
		287.40		-7.992E-02	1.191E+00	1.914E+00	2.925E-01	-0.042
		402.60	*	-1.734E-03	3.210E-02	5.410E-02	5.790E-03	-0.032
CF-249		252.85		-3.960E-05	8.771E-01	1.426E+00	2.001E-01	0.000
		333.44		6.305E-02	1.698E-01	2.466E-01	3.377E-02	0.256
		387.95	*	-1.693E-02	3.635E-02	6.019E-02	6.554E-03	-0.281
CF-251		176.60	*	3.260E-03	1.459E-01	2.429E-01	2.474E-02	0.013
		227.00		6.623E-01	4.018E-01	6.796E-01	8.601E-02	0.974
		285.00		-1.260E+00	1.694E+00	2.622E+00	4.022E-01	-0.480

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]G245808006      *
* Acquisition date   : 12-FEB-2010 16:58:17 Detector SN#                   *
* Detector ID        : GAM11 Sensitivity : 5.000                          *
* Geometry           : CAN Energy tolerance: 1.500                        *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:05.38 Half life ratio : 8.000              *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808006 Analyst initials: RXF2                  *
* Batch Number       : 947554 Sample Quantity : 1.6746E+02 GRAM           *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                                *
*
* Standard Weight    : 0.00000                                             *
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                               *
* LCS DPM             : 0.000 LCS Isotope :                               *
* LCSD DPM            : 0.000 LCSD Isotope :                              *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	2.211E+01	2.300E+00	4.630E-01	0.000E+00
AS-73	1.227E+00	1.605E+00	2.320E+00	0.000E+00
RB-84	1.073E-01	8.056E-02	7.317E-02	0.000E+00
NB-95	8.339E-01	1.214E-01	6.768E-02	0.000E+00
BA-137M	1.536E-01	5.551E-02	5.629E-02	0.000E+00
CS-137	1.623E-01	5.868E-02	5.950E-02	0.000E+00
LU-177	1.823E+00	1.469E+00	2.370E+00	0.000E+00
TL-208	3.379E-01	8.077E-02	5.249E-02	0.000E+00
BI-211	2.054E+00	4.394E-01	3.327E-01	0.000E+00
BI-212	4.842E-01	3.971E-01	4.596E-01	0.000E+00
PB-212	9.631E-01	1.559E-01	9.085E-02	0.000E+00
PO-212	9.631E-01	1.559E-01	9.085E-02	0.000E+00
BI-214	7.687E-01	1.540E-01	9.642E-02	0.000E+00
PB-214	7.143E-01	1.572E-01	1.160E-01	0.000E+00
PO-214	7.143E-01	1.572E-01	1.160E-01	0.000E+00
PO-216	9.631E-01	1.559E-01	9.085E-02	0.000E+00
PO-218	7.143E-01	1.572E-01	1.160E-01	0.000E+00
RA-224	2.765E+00	1.025E+00	1.034E+00	0.000E+00
RA-226	7.687E-01	1.540E-01	9.642E-02	0.000E+00
AC-228	1.169E+00	2.499E-01	1.688E-01	0.000E+00
RA-228	1.169E+00	2.499E-01	1.688E-01	0.000E+00
TH-228	9.798E-01	1.586E-01	9.242E-02	0.000E+00
TH-230	7.686E-01	1.540E-01	9.641E-02	0.000E+00
U-231	2.518E+01	5.566E+00	3.697E+00	0.000E+00
TH-232	1.169E+00	2.499E-01	1.688E-01	0.000E+00
PA-234M	2.419E+02	2.891E+01	6.468E+00	0.000E+00
TH-234	1.664E+02	2.872E+01	3.483E+00	0.000E+00
U-234	7.686E-01	1.540E-01	9.641E-02	0.000E+00
U-235	2.961E+00	6.744E-01	4.489E-01	0.000E+00
U-238	1.664E+02	2.872E+01	3.483E+00	0.000E+00
AM-243	2.660E-01	1.173E-01	1.748E-01	0.000E+00
ANH-511	7.612E-02	5.855E-02	4.451E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-6.065E-02	3.165E-01	5.603E-01	0.000E+00	NOT IDENT.
NA-22	7.276E-03	3.490E-02	6.004E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	5.379E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	2.392E-02	2.255E-02	4.467E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	6.373E-02	1.031E-01	0.000E+00	FAIL ABUN
SC-46	3.194E-03	3.584E-02	6.012E-02	0.000E+00	FAIL ABUN
V-48	7.477E-02	6.241E-02	1.181E-01	0.000E+00	NOT IDENT.
CR-51	1.258E-01	3.747E-01	6.593E-01	0.000E+00	NOT IDENT.
MN-52	1.018E-01	2.598E-01	4.520E-01	0.000E+00	FAIL ABUN
MN-54	-6.443E-03	3.123E-02	5.465E-02	0.000E+00	NOT IDENT.
CO-56	1.715E-03	3.364E-02	5.981E-02	0.000E+00	NOT IDENT.
CO-57	2.204E-02	3.126E-02	5.997E-02	0.000E+00	NOT IDENT.
CO-58	1.062E-02	3.642E-02	6.267E-02	0.000E+00	NOT IDENT.
FE-59	-1.298E-02	7.045E-02	1.190E-01	0.000E+00	FAIL ABUN
CO-60	-4.207E-03	2.707E-02	4.450E-02	0.000E+00	NOT IDENT.
ZN-65	-1.782E-02	7.628E-02	1.099E-01	0.000E+00	NOT IDENT.
GE-68	5.465E-01	9.298E-01	1.683E+00	0.000E+00	NOT IDENT.
AS-74	-7.466E-03	9.070E-02	1.575E-01	0.000E+00	NOT IDENT.
SE-75	1.059E-02	4.452E-02	7.573E-02	0.000E+00	NOT IDENT.
BR-77	-3.359E+00	1.851E+01	3.246E+01	0.000E+00	FAIL ABUN
SR-82	-8.417E-02	3.905E-01	6.510E-01	0.000E+00	NOT IDENT.
RB-83	6.501E-03	6.623E-02	1.179E-01	0.000E+00	NOT IDENT.
KR-85	7.673E+00	6.311E+00	1.179E+01	0.000E+00	NOT IDENT.
SR-85	4.021E-02	3.308E-02	6.179E-02	0.000E+00	NOT IDENT.
RB-86	-2.183E-01	6.502E-01	1.086E+00	0.000E+00	NOT IDENT.
Y-88	-2.703E-02	2.942E-02	4.171E-02	0.000E+00	NOT IDENT.
ZR-88	2.219E-02	2.766E-02	5.207E-02	0.000E+00	NOT IDENT.
Y-91	-1.523E+01	1.482E+01	2.280E+01	0.000E+00	NOT IDENT.
NB-94	-1.047E-02	3.332E-02	5.596E-02	0.000E+00	NOT IDENT.
NB-95M	-2.624E-02	1.278E-01	2.021E-01	0.000E+00	NOT IDENT.
ZR-95	-6.860E-03	7.222E-02	1.218E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.047E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.293E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.341E+01	2.439E+01	3.777E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.686E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-2.528E-02	3.418E-02	5.999E-02	0.000E+00	NOT IDENT.
RH-102	1.896E-02	2.781E-02	5.126E-02	0.000E+00	FAIL ABUN
RU-103	-9.243E-04	3.841E-02	6.828E-02	0.000E+00	FAIL ABUN
RH-106	1.708E-01	3.044E-01	5.447E-01	0.000E+00	FAIL ABUN
RU-106	1.708E-01	3.039E-01	5.447E-01	0.000E+00	FAIL ABUN
AG-108M	-1.753E-02	2.944E-02	5.148E-02	0.000E+00	NOT IDENT.
CD-109	-2.226E+00	1.753E+00	2.752E+00	0.000E+00	NOT IDENT.
AG-110M	-2.521E-02	3.706E-02	5.235E-02	0.000E+00	FAIL ABUN
IN-111	4.303E-01	1.867E+00	3.003E+00	0.000E+00	NOT IDENT.
IN-113M	1.621E-02	4.038E-02	7.491E-02	0.000E+00	NOT IDENT.
SN-113	1.621E-02	4.038E-02	7.491E-02	0.000E+00	NOT IDENT.
IN-114M	1.102E-01	1.942E-01	3.440E-01	0.000E+00	NOT IDENT.
CD-115	4.157E+00	1.895E+01	3.392E+01	0.000E+00	NOT IDENT.
SN-117M	-3.205E-02	7.103E-02	1.241E-01	0.000E+00	NOT IDENT.
SB-122	-7.396E-01	3.389E+00	5.877E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.001E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.660E-02	3.543E-02	5.798E-02	0.000E+00	NOT IDENT.
I-124	-5.232E-01	8.863E-01	1.432E+00	0.000E+00	NOT IDENT.
SB-124	-2.417E-03	5.601E-02	9.478E-02	0.000E+00	FAIL ABUN
SB-125	5.889E-02	8.448E-02	1.573E-01	0.000E+00	FAIL ABUN
TE-125M	0.000E+00	1.559E+01	2.739E+01	0.000E+00	NOT IDENT.
I-126	3.609E-02	2.259E-01	3.434E-01	0.000E+00	NOT IDENT.
SB-126	4.502E-02	1.549E-01	2.694E-01	0.000E+00	FAIL ABUN
SN-126	-1.377E-01	1.704E-01	2.708E-01	0.000E+00	FAIL ABUN
SB-127	-6.487E-01	1.733E+00	2.894E+00	0.000E+00	NOT IDENT.
XE-127	2.091E-02	5.589E-02	9.200E-02	0.000E+00	FAIL ABUN
I-131	-3.165E-02	1.393E-01	2.353E-01	0.000E+00	NOT IDENT.
TE-132	8.741E-01	1.095E+00	1.996E+00	0.000E+00	FAIL ABUN
BA-133	3.211E-02	4.420E-02	7.032E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	2.877E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	3.029E-02	4.828E-02	8.458E-02	0.000E+00	NOT IDENT.
CS-135	-1.529E-02	1.722E-01	2.698E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	7.746E+17	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.219E-02	8.438E-02	1.385E-01	0.000E+00	FAIL ABUN
CE-139	-1.078E-02	3.771E-02	6.188E-02	0.000E+00	NOT IDENT.
BA-140	-1.048E-01	2.747E-01	4.708E-01	0.000E+00	FAIL ABUN
LA-140	4.358E-04	6.051E-02	1.040E-01	0.000E+00	NOT IDENT.
CE-141	0.000E+00	8.723E-02	1.528E-01	0.000E+00	NOT IDENT.

CE-143	0.000E+00	4.253E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.831E-01	2.708E-01	4.646E-01	0.000E+00	NOT IDENT.
PM-144	-1.085E-02	3.478E-02	5.849E-02	0.000E+00	NOT IDENT.
PR-144	-7.358E-01	2.359E+00	3.968E+00	0.000E+00	NOT IDENT.
PM-146	4.483E-02	4.022E-02	7.549E-02	0.000E+00	NOT IDENT.
ND-147	-4.657E-01	5.747E-01	9.584E-01	0.000E+00	FAIL ABUN
PM-149	-4.751E+01	1.641E+02	2.837E+02	0.000E+00	NOT IDENT.
EU-152	-6.412E-03	9.166E-02	1.571E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	2.492E-01	2.852E-01	0.000E+00	FAIL ABUN
EU-154	2.280E-02	9.763E-02	1.683E-01	0.000E+00	NOT IDENT.
EU-155	4.866E-02	1.409E-01	2.717E-01	0.000E+00	NOT IDENT.
TB-160	2.091E-01	1.570E-01	2.484E-01	0.000E+00	FAIL ABUN
HO-166M	2.645E-02	5.736E-02	1.009E-01	0.000E+00	FAIL ABUN
TM-171	-1.056E+02	4.568E+01	7.088E+01	0.000E+00	FAIL ABUN
LU-176	6.207E-04	2.347E-02	4.092E-02	0.000E+00	NOT IDENT.
LU-177M	-1.373E-01	1.575E-01	2.726E-01	0.000E+00	FAIL ABUN
HF-181	-1.270E-02	4.079E-02	7.163E-02	0.000E+00	FAIL ABUN
W-181	-2.894E-03	5.694E-01	9.434E-01	0.000E+00	NOT IDENT.
TA-182	3.739E-02	1.517E-01	2.626E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	2.281E-01	2.859E-01	0.000E+00	FAIL ABUN
RE-184	-1.064E-05	2.311E-01	4.103E-01	0.000E+00	NOT IDENT.
OS-185	7.377E-03	3.789E-02	6.637E-02	0.000E+00	FAIL ABUN
RE-188	8.973E-02	1.954E-01	3.666E-01	0.000E+00	NOT IDENT.
W-188	-5.968E+00	8.114E+00	1.204E+01	0.000E+00	FAIL ABUN
IR-192	-2.257E-02	3.390E-02	5.669E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	7.271E-01	8.787E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.730E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-7.782E+00	1.417E+01	2.300E+01	0.000E+00	NOT IDENT.
TL-202	6.957E-03	6.845E-02	1.241E-01	0.000E+00	NOT IDENT.
HG-203	8.907E-03	4.059E-02	7.197E-02	0.000E+00	FAIL ABUN
BI-207	2.306E-02	4.434E-02	7.950E-02	0.000E+00	FAIL ABUN
TL-207	5.144E-01	6.125E-01	1.088E+00	0.000E+00	FAIL ABUN
PO-209	-2.272E+00	5.488E+00	9.313E+00	0.000E+00	NOT IDENT.
BI-210	-1.675E+00	4.059E+00	7.438E+00	0.000E+00	NOT IDENT.
PB-210	-1.675E+00	4.059E+00	7.438E+00	0.000E+00	NOT IDENT.
PO-210	-1.675E+00	4.058E+00	7.438E+00	0.000E+00	NOT IDENT.
PB-211	-6.044E-01	8.997E-01	1.437E+00	0.000E+00	NOT IDENT.
PO-215	5.144E-01	6.125E-01	1.088E+00	0.000E+00	FAIL ABUN
RN-219	2.096E-01	3.496E-01	6.513E-01	0.000E+00	FAIL ABUN
RN-220	-1.979E+01	2.576E+01	4.330E+01	0.000E+00	NOT IDENT.
RA-223	5.144E-01	6.125E-01	1.088E+00	0.000E+00	FAIL ABUN
AC-227	2.668E-01	4.461E-01	7.220E-01	0.000E+00	NOT IDENT.
TH-227	2.668E-01	4.468E-01	7.220E-01	0.000E+00	FAIL ABUN
TH-229	-6.900E-02	5.230E-01	9.489E-01	0.000E+00	FAIL ABUN
PA-231	9.822E-01	1.404E+00	2.518E+00	0.000E+00	NOT IDENT.
TH-231	5.144E-01	6.125E-01	1.088E+00	0.000E+00	FAIL ABUN
PA-233	8.748E-03	6.155E-02	1.077E-01	0.000E+00	FAIL ABUN
PA-234	0.000E+00	3.901E-01	5.400E-01	0.000E+00	FAIL ABUN
NP-236	-7.456E-02	9.955E-02	1.610E-01	0.000E+00	FAIL ABUN
NP-237	7.803E-02	4.842E-01	7.846E-01	0.000E+00	FAIL ABUN
NP-239	-4.867E-01	2.550E-01	4.385E-01	0.000E+00	FAIL ABUN
AM-241	2.430E-01	2.731E-01	4.622E-01	0.000E+00	NOT IDENT.
CM-243	1.296E-02	1.250E-01	2.404E-01	0.000E+00	FAIL ABUN
AM-246	1.488E-01	1.043E-01	2.006E-01	0.000E+00	NOT IDENT.
CM-247	-1.734E-03	3.146E-02	5.708E-02	0.000E+00	NOT IDENT.
CF-249	-1.693E-02	3.562E-02	6.358E-02	0.000E+00	NOT IDENT.
CF-251	3.260E-03	1.430E-01	2.627E-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]G245808006.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 16:58:17
Sample ID          : G245808006 Sample quantity : 1.67461E+02 GRAM
Detector name      : GAM11 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:05.38 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	1289	10.67*	1.225E+00	2.211E+01	2.211E+01	10.62
AS-73	53.44	123	10.30*	2.540E+00	1.057E+00	1.227E+00	133.55
RB-84	881.50	43	67.70*	1.889E+00	7.460E-02	1.073E-01	76.62
NB-95	765.79	655	99.81*	2.126E+00	6.918E-01	8.339E-01	14.85
BA-137M	661.65	148	89.98*	2.403E+00	1.534E-01	1.536E-01	36.88
CS-137	661.65	148	85.12*	2.403E+00	1.622E-01	1.623E-01	36.89
LU-177	112.95	1269	6.40	7.410E+00	6.000E+00	3.564E+01	13.86
	208.36	86	11.00*	5.702E+00	3.069E-01	1.823E+00	82.24
TL-208	277.35	-----	6.80	4.676E+00	-----	Line Not Found	-----
	510.84	100	21.60	2.952E+00	3.524E-01	3.524E-01	78.92
	583.14	338	84.20*	2.661E+00	3.379E-01	3.379E-01	24.39
	860.37	-----	12.46	1.927E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.576E+00	-----	Line Not Found	-----
	351.07	465	12.94*	3.922E+00	2.054E+00	2.054E+00	21.84
BI-212	727.18	57	11.80*	2.222E+00	4.842E-01	4.842E-01	83.67
	785.46	109	1.97	2.080E+00	5.943E+00	5.943E+00	48.31
	1620.62	-----	2.75	1.134E+00	-----	Line Not Found	-----
PB-212	74.81	455	10.70	5.806E+00	1.641E+00	1.641E+00	45.96
	77.11	347	18.00	6.007E+00	7.197E-01	7.197E-01	48.96
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	238.63	999	44.60*	5.211E+00	9.631E-01	9.631E-01	16.52
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
PO-212	74.81	455	10.70	5.806E+00	1.641E+00	1.641E+00	45.96
	77.11	347	18.00	6.007E+00	7.197E-01	7.197E-01	48.96
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	115.19	-----	0.60	7.407E+00	-----	Line Not Found	-----
	238.63	999	44.60*	5.211E+00	9.631E-01	9.631E-01	16.52
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
BI-214	609.31	408	46.30*	2.568E+00	7.686E-01	7.687E-01	20.44
	1120.29	103	15.10	1.531E+00	1.002E+00	1.002E+00	37.32
	1764.49	79	15.80	1.071E+00	1.045E+00	1.045E+00	27.63
PB-214	74.81	455	6.21	5.806E+00	2.827E+00	2.827E+00	45.61

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	347	10.50	6.007E+00	1.234E+00	1.234E+00	49.55
	87.30	-----	4.67	6.795E+00	-----	Line Not Found	-----
	241.98	252	7.49	5.165E+00	1.458E+00	1.458E+00	38.25
	295.21	348	19.20	4.468E+00	9.098E-01	9.098E-01	29.12
	351.92	465	37.20*	3.922E+00	7.143E-01	7.143E-01	22.45
PO-214	74.81	455	6.21	5.806E+00	2.827E+00	2.827E+00	45.61
	77.11	347	10.50	6.007E+00	1.234E+00	1.234E+00	49.55
	87.30	-----	4.67	6.795E+00	-----	Line Not Found	-----
	241.98	252	7.49	5.165E+00	1.458E+00	1.458E+00	38.25
	295.21	348	19.20	4.468E+00	9.098E-01	9.098E-01	29.12
	351.92	465	37.20*	3.922E+00	7.143E-01	7.143E-01	22.45
PO-216	74.81	455	10.70	5.806E+00	1.641E+00	1.641E+00	45.96
	77.11	347	18.00	6.007E+00	7.197E-01	7.197E-01	48.96
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	238.63	999	44.60*	5.211E+00	9.631E-01	9.631E-01	16.52
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
PO-218	74.81	455	6.21	5.806E+00	2.827E+00	2.827E+00	45.61
	77.11	347	10.50	6.007E+00	1.234E+00	1.234E+00	49.55
	87.30	-----	4.67	6.795E+00	-----	Line Not Found	-----
	241.98	252	7.49	5.165E+00	1.458E+00	1.458E+00	38.25
	295.21	348	19.20	4.468E+00	9.098E-01	9.098E-01	29.12
	351.92	465	37.20*	3.922E+00	7.143E-01	7.143E-01	22.45
RA-224	240.98	252	3.95*	5.165E+00	2.765E+00	2.765E+00	37.84
RA-226	609.31	408	46.30*	2.568E+00	7.686E-01	7.687E-01	20.44
	1120.29	103	15.10	1.531E+00	1.002E+00	1.002E+00	37.32
	1764.49	79	15.80	1.071E+00	1.045E+00	1.045E+00	27.63
AC-228	338.32	197	11.40	4.037E+00	9.579E-01	9.579E-01	56.71
	911.07	265	27.70*	1.833E+00	1.169E+00	1.169E+00	21.82
	969.11	145	16.60	1.738E+00	1.126E+00	1.126E+00	36.98
RA-228	338.32	197	11.40	4.037E+00	9.579E-01	9.579E-01	56.71
	911.07	265	27.70*	1.833E+00	1.169E+00	1.169E+00	21.82
	969.11	145	16.60	1.738E+00	1.126E+00	1.126E+00	36.98
TH-228	74.81	455	10.70	5.806E+00	1.641E+00	1.669E+00	45.01
	77.11	347	18.00	6.007E+00	7.197E-01	7.322E-01	48.96
	87.30	-----	8.00	6.795E+00	-----	Line Not Found	-----
	238.63	999	44.60*	5.211E+00	9.631E-01	9.798E-01	16.52
	300.09	-----	3.41	4.414E+00	-----	Line Not Found	-----
TH-230	609.31	408	46.30*	2.568E+00	7.686E-01	7.686E-01	20.44
	1120.29	103	15.10	1.531E+00	1.002E+00	1.002E+00	37.32
	1764.49	79	15.80	1.071E+00	1.045E+00	1.045E+00	27.63
U-231	84.21	575	7.00	6.613E+00	2.784E+00	4.797E+01	36.64
	92.29	27014	17.30	7.050E+00	4.964E+01	8.554E+02	9.25
	95.87	1302	28.00*	7.131E+00	1.461E+00	2.518E+01	22.56
	108.00	-----	13.10	7.392E+00	-----	Line Not Found	-----
TH-232	338.32	197	11.40	4.037E+00	9.579E-01	9.579E-01	39.84
	911.07	265	27.70*	1.833E+00	1.169E+00	1.169E+00	21.82
	969.11	145	16.60	1.738E+00	1.126E+00	1.126E+00	36.98
PA-234M	766.42	655	0.32	2.126E+00	2.158E+02	2.158E+02	52.16
	1001.03	1531	0.84*	1.689E+00	2.419E+02	2.419E+02	12.19

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-234	63.29	12053	3.80*	4.272E+00	1.664E+02	1.664E+02	17.61
	92.38	27014	5.41	7.050E+00	1.588E+02	1.588E+02	18.39
U-234	609.31	408	46.30*	2.568E+00	7.686E-01	7.686E-01	20.44
	1120.29	103	15.10	1.531E+00	1.002E+00	1.002E+00	37.32
	1764.49	79	15.80	1.071E+00	1.045E+00	1.045E+00	27.63
U-235	89.95	-----	2.70	6.934E+00	-----	Line Not Found	-----
	93.35	27014	4.50	7.050E+00	1.909E+02	1.909E+02	28.23
	105.00	-----	2.10	7.364E+00	-----	Line Not Found	-----
	143.76	976	10.50*	7.034E+00	2.961E+00	2.961E+00	23.24
	163.35	416	4.70	6.631E+00	2.991E+00	2.991E+00	36.83
	185.71	4939	54.00	6.160E+00	3.328E+00	3.328E+00	11.24
	205.31	481	4.70	5.777E+00	3.975E+00	3.975E+00	27.79
U-238	63.29	12053	3.80*	4.272E+00	1.664E+02	1.664E+02	17.61
	92.38	27014	5.41	7.050E+00	1.588E+02	1.588E+02	9.25
AM-243	74.67	455	66.00*	5.806E+00	2.660E-01	2.660E-01	45.00
	86.72	-----	0.34	6.761E+00	-----	Line Not Found	-----
	117.66	-----	0.55	7.397E+00	-----	Line Not Found	-----
	142.18	-----	0.13	7.065E+00	-----	Line Not Found	-----
ANH-511	511.00	100	100.00*	2.952E+00	7.612E-02	7.612E-02	78.48

Flag: "*" = Keyline

Total number of lines in spectrum 43
Number of unidentified lines 2
Number of lines tentatively identified by NID 41 95.35%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.211E+01	2.211E+01	0.235E+01	10.62	
AS-73	80.30D	1.16	1.057E+00	1.227E+00	1.638E+00	133.55	
RB-84	32.90D	1.44	7.460E-02	1.073E-01	0.822E-01	76.62	
NB-95	64.02D	1.21	6.918E-01	8.339E-01	1.238E-01	14.85	
BA-137M	30.17Y	1.00	1.534E-01	1.536E-01	0.566E-01	36.88	
CS-137	30.17Y	1.00	1.622E-01	1.623E-01	0.599E-01	36.89	
LU-177	6.71D	5.94	3.069E-01	1.823E+00	1.499E+00	82.24	
TL-208	1.41E+10Y	1.00	3.379E-01	3.379E-01	0.824E-01	24.39	
BI-211	7.04E+08Y	1.00	2.054E+00	2.054E+00	0.448E+00	21.84	
BI-212	1.41E+10Y	1.00	4.842E-01	4.842E-01	4.052E-01	83.67	
PB-212	1.41E+10Y	1.00	9.631E-01	9.631E-01	1.591E-01	16.52	
PO-212	1.41E+10Y	1.00	9.631E-01	9.631E-01	1.591E-01	16.52	
BI-214	1600.00Y	1.00	7.686E-01	7.687E-01	1.571E-01	20.44	
PB-214	1600.00Y	1.00	7.143E-01	7.143E-01	1.604E-01	22.45	
PO-214	1600.00Y	1.00	7.143E-01	7.143E-01	1.604E-01	22.45	
PO-216	1.41E+10Y	1.00	9.631E-01	9.631E-01	1.591E-01	16.52	
PO-218	1600.00Y	1.00	7.143E-01	7.143E-01	1.604E-01	22.45	
RA-224	1.41E+10Y	1.00	2.765E+00	2.765E+00	1.046E+00	37.84	
RA-226	1600.00Y	1.00	7.686E-01	7.687E-01	1.571E-01	20.44	
AC-228	1.41E+10Y	1.00	1.169E+00	1.169E+00	0.255E+00	21.82	
RA-228	1.41E+10Y	1.00	1.169E+00	1.169E+00	0.255E+00	21.82	
TH-228	1.91Y	1.02	9.631E-01	9.798E-01	1.619E-01	16.52	
TH-230	4.47E+09Y	1.00	7.686E-01	7.686E-01	1.571E-01	20.44	
U-231	4.20D	17.2	1.461E+00	2.518E+01	0.568E+01	22.56	
TH-232	1.41E+10Y	1.00	1.169E+00	1.169E+00	0.255E+00	21.82	
PA-234M	4.47E+09Y	1.00	2.419E+02	2.419E+02	0.295E+02	12.19	
TH-234	4.47E+09Y	1.00	1.664E+02	1.664E+02	0.293E+02	17.61	
U-234	4.47E+09Y	1.00	7.686E-01	7.686E-01	1.571E-01	20.44	
U-235	7.04E+08Y	1.00	2.961E+00	2.961E+00	0.688E+00	23.24	
U-238	4.47E+09Y	1.00	1.664E+02	1.664E+02	0.293E+02	17.61	
AM-243	7380.00Y	1.00	2.660E-01	2.660E-01	1.197E-01	45.00	
ANH-511	1.00E+09Y	1.00	7.612E-02	7.612E-02	5.974E-02	78.48	
Total Activity :			6.223E+02	6.479E+02			

Grand Total Activity : 6.223E+02 6.479E+02

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

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

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
4	83.39	324	3796	0.97	165.70	163	9	4.50E-02	62.8	6.55E+00	T
0	98.53	1762	2372	0.90	195.99	192	8	2.45E-01	10.7	7.24E+00	T
4	111.22	363	1870	1.05	221.39	218	10	5.04E-02	39.0	7.41E+00	T
0	131.59	223	1333	1.11	262.16	259	8	3.09E-02	58.4	7.25E+00	T
0	258.27	340	508	1.02	515.71	512	10	4.73E-02	27.2	4.92E+00	
0	270.26	116	411	0.81	539.70	535	9	1.62E-02	66.2	4.77E+00	T
0	462.93	81	208	1.13	925.30	921	11	1.13E-02	72.7	3.19E+00	T
0	743.14	180	164	0.88	1486.04	1481	10	2.51E-02	30.6	2.18E+00	T
0	883.54	29	44	0.95	1766.96	1764	7	4.02E-03	84.5	1.88E+00	T
0	946.43	58	72	2.02	1892.81	1888	11	7.99E-03	62.8	1.77E+00	T
0	1737.96	22	6	1.37	3476.30	3471	9	3.06E-03	59.6	1.08E+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]G245808006.CNF;1
* Acquisition date   : 12-FEB-2010 16:58:17  Detector SN#      :
* Detector ID        : GAM11                Sensitivity         : 5.00000
* Geometry           : CAN                  Energy tolerance: 1.50000
* Elapsed live time  : 0 02:00:00.00        Abundance limit : 75.00000
* Elapsed real time  : 0 02:00:05.38        Half life ratio  : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245808006           Analyst initials: RXF2
* Batch Number       : 947554              Sample Quantity : 1.67461E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME  : 18-NOV-2009 15:33:22.2MS Isotope      :
* MSD ID             :                      MSD Isotope      :
* LCS ID             : 1032-A              LCS Isotope       :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	2.211E+01	2.347E+00	4.574E-01	3.955E-02	48.328
AS-73	1.227E+00	1.638E+00	2.073E+00	1.557E-01	0.592
RB-84	1.073E-01	8.221E-02	7.108E-02	7.004E-03	1.509
NB-95	8.339E-01	1.238E-01	6.546E-02	6.389E-03	12.740
BA-137M	1.536E-01	5.664E-02	5.418E-02	5.127E-03	2.834
CS-137	1.623E-01	5.988E-02	5.728E-02	5.429E-03	2.834
LU-177	1.823E+00	1.499E+00	2.201E+00	2.576E-01	0.828
TL-208	3.379E-01	8.242E-02	5.033E-02	5.435E-03	6.713
BI-211	2.054E+00	4.484E-01	3.140E-01	4.143E-02	6.540
BI-212	4.842E-01	4.052E-01	4.438E-01	4.850E-02	1.091
PB-212	9.631E-01	1.591E-01	8.473E-02	1.187E-02	11.366
PO-212	9.631E-01	1.591E-01	8.473E-02	1.187E-02	11.366
BI-214	7.687E-01	1.571E-01	9.257E-02	1.046E-02	8.304
PB-214	7.143E-01	1.604E-01	1.095E-01	1.549E-02	6.526
PO-214	7.143E-01	1.604E-01	1.095E-01	1.549E-02	6.526
PO-216	9.631E-01	1.591E-01	8.473E-02	1.187E-02	11.366
PO-218	7.143E-01	1.604E-01	1.095E-01	1.549E-02	6.526
RA-224	2.765E+00	1.046E+00	9.646E-01	1.292E-01	2.866

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-226	7.687E-01	1.571E-01	9.257E-02	1.046E-02	8.304
AC-228	1.169E+00	2.550E-01	1.642E-01	1.999E-02	7.120
RA-228	1.169E+00	2.550E-01	1.642E-01	1.999E-02	7.120
TH-228	9.798E-01	1.619E-01	8.620E-02	1.207E-02	11.366
TH-230	7.686E-01	1.571E-01	9.257E-02	1.046E-02	8.304
U-231	2.518E+01	5.680E+00	3.358E+00	3.008E-01	7.499
TH-232	1.169E+00	2.550E-01	1.642E-01	1.999E-02	7.120
PA-234M	2.419E+02	2.950E+01	6.311E+00	6.713E-01	38.335
TH-234	1.664E+02	2.931E+01	3.127E+00	5.439E-01	53.231
U-234	7.686E-01	1.571E-01	9.257E-02	1.046E-02	8.304
U-235	2.961E+00	6.881E-01	4.125E-01	7.292E-02	7.179
U-238	1.664E+02	2.931E+01	3.127E+00	5.439E-01	53.231
AM-243	2.660E-01	1.197E-01	1.577E-01	1.276E-02	1.687
ANH-511	7.612E-02	5.974E-02	4.249E-02	4.544E-03	1.791

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-6.065E-02		3.230E-01	5.338E-01	6.042E-02	-0.114
NA-22	7.276E-03		3.562E-02	5.905E-02	4.849E-03	0.123
NA-24	2.317E-01		2.744E+00	Half-Life too short		
AL-26	2.392E-02		2.301E-02	4.445E-02	3.628E-03	0.538
TI-44	1.328E-01	+	6.503E-02	9.314E-02	7.851E-03	1.426
SC-46	3.194E-03		3.657E-02	5.843E-02	5.755E-03	0.055
V-48	7.477E-02		6.369E-02	1.152E-01	1.093E-02	0.649
CR-51	1.258E-01		3.824E-01	6.205E-01	9.005E-02	0.203
MN-52	1.018E-01		2.651E-01	4.463E-01	3.739E-02	0.228
MN-54	-6.443E-03		3.186E-02	5.300E-02	5.219E-03	-0.122
CO-56	1.715E-03		3.433E-02	5.803E-02	5.717E-03	0.030
CO-57	2.204E-02		3.190E-02	5.484E-02	4.639E-03	0.402
CO-58	1.062E-02		3.717E-02	6.072E-02	5.979E-03	0.175
FE-59	-1.298E-02		7.189E-02	1.165E-01	1.095E-02	-0.111
CO-60	-4.207E-03		2.762E-02	4.383E-02	3.622E-03	-0.096
ZN-65	-1.782E-02		7.784E-02	1.076E-01	9.235E-03	-0.166
GE-68	5.465E-01		9.488E-01	1.646E+00	1.462E-01	0.332
AS-74	-7.466E-03		9.255E-02	1.511E-01	1.537E-02	-0.049
SE-75	1.059E-02		4.543E-02	7.086E-02	1.042E-02	0.149
BR-77	-3.359E+00		1.888E+01	3.101E+01	3.304E+00	-0.108
SR-82	-8.417E-02		3.985E-01	6.299E-01	6.160E-02	-0.134
RB-83	6.501E-03		6.759E-02	1.127E-01	1.201E-02	0.058
KR-85	7.673E+00		6.440E+00	1.126E+01	1.203E+00	0.682
SR-85	4.021E-02		3.375E-02	5.901E-02	6.303E-03	0.682
RB-86	-2.183E-01		6.634E-01	1.062E+00	9.434E-02	-0.206
Y-88	-2.703E-02		3.002E-02	4.152E-02	3.371E-03	-0.651
ZR-88	2.219E-02		2.822E-02	4.931E-02	5.259E-03	0.450
Y-91	-1.523E+01		1.512E+01	2.238E+01	1.811E+00	-0.681
NB-94	-1.047E-02		3.400E-02	5.397E-02	5.183E-03	-0.194

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	-2.624E-02		1.305E-01	1.885E-01	2.632E-02	-0.139
ZR-95	-6.860E-03		7.369E-02	1.178E-01	1.240E-02	-0.058
NB-97	-5.347E-01		4.106E-01	Half-Life	too short	
ZR-97	-1.655E+00		6.596E+00	Half-Life	too short	
MO-99	1.341E+01		2.489E+01	3.649E+01	5.775E+00	0.368
TC-99M	1.435E+13		8.601E+12	Half-Life	too short	
RH-101	-2.528E-02		3.488E-02	5.565E-02	6.228E-03	-0.454
RH-102	1.896E-02		2.837E-02	4.883E-02	5.264E-03	0.388
RU-103	-9.243E-04		3.919E-02	6.514E-02	1.012E-02	-0.014
RH-106	1.708E-01		3.106E-01	5.233E-01	7.447E-02	0.326
RU-106	1.708E-01		3.101E-01	5.233E-01	5.191E-02	0.326
AG-108M	-1.753E-02		3.004E-02	4.890E-02	5.406E-03	-0.359
CD-109	-2.226E+00		1.789E+00	2.493E+00	2.364E-01	-0.893
AG-110M	-2.521E-02		3.782E-02	5.039E-02	4.910E-03	-0.500
IN-111	4.303E-01		1.906E+00	2.803E+00	3.821E-01	0.153
IN-113M	1.621E-02		4.120E-02	7.093E-02	7.715E-03	0.229
SN-113	1.621E-02		4.120E-02	7.093E-02	7.715E-03	0.229
IN-114M	1.102E-01		1.982E-01	3.187E-01	3.448E-02	0.346
CD-115	4.157E+00		1.934E+01	3.242E+01	3.444E+00	0.128
SN-117M	-3.205E-02		7.248E-02	1.143E-01	1.081E-02	-0.280
SB-122	-7.396E-01		3.458E+00	5.629E+00	5.864E-01	-0.131
I-123	-4.689E+01		5.108E+01	Half-Life	too short	
TE-123M	-1.660E-02		3.615E-02	5.344E-02	5.084E-03	-0.311
I-124	-5.232E-01		9.044E-01	1.374E+00	1.389E-01	-0.381
SB-124	-2.417E-03		5.716E-02	9.410E-02	8.177E-03	-0.026
SB-125	5.889E-02		8.621E-02	1.494E-01	1.629E-02	0.394
TE-125M	4.084E+01		1.590E+01	2.497E+01	2.564E+00	1.636
I-126	3.609E-02		2.306E-01	3.306E-01	3.134E-02	0.109
SB-126	4.502E-02		1.581E-01	2.600E-01	2.511E-02	0.173
SN-126	-1.377E-01		1.739E-01	2.453E-01	2.314E-02	-0.561
SB-127	-6.487E-01		1.768E+00	2.789E+00	3.541E-01	-0.233
XE-127	2.091E-02		5.703E-02	8.539E-02	9.760E-03	0.245
I-131	-3.165E-02		1.422E-01	2.224E-01	2.794E-02	-0.142
TE-132	8.741E-01		1.118E+00	1.859E+00	3.464E-01	0.470
BA-133	3.211E-02		4.510E-02	6.639E-02	1.071E-02	0.484
I-133	-8.625E-03		1.468E-02	Half-Life	too short	
CS-134	3.029E-02		4.927E-02	8.191E-02	8.080E-03	0.370
CS-135	-1.529E-02		1.757E-01	2.525E-01	3.962E-02	-0.061
I-135	3.493E+11		3.952E+11	Half-Life	too short	
CS-136	-4.219E-02		8.610E-02	1.353E-01	1.278E-02	-0.312
CE-139	-1.078E-02		3.848E-02	5.710E-02	5.549E-03	-0.189
BA-140	-1.048E-01		2.803E-01	4.502E-01	1.517E-01	-0.233
LA-140	4.358E-04		6.174E-02	1.030E-01	8.666E-03	0.004
CE-141	1.972E-01		8.901E-02	1.404E-01	1.287E-02	1.405
CE-143	5.896E-04		2.170E-04	Half-Life	too short	
CE-144	1.831E-01		2.763E-01	4.260E-01	6.647E-02	0.430
PM-144	-1.085E-02		3.549E-02	5.639E-02	5.407E-03	-0.192
PR-144	-7.358E-01		2.407E+00	3.826E+00	3.667E-01	-0.192

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	4.483E-02		4.104E-02	7.181E-02	9.004E-03	0.624
ND-147	-4.657E-01		5.864E-01	9.161E-01	1.482E-01	-0.508
PM-149	-4.751E+01		1.675E+02	2.660E+02	5.335E+01	-0.179
EU-152	-6.412E-03		9.353E-02	1.482E-01	2.009E-02	-0.043
GD-153	1.830E+00	+	2.543E-01	2.592E-01	2.303E-02	7.063
EU-154	2.280E-02		9.963E-02	1.655E-01	1.820E-02	0.138
EU-155	4.866E-02		1.438E-01	2.474E-01	2.159E-02	0.197
TB-160	2.091E-01	+	1.602E-01	2.413E-01	2.378E-02	0.866
HO-166M	2.645E-02		5.853E-02	9.737E-02	9.377E-03	0.272
TM-171	-1.056E+02		4.661E+01	6.372E+01	4.782E+00	-1.657
LU-176	6.207E-04		2.395E-02	3.846E-02	5.654E-03	0.016
LU-177M	-1.373E-01		1.607E-01	2.586E-01	2.777E-02	-0.531
HF-181	-1.270E-02		4.162E-02	6.827E-02	7.352E-03	-0.186
W-181	-2.894E-03		5.810E-01	8.476E-01	6.283E-02	-0.003
TA-182	3.739E-02		1.548E-01	2.578E-01	2.095E-02	0.145
RE-183	7.126E-01	+	2.327E-01	2.636E-01	2.527E-02	2.703
RE-184	-1.064E-05		2.358E-01	3.834E-01	5.379E-02	0.000
OS-185	7.377E-03		3.866E-02	6.384E-02	6.162E-03	0.116
RE-188	8.973E-02		1.994E-01	3.376E-01	3.149E-02	0.266
W-188	-5.968E+00		8.279E+00	1.129E+01	1.716E+00	-0.528
IR-192	-2.257E-02		3.459E-02	5.333E-02	7.666E-03	-0.423
AU-195	5.340E+00	+	7.420E-01	7.988E-01	7.047E-02	6.686
TL-200	1.068E-03		8.825E-04	Half-Life	too short	
TL-201	-7.782E+00		1.446E+01	2.123E+01	2.077E+00	-0.367
TL-202	6.957E-03		6.985E-02	1.179E-01	1.272E-02	0.059
HG-203	8.907E-03		4.142E-02	6.744E-02	1.053E-02	0.132
BI-207	2.306E-02		4.524E-02	7.772E-02	6.981E-03	0.297
TL-207	5.144E-01		6.250E-01	1.024E+00	2.142E-01	0.502
PO-209	-2.272E+00		5.600E+00	9.053E+00	8.913E-01	-0.251
BI-210	-1.675E+00		4.142E+00	6.621E+00	6.164E-01	-0.253
PB-210	-1.675E+00		4.142E+00	6.621E+00	6.164E-01	-0.253
PO-210	-1.675E+00		4.141E+00	6.621E+00	5.581E-01	-0.253
PB-211	-6.044E-01		9.180E-01	1.362E+00	8.581E-01	-0.444
PO-215	5.144E-01		6.250E-01	1.024E+00	2.142E-01	0.502
RN-219	2.096E-01		3.567E-01	6.172E-01	1.007E-01	0.340
RN-220	-1.979E+01		2.628E+01	4.144E+01	4.354E+00	-0.478
RA-223	5.144E-01		6.250E-01	1.024E+00	2.142E-01	0.502
AC-227	2.668E-01		4.552E-01	6.749E-01	1.286E-01	0.395
TH-227	2.668E-01		4.559E-01	6.749E-01	1.438E-01	0.395
TH-229	-6.900E-02		5.337E-01	8.795E-01	9.657E-02	-0.078
PA-231	9.822E-01		1.432E+00	2.361E+00	4.678E-01	0.416
TH-231	5.144E-01		6.250E-01	1.024E+00	2.142E-01	0.502
PA-233	8.748E-03		6.281E-02	1.013E-01	1.486E-02	0.086
PA-234	6.059E-01	+	3.981E-01	5.258E-01	1.013E-01	1.152
NP-236	-7.456E-02		1.016E-01	1.484E-01	1.412E-02	-0.502
NP-237	7.803E-02		4.941E-01	7.106E-01	1.608E-01	0.110
NP-239	-4.867E-01		2.602E-01	4.005E-01	3.389E-02	-1.215
AM-241	2.430E-01		2.786E-01	4.142E-01	3.255E-02	0.587

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	1.296E-02		1.275E-01	2.188E-01	1.895E-02	0.059
AM-246	1.488E-01		1.064E-01	1.962E-01	1.740E-02	0.758
CM-247	-1.734E-03		3.210E-02	5.410E-02	5.790E-03	-0.032
CF-249	-1.693E-02		3.635E-02	6.019E-02	6.554E-03	-0.281
CF-251	3.260E-03		1.459E-01	2.429E-01	2.474E-02	0.013

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]G245808006          *
* Acquisition date   : 12-FEB-2010 16:58:17 Detector SN# :                  *
* Detector ID        : GAM11 Sensitivity      : 5.000                      *
* Geometry           : CAN Energy tolerance: 1.500                      *
* Elapsed live time  : 0 02:00:00.00 Abundance limit : 75.000             *
* Elapsed real time  : 0 02:00:05.38 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808006 Analyst initials: RXF2                  *
* Batch Number       : 947554 Sample Quantity : 1.6746E+02 GRAM          *
* Recovery           : 1.00000 Carrier Weight : 0.00000                  *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 18-NOV-2009 15:33:22 MS Isotope :                  *
* MSD DPM             : 0.000 MSD Isotope :                  *
* LCS DPM             : 0.000 LCS Isotope :                  *
* LCSD DPM            : 0.000 LCSD Isotope :                  *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	2.211E+01	2.300E+00	2.316E-01	1.173E+00
AS-73	1.227E+00	1.605E+00	1.161E+00	8.191E-01
RB-84	1.073E-01	8.056E-02	3.660E-02	4.110E-02
NB-95	8.339E-01	1.214E-01	3.386E-02	6.191E-02
BA-137M	1.536E-01	5.551E-02	2.816E-02	2.832E-02
CS-137	1.623E-01	5.868E-02	2.977E-02	2.994E-02
LU-177	1.823E+00	1.469E+00	1.185E+00	7.496E-01
TL-208	3.379E-01	8.077E-02	2.626E-02	4.121E-02
BI-211	2.054E+00	4.394E-01	1.665E-01	2.242E-01
BI-212	4.842E-01	3.971E-01	2.299E-01	2.026E-01
PB-212	9.631E-01	1.559E-01	4.545E-02	7.956E-02
PO-212	9.631E-01	1.559E-01	4.545E-02	7.956E-02
BI-214	7.687E-01	1.540E-01	4.824E-02	7.856E-02
PB-214	7.143E-01	1.572E-01	5.803E-02	8.019E-02
PO-214	7.143E-01	1.572E-01	5.803E-02	8.019E-02
PO-216	9.631E-01	1.559E-01	4.545E-02	7.956E-02
PO-218	7.143E-01	1.572E-01	5.803E-02	8.019E-02
RA-224	2.765E+00	1.025E+00	5.173E-01	5.231E-01
RA-226	7.687E-01	1.540E-01	4.824E-02	7.856E-02
AC-228	1.169E+00	2.499E-01	8.445E-02	1.275E-01
RA-228	1.169E+00	2.499E-01	8.445E-02	1.275E-01
TH-228	9.798E-01	1.586E-01	4.624E-02	8.094E-02
TH-230	7.686E-01	1.540E-01	4.824E-02	7.856E-02
U-231	2.518E+01	5.566E+00	1.849E+00	2.840E+00
TH-232	1.169E+00	2.499E-01	8.445E-02	1.275E-01
PA-234M	2.419E+02	2.891E+01	3.236E+00	1.475E+01
TH-234	1.664E+02	2.872E+01	1.742E+00	1.466E+01
U-234	7.686E-01	1.540E-01	4.824E-02	7.856E-02
U-235	2.961E+00	6.744E-01	2.246E-01	3.441E-01
U-238	1.664E+02	2.872E+01	1.742E+00	1.466E+01
AM-243	2.660E-01	1.173E-01	8.746E-02	5.985E-02
ANH-511	7.612E-02	5.855E-02	2.227E-02	2.987E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-6.065E-02	3.165E-01	2.803E-01	1.615E-01 NOT IDENT.
NA-22	7.276E-03	3.490E-02	3.004E-02	1.781E-02 NOT IDENT.
NA-24	2.317E+05	5.379E+06	0.000E+00	2.744E+06 SHORT HLIF
AL-26	2.392E-02	2.255E-02	2.235E-02	1.151E-02 NOT IDENT.
TI-44	1.328E-01	6.373E-02	5.160E-02	3.252E-02 FAIL ABUN
SC-46	3.194E-03	3.584E-02	3.008E-02	1.829E-02 FAIL ABUN
V-48	7.477E-02	6.241E-02	5.910E-02	3.184E-02 NOT IDENT.
CR-51	1.258E-01	3.747E-01	3.299E-01	1.912E-01 NOT IDENT.
MN-52	1.018E-01	2.598E-01	2.261E-01	1.326E-01 FAIL ABUN
MN-54	-6.443E-03	3.123E-02	2.734E-02	1.593E-02 NOT IDENT.
CO-56	1.715E-03	3.364E-02	2.992E-02	1.716E-02 NOT IDENT.
CO-57	2.204E-02	3.126E-02	3.000E-02	1.595E-02 NOT IDENT.
CO-58	1.062E-02	3.642E-02	3.135E-02	1.858E-02 NOT IDENT.
FE-59	-1.298E-02	7.045E-02	5.955E-02	3.595E-02 FAIL ABUN
CO-60	-4.207E-03	2.707E-02	2.226E-02	1.381E-02 NOT IDENT.
ZN-65	-1.782E-02	7.628E-02	5.500E-02	3.892E-02 NOT IDENT.
GE-68	5.465E-01	9.298E-01	8.421E-01	4.744E-01 NOT IDENT.
AS-74	-7.466E-03	9.070E-02	7.880E-02	4.627E-02 NOT IDENT.
SE-75	1.059E-02	4.452E-02	3.789E-02	2.271E-02 NOT IDENT.
BR-77	-3.359E+00	1.851E+01	1.624E+01	9.442E+00 FAIL ABUN
SR-82	-8.417E-02	3.905E-01	3.257E-01	1.993E-01 NOT IDENT.
RB-83	6.501E-03	6.623E-02	5.901E-02	3.379E-02 NOT IDENT.
KR-85	7.673E+00	6.311E+00	5.898E+00	3.220E+00 NOT IDENT.
SR-85	4.021E-02	3.308E-02	3.091E-02	1.688E-02 NOT IDENT.
RB-86	-2.183E-01	6.502E-01	5.431E-01	3.317E-01 NOT IDENT.
Y-88	-2.703E-02	2.942E-02	2.087E-02	1.501E-02 NOT IDENT.
ZR-88	2.219E-02	2.766E-02	2.605E-02	1.411E-02 NOT IDENT.
Y-91	-1.523E+01	1.482E+01	1.140E+01	7.561E+00 NOT IDENT.
NB-94	-1.047E-02	3.332E-02	2.800E-02	1.700E-02 NOT IDENT.
NB-95M	-2.624E-02	1.278E-01	1.011E-01	6.523E-02 NOT IDENT.
ZR-95	-6.860E-03	7.222E-02	6.096E-02	3.685E-02 NOT IDENT.
NB-97	-5.347E+05	8.047E+05	0.000E+00	4.106E+05 SHORT HLIF
ZR-97	-1.655E+06	1.293E+07	0.000E+00	6.596E+06 SHORT HLIF
MO-99	1.341E+01	2.439E+01	1.890E+01	1.245E+01 NOT IDENT.
TC-99M	1.435E+19	1.686E+19	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-2.528E-02	3.418E-02	3.001E-02	1.744E-02 NOT IDENT.
RH-102	1.896E-02	2.781E-02	2.565E-02	1.419E-02 FAIL ABUN
RU-103	-9.243E-04	3.841E-02	3.416E-02	1.960E-02 FAIL ABUN
RH-106	1.708E-01	3.044E-01	2.725E-01	1.553E-01 FAIL ABUN
RU-106	1.708E-01	3.039E-01	2.725E-01	1.551E-01 FAIL ABUN
AG-108M	-1.753E-02	2.944E-02	2.575E-02	1.502E-02 NOT IDENT.
CD-109	-2.226E+00	1.753E+00	1.377E+00	8.944E-01 NOT IDENT.
AG-110M	-2.521E-02	3.706E-02	2.619E-02	1.891E-02 FAIL ABUN
IN-111	4.303E-01	1.867E+00	1.502E+00	9.528E-01 NOT IDENT.
IN-113M	1.621E-02	4.038E-02	3.748E-02	2.060E-02 NOT IDENT.
SN-113	1.621E-02	4.038E-02	3.748E-02	2.060E-02 NOT IDENT.
IN-114M	1.102E-01	1.942E-01	1.721E-01	9.910E-02 NOT IDENT.
CD-115	4.157E+00	1.895E+01	1.697E+01	9.669E+00 NOT IDENT.
SN-117M	-3.205E-02	7.103E-02	6.208E-02	3.624E-02 NOT IDENT.
SB-122	-7.396E-01	3.389E+00	2.940E+00	1.729E+00 NOT IDENT.
I-123	-4.689E+07	1.001E+08	0.000E+00	5.108E+07 SHORT HLIF
TE-123M	-1.660E-02	3.543E-02	2.901E-02	1.808E-02 NOT IDENT.
I-124	-5.232E-01	8.863E-01	7.164E-01	4.522E-01 NOT IDENT.
SB-124	-2.417E-03	5.601E-02	4.742E-02	2.858E-02 FAIL ABUN
SB-125	5.889E-02	8.448E-02	7.870E-02	4.310E-02 FAIL ABUN
TE-125M	4.084E+01	1.559E+01	1.370E+01	7.952E+00 NOT IDENT.
I-126	3.609E-02	2.259E-01	1.718E-01	1.153E-01 NOT IDENT.
SB-126	4.502E-02	1.549E-01	1.348E-01	7.904E-02 FAIL ABUN
SN-126	-1.377E-01	1.704E-01	1.355E-01	8.694E-02 FAIL ABUN
SB-127	-6.487E-01	1.733E+00	1.448E+00	8.841E-01 NOT IDENT.
XE-127	2.091E-02	5.589E-02	4.603E-02	2.852E-02 FAIL ABUN
I-131	-3.165E-02	1.393E-01	1.177E-01	7.108E-02 NOT IDENT.
TE-132	8.741E-01	1.095E+00	9.984E-01	5.589E-01 FAIL ABUN
BA-133	3.211E-02	4.420E-02	3.518E-02	2.255E-02 FAIL ABUN
I-133	-8.625E+03	2.877E+04	0.000E+00	1.468E+04 SHORT HLIF
CS-134	3.029E-02	4.828E-02	4.232E-02	2.463E-02 NOT IDENT.
CS-135	-1.529E-02	1.722E-01	1.350E-01	8.784E-02 NOT IDENT.
I-135	3.493E+17	7.746E+17	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-4.219E-02	8.438E-02	6.930E-02	4.305E-02 FAIL ABUN
CE-139	-1.078E-02	3.771E-02	3.096E-02	1.924E-02 NOT IDENT.
BA-140	-1.048E-01	2.747E-01	2.355E-01	1.402E-01 FAIL ABUN
LA-140	4.358E-04	6.051E-02	5.203E-02	3.087E-02 NOT IDENT.
CE-141	1.972E-01	8.723E-02	7.644E-02	4.451E-02 NOT IDENT.

CE-143	5.896E+02	4.253E+02	0.000E+00	2.170E+02	SHORT HLIF
CE-144	1.831E-01	2.708E-01	2.324E-01	1.382E-01	NOT IDENT.
PM-144	-1.085E-02	3.478E-02	2.926E-02	1.774E-02	NOT IDENT.
PR-144	-7.358E-01	2.359E+00	1.985E+00	1.204E+00	NOT IDENT.
PM-146	4.483E-02	4.022E-02	3.777E-02	2.052E-02	NOT IDENT.
ND-147	-4.657E-01	5.747E-01	4.795E-01	2.932E-01	FAIL ABUN
PM-149	-4.751E+01	1.641E+02	1.419E+02	8.373E+01	NOT IDENT.
EU-152	-6.412E-03	9.166E-02	7.861E-02	4.677E-02	NOT IDENT.
GD-153	1.830E+00	2.492E-01	1.427E-01	1.272E-01	FAIL ABUN
EU-154	2.280E-02	9.763E-02	8.420E-02	4.981E-02	NOT IDENT.
EU-155	4.866E-02	1.409E-01	1.359E-01	7.191E-02	NOT IDENT.
TB-160	2.091E-01	1.570E-01	1.243E-01	8.010E-02	FAIL ABUN
HO-166M	2.645E-02	5.736E-02	5.049E-02	2.926E-02	FAIL ABUN
TM-171	-1.056E+02	4.568E+01	3.546E+01	2.330E+01	FAIL ABUN
LU-176	6.207E-04	2.347E-02	2.047E-02	1.197E-02	NOT IDENT.
LU-177M	-1.373E-01	1.575E-01	1.364E-01	8.035E-02	FAIL ABUN
HF-181	-1.270E-02	4.079E-02	3.584E-02	2.081E-02	FAIL ABUN
W-181	-2.894E-03	5.694E-01	4.720E-01	2.905E-01	NOT IDENT.
TA-182	3.739E-02	1.517E-01	1.314E-01	7.740E-02	FAIL ABUN
RE-183	7.126E-01	2.281E-01	1.430E-01	1.164E-01	FAIL ABUN
RE-184	-1.064E-05	2.311E-01	2.053E-01	1.179E-01	NOT IDENT.
OS-185	7.377E-03	3.789E-02	3.320E-02	1.933E-02	FAIL ABUN
RE-188	8.973E-02	1.954E-01	1.834E-01	9.969E-02	NOT IDENT.
W-188	-5.968E+00	8.114E+00	6.022E+00	4.140E+00	FAIL ABUN
IR-192	-2.257E-02	3.390E-02	2.836E-02	1.729E-02	FAIL ABUN
AU-195	5.340E+00	7.271E-01	4.396E-01	3.710E-01	FAIL ABUN
TL-200	1.068E+03	1.730E+03	0.000E+00	8.825E+02	SHORT HLIF
TL-201	-7.782E+00	1.417E+01	1.151E+01	7.231E+00	NOT IDENT.
TL-202	6.957E-03	6.845E-02	6.207E-02	3.493E-02	NOT IDENT.
HG-203	8.907E-03	4.059E-02	3.601E-02	2.071E-02	FAIL ABUN
BI-207	2.306E-02	4.434E-02	3.977E-02	2.262E-02	FAIL ABUN
TL-207	5.144E-01	6.125E-01	5.443E-01	3.125E-01	FAIL ABUN
PO-209	-2.272E+00	5.488E+00	4.659E+00	2.800E+00	NOT IDENT.
BI-210	-1.675E+00	4.059E+00	3.721E+00	2.071E+00	NOT IDENT.
PB-210	-1.675E+00	4.059E+00	3.721E+00	2.071E+00	NOT IDENT.
PO-210	-1.675E+00	4.058E+00	3.721E+00	2.071E+00	NOT IDENT.
PB-211	-6.044E-01	8.997E-01	7.191E-01	4.590E-01	NOT IDENT.
PO-215	5.144E-01	6.125E-01	5.443E-01	3.125E-01	FAIL ABUN
RN-219	2.096E-01	3.496E-01	3.258E-01	1.784E-01	FAIL ABUN
RN-220	-1.979E+01	2.576E+01	2.166E+01	1.314E+01	NOT IDENT.
RA-223	5.144E-01	6.125E-01	5.443E-01	3.125E-01	FAIL ABUN
AC-227	2.668E-01	4.461E-01	3.612E-01	2.276E-01	NOT IDENT.
TH-227	2.668E-01	4.468E-01	3.612E-01	2.280E-01	FAIL ABUN
TH-229	-6.900E-02	5.230E-01	4.747E-01	2.668E-01	FAIL ABUN
PA-231	9.822E-01	1.404E+00	1.260E+00	7.161E-01	NOT IDENT.
TH-231	5.144E-01	6.125E-01	5.443E-01	3.125E-01	FAIL ABUN
PA-233	8.748E-03	6.155E-02	5.388E-02	3.140E-02	FAIL ABUN
PA-234	6.059E-01	3.901E-01	2.701E-01	1.990E-01	FAIL ABUN
NP-236	-7.456E-02	9.955E-02	8.056E-02	5.079E-02	FAIL ABUN
NP-237	7.803E-02	4.842E-01	3.926E-01	2.470E-01	FAIL ABUN
NP-239	-4.867E-01	2.550E-01	2.194E-01	1.301E-01	FAIL ABUN
AM-241	2.430E-01	2.731E-01	2.312E-01	1.393E-01	NOT IDENT.
CM-243	1.296E-02	1.250E-01	1.203E-01	6.377E-02	FAIL ABUN
AM-246	1.488E-01	1.043E-01	1.004E-01	5.319E-02	NOT IDENT.
CM-247	-1.734E-03	3.146E-02	2.856E-02	1.605E-02	NOT IDENT.
CF-249	-1.693E-02	3.562E-02	3.181E-02	1.817E-02	NOT IDENT.
CF-251	3.260E-03	1.430E-01	1.315E-01	7.295E-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	1517.0380
46.50	1517.0380
46.50	1517.0380
48.70	1648.2186
49.72	1620.2598
51.35	1741.2192
52.39	1766.4469
52.97	2004.3711
53.15	2005.5472
53.44	2185.2021
54.07	2241.7131
56.28	2485.1501
56.28	2485.1753
57.37	0.0000
57.53	2485.8142
57.53	2485.8308
57.60	2486.3523
57.98	2585.2627
57.98	2585.2627
59.32	2526.6431
59.32	2526.6431
59.40	2527.2549
59.54	2617.5876
59.72	2619.0044
60.01	2654.6221
61.10	2766.6208
61.14	2766.9448
61.30	2768.2500
63.00	2381.1768
63.29	2383.1733
63.29	2383.1733
63.58	2385.1699
64.28	1934.6808
65.12	1991.5973
65.20	2147.4131
65.20	2147.4131
66.05	2166.4419
66.72	2406.8455
66.83	2407.6062
66.91	2408.1294
67.20	2260.0291
67.20	2260.0291
67.75	2308.7778
67.85	2309.4146
68.90	2372.0190
68.90	2372.0190
69.30	2529.7910
69.67	2658.5054
70.82	3031.1077
70.82	3031.1077
70.83	3031.1868
72.80	3015.2539
72.87	3015.8008
72.87	3015.8008
74.67	3323.4670
74.81	3324.6667
74.81	3324.6667
74.81	3324.6667
74.81	3324.6667
74.81	3324.6667
74.81	3324.6667
74.81	3324.6667
74.97	3326.0378
75.28	2894.8259
75.70	2897.9375
77.11	2815.4202
77.11	2815.4202

77.11	2815.4202
77.11	2815.4202
77.11	2815.4202
77.11	2815.4202
77.11	2815.4202
78.38	2790.9490
79.62	2866.6516
79.80	2867.9290
79.80	2867.9290
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80.18	2887.4128
80.30	2888.2573
80.30	2888.2573
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81.07	2822.3486
81.07	2822.3486
81.07	2822.3486
81.07	2822.3486
82.60	3021.1216
83.37	3266.5383
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83.78	3269.7532
83.78	3269.7532
83.78	3269.7532
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84.90	3278.4492
85.43	3600.5334
86.29	3328.5181
86.50	3330.1448
86.54	3330.4575
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86.72	3300.9741
86.79	3301.4907
86.94	3302.6477
87.30	3463.2817
87.30	3463.2817
87.30	3463.2817
87.30	3463.2817
87.30	3463.2817
87.30	3463.2817
87.57	3672.2432
87.88	3674.8811
88.03	3759.2839
88.36	3736.8582
88.47	3737.7900
89.95	3785.6226
91.11	3777.4656
92.29	3152.0825
92.38	3152.7058
92.38	3152.7058
93.35	3159.4849
94.00	3164.0044
94.67	3168.6213
94.67	3168.6602
94.90	3170.2380
94.90	3170.2380
94.90	3170.2380
94.90	3170.2380
95.87	1408.4708
95.87	1408.4708
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98.44	1406.2349
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103.18	1295.5598
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105.00	1207.3809
105.31	1260.5978
108.00	1455.8301
109.28	1355.9092

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111.00	1527.3477
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112.95	1533.1310
115.19	1165.7760
116.30	1185.0857
117.00	1174.7034
117.00	1174.7034
117.66	1097.9919
121.11	986.4093
121.62	947.1730
121.78	947.4490
122.06	946.1873
122.32	946.6335
122.32	946.6335
122.32	946.6335
122.32	946.6335
123.07	990.8109
127.23	950.2390
129.76	947.2931
131.20	942.1145
133.02	871.1407
133.54	871.9167
135.34	862.5105
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136.25	887.7484
136.48	920.3463
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140.51	0.0000
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142.65	961.2816
143.76	854.1954
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144.24	854.8566
144.24	854.8566
144.24	854.8566
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145.44	792.4033
147.16	835.6126
152.43	802.5590
152.70	790.0207
153.22	774.0906
154.21	710.7343
154.21	710.7343
154.21	710.7343
154.21	710.7343
155.03	740.2453
156.02	766.3258
158.56	736.0564
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162.32	699.8825
162.64	716.0820
163.35	716.8311
163.89	717.4006
165.85	727.4336
167.43	733.3289
171.28	721.3200
171.86	735.1559
172.10	735.4089
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176.60	683.8690
181.06	681.3678
184.41	598.7851
185.71	599.8354
186.00	600.0632
190.27	499.4614
192.34	572.0295
193.63	548.6249
197.04	530.4878
198.01	560.5430
198.60	564.8848
200.40	550.4525
201.83	462.3264
202.84	520.5933
205.31	525.1663

208.36	500.3394
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209.75	429.5918
209.75	429.5918
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215.65	437.6713
216.55	438.1425
218.09	444.9738
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223.80	486.3921
226.40	394.5439
227.00	390.7571
227.08	390.7924
227.20	404.0447
228.16	415.6694
228.18	409.5797
228.18	409.5797
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236.00	407.5766
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238.63	356.8377
238.63	356.8377
238.63	356.8377
239.00	356.9825
240.98	357.7625
241.98	358.1579
241.98	358.1579
241.98	358.1579
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245.39	343.4308
247.94	340.7424
248.90	334.8533
249.79	352.8664
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252.85	348.7967
252.85	348.7967
254.15	0.0000
256.20	370.9899
256.20	370.9899
260.50	293.7015
260.90	303.2988
262.80	333.9696
264.65	304.4707
268.24	350.1483
268.79	356.7129
269.46	313.4015
269.46	313.4015
269.46	313.4015
269.46	313.4015
271.23	312.8954
273.65	324.8508
276.40	317.7197
277.35	307.3081
277.60	320.2363
277.60	320.2363
278.00	311.7925
278.60	293.7506
279.20	313.2323
279.53	330.5022
280.46	330.8030
281.68	293.5616
283.67	245.6455
284.30	275.9792
285.00	296.6634
285.90	277.4860
286.10	280.7780
286.10	280.7780
287.40	283.2950
288.45	0.0000
290.67	310.7539
290.80	291.2683
291.72	301.2912
293.26	0.0000
293.70	282.2759
295.21	247.2744
295.21	247.2744

295.21	247.2744
295.96	247.4499
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297.23	309.4091
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299.80	246.1487
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300.09	229.8029
300.09	229.8029
300.09	229.8029
300.12	229.8071
301.29	251.9649
302.84	300.5962
303.76	272.3045
303.91	260.2603
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304.40	255.9862
304.84	258.2887
306.84	255.4539
308.46	264.6533
311.98	252.2231
316.51	264.3557
318.01	240.2358
319.02	211.5080
319.41	219.3765
320.08	240.6753
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323.87	215.7664
323.87	215.7664
323.87	215.7664
325.23	271.9858
328.77	230.1579
333.44	206.2845
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334.20	226.7220
334.30	226.7425
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338.28	221.8478
338.28	221.8478
338.28	221.8478
338.32	221.8558
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338.32	221.8558
340.50	226.2315
340.57	226.2477
344.27	227.5187
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350.59	0.0000
351.07	234.5205
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351.92	234.6831
351.92	234.6831
355.39	0.0000
356.01	186.0765
364.48	233.6036
366.43	228.1740
367.43	210.9670
367.94	0.0000
369.80	238.0739
374.96	205.2223
383.85	213.0941
387.95	211.1089
388.63	209.4508
391.69	192.2193
391.69	192.2193
392.90	177.3193
398.62	186.0928
400.65	184.5868
401.10	176.6217
401.81	165.1128
402.60	180.3902
404.84	206.6261
410.95	203.9522
411.60	211.2404
413.65	204.3506
414.70	167.5692
415.30	154.1207

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427.89	171.8725
432.53	197.0618
433.93	185.3812
439.47	163.1757
439.56	163.1839
439.89	175.1426
443.98	161.8391
444.90	160.1009
445.03	160.1142
445.03	160.1142
445.03	160.1142
445.03	160.1142
453.90	152.7438
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468.07	142.0315
473.00	172.4832
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475.35	161.4783
476.78	174.7837
477.59	183.3362
477.96	185.2616
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511.85	145.0359
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513.99	145.2225
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555.20	121.1870
563.23	154.3956
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569.32	165.8482
569.50	171.8227
569.67	171.8385
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592.07	134.7443
593.00	132.7976
595.88	137.0334
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602.71	153.7163
603.60	153.7859
604.41	142.5188
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609.31	111.6315

609.31	111.6315
609.31	111.6315
609.31	111.6315
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621.84	126.6641
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661.65	126.1069
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666.33	137.0497
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695.00	155.6851
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696.49	154.7329
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698.33	142.1419
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699.00	145.3660
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713.82	117.5262
717.42	131.6372
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722.78	109.8594
722.78	109.8594
722.89	109.8656
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724.18	116.7986
727.18	124.6979
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735.90	158.6504
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752.31	133.7242
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763.93	113.6453
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766.84	142.2351
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792.07	157.5013

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867.82	61.1424
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875.33	0.0000
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880.51	84.0677
881.50	36.6982
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884.67	85.7340
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911.07	64.0238
911.07	64.0238
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969.11	101.4201
969.11	101.4201
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1038.76	0.0000
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1048.07	55.5221

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1050.47	62.3906
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1173.22	43.5879
1175.09	53.7557
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1274.54	54.3004
1291.56	35.6751
1298.22	0.0000
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1325.50	31.7754
1332.49	32.8966
1333.61	32.9072
1360.21	33.1434
1362.66	0.0000
1365.15	31.0461
1368.21	30.0002
1368.53	0.0000
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1384.27	29.0514
1394.10	17.2602
1395.20	25.8984
1407.95	12.9920
1434.06	32.6997
1436.60	37.0829
1457.56	0.0000
1460.81	32.9224
1489.15	12.8937
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1596.49	17.9555
1620.62	19.9567
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1691.02	16.4134
1691.02	16.4134
1706.46	0.0000
1750.46	0.0000
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1764.49	8.4089
1764.49	8.4089
1764.49	8.4089
1770.23	5.0516
1771.40	3.3686
1791.20	0.0000
1808.65	8.9121

1836.01

24.8962

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808006

Total Uranium Activity	4.9651E+02	ug/g
Total Uranium Counting Unc.	8.5455E+01	ug/g
Total Uranium Tpu	4.3600E-05	ug/g
Total Uranium Mda	5.1850E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554                          SAMPLE ID   : G245808006
*  ANALYST       : RXF2                             DETECTOR    : GAM11
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 12-FEB-2010 16:58:17.05          SAMPLE ALQT  : 167.461 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.830E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.225E+00
GROSS GAMMA MDA      (pCi/GRAM ) : 7.365E+00
GROSS GAMMA DLC      (pCi/GRAM ) : 3.640E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 19:00:53.20

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808007.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:00:15
Sample ID          : G245808007      Sample quantity   : 1.00792E+02 GRAM
Detector name      : GAM23           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.71  0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials  : RXF2
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 947554          Detector SN#      :
Matrix Spike ID    :                 LCS ID            : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.20*	600	600	1.03	126.41	122	10	8.33E-02	8.8	
2	2	74.58*	249	494	1.13	149.16	145	14	3.46E-02	16.0	1.25E+00
3	2	77.01	441	447	1.12	154.02	145	14	6.12E-02	9.4	
4	1	87.13*	194	564	1.41	174.26	163	31	2.69E-02	22.1	5.56E+00
5	1	92.48*	1871	425	1.21	184.97	163	31	2.60E-01	3.0	
6	0	98.69	163	439	1.11	197.37	193	10	2.27E-02	25.4	
7	0	143.21*	152	366	1.46	286.42	281	11	2.11E-02	26.0	
8	0	185.62*	465	277	1.21	371.24	367	10	6.46E-02	8.4	
9	3	238.35*	896	179	1.23	476.70	469	21	1.24E-01	4.2	1.16E+00
10	3	241.27	201	265	1.78	482.54	469	21	2.79E-02	20.8	
11	0	269.65	83	191	1.28	539.29	535	10	1.16E-02	32.8	
12	0	294.66*	345	172	1.36	589.31	582	13	4.79E-02	9.6	
13	0	299.54	63	141	0.93	599.07	595	9	8.77E-03	36.0	
14	0	337.83	188	169	1.50	675.66	670	13	2.61E-02	16.0	
15	0	351.30*	527	167	1.37	702.60	695	13	7.31E-02	6.7	
16	0	463.03*	43	109	1.14	926.05	920	11	6.01E-03	50.2	
17	0	510.37*	109	133	1.45	1020.74	1014	15	1.51E-02	27.7	
18	0	582.68*	236	129	1.33	1165.36	1158	15	3.28E-02	12.5	
19	0	608.67*	347	105	1.67	1217.34	1210	16	4.82E-02	8.6	
20	0	660.95	418	107	1.43	1321.90	1314	14	5.80E-02	7.2	
21	0	726.69	61	85	1.42	1453.38	1445	15	8.46E-03	35.6	
22	0	766.64*	44	69	1.71	1533.27	1527	13	6.17E-03	42.4	
23	0	860.26	70	23	1.83	1720.52	1713	18	9.69E-03	20.0	
24	0	910.10*	181	45	1.95	1820.19	1813	14	2.51E-02	11.2	
25	0	968.64	83	96	1.94	1937.28	1929	18	1.15E-02	31.1	
26	0	999.92*	114	28	1.82	1999.83	1993	14	1.58E-02	13.8	
27	0	1119.79	64	40	1.89	2239.59	2232	15	8.90E-03	25.1	
28	0	1459.44*	643	15	2.06	2918.88	2909	18	8.93E-02	4.2	
29	0	1763.39*	52	15	1.95	3526.79	3519	15	7.18E-03	21.9	

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


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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808007.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:00:15
Sample ID         : G245808007 Sample quantity : 100.79 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA23 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.71 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	*	2.250E+01	2.535E+00	4.939E-01	3.695E-02	45.543
NB-95	+	765.79	*	1.117E-01	9.515E-02	9.214E-02	6.192E-03	1.213
CD-109	+	88.03	*	3.818E+00	1.725E+00	1.983E+00	1.936E-01	1.925
SN-126	+	64.28		9.029E+00	2.097E+00	1.362E+00	2.073E-01	6.629
	+	86.94		1.555E+00	9.431E-01	8.196E-01	3.409E-01	1.898
	+	87.57	*	3.741E-01	1.690E-01	1.955E-01	1.902E-02	1.914
CS-135	+	268.24	*	4.594E-01	3.033E-01	3.444E-01	2.631E-02	1.334
BA-137M	+	661.65	*	8.478E-01	1.295E-01	8.338E-02	4.259E-03	10.168
CS-137	+	661.65	*	8.962E-01	1.370E-01	8.814E-02	4.527E-03	10.168
TL-208	+	277.35		5.388E-01	5.333E-01	8.927E-01	9.433E-02	0.604
	+	510.84		7.383E-01	4.155E-01	2.775E-01	2.819E-02	2.661
	+	583.14	*	4.586E-01	1.187E-01	8.013E-02	5.202E-03	5.722
	+	860.37		1.296E+00	5.308E-01	5.230E-01	4.727E-02	2.479
BI-211	+	72.87		1.013E+01	6.164E+00	9.443E+00	8.330E-01	1.073
	+	351.07	*	4.401E+00	6.582E-01	4.545E-01	2.961E-02	9.684
PB-212	+	74.81		2.151E+00	7.439E-01	9.013E-01	1.163E-01	2.386
	+	77.11		2.121E+00	4.415E-01	5.050E-01	4.544E-02	4.199
	+	87.30		1.730E+00	8.007E-01	9.073E-01	1.264E-01	1.907
	+	238.63	*	1.613E+00	1.785E-01	1.213E-01	8.723E-03	13.292
	+	300.09		1.768E+00	1.283E+00	1.686E+00	1.400E-01	1.049
PO-212	+	74.81		2.151E+00	7.439E-01	9.013E-01	1.163E-01	2.386
	+	77.11		2.121E+00	4.415E-01	5.050E-01	4.544E-02	4.199
	+	87.30		1.730E+00	8.007E-01	9.073E-01	1.264E-01	1.907
	+	115.19		-6.202E+00	5.629E+00	8.889E+00	5.671E-01	-0.698
	+	238.63	*	1.613E+00	1.785E-01	1.213E-01	8.723E-03	13.292
	+	300.09		1.768E+00	1.283E+00	1.686E+00	1.400E-01	1.049
BI-214	+	609.31	*	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
	+	1120.29		1.255E+00	6.412E-01	5.855E-01	5.441E-02	2.144
	+	1764.49		1.393E+00	6.154E-01	2.828E-01	1.758E-02	4.927
PB-214	+	74.81		3.706E+00	1.264E+00	1.553E+00	1.797E-01	2.386
	+	77.11		3.635E+00	8.059E-01	8.657E-01	1.021E-01	4.199
	+	87.30		2.964E+00	1.359E+00	1.554E+00	1.927E-01	1.907
	+	241.98		2.174E+00	9.203E-01	7.307E-01	5.811E-02	2.975
	+	295.21		1.694E+00	3.564E-01	2.533E-01	2.171E-02	6.688

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	1.531E+00	2.425E-01	1.485E-01	1.240E-02	10.308
	+	74.81		3.706E+00	1.264E+00	1.553E+00	1.797E-01	2.386
	+	77.11		3.635E+00	8.059E-01	8.657E-01	1.021E-01	4.199
	+	87.30		2.964E+00	1.359E+00	1.554E+00	1.927E-01	1.907
	+	241.98		2.174E+00	9.203E-01	7.307E-01	5.811E-02	2.975
	+	295.21		1.694E+00	3.564E-01	2.533E-01	2.171E-02	6.688
PO-216	+	351.92	*	1.531E+00	2.425E-01	1.485E-01	1.240E-02	10.308
	+	74.81		2.151E+00	7.439E-01	9.013E-01	1.163E-01	2.386
	+	77.11		2.121E+00	4.415E-01	5.050E-01	4.544E-02	4.199
	+	87.30		1.730E+00	8.007E-01	9.073E-01	1.264E-01	1.907
	+	238.63	*	1.613E+00	1.785E-01	1.213E-01	8.723E-03	13.292
	+	300.09		1.768E+00	1.283E+00	1.686E+00	1.400E-01	1.049
PO-218	+	74.81		3.706E+00	1.264E+00	1.553E+00	1.797E-01	2.386
	+	77.11		3.635E+00	8.059E-01	8.657E-01	1.021E-01	4.199
	+	87.30		2.964E+00	1.359E+00	1.554E+00	1.927E-01	1.907
	+	241.98		2.174E+00	9.203E-01	7.307E-01	5.811E-02	2.975
	+	295.21		1.694E+00	3.564E-01	2.533E-01	2.171E-02	6.688
	+	351.92	*	1.531E+00	2.425E-01	1.485E-01	1.240E-02	10.308
RA-224	+	240.98	*	4.122E+00	1.730E+00	1.381E+00	7.780E-02	2.985
RA-226	+	609.31	*	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
AC-228	+	1120.29		1.255E+00	6.412E-01	5.855E-01	5.441E-02	2.144
	+	1764.49		1.393E+00	6.153E-01	2.828E-01	1.758E-02	4.927
	+	338.32		1.730E+00	8.969E-01	5.129E-01	2.092E-01	3.373
	+	911.07	*	1.592E+00	4.004E-01	2.456E-01	2.834E-02	6.481
	+	969.11		1.293E+00	8.577E-01	5.283E-01	1.230E-01	2.447
	+	338.32		1.730E+00	8.969E-01	5.129E-01	2.092E-01	3.373
RA-228	+	911.07	*	1.592E+00	4.004E-01	2.456E-01	2.834E-02	6.481
	+	969.11		1.293E+00	8.577E-01	5.283E-01	1.230E-01	2.447
	+	74.81		2.188E+00	7.290E-01	9.169E-01	8.218E-02	2.386
	+	77.11		2.157E+00	4.491E-01	5.137E-01	4.622E-02	4.199
	+	87.30		1.760E+00	7.953E-01	9.230E-01	8.959E-02	1.907
	+	238.63	*	1.641E+00	1.816E-01	1.234E-01	8.874E-03	13.292
TH-228	+	300.09		1.799E+00	1.675E+00	1.715E+00	1.011E+00	1.049
	+	609.31	*	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
	+	1120.29		1.255E+00	6.412E-01	5.855E-01	5.441E-02	2.144
	+	1764.49		1.393E+00	6.153E-01	2.828E-01	1.758E-02	4.927
	+	338.32		1.730E+00	5.633E-01	5.129E-01	3.029E-02	3.373
	+	911.07	*	1.592E+00	4.004E-01	2.456E-01	2.834E-02	6.481
TH-230	+	969.11		1.293E+00	8.577E-01	5.283E-01	1.230E-01	2.447
	+	766.42		2.891E+01	2.855E+01	2.455E+01	1.239E+01	1.178
	+	1001.03	*	3.611E+01	1.057E+01	8.531E+00	8.139E-01	4.233
	+	63.29	*	2.281E+01	5.737E+00	3.744E+00	6.747E-01	6.093
	+	92.38		2.311E+01	4.436E+00	1.264E+00	2.306E-01	18.273
	+	609.31	*	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
U-234	+	1120.29		1.255E+00	6.412E-01	5.855E-01	5.441E-02	2.144
	+	1764.49		1.393E+00	6.153E-01	2.828E-01	1.758E-02	4.927
	+	89.95		1.030E+01	3.805E+00	3.526E+00	1.096E+00	2.921
	+	93.35		2.778E+01	7.988E+00	1.506E+00	4.228E-01	18.445
	+	105.00		1.521E+00	1.672E+00	2.645E+00	7.798E-01	0.575

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	143.76	*	8.698E-01	4.736E-01	4.729E-01	7.648E-02	1.839
		163.35		1.030E+00	6.893E-01	1.151E+00	2.046E-01	0.895
	+	185.71		5.838E-01	1.032E-01	9.532E-02	4.991E-03	6.124
		205.31		3.823E-02	7.650E-01	1.238E+00	2.211E-01	0.031
NP-237	+	86.50	*	1.099E+00	5.457E-01	5.825E-01	1.327E-01	1.886
		95.87		3.748E+00	2.292E+00	2.546E+00	6.252E-01	1.472
U-238	+	63.29	*	2.281E+01	5.737E+00	3.744E+00	6.747E-01	6.093
	+	92.38		2.311E+01	2.487E+00	1.264E+00	1.130E-01	18.273
AM-243	+	74.67	*	3.487E-01	1.161E-01	1.467E-01	1.304E-02	2.377
	+	86.72		4.119E+01	1.861E+01	2.178E+01	2.103E+00	1.892
		117.66		-8.126E+00	5.659E+00	8.763E+00	5.427E-01	-0.927
	+	142.18		7.306E+01	3.819E+01	3.916E+01	2.132E+00	1.866
ANH-511	+	511.00	*	1.595E-01	8.876E-02	5.995E-02	3.482E-03	2.660

---- 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	*	4.408E-04	4.771E-01	7.857E-01	5.340E-02	0.001
NA-22		1274.54	*	-8.124E-03	6.106E-02	9.798E-02	6.580E-03	-0.083
NA-24		1368.53	*	7.129E-01	6.106E-02	Half-Life too short		
AL-26		1129.67		-4.271E-01	2.201E+00	3.537E+00	2.253E-01	-0.121
		1808.65	*	1.764E-02	2.720E-02	5.327E-02	3.202E-03	0.331
TI-44		67.85		-4.327E-02	8.932E-02	1.286E-01	1.120E-02	-0.336
	+	78.38	*	3.914E-01	8.147E-02	1.147E-01	1.039E-02	3.413
SC-46		889.25	*	-8.704E-04	5.172E-02	8.602E-02	7.685E-03	-0.010
	+	1120.51		2.187E-01	1.107E-01	1.508E-01	9.823E-03	1.450
V-48		944.10		3.707E-01	1.320E+00	2.252E+00	1.962E-01	0.165
		983.50	*	-6.195E-03	9.985E-02	1.643E-01	1.367E-02	-0.038
		1312.09		2.126E-02	1.152E-01	1.919E-01	1.365E-02	0.111
CR-51		320.08	*	1.088E-01	5.286E-01	8.963E-01	5.877E-02	0.121
MN-52		744.21		3.589E-01	4.561E-01	7.834E-01	4.988E-02	0.458
		848.13		2.520E+00	1.171E+01	1.995E+01	1.628E+00	0.126
		935.52		2.645E-01	4.585E-01	8.010E-01	7.042E-02	0.330
		1246.25		-1.257E+01	1.338E+01	1.956E+01	1.252E+00	-0.642
		1333.61		-3.366E+00	8.715E+00	1.337E+01	9.813E-01	-0.252
		1434.06	*	-7.113E-02	4.151E-01	6.523E-01	4.719E-02	-0.109
MN-54		834.83	*	8.078E-03	5.025E-02	8.519E-02	6.745E-03	0.095
CO-56		846.75	*	6.736E-02	5.474E-02	1.008E-01	8.196E-03	0.669
		977.42		5.199E-01	3.844E+00	5.829E+00	4.887E-01	0.089
		1037.82		8.820E-03	3.790E-01	6.275E-01	5.144E-02	0.014
		1175.09		1.920E-01	3.148E+00	5.188E+00	2.937E-01	0.037
		1238.25		2.032E-01	1.302E-01	2.393E-01	1.592E-02	0.849
		1360.21		5.848E-01	1.284E+00	2.226E+00	1.630E-01	0.263
		1771.40		-2.710E-01	3.268E-01	4.471E-01	2.766E-02	-0.606
CO-57		122.06	*	-1.199E-02	3.504E-02	5.680E-02	3.349E-03	-0.211
		136.48		-8.646E-02	3.025E-01	4.726E-01	3.073E-02	-0.183
CO-58		810.76	*	-7.651E-02	4.947E-02	6.852E-02	5.148E-03	-1.117
FE-59	+	142.65		1.159E+01	6.059E+00	7.231E+00	3.932E-01	1.603

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		192.34		-3.113E-01	1.417E+00	2.190E+00	2.533E-01	-0.142
		1099.22	*	-3.139E-04	1.124E-01	1.848E-01	1.423E-02	-0.002
		1291.56		-7.852E-02	1.839E-01	2.841E-01	2.359E-02	-0.276
CO-60		1173.22		3.596E-02	6.327E-02	1.093E-01	6.167E-03	0.329
		1332.49	*	1.274E-02	5.072E-02	8.532E-02	6.263E-03	0.149
ZN-65		1115.52	*	1.249E-01	1.330E-01	2.133E-01	1.409E-02	0.585
GE-68		1077.35	*	-4.489E-01	1.579E+00	2.514E+00	1.800E-01	-0.179
AS-73		53.44	*	1.200E+00	1.709E+00	2.935E+00	2.591E-01	0.409
AS-74		595.88	*	-3.358E-02	1.252E-01	1.987E-01	1.096E-02	-0.169
		634.78		1.019E-01	5.644E-01	8.714E-01	4.613E-02	0.117
SE-75		66.05		-1.519E+01	9.637E+00	1.300E+01	1.365E+00	-1.168
		96.73		3.727E+00	1.841E+00	2.192E+00	2.939E-01	1.700
		121.11		8.227E-02	1.913E-01	3.199E-01	2.984E-02	0.257
		136.00		-1.269E-02	5.499E-02	8.927E-02	5.041E-03	-0.142
		198.60		5.881E-01	2.577E+00	4.209E+00	2.842E-01	0.140
		264.65	*	2.928E-02	7.073E-02	1.018E-01	5.923E-03	0.288
		279.53		-1.578E-01	1.547E-01	2.476E-01	1.557E-02	-0.637
		303.91		9.298E-01	3.185E+00	4.765E+00	4.571E-01	0.195
		400.65		1.262E-01	3.598E-01	6.101E-01	5.551E-02	0.207
BR-77	+	87.88		1.513E+03	6.838E+02	1.001E+03	9.767E+01	1.512
		200.40		1.197E+02	4.275E+02	6.997E+02	3.743E+01	0.171
	+	239.00		4.766E+02	4.825E+01	8.632E+01	4.853E+00	5.521
		249.79		-1.005E+01	1.664E+02	2.656E+02	1.510E+01	-0.038
		281.68		-6.937E+00	2.301E+02	3.874E+02	2.258E+01	-0.018
		297.23		5.747E+02	2.060E+02	2.753E+02	1.617E+01	2.088
		303.76		1.779E+02	4.951E+02	7.443E+02	4.381E+01	0.239
		439.47		2.700E+01	3.804E+02	6.318E+02	3.697E+01	0.043
		484.57		2.610E+02	5.809E+02	9.867E+02	5.768E+01	0.265
		520.65	*	6.011E+00	2.591E+01	4.325E+01	2.503E+00	0.139
		574.64		-2.913E+02	5.360E+02	7.771E+02	4.362E+01	-0.375
		578.91		3.000E+02	2.438E+02	3.899E+02	2.181E+01	0.770
		585.48		1.269E+03	5.507E+02	9.325E+02	5.189E+01	1.360
		755.35		3.647E+02	4.097E+02	7.137E+02	4.673E+01	0.511
		817.79		-1.654E+01	3.060E+02	5.094E+02	3.878E+01	-0.032
SR-82		698.33		-4.808E+00	5.110E+01	8.179E+01	4.620E+00	-0.059
		776.49	*	-2.127E-01	5.270E-01	8.526E-01	5.882E-02	-0.249
		1395.20		7.456E+00	1.579E+01	2.735E+01	1.993E+00	0.273
RB-83		520.41	*	3.442E-02	9.561E-02	1.611E-01	9.326E-03	0.214
		529.64		-6.229E-02	1.523E-01	2.415E-01	1.392E-02	-0.258
		552.65		-6.739E-02	2.637E-01	4.216E-01	2.402E-02	-0.160
RB-84		881.50	*	-3.505E-02	1.005E-01	1.618E-01	1.421E-02	-0.217
KR-85		513.99	*	1.589E+01	1.107E+01	1.785E+01	1.036E+00	0.890
SR-85		513.99	*	8.328E-02	5.800E-02	9.354E-02	5.428E-03	0.890
RB-86		1076.63	*	-5.713E-01	1.102E+00	1.706E+00	1.223E-01	-0.335
Y-88		898.02		-2.786E-02	5.080E-02	7.932E-02	7.253E-03	-0.351
		1836.01	*	-4.376E-02	3.962E-02	4.443E-02	2.616E-03	-0.985
ZR-88		392.90	*	-2.811E-03	4.457E-02	7.380E-02	4.261E-03	-0.038
Y-91		1204.90	*	1.398E+01	2.557E+01	4.409E+01	2.631E+00	0.317
NB-94		702.63	*	1.273E-02	4.852E-02	7.999E-02	4.571E-03	0.159

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	871.10			1.591E-02	4.286E-02	7.415E-02	6.368E-03	0.215
NB-95M	235.69	*		7.245E-01	2.270E-01	3.660E-01	2.700E-02	1.980
ZR-95	724.18			2.214E-01	1.727E-01	2.717E-01	1.920E-02	0.815
	756.15	*		6.574E-02	9.651E-02	1.652E-01	1.268E-02	0.398
NB-97	657.90	*		5.878E+00	9.651E-02	Half-Life	too short	
	1024.50			-5.041E+01	9.651E-02	Half-Life	too short	
ZR-97	254.15			1.261E+01	9.651E-02	Half-Life	too short	
	355.39			-3.884E+01	9.651E-02	Half-Life	too short	
	507.63	*		5.978E+01	9.651E-02	Half-Life	too short	
	602.52			-5.048E+01	9.651E-02	Half-Life	too short	
	1021.30			7.959E+01	9.651E-02	Half-Life	too short	
	1147.95			-7.577E+00	9.651E-02	Half-Life	too short	
	1362.66			-5.876E+01	9.651E-02	Half-Life	too short	
	1750.46			1.225E+01	9.651E-02	Half-Life	too short	
MO-99	140.51			-2.479E+00	7.108E+01	1.009E+02	2.711E+01	-0.025
	181.06			1.306E+00	4.565E+01	6.490E+01	1.100E+01	0.020
	366.43			-8.915E+01	2.046E+02	3.323E+02	1.947E+01	-0.268
	739.58	*		-5.391E+00	3.072E+01	4.864E+01	6.807E+00	-0.111
	778.00			-6.355E+00	7.569E+01	1.261E+02	8.734E+00	-0.050
TC-99M	140.51	*		-6.887E+11	7.569E+01	Half-Life	too short	
RH-101	127.23			2.418E-02	4.236E-02	7.116E-02	4.086E-03	0.340
	198.01	*		3.233E-02	4.608E-02	7.681E-02	4.094E-03	0.421
	325.23			1.827E-01	3.075E-01	5.309E-01	3.137E-02	0.344
RH-102	418.52			-2.468E-01	4.172E-01	6.650E-01	3.875E-02	-0.371
	475.06	*		8.919E-03	4.191E-02	7.004E-02	4.100E-03	0.127
	631.29			-1.060E-03	7.546E-02	1.223E-01	6.502E-03	-0.009
	697.49			-7.600E-02	1.110E-01	1.681E-01	9.477E-03	-0.452
+	766.84			2.752E-01	2.344E-01	2.987E-01	2.013E-02	0.921
	1046.59			3.304E-03	1.502E-01	2.485E-01	1.882E-02	0.013
	1112.84			1.273E-02	3.111E-01	4.420E-01	2.932E-02	0.029
RU-103	497.08	*		-7.317E-03	5.733E-02	9.328E-02	1.181E-02	-0.078
	610.33			1.283E+01	2.693E+00	3.757E+00	5.742E-01	3.416
RH-106	511.85	+		7.997E-01	4.451E-01	5.762E-01	3.346E-02	1.388
	621.84	*		-2.704E-02	4.219E-01	6.812E-01	7.856E-02	-0.040
	1050.47			-3.948E-01	3.154E+00	5.135E+00	3.863E-01	-0.077
RU-106	511.85	+		7.997E-01	4.451E-01	5.762E-01	3.346E-02	1.388
	621.84	*		-2.704E-02	4.218E-01	6.812E-01	3.660E-02	-0.040
	1050.47			-3.948E-01	3.154E+00	5.135E+00	3.863E-01	-0.077
AG-108M	433.93	*		-2.311E-02	4.193E-02	6.647E-02	4.214E-03	-0.348
	614.37			-7.368E-03	5.423E-02	7.472E-02	4.439E-03	-0.099
	722.95			1.415E-02	7.121E-02	1.012E-01	6.579E-03	0.140
AG-110M	657.75	*		2.093E-01	6.970E-02	1.227E-01	6.818E-03	1.706
	677.61			1.679E-01	4.081E-01	6.850E-01	3.920E-02	0.245
	706.67			3.400E-02	2.875E-01	4.686E-01	2.870E-02	0.073
	763.93			4.451E-01	2.817E-01	4.583E-01	3.208E-02	0.971
	884.67			1.148E-02	6.770E-02	1.146E-01	1.045E-02	0.100
	937.48			-1.483E-01	1.594E-01	2.398E-01	2.178E-02	-0.618
	1384.27			1.754E-02	2.394E-01	3.918E-01	2.972E-02	0.045
IN-111	171.28			6.731E-01	2.268E+00	3.736E+00	1.916E-01	0.180

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	245.39	*		3.266E-01	2.702E+00	3.814E+00	2.159E-01	0.086
IN-113M	391.69	*		6.261E-03	6.400E-02	1.070E-01	6.593E-03	0.059
SN-113	391.69	*		6.261E-03	6.400E-02	1.070E-01	6.593E-03	0.059
IN-114M	190.27	*		6.604E-02	2.895E-01	4.158E-01	2.192E-02	0.159
CD-115	260.90			-1.881E+02	3.514E+02	5.444E+02	3.127E+01	-0.346
	492.35			3.797E+01	9.624E+01	1.628E+02	9.503E+00	0.233
	527.90	*		-6.921E+00	2.919E+01	4.694E+01	2.709E+00	-0.147
SN-117M	156.02			-2.685E+00	3.573E+00	5.642E+00	2.952E-01	-0.476
	158.56	*		-3.959E-02	8.596E-02	1.374E-01	7.139E-03	-0.288
SB-122	563.90	*		-2.433E+00	5.166E+00	8.128E+00	4.598E-01	-0.299
	692.80			-3.226E+00	1.001E+02	1.611E+02	8.967E+00	-0.020
I-123	159.00	*		-5.604E+01	1.001E+02	Half-Life	too short	
	528.96			-4.999E+03	1.001E+02	Half-Life	too short	
TE-123M	159.00	*		-1.980E-02	4.081E-02	6.515E-02	3.438E-03	-0.304
I-124	602.71	*		-8.895E-01	1.413E+00	1.825E+00	1.000E-01	-0.487
	722.78			1.123E+00	1.045E+01	1.470E+01	8.857E-01	0.076
	1325.50			-1.237E+01	6.852E+01	1.087E+02	7.895E+00	-0.114
	1376.25			6.588E+01	6.100E+01	1.119E+02	8.180E+00	0.589
	1509.49			2.070E+01	2.768E+01	5.019E+01	3.559E+00	0.412
	1691.02			-7.031E+00	7.315E+00	9.683E+00	6.321E-01	-0.726
SB-124	602.71			-3.744E-02	5.948E-02	7.683E-02	4.212E-03	-0.487
	645.85			-1.347E-01	6.742E-01	1.072E+00	6.471E-02	-0.126
	709.31			-1.680E+00	3.952E+00	6.118E+00	3.558E-01	-0.275
	713.82			-5.184E-03	2.382E+00	3.838E+00	3.938E-01	-0.001
	722.78			6.853E-02	6.378E-01	8.968E-01	5.640E-02	0.076
+	968.20			1.364E+01	8.548E+00	9.083E+00	7.701E-01	1.501
	1045.16			-7.107E-01	3.260E+00	5.248E+00	3.984E-01	-0.135
	1325.50			-8.058E-01	4.465E+00	7.083E+00	5.144E-01	-0.114
	1368.21			2.497E-01	2.412E+00	3.973E+00	5.038E-01	0.063
	1436.60			-3.409E+00	5.130E+00	7.322E+00	5.294E-01	-0.466
	1691.02			-1.012E-01	1.053E-01	1.394E-01	9.716E-03	-0.726
SB-125	427.89	*		1.085E-01	1.299E-01	2.262E-01	1.376E-02	0.480
+	463.38			5.711E-01	5.746E-01	7.317E-01	4.985E-02	0.780
	600.56			-4.224E-02	2.504E-01	3.773E-01	2.431E-02	-0.112
	635.90			9.917E-02	3.737E-01	6.203E-01	3.944E-02	0.160
TE-125M	109.28	*		-1.906E+01	1.524E+01	2.390E+01	2.134E+00	-0.797
I-126	388.63			-3.642E-02	3.308E-01	5.464E-01	3.160E-02	-0.067
	666.33	*		-1.869E-01	3.605E-01	4.725E-01	2.445E-02	-0.395
	753.82			7.124E-01	2.194E+00	3.637E+00	2.373E-01	0.196
SB-126	223.80			-1.087E+00	6.434E+00	1.027E+01	5.671E-01	-0.106
	278.60			9.874E-01	3.810E+00	6.503E+00	3.783E-01	0.152
	296.50			1.601E+01	3.605E+00	5.246E+00	3.080E-01	3.051
	414.70			9.510E-02	1.228E-01	2.128E-01	1.238E-02	0.447
	415.30			5.545E+00	1.012E+01	1.733E+01	1.009E+00	0.320
	555.20			4.015E-01	5.818E+00	9.564E+00	5.440E-01	0.042
	573.80			-1.272E+00	1.669E+00	2.465E+00	1.384E-01	-0.516
	593.00			-1.081E+00	1.365E+00	2.060E+00	1.139E-01	-0.525
	656.30			2.360E+00	6.094E+00	8.919E+00	4.591E-01	0.265
	666.33			-7.847E-02	1.514E-01	1.984E-01	1.027E-02	-0.395

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		675.00	-2.290E+00	3.112E+00	4.680E+00	2.481E-01	-0.489
		695.00	-3.944E-03	1.177E-01	1.894E-01	1.060E-02	-0.021
		697.00	-2.670E-02	4.268E-01	6.851E-01	3.856E-02	-0.039
		720.50	* 9.891E-02	2.734E-01	3.964E-01	2.375E-02	0.249
		856.80	4.479E-01	7.476E-01	1.166E+00	9.704E-02	0.384
		989.30	-2.545E-01	1.945E+00	3.176E+00	2.623E-01	-0.080
		1034.80	-7.012E+00	1.209E+01	1.854E+01	1.432E+00	-0.378
		1213.00	-2.627E+00	6.621E+00	1.035E+01	6.260E-01	-0.254
SB-127		61.10	5.470E+02	1.940E+02	3.014E+02	3.573E+01	1.814
		252.40	9.625E-01	8.859E+00	1.426E+01	5.948E+00	0.067
		290.80	1.619E+01	4.344E+01	6.555E+01	6.534E+00	0.247
		411.60	1.531E+00	2.622E+01	4.363E+01	6.496E+00	0.035
		444.90	-1.495E+00	2.122E+01	3.491E+01	4.008E+00	-0.043
		473.00	-2.307E-01	3.500E+00	5.740E+00	6.799E-01	-0.040
		543.00	6.792E+00	3.577E+01	5.933E+01	7.972E+00	0.114
		603.60	-9.709E+00	2.525E+01	3.375E+01	3.802E+00	-0.288
		685.20	* -9.124E-01	2.661E+00	4.154E+00	4.150E-01	-0.220
		698.50	8.606E-01	3.138E+01	5.075E+01	7.573E+00	0.017
		722.20	6.984E+00	7.216E+01	1.014E+02	1.020E+01	0.069
		783.80	4.323E+00	7.668E+00	1.339E+01	1.607E+00	0.323
XE-127		57.60	2.236E+00	1.338E+01	2.075E+01	1.817E+00	0.108
		145.22	2.251E+00	1.139E+00	1.796E+00	9.691E-02	1.253
		172.10	9.334E-02	1.703E-01	2.834E-01	1.456E-02	0.329
		202.84	* -6.320E-02	7.185E-02	1.114E-01	5.981E-03	-0.567
		374.96	-9.763E-03	2.790E-01	4.638E-01	2.706E-02	-0.021
I-131		80.18	1.199E+00	1.314E+01	1.404E+01	1.296E+00	0.085
		284.30	2.184E+00	2.447E+00	4.296E+00	2.794E-01	0.508
		364.48	* -9.544E-02	2.010E-01	3.259E-01	2.136E-02	-0.293
		636.97	6.970E-01	2.494E+00	4.147E+00	2.512E-01	0.168
		722.89	2.388E+00	1.433E+01	2.029E+01	1.243E+00	0.118
TE-132		49.72	-1.035E+02	6.756E+01	1.058E+02	1.192E+01	-0.978
		111.76	1.153E+02	7.608E+01	1.302E+02	1.306E+01	0.886
		116.30	-8.652E+01	6.729E+01	1.048E+02	1.026E+01	-0.826
		228.16	* -7.180E-01	1.524E+00	2.388E+00	3.512E-01	-0.301
BA-133		53.15	5.207E+00	7.285E+00	1.252E+01	1.104E+00	0.416
		79.62	5.515E-01	3.102E+00	3.335E+00	5.177E-01	0.165
		81.00	5.924E-02	2.338E-01	2.525E-01	4.093E-02	0.235
		276.40	3.096E-01	5.509E-01	8.737E-01	1.133E-01	0.354
		302.84	1.738E-01	2.129E-01	3.295E-01	3.855E-02	0.528
		356.01	* -5.879E-02	6.946E-02	9.299E-02	1.079E-02	-0.632
		383.85	-2.571E-01	4.245E-01	6.785E-01	7.378E-02	-0.379
I-133	+	510.53	8.643E+00	4.245E-01	Half-Life	too short	
		529.87	* 8.674E-04	4.245E-01	Half-Life	too short	
		706.58	4.246E-01	4.245E-01	Half-Life	too short	
		856.28	2.074E+00	4.245E-01	Half-Life	too short	
		875.33	-2.064E-01	4.245E-01	Half-Life	too short	
		1236.41	5.204E+00	4.245E-01	Half-Life	too short	
		1298.22	4.560E-01	4.245E-01	Half-Life	too short	
CS-134		475.35	1.099E+00	2.711E+00	4.590E+00	2.687E-01	0.239

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-135		563.23		3.142E-01	5.063E-01	8.654E-01	5.005E-02	0.363
		569.32		1.414E-01	2.884E-01	4.771E-01	2.773E-02	0.296
		604.70		4.864E-02	4.783E-02	7.534E-02	4.147E-03	0.646
		795.84	*	6.119E-02	6.278E-02	1.133E-01	8.273E-03	0.540
		801.93		-2.533E-01	5.348E-01	8.489E-01	6.275E-02	-0.298
		1038.57		-1.259E+00	4.745E+00	7.586E+00	5.823E-01	-0.166
		1167.94		-3.233E-01	3.439E+00	5.581E+00	3.199E-01	-0.058
		1365.15		3.675E-01	1.624E+00	2.678E+00	2.083E-01	0.137
		288.45		-9.763E+12	1.624E+00	Half-Life	too short	
		417.63		-4.056E+12	1.624E+00	Half-Life	too short	
		546.56		2.107E+12	1.624E+00	Half-Life	too short	
		836.80		3.071E+12	1.624E+00	Half-Life	too short	
		1038.76		-1.430E+12	1.624E+00	Half-Life	too short	
		1124.00		-8.008E+11	1.624E+00	Half-Life	too short	
		1131.51		-9.463E+10	1.624E+00	Half-Life	too short	
		1260.41	*	2.671E+11	1.624E+00	Half-Life	too short	
		1457.56		1.847E+14	1.624E+00	Half-Life	too short	
		1678.03		-2.712E+12	1.624E+00	Half-Life	too short	
		1706.46		-8.173E+11	1.624E+00	Half-Life	too short	
		1791.20		3.949E+11	1.624E+00	Half-Life	too short	
CS-136		66.91		-2.631E+00	1.736E+00	2.313E+00	3.581E-01	-1.137
	+	86.29		5.450E+00	2.517E+00	3.509E+00	4.752E-01	1.553
		153.22		9.561E-01	1.049E+00	1.742E+00	1.186E-01	0.549
		163.89		2.536E+00	1.684E+00	2.897E+00	1.949E-01	0.875
		176.55		4.526E-02	5.815E-01	9.476E-01	5.652E-02	0.048
		273.65		-7.455E-01	8.344E-01	1.077E+00	7.129E-02	-0.692
		340.57		2.193E-01	2.179E-01	3.401E-01	2.132E-02	0.645
		818.51		-8.963E-03	1.073E-01	1.782E-01	1.361E-02	-0.050
		1048.07	*	-2.327E-02	1.621E-01	2.634E-01	2.100E-02	-0.088
		1235.34		1.008E+00	9.960E-01	1.751E+00	1.800E-01	0.575
CE-139		165.85	*	-3.305E-02	4.286E-02	6.661E-02	3.396E-03	-0.496
BA-140		162.64		8.983E-01	1.217E+00	2.040E+00	1.212E-01	0.440
		304.84		-2.774E-01	2.199E+00	3.186E+00	8.700E-01	-0.087
		423.70		2.942E-01	3.173E+00	5.283E+00	1.679E+00	0.056
LA-140		537.32	*	-4.447E-01	4.403E-01	6.229E-01	2.025E-01	-0.714
		328.77		4.396E-01	4.623E-01	8.097E-01	5.340E-02	0.543
		432.53		-5.411E+00	3.052E+00	4.334E+00	2.794E-01	-1.248
		487.03		-2.006E-01	2.173E-01	3.321E-01	2.194E-02	-0.604
		751.79		1.605E+00	2.509E+00	4.285E+00	3.287E-01	0.374
		815.85		8.195E-02	4.332E-01	7.391E-01	6.423E-02	0.111
		867.82		5.527E-01	2.136E+00	3.195E+00	2.871E-01	0.173
		919.63		3.468E+00	3.989E+00	7.182E+00	7.828E-01	0.483
		925.24		-5.618E-01	1.607E+00	2.541E+00	2.391E-01	-0.221
		1596.49	*	-1.010E-01	1.219E-01	1.730E-01	1.187E-02	-0.584
CE-141		145.44	*	1.828E-01	1.030E-01	1.611E-01	9.086E-03	1.135
CE-143		57.37		-5.200E-04	1.030E-01	Half-Life	too short	
		231.56		4.577E-03	1.030E-01	Half-Life	too short	
	+	293.26	*	4.630E-03	1.030E-01	Half-Life	too short	
	+	350.59		1.001E-01	1.030E-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
		490.36		3.509E-03	1.030E-01	Half-Life too short		
		664.57		4.417E-03	1.030E-01	Half-Life too short		
		721.93		2.578E-03	1.030E-01	Half-Life too short		
CE-144		80.11		5.477E-01	5.081E+00	5.434E+00	4.981E-01	0.101
		133.54	*	1.635E-01	2.871E-01	4.800E-01	6.779E-02	0.341
PM-144		476.78		4.253E-02	9.689E-02	1.643E-01	1.148E-02	0.259
		618.01		-5.192E-03	4.044E-02	6.492E-02	3.746E-03	-0.080
		696.49	*	-1.355E-02	4.957E-02	7.810E-02	4.394E-03	-0.174
		778.57		-3.105E-01	2.991E+00	4.975E+00	3.452E-01	-0.062
PR-144		696.49	*	-9.195E-01	3.363E+00	5.298E+00	2.978E-01	-0.174
		1489.15		-1.054E+01	1.395E+01	1.868E+01	1.333E+00	-0.564
PM-146		453.90	*	-2.240E-03	6.200E-02	1.021E-01	8.843E-03	-0.022
		633.02		-4.489E-01	2.074E+00	3.084E+00	1.133E+00	-0.146
		735.90		-3.111E-02	2.118E-01	3.357E-01	9.390E-02	-0.093
		747.13		-7.590E-02	1.276E-01	1.923E-01	2.462E-02	-0.395
ND-147	+	91.11		1.326E+01	1.505E+00	1.577E+00	1.551E-01	8.410
		319.41		3.557E+00	5.066E+00	8.813E+00	5.208E-01	0.404
		439.89		-1.539E+00	9.706E+00	1.588E+01	9.298E-01	-0.097
		531.02	*	8.797E-01	8.772E-01	1.535E+00	2.073E-01	0.573
PM-149		285.90	*	-7.014E+00	2.320E+02	3.903E+02	5.542E+01	-0.018
EU-152		121.78		-1.834E-02	1.018E-01	1.662E-01	1.278E-02	-0.110
		244.69		2.800E-02	5.108E-01	7.174E-01	4.058E-02	0.039
		344.27	*	1.992E-01	2.029E-01	2.310E-01	1.531E-02	0.862
		443.98		2.408E-01	1.406E+00	2.349E+00	1.375E-01	0.102
		778.89		1.747E-02	3.491E-01	5.886E-01	4.084E-02	0.030
		867.32		1.950E-01	1.127E+00	1.665E+00	1.418E-01	0.117
		964.01		6.961E-01	4.722E-01	7.814E-01	6.658E-02	0.891
		1085.78		-1.105E-01	5.010E-01	8.037E-01	5.656E-02	-0.137
		1112.02		-1.424E-01	4.448E-01	5.921E-01	3.936E-02	-0.241
		1407.95		1.023E-01	2.365E-01	4.079E-01	2.966E-02	0.251
GD-153		69.67		3.650E+00	3.103E+00	4.764E+00	4.162E-01	0.766
		83.37		5.053E+01	2.701E+01	4.183E+01	3.927E+00	1.208
	+	97.43	*	3.473E-01	1.784E-01	2.253E-01	1.841E-02	1.541
		103.18		-1.423E-01	1.783E-01	2.458E-01	1.836E-02	-0.579
EU-154		123.07		-8.159E-02	7.165E-02	1.115E-01	1.052E-02	-0.732
		247.94		-2.297E-01	5.681E-01	7.680E-01	7.269E-02	-0.299
		591.81		-7.411E-01	8.519E-01	1.277E+00	1.228E-01	-0.580
		723.30		2.359E-01	2.965E-01	4.492E-01	3.267E-02	0.525
		756.87		9.730E-02	1.021E+00	1.656E+00	1.755E-01	0.059
		873.19		-6.429E-02	3.733E-01	6.112E-01	7.487E-02	-0.105
		996.32		8.352E-01	5.985E-01	9.869E-01	1.733E-01	0.846
		1004.76		5.609E-02	3.031E-01	4.441E-01	4.995E-02	0.126
		1274.45	*	-2.605E-02	1.700E-01	2.721E-01	2.702E-02	-0.096
EU-155		48.70		-7.931E+00	5.491E+00	8.708E+00	7.024E-01	-0.911
		60.01		9.376E+00	1.043E+01	1.583E+01	1.375E+00	0.592
	+	86.54		4.509E-01	2.038E-01	2.889E-01	2.808E-02	1.561
		105.31	*	1.509E-01	1.585E-01	2.701E-01	1.992E-02	0.559
TB-160	+	86.79		1.228E+00	5.548E-01	7.889E-01	7.623E-02	1.556
		197.04		4.780E-01	8.017E-01	1.331E+00	7.083E-02	0.359

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M		215.65		7.350E-01	1.048E+00	1.745E+00	9.536E-02	0.421
	+	298.57		2.625E-01	1.898E-01	2.686E-01	1.578E-02	0.977
		879.36	*	4.600E-02	1.809E-01	3.093E-01	2.705E-02	0.149
		962.29		1.189E+00	8.299E-01	1.386E+00	1.183E-01	0.858
		966.15		1.073E+00	4.234E-01	7.263E-01	6.173E-02	1.477
		1177.93		2.358E-01	5.167E-01	8.838E-01	5.028E-02	0.267
		1271.85		1.435E-01	1.010E+00	1.653E+00	1.103E-01	0.087
		80.57		9.489E-02	6.459E-01	6.927E-01	6.369E-02	0.137
	+	184.41		4.378E-01	7.739E-02	1.178E-01	6.158E-03	3.716
		280.46		-7.516E-02	1.201E-01	1.963E-01	1.143E-02	-0.383
TM-171		410.95		1.382E-01	3.626E-01	6.145E-01	3.572E-02	0.225
		711.68	*	-2.130E-02	8.315E-02	1.308E-01	7.654E-03	-0.163
		752.31		3.522E-01	3.667E-01	6.427E-01	4.176E-02	0.548
		810.29		-9.566E-02	7.096E-02	1.008E-01	7.537E-03	-0.949
		51.35		-1.885E+01	6.409E+01	1.066E+02	9.268E+00	-0.177
LU-176		52.39		1.158E+01	3.258E+01	5.541E+01	4.868E+00	0.209
		59.40		5.834E+01	5.714E+01	8.712E+01	7.568E+00	0.670
		66.72	*	-8.681E+01	5.551E+01	7.530E+01	6.548E+00	-1.153
	+	88.36		8.873E-01	4.009E-01	5.923E-01	5.742E-02	1.498
		201.83		-6.037E-02	4.203E-02	6.331E-02	3.394E-03	-0.954
LU-177		306.84	*	-1.490E-02	3.392E-02	5.563E-02	3.277E-03	-0.268
		401.10		3.294E+00	9.290E+00	1.576E+01	9.130E-01	0.209
		112.95		7.939E+00	3.263E+00	5.737E+00	3.762E-01	1.384
LU-177M		208.36	*	1.069E+00	1.919E+00	3.172E+00	1.716E-01	0.337
		52.97		2.068E+00	3.342E+00	5.728E+00	5.049E-01	0.361
		54.07		8.621E-02	1.750E+00	2.945E+00	2.603E-01	0.029
HF-181		61.30		1.335E+01	3.655E+00	5.833E+00	5.067E-01	2.289
		121.62		-3.029E-02	5.277E-01	8.659E-01	5.118E-02	-0.035
		147.16		8.208E-02	1.023E+00	1.471E+00	7.892E-02	0.056
		171.86		2.551E-01	6.605E-01	1.092E+00	5.607E-02	0.234
		218.09		-4.699E-01	1.225E+00	1.937E+00	1.062E-01	-0.243
	+	268.79		2.329E+00	1.533E+00	2.069E+00	1.196E-01	1.126
		319.02		2.488E-01	3.483E-01	6.064E-01	3.581E-02	0.410
		367.43		-3.287E-01	1.304E+00	2.141E+00	1.254E-01	-0.154
		413.65	*	4.356E-02	2.648E-01	4.434E-01	2.580E-02	0.098
		56.28		-7.949E-01	1.951E+00	3.228E+00	2.842E-01	-0.246
W-181		57.53		7.563E-02	1.123E+00	1.736E+00	1.521E-01	0.044
		65.20		5.650E+00	2.072E+00	3.288E+00	2.856E-01	1.718
		133.02		-6.845E-03	9.670E-02	1.582E-01	8.879E-03	-0.043
		136.25		-2.722E-01	6.882E-01	1.070E+00	5.938E-02	-0.254
		345.85		1.236E-01	3.322E-01	4.713E-01	2.780E-02	0.262
		482.03	*	2.435E-02	6.282E-02	1.062E-01	6.210E-03	0.229
		56.28		-3.029E-01	7.468E-01	1.236E+00	1.088E-01	-0.245
TA-182		57.53		2.875E-02	4.304E-01	6.650E-01	5.827E-02	0.043
		65.20	*	2.147E+00	7.877E-01	1.250E+00	1.086E-01	1.718
		67.75		-1.239E-01	2.157E-01	3.091E-01	2.691E-02	-0.401
	+	100.10		8.143E-01	4.183E-01	4.712E-01	3.688E-02	1.728
		152.43		3.856E-01	4.952E-01	8.188E-01	4.327E-02	0.471
		222.10		-4.701E-01	5.086E-01	7.809E-01	4.303E-02	-0.602

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RE-183		1001.68		1.239E+01	3.989E+00	7.375E+00	5.988E-01	1.680
	+	1121.28		6.011E-01	3.044E-01	4.067E-01	2.645E-02	1.478
		1189.05		-3.858E-01	4.370E-01	6.487E-01	3.764E-02	-0.595
		1221.42	*	9.701E-02	2.378E-01	4.060E-01	2.492E-02	0.239
		1230.97		-5.454E-01	7.000E-01	1.057E+00	6.596E-02	-0.516
		57.98		2.694E-01	4.467E-01	6.713E-01	5.870E-02	0.401
		59.32		2.402E-01	2.396E-01	3.651E-01	3.173E-02	0.658
		67.20		-5.565E-01	3.985E-01	5.463E-01	4.754E-02	-1.019
		162.32	*	1.067E-01	1.613E-01	2.696E-01	1.387E-02	0.396
		208.81		4.350E-01	1.409E+00	2.305E+00	1.248E-01	0.189
RE-184		291.72		1.016E+00	1.377E+00	2.130E+00	1.248E-01	0.477
		57.98		9.807E-01	1.626E+00	2.444E+00	2.137E-01	0.401
		59.32		8.736E-01	8.716E-01	1.328E+00	1.154E-01	0.658
		67.20		-2.025E+00	1.450E+00	1.988E+00	1.730E-01	-1.019
		161.27		-1.666E-03	5.101E-01	8.311E-01	4.287E-02	-0.002
		216.55		3.037E-01	3.675E-01	6.154E-01	3.367E-02	0.493
		252.85	*	5.836E-03	3.275E-01	5.250E-01	2.993E-02	0.011
		318.01		4.019E-01	6.137E-01	1.065E+00	6.288E-02	0.377
		792.07		1.552E+00	1.425E+00	2.581E+00	1.849E-01	0.602
		903.28		9.512E-01	1.446E+00	2.270E+00	2.057E-01	0.419
OS-185		920.93		4.321E-01	5.875E-01	1.047E+00	9.337E-02	0.413
		59.72		6.174E-01	6.354E-01	9.669E-01	8.397E-02	0.639
		61.14		1.020E+00	3.831E-01	6.077E-01	5.279E-02	1.678
		69.30		3.051E-01	5.686E-01	8.541E-01	7.456E-02	0.357
		592.07		-2.934E+00	3.484E+00	5.245E+00	2.902E-01	-0.559
		646.12	*	-1.006E-02	5.651E-02	9.003E-02	4.698E-03	-0.112
		717.42		-4.566E-01	1.375E+00	2.085E+00	1.239E-01	-0.219
		874.81		-1.398E-01	7.595E-01	1.243E+00	1.076E-01	-0.113
		880.27		9.440E-02	1.030E+00	1.732E+00	1.518E-01	0.055
		155.03	*	-1.192E-01	2.511E-01	4.018E-01	2.108E-02	-0.297
RE-188		477.96		-2.042E-01	4.551E+00	7.471E+00	4.372E-01	-0.027
		633.10		-7.404E-01	4.278E+00	6.412E+00	3.401E-01	-0.115
	+	63.58		9.361E+02	1.833E+02	2.321E+02	2.016E+01	4.033
W-188		227.08		5.173E+00	1.833E+01	2.989E+01	1.657E+00	0.173
		290.67	*	4.075E+00	1.054E+01	1.593E+01	9.330E-01	0.256
	+	295.96		1.317E+00	2.650E-01	3.790E-01	2.259E-02	3.476
IR-192		308.46		-4.204E-02	1.363E-01	2.252E-01	1.342E-02	-0.187
		316.51	*	-1.039E-02	4.737E-02	7.851E-02	4.658E-03	-0.132
		468.07		3.028E-02	1.079E-01	1.584E-01	1.067E-02	0.191
AU-195		604.41		4.889E-01	6.462E-01	9.904E-01	1.108E-01	0.494
		612.46		1.150E+00	1.008E+00	1.607E+00	1.172E-01	0.716
		65.12		1.171E+00	3.725E-01	5.932E-01	5.153E-02	1.974
TL-200		66.83		-2.830E-01	1.844E-01	2.506E-01	2.180E-02	-1.129
	+	75.70		1.137E+00	3.787E-01	6.904E-01	6.165E-02	1.648
	+	98.88	*	1.013E+00	5.205E-01	6.440E-01	5.138E-02	1.573
TL-200		129.76		1.263E+00	3.967E+00	6.592E+00	3.747E-01	0.192
		367.94	*	5.105E-04	3.967E+00	Half-Life	too short	
		579.30		3.944E-02	3.967E+00	Half-Life	too short	
		828.27		-1.918E-02	3.967E+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
	1205.75			6.433E-03	3.967E+00	Half-Life too short		
TL-201	68.90			4.337E+00	1.558E+01	2.165E+01	1.889E+00	0.200
	70.82			1.050E+01	8.153E+00	1.254E+01	1.099E+00	0.837
	80.30			1.180E+00	1.922E+01	2.048E+01	1.880E+00	0.058
	135.34			-5.596E+01	5.762E+01	9.058E+01	5.043E+00	-0.618
	167.43	*		-2.433E+01	1.576E+01	2.348E+01	1.199E+00	-1.036
TL-202	68.90			2.728E-01	9.797E-01	1.362E+00	1.188E-01	0.200
	70.82			6.582E-01	5.113E-01	7.864E-01	6.891E-02	0.837
	80.30			7.406E-02	1.206E+00	1.285E+00	1.179E-01	0.058
	439.56	*		5.290E-03	1.125E-01	1.865E-01	1.091E-02	0.028
HG-203	70.83			2.615E+00	2.049E+00	3.122E+00	4.277E-01	0.838
	72.87			2.078E+00	1.282E+00	1.938E+00	2.584E-01	1.073
	82.60			4.075E+00	2.458E+00	3.236E+00	4.596E-01	1.259
	279.20	*		-2.673E-02	5.800E-02	9.563E-02	5.907E-03	-0.280
BI-207	72.80			5.269E-01	3.578E-01	5.461E-01	4.816E-02	0.965
+	74.97			6.260E-01	2.084E-01	3.515E-01	3.128E-02	1.781
	84.90			7.606E-01	3.549E-01	5.405E-01	5.138E-02	1.407
	569.67			2.649E-02	4.422E-02	7.372E-02	4.153E-03	0.359
	1063.62	*		-7.216E-03	5.893E-02	9.562E-02	7.025E-03	-0.075
	1770.23			-1.766E+00	8.387E-01	8.506E-01	5.266E-02	-2.076
TL-207	81.07			1.314E-01	5.152E-01	5.568E-01	5.138E-02	0.236
	83.78			4.074E-01	2.266E-01	3.505E-01	3.301E-02	1.162
	94.90			3.003E+00	5.969E-01	7.892E-01	6.733E-02	3.805
	122.32			-1.276E+00	2.400E+00	3.857E+00	2.609E-01	-0.331
+	144.24			2.819E+00	1.478E+00	1.707E+00	1.182E-01	1.651
	154.21			1.712E-01	5.631E-01	9.301E-01	6.113E-02	0.184
+	269.46			5.404E-01	3.559E-01	4.825E-01	2.917E-02	1.120
	323.87	*		-1.289E+00	9.526E-01	1.439E+00	2.383E-01	-0.895
+	338.28			7.223E+00	2.436E+00	3.108E+00	3.291E-01	2.324
	445.03			-2.681E-01	3.391E+00	5.574E+00	5.742E-01	-0.048
PO-209	260.50			-5.363E+00	1.350E+01	2.110E+01	1.211E+00	-0.254
	262.80			7.386E+00	3.720E+01	6.014E+01	3.459E+00	0.123
	896.60	*		-1.618E+00	8.729E+00	1.423E+01	1.292E+00	-0.114
BI-210	46.50	*		1.215E+01	8.353E+00	1.458E+01	1.135E+00	0.833
PB-210	46.50	*		1.215E+01	8.353E+00	1.458E+01	1.135E+00	0.833
PO-210	46.50	*		1.215E+01	8.339E+00	1.458E+01	9.781E-01	0.833
PB-211	404.84	*		-1.385E+00	1.586E+00	2.065E+00	1.287E+00	-0.671
	427.08			2.373E+00	3.335E+00	5.202E+00	3.215E+00	0.456
	831.96			9.421E-01	1.646E+00	2.715E+00	1.699E+00	0.347
BI-212	727.18	*		1.024E+00	7.330E-01	8.537E-01	6.776E-02	1.199
	785.46			1.501E+00	2.586E+00	4.524E+00	3.190E-01	0.332
	1620.62			7.672E-01	1.730E+00	3.081E+00	2.090E-01	0.249
PO-215	81.07			1.314E-01	5.152E-01	5.568E-01	5.138E-02	0.236
	83.78			4.074E-01	2.266E-01	3.505E-01	3.301E-02	1.162
	94.90			3.003E+00	5.969E-01	7.892E-01	6.733E-02	3.805
	122.32			-1.276E+00	2.400E+00	3.857E+00	2.609E-01	-0.331
+	144.24			2.819E+00	1.478E+00	1.707E+00	1.182E-01	1.651
	154.21			1.712E-01	5.631E-01	9.301E-01	6.113E-02	0.184
+	269.46			5.404E-01	3.559E-01	4.825E-01	2.917E-02	1.120

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		323.87	*	-1.289E+00	9.526E-01	1.439E+00	2.383E-01	-0.895
	+	338.28		7.223E+00	2.436E+00	3.108E+00	3.291E-01	2.324
		445.03		-2.681E-01	3.391E+00	5.574E+00	5.742E-01	-0.048
		271.23		6.792E-01	4.029E-01	6.221E-01	5.037E-02	1.092
		401.81	*	2.612E-02	5.724E-01	9.530E-01	1.296E-01	0.027
RN-220		549.76	*	-1.702E+01	3.599E+01	5.654E+01	3.226E+00	-0.301
RA-223		81.07		1.314E-01	5.152E-01	5.568E-01	5.138E-02	0.236
		83.78		4.074E-01	2.266E-01	3.505E-01	3.301E-02	1.162
		94.90		3.003E+00	5.969E-01	7.892E-01	6.733E-02	3.805
		122.32		-1.276E+00	2.400E+00	3.857E+00	2.609E-01	-0.331
	+	144.24		2.819E+00	1.478E+00	1.707E+00	1.182E-01	1.651
		154.21		1.712E-01	5.631E-01	9.301E-01	6.113E-02	0.184
	+	269.46		5.404E-01	3.559E-01	4.825E-01	2.917E-02	1.120
		323.87	*	-1.289E+00	9.526E-01	1.439E+00	2.383E-01	-0.895
	+	338.28		7.223E+00	2.436E+00	3.108E+00	3.291E-01	2.324
		445.03		-2.681E-01	3.391E+00	5.574E+00	5.742E-01	-0.048
AC-227		79.80		6.070E-01	3.927E+00	4.214E+00	9.153E-01	0.144
		236.00		2.527E+00	5.071E-01	7.822E-01	8.092E-02	3.230
		256.20	*	8.499E-02	5.411E-01	8.733E-01	1.216E-01	0.097
		286.10		-1.449E+00	2.135E+00	3.363E+00	3.895E-01	-0.431
	+	299.80		3.277E+00	2.421E+00	3.454E+00	5.634E-01	0.949
		304.40		-5.596E-01	2.906E+00	4.188E+00	7.257E-01	-0.134
		334.20		2.291E-01	3.495E+00	5.117E+00	9.399E-01	0.045
TH-227		79.80		6.070E-01	3.927E+00	4.214E+00	9.268E-01	0.144
		94.00		6.743E+01	1.551E+01	9.736E+00	2.122E+00	6.925
		236.00		2.527E+00	4.896E-01	7.822E-01	6.987E-02	3.230
		256.20	*	8.499E-02	5.411E-01	8.733E-01	1.473E-01	0.097
		286.10		-1.449E+00	2.576E+00	3.363E+00	3.369E+00	-0.431
	+	299.80		3.277E+00	2.421E+00	3.454E+00	5.634E-01	0.949
		304.40		-5.596E-01	2.906E+00	4.188E+00	7.257E-01	-0.134
		334.20		2.291E-01	3.495E+00	5.117E+00	9.399E-01	0.045
TH-229		85.43		1.021E+00	3.608E-01	5.536E-01	5.286E-02	1.845
	+	88.47		5.108E-01	2.308E-01	3.399E-01	3.287E-02	1.503
	+	100.00		8.343E-01	4.286E-01	4.906E-01	3.846E-02	1.701
		193.63	*	-1.808E-01	7.068E-01	1.131E+00	5.989E-02	-0.160
		210.97		5.820E-01	1.023E+00	1.694E+00	9.195E-02	0.344
PA-231		283.67	*	2.587E+00	2.105E+00	3.708E+00	5.115E-01	0.698
		301.29		1.262E+00	8.809E-01	1.403E+00	1.473E-01	0.899
TH-231		81.07		1.314E-01	5.152E-01	5.568E-01	5.138E-02	0.236
		83.78		4.074E-01	2.266E-01	3.505E-01	3.301E-02	1.162
		94.90		3.003E+00	5.969E-01	7.892E-01	6.733E-02	3.805
		122.32		-1.276E+00	2.400E+00	3.857E+00	2.609E-01	-0.331
	+	144.24		2.819E+00	1.478E+00	1.707E+00	1.182E-01	1.651
		154.21		1.712E-01	5.631E-01	9.301E-01	6.113E-02	0.184
	+	269.46		5.404E-01	3.559E-01	4.825E-01	2.917E-02	1.120
		323.87	*	-1.289E+00	9.526E-01	1.439E+00	2.383E-01	-0.895
	+	338.28		7.223E+00	2.436E+00	3.108E+00	3.291E-01	2.324
		445.03		-2.681E-01	3.391E+00	5.574E+00	5.742E-01	-0.048
U-231		84.21		2.889E+01	1.388E+01	2.156E+01	2.038E+00	1.340

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	92.29		1.245E+02	1.340E+01	1.519E+01	1.359E+00	8.200
		95.87	*	5.999E+00	3.397E+00	4.075E+00	3.418E-01	1.472
		108.00		-6.954E+00	4.508E+00	6.986E+00	4.882E-01	-0.995
	+	75.28		1.827E+01	6.509E+00	1.076E+01	1.669E+00	1.697
	+	86.59		7.323E+00	3.796E+00	4.690E+00	1.274E+00	1.562
	+	300.12		9.137E-01	6.697E-01	9.631E-01	1.297E-01	0.949
		311.98	*	3.924E-02	8.932E-02	1.533E-01	9.586E-03	0.256
		340.50		1.123E+00	9.875E-01	1.506E+00	3.464E-01	0.746
		398.62		4.624E-01	2.976E+00	4.986E+00	1.289E+00	0.093
		415.76		3.110E-01	2.413E+00	4.031E+00	8.300E-01	0.077
	+	63.00		2.659E+01	6.231E+00	6.822E+00	1.060E+00	3.897
		94.67		2.428E+00	4.652E-01	6.329E-01	7.826E-02	3.836
	+	98.44		4.073E-01	3.069E-01	2.607E-01	1.452E-01	1.562
PA-234	+	99.86		2.111E+00	1.085E+00	1.268E+00	9.961E-02	1.665
		111.00		4.768E-01	3.018E-01	5.162E-01	5.583E-02	0.924
		131.20		1.637E-01	1.454E-01	2.486E-01	1.405E-02	0.659
		152.70		4.265E-01	4.717E-01	7.767E-01	1.214E-01	0.549
	+	186.00		1.576E+01	5.488E+00	4.307E+00	1.312E+00	3.659
		226.40		4.175E-01	5.645E-01	9.379E-01	1.072E-01	0.445
		227.20		1.189E-01	6.038E-01	9.807E-01	5.439E-02	0.121
		248.90		-6.521E-01	1.192E+00	1.767E+00	3.792E-01	-0.369
	+	293.70		8.132E+00	2.039E+00	2.356E+00	3.795E-01	3.451
		369.80		7.167E-01	1.204E+00	2.061E+00	4.294E-01	0.348
		568.70		7.280E-01	1.410E+00	2.336E+00	1.317E-01	0.312
		569.50		2.450E-01	3.931E-01	6.565E-01	3.699E-02	0.373
		574.00		-9.872E-01	2.058E+00	3.121E+00	1.753E-01	-0.316
		699.00		8.365E-01	1.025E+00	1.749E+00	3.136E-01	0.478
		706.10		1.616E-01	1.451E+00	2.361E+00	1.042E+00	0.068
		733.00		5.397E-02	5.846E-01	8.208E-01	1.754E-01	0.066
		742.81		2.040E+00	2.447E+00	3.550E+00	2.377E+00	0.575
		796.30		7.390E-01	1.190E+00	2.073E+00	5.523E-01	0.356
		805.60		8.049E-01	1.293E+00	2.249E+00	6.822E-01	0.358
		819.60		-7.430E-01	1.622E+00	2.552E+00	9.652E-01	-0.291
		826.30		-6.955E-01	1.066E+00	1.586E+00	7.073E-01	-0.438
		831.60		5.630E-01	8.062E-01	1.406E+00	4.165E-01	0.401
		876.40		-5.196E-01	1.204E+00	1.710E+00	1.758E+00	-0.304
		880.51		-6.478E-02	3.785E-01	6.204E-01	5.439E-02	-0.104
		883.24		-2.204E-01	4.139E-01	6.075E-01	4.085E-01	-0.363
		899.00		-5.621E-01	1.096E+00	1.680E+00	7.359E-01	-0.335
		925.00		-4.412E-01	1.516E+00	2.417E+00	2.147E-01	-0.183
		926.50		-1.950E-01	2.318E-01	3.371E-01	8.550E-02	-0.579
		946.00	*	1.767E-01	3.829E-01	6.636E-01	1.248E-01	0.266
		949.00		-2.081E-01	5.434E-01	8.627E-01	7.477E-02	-0.241
		980.50		-2.851E-02	8.993E-01	1.485E+00	1.240E-01	-0.019
		1394.10		1.694E-01	1.636E+00	2.686E+00	1.744E+00	0.063
NP-236		94.67		1.865E+00	3.138E-01	4.817E-01	4.127E-02	3.872
	+	98.44		3.079E-01	1.582E-01	1.971E-01	1.584E-02	1.562
		111.00		3.606E-01	2.262E-01	3.905E-01	2.624E-02	0.924
		160.31	*	-2.268E-02	1.147E-01	1.854E-01	9.587E-03	-0.122

---- 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		7.038E-01	3.616E-01	4.354E-01	3.437E-02	1.617
		117.00	*	-3.533E-01	2.866E-01	4.485E-01	2.799E-02	-0.788
		209.75		3.880E-01	1.067E+00	1.750E+00	9.488E-02	0.222
		228.18		-1.496E-01	3.189E-01	5.006E-01	2.780E-02	-0.299
		277.60		3.306E-01	2.525E-01	4.306E-01	2.504E-02	0.768
		334.30		1.811E-01	1.983E+00	2.909E+00	1.719E-01	0.062
AM-241		59.54	*	3.443E-01	3.308E-01	5.044E-01	4.693E-02	0.683
CM-243	+	99.55		7.243E-01	3.721E-01	4.481E-01	3.537E-02	1.617
		103.76	*	7.464E-02	1.610E-01	2.374E-01	1.760E-02	0.314
		117.00		-3.635E-01	2.949E-01	4.615E-01	2.880E-02	-0.788
		209.75		3.826E-01	1.052E+00	1.726E+00	9.355E-02	0.222
		228.18		-1.512E-01	3.223E-01	5.059E-01	2.809E-02	-0.299
		277.60		3.333E-01	2.546E-01	4.342E-01	2.525E-02	0.768
AM-246		798.80		-2.246E-01	1.917E-01	2.866E-01	2.086E-02	-0.784
		1036.00		-8.221E-02	3.584E-01	5.752E-01	4.434E-02	-0.143
		1062.04		-1.604E-01	2.739E-01	4.184E-01	3.083E-02	-0.383
		1078.86	*	-1.194E-02	1.770E-01	2.892E-01	2.063E-02	-0.041
CM-247		278.00		1.039E+00	1.018E+00	1.795E+00	1.044E-01	0.579
		287.40		-1.748E+00	1.841E+00	2.641E+00	1.544E-01	-0.662
CF-249		402.60	*	4.503E-03	5.128E-02	8.559E-02	4.962E-03	0.053
		252.85		2.171E-02	1.218E+00	1.953E+00	1.114E-01	0.011
		333.44		-2.460E-02	2.594E-01	3.749E-01	2.215E-02	-0.066
		387.95	*	-9.432E-03	5.591E-02	9.202E-02	5.325E-03	-0.103
CF-251		176.60	*	1.398E-02	1.796E-01	2.927E-01	1.513E-02	0.048
		227.00		3.246E-01	5.325E-01	8.821E-01	4.890E-02	0.368
		285.00		4.293E-02	2.350E+00	3.964E+00	2.315E-01	0.011

VAX/VMS Nuclide Identification Report Generated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA300:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808007      *
* Acquisition date   : 12-FEB-2010 17:00:15 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 02:00:01.71 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID         *
* Sample ID          : G245808007 Analyst initials: RXF2                  *
* Batch Number       : 947554 Sample Quantity : 1.0079E+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	2.250E+01	2.484E+00	4.898E-01	0.000E+00
NB-95	1.117E-01	9.325E-02	9.154E-02	0.000E+00
CD-109	3.818E+00	1.691E+00	1.983E+00	0.000E+00
SN-126	3.741E-01	1.656E-01	1.954E-01	0.000E+00
CS-135	4.594E-01	2.972E-01	3.432E-01	0.000E+00
BA-137M	8.478E-01	1.269E-01	8.287E-02	0.000E+00
CS-137	8.962E-01	1.343E-01	8.760E-02	0.000E+00
TL-208	4.586E-01	1.163E-01	7.968E-02	0.000E+00
BI-211	4.401E+00	6.450E-01	4.526E-01	0.000E+00
PB-212	1.613E+00	1.750E-01	1.210E-01	0.000E+00
PO-212	1.613E+00	1.750E-01	1.210E-01	0.000E+00
BI-214	1.273E+00	2.347E-01	1.419E-01	0.000E+00
PB-214	1.531E+00	2.376E-01	1.479E-01	0.000E+00
PO-214	1.531E+00	2.376E-01	1.479E-01	0.000E+00
PO-216	1.613E+00	1.750E-01	1.210E-01	0.000E+00
PO-218	1.531E+00	2.376E-01	1.479E-01	0.000E+00
RA-224	4.122E+00	1.695E+00	1.377E+00	0.000E+00
RA-226	1.273E+00	2.347E-01	1.419E-01	0.000E+00
AC-228	1.592E+00	3.924E-01	2.439E-01	0.000E+00
RA-228	1.592E+00	3.924E-01	2.439E-01	0.000E+00
TH-228	1.641E+00	1.780E-01	1.230E-01	0.000E+00
TH-230	1.273E+00	2.347E-01	1.419E-01	0.000E+00
TH-232	1.592E+00	3.924E-01	2.439E-01	0.000E+00
PA-234M	3.611E+01	1.036E+01	8.468E+00	0.000E+00
TH-234	2.281E+01	5.622E+00	3.747E+00	0.000E+00
U-234	1.273E+00	2.347E-01	1.419E-01	0.000E+00
U-235	8.698E-01	4.641E-01	4.722E-01	0.000E+00
NP-237	1.099E+00	5.347E-01	5.825E-01	0.000E+00
U-238	2.281E+01	5.622E+00	3.747E+00	0.000E+00
AM-243	3.487E-01	1.138E-01	1.467E-01	0.000E+00
ANH-511	1.595E-01	8.698E-02	5.963E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	4.408E-04	4.675E-01	7.817E-01	0.000E+00	NOT IDENT.
NA-22	-8.124E-03	5.984E-02	9.719E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	9.851E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	1.764E-02	2.666E-02	5.279E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.984E-02	1.147E-01	0.000E+00	FAIL ABUN
SC-46	-8.704E-04	5.068E-02	8.542E-02	0.000E+00	FAIL ABUN
V-48	-6.195E-03	9.786E-02	1.631E-01	0.000E+00	NOT IDENT.
CR-51	1.088E-01	5.180E-01	8.928E-01	0.000E+00	NOT IDENT.
MN-52	-7.113E-02	4.068E-01	6.468E-01	0.000E+00	NOT IDENT.
MN-54	8.078E-03	4.925E-02	8.461E-02	0.000E+00	NOT IDENT.
CO-56	6.736E-02	5.364E-02	1.001E-01	0.000E+00	NOT IDENT.
CO-57	-1.199E-02	3.434E-02	5.674E-02	0.000E+00	NOT IDENT.
CO-58	-7.651E-02	4.848E-02	6.806E-02	0.000E+00	NOT IDENT.
FE-59	-3.139E-04	1.101E-01	1.834E-01	0.000E+00	FAIL ABUN
CO-60	1.274E-02	4.970E-02	8.462E-02	0.000E+00	NOT IDENT.
ZN-65	1.249E-01	1.304E-01	2.117E-01	0.000E+00	NOT IDENT.
GE-68	-4.489E-01	1.547E+00	2.495E+00	0.000E+00	NOT IDENT.
AS-73	1.200E+00	1.675E+00	2.939E+00	0.000E+00	NOT IDENT.
AS-74	-3.358E-02	1.226E-01	1.976E-01	0.000E+00	NOT IDENT.
SE-75	2.928E-02	6.932E-02	1.014E-01	0.000E+00	NOT IDENT.
BR-77	6.011E+00	2.539E+01	4.301E+01	0.000E+00	FAIL ABUN
SR-82	-2.127E-01	5.165E-01	8.470E-01	0.000E+00	NOT IDENT.
RB-83	3.442E-02	9.370E-02	1.602E-01	0.000E+00	NOT IDENT.
RB-84	-3.505E-02	9.847E-02	1.607E-01	0.000E+00	NOT IDENT.
KR-85	1.589E+01	1.084E+01	1.775E+01	0.000E+00	NOT IDENT.
SR-85	8.328E-02	5.684E-02	9.304E-02	0.000E+00	NOT IDENT.
RB-86	-5.713E-01	1.080E+00	1.693E+00	0.000E+00	NOT IDENT.
Y-88	-4.376E-02	3.883E-02	4.403E-02	0.000E+00	NOT IDENT.
ZR-88	-2.811E-03	4.368E-02	7.347E-02	0.000E+00	NOT IDENT.
Y-91	1.398E+01	2.505E+01	4.375E+01	0.000E+00	NOT IDENT.
NB-94	1.273E-02	4.754E-02	7.949E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	2.225E-01	3.649E-01	0.000E+00	NOT IDENT.
ZR-95	6.574E-02	9.458E-02	1.641E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	1.566E+06	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.416E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-5.391E+00	3.010E+01	4.833E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.935E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.233E-02	4.516E-02	7.661E-02	0.000E+00	NOT IDENT.
RH-102	8.919E-03	4.107E-02	6.968E-02	0.000E+00	FAIL ABUN
RU-103	-7.317E-03	5.618E-02	9.279E-02	0.000E+00	NOT IDENT.
RH-106	-2.704E-02	4.134E-01	6.772E-01	0.000E+00	FAIL ABUN
RU-106	-2.704E-02	4.134E-01	6.772E-01	0.000E+00	FAIL ABUN
AG-108M	-2.311E-02	4.109E-02	6.615E-02	0.000E+00	NOT IDENT.
AG-110M	0.000E+00	6.831E-02	1.220E-01	0.000E+00	NOT IDENT.
IN-111	3.266E-01	2.648E+00	3.802E+00	0.000E+00	NOT IDENT.
IN-113M	6.261E-03	6.272E-02	1.065E-01	0.000E+00	NOT IDENT.
SN-113	6.261E-03	6.272E-02	1.065E-01	0.000E+00	NOT IDENT.
IN-114M	6.604E-02	2.837E-01	4.148E-01	0.000E+00	NOT IDENT.
CD-115	-6.921E+00	2.861E+01	4.669E+01	0.000E+00	NOT IDENT.
SN-117M	-3.959E-02	8.424E-02	1.371E-01	0.000E+00	NOT IDENT.
SB-122	-2.433E+00	5.063E+00	8.083E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.132E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.980E-02	3.999E-02	6.503E-02	0.000E+00	NOT IDENT.
I-124	-8.895E-01	1.385E+00	1.815E+00	0.000E+00	NOT IDENT.
SB-124	-1.012E-01	1.032E-01	1.381E-01	0.000E+00	FAIL ABUN
SB-125	1.085E-01	1.273E-01	2.251E-01	0.000E+00	FAIL ABUN
TE-125M	-1.906E+01	1.494E+01	2.388E+01	0.000E+00	NOT IDENT.
I-126	-1.869E-01	3.533E-01	4.697E-01	0.000E+00	NOT IDENT.
SB-126	9.891E-02	2.679E-01	3.939E-01	0.000E+00	NOT IDENT.
SB-127	-9.124E-01	2.608E+00	4.129E+00	0.000E+00	NOT IDENT.
XE-127	-6.320E-02	7.041E-02	1.111E-01	0.000E+00	NOT IDENT.
I-131	-9.544E-02	1.970E-01	3.245E-01	0.000E+00	NOT IDENT.
TE-132	-7.180E-01	1.494E+00	2.381E+00	0.000E+00	NOT IDENT.
BA-133	-5.879E-02	6.807E-02	9.260E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	4.332E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	6.119E-02	6.153E-02	1.125E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.507E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.327E-02	1.589E-01	2.614E-01	0.000E+00	FAIL ABUN
CE-139	-3.305E-02	4.200E-02	6.648E-02	0.000E+00	NOT IDENT.
BA-140	-4.447E-01	4.315E-01	6.195E-01	0.000E+00	NOT IDENT.
LA-140	-1.010E-01	1.195E-01	1.715E-01	0.000E+00	NOT IDENT.
CE-141	0.000E+00	1.009E-01	1.608E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	1.344E+03	0.000E+00	0.000E+00	SHORT HLIF
CE-144	1.635E-01	2.814E-01	4.794E-01	0.000E+00	NOT IDENT.

PM-144	-1.355E-02	4.858E-02	7.761E-02	0.000E+00	NOT IDENT.
PR-144	-9.195E-01	3.296E+00	5.265E+00	0.000E+00	NOT IDENT.
PM-146	-2.240E-03	6.076E-02	1.016E-01	0.000E+00	NOT IDENT.
ND-147	8.797E-01	8.597E-01	1.526E+00	0.000E+00	FAIL ABUN
PM-149	-7.014E+00	2.274E+02	3.889E+02	0.000E+00	NOT IDENT.
EU-152	1.992E-01	1.988E-01	2.301E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	1.749E-01	2.253E-01	0.000E+00	FAIL ABUN
EU-154	-2.605E-02	1.666E-01	2.699E-01	0.000E+00	NOT IDENT.
EU-155	1.509E-01	1.553E-01	2.700E-01	0.000E+00	FAIL ABUN
TB-160	4.600E-02	1.773E-01	3.071E-01	0.000E+00	FAIL ABUN
HO-166M	-2.130E-02	8.149E-02	1.300E-01	0.000E+00	FAIL ABUN
TM-171	-8.681E+01	5.440E+01	7.535E+01	0.000E+00	NOT IDENT.
LU-176	-1.490E-02	3.324E-02	5.542E-02	0.000E+00	FAIL ABUN
LU-177	1.069E+00	1.881E+00	3.163E+00	0.000E+00	NOT IDENT.
LU-177M	4.356E-02	2.595E-01	4.413E-01	0.000E+00	FAIL ABUN
HF-181	2.435E-02	6.157E-02	1.056E-01	0.000E+00	NOT IDENT.
W-181	0.000E+00	7.720E-01	1.251E+00	0.000E+00	NOT IDENT.
TA-182	9.701E-02	2.331E-01	4.028E-01	0.000E+00	FAIL ABUN
RE-183	1.067E-01	1.580E-01	2.691E-01	0.000E+00	NOT IDENT.
RE-184	5.836E-03	3.209E-01	5.233E-01	0.000E+00	NOT IDENT.
OS-185	-1.006E-02	5.538E-02	8.949E-02	0.000E+00	NOT IDENT.
RE-188	-1.192E-01	2.461E-01	4.011E-01	0.000E+00	NOT IDENT.
W-188	4.075E+00	1.033E+01	1.587E+01	0.000E+00	FAIL ABUN
IR-192	-1.039E-02	4.643E-02	7.821E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	5.101E-01	6.437E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.370E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.433E+01	1.545E+01	2.344E+01	0.000E+00	NOT IDENT.
TL-202	5.290E-03	1.102E-01	1.856E-01	0.000E+00	NOT IDENT.
HG-203	-2.673E-02	5.684E-02	9.529E-02	0.000E+00	NOT IDENT.
BI-207	-7.216E-03	5.775E-02	9.490E-02	0.000E+00	FAIL ABUN
TL-207	-1.289E+00	9.336E-01	1.434E+00	0.000E+00	FAIL ABUN
PO-209	-1.618E+00	8.555E+00	1.413E+01	0.000E+00	NOT IDENT.
BI-210	1.215E+01	8.186E+00	1.460E+01	0.000E+00	NOT IDENT.
PB-210	1.215E+01	8.186E+00	1.460E+01	0.000E+00	NOT IDENT.
PO-210	1.215E+01	8.173E+00	1.460E+01	0.000E+00	NOT IDENT.
PB-211	-1.385E+00	1.554E+00	2.055E+00	0.000E+00	NOT IDENT.
BI-212	0.000E+00	7.184E-01	8.483E-01	0.000E+00	FAIL ABUN
PO-215	-1.289E+00	9.336E-01	1.434E+00	0.000E+00	FAIL ABUN
RN-219	2.612E-02	5.609E-01	9.486E-01	0.000E+00	NOT IDENT.
RN-220	-1.702E+01	3.527E+01	5.622E+01	0.000E+00	NOT IDENT.
RA-223	-1.289E+00	9.336E-01	1.434E+00	0.000E+00	FAIL ABUN
AC-227	8.499E-02	5.302E-01	8.704E-01	0.000E+00	FAIL ABUN
TH-227	8.499E-02	5.303E-01	8.704E-01	0.000E+00	FAIL ABUN
TH-229	-1.808E-01	6.927E-01	1.128E+00	0.000E+00	FAIL ABUN
PA-231	2.587E+00	2.063E+00	3.694E+00	0.000E+00	NOT IDENT.
TH-231	-1.289E+00	9.336E-01	1.434E+00	0.000E+00	FAIL ABUN
U-231	0.000E+00	3.329E+00	4.073E+00	0.000E+00	FAIL ABUN
PA-233	3.924E-02	8.754E-02	1.527E-01	0.000E+00	FAIL ABUN
PA-234	1.767E-01	3.752E-01	6.589E-01	0.000E+00	FAIL ABUN
NP-236	-2.268E-02	1.124E-01	1.850E-01	0.000E+00	FAIL ABUN
NP-239	-3.533E-01	2.808E-01	4.480E-01	0.000E+00	FAIL ABUN
AM-241	3.443E-01	3.242E-01	5.049E-01	0.000E+00	NOT IDENT.
CM-243	7.464E-02	1.577E-01	2.373E-01	0.000E+00	FAIL ABUN
AM-246	-1.194E-02	1.734E-01	2.870E-01	0.000E+00	NOT IDENT.
CM-247	4.503E-03	5.025E-02	8.520E-02	0.000E+00	NOT IDENT.
CF-249	-9.432E-03	5.479E-02	9.161E-02	0.000E+00	NOT IDENT.
CF-251	1.398E-02	1.760E-01	2.921E-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]G245808007.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:00:15
Sample ID          : G245808007 Sample quantity : 1.00792E+02 GRAM
Detector name      : GAM23 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:01.71 0.0%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	643	10.67*	9.974E-01	2.250E+01	2.250E+01	11.27
NB-95	765.79	44	99.81*	1.789E+00	9.270E-02	1.117E-01	85.16
CD-109	88.03	194	3.72*	5.219E+00	3.721E+00	3.818E+00	45.18
SN-126	64.28	600	9.60	2.577E+00	9.029E+00	9.029E+00	23.23
	86.94	194	8.90	5.219E+00	1.555E+00	1.555E+00	60.64
	87.57	194	37.00*	5.219E+00	3.741E-01	3.741E-01	45.18
CS-135	268.24	83	16.00*	4.229E+00	4.594E-01	4.594E-01	66.02
BA-137M	661.65	418	89.98*	2.042E+00	8.469E-01	8.478E-01	15.28
CS-137	661.65	418	85.12*	2.042E+00	8.952E-01	8.962E-01	15.29
TL-208	277.35	-----	6.80	4.140E+00	-----	Line Not Found	-----
	510.84	109	21.60	2.546E+00	7.383E-01	7.383E-01	56.28
	583.14	236	84.20*	2.278E+00	4.586E-01	4.586E-01	25.89
	860.37	70	12.46	1.609E+00	1.296E+00	1.296E+00	40.94
BI-211	72.87	-----	1.27	3.829E+00	-----	Line Not Found	-----
	351.07	527	12.94*	3.443E+00	4.401E+00	4.401E+00	14.95
PB-212	74.81	249	10.70	4.029E+00	2.151E+00	2.151E+00	34.58
	77.11	441	18.00	4.299E+00	2.121E+00	2.121E+00	20.82
	87.30	194	8.00	5.219E+00	1.730E+00	1.730E+00	46.28
	238.63	896	44.60*	4.638E+00	1.613E+00	1.613E+00	11.07
	300.09	63	3.41	3.901E+00	1.768E+00	1.768E+00	72.53
PO-212	74.81	249	10.70	4.029E+00	2.151E+00	2.151E+00	34.58
	77.11	441	18.00	4.299E+00	2.121E+00	2.121E+00	20.82
	87.30	194	8.00	5.219E+00	1.730E+00	1.730E+00	46.28
	115.19	-----	0.60	6.293E+00	-----	Line Not Found	-----
	238.63	896	44.60*	4.638E+00	1.613E+00	1.613E+00	11.07
	300.09	63	3.41	3.901E+00	1.768E+00	1.768E+00	72.53
BI-214	609.31	347	46.30*	2.194E+00	1.273E+00	1.273E+00	18.82
	1120.29	64	15.10	1.258E+00	1.255E+00	1.255E+00	51.08
	1764.49	52	15.80	8.743E-01	1.393E+00	1.393E+00	44.16
PB-214	74.81	249	6.21	4.029E+00	3.706E+00	3.706E+00	34.11
	77.11	441	10.50	4.299E+00	3.635E+00	3.635E+00	22.17
	87.30	194	4.67	5.219E+00	2.964E+00	2.964E+00	45.84

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	201	7.49	4.597E+00	2.174E+00	2.174E+00	42.34
	295.21	345	19.20	3.951E+00	1.694E+00	1.694E+00	21.04
	351.92	527	37.20*	3.443E+00	1.531E+00	1.531E+00	15.84
	74.81	249	6.21	4.029E+00	3.706E+00	3.706E+00	34.11
	77.11	441	10.50	4.299E+00	3.635E+00	3.635E+00	22.17
	87.30	194	4.67	5.219E+00	2.964E+00	2.964E+00	45.84
PO-216	241.98	201	7.49	4.597E+00	2.174E+00	2.174E+00	42.34
	295.21	345	19.20	3.951E+00	1.694E+00	1.694E+00	21.04
	351.92	527	37.20*	3.443E+00	1.531E+00	1.531E+00	15.84
	74.81	249	10.70	4.029E+00	2.151E+00	2.151E+00	34.58
	77.11	441	18.00	4.299E+00	2.121E+00	2.121E+00	20.82
	87.30	194	8.00	5.219E+00	1.730E+00	1.730E+00	46.28
PO-218	238.63	896	44.60*	4.638E+00	1.613E+00	1.613E+00	11.07
	300.09	63	3.41	3.901E+00	1.768E+00	1.768E+00	72.53
	74.81	249	6.21	4.029E+00	3.706E+00	3.706E+00	34.11
	77.11	441	10.50	4.299E+00	3.635E+00	3.635E+00	22.17
	87.30	194	4.67	5.219E+00	2.964E+00	2.964E+00	45.84
	241.98	201	7.49	4.597E+00	2.174E+00	2.174E+00	42.34
RA-224	295.21	345	19.20	3.951E+00	1.694E+00	1.694E+00	21.04
	351.92	527	37.20*	3.443E+00	1.531E+00	1.531E+00	15.84
	240.98	201	3.95*	4.597E+00	4.122E+00	4.122E+00	41.97
	609.31	347	46.30*	2.194E+00	1.273E+00	1.273E+00	18.82
	1120.29	64	15.10	1.258E+00	1.255E+00	1.255E+00	51.08
	1764.49	52	15.80	8.743E-01	1.393E+00	1.393E+00	44.16
AC-228	338.32	188	11.40	3.551E+00	1.730E+00	1.730E+00	51.85
	911.07	181	27.70*	1.527E+00	1.592E+00	1.592E+00	25.15
	969.11	83	16.60	1.441E+00	1.293E+00	1.293E+00	66.33
	338.32	188	11.40	3.551E+00	1.730E+00	1.730E+00	51.85
	911.07	181	27.70*	1.527E+00	1.592E+00	1.592E+00	25.15
	969.11	83	16.60	1.441E+00	1.293E+00	1.293E+00	66.33
TH-228	74.81	249	10.70	4.029E+00	2.151E+00	2.188E+00	33.32
	77.11	441	18.00	4.299E+00	2.121E+00	2.157E+00	20.82
	87.30	194	8.00	5.219E+00	1.730E+00	1.760E+00	45.18
	238.63	896	44.60*	4.638E+00	1.613E+00	1.641E+00	11.07
	300.09	63	3.41	3.901E+00	1.768E+00	1.799E+00	93.09
	609.31	347	46.30*	2.194E+00	1.273E+00	1.273E+00	18.82
TH-230	1120.29	64	15.10	1.258E+00	1.255E+00	1.255E+00	51.08
	1764.49	52	15.80	8.743E-01	1.393E+00	1.393E+00	44.16
	338.32	188	11.40	3.551E+00	1.730E+00	1.730E+00	32.57
	911.07	181	27.70*	1.527E+00	1.592E+00	1.592E+00	25.15
	969.11	83	16.60	1.441E+00	1.293E+00	1.293E+00	66.33
	766.42	44	0.32	1.789E+00	2.891E+01	2.891E+01	98.75
PA-234M	1001.03	114	0.84*	1.398E+00	3.611E+01	3.611E+01	29.28
	63.29	600	3.80*	2.577E+00	2.281E+01	2.281E+01	25.15
	92.38	1871	5.41	5.575E+00	2.311E+01	2.311E+01	19.20
	609.31	347	46.30*	2.194E+00	1.273E+00	1.273E+00	18.82
	1120.29	64	15.10	1.258E+00	1.255E+00	1.255E+00	51.08
	1764.49	52	15.80	8.743E-01	1.393E+00	1.393E+00	44.16
U-234	89.95	-----	2.70	5.418E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	93.35	1871	4.50	5.575E+00	2.778E+01	2.778E+01	28.76
	105.00	-----	2.10	6.104E+00	-----	Line Not Found	-----
	143.76	152	10.50*	6.196E+00	8.698E-01	8.698E-01	54.45
	163.35	-----	4.70	5.886E+00	-----	Line Not Found	-----
	185.71	465	54.00	5.492E+00	5.838E-01	5.838E-01	17.68
	205.31	-----	4.70	5.150E+00	-----	Line Not Found	-----
NP-237	86.50	194	12.60*	5.219E+00	1.099E+00	1.099E+00	49.67
	95.87	-----	2.60	5.757E+00	-----	Line Not Found	-----
U-238	63.29	600	3.80*	2.577E+00	2.281E+01	2.281E+01	25.15
	92.38	1871	5.41	5.575E+00	2.311E+01	2.311E+01	10.76
AM-243	74.67	249	66.00*	4.029E+00	3.487E-01	3.487E-01	33.30
	86.72	194	0.34	5.219E+00	4.119E+01	4.119E+01	45.18
	117.66	-----	0.55	6.314E+00	-----	Line Not Found	-----
	142.18	152	0.13	6.196E+00	7.306E+01	7.306E+01	52.27
ANH-511	511.00	109	100.00*	2.546E+00	1.595E-01	1.595E-01	55.66

Flag: "*" = Keyline

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

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	2.250E+01	2.250E+01	0.253E+01	11.27	
NB-95	64.02D	1.21	9.270E-02	1.117E-01	0.952E-01	85.16	
CD-109	464.00D	1.03	3.721E+00	3.818E+00	1.725E+00	45.18	
SN-126	1.00E+05Y	1.00	3.741E-01	3.741E-01	1.690E-01	45.18	
CS-135	2.30E+06Y	1.00	4.594E-01	4.594E-01	3.033E-01	66.02	
BA-137M	30.17Y	1.00	8.469E-01	8.478E-01	1.295E-01	15.28	
CS-137	30.17Y	1.00	8.952E-01	8.962E-01	1.370E-01	15.29	
TL-208	1.41E+10Y	1.00	4.586E-01	4.586E-01	1.187E-01	25.89	
BI-211	7.04E+08Y	1.00	4.401E+00	4.401E+00	0.658E+00	14.95	
PB-212	1.41E+10Y	1.00	1.613E+00	1.613E+00	0.179E+00	11.07	
PO-212	1.41E+10Y	1.00	1.613E+00	1.613E+00	0.179E+00	11.07	
BI-214	1600.00Y	1.00	1.273E+00	1.273E+00	0.239E+00	18.82	
PB-214	1600.00Y	1.00	1.531E+00	1.531E+00	0.242E+00	15.84	
PO-214	1600.00Y	1.00	1.531E+00	1.531E+00	0.242E+00	15.84	
PO-216	1.41E+10Y	1.00	1.613E+00	1.613E+00	0.179E+00	11.07	
PO-218	1600.00Y	1.00	1.531E+00	1.531E+00	0.242E+00	15.84	
RA-224	1.41E+10Y	1.00	4.122E+00	4.122E+00	1.730E+00	41.97	
RA-226	1600.00Y	1.00	1.273E+00	1.273E+00	0.239E+00	18.82	
AC-228	1.41E+10Y	1.00	1.592E+00	1.592E+00	0.400E+00	25.15	
RA-228	1.41E+10Y	1.00	1.592E+00	1.592E+00	0.400E+00	25.15	
TH-228	1.91Y	1.02	1.613E+00	1.641E+00	0.182E+00	11.07	
TH-230	4.47E+09Y	1.00	1.273E+00	1.273E+00	0.239E+00	18.82	
TH-232	1.41E+10Y	1.00	1.592E+00	1.592E+00	0.400E+00	25.15	
PA-234M	4.47E+09Y	1.00	3.611E+01	3.611E+01	1.057E+01	29.28	
TH-234	4.47E+09Y	1.00	2.281E+01	2.281E+01	0.574E+01	25.15	
U-234	4.47E+09Y	1.00	1.273E+00	1.273E+00	0.239E+00	18.82	
U-235	7.04E+08Y	1.00	8.698E-01	8.698E-01	4.736E-01	54.45	
NP-237	2.14E+06Y	1.00	1.099E+00	1.099E+00	0.546E+00	49.67	
U-238	4.47E+09Y	1.00	2.281E+01	2.281E+01	0.574E+01	25.15	
AM-243	7380.00Y	1.00	3.487E-01	3.487E-01	1.161E-01	33.30	
ANH-511	1.00E+09Y	1.00	1.595E-01	1.595E-01	0.888E-01	55.66	

Total Activity : 1.430E+02 1.431E+02

Grand Total Activity : 1.430E+02 1.431E+02

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

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

Unidentified Energy Lines
Sample ID : G245808007

Page : 5
Acquisition date : 12-FEB-2010 17:00:15

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	98.69	163	439	1.11	197.37	193	10	2.27E-02	50.7	5.89E+00	T
0	463.03	43	109	1.14	926.05	920	11	6.01E-03	****	2.76E+00	T
0	726.69	61	85	1.42	1453.38	1445	15	8.46E-03	71.2	1.88E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808007.CNF;1
* Acquisition date   : 12-FEB-2010 17:00:15  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 02:00:01.71          Half life ratio    : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00  Nuclide Library   : SOLID
* Sample ID          : G245808007            Analyst initials: RXF2
* Batch Number       : 947554                Sample Quantity  : 1.00792E+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	2.250E+01	2.535E+00	4.939E-01	3.695E-02	45.543
NB-95	1.117E-01	9.515E-02	9.214E-02	6.192E-03	1.213
CD-109	3.818E+00	1.725E+00	1.983E+00	1.936E-01	1.925
SN-126	3.741E-01	1.690E-01	1.955E-01	1.902E-02	1.914
CS-135	4.594E-01	3.033E-01	3.444E-01	2.631E-02	1.334
BA-137M	8.478E-01	1.295E-01	8.338E-02	4.259E-03	10.168
CS-137	8.962E-01	1.370E-01	8.814E-02	4.527E-03	10.168
TL-208	4.586E-01	1.187E-01	8.013E-02	5.202E-03	5.722
BI-211	4.401E+00	6.582E-01	4.545E-01	2.961E-02	9.684
PB-212	1.613E+00	1.785E-01	1.213E-01	8.723E-03	13.292
PO-212	1.613E+00	1.785E-01	1.213E-01	8.723E-03	13.292
BI-214	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
PB-214	1.531E+00	2.425E-01	1.485E-01	1.240E-02	10.308
PO-214	1.531E+00	2.425E-01	1.485E-01	1.240E-02	10.308
PO-216	1.613E+00	1.785E-01	1.213E-01	8.723E-03	13.292
PO-218	1.531E+00	2.425E-01	1.485E-01	1.240E-02	10.308
RA-224	4.122E+00	1.730E+00	1.381E+00	7.780E-02	2.985
RA-226	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-228	1.592E+00	4.004E-01	2.456E-01	2.834E-02	6.481
RA-228	1.592E+00	4.004E-01	2.456E-01	2.834E-02	6.481
TH-228	1.641E+00	1.816E-01	1.234E-01	8.874E-03	13.292
TH-230	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
TH-232	1.592E+00	4.004E-01	2.456E-01	2.834E-02	6.481
PA-234M	3.611E+01	1.057E+01	8.531E+00	8.139E-01	4.233
TH-234	2.281E+01	5.737E+00	3.744E+00	6.747E-01	6.093
U-234	1.273E+00	2.395E-01	1.427E-01	1.073E-02	8.917
U-235	8.698E-01	4.736E-01	4.729E-01	7.648E-02	1.839
NP-237	1.099E+00	5.457E-01	5.825E-01	1.327E-01	1.886
U-238	2.281E+01	5.737E+00	3.744E+00	6.747E-01	6.093
AM-243	3.487E-01	1.161E-01	1.467E-01	1.304E-02	2.377
ANH-511	1.595E-01	8.876E-02	5.995E-02	3.482E-03	2.660

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	4.408E-04		4.771E-01	7.857E-01	5.340E-02	0.001
NA-22	-8.124E-03		6.106E-02	9.798E-02	6.580E-03	-0.083
NA-24	7.129E-01		5.026E+00	Half-Life too short		
AL-26	1.764E-02		2.720E-02	5.327E-02	3.202E-03	0.331
TI-44	3.914E-01	+	8.147E-02	1.147E-01	1.039E-02	3.413
SC-46	-8.704E-04		5.172E-02	8.602E-02	7.685E-03	-0.010
V-48	-6.195E-03		9.985E-02	1.643E-01	1.367E-02	-0.038
CR-51	1.088E-01		5.286E-01	8.963E-01	5.877E-02	0.121
MN-52	-7.113E-02		4.151E-01	6.523E-01	4.719E-02	-0.109
MN-54	8.078E-03		5.025E-02	8.519E-02	6.745E-03	0.095
CO-56	6.736E-02		5.474E-02	1.008E-01	8.196E-03	0.669
CO-57	-1.199E-02		3.504E-02	5.680E-02	3.349E-03	-0.211
CO-58	-7.651E-02		4.947E-02	6.852E-02	5.148E-03	-1.117
FE-59	-3.139E-04		1.124E-01	1.848E-01	1.423E-02	-0.002
CO-60	1.274E-02		5.072E-02	8.532E-02	6.263E-03	0.149
ZN-65	1.249E-01		1.330E-01	2.133E-01	1.409E-02	0.585
GE-68	-4.489E-01		1.579E+00	2.514E+00	1.800E-01	-0.179
AS-73	1.200E+00		1.709E+00	2.935E+00	2.591E-01	0.409
AS-74	-3.358E-02		1.252E-01	1.987E-01	1.096E-02	-0.169
SE-75	2.928E-02		7.073E-02	1.018E-01	5.923E-03	0.288
BR-77	6.011E+00		2.591E+01	4.325E+01	2.503E+00	0.139
SR-82	-2.127E-01		5.270E-01	8.526E-01	5.882E-02	-0.249
RB-83	3.442E-02		9.561E-02	1.611E-01	9.326E-03	0.214
RB-84	-3.505E-02		1.005E-01	1.618E-01	1.421E-02	-0.217
KR-85	1.589E+01		1.107E+01	1.785E+01	1.036E+00	0.890
SR-85	8.328E-02		5.800E-02	9.354E-02	5.428E-03	0.890
RB-86	-5.713E-01		1.102E+00	1.706E+00	1.223E-01	-0.335
Y-88	-4.376E-02		3.962E-02	4.443E-02	2.616E-03	-0.985
ZR-88	-2.811E-03		4.457E-02	7.380E-02	4.261E-03	-0.038
Y-91	1.398E+01		2.557E+01	4.409E+01	2.631E+00	0.317

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-94	1.273E-02		4.852E-02	7.999E-02	4.571E-03	0.159
NB-95M	7.245E-01		2.270E-01	3.660E-01	2.700E-02	1.980
ZR-95	6.574E-02		9.651E-02	1.652E-01	1.268E-02	0.398
NB-97	5.878E+00		7.990E-01	Half-Life too short		
ZR-97	5.978E+01		1.233E+01	Half-Life too short		
MO-99	-5.391E+00		3.072E+01	4.864E+01	6.807E+00	-0.111
TC-99M	-6.887E+11		9.871E+12	Half-Life too short		
RH-101	3.233E-02		4.608E-02	7.681E-02	4.094E-03	0.421
RH-102	8.919E-03		4.191E-02	7.004E-02	4.100E-03	0.127
RU-103	-7.317E-03		5.733E-02	9.328E-02	1.181E-02	-0.078
RH-106	-2.704E-02		4.219E-01	6.812E-01	7.856E-02	-0.040
RU-106	-2.704E-02		4.218E-01	6.812E-01	3.660E-02	-0.040
AG-108M	-2.311E-02		4.193E-02	6.647E-02	4.214E-03	-0.348
AG-110M	2.093E-01		6.970E-02	1.227E-01	6.818E-03	1.706
IN-111	3.266E-01		2.702E+00	3.814E+00	2.159E-01	0.086
IN-113M	6.261E-03		6.400E-02	1.070E-01	6.593E-03	0.059
SN-113	6.261E-03		6.400E-02	1.070E-01	6.593E-03	0.059
IN-114M	6.604E-02		2.895E-01	4.158E-01	2.192E-02	0.159
CD-115	-6.921E+00		2.919E+01	4.694E+01	2.709E+00	-0.147
SN-117M	-3.959E-02		8.596E-02	1.374E-01	7.139E-03	-0.288
SB-122	-2.433E+00		5.166E+00	8.128E+00	4.598E-01	-0.299
I-123	-5.604E+01		5.775E+01	Half-Life too short		
TE-123M	-1.980E-02		4.081E-02	6.515E-02	3.438E-03	-0.304
I-124	-8.895E-01		1.413E+00	1.825E+00	1.000E-01	-0.487
SB-124	-1.012E-01		1.053E-01	1.394E-01	9.716E-03	-0.726
SB-125	1.085E-01		1.299E-01	2.262E-01	1.376E-02	0.480
TE-125M	-1.906E+01		1.524E+01	2.390E+01	2.134E+00	-0.797
I-126	-1.869E-01		3.605E-01	4.725E-01	2.445E-02	-0.395
SB-126	9.891E-02		2.734E-01	3.964E-01	2.375E-02	0.249
SB-127	-9.124E-01		2.661E+00	4.154E+00	4.150E-01	-0.220
XE-127	-6.320E-02		7.185E-02	1.114E-01	5.981E-03	-0.567
I-131	-9.544E-02		2.010E-01	3.259E-01	2.136E-02	-0.293
TE-132	-7.180E-01		1.524E+00	2.388E+00	3.512E-01	-0.301
BA-133	-5.879E-02		6.946E-02	9.299E-02	1.079E-02	-0.632
I-133	8.674E-04		2.210E-02	Half-Life too short		
CS-134	6.119E-02		6.278E-02	1.133E-01	8.273E-03	0.540
I-135	2.671E+11		7.686E+11	Half-Life too short		
CS-136	-2.327E-02		1.621E-01	2.634E-01	2.100E-02	-0.088
CE-139	-3.305E-02		4.286E-02	6.661E-02	3.396E-03	-0.496
BA-140	-4.447E-01		4.403E-01	6.229E-01	2.025E-01	-0.714
LA-140	-1.010E-01		1.219E-01	1.730E-01	1.187E-02	-0.584
CE-141	1.828E-01		1.030E-01	1.611E-01	9.086E-03	1.135
CE-143	4.630E-03	+	6.857E-04	Half-Life too short		
CE-144	1.635E-01		2.871E-01	4.800E-01	6.779E-02	0.341
PM-144	-1.355E-02		4.957E-02	7.810E-02	4.394E-03	-0.174
PR-144	-9.195E-01		3.363E+00	5.298E+00	2.978E-01	-0.174
PM-146	-2.240E-03		6.200E-02	1.021E-01	8.843E-03	-0.022
ND-147	8.797E-01		8.772E-01	1.535E+00	2.073E-01	0.573

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-149	-7.014E+00		2.320E+02	3.903E+02	5.542E+01	-0.018
EU-152	1.992E-01		2.029E-01	2.310E-01	1.531E-02	0.862
GD-153	3.473E-01	+	1.784E-01	2.253E-01	1.841E-02	1.541
EU-154	-2.605E-02		1.700E-01	2.721E-01	2.702E-02	-0.096
EU-155	1.509E-01		1.585E-01	2.701E-01	1.992E-02	0.559
TB-160	4.600E-02		1.809E-01	3.093E-01	2.705E-02	0.149
HO-166M	-2.130E-02		8.315E-02	1.308E-01	7.654E-03	-0.163
TM-171	-8.681E+01		5.551E+01	7.530E+01	6.548E+00	-1.153
LU-176	-1.490E-02		3.392E-02	5.563E-02	3.277E-03	-0.268
LU-177	1.069E+00		1.919E+00	3.172E+00	1.716E-01	0.337
LU-177M	4.356E-02		2.648E-01	4.434E-01	2.580E-02	0.098
HF-181	2.435E-02		6.282E-02	1.062E-01	6.210E-03	0.229
W-181	2.147E+00		7.877E-01	1.250E+00	1.086E-01	1.718
TA-182	9.701E-02		2.378E-01	4.060E-01	2.492E-02	0.239
RE-183	1.067E-01		1.613E-01	2.696E-01	1.387E-02	0.396
RE-184	5.836E-03		3.275E-01	5.250E-01	2.993E-02	0.011
OS-185	-1.006E-02		5.651E-02	9.003E-02	4.698E-03	-0.112
RE-188	-1.192E-01		2.511E-01	4.018E-01	2.108E-02	-0.297
W-188	4.075E+00		1.054E+01	1.593E+01	9.330E-01	0.256
IR-192	-1.039E-02		4.737E-02	7.851E-02	4.658E-03	-0.132
AU-195	1.013E+00	+	5.205E-01	6.440E-01	5.138E-02	1.573
TL-200	5.105E-04		1.209E-03	Half-Life too short		
TL-201	-2.433E+01		1.576E+01	2.348E+01	1.199E+00	-1.036
TL-202	5.290E-03		1.125E-01	1.865E-01	1.091E-02	0.028
HG-203	-2.673E-02		5.800E-02	9.563E-02	5.907E-03	-0.280
BI-207	-7.216E-03		5.893E-02	9.562E-02	7.025E-03	-0.075
TL-207	-1.289E+00		9.526E-01	1.439E+00	2.383E-01	-0.895
PO-209	-1.618E+00		8.729E+00	1.423E+01	1.292E+00	-0.114
BI-210	1.215E+01		8.353E+00	1.458E+01	1.135E+00	0.833
PB-210	1.215E+01		8.353E+00	1.458E+01	1.135E+00	0.833
PO-210	1.215E+01		8.339E+00	1.458E+01	9.781E-01	0.833
PB-211	-1.385E+00		1.586E+00	2.065E+00	1.287E+00	-0.671
BI-212	1.024E+00	+	7.330E-01	8.537E-01	6.776E-02	1.199
PO-215	-1.289E+00		9.526E-01	1.439E+00	2.383E-01	-0.895
RN-219	2.612E-02		5.724E-01	9.530E-01	1.296E-01	0.027
RN-220	-1.702E+01		3.599E+01	5.654E+01	3.226E+00	-0.301
RA-223	-1.289E+00		9.526E-01	1.439E+00	2.383E-01	-0.895
AC-227	8.499E-02		5.411E-01	8.733E-01	1.216E-01	0.097
TH-227	8.499E-02		5.411E-01	8.733E-01	1.473E-01	0.097
TH-229	-1.808E-01		7.068E-01	1.131E+00	5.989E-02	-0.160
PA-231	2.587E+00		2.105E+00	3.708E+00	5.115E-01	0.698
TH-231	-1.289E+00		9.526E-01	1.439E+00	2.383E-01	-0.895
U-231	5.999E+00		3.397E+00	4.075E+00	3.418E-01	1.472
PA-233	3.924E-02		8.932E-02	1.533E-01	9.586E-03	0.256
PA-234	1.767E-01		3.829E-01	6.636E-01	1.248E-01	0.266
NP-236	-2.268E-02		1.147E-01	1.854E-01	9.587E-03	-0.122
NP-239	-3.533E-01		2.866E-01	4.485E-01	2.799E-02	-0.788
AM-241	3.443E-01		3.308E-01	5.044E-01	4.693E-02	0.683

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	7.464E-02		1.610E-01	2.374E-01	1.760E-02	0.314
AM-246	-1.194E-02		1.770E-01	2.892E-01	2.063E-02	-0.041
CM-247	4.503E-03		5.128E-02	8.559E-02	4.962E-03	0.053
CF-249	-9.432E-03		5.591E-02	9.202E-02	5.325E-03	-0.103
CF-251	1.398E-02		1.796E-01	2.927E-01	1.513E-02	0.048

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]G245808007          *
* Acquisition date   : 12-FEB-2010 17:00:15 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 02:00:01.71             Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808007             Analyst initials: RXF2          *
* Batch Number       : 947554                 Sample Quantity : 1.0079E+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	2.250E+01	2.484E+00	2.450E-01	1.267E+00
NB-95	1.117E-01	9.325E-02	4.580E-02	4.758E-02
CD-109	3.818E+00	1.691E+00	9.919E-01	8.625E-01
SN-126	3.741E-01	1.656E-01	9.778E-02	8.451E-02
CS-135	4.594E-01	2.972E-01	1.717E-01	1.516E-01
BA-137M	8.478E-01	1.269E-01	4.146E-02	6.477E-02
CS-137	8.962E-01	1.343E-01	4.383E-02	6.850E-02
TL-208	4.586E-01	1.163E-01	3.986E-02	5.935E-02
BI-211	4.401E+00	6.450E-01	2.264E-01	3.291E-01
PB-212	1.613E+00	1.750E-01	6.051E-02	8.927E-02
PO-212	1.613E+00	1.750E-01	6.051E-02	8.927E-02
BI-214	1.273E+00	2.347E-01	7.100E-02	1.197E-01
PB-214	1.531E+00	2.376E-01	7.400E-02	1.212E-01
PO-214	1.531E+00	2.376E-01	7.400E-02	1.212E-01
PO-216	1.613E+00	1.750E-01	6.051E-02	8.927E-02
PO-218	1.531E+00	2.376E-01	7.400E-02	1.212E-01
RA-224	4.122E+00	1.695E+00	6.887E-01	8.649E-01
RA-226	1.273E+00	2.347E-01	7.100E-02	1.197E-01
AC-228	1.592E+00	3.924E-01	1.220E-01	2.002E-01
RA-228	1.592E+00	3.924E-01	1.220E-01	2.002E-01
TH-228	1.641E+00	1.780E-01	6.156E-02	9.081E-02
TH-230	1.273E+00	2.347E-01	7.099E-02	1.197E-01
TH-232	1.592E+00	3.924E-01	1.220E-01	2.002E-01
PA-234M	3.611E+01	1.036E+01	4.237E+00	5.286E+00
TH-234	2.281E+01	5.622E+00	1.875E+00	2.868E+00
U-234	1.273E+00	2.347E-01	7.099E-02	1.197E-01
U-235	8.698E-01	4.641E-01	2.362E-01	2.368E-01
NP-237	1.099E+00	5.347E-01	2.914E-01	2.728E-01
U-238	2.281E+01	5.622E+00	1.875E+00	2.868E+00
AM-243	3.487E-01	1.138E-01	7.341E-02	5.806E-02
ANH-511	1.595E-01	8.698E-02	2.983E-02	4.438E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU	
BE-7	4.408E-04	4.675E-01	3.911E-01	2.385E-01	NOT IDENT.
NA-22	-8.124E-03	5.984E-02	4.863E-02	3.053E-02	NOT IDENT.
NA-24	7.129E+05	9.851E+06	0.000E+00	5.026E+06	SHORT HLIF
AL-26	1.764E-02	2.666E-02	2.641E-02	1.360E-02	NOT IDENT.
TI-44	3.914E-01	7.984E-02	5.738E-02	4.074E-02	FAIL ABUN
SC-46	-8.704E-04	5.068E-02	4.274E-02	2.586E-02	FAIL ABUN
V-48	-6.195E-03	9.786E-02	8.159E-02	4.993E-02	NOT IDENT.
CR-51	1.088E-01	5.180E-01	4.467E-01	2.643E-01	NOT IDENT.
MN-52	-7.113E-02	4.068E-01	3.236E-01	2.075E-01	NOT IDENT.
MN-54	8.078E-03	4.925E-02	4.233E-02	2.513E-02	NOT IDENT.
CO-56	6.736E-02	5.364E-02	5.006E-02	2.737E-02	NOT IDENT.
CO-57	-1.199E-02	3.434E-02	2.839E-02	1.752E-02	NOT IDENT.
CO-58	-7.651E-02	4.848E-02	3.405E-02	2.473E-02	NOT IDENT.
FE-59	-3.139E-04	1.101E-01	9.175E-02	5.618E-02	FAIL ABUN
CO-60	1.274E-02	4.970E-02	4.234E-02	2.536E-02	NOT IDENT.
ZN-65	1.249E-01	1.304E-01	1.059E-01	6.651E-02	NOT IDENT.
GE-68	-4.489E-01	1.547E+00	1.248E+00	7.894E-01	NOT IDENT.
AS-73	1.200E+00	1.675E+00	1.470E+00	8.544E-01	NOT IDENT.
AS-74	-3.358E-02	1.226E-01	9.885E-02	6.258E-02	NOT IDENT.
SE-75	2.928E-02	6.932E-02	5.074E-02	3.537E-02	NOT IDENT.
BR-77	6.011E+00	2.539E+01	2.152E+01	1.295E+01	FAIL ABUN
SR-82	-2.127E-01	5.165E-01	4.237E-01	2.635E-01	NOT IDENT.
RB-83	3.442E-02	9.370E-02	8.017E-02	4.781E-02	NOT IDENT.
RB-84	-3.505E-02	9.847E-02	8.038E-02	5.024E-02	NOT IDENT.
KR-85	1.589E+01	1.084E+01	8.881E+00	5.533E+00	NOT IDENT.
SR-85	8.328E-02	5.684E-02	4.655E-02	2.900E-02	NOT IDENT.
RB-86	-5.713E-01	1.080E+00	8.472E-01	5.510E-01	NOT IDENT.
Y-88	-4.376E-02	3.883E-02	2.203E-02	1.981E-02	NOT IDENT.
ZR-88	-2.811E-03	4.368E-02	3.676E-02	2.229E-02	NOT IDENT.
Y-91	1.398E+01	2.505E+01	2.189E+01	1.278E+01	NOT IDENT.
NB-94	1.273E-02	4.754E-02	3.977E-02	2.426E-02	NOT IDENT.
NB-95M	7.245E-01	2.225E-01	1.825E-01	1.135E-01	NOT IDENT.
ZR-95	6.574E-02	9.458E-02	8.212E-02	4.825E-02	NOT IDENT.
NB-97	5.878E+06	1.566E+06	0.000E+00	7.990E+05	SHORT HLIF
ZR-97	5.978E+07	2.416E+07	0.000E+00	1.233E+07	SHORT HLIF
MO-99	-5.391E+00	3.010E+01	2.418E+01	1.536E+01	NOT IDENT.
TC-99M	-6.887E+17	1.935E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.233E-02	4.516E-02	3.833E-02	2.304E-02	NOT IDENT.
RH-102	8.919E-03	4.107E-02	3.486E-02	2.095E-02	FAIL ABUN
RU-103	-7.317E-03	5.618E-02	4.642E-02	2.866E-02	NOT IDENT.
RH-106	-2.704E-02	4.134E-01	3.388E-01	2.109E-01	FAIL ABUN
RU-106	-2.704E-02	4.134E-01	3.388E-01	2.109E-01	FAIL ABUN
AG-108M	-2.311E-02	4.109E-02	3.309E-02	2.096E-02	NOT IDENT.
AG-110M	2.093E-01	6.831E-02	6.101E-02	3.485E-02	NOT IDENT.
IN-111	3.266E-01	2.648E+00	1.902E+00	1.351E+00	NOT IDENT.
IN-113M	6.261E-03	6.272E-02	5.330E-02	3.200E-02	NOT IDENT.
SN-113	6.261E-03	6.272E-02	5.330E-02	3.200E-02	NOT IDENT.
IN-114M	6.604E-02	2.837E-01	2.075E-01	1.447E-01	NOT IDENT.
CD-115	-6.921E+00	2.861E+01	2.336E+01	1.460E+01	NOT IDENT.
SN-117M	-3.959E-02	8.424E-02	6.860E-02	4.298E-02	NOT IDENT.
SB-122	-2.433E+00	5.063E+00	4.044E+00	2.583E+00	NOT IDENT.
I-123	-5.604E+07	1.132E+08	0.000E+00	5.775E+07	SHORT HLIF
TE-123M	-1.980E-02	3.999E-02	3.253E-02	2.040E-02	NOT IDENT.
I-124	-8.895E-01	1.385E+00	9.079E-01	7.066E-01	NOT IDENT.
SB-124	-1.012E-01	1.032E-01	6.910E-02	5.265E-02	FAIL ABUN
SB-125	1.085E-01	1.273E-01	1.126E-01	6.495E-02	FAIL ABUN
TE-125M	-1.906E+01	1.494E+01	1.195E+01	7.620E+00	NOT IDENT.
I-126	-1.869E-01	3.533E-01	2.350E-01	1.803E-01	NOT IDENT.
SB-126	9.891E-02	2.679E-01	1.971E-01	1.367E-01	NOT IDENT.
SB-127	-9.124E-01	2.608E+00	2.066E+00	1.331E+00	NOT IDENT.
XE-127	-6.320E-02	7.041E-02	5.560E-02	3.592E-02	NOT IDENT.
I-131	-9.544E-02	1.970E-01	1.623E-01	1.005E-01	NOT IDENT.
TE-132	-7.180E-01	1.494E+00	1.191E+00	7.622E-01	NOT IDENT.
BA-133	-5.879E-02	6.807E-02	4.633E-02	3.473E-02	NOT IDENT.
I-133	8.674E+02	4.332E+04	0.000E+00	2.210E+04	SHORT HLIF
CS-134	6.119E-02	6.153E-02	5.630E-02	3.139E-02	NOT IDENT.
I-135	2.671E+17	1.507E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.327E-02	1.589E-01	1.308E-01	8.106E-02	FAIL ABUN
CE-139	-3.305E-02	4.200E-02	3.326E-02	2.143E-02	NOT IDENT.
BA-140	-4.447E-01	4.315E-01	3.099E-01	2.201E-01	NOT IDENT.
LA-140	-1.010E-01	1.195E-01	8.582E-02	6.096E-02	NOT IDENT.
CE-141	1.828E-01	1.009E-01	8.047E-02	5.148E-02	NOT IDENT.
CE-143	4.630E+03	1.344E+03	0.000E+00	6.857E+02	SHORT HLIF
CE-144	1.635E-01	2.814E-01	2.398E-01	1.436E-01	NOT IDENT.

PM-144	-1.355E-02	4.858E-02	3.883E-02	2.479E-02	NOT IDENT.
PR-144	-9.195E-01	3.296E+00	2.634E+00	1.681E+00	NOT IDENT.
PM-146	-2.240E-03	6.076E-02	5.083E-02	3.100E-02	NOT IDENT.
ND-147	8.797E-01	8.597E-01	7.636E-01	4.386E-01	FAIL ABUN
PM-149	-7.014E+00	2.274E+02	1.946E+02	1.160E+02	NOT IDENT.
EU-152	1.992E-01	1.988E-01	1.151E-01	1.014E-01	NOT IDENT.
GD-153	3.473E-01	1.749E-01	1.127E-01	8.921E-02	FAIL ABUN
EU-154	-2.605E-02	1.666E-01	1.350E-01	8.501E-02	NOT IDENT.
EU-155	1.509E-01	1.553E-01	1.351E-01	7.923E-02	FAIL ABUN
TB-160	4.600E-02	1.773E-01	1.537E-01	9.046E-02	FAIL ABUN
HO-166M	-2.130E-02	8.149E-02	6.501E-02	4.158E-02	FAIL ABUN
TM-171	-8.681E+01	5.440E+01	3.770E+01	2.775E+01	NOT IDENT.
LU-176	-1.490E-02	3.324E-02	2.773E-02	1.696E-02	FAIL ABUN
LU-177	1.069E+00	1.881E+00	1.583E+00	9.596E-01	NOT IDENT.
LU-177M	4.356E-02	2.595E-01	2.208E-01	1.324E-01	FAIL ABUN
HF-181	2.435E-02	6.157E-02	5.285E-02	3.141E-02	NOT IDENT.
W-181	2.147E+00	7.720E-01	6.257E-01	3.939E-01	NOT IDENT.
TA-182	9.701E-02	2.331E-01	2.015E-01	1.189E-01	FAIL ABUN
RE-183	1.067E-01	1.580E-01	1.346E-01	8.064E-02	NOT IDENT.
RE-184	5.836E-03	3.209E-01	2.618E-01	1.637E-01	NOT IDENT.
OS-185	-1.006E-02	5.538E-02	4.477E-02	2.825E-02	NOT IDENT.
RE-188	-1.192E-01	2.461E-01	2.007E-01	1.256E-01	NOT IDENT.
W-188	4.075E+00	1.033E+01	7.942E+00	5.271E+00	FAIL ABUN
IR-192	-1.039E-02	4.643E-02	3.913E-02	2.369E-02	FAIL ABUN
AU-195	1.013E+00	5.101E-01	3.220E-01	2.603E-01	FAIL ABUN
TL-200	5.105E+02	2.370E+03	0.000E+00	1.209E+03	SHORT HLIF
TL-201	-2.433E+01	1.545E+01	1.172E+01	7.882E+00	NOT IDENT.
TL-202	5.290E-03	1.102E-01	9.285E-02	5.623E-02	NOT IDENT.
HG-203	-2.673E-02	5.684E-02	4.767E-02	2.900E-02	NOT IDENT.
BI-207	-7.216E-03	5.775E-02	4.748E-02	2.946E-02	FAIL ABUN
TL-207	-1.289E+00	9.336E-01	7.173E-01	4.763E-01	FAIL ABUN
PO-209	-1.618E+00	8.555E+00	7.070E+00	4.365E+00	NOT IDENT.
BI-210	1.215E+01	8.186E+00	7.307E+00	4.177E+00	NOT IDENT.
PB-210	1.215E+01	8.186E+00	7.307E+00	4.177E+00	NOT IDENT.
PO-210	1.215E+01	8.173E+00	7.307E+00	4.170E+00	NOT IDENT.
PB-211	-1.385E+00	1.554E+00	1.028E+00	7.931E-01	NOT IDENT.
BI-212	1.024E+00	7.184E-01	4.244E-01	3.665E-01	FAIL ABUN
PO-215	-1.289E+00	9.336E-01	7.173E-01	4.763E-01	FAIL ABUN
RN-219	2.612E-02	5.609E-01	4.746E-01	2.862E-01	NOT IDENT.
RN-220	-1.702E+01	3.527E+01	2.813E+01	1.799E+01	NOT IDENT.
RA-223	-1.289E+00	9.336E-01	7.173E-01	4.763E-01	FAIL ABUN
AC-227	8.499E-02	5.302E-01	4.355E-01	2.705E-01	FAIL ABUN
TH-227	8.499E-02	5.303E-01	4.355E-01	2.706E-01	FAIL ABUN
TH-229	-1.808E-01	6.927E-01	5.642E-01	3.534E-01	FAIL ABUN
PA-231	2.587E+00	2.063E+00	1.848E+00	1.053E+00	NOT IDENT.
TH-231	-1.289E+00	9.336E-01	7.173E-01	4.763E-01	FAIL ABUN
U-231	5.999E+00	3.329E+00	2.038E+00	1.699E+00	FAIL ABUN
PA-233	3.924E-02	8.754E-02	7.641E-02	4.466E-02	FAIL ABUN
PA-234	1.767E-01	3.752E-01	3.296E-01	1.914E-01	FAIL ABUN
NP-236	-2.268E-02	1.124E-01	9.256E-02	5.733E-02	FAIL ABUN
NP-239	-3.533E-01	2.808E-01	2.242E-01	1.433E-01	FAIL ABUN
AM-241	3.443E-01	3.242E-01	2.526E-01	1.654E-01	NOT IDENT.
CM-243	7.464E-02	1.577E-01	1.187E-01	8.048E-02	FAIL ABUN
AM-246	-1.194E-02	1.734E-01	1.436E-01	8.848E-02	NOT IDENT.
CM-247	4.503E-03	5.025E-02	4.263E-02	2.564E-02	NOT IDENT.
CF-249	-9.432E-03	5.479E-02	4.583E-02	2.795E-02	NOT IDENT.
CF-251	1.398E-02	1.760E-01	1.461E-01	8.980E-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	310.7796
46.50	310.7796
46.50	310.7796
48.70	400.9014
49.72	407.9853
51.35	359.9366
52.39	350.5371
52.97	345.3995
53.15	341.8487
53.44	343.8446
54.07	378.0797
56.28	420.8062
56.28	420.8080
57.37	0.0000
57.53	414.9108
57.53	414.9116
57.60	410.0465
57.98	395.0645
57.98	395.0645
59.32	400.3403
59.32	400.3403
59.40	400.3907
59.54	400.4792
59.72	403.5498
60.01	403.7339
61.10	429.6059
61.14	465.1882
61.30	465.3041
63.00	452.2228
63.29	452.4220
63.29	452.4220
63.58	452.6222
64.28	422.7707
65.12	454.6053
65.20	454.6592
65.20	454.6592
66.05	532.8504
66.72	534.8696
66.83	534.9592
66.91	538.0115
67.20	538.2400
67.20	538.2400
67.75	510.2429
67.85	510.3178
68.90	485.2436
68.90	485.2436
69.30	481.4001
69.67	451.6488
70.82	470.4246
70.82	470.4246
70.83	470.4323
72.80	566.6942
72.87	566.7493
72.87	566.7493
74.67	509.9908
74.81	510.0897
74.81	510.0897
74.81	510.0897
74.81	510.0897
74.81	510.0897
74.81	510.0897
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81.07	483.9143
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85.43	479.7474
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86.72	480.5326
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87.88	481.2318
88.03	481.3215
88.36	481.5183
88.47	481.5852
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92.29	483.8490
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94.00	484.8481
94.67	485.2331
94.67	485.2360
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94.90	333.4009
94.90	333.4009
94.90	333.4009
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95.87	333.7854
96.73	334.1253
97.43	334.3995
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111.00	386.9247
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117.00	395.3628
117.66	389.6717
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121.62	303.4329
121.78	305.4782
122.06	305.5658
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122.32	307.6440
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122.32	307.6440
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131.20	285.1850
133.02	331.1155
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136.25	324.0430
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143.76	314.9066
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144.24	290.5602
144.24	290.5602
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145.44	268.0015
147.16	299.5195
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152.70	283.7385
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154.21	311.9093
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161.27	305.5421
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163.35	261.4669
163.89	259.5110
165.85	304.6510
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171.86	252.8822
172.10	252.9320
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176.60	282.1820
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184.41	285.4185
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186.00	266.3292
190.27	251.0941
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193.63	268.9611
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198.01	252.7871
198.60	271.0377
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201.83	321.9643
202.84	311.5009
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208.81	273.0841
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209.75	259.2820
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216.55	212.9768
218.09	254.3347
222.10	269.1592
223.80	240.1389
226.40	212.2666
227.00	211.2654
227.08	223.2569
227.20	223.2757
228.16	239.7690
228.18	239.7723
228.18	239.7723
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236.00	224.3891
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238.63	209.6363
238.63	209.6363
238.63	209.6363
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241.98	210.1012
241.98	210.1012
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248.90	199.5265
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252.85	186.1071
254.15	0.0000
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256.20	188.7234
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260.90	192.6241
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264.65	167.8506
268.24	182.5392
268.79	175.4406
269.46	177.3033
269.46	177.3033
269.46	177.3033
269.46	177.3033
271.23	175.7038
273.65	219.0549
276.40	183.7050
277.35	169.8312
277.60	158.6078
277.60	158.6078
278.00	172.8234
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280.46	210.9371
281.68	188.5388
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284.30	157.2096
285.00	168.1198
285.90	161.8801
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286.10	182.9010
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291.72	142.1647
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295.21	122.7508

295.21	122.7508
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300.09	167.1664
300.09	167.1664
300.09	167.1664
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323.87	189.4073
323.87	189.4073
323.87	189.4073
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338.28	143.3843
338.28	143.3843
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351.92	120.3344
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366.43	142.6297
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388.63	137.4978
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392.90	130.1230
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413.65	133.3203
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439.56	112.3987
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443.98	112.6163
444.90	119.5189
445.03	119.5263
445.03	119.5263
445.03	119.5263
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602.71	79.8786
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696.49	78.4786
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911.07	35.9326
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969.11	53.1828
969.11	53.1828
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1048.07	45.3374

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1050.47	46.3498
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1173.22	45.6207
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1291.56	43.6406
1298.22	0.0000
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1332.49	24.0940
1333.61	30.3853
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1368.53	0.0000
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1395.20	20.1458
1407.95	19.1309
1434.06	22.4287
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1489.15	17.2617
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1691.02	18.1882
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1750.46	0.0000
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1764.49	5.0854
1764.49	5.0854
1764.49	5.0854
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1771.40	17.4545
1791.20	0.0000
1808.65	2.9261

1836.01

12.7334

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808007

Total Uranium Activity	6.8262E+01	ug/g
Total Uranium Counting Unc.	1.6727E+01	ug/g
Total Uranium Tpu	8.5343E-06	ug/g
Total Uranium Mda	5.5782E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G245808007
*  ANALYST       : RXF2            DETECTOR    : GAM23
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE: 12-FEB-2010 17:00:15.91  SAMPLE ALQT: 100.792 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 1.158E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.525E+00
GROSS GAMMA MDA (pCi/GRAM ) : 4.343E+00
GROSS GAMMA DLC (pCi/GRAM ) : 2.111E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 19:38:04.50

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808008.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:37:37
Sample ID          : G245808008      Sample quantity   : 1.31013E+02 GRAM
Detector name      : GAM15           Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00   Elapsed real time: 0 02:00:01.31 0.0%
Energy tolerance   : 1.50000 keV     Analyst Initials  : RXF2
Abundance limit    : 75.00000        Sensitivity       : 5.00000
Batch ID           : 947554          Detector SN#      :
Matrix Spike ID    :                 LCS ID            : 1032-A
*****

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Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	74.99*	305	466	1.60	148.90	142	17	4.24E-02	15.3	1.23E+00
2	2	77.30*	361	387	1.26	153.53	142	17	5.01E-02	11.3	
3	0	86.82*	185	607	4.15	172.57	166	12	2.57E-02	27.8	
4	0	93.66*	151	760	1.51	186.23	180	15	2.10E-02	43.3	
5	0	129.10	88	336	1.25	257.11	252	10	1.22E-02	40.7	6.31E-01
6	0	185.98*	133	319	1.67	370.86	367	10	1.85E-02	27.7	
7	0	209.23	94	233	1.05	417.36	414	8	1.31E-02	29.8	
8	2	238.78*	1029	206	1.41	476.46	470	19	1.43E-01	4.1	
9	2	241.73	263	273	1.85	482.36	470	19	3.65E-02	16.4	1.22E+00
10	0	270.58*	73	202	1.10	540.06	535	10	1.01E-02	39.3	
11	0	295.24*	283	167	1.43	589.39	584	11	3.94E-02	10.9	
12	0	302.08	163	265	5.54	603.06	595	19	2.26E-02	25.2	
13	0	338.51	233	180	1.36	675.92	671	13	3.24E-02	13.6	1.22E+00
14	0	351.98*	508	216	1.36	702.85	697	12	7.06E-02	7.5	
15	0	463.18	88	101	1.64	925.26	920	11	1.22E-02	24.7	
16	0	511.03*	75	162	1.87	1020.96	1014	16	1.04E-02	45.4	
17	0	583.42*	343	95	1.53	1165.76	1159	16	4.77E-02	8.7	1.22E+00
18	0	609.48*	337	141	1.42	1217.87	1210	14	4.69E-02	9.4	
19	0	727.41*	39	77	0.82	1453.76	1447	11	5.38E-03	48.9	
20	0	794.90	65	40	2.04	1588.76	1581	12	9.09E-03	22.8	
21	0	861.46	22	81	1.31	1721.90	1714	12	3.02E-03	85.5	1.22E+00
22	0	911.02*	217	62	1.87	1821.02	1815	13	3.01E-02	10.3	
23	1	964.80	53	57	2.20	1928.60	1922	31	7.36E-03	32.9	
24	1	969.05	126	55	2.20	1937.10	1922	31	1.74E-02	15.7	
25	0	1120.21*	117	50	2.33	2239.49	2231	17	1.62E-02	17.3	1.22E+00
26	0	1377.64	34	21	2.10	2754.48	2744	16	4.77E-03	33.8	
27	0	1460.45*	1244	23	2.20	2920.17	2908	22	1.73E-01	3.0	
28	0	1587.62	19	9	2.20	3174.58	3169	9	2.64E-03	36.6	
29	0	1592.62	16	8	1.53	3184.58	3180	9	2.20E-03	42.0	1.22E+00
30	0	1764.24*	78	3	1.78	3527.97	3521	16	1.08E-02	13.9	

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

VMS Nuclide Identification Report V3.1 Generated 12-FEB-2010 19:38:07

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808008.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:37:37
Sample ID         : G245808008 Sample quantity : 131.01 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA15 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:01.31 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	*	3.456E+01	3.987E+00	6.171E-01	6.064E-02	56.002
CD-109	+	88.03	*	3.324E+00	1.893E+00	1.934E+00	2.401E-01	1.718
SN-126		64.28		3.338E-01	8.668E-01	1.446E+00	2.447E-01	0.231
	+	86.94		1.354E+00	9.457E-01	7.352E-01	3.109E-01	1.842
	+	87.57	*	3.257E-01	1.855E-01	2.017E-01	2.495E-02	1.615
TL-208		277.35		6.728E-01	4.979E-01	8.467E-01	1.183E-01	0.795
	+	510.84		4.126E-01	3.779E-01	2.699E-01	3.240E-02	1.529
	+	583.14	*	5.333E-01	1.048E-01	6.781E-02	6.210E-03	7.865
	+	860.37		3.179E-01	5.443E-01	5.143E-01	5.030E-02	0.618
BI-211		72.87		7.381E+00	5.196E+00	7.896E+00	9.043E-01	0.935
	+	351.07	*	3.583E+00	6.438E-01	3.983E-01	3.966E-02	8.996
PB-212	+	74.81		2.516E+00	8.563E-01	7.821E-01	1.159E-01	3.217
	+	77.11		1.638E+00	4.173E-01	4.312E-01	4.999E-02	3.798
	+	87.30		1.506E+00	8.709E-01	9.370E-01	1.489E-01	1.608
	+	238.63	*	1.607E+00	2.326E-01	1.108E-01	1.319E-02	14.502
		300.09		2.118E+00	1.446E+00	1.676E+00	2.024E-01	1.264
PO-212	+	74.81		2.516E+00	8.563E-01	7.821E-01	1.159E-01	3.217
	+	77.11		1.638E+00	4.173E-01	4.312E-01	4.999E-02	3.798
	+	87.30		1.506E+00	8.709E-01	9.370E-01	1.489E-01	1.608
	+	115.19		2.152E+00	4.472E+00	7.409E+00	7.499E-01	0.291
	+	238.63	*	1.607E+00	2.326E-01	1.108E-01	1.319E-02	14.502
		300.09		2.118E+00	1.446E+00	1.676E+00	2.024E-01	1.264
BI-214	+	609.31	*	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
	+	1120.29		1.806E+00	6.550E-01	6.386E-01	6.884E-02	2.828
	+	1764.49		1.648E+00	4.813E-01	3.268E-01	2.865E-02	5.042
PB-214	+	74.81		4.336E+00	1.455E+00	1.348E+00	1.844E-01	3.217
	+	77.11		2.808E+00	7.466E-01	7.393E-01	1.025E-01	3.798
	+	87.30		2.580E+00	1.483E+00	1.605E+00	2.336E-01	1.608
	+	241.98		2.463E+00	8.610E-01	6.669E-01	8.250E-02	3.693
	+	295.21		1.193E+00	2.985E-01	2.533E-01	3.122E-02	4.709
	+	351.92	*	1.247E+00	2.332E-01	1.478E-01	1.659E-02	8.432
PO-214	+	74.81		4.336E+00	1.455E+00	1.348E+00	1.844E-01	3.217
	+	77.11		2.808E+00	7.466E-01	7.393E-01	1.025E-01	3.798
	+	87.30		2.580E+00	1.483E+00	1.605E+00	2.336E-01	1.608

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-216	+	241.98		2.463E+00	8.610E-01	6.669E-01	8.250E-02	3.693
	+	295.21		1.193E+00	2.985E-01	2.533E-01	3.122E-02	4.709
	+	351.92	*	1.247E+00	2.332E-01	1.478E-01	1.659E-02	8.432
	+	74.81		2.516E+00	8.563E-01	7.821E-01	1.159E-01	3.217
	+	77.11		1.638E+00	4.173E-01	4.312E-01	4.999E-02	3.798
	+	87.30		1.506E+00	8.709E-01	9.370E-01	1.489E-01	1.608
PO-218	+	238.63	*	1.607E+00	2.326E-01	1.108E-01	1.319E-02	14.502
	+	300.09		2.118E+00	1.446E+00	1.676E+00	2.024E-01	1.264
	+	74.81		4.336E+00	1.455E+00	1.348E+00	1.844E-01	3.217
	+	77.11		2.808E+00	7.466E-01	7.393E-01	1.025E-01	3.798
	+	87.30		2.580E+00	1.483E+00	1.605E+00	2.336E-01	1.608
	+	241.98		2.463E+00	8.610E-01	6.669E-01	8.250E-02	3.693
RA-224	+	295.21		1.193E+00	2.985E-01	2.533E-01	3.122E-02	4.709
	+	351.92	*	1.247E+00	2.332E-01	1.478E-01	1.659E-02	8.432
	+	240.98	*	4.669E+00	1.612E+00	1.260E+00	1.390E-01	3.705
RA-226	+	609.31	*	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
	+	1120.29		1.806E+00	6.550E-01	6.386E-01	6.884E-02	2.828
AC-228	+	1764.49		1.648E+00	4.813E-01	3.268E-01	2.865E-02	5.042
	+	338.32		1.818E+00	9.023E-01	4.813E-01	1.999E-01	3.778
	+	911.07	*	1.500E+00	3.560E-01	2.538E-01	2.990E-02	5.909
	+	969.11		1.538E+00	6.046E-01	4.594E-01	1.082E-01	3.349
RA-228	+	338.32		1.818E+00	9.023E-01	4.813E-01	1.999E-01	3.778
	+	911.07	*	1.500E+00	3.560E-01	2.538E-01	2.990E-02	5.909
TH-228	+	969.11		1.538E+00	6.046E-01	4.594E-01	1.082E-01	3.349
	+	74.81		2.560E+00	8.381E-01	7.957E-01	9.197E-02	3.217
	+	77.11		1.666E+00	4.245E-01	4.387E-01	5.085E-02	3.798
	+	87.30		1.532E+00	8.726E-01	9.532E-01	1.177E-01	1.608
TH-230	+	238.63	*	1.634E+00	2.367E-01	1.127E-01	1.342E-02	14.502
	+	300.09		2.155E+00	1.935E+00	1.705E+00	1.016E+00	1.264
	+	609.31	*	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
	+	1120.29		1.806E+00	6.550E-01	6.385E-01	6.884E-02	2.828
TH-232	+	1764.49		1.648E+00	4.813E-01	3.268E-01	2.865E-02	5.042
	+	338.32		1.818E+00	5.253E-01	4.813E-01	4.745E-02	3.778
U-234	+	911.07	*	1.500E+00	3.560E-01	2.538E-01	2.990E-02	5.909
	+	969.11		1.538E+00	6.046E-01	4.594E-01	1.082E-01	3.349
	+	609.31	*	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
	+	1120.29		1.806E+00	6.550E-01	6.385E-01	6.884E-02	2.828
NP-237	+	1764.49		1.648E+00	4.813E-01	3.268E-01	2.865E-02	5.042
	+	86.50	*	9.564E-01	5.793E-01	5.234E-01	1.256E-01	1.827
AM-243	+	95.87		-1.061E-01	1.337E+00	1.908E+00	4.895E-01	-0.056
	+	74.67	*	4.079E-01	1.335E-01	1.274E-01	1.465E-02	3.201
	+	86.72		3.586E+01	2.042E+01	1.955E+01	2.402E+00	1.834
	+	117.66		3.686E+00	4.680E+00	7.833E+00	7.902E-01	0.471
ANH-511	+	142.18		4.688E+00	2.371E+01	3.862E+01	3.919E+00	0.121
	+	511.00	*	8.912E-02	8.128E-02	5.831E-02	5.038E-03	1.529

---- 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	*	1.454E-01	4.179E-01	6.968E-01	6.478E-02	0.209

---- 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	*		-1.137E-02	5.517E-02	8.722E-02	7.923E-03	-0.130
NA-24	1368.53	*		-3.590E+00	5.517E-02	Half-Life too short		
AL-26	1129.67			-2.439E-01	2.140E+00	3.278E+00	2.768E-01	-0.074
	1808.65	*		1.272E-02	3.321E-02	5.863E-02	5.015E-03	0.217
TI-44	67.85			-2.000E-02	7.979E-02	1.197E-01	1.365E-02	-0.167
	78.38	*		3.023E-01	7.701E-02	1.038E-01	1.210E-02	2.911
SC-46	889.25	*		-2.037E-02	4.233E-02	6.638E-02	6.169E-03	-0.307
	1120.51	+		3.146E-01	1.122E-01	1.581E-01	1.345E-02	1.989
V-48	944.10			-1.197E+00	1.225E+00	1.793E+00	1.658E-01	-0.667
	983.50	*		3.737E-03	9.708E-02	1.600E-01	1.462E-02	0.023
	1312.09			4.029E-02	9.970E-02	1.687E-01	1.590E-02	0.239
CR-51	320.08	*		-6.299E-01	5.008E-01	7.677E-01	8.152E-02	-0.821
MN-52	744.21			-1.009E-01	3.621E-01	5.903E-01	5.110E-02	-0.171
	848.13			-7.096E+00	9.711E+00	1.492E+01	1.363E+00	-0.475
	935.52			5.856E-02	3.685E-01	6.160E-01	5.707E-02	0.095
	1246.25			3.365E+00	1.323E+01	2.186E+01	1.926E+00	0.154
	1333.61			1.319E+00	7.496E+00	1.235E+01	1.188E+00	0.107
	1434.06	*		-1.643E-01	3.471E-01	5.396E-01	5.194E-02	-0.304
MN-54	834.83	*		-1.211E-02	4.608E-02	7.480E-02	6.788E-03	-0.162
CO-56	846.75	*		-2.301E-02	4.215E-02	6.597E-02	6.019E-03	-0.349
	977.42			-2.431E+00	4.597E+00	6.026E+00	5.520E-01	-0.403
	1037.82			6.646E-02	3.643E-01	6.071E-01	5.698E-02	0.109
	1175.09			1.157E+00	3.027E+00	5.074E+00	4.139E-01	0.228
	1238.25			1.509E-01	1.264E-01	2.211E-01	1.986E-02	0.683
	1360.21			3.682E-01	1.200E+00	2.077E+00	2.000E-01	0.177
	1771.40			6.824E-02	2.832E-01	4.257E-01	3.719E-02	0.160
CO-57	122.06	*		-2.289E-02	3.096E-02	4.858E-02	4.893E-03	-0.471
	136.48			-3.741E-02	2.622E-01	4.220E-01	4.487E-02	-0.089
CO-58	810.76	*		-2.397E-02	4.505E-02	7.113E-02	6.395E-03	-0.337
FE-59	142.65			1.172E+00	3.763E+00	6.153E+00	6.249E-01	0.190
	192.34			-1.635E+00	1.393E+00	1.887E+00	2.825E-01	-0.866
	1099.22	*		-2.584E-02	1.127E-01	1.796E-01	1.676E-02	-0.144
	1291.56			2.850E-02	1.518E-01	2.502E-01	2.584E-02	0.114
CO-60	1173.22			8.206E-02	5.733E-02	1.039E-01	8.454E-03	0.790
	1332.49	*		-2.457E-02	4.774E-02	7.168E-02	6.891E-03	-0.343
ZN-65	1115.52	*		7.009E-02	1.210E-01	1.819E-01	1.555E-02	0.385
GE-68	1077.35	*		7.521E-01	1.596E+00	2.714E+00	2.376E-01	0.277
AS-73	53.44	*		6.782E-01	2.131E+00	3.577E+00	4.645E-01	0.190
AS-74	595.88	*		4.933E-02	1.205E-01	2.002E-01	1.701E-02	0.246
	634.78			1.872E-02	4.652E-01	7.499E-01	6.262E-02	0.025
SE-75	66.05			-4.659E+00	8.202E+00	1.309E+01	1.681E+00	-0.356
	96.73			-8.154E-01	1.108E+00	1.513E+00	2.318E-01	-0.539
	121.11			-1.440E-01	1.684E-01	2.622E-01	3.243E-02	-0.549
	136.00			-1.428E-02	4.891E-02	7.821E-02	7.917E-03	-0.183
	198.60			1.656E+00	2.294E+00	3.773E+00	4.404E-01	0.439
	264.65	*		-7.094E-02	6.497E-02	8.670E-02	9.506E-03	-0.818
	279.53			1.722E-01	1.421E-01	2.478E-01	2.743E-02	0.695
	303.91			1.880E+00	3.058E+00	4.596E+00	5.952E-01	0.409
	400.65			-2.768E-01	3.236E-01	5.015E-01	5.508E-02	-0.552

----- 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		1.328E+03	7.560E+02	8.097E+02	1.005E+02	1.640
		200.40		-1.165E+02	3.842E+02	6.050E+02	6.609E+01	-0.193
	+	239.00		4.784E+02	6.587E+01	8.138E+01	8.978E+00	5.879
		249.79		1.910E+01	1.543E+02	2.600E+02	2.862E+01	0.073
		281.68		-3.714E+02	2.212E+02	3.335E+02	3.597E+01	-1.114
		297.23		7.304E+02	2.085E+02	2.729E+02	2.892E+01	2.676
		303.76		2.934E+02	4.767E+02	7.173E+02	7.535E+01	0.409
		439.47		1.900E+02	3.162E+02	5.376E+02	4.607E+01	0.353
		484.57		-5.998E+02	5.546E+02	8.327E+02	7.191E+01	-0.720
		520.65	*	-8.177E+00	2.385E+01	3.773E+01	3.258E+00	-0.217
		574.64		-1.716E+02	4.967E+02	7.579E+02	6.483E+01	-0.226
		578.91		3.851E+01	2.165E+02	3.074E+02	2.626E+01	0.125
		585.48		3.383E+03	6.277E+02	1.099E+03	9.366E+01	3.079
		755.35		1.011E+01	3.588E+02	5.994E+02	5.221E+01	0.017
		817.79		9.194E+01	2.783E+02	4.750E+02	4.275E+01	0.194
		698.33		1.217E+01	4.096E+01	7.002E+01	5.895E+00	0.174
		776.49	*	-7.591E-02	4.979E-01	8.189E-01	7.216E-02	-0.093
SR-82		1395.20		-1.686E+01	1.249E+01	1.636E+01	1.576E+00	-1.031
				-2.424E-02	8.943E-02	1.382E-01	1.193E-02	-0.175
RB-83		520.41	*	-1.225E-01	1.262E-01	1.879E-01	1.621E-02	-0.652
		552.65		-4.542E-02	2.384E-01	3.799E-01	3.267E-02	-0.120
RB-84		881.50	*	2.985E-02	8.592E-02	1.463E-01	1.355E-02	0.204
KR-85		513.99	*	2.229E+01	1.046E+01	1.710E+01	1.478E+00	1.304
SR-85		513.99	*	1.169E-01	5.486E-02	8.966E-02	7.746E-03	1.304
RB-86		1076.63	*	4.860E-01	1.095E+00	1.859E+00	1.628E-01	0.261
Y-88		898.02		-1.545E-02	4.719E-02	7.541E-02	7.062E-03	-0.205
		1836.01	*	2.658E-02	3.532E-02	6.669E-02	5.617E-03	0.398
ZR-88		392.90	*	-1.499E-02	3.878E-02	6.229E-02	5.243E-03	-0.241
Y-91		1204.90	*	3.084E+01	2.725E+01	4.781E+01	4.031E+00	0.645
NB-94		702.63	*	-5.871E-03	3.734E-02	6.171E-02	5.209E-03	-0.095
		871.10		-2.395E-02	3.973E-02	6.191E-02	5.710E-03	-0.387
NB-95		765.79	*	8.743E-02	5.267E-02	9.671E-02	8.473E-03	0.904
NB-95M		235.69	*	3.125E-01	1.888E-01	2.947E-01	3.546E-02	1.060
ZR-95		724.18		1.506E-04	1.387E-01	1.997E-01	1.858E-02	0.001
		756.15	*	6.100E-02	8.338E-02	1.465E-01	1.404E-02	0.416
NB-97		657.90	*	-3.150E-01	8.338E-02	Half-Life	too short	
		1024.50		1.334E+01	8.338E-02	Half-Life	too short	
ZR-97		254.15		-1.578E+01	8.338E-02	Half-Life	too short	
		355.39		4.700E+01	8.338E-02	Half-Life	too short	
		507.63	*	5.506E+01	8.338E-02	Half-Life	too short	
		602.52		8.692E+01	8.338E-02	Half-Life	too short	
		1021.30		-7.688E+00	8.338E-02	Half-Life	too short	
		1147.95		1.188E+01	8.338E-02	Half-Life	too short	
		1362.66		2.232E+01	8.338E-02	Half-Life	too short	
MO-99		1750.46		5.965E+00	8.338E-02	Half-Life	too short	
		140.51		2.132E+01	6.061E+01	9.763E+01	2.753E+01	0.218
		181.06		2.988E+01	4.195E+01	6.065E+01	1.177E+01	0.493
		366.43		8.146E+01	1.754E+02	2.972E+02	2.723E+01	0.274
		739.58	*	1.911E+01	2.348E+01	4.129E+01	6.272E+00	0.463

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TC-99M		778.00		-4.269E+01	7.089E+01	1.122E+02	9.894E+00	-0.381
		140.51	*	6.321E+12	7.089E+01	Half-Life	too short	
	RH-101	127.23		3.577E-02	4.491E-02	6.636E-02	6.658E-03	0.539
RH-102		198.01	*	4.833E-02	4.126E-02	6.889E-02	7.516E-03	0.701
		325.23		6.114E-02	2.917E-01	4.887E-01	4.951E-02	0.125
		418.52		-3.173E-01	3.541E-01	5.455E-01	4.644E-02	-0.582
		475.06	*	-3.776E-02	3.666E-02	5.523E-02	4.765E-03	-0.684
		631.29		-6.763E-03	6.307E-02	1.004E-01	8.400E-03	-0.067
		697.49		1.153E-02	8.964E-02	1.514E-01	1.274E-02	0.076
RU-103		766.84		1.453E-01	1.340E-01	2.383E-01	2.089E-02	0.610
		1046.59		4.671E-02	1.315E-01	2.226E-01	1.982E-02	0.210
		1112.84		-3.117E-01	3.429E-01	4.177E-01	3.572E-02	-0.746
		497.08	*	1.231E-02	5.219E-02	8.628E-02	1.223E-02	0.143
	+	610.33		1.106E+01	2.774E+00	3.305E+00	5.486E-01	3.345
RH-106	+	511.85		4.469E-01	4.076E-01	5.041E-01	4.356E-02	0.887
		621.84	*	1.064E-01	3.846E-01	6.322E-01	8.357E-02	0.168
RU-106	+	1050.47		-3.730E+00	2.941E+00	4.184E+00	3.718E-01	-0.892
		511.85		4.469E-01	4.076E-01	5.041E-01	4.356E-02	0.887
		621.84	*	1.064E-01	3.845E-01	6.322E-01	5.313E-02	0.168
AG-108M		1050.47		-3.730E+00	2.941E+00	4.184E+00	3.718E-01	-0.892
		433.93	*	5.346E-03	4.053E-02	6.694E-02	5.959E-03	0.080
		614.37		3.258E-02	5.355E-02	7.907E-02	6.941E-03	0.412
AG-110M		722.95		-1.888E-02	5.742E-02	7.972E-02	7.086E-03	-0.237
		657.75	*	-1.654E-02	4.164E-02	6.788E-02	5.776E-03	-0.244
		677.61		1.470E-01	3.557E-01	6.142E-01	5.257E-02	0.239
		706.67		9.831E-02	2.347E-01	4.046E-01	3.522E-02	0.243
		763.93		-1.947E-01	2.101E-01	3.196E-01	2.874E-02	-0.609
		884.67		-8.977E-03	5.585E-02	9.086E-02	8.662E-03	-0.099
IN-111		937.48		1.581E-02	1.254E-01	2.089E-01	1.995E-02	0.076
		1384.27		7.703E-02	2.008E-01	3.084E-01	3.039E-02	0.250
		171.28		-2.898E-01	2.113E+00	3.375E+00	3.615E-01	-0.086
		245.39	*	-1.134E+00	2.526E+00	3.578E+00	3.943E-01	-0.317
	IN-113M	391.69	*	-3.071E-02	5.565E-02	8.838E-02	7.676E-03	-0.347
SN-113	391.69	*	-3.071E-02	5.565E-02	8.838E-02	7.676E-03	-0.347	
IN-114M	190.27	*	2.945E-01	2.620E-01	3.889E-01	4.222E-02	0.757	
CD-115		260.90		2.916E+02	3.084E+02	5.359E+02	5.872E+01	0.544
		492.35		-6.750E+01	8.857E+01	1.361E+02	1.176E+01	-0.496
		527.90	*	1.397E+01	2.362E+01	4.006E+01	3.457E+00	0.349
SN-117M		156.02		-6.714E-01	3.296E+00	5.269E+00	5.492E-01	-0.127
		158.56	*	-3.155E-02	7.786E-02	1.232E-01	1.292E-02	-0.256
SB-122		563.90	*	1.126E+00	4.351E+00	7.168E+00	6.149E-01	0.157
		692.80		-3.904E+01	8.780E+01	1.421E+02	1.192E+01	-0.275
I-123		159.00	*	-4.952E+00	8.780E+01	Half-Life	too short	
		528.96		-7.373E+02	8.780E+01	Half-Life	too short	
TE-123M		159.00	*	-1.693E-03	3.619E-02	5.819E-02	6.132E-03	-0.029
I-124		602.71	*	1.138E+00	1.306E+00	1.975E+00	1.673E-01	0.576
		722.78		-2.419E+00	8.545E+00	1.193E+01	1.019E+00	-0.203
		1325.50		-6.848E+00	6.086E+01	9.673E+01	9.237E+00	-0.071
	+	1376.25		1.052E+02	7.183E+01	1.026E+02	9.887E+00	1.025

---- 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			3.984E+01	2.893E+01	5.516E+01	5.268E+00	0.722
	1691.02			-2.881E+00	5.630E+00	8.271E+00	7.505E-01	-0.348
	602.71			4.769E-02	5.473E-02	8.279E-02	7.016E-03	0.576
	645.85			-3.947E-02	6.357E-01	1.015E+00	8.970E-02	-0.039
	709.31			9.252E-01	3.182E+00	5.437E+00	4.609E-01	0.170
	713.82			-1.465E+00	1.939E+00	3.036E+00	3.629E-01	-0.483
	722.78			-1.470E-01	5.193E-01	7.248E-01	6.331E-02	-0.203
	968.20		+	1.623E+01	5.319E+00	8.585E+00	7.887E-01	1.890
	1045.16			3.057E+00	2.961E+00	5.296E+00	4.719E-01	0.577
	1325.50			-4.445E-01	3.950E+00	6.278E+00	5.995E-01	-0.071
SB-125	1368.21			-1.480E+00	2.754E+00	3.572E+00	5.053E-01	-0.414
	1436.60			4.631E+00	4.190E+00	7.966E+00	7.667E-01	0.581
	1691.02		*	-4.129E-02	8.070E-02	1.185E-01	1.114E-02	-0.348
	427.89		*	-5.045E-02	1.156E-01	1.840E-01	1.602E-02	-0.274
	463.38		+	9.448E-01	4.755E-01	6.779E-01	6.298E-02	1.394
	600.56			-1.066E-01	2.306E-01	3.475E-01	3.172E-02	-0.307
TE-125M	635.90			1.584E-01	3.274E-01	5.464E-01	4.952E-02	0.290
	109.28		*	-7.048E+00	1.208E+01	1.920E+01	2.256E+00	-0.367
I-126	388.63			8.085E-02	2.834E-01	4.742E-01	4.035E-02	0.171
	666.33		*	1.383E-01	2.475E-01	4.302E-01	3.548E-02	0.321
SB-126	753.82			-1.387E-01	1.928E+00	3.195E+00	2.781E-01	-0.043
	223.80			2.462E+00	5.634E+00	9.637E+00	1.062E+00	0.255
	278.60			5.770E+00	3.630E+00	6.385E+00	6.907E-01	0.904
	296.50		+	1.337E+01	3.240E+00	4.511E+00	4.785E-01	2.963
	414.70			-1.139E-01	1.097E-01	1.679E-01	1.427E-02	-0.679
	415.30			-6.417E+00	8.795E+00	1.374E+01	1.169E+00	-0.467
	555.20			9.425E-01	5.295E+00	8.687E+00	7.466E-01	0.108
	573.80			-8.862E-01	1.519E+00	2.346E+00	2.008E-01	-0.378
	593.00			1.065E-01	1.220E+00	1.981E+00	1.684E-01	0.054
	656.30			-1.969E+00	4.471E+00	7.263E+00	5.991E-01	-0.271
SB-127	666.33			5.808E-02	1.039E-01	1.807E-01	1.490E-02	0.321
	675.00			-9.829E-01	2.591E+00	4.217E+00	3.497E-01	-0.233
	695.00			2.955E-02	9.988E-02	1.708E-01	1.435E-02	0.173
	697.00			5.340E-02	3.498E-01	5.918E-01	4.979E-02	0.090
	720.50		*	1.073E-01	2.224E-01	3.366E-01	2.873E-02	0.319
	856.80			-1.310E-01	7.115E-01	9.886E-01	9.062E-02	-0.133
	989.30			-2.629E-01	1.647E+00	2.661E+00	2.427E-01	-0.099
	1034.80			-2.883E+00	1.169E+01	1.867E+01	1.671E+00	-0.154
	1213.00			-3.178E+00	7.111E+00	1.109E+01	9.429E-01	-0.287
	61.10			-1.970E+02	1.579E+02	2.452E+02	3.418E+01	-0.803
SB-127	252.40			3.074E+00	7.993E+00	1.344E+01	5.748E+00	0.229
	290.80			-9.201E+00	4.419E+01	6.303E+01	8.443E+00	-0.146
	411.60			3.062E+01	2.369E+01	4.085E+01	6.588E+00	0.750
	444.90			-1.001E+01	1.674E+01	2.614E+01	3.422E+00	-0.383
	473.00			-2.059E+00	3.040E+00	4.703E+00	6.321E-01	-0.438
	543.00			-2.918E+00	2.897E+01	4.656E+01	6.939E+00	-0.063
	603.60			3.472E+00	2.470E+01	3.479E+01	4.521E+00	0.100
	685.20		*	1.100E+00	2.232E+00	3.874E+00	4.584E-01	0.284
	698.50			6.166E+00	2.509E+01	4.272E+01	6.912E+00	0.144

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
XE-127	722.20			2.185E+01	5.867E+01	8.779E+01	1.032E+01	0.249
	783.80			1.988E+00	6.041E+00	1.030E+01	1.355E+00	0.193
	57.60			-2.291E+00	1.322E+01	2.176E+01	2.557E+00	-0.105
	145.22			-2.122E-01	9.966E-01	1.594E+00	1.625E-01	-0.133
	172.10			1.546E-01	1.555E-01	2.593E-01	2.779E-02	0.596
I-131	202.84	*		-2.287E-02	6.105E-02	9.570E-02	1.047E-02	-0.239
	374.96			1.865E-01	2.605E-01	4.461E-01	3.980E-02	0.418
	80.18			3.465E+00	9.756E+00	1.213E+01	1.432E+00	0.286
	284.30			-6.256E-01	2.258E+00	3.714E+00	4.136E-01	-0.168
	364.48	*		-4.533E-02	1.726E-01	2.804E-01	2.711E-02	-0.162
TE-132	636.97			1.897E-01	2.215E+00	3.584E+00	3.174E-01	0.053
	722.89			-3.632E+00	1.162E+01	1.616E+01	1.393E+00	-0.225
	49.72			-1.389E+01	9.154E+01	1.512E+02	2.349E+01	-0.092
	111.76			4.087E+00	5.831E+01	9.527E+01	1.207E+01	0.043
	116.30			1.969E+01	5.433E+01	8.960E+01	1.129E+01	0.220
BA-133	228.16	*		-4.063E-01	1.344E+00	2.228E+00	3.906E-01	-0.182
	53.15			7.368E+00	9.140E+00	1.557E+01	2.033E+00	0.473
	79.62			3.498E+00	2.241E+00	3.150E+00	5.409E-01	1.110
	81.00			9.378E-02	1.931E-01	2.089E-01	3.720E-02	0.449
	276.40			5.090E-01	5.266E-01	8.342E-01	1.324E-01	0.610
I-133	302.84			7.536E-01	3.960E-01	3.207E-01	4.679E-02	2.350
	356.01	*		1.928E-02	6.311E-02	9.254E-02	1.272E-02	0.208
	383.85			-1.162E-01	3.833E-01	6.197E-01	7.826E-02	-0.188
	510.53	+		4.931E+00	3.833E-01	Half-Life	too short	
	529.87	*		-4.115E-02	3.833E-01	Half-Life	too short	
CS-134	706.58			1.266E+00	3.833E-01	Half-Life	too short	
	856.28			-1.406E+00	3.833E-01	Half-Life	too short	
	875.33			-5.714E-02	3.833E-01	Half-Life	too short	
	1236.41			4.697E+00	3.833E-01	Half-Life	too short	
	1298.22			6.024E-01	3.833E-01	Half-Life	too short	
I-135	475.35			-3.025E+00	2.430E+00	3.595E+00	3.102E-01	-0.841
	563.23			1.636E-01	4.374E-01	7.266E-01	6.294E-02	0.225
	569.32			-5.284E-02	2.513E-01	4.009E-01	3.482E-02	-0.132
	604.70			6.736E-03	4.839E-02	6.814E-02	5.785E-03	0.099
	795.84	+		1.464E-01	6.792E-02	1.013E-01	9.080E-03	1.445
CS-135	801.93	*		-1.643E-01	4.618E-01	7.055E-01	6.333E-02	-0.233
	1038.57			-1.194E-01	4.550E+00	7.428E+00	6.640E-01	-0.016
	1167.94			-1.940E+00	3.327E+00	5.121E+00	4.188E-01	-0.379
	1365.15			1.176E+00	1.472E+00	2.677E+00	2.673E-01	0.439
	268.24	*		2.375E-01	2.164E-01	3.347E-01	4.016E-02	0.709
I-135	288.45			1.290E+12	2.164E-01	Half-Life	too short	
	417.63			-7.741E+12	2.164E-01	Half-Life	too short	
	546.56			1.092E+12	2.164E-01	Half-Life	too short	
	836.80			7.617E+12	2.164E-01	Half-Life	too short	
	1038.76			-1.792E+12	2.164E-01	Half-Life	too short	
I-135	1124.00			1.946E+13	2.164E-01	Half-Life	too short	
	1131.51			-2.213E+12	2.164E-01	Half-Life	too short	
	1260.41	*		-1.236E+12	2.164E-01	Half-Life	too short	
	1457.56			2.155E+14	2.164E-01	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		1678.03		2.337E+12	2.164E-01	Half-Life	too short	
		1706.46		2.594E+12	2.164E-01	Half-Life	too short	
		1791.20		-1.464E+12	2.164E-01	Half-Life	too short	
		66.91		-1.874E+00	1.487E+00	2.262E+00	3.881E-01	-0.829
	+	86.29		4.752E+00	2.744E+00	2.902E+00	4.504E-01	1.637
		153.22		5.244E-01	9.631E-01	1.584E+00	1.777E-01	0.331
		163.89		2.355E-01	1.472E+00	2.386E+00	2.739E-01	0.099
		176.55		-6.708E-01	5.394E-01	8.098E-01	9.035E-02	-0.828
		273.65		-9.914E-01	7.771E-01	1.025E+00	1.161E-01	-0.967
		340.57		4.914E-01	2.268E-01	3.621E-01	3.632E-02	1.357
BA-137M		818.51		1.968E-02	9.328E-02	1.577E-01	1.421E-02	0.125
		1048.07	*	-4.643E-02	1.399E-01	2.210E-01	2.045E-02	-0.210
		1235.34		1.162E+00	9.395E-01	1.638E+00	1.952E-01	0.710
		661.65	*	4.983E-03	4.383E-02	7.305E-02	6.006E-03	0.068
		661.65	*	5.267E-03	4.633E-02	7.722E-02	6.362E-03	0.068
		165.85	*	2.368E-02	3.678E-02	6.070E-02	6.479E-03	0.390
		162.64		-4.609E-01	1.060E+00	1.673E+00	1.840E-01	-0.276
		304.84		1.146E+00	2.089E+00	3.098E+00	8.877E-01	0.370
		423.70		1.368E+00	2.703E+00	4.511E+00	1.461E+00	0.303
		537.32	*	-5.163E-02	3.336E-01	5.334E-01	1.768E-01	-0.097
LA-140		328.77		3.189E-01	4.414E-01	7.545E-01	7.906E-02	0.423
		432.53		-6.412E-01	2.841E+00	4.585E+00	4.115E-01	-0.140
		487.03		1.278E-01	1.909E-01	3.246E-01	2.976E-02	0.394
		751.79		6.832E-01	2.222E+00	3.792E+00	3.643E-01	0.180
		815.85		3.320E-02	4.033E-01	6.742E-01	6.707E-02	0.049
		867.82		6.509E-01	1.920E+00	3.051E+00	2.941E-01	0.213
		919.63		2.655E+00	3.754E+00	6.321E+00	7.079E-01	0.420
		925.24		-4.913E-01	1.490E+00	2.378E+00	2.328E-01	-0.207
		1596.49	*	-2.551E-02	1.108E-01	1.471E-01	1.379E-02	-0.173
		145.44	*	1.792E-02	8.966E-02	1.456E-01	1.505E-02	0.123
CE-141		57.37		-2.509E-03	8.966E-02	Half-Life	too short	
		231.56		-3.666E-03	8.966E-02	Half-Life	too short	
		293.26	*	2.087E-03	8.966E-02	Half-Life	too short	
	+	350.59		8.260E-02	8.966E-02	Half-Life	too short	
		490.36		2.079E-03	8.966E-02	Half-Life	too short	
		664.57		2.396E-03	8.966E-02	Half-Life	too short	
		721.93		1.594E-03	8.966E-02	Half-Life	too short	
		80.11		1.728E+00	3.776E+00	4.723E+00	5.551E-01	0.366
		133.54	*	4.233E-02	2.749E-01	3.929E-01	6.445E-02	0.108
		476.78		-4.851E-03	8.359E-02	1.358E-01	1.281E-02	-0.036
PM-144		618.01		-7.891E-03	4.047E-02	6.412E-02	5.555E-03	-0.123
		696.49	*	-1.208E-03	3.906E-02	6.523E-02	5.488E-03	-0.019
		778.57		-1.417E+00	2.764E+00	4.405E+00	3.888E-01	-0.322
		696.49	*	-8.193E-02	2.650E+00	4.425E+00	3.721E-01	-0.019
		1489.15		-1.438E+01	1.209E+01	1.549E+01	1.483E+00	-0.929
		453.90	*	7.349E-03	5.802E-02	9.363E-02	1.003E-02	0.078
		633.02		8.523E-01	1.677E+00	2.760E+00	1.030E+00	0.309
		735.90		-6.783E-02	1.767E-01	2.843E-01	8.131E-02	-0.239
		747.13		-4.841E-03	1.050E-01	1.745E-01	2.455E-02	-0.028

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ND-147	91.11		3.328E-01	7.338E-01	7.821E-01	9.681E-02	0.426
	319.41		-4.370E+00	4.742E+00	7.444E+00	7.626E-01	-0.587
	439.89		2.635E+00	8.040E+00	1.344E+01	1.152E+00	0.196
	531.02	*	-5.370E-01	7.383E-01	1.119E+00	1.673E-01	-0.480
PM-149	285.90	*	1.515E+02	2.231E+02	3.818E+02	6.421E+01	0.397
EU-152	121.78		-7.091E-02	8.884E-02	1.388E-01	1.556E-02	-0.511
	244.69		2.693E-01	4.715E-01	7.111E-01	7.838E-02	0.379
	344.27	*	3.107E-02	1.444E-01	1.993E-01	2.029E-02	0.156
	443.98		-6.980E-01	1.115E+00	1.740E+00	1.493E-01	-0.401
	778.89		-4.823E-02	3.109E-01	5.108E-01	4.507E-02	-0.094
	867.32		-4.187E-02	1.070E+00	1.577E+00	1.452E-01	-0.027
	+	964.01	7.466E-01	4.966E-01	6.960E-01	6.401E-02	1.073
	1085.78		-4.505E-01	5.122E-01	7.634E-01	6.648E-02	-0.590
	1112.02		-1.771E-01	4.587E-01	6.056E-01	5.182E-02	-0.292
	1407.95		1.370E-01	2.180E-01	3.898E-01	3.755E-02	0.351
GD-153	69.67		3.127E-01	2.834E+00	4.127E+00	4.711E-01	0.076
	83.37		-4.765E+00	2.393E+01	3.178E+01	3.809E+00	-0.150
	97.43	*	2.386E-03	1.091E-01	1.565E-01	1.727E-02	0.015
	103.18		-4.857E-02	1.371E-01	2.207E-01	2.333E-02	-0.220
EU-154	123.07		1.224E-04	6.698E-02	1.006E-01	1.256E-02	0.001
	247.94		-4.029E-01	5.384E-01	7.443E-01	9.950E-02	-0.541
	591.81		-4.168E-01	8.305E-01	1.146E+00	1.328E-01	-0.364
	723.30		-9.237E-02	2.416E-01	3.333E-01	3.155E-02	-0.277
	756.87		3.993E-01	8.770E-01	1.512E+00	1.822E-01	0.264
	873.19		-2.135E-02	3.386E-01	5.565E-01	7.057E-02	-0.038
	996.32		-5.095E-01	4.846E-01	7.051E-01	1.270E-01	-0.723
	1004.76		-3.832E-02	2.719E-01	4.404E-01	5.274E-02	-0.087
	1274.45	*	-3.664E-02	1.535E-01	2.417E-01	2.819E-02	-0.152
	48.70		-9.466E-02	7.679E+00	1.276E+01	1.713E+00	-0.007
EU-155	60.01		-8.334E+00	9.614E+00	1.532E+01	1.730E+00	-0.544
	+	86.54	3.926E-01	2.236E-01	2.390E-01	2.948E-02	1.642
	105.31	*	5.292E-02	1.369E-01	2.266E-01	2.387E-02	0.234
TB-160	+	86.79	1.069E+00	6.089E-01	6.494E-01	7.985E-02	1.646
	197.04		1.021E+00	7.187E-01	1.208E+00	1.318E-01	0.845
	215.65		1.923E-02	9.618E-01	1.581E+00	1.739E-01	0.012
	298.57		3.354E-01	2.142E-01	2.513E-01	2.659E-02	1.335
	879.36	*	6.238E-02	1.687E-01	2.877E-01	2.663E-02	0.217
	962.29		1.432E+00	7.397E-01	1.254E+00	1.154E-01	1.142
	+	966.15	5.230E-01	3.479E-01	6.317E-01	5.807E-02	0.828
	1177.93		-5.724E-01	5.080E-01	7.401E-01	6.056E-02	-0.773
	1271.85		-6.597E-01	9.383E-01	1.401E+00	1.268E-01	-0.471
	80.57		7.231E-02	5.529E-01	5.815E-01	6.852E-02	0.124
HO-166M	184.41		4.527E-02	5.308E-02	7.971E-02	8.620E-03	0.568
	280.46		-6.748E-02	1.088E-01	1.759E-01	1.900E-02	-0.384
	410.95		5.477E-01	3.237E-01	5.749E-01	4.879E-02	0.953
	711.68	*	-3.210E-02	6.907E-02	1.112E-01	9.439E-03	-0.289
	752.31		-2.026E-02	3.194E-01	5.297E-01	4.606E-02	-0.038
	810.29		-6.858E-02	6.722E-02	1.008E-01	9.037E-03	-0.681
	TM-171	51.35	-1.445E+01	8.595E+01	1.418E+02	1.911E+01	-0.102

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-176		52.39		4.405E+01	4.090E+01	7.014E+01	9.302E+00	0.628
		59.40		-9.152E+00	5.171E+01	8.504E+01	9.587E+00	-0.108
		66.72	*	-5.326E+01	4.763E+01	7.406E+01	8.453E+00	-0.719
		88.36		2.427E-02	4.595E-01	4.800E-01	5.926E-02	0.051
		201.83		-3.634E-02	3.670E-02	5.556E-02	6.075E-03	-0.654
		306.84	*	9.802E-03	3.533E-02	5.206E-02	5.444E-03	0.188
		401.10		-4.593E+00	8.297E+00	1.316E+01	1.112E+00	-0.349
		112.95		1.541E-02	2.563E+00	4.176E+00	4.245E-01	0.004
	+	208.36	*	3.248E+00	1.966E+00	3.009E+00	3.301E-01	1.079
	LU-177M	52.97		3.490E+00	4.217E+00	7.185E+00	9.422E-01	0.486
HF-181		54.07		-8.272E-01	2.132E+00	3.480E+00	4.455E-01	-0.238
		61.30		-3.357E+00	2.789E+00	4.366E+00	4.962E-01	-0.769
		121.62		-4.663E-01	4.659E-01	7.208E-01	7.255E-02	-0.647
		147.16		3.008E-01	8.702E-01	1.423E+00	1.457E-01	0.211
		171.86		3.790E-01	6.075E-01	1.001E+00	1.073E-01	0.379
		218.09		-3.723E-01	1.066E+00	1.769E+00	1.948E-01	-0.210
		268.79		1.880E+00	1.129E+00	1.789E+00	1.951E-01	1.051
		319.02		-1.058E-01	3.238E-01	5.280E-01	5.411E-02	-0.200
		367.43		-4.697E-01	1.133E+00	1.822E+00	1.665E-01	-0.258
		413.65	*	-8.647E-02	2.338E-01	3.753E-01	3.189E-02	-0.230
W-181		56.28		-7.091E-01	2.155E+00	3.524E+00	4.278E-01	-0.201
		57.53		-2.613E-01	1.107E+00	1.816E+00	2.139E-01	-0.144
		65.20		2.343E+00	1.655E+00	2.802E+00	3.199E-01	0.836
		133.02		-2.760E-03	9.009E-02	1.274E-01	1.280E-02	-0.022
		136.25		-1.260E-01	5.860E-01	9.403E-01	9.473E-02	-0.134
		345.85		1.751E-01	3.461E-01	4.150E-01	4.020E-02	0.422
		482.03	*	-1.566E-03	5.679E-02	9.238E-02	7.976E-03	-0.017
		56.28		-2.724E-01	8.248E-01	1.349E+00	1.637E-01	-0.202
		57.53		-1.009E-01	4.239E-01	6.956E-01	8.191E-02	-0.145
		65.20	*	8.905E-01	6.290E-01	1.065E+00	1.216E-01	0.836
TA-182		67.75		-1.958E-01	1.920E-01	2.893E-01	3.302E-02	-0.677
		100.10		1.746E-01	2.544E-01	3.770E-01	4.069E-02	0.463
		152.43		2.011E-01	4.494E-01	7.370E-01	7.622E-02	0.273
		222.10		1.181E-01	4.293E-01	7.305E-01	8.050E-02	0.162
		1001.68		2.084E+00	2.684E+00	4.662E+00	4.234E-01	0.447
	+	1121.28		8.647E-01	3.084E-01	4.322E-01	3.674E-02	2.001
		1189.05		-4.682E-02	4.131E-01	6.639E-01	5.500E-02	-0.071
		1221.42	*	7.394E-02	2.662E-01	4.409E-01	3.785E-02	0.168
		1230.97		-2.092E-01	6.846E-01	1.082E+00	9.384E-02	-0.193
	RE-183	57.98		6.788E-02	4.182E-01	6.970E-01	8.120E-02	0.097
RE-184		59.32		9.747E-02	2.127E-01	3.580E-01	4.043E-02	0.272
		67.20		-4.220E-01	3.412E-01	5.272E-01	6.017E-02	-0.801
		162.32	*	-7.535E-02	1.420E-01	2.231E-01	2.360E-02	-0.338
	+	208.81		2.396E+00	1.450E+00	2.225E+00	2.441E-01	1.077
		291.72		-2.031E-01	1.333E+00	1.908E+00	2.036E-01	-0.106
		57.98		2.471E-01	1.522E+00	2.537E+00	2.956E-01	0.097
		59.32		3.545E-01	7.737E-01	1.302E+00	1.471E-01	0.272
		67.20		-1.536E+00	1.241E+00	1.918E+00	2.189E-01	-0.801
		161.27		-1.837E-02	4.453E-01	7.158E-01	7.553E-02	-0.026

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
OS-185		216.55		-1.826E-02	3.334E-01	5.606E-01	6.168E-02	-0.033
		252.85	*	6.242E-02	2.909E-01	4.921E-01	5.411E-02	0.127
		318.01		4.103E-01	5.489E-01	9.451E-01	9.703E-02	0.434
		792.07		-1.498E-01	1.498E+00	2.122E+00	1.885E-01	-0.071
		903.28		6.418E-01	1.237E+00	1.997E+00	1.861E-01	0.321
		920.93		6.759E-02	5.370E-01	8.954E-01	8.319E-02	0.075
		59.72		-1.008E-01	5.708E-01	9.385E-01	1.058E-01	-0.107
		61.14		-3.819E-01	3.098E-01	4.841E-01	5.498E-02	-0.789
		69.30		7.643E-02	5.157E-01	7.524E-01	8.587E-02	0.102
		592.07		-1.132E+00	3.241E+00	4.750E+00	4.041E-01	-0.238
		646.12	*	-2.309E-04	5.316E-02	8.530E-02	7.079E-03	-0.003
		717.42		5.776E-01	1.085E+00	1.882E+00	1.604E-01	0.307
		874.81		7.024E-02	6.976E-01	1.164E+00	1.075E-01	0.060
		880.27		1.793E-01	9.435E-01	1.585E+00	1.468E-01	0.113
RE-188		155.03	*	2.168E-01	2.268E-01	3.779E-01	3.930E-02	0.574
W-188		477.96		2.952E+00	3.947E+00	6.739E+00	5.817E-01	0.438
		633.10		2.141E+00	3.362E+00	5.682E+00	4.749E-01	0.377
		63.58		3.497E+01	9.317E+01	1.556E+02	1.776E+01	0.225
IR-192		227.08		-5.656E+00	1.628E+01	2.697E+01	2.975E+00	-0.210
		290.67	*	-2.036E+00	1.068E+01	1.526E+01	1.630E+00	-0.133
	+	295.96		9.276E-01	2.251E-01	3.152E-01	3.362E-02	2.942
		308.46		7.782E-02	1.348E-01	2.028E-01	2.123E-02	0.384
		316.51	*	8.475E-03	4.249E-02	7.131E-02	7.352E-03	0.119
AU-195		468.07		2.361E-02	9.598E-02	1.386E-01	1.281E-02	0.170
		604.41		3.825E-02	6.742E-01	9.414E-01	1.216E-01	0.041
		612.46		3.371E+00	1.200E+00	1.992E+00	1.941E-01	1.693
		65.12		4.067E-01	2.906E-01	4.917E-01	5.615E-02	0.827
		66.83		-2.052E-01	1.593E-01	2.454E-01	2.801E-02	-0.836
	+	75.70		1.331E+00	4.354E-01	6.145E-01	7.088E-02	2.166
		98.88	*	5.227E-02	3.169E-01	4.580E-01	4.992E-02	0.114
TL-200	+	129.76		5.874E+00	4.813E+00	5.972E+00	5.992E-01	0.984
		367.94	*	-8.889E-04	4.813E+00	Half-Life	too short	
		579.30		5.492E-03	4.813E+00	Half-Life	too short	
		828.27		1.885E-02	4.813E+00	Half-Life	too short	
TL-201		1205.75		9.118E-03	4.813E+00	Half-Life	too short	
		68.90		8.547E+00	1.325E+01	1.977E+01	2.256E+00	0.432
		70.82		3.076E+00	7.301E+00	1.078E+01	1.231E+00	0.285
		80.30		2.777E+00	1.662E+01	1.754E+01	2.063E+00	0.158
TL-202		135.34		-2.768E+01	5.268E+01	8.025E+01	8.077E+00	-0.345
		167.43	*	-2.489E+00	1.377E+01	2.196E+01	2.346E+00	-0.113
		68.90		5.352E-01	8.299E-01	1.238E+00	1.412E-01	0.432
		70.82		1.920E-01	4.559E-01	6.728E-01	7.685E-02	0.285
HG-203		80.30		1.734E-01	1.038E+00	1.095E+00	1.289E-01	0.158
		439.56	*	5.647E-02	9.310E-02	1.583E-01	1.357E-02	0.357
		70.83		7.633E-01	1.810E+00	2.668E+00	4.145E-01	0.286
		72.87		1.515E+00	1.077E+00	1.621E+00	2.464E-01	0.935
BI-207		82.60		7.540E-01	2.312E+00	2.468E+00	3.954E-01	0.306
		279.20	*	8.906E-02	5.487E-02	9.661E-02	1.064E-02	0.922
		72.80		3.709E-01	3.010E-01	4.554E-01	5.215E-02	0.815

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207	+	74.97		7.324E-01	2.396E-01	3.129E-01	3.601E-02	2.341
		84.90		1.467E-01	2.763E-01	4.064E-01	4.925E-02	0.361
		569.67		3.074E-03	3.850E-02	6.273E-02	5.373E-03	0.049
		1063.62	*	1.508E-02	6.538E-02	1.091E-01	9.626E-03	0.138
		1770.23		2.797E-01	5.778E-01	9.187E-01	8.030E-02	0.304
		81.07		2.081E-01	4.248E-01	4.605E-01	5.441E-02	0.452
		83.78		-5.166E-02	2.008E-01	2.657E-01	3.194E-02	-0.194
	+	94.90		7.938E-01	6.935E-01	5.537E-01	6.266E-02	1.434
		122.32		-1.545E+00	2.228E+00	3.373E+00	3.578E-01	-0.458
		144.24		1.326E-01	9.290E-01	1.506E+00	1.665E-01	0.088
PO-209		154.21		5.634E-01	5.181E-01	8.652E-01	9.608E-02	0.651
	+	269.46		4.060E-01	3.225E-01	4.220E-01	4.659E-02	0.962
		323.87	*	-6.480E-01	8.816E-01	1.396E+00	2.582E-01	-0.464
	+	338.28		7.592E+00	2.293E+00	2.884E+00	3.810E-01	2.632
		445.03		-1.522E+00	2.667E+00	4.175E+00	5.036E-01	-0.364
		260.50		1.165E+01	1.183E+01	2.058E+01	2.256E+00	0.566
		262.80		-1.323E+01	3.274E+01	5.367E+01	5.874E+00	-0.247
		896.60	*	-1.084E+00	7.989E+00	1.301E+01	1.213E+00	-0.083
	BI-210	46.50	*	-4.661E+00	1.319E+01	2.126E+01	2.618E+00	-0.219
	PB-210	46.50	*	-4.661E+00	1.319E+01	2.126E+01	2.618E+00	-0.219
PO-210		46.50	*	-4.661E+00	1.319E+01	2.126E+01	2.479E+00	-0.219
	PB-211	404.84	*	-7.798E-01	1.322E+00	1.945E+00	1.219E+00	-0.401
		427.08		4.053E-02	2.592E+00	4.253E+00	2.642E+00	0.010
		831.96		7.592E-02	1.449E+00	2.411E+00	1.513E+00	0.031
	BI-212	727.18	*	5.137E-01	5.054E-01	7.188E-01	7.163E-02	0.715
		785.46		1.858E+00	2.085E+00	3.565E+00	3.157E-01	0.521
		1620.62		3.852E-01	1.434E+00	2.470E+00	2.299E-01	0.156
	PO-215	81.07		2.081E-01	4.248E-01	4.605E-01	5.441E-02	0.452
		83.78		-5.166E-02	2.008E-01	2.657E-01	3.194E-02	-0.194
	+	94.90		7.938E-01	6.935E-01	5.537E-01	6.266E-02	1.434
RN-219		122.32		-1.545E+00	2.228E+00	3.373E+00	3.578E-01	-0.458
		144.24		1.326E-01	9.290E-01	1.506E+00	1.665E-01	0.088
		154.21		5.634E-01	5.181E-01	8.652E-01	9.608E-02	0.651
	+	269.46		4.060E-01	3.225E-01	4.220E-01	4.659E-02	0.962
		323.87	*	-6.480E-01	8.816E-01	1.396E+00	2.582E-01	-0.464
	+	338.28		7.592E+00	2.293E+00	2.884E+00	3.810E-01	2.632
		445.03		-1.522E+00	2.667E+00	4.175E+00	5.036E-01	-0.364
	+	271.23		5.209E-01	4.147E-01	5.472E-01	6.714E-02	0.952
		401.81	*	1.724E-01	5.017E-01	8.408E-01	1.256E-01	0.205
	RN-220	549.76	*	-9.398E+00	3.108E+01	4.910E+01	4.225E+00	-0.191
RA-223		81.07		2.081E-01	4.248E-01	4.605E-01	5.441E-02	0.452
		83.78		-5.166E-02	2.008E-01	2.657E-01	3.194E-02	-0.194
	+	94.90		7.938E-01	6.935E-01	5.537E-01	6.266E-02	1.434
		122.32		-1.545E+00	2.228E+00	3.373E+00	3.578E-01	-0.458
		144.24		1.326E-01	9.290E-01	1.506E+00	1.665E-01	0.088
		154.21		5.634E-01	5.181E-01	8.652E-01	9.608E-02	0.651
	+	269.46		4.060E-01	3.225E-01	4.220E-01	4.659E-02	0.962
		323.87	*	-6.480E-01	8.816E-01	1.396E+00	2.582E-01	-0.464
	+	338.28		7.592E+00	2.293E+00	2.884E+00	3.810E-01	2.632

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AC-227		445.03		-1.522E+00	2.667E+00	4.175E+00	5.036E-01	-0.364
		79.80		2.677E+00	3.013E+00	3.800E+00	8.713E-01	0.704
		236.00		1.202E+00	3.941E-01	6.047E-01	8.496E-02	1.987
		256.20	*	-3.815E-01	4.758E-01	7.599E-01	1.276E-01	-0.502
		286.10		1.347E+00	1.925E+00	3.301E+00	4.844E-01	0.408
		299.80		3.938E+00	2.735E+00	3.106E+00	5.754E-01	1.268
		304.40		1.528E+00	2.711E+00	4.049E+00	7.849E-01	0.377
TH-227		334.20		-6.558E-01	3.331E+00	4.715E+00	9.446E-01	-0.139
		79.80		2.677E+00	3.015E+00	3.800E+00	8.811E-01	0.704
	+	94.00		6.350E+00	5.691E+00	5.019E+00	1.156E+00	1.265
		236.00		1.202E+00	3.891E-01	6.047E-01	7.888E-02	1.987
		256.20	*	-3.815E-01	4.772E-01	7.599E-01	1.467E-01	-0.502
		286.10		1.347E+00	2.346E+00	3.301E+00	3.320E+00	0.408
		299.80		3.938E+00	2.735E+00	3.106E+00	5.754E-01	1.268
TH-229		304.40		1.528E+00	2.711E+00	4.049E+00	7.849E-01	0.377
		334.20		-6.558E-01	3.331E+00	4.715E+00	9.446E-01	-0.139
	+	85.43		7.303E-01	4.159E-01	4.264E-01	5.188E-02	1.713
		88.47		2.417E-02	2.642E-01	2.768E-01	3.411E-02	0.087
		100.00		1.688E-01	2.604E-01	3.852E-01	4.161E-02	0.438
		193.63	*	-6.886E-01	6.602E-01	9.990E-01	1.087E-01	-0.689
		210.97		2.061E+00	1.121E+00	1.769E+00	1.943E-01	1.165
PA-231		283.67	*	-1.595E+00	1.940E+00	3.075E+00	5.074E-01	-0.519
	+	301.29		2.907E+00	1.520E+00	1.290E+00	1.763E-01	2.253
TH-231		81.07		2.081E-01	4.248E-01	4.605E-01	5.441E-02	0.452
		83.78		-5.166E-02	2.008E-01	2.657E-01	3.194E-02	-0.194
	+	94.90		7.938E-01	6.935E-01	5.537E-01	6.266E-02	1.434
		122.32		-1.545E+00	2.228E+00	3.373E+00	3.578E-01	-0.458
		144.24		1.326E-01	9.290E-01	1.506E+00	1.665E-01	0.088
		154.21		5.634E-01	5.181E-01	8.652E-01	9.608E-02	0.651
	+	269.46		4.060E-01	3.225E-01	4.220E-01	4.659E-02	0.962
U-231		323.87	*	-6.480E-01	8.816E-01	1.396E+00	2.582E-01	-0.464
	+	338.28		7.592E+00	2.293E+00	2.884E+00	3.810E-01	2.632
		445.03		-1.522E+00	2.667E+00	4.175E+00	5.036E-01	-0.364
		84.21		-1.374E+00	1.131E+01	1.616E+01	1.949E+00	-0.085
	+	92.29		8.894E+00	7.771E+00	7.562E+00	8.824E-01	1.176
		95.87	*	-1.705E-01	2.148E+00	3.066E+00	3.435E-01	-0.056
		108.00		-4.852E-01	3.652E+00	5.925E+00	6.117E-01	-0.082
PA-233	+	75.28		2.137E+01	7.500E+00	9.461E+00	1.622E+00	2.259
	+	86.59		6.376E+00	3.976E+00	3.880E+00	1.095E+00	1.643
		300.12		1.094E+00	7.562E-01	8.659E-01	1.392E-01	1.263
		311.98	*	-7.918E-02	8.204E-02	1.246E-01	1.318E-02	-0.635
		340.50		2.326E+00	1.121E+00	1.597E+00	3.879E-01	1.456
		398.62		-1.152E+00	2.585E+00	4.104E+00	1.091E+00	-0.281
		415.76		-1.398E+00	2.086E+00	3.243E+00	6.974E-01	-0.431
PA-234		63.00		-8.863E-02	2.758E+00	4.546E+00	7.823E-01	-0.019
	+	94.67		5.662E-01	4.973E-01	4.128E-01	5.957E-02	1.372
		98.44		4.973E-02	1.289E-01	1.843E-01	1.036E-01	0.270
		99.86		3.931E-01	6.582E-01	9.715E-01	1.051E-01	0.405
		111.00		9.034E-02	2.296E-01	3.795E-01	5.038E-02	0.238

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		131.20		5.637E-03	1.447E-01	2.056E-01	2.064E-02	0.027
		152.70		2.351E-01	4.273E-01	7.009E-01	1.260E-01	0.335
	+	186.00		3.919E+00	2.505E+00	3.012E+00	9.607E-01	1.301
		226.40		-7.097E-03	5.003E-01	8.412E-01	1.252E-01	-0.008
		227.20		-2.126E-01	5.373E-01	8.883E-01	9.798E-02	-0.239
		248.90		-1.466E-01	1.091E+00	1.715E+00	4.019E-01	-0.086
		293.70		4.549E+00	1.361E+00	1.904E+00	3.502E-01	2.389
		369.80		-4.734E-01	1.063E+00	1.699E+00	3.730E-01	-0.279
		568.70		2.140E-01	1.216E+00	1.990E+00	1.705E-01	0.108
		569.50		-4.379E-02	3.455E-01	5.546E-01	4.751E-02	-0.079
		574.00		-5.976E-01	1.895E+00	2.989E+00	2.557E-01	-0.200
		699.00		2.401E-02	8.114E-01	1.361E+00	2.584E-01	0.018
		706.10		5.703E-01	1.184E+00	2.007E+00	8.942E-01	0.284
		733.00		-2.239E-01	5.322E-01	7.264E-01	1.612E-01	-0.308
		742.81		1.972E-01	1.619E+00	2.717E+00	1.827E+00	0.073
	+	796.30		2.839E+00	1.505E+00	1.964E+00	5.330E-01	1.446
		805.60		1.559E+00	1.200E+00	2.042E+00	6.278E-01	0.763
		819.60		2.615E-01	1.343E+00	2.262E+00	8.622E-01	0.116
		826.30		2.339E-02	9.063E-01	1.507E+00	6.753E-01	0.016
		831.60		6.138E-02	7.366E-01	1.229E+00	3.684E-01	0.050
		876.40		-2.527E-01	1.022E+00	1.597E+00	1.642E+00	-0.158
		880.51		8.694E-02	3.326E-01	5.623E-01	5.206E-02	0.155
		883.24		9.047E-02	3.349E-01	5.578E-01	3.754E-01	0.162
		899.00		-6.782E-01	9.989E-01	1.466E+00	6.431E-01	-0.463
		925.00		-7.119E-01	1.393E+00	2.182E+00	2.026E-01	-0.326
		926.50		-4.213E-02	2.044E-01	3.298E-01	8.413E-02	-0.128
		946.00	*	1.225E-01	3.674E-01	6.214E-01	1.184E-01	0.197
		949.00		5.115E-01	5.638E-01	9.948E-01	9.186E-02	0.514
		980.50		6.813E-01	1.032E+00	1.579E+00	1.445E-01	0.432
PA-234M		1394.10		-1.423E+00	1.561E+00	1.736E+00	1.133E+00	-0.820
		766.42		2.114E+01	1.743E+01	2.524E+01	1.281E+01	0.837
		1001.03	*	3.655E+00	6.174E+00	1.057E+01	1.096E+00	0.346
TH-234		63.29	*	8.490E-01	2.322E+00	3.871E+00	7.540E-01	0.219
	+	92.38		1.643E+00	1.459E+00	1.389E+00	2.739E-01	1.183
U-235		89.95		-1.679E+00	2.599E+00	2.502E+00	8.002E-01	-0.671
	+	93.35		1.976E+00	1.805E+00	1.612E+00	4.683E-01	1.225
		105.00		7.673E-01	1.355E+00	2.227E+00	6.776E-01	0.345
		143.76	*	3.490E-02	2.834E-01	4.590E-01	8.410E-02	0.076
		163.35		-1.552E-01	5.941E-01	9.443E-01	1.894E-01	-0.164
	+	185.71		1.451E-01	8.195E-02	1.110E-01	1.201E-02	1.308
		205.31		1.064E-01	7.251E-01	1.018E+00	2.060E-01	0.105
NP-236	+	94.67		4.295E-01	3.752E-01	3.134E-01	3.555E-02	1.371
		98.44		3.758E-02	9.522E-02	1.393E-01	1.524E-02	0.270
		111.00		6.833E-02	1.736E-01	2.871E-01	2.933E-02	0.238
		160.31	*	2.889E-03	9.949E-02	1.604E-01	1.689E-02	0.018
U-238		63.29	*	8.490E-01	2.322E+00	3.871E+00	7.540E-01	0.219
	+	92.38		1.643E+00	1.436E+00	1.389E+00	1.619E-01	1.183
NP-239		99.55		5.832E-02	2.209E-01	3.208E-01	3.478E-02	0.182
		117.00	*	3.447E-02	2.409E-01	3.941E-01	3.979E-02	0.087

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	+	209.75		1.851E+00	1.120E+00	1.760E+00	1.931E-01	1.052
		228.18		-8.319E-02	2.799E-01	4.647E-01	5.126E-02	-0.179
		277.60		3.350E-01	2.371E-01	4.068E-01	4.405E-02	0.824
		334.30		-3.835E-01	1.877E+00	2.657E+00	2.643E-01	-0.144
AM-241		59.54	*	-5.271E-02	2.982E-01	4.903E-01	5.755E-02	-0.108
CM-243		99.55		6.002E-02	2.274E-01	3.302E-01	3.579E-02	0.182
		103.76	*	3.746E-02	1.242E-01	2.050E-01	2.160E-02	0.183
		117.00		3.547E-02	2.479E-01	4.056E-01	4.094E-02	0.087
	+	209.75		1.825E+00	1.105E+00	1.735E+00	1.904E-01	1.052
		228.18		-8.407E-02	2.829E-01	4.696E-01	5.181E-02	-0.179
		277.60		3.378E-01	2.390E-01	4.102E-01	4.441E-02	0.824
AM-246		798.80		-1.492E-01	1.669E-01	2.071E-01	1.847E-02	-0.721
		1036.00		7.236E-02	3.390E-01	5.668E-01	5.073E-02	0.128
		1062.04		-4.110E-01	2.956E-01	4.143E-01	3.658E-02	-0.992
		1078.86	*	8.541E-02	1.814E-01	3.086E-01	2.698E-02	0.277
CM-247		278.00		1.418E+00	9.654E-01	1.694E+00	1.834E-01	0.837
		287.40		1.406E+00	1.562E+00	2.702E+00	2.898E-01	0.520
		402.60	*	5.900E-02	4.517E-02	7.953E-02	6.726E-03	0.742
CF-249		252.85		2.322E-01	1.082E+00	1.830E+00	2.013E-01	0.127
		333.44		-1.151E-01	2.545E-01	3.536E-01	3.523E-02	-0.326
		387.95	*	2.348E-02	4.965E-02	8.394E-02	7.161E-03	0.280
CF-251		176.60	*	-2.211E-01	1.668E-01	2.493E-01	2.681E-02	-0.887
		227.00		-1.761E-01	4.795E-01	7.938E-01	8.755E-02	-0.222
		285.00		4.306E-01	2.216E+00	3.729E+00	4.009E-01	0.115

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]G245808008   *
* Acquisition date   : 12-FEB-2010 17:37:37 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 02:00:01.31 Half life ratio : 8.000    *
*****
*               SAMPLE DATA                                             *
*                                     *
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID   *
* Sample ID          : G245808008 Analyst initials: RXF2           *
* Batch Number       : 947554 Sample Quantity : 1.3101E+02 GRAM    *
* Recovery           : 1.00000 Carrier Weight : 0.00000           *
*****
*               QC DATA                                                 *
*                                     *
* Standard Weight    : 0.00000                                         *
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32 MS Isotope           :         *
* MSD DPM             : 0.000 MSD Isotope                        :         *
* LCS DPM             : 0.000 LCS Isotope                        :         *
* LCSD DPM           : 0.000 LCSD Isotope                       :         *
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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	
K-40	3.456E+01	3.907E+00	6.177E-01	0.000E+00
CD-109	3.324E+00	1.855E+00	2.028E+00	0.000E+00
SN-126	3.257E-01	1.818E-01	2.114E-01	0.000E+00
TL-208	5.333E-01	1.027E-01	6.894E-02	0.000E+00
BI-211	3.583E+00	6.309E-01	4.084E-01	0.000E+00
PB-212	1.607E+00	2.280E-01	1.143E-01	0.000E+00
PO-212	1.607E+00	2.280E-01	1.143E-01	0.000E+00
BI-214	9.865E-01	2.055E-01	1.481E-01	0.000E+00
PB-214	1.247E+00	2.286E-01	1.516E-01	0.000E+00
PO-214	1.247E+00	2.286E-01	1.516E-01	0.000E+00
PO-216	1.607E+00	2.280E-01	1.143E-01	0.000E+00
PO-218	1.247E+00	2.286E-01	1.516E-01	0.000E+00
RA-224	4.669E+00	1.579E+00	1.300E+00	0.000E+00
RA-226	9.865E-01	2.055E-01	1.481E-01	0.000E+00
AC-228	1.500E+00	3.489E-01	2.561E-01	0.000E+00
RA-228	1.500E+00	3.489E-01	2.561E-01	0.000E+00
TH-228	1.634E+00	2.319E-01	1.163E-01	0.000E+00
TH-230	9.865E-01	2.055E-01	1.481E-01	0.000E+00
TH-232	1.500E+00	3.489E-01	2.561E-01	0.000E+00
U-234	9.865E-01	2.055E-01	1.481E-01	0.000E+00
NP-237	9.564E-01	5.677E-01	5.488E-01	0.000E+00
AM-243	4.079E-01	1.308E-01	1.339E-01	0.000E+00
ANH-511	8.912E-02	7.965E-02	5.941E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	1.454E-01	4.096E-01	7.107E-01	0.000E+00 NOT IDENT.
NA-22	-1.137E-02	5.407E-02	8.751E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	1.113E+07	0.000E+00	0.000E+00 SHORT HLIF
AL-26	1.272E-02	3.255E-02	5.847E-02	0.000E+00 NOT IDENT.

TI-44	0.000E+00	7.547E-02	1.090E-01	0.000E+00	FAIL ABUN
SC-46	-2.037E-02	4.148E-02	6.701E-02	0.000E+00	FAIL ABUN
V-48	3.737E-03	9.513E-02	1.612E-01	0.000E+00	NOT IDENT.
CR-51	-6.299E-01	4.908E-01	7.883E-01	0.000E+00	NOT IDENT.
MN-52	-1.643E-01	3.402E-01	5.403E-01	0.000E+00	NOT IDENT.
MN-54	-1.211E-02	4.516E-02	7.559E-02	0.000E+00	NOT IDENT.
CO-56	-2.301E-02	4.131E-02	6.665E-02	0.000E+00	NOT IDENT.
CO-57	-2.289E-02	3.034E-02	5.066E-02	0.000E+00	NOT IDENT.
CO-58	-2.397E-02	4.415E-02	7.192E-02	0.000E+00	NOT IDENT.
FE-59	-2.584E-02	1.104E-01	1.807E-01	0.000E+00	NOT IDENT.
CO-60	-2.457E-02	4.678E-02	7.187E-02	0.000E+00	NOT IDENT.
ZN-65	7.009E-02	1.185E-01	1.830E-01	0.000E+00	NOT IDENT.
GE-68	7.521E-01	1.564E+00	2.731E+00	0.000E+00	NOT IDENT.
AS-73	6.782E-01	2.088E+00	3.779E+00	0.000E+00	NOT IDENT.
AS-74	4.933E-02	1.180E-01	2.035E-01	0.000E+00	NOT IDENT.
SE-75	-7.094E-02	6.367E-02	8.929E-02	0.000E+00	NOT IDENT.
BR-77	-8.177E+00	2.337E+01	3.843E+01	0.000E+00	FAIL ABUN
SR-82	-7.591E-02	4.879E-01	8.285E-01	0.000E+00	NOT IDENT.
RB-83	-2.424E-02	8.764E-02	1.407E-01	0.000E+00	NOT IDENT.
RB-84	2.985E-02	8.421E-02	1.477E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	1.026E+01	1.742E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	5.376E-02	9.135E-02	0.000E+00	NOT IDENT.
RB-86	4.860E-01	1.073E+00	1.870E+00	0.000E+00	NOT IDENT.
Y-88	2.658E-02	3.461E-02	6.650E-02	0.000E+00	NOT IDENT.
ZR-88	-1.499E-02	3.801E-02	6.374E-02	0.000E+00	NOT IDENT.
Y-91	3.084E+01	2.671E+01	4.802E+01	0.000E+00	NOT IDENT.
NB-94	-5.871E-03	3.659E-02	6.254E-02	0.000E+00	NOT IDENT.
NB-95	8.743E-02	5.162E-02	9.787E-02	0.000E+00	NOT IDENT.
NB-95M	0.000E+00	1.850E-01	3.041E-01	0.000E+00	NOT IDENT.
ZR-95	6.100E-02	8.171E-02	1.483E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	9.133E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.010E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	1.911E+01	2.301E+01	4.181E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.764E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.833E-02	4.043E-02	7.129E-02	0.000E+00	NOT IDENT.
RH-102	-3.776E-02	3.593E-02	5.634E-02	0.000E+00	NOT IDENT.
RU-103	1.231E-02	5.114E-02	8.795E-02	0.000E+00	FAIL ABUN
RH-106	1.064E-01	3.769E-01	6.420E-01	0.000E+00	FAIL ABUN
RU-106	1.064E-01	3.768E-01	6.420E-01	0.000E+00	FAIL ABUN
AG-108M	5.346E-03	3.972E-02	6.839E-02	0.000E+00	NOT IDENT.
AG-110M	-1.654E-02	4.081E-02	6.887E-02	0.000E+00	NOT IDENT.
IN-111	-1.134E+00	2.476E+00	3.689E+00	0.000E+00	NOT IDENT.
IN-113M	-3.071E-02	5.453E-02	9.044E-02	0.000E+00	NOT IDENT.
SN-113	-3.071E-02	5.453E-02	9.044E-02	0.000E+00	NOT IDENT.
IN-114M	2.945E-01	2.567E-01	4.027E-01	0.000E+00	NOT IDENT.
CD-115	1.397E+01	2.315E+01	4.079E+01	0.000E+00	NOT IDENT.
SN-117M	-3.155E-02	7.630E-02	1.279E-01	0.000E+00	NOT IDENT.
SB-122	1.126E+00	4.264E+00	7.292E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.037E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-1.693E-03	3.546E-02	6.043E-02	0.000E+00	NOT IDENT.
I-124	1.138E+00	1.280E+00	2.007E+00	0.000E+00	FAIL ABUN
SB-124	-4.129E-02	7.909E-02	1.184E-01	0.000E+00	FAIL ABUN
SB-125	-5.045E-02	1.132E-01	1.880E-01	0.000E+00	FAIL ABUN
TE-125M	-7.048E+00	1.184E+01	2.006E+01	0.000E+00	NOT IDENT.
I-126	1.383E-01	2.425E-01	4.364E-01	0.000E+00	NOT IDENT.
SB-126	1.073E-01	2.180E-01	3.410E-01	0.000E+00	FAIL ABUN
SB-127	1.100E+00	2.188E+00	3.928E+00	0.000E+00	NOT IDENT.
XE-127	-2.287E-02	5.983E-02	9.899E-02	0.000E+00	NOT IDENT.
I-131	-4.533E-02	1.691E-01	2.873E-01	0.000E+00	NOT IDENT.
TE-132	-4.063E-01	1.317E+00	2.300E+00	0.000E+00	NOT IDENT.
BA-133	1.928E-02	6.185E-02	9.485E-02	0.000E+00	FAIL ABUN
I-133	0.000E+00	3.843E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.656E-02	1.025E-01	0.000E+00	FAIL ABUN
CS-135	2.375E-01	2.121E-01	3.447E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	1.500E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.643E-02	1.371E-01	2.225E-01	0.000E+00	FAIL ABUN
BA-137M	4.983E-03	4.295E-02	7.411E-02	0.000E+00	NOT IDENT.
CS-137	5.267E-03	4.541E-02	7.834E-02	0.000E+00	NOT IDENT.
CE-139	2.368E-02	3.604E-02	6.299E-02	0.000E+00	NOT IDENT.
BA-140	-5.163E-02	3.270E-01	5.430E-01	0.000E+00	NOT IDENT.
LA-140	-2.551E-02	1.086E-01	1.470E-01	0.000E+00	NOT IDENT.
CE-141	1.792E-02	8.787E-02	1.514E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	7.675E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	4.233E-02	2.694E-01	4.092E-01	0.000E+00	NOT IDENT.
PM-144	-1.208E-03	3.828E-02	6.612E-02	0.000E+00	NOT IDENT.
PR-144	-8.193E-02	2.597E+00	4.485E+00	0.000E+00	NOT IDENT.
PM-146	7.349E-03	5.686E-02	9.558E-02	0.000E+00	NOT IDENT.
ND-147	-5.370E-01	7.236E-01	1.139E+00	0.000E+00	NOT IDENT.

PM-149	1.515E+02	2.187E+02	3.927E+02	0.000E+00	NOT IDENT.
EU-152	3.107E-02	1.415E-01	2.044E-01	0.000E+00	FAIL ABUN
GD-153	2.386E-03	1.069E-01	1.638E-01	0.000E+00	NOT IDENT.
EU-154	-3.664E-02	1.504E-01	2.425E-01	0.000E+00	NOT IDENT.
EU-155	5.292E-02	1.341E-01	2.368E-01	0.000E+00	FAIL ABUN
TB-160	6.238E-02	1.653E-01	2.905E-01	0.000E+00	FAIL ABUN
HO-166M	-3.210E-02	6.769E-02	1.127E-01	0.000E+00	NOT IDENT.
TM-171	-5.326E+01	4.668E+01	7.797E+01	0.000E+00	NOT IDENT.
LU-176	9.802E-03	3.463E-02	5.349E-02	0.000E+00	NOT IDENT.
LU-177	0.000E+00	1.927E+00	3.111E+00	0.000E+00	FAIL ABUN
LU-177M	-8.647E-02	2.291E-01	3.837E-01	0.000E+00	NOT IDENT.
HF-181	-1.566E-03	5.565E-02	9.421E-02	0.000E+00	NOT IDENT.
W-181	8.905E-01	6.165E-01	1.121E+00	0.000E+00	NOT IDENT.
TA-182	7.394E-02	2.608E-01	4.427E-01	0.000E+00	FAIL ABUN
RE-183	-7.535E-02	1.392E-01	2.316E-01	0.000E+00	FAIL ABUN
RE-184	6.242E-02	2.851E-01	5.072E-01	0.000E+00	NOT IDENT.
OS-185	-2.309E-04	5.210E-02	8.657E-02	0.000E+00	NOT IDENT.
RE-188	2.168E-01	2.223E-01	3.926E-01	0.000E+00	NOT IDENT.
W-188	-2.036E+00	1.047E+01	1.569E+01	0.000E+00	NOT IDENT.
IR-192	8.475E-03	4.164E-02	7.323E-02	0.000E+00	FAIL ABUN
AU-195	5.227E-02	3.106E-01	4.792E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	2.132E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-2.489E+00	1.349E+01	2.278E+01	0.000E+00	NOT IDENT.
TL-202	5.647E-02	9.123E-02	1.617E-01	0.000E+00	NOT IDENT.
HG-203	8.906E-02	5.377E-02	9.942E-02	0.000E+00	NOT IDENT.
BI-207	1.508E-02	6.407E-02	1.098E-01	0.000E+00	FAIL ABUN
TL-207	-6.480E-01	8.640E-01	1.433E+00	0.000E+00	FAIL ABUN
PO-209	-1.084E+00	7.829E+00	1.313E+01	0.000E+00	NOT IDENT.
BI-210	-4.661E+00	1.293E+01	2.250E+01	0.000E+00	NOT IDENT.
PB-210	-4.661E+00	1.293E+01	2.250E+01	0.000E+00	NOT IDENT.
PO-210	-4.661E+00	1.292E+01	2.250E+01	0.000E+00	NOT IDENT.
PB-211	-7.798E-01	1.296E+00	1.990E+00	0.000E+00	NOT IDENT.
BI-212	5.137E-01	4.953E-01	7.281E-01	0.000E+00	FAIL ABUN
PO-215	-6.480E-01	8.640E-01	1.433E+00	0.000E+00	FAIL ABUN
RN-219	1.724E-01	4.917E-01	8.602E-01	0.000E+00	FAIL ABUN
RN-220	-9.398E+00	3.046E+01	4.997E+01	0.000E+00	NOT IDENT.
RA-223	-6.480E-01	8.640E-01	1.433E+00	0.000E+00	FAIL ABUN
AC-227	-3.815E-01	4.663E-01	7.831E-01	0.000E+00	NOT IDENT.
TH-227	-3.815E-01	4.677E-01	7.831E-01	0.000E+00	FAIL ABUN
TH-229	-6.886E-01	6.470E-01	1.034E+00	0.000E+00	FAIL ABUN
PA-231	-1.595E+00	1.901E+00	3.164E+00	0.000E+00	FAIL ABUN
TH-231	-6.480E-01	8.640E-01	1.433E+00	0.000E+00	FAIL ABUN
U-231	-1.705E-01	2.105E+00	3.210E+00	0.000E+00	FAIL ABUN
PA-233	-7.918E-02	8.040E-02	1.280E-01	0.000E+00	FAIL ABUN
PA-234	1.225E-01	3.601E-01	6.266E-01	0.000E+00	FAIL ABUN
PA-234M	3.655E+00	6.050E+00	1.065E+01	0.000E+00	NOT IDENT.
TH-234	8.490E-01	2.276E+00	4.078E+00	0.000E+00	FAIL ABUN
U-235	3.490E-02	2.778E-01	4.774E-01	0.000E+00	FAIL ABUN
NP-236	2.889E-03	9.750E-02	1.666E-01	0.000E+00	FAIL ABUN
U-238	8.490E-01	2.276E+00	4.078E+00	0.000E+00	FAIL ABUN
NP-239	3.447E-02	2.361E-01	4.113E-01	0.000E+00	FAIL ABUN
AM-241	-5.271E-02	2.922E-01	5.171E-01	0.000E+00	NOT IDENT.
CM-243	3.746E-02	1.217E-01	2.143E-01	0.000E+00	FAIL ABUN
AM-246	8.541E-02	1.778E-01	3.105E-01	0.000E+00	NOT IDENT.
CM-247	5.900E-02	4.427E-02	8.135E-02	0.000E+00	NOT IDENT.
CF-249	2.348E-02	4.866E-02	8.592E-02	0.000E+00	NOT IDENT.
CF-251	-2.211E-01	1.635E-01	2.584E-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]G245808008.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:37:37
Sample ID          : G245808008          Sample quantity  : 1.31013E+02 GRAM
Detector name      : GAM15              Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00      Elapsed real time: 0 02:00:01.31  0.0%
Energy tolerance   : 1.50000 keV        Analyst Initials : RXF2
Abundance limit    : 75.00000           Sensitivity       : 5.00000
Batch ID           : 947554             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	1244	10.67*	9.663E-01	3.456E+01	3.456E+01	11.54
CD-109	88.03	185	3.72*	4.406E+00	3.239E+00	3.324E+00	56.95
SN-126	64.28	-----	9.60	1.941E+00	-----	Line Not Found	-----
	86.94	185	8.90	4.406E+00	1.354E+00	1.354E+00	69.85
	87.57	185	37.00*	4.406E+00	3.257E-01	3.257E-01	56.95
TL-208	277.35	-----	6.80	3.705E+00	-----	Line Not Found	-----
	510.84	75	21.60	2.418E+00	4.126E-01	4.126E-01	91.58
	583.14	343	84.20*	2.190E+00	5.333E-01	5.333E-01	19.64
	860.37	22	12.46	1.574E+00	3.179E-01	3.179E-01	171.23
BI-211	72.87	-----	1.27	3.001E+00	-----	Line Not Found	-----
	351.07	508	12.94*	3.141E+00	3.583E+00	3.583E+00	17.97
PB-212	74.81	305	10.70	3.247E+00	2.516E+00	2.516E+00	34.03
	77.11	361	18.00	3.506E+00	1.638E+00	1.638E+00	25.48
	87.30	185	8.00	4.406E+00	1.506E+00	1.506E+00	57.82
	238.63	1029	44.60*	4.114E+00	1.607E+00	1.607E+00	14.48
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
PO-212	74.81	305	10.70	3.247E+00	2.516E+00	2.516E+00	34.03
	77.11	361	18.00	3.506E+00	1.638E+00	1.638E+00	25.48
	87.30	185	8.00	4.406E+00	1.506E+00	1.506E+00	57.82
	115.19	-----	0.60	5.586E+00	-----	Line Not Found	-----
	238.63	1029	44.60*	4.114E+00	1.607E+00	1.607E+00	14.48
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
BI-214	609.31	337	46.30*	2.117E+00	9.865E-01	9.865E-01	21.26
	1120.29	117	15.10	1.226E+00	1.806E+00	1.806E+00	36.27
	1764.49	78	15.80	8.554E-01	1.648E+00	1.648E+00	29.21
PB-214	74.81	305	6.21	3.247E+00	4.336E+00	4.336E+00	33.55
	77.11	361	10.50	3.506E+00	2.808E+00	2.808E+00	26.59
	87.30	185	4.67	4.406E+00	2.580E+00	2.580E+00	57.47
	241.98	263	7.49	4.079E+00	2.462E+00	2.463E+00	34.97
	295.21	283	19.20	3.547E+00	1.193E+00	1.193E+00	25.03
	351.92	508	37.20*	3.141E+00	1.247E+00	1.247E+00	18.71
PO-214	74.81	305	6.21	3.247E+00	4.336E+00	4.336E+00	33.55

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	361	10.50	3.506E+00	2.808E+00	2.808E+00	26.59
	87.30	185	4.67	4.406E+00	2.580E+00	2.580E+00	57.47
	241.98	263	7.49	4.079E+00	2.462E+00	2.463E+00	34.97
	295.21	283	19.20	3.547E+00	1.193E+00	1.193E+00	25.03
	351.92	508	37.20*	3.141E+00	1.247E+00	1.247E+00	18.71
PO-216	74.81	305	10.70	3.247E+00	2.516E+00	2.516E+00	34.03
	77.11	361	18.00	3.506E+00	1.638E+00	1.638E+00	25.48
	87.30	185	8.00	4.406E+00	1.506E+00	1.506E+00	57.82
	238.63	1029	44.60*	4.114E+00	1.607E+00	1.607E+00	14.48
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
PO-218	74.81	305	6.21	3.247E+00	4.336E+00	4.336E+00	33.55
	77.11	361	10.50	3.506E+00	2.808E+00	2.808E+00	26.59
	87.30	185	4.67	4.406E+00	2.580E+00	2.580E+00	57.47
	241.98	263	7.49	4.079E+00	2.462E+00	2.463E+00	34.97
	295.21	283	19.20	3.547E+00	1.193E+00	1.193E+00	25.03
	351.92	508	37.20*	3.141E+00	1.247E+00	1.247E+00	18.71
RA-224	240.98	263	3.95*	4.079E+00	4.669E+00	4.669E+00	34.51
RA-226	609.31	337	46.30*	2.117E+00	9.865E-01	9.865E-01	21.26
	1120.29	117	15.10	1.226E+00	1.806E+00	1.806E+00	36.27
	1764.49	78	15.80	8.554E-01	1.648E+00	1.648E+00	29.21
AC-228	338.32	233	11.40	3.226E+00	1.818E+00	1.818E+00	49.63
	911.07	217	27.70*	1.494E+00	1.500E+00	1.500E+00	23.74
	969.11	126	16.60	1.410E+00	1.538E+00	1.538E+00	39.30
RA-228	338.32	233	11.40	3.226E+00	1.818E+00	1.818E+00	49.63
	911.07	217	27.70*	1.494E+00	1.500E+00	1.500E+00	23.74
	969.11	126	16.60	1.410E+00	1.538E+00	1.538E+00	39.30
TH-228	74.81	305	10.70	3.247E+00	2.516E+00	2.560E+00	32.74
	77.11	361	18.00	3.506E+00	1.638E+00	1.666E+00	25.48
	87.30	185	8.00	4.406E+00	1.506E+00	1.532E+00	56.95
	238.63	1029	44.60*	4.114E+00	1.607E+00	1.634E+00	14.48
	300.09	-----	3.41	3.507E+00	-----	Line Not Found	-----
TH-230	609.31	337	46.30*	2.117E+00	9.865E-01	9.865E-01	21.26
	1120.29	117	15.10	1.226E+00	1.806E+00	1.806E+00	36.27
	1764.49	78	15.80	8.554E-01	1.648E+00	1.648E+00	29.21
TH-232	338.32	233	11.40	3.226E+00	1.818E+00	1.818E+00	28.89
	911.07	217	27.70*	1.494E+00	1.500E+00	1.500E+00	23.74
	969.11	126	16.60	1.410E+00	1.538E+00	1.538E+00	39.30
U-234	609.31	337	46.30*	2.117E+00	9.865E-01	9.865E-01	21.26
	1120.29	117	15.10	1.226E+00	1.806E+00	1.806E+00	36.27
	1764.49	78	15.80	8.554E-01	1.648E+00	1.648E+00	29.21
NP-237	86.50	185	12.60*	4.406E+00	9.564E-01	9.564E-01	60.57
	95.87	-----	2.60	5.004E+00	-----	Line Not Found	-----
AM-243	74.67	305	66.00*	3.247E+00	4.079E-01	4.079E-01	32.72
	86.72	185	0.34	4.406E+00	3.586E+01	3.586E+01	56.95
	117.66	-----	0.55	5.611E+00	-----	Line Not Found	-----
	142.18	-----	0.13	5.525E+00	-----	Line Not Found	-----
ANH-511	511.00	75	100.00*	2.418E+00	8.912E-02	8.912E-02	91.20

Flag: "*" = Keyline

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

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.28E+09Y	1.00	3.456E+01	3.456E+01	0.399E+01	11.54	
CD-109	464.00D	1.03	3.239E+00	3.324E+00	1.893E+00	56.95	
SN-126	1.00E+05Y	1.00	3.257E-01	3.257E-01	1.855E-01	56.95	
TL-208	1.41E+10Y	1.00	5.333E-01	5.333E-01	1.048E-01	19.64	
BI-211	7.04E+08Y	1.00	3.583E+00	3.583E+00	0.644E+00	17.97	
PB-212	1.41E+10Y	1.00	1.607E+00	1.607E+00	0.233E+00	14.48	
PO-212	1.41E+10Y	1.00	1.607E+00	1.607E+00	0.233E+00	14.48	
BI-214	1600.00Y	1.00	9.865E-01	9.865E-01	2.097E-01	21.26	
PB-214	1600.00Y	1.00	1.247E+00	1.247E+00	0.233E+00	18.71	
PO-214	1600.00Y	1.00	1.247E+00	1.247E+00	0.233E+00	18.71	
PO-216	1.41E+10Y	1.00	1.607E+00	1.607E+00	0.233E+00	14.48	
PO-218	1600.00Y	1.00	1.247E+00	1.247E+00	0.233E+00	18.71	
RA-224	1.41E+10Y	1.00	4.669E+00	4.669E+00	1.612E+00	34.51	
RA-226	1600.00Y	1.00	9.865E-01	9.865E-01	2.097E-01	21.26	
AC-228	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.356E+00	23.74	
RA-228	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.356E+00	23.74	
TH-228	1.91Y	1.02	1.607E+00	1.634E+00	0.237E+00	14.48	
TH-230	4.47E+09Y	1.00	9.865E-01	9.865E-01	2.097E-01	21.26	
TH-232	1.41E+10Y	1.00	1.500E+00	1.500E+00	0.356E+00	23.74	
U-234	4.47E+09Y	1.00	9.865E-01	9.865E-01	2.097E-01	21.26	
NP-237	2.14E+06Y	1.00	9.564E-01	9.564E-01	5.793E-01	60.57	
AM-243	7380.00Y	1.00	4.079E-01	4.079E-01	1.335E-01	32.72	
ANH-511	1.00E+09Y	1.00	8.912E-02	8.912E-02	8.128E-02	91.20	

Total Activity : 6.698E+01 6.709E+01

Grand Total Activity : 6.698E+01 6.709E+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	93.66	151	760	1.51	186.23	180	15	2.10E-02	86.6	4.88E+00	T
0	129.10	88	336	1.25	257.11	252	10	1.22E-02	81.3	5.63E+00	T
0	185.98	133	319	1.67	370.86	367	10	1.85E-02	55.4	4.86E+00	T
0	209.23	94	233	1.05	417.36	414	8	1.31E-02	59.5	4.50E+00	T
0	270.58	73	202	1.10	540.06	535	10	1.01E-02	78.7	3.77E+00	T
0	302.08	163	265	5.54	603.06	595	19	2.26E-02	50.5	3.49E+00	T
0	463.18	88	101	1.64	925.26	920	11	1.22E-02	49.5	2.60E+00	T
0	727.41	39	77	0.82	1453.76	1447	11	5.38E-03	97.9	1.83E+00	T
0	794.90	65	40	2.04	1588.76	1581	12	9.09E-03	45.5	1.69E+00	T
1	964.80	53	57	2.20	1928.60	1922	31	7.36E-03	65.9	1.42E+00	T
0	1377.64	34	21	2.10	2754.48	2744	16	4.77E-03	67.6	1.01E+00	T
0	1587.62	19	9	2.20	3174.58	3169	9	2.64E-03	73.1	9.09E-01	
0	1592.62	16	8	1.53	3184.58	3180	9	2.20E-03	84.0	9.07E-01	

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G245808008.CNF;1
* Acquisition date   : 12-FEB-2010 17:37:37  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 02:00:01.31          Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00  Nuclide Library : SOLID
* Sample ID          : G245808008            Analyst initials: RXF2
* Batch Number       : 947554                Sample Quantity : 1.31013E+02 GRAM
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32.11MS Isotope      :
* MSD ID              :                      MSD Isotope      :
* LCS ID              : 1032-A                LCS Isotope      :
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
K-40	3.456E+01	3.987E+00	6.171E-01	6.064E-02	56.002
CD-109	3.324E+00	1.893E+00	1.934E+00	2.401E-01	1.718
SN-126	3.257E-01	1.855E-01	2.017E-01	2.495E-02	1.615
TL-208	5.333E-01	1.048E-01	6.781E-02	6.210E-03	7.865
BI-211	3.583E+00	6.438E-01	3.983E-01	3.966E-02	8.996
PB-212	1.607E+00	2.326E-01	1.108E-01	1.319E-02	14.502
PO-212	1.607E+00	2.326E-01	1.108E-01	1.319E-02	14.502
BI-214	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
PB-214	1.247E+00	2.332E-01	1.478E-01	1.659E-02	8.432
PO-214	1.247E+00	2.332E-01	1.478E-01	1.659E-02	8.432
PO-216	1.607E+00	2.326E-01	1.108E-01	1.319E-02	14.502
PO-218	1.247E+00	2.332E-01	1.478E-01	1.659E-02	8.432
RA-224	4.669E+00	1.612E+00	1.260E+00	1.390E-01	3.705
RA-226	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
AC-228	1.500E+00	3.560E-01	2.538E-01	2.990E-02	5.909
RA-228	1.500E+00	3.560E-01	2.538E-01	2.990E-02	5.909
TH-228	1.634E+00	2.367E-01	1.127E-01	1.342E-02	14.502
TH-230	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-232	1.500E+00	3.560E-01	2.538E-01	2.990E-02	5.909
U-234	9.865E-01	2.097E-01	1.457E-01	1.445E-02	6.769
NP-237	9.564E-01	5.793E-01	5.234E-01	1.256E-01	1.827
AM-243	4.079E-01	1.335E-01	1.274E-01	1.465E-02	3.201
ANH-511	8.912E-02	8.128E-02	5.831E-02	5.038E-03	1.529

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	1.454E-01		4.179E-01	6.968E-01	6.478E-02	0.209
NA-22	-1.137E-02		5.517E-02	8.722E-02	7.923E-03	-0.130
NA-24	-3.590E+00		5.676E+00	Half-Life too short		
AL-26	1.272E-02		3.321E-02	5.863E-02	5.015E-03	0.217
TI-44	3.023E-01	+	7.701E-02	1.038E-01	1.210E-02	2.911
SC-46	-2.037E-02		4.233E-02	6.638E-02	6.169E-03	-0.307
V-48	3.737E-03		9.708E-02	1.600E-01	1.462E-02	0.023
CR-51	-6.299E-01		5.008E-01	7.677E-01	8.152E-02	-0.821
MN-52	-1.643E-01		3.471E-01	5.396E-01	5.194E-02	-0.304
MN-54	-1.211E-02		4.608E-02	7.480E-02	6.788E-03	-0.162
CO-56	-2.301E-02		4.215E-02	6.597E-02	6.019E-03	-0.349
CO-57	-2.289E-02		3.096E-02	4.858E-02	4.893E-03	-0.471
CO-58	-2.397E-02		4.505E-02	7.113E-02	6.395E-03	-0.337
FE-59	-2.584E-02		1.127E-01	1.796E-01	1.676E-02	-0.144
CO-60	-2.457E-02		4.774E-02	7.168E-02	6.891E-03	-0.343
ZN-65	7.009E-02		1.210E-01	1.819E-01	1.555E-02	0.385
GE-68	7.521E-01		1.596E+00	2.714E+00	2.376E-01	0.277
AS-73	6.782E-01		2.131E+00	3.577E+00	4.645E-01	0.190
AS-74	4.933E-02		1.205E-01	2.002E-01	1.701E-02	0.246
SE-75	-7.094E-02		6.497E-02	8.670E-02	9.506E-03	-0.818
BR-77	-8.177E+00		2.385E+01	3.773E+01	3.258E+00	-0.217
SR-82	-7.591E-02		4.979E-01	8.189E-01	7.216E-02	-0.093
RB-83	-2.424E-02		8.943E-02	1.382E-01	1.193E-02	-0.175
RB-84	2.985E-02		8.592E-02	1.463E-01	1.355E-02	0.204
KR-85	2.229E+01		1.046E+01	1.710E+01	1.478E+00	1.304
SR-85	1.169E-01		5.486E-02	8.966E-02	7.746E-03	1.304
RB-86	4.860E-01		1.095E+00	1.859E+00	1.628E-01	0.261
Y-88	2.658E-02		3.532E-02	6.669E-02	5.617E-03	0.398
ZR-88	-1.499E-02		3.878E-02	6.229E-02	5.243E-03	-0.241
Y-91	3.084E+01		2.725E+01	4.781E+01	4.031E+00	0.645
NB-94	-5.871E-03		3.734E-02	6.171E-02	5.209E-03	-0.095
NB-95	8.743E-02		5.267E-02	9.671E-02	8.473E-03	0.904
NB-95M	3.125E-01		1.888E-01	2.947E-01	3.546E-02	1.060
ZR-95	6.100E-02		8.338E-02	1.465E-01	1.404E-02	0.416
NB-97	-3.150E-01		4.660E-01	Half-Life too short		
ZR-97	5.506E+01		1.026E+01	Half-Life too short		
MO-99	1.911E+01		2.348E+01	4.129E+01	6.272E+00	0.463
TC-99M	6.321E+12		9.002E+12	Half-Life too short		

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-101	4.833E-02		4.126E-02	6.889E-02	7.516E-03	0.701
RH-102	-3.776E-02		3.666E-02	5.523E-02	4.765E-03	-0.684
RU-103	1.231E-02		5.219E-02	8.628E-02	1.223E-02	0.143
RH-106	1.064E-01		3.846E-01	6.322E-01	8.357E-02	0.168
RU-106	1.064E-01		3.845E-01	6.322E-01	5.313E-02	0.168
AG-108M	5.346E-03		4.053E-02	6.694E-02	5.959E-03	0.080
AG-110M	-1.654E-02		4.164E-02	6.788E-02	5.776E-03	-0.244
IN-111	-1.134E+00		2.526E+00	3.578E+00	3.943E-01	-0.317
IN-113M	-3.071E-02		5.565E-02	8.838E-02	7.676E-03	-0.347
SN-113	-3.071E-02		5.565E-02	8.838E-02	7.676E-03	-0.347
IN-114M	2.945E-01		2.620E-01	3.889E-01	4.222E-02	0.757
CD-115	1.397E+01		2.362E+01	4.006E+01	3.457E+00	0.349
SN-117M	-3.155E-02		7.786E-02	1.232E-01	1.292E-02	-0.256
SB-122	1.126E+00		4.351E+00	7.168E+00	6.149E-01	0.157
I-123	-4.952E+00		5.292E+01	Half-Life too short		
TE-123M	-1.693E-03		3.619E-02	5.819E-02	6.132E-03	-0.029
I-124	1.138E+00		1.306E+00	1.975E+00	1.673E-01	0.576
SB-124	-4.129E-02		8.070E-02	1.185E-01	1.114E-02	-0.348
SB-125	-5.045E-02		1.156E-01	1.840E-01	1.602E-02	-0.274
TE-125M	-7.048E+00		1.208E+01	1.920E+01	2.256E+00	-0.367
I-126	1.383E-01		2.475E-01	4.302E-01	3.548E-02	0.321
SB-126	1.073E-01		2.224E-01	3.366E-01	2.873E-02	0.319
SB-127	1.100E+00		2.232E+00	3.874E+00	4.584E-01	0.284
XE-127	-2.287E-02		6.105E-02	9.570E-02	1.047E-02	-0.239
I-131	-4.533E-02		1.726E-01	2.804E-01	2.711E-02	-0.162
TE-132	-4.063E-01		1.344E+00	2.228E+00	3.906E-01	-0.182
BA-133	1.928E-02		6.311E-02	9.254E-02	1.272E-02	0.208
I-133	-4.115E-02		1.961E-02	Half-Life too short		
CS-134	1.464E-01	+	6.792E-02	1.013E-01	9.080E-03	1.445
CS-135	2.375E-01		2.164E-01	3.347E-01	4.016E-02	0.709
I-135	-1.236E+12		7.654E+11	Half-Life too short		
CS-136	-4.643E-02		1.399E-01	2.210E-01	2.045E-02	-0.210
BA-137M	4.983E-03		4.383E-02	7.305E-02	6.006E-03	0.068
CS-137	5.267E-03		4.633E-02	7.722E-02	6.362E-03	0.068
CE-139	2.368E-02		3.678E-02	6.070E-02	6.479E-03	0.390
BA-140	-5.163E-02		3.336E-01	5.334E-01	1.768E-01	-0.097
LA-140	-2.551E-02		1.108E-01	1.471E-01	1.379E-02	-0.173
CE-141	1.792E-02		8.966E-02	1.456E-01	1.505E-02	0.123
CE-143	2.087E-03		3.916E-04	Half-Life too short		
CE-144	4.233E-02		2.749E-01	3.929E-01	6.445E-02	0.108
PM-144	-1.208E-03		3.906E-02	6.523E-02	5.488E-03	-0.019
PR-144	-8.193E-02		2.650E+00	4.425E+00	3.721E-01	-0.019
PM-146	7.349E-03		5.802E-02	9.363E-02	1.003E-02	0.078
ND-147	-5.370E-01		7.383E-01	1.119E+00	1.673E-01	-0.480
PM-149	1.515E+02		2.231E+02	3.818E+02	6.421E+01	0.397
EU-152	3.107E-02		1.444E-01	1.993E-01	2.029E-02	0.156
GD-153	2.386E-03		1.091E-01	1.565E-01	1.727E-02	0.015
EU-154	-3.664E-02		1.535E-01	2.417E-01	2.819E-02	-0.152

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	5.292E-02		1.369E-01	2.266E-01	2.387E-02	0.234
TB-160	6.238E-02		1.687E-01	2.877E-01	2.663E-02	0.217
HO-166M	-3.210E-02		6.907E-02	1.112E-01	9.439E-03	-0.289
TM-171	-5.326E+01		4.763E+01	7.406E+01	8.453E+00	-0.719
LU-176	9.802E-03		3.533E-02	5.206E-02	5.444E-03	0.188
LU-177	3.248E+00	+	1.966E+00	3.009E+00	3.301E-01	1.079
LU-177M	-8.647E-02		2.338E-01	3.753E-01	3.189E-02	-0.230
HF-181	-1.566E-03		5.679E-02	9.238E-02	7.976E-03	-0.017
W-181	8.905E-01		6.290E-01	1.065E+00	1.216E-01	0.836
TA-182	7.394E-02		2.662E-01	4.409E-01	3.785E-02	0.168
RE-183	-7.535E-02		1.420E-01	2.231E-01	2.360E-02	-0.338
RE-184	6.242E-02		2.909E-01	4.921E-01	5.411E-02	0.127
OS-185	-2.309E-04		5.316E-02	8.530E-02	7.079E-03	-0.003
RE-188	2.168E-01		2.268E-01	3.779E-01	3.930E-02	0.574
W-188	-2.036E+00		1.068E+01	1.526E+01	1.630E+00	-0.133
IR-192	8.475E-03		4.249E-02	7.131E-02	7.352E-03	0.119
AU-195	5.227E-02		3.169E-01	4.580E-01	4.992E-02	0.114
TL-200	-8.889E-04		1.088E-03	Half-Life too short		
TL-201	-2.489E+00		1.377E+01	2.196E+01	2.346E+00	-0.113
TL-202	5.647E-02		9.310E-02	1.583E-01	1.357E-02	0.357
HG-203	8.906E-02		5.487E-02	9.661E-02	1.064E-02	0.922
BI-207	1.508E-02		6.538E-02	1.091E-01	9.626E-03	0.138
TL-207	-6.480E-01		8.816E-01	1.396E+00	2.582E-01	-0.464
PO-209	-1.084E+00		7.989E+00	1.301E+01	1.213E+00	-0.083
BI-210	-4.661E+00		1.319E+01	2.126E+01	2.618E+00	-0.219
PB-210	-4.661E+00		1.319E+01	2.126E+01	2.618E+00	-0.219
PO-210	-4.661E+00		1.319E+01	2.126E+01	2.479E+00	-0.219
PB-211	-7.798E-01		1.322E+00	1.945E+00	1.219E+00	-0.401
BI-212	5.137E-01	+	5.054E-01	7.188E-01	7.163E-02	0.715
PO-215	-6.480E-01		8.816E-01	1.396E+00	2.582E-01	-0.464
RN-219	1.724E-01		5.017E-01	8.408E-01	1.256E-01	0.205
RN-220	-9.398E+00		3.108E+01	4.910E+01	4.225E+00	-0.191
RA-223	-6.480E-01		8.816E-01	1.396E+00	2.582E-01	-0.464
AC-227	-3.815E-01		4.758E-01	7.599E-01	1.276E-01	-0.502
TH-227	-3.815E-01		4.772E-01	7.599E-01	1.467E-01	-0.502
TH-229	-6.886E-01		6.602E-01	9.990E-01	1.087E-01	-0.689
PA-231	-1.595E+00		1.940E+00	3.075E+00	5.074E-01	-0.519
TH-231	-6.480E-01		8.816E-01	1.396E+00	2.582E-01	-0.464
U-231	-1.705E-01		2.148E+00	3.066E+00	3.435E-01	-0.056
PA-233	-7.918E-02		8.204E-02	1.246E-01	1.318E-02	-0.635
PA-234	1.225E-01		3.674E-01	6.214E-01	1.184E-01	0.197
PA-234M	3.655E+00		6.174E+00	1.057E+01	1.096E+00	0.346
TH-234	8.490E-01		2.322E+00	3.871E+00	7.540E-01	0.219
U-235	3.490E-02		2.834E-01	4.590E-01	8.410E-02	0.076
NP-236	2.889E-03		9.949E-02	1.604E-01	1.689E-02	0.018
U-238	8.490E-01		2.322E+00	3.871E+00	7.540E-01	0.219
NP-239	3.447E-02		2.409E-01	3.941E-01	3.979E-02	0.087
AM-241	-5.271E-02		2.982E-01	4.903E-01	5.755E-02	-0.108

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	3.746E-02		1.242E-01	2.050E-01	2.160E-02	0.183
AM-246	8.541E-02		1.814E-01	3.086E-01	2.698E-02	0.277
CM-247	5.900E-02		4.517E-02	7.953E-02	6.726E-03	0.742
CF-249	2.348E-02		4.965E-02	8.394E-02	7.161E-03	0.280
CF-251	-2.211E-01		1.668E-01	2.493E-01	2.681E-02	-0.887

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]G245808008          *
* Acquisition date   : 12-FEB-2010 17:37:37 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 02:00:01.31             Half life ratio : 8.000     *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID          *
* Sample ID          : G245808008              Analyst initials: RXF2         *
* Batch Number       : 947554                  Sample Quantity : 1.3101E+02 GRAM *
* Recovery           : 1.00000                 Carrier Weight  : 0.00000      *
*****
*                                     QC DATA                               *
*
* CALIB. DATE/TIME   : 3-FEB-2010 11:04:32 MS Isotope          :             *
* MSD DPM             : 0.000                   MSD Isotope     :             *
* LCS DPM             : 0.000                   LCS Isotope      :             *
* LCSD DPM            : 0.000                   LCSD Isotope     :             *
*****

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Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error	DLC (pCi/GRAM)	TPU
K-40	3.456E+01	3.907E+00	3.090E-01	1.993E+00
CD-109	3.324E+00	1.855E+00	1.014E+00	9.465E-01
SN-126	3.257E-01	1.818E-01	1.058E-01	9.273E-02
TL-208	5.333E-01	1.027E-01	3.449E-02	5.238E-02
BI-211	3.583E+00	6.309E-01	2.043E-01	3.219E-01
PB-212	1.607E+00	2.280E-01	5.719E-02	1.163E-01
PO-212	1.607E+00	2.280E-01	5.719E-02	1.163E-01
BI-214	9.865E-01	2.055E-01	7.407E-02	1.049E-01
PB-214	1.247E+00	2.286E-01	7.583E-02	1.166E-01
PO-214	1.247E+00	2.286E-01	7.583E-02	1.166E-01
PO-216	1.607E+00	2.280E-01	5.719E-02	1.163E-01
PO-218	1.247E+00	2.286E-01	7.583E-02	1.166E-01
RA-224	4.669E+00	1.579E+00	6.505E-01	8.058E-01
RA-226	9.865E-01	2.055E-01	7.407E-02	1.049E-01
AC-228	1.500E+00	3.489E-01	1.281E-01	1.780E-01
RA-228	1.500E+00	3.489E-01	1.281E-01	1.780E-01
TH-228	1.634E+00	2.319E-01	5.818E-02	1.183E-01
TH-230	9.865E-01	2.055E-01	7.407E-02	1.049E-01
TH-232	1.500E+00	3.489E-01	1.281E-01	1.780E-01
U-234	9.865E-01	2.055E-01	7.407E-02	1.049E-01
NP-237	9.564E-01	5.677E-01	2.745E-01	2.896E-01
AM-243	4.079E-01	1.308E-01	6.700E-02	6.674E-02
ANH-511	8.912E-02	7.965E-02	2.972E-02	4.064E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	1.454E-01	4.096E-01	3.556E-01	2.090E-01 NOT IDENT.
NA-22	-1.137E-02	5.407E-02	4.378E-02	2.759E-02 NOT IDENT.
NA-24	-3.590E+06	1.113E+07	0.000E+00	5.676E+06 SHORT HLIF
AL-26	1.272E-02	3.255E-02	2.925E-02	1.660E-02 NOT IDENT.

TI-44	3.023E-01	7.547E-02	5.455E-02	3.850E-02	FAIL ABUN
SC-46	-2.037E-02	4.148E-02	3.353E-02	2.116E-02	FAIL ABUN
V-48	3.737E-03	9.513E-02	8.065E-02	4.854E-02	NOT IDENT.
CR-51	-6.299E-01	4.908E-01	3.944E-01	2.504E-01	NOT IDENT.
MN-52	-1.643E-01	3.402E-01	2.703E-01	1.736E-01	NOT IDENT.
MN-54	-1.211E-02	4.516E-02	3.782E-02	2.304E-02	NOT IDENT.
CO-56	-2.301E-02	4.131E-02	3.334E-02	2.108E-02	NOT IDENT.
CO-57	-2.289E-02	3.034E-02	2.534E-02	1.548E-02	NOT IDENT.
CO-58	-2.397E-02	4.415E-02	3.598E-02	2.252E-02	NOT IDENT.
FE-59	-2.584E-02	1.104E-01	9.038E-02	5.634E-02	NOT IDENT.
CO-60	-2.457E-02	4.678E-02	3.595E-02	2.387E-02	NOT IDENT.
ZN-65	7.009E-02	1.185E-01	9.153E-02	6.048E-02	NOT IDENT.
GE-68	7.521E-01	1.564E+00	1.366E+00	7.978E-01	NOT IDENT.
AS-73	6.782E-01	2.088E+00	1.891E+00	1.065E+00	NOT IDENT.
AS-74	4.933E-02	1.180E-01	1.018E-01	6.023E-02	NOT IDENT.
SE-75	-7.094E-02	6.367E-02	4.467E-02	3.248E-02	NOT IDENT.
BR-77	-8.177E+00	2.337E+01	1.923E+01	1.193E+01	FAIL ABUN
SR-82	-7.591E-02	4.879E-01	4.145E-01	2.489E-01	NOT IDENT.
RB-83	-2.424E-02	8.764E-02	7.041E-02	4.472E-02	NOT IDENT.
RB-84	2.985E-02	8.421E-02	7.390E-02	4.296E-02	NOT IDENT.
KR-85	2.229E+01	1.026E+01	8.717E+00	5.232E+00	NOT IDENT.
SR-85	1.169E-01	5.376E-02	4.570E-02	2.743E-02	NOT IDENT.
RB-86	4.860E-01	1.073E+00	9.356E-01	5.477E-01	NOT IDENT.
Y-88	2.658E-02	3.461E-02	3.327E-02	1.766E-02	NOT IDENT.
ZR-88	-1.499E-02	3.801E-02	3.189E-02	1.939E-02	NOT IDENT.
Y-91	3.084E+01	2.671E+01	2.402E+01	1.363E+01	NOT IDENT.
NB-94	-5.871E-03	3.659E-02	3.129E-02	1.867E-02	NOT IDENT.
NB-95	8.743E-02	5.162E-02	4.897E-02	2.634E-02	NOT IDENT.
NB-95M	3.125E-01	1.850E-01	1.521E-01	9.439E-02	NOT IDENT.
ZR-95	6.100E-02	8.171E-02	7.421E-02	4.169E-02	NOT IDENT.
NB-97	-3.150E+05	9.133E+05	0.000E+00	4.660E+05	SHORT HLIF
ZR-97	5.506E+07	2.010E+07	0.000E+00	1.026E+07	SHORT HLIF
MO-99	1.911E+01	2.301E+01	2.092E+01	1.174E+01	NOT IDENT.
TC-99M	6.321E+18	1.764E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	4.833E-02	4.043E-02	3.567E-02	2.063E-02	NOT IDENT.
RH-102	-3.776E-02	3.593E-02	2.819E-02	1.833E-02	NOT IDENT.
RU-103	1.231E-02	5.114E-02	4.400E-02	2.609E-02	FAIL ABUN
RH-106	1.064E-01	3.769E-01	3.212E-01	1.923E-01	FAIL ABUN
RU-106	1.064E-01	3.768E-01	3.212E-01	1.922E-01	FAIL ABUN
AG-108M	5.346E-03	3.972E-02	3.422E-02	2.026E-02	NOT IDENT.
AG-110M	-1.654E-02	4.081E-02	3.446E-02	2.082E-02	NOT IDENT.
IN-111	-1.134E+00	2.476E+00	1.846E+00	1.263E+00	NOT IDENT.
IN-113M	-3.071E-02	5.453E-02	4.525E-02	2.782E-02	NOT IDENT.
SN-113	-3.071E-02	5.453E-02	4.525E-02	2.782E-02	NOT IDENT.
IN-114M	2.945E-01	2.567E-01	2.015E-01	1.310E-01	NOT IDENT.
CD-115	1.397E+01	2.315E+01	2.041E+01	1.181E+01	NOT IDENT.
SN-117M	-3.155E-02	7.630E-02	6.401E-02	3.893E-02	NOT IDENT.
SB-122	1.126E+00	4.264E+00	3.648E+00	2.175E+00	NOT IDENT.
I-123	-4.952E+06	1.037E+08	0.000E+00	5.292E+07	SHORT HLIF
TE-123M	-1.693E-03	3.546E-02	3.023E-02	1.809E-02	NOT IDENT.
I-124	1.138E+00	1.280E+00	1.004E+00	6.528E-01	FAIL ABUN
SB-124	-4.129E-02	7.909E-02	5.922E-02	4.035E-02	FAIL ABUN
SB-125	-5.045E-02	1.132E-01	9.405E-02	5.778E-02	FAIL ABUN
TE-125M	-7.048E+00	1.184E+01	1.004E+01	6.042E+00	NOT IDENT.
I-126	1.383E-01	2.425E-01	2.183E-01	1.237E-01	NOT IDENT.
SB-126	1.073E-01	2.180E-01	1.706E-01	1.112E-01	FAIL ABUN
SB-127	1.100E+00	2.188E+00	1.965E+00	1.116E+00	NOT IDENT.
XE-127	-2.287E-02	5.983E-02	4.953E-02	3.052E-02	NOT IDENT.
I-131	-4.533E-02	1.691E-01	1.437E-01	8.628E-02	NOT IDENT.
TE-132	-4.063E-01	1.317E+00	1.151E+00	6.718E-01	NOT IDENT.
BA-133	1.928E-02	6.185E-02	4.745E-02	3.156E-02	FAIL ABUN
I-133	-4.115E+04	3.843E+04	0.000E+00	1.961E+04	SHORT HLIF
CS-134	1.464E-01	6.656E-02	5.126E-02	3.396E-02	FAIL ABUN
CS-135	2.375E-01	2.121E-01	1.724E-01	1.082E-01	NOT IDENT.
I-135	-1.236E+18	1.500E+18	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.643E-02	1.371E-01	1.113E-01	6.993E-02	FAIL ABUN
BA-137M	4.983E-03	4.295E-02	3.708E-02	2.192E-02	NOT IDENT.
CS-137	5.267E-03	4.541E-02	3.919E-02	2.317E-02	NOT IDENT.
CE-139	2.368E-02	3.604E-02	3.151E-02	1.839E-02	NOT IDENT.
BA-140	-5.163E-02	3.270E-01	2.717E-01	1.668E-01	NOT IDENT.
LA-140	-2.551E-02	1.086E-01	7.354E-02	5.542E-02	NOT IDENT.
CE-141	1.792E-02	8.787E-02	7.575E-02	4.483E-02	NOT IDENT.
CE-143	2.087E+03	7.675E+02	0.000E+00	3.916E+02	SHORT HLIF
CE-144	4.233E-02	2.694E-01	2.047E-01	1.374E-01	NOT IDENT.
PM-144	-1.208E-03	3.828E-02	3.308E-02	1.953E-02	NOT IDENT.
PR-144	-8.193E-02	2.597E+00	2.244E+00	1.325E+00	NOT IDENT.
PM-146	7.349E-03	5.686E-02	4.782E-02	2.901E-02	NOT IDENT.
ND-147	-5.370E-01	7.236E-01	5.700E-01	3.692E-01	NOT IDENT.

PM-149	1.515E+02	2.187E+02	1.965E+02	1.116E+02	NOT IDENT.
EU-152	3.107E-02	1.415E-01	1.023E-01	7.219E-02	FAIL ABUN
GD-153	2.386E-03	1.069E-01	8.194E-02	5.454E-02	NOT IDENT.
EU-154	-3.664E-02	1.504E-01	1.213E-01	7.675E-02	NOT IDENT.
EU-155	5.292E-02	1.341E-01	1.185E-01	6.844E-02	FAIL ABUN
TB-160	6.238E-02	1.653E-01	1.453E-01	8.436E-02	FAIL ABUN
HO-166M	-3.210E-02	6.769E-02	5.636E-02	3.453E-02	NOT IDENT.
TM-171	-5.326E+01	4.668E+01	3.901E+01	2.382E+01	NOT IDENT.
LU-176	9.802E-03	3.463E-02	2.676E-02	1.767E-02	NOT IDENT.
LU-177	3.248E+00	1.927E+00	1.557E+00	9.830E-01	FAIL ABUN
LU-177M	-8.647E-02	2.291E-01	1.920E-01	1.169E-01	NOT IDENT.
HF-181	-1.566E-03	5.565E-02	4.714E-02	2.839E-02	NOT IDENT.
W-181	8.905E-01	6.165E-01	5.610E-01	3.145E-01	NOT IDENT.
TA-182	7.394E-02	2.608E-01	2.215E-01	1.331E-01	FAIL ABUN
RE-183	-7.535E-02	1.392E-01	1.159E-01	7.102E-02	FAIL ABUN
RE-184	6.242E-02	2.851E-01	2.537E-01	1.455E-01	NOT IDENT.
OS-185	-2.309E-04	5.210E-02	4.331E-02	2.658E-02	NOT IDENT.
RE-188	2.168E-01	2.223E-01	1.964E-01	1.134E-01	NOT IDENT.
W-188	-2.036E+00	1.047E+01	7.851E+00	5.341E+00	NOT IDENT.
IR-192	8.475E-03	4.164E-02	3.664E-02	2.124E-02	FAIL ABUN
AU-195	5.227E-02	3.106E-01	2.398E-01	1.585E-01	FAIL ABUN
TL-200	-8.889E+02	2.132E+03	0.000E+00	1.088E+03	SHORT HLIF
TL-201	-2.489E+00	1.349E+01	1.140E+01	6.883E+00	NOT IDENT.
TL-202	5.647E-02	9.123E-02	8.091E-02	4.655E-02	NOT IDENT.
HG-203	8.906E-02	5.377E-02	4.974E-02	2.744E-02	NOT IDENT.
BI-207	1.508E-02	6.407E-02	5.494E-02	3.269E-02	FAIL ABUN
TL-207	-6.480E-01	8.640E-01	7.168E-01	4.408E-01	FAIL ABUN
PO-209	-1.084E+00	7.829E+00	6.569E+00	3.994E+00	NOT IDENT.
BI-210	-4.661E+00	1.293E+01	1.126E+01	6.595E+00	NOT IDENT.
PB-210	-4.661E+00	1.293E+01	1.126E+01	6.595E+00	NOT IDENT.
PO-210	-4.661E+00	1.292E+01	1.126E+01	6.594E+00	NOT IDENT.
PB-211	-7.798E-01	1.296E+00	9.955E-01	6.612E-01	NOT IDENT.
BI-212	5.137E-01	4.953E-01	3.643E-01	2.527E-01	FAIL ABUN
PO-215	-6.480E-01	8.640E-01	7.168E-01	4.408E-01	FAIL ABUN
RN-219	1.724E-01	4.917E-01	4.303E-01	2.509E-01	FAIL ABUN
RN-220	-9.398E+00	3.046E+01	2.500E+01	1.554E+01	NOT IDENT.
RA-223	-6.480E-01	8.640E-01	7.168E-01	4.408E-01	FAIL ABUN
AC-227	-3.815E-01	4.663E-01	3.918E-01	2.379E-01	NOT IDENT.
TH-227	-3.815E-01	4.677E-01	3.918E-01	2.386E-01	FAIL ABUN
TH-229	-6.886E-01	6.470E-01	5.174E-01	3.301E-01	FAIL ABUN
PA-231	-1.595E+00	1.901E+00	1.583E+00	9.700E-01	FAIL ABUN
TH-231	-6.480E-01	8.640E-01	7.168E-01	4.408E-01	FAIL ABUN
U-231	-1.705E-01	2.105E+00	1.606E+00	1.074E+00	FAIL ABUN
PA-233	-7.918E-02	8.040E-02	6.404E-02	4.102E-02	FAIL ABUN
PA-234	1.225E-01	3.601E-01	3.135E-01	1.837E-01	FAIL ABUN
PA-234M	3.655E+00	6.050E+00	5.329E+00	3.087E+00	NOT IDENT.
TH-234	8.490E-01	2.276E+00	2.040E+00	1.161E+00	FAIL ABUN
U-235	3.490E-02	2.778E-01	2.389E-01	1.417E-01	FAIL ABUN
NP-236	2.889E-03	9.750E-02	8.335E-02	4.974E-02	FAIL ABUN
U-238	8.490E-01	2.276E+00	2.040E+00	1.161E+00	FAIL ABUN
NP-239	3.447E-02	2.361E-01	2.058E-01	1.204E-01	FAIL ABUN
AM-241	-5.271E-02	2.922E-01	2.587E-01	1.491E-01	NOT IDENT.
CM-243	3.746E-02	1.217E-01	1.072E-01	6.208E-02	FAIL ABUN
AM-246	8.541E-02	1.778E-01	1.553E-01	9.071E-02	NOT IDENT.
CM-247	5.900E-02	4.427E-02	4.070E-02	2.259E-02	NOT IDENT.
CF-249	2.348E-02	4.866E-02	4.298E-02	2.483E-02	NOT IDENT.
CF-251	-2.211E-01	1.635E-01	1.293E-01	8.340E-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	289.1563
46.50	289.1563
46.50	289.1563
48.70	280.7066
49.72	292.6677
51.35	304.0114
52.39	255.5363
52.97	278.8544
53.15	278.9357
53.44	296.3876
54.07	322.6955
56.28	318.9895
56.28	318.9914
57.37	0.0000
57.53	324.4530
57.53	324.4539
57.60	324.4878
57.98	316.9241
57.98	316.9241
59.32	305.9181
59.32	305.9181
59.40	337.0365
59.54	337.1073
59.72	337.1993
60.01	372.3447
61.10	395.3491
61.14	395.3724
61.30	397.4149
63.00	367.1635
63.29	354.6185
63.29	354.6185
63.58	352.8138
64.28	359.0414
65.12	332.0495
65.20	332.0880
65.20	332.0880
66.05	407.0311
66.72	430.9784
66.83	440.8651
66.91	440.9156
67.20	441.0954
67.20	441.0954
67.75	438.2042
67.85	393.3167
68.90	360.8050
68.90	360.8050
69.30	381.4971
69.67	384.8481
70.82	383.8730
70.82	383.8730
70.83	383.8789
72.80	411.8296
72.87	411.8685
72.87	411.8685
74.67	410.8714
74.81	410.9472
74.81	410.9472
74.81	410.9472
74.81	410.9472
74.81	410.9472
74.81	410.9472
74.81	410.9472
74.97	411.0341
75.28	411.2015
75.70	411.4273
77.11	412.1838
77.11	412.1838

77.11	412.1838
77.11	412.1838
77.11	412.1838
77.11	412.1838
77.11	412.1838
78.38	386.1336
79.62	391.5394
79.80	391.6292
79.80	391.6292
80.11	391.7832
80.18	391.8176
80.30	391.8774
80.30	391.8774
80.57	392.0105
81.00	360.2046
81.07	360.2362
81.07	360.2362
81.07	360.2362
81.07	360.2362
82.60	393.0079
83.37	415.4593
83.78	415.6709
83.78	415.6709
83.78	415.6709
83.78	415.6709
84.21	409.8646
84.90	389.2982
85.43	469.4989
86.29	469.9903
86.50	470.1096
86.54	470.1309
86.59	470.1594
86.72	470.2342
86.79	470.2715
86.94	470.3588
87.30	625.1749
87.30	625.1749
87.30	625.1749
87.30	625.1749
87.30	625.1749
87.30	625.1749
87.57	625.3783
87.88	561.0309
88.03	561.1328
88.36	625.9695
88.47	626.0523
89.95	627.1521
91.11	628.0083
92.29	628.8739
92.38	444.9920
92.38	444.9920
93.35	445.4907
94.00	445.8254
94.67	446.1651
94.67	446.1684
94.90	446.2856
94.90	446.2856
94.90	446.2856
94.90	446.2856
95.87	351.9914
95.87	351.9914
96.73	357.2290
97.43	315.0656
98.44	302.3470
98.44	302.3481
98.88	317.2120
99.55	320.7215
99.55	320.7215
99.86	309.3733
100.00	309.4218
100.10	309.4564
103.18	365.5375
103.76	340.0823
105.00	326.1335
105.31	334.4756
108.00	344.7229
109.28	362.7574

111.00	324.0648
111.00	324.0648
111.76	340.8990
112.95	349.6164
115.19	324.4220
116.30	323.7452
117.00	331.2650
117.00	331.2650
117.66	293.9580
121.11	323.2086
121.62	328.6026
121.78	316.0941
122.06	319.3225
122.32	324.3397
122.32	324.3397
122.32	324.3397
122.32	324.3397
123.07	294.8342
127.23	309.7683
129.76	280.1357
131.20	310.9335
133.02	286.0705
133.54	284.5151
135.34	333.2116
136.00	323.5622
136.25	324.6978
136.48	329.0108
140.51	362.1683
140.51	0.0000
142.18	389.3803
142.65	385.2729
143.76	364.2871
144.24	371.9218
144.24	371.9218
144.24	371.9218
144.24	371.9218
145.22	388.2880
145.44	365.8955
147.16	361.0913
152.43	346.5888
152.70	341.2843
153.22	339.2825
154.21	319.0844
154.21	319.0844
154.21	319.0844
154.21	319.0844
155.03	316.0695
156.02	351.9612
158.56	328.9073
159.00	0.0000
159.00	311.7085
160.31	305.5459
161.27	303.6203
162.32	326.6720
162.64	320.2435
163.35	316.0855
163.89	292.3183
165.85	271.0139
167.43	285.5271
171.28	292.9635
171.86	271.2254
172.10	260.3379
176.55	340.2782
176.60	343.5855
181.06	280.2200
184.41	318.0388
185.71	300.6647
186.00	300.7290
190.27	243.1248
192.34	321.4030
193.63	318.0013
197.04	241.8800
198.01	247.6278
198.60	264.4715
200.40	287.1603
201.83	305.3504
202.84	279.8252
205.31	260.1327

208.36	276.8710
208.81	307.9803
209.75	273.3138
209.75	273.3138
210.97	271.6694
215.65	270.0362
216.55	276.6308
218.09	277.8253
222.10	251.3542
223.80	251.6399
226.40	262.0846
227.00	272.2024
227.08	270.3980
227.20	270.4179
228.16	264.2126
228.18	264.2161
228.18	264.2161
231.56	0.0000
235.69	268.5637
236.00	268.6174
236.00	268.6174
238.63	232.9904
238.63	232.9904
238.63	232.9904
238.63	232.9904
239.00	233.0447
240.98	233.3392
241.98	233.4881
241.98	233.4881
241.98	233.4881
244.69	231.7395
245.39	241.0531
247.94	253.7405
248.90	228.5024
249.79	220.7774
252.40	207.2561
252.85	211.0155
252.85	211.0155
254.15	0.0000
256.20	230.9238
256.20	230.9238
260.50	184.1071
260.90	182.2905
262.80	210.4322
264.65	233.0383
268.24	182.1579
268.79	179.1026
269.46	193.1950
269.46	193.1950
269.46	193.1950
269.46	193.1950
271.23	202.7547
273.65	281.1365
276.40	210.5197
277.35	197.2185
277.60	193.0747
277.60	193.0747
278.00	193.5349
278.60	193.6028
279.20	187.0896
279.53	193.7059
280.46	228.6223
281.68	256.0858
283.67	213.9597
284.30	202.7225
285.00	195.2577
285.90	179.3148
286.10	179.3334
286.10	179.3334
287.40	179.4656
288.45	0.0000
290.67	198.7233
290.80	198.7386
291.72	194.1069
293.26	0.0000
293.70	188.0027
295.21	167.6047
295.21	167.6047

295.21	167.6047
295.96	137.6190
296.50	137.6615
297.23	137.7164
298.57	137.8190
299.80	137.9111
299.80	137.9111
300.09	137.9341
300.09	137.9341
300.09	137.9341
300.09	137.9341
300.12	137.9359
301.29	177.6865
302.84	177.8369
303.76	177.9281
303.91	177.9417
304.40	177.9896
304.40	177.9896
304.84	178.0329
306.84	170.2679
308.46	151.3057
311.98	188.2930
316.51	155.4781
318.01	145.9957
319.02	173.9429
319.41	186.4763
320.08	199.0404
323.87	211.9622
323.87	211.9622
323.87	211.9622
323.87	211.9622
325.23	193.7937
328.77	195.1179
333.44	200.1049
334.20	184.0393
334.20	184.0393
334.30	182.4341
338.28	176.6569
338.28	176.6569
338.28	176.6569
338.28	176.6569
338.32	176.6613
338.32	176.6613
338.32	176.6613
340.50	183.0089
340.57	183.0158
344.27	149.9319
345.85	139.6573
350.59	0.0000
351.07	148.1601
351.92	168.0947
351.92	168.0947
351.92	168.0947
355.39	0.0000
356.01	155.0495
364.48	148.4803
366.43	128.9339
367.43	148.6904
367.94	0.0000
369.80	149.8458
374.96	134.4013
383.85	152.8270
387.95	133.2328
388.63	135.2629
391.69	146.4096
391.69	146.4096
392.90	144.4991
398.62	141.8787
400.65	153.0093
401.10	147.0395
401.81	127.0744
402.60	111.1057
404.84	168.3302
410.95	125.5875
411.60	128.6391
413.65	157.9276
414.70	161.0195
415.30	144.9563

415.76	143.9793
417.63	0.0000
418.52	141.1296
423.70	121.2422
427.08	129.5156
427.89	134.6219
432.53	123.7350
433.93	119.7501
439.47	102.7409
439.56	102.7446
439.89	109.8800
443.98	114.1479
444.90	114.1916
445.03	114.1984
445.03	114.1984
445.03	114.1984
445.03	114.1984
453.90	123.8330
463.38	101.0305
468.07	111.5177
473.00	121.7120
475.06	130.0713
475.35	136.2813
476.78	112.6005
477.59	111.6031
477.96	103.3521
482.03	120.0838
484.57	137.8203
487.03	98.5393
490.36	0.0000
492.35	122.6540
497.08	103.0944
507.63	0.0000
510.53	0.0000
510.84	112.0202
511.00	112.0267
511.85	112.0626
511.85	112.0626
513.99	97.8297
513.99	97.8297
520.41	106.2407
520.65	106.1338
527.90	75.8654
528.96	0.0000
529.64	103.3307
529.87	0.0000
531.02	94.9438
537.32	87.7640
543.00	93.2465
546.56	0.0000
549.76	94.5386
552.65	91.4485
555.20	86.2108
563.23	91.7970
563.90	95.0210
568.70	95.1839
569.32	99.4846
569.50	97.3518
569.67	92.0070
573.80	116.7838
574.00	108.2199
574.64	104.7912
578.91	89.4450
579.30	0.0000
583.14	88.1440
585.48	73.5134
591.81	95.4954
592.07	90.3052
593.00	81.9746
595.88	86.3750
600.56	110.5452
602.52	0.0000
602.71	84.7744
602.71	84.7744
603.60	106.4501
604.41	108.2837
604.70	104.6860
609.31	114.9722

609.31	114.9722
609.31	114.9722
609.31	114.9722
610.33	106.6950
612.46	92.2943
614.37	85.1091
618.01	97.9058
621.84	80.6033
621.84	80.6033
631.29	76.4856
633.02	73.2485
633.10	69.9703
634.78	80.9483
635.90	75.5075
636.97	78.8168
645.85	85.6343
646.12	83.4441
656.30	93.6349
657.75	93.6785
657.90	0.0000
661.65	90.1165
661.65	90.1165
664.57	0.0000
666.33	87.4873
666.33	87.4873
675.00	84.9566
677.61	73.0130
685.20	67.6281
692.80	91.0017
695.00	78.0544
696.49	80.8793
696.49	80.8793
697.00	82.7512
697.49	84.6238
698.33	78.1348
698.50	78.1382
699.00	81.8716
702.63	80.1001
706.10	69.9295
706.58	0.0000
706.67	71.8068
709.31	71.8632
711.68	82.1885
713.82	86.9150
717.42	74.8470
720.50	77.0575
721.93	0.0000
722.20	78.7021
722.78	91.5674
722.78	91.5674
722.89	91.5714
722.95	91.5733
723.30	93.1880
724.18	99.6429
727.18	93.2972
733.00	88.6250
735.90	80.9067
739.58	64.9837
742.81	74.4724
744.21	77.3321
747.13	71.7355
751.79	68.9974
752.31	74.6797
753.82	75.6575
755.35	73.7994
756.15	62.4604
756.87	64.3656
763.93	104.3335
765.79	66.4296
766.42	71.1884
766.84	80.6888
776.49	82.8157
778.00	85.7080
778.57	81.9128
778.89	74.2993
783.80	67.7253
785.46	59.5499
792.07	93.4262

795.84	41.0191
796.30	42.6662
798.80	64.0429
801.93	66.7283
805.60	45.1067
810.29	73.9953
810.76	67.2770
815.85	57.7466
817.79	55.8512
818.51	56.8261
819.60	52.9892
826.30	56.9462
828.27	0.0000
831.60	68.6281
831.96	71.5339
834.83	83.1988
836.80	0.0000
846.75	57.2619
848.13	64.0785
856.28	0.0000
856.80	66.7299
860.37	57.4695
867.32	60.0148
867.82	54.6545
871.10	65.4460
873.19	56.6855
874.81	58.6658
875.33	0.0000
876.40	63.5810
879.36	56.7775
880.27	59.7279
880.51	57.7732
881.50	55.8287
883.24	53.8945
884.67	55.8751
889.25	52.9969
896.60	51.1304
898.02	58.0349
899.00	63.9526
903.28	52.5315
911.07	62.1758
911.07	62.1758
911.07	62.1758
919.63	47.4746
920.93	56.3947
925.00	63.3854
925.24	60.4179
926.50	58.4550
935.52	52.6291
937.48	52.6539
944.10	71.6477
946.00	57.7428
949.00	55.7938
962.29	49.6920
964.01	59.9988
966.15	65.0317
968.20	65.0648
969.11	65.0793
969.11	65.0793
969.11	65.0793
977.42	73.9512
980.50	51.6326
983.50	61.2854
989.30	54.3285
996.32	80.6217
1001.03	57.5068
1001.68	51.4617
1004.76	67.6557
1021.30	0.0000
1024.50	0.0000
1034.80	54.9119
1036.00	46.7899
1037.82	48.8438
1038.57	52.9246
1038.76	0.0000
1045.16	41.7924
1046.59	46.9041
1048.07	55.0789

1050.47	75.5206
1050.47	75.5206
1062.04	78.7890
1063.62	57.3216
1076.63	57.4902
1077.35	56.4726
1078.86	56.4905
1085.78	72.0081
1099.22	57.7796
1112.02	65.6275
1112.84	78.0589
1115.52	51.4782
1120.29	78.7770
1120.29	78.7770
1120.29	78.7770
1120.29	78.7770
1120.51	78.7801
1121.28	79.9805
1124.00	0.0000
1129.67	58.5802
1131.51	0.0000
1147.95	0.0000
1167.94	78.5400
1173.22	49.2720
1175.09	67.1198
1177.93	91.2976
1189.05	74.6806
1204.90	70.7050
1205.75	0.0000
1213.00	85.6208
1221.42	76.2393
1230.97	97.6040
1235.34	82.8242
1236.41	0.0000
1238.25	79.6875
1246.25	74.4946
1260.41	0.0000
1271.85	60.9707
1274.45	53.5095
1274.54	53.5116
1291.56	40.8049
1298.22	0.0000
1312.09	31.2644
1325.50	38.9121
1325.50	38.9121
1332.49	40.0472
1333.61	30.3117
1360.21	29.8438
1362.66	0.0000
1365.15	25.2042
1368.21	42.4976
1368.53	0.0000
1376.25	27.1268
1384.27	22.9517
1394.10	31.9094
1395.20	33.7939
1407.95	26.3457
1434.06	28.3615
1436.60	15.1334
1457.56	0.0000
1460.81	22.7988
1489.15	23.8682
1509.49	20.1204
1596.49	17.0172
1620.62	17.5737
1678.03	0.0000
1691.02	14.8127
1691.02	14.8127
1706.46	0.0000
1750.46	0.0000
1764.49	10.9885
1764.49	10.9885
1764.49	10.9885
1764.49	10.9885
1770.23	10.4982
1771.40	10.5000
1791.20	0.0000
1808.65	10.0569

1836.01

7.0688

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G245808008

Total Uranium Activity	2.5419E+00	ug/g
Total Uranium Counting Unc.	6.7719E+00	ug/g
Total Uranium Tpu	3.4551E-06	ug/g
Total Uranium Mda	6.0708E+00	ug/g

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*****
*
*               GEL Laboratories LLC
*               2040 SAVAGE ROAD
*               CHARLESTON ,SC 29417
*               GROSS GAMMA REPORT
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G245808008
*  ANALYST       : RXF2            DETECTOR    : GAM15
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00
*  ANALYSIS DATE : 12-FEB-2010 17:37:37.62  SAMPLE ALQT: 131.013 GRAM
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 9.454E+00
GROSS GAMMA ERROR (pCi/GRAM )   : 1.669E+00
GROSS GAMMA MDA (pCi/GRAM )     : 3.816E+00
GROSS GAMMA DLC (pCi/GRAM )     : 1.849E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 19:52:11.01

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029817.CNF;1
Sample date        : 2-FEB-2010 00:00:00. Acquisition date : 12-FEB-2010 17:51:43
Sample ID          : G1202029817      Sample quantity   : 1.69389E+02 GRAM
Detector name      : GAM12             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.55  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : RXF2
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 947554            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	63.45*	6	91	0.98	126.37	122	8	8.61E-04	304.2	
2	0	84.49*	5	43	1.44	168.47	166	6	6.67E-04	268.6	
3	2	94.95	31	54	1.16	189.40	178	17	4.25E-03	45.9	2.27E+00
4	0	911.14*	12	11	1.69	1822.31	1817	9	1.67E-03	67.3	

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

VMS Nuclide Identification Report V3.1 Generated 12-FEB-2010 19:52:13

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029817.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 2-FEB-2010 00:00:00   Acquisition date : 12-FEB-2010 17:51:43
Sample ID         : G1202029817           Sample quantity  : 169.39 GRAM
Sample type       : SOLID                 Sample geometry   :
Detector name     : GAMMA12               Detector geometry: CAN
Elapsed live time : 0 02:00:00.00         Elapsed real time: 0 02:00:00.55   0.0%
Peak Width (FWHM): 3.00                   Confidence level  : 5.00 %
Energy tolerance  : 1.50 keV              Half life ratio   : 8.00
Errors propagated: Yes                     Systematic Error  : 0.00 %
Efficiency type   : Empirical              Efficiencies at   : Peak Energy
Abundance limit   : 75.00                 WTM error limit   : 3.00

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Full Combined Activity-MDA Report

---- 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	*	4.745E-03	1.254E-01	2.029E-01	1.396E-02	0.023
NA-22		1274.54	*	1.283E-03	1.521E-02	2.548E-02	1.641E-03	0.050
NA-24		1368.53	*	-4.785E-04	1.521E-02	Half-Life too short		
AL-26		1129.67		-4.006E-01	5.865E-01	8.255E-01	5.031E-02	-0.485
		1808.65	*	-1.370E-03	1.864E-02	3.030E-02	1.738E-03	-0.045
K-40		1460.81	*	-2.917E-02	2.237E-01	3.871E-01	2.760E-02	-0.075
TI-44		67.85		-1.138E-02	1.595E-02	2.302E-02	1.499E-03	-0.494
		78.38	*	-4.166E-03	1.013E-02	1.635E-02	1.144E-03	-0.255
SC-46		889.25	*	-1.990E-03	1.556E-02	2.458E-02	2.037E-03	-0.081
		1120.51		4.604E-03	1.946E-02	3.361E-02	2.088E-03	0.137
V-48		944.10		-1.381E-02	3.489E-01	5.584E-01	4.485E-02	-0.025
		983.50	*	1.941E-02	3.682E-02	5.050E-02	3.891E-03	0.384
		1312.09		-9.124E-03	2.565E-02	3.844E-02	2.609E-03	-0.237
CR-51		320.08	*	8.221E-02	1.365E-01	2.398E-01	1.525E-02	0.343
MN-52		744.21		-2.489E-02	6.007E-02	9.227E-02	6.590E-03	-0.270
		848.13		5.764E-01	1.777E+00	3.040E+00	2.422E-01	0.190
		935.52		-3.489E-02	6.439E-02	9.310E-02	7.538E-03	-0.375
		1246.25		-1.075E+00	1.766E+00	2.581E+00	1.590E-01	-0.417
		1333.61		1.244E+00	1.067E+00	2.207E+00	1.542E-01	0.563
		1434.06	*	3.747E-03	6.494E-02	1.070E-01	7.353E-03	0.035
MN-54		834.83	*	7.393E-03	1.713E-02	2.963E-02	2.329E-03	0.249
CO-56		846.75	*	6.981E-03	1.634E-02	2.844E-02	2.262E-03	0.245
		977.42		-3.494E-01	1.149E+00	1.727E+00	1.340E-01	-0.202
		1037.82		-1.220E-01	1.110E-01	1.404E-01	1.085E-02	-0.869
		1175.09		3.405E-01	6.239E-01	1.162E+00	6.407E-02	0.293
		1238.25		-7.949E-03	2.883E-02	4.492E-02	2.891E-03	-0.177
		1360.21		-1.838E-01	4.101E-01	5.949E-01	4.142E-02	-0.309
		1771.40		4.442E-02	1.199E-01	2.169E-01	1.279E-02	0.205
CO-57		122.06	*	4.999E-04	9.847E-03	1.619E-02	1.013E-03	0.031
		136.48		1.141E-02	7.763E-02	1.279E-01	8.604E-03	0.089
CO-58		810.76	*	5.282E-03	1.463E-02	2.541E-02	1.955E-03	0.208
FE-59		142.65		-2.223E-01	1.040E+00	1.597E+00	9.021E-02	-0.139
		192.34		8.971E-02	3.134E-01	5.141E-01	5.940E-02	0.174
		1099.22	*	1.090E-02	3.473E-02	6.092E-02	4.499E-03	0.179

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-60	1291.56			-1.961E-02	4.538E-02	6.724E-02	5.415E-03	-0.292
	1173.22			6.554E-03	1.360E-02	2.491E-02	1.369E-03	0.263
	1332.49	*		1.486E-02	1.473E-02	2.954E-02	2.063E-03	0.503
ZN-65	1115.52	*		7.096E-03	3.468E-02	5.968E-02	3.754E-03	0.119
GE-68	1077.35	*		3.756E-01	5.149E-01	9.596E-01	6.470E-02	0.391
AS-73	53.44	*		8.475E-02	3.051E-01	4.985E-01	3.219E-02	0.170
AS-74	595.88	*		9.850E-03	3.600E-02	6.217E-02	3.957E-03	0.158
SE-75	634.78			-2.556E-02	1.389E-01	2.257E-01	1.455E-02	-0.113
	66.05			-1.231E-01	1.685E+00	2.484E+00	2.168E-01	-0.050
	96.73			1.738E-01	2.699E-01	4.296E-01	5.440E-02	0.404
BR-77	121.11			-3.220E-02	4.971E-02	7.655E-02	7.291E-03	-0.421
	136.00			2.734E-03	1.377E-02	2.281E-02	1.347E-03	0.120
	198.60			2.848E-01	7.575E-01	1.193E+00	8.015E-02	0.239
	264.65	*		-1.128E-02	1.674E-02	2.626E-02	1.488E-03	-0.430
	279.53			1.447E-02	4.552E-02	7.817E-02	4.790E-03	0.185
	303.91			-3.345E-01	8.344E-01	1.332E+00	1.261E-01	-0.251
	400.65			6.884E-02	1.050E-01	1.840E-01	1.645E-02	0.374
	87.88			5.781E+00	1.789E+01	2.362E+01	1.806E+00	0.245
	200.40			-1.221E+01	1.857E+01	2.763E+01	1.465E+00	-0.442
	239.00			-1.821E-01	1.210E+00	2.017E+00	1.111E-01	-0.090
	249.79			-1.206E+00	7.295E+00	1.211E+01	6.725E-01	-0.100
	281.68			2.171E+00	1.046E+01	1.781E+01	1.006E+00	0.122
	297.23			2.082E+00	5.662E+00	9.762E+00	5.541E-01	0.213
	303.76			-9.150E+00	2.045E+01	3.251E+01	1.847E+00	-0.281
	439.47			-1.383E+01	1.929E+01	2.854E+01	1.643E+00	-0.485
	484.57			-7.987E+00	2.613E+01	4.007E+01	2.397E+00	-0.199
	520.65	*		2.909E-01	1.345E+00	2.214E+00	1.358E-01	0.131
SR-82	574.64			-1.686E+01	2.578E+01	3.838E+01	2.422E+00	-0.439
	578.91			-7.614E+00	1.037E+01	1.572E+01	9.941E-01	-0.484
	585.48			9.559E+00	2.048E+01	3.615E+01	2.292E+00	0.264
	755.35			-2.130E+01	1.978E+01	2.457E+01	1.777E+00	-0.867
	817.79			-2.163E+00	1.489E+01	2.364E+01	1.827E+00	-0.092
	698.33			-5.881E+00	1.679E+01	2.386E+01	1.617E+00	-0.247
	776.49	*		1.617E-01	1.482E-01	2.800E-01	2.072E-02	0.577
	1395.20			-9.592E-01	5.208E+00	8.176E+00	5.661E-01	-0.117
	520.41	*		5.520E-03	3.059E-02	5.012E-02	3.073E-03	0.110
	529.64			-1.541E-02	4.424E-02	6.685E-02	4.122E-03	-0.231
RB-83	552.65			-1.944E-02	7.843E-02	1.276E-01	7.971E-03	-0.152
RB-84	881.50	*		3.437E-03	2.816E-02	4.661E-02	3.835E-03	0.074
KR-85	513.99	*		-1.643E+01	5.720E+00	6.842E+00	4.178E-01	-2.402
SR-85	513.99	*		-8.047E-02	2.801E-02	3.351E-02	2.046E-03	-2.402
RB-86	1076.63	*		1.591E-01	2.806E-01	5.112E-01	3.451E-02	0.311
Y-88	898.02			-2.712E-03	1.943E-02	2.814E-02	2.364E-03	-0.096
ZR-88	1836.01	*		-3.305E-03	1.867E-02	2.939E-02	1.654E-03	-0.112
	392.90	*		6.922E-03	1.152E-02	2.021E-02	1.108E-03	0.343
Y-91	1204.90	*		6.499E+00	5.363E+00	1.104E+01	6.382E-01	0.589
NB-94	702.63	*		-1.447E-02	1.579E-02	2.274E-02	1.549E-03	-0.636
NB-95	871.10			5.422E-03	1.469E-02	2.535E-02	2.065E-03	0.214
	765.79	*		-1.003E-02	1.642E-02	2.424E-02	1.773E-03	-0.414

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M		235.69	*	-5.715E-02	4.587E-02	6.941E-02	5.063E-03	-0.823
ZR-95		724.18		1.600E-02	3.432E-02	6.054E-02	4.774E-03	0.264
		756.15	*	-2.896E-02	2.857E-02	3.589E-02	2.964E-03	-0.807
NB-97		657.90	*	1.012E-04	2.857E-02	Half-Life	too short	
		1024.50		-1.354E-02	2.857E-02	Half-Life	too short	
ZR-97		254.15		2.835E-03	2.857E-02	Half-Life	too short	
		355.39		1.266E-02	2.857E-02	Half-Life	too short	
		507.63	*	-4.694E-02	2.857E-02	Half-Life	too short	
		602.52		-3.147E-02	2.857E-02	Half-Life	too short	
		1021.30		-6.841E-03	2.857E-02	Half-Life	too short	
		1147.95		6.428E-03	2.857E-02	Half-Life	too short	
		1362.66		-1.246E-03	2.857E-02	Half-Life	too short	
		1750.46		2.151E-02	2.857E-02	Half-Life	too short	
MO-99		140.51		-3.404E+00	3.920E+00	5.285E+00	1.423E+00	-0.644
		181.06		-2.149E+00	2.027E+00	2.819E+00	4.776E-01	-0.762
		366.43		2.495E+00	1.189E+01	1.999E+01	1.117E+00	0.125
		739.58	*	5.677E-01	1.545E+00	2.689E+00	3.866E-01	0.211
		778.00		2.690E+00	4.924E+00	8.725E+00	6.467E-01	0.308
TC-99M		140.51	*	-8.416E+04	4.924E+00	Half-Life	too short	
RH-101		127.23		2.785E-03	1.162E-02	1.938E-02	1.176E-03	0.144
		198.01	*	3.009E-03	1.441E-02	2.239E-02	1.184E-03	0.134
		325.23		3.417E-02	8.357E-02	1.444E-01	8.205E-03	0.237
RH-102		418.52		9.053E-02	1.156E-01	2.062E-01	1.163E-02	0.439
		475.06	*	-4.866E-03	1.267E-02	1.932E-02	1.147E-03	-0.252
		631.29		8.548E-03	2.433E-02	4.237E-02	2.728E-03	0.202
		697.49		-4.845E-03	3.928E-02	6.400E-02	4.332E-03	-0.076
		766.84		-1.955E-02	4.327E-02	6.581E-02	4.819E-03	-0.297
		1046.59		2.344E-02	4.212E-02	7.757E-02	5.496E-03	0.302
		1112.84		8.133E-02	8.786E-02	1.683E-01	1.062E-02	0.483
RU-103		497.08	*	3.989E-03	1.857E-02	3.024E-02	3.857E-03	0.132
		610.33		-1.930E-01	3.997E-01	5.961E-01	9.332E-02	-0.324
RH-106		511.85		-1.891E-01	1.367E-01	2.402E-01	1.465E-02	-0.787
		621.84	*	4.648E-02	1.409E-01	2.447E-01	2.950E-02	0.190
		1050.47		-8.159E-01	8.379E-01	1.101E+00	7.754E-02	-0.741
RU-106		511.85		-1.891E-01	1.367E-01	2.402E-01	1.465E-02	-0.787
		621.84	*	4.648E-02	1.408E-01	2.447E-01	1.571E-02	0.190
		1050.47		-8.159E-01	8.379E-01	1.101E+00	7.754E-02	-0.741
AG-108M		433.93	*	-9.478E-03	1.551E-02	2.183E-02	1.361E-03	-0.434
		614.37		2.110E-03	1.749E-02	2.962E-02	2.031E-03	0.071
		722.95		7.169E-03	1.616E-02	2.844E-02	2.101E-03	0.252
CD-109		88.03	*	-9.048E-02	3.214E-01	3.779E-01	2.892E-02	-0.239
AG-110M		657.75	*	-3.151E-04	1.370E-02	2.267E-02	1.545E-03	-0.014
		677.61		6.570E-02	1.380E-01	2.429E-01	1.682E-02	0.271
		706.67		7.012E-02	9.268E-02	1.679E-01	1.199E-02	0.418
		763.93		-1.609E-02	7.242E-02	1.150E-01	8.722E-03	-0.140
		884.67		3.739E-03	2.050E-02	3.432E-02	2.932E-03	0.109
		937.48		-1.869E-02	4.645E-02	6.901E-02	5.806E-03	-0.271
		1384.27		8.168E-03	7.773E-02	1.296E-01	9.378E-03	0.063
IN-111		171.28		4.792E-02	1.313E-01	2.179E-01	1.121E-02	0.220

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	245.39	*		8.596E-02	1.499E-01	2.642E-01	1.462E-02	0.325
IN-113M	391.69	*		4.912E-04	1.826E-02	2.993E-02	1.762E-03	0.016
SN-113	391.69	*		4.912E-04	1.826E-02	2.993E-02	1.762E-03	0.016
IN-114M	190.27	*		-4.759E-03	6.269E-02	9.921E-02	5.204E-03	-0.048
CD-115	260.90			1.472E+01	1.275E+01	2.360E+01	1.320E+00	0.624
	492.35			4.338E-01	4.504E+00	7.320E+00	4.405E-01	0.059
	527.90	*		5.581E-01	1.159E+00	1.984E+00	1.222E-01	0.281
SN-117M	156.02			5.979E-01	6.813E-01	1.183E+00	6.316E-02	0.505
	158.56	*		-2.486E-03	1.651E-02	2.626E-02	1.387E-03	-0.095
SB-122	563.90	*		-2.678E-01	3.219E-01	4.880E-01	3.065E-02	-0.549
	692.80			1.011E+01	7.161E+00	1.366E+01	9.197E-01	0.740
I-123	159.00	*		-5.140E-03	7.161E+00	Half-Life too short		
	528.96			1.429E-01	7.161E+00	Half-Life too short		
TE-123M	159.00	*		-6.306E-03	1.046E-02	1.590E-02	8.521E-04	-0.397
I-124	602.71	*		-8.482E-02	1.506E-01	2.348E-01	1.499E-02	-0.361
	722.78			3.849E-01	8.213E-01	1.450E+00	1.011E-01	0.266
	1325.50			-3.178E+00	5.813E+00	7.995E+00	5.530E-01	-0.397
	1376.25			6.006E-01	6.079E+00	1.015E+01	7.048E-01	0.059
	1509.49			-2.701E+00	2.990E+00	3.310E+00	2.228E-01	-0.816
	1691.02			-2.932E-01	1.039E+00	1.610E+00	9.994E-02	-0.182
SB-124	602.71			-9.680E-03	1.718E-02	2.680E-02	1.711E-03	-0.361
	645.85			-1.365E-02	1.904E-01	3.133E-01	2.236E-02	-0.044
	709.31			-3.322E-01	1.251E+00	1.993E+00	1.368E-01	-0.167
	713.82			1.565E-01	6.344E-01	1.086E+00	1.181E-01	0.144
	722.78			6.368E-02	1.359E-01	2.398E-01	1.727E-02	0.266
	968.20			-2.508E-01	9.564E-01	1.421E+00	1.114E-01	-0.176
	1045.16			4.530E-01	8.244E-01	1.523E+00	1.081E-01	0.297
	1325.50			-5.614E-01	1.027E+00	1.413E+00	9.770E-02	-0.397
	1368.21			1.032E-01	6.176E-01	1.054E+00	1.315E-01	0.098
	1436.60			1.197E+00	1.671E+00	3.144E+00	2.159E-01	0.381
	1691.02	*		-1.144E-02	4.054E-02	6.283E-02	4.192E-03	-0.182
SB-125	427.89	*		-5.050E-02	3.997E-02	5.355E-02	3.183E-03	-0.943
	463.38			7.942E-03	1.033E-01	1.687E-01	1.153E-02	0.047
	600.56			-1.778E-02	8.879E-02	1.413E-01	1.019E-02	-0.126
	635.90			6.087E-02	1.217E-01	2.156E-01	1.585E-02	0.282
TE-125M	109.28	*		1.008E+00	3.429E+00	5.776E+00	4.974E-01	0.174
I-126	388.63			-3.972E-02	6.922E-02	1.054E-01	5.790E-03	-0.377
	666.33	*		2.962E-02	5.990E-02	1.060E-01	6.914E-03	0.279
	753.82			-3.784E-01	4.706E-01	6.169E-01	4.453E-02	-0.613
SB-126	223.80			3.399E-01	1.133E+00	1.970E+00	1.070E-01	0.173
	278.60			9.223E-01	8.120E-01	1.483E+00	8.371E-02	0.622
	296.50			1.052E-01	4.060E-01	6.934E-01	3.935E-02	0.152
	414.70			-1.837E-02	2.356E-02	3.419E-02	1.921E-03	-0.537
	415.30			-1.222E+00	2.035E+00	3.049E+00	1.714E-01	-0.401
	555.20			-8.229E-01	1.279E+00	1.960E+00	1.226E-01	-0.420
	573.80			-1.397E-01	3.504E-01	5.578E-01	3.519E-02	-0.250
	593.00			-1.854E-01	3.168E-01	4.885E-01	3.106E-02	-0.380
	656.30			-7.171E-01	1.057E+00	1.568E+00	1.015E-01	-0.457
	666.33			1.225E-02	2.478E-02	4.387E-02	2.860E-03	0.279

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		675.00		1.178E-01	6.856E-01	1.163E+00	7.665E-02	0.101
		695.00		2.934E-02	3.192E-02	5.801E-02	3.916E-03	0.506
		697.00		1.487E-02	1.069E-01	1.797E-01	1.216E-02	0.083
		720.50	*	-3.870E-02	4.461E-02	6.242E-02	4.340E-03	-0.620
		856.80		-7.100E-02	1.648E-01	2.482E-01	1.994E-02	-0.286
		989.30		-5.005E-01	4.880E-01	6.300E-01	4.821E-02	-0.795
		1034.80		9.791E-01	2.668E+00	4.757E+00	3.430E-01	0.206
		1213.00		-6.102E-01	1.158E+00	1.679E+00	9.828E-02	-0.364
SN-126	+	64.28		4.434E-02	2.698E-01	3.253E-01	4.568E-02	0.136
		86.94		-2.219E-02	1.349E-01	1.619E-01	6.662E-02	-0.137
		87.57	*	2.169E-02	2.760E-02	3.954E-02	3.014E-03	0.549
SB-127		61.10		-2.958E+00	9.137E+00	1.375E+01	1.111E+00	-0.215
		252.40		8.451E-01	8.333E-01	1.399E+00	5.765E-01	0.604
		290.80		4.790E-02	3.427E+00	5.726E+00	4.344E-01	0.008
		411.60		7.400E-02	2.058E+00	3.368E+00	4.513E-01	0.022
		444.90		1.225E+00	2.140E+00	3.684E+00	3.523E-01	0.333
		473.00		2.471E-01	3.208E-01	5.685E-01	5.729E-02	0.435
		543.00		1.001E+00	3.094E+00	5.422E+00	6.567E-01	0.185
		603.60		-1.435E+00	2.533E+00	3.955E+00	3.917E-01	-0.363
		685.20	*	6.239E-02	2.238E-01	3.877E-01	3.357E-02	0.161
		698.50		-1.489E+00	3.829E+00	5.398E+00	7.577E-01	-0.276
		722.20		1.990E+00	5.222E+00	9.114E+00	7.840E-01	0.218
		783.80		-1.577E-01	6.100E-01	9.510E-01	1.000E-01	-0.166
XE-127		57.60		-3.991E-01	1.647E+00	2.732E+00	1.726E-01	-0.146
		145.22		-5.855E-02	2.387E-01	3.786E-01	2.115E-02	-0.155
		172.10		1.858E-02	4.305E-02	7.178E-02	3.695E-03	0.259
		202.84	*	-5.919E-03	1.720E-02	2.639E-02	1.404E-03	-0.224
		374.96		1.743E-02	7.155E-02	1.208E-01	6.711E-03	0.144
I-131		80.18		-1.188E-01	9.113E-01	1.436E+00	1.025E-01	-0.083
		284.30		-9.718E-02	4.014E-01	6.545E-01	4.112E-02	-0.148
		364.48	*	2.962E-02	3.211E-02	5.813E-02	3.637E-03	0.510
		636.97		2.860E-01	4.677E-01	8.400E-01	5.918E-02	0.340
		722.89		8.462E-01	1.870E+00	3.295E+00	2.309E-01	0.257
TE-132		49.72		9.142E-01	2.583E+00	4.531E+00	3.648E-01	0.202
		111.76		1.062E+00	4.880E+00	7.893E+00	6.275E-01	0.135
		116.30		-2.795E+00	4.044E+00	6.226E+00	4.903E-01	-0.449
		228.16	*	2.137E-02	9.794E-02	1.690E-01	2.273E-02	0.126
BA-133		53.15		1.528E-01	1.372E+00	2.214E+00	1.432E-01	0.069
		79.62		-5.601E-02	3.697E-01	6.102E-01	8.789E-02	-0.092
		81.00		-5.992E-03	2.962E-02	4.330E-02	6.552E-03	-0.138
		276.40		-3.313E-02	1.520E-01	2.494E-01	3.216E-02	-0.133
		302.84		-4.843E-02	5.851E-02	8.878E-02	1.030E-02	-0.545
		356.01	*	9.260E-03	1.767E-02	3.069E-02	3.521E-03	0.302
		383.85		3.313E-02	1.321E-01	2.221E-01	2.381E-02	0.149
I-133		510.53		-1.077E-03	1.321E-01	Half-Life too short		
		529.87	*	-2.768E-05	1.321E-01	Half-Life too short		
		706.58		4.598E-03	1.321E-01	Half-Life too short		
		856.28		-2.399E-03	1.321E-01	Half-Life too short		
		875.33		2.649E-04	1.321E-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-134	1236.41			-5.334E-03	1.321E-01	Half-Life	too short	
	1298.22			-4.202E-04	1.321E-01	Half-Life	too short	
	475.35			-7.000E-01	8.813E-01	1.266E+00	7.519E-02	-0.553
	563.23			-1.060E-01	1.694E-01	2.637E-01	1.685E-02	-0.402
	569.32			2.712E-02	9.819E-02	1.658E-01	1.070E-02	0.164
	604.70			-4.793E-03	1.569E-02	2.530E-02	1.623E-03	-0.189
	795.84	*		1.002E-03	1.914E-02	3.157E-02	2.407E-03	0.032
	801.93			1.159E-01	1.695E-01	3.059E-01	2.342E-02	0.379
	1038.57			-3.165E-01	1.298E+00	2.056E+00	1.474E-01	-0.154
	1167.94			-9.536E-01	8.136E-01	9.424E-01	5.251E-02	-1.012
CS-135	1365.15			2.354E-01	4.952E-01	9.009E-01	6.701E-02	0.261
I-135	268.24	*		-4.225E-03	6.145E-02	1.024E-01	7.703E-03	-0.041
CS-136	288.45			-1.253E+03	6.145E-02	Half-Life	too short	
	417.63			5.849E+04	6.145E-02	Half-Life	too short	
	546.56			-1.626E+04	6.145E-02	Half-Life	too short	
	836.80			8.648E+04	6.145E-02	Half-Life	too short	
	1038.76			-1.143E+04	6.145E-02	Half-Life	too short	
	1124.00			-1.053E+05	6.145E-02	Half-Life	too short	
	1131.51			1.720E+04	6.145E-02	Half-Life	too short	
	1260.41	*		-1.388E+04	6.145E-02	Half-Life	too short	
	1457.56			1.318E+05	6.145E-02	Half-Life	too short	
	1678.03			5.884E+04	6.145E-02	Half-Life	too short	
	1706.46			1.062E+05	6.145E-02	Half-Life	too short	
	1791.20			2.230E+04	6.145E-02	Half-Life	too short	
	66.91			-1.910E-03	2.164E-01	3.206E-01	4.600E-02	-0.006
	86.29			-5.212E-02	3.054E-01	4.138E-01	5.023E-02	-0.126
	153.22			-2.960E-02	1.957E-01	3.120E-01	2.154E-02	-0.095
	163.89			1.459E-01	3.520E-01	5.353E-01	3.613E-02	0.273
	176.55			4.440E-02	1.114E-01	1.851E-01	1.103E-02	0.240
BA-137M	273.65			-5.642E-02	1.398E-01	2.255E-01	1.457E-02	-0.250
	340.57			2.211E-02	4.024E-02	7.002E-02	4.222E-03	0.316
	818.51			5.995E-03	2.374E-02	4.046E-02	3.131E-03	0.148
	1048.07	*		-4.328E-03	3.067E-02	4.981E-02	3.740E-03	-0.087
	1235.34			-5.269E-02	1.430E-01	2.165E-01	2.195E-02	-0.243
	661.65	*		-9.763E-03	1.658E-02	2.382E-02	1.544E-03	-0.410
CS-137	661.65	*		-1.032E-02	1.752E-02	2.518E-02	1.638E-03	-0.410
CE-139	165.85	*		-8.805E-03	1.087E-02	1.609E-02	8.244E-04	-0.547
BA-140	162.64			1.895E-01	2.455E-01	3.856E-01	2.309E-02	0.491
LA-140	304.84			3.766E-01	4.175E-01	7.327E-01	1.998E-01	0.514
	423.70			3.415E-01	6.145E-01	1.054E+00	3.347E-01	0.324
	537.32	*		-4.135E-03	8.864E-02	1.486E-01	4.845E-02	-0.028
	328.77			-4.306E-02	9.448E-02	1.489E-01	9.511E-03	-0.289
	432.53			-4.638E-01	7.698E-01	1.086E+00	6.877E-02	-0.427
	487.03			-2.057E-02	4.816E-02	7.272E-02	4.899E-03	-0.283
	751.79			-9.587E-02	5.063E-01	8.034E-01	6.655E-02	-0.119
	815.85			-1.003E-01	1.131E-01	1.450E-01	1.277E-02	-0.692
	867.82			-1.711E-01	4.659E-01	7.045E-01	6.061E-02	-0.243
	919.63			8.824E-01	9.099E-01	1.716E+00	1.771E-01	0.514
	925.24			-1.524E-01	3.715E-01	5.500E-01	4.807E-02	-0.277

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

Nuclide	Line Ided	Energy (keV)	Activity Key	(pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		1596.49	*	-1.689E-02	2.703E-02	3.677E-02	2.395E-03	-0.459
CE-141		145.44	*	-1.151E-02	2.126E-02	3.276E-02	1.907E-03	-0.351
CE-143		57.37		-7.576E+00	3.474E+01	5.776E+01	5.277E+00	-0.131
		231.56		8.495E-01	1.062E+02	1.799E+02	5.613E+01	0.005
		293.26	*	-1.136E+00	5.260E+00	8.568E+00	1.794E+00	-0.133
		350.59		-3.802E+01	7.788E+01	1.154E+02	3.539E+01	-0.329
		490.36		2.669E+01	1.520E+02	2.492E+02	7.798E+01	0.107
		664.57		1.972E+00	6.148E+01	1.025E+02	3.292E+01	0.019
		721.93		1.734E+01	5.838E+01	1.004E+02	2.920E+01	0.173
CE-144		80.11		-7.108E-02	6.059E-01	9.561E-01	6.787E-02	-0.074
		133.54	*	-7.041E-02	7.328E-02	1.073E-01	1.528E-02	-0.656
PM-144		476.78		7.664E-03	2.679E-02	4.491E-02	3.172E-03	0.171
		618.01		6.480E-03	1.509E-02	2.644E-02	1.779E-03	0.245
		696.49	*	9.010E-03	1.795E-02	3.133E-02	2.119E-03	0.288
		778.57		1.231E-01	9.725E-01	1.625E+00	1.205E-01	0.076
PR-144		696.49	*	6.092E-01	1.214E+00	2.118E+00	1.432E-01	0.288
		1489.15		3.808E+00	5.134E+00	9.885E+00	6.694E-01	0.385
PM-146		453.90	*	-2.129E-03	1.916E-02	3.052E-02	2.639E-03	-0.070
		633.02		-2.955E-01	6.125E-01	9.347E-01	3.452E-01	-0.316
		735.90		-2.393E-02	7.037E-02	1.097E-01	3.090E-02	-0.218
		747.13		4.858E-02	3.798E-02	7.336E-02	9.680E-03	0.662
ND-147		91.11		-1.403E-01	8.343E-02	1.452E-01	1.190E-02	-0.967
		319.41		5.851E-01	1.015E+00	1.781E+00	1.013E-01	0.328
		439.89		-1.357E+00	2.153E+00	3.225E+00	1.859E-01	-0.421
		531.02	*	-2.345E-01	1.932E-01	2.437E-01	3.335E-02	-0.962
PM-149		285.90	*	1.600E+00	8.800E+00	1.496E+01	2.110E+00	0.107
EU-152		121.78		4.718E-03	2.775E-02	4.611E-02	3.667E-03	0.102
		244.69		2.035E-02	1.370E-01	2.339E-01	1.294E-02	0.087
		344.27	*	-3.322E-02	3.944E-02	5.864E-02	3.758E-03	-0.566
		443.98		3.141E-01	4.589E-01	7.996E-01	4.624E-02	0.393
		778.89		-2.597E-02	1.154E-01	1.822E-01	1.352E-02	-0.143
		867.32		-5.580E-02	3.531E-01	5.568E-01	4.520E-02	-0.100
		964.01		4.548E-02	1.037E-01	1.808E-01	1.423E-02	0.252
		1085.78		-4.536E-02	1.562E-01	2.459E-01	1.634E-02	-0.184
		1112.02		4.077E-02	1.185E-01	2.095E-01	1.324E-02	0.195
		1407.95		-9.814E-03	9.490E-02	1.385E-01	9.564E-03	-0.071
GD-153		69.67		-8.595E-02	5.180E-01	8.188E-01	5.384E-02	-0.105
		83.37		9.145E-01	4.913E+00	7.610E+00	5.565E-01	0.120
	+	97.43	*	8.266E-03	3.011E-02	4.455E-02	3.098E-03	0.186
		103.18		9.892E-03	3.600E-02	6.088E-02	4.068E-03	0.162
EU-154		123.07		5.980E-03	2.001E-02	3.356E-02	3.243E-03	0.178
		247.94		-1.286E-01	1.485E-01	2.306E-01	2.165E-02	-0.558
		591.81		-7.920E-02	2.662E-01	4.279E-01	4.328E-02	-0.185
		723.30		2.684E-02	6.703E-02	1.173E-01	9.466E-03	0.229
		756.87		-1.498E-01	3.173E-01	4.789E-01	5.281E-02	-0.313
		873.19		6.843E-03	1.333E-01	2.183E-01	2.603E-02	0.031
		996.32		-2.037E-02	1.546E-01	2.539E-01	4.390E-02	-0.080
		1004.76		-4.127E-02	9.213E-02	1.430E-01	1.550E-02	-0.289
		1274.45	*	5.362E-03	4.298E-02	7.264E-02	7.078E-03	0.074

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	48.70			-1.252E+00	9.171E-01	1.304E+00	8.522E-02	-0.959
	60.01			4.844E-01	1.651E+00	2.666E+00	1.676E-01	0.182
	86.54			-8.297E-03	3.516E-02	4.720E-02	3.607E-03	-0.176
	105.31	*		3.018E-03	3.817E-02	6.342E-02	4.274E-03	0.048
TB-160	86.79			-1.636E-02	1.001E-01	1.204E-01	9.101E-03	-0.136
	197.04			6.145E-02	2.367E-01	3.695E-01	1.953E-02	0.166
	215.65			1.317E-01	2.574E-01	4.296E-01	2.315E-02	0.307
	298.57			3.293E-02	4.067E-02	7.291E-02	4.140E-03	0.452
	879.36	*		3.922E-02	5.540E-02	1.009E-01	8.283E-03	0.389
	962.29			-5.540E-02	1.967E-01	3.081E-01	2.430E-02	-0.180
	966.15			7.850E-03	7.459E-02	1.222E-01	9.601E-03	0.064
	1177.93			-9.447E-02	1.103E-01	1.437E-01	7.961E-03	-0.657
	1271.85			3.461E-02	2.768E-01	4.662E-01	2.984E-02	0.074
HO-166M	80.57			-6.537E-03	7.700E-02	1.219E-01	8.686E-03	-0.054
	184.41			-4.124E-03	1.641E-02	2.666E-02	1.390E-03	-0.155
	280.46			-5.532E-03	3.746E-02	6.186E-02	3.494E-03	-0.089
	410.95			-1.119E-02	9.330E-02	1.495E-01	8.367E-03	-0.075
	711.68	*		-9.327E-03	2.735E-02	4.293E-02	2.955E-03	-0.217
	752.31			-2.715E-02	9.801E-02	1.525E-01	1.099E-02	-0.178
	810.29			9.512E-03	2.395E-02	4.174E-02	3.200E-03	0.228
	51.35			-2.221E+00	1.084E+01	1.819E+01	1.185E+00	-0.122
TM-171	52.39			-7.336E-01	5.973E+00	9.446E+00	6.130E-01	-0.078
	59.40			2.589E+00	8.733E+00	1.378E+01	8.644E-01	0.188
	66.72	*		1.786E+00	9.623E+00	1.455E+01	9.419E-01	0.123
	88.36			-3.244E-02	7.445E-02	8.489E-02	6.469E-03	-0.382
LU-176	201.83			-3.946E-03	1.130E-02	1.734E-02	9.212E-04	-0.228
	306.84	*		4.568E-03	1.042E-02	1.805E-02	1.026E-03	0.253
	401.10			6.127E-01	2.746E+00	4.601E+00	2.547E-01	0.133
LU-177	112.95			1.078E-01	4.386E-01	7.111E-01	4.543E-02	0.152
	208.36	*		-1.011E-01	2.599E-01	3.958E-01	2.117E-02	-0.255
LU-177M	52.97			1.316E-02	6.054E-01	9.690E-01	6.271E-02	0.014
	54.07			4.677E-02	3.156E-01	5.097E-01	3.280E-02	0.092
	61.30			-7.545E-02	5.157E-01	7.910E-01	4.997E-02	-0.095
	121.62			2.846E-03	1.379E-01	2.263E-01	1.413E-02	0.013
	147.16			1.543E-01	2.244E-01	3.862E-01	2.140E-02	0.400
	171.86			6.869E-02	1.841E-01	3.054E-01	1.572E-02	0.225
	218.09			-1.229E-01	3.153E-01	4.769E-01	2.576E-02	-0.258
	268.79			-5.792E-02	2.974E-01	4.896E-01	2.751E-02	-0.118
	319.02			2.538E-02	1.055E-01	1.791E-01	1.018E-02	0.142
	367.43			-1.553E-01	3.793E-01	5.932E-01	3.314E-02	-0.262
	413.65	*		3.638E-03	6.520E-02	1.069E-01	6.001E-03	0.034
	56.28			-3.018E-01	2.779E-01	4.243E-01	2.699E-02	-0.711
	57.53			-3.300E-02	1.403E-01	2.330E-01	1.473E-02	-0.142
	65.20			8.116E-02	3.143E-01	4.798E-01	3.083E-02	0.169
	133.02			-5.915E-04	2.076E-02	3.375E-02	1.990E-03	-0.018
HF-181	136.25			3.392E-02	1.561E-01	2.590E-01	1.505E-02	0.131
	345.85			-7.142E-02	7.068E-02	1.022E-01	5.774E-03	-0.699
	482.03	*		-8.572E-03	1.662E-02	2.468E-02	1.474E-03	-0.347
	56.28			-1.238E-01	1.139E-01	1.740E-01	1.106E-02	-0.712
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---- Non-Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182	57.53			-1.353E-02	5.759E-02	9.561E-02	6.044E-03	-0.142
	65.20	*		3.304E-02	1.279E-01	1.953E-01	1.255E-02	0.169
	67.75			-2.408E-02	3.727E-02	5.426E-02	3.530E-03	-0.444
	100.10			-4.148E-02	6.124E-02	8.965E-02	6.111E-03	-0.463
	152.43			-1.796E-02	1.200E-01	1.913E-01	1.037E-02	-0.094
	222.10			2.515E-02	1.332E-01	2.150E-01	1.166E-02	0.117
	1001.68			6.810E-01	9.116E-01	1.603E+00	1.208E-01	0.425
	1121.28			5.462E-02	4.726E-02	9.426E-02	5.848E-03	0.579
	1189.05			1.074E-02	1.056E-01	1.781E-01	1.004E-02	0.060
	1221.42	*		1.847E-02	6.780E-02	1.176E-01	6.975E-03	0.157
RE-183	1230.97			3.285E-02	1.324E-01	2.307E-01	1.389E-02	0.142
	57.98			-1.595E-02	5.625E-02	9.292E-02	5.862E-03	-0.172
	59.32			4.682E-03	3.491E-02	5.408E-02	3.393E-03	0.087
	67.20			-4.563E-03	6.711E-02	9.879E-02	6.409E-03	-0.046
	162.32	*		1.843E-02	4.411E-02	6.726E-02	3.497E-03	0.274
RE-184	208.81			6.749E-02	3.404E-01	5.504E-01	2.945E-02	0.123
	291.72			-2.442E-02	3.191E-01	5.279E-01	2.993E-02	-0.046
	57.98			-6.027E-02	2.126E-01	3.512E-01	2.216E-02	-0.172
	59.32			1.768E-02	1.318E-01	2.042E-01	1.281E-02	0.087
	67.20			-1.724E-02	2.536E-01	3.733E-01	2.422E-02	-0.046
	161.27			-6.224E-02	1.291E-01	1.984E-01	1.036E-02	-0.314
	216.55			-1.951E-02	9.939E-02	1.538E-01	8.299E-03	-0.127
	252.85	*		6.532E-02	8.739E-02	1.568E-01	8.724E-03	0.417
	318.01			-3.833E-02	1.822E-01	2.955E-01	1.680E-02	-0.130
	792.07			1.653E-01	3.935E-01	6.867E-01	5.166E-02	0.241
OS-185	903.28			-1.836E-02	4.362E-01	6.807E-01	5.665E-02	-0.027
	920.93			8.353E-02	1.925E-01	3.346E-01	2.745E-02	0.250
	59.72			3.219E-02	9.615E-02	1.522E-01	9.550E-03	0.212
	61.14			-1.789E-02	5.527E-02	8.318E-02	5.252E-03	-0.215
	69.30			-4.031E-02	9.248E-02	1.429E-01	9.379E-03	-0.282
	592.07			-1.524E-01	1.038E+00	1.704E+00	1.083E-01	-0.089
	646.12	*		-1.183E-03	1.650E-02	2.714E-02	1.754E-03	-0.044
	717.42			-2.569E-01	3.539E-01	5.124E-01	3.550E-02	-0.501
	874.81			9.292E-03	2.301E-01	3.762E-01	3.076E-02	0.025
	880.27			1.862E-01	3.162E-01	5.650E-01	4.643E-02	0.330
RE-188	155.03	*		2.169E-02	6.390E-02	1.062E-01	5.693E-03	0.204
	477.96			-4.880E-01	1.312E+00	2.004E+00	1.193E-01	-0.244
	633.10			-5.590E-01	1.170E+00	1.818E+00	1.171E-01	-0.308
W-188	63.58	+		4.310E+00	2.622E+01	3.470E+01	2.214E+00	0.124
IR-192	227.08			-9.099E-01	4.443E+00	7.396E+00	4.030E-01	-0.123
	290.67	*		-2.745E-01	2.520E+00	4.155E+00	2.355E-01	-0.066
	295.96			-7.774E-03	4.142E-02	6.508E-02	3.754E-03	-0.119
	308.46			9.959E-05	3.766E-02	6.260E-02	3.600E-03	0.002
	316.51	*		4.387E-03	1.312E-02	2.252E-02	1.287E-03	0.195
AU-195	468.07			-1.847E-02	2.704E-02	3.930E-02	2.664E-03	-0.470
	604.41			-8.787E-02	2.069E-01	3.287E-01	3.832E-02	-0.267
	612.46			-1.003E-01	3.263E-01	5.260E-01	4.231E-02	-0.191
	65.12			1.110E-02	6.057E-02	9.181E-02	5.896E-03	0.121
	66.83			6.403E-03	3.146E-02	4.767E-02	3.087E-03	0.134

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	75.70			-1.187E-02	6.082E-02	9.538E-02	6.531E-03	-0.124
	98.88	*		5.434E-02	8.036E-02	1.242E-01	8.537E-03	0.438
	129.76			4.304E-01	9.847E-01	1.668E+00	9.997E-02	0.258
TL-200	367.94	*		-5.415E-06	9.847E-01	Half-Life	too short	
	579.30			-7.348E-05	9.847E-01	Half-Life	too short	
	828.27			-1.330E-05	9.847E-01	Half-Life	too short	
	1205.75			5.426E-05	9.847E-01	Half-Life	too short	
TL-201	68.90			-5.014E-01	5.699E-01	8.437E-01	5.523E-02	-0.594
	70.82			-7.270E-02	3.073E-01	5.071E-01	3.357E-02	-0.143
	80.30			-8.151E-02	5.337E-01	8.388E-01	5.964E-02	-0.097
	135.34			5.173E-01	3.322E+00	5.486E+00	3.201E-01	0.094
	167.43	*		-1.728E-01	9.050E-01	1.427E+00	7.312E-02	-0.121
TL-202	68.90			-9.526E-02	1.083E-01	1.603E-01	1.049E-02	-0.594
	70.82			-1.377E-02	5.823E-02	9.608E-02	6.361E-03	-0.143
	80.30			-1.545E-02	1.011E-01	1.590E-01	1.130E-02	-0.097
	439.56	*		-1.845E-02	2.612E-02	3.870E-02	2.229E-03	-0.477
HG-203	70.83			-7.114E-02	3.031E-01	5.000E-01	6.218E-02	-0.142
	72.87			-7.565E-02	1.771E-01	2.873E-01	3.459E-02	-0.263
	82.60			-8.464E-02	3.218E-01	4.666E-01	6.034E-02	-0.181
	279.20	*		1.251E-02	1.604E-02	2.857E-02	1.718E-03	0.438
BI-207	72.80			-2.305E-02	5.549E-02	9.018E-02	6.047E-03	-0.256
	74.97			-1.679E-02	3.494E-02	5.357E-02	3.648E-03	-0.313
	84.90	+		1.197E-02	6.433E-02	1.039E-01	7.713E-03	0.115
	569.67			3.719E-03	1.531E-02	2.575E-02	1.621E-03	0.144
	1063.62	*		-1.956E-02	1.983E-02	2.615E-02	1.804E-03	-0.748
	1770.23			1.446E-01	2.611E-01	4.874E-01	2.877E-02	0.297
TL-207	81.07			-1.284E-02	6.541E-02	9.574E-02	6.854E-03	-0.134
	83.78	+		7.897E-03	4.242E-02	6.816E-02	5.003E-03	0.116
	94.90	+		9.951E-02	9.154E-02	1.411E-01	1.002E-02	0.705
	122.32			9.272E-02	6.933E-01	1.147E+00	8.124E-02	0.081
	144.24			-5.979E-02	2.740E-01	4.193E-01	2.969E-02	-0.143
	154.21			-1.946E-02	1.524E-01	2.435E-01	1.624E-02	-0.080
	269.46			-6.267E-03	7.248E-02	1.206E-01	7.103E-03	-0.052
	323.87	*		-1.392E-01	2.649E-01	4.122E-01	6.791E-02	-0.338
	338.28			-1.515E-01	4.628E-01	7.067E-01	7.391E-02	-0.214
	445.03			6.044E-01	1.093E+00	1.878E+00	1.927E-01	0.322
TL-208	277.35			4.098E-02	1.553E-01	2.657E-01	2.783E-02	0.154
	510.84			-4.082E-02	1.295E-01	2.396E-01	2.474E-02	-0.170
	583.14	*		-7.861E-03	1.740E-02	2.884E-02	2.063E-03	-0.273
	860.37			-7.803E-03	1.148E-01	1.842E-01	1.610E-02	-0.042
PO-209	260.50			5.385E+00	3.614E+00	6.861E+00	3.837E-01	0.785
	262.80			-9.093E+00	1.055E+01	1.624E+01	9.094E-01	-0.560
	896.60	*		-9.744E-01	3.614E+00	5.101E+00	4.257E-01	-0.191
BI-210	46.50	*		-1.456E-01	1.301E+00	2.161E+00	1.628E-01	-0.067
PB-210	46.50	*		-1.456E-01	1.301E+00	2.161E+00	1.628E-01	-0.067
PO-210	46.50	*		-1.456E-01	1.301E+00	2.161E+00	1.386E-01	-0.067
BI-211	72.87			-4.059E-01	9.495E-01	1.541E+00	1.034E-01	-0.263
	351.07	*		-5.112E-02	8.929E-02	1.327E-01	8.339E-03	-0.385
PB-211	404.84	*		-7.444E-02	3.775E-01	5.953E-01	3.710E-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-212		427.08		-8.678E-01	1.032E+00	1.241E+00	7.671E-01	-0.699
		831.96		-2.277E-01	5.735E-01	8.460E-01	5.293E-01	-0.269
		727.18	*	-6.344E-02	1.257E-01	1.914E-01	1.657E-02	-0.331
		785.46		3.164E-01	6.353E-01	1.131E+00	8.452E-02	0.280
PB-212		1620.62		-4.212E-01	5.935E-01	7.977E-01	5.137E-02	-0.528
		74.81		-1.107E-02	1.180E-01	1.862E-01	2.152E-02	-0.059
		77.11		-9.354E-03	5.854E-02	9.682E-02	6.702E-03	-0.097
		87.30		3.040E-02	1.422E-01	1.833E-01	2.302E-02	0.166
PO-212		238.63	*	-7.877E-03	2.678E-02	4.419E-02	3.138E-03	-0.178
		300.09		-6.859E-02	2.991E-01	4.867E-01	3.973E-02	-0.141
		74.81		-1.107E-02	1.180E-01	1.862E-01	2.152E-02	-0.059
		77.11		-9.354E-03	5.854E-02	9.682E-02	6.702E-03	-0.097
BI-214		87.30		3.040E-02	1.422E-01	1.833E-01	2.302E-02	0.166
		115.19		-8.575E-01	1.336E+00	2.071E+00	1.314E-01	-0.414
		238.63	*	-7.877E-03	2.678E-02	4.419E-02	3.138E-03	-0.178
		300.09		-6.859E-02	2.991E-01	4.867E-01	3.973E-02	-0.141
PB-214		609.31	*	-2.118E-02	3.964E-02	5.884E-02	4.844E-03	-0.360
		1120.29		3.650E-02	1.160E-01	2.028E-01	1.842E-02	0.180
		1764.49		-1.231E-02	1.509E-01	2.236E-01	1.325E-02	-0.055
		74.81		-1.907E-02	2.033E-01	3.208E-01	3.226E-02	-0.059
PO-214		77.11		-1.604E-02	1.004E-01	1.660E-01	1.709E-02	-0.097
		87.30		5.209E-02	2.435E-01	3.139E-01	3.398E-02	0.166
		241.98		-1.036E-01	1.507E-01	2.414E-01	1.899E-02	-0.429
		295.21		-3.192E-02	5.542E-02	8.324E-02	7.026E-03	-0.383
PO-215		351.92	*	-2.370E-02	3.306E-02	4.867E-02	3.975E-03	-0.487
		74.81		-1.907E-02	2.033E-01	3.208E-01	3.226E-02	-0.059
		77.11		-1.604E-02	1.004E-01	1.660E-01	1.709E-02	-0.097
		87.30		5.209E-02	2.435E-01	3.139E-01	3.398E-02	0.166
PO-216		241.98		-1.036E-01	1.507E-01	2.414E-01	1.899E-02	-0.429
		295.21		-3.192E-02	5.542E-02	8.324E-02	7.026E-03	-0.383
		351.92	*	-2.370E-02	3.306E-02	4.867E-02	3.975E-03	-0.487
		81.07		-1.284E-02	6.541E-02	9.574E-02	6.854E-03	-0.134
PO-218		83.78		7.897E-03	4.242E-02	6.816E-02	5.003E-03	0.116
	+	94.90		9.951E-02	9.154E-02	1.411E-01	1.002E-02	0.705
	+	122.32		9.272E-02	6.933E-01	1.147E+00	8.124E-02	0.081
		144.24		-5.979E-02	2.740E-01	4.193E-01	2.969E-02	-0.143
PO-216		154.21		-1.946E-02	1.524E-01	2.435E-01	1.624E-02	-0.080
		269.46		-6.267E-03	7.248E-02	1.206E-01	7.103E-03	-0.052
		323.87	*	-1.392E-01	2.649E-01	4.122E-01	6.791E-02	-0.338
		338.28		-1.515E-01	4.628E-01	7.067E-01	7.391E-02	-0.214
PO-216		445.03		6.044E-01	1.093E+00	1.878E+00	1.927E-01	0.322
		74.81		-1.107E-02	1.180E-01	1.862E-01	2.152E-02	-0.059
		77.11		-9.354E-03	5.854E-02	9.682E-02	6.702E-03	-0.097
		87.30		3.040E-02	1.422E-01	1.833E-01	2.302E-02	0.166
PO-218		238.63	*	-7.877E-03	2.678E-02	4.419E-02	3.138E-03	-0.178
		300.09		-6.859E-02	2.991E-01	4.867E-01	3.973E-02	-0.141
		74.81		-1.907E-02	2.033E-01	3.208E-01	3.226E-02	-0.059
		77.11		-1.604E-02	1.004E-01	1.660E-01	1.709E-02	-0.097
		87.30		5.209E-02	2.435E-01	3.139E-01	3.398E-02	0.166

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	241.98			-1.036E-01	1.507E-01	2.414E-01	1.899E-02	-0.429
	295.21			-3.192E-02	5.542E-02	8.324E-02	7.026E-03	-0.383
	351.92	*		-2.370E-02	3.306E-02	4.867E-02	3.975E-03	-0.487
RN-219	271.23			-3.044E-02	9.457E-02	1.538E-01	1.228E-02	-0.198
	401.81	*		-1.522E-01	1.848E-01	2.701E-01	3.646E-02	-0.564
RN-220	549.76	*		-2.353E+00	9.916E+00	1.613E+01	1.006E+00	-0.146
RA-223	81.07			-1.284E-02	6.541E-02	9.574E-02	6.854E-03	-0.134
	83.78		+	7.897E-03	4.242E-02	6.816E-02	5.003E-03	0.116
	94.90		+	9.951E-02	9.154E-02	1.411E-01	1.002E-02	0.705
	122.32			9.272E-02	6.933E-01	1.147E+00	8.124E-02	0.081
	144.24			-5.979E-02	2.740E-01	4.193E-01	2.969E-02	-0.143
	154.21			-1.946E-02	1.524E-01	2.435E-01	1.624E-02	-0.080
	269.46			-6.267E-03	7.248E-02	1.206E-01	7.103E-03	-0.052
	323.87	*		-1.392E-01	2.649E-01	4.122E-01	6.791E-02	-0.338
	338.28			-1.515E-01	4.628E-01	7.067E-01	7.391E-02	-0.214
	445.03			6.044E-01	1.093E+00	1.878E+00	1.927E-01	0.322
RA-224	240.98	*		4.149E-02	2.804E-01	4.785E-01	2.639E-02	0.087
RA-226	609.31	*		-2.118E-02	3.964E-02	5.884E-02	4.844E-03	-0.360
	1120.29			3.650E-02	1.160E-01	2.028E-01	1.842E-02	0.180
	1764.49			-1.231E-02	1.509E-01	2.236E-01	1.325E-02	-0.055
AC-227	79.80			-9.482E-02	4.672E-01	7.669E-01	1.605E-01	-0.124
	236.00			-1.215E-01	9.114E-02	1.363E-01	1.402E-02	-0.891
	256.20	*		-1.946E-01	1.452E-01	2.069E-01	2.870E-02	-0.940
	286.10			-3.791E-02	5.773E-01	9.578E-01	1.101E-01	-0.040
	299.80			2.406E-02	5.422E-01	9.068E-01	1.473E-01	0.027
	304.40			1.405E-01	7.687E-01	1.300E+00	2.244E-01	0.108
	334.20			-2.163E-01	1.024E+00	1.657E+00	3.030E-01	-0.131
TH-227	79.80			-9.482E-02	4.672E-01	7.669E-01	1.627E-01	-0.124
	94.00		+	7.961E-01	7.494E-01	1.329E+00	2.824E-01	0.599
	236.00			-1.215E-01	9.092E-02	1.363E-01	1.208E-02	-0.891
	256.20	*		-1.946E-01	1.464E-01	2.069E-01	3.482E-02	-0.940
	286.10			-3.791E-02	5.786E-01	9.578E-01	9.593E-01	-0.040
	299.80			2.406E-02	5.422E-01	9.068E-01	1.473E-01	0.027
	304.40			1.405E-01	7.687E-01	1.300E+00	2.244E-01	0.108
	334.20			-2.163E-01	1.024E+00	1.657E+00	3.030E-01	-0.131
AC-228	338.32			-3.587E-02	1.118E-01	1.694E-01	6.902E-02	-0.212
	911.07	*	+	5.625E-02	7.598E-02	1.259E-01	1.382E-02	0.447
	969.11			-5.104E-02	1.065E-01	1.517E-01	3.498E-02	-0.336
RA-228	338.32			-3.587E-02	1.118E-01	1.694E-01	6.902E-02	-0.212
	911.07	*	+	5.625E-02	7.598E-02	1.259E-01	1.382E-02	0.447
	969.11			-5.104E-02	1.065E-01	1.517E-01	3.498E-02	-0.336
TH-228	74.81			-1.119E-02	1.192E-01	1.882E-01	1.297E-02	-0.059
	77.11			-9.455E-03	5.917E-02	9.786E-02	6.775E-03	-0.097
	87.30			3.073E-02	1.437E-01	1.852E-01	1.408E-02	0.166
	238.63	*		-7.962E-03	2.707E-02	4.467E-02	3.172E-03	-0.178
	300.09			-6.933E-02	3.050E-01	4.919E-01	2.899E-01	-0.141
TH-229	85.43		+	1.182E-02	6.351E-02	9.901E-02	7.386E-03	0.119
	88.47			-4.397E-02	4.129E-02	4.852E-02	3.692E-03	-0.906
	100.00			-1.791E-02	6.307E-02	9.653E-02	6.584E-03	-0.186

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

Nuclide	Line Ided	Energy (keV)	Activity Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-230		193.63	*	-1.640E-01	1.905E-01	2.758E-01	1.452E-02	-0.595
		210.97		-1.184E-01	2.819E-01	4.267E-01	2.289E-02	-0.277
		609.31	*	-2.118E-02	3.964E-02	5.884E-02	4.844E-03	-0.360
		1120.29		3.650E-02	1.160E-01	2.028E-01	1.842E-02	0.180
PA-231		1764.49		-1.231E-02	1.509E-01	2.236E-01	1.325E-02	-0.055
		283.67	*	-4.068E-01	6.254E-01	9.751E-01	1.338E-01	-0.417
TH-231		301.29		-1.988E-01	2.256E-01	3.406E-01	3.538E-02	-0.584
		81.07		-1.284E-02	6.541E-02	9.574E-02	6.854E-03	-0.134
+		83.78		7.897E-03	4.242E-02	6.816E-02	5.003E-03	0.116
		94.90		9.951E-02	9.154E-02	1.411E-01	1.002E-02	0.705
		122.32		9.272E-02	6.933E-01	1.147E+00	8.124E-02	0.081
		144.24		-5.979E-02	2.740E-01	4.193E-01	2.969E-02	-0.143
		154.21		-1.946E-02	1.524E-01	2.435E-01	1.624E-02	-0.080
		269.46		-6.267E-03	7.248E-02	1.206E-01	7.103E-03	-0.052
		323.87	*	-1.392E-01	2.649E-01	4.122E-01	6.791E-02	-0.338
		338.28		-1.515E-01	4.628E-01	7.067E-01	7.391E-02	-0.214
U-231		445.03		6.044E-01	1.093E+00	1.878E+00	1.927E-01	0.322
	+	84.21		1.652E-01	8.877E-01	1.420E+00	1.047E-01	0.116
		92.29		-2.436E-01	4.246E-01	7.787E-01	5.674E-02	-0.313
	+	95.87	*	2.361E-01	2.171E-01	3.245E-01	2.286E-02	0.727
TH-232		108.00		-3.346E-01	3.757E-01	5.715E-01	3.724E-02	-0.586
		338.32		-3.587E-02	1.108E-01	1.694E-01	9.595E-03	-0.212
	+	911.07	*	5.625E-02	7.598E-02	1.259E-01	1.382E-01	0.447
		969.11		-5.104E-02	1.065E-01	1.517E-01	3.498E-02	-0.336
PA-233		75.28		-2.302E-01	1.002E+00	1.566E+00	2.257E-01	-0.147
		86.59		-9.588E-02	6.373E-01	7.680E-01	2.035E-01	-0.125
		300.12		-3.592E-02	1.545E-01	2.513E-01	3.364E-02	-0.143
		311.98	*	-1.188E-02	2.400E-02	3.757E-02	2.273E-03	-0.316
		340.50		1.403E-01	2.482E-01	4.293E-01	9.844E-02	0.327
		398.62		2.656E-01	9.078E-01	1.527E+00	3.939E-01	0.174
PA-234		415.76		-2.711E-01	6.964E-01	1.073E+00	2.204E-01	-0.253
	+	63.00		1.306E-01	7.946E-01	1.082E+00	1.554E-01	0.121
	+	94.67		7.099E-02	6.561E-02	1.026E-01	1.171E-02	0.692
		98.44		1.208E-02	3.501E-02	5.122E-02	2.845E-02	0.236
		99.86		-1.933E-02	1.766E-01	2.484E-01	1.696E-02	-0.078
		111.00		4.261E-02	7.569E-02	1.296E-01	1.378E-02	0.329
		131.20		-1.513E-02	3.818E-02	6.002E-02	3.571E-03	-0.252
		152.70		2.871E-02	1.169E-01	1.931E-01	3.026E-02	0.149
		186.00		-4.362E-01	6.214E-01	9.531E-01	2.902E-01	-0.458
		226.40		-9.822E-02	1.466E-01	2.330E-01	2.653E-02	-0.422
		227.20		-1.420E-02	1.573E-01	2.645E-01	1.442E-02	-0.054
		248.90		-3.896E-01	3.411E-01	4.979E-01	1.067E-01	-0.783
		293.70		-1.577E-01	2.629E-01	3.917E-01	6.281E-02	-0.403
		369.80		1.328E-01	3.407E-01	5.831E-01	1.211E-01	0.228
		568.70		2.531E-01	4.953E-01	8.565E-01	5.390E-02	0.296
		569.50		3.200E-02	1.357E-01	2.282E-01	1.437E-02	0.140
		574.00		-2.562E-01	6.425E-01	1.023E+00	6.453E-02	-0.250
		699.00		-1.898E-01	3.982E-01	5.528E-01	1.013E-01	-0.343
		706.10		3.627E-01	5.199E-01	8.907E-01	3.944E-01	0.407

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		733.00		1.470E-01	1.750E-01	3.156E-01	6.829E-02	0.466
		742.81		-4.177E-01	6.542E-01	8.610E-01	5.772E-01	-0.485
		796.30		-7.121E-02	3.695E-01	5.841E-01	1.561E-01	-0.122
		805.60		-4.792E-02	4.233E-01	6.780E-01	2.060E-01	-0.071
		819.60		9.635E-02	5.402E-01	9.052E-01	3.425E-01	0.106
		826.30		-8.967E-02	3.553E-01	5.501E-01	2.453E-01	-0.163
		831.60		-9.254E-02	2.859E-01	4.396E-01	1.302E-01	-0.211
		876.40		-2.342E-01	4.469E-01	5.418E-01	5.568E-01	-0.432
		880.51		4.606E-02	1.178E-01	2.043E-01	1.679E-02	0.226
		883.24		-9.324E-03	1.304E-01	2.086E-01	1.401E-01	-0.045
		899.00		3.138E-02	3.964E-01	5.967E-01	2.605E-01	0.053
		925.00		-3.550E-01	5.141E-01	7.157E-01	5.850E-02	-0.496
		926.50		1.811E-02	7.367E-02	1.241E-01	3.119E-02	0.146
		946.00	*	8.474E-02	1.408E-01	2.480E-01	4.586E-02	0.342
		949.00		9.072E-02	2.011E-01	3.487E-01	2.787E-02	0.260
		980.50		-2.541E-01	3.568E-01	4.978E-01	3.848E-02	-0.510
PA-234M		1394.10		-3.429E-01	6.777E-01	9.280E-01	6.022E-01	-0.370
		766.42		-3.658E+00	4.993E+00	6.638E+00	3.354E+00	-0.551
		1001.03	*	5.320E-01	2.141E+00	3.515E+00	3.181E-01	0.151
TH-234	+	63.29	*	1.120E-01	6.817E-01	9.200E-01	1.566E-01	0.122
		92.38		-1.374E-01	2.295E-01	4.185E-01	7.317E-02	-0.328
U-234		609.31	*	-2.118E-02	3.964E-02	5.884E-02	4.844E-03	-0.360
		1120.29		3.650E-02	1.160E-01	2.028E-01	1.842E-02	0.180
		1764.49		-1.231E-02	1.509E-01	2.236E-01	1.325E-02	-0.055
U-235		89.95		7.934E-02	3.399E-01	5.196E-01	1.588E-01	0.153
		93.35		-1.887E-01	2.758E-01	4.947E-01	1.367E-01	-0.381
		105.00		8.105E-02	3.746E-01	6.285E-01	1.843E-01	0.129
		143.76	*	1.959E-02	8.255E-02	1.312E-01	2.131E-02	0.149
		163.35		1.381E-01	1.946E-01	3.014E-01	5.362E-02	0.458
		185.71		-1.852E-02	2.254E-02	3.509E-02	1.832E-03	-0.528
		205.31		4.197E-02	2.039E-01	3.296E-01	5.880E-02	0.127
NP-236	+	94.67		5.384E-02	4.953E-02	7.788E-02	5.545E-03	0.691
		98.44		9.141E-03	2.598E-02	3.872E-02	2.671E-03	0.236
		111.00		3.223E-02	5.719E-02	9.799E-02	6.305E-03	0.329
		160.31	*	-2.946E-02	2.989E-02	4.350E-02	2.281E-03	-0.677
NP-237		86.50	*	-2.028E-02	8.601E-02	1.153E-01	2.534E-02	-0.176
	+	95.87		4.287E-01	4.066E-01	5.894E-01	1.422E-01	0.727
U-238	+	63.29	*	1.120E-01	6.817E-01	9.200E-01	1.566E-01	0.122
		92.38		-1.374E-01	2.285E-01	4.185E-01	3.046E-02	-0.328
NP-239		99.55		5.438E-03	5.992E-02	8.657E-02	5.924E-03	0.063
		117.00	*	2.884E-03	6.776E-02	1.116E-01	7.045E-03	0.026
		209.75		3.343E-02	2.766E-01	4.438E-01	2.378E-02	0.075
		228.18		1.062E-02	8.179E-02	1.401E-01	7.644E-03	0.076
		277.60		2.988E-02	7.589E-02	1.312E-01	7.402E-03	0.228
		334.30		-1.337E-01	5.786E-01	9.351E-01	5.303E-02	-0.143
AM-241		59.54	*	1.895E-02	5.127E-02	8.152E-02	5.793E-03	0.232
AM-243		74.67	*	-1.611E-04	1.931E-02	3.070E-02	2.086E-03	-0.005
		86.72		-5.687E-01	3.575E+00	4.305E+00	3.252E-01	-0.132
		117.66		2.686E-01	1.322E+00	2.209E+00	1.392E-01	0.122

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	142.18			-2.706E+00	7.109E+00	1.073E+01	6.073E-01	-0.252
	99.55			5.594E-03	6.164E-02	8.906E-02	6.094E-03	0.063
	103.76	*		2.738E-02	3.268E-02	5.785E-02	3.853E-03	0.473
	117.00			2.966E-03	6.969E-02	1.148E-01	7.246E-03	0.026
	209.75			3.295E-02	2.726E-01	4.374E-01	2.343E-02	0.075
	228.18			1.073E-02	8.262E-02	1.415E-01	7.721E-03	0.076
AM-246	277.60			3.012E-02	7.649E-02	1.322E-01	7.460E-03	0.228
	798.80			-5.310E-02	6.234E-02	8.739E-02	6.621E-03	-0.608
	1036.00			-4.232E-02	1.146E-01	1.781E-01	1.282E-02	-0.238
	1062.04			-3.597E-02	8.033E-02	1.213E-01	8.387E-03	-0.297
	1078.86	*		1.207E-02	6.092E-02	1.049E-01	7.055E-03	0.115
CM-247	278.00			1.955E-01	3.170E-01	5.574E-01	3.145E-02	0.351
	287.40			1.315E-01	4.994E-01	7.946E-01	4.499E-02	0.165
CF-249	402.60	*		-6.495E-03	1.580E-02	2.449E-02	1.358E-03	-0.265
	252.85			2.495E-01	3.338E-01	5.988E-01	3.333E-02	0.417
	333.44			-5.941E-03	7.669E-02	1.259E-01	7.138E-03	-0.047
CF-251	387.95	*		-1.961E-02	1.735E-02	2.441E-02	1.342E-03	-0.803
	176.60	*		1.928E-02	4.835E-02	8.034E-02	4.154E-03	0.240
	227.00			-3.743E-02	1.384E-01	2.290E-01	1.248E-02	-0.163
ANH-511	285.00			-3.176E-02	6.796E-01	1.130E+00	6.394E-02	-0.028
	511.00	*		-8.566E-03	2.799E-02	5.182E-02	3.158E-03	-0.165

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]G1202029817      *
* Acquisition date   : 12-FEB-2010 17:51:43 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 02:00:00.55 Half life ratio          : 8.000         *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-FEB-2010 00:00:00 Nuclide Library     : SOLID         *
* Sample ID          : G1202029817    Analyst initials       : RXF2           *
* Batch Number       : 947554          Sample Quantity        : 1.6939E+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

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)
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---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error Ided	MDA (pCi/GRAM)	
BE-7	4.745E-03	1.229E-01	2.133E-01	0.000E+00 NOT IDENT.
NA-22	1.283E-03	1.490E-02	2.593E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	2.197E+03	0.000E+00	0.000E+00 SHORT HLIF
AL-26	-1.370E-03	2.182E-02	3.046E-02	0.000E+00 NOT IDENT.
K-40	-2.917E-02	2.192E-01	3.921E-01	0.000E+00 NOT IDENT.
TI-44	-4.166E-03	9.924E-03	1.816E-02	0.000E+00 NOT IDENT.
SC-46	-1.990E-03	1.524E-02	2.532E-02	0.000E+00 NOT IDENT.
V-48	1.941E-02	3.609E-02	5.184E-02	0.000E+00 NOT IDENT.
CR-51	8.221E-02	1.338E-01	2.553E-01	0.000E+00 NOT IDENT.
MN-52	3.747E-03	6.364E-02	1.085E-01	0.000E+00 NOT IDENT.
MN-54	7.393E-03	1.679E-02	3.058E-02	0.000E+00 NOT IDENT.
CO-56	6.981E-03	1.601E-02	2.934E-02	0.000E+00 NOT IDENT.
CO-57	4.999E-04	9.651E-03	1.775E-02	0.000E+00 NOT IDENT.
CO-58	5.282E-03	1.433E-02	2.626E-02	0.000E+00 NOT IDENT.
FE-59	1.090E-02	3.404E-02	6.230E-02	0.000E+00 NOT IDENT.
CO-60	1.486E-02	1.444E-02	3.001E-02	0.000E+00 NOT IDENT.
ZN-65	7.096E-03	3.398E-02	6.100E-02	0.000E+00 NOT IDENT.
GE-68	3.756E-01	5.046E-01	9.821E-01	0.000E+00 NOT IDENT.
AS-73	8.475E-02	2.990E-01	5.596E-01	0.000E+00 NOT IDENT.
AS-74	9.850E-03	3.528E-02	6.488E-02	0.000E+00 NOT IDENT.
SE-75	-1.128E-02	1.640E-02	2.812E-02	0.000E+00 NOT IDENT.
BR-77	2.909E-01	1.318E+00	2.321E+00	0.000E+00 NOT IDENT.
SR-82	1.617E-01	1.452E-01	2.897E-01	0.000E+00 NOT IDENT.
RB-83	5.520E-03	2.998E-02	5.254E-02	0.000E+00 NOT IDENT.
RB-84	3.437E-03	2.759E-02	4.803E-02	0.000E+00 NOT IDENT.
KR-85	-1.643E+01	5.605E+00	7.175E+00	0.000E+00 NOT IDENT.

SR-85	-8.047E-02	2.745E-02	3.514E-02	0.000E+00	NOT IDENT.
RB-86	1.591E-01	2.749E-01	5.232E-01	0.000E+00	NOT IDENT.
Y-88	-3.305E-03	1.829E-02	2.953E-02	0.000E+00	NOT IDENT.
ZR-88	6.922E-03	1.129E-02	2.137E-02	0.000E+00	NOT IDENT.
Y-91	6.499E+00	5.256E+00	1.125E+01	0.000E+00	NOT IDENT.
NB-94	-1.447E-02	1.547E-02	2.361E-02	0.000E+00	NOT IDENT.
NB-95	-1.003E-02	1.609E-02	2.509E-02	0.000E+00	NOT IDENT.
NB-95M	-5.715E-02	4.495E-02	7.459E-02	0.000E+00	NOT IDENT.
ZR-95	-2.896E-02	2.800E-02	3.716E-02	0.000E+00	NOT IDENT.
NB-97	0.000E+00	5.058E+02	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.856E+04	0.000E+00	0.000E+00	SHORT HLIF
MO-99	5.677E-01	1.514E+00	2.787E+00	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	9.392E+10	0.000E+00	0.000E+00	SHORT HLIF
RH-101	3.009E-03	1.412E-02	2.419E-02	0.000E+00	NOT IDENT.
RH-102	-4.866E-03	1.242E-02	2.031E-02	0.000E+00	NOT IDENT.
RU-103	3.989E-03	1.820E-02	3.175E-02	0.000E+00	NOT IDENT.
RH-106	4.648E-02	1.380E-01	2.550E-01	0.000E+00	NOT IDENT.
RU-106	4.648E-02	1.380E-01	2.550E-01	0.000E+00	NOT IDENT.
AG-108M	-9.478E-03	1.520E-02	2.302E-02	0.000E+00	NOT IDENT.
CD-109	-9.048E-02	3.150E-01	4.182E-01	0.000E+00	NOT IDENT.
AG-110M	-3.151E-04	1.342E-02	2.359E-02	0.000E+00	NOT IDENT.
IN-111	8.596E-02	1.469E-01	2.836E-01	0.000E+00	NOT IDENT.
IN-113M	4.912E-04	1.789E-02	3.166E-02	0.000E+00	NOT IDENT.
SN-113	4.912E-04	1.789E-02	3.166E-02	0.000E+00	NOT IDENT.
IN-114M	-4.759E-03	6.144E-02	1.073E-01	0.000E+00	NOT IDENT.
CD-115	5.581E-01	1.136E+00	2.079E+00	0.000E+00	NOT IDENT.
SN-117M	-2.486E-03	1.618E-02	2.856E-02	0.000E+00	NOT IDENT.
SB-122	-2.678E-01	3.155E-01	5.103E-01	0.000E+00	NOT IDENT.
I-123	0.000E+00	8.357E+03	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-6.306E-03	1.025E-02	1.730E-02	0.000E+00	NOT IDENT.
I-124	-8.482E-02	1.476E-01	2.450E-01	0.000E+00	NOT IDENT.
SB-124	-1.144E-02	3.973E-02	6.331E-02	0.000E+00	NOT IDENT.
SB-125	-5.050E-02	3.917E-02	5.648E-02	0.000E+00	NOT IDENT.
TE-125M	1.008E+00	3.360E+00	6.352E+00	0.000E+00	NOT IDENT.
I-126	2.962E-02	5.870E-02	1.103E-01	0.000E+00	NOT IDENT.
SB-126	-3.870E-02	4.372E-02	6.474E-02	0.000E+00	NOT IDENT.
SN-126	2.169E-02	2.705E-02	4.376E-02	0.000E+00	FAIL ABUN
SB-127	6.239E-02	2.193E-01	4.028E-01	0.000E+00	NOT IDENT.
XE-127	-5.919E-03	1.685E-02	2.849E-02	0.000E+00	NOT IDENT.
I-131	2.962E-02	3.147E-02	6.163E-02	0.000E+00	NOT IDENT.
TE-132	2.137E-02	9.598E-02	1.818E-01	0.000E+00	NOT IDENT.
BA-133	9.260E-03	1.732E-02	3.256E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	7.789E+01	0.000E+00	0.000E+00	SHORT HLIF
CS-134	1.002E-03	1.876E-02	3.264E-02	0.000E+00	NOT IDENT.
CS-135	-4.225E-03	6.022E-02	1.096E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	3.567E+10	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-4.328E-03	3.006E-02	5.103E-02	0.000E+00	NOT IDENT.
BA-137M	-9.763E-03	1.625E-02	2.477E-02	0.000E+00	NOT IDENT.
CS-137	-1.032E-02	1.717E-02	2.619E-02	0.000E+00	NOT IDENT.
CE-139	-8.805E-03	1.066E-02	1.747E-02	0.000E+00	NOT IDENT.
BA-140	-4.135E-03	8.687E-02	1.556E-01	0.000E+00	NOT IDENT.
LA-140	-1.689E-02	2.649E-02	3.713E-02	0.000E+00	NOT IDENT.
CE-141	-1.151E-02	2.083E-02	3.572E-02	0.000E+00	NOT IDENT.
CE-143	-1.136E+00	5.154E+00	9.146E+00	0.000E+00	NOT IDENT.
CE-144	-7.041E-02	7.182E-02	1.173E-01	0.000E+00	NOT IDENT.
PM-144	9.010E-03	1.759E-02	3.253E-02	0.000E+00	NOT IDENT.
PR-144	6.092E-01	1.189E+00	2.199E+00	0.000E+00	NOT IDENT.
PM-146	-2.129E-03	1.878E-02	3.214E-02	0.000E+00	NOT IDENT.
ND-147	-2.345E-01	1.894E-01	2.553E-01	0.000E+00	NOT IDENT.
PM-149	1.600E+00	8.624E+00	1.598E+01	0.000E+00	NOT IDENT.
EU-152	-3.322E-02	3.865E-02	6.228E-02	0.000E+00	NOT IDENT.
GD-153	8.266E-03	2.950E-02	4.915E-02	0.000E+00	FAIL ABUN
EU-154	5.362E-03	4.212E-02	7.391E-02	0.000E+00	NOT IDENT.
EU-155	3.018E-03	3.740E-02	6.981E-02	0.000E+00	NOT IDENT.
TB-160	3.922E-02	5.429E-02	1.039E-01	0.000E+00	NOT IDENT.
HO-166M	-9.327E-03	2.680E-02	4.454E-02	0.000E+00	NOT IDENT.
TM-171	1.786E+00	9.430E+00	1.623E+01	0.000E+00	NOT IDENT.
LU-176	4.568E-03	1.021E-02	1.924E-02	0.000E+00	NOT IDENT.
LU-177	-1.011E-01	2.547E-01	4.269E-01	0.000E+00	NOT IDENT.
LU-177M	3.638E-03	6.390E-02	1.129E-01	0.000E+00	NOT IDENT.
HF-181	-8.572E-03	1.629E-02	2.593E-02	0.000E+00	NOT IDENT.
W-181	3.304E-02	1.254E-01	2.180E-01	0.000E+00	NOT IDENT.
TA-182	1.847E-02	6.645E-02	1.198E-01	0.000E+00	NOT IDENT.
RE-183	1.843E-02	4.322E-02	7.311E-02	0.000E+00	NOT IDENT.
RE-184	6.532E-02	8.564E-02	1.681E-01	0.000E+00	NOT IDENT.
OS-185	-1.183E-03	1.617E-02	2.825E-02	0.000E+00	NOT IDENT.
RE-188	2.169E-02	6.262E-02	1.156E-01	0.000E+00	NOT IDENT.
W-188	-2.745E-01	2.469E+00	4.436E+00	0.000E+00	FAIL ABUN

IR-192	4.387E-03	1.285E-02	2.398E-02	0.000E+00	NOT IDENT.
AU-195	5.434E-02	7.876E-02	1.369E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	1.161E+01	0.000E+00	0.000E+00	SHORT HLIF
TL-201	-1.728E-01	8.869E-01	1.549E+00	0.000E+00	NOT IDENT.
TL-202	-1.845E-02	2.560E-02	4.078E-02	0.000E+00	NOT IDENT.
HG-203	1.251E-02	1.572E-02	3.054E-02	0.000E+00	NOT IDENT.
BI-207	-1.956E-02	1.943E-02	2.677E-02	0.000E+00	FAIL ABUN
TL-207	-1.392E-01	2.596E-01	4.387E-01	0.000E+00	FAIL ABUN
TL-208	-7.861E-03	1.705E-02	3.012E-02	0.000E+00	NOT IDENT.
PO-209	-9.744E-01	3.542E+00	5.253E+00	0.000E+00	NOT IDENT.
BI-210	-1.456E-01	1.275E+00	2.435E+00	0.000E+00	NOT IDENT.
PB-210	-1.456E-01	1.275E+00	2.435E+00	0.000E+00	NOT IDENT.
PO-210	-1.456E-01	1.275E+00	2.435E+00	0.000E+00	NOT IDENT.
BI-211	-5.112E-02	8.750E-02	1.408E-01	0.000E+00	NOT IDENT.
PB-211	-7.444E-02	3.699E-01	6.291E-01	0.000E+00	NOT IDENT.
BI-212	-6.344E-02	1.232E-01	1.985E-01	0.000E+00	NOT IDENT.
PB-212	-7.877E-03	2.624E-02	4.748E-02	0.000E+00	NOT IDENT.
PO-212	-7.877E-03	2.624E-02	4.748E-02	0.000E+00	NOT IDENT.
BI-214	-2.118E-02	3.885E-02	6.137E-02	0.000E+00	NOT IDENT.
PB-214	-2.370E-02	3.240E-02	5.165E-02	0.000E+00	NOT IDENT.
PO-214	-2.370E-02	3.240E-02	5.165E-02	0.000E+00	NOT IDENT.
PO-215	-1.392E-01	2.596E-01	4.387E-01	0.000E+00	FAIL ABUN
PO-216	-7.877E-03	2.624E-02	4.748E-02	0.000E+00	NOT IDENT.
PO-218	-2.370E-02	3.240E-02	5.165E-02	0.000E+00	NOT IDENT.
RN-219	-1.522E-01	1.811E-01	2.855E-01	0.000E+00	NOT IDENT.
RN-220	-2.353E+00	9.718E+00	1.688E+01	0.000E+00	NOT IDENT.
RA-223	-1.392E-01	2.596E-01	4.387E-01	0.000E+00	FAIL ABUN
RA-224	4.149E-02	2.748E-01	5.138E-01	0.000E+00	NOT IDENT.
RA-226	-2.118E-02	3.885E-02	6.137E-02	0.000E+00	NOT IDENT.
AC-227	-1.946E-01	1.423E-01	2.218E-01	0.000E+00	NOT IDENT.
TH-227	-1.946E-01	1.435E-01	2.218E-01	0.000E+00	FAIL ABUN
AC-228	5.625E-02	7.446E-02	1.295E-01	0.000E+00	FAIL ABUN
RA-228	5.625E-02	7.446E-02	1.295E-01	0.000E+00	FAIL ABUN
TH-228	-7.962E-03	2.653E-02	4.799E-02	0.000E+00	NOT IDENT.
TH-229	-1.640E-01	1.867E-01	2.982E-01	0.000E+00	FAIL ABUN
TH-230	-2.118E-02	3.885E-02	6.137E-02	0.000E+00	NOT IDENT.
PA-231	-4.068E-01	6.129E-01	1.042E+00	0.000E+00	NOT IDENT.
TH-231	-1.392E-01	2.596E-01	4.387E-01	0.000E+00	FAIL ABUN
U-231	2.361E-01	2.128E-01	3.582E-01	0.000E+00	FAIL ABUN
TH-232	5.625E-02	7.446E-02	1.295E-01	0.000E+00	FAIL ABUN
PA-233	-1.188E-02	2.352E-02	4.002E-02	0.000E+00	NOT IDENT.
PA-234	8.474E-02	1.380E-01	2.549E-01	0.000E+00	FAIL ABUN
PA-234M	5.320E-01	2.099E+00	3.606E+00	0.000E+00	NOT IDENT.
TH-234	1.120E-01	6.681E-01	1.028E+00	0.000E+00	FAIL ABUN
U-234	-2.118E-02	3.885E-02	6.137E-02	0.000E+00	NOT IDENT.
U-235	1.959E-02	8.090E-02	1.431E-01	0.000E+00	NOT IDENT.
NP-236	-2.946E-02	2.929E-02	4.729E-02	0.000E+00	FAIL ABUN
NP-237	-2.028E-02	8.429E-02	1.277E-01	0.000E+00	FAIL ABUN
U-238	1.120E-01	6.681E-01	1.028E+00	0.000E+00	FAIL ABUN
NP-239	2.884E-03	6.640E-02	1.225E-01	0.000E+00	NOT IDENT.
AM-241	1.895E-02	5.025E-02	9.122E-02	0.000E+00	NOT IDENT.
AM-243	-1.611E-04	1.892E-02	3.413E-02	0.000E+00	NOT IDENT.
CM-243	2.738E-02	3.203E-02	6.372E-02	0.000E+00	NOT IDENT.
AM-246	1.207E-02	5.970E-02	1.074E-01	0.000E+00	NOT IDENT.
CM-247	-6.495E-03	1.549E-02	2.588E-02	0.000E+00	NOT IDENT.
CF-249	-1.961E-02	1.701E-02	2.583E-02	0.000E+00	NOT IDENT.
CF-251	1.928E-02	4.738E-02	8.710E-02	0.000E+00	NOT IDENT.
ANH-511	-8.566E-03	2.743E-02	5.435E-02	0.000E+00	NOT IDENT.

```
*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029817.CNF;1
Sample date        : 2-FEB-2010 00:00:00. Acquisition date : 12-FEB-2010 17:51:43
Sample ID          : G1202029817      Sample quantity   : 1.69389E+02 GRAM
Detector name      : GAM12             Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00     Elapsed real time: 0 02:00:00.55  0.0%
Energy tolerance   : 1.50000 keV       Analyst Initials : RXF2
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 947554            Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****
```

Nuclide Line Activity Report

Flag: "*" = Keyline

Summary of Nuclide Activity
Sample ID : G1202029817

Page : 2
Acquisition date : 12-FEB-2010 17:51:43

Total number of lines in spectrum	4	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	4	100.00%

**** There are no nuclides meeting summary criteria ****

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

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

Unidentified Energy Lines
Sample ID : G1202029817

Page : 3
Acquisition date : 12-FEB-2010 17:51:43

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	63.45	6	91	0.98	126.37	122	8	8.61E-04	****	3.23E+00	T
0	84.49	5	43	1.44	168.47	166	6	6.67E-04	****	5.46E+00	T
2	94.95	31	54	1.16	189.40	178	17	4.25E-03	91.7	6.08E+00	T
0	911.14	12	11	1.69	1822.31	1817	9	1.67E-03	****	1.71E+00	T

Flags: "T" = Tentatively associated

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
*                               DETECTOR DATA                               *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029817.CNF;1
* Acquisition date   : 12-FEB-2010 17:51:43   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 02:00:00.55          Half life ratio  : 8.00000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 2-FEB-2010 00:00:00.   Nuclide Library : SOLID
* Sample ID          : G1202029817           Analyst initials: RXF2
* Batch Number       : 947554                Sample Quantity : 1.69389E+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

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	4.745E-03		1.254E-01	2.029E-01	1.396E-02	0.023
NA-22	1.283E-03		1.521E-02	2.548E-02	1.641E-03	0.050
NA-24	-4.785E-04		1.121E-03	Half-Life too short		
AL-26	-1.370E-03		1.864E-02	3.030E-02	1.738E-03	-0.045
K-40	-2.917E-02		2.237E-01	3.871E-01	2.760E-02	-0.075
TI-44	-4.166E-03		1.013E-02	1.635E-02	1.144E-03	-0.255
SC-46	-1.990E-03		1.556E-02	2.458E-02	2.037E-03	-0.081
V-48	1.941E-02		3.682E-02	5.050E-02	3.891E-03	0.384
CR-51	8.221E-02		1.365E-01	2.398E-01	1.525E-02	0.343
MN-52	3.747E-03		6.494E-02	1.070E-01	7.353E-03	0.035
MN-54	7.393E-03		1.713E-02	2.963E-02	2.329E-03	0.249
CO-56	6.981E-03		1.634E-02	2.844E-02	2.262E-03	0.245
CO-57	4.999E-04		9.847E-03	1.619E-02	1.013E-03	0.031
CO-58	5.282E-03		1.463E-02	2.541E-02	1.955E-03	0.208
FE-59	1.090E-02		3.473E-02	6.092E-02	4.499E-03	0.179
CO-60	1.486E-02		1.473E-02	2.954E-02	2.063E-03	0.503
ZN-65	7.096E-03		3.468E-02	5.968E-02	3.754E-03	0.119

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
GE-68	3.756E-01		5.149E-01	9.596E-01	6.470E-02	0.391
AS-73	8.475E-02		3.051E-01	4.985E-01	3.219E-02	0.170
AS-74	9.850E-03		3.600E-02	6.217E-02	3.957E-03	0.158
SE-75	-1.128E-02		1.674E-02	2.626E-02	1.488E-03	-0.430
BR-77	2.909E-01		1.345E+00	2.214E+00	1.358E-01	0.131
SR-82	1.617E-01		1.482E-01	2.800E-01	2.072E-02	0.577
RB-83	5.520E-03		3.059E-02	5.012E-02	3.073E-03	0.110
RB-84	3.437E-03		2.816E-02	4.661E-02	3.835E-03	0.074
KR-85	-1.643E+01		5.720E+00	6.842E+00	4.178E-01	-2.402
SR-85	-8.047E-02		2.801E-02	3.351E-02	2.046E-03	-2.402
RB-86	1.591E-01		2.806E-01	5.112E-01	3.451E-02	0.311
Y-88	-3.305E-03		1.867E-02	2.939E-02	1.654E-03	-0.112
ZR-88	6.922E-03		1.152E-02	2.021E-02	1.108E-03	0.343
Y-91	6.499E+00		5.363E+00	1.104E+01	6.382E-01	0.589
NB-94	-1.447E-02		1.579E-02	2.274E-02	1.549E-03	-0.636
NB-95	-1.003E-02		1.642E-02	2.424E-02	1.773E-03	-0.414
NB-95M	-5.715E-02		4.587E-02	6.941E-02	5.063E-03	-0.823
ZR-95	-2.896E-02		2.857E-02	3.589E-02	2.964E-03	-0.807
NB-97	1.012E-04		2.581E-04	Half-Life too short		
ZR-97	-4.694E-02		9.469E-03	Half-Life too short		
MO-99	5.677E-01		1.545E+00	2.689E+00	3.866E-01	0.211
TC-99M	-8.416E+04		4.792E+04	Half-Life too short		
RH-101	3.009E-03		1.441E-02	2.239E-02	1.184E-03	0.134
RH-102	-4.866E-03		1.267E-02	1.932E-02	1.147E-03	-0.252
RU-103	3.989E-03		1.857E-02	3.024E-02	3.857E-03	0.132
RH-106	4.648E-02		1.409E-01	2.447E-01	2.950E-02	0.190
RU-106	4.648E-02		1.408E-01	2.447E-01	1.571E-02	0.190
AG-108M	-9.478E-03		1.551E-02	2.183E-02	1.361E-03	-0.434
CD-109	-9.048E-02		3.214E-01	3.779E-01	2.892E-02	-0.239
AG-110M	-3.151E-04		1.370E-02	2.267E-02	1.545E-03	-0.014
IN-111	8.596E-02		1.499E-01	2.642E-01	1.462E-02	0.325
IN-113M	4.912E-04		1.826E-02	2.993E-02	1.762E-03	0.016
SN-113	4.912E-04		1.826E-02	2.993E-02	1.762E-03	0.016
IN-114M	-4.759E-03		6.269E-02	9.921E-02	5.204E-03	-0.048
CD-115	5.581E-01		1.159E+00	1.984E+00	1.222E-01	0.281
SN-117M	-2.486E-03		1.651E-02	2.626E-02	1.387E-03	-0.095
SB-122	-2.678E-01		3.219E-01	4.880E-01	3.065E-02	-0.549
I-123	-5.140E-03		4.264E-03	Half-Life too short		
TE-123M	-6.306E-03		1.046E-02	1.590E-02	8.521E-04	-0.397
I-124	-8.482E-02		1.506E-01	2.348E-01	1.499E-02	-0.361
SB-124	-1.144E-02		4.054E-02	6.283E-02	4.192E-03	-0.182
SB-125	-5.050E-02		3.997E-02	5.355E-02	3.183E-03	-0.943
TE-125M	1.008E+00		3.429E+00	5.776E+00	4.974E-01	0.174
I-126	2.962E-02		5.990E-02	1.060E-01	6.914E-03	0.279
SB-126	-3.870E-02		4.461E-02	6.242E-02	4.340E-03	-0.620
SN-126	2.169E-02		2.760E-02	3.954E-02	3.014E-03	0.549
SB-127	6.239E-02		2.238E-01	3.877E-01	3.357E-02	0.161
XE-127	-5.919E-03		1.720E-02	2.639E-02	1.404E-03	-0.224

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131	2.962E-02		3.211E-02	5.813E-02	3.637E-03	0.510
TE-132	2.137E-02		9.794E-02	1.690E-01	2.273E-02	0.126
BA-133	9.260E-03		1.767E-02	3.069E-02	3.521E-03	0.302
I-133	-2.768E-05		3.974E-05	Half-Life too short		
CS-134	1.002E-03		1.914E-02	3.157E-02	2.407E-03	0.032
CS-135	-4.225E-03		6.145E-02	1.024E-01	7.703E-03	-0.041
I-135	-1.388E+04		1.820E+04	Half-Life too short		
CS-136	-4.328E-03		3.067E-02	4.981E-02	3.740E-03	-0.087
BA-137M	-9.763E-03		1.658E-02	2.382E-02	1.544E-03	-0.410
CS-137	-1.032E-02		1.752E-02	2.518E-02	1.638E-03	-0.410
CE-139	-8.805E-03		1.087E-02	1.609E-02	8.244E-04	-0.547
BA-140	-4.135E-03		8.864E-02	1.486E-01	4.845E-02	-0.028
LA-140	-1.689E-02		2.703E-02	3.677E-02	2.395E-03	-0.459
CE-141	-1.151E-02		2.126E-02	3.276E-02	1.907E-03	-0.351
CE-143	-1.136E+00		5.260E+00	8.568E+00	1.794E+00	-0.133
CE-144	-7.041E-02		7.328E-02	1.073E-01	1.528E-02	-0.656
PM-144	9.010E-03		1.795E-02	3.133E-02	2.119E-03	0.288
PR-144	6.092E-01		1.214E+00	2.118E+00	1.432E-01	0.288
PM-146	-2.129E-03		1.916E-02	3.052E-02	2.639E-03	-0.070
ND-147	-2.345E-01		1.932E-01	2.437E-01	3.335E-02	-0.962
PM-149	1.600E+00		8.800E+00	1.496E+01	2.110E+00	0.107
EU-152	-3.322E-02		3.944E-02	5.864E-02	3.758E-03	-0.566
GD-153	8.266E-03		3.011E-02	4.455E-02	3.098E-03	0.186
EU-154	5.362E-03		4.298E-02	7.264E-02	7.078E-03	0.074
EU-155	3.018E-03		3.817E-02	6.342E-02	4.274E-03	0.048
TB-160	3.922E-02		5.540E-02	1.009E-01	8.283E-03	0.389
HO-166M	-9.327E-03		2.735E-02	4.293E-02	2.955E-03	-0.217
TM-171	1.786E+00		9.623E+00	1.455E+01	9.419E-01	0.123
LU-176	4.568E-03		1.042E-02	1.805E-02	1.026E-03	0.253
LU-177	-1.011E-01		2.599E-01	3.958E-01	2.117E-02	-0.255
LU-177M	3.638E-03		6.520E-02	1.069E-01	6.001E-03	0.034
HF-181	-8.572E-03		1.662E-02	2.468E-02	1.474E-03	-0.347
W-181	3.304E-02		1.279E-01	1.953E-01	1.255E-02	0.169
TA-182	1.847E-02		6.780E-02	1.176E-01	6.975E-03	0.157
RE-183	1.843E-02		4.411E-02	6.726E-02	3.497E-03	0.274
RE-184	6.532E-02		8.739E-02	1.568E-01	8.724E-03	0.417
OS-185	-1.183E-03		1.650E-02	2.714E-02	1.754E-03	-0.044
RE-188	2.169E-02		6.390E-02	1.062E-01	5.693E-03	0.204
W-188	-2.745E-01		2.520E+00	4.155E+00	2.355E-01	-0.066
IR-192	4.387E-03		1.312E-02	2.252E-02	1.287E-03	0.195
AU-195	5.434E-02		8.036E-02	1.242E-01	8.537E-03	0.438
TL-200	-5.415E-06		5.922E-06	Half-Life too short		
TL-201	-1.728E-01		9.050E-01	1.427E+00	7.312E-02	-0.121
TL-202	-1.845E-02		2.612E-02	3.870E-02	2.229E-03	-0.477
HG-203	1.251E-02		1.604E-02	2.857E-02	1.718E-03	0.438
BI-207	-1.956E-02		1.983E-02	2.615E-02	1.804E-03	-0.748
TL-207	-1.392E-01		2.649E-01	4.122E-01	6.791E-02	-0.338
TL-208	-7.861E-03		1.740E-02	2.884E-02	2.063E-03	-0.273

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-209	-9.744E-01		3.614E+00	5.101E+00	4.257E-01	-0.191
BI-210	-1.456E-01		1.301E+00	2.161E+00	1.628E-01	-0.067
PB-210	-1.456E-01		1.301E+00	2.161E+00	1.628E-01	-0.067
PO-210	-1.456E-01		1.301E+00	2.161E+00	1.386E-01	-0.067
BI-211	-5.112E-02		8.929E-02	1.327E-01	8.339E-03	-0.385
PB-211	-7.444E-02		3.775E-01	5.953E-01	3.710E-01	-0.125
BI-212	-6.344E-02		1.257E-01	1.914E-01	1.657E-02	-0.331
PB-212	-7.877E-03		2.678E-02	4.419E-02	3.138E-03	-0.178
PO-212	-7.877E-03		2.678E-02	4.419E-02	3.138E-03	-0.178
BI-214	-2.118E-02		3.964E-02	5.884E-02	4.844E-03	-0.360
PB-214	-2.370E-02		3.306E-02	4.867E-02	3.975E-03	-0.487
PO-214	-2.370E-02		3.306E-02	4.867E-02	3.975E-03	-0.487
PO-215	-1.392E-01		2.649E-01	4.122E-01	6.791E-02	-0.338
PO-216	-7.877E-03		2.678E-02	4.419E-02	3.138E-03	-0.178
PO-218	-2.370E-02		3.306E-02	4.867E-02	3.975E-03	-0.487
RN-219	-1.522E-01		1.848E-01	2.701E-01	3.646E-02	-0.564
RN-220	-2.353E+00		9.916E+00	1.613E+01	1.006E+00	-0.146
RA-223	-1.392E-01		2.649E-01	4.122E-01	6.791E-02	-0.338
RA-224	4.149E-02		2.804E-01	4.785E-01	2.639E-02	0.087
RA-226	-2.118E-02		3.964E-02	5.884E-02	4.844E-03	-0.360
AC-227	-1.946E-01		1.452E-01	2.069E-01	2.870E-02	-0.940
TH-227	-1.946E-01		1.464E-01	2.069E-01	3.482E-02	-0.940
AC-228	5.625E-02	+	7.598E-02	1.259E-01	1.382E-02	0.447
RA-228	5.625E-02	+	7.598E-02	1.259E-01	1.382E-02	0.447
TH-228	-7.962E-03		2.707E-02	4.467E-02	3.172E-03	-0.178
TH-229	-1.640E-01		1.905E-01	2.758E-01	1.452E-02	-0.595
TH-230	-2.118E-02		3.964E-02	5.884E-02	4.844E-03	-0.360
PA-231	-4.068E-01		6.254E-01	9.751E-01	1.338E-01	-0.417
TH-231	-1.392E-01		2.649E-01	4.122E-01	6.791E-02	-0.338
U-231	2.361E-01	+	2.171E-01	3.245E-01	2.286E-02	0.727
TH-232	5.625E-02	+	7.598E-02	1.259E-01	1.382E-02	0.447
PA-233	-1.188E-02		2.400E-02	3.757E-02	2.273E-03	-0.316
PA-234	8.474E-02		1.408E-01	2.480E-01	4.586E-02	0.342
PA-234M	5.320E-01		2.141E+00	3.515E+00	3.181E-01	0.151
TH-234	1.120E-01	+	6.817E-01	9.200E-01	1.566E-01	0.122
U-234	-2.118E-02		3.964E-02	5.884E-02	4.844E-03	-0.360
U-235	1.959E-02		8.255E-02	1.312E-01	2.131E-02	0.149
NP-236	-2.946E-02		2.989E-02	4.350E-02	2.281E-03	-0.677
NP-237	-2.028E-02		8.601E-02	1.153E-01	2.534E-02	-0.176
U-238	1.120E-01	+	6.817E-01	9.200E-01	1.566E-01	0.122
NP-239	2.884E-03		6.776E-02	1.116E-01	7.045E-03	0.026
AM-241	1.895E-02		5.127E-02	8.152E-02	5.793E-03	0.232
AM-243	-1.611E-04		1.931E-02	3.070E-02	2.086E-03	-0.005
CM-243	2.738E-02		3.268E-02	5.785E-02	3.853E-03	0.473
AM-246	1.207E-02		6.092E-02	1.049E-01	7.055E-03	0.115
CM-247	-6.495E-03		1.580E-02	2.449E-02	1.358E-03	-0.265
CF-249	-1.961E-02		1.735E-02	2.441E-02	1.342E-03	-0.803
CF-251	1.928E-02		4.835E-02	8.034E-02	4.154E-03	0.240

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
ANH-511	-8.566E-03		2.799E-02	5.182E-02	3.158E-03	-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]G1202029817          *
* Acquisition date   : 12-FEB-2010 17:51:43 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 02:00:00.55             Half life ratio : 8.000       *
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-FEB-2010 00:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202029817             Analyst initials: RXF2          *
* Batch Number       : 947554                  Sample Quantity : 1.6939E+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

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act Error	DLC (pCi/GRAM)	TPU
---- Non-Identified Nuclides ----				
Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	4.745E-03	1.229E-01	1.067E-01	6.268E-02 NOT IDENT.
NA-22	1.283E-03	1.490E-02	1.297E-02	7.604E-03 NOT IDENT.
NA-24	-4.785E+02	2.197E+03	0.000E+00	1.121E+03 SHORT HLIF
AL-26	-1.370E-03	1.827E-02	1.524E-02	9.321E-03 NOT IDENT.
K-40	-2.917E-02	2.192E-01	1.962E-01	1.118E-01 NOT IDENT.
TI-44	-4.166E-03	9.924E-03	9.083E-03	5.063E-03 NOT IDENT.
SC-46	-1.990E-03	1.524E-02	1.267E-02	7.778E-03 NOT IDENT.
V-48	1.941E-02	3.609E-02	2.594E-02	1.841E-02 NOT IDENT.
CR-51	8.221E-02	1.338E-01	1.277E-01	6.826E-02 NOT IDENT.
MN-52	3.747E-03	6.364E-02	5.427E-02	3.247E-02 NOT IDENT.
MN-54	7.393E-03	1.679E-02	1.530E-02	8.566E-03 NOT IDENT.
CO-56	6.981E-03	1.601E-02	1.468E-02	8.168E-03 NOT IDENT.
CO-57	4.999E-04	9.651E-03	8.880E-03	4.924E-03 NOT IDENT.
CO-58	5.282E-03	1.433E-02	1.314E-02	7.313E-03 NOT IDENT.
FE-59	1.090E-02	3.404E-02	3.117E-02	1.737E-02 NOT IDENT.
CO-60	1.486E-02	1.444E-02	1.502E-02	7.365E-03 NOT IDENT.
ZN-65	7.096E-03	3.398E-02	3.052E-02	1.734E-02 NOT IDENT.
GE-68	3.756E-01	5.046E-01	4.913E-01	2.574E-01 NOT IDENT.
AS-73	8.475E-02	2.990E-01	2.799E-01	1.526E-01 NOT IDENT.
AS-74	9.850E-03	3.528E-02	3.246E-02	1.800E-02 NOT IDENT.
SE-75	-1.128E-02	1.640E-02	1.407E-02	8.369E-03 NOT IDENT.
BR-77	2.909E-01	1.318E+00	1.161E+00	6.726E-01 NOT IDENT.
SR-82	1.617E-01	1.452E-01	1.450E-01	7.409E-02 NOT IDENT.
RB-83	5.520E-03	2.998E-02	2.629E-02	1.530E-02 NOT IDENT.
RB-84	3.437E-03	2.759E-02	2.403E-02	1.408E-02 NOT IDENT.
KR-85	-1.643E+01	5.605E+00	3.590E+00	2.860E+00 NOT IDENT.

SR-85	-8.047E-02	2.745E-02	1.758E-02	1.400E-02	NOT IDENT.
RB-86	1.591E-01	2.749E-01	2.618E-01	1.403E-01	NOT IDENT.
Y-88	-3.305E-03	1.829E-02	1.477E-02	9.334E-03	NOT IDENT.
ZR-88	6.922E-03	1.129E-02	1.069E-02	5.758E-03	NOT IDENT.
Y-91	6.499E+00	5.256E+00	5.630E+00	2.682E+00	NOT IDENT.
NB-94	-1.447E-02	1.547E-02	1.181E-02	7.894E-03	NOT IDENT.
NB-95	-1.003E-02	1.609E-02	1.255E-02	8.209E-03	NOT IDENT.
NB-95M	-5.715E-02	4.495E-02	3.732E-02	2.293E-02	NOT IDENT.
ZR-95	-2.896E-02	2.800E-02	1.859E-02	1.429E-02	NOT IDENT.
NB-97	1.012E+02	5.058E+02	0.000E+00	2.581E+02	SHORT HLIF
ZR-97	-4.694E+04	1.856E+04	0.000E+00	9.469E+03	SHORT HLIF
MO-99	5.677E-01	1.514E+00	1.394E+00	7.726E-01	NOT IDENT.
TC-99M	-8.416E+10	9.392E+10	0.000E+00	4.792E+10	SHORT HLIF
RH-101	3.009E-03	1.412E-02	1.210E-02	7.205E-03	NOT IDENT.
RH-102	-4.866E-03	1.242E-02	1.016E-02	6.337E-03	NOT IDENT.
RU-103	3.989E-03	1.820E-02	1.588E-02	9.286E-03	NOT IDENT.
RH-106	4.648E-02	1.380E-01	1.276E-01	7.043E-02	NOT IDENT.
RU-106	4.648E-02	1.380E-01	1.276E-01	7.039E-02	NOT IDENT.
AG-108M	-9.478E-03	1.520E-02	1.152E-02	7.755E-03	NOT IDENT.
CD-109	-9.048E-02	3.150E-01	2.092E-01	1.607E-01	NOT IDENT.
AG-110M	-3.151E-04	1.342E-02	1.180E-02	6.849E-03	NOT IDENT.
IN-111	8.596E-02	1.469E-01	1.419E-01	7.496E-02	NOT IDENT.
IN-113M	4.912E-04	1.789E-02	1.584E-02	9.128E-03	NOT IDENT.
SN-113	4.912E-04	1.789E-02	1.584E-02	9.128E-03	NOT IDENT.
IN-114M	-4.759E-03	6.144E-02	5.369E-02	3.135E-02	NOT IDENT.
CD-115	5.581E-01	1.136E+00	1.040E+00	5.796E-01	NOT IDENT.
SN-117M	-2.486E-03	1.618E-02	1.429E-02	8.255E-03	NOT IDENT.
SB-122	-2.678E-01	3.155E-01	2.553E-01	1.610E-01	NOT IDENT.
I-123	-5.140E+03	8.357E+03	0.000E+00	4.264E+03	SHORT HLIF
TE-123M	-6.306E-03	1.025E-02	8.653E-03	5.231E-03	NOT IDENT.
I-124	-8.482E-02	1.476E-01	1.226E-01	7.529E-02	NOT IDENT.
SB-124	-1.144E-02	3.973E-02	3.167E-02	2.027E-02	NOT IDENT.
SB-125	-5.050E-02	3.917E-02	2.826E-02	1.999E-02	NOT IDENT.
TE-125M	1.008E+00	3.360E+00	3.178E+00	1.714E+00	NOT IDENT.
I-126	2.962E-02	5.870E-02	5.517E-02	2.995E-02	NOT IDENT.
SB-126	-3.870E-02	4.372E-02	3.239E-02	2.231E-02	NOT IDENT.
SN-126	2.169E-02	2.705E-02	2.189E-02	1.380E-02	FAIL ABUN
SB-127	6.239E-02	2.193E-01	2.015E-01	1.119E-01	NOT IDENT.
XE-127	-5.919E-03	1.685E-02	1.426E-02	8.599E-03	NOT IDENT.
I-131	2.962E-02	3.147E-02	3.083E-02	1.605E-02	NOT IDENT.
TE-132	2.137E-02	9.598E-02	9.094E-02	4.897E-02	NOT IDENT.
BA-133	9.260E-03	1.732E-02	1.629E-02	8.837E-03	NOT IDENT.
I-133	-2.768E+01	7.789E+01	0.000E+00	3.974E+01	SHORT HLIF
CS-134	1.002E-03	1.876E-02	1.633E-02	9.571E-03	NOT IDENT.
CS-135	-4.225E-03	6.022E-02	5.485E-02	3.073E-02	NOT IDENT.
I-135	-1.388E+10	3.567E+10	0.000E+00	1.820E+10	SHORT HLIF
CS-136	-4.328E-03	3.006E-02	2.553E-02	1.533E-02	NOT IDENT.
BA-137M	-9.763E-03	1.625E-02	1.239E-02	8.289E-03	NOT IDENT.
CS-137	-1.032E-02	1.717E-02	1.310E-02	8.762E-03	NOT IDENT.
CE-139	-8.805E-03	1.066E-02	8.742E-03	5.437E-03	NOT IDENT.
BA-140	-4.135E-03	8.687E-02	7.787E-02	4.432E-02	NOT IDENT.
LA-140	-1.689E-02	2.649E-02	1.857E-02	1.351E-02	NOT IDENT.
CE-141	-1.151E-02	2.083E-02	1.787E-02	1.063E-02	NOT IDENT.
CE-143	-1.136E+00	5.154E+00	4.576E+00	2.630E+00	NOT IDENT.
CE-144	-7.041E-02	7.182E-02	5.871E-02	3.664E-02	NOT IDENT.
PM-144	9.010E-03	1.759E-02	1.628E-02	8.976E-03	NOT IDENT.
PR-144	6.092E-01	1.189E+00	1.100E+00	6.068E-01	NOT IDENT.
PM-146	-2.129E-03	1.878E-02	1.608E-02	9.581E-03	NOT IDENT.
ND-147	-2.345E-01	1.894E-01	1.277E-01	9.661E-02	NOT IDENT.
PM-149	1.600E+00	8.624E+00	7.997E+00	4.400E+00	NOT IDENT.
EU-152	-3.322E-02	3.665E-02	3.116E-02	1.972E-02	NOT IDENT.
GD-153	8.266E-03	2.950E-02	2.459E-02	1.505E-02	FAIL ABUN
EU-154	5.362E-03	4.212E-02	3.698E-02	2.149E-02	NOT IDENT.
EU-155	3.018E-03	3.740E-02	3.493E-02	1.908E-02	NOT IDENT.
TB-160	3.922E-02	5.429E-02	5.200E-02	2.770E-02	NOT IDENT.
HO-166M	-9.327E-03	2.680E-02	2.228E-02	1.367E-02	NOT IDENT.
TM-171	1.786E+00	9.430E+00	8.122E+00	4.811E+00	NOT IDENT.
LU-176	4.568E-03	1.021E-02	9.624E-03	5.211E-03	NOT IDENT.
LU-177	-1.011E-01	2.547E-01	2.136E-01	1.300E-01	NOT IDENT.
LU-177M	3.638E-03	6.390E-02	5.649E-02	3.260E-02	NOT IDENT.
HF-181	-8.572E-03	1.629E-02	1.297E-02	8.311E-03	NOT IDENT.
W-181	3.304E-02	1.254E-01	1.091E-01	6.397E-02	NOT IDENT.
TA-182	1.847E-02	6.645E-02	5.994E-02	3.390E-02	NOT IDENT.
RE-183	1.843E-02	4.322E-02	3.657E-02	2.205E-02	NOT IDENT.
RE-184	6.532E-02	8.564E-02	8.409E-02	4.369E-02	NOT IDENT.
OS-185	-1.183E-03	1.617E-02	1.414E-02	8.249E-03	NOT IDENT.
RE-188	2.169E-02	6.262E-02	5.782E-02	3.195E-02	NOT IDENT.
W-188	-2.745E-01	2.469E+00	2.220E+00	1.260E+00	FAIL ABUN

IR-192	4.387E-03	1.285E-02	1.200E-02	6.559E-03	NOT IDENT.
AU-195	5.434E-02	7.876E-02	6.850E-02	4.018E-02	NOT IDENT.
TL-200	-5.415E+00	1.161E+01	0.000E+00	5.922E+00	SHORT HLIF
TL-201	-1.728E-01	8.869E-01	7.750E-01	4.525E-01	NOT IDENT.
TL-202	-1.845E-02	2.560E-02	2.040E-02	1.306E-02	NOT IDENT.
HG-203	1.251E-02	1.572E-02	1.528E-02	8.019E-03	NOT IDENT.
BI-207	-1.956E-02	1.943E-02	1.340E-02	9.915E-03	FAIL ABUN
TL-207	-1.392E-01	2.596E-01	2.195E-01	1.324E-01	FAIL ABUN
TL-208	-7.861E-03	1.705E-02	1.507E-02	8.698E-03	NOT IDENT.
PO-209	-9.744E-01	3.542E+00	2.628E+00	1.807E+00	NOT IDENT.
BI-210	-1.456E-01	1.275E+00	1.218E+00	6.503E-01	NOT IDENT.
PB-210	-1.456E-01	1.275E+00	1.218E+00	6.503E-01	NOT IDENT.
PO-210	-1.456E-01	1.275E+00	1.218E+00	6.503E-01	NOT IDENT.
BI-211	-5.112E-02	8.750E-02	7.044E-02	4.464E-02	NOT IDENT.
PB-211	-7.444E-02	3.699E-01	3.147E-01	1.887E-01	NOT IDENT.
BI-212	-6.344E-02	1.232E-01	9.931E-02	6.286E-02	NOT IDENT.
PB-212	-7.877E-03	2.624E-02	2.375E-02	1.339E-02	NOT IDENT.
PO-212	-7.877E-03	2.624E-02	2.375E-02	1.339E-02	NOT IDENT.
BI-214	-2.118E-02	3.885E-02	3.070E-02	1.982E-02	NOT IDENT.
PB-214	-2.370E-02	3.240E-02	2.584E-02	1.653E-02	NOT IDENT.
PO-214	-2.370E-02	3.240E-02	2.584E-02	1.653E-02	NOT IDENT.
PO-215	-1.392E-01	2.596E-01	2.195E-01	1.324E-01	FAIL ABUN
PO-216	-7.877E-03	2.624E-02	2.375E-02	1.339E-02	NOT IDENT.
PO-218	-2.370E-02	3.240E-02	2.584E-02	1.653E-02	NOT IDENT.
RN-219	-1.522E-01	1.811E-01	1.428E-01	9.241E-02	NOT IDENT.
RN-220	-2.353E+00	9.718E+00	8.444E+00	4.958E+00	NOT IDENT.
RA-223	-1.392E-01	2.596E-01	2.195E-01	1.324E-01	FAIL ABUN
RA-224	4.149E-02	2.748E-01	2.571E-01	1.402E-01	NOT IDENT.
RA-226	-2.118E-02	3.885E-02	3.070E-02	1.982E-02	NOT IDENT.
AC-227	-1.946E-01	1.423E-01	1.110E-01	7.261E-02	NOT IDENT.
TH-227	-1.946E-01	1.435E-01	1.110E-01	7.320E-02	FAIL ABUN
AC-228	5.625E-02	7.446E-02	6.480E-02	3.799E-02	FAIL ABUN
RA-228	5.625E-02	7.446E-02	6.480E-02	3.799E-02	FAIL ABUN
TH-228	-7.962E-03	2.653E-02	2.401E-02	1.353E-02	NOT IDENT.
TH-229	-1.640E-01	1.867E-01	1.492E-01	9.527E-02	FAIL ABUN
TH-230	-2.118E-02	3.885E-02	3.070E-02	1.982E-02	NOT IDENT.
PA-231	-4.068E-01	6.129E-01	5.212E-01	3.127E-01	NOT IDENT.
TH-231	-1.392E-01	2.596E-01	2.195E-01	1.324E-01	FAIL ABUN
U-231	2.361E-01	2.128E-01	1.792E-01	1.086E-01	FAIL ABUN
TH-232	5.625E-02	7.446E-02	6.480E-02	3.799E-02	FAIL ABUN
PA-233	-1.188E-02	2.352E-02	2.002E-02	1.200E-02	NOT IDENT.
PA-234	8.474E-02	1.380E-01	1.275E-01	7.040E-02	FAIL ABUN
PA-234M	5.320E-01	2.099E+00	1.804E+00	1.071E+00	NOT IDENT.
TH-234	1.120E-01	6.681E-01	5.141E-01	3.409E-01	FAIL ABUN
U-234	-2.118E-02	3.885E-02	3.070E-02	1.982E-02	NOT IDENT.
U-235	1.959E-02	8.090E-02	7.159E-02	4.127E-02	NOT IDENT.
NP-236	-2.946E-02	2.929E-02	2.366E-02	1.494E-02	FAIL ABUN
NP-237	-2.028E-02	8.429E-02	6.388E-02	4.301E-02	FAIL ABUN
U-238	1.120E-01	6.681E-01	5.141E-01	3.409E-01	FAIL ABUN
NP-239	2.884E-03	6.640E-02	6.129E-02	3.388E-02	NOT IDENT.
AM-241	1.895E-02	5.025E-02	4.564E-02	2.564E-02	NOT IDENT.
AM-243	-1.611E-04	1.892E-02	1.708E-02	9.654E-03	NOT IDENT.
CM-243	2.738E-02	3.203E-02	3.188E-02	1.634E-02	NOT IDENT.
AM-246	1.207E-02	5.970E-02	5.372E-02	3.046E-02	NOT IDENT.
CM-247	-6.495E-03	1.549E-02	1.295E-02	7.901E-03	NOT IDENT.
CF-249	-1.961E-02	1.701E-02	1.292E-02	8.677E-03	NOT IDENT.
CF-251	1.928E-02	4.738E-02	4.357E-02	2.417E-02	NOT IDENT.
ANH-511	-8.566E-03	2.743E-02	2.719E-02	1.399E-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	58.4235
46.50	58.4235
46.50	58.4235
48.70	79.3375
49.72	56.4958
51.35	68.8464
52.39	60.4427
52.97	58.8243
53.15	58.8579
53.44	56.3128
54.07	56.4245
56.28	66.4246
56.28	66.4252
57.37	51.7374
57.53	51.7623
57.53	51.7626
57.60	51.7732
57.98	52.7107
57.98	52.7107
59.32	52.9205
59.32	52.9205
59.40	50.2862
59.54	50.3070
59.72	52.9826
60.01	45.0735
61.10	59.8450
61.14	59.8520
61.30	59.8794
63.00	66.8561
63.29	66.9107
63.29	66.9107
63.58	66.9653
64.28	68.4385
65.12	59.1827
65.20	56.5051
65.20	56.5051
66.05	60.6826
66.72	51.3365
66.83	51.3521
66.91	56.7701
67.20	58.1674
67.20	58.1674
67.75	70.4459
67.85	70.4653
68.90	69.7574
68.90	69.7574
69.30	64.3900
69.67	59.0064
70.82	71.9317
70.82	71.9317
70.83	71.9337
72.80	79.6221
72.87	79.6367
72.87	79.6367
74.67	67.1272
74.81	67.1510
74.81	67.1510
74.81	67.1510
74.81	67.1510
74.81	67.1510
74.81	67.1510
74.97	76.3803
75.28	70.9139
75.70	71.9102
77.11	70.3114
77.11	70.3114

77.11	70.3114
77.11	70.3114
77.11	70.3114
77.11	70.3114
77.11	70.3114
78.38	67.7461
79.62	61.4339
79.80	61.4604
79.80	61.4604
80.11	57.0332
80.18	57.0426
80.30	57.0591
80.30	57.0591
80.57	54.8567
81.00	56.0336
81.07	56.0431
81.07	56.0431
81.07	56.0431
81.07	56.0431
82.60	59.0580
83.37	59.1641
83.78	53.5810
83.78	53.5810
83.78	53.5810
83.78	53.5810
84.21	57.3982
84.90	62.2020
85.43	59.4470
86.29	52.9455
86.50	52.9708
86.54	52.9757
86.59	51.0894
86.72	51.1046
86.79	51.1125
86.94	51.1301
87.30	42.6430
87.30	42.6430
87.30	42.6430
87.30	42.6430
87.30	42.6430
87.30	42.6430
87.57	28.4460
87.88	37.0056
88.03	51.2559
88.36	51.2938
88.47	68.4086
89.95	57.1948
91.11	61.1641
92.29	61.3216
92.38	61.3337
92.38	61.3337
93.35	61.4622
94.00	61.5482
94.67	61.6357
94.67	61.6364
94.90	61.6667
94.90	61.6667
94.90	61.6667
94.90	61.6667
95.87	61.7936
95.87	61.7936
96.73	52.2334
97.43	50.8567
98.44	45.1391
98.44	45.1394
98.88	37.8933
99.55	49.6213
99.55	49.6213
99.86	49.6529
100.00	59.6006
100.10	67.7956
103.18	59.7906
103.76	50.0470
105.00	62.9593
105.31	64.9667
108.00	85.1011
109.28	75.3923

111.00	79.6224
111.00	79.6224
111.76	75.7507
112.95	77.9191
115.19	79.2491
116.30	77.4018
117.00	62.4036
117.00	62.4036
117.66	57.4407
121.11	75.0388
121.62	66.9876
121.78	67.0067
122.06	74.1507
122.32	74.1848
122.32	74.1848
122.32	74.1848
122.32	74.1848
123.07	69.1957
127.23	65.6011
129.76	59.7098
131.20	71.2082
133.02	57.9693
133.54	74.5964
135.34	60.2715
136.00	61.3773
136.25	63.4846
136.48	67.6726
140.51	81.7411
140.51	0.0000
142.18	71.4524
142.65	72.5573
143.76	58.9913
144.24	68.5236
144.24	68.5236
144.24	68.5236
144.24	68.5236
145.22	73.9086
145.44	76.0466
147.16	54.0116
152.43	67.2624
152.70	60.8814
153.22	70.5493
154.21	73.8663
154.21	73.8663
154.21	73.8663
154.21	73.8663
155.03	69.6702
156.02	57.9655
158.56	67.8815
159.00	0.0000
159.00	73.3160
160.31	76.6978
161.27	69.2331
162.32	54.1707
162.64	47.6922
163.35	46.6559
163.89	52.1216
165.85	72.9575
167.43	57.8426
171.28	60.3504
171.86	62.5954
172.10	62.6163
176.55	59.6843
176.60	59.6884
181.06	67.8326
184.41	55.8482
185.71	70.4886
186.00	68.2769
190.27	59.6525
192.34	50.7829
193.63	68.9520
197.04	60.1679
198.01	60.2407
198.60	55.7351
200.40	77.5203
201.83	69.6631
202.84	70.8934
205.31	64.2259

208.36	66.7657
208.81	56.4359
209.75	55.3467
209.75	55.3467
210.97	63.5104
215.65	45.2846
216.55	58.1182
218.09	58.2225
222.10	48.2568
223.80	51.8667
226.40	63.4823
227.00	58.2314
227.08	58.2369
227.20	57.3620
228.16	52.1233
228.18	53.8916
228.18	53.8916
231.56	60.3031
235.69	86.4128
236.00	90.8982
236.00	90.8982
238.63	72.3915
238.63	72.3915
238.63	72.3915
238.63	72.3915
239.00	71.5259
240.98	79.7437
241.98	93.2836
241.98	93.2836
241.98	93.2836
244.69	66.5674
245.39	58.5150
247.94	70.4078
248.90	71.3828
249.79	56.9789
252.40	39.9032
252.85	43.5513
252.85	43.5513
254.15	0.0000
256.20	62.8218
256.20	62.8218
260.50	32.9211
260.90	37.5085
262.80	61.4129
264.65	57.8541
268.24	55.2969
268.79	54.4050
269.46	55.3638
269.46	55.3638
269.46	55.3638
269.46	55.3638
271.23	59.1582
273.65	59.2988
276.40	61.3151
277.35	56.7230
277.60	56.7361
277.60	56.7361
278.00	54.8975
278.60	47.4810
279.20	50.3036
279.53	57.7740
280.46	65.2875
281.68	53.2244
283.67	58.0030
284.30	49.6131
285.00	46.8361
285.90	42.1882
286.10	44.0718
286.10	44.0718
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288.45	0.0000
290.67	41.4360
290.80	39.5576
291.72	41.4769
293.26	47.2000
293.70	45.3303
295.21	46.3398
295.21	46.3398

295.21	46.3398
295.96	44.4792
296.50	45.4475
297.23	45.4783
298.57	38.8936
299.80	46.5349
299.80	46.5349
300.09	51.2974
300.09	51.2974
300.09	51.2974
300.09	51.2974
300.12	51.2982
301.29	58.9613
302.84	58.0913
303.76	54.3273
303.91	53.3810
304.40	47.6830
304.40	47.6830
304.84	38.1616
306.84	44.9202
308.46	45.9426
311.98	42.2457
316.51	38.5583
318.01	47.2960
319.02	43.4736
319.41	37.6896
320.08	38.6786
323.87	48.5062
323.87	48.5062
323.87	48.5062
323.87	48.5062
325.23	35.9369
328.77	51.6325
333.44	56.7265
334.20	56.7628
334.20	56.7628
334.30	56.7672
338.28	54.0097
338.28	54.0097
338.28	54.0097
338.28	54.0097
338.32	54.0122
338.32	54.0122
338.32	54.0122
338.32	54.0122
340.50	41.3200
340.57	41.3220
344.27	48.3562
345.85	47.4302
350.59	38.6858
351.07	40.6853
351.92	48.6576
351.92	48.6576
351.92	48.6576
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356.01	34.8692
364.48	28.0829
366.43	37.1660
367.43	43.2264
367.94	0.0000
369.80	31.2204
374.96	31.3448
383.85	38.6825
387.95	50.0340
388.63	43.9297
391.69	36.8619
391.69	36.8619
392.90	26.6463
398.62	36.0206
400.65	30.9206
401.10	32.9927
401.81	48.4831
402.60	41.2854
404.84	35.1497
410.95	31.1504
411.60	28.0485
413.65	28.0893
414.70	37.4799
415.30	38.5373

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417.63	0.0000
418.52	25.0540
423.70	26.1925
427.08	42.0062
427.89	45.1823
432.53	39.0020
433.93	39.0387
439.47	47.6587
439.56	47.6614
439.89	47.6724
443.98	33.9937
444.90	35.0776
445.03	35.0806
445.03	35.0806
445.03	35.0806
445.03	35.0806
453.90	34.2183
463.38	24.7470
468.07	35.6139
473.00	22.7348
475.06	33.6049
475.35	41.2007
476.78	23.8748
477.59	27.1442
477.96	34.7529
482.03	31.5754
484.57	28.3542
487.03	33.8587
490.36	33.9285
492.35	35.0664
497.08	30.7724
507.63	0.0000
510.53	0.0000
510.84	46.5444
511.00	46.5489
511.85	58.7702
511.85	58.7702
513.99	153.2190
513.99	153.2190
520.41	28.9771
520.65	28.9818
527.90	21.2689
528.96	0.0000
529.64	29.1342
529.87	0.0000
531.02	37.0082
537.32	29.7145
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546.56	0.0000
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552.65	27.2490
555.20	30.0166
563.23	40.2016
563.90	42.9586
568.70	26.5765
569.32	29.3359
569.50	29.3391
569.67	29.3414
573.80	31.2458
574.00	31.2491
574.64	26.6629
578.91	35.0183
579.30	0.0000
583.14	30.4807
585.48	27.7441
591.81	28.7658
592.07	26.9142
593.00	31.5695
595.88	29.7578
600.56	33.5602
602.52	0.0000
602.71	39.1976
602.71	39.1976
603.60	42.0172
604.41	40.1666
604.70	38.3044
609.31	32.7775

609.31	32.7775
609.31	32.7775
609.31	32.7775
610.33	32.7946
612.46	40.3356
614.37	30.0469
618.01	28.2217
621.84	24.5064
621.84	24.5064
631.29	23.6774
633.02	28.4370
633.10	28.4385
634.78	29.4114
635.90	22.7830
636.97	20.8952
645.85	20.9881
646.12	20.9908
656.30	25.8906
657.75	21.1111
657.90	0.0000
661.65	26.9192
661.65	26.9192
664.57	25.0320
666.33	20.2351
666.33	20.2351
675.00	23.2225
677.61	22.2824
685.20	14.5844
692.80	21.4667
695.00	28.3260
696.49	32.2556
696.49	32.2556
697.00	33.2405
697.49	36.1816
698.33	34.2395
698.50	34.2421
699.00	35.2292
702.63	36.2683
706.10	23.5629
706.58	0.0000
706.67	20.6232
709.31	30.4801
711.68	27.5604
713.82	18.7198
717.42	24.6722
720.50	24.7064
721.93	16.8112
722.20	16.8132
722.78	16.8178
722.78	16.8178
722.89	16.8186
722.95	16.8190
723.30	16.8215
724.18	16.8282
727.18	27.7546
733.00	18.8826
735.90	27.8626
739.58	15.9477
742.81	25.9518
744.21	23.9701
747.13	11.0005
751.79	17.0353
752.31	16.0371
753.82	19.0566
755.35	23.0837
756.15	22.0875
756.87	22.0945
763.93	26.1917
765.79	25.2045
766.42	27.2281
766.84	24.2074
776.49	14.1791
778.00	17.2287
778.57	19.2602
778.89	22.3045
783.80	17.2710
785.46	12.1998
792.07	16.3117

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796.30	20.4253
798.80	27.6031
801.93	15.3549
805.60	19.4792
810.29	14.3808
810.76	13.3561
815.85	18.5317
817.79	16.4855
818.51	14.4290
819.60	17.5288
826.30	19.6443
828.27	0.0000
831.60	23.8305
831.96	24.8701
834.83	20.7490
836.80	0.0000
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848.13	17.7301
856.28	0.0000
856.80	23.0232
860.37	16.7676
867.32	17.8637
867.82	18.9180
871.10	14.7328
873.19	17.9044
874.81	14.7540
875.33	0.0000
876.40	22.1443
879.36	11.6126
880.27	12.6727
880.51	13.7300
881.50	16.9051
883.24	19.0305
884.67	14.8097
889.25	15.8954
896.60	15.9393
898.02	14.8849
899.00	12.7632
903.28	17.7551
911.07	11.7525
911.07	11.7525
911.07	11.7525
919.63	9.6462
920.93	13.9401
925.00	20.4046
925.24	17.1844
926.50	13.9687
935.52	20.4830
937.48	18.3402
944.10	19.4656
946.00	15.1501
949.00	15.1666
962.29	15.2387
964.01	11.9805
966.15	16.3495
968.20	13.0890
969.11	17.4578
969.11	17.4578
969.11	17.4578
977.42	15.3204
980.50	24.1006
983.50	10.9663
989.30	26.3725
996.32	17.4406
1001.03	11.0330
1001.68	7.3569
1004.76	20.2531
1021.30	0.0000
1024.50	0.0000
1034.80	11.1602
1036.00	14.8861
1037.82	17.6880
1038.57	11.1738
1038.76	0.0000
1045.16	8.3990
1046.59	9.3363
1048.07	12.1436

1050.47	16.8274
1050.47	16.8274
1062.04	13.1375
1063.62	17.8388
1076.63	12.2573
1077.35	11.3169
1078.86	15.0964
1085.78	15.1302
1099.22	13.2959
1112.02	11.4429
1112.84	9.5382
1115.52	14.3188
1120.29	14.3402
1120.29	14.3402
1120.29	14.3402
1120.29	14.3402
1120.51	15.2975
1121.28	6.6944
1124.00	0.0000
1129.67	14.3823
1131.51	0.0000
1147.95	0.0000
1167.94	15.5215
1173.22	6.8015
1175.09	5.8333
1177.93	13.6223
1189.05	11.7148
1204.90	3.9233
1205.75	0.0000
1213.00	12.7810
1221.42	11.8267
1230.97	7.9063
1235.34	12.8641
1236.41	0.0000
1238.25	14.8553
1246.25	19.8527
1260.41	0.0000
1271.85	11.9980
1274.45	9.0051
1274.54	9.0055
1291.56	13.0693
1298.22	0.0000
1312.09	11.1213
1325.50	9.1326
1325.50	9.1326
1332.49	4.0666
1333.61	3.0508
1360.21	11.2659
1362.66	0.0000
1365.15	6.1531
1368.21	6.1582
1368.53	0.0000
1376.25	9.2567
1384.27	11.3375
1394.10	16.5332
1395.20	14.4705
1407.95	9.3333
1434.06	9.3955
1436.60	6.2676
1457.56	0.0000
1460.81	9.4585
1489.15	4.2334
1509.49	9.5724
1596.49	8.3750
1620.62	7.4858
1678.03	0.0000
1691.02	9.5054
1691.02	9.5054
1706.46	0.0000
1750.46	0.0000
1764.49	4.8284
1764.49	4.8284
1764.49	4.8284
1764.49	4.8284
1770.23	5.8010
1771.40	5.8025
1791.20	0.0000
1808.65	8.7715

1836.01

7.8410

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202029817

Total Uranium Activity	3.4230E-01	ug/g
Total Uranium Counting Unc.	1.9879E+00	ug/g
Total Uranium Tpu	1.0142E-06	ug/g
Total Uranium Mda	1.5299E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417               *
*               GROSS GAMMA REPORT                 *
*
*****
*
*  BATCH ID      : 947554                          SAMPLE ID   : G1202029817
*  ANALYST       : RXF2                             DETECTOR    : GAM12
*  SAMPLE DATE   : 2-FEB-2010 00:00:00.00          COUNT TIME   : 0 02:00:00.00
*  ANALYSIS DATE : 12-FEB-2010 17:51:43.00          SAMPLE ALQT  : 169.389 GRAM
*
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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 3.293E-02
GROSS GAMMA ERROR  (pCi/GRAM )   : 4.585E-02
GROSS GAMMA MDA    (pCi/GRAM )   : 1.130E-01
GROSS GAMMA DLC    (pCi/GRAM )   : 5.282E-02

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 19:53:03.35

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*****
*                               GEL Laboratories LLC                      *
*                               2040 Savage Road                          *
*                               Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029818.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:52:24
Sample ID          : G1202029818 Sample quantity   : 1.69389E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:05.50 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials   : RXF2
Abundance limit    : 75.00000 Sensitivity          : 5.00000
Batch ID           : 947554 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	63.26*	11713	5526	1.03	126.77	121	10	1.63E+00	1.5	
2	0	74.93	661	4238	0.89	150.09	147	6	9.18E-02	16.1	
3	0	77.12	462	4002	0.94	154.46	153	6	6.41E-02	22.2	
4	0	84.00	1185	6315	1.70	168.21	164	9	1.65E-01	12.4	
5	3	92.61*	30187	4680	1.17	185.42	180	15	4.19E+00	0.7	4.06E+00
6	3	94.70	1315	3077	1.19	189.59	180	15	1.83E-01	12.4	
7	0	98.52	2336	3117	1.16	197.21	194	10	3.24E-01	5.0	
8	10	111.28	465	2304	1.27	222.73	220	11	6.46E-02	17.4	3.51E+00
9	10	112.84*	1463	2161	1.05	225.84	220	11	2.03E-01	5.8	
10	0	143.86*	1231	1760	1.15	287.81	284	9	1.71E-01	6.8	
11	0	163.43	601	1580	1.32	326.92	322	10	8.34E-02	13.0	
12	0	185.79*	6125	1769	1.20	371.60	366	13	8.51E-01	1.9	
13	0	205.33*	482	1051	1.08	410.64	407	9	6.70E-02	13.1	
14	0	209.16	131	850	1.31	418.29	415	8	1.81E-02	39.7	
15	2	238.69*	1382	610	1.35	477.31	471	17	1.92E-01	4.1	2.14E+00
16	2	241.42	328	743	1.71	482.76	471	17	4.55E-02	18.3	
17	0	258.20	368	855	1.26	516.28	512	11	5.12E-02	16.2	
18	0	270.78*	109	727	1.10	541.42	536	10	1.51E-02	47.9	
19	0	295.22*	425	643	1.27	590.26	585	11	5.90E-02	12.7	
20	0	338.60*	274	518	1.35	676.96	671	11	3.80E-02	17.5	
21	0	352.00*	714	475	1.44	703.74	699	11	9.92E-02	7.1	
22	0	511.19*	147	578	2.73	1021.88	1014	21	2.05E-02	44.4	
23	0	583.37*	410	355	1.55	1166.16	1159	15	5.70E-02	11.5	
24	0	609.41*	548	255	1.61	1218.20	1213	12	7.61E-02	7.5	
25	0	661.51	245	319	1.37	1322.34	1314	15	3.41E-02	17.1	
26	0	727.82*	131	207	1.22	1454.91	1449	12	1.83E-02	24.1	
27	0	742.58	294	254	1.80	1484.40	1477	14	4.08E-02	12.9	
28	0	766.40	1131	323	1.89	1532.04	1523	19	1.57E-01	4.8	
29	0	786.53	196	235	1.75	1572.27	1567	13	2.72E-02	17.3	
30	0	860.10	92	137	2.61	1719.34	1714	13	1.27E-02	28.3	
31	0	911.03*	350	162	1.75	1821.19	1812	18	4.87E-02	10.3	
32	0	946.04	62	88	1.59	1891.18	1887	9	8.61E-03	30.1	
33	0	969.37*	202	163	1.95	1937.82	1932	17	2.80E-02	17.1	
34	0	1000.98*	2409	167	2.16	2001.03	1990	23	3.35E-01	2.5	
35	0	1120.20*	106	105	1.49	2239.42	2231	14	1.47E-02	23.9	
36	0	1460.72*	2112	68	2.74	2920.48	2909	23	2.93E-01	2.4	
37	0	1764.87*	107	31	3.36	3528.94	3519	17	1.48E-02	16.4	
38	0	1868.38	20	16	2.53	3736.05	3728	14	2.73E-03	43.8	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
39	0	1911.80	33	5	2.18	3822.93	3816	14	4.63E-03	21.0	

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

VMS Nuclide Identification Report V3.1 Generated 12-FEB-2010 19:53:06

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029818.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:52:24
Sample ID         : G1202029818 Sample quantity : 169.39 GRAM
Sample type       : SOLID Sample geometry :
Detector name     : GAMMA22 Detector geometry: CAN
Elapsed live time : 0 02:00:00.00 Elapsed real time: 0 02:00:05.50 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	*	2.297E+01	2.383E+00	3.805E-01	3.486E-02	60.368
NB-95	+	765.79	*	9.437E-01	1.378E-01	5.847E-02	6.394E-03	16.140
BA-137M	+	661.65	*	1.684E-01	6.028E-02	5.467E-02	5.765E-03	3.080
CS-137	+	661.65	*	1.780E-01	6.373E-02	5.779E-02	6.102E-03	3.080
LU-177	+	112.95		3.549E+01	5.067E+00	5.367E+00	4.462E-01	6.613
	+	208.36	*	2.185E+00	1.751E+00	2.347E+00	2.649E-01	0.931
TL-208		277.35		6.073E-01	3.887E-01	6.308E-01	1.040E-01	0.963
	+	510.84		3.520E-01	3.162E-01	1.986E-01	2.588E-02	1.772
	+	583.14	*	2.748E-01	6.965E-02	5.238E-02	5.680E-03	5.247
	+	860.37		5.565E-01	3.218E-01	3.775E-01	4.399E-02	1.474
BI-211		72.87		5.690E+00	6.052E+00	8.986E+00	7.192E-01	0.633
	+	351.07	*	2.265E+00	4.152E-01	3.112E-01	3.631E-02	7.278
BI-212	+	727.18	*	7.393E-01	3.665E-01	4.250E-01	5.076E-02	1.740
	+	785.46		6.997E+00	2.545E+00	2.798E+00	3.075E-01	2.501
		1620.62		4.705E-01	8.585E-01	1.503E+00	1.310E-01	0.313
PB-212	+	74.81		2.214E+00	7.625E-01	1.055E+00	1.310E-01	2.098
	+	77.11		8.799E-01	3.976E-01	5.792E-01	4.843E-02	1.519
		87.30		-7.552E-01	1.086E+00	1.214E+00	1.667E-01	-0.622
	+	238.63	*	1.024E+00	1.596E-01	9.250E-02	1.222E-02	11.068
		300.09		1.339E+00	8.389E-01	1.268E+00	1.850E-01	1.056
PO-212	+	74.81		2.214E+00	7.625E-01	1.055E+00	1.310E-01	2.098
	+	77.11		8.799E-01	3.976E-01	5.792E-01	4.843E-02	1.519
		87.30		-7.552E-01	1.086E+00	1.214E+00	1.667E-01	-0.622
		115.19		2.339E+01	6.436E+00	9.443E+00	7.823E-01	2.477
	+	238.63	*	1.024E+00	1.596E-01	9.250E-02	1.222E-02	11.068
		300.09		1.339E+00	8.389E-01	1.268E+00	1.850E-01	1.056
BI-214	+	609.31	*	6.886E-01	1.307E-01	9.854E-02	1.146E-02	6.988
	+	1120.29		6.644E-01	3.255E-01	3.626E-01	4.006E-02	1.833
	+	1764.49		8.725E-01	2.946E-01	2.235E-01	1.862E-02	3.904
PB-214	+	74.81		3.815E+00	1.296E+00	1.818E+00	2.004E-01	2.098
	+	77.11		1.508E+00	6.913E-01	9.929E-01	1.123E-01	1.519
		87.30		-1.294E+00	1.858E+00	2.080E+00	2.530E-01	-0.622
	+	241.98		1.454E+00	5.672E-01	5.444E-01	7.487E-02	2.670
	+	295.21		8.217E-01	2.420E-01	2.208E-01	3.288E-02	3.721

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	351.92	*	7.879E-01	1.502E-01	1.045E-01	1.333E-02	7.537
	+	74.81		3.815E+00	1.296E+00	1.818E+00	2.004E-01	2.098
	+	77.11		1.508E+00	6.913E-01	9.929E-01	1.123E-01	1.519
	+	87.30		-1.294E+00	1.858E+00	2.080E+00	2.530E-01	-0.622
	+	241.98		1.454E+00	5.672E-01	5.444E-01	7.487E-02	2.670
PO-216	+	295.21		8.217E-01	2.420E-01	2.208E-01	3.288E-02	3.721
	+	351.92	*	7.879E-01	1.502E-01	1.045E-01	1.333E-02	7.537
	+	74.81		2.214E+00	7.625E-01	1.055E+00	1.310E-01	2.098
	+	77.11		8.799E-01	3.976E-01	5.792E-01	4.843E-01	1.519
	+	87.30		-7.552E-01	1.086E+00	1.214E+00	1.667E-01	-0.622
PO-218	+	238.63	*	1.024E+00	1.596E-01	9.250E-02	1.222E-02	11.068
	+	300.09		1.339E+00	8.389E-01	1.268E+00	1.850E-01	1.056
	+	74.81		3.815E+00	1.296E+00	1.818E+00	2.004E-01	2.098
	+	77.11		1.508E+00	6.913E-01	9.929E-01	1.123E-01	1.519
	+	87.30		-1.294E+00	1.858E+00	2.080E+00	2.530E-01	-0.622
RA-224	+	241.98		1.454E+00	5.672E-01	5.444E-01	7.487E-02	2.670
	+	295.21		8.217E-01	2.420E-01	2.208E-01	3.288E-02	3.721
	+	351.92	*	7.879E-01	1.502E-01	1.045E-01	1.333E-02	7.537
	+	240.98	*	2.757E+00	1.064E+00	1.052E+00	1.316E-01	2.622
	+	609.31	*	6.886E-01	1.307E-01	9.854E-02	1.146E-02	6.988
RA-226	+	1120.29		6.644E-01	3.255E-01	3.626E-01	4.006E-02	1.833
	+	1764.49		8.725E-01	2.946E-01	2.235E-01	1.862E-02	3.904
	+	338.32		9.642E-01	5.280E-01	3.495E-01	1.470E-01	2.759
	+	911.07	*	1.005E+00	2.464E-01	1.665E-01	2.206E-02	6.037
	+	969.11		1.017E+00	4.258E-01	3.307E-01	7.985E-02	3.077
TH-228	+	338.32		9.642E-01	5.280E-01	3.495E-01	1.470E-01	2.759
	+	911.07	*	1.005E+00	2.464E-01	1.665E-01	2.206E-02	6.037
	+	969.11		1.017E+00	4.258E-01	3.307E-01	7.985E-02	3.077
	+	74.81		2.252E+00	7.470E-01	1.074E+00	8.846E-02	2.098
	+	77.11		8.951E-01	4.045E-01	5.892E-01	4.927E-02	1.519
TH-230	+	87.30		-7.683E-01	1.102E+00	1.235E+00	1.162E-01	-0.622
	+	238.63	*	1.042E+00	1.624E-01	9.410E-02	1.243E-02	11.068
	+	300.09		1.362E+00	1.166E+00	1.290E+00	7.762E-01	1.056
	+	609.31	*	6.886E-01	1.306E-01	9.854E-02	1.146E-02	6.988
	+	1120.29		6.644E-01	3.255E-01	3.626E-01	4.006E-02	1.833
U-231	+	1764.49		8.724E-01	2.946E-01	2.235E-01	1.862E-02	3.904
	+	84.21		9.028E+01	2.387E+01	2.435E+01	2.208E+00	3.707
	+	92.29		8.535E+02	7.851E+01	8.965E+00	8.175E-01	95.205
	+	95.87	*	2.263E+01	5.977E+00	3.890E+00	3.454E-01	5.818
	+	108.00		-3.798E+00	5.561E+00	7.788E+00	6.547E-01	-0.488
TH-232	+	338.32		9.642E-01	3.569E-01	3.495E-01	4.156E-02	2.759
	+	911.07	*	1.005E+00	2.464E-01	1.665E-01	2.206E-02	6.037
	+	969.11		1.017E+00	4.258E-01	3.307E-01	7.985E-02	3.077
	+	766.42		2.441E+02	1.272E+02	1.514E+01	7.748E+00	16.127
	+	1001.03	*	2.466E+02	3.080E+01	4.855E+00	5.564E-01	50.790
TH-234	+	63.29	*	1.578E+02	2.788E+01	3.561E+00	6.198E-01	44.318
	+	92.38		1.574E+02	2.891E+01	1.653E+00	3.028E-01	95.260
	+	609.31	*	6.886E-01	1.306E-01	9.854E-02	1.146E-02	6.988
	+	1120.29		6.644E-01	3.255E-01	3.626E-01	4.006E-02	1.833

---- Identified Nuclides ----

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
U-235	+	1764.49		8.724E-01	2.946E-01	2.235E-01	1.862E-02	3.904
		89.95		6.601E+00	3.311E+00	3.879E+00	1.205E+00	1.702
	+	93.35		1.893E+02	5.339E+01	1.975E+00	5.562E-01	95.823
		105.00		1.092E+00	1.706E+00	2.713E+00	8.087E-01	0.402
	+	143.76	*	3.107E+00	6.932E-01	4.586E-01	8.091E-02	6.774
	+	163.35		3.528E+00	1.151E+00	9.555E-01	1.872E-01	3.692
U-238	+	185.71		3.303E+00	3.688E-01	8.166E-02	8.551E-03	40.452
	+	205.31		3.135E+00	1.040E+00	9.933E-01	2.023E-01	3.156
	+	63.29	*	1.578E+02	2.788E+01	3.561E+00	6.198E-01	44.318
	+	92.38		1.574E+02	1.448E+01	1.653E+00	1.506E-01	95.260
AM-243	+	74.67	*	3.590E-01	1.190E-01	1.716E-01	1.398E-02	2.092
		86.72		-2.424E+01	2.254E+01	2.907E+01	2.716E+00	-0.834
		117.66		-6.727E+00	6.415E+00	8.787E+00	7.258E-01	-0.765
ANH-511		142.18		1.597E+02	3.167E+01	4.702E+01	4.152E+00	3.397
	+	511.00	*	7.602E-02	6.801E-02	4.291E-02	4.300E-03	1.772

---- 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	*	-1.486E-01	3.169E-01	5.018E-01	5.237E-02	-0.296
NA-22		1274.54	*	-1.702E-02	3.173E-02	5.059E-02	4.359E-03	-0.336
NA-24		1368.53	*	-2.000E+00	3.173E-02	Half-Life too short		
AL-26		1129.67		-5.680E-01	1.293E+00	1.991E+00	1.734E-01	-0.285
		1808.65	*	9.022E-03	2.169E-02	3.739E-02	3.058E-03	0.241
TI-44		67.85		-1.073E-01	8.079E-02	1.241E-01	9.472E-03	-0.865
	+	78.38	*	1.624E-01	7.339E-02	1.060E-01	8.986E-03	1.532
SC-46		889.25	*	-4.431E-02	3.482E-02	5.334E-02	5.971E-03	-0.831
	+	1120.51		1.158E-01	5.619E-02	7.955E-02	7.033E-03	1.455
V-48		944.10		1.560E+00	9.398E-01	1.473E+00	1.598E-01	1.059
		983.50	*	-1.686E-02	5.942E-02	9.586E-02	1.005E-02	-0.176
CR-51		1312.09		-1.085E-02	6.137E-02	9.991E-02	8.802E-03	-0.109
		320.08	*	-1.035E-03	3.664E-01	6.129E-01	7.936E-02	-0.002
MN-52		744.21		1.392E+00	4.251E-01	6.544E-01	7.111E-02	2.128
		848.13		9.316E+00	7.357E+00	1.289E+01	1.435E+00	0.723
		935.52		8.234E-02	2.500E-01	4.201E-01	4.587E-02	0.196
		1246.25		-4.982E+00	6.895E+00	1.092E+01	9.233E-01	-0.456
		1333.61		-9.199E-01	4.635E+00	7.516E+00	6.703E-01	-0.122
		1434.06	*	1.377E-01	2.366E-01	4.050E-01	3.619E-02	0.340
MN-54		834.83	*	2.803E-02	3.091E-02	5.348E-02	5.941E-03	0.524
CO-56		846.75	*	-1.577E-02	3.310E-02	5.376E-02	5.984E-03	-0.293
		977.42		2.383E-01	2.605E+00	3.682E+00	3.883E-01	0.065
		1037.82		6.089E-02	2.203E-01	3.665E-01	3.779E-02	0.166
		1175.09		-8.686E-01	1.623E+00	2.619E+00	2.109E-01	-0.332
		1238.25		1.352E-01	6.734E-02	1.214E-01	1.052E-02	1.114
		1360.21		-2.986E-01	7.479E-01	1.189E+00	1.062E-01	-0.251
CO-57		1771.40		-1.149E-02	1.872E-01	2.580E-01	2.144E-02	-0.045
		122.06	*	1.504E-02	3.770E-02	6.019E-02	4.964E-03	0.250
		136.48		-9.375E-02	2.811E-01	4.724E-01	4.383E-02	-0.198

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CO-58		810.76	*	-4.562E-02	3.525E-02	5.476E-02	6.063E-03	-0.833
FE-59	+	142.65		4.142E+01	6.752E+00	7.941E+00	7.027E-01	5.216
		192.34		-8.821E-01	1.186E+00	1.764E+00	2.619E-01	-0.500
		1099.22	*	-3.417E-02	6.585E-02	1.029E-01	1.009E-02	-0.332
		1291.56		5.296E-02	8.609E-02	1.483E-01	1.462E-02	0.357
CO-60		1173.22		8.547E-03	3.124E-02	5.295E-02	4.258E-03	0.161
		1332.49	*	-5.405E-03	2.806E-02	4.553E-02	4.060E-03	-0.119
ZN-65		1115.52	*	-2.095E-03	7.977E-02	1.097E-01	9.784E-03	-0.019
GE-68		1077.35	*	4.230E-01	9.057E-01	1.518E+00	1.431E-01	0.279
AS-73		53.44	*	6.959E-01	1.446E+00	2.423E+00	1.831E-01	0.287
AS-74		595.88	*	9.605E-03	9.134E-02	1.520E-01	1.576E-02	0.063
		634.78		-2.215E-01	3.322E-01	5.293E-01	5.547E-02	-0.418
SE-75		66.05		-1.892E+01	8.867E+00	1.234E+01	1.177E+00	-1.534
		96.73		1.119E+01	2.449E+00	2.503E+00	3.445E-01	4.470
		121.11		1.512E-01	2.040E-01	3.272E-01	3.577E-02	0.462
		136.00		-1.150E-02	5.285E-02	8.904E-02	7.726E-03	-0.129
		198.60		-4.370E+00	2.158E+00	3.250E+00	3.798E-01	-1.345
		264.65	*	-7.638E-02	6.841E-02	7.433E-02	1.000E-02	-1.028
		279.53		1.086E-02	1.107E-01	1.776E-01	2.521E-02	0.061
		303.91		-1.243E+00	2.022E+00	3.322E+00	5.063E-01	-0.374
		400.65		-8.848E-02	2.392E-01	3.870E-01	4.529E-02	-0.229
BR-77		87.88		-5.500E+02	9.680E+02	1.088E+03	1.032E+02	-0.505
		200.40		2.299E+02	3.882E+02	5.690E+02	6.257E+01	0.404
	+	239.00		3.058E+02	4.567E+01	4.740E+01	5.898E+00	6.452
		249.79		6.146E+01	1.320E+02	2.157E+02	2.773E+01	0.285
		281.68		-1.793E+02	1.696E+02	2.587E+02	3.604E+01	-0.693
		297.23		3.036E+02	1.239E+02	1.869E+02	2.513E+01	1.624
		303.76		-1.664E+02	3.168E+02	5.229E+02	6.916E+01	-0.318
		439.47		-4.191E+01	2.438E+02	3.942E+02	3.794E+01	-0.106
		484.57		5.763E+01	4.013E+02	6.513E+02	6.439E+01	0.088
		520.65	*	-7.214E-01	2.018E+01	2.916E+01	2.935E+00	-0.025
		574.64		-3.307E+00	3.884E+02	6.164E+02	6.343E+01	-0.005
		578.91		-5.831E+01	1.689E+02	2.367E+02	2.440E+01	-0.246
		585.48		1.983E+03	4.259E+02	6.583E+02	6.800E+01	3.012
		755.35		1.054E+02	2.848E+02	4.692E+02	5.116E+01	0.225
		817.79		-2.974E+00	2.070E+02	3.459E+02	3.830E+01	-0.009
SR-82		698.33		3.494E+01	3.302E+01	5.600E+01	5.992E+00	0.624
		776.49	*	-2.738E-01	3.986E-01	5.887E-01	6.456E-02	-0.465
		1395.20		2.285E+00	8.434E+00	1.414E+01	1.265E+00	0.162
RB-83		520.41	*	1.780E-03	7.310E-02	1.060E-01	1.067E-02	0.017
		529.64		-1.016E-01	9.881E-02	1.581E-01	1.598E-02	-0.643
		552.65		-9.525E-02	1.809E-01	2.951E-01	3.011E-02	-0.323
RB-84		881.50	*	1.466E-01	6.855E-02	1.215E-01	1.359E-02	1.207
KR-85		513.99	*	1.549E+01	6.957E+00	1.181E+01	1.185E+00	1.312
SR-85		513.99	*	8.123E-02	3.648E-02	6.191E-02	6.212E-03	1.312
RB-86		1076.63	*	3.902E-01	6.145E-01	1.040E+00	9.816E-02	0.375
Y-88		898.02		1.046E-02	3.466E-02	5.831E-02	6.551E-03	0.179
		1836.01	*	1.367E-02	2.502E-02	4.362E-02	3.526E-03	0.313
ZR-88		392.90	*	1.082E-02	2.953E-02	4.916E-02	4.577E-03	0.220

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
Y-91	1204.90	*		-8.446E+00	1.348E+01	2.158E+01	1.774E+00	-0.391
NB-94	702.63	*		-3.710E-03	3.061E-02	4.970E-02	5.326E-03	-0.075
	871.10			-2.193E-02	2.805E-02	4.448E-02	4.969E-03	-0.493
NB-95M	235.69	*		-1.837E-02	1.466E-01	2.070E-01	2.737E-02	-0.089
ZR-95	724.18			8.311E-02	1.010E-01	1.474E-01	1.681E-02	0.564
	756.15	*		2.535E-02	7.121E-02	1.119E-01	1.299E-02	0.227
NB-97	657.90	*		5.663E-01	7.121E-02	Half-Life	too short	
	1024.50			-3.520E+01	7.121E-02	Half-Life	too short	
ZR-97	254.15			8.108E-01	7.121E-02	Half-Life	too short	
	355.39			-9.890E-01	7.121E-02	Half-Life	too short	
	507.63	*		3.693E+01	7.121E-02	Half-Life	too short	
	602.52			-1.271E+01	7.121E-02	Half-Life	too short	
	1021.30			2.240E+01	7.121E-02	Half-Life	too short	
	1147.95			-1.813E+01	7.121E-02	Half-Life	too short	
	1362.66			-1.182E+01	7.121E-02	Half-Life	too short	
	1750.46			-1.204E+01	7.121E-02	Half-Life	too short	
MO-99	140.51			7.238E+00	6.665E+01	9.893E+01	2.744E+01	0.073
	181.06			-4.047E-01	4.044E+01	5.886E+01	1.127E+01	-0.007
	366.43			8.311E+01	1.296E+02	2.188E+02	2.321E+01	0.380
	739.58	*		4.747E+01	2.577E+01	3.786E+01	6.268E+00	1.254
	778.00			-4.119E+01	5.763E+01	8.492E+01	9.317E+00	-0.485
TC-99M	140.51	*		2.202E+12	5.763E+01	Half-Life	too short	
RH-101	127.23			-5.602E-03	4.584E-02	7.226E-02	6.040E-03	-0.078
	198.01	*		-5.785E-02	3.809E-02	5.896E-02	6.432E-03	-0.981
	325.23			-1.485E-01	2.076E-01	3.379E-01	4.200E-02	-0.440
RH-102	418.52			-1.066E-01	2.682E-01	4.317E-01	4.097E-02	-0.247
	475.06	*		6.768E-03	2.764E-02	4.511E-02	4.436E-03	0.150
	631.29			1.949E-02	4.664E-02	7.830E-02	8.199E-03	0.249
	697.49			1.613E-02	7.138E-02	1.177E-01	1.259E-02	0.137
	+ 766.84			2.324E+00	3.392E-01	3.460E-01	3.784E-02	6.716
	1046.59			-2.179E-02	8.335E-02	1.337E-01	1.311E-02	-0.163
	1112.84			7.148E-02	1.927E-01	2.748E-01	2.460E-02	0.260
RU-103	497.08	*		5.851E-03	3.834E-02	6.211E-02	9.323E-03	0.094
	+ 610.33			7.720E+00	1.789E+00	1.880E+00	3.324E-01	4.105
RH-106	+ 511.85			3.812E-01	3.411E-01	3.181E-01	3.188E-02	1.199
	621.84	*		1.640E-01	2.844E-01	4.795E-01	7.002E-02	0.342
	1050.47			7.133E-01	1.676E+00	2.809E+00	2.741E-01	0.254
RU-106	+ 511.85			3.812E-01	3.411E-01	3.181E-01	3.188E-02	1.199
	621.84	*		1.640E-01	2.839E-01	4.795E-01	5.009E-02	0.342
	1050.47			7.133E-01	1.676E+00	2.809E+00	2.741E-01	0.254
AG-108M	433.93	*		-8.739E-03	3.028E-02	4.878E-02	4.829E-03	-0.179
	614.37			-1.684E-02	3.765E-02	5.190E-02	5.556E-03	-0.324
	722.95			1.290E-02	4.319E-02	6.135E-02	6.788E-03	0.210
CD-109	88.03	*		-9.512E-01	2.415E+00	2.727E+00	2.588E-01	-0.349
AG-110M	657.75	*		2.146E-02	3.753E-02	5.467E-02	5.876E-03	0.393
	677.61			-8.638E-02	2.765E-01	4.462E-01	4.824E-02	-0.194
	706.67			-4.978E-02	1.923E-01	3.100E-01	3.387E-02	-0.161
	763.93			2.858E+00	4.066E-01	5.026E-01	5.591E-02	5.685
	884.67			1.755E-02	4.557E-02	7.692E-02	8.772E-03	0.228

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	937.48			1.444E-02	8.750E-02	1.402E-01	1.564E-02	0.103
	1384.27			-1.563E-01	1.289E-01	1.898E-01	1.741E-02	-0.824
IN-111	171.28			-5.765E-01	2.127E+00	3.519E+00	3.512E-01	-0.164
	245.39	*		6.622E-02	2.111E+00	2.987E+00	3.790E-01	0.022
IN-113M	391.69	*		1.154E-02	4.230E-02	7.023E-02	6.706E-03	0.164
SN-113	391.69	*		1.154E-02	4.230E-02	7.023E-02	6.706E-03	0.164
IN-114M	190.27	*		2.636E-02	2.307E-01	3.355E-01	3.567E-02	0.079
CD-115	260.90			3.018E+02	3.165E+02	4.578E+02	6.083E+01	0.659
	492.35			-3.058E+00	6.507E+01	1.046E+02	1.039E+01	-0.029
	527.90	*		-1.765E+01	1.896E+01	3.048E+01	3.078E+00	-0.579
SN-117M	156.02			-2.492E-01	3.099E+00	5.182E+00	4.859E-01	-0.048
	158.56	*		-9.474E-02	8.642E-02	1.229E-01	1.166E-02	-0.771
SB-122	563.90	*		-1.486E+00	3.348E+00	5.478E+00	5.615E-01	-0.271
	692.80			9.186E+00	6.906E+01	1.135E+02	1.212E+01	0.081
I-123	159.00	*		-1.264E+02	6.906E+01	Half-Life	too short	
	528.96			-7.399E+03	6.906E+01	Half-Life	too short	
TE-123M	159.00	*		-4.264E-02	4.051E-02	5.768E-02	5.509E-03	-0.739
I-124	602.71	*		-3.790E-01	1.025E+00	1.428E+00	1.483E-01	-0.265
	722.78			1.512E+00	6.403E+00	9.062E+00	9.780E-01	0.167
	1325.50			-2.114E+01	3.841E+01	5.734E+01	5.092E+00	-0.369
	1376.25			4.713E+01	3.265E+01	5.869E+01	5.245E+00	0.803
	1509.49			3.062E+01	1.734E+01	3.192E+01	2.837E+00	0.959
	1691.02			8.600E-01	3.662E+00	6.227E+00	5.325E-01	0.138
SB-124	602.71			-1.586E-02	4.289E-02	5.977E-02	6.209E-03	-0.265
	645.85			-1.982E-03	4.617E-01	7.596E-01	8.308E-02	-0.003
	709.31			5.098E-01	2.598E+00	4.273E+00	4.590E-01	0.119
	713.82			7.603E-01	1.552E+00	2.580E+00	3.522E-01	0.295
	722.78			9.171E-02	3.885E-01	5.498E-01	6.016E-02	0.167
+	968.20			1.073E+01	3.842E+00	4.895E+00	5.205E-01	2.193
	1045.16			-1.905E-02	1.817E+00	2.965E+00	2.913E-01	-0.006
	1325.50			-1.370E+00	2.489E+00	3.716E+00	3.300E-01	-0.369
	1368.21			-3.873E-01	1.427E+00	2.295E+00	3.139E-01	-0.169
	1436.60			2.105E+00	2.966E+00	5.124E+00	4.579E-01	0.411
	1691.02	*		1.231E-02	5.240E-02	8.911E-02	7.927E-03	0.138
SB-125	427.89	*		-8.444E-02	8.730E-02	1.366E-01	1.325E-02	-0.618
	463.38			2.534E-01	2.690E-01	4.488E-01	4.654E-02	0.565
	600.56			-9.393E-02	1.641E-01	2.652E-01	2.895E-02	-0.354
	635.90			-1.964E-01	2.368E-01	3.688E-01	4.080E-02	-0.533
TE-125M	109.28	*		4.228E+01	1.897E+01	2.749E+01	2.785E+00	1.538
I-126	388.63			-5.527E-02	2.144E-01	3.495E-01	3.309E-02	-0.158
	666.33	*		8.112E-02	2.146E-01	3.090E-01	3.265E-02	0.263
	753.82			-5.464E-01	1.542E+00	2.456E+00	2.677E-01	-0.222
SB-126	223.80			-4.284E+00	5.138E+00	8.160E+00	9.682E-01	-0.525
	278.60			4.679E+00	2.851E+00	4.670E+00	6.527E-01	1.002
+	296.50			9.214E+00	2.651E+00	3.105E+00	4.183E-01	2.968
	414.70			-9.198E-02	7.985E-02	1.243E-01	1.176E-02	-0.740
	415.30			-5.160E-01	6.426E+00	1.048E+01	9.927E-01	-0.049
	555.20			-1.803E+00	4.070E+00	6.664E+00	6.807E-01	-0.271
	573.80			-2.122E-01	1.136E+00	1.834E+00	1.887E-01	-0.116

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		593.00		-5.287E-01	9.649E-01	1.562E+00	1.618E-01	-0.338
		656.30		2.121E+00	3.842E+00	5.602E+00	5.901E-01	0.379
		666.33		3.406E-02	9.014E-02	1.298E-01	1.371E-02	0.263
		675.00		-1.712E+00	2.030E+00	3.186E+00	3.379E-01	-0.537
		695.00		-5.730E-02	8.132E-02	1.285E-01	1.373E-02	-0.446
		697.00		-7.976E-02	2.843E-01	4.588E-01	4.906E-02	-0.174
		720.50	*	-1.269E-02	1.659E-01	2.400E-01	2.589E-02	-0.053
		856.80		-2.714E-02	5.257E-01	7.461E-01	8.318E-02	-0.036
		989.30		2.579E-01	1.106E+00	1.732E+00	1.807E-01	0.149
		1034.80		-3.281E+00	6.996E+00	1.105E+01	1.099E+00	-0.297
		1213.00		1.124E-01	3.654E+00	6.088E+00	5.034E-01	0.018
SN-126	+	64.28		6.247E+01	9.244E+00	2.656E+00	3.858E-01	23.515
		86.94		-1.014E+00	9.434E-01	1.092E+00	4.533E-01	-0.929
		87.57	*	-9.887E-02	2.338E-01	2.640E-01	2.492E-02	-0.375
SB-127		61.10		6.718E+02	1.895E+02	2.747E+02	2.970E+01	2.446
		252.40		-3.927E-01	7.364E+00	1.095E+01	4.742E+00	-0.036
		290.80		8.718E+00	3.394E+01	5.035E+01	7.989E+00	0.173
		411.60		6.136E+00	1.652E+01	2.737E+01	4.558E+00	0.224
		444.90		1.214E+00	1.292E+01	2.110E+01	2.917E+00	0.058
		473.00		-1.364E+00	2.419E+00	3.812E+00	5.428E-01	-0.358
		543.00		2.506E+01	2.321E+01	3.976E+01	6.303E+00	0.630
		603.60		1.658E+01	1.735E+01	2.583E+01	3.700E+00	0.642
		685.20	*	-1.047E-02	1.823E+00	2.982E+00	4.041E-01	-0.004
		698.50		2.224E+01	2.060E+01	3.459E+01	6.045E+00	0.643
		722.20		2.713E+00	4.518E+01	6.324E+01	8.526E+00	0.043
		783.80		1.872E+01	6.815E+00	1.011E+01	1.485E+00	1.851
XE-127		57.60		1.138E+01	1.194E+01	1.919E+01	1.378E+00	0.593
	+	145.22		1.069E+01	1.743E+00	1.986E+00	1.776E-01	5.383
		172.10		9.742E-02	1.546E-01	2.598E-01	2.600E-02	0.375
		202.84	*	1.384E-01	6.548E-02	9.773E-02	1.083E-02	1.416
		374.96		3.085E-02	1.922E-01	3.191E-01	3.249E-02	0.097
I-131		80.18		1.097E+00	1.431E+01	1.649E+01	1.439E+00	0.067
		284.30		-1.196E-01	1.771E+00	2.822E+00	3.992E-01	-0.042
		364.48	*	-1.335E-01	1.272E-01	2.012E-01	2.232E-02	-0.663
		636.97		-8.136E-01	1.622E+00	2.575E+00	2.806E-01	-0.316
		722.89		2.415E+00	8.730E+00	1.239E+01	1.344E+00	0.195
TE-132		49.72		2.303E+01	4.845E+01	8.179E+01	8.989E+00	0.282
	+	111.76		2.595E+02	9.509E+01	1.699E+02	1.907E+01	1.528
		116.30		9.716E+01	7.359E+01	1.063E+02	1.188E+01	0.914
		228.16	*	1.153E+00	1.232E+00	2.022E+00	3.675E-01	0.570
BA-133		53.15		3.817E+00	6.099E+00	1.024E+01	7.767E-01	0.373
		79.62		-5.942E-01	3.377E+00	3.870E+00	5.887E-01	-0.154
		81.00		2.893E-01	2.553E-01	2.964E-01	4.724E-02	0.976
		276.40		4.660E-01	4.135E-01	6.235E-01	1.128E-01	0.747
		302.84		-8.392E-02	1.378E-01	2.263E-01	3.774E-02	-0.371
		356.01	*	-2.642E-02	4.597E-02	6.405E-02	9.571E-03	-0.413
		383.85		-4.920E-03	2.795E-01	4.602E-01	6.159E-02	-0.011
I-133	+	510.53		4.241E+00	2.795E-01	Half-Life too short		
		529.87	*	-3.056E-02	2.795E-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		706.58		-5.678E-01	2.795E-01	Half-Life	too short	
		856.28		-1.098E+00	2.795E-01	Half-Life	too short	
		875.33		-1.108E+00	2.795E-01	Half-Life	too short	
		1236.41		7.244E+00	2.795E-01	Half-Life	too short	
		1298.22		-8.529E-01	2.795E-01	Half-Life	too short	
		475.35		2.124E-02	1.823E+00	2.948E+00	2.899E-01	0.007
		563.23		2.651E-02	3.338E-01	5.578E-01	5.755E-02	0.048
		569.32		1.851E-01	1.858E-01	3.190E-01	3.308E-02	0.580
		604.70		1.669E-02	3.515E-02	5.133E-02	5.344E-03	0.325
		795.84	*	8.960E-02	4.669E-02	7.703E-02	8.526E-03	1.163
		801.93		-7.136E-01	4.116E-01	5.815E-01	6.439E-02	-1.227
		1038.57		6.125E-01	2.715E+00	4.502E+00	4.457E-01	0.136
CS-135 I-135		1167.94		3.217E-01	1.746E+00	2.946E+00	2.394E-01	0.109
		1365.15		3.114E-01	9.768E-01	1.602E+00	1.492E-01	0.194
		268.24	*	2.615E-02	1.935E-01	2.700E-01	3.905E-02	0.097
		288.45		1.447E+12	1.935E-01	Half-Life	too short	
		417.63		-1.677E+11	1.935E-01	Half-Life	too short	
		546.56		1.968E+12	1.935E-01	Half-Life	too short	
		836.80		1.422E+11	1.935E-01	Half-Life	too short	
		1038.76		3.050E+11	1.935E-01	Half-Life	too short	
		1124.00		1.459E+13	1.935E-01	Half-Life	too short	
		1131.51		-6.558E+11	1.935E-01	Half-Life	too short	
		1260.41	*	-3.110E+11	1.935E-01	Half-Life	too short	
		1457.56		1.780E+14	1.935E-01	Half-Life	too short	
CS-136		1678.03		3.327E+11	1.935E-01	Half-Life	too short	
		1706.46		-4.663E+11	1.935E-01	Half-Life	too short	
		1791.20		2.569E+11	1.935E-01	Half-Life	too short	
		66.91		-4.260E+00	1.719E+00	2.251E+00	3.349E-01	-1.892
		86.29		-6.671E-02	2.693E+00	3.900E+00	5.193E-01	-0.017
		153.22		5.698E-01	9.168E-01	1.552E+00	1.585E-01	0.367
	+	163.89		8.940E+00	2.518E+00	2.928E+00	3.118E-01	3.053
		176.55		-5.678E-01	5.137E-01	8.282E-01	8.766E-02	-0.686
		273.65		-7.409E-01	6.132E-01	8.010E-01	1.133E-01	-0.925
		340.57		3.414E-01	1.598E-01	2.402E-01	2.879E-02	1.421
		818.51		-1.214E-03	6.996E-02	1.169E-01	1.295E-02	-0.010
		1048.07	*	-2.639E-02	8.817E-02	1.410E-01	1.426E-02	-0.187
CE-139 BA-140		1235.34		1.085E+00	4.866E-01	8.700E-01	1.017E-01	1.247
		165.85	*	2.647E-02	4.262E-02	6.346E-02	6.224E-03	0.417
	+	162.64		6.315E+00	1.767E+00	2.055E+00	2.078E-01	3.073
		304.84		-1.645E+00	1.446E+00	2.205E+00	6.559E-01	-0.746
		423.70		2.114E+00	2.077E+00	3.329E+00	1.088E+00	0.635
		537.32	*	-4.820E-02	2.739E-01	4.545E-01	1.526E-01	-0.106
LA-140		328.77		3.764E-01	3.129E-01	5.347E-01	6.755E-02	0.704
		432.53		-4.551E-01	2.172E+00	3.494E+00	3.481E-01	-0.130
		487.03		-4.056E-02	1.443E-01	2.299E-01	2.383E-02	-0.176
		751.79		-1.114E+00	1.849E+00	2.835E+00	3.299E-01	-0.393
		815.85		3.517E-01	3.014E-01	5.274E-01	6.254E-02	0.667
		867.82		9.965E-01	1.404E+00	2.104E+00	2.424E-01	0.474
		919.63		-3.660E+00	3.256E+00	4.346E+00	5.515E-01	-0.842

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		925.24		2.201E+00	1.191E+00	2.094E+00	2.393E-01	1.051
		1596.49	*	-8.569E-02	7.114E-02	1.045E-01	9.163E-03	-0.820
CE-141		145.44	*	6.667E-01	1.197E-01	1.739E-01	1.583E-02	3.835
CE-143		57.37		3.910E-03	1.197E-01	Half-Life	too short	
		231.56		-3.685E-03	1.197E-01	Half-Life	too short	
		293.26	*	1.502E-03	1.197E-01	Half-Life	too short	
	+	350.59		5.248E-02	1.197E-01	Half-Life	too short	
		490.36		2.765E-04	1.197E-01	Half-Life	too short	
		664.57		9.170E-03	1.197E-01	Half-Life	too short	
		721.93		3.695E-04	1.197E-01	Half-Life	too short	
CE-144		80.11		3.926E-01	5.513E+00	6.353E+00	5.491E-01	0.062
		133.54	*	-1.268E-01	2.790E-01	4.678E-01	7.261E-02	-0.271
PM-144		476.78		-1.660E-02	6.460E-02	1.033E-01	1.090E-02	-0.161
		618.01		1.288E-02	2.873E-02	4.733E-02	5.032E-03	0.272
		696.49	*	-2.620E-02	3.305E-02	5.199E-02	5.561E-03	-0.504
		778.57		-1.215E+00	2.357E+00	3.406E+00	3.738E-01	-0.357
PR-144		696.49	*	-1.777E+00	2.242E+00	3.527E+00	3.771E-01	-0.504
		1489.15		6.626E+00	7.694E+00	1.364E+01	1.215E+00	0.486
PM-146		453.90	*	1.601E-02	4.185E-02	6.887E-02	8.004E-03	0.232
		633.02		1.658E-01	1.187E+00	1.966E+00	7.441E-01	0.084
		735.90		1.022E-01	1.840E-01	2.357E-01	6.918E-02	0.434
		747.13		9.070E-02	9.908E-02	1.446E-01	2.246E-02	0.627
ND-147		91.11		5.336E+01	5.381E+00	2.133E+00	2.107E-01	25.019
		319.41		1.242E+00	3.547E+00	5.994E+00	7.588E-01	0.207
		439.89		-5.164E-01	6.107E+00	9.908E+00	9.542E-01	-0.052
		531.02	*	-1.284E-02	5.886E-01	9.850E-01	1.562E-01	-0.013
PM-149		285.90	*	-9.224E+00	1.765E+02	2.813E+02	5.323E+01	-0.033
EU-152		121.78		4.803E-02	1.091E-01	1.743E-01	1.673E-02	0.276
		244.69		1.554E-01	3.859E-01	5.536E-01	7.009E-02	0.281
		344.27	*	4.956E-02	9.952E-02	1.534E-01	1.843E-02	0.323
		443.98		9.648E-02	8.848E-01	1.445E+00	1.395E-01	0.067
		778.89		-3.979E-02	2.701E-01	3.996E-01	4.385E-02	-0.100
		867.32		3.398E-01	7.591E-01	1.117E+00	1.247E-01	0.304
		964.01		1.992E-01	2.645E-01	3.911E-01	4.173E-02	0.510
		1085.78		-7.683E-02	2.776E-01	4.426E-01	4.124E-02	-0.174
		1112.02		1.497E-01	2.696E-01	3.907E-01	3.501E-02	0.383
		1407.95		4.852E-02	1.368E-01	2.304E-01	2.060E-02	0.211
GD-153		69.67		1.599E+00	2.873E+00	4.751E+00	3.688E-01	0.337
	+	83.37		1.741E+02	4.604E+01	5.065E+01	4.546E+00	3.438
	+	97.43	*	2.132E+00	2.828E-01	2.822E-01	2.481E-02	7.555
		103.18		-1.689E-01	1.881E-01	2.626E-01	2.244E-02	-0.643
EU-154		123.07		8.214E-03	7.679E-02	1.219E-01	1.352E-02	0.067
		247.94		6.326E-02	3.866E-01	6.275E-01	9.325E-02	0.101
		591.81		-4.802E-01	6.297E-01	9.269E-01	1.205E-01	-0.518
		723.30		8.695E-02	1.808E-01	2.596E-01	2.994E-02	0.335
		756.87		6.281E-01	7.619E-01	1.188E+00	1.629E-01	0.529
		873.19		-1.857E-01	2.476E-01	3.928E-01	5.561E-02	-0.473
		996.32		2.445E+00	6.282E-01	8.036E-01	1.500E-01	3.042
		1004.76		4.941E+00	7.288E-01	7.565E-01	9.767E-02	6.532

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-155	1274.45	*		-4.534E-02	8.872E-02	1.416E-01	1.601E-02	-0.320
	48.70			1.638E+00	3.801E+00	6.426E+00	5.233E-01	0.255
	60.01			1.785E+01	1.004E+01	1.524E+01	1.082E+00	1.171
	86.54			-3.348E-02	2.216E-01	3.203E-01	3.013E-02	-0.105
TB-160	105.31	*		5.273E-02	1.720E-01	2.769E-01	2.377E-02	0.190
	86.79			-7.473E-01	6.716E-01	8.654E-01	8.093E-02	-0.864
	197.04			1.626E-01	6.402E-01	1.047E+00	1.139E-01	0.155
	215.65			-7.163E-02	8.287E-01	1.352E+00	1.562E-01	-0.053
	298.57			7.850E-02	1.233E-01	1.846E-01	2.474E-02	0.425
	879.36	*		2.136E-01	1.304E-01	2.292E-01	2.563E-02	0.932
	962.29			1.529E-01	4.719E-01	6.794E-01	7.261E-02	0.225
	966.15			7.592E-01	2.200E-01	3.534E-01	3.765E-02	2.148
HO-166M	1177.93			-5.363E-03	2.628E-01	4.378E-01	3.533E-02	-0.012
	1271.85			-3.302E-02	5.178E-01	8.536E-01	7.336E-02	-0.039
	80.57			2.081E-01	7.037E-01	8.145E-01	7.077E-02	0.255
	184.41	+		2.478E+00	2.766E-01	1.522E-01	1.587E-02	16.280
	280.46			-7.818E-02	8.608E-02	1.325E-01	1.850E-02	-0.590
	410.95			1.119E-01	2.272E-01	3.783E-01	3.570E-02	0.296
	711.68	*		7.551E-03	5.689E-02	9.329E-02	1.003E-02	0.081
	752.31			-1.356E-01	2.582E-01	4.077E-01	4.441E-02	-0.333
TM-171	810.29			-5.830E-02	5.193E-02	8.163E-02	9.024E-03	-0.714
	51.35			-2.431E+01	5.047E+01	8.399E+01	6.552E+00	-0.289
	52.39			3.456E+00	2.665E+01	4.451E+01	3.416E+00	0.078
	59.40			8.689E+01	5.381E+01	8.169E+01	5.775E+00	1.064
LU-176	66.72	*		-1.440E+02	5.310E+01	7.311E+01	5.524E+00	-1.970
	88.36			3.267E-01	5.554E-01	6.398E-01	6.050E-02	0.511
	201.83			3.881E-02	3.700E-02	5.470E-02	6.043E-03	0.709
	306.84	*		-6.890E-03	2.366E-02	3.935E-02	5.163E-03	-0.175
LU-177M	401.10			-1.758E+00	6.149E+00	9.984E+00	9.355E-01	-0.176
	52.97			1.102E+00	2.780E+00	4.656E+00	3.543E-01	0.237
	54.07			2.990E-01	1.488E+00	2.483E+00	1.860E-01	0.120
	61.30			2.520E+01	3.714E+00	5.323E+00	3.830E-01	4.733
	121.62			2.986E-01	5.652E-01	9.045E-01	7.450E-02	0.330
	147.16			5.424E-01	9.215E-01	1.385E+00	1.249E-01	0.392
	171.86			3.206E-01	6.024E-01	1.011E+00	1.011E-01	0.317
	218.09			6.772E-01	9.516E-01	1.576E+00	1.836E-01	0.430
HF-181	268.79			6.179E-01	1.007E+00	1.427E+00	1.939E-01	0.433
	319.02			1.466E-01	2.441E-01	4.149E-01	5.258E-02	0.353
	367.43			4.058E-01	8.248E-01	1.386E+00	1.463E-01	0.293
	413.65	*		-2.104E-01	1.687E-01	2.615E-01	2.473E-02	-0.804
	56.28			-1.456E+00	1.747E+00	2.878E+00	2.097E-01	-0.506
	57.53			9.114E-01	9.975E-01	1.603E+00	1.152E-01	0.569
	65.20			1.682E+01	2.289E+00	3.189E+00	2.377E-01	5.276
	133.02			2.668E-04	9.198E-02	1.558E-01	1.328E-02	0.002
W-181	136.25			-9.354E-02	6.313E-01	1.065E+00	9.185E-02	-0.088
	345.85			-7.779E-02	2.058E-01	3.059E-01	3.538E-02	-0.254
	482.03	*		1.648E-02	4.173E-02	6.840E-02	6.752E-03	0.241
	56.28			-5.548E-01	6.685E-01	1.102E+00	8.024E-02	-0.504
	57.53			3.479E-01	3.820E-01	6.138E-01	4.411E-02	0.567

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TA-182	65.20	*		6.392E+00	8.695E-01	1.212E+00	9.032E-02	5.276
	67.75			-2.864E-01	1.952E-01	2.990E-01	2.280E-02	-0.958
	100.10			2.255E+00	3.916E-01	5.482E-01	4.750E-02	4.113
	152.43			1.738E-01	4.269E-01	7.209E-01	6.652E-02	0.241
	222.10			-2.227E-01	3.884E-01	6.229E-01	7.351E-02	-0.357
	+ 1001.68			1.100E+02	1.259E+01	1.060E+01	1.093E+00	10.375
	+ 1121.28			3.182E-01	1.545E-01	2.187E-01	1.931E-02	1.455
	1189.05			-7.278E-02	2.315E-01	3.790E-01	3.082E-02	-0.192
	1221.42	*		1.323E-01	1.364E-01	2.385E-01	1.983E-02	0.555
	1230.97			-7.651E-01	3.619E-01	5.197E-01	4.349E-02	-1.472
RE-183	57.98			7.032E-01	4.070E-01	6.199E-01	4.436E-02	1.134
	59.32			3.508E-01	2.254E-01	3.420E-01	2.419E-02	1.026
	67.20			-1.286E+00	3.928E-01	5.297E-01	4.019E-02	-2.427
	+ 162.32	*		8.409E-01	2.340E-01	2.719E-01	2.623E-02	3.093
	+ 208.81			1.610E+00	1.291E+00	1.805E+00	2.040E-01	0.892
	291.72			1.478E-01	1.049E+00	1.549E+00	2.110E-01	0.095
	57.98			2.559E+00	1.481E+00	2.256E+00	1.615E-01	1.134
RE-184	59.32			1.276E+00	8.195E-01	1.244E+00	8.798E-02	1.026
	67.20			-4.678E+00	1.429E+00	1.927E+00	1.462E-01	-2.427
	161.27			9.457E-01	5.102E-01	7.749E-01	7.440E-02	1.220
	216.55			8.276E-02	2.907E-01	4.782E-01	5.543E-02	0.173
	252.85	*		-1.856E-01	2.932E-01	4.012E-01	5.206E-02	-0.463
	318.01			1.199E-01	4.264E-01	7.194E-01	9.144E-02	0.167
	792.07			-7.193E-01	1.155E+00	1.523E+00	1.677E-01	-0.472
	903.28			-3.932E-01	9.415E-01	1.286E+00	1.436E-01	-0.306
	920.93			-4.046E-01	4.476E-01	6.537E-01	7.213E-02	-0.619
	59.72			8.977E-01	6.039E-01	9.155E-01	6.481E-02	0.981
	61.14			1.402E+00	3.599E-01	5.437E-01	3.906E-02	2.578
	69.30			5.096E-01	5.145E-01	8.540E-01	6.605E-02	0.597
	592.07			-2.482E+00	2.527E+00	3.797E+00	3.931E-01	-0.654
OS-185	646.12	*		3.160E-03	3.879E-02	6.406E-02	6.732E-03	0.049
	717.42			-3.975E-01	8.537E-01	1.360E+00	1.465E-01	-0.292
	874.81			-4.034E-01	5.050E-01	8.008E-01	8.950E-02	-0.504
	880.27			1.413E+00	7.333E-01	1.296E+00	1.449E-01	1.091
	155.03	*		-1.598E-03	2.153E-01	3.607E-01	3.367E-02	-0.004
	477.96			-1.295E+00	3.012E+00	4.778E+00	4.706E-01	-0.271
	633.10			-1.294E-02	2.465E+00	4.062E+00	4.255E-01	-0.003
	W-188 + 63.58			6.479E+03	5.132E+02	3.054E+02	2.244E+01	21.216
RE-188	227.08			1.827E+01	1.473E+01	2.443E+01	2.929E+00	0.748
	290.67	*		2.130E+00	8.184E+00	1.215E+01	1.659E+00	0.175
	295.96			6.392E-01	1.840E-01	2.163E-01	2.926E-02	2.955
	308.46			-1.045E-02	9.369E-02	1.567E-01	2.051E-02	-0.067
W-188 +	316.51	*		-5.133E-03	3.341E-02	5.568E-02	7.116E-03	-0.092
	468.07			-6.260E-02	6.789E-02	1.055E-01	1.092E-02	-0.593
	604.41			1.842E-01	4.825E-01	7.008E-01	9.989E-02	0.263
	612.46			2.798E+00	8.331E-01	1.296E+00	1.491E-01	2.158
	AU-195 65.12			3.616E+00	4.346E-01	5.794E-01	4.316E-02	6.241
AU-195	66.83			-4.687E-01	1.765E-01	2.435E-01	1.842E-02	-1.925
	+ 75.70			1.171E+00	3.881E-01	5.829E-01	4.802E-02	2.009

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-200	+	98.88	*	6.220E+00	8.252E-01	8.168E-01	7.123E-02	7.615
		129.76		3.929E+00	3.850E+00	6.611E+00	5.572E-01	0.594
		367.94	*	2.122E-04	3.850E+00	Half-Life	too short	
		579.30		-2.981E-03	3.850E+00	Half-Life	too short	
		828.27		-8.931E-03	3.850E+00	Half-Life	too short	
TL-201		1205.75		-6.061E-03	3.850E+00	Half-Life	too short	
		68.90		1.324E+01	1.304E+01	2.165E+01	1.669E+00	0.611
		70.82		1.262E+01	8.502E+00	1.270E+01	9.968E-01	0.993
		80.30		3.020E+00	2.109E+01	2.433E+01	2.108E+00	0.124
		135.34		-1.350E+01	5.513E+01	9.286E+01	7.983E+00	-0.145
TL-202		167.43	*	9.396E+00	1.572E+01	2.339E+01	2.305E+00	0.402
		68.90		8.275E-01	8.149E-01	1.353E+00	1.043E-01	0.611
		70.82		7.863E-01	5.300E-01	7.919E-01	6.213E-02	0.993
		80.30		1.883E-01	1.315E+00	1.517E+00	1.314E-01	0.124
		439.56	*	-1.380E-02	7.163E-02	1.157E-01	1.114E-02	-0.119
HG-203		70.83		3.136E+00	2.127E+00	3.140E+00	4.123E-01	0.999
		72.87		1.168E+00	1.248E+00	1.845E+00	2.363E-01	0.633
BI-207	+	82.60		1.328E+01	3.788E+00	3.735E+00	5.199E-01	3.555
		279.20	*	2.149E-02	4.279E-02	6.935E-02	9.817E-03	0.310
		72.80		2.856E-01	3.527E-01	5.232E-01	4.184E-02	0.546
	+	74.97		6.444E-01	2.136E-01	3.187E-01	2.606E-02	2.022
	+	84.90		2.239E+00	5.919E-01	6.406E-01	5.855E-02	3.494
TL-207		569.67		2.893E-02	2.884E-02	4.954E-02	5.088E-03	0.584
		1063.62	*	2.252E-02	3.927E-02	6.620E-02	6.356E-03	0.340
		1770.23		4.960E-01	3.998E-01	6.613E-01	5.497E-02	0.750
		81.07		6.526E-01	5.569E-01	6.543E-01	5.718E-02	0.997
	+	83.78		1.476E+00	3.902E-01	4.314E-01	3.891E-02	3.421
PO-209	+	94.90		3.263E+00	8.619E-01	9.639E-01	8.616E-02	3.386
		122.32		1.159E+00	2.596E+00	4.147E+00	3.690E-01	0.279
	+	144.24		1.007E+01	1.698E+00	1.967E+00	1.947E-01	5.120
		154.21		4.071E-01	4.914E-01	8.334E-01	8.418E-02	0.489
	+	269.46		2.832E-01	2.739E-01	3.379E-01	4.641E-02	0.838
		323.87	*	-8.368E-01	6.438E-01	9.963E-01	1.980E-01	-0.840
	+	338.28		4.026E+00	1.532E+00	1.851E+00	2.738E-01	2.175
		445.03		2.770E-01	2.056E+00	3.361E+00	4.319E-01	0.082
		260.50		3.284E+01	1.288E+01	1.878E+01	2.492E+00	1.749
		262.80		1.866E+00	3.202E+01	4.505E+01	6.020E+00	0.041
BI-210		896.60	*	4.688E+00	6.112E+00	1.050E+01	1.176E+00	0.447
		46.50	*	-4.154E+00	5.301E+00	8.775E+00	8.152E-01	-0.473
		46.50	*	-4.154E+00	5.301E+00	8.775E+00	8.152E-01	-0.473
		46.50	*	-4.154E+00	5.299E+00	8.775E+00	7.378E-01	-0.473
		404.84	*	-6.193E-02	8.709E-01	1.423E+00	8.935E-01	-0.044
PO-215		427.08		-2.343E+00	2.427E+00	3.018E+00	1.880E+00	-0.776
		831.96		3.981E-01	1.048E+00	1.730E+00	1.091E+00	0.230
		81.07		6.526E-01	5.569E-01	6.543E-01	5.718E-02	0.997
	+	83.78		1.476E+00	3.902E-01	4.314E-01	3.891E-02	3.421
	+	94.90		3.263E+00	8.619E-01	9.639E-01	8.616E-02	3.386

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RN-219		154.21		4.071E-01	4.914E-01	8.334E-01	8.418E-02	0.489
	+	269.46		2.832E-01	2.739E-01	3.379E-01	4.641E-02	0.838
		323.87	*	-8.368E-01	6.438E-01	9.963E-01	1.980E-01	-0.840
	+	338.28		4.026E+00	1.532E+00	1.851E+00	2.738E-01	2.175
		445.03		2.770E-01	2.056E+00	3.361E+00	4.319E-01	0.082
	+	271.23		3.634E-01	3.520E-01	4.263E-01	6.315E-02	0.852
		401.81	*	-1.823E-01	3.802E-01	6.113E-01	9.458E-02	-0.298
	RN-220	549.76	*	-1.297E+01	2.392E+01	3.904E+01	3.979E+00	-0.332
	RA-223	81.07		6.526E-01	5.569E-01	6.543E-01	5.718E-02	0.997
	+	83.78		1.476E+00	3.902E-01	4.314E-01	3.891E-02	3.421
AC-227	+	94.90		3.263E+00	8.619E-01	9.639E-01	8.616E-02	3.386
		122.32		1.159E+00	2.596E+00	4.147E+00	3.690E-01	0.279
	+	144.24		1.007E+01	1.698E+00	1.967E+00	1.947E-01	5.120
		154.21		4.071E-01	4.914E-01	8.334E-01	8.418E-02	0.489
	+	269.46		2.832E-01	2.739E-01	3.379E-01	4.641E-02	0.838
		323.87	*	-8.368E-01	6.438E-01	9.963E-01	1.980E-01	-0.840
	+	338.28		4.026E+00	1.532E+00	1.851E+00	2.738E-01	2.175
		445.03		2.770E-01	2.056E+00	3.361E+00	4.319E-01	0.082
		79.80		-8.963E-01	4.284E+00	4.901E+00	1.054E+00	-0.183
		236.00		4.616E-01	2.786E-01	4.055E-01	6.118E-02	1.138
TH-227		256.20	*	1.186E+00	5.276E-01	7.396E-01	1.350E-01	1.603
		286.10		-5.215E-01	1.534E+00	2.416E+00	4.118E-01	-0.216
		299.80		2.099E+00	1.576E+00	2.337E+00	4.732E-01	0.898
		304.40		-2.145E+00	1.847E+00	2.904E+00	6.090E-01	-0.739
		334.20		-1.596E+00	2.469E+00	3.440E+00	7.281E-01	-0.464
	TH-227	79.80		-8.963E-01	4.284E+00	4.901E+00	1.067E+00	-0.183
	+	94.00		2.611E+01	8.649E+00	1.443E+01	3.164E+00	1.810
		236.00		4.616E-01	2.776E-01	4.055E-01	5.740E-02	1.138
		256.20	*	1.186E+00	5.395E-01	7.396E-01	1.522E-01	1.603
		286.10		-5.215E-01	1.619E+00	2.416E+00	2.439E+00	-0.216
TH-229		299.80		2.099E+00	1.576E+00	2.337E+00	4.732E-01	0.898
		304.40		-2.145E+00	1.847E+00	2.904E+00	6.090E-01	-0.739
		334.20		-1.596E+00	2.469E+00	3.440E+00	7.281E-01	-0.464
	TH-229	85.43		2.209E+00	5.842E-01	6.194E-01	5.698E-02	3.567
		88.47		2.203E-01	3.199E-01	3.690E-01	3.485E-02	0.597
	+	100.00		5.121E+00	6.794E-01	5.805E-01	5.033E-02	8.821
		193.63	*	5.326E-01	5.658E-01	9.477E-01	1.019E-01	0.562
		210.97		8.543E-01	9.046E-01	1.332E+00	1.516E-01	0.641
	PA-231	283.67	*	-6.556E-01	1.515E+00	2.377E+00	4.439E-01	-0.276
		301.29		3.527E-01	5.949E-01	9.221E-01	1.466E-01	0.382
TH-231	TH-231	81.07		6.526E-01	5.569E-01	6.543E-01	5.718E-02	0.997
	+	83.78		1.476E+00	3.902E-01	4.314E-01	3.891E-02	3.421
	+	94.90		3.263E+00	8.619E-01	9.639E-01	8.616E-02	3.386
		122.32		1.159E+00	2.596E+00	4.147E+00	3.690E-01	0.279
	+	144.24		1.007E+01	1.698E+00	1.967E+00	1.947E-01	5.120
		154.21		4.071E-01	4.914E-01	8.334E-01	8.418E-02	0.489
	+	269.46		2.832E-01	2.739E-01	3.379E-01	4.641E-02	0.838
		323.87	*	-8.368E-01	6.438E-01	9.963E-01	1.980E-01	-0.840
	+	338.28		4.026E+00	1.532E+00	1.851E+00	2.738E-01	2.175

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PA-233	+	445.03		2.770E-01	2.056E+00	3.361E+00	4.319E-01	0.082
		75.28		1.880E+01	6.674E+00	9.304E+00	1.406E+00	2.021
		86.59		-3.666E+00	4.117E+00	5.195E+00	1.406E+00	-0.706
		300.12		6.969E-01	4.400E-01	6.559E-01	1.183E-01	1.063
		311.98	*	3.408E-02	6.161E-02	1.047E-01	1.372E-02	0.325
		340.50		1.586E+00	7.820E-01	1.051E+00	2.645E-01	1.509
PA-234	+	398.62		-9.014E-01	1.958E+00	3.138E+00	8.433E-01	-0.287
		415.76		5.491E-01	1.515E+00	2.504E+00	5.486E-01	0.219
		63.00		1.840E+02	2.782E+01	8.968E+00	1.328E+00	20.512
		94.67		2.328E+00	6.489E-01	8.201E-01	1.036E-01	2.839
		98.44		2.500E+00	1.417E+00	3.319E-01	1.853E-01	7.531
		99.86		1.296E+01	1.719E+00	1.533E+00	1.330E-01	8.452
		111.00		1.029E+00	3.792E-01	6.156E-01	7.322E-02	1.672
		131.20		1.072E-01	1.430E-01	2.447E-01	2.072E-02	0.438
		152.70		1.582E-01	4.066E-01	6.854E-01	1.190E-01	0.231
		186.00		8.919E+01	2.855E+01	5.767E+00	1.833E+00	15.466
		226.40		5.211E-01	4.568E-01	7.525E-01	1.173E-01	0.692
		227.20		5.647E-01	4.883E-01	8.095E-01	9.709E-02	0.698
		248.90		-7.331E-03	8.838E-01	1.428E+00	3.475E-01	-0.005
		293.70		3.329E+00	1.034E+00	1.315E+00	2.659E-01	2.532
		369.80		7.322E-02	7.714E-01	1.279E+00	2.886E-01	0.057
		568.70		9.079E-01	9.395E-01	1.612E+00	1.655E-01	0.563
		569.50		2.619E-01	2.562E-01	4.401E-01	4.521E-02	0.595
		574.00		-1.127E-01	1.451E+00	2.355E+00	2.423E-01	-0.048
		699.00		1.050E+00	6.797E-01	1.127E+00	2.267E-01	0.931
		706.10		-7.125E-01	1.005E+00	1.502E+00	6.767E-01	-0.474
		733.00		-1.114E-01	4.666E-01	5.669E-01	1.312E-01	-0.197
		742.81		8.245E+00	5.963E+00	2.959E+00	1.999E+00	2.786
		796.30		1.688E+00	9.798E-01	1.481E+00	4.133E-01	1.140
		805.60		2.177E+00	1.110E+00	1.618E+00	5.084E-01	1.345
		819.60		-8.705E-01	1.110E+00	1.696E+00	6.558E-01	-0.513
		826.30		-4.448E-01	7.150E-01	1.109E+00	5.021E-01	-0.401
		831.60		-4.918E-02	5.379E-01	8.778E-01	2.691E-01	-0.056
		876.40		-8.173E-01	1.122E+00	1.165E+00	1.200E+00	-0.702
		880.51		5.231E-01	2.596E-01	4.597E-01	5.141E-02	1.138
		883.24		3.759E-01	3.661E-01	4.660E-01	3.150E-01	0.807
		899.00		9.936E-02	6.848E-01	1.141E+00	5.054E-01	0.087
		925.00		2.427E+00	1.099E+00	1.950E+00	2.145E-01	1.245
		926.50		2.866E-01	1.753E-01	2.841E-01	7.438E-02	1.009
		946.00	*	4.236E-01	2.683E-01	4.556E-01	9.056E-02	0.930
		949.00		6.727E-01	4.131E-01	6.482E-01	7.004E-02	1.038
		980.50		4.108E-01	5.814E-01	9.394E-01	9.880E-02	0.437
		1394.10		4.717E-01	9.072E-01	1.465E+00	9.541E-01	0.322
NP-236	+	94.67		1.766E+00	4.663E-01	6.252E-01	5.598E-02	2.824
		98.44		1.890E+00	2.507E-01	2.509E-01	2.194E-02	7.531
		111.00		7.784E-01	2.791E-01	4.657E-01	3.886E-02	1.672
		160.31	*	-3.008E-02	1.094E-01	1.597E-01	1.527E-02	-0.188
NP-237	+	86.50	*	-7.069E-02	5.404E-01	7.811E-01	1.768E-01	-0.091
		95.87		1.406E+01	4.930E+00	3.009E+00	7.439E-01	4.672

---- 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		4.320E+00	5.731E-01	5.409E-01	4.701E-02	7.986
		117.00	*	-2.702E-01	3.242E-01	4.476E-01	3.699E-02	-0.604
	+	209.75		1.244E+00	9.971E-01	1.389E+00	1.575E-01	0.895
		228.18		2.391E-01	2.542E-01	4.205E-01	5.059E-02	0.569
		277.60		2.954E-01	1.860E-01	3.046E-01	4.246E-02	0.970
AM-241	+	334.30		-1.010E+00	1.395E+00	1.948E+00	2.349E-01	-0.519
		59.54	*	5.361E-01	3.129E-01	4.745E-01	3.709E-02	1.130
CM-243	+	99.55		4.446E+00	5.898E-01	5.567E-01	4.838E-02	7.986
		103.76	*	8.004E-02	1.705E-01	2.459E-01	2.096E-02	0.326
	+	117.00		-2.780E-01	3.336E-01	4.605E-01	3.806E-02	-0.604
		209.75		1.226E+00	9.831E-01	1.370E+00	1.553E-01	0.895
		228.18		2.417E-01	2.569E-01	4.250E-01	5.112E-02	0.569
AM-246	+	277.60		2.978E-01	1.875E-01	3.072E-01	4.281E-02	0.970
		798.80		-1.017E-01	1.353E-01	2.097E-01	2.312E-02	-0.485
	+	1036.00		-2.076E-01	2.101E-01	3.178E-01	3.155E-02	-0.653
		1062.04		5.397E-02	1.727E-01	2.869E-01	2.760E-02	0.188
		1078.86	*	7.220E-02	1.029E-01	1.747E-01	1.644E-02	0.413
CM-247	+	278.00		1.077E+00	7.650E-01	1.253E+00	1.749E-01	0.860
		287.40		1.467E-02	1.240E+00	1.979E+00	2.723E-01	0.007
CF-249	+	402.60	*	-1.167E-02	3.423E-02	5.545E-02	5.202E-03	-0.210
		252.85		-6.906E-01	1.091E+00	1.492E+00	1.937E-01	-0.463
	+	333.44		-1.232E-01	1.851E-01	2.595E-01	3.139E-02	-0.475
CF-251	+	387.95	*	-1.023E-02	3.716E-02	6.055E-02	5.755E-03	-0.169
		176.60	*	-1.758E-01	1.583E-01	2.553E-01	2.593E-02	-0.689
	+	227.00		5.242E-01	4.321E-01	7.168E-01	8.592E-02	0.731
		285.00		-7.130E-01	1.742E+00	2.739E+00	3.789E-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]G1202029818
* Acquisition date   : 12-FEB-2010 17:52:24 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 02:00:05.50 Half life ratio : 8.000
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202029818 Analyst initials: RXF2
* Batch Number       : 947554 Sample Quantity : 1.6939E+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	2.297E+01	2.335E+00	3.854E-01	0.000E+00
NB-95	9.437E-01	1.350E-01	6.053E-02	0.000E+00
BA-137M	1.684E-01	5.907E-02	5.686E-02	0.000E+00
CS-137	1.780E-01	6.245E-02	6.011E-02	0.000E+00
LU-177	2.185E+00	1.716E+00	2.532E+00	0.000E+00
TL-208	2.748E-01	6.825E-02	5.470E-02	0.000E+00
BI-211	2.265E+00	4.069E-01	3.303E-01	0.000E+00
BI-212	7.393E-01	3.592E-01	4.407E-01	0.000E+00
PB-212	1.024E+00	1.565E-01	9.937E-02	0.000E+00
PO-212	1.024E+00	1.565E-01	9.937E-02	0.000E+00
BI-214	6.886E-01	1.280E-01	1.028E-01	0.000E+00
PB-214	7.879E-01	1.472E-01	1.109E-01	0.000E+00
PO-214	7.879E-01	1.472E-01	1.109E-01	0.000E+00
PO-216	1.024E+00	1.565E-01	9.937E-02	0.000E+00
PO-218	7.879E-01	1.472E-01	1.109E-01	0.000E+00
RA-224	2.757E+00	1.043E+00	1.129E+00	0.000E+00
RA-226	6.886E-01	1.280E-01	1.028E-01	0.000E+00
AC-228	1.005E+00	2.415E-01	1.714E-01	0.000E+00
RA-228	1.005E+00	2.415E-01	1.714E-01	0.000E+00
TH-228	1.042E+00	1.592E-01	1.011E-01	0.000E+00
TH-230	6.886E-01	1.280E-01	1.028E-01	0.000E+00
U-231	2.263E+01	5.857E+00	4.294E+00	0.000E+00
TH-232	1.005E+00	2.415E-01	1.714E-01	0.000E+00
PA-234M	2.466E+02	3.018E+01	4.981E+00	0.000E+00
TH-234	1.578E+02	2.732E+01	3.978E+00	0.000E+00
U-234	6.886E-01	1.280E-01	1.028E-01	0.000E+00
U-235	3.107E+00	6.794E-01	5.003E-01	0.000E+00
U-238	1.578E+02	2.732E+01	3.978E+00	0.000E+00
AM-243	3.590E-01	1.166E-01	1.908E-01	0.000E+00
ANH-511	7.602E-02	6.665E-02	4.501E-02	0.000E+00

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

Key-Line

Nuclide	Activity (pCi/GRAM	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-1.486E-01	3.106E-01	5.274E-01	0.000E+00	NOT IDENT.
NA-22	-1.702E-02	3.109E-02	5.147E-02	0.000E+00	NOT IDENT.
NA-24	0.000E+00	6.140E+06	0.000E+00	0.000E+00	SHORT HLIF
AL-26	9.022E-03	2.125E-02	3.759E-02	0.000E+00	NOT IDENT.
TI-44	0.000E+00	7.192E-02	1.177E-01	0.000E+00	FAIL ABUN
SC-46	-4.431E-02	3.412E-02	5.494E-02	0.000E+00	FAIL ABUN
V-48	-1.686E-02	5.823E-02	9.841E-02	0.000E+00	NOT IDENT.
CR-51	-1.035E-03	3.590E-01	6.525E-01	0.000E+00	NOT IDENT.
MN-52	1.377E-01	2.318E-01	4.104E-01	0.000E+00	NOT IDENT.
MN-54	2.803E-02	3.030E-02	5.520E-02	0.000E+00	NOT IDENT.
CO-56	-1.577E-02	3.244E-02	5.546E-02	0.000E+00	NOT IDENT.
CO-57	1.504E-02	3.695E-02	6.598E-02	0.000E+00	NOT IDENT.
CO-58	-4.562E-02	3.455E-02	5.657E-02	0.000E+00	NOT IDENT.
FE-59	-3.417E-02	6.453E-02	1.053E-01	0.000E+00	FAIL ABUN
CO-60	-5.405E-03	2.750E-02	4.626E-02	0.000E+00	NOT IDENT.
ZN-65	-2.095E-03	7.817E-02	1.121E-01	0.000E+00	NOT IDENT.
GE-68	4.230E-01	8.876E-01	1.554E+00	0.000E+00	NOT IDENT.
AS-73	6.959E-01	1.417E+00	2.720E+00	0.000E+00	NOT IDENT.
AS-74	9.605E-03	8.951E-02	1.587E-01	0.000E+00	NOT IDENT.
SE-75	-7.638E-02	6.705E-02	7.959E-02	0.000E+00	NOT IDENT.
BR-77	-7.214E-01	1.977E+01	3.056E+01	0.000E+00	FAIL ABUN
SR-82	-2.738E-01	3.907E-01	6.091E-01	0.000E+00	NOT IDENT.
RB-83	1.780E-03	7.164E-02	1.111E-01	0.000E+00	NOT IDENT.
RB-84	0.000E+00	6.718E-02	1.252E-01	0.000E+00	NOT IDENT.
KR-85	0.000E+00	6.818E+00	1.238E+01	0.000E+00	NOT IDENT.
SR-85	0.000E+00	3.575E-02	6.492E-02	0.000E+00	NOT IDENT.
RB-86	3.902E-01	6.022E-01	1.065E+00	0.000E+00	NOT IDENT.
Y-88	1.367E-02	2.451E-02	4.383E-02	0.000E+00	NOT IDENT.
ZR-88	1.082E-02	2.894E-02	5.199E-02	0.000E+00	NOT IDENT.
Y-91	-8.446E+00	1.321E+01	2.200E+01	0.000E+00	NOT IDENT.
NB-94	-3.710E-03	3.000E-02	5.160E-02	0.000E+00	NOT IDENT.
NB-95M	-1.837E-02	1.436E-01	2.225E-01	0.000E+00	NOT IDENT.
ZR-95	2.535E-02	6.978E-02	1.159E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	8.314E+05	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.557E+07	0.000E+00	0.000E+00	SHORT HLIF
MO-99	0.000E+00	2.526E+01	3.924E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	1.988E+19	0.000E+00	0.000E+00	SHORT HLIF
RH-101	-5.785E-02	3.733E-02	6.369E-02	0.000E+00	NOT IDENT.
RH-102	6.768E-03	2.708E-02	4.742E-02	0.000E+00	FAIL ABUN
RU-103	5.851E-03	3.757E-02	6.521E-02	0.000E+00	FAIL ABUN
RH-106	1.640E-01	2.787E-01	4.998E-01	0.000E+00	FAIL ABUN
RU-106	1.640E-01	2.783E-01	4.998E-01	0.000E+00	FAIL ABUN
AG-108M	-8.739E-03	2.968E-02	5.143E-02	0.000E+00	NOT IDENT.
CD-109	-9.512E-01	2.366E+00	3.018E+00	0.000E+00	NOT IDENT.
AG-110M	2.146E-02	3.678E-02	5.688E-02	0.000E+00	NOT IDENT.
IN-111	6.622E-02	2.068E+00	3.206E+00	0.000E+00	NOT IDENT.
IN-113M	1.154E-02	4.146E-02	7.428E-02	0.000E+00	NOT IDENT.
SN-113	1.154E-02	4.146E-02	7.428E-02	0.000E+00	NOT IDENT.
IN-114M	2.636E-02	2.261E-01	3.629E-01	0.000E+00	NOT IDENT.
CD-115	-1.765E+01	1.858E+01	3.193E+01	0.000E+00	NOT IDENT.
SN-117M	-9.474E-02	8.470E-02	1.337E-01	0.000E+00	NOT IDENT.
SB-122	-1.486E+00	3.281E+00	5.727E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	1.176E+08	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	-4.264E-02	3.970E-02	6.273E-02	0.000E+00	NOT IDENT.
I-124	-3.790E-01	1.004E+00	1.490E+00	0.000E+00	NOT IDENT.
SB-124	1.231E-02	5.136E-02	8.980E-02	0.000E+00	FAIL ABUN
SB-125	-8.444E-02	8.556E-02	1.440E-01	0.000E+00	NOT IDENT.
TE-125M	0.000E+00	1.860E+01	3.023E+01	0.000E+00	NOT IDENT.
I-126	8.112E-02	2.104E-01	3.213E-01	0.000E+00	NOT IDENT.
SB-126	-1.269E-02	1.626E-01	2.490E-01	0.000E+00	FAIL ABUN
SN-126	-9.887E-02	2.291E-01	2.921E-01	0.000E+00	FAIL ABUN
SB-127	-1.047E-02	1.786E+00	3.098E+00	0.000E+00	NOT IDENT.
XE-127	0.000E+00	6.417E-02	1.055E-01	0.000E+00	FAIL ABUN
I-131	-1.335E-01	1.247E-01	2.133E-01	0.000E+00	NOT IDENT.
TE-132	1.153E+00	1.207E+00	2.175E+00	0.000E+00	FAIL ABUN
BA-133	-2.642E-02	4.505E-02	6.795E-02	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.026E+04	0.000E+00	0.000E+00	SHORT HLIF
CS-134	0.000E+00	4.576E-02	7.963E-02	0.000E+00	NOT IDENT.
CS-135	2.615E-02	1.896E-01	2.890E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	8.528E+17	0.000E+00	0.000E+00	SHORT HLIF
CS-136	-2.639E-02	8.640E-02	1.444E-01	0.000E+00	FAIL ABUN
CE-139	2.647E-02	4.176E-02	6.892E-02	0.000E+00	NOT IDENT.
BA-140	-4.820E-02	2.684E-01	4.759E-01	0.000E+00	FAIL ABUN
LA-140	-8.569E-02	6.972E-02	1.055E-01	0.000E+00	NOT IDENT.
CE-141	0.000E+00	1.173E-01	1.896E-01	0.000E+00	NOT IDENT.

CE-143	0.000E+00	5.763E+02	0.000E+00	0.000E+00	SHORT HLIF
CE-144	-1.268E-01	2.734E-01	5.114E-01	0.000E+00	NOT IDENT.
PM-144	-2.620E-02	3.239E-02	5.399E-02	0.000E+00	NOT IDENT.
PR-144	-1.777E+00	2.197E+00	3.663E+00	0.000E+00	NOT IDENT.
PM-146	1.601E-02	4.102E-02	7.251E-02	0.000E+00	NOT IDENT.
ND-147	-1.284E-02	5.768E-01	1.032E+00	0.000E+00	NOT IDENT.
PM-149	-9.224E+00	1.730E+02	3.005E+02	0.000E+00	NOT IDENT.
EU-152	4.956E-02	9.753E-02	1.629E-01	0.000E+00	NOT IDENT.
GD-153	0.000E+00	2.772E-01	3.113E-01	0.000E+00	FAIL ABUN
EU-154	-4.534E-02	8.695E-02	1.441E-01	0.000E+00	NOT IDENT.
EU-155	5.273E-02	1.686E-01	3.048E-01	0.000E+00	NOT IDENT.
TB-160	2.136E-01	1.278E-01	2.361E-01	0.000E+00	NOT IDENT.
HO-166M	7.551E-03	5.576E-02	9.680E-02	0.000E+00	FAIL ABUN
TM-171	-1.440E+02	5.204E+01	8.155E+01	0.000E+00	NOT IDENT.
LU-176	-6.890E-03	2.319E-02	4.195E-02	0.000E+00	NOT IDENT.
LU-177M	-2.104E-01	1.653E-01	2.762E-01	0.000E+00	NOT IDENT.
HF-181	1.648E-02	4.089E-02	7.187E-02	0.000E+00	NOT IDENT.
W-181	0.000E+00	8.522E-01	1.352E+00	0.000E+00	NOT IDENT.
TA-182	1.323E-01	1.337E-01	2.430E-01	0.000E+00	FAIL ABUN
RE-183	0.000E+00	2.293E-01	2.955E-01	0.000E+00	FAIL ABUN
RE-184	-1.856E-01	2.873E-01	4.302E-01	0.000E+00	NOT IDENT.
OS-185	3.160E-03	3.802E-02	6.668E-02	0.000E+00	NOT IDENT.
RE-188	-1.598E-03	2.110E-01	3.925E-01	0.000E+00	NOT IDENT.
W-188	2.130E+00	8.020E+00	1.297E+01	0.000E+00	FAIL ABUN
IR-192	-5.133E-03	3.274E-02	5.929E-02	0.000E+00	FAIL ABUN
AU-195	0.000E+00	8.087E-01	9.008E-01	0.000E+00	FAIL ABUN
TL-200	0.000E+00	1.581E+03	0.000E+00	0.000E+00	SHORT HLIF
TL-201	9.396E+00	1.540E+01	2.539E+01	0.000E+00	NOT IDENT.
TL-202	-1.380E-02	7.020E-02	1.220E-01	0.000E+00	NOT IDENT.
HG-203	2.149E-02	4.194E-02	7.414E-02	0.000E+00	FAIL ABUN
BI-207	2.252E-02	3.848E-02	6.778E-02	0.000E+00	FAIL ABUN
TL-207	-8.368E-01	6.310E-01	1.060E+00	0.000E+00	FAIL ABUN
PO-209	4.688E+00	5.990E+00	1.081E+01	0.000E+00	NOT IDENT.
BI-210	-4.154E+00	5.195E+00	9.887E+00	0.000E+00	NOT IDENT.
PB-210	-4.154E+00	5.195E+00	9.887E+00	0.000E+00	NOT IDENT.
PO-210	-4.154E+00	5.193E+00	9.887E+00	0.000E+00	NOT IDENT.
PB-211	-6.193E-02	8.535E-01	1.504E+00	0.000E+00	NOT IDENT.
PO-215	-8.368E-01	6.310E-01	1.060E+00	0.000E+00	FAIL ABUN
RN-219	-1.823E-01	3.726E-01	6.461E-01	0.000E+00	FAIL ABUN
RN-220	-1.297E+01	2.344E+01	4.085E+01	0.000E+00	NOT IDENT.
RA-223	-8.368E-01	6.310E-01	1.060E+00	0.000E+00	FAIL ABUN
AC-227	0.000E+00	5.170E-01	7.927E-01	0.000E+00	NOT IDENT.
TH-227	0.000E+00	5.287E-01	7.927E-01	0.000E+00	FAIL ABUN
TH-229	5.326E-01	5.545E-01	1.024E+00	0.000E+00	FAIL ABUN
PA-231	-6.556E-01	1.485E+00	2.540E+00	0.000E+00	NOT IDENT.
TH-231	-8.368E-01	6.310E-01	1.060E+00	0.000E+00	FAIL ABUN
PA-233	3.408E-02	6.038E-02	1.116E-01	0.000E+00	FAIL ABUN
PA-234	4.236E-01	2.629E-01	4.683E-01	0.000E+00	FAIL ABUN
NP-236	-3.008E-02	1.072E-01	1.737E-01	0.000E+00	FAIL ABUN
NP-237	-7.069E-02	5.296E-01	8.647E-01	0.000E+00	FAIL ABUN
NP-239	-2.702E-01	3.177E-01	4.912E-01	0.000E+00	FAIL ABUN
AM-241	0.000E+00	3.066E-01	5.309E-01	0.000E+00	NOT IDENT.
CM-243	8.004E-02	1.671E-01	2.708E-01	0.000E+00	FAIL ABUN
AM-246	7.220E-02	1.008E-01	1.788E-01	0.000E+00	NOT IDENT.
CM-247	-1.167E-02	3.355E-02	5.860E-02	0.000E+00	NOT IDENT.
CF-249	-1.023E-02	3.641E-02	6.407E-02	0.000E+00	NOT IDENT.
CF-251	-1.758E-01	1.551E-01	2.767E-01	0.000E+00	NOT IDENT.

```

*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                             *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029818.CNF;1
Sample date        : 26-JAN-2010 12:00:00 Acquisition date : 12-FEB-2010 17:52:24
Sample ID          : G1202029818 Sample quantity : 1.69389E+02 GRAM
Detector name      : GAM22 Detector geometry: CAN
Elapsed live time  : 0 02:00:00.00 Elapsed real time: 0 02:00:05.50 0.1%
Energy tolerance   : 1.50000 keV Analyst Initials : RXF2
Abundance limit    : 75.00000 Sensitivity : 5.00000
Batch ID           : 947554 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	2112	10.67*	1.909E+00	2.297E+01	2.297E+01	10.37
NB-95	765.79	1131	99.81*	3.208E+00	7.827E-01	9.437E-01	14.60
BA-137M	661.65	245	89.98*	3.590E+00	1.682E-01	1.684E-01	35.80
CS-137	661.65	245	85.12*	3.590E+00	1.778E-01	1.780E-01	35.80
LU-177	112.95	1463	6.40	8.513E+00	5.952E+00	3.549E+01	14.28
	208.36	131	11.00*	7.186E+00	3.663E-01	2.185E+00	80.18
TL-208	277.35	-----	6.80	6.182E+00	-----	Line Not Found	-----
	510.84	147	21.60	4.297E+00	3.520E-01	3.520E-01	89.84
	583.14	410	84.20*	3.930E+00	2.748E-01	2.748E-01	25.34
	860.37	92	12.46	2.924E+00	5.565E-01	5.565E-01	57.83
BI-211	72.87	-----	1.27	5.897E+00	-----	Line Not Found	-----
	351.07	714	12.94*	5.401E+00	2.265E+00	2.265E+00	18.33
BI-212	727.18	131	11.80*	3.340E+00	7.393E-01	7.393E-01	49.58
	785.46	196	1.97	3.143E+00	6.997E+00	6.997E+00	36.38
	1620.62	-----	2.75	1.789E+00	-----	Line Not Found	-----
PB-212	74.81	661	10.70	6.182E+00	2.214E+00	2.214E+00	34.44
	77.11	462	18.00	6.462E+00	8.799E-01	8.799E-01	45.19
	87.30	-----	8.00	7.486E+00	-----	Line Not Found	-----
	238.63	1382	44.60*	6.709E+00	1.024E+00	1.024E+00	15.59
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
PO-212	74.81	661	10.70	6.182E+00	2.214E+00	2.214E+00	34.44
	77.11	462	18.00	6.462E+00	8.799E-01	8.799E-01	45.19
	87.30	-----	8.00	7.486E+00	-----	Line Not Found	-----
	115.19	-----	0.60	8.535E+00	-----	Line Not Found	-----
	238.63	1382	44.60*	6.709E+00	1.024E+00	1.024E+00	15.59
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
BI-214	609.31	548	46.30*	3.811E+00	6.886E-01	6.886E-01	18.97
	1120.29	106	15.10	2.346E+00	6.644E-01	6.644E-01	48.99
	1764.49	107	15.80	1.716E+00	8.724E-01	8.725E-01	33.77
PB-214	74.81	661	6.21	6.182E+00	3.815E+00	3.815E+00	33.96
	77.11	462	10.50	6.462E+00	1.508E+00	1.508E+00	45.83
	87.30	-----	4.67	7.486E+00	-----	Line Not Found	-----

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
PO-214	241.98	328	7.49	6.668E+00	1.454E+00	1.454E+00	39.02
	295.21	425	19.20	5.970E+00	8.217E-01	8.217E-01	29.45
	351.92	714	37.20*	5.401E+00	7.879E-01	7.879E-01	19.06
	74.81	661	6.21	6.182E+00	3.815E+00	3.815E+00	33.96
	77.11	462	10.50	6.462E+00	1.508E+00	1.508E+00	45.83
	87.30	-----	4.67	7.486E+00	-----	Line Not Found	-----
	241.98	328	7.49	6.668E+00	1.454E+00	1.454E+00	39.02
	295.21	425	19.20	5.970E+00	8.217E-01	8.217E-01	29.45
PO-216	351.92	714	37.20*	5.401E+00	7.879E-01	7.879E-01	19.06
	74.81	661	10.70	6.182E+00	2.214E+00	2.214E+00	34.44
	77.11	462	18.00	6.462E+00	8.799E-01	8.799E-01	45.19
	87.30	-----	8.00	7.486E+00	-----	Line Not Found	-----
	238.63	1382	44.60*	6.709E+00	1.024E+00	1.024E+00	15.59
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
	74.81	661	6.21	6.182E+00	3.815E+00	3.815E+00	33.96
	77.11	462	10.50	6.462E+00	1.508E+00	1.508E+00	45.83
PO-218	87.30	-----	4.67	7.486E+00	-----	Line Not Found	-----
	241.98	328	7.49	6.668E+00	1.454E+00	1.454E+00	39.02
	295.21	425	19.20	5.970E+00	8.217E-01	8.217E-01	29.45
	351.92	714	37.20*	5.401E+00	7.879E-01	7.879E-01	19.06
	240.98	328	3.95*	6.668E+00	2.757E+00	2.757E+00	38.61
	609.31	548	46.30*	3.811E+00	6.886E-01	6.886E-01	18.97
	1120.29	106	15.10	2.346E+00	6.644E-01	6.644E-01	48.99
	1764.49	107	15.80	1.716E+00	8.724E-01	8.724E-01	33.77
AC-228	338.32	274	11.40	5.523E+00	9.642E-01	9.642E-01	54.76
	911.07	350	27.70*	2.789E+00	1.005E+00	1.005E+00	24.51
	969.11	202	16.60	2.648E+00	1.017E+00	1.017E+00	41.85
	338.32	274	11.40	5.523E+00	9.642E-01	9.642E-01	54.76
	911.07	350	27.70*	2.789E+00	1.005E+00	1.005E+00	24.51
	969.11	202	16.60	2.648E+00	1.017E+00	1.017E+00	41.85
	74.81	661	10.70	6.182E+00	2.214E+00	2.252E+00	33.16
	77.11	462	18.00	6.462E+00	8.799E-01	8.951E-01	45.19
TH-228	87.30	-----	8.00	7.486E+00	-----	Line Not Found	-----
	238.63	1382	44.60*	6.709E+00	1.024E+00	1.042E+00	15.59
	300.09	-----	3.41	5.916E+00	-----	Line Not Found	-----
	609.31	548	46.30*	3.811E+00	6.886E-01	6.886E-01	18.97
	1120.29	106	15.10	2.346E+00	6.644E-01	6.644E-01	48.99
	1764.49	107	15.80	1.716E+00	8.724E-01	8.724E-01	33.77
	84.21	1185	7.00	7.203E+00	5.208E+00	9.028E+01	26.44
	92.29	30187	17.30	7.855E+00	4.923E+01	8.535E+02	9.20
U-231	95.87	1315	28.00*	7.972E+00	1.305E+00	2.263E+01	26.41
	108.00	-----	13.10	8.439E+00	-----	Line Not Found	-----
	338.32	274	11.40	5.523E+00	9.642E-01	9.642E-01	37.01
	911.07	350	27.70*	2.789E+00	1.005E+00	1.005E+00	24.51
	969.11	202	16.60	2.648E+00	1.017E+00	1.017E+00	41.85
	766.42	1131	0.32	3.208E+00	2.441E+02	2.441E+02	52.09
	1001.03	2409	0.84*	2.578E+00	2.466E+02	2.466E+02	12.49
	63.29	11713	3.80*	4.328E+00	1.578E+02	1.578E+02	17.66
TH-234	92.38	30187	5.41	7.855E+00	1.574E+02	1.574E+02	18.37

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
U-234	609.31	548	46.30*	3.811E+00	6.886E-01	6.886E-01	18.97
	1120.29	106	15.10	2.346E+00	6.644E-01	6.644E-01	48.99
	1764.49	107	15.80	1.716E+00	8.724E-01	8.724E-01	33.77
U-235	89.95	-----	2.70	7.683E+00	-----	Line Not Found	-----
	93.35	30187	4.50	7.855E+00	1.893E+02	1.893E+02	28.21
	105.00	-----	2.10	8.370E+00	-----	Line Not Found	-----
	143.76	1231	10.50*	8.363E+00	3.107E+00	3.107E+00	22.31
	163.35	601	4.70	8.029E+00	3.528E+00	3.528E+00	32.62
	185.71	6125	54.00	7.608E+00	3.303E+00	3.303E+00	11.16
	205.31	482	4.70	7.253E+00	3.135E+00	3.135E+00	33.17
U-238	63.29	11713	3.80*	4.328E+00	1.578E+02	1.578E+02	17.66
	92.38	30187	5.41	7.855E+00	1.574E+02	1.574E+02	9.20
AM-243	74.67	661	66.00*	6.182E+00	3.590E-01	3.590E-01	33.15
	86.72	-----	0.34	7.440E+00	-----	Line Not Found	-----
	117.66	-----	0.55	8.550E+00	-----	Line Not Found	-----
	142.18	-----	0.13	8.387E+00	-----	Line Not Found	-----
ANH-511	511.00	147	100.00*	4.297E+00	7.602E-02	7.602E-02	89.46

Flag: "*" = Keyline

Total number of lines in spectrum 39
Number of unidentified lines 3
Number of lines tentatively identified by NID 36 92.31%

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	2.297E+01	2.297E+01	0.238E+01	10.37	
NB-95	64.02D	1.21	7.827E-01	9.437E-01	1.378E-01	14.60	
BA-137M	30.17Y	1.00	1.682E-01	1.684E-01	0.603E-01	35.80	
CS-137	30.17Y	1.00	1.778E-01	1.780E-01	0.637E-01	35.80	
LU-177	6.71D	5.96	3.663E-01	2.185E+00	1.751E+00	80.18	
TL-208	1.41E+10Y	1.00	2.748E-01	2.748E-01	0.696E-01	25.34	
BI-211	7.04E+08Y	1.00	2.265E+00	2.265E+00	0.415E+00	18.33	
BI-212	1.41E+10Y	1.00	7.393E-01	7.393E-01	3.665E-01	49.58	
PB-212	1.41E+10Y	1.00	1.024E+00	1.024E+00	0.160E+00	15.59	
PO-212	1.41E+10Y	1.00	1.024E+00	1.024E+00	0.160E+00	15.59	
BI-214	1600.00Y	1.00	6.886E-01	6.886E-01	1.307E-01	18.97	
PB-214	1600.00Y	1.00	7.879E-01	7.879E-01	1.502E-01	19.06	
PO-214	1600.00Y	1.00	7.879E-01	7.879E-01	1.502E-01	19.06	
PO-216	1.41E+10Y	1.00	1.024E+00	1.024E+00	0.160E+00	15.59	
PO-218	1600.00Y	1.00	7.879E-01	7.879E-01	1.502E-01	19.06	
RA-224	1.41E+10Y	1.00	2.757E+00	2.757E+00	1.064E+00	38.61	
RA-226	1600.00Y	1.00	6.886E-01	6.886E-01	1.307E-01	18.97	
AC-228	1.41E+10Y	1.00	1.005E+00	1.005E+00	0.246E+00	24.51	
RA-228	1.41E+10Y	1.00	1.005E+00	1.005E+00	0.246E+00	24.51	
TH-228	1.91Y	1.02	1.024E+00	1.042E+00	0.162E+00	15.59	
TH-230	4.47E+09Y	1.00	6.886E-01	6.886E-01	1.306E-01	18.97	
U-231	4.20D	17.3	1.305E+00	2.263E+01	0.598E+01	26.41	
TH-232	1.41E+10Y	1.00	1.005E+00	1.005E+00	0.246E+00	24.51	
PA-234M	4.47E+09Y	1.00	2.466E+02	2.466E+02	0.308E+02	12.49	
TH-234	4.47E+09Y	1.00	1.578E+02	1.578E+02	0.279E+02	17.66	
U-234	4.47E+09Y	1.00	6.886E-01	6.886E-01	1.306E-01	18.97	
U-235	7.04E+08Y	1.00	3.107E+00	3.107E+00	0.693E+00	22.31	
U-238	4.47E+09Y	1.00	1.578E+02	1.578E+02	0.279E+02	17.66	
AM-243	7380.00Y	1.00	3.590E-01	3.590E-01	1.190E-01	33.15	
ANH-511	1.00E+09Y	1.00	7.602E-02	7.602E-02	6.801E-02	89.46	

Total Activity : 6.098E+02 6.331E+02

Grand Total Activity : 6.098E+02 6.331E+02

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	98.52	2336	3117	1.16	197.21	194	10	3.24E-01	10.0	8.15E+00	T
10	111.28	465	2304	1.27	222.73	220	11	6.46E-02	34.9	8.49E+00	T
0	258.20	368	855	1.26	516.28	512	11	5.12E-02	32.4	6.43E+00	
0	270.78	109	727	1.10	541.42	536	10	1.51E-02	95.7	6.26E+00	T
0	742.58	294	254	1.80	1484.40	1477	14	4.08E-02	25.9	3.29E+00	T
0	946.04	62	88	1.59	1891.18	1887	9	8.61E-03	60.1	2.70E+00	T
0	1868.38	20	16	2.53	3736.05	3728	14	2.73E-03	87.6	1.68E+00	
0	1911.80	33	5	2.18	3822.93	3816	14	4.63E-03	42.0	1.67E+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]G1202029818.CNF;1
* Acquisition date   : 12-FEB-2010 17:52:24 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 02:00:05.50 Half life ratio : 8.00000
*****
*
*                                     SAMPLE DATA                            *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID
* Sample ID          : G1202029818 Analyst initials: RXF2
* Batch Number       : 947554 Sample Quantity : 1.69389E+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	2.297E+01	2.383E+00	3.805E-01	3.486E-02	60.368
NB-95	9.437E-01	1.378E-01	5.847E-02	6.394E-03	16.140
BA-137M	1.684E-01	6.028E-02	5.467E-02	5.765E-03	3.080
CS-137	1.780E-01	6.373E-02	5.779E-02	6.102E-03	3.080
LU-177	2.185E+00	1.751E+00	2.347E+00	2.649E-01	0.931
TL-208	2.748E-01	6.965E-02	5.238E-02	5.680E-03	5.247
BI-211	2.265E+00	4.152E-01	3.112E-01	3.631E-02	7.278
BI-212	7.393E-01	3.665E-01	4.250E-01	5.076E-02	1.740
PB-212	1.024E+00	1.596E-01	9.250E-02	1.222E-02	11.068
PO-212	1.024E+00	1.596E-01	9.250E-02	1.222E-02	11.068
BI-214	6.886E-01	1.307E-01	9.854E-02	1.146E-02	6.988
PB-214	7.879E-01	1.502E-01	1.045E-01	1.333E-02	7.537
PO-214	7.879E-01	1.502E-01	1.045E-01	1.333E-02	7.537
PO-216	1.024E+00	1.596E-01	9.250E-02	1.222E-02	11.068
PO-218	7.879E-01	1.502E-01	1.045E-01	1.333E-02	7.537
RA-224	2.757E+00	1.064E+00	1.052E+00	1.316E-01	2.622
RA-226	6.886E-01	1.307E-01	9.854E-02	1.146E-02	6.988
AC-228	1.005E+00	2.464E-01	1.665E-01	2.206E-02	6.037

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RA-228	1.005E+00	2.464E-01	1.665E-01	2.206E-02	6.037
TH-228	1.042E+00	1.624E-01	9.410E-02	1.243E-02	11.068
TH-230	6.886E-01	1.306E-01	9.854E-02	1.146E-02	6.988
U-231	2.263E+01	5.977E+00	3.890E+00	3.454E-01	5.818
TH-232	1.005E+00	2.464E-01	1.665E-01	2.206E-02	6.037
PA-234M	2.466E+02	3.080E+01	4.855E+00	5.564E-01	50.790
TH-234	1.578E+02	2.788E+01	3.561E+00	6.198E-01	44.318
U-234	6.886E-01	1.306E-01	9.854E-02	1.146E-02	6.988
U-235	3.107E+00	6.932E-01	4.586E-01	8.091E-02	6.774
U-238	1.578E+02	2.788E+01	3.561E+00	6.198E-01	44.318
AM-243	3.590E-01	1.190E-01	1.716E-01	1.398E-02	2.092
ANH-511	7.602E-02	6.801E-02	4.291E-02	4.300E-03	1.772

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-1.486E-01		3.169E-01	5.018E-01	5.237E-02	-0.296
NA-22	-1.702E-02		3.173E-02	5.059E-02	4.359E-03	-0.336
NA-24	-2.000E+00		3.133E+00	Half-Life too short		
AL-26	9.022E-03		2.169E-02	3.739E-02	3.058E-03	0.241
TI-44	1.624E-01	+	7.339E-02	1.060E-01	8.986E-03	1.532
SC-46	-4.431E-02		3.482E-02	5.334E-02	5.971E-03	-0.831
V-48	-1.686E-02		5.942E-02	9.586E-02	1.005E-02	-0.176
CR-51	-1.035E-03		3.664E-01	6.129E-01	7.936E-02	-0.002
MN-52	1.377E-01		2.366E-01	4.050E-01	3.619E-02	0.340
MN-54	2.803E-02		3.091E-02	5.348E-02	5.941E-03	0.524
CO-56	-1.577E-02		3.310E-02	5.376E-02	5.984E-03	-0.293
CO-57	1.504E-02		3.770E-02	6.019E-02	4.964E-03	0.250
CO-58	-4.562E-02		3.525E-02	5.476E-02	6.063E-03	-0.833
FE-59	-3.417E-02		6.585E-02	1.029E-01	1.009E-02	-0.332
CO-60	-5.405E-03		2.806E-02	4.553E-02	4.060E-03	-0.119
ZN-65	-2.095E-03		7.977E-02	1.097E-01	9.784E-03	-0.019
GE-68	4.230E-01		9.057E-01	1.518E+00	1.431E-01	0.279
AS-73	6.959E-01		1.446E+00	2.423E+00	1.831E-01	0.287
AS-74	9.605E-03		9.134E-02	1.520E-01	1.576E-02	0.063
SE-75	-7.638E-02		6.841E-02	7.433E-02	1.000E-02	-1.028
BR-77	-7.214E-01		2.018E+01	2.916E+01	2.935E+00	-0.025
SR-82	-2.738E-01		3.986E-01	5.887E-01	6.456E-02	-0.465
RB-83	1.780E-03		7.310E-02	1.060E-01	1.067E-02	0.017
RB-84	1.466E-01		6.855E-02	1.215E-01	1.359E-02	1.207
KR-85	1.549E+01		6.957E+00	1.181E+01	1.185E+00	1.312
SR-85	8.123E-02		3.648E-02	6.191E-02	6.212E-03	1.312
RB-86	3.902E-01		6.145E-01	1.040E+00	9.816E-02	0.375
Y-88	1.367E-02		2.502E-02	4.362E-02	3.526E-03	0.313
ZR-88	1.082E-02		2.953E-02	4.916E-02	4.577E-03	0.220
Y-91	-8.446E+00		1.348E+01	2.158E+01	1.774E+00	-0.391
NB-94	-3.710E-03		3.061E-02	4.970E-02	5.326E-03	-0.075

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
NB-95M	-1.837E-02		1.466E-01	2.070E-01	2.737E-02	-0.089
ZR-95	2.535E-02		7.121E-02	1.119E-01	1.299E-02	0.227
NB-97	5.663E-01		4.242E-01	Half-Life	too short	
ZR-97	3.693E+01		7.944E+00	Half-Life	too short	
MO-99	4.747E+01		2.577E+01	3.786E+01	6.268E+00	1.254
TC-99M	2.202E+12		1.014E+13	Half-Life	too short	
RH-101	-5.785E-02		3.809E-02	5.896E-02	6.432E-03	-0.981
RH-102	6.768E-03		2.764E-02	4.511E-02	4.436E-03	0.150
RU-103	5.851E-03		3.834E-02	6.211E-02	9.323E-03	0.094
RH-106	1.640E-01		2.844E-01	4.795E-01	7.002E-02	0.342
RU-106	1.640E-01		2.839E-01	4.795E-01	5.009E-02	0.342
AG-108M	-8.739E-03		3.028E-02	4.878E-02	4.829E-03	-0.179
CD-109	-9.512E-01		2.415E+00	2.727E+00	2.588E-01	-0.349
AG-110M	2.146E-02		3.753E-02	5.467E-02	5.876E-03	0.393
IN-111	6.622E-02		2.111E+00	2.987E+00	3.790E-01	0.022
IN-113M	1.154E-02		4.230E-02	7.023E-02	6.706E-03	0.164
SN-113	1.154E-02		4.230E-02	7.023E-02	6.706E-03	0.164
IN-114M	2.636E-02		2.307E-01	3.355E-01	3.567E-02	0.079
CD-115	-1.765E+01		1.896E+01	3.048E+01	3.078E+00	-0.579
SN-117M	-9.474E-02		8.642E-02	1.229E-01	1.166E-02	-0.771
SB-122	-1.486E+00		3.348E+00	5.478E+00	5.615E-01	-0.271
I-123	-1.264E+02		6.002E+01	Half-Life	too short	
TE-123M	-4.264E-02		4.051E-02	5.768E-02	5.509E-03	-0.739
I-124	-3.790E-01		1.025E+00	1.428E+00	1.483E-01	-0.265
SB-124	1.231E-02		5.240E-02	8.911E-02	7.927E-03	0.138
SB-125	-8.444E-02		8.730E-02	1.366E-01	1.325E-02	-0.618
TE-125M	4.228E+01		1.897E+01	2.749E+01	2.785E+00	1.538
I-126	8.112E-02		2.146E-01	3.090E-01	3.265E-02	0.263
SB-126	-1.269E-02		1.659E-01	2.400E-01	2.589E-02	-0.053
SN-126	-9.887E-02		2.338E-01	2.640E-01	2.492E-02	-0.375
SB-127	-1.047E-02		1.823E+00	2.982E+00	4.041E-01	-0.004
XE-127	1.384E-01		6.548E-02	9.773E-02	1.083E-02	1.416
I-131	-1.335E-01		1.272E-01	2.012E-01	2.232E-02	-0.663
TE-132	1.153E+00		1.232E+00	2.022E+00	3.675E-01	0.570
BA-133	-2.642E-02		4.597E-02	6.405E-02	9.571E-03	-0.413
I-133	-3.056E-02		1.544E-02	Half-Life	too short	
CS-134	8.960E-02		4.669E-02	7.703E-02	8.526E-03	1.163
CS-135	2.615E-02		1.935E-01	2.700E-01	3.905E-02	0.097
I-135	-3.110E+11		4.351E+11	Half-Life	too short	
CS-136	-2.639E-02		8.817E-02	1.410E-01	1.426E-02	-0.187
CE-139	2.647E-02		4.262E-02	6.346E-02	6.224E-03	0.417
BA-140	-4.820E-02		2.739E-01	4.545E-01	1.526E-01	-0.106
LA-140	-8.569E-02		7.114E-02	1.045E-01	9.163E-03	-0.820
CE-141	6.667E-01		1.197E-01	1.739E-01	1.583E-02	3.835
CE-143	1.502E-03		2.940E-04	Half-Life	too short	
CE-144	-1.268E-01		2.790E-01	4.678E-01	7.261E-02	-0.271
PM-144	-2.620E-02		3.305E-02	5.199E-02	5.561E-03	-0.504
PR-144	-1.777E+00		2.242E+00	3.527E+00	3.771E-01	-0.504

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PM-146	1.601E-02		4.185E-02	6.887E-02	8.004E-03	0.232
ND-147	-1.284E-02		5.886E-01	9.850E-01	1.562E-01	-0.013
PM-149	-9.224E+00		1.765E+02	2.813E+02	5.323E+01	-0.033
EU-152	4.956E-02		9.952E-02	1.534E-01	1.843E-02	0.323
GD-153	2.132E+00	+	2.828E-01	2.822E-01	2.481E-02	7.555
EU-154	-4.534E-02		8.872E-02	1.416E-01	1.601E-02	-0.320
EU-155	5.273E-02		1.720E-01	2.769E-01	2.377E-02	0.190
TB-160	2.136E-01		1.304E-01	2.292E-01	2.563E-02	0.932
HO-166M	7.551E-03		5.689E-02	9.329E-02	1.003E-02	0.081
TM-171	-1.440E+02		5.310E+01	7.311E+01	5.524E+00	-1.970
LU-176	-6.890E-03		2.366E-02	3.935E-02	5.163E-03	-0.175
LU-177M	-2.104E-01		1.687E-01	2.615E-01	2.473E-02	-0.804
HF-181	1.648E-02		4.173E-02	6.840E-02	6.752E-03	0.241
W-181	6.392E+00		8.695E-01	1.212E+00	9.032E-02	5.276
TA-182	1.323E-01		1.364E-01	2.385E-01	1.983E-02	0.555
RE-183	8.409E-01	+	2.340E-01	2.719E-01	2.623E-02	3.093
RE-184	-1.856E-01		2.932E-01	4.012E-01	5.206E-02	-0.463
OS-185	3.160E-03		3.879E-02	6.406E-02	6.732E-03	0.049
RE-188	-1.598E-03		2.153E-01	3.607E-01	3.367E-02	-0.004
W-188	2.130E+00		8.184E+00	1.215E+01	1.659E+00	0.175
IR-192	-5.133E-03		3.341E-02	5.568E-02	7.116E-03	-0.092
AU-195	6.220E+00	+	8.252E-01	8.168E-01	7.123E-02	7.615
TL-200	2.122E-04		8.064E-04	Half-Life too short		
TL-201	9.396E+00		1.572E+01	2.339E+01	2.305E+00	0.402
TL-202	-1.380E-02		7.163E-02	1.157E-01	1.114E-02	-0.119
HG-203	2.149E-02		4.279E-02	6.935E-02	9.817E-03	0.310
BI-207	2.252E-02		3.927E-02	6.620E-02	6.356E-03	0.340
TL-207	-8.368E-01		6.438E-01	9.963E-01	1.980E-01	-0.840
PO-209	4.688E+00		6.112E+00	1.050E+01	1.176E+00	0.447
BI-210	-4.154E+00		5.301E+00	8.775E+00	8.152E-01	-0.473
PB-210	-4.154E+00		5.301E+00	8.775E+00	8.152E-01	-0.473
PO-210	-4.154E+00		5.299E+00	8.775E+00	7.378E-01	-0.473
PB-211	-6.193E-02		8.709E-01	1.423E+00	8.935E-01	-0.044
PO-215	-8.368E-01		6.438E-01	9.963E-01	1.980E-01	-0.840
RN-219	-1.823E-01		3.802E-01	6.113E-01	9.458E-02	-0.298
RN-220	-1.297E+01		2.392E+01	3.904E+01	3.979E+00	-0.332
RA-223	-8.368E-01		6.438E-01	9.963E-01	1.980E-01	-0.840
AC-227	1.186E+00		5.276E-01	7.396E-01	1.350E-01	1.603
TH-227	1.186E+00		5.395E-01	7.396E-01	1.522E-01	1.603
TH-229	5.326E-01		5.658E-01	9.477E-01	1.019E-01	0.562
PA-231	-6.556E-01		1.515E+00	2.377E+00	4.439E-01	-0.276
TH-231	-8.368E-01		6.438E-01	9.963E-01	1.980E-01	-0.840
PA-233	3.408E-02		6.161E-02	1.047E-01	1.372E-02	0.325
PA-234	4.236E-01	+	2.683E-01	4.556E-01	9.056E-02	0.930
NP-236	-3.008E-02		1.094E-01	1.597E-01	1.527E-02	-0.188
NP-237	-7.069E-02		5.404E-01	7.811E-01	1.768E-01	-0.091
NP-239	-2.702E-01		3.242E-01	4.476E-01	3.699E-02	-0.604
AM-241	5.361E-01		3.129E-01	4.745E-01	3.709E-02	1.130

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	8.004E-02		1.705E-01	2.459E-01	2.096E-02	0.326
AM-246	7.220E-02		1.029E-01	1.747E-01	1.644E-02	0.413
CM-247	-1.167E-02		3.423E-02	5.545E-02	5.202E-03	-0.210
CF-249	-1.023E-02		3.716E-02	6.055E-02	5.755E-03	-0.169
CF-251	-1.758E-01		1.583E-01	2.553E-01	2.593E-02	-0.689

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]G1202029818             *
* Acquisition date   : 12-FEB-2010 17:52:24 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 02:00:05.50             Half life ratio  : 8.000      *
*****
*                               SAMPLE DATA                               *
*
* Sample date        : 26-JAN-2010 12:00:00 Nuclide Library : SOLID             *
* Sample ID          : G1202029818              Analyst initials: RXF2          *
* Batch Number       : 947554                   Sample Quantity : 1.6939E+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	2.297E+01	2.335E+00	1.928E-01	1.191E+00
NB-95	9.437E-01	1.350E-01	3.028E-02	6.888E-02
BA-137M	1.684E-01	5.907E-02	2.845E-02	3.014E-02
CS-137	1.780E-01	6.245E-02	3.007E-02	3.186E-02
LU-177	2.185E+00	1.716E+00	1.267E+00	8.757E-01
TL-208	2.748E-01	6.825E-02	2.737E-02	3.482E-02
BI-211	2.265E+00	4.069E-01	1.653E-01	2.076E-01
BI-212	7.393E-01	3.592E-01	2.205E-01	1.833E-01
PB-212	1.024E+00	1.565E-01	4.971E-02	7.982E-02
PO-212	1.024E+00	1.565E-01	4.971E-02	7.982E-02
BI-214	6.886E-01	1.280E-01	5.142E-02	6.533E-02
PB-214	7.879E-01	1.472E-01	5.551E-02	7.509E-02
PO-214	7.879E-01	1.472E-01	5.551E-02	7.509E-02
PO-216	1.024E+00	1.565E-01	4.971E-02	7.982E-02
PO-218	7.879E-01	1.472E-01	5.551E-02	7.509E-02
RA-224	2.757E+00	1.043E+00	5.650E-01	5.322E-01
RA-226	6.886E-01	1.280E-01	5.142E-02	6.533E-02
AC-228	1.005E+00	2.415E-01	8.574E-02	1.232E-01
RA-228	1.005E+00	2.415E-01	8.574E-02	1.232E-01
TH-228	1.042E+00	1.592E-01	5.057E-02	8.121E-02
TH-230	6.886E-01	1.280E-01	5.141E-02	6.532E-02
U-231	2.263E+01	5.857E+00	2.148E+00	2.988E+00
TH-232	1.005E+00	2.415E-01	8.574E-02	1.232E-01
PA-234M	2.466E+02	3.018E+01	2.492E+00	1.540E+01
TH-234	1.578E+02	2.732E+01	1.990E+00	1.394E+01
U-234	6.886E-01	1.280E-01	5.141E-02	6.532E-02
U-235	3.107E+00	6.794E-01	2.503E-01	3.466E-01
U-238	1.578E+02	2.732E+01	1.990E+00	1.394E+01
AM-243	3.590E-01	1.166E-01	9.544E-02	5.949E-02
ANH-511	7.602E-02	6.665E-02	2.252E-02	3.400E-02

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

Key-Line

Nuclide	Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-1.486E-01	3.106E-01	2.639E-01	1.585E-01 NOT IDENT.
NA-22	-1.702E-02	3.109E-02	2.575E-02	1.586E-02 NOT IDENT.
NA-24	-2.000E+06	6.140E+06	0.000E+00	3.133E+06 SHORT HLIF
AL-26	9.022E-03	2.125E-02	1.881E-02	1.084E-02 NOT IDENT.
TI-44	1.624E-01	7.192E-02	5.887E-02	3.669E-02 FAIL ABUN
SC-46	-4.431E-02	3.412E-02	2.749E-02	1.741E-02 FAIL ABUN
V-48	-1.686E-02	5.823E-02	4.923E-02	2.971E-02 NOT IDENT.
CR-51	-1.035E-03	3.590E-01	3.264E-01	1.832E-01 NOT IDENT.
MN-52	1.377E-01	2.318E-01	2.053E-01	1.183E-01 NOT IDENT.
MN-54	2.803E-02	3.030E-02	2.762E-02	1.546E-02 NOT IDENT.
CO-56	-1.577E-02	3.244E-02	2.775E-02	1.655E-02 NOT IDENT.
CO-57	1.504E-02	3.695E-02	3.301E-02	1.885E-02 NOT IDENT.
CO-58	-4.562E-02	3.455E-02	2.830E-02	1.763E-02 NOT IDENT.
FE-59	-3.417E-02	6.453E-02	5.267E-02	3.292E-02 FAIL ABUN
CO-60	-5.405E-03	2.750E-02	2.314E-02	1.403E-02 NOT IDENT.
ZN-65	-2.095E-03	7.817E-02	5.609E-02	3.988E-02 NOT IDENT.
GE-68	4.230E-01	8.876E-01	7.772E-01	4.528E-01 NOT IDENT.
AS-73	6.959E-01	1.417E+00	1.361E+00	7.231E-01 NOT IDENT.
AS-74	9.605E-03	8.951E-02	7.938E-02	4.567E-02 NOT IDENT.
SE-75	-7.638E-02	6.705E-02	3.982E-02	3.421E-02 NOT IDENT.
BR-77	-7.214E-01	1.977E+01	1.529E+01	1.009E+01 FAIL ABUN
SR-82	-2.738E-01	3.907E-01	3.047E-01	1.993E-01 NOT IDENT.
RB-83	1.780E-03	7.164E-02	5.560E-02	3.655E-02 NOT IDENT.
RB-84	1.466E-01	6.718E-02	6.263E-02	3.428E-02 NOT IDENT.
KR-85	1.549E+01	6.818E+00	6.195E+00	3.479E+00 NOT IDENT.
SR-85	8.123E-02	3.575E-02	3.248E-02	1.824E-02 NOT IDENT.
RB-86	3.902E-01	6.022E-01	5.326E-01	3.072E-01 NOT IDENT.
Y-88	1.367E-02	2.451E-02	2.193E-02	1.251E-02 NOT IDENT.
ZR-88	1.082E-02	2.894E-02	2.601E-02	1.477E-02 NOT IDENT.
Y-91	-8.446E+00	1.321E+01	1.101E+01	6.741E+00 NOT IDENT.
NB-94	-3.710E-03	3.000E-02	2.581E-02	1.531E-02 NOT IDENT.
NB-95M	-1.837E-02	1.436E-01	1.113E-01	7.328E-02 NOT IDENT.
ZR-95	2.535E-02	6.978E-02	5.796E-02	3.560E-02 NOT IDENT.
NB-97	5.663E+05	8.314E+05	0.000E+00	4.242E+05 SHORT HLIF
ZR-97	3.693E+07	1.557E+07	0.000E+00	7.944E+06 SHORT HLIF
MO-99	4.747E+01	2.526E+01	1.963E+01	1.289E+01 NOT IDENT.
TC-99M	2.202E+18	1.988E+19	0.000E+00	0.000E+00 SHORT HLIF
RH-101	-5.785E-02	3.733E-02	3.187E-02	1.904E-02 NOT IDENT.
RH-102	6.768E-03	2.708E-02	2.372E-02	1.382E-02 FAIL ABUN
RU-103	5.851E-03	3.757E-02	3.262E-02	1.917E-02 FAIL ABUN
RH-106	1.640E-01	2.787E-01	2.500E-01	1.422E-01 FAIL ABUN
RU-106	1.640E-01	2.783E-01	2.500E-01	1.420E-01 FAIL ABUN
AG-108M	-8.739E-03	2.968E-02	2.573E-02	1.514E-02 NOT IDENT.
CD-109	-9.512E-01	2.366E+00	1.510E+00	1.207E+00 NOT IDENT.
AG-110M	2.146E-02	3.678E-02	2.845E-02	1.876E-02 NOT IDENT.
IN-111	6.622E-02	2.068E+00	1.604E+00	1.055E+00 NOT IDENT.
IN-113M	1.154E-02	4.146E-02	3.716E-02	2.115E-02 NOT IDENT.
SN-113	1.154E-02	4.146E-02	3.716E-02	2.115E-02 NOT IDENT.
IN-114M	2.636E-02	2.261E-01	1.816E-01	1.153E-01 NOT IDENT.
CD-115	-1.765E+01	1.858E+01	1.598E+01	9.482E+00 NOT IDENT.
SN-117M	-9.474E-02	8.470E-02	6.688E-02	4.321E-02 NOT IDENT.
SB-122	-1.486E+00	3.281E+00	2.865E+00	1.674E+00 NOT IDENT.
I-123	-1.264E+08	1.176E+08	0.000E+00	6.002E+07 SHORT HLIF
TE-123M	-4.264E-02	3.970E-02	3.139E-02	2.026E-02 NOT IDENT.
I-124	-3.790E-01	1.004E+00	7.454E-01	5.124E-01 NOT IDENT.
SB-124	1.231E-02	5.136E-02	4.493E-02	2.620E-02 FAIL ABUN
SB-125	-8.444E-02	8.556E-02	7.207E-02	4.365E-02 NOT IDENT.
TE-125M	4.228E+01	1.860E+01	1.512E+01	9.487E+00 NOT IDENT.
I-126	8.112E-02	2.104E-01	1.608E-01	1.073E-01 NOT IDENT.
SB-126	-1.269E-02	1.626E-01	1.246E-01	8.294E-02 FAIL ABUN
SN-126	-9.887E-02	2.291E-01	1.462E-01	1.169E-01 FAIL ABUN
SB-127	-1.047E-02	1.786E+00	1.550E+00	9.113E-01 NOT IDENT.
XE-127	1.384E-01	6.417E-02	5.278E-02	3.274E-02 FAIL ABUN
I-131	-1.335E-01	1.247E-01	1.067E-01	6.361E-02 NOT IDENT.
TE-132	1.153E+00	1.207E+00	1.088E+00	6.161E-01 FAIL ABUN
BA-133	-2.642E-02	4.505E-02	3.400E-02	2.298E-02 NOT IDENT.
I-133	-3.056E+04	3.026E+04	0.000E+00	1.544E+04 SHORT HLIF
CS-134	8.960E-02	4.576E-02	3.984E-02	2.335E-02 NOT IDENT.
CS-135	2.615E-02	1.896E-01	1.446E-01	9.676E-02 NOT IDENT.
I-135	-3.110E+17	8.528E+17	0.000E+00	0.000E+00 SHORT HLIF
CS-136	-2.639E-02	8.640E-02	7.227E-02	4.408E-02 FAIL ABUN
CE-139	2.647E-02	4.176E-02	3.448E-02	2.131E-02 NOT IDENT.
BA-140	-4.820E-02	2.684E-01	2.381E-01	1.369E-01 FAIL ABUN
LA-140	-8.569E-02	6.972E-02	5.280E-02	3.557E-02 NOT IDENT.
CE-141	6.667E-01	1.173E-01	9.484E-02	5.984E-02 NOT IDENT.

CE-143	1.502E+03	5.763E+02	0.000E+00	2.940E+02	SHORT HLIF
CE-144	-1.268E-01	2.734E-01	2.558E-01	1.395E-01	NOT IDENT.
PM-144	-2.620E-02	3.239E-02	2.701E-02	1.652E-02	NOT IDENT.
PR-144	-1.777E+00	2.197E+00	1.832E+00	1.121E+00	NOT IDENT.
PM-146	1.601E-02	4.102E-02	3.628E-02	2.093E-02	NOT IDENT.
ND-147	-1.284E-02	5.768E-01	5.163E-01	2.943E-01	NOT IDENT.
PM-149	-9.224E+00	1.730E+02	1.503E+02	8.826E+01	NOT IDENT.
EU-152	4.956E-02	9.753E-02	8.149E-02	4.976E-02	NOT IDENT.
GD-153	2.132E+00	2.772E-01	1.558E-01	1.414E-01	FAIL ABUN
EU-154	-4.534E-02	8.695E-02	7.210E-02	4.436E-02	NOT IDENT.
EU-155	5.273E-02	1.686E-01	1.525E-01	8.600E-02	NOT IDENT.
TB-160	2.136E-01	1.278E-01	1.181E-01	6.519E-02	NOT IDENT.
HO-166M	7.551E-03	5.576E-02	4.843E-02	2.845E-02	FAIL ABUN
TM-171	-1.440E+02	5.204E+01	4.080E+01	2.655E+01	NOT IDENT.
LU-176	-6.890E-03	2.319E-02	2.099E-02	1.183E-02	NOT IDENT.
LU-177M	-2.104E-01	1.653E-01	1.382E-01	8.435E-02	NOT IDENT.
HF-181	1.648E-02	4.089E-02	3.596E-02	2.086E-02	NOT IDENT.
W-181	6.392E+00	8.522E-01	6.766E-01	4.348E-01	NOT IDENT.
TA-182	1.323E-01	1.337E-01	1.216E-01	6.821E-02	FAIL ABUN
RE-183	8.409E-01	2.293E-01	1.478E-01	1.170E-01	FAIL ABUN
RE-184	-1.856E-01	2.873E-01	2.152E-01	1.466E-01	NOT IDENT.
OS-185	3.160E-03	3.802E-02	3.336E-02	1.940E-02	NOT IDENT.
RE-188	-1.598E-03	2.110E-01	1.964E-01	1.076E-01	NOT IDENT.
W-188	2.130E+00	8.020E+00	6.488E+00	4.092E+00	FAIL ABUN
IR-192	-5.133E-03	3.274E-02	2.966E-02	1.671E-02	FAIL ABUN
AU-195	6.220E+00	8.087E-01	4.507E-01	4.126E-01	FAIL ABUN
TL-200	2.122E+02	1.581E+03	0.000E+00	8.064E+02	SHORT HLIF
TL-201	9.396E+00	1.540E+01	1.270E+01	7.860E+00	NOT IDENT.
TL-202	-1.380E-02	7.020E-02	6.101E-02	3.582E-02	NOT IDENT.
HG-203	2.149E-02	4.194E-02	3.709E-02	2.140E-02	FAIL ABUN
BI-207	2.252E-02	3.848E-02	3.391E-02	1.963E-02	FAIL ABUN
TL-207	-8.368E-01	6.310E-01	5.304E-01	3.219E-01	FAIL ABUN
PO-209	4.688E+00	5.990E+00	5.408E+00	3.056E+00	NOT IDENT.
BI-210	-4.154E+00	5.195E+00	4.947E+00	2.651E+00	NOT IDENT.
PB-210	-4.154E+00	5.195E+00	4.947E+00	2.651E+00	NOT IDENT.
PO-210	-4.154E+00	5.193E+00	4.947E+00	2.649E+00	NOT IDENT.
PB-211	-6.193E-02	8.535E-01	7.524E-01	4.355E-01	NOT IDENT.
PO-215	-8.368E-01	6.310E-01	5.304E-01	3.219E-01	FAIL ABUN
RN-219	-1.823E-01	3.726E-01	3.232E-01	1.901E-01	FAIL ABUN
RN-220	-1.297E+01	2.344E+01	2.044E+01	1.196E+01	NOT IDENT.
RA-223	-8.368E-01	6.310E-01	5.304E-01	3.219E-01	FAIL ABUN
AC-227	1.186E+00	5.170E-01	3.966E-01	2.638E-01	NOT IDENT.
TH-227	1.186E+00	5.287E-01	3.966E-01	2.698E-01	FAIL ABUN
TH-229	5.326E-01	5.545E-01	5.126E-01	2.829E-01	FAIL ABUN
PA-231	-6.556E-01	1.485E+00	1.271E+00	7.575E-01	NOT IDENT.
TH-231	-8.368E-01	6.310E-01	5.304E-01	3.219E-01	FAIL ABUN
PA-233	3.408E-02	6.038E-02	5.581E-02	3.081E-02	FAIL ABUN
PA-234	4.236E-01	2.629E-01	2.343E-01	1.341E-01	FAIL ABUN
NP-236	-3.008E-02	1.072E-01	8.688E-02	5.468E-02	FAIL ABUN
NP-237	-7.069E-02	5.296E-01	4.326E-01	2.702E-01	FAIL ABUN
NP-239	-2.702E-01	3.177E-01	2.457E-01	1.621E-01	FAIL ABUN
AM-241	5.361E-01	3.066E-01	2.656E-01	1.564E-01	NOT IDENT.
CM-243	8.004E-02	1.671E-01	1.355E-01	8.526E-02	FAIL ABUN
AM-246	7.220E-02	1.008E-01	8.945E-02	5.143E-02	NOT IDENT.
CM-247	-1.167E-02	3.355E-02	2.932E-02	1.712E-02	NOT IDENT.
CF-249	-1.023E-02	3.641E-02	3.205E-02	1.858E-02	NOT IDENT.
CF-251	-1.758E-01	1.551E-01	1.384E-01	7.914E-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	2089.0388
46.50	2089.0388
46.50	2089.0388
48.70	2149.8882
49.72	2227.7720
51.35	2459.2739
52.39	2528.0554
52.97	2558.6196
53.15	2550.3748
53.44	2603.8850
54.07	2698.7600
56.28	3120.0437
56.28	3120.0774
57.37	0.0000
57.53	3133.1035
57.53	3133.1287
57.60	3139.6929
57.98	3055.9277
57.98	3055.9277
59.32	3300.1699
59.32	3300.1699
59.40	3301.2158
59.54	3303.0527
59.72	3361.3682
60.01	3365.2292
61.10	3633.5256
61.14	3634.0879
61.30	3636.3508
63.00	3235.4509
63.29	3239.0271
63.29	3239.0271
63.58	3242.5859
64.28	2898.2952
65.12	2973.3191
65.20	3006.4387
65.20	3006.4387
66.05	3190.7930
66.72	3429.9424
66.83	3431.3276
66.91	3432.3401
67.20	3616.0266
67.20	3616.0266
67.75	3439.2522
67.85	3440.5032
68.90	3364.9768
68.90	3364.9768
69.30	3490.7163
69.67	3627.3489
70.82	3624.0715
70.82	3624.0715
70.83	3624.2012
72.80	4071.9668
72.87	4072.9575
72.87	4072.9575
74.67	4562.9482
74.81	4565.0854
74.81	4565.0854
74.81	4565.0854
74.81	4565.0854
74.81	4565.0854
74.81	4565.0854
74.97	4227.8599
75.28	4247.4219
75.70	4253.3564
77.11	4273.1875
77.11	4273.1875

77.11	4273.1875
77.11	4273.1875
77.11	4273.1875
77.11	4273.1875
77.11	4273.1875
78.38	4249.4995
79.62	4206.4487
79.80	4208.8667
79.80	4208.8667
80.11	4129.7617
80.18	4130.6812
80.30	4132.2544
80.30	4132.2544
80.57	4135.7891
81.00	3974.4099
81.07	3975.2922
81.07	3975.2922
81.07	3975.2922
81.07	3975.2922
82.60	4205.7661
83.37	4738.2075
83.78	4744.2402
83.78	4744.2402
83.78	4744.2402
83.78	4744.2402
84.21	4750.5288
84.90	5127.8726
85.43	4919.7881
86.29	5042.6045
86.50	5045.7861
86.54	5046.3979
86.59	5235.9531
86.72	5238.0098
86.79	5239.0762
86.94	5241.4629
87.30	5174.5737
87.30	5174.5737
87.30	5174.5737
87.30	5174.5737
87.30	5174.5737
87.30	5174.5737
87.57	5178.7300
87.88	5344.6094
88.03	5346.9844
88.36	5190.8745
88.47	5192.5771
89.95	5480.5293
91.11	5239.1436
92.29	4626.6221
92.38	4627.8135
92.38	4627.8135
93.35	4640.5884
94.00	4649.1274
94.67	4657.8428
94.67	4657.9092
94.90	4660.9097
94.90	4660.9097
94.90	4660.9097
94.90	4660.9097
95.87	2398.1741
95.87	2398.1741
96.73	2403.9028
97.43	2408.5222
98.44	2192.2046
98.44	2192.2148
98.88	2155.7292
99.55	2159.6458
99.55	2159.6458
99.86	2161.4424
100.00	2162.2600
100.10	2020.6364
103.18	2139.3945
103.76	2018.8477
105.00	2055.7312
105.31	2102.6809
108.00	2431.5088
109.28	2328.8679

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111.00	2520.4819
111.76	2258.4983
112.95	2265.1162
115.19	1674.9784
116.30	1684.5642
117.00	1813.6334
117.00	1813.6334
117.66	1775.4683
121.11	1597.5189
121.62	1628.1537
121.78	1628.7515
122.06	1625.1990
122.32	1626.1686
122.32	1626.1686
122.32	1626.1686
122.32	1626.1686
123.07	1655.5110
127.23	1640.8628
129.76	1607.3374
131.20	1616.8109
133.02	1630.2715
133.54	1643.6118
135.34	1587.7130
136.00	1558.7764
136.25	1559.6046
136.48	1583.5354
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140.51	0.0000
142.18	1532.2383
142.65	1594.3583
143.76	1527.9373
144.24	1529.4192
144.24	1529.4192
144.24	1529.4192
144.24	1529.4192
145.22	1412.5010
145.44	1378.2743
147.16	1324.7189
152.43	1339.9506
152.70	1342.4919
153.22	1314.3435
154.21	1283.6014
154.21	1283.6014
154.21	1283.6014
154.21	1283.6014
155.03	1306.8892
156.02	1296.3848
158.56	1325.8958
159.00	0.0000
159.00	1312.0723
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161.27	1179.8743
162.32	1200.1563
162.64	1223.3855
163.35	1224.9773
163.89	1232.1991
165.85	1241.1277
167.43	1176.5309
171.28	1265.4156
171.86	1180.8566
172.10	1181.3572
176.55	1273.2308
176.60	1273.3419
181.06	1224.8954
184.41	1276.9982
185.71	1060.5966
186.00	1061.1104
190.27	924.0951
192.34	999.0520
193.63	910.1102
197.04	926.9799
198.01	1045.9305
198.60	1095.7467
200.40	945.4557
201.83	939.5385
202.84	926.5457
205.31	1079.9579

208.36	914.9248
208.81	816.6990
209.75	799.9996
209.75	799.9996
210.97	820.9641
215.65	858.3696
216.55	834.9099
218.09	836.7815
222.10	879.8340
223.80	916.1268
226.40	816.6371
227.00	809.0079
227.08	809.0970
227.20	819.6349
228.16	820.7352
228.18	820.7592
228.18	820.7592
231.56	0.0000
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236.00	771.5332
236.00	771.5332
238.63	721.6595
238.63	721.6595
238.63	721.6595
238.63	721.6595
239.00	722.0190
240.98	723.9366
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241.98	694.5511
241.98	694.5511
244.69	671.4834
245.39	678.9272
247.94	680.3452
248.90	695.1180
249.79	661.6068
252.40	671.3741
252.85	716.5437
252.85	716.5437
254.15	0.0000
256.20	634.8558
256.20	634.8558
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260.90	645.5907
262.80	622.7018
264.65	731.3582
268.24	679.5648
268.79	694.0852
269.46	685.8611
269.46	685.8611
269.46	685.8611
269.46	685.8611
271.23	636.2272
273.65	714.0917
276.40	574.8735
277.35	547.0422
277.60	547.2002
277.60	547.2002
278.00	549.6844
278.60	532.2969
279.20	578.2715
279.53	578.4937
280.46	601.4026
281.68	592.2300
283.67	536.5942
284.30	522.4463
285.00	540.7881
285.90	524.5433
286.10	542.6020
286.10	542.6020
287.40	541.1689
288.45	0.0000
290.67	548.4653
290.80	548.5471
291.72	571.6931
293.26	0.0000
293.70	574.4843
295.21	603.5625
295.21	603.5625

295.21	603.5625
295.96	621.3080
296.50	612.6086
297.23	622.1944
298.57	547.3243
299.80	497.9725
299.80	497.9725
300.09	485.9896
300.09	485.9896
300.09	485.9896
300.09	485.9896
300.12	486.0026
301.29	538.3390
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303.76	550.7947
303.91	550.8829
304.40	574.9895
304.40	574.9895
304.84	566.1052
306.84	515.9396
308.46	506.7357
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319.02	447.3969
319.41	456.8901
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323.87	534.7628
323.87	534.7628
323.87	534.7628
323.87	534.7628
325.23	513.0476
328.77	471.7097
333.44	520.8712
334.20	502.3770
334.20	502.3770
334.30	507.1539
338.28	456.3804
338.28	456.3804
338.28	456.3804
338.28	456.3804
338.32	456.4039
338.32	456.4039
338.32	456.4039
340.50	445.3569
340.57	445.3854
344.27	430.8961
345.85	465.7174
350.59	0.0000
351.07	446.8359
351.92	415.4678
351.92	415.4678
351.92	415.4678
355.39	0.0000
356.01	436.1075
364.48	415.6422
366.43	353.0207
367.43	362.1371
367.94	0.0000
369.80	376.6345
374.96	398.1083
383.85	396.4014
387.95	406.8182
388.63	411.0489
391.69	393.2112
391.69	393.2112
392.90	393.6345
398.62	402.6545
400.65	396.3279
401.10	391.4550
401.81	397.7388
402.60	399.0212
404.84	400.8043
410.95	382.6191
411.60	377.7535
413.65	430.2910
414.70	415.4059
415.30	363.6632

415.76	351.5782
417.63	0.0000
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423.70	326.2295
427.08	402.2451
427.89	394.2768
432.53	353.4139
433.93	353.8189
439.47	341.9038
439.56	342.9672
439.89	339.9411
443.98	335.8438
444.90	319.3912
445.03	319.4249
445.03	319.4249
445.03	319.4249
445.03	319.4249
453.90	352.1589
463.38	362.1810
468.07	415.5663
473.00	376.5879
475.06	330.1608
475.35	341.9922
476.78	348.7786
477.59	356.4832
477.96	354.4431
482.03	321.1512
484.57	322.8369
487.03	325.5790
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492.35	309.5412
497.08	292.1467
507.63	0.0000
510.53	0.0000
510.84	320.2733
511.00	320.3089
511.85	320.4996
511.85	320.4996
513.99	320.9861
513.99	320.9861
520.41	304.4502
520.65	304.5041
527.90	323.7457
528.96	0.0000
529.64	338.9476
529.87	0.0000
531.02	311.4658
537.32	331.4250
543.00	295.3178
546.56	0.0000
549.76	317.3082
552.65	302.8708
555.20	307.1505
563.23	319.1874
563.90	341.1255
568.70	303.2162
569.32	302.3821
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569.67	300.5510
573.80	334.9855
574.00	333.9879
574.64	334.3386
578.91	321.4736
579.30	0.0000
583.14	283.0024
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591.81	324.0986
592.07	327.6195
593.00	308.8932
595.88	298.8094
600.56	332.6511
602.52	0.0000
602.71	341.2758
602.71	341.2758
603.60	276.5007
604.41	308.3032
604.70	308.3549
609.31	284.7107

609.31	284.7107
609.31	284.7107
609.31	284.7107
610.33	234.1553
612.46	252.8797
614.37	268.2589
618.01	252.3528
621.84	248.5579
621.84	248.5579
631.29	226.2419
633.02	233.3976
633.10	240.3303
634.78	251.4575
635.90	252.6135
636.97	246.8267
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646.12	253.1267
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657.75	264.8540
657.90	0.0000
661.65	293.0176
661.65	293.0176
664.57	0.0000
666.33	269.5995
666.33	269.5995
675.00	275.5417
677.61	255.6504
685.20	258.7646
692.80	273.1383
695.00	301.1179
696.49	320.8390
696.49	320.8390
697.00	301.4469
697.49	283.0640
698.33	252.4113
698.50	252.4363
699.00	237.1049
702.63	279.7363
706.10	289.5297
706.58	0.0000
706.67	279.3144
709.31	261.1276
711.68	270.7579
713.82	251.4095
717.42	277.8036
720.50	261.6438
721.93	0.0000
722.20	254.7487
722.78	253.0465
722.78	253.0465
722.89	253.0613
722.95	253.0663
723.30	249.5508
724.18	256.7963
727.18	264.6402
733.00	273.3835
735.90	241.1438
739.58	280.4268
742.81	262.8886
744.21	266.6756
747.13	223.7639
751.79	267.0503
752.31	267.0264
753.82	260.8897
755.35	237.8357
756.15	243.6422
756.87	220.0352
763.93	229.3110
765.79	227.3968
766.42	227.4664
766.84	227.5143
776.49	262.7889
778.00	261.6987
778.57	259.4922
778.89	250.9757
783.80	235.2455
785.46	283.2607
792.07	298.9305

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796.30	211.7964
798.80	280.7727
801.93	298.5002
805.60	168.0841
810.29	237.3327
810.76	240.1788
815.85	162.3695
817.79	189.6045
818.51	192.4712
819.60	215.0033
826.30	202.5527
828.27	0.0000
831.60	204.9300
831.96	198.3828
834.83	187.3503
836.80	0.0000
846.75	194.0572
848.13	159.1318
856.28	0.0000
856.80	204.6909
860.37	178.1104
867.32	152.1545
867.82	142.1535
871.10	184.7104
873.19	186.7979
874.81	196.5167
875.33	0.0000
876.40	221.5979
879.36	170.9786
880.27	167.2031
880.51	162.4161
881.50	163.4483
883.24	182.8167
884.67	202.1887
889.25	212.2426
896.60	154.8521
898.02	166.5680
899.00	166.6370
903.28	173.2549
911.07	155.8175
911.07	155.8175
911.07	155.8175
919.63	225.0231
920.93	222.7965
925.00	153.8022
925.24	165.5754
926.50	162.7231
935.52	140.7083
937.48	140.1665
944.10	131.3347
946.00	135.3921
949.00	124.6750
962.29	165.4005
964.01	175.9671
966.15	162.1710
968.20	181.5017
969.11	199.0303
969.11	199.0303
969.11	199.0303
977.42	127.8748
980.50	118.6258
983.50	141.4819
989.30	120.3228
996.32	135.9014
1001.03	104.0723
1001.68	104.0993
1004.76	109.7904
1021.30	0.0000
1024.50	0.0000
1034.80	118.7511
1036.00	125.9729
1037.82	106.5862
1038.57	108.6692
1038.76	0.0000
1045.16	119.2164
1046.59	125.4508
1048.07	127.5809

1050.47	114.3062
1050.47	114.3062
1062.04	126.1784
1063.62	120.0458
1076.63	108.1459
1077.35	112.3355
1078.86	108.2366
1085.78	114.7688
1099.22	121.6236
1112.02	119.8120
1112.84	125.3792
1115.52	147.6465
1120.29	155.2903
1120.29	155.2903
1120.29	155.2903
1120.29	155.2903
1120.51	155.3057
1121.28	149.7986
1124.00	0.0000
1129.67	141.5400
1131.51	0.0000
1147.95	0.0000
1167.94	125.9399
1173.22	124.2817
1175.09	143.2051
1177.93	136.7429
1189.05	156.1880
1204.90	148.4542
1205.75	0.0000
1213.00	138.3580
1221.42	120.5629
1230.97	206.3654
1235.34	125.9188
1236.41	0.0000
1238.25	123.1523
1246.25	150.4775
1260.41	0.0000
1271.85	109.8964
1274.45	120.6926
1274.54	120.6964
1291.56	82.2004
1298.22	0.0000
1312.09	89.6198
1325.50	92.9558
1325.50	92.9558
1332.49	85.2258
1333.61	83.2720
1360.21	82.9417
1362.66	0.0000
1365.15	73.0557
1368.21	91.1527
1368.53	0.0000
1376.25	70.2841
1384.27	103.6632
1394.10	62.5790
1395.20	66.6365
1407.95	72.9646
1434.06	65.3438
1436.60	63.3491
1457.56	0.0000
1460.81	56.5811
1489.15	35.2524
1509.49	49.0023
1596.49	73.0209
1620.62	41.0310
1678.03	0.0000
1691.02	33.0177
1691.02	33.0177
1706.46	0.0000
1750.46	0.0000
1764.49	34.5927
1764.49	34.5927
1764.49	34.5927
1764.49	34.5927
1770.23	30.2846
1771.40	33.8567
1791.20	0.0000
1808.65	30.9554

1836.01

31.1497

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202029818

Total Uranium Activity	4.7092E+02	ug/g
Total Uranium Counting Unc.	8.1275E+01	ug/g
Total Uranium Tpu	4.1467E-05	ug/g
Total Uranium Mda	5.9215E+00	ug/g

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*****
*
*               GEL Laboratories LLC               *
*               2040 SAVAGE ROAD                   *
*               CHARLESTON ,SC 29417                *
*               GROSS GAMMA REPORT                  *
*
*****
*
*  BATCH ID      : 947554          SAMPLE ID   : G1202029818   *
*  ANALYST       : RXF2            DETECTOR    : GAM22         *
*  SAMPLE DATE   : 26-JAN-2010 12:00:00.00  COUNT TIME : 0 02:00:00.00 *
*  ANALYSIS DATE: 12-FEB-2010 17:52:24.54  SAMPLE ALQT: 169.389 GRAM *
*
*****

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GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.791E+01
GROSS GAMMA ERROR (pCi/GRAM ) : 1.899E+00
GROSS GAMMA MDA (pCi/GRAM ) : 5.664E+00
GROSS GAMMA DLC (pCi/GRAM ) : 2.804E+00

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VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 19:29:17.14

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029819.CNF;1
Sample date        : 2-FEB-2010 00:00:00. Acquisition date : 12-FEB-2010 18:28:27
Sample ID          : G1202029819      Sample quantity   : 1.55440E+02 GRAM
Detector name      : GAM20             Detector geometry: CAN
Elapsed live time  : 0 01:00:00.00     Elapsed real time: 0 01:00:19.24 0.5%
Energy tolerance   : 1.50000 keV       Analyst Initials : RXF2
Abundance limit    : 75.00000          Sensitivity       : 5.00000
Batch ID           : 947554             Detector SN#      :
Matrix Spike ID    :                   LCS ID           : 1032-A
*****
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	59.65	4089	1010	1.06	119.30	114	10	1.14E+00	2.1	
2	0	78.00*	119	702	0.96	155.93	151	8	3.30E-02	40.6	
3	4	88.10	1757	356	1.15	176.11	172	22	4.88E-01	2.9	3.72E+00
4	4	92.86*	102	316	1.55	185.61	172	22	2.84E-02	37.9	
5	0	122.17	295	331	0.95	244.15	240	10	8.19E-02	12.9	
6	0	185.86*	112	291	2.29	371.34	367	10	3.12E-02	30.6	
7	0	209.04	95	230	0.90	417.64	414	9	2.62E-02	30.7	
8	0	238.61*	494	523	1.14	476.72	471	13	1.37E-01	10.6	
9	0	270.21	73	165	1.25	539.83	536	8	2.03E-02	32.9	
10	0	294.85	160	255	1.30	589.06	584	11	4.45E-02	20.8	
11	0	299.74	40	150	1.25	598.82	597	7	1.11E-02	54.1	
12	0	338.37*	134	219	1.05	676.00	670	12	3.72E-02	23.9	
13	0	351.74*	214	202	1.38	702.72	698	10	5.94E-02	14.3	
14	0	510.77*	58	153	2.09	1020.50	1015	14	1.62E-02	50.0	
15	0	583.29*	183	104	1.40	1165.43	1160	11	5.09E-02	13.2	
16	0	609.48*	178	123	1.41	1217.79	1211	13	4.94E-02	15.0	
17	0	661.72	2603	181	1.41	1322.22	1317	13	7.23E-01	2.2	
18	0	727.09	24	93	0.67	1452.90	1448	10	6.71E-03	77.3	
19	0	911.23*	82	135	1.13	1821.14	1816	11	2.28E-02	29.7	
20	0	969.60*	71	91	1.10	1937.88	1933	9	1.98E-02	27.1	
21	0	1173.46	1919	49	1.63	2345.74	2338	15	5.33E-01	2.4	
22	0	1332.68	1868	14	1.83	2664.39	2654	19	5.19E-01	2.4	
23	0	1764.74*	35	9	0.80	3529.56	3523	12	9.78E-03	24.7	

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

VMS Nuclide Identification Report V3.1 Generated 12-FEB-2010 19:29:19

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Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029819.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,MINACT V2.8
Sample title      : RXF2
Sample date       : 2-FEB-2010 00:00:00   Acquisition date : 12-FEB-2010 18:28:27
Sample ID        : G1202029819           Sample quantity  : 155.44 GRAM
Sample type      : SOLID                  Sample geometry   :
Detector name    : GAMMA20               Detector geometry: CAN
Elapsed live time: 0 01:00:00.00         Elapsed real time: 0 01:00:19.24   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
CO-57	+	122.06	*	2.320E-01	6.301E-02	5.599E-02	4.674E-03	4.143
		136.48		1.640E-01	3.091E-01	5.060E-01	4.581E-02	0.324
CO-60	+	1173.22		6.214E+00	5.830E-01	1.116E-01	8.973E-03	55.684
	+	1332.49	*	6.725E+00	6.468E-01	6.784E-02	5.682E-03	99.135
CD-109	+	88.03	*	3.321E+01	3.700E+00	1.695E+00	1.603E-01	19.592
SN-126		64.28		-4.747E-01	6.085E-01	9.347E-01	1.353E-01	-0.508
	+	86.94		1.366E+01	5.731E+00	8.164E-01	3.389E-01	16.733
	+	87.57	*	3.286E+00	3.660E-01	1.682E-01	1.582E-02	19.537
BA-137M	+	661.65	*	5.743E+00	6.308E-01	1.085E-01	1.089E-02	52.939
CS-137	+	661.65	*	6.071E+00	6.676E-01	1.147E-01	1.152E-02	52.939
TL-208		277.35		-1.355E-01	5.827E-01	9.608E-01	1.278E-01	-0.141
	+	510.84		4.351E-01	4.387E-01	3.699E-01	4.624E-02	1.176
	+	583.14	*	3.898E-01	1.104E-01	1.018E-01	1.046E-02	3.830
		860.37		3.921E-01	5.911E-01	1.018E+00	1.079E-01	0.385
BI-211		72.87		-7.414E+00	4.499E+00	6.013E+00	4.748E-01	-1.233
	+	351.07	*	2.009E+00	6.051E-01	5.428E-01	5.200E-02	3.701
PB-212		74.81		4.016E-01	5.448E-01	8.163E-01	1.008E-01	0.492
	+	77.11		5.034E-01	4.112E-01	4.468E-01	3.695E-02	1.127
	+	87.30		1.520E+01	2.275E+00	9.061E-01	1.242E-01	16.772
	+	238.63	*	1.018E+00	2.408E-01	1.489E-01	1.583E-02	6.842
	+	300.09		1.266E+00	1.377E+00	1.932E+00	2.209E-01	0.655
PO-212		74.81		4.016E-01	5.448E-01	8.163E-01	1.008E-01	0.492
	+	77.11		5.034E-01	4.112E-01	4.468E-01	3.695E-02	1.127
	+	87.30		1.520E+01	2.275E+00	9.061E-01	1.242E-01	16.772
		115.19		-1.939E+00	4.993E+00	7.887E+00	6.625E-01	-0.246
	+	238.63	*	1.018E+00	2.408E-01	1.489E-01	1.583E-02	6.842
	+	300.09		1.266E+00	1.377E+00	1.932E+00	2.209E-01	0.655
BI-214	+	609.31	*	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
		1120.29		5.312E-01	5.658E-01	9.792E-01	1.059E-01	0.542
	+	1764.49		9.787E-01	4.906E-01	4.268E-01	3.506E-02	2.293
PB-214		74.81		6.920E-01	9.379E-01	1.407E+00	1.540E-01	0.492
	+	77.11		8.629E-01	7.081E-01	7.659E-01	8.612E-02	1.127
	+	87.30		2.603E+01	3.527E+00	1.552E+00	1.884E-01	16.772
		241.98		9.858E-01	6.183E-01	9.838E-01	1.100E-01	1.002

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
PO-214	+	295.21		8.926E-01	3.855E-01	3.612E-01	4.216E-02	2.471
	+	351.92	*	6.987E-01	2.136E-01	1.947E-01	2.121E-02	3.589
		74.81		6.920E-01	9.379E-01	1.407E+00	1.540E-01	0.492
	+	77.11		8.629E-01	7.081E-01	7.659E-01	8.612E-02	1.127
	+	87.30		2.603E+01	3.527E+00	1.552E+00	1.884E-01	16.772
PO-216		241.98		9.858E-01	6.183E-01	9.838E-01	1.100E-01	1.002
	+	295.21		8.926E-01	3.855E-01	3.612E-01	4.216E-02	2.471
	+	351.92	*	6.987E-01	2.136E-01	1.947E-01	2.121E-02	3.589
		74.81		4.016E-01	5.448E-01	8.163E-01	1.008E-01	0.492
	+	77.11		5.034E-01	4.112E-01	4.468E-01	3.695E-02	1.127
PO-218	+	87.30		1.520E+01	2.275E+00	9.061E-01	1.242E-01	16.772
	+	238.63	*	1.018E+00	2.408E-01	1.489E-01	1.583E-02	6.842
	+	300.09		1.266E+00	1.377E+00	1.932E+00	2.209E-01	0.655
		74.81		6.920E-01	9.379E-01	1.407E+00	1.540E-01	0.492
	+	77.11		8.629E-01	7.081E-01	7.659E-01	8.612E-02	1.127
RA-226	+	87.30		2.603E+01	3.527E+00	1.552E+00	1.884E-01	16.772
		241.98		9.858E-01	6.183E-01	9.838E-01	1.100E-01	1.002
	+	295.21		8.926E-01	3.855E-01	3.612E-01	4.216E-02	2.471
	+	351.92	*	6.987E-01	2.136E-01	1.947E-01	2.121E-02	3.589
	+	609.31	*	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
AC-228		1120.29		5.312E-01	5.658E-01	9.792E-01	1.059E-01	0.542
	+	1764.49		9.787E-01	4.906E-01	4.268E-01	3.506E-02	2.293
	+	338.32		1.387E+00	8.777E-01	6.014E-01	2.491E-01	2.306
RA-228	+	911.07	*	7.688E-01	4.659E-01	4.560E-01	5.585E-02	1.686
	+	969.11		1.174E+00	6.952E-01	8.619E-01	2.045E-01	1.362
	+	338.32		1.387E+00	8.777E-01	6.014E-01	2.491E-01	2.306
TH-228	+	911.07	*	7.688E-01	4.659E-01	4.560E-01	5.585E-02	1.686
	+	969.11		1.174E+00	6.952E-01	8.619E-01	2.045E-01	1.362
		74.81		4.060E-01	5.494E-01	8.251E-01	6.716E-02	0.492
TH-230	+	77.11		5.088E-01	4.157E-01	4.516E-01	3.735E-02	1.127
	+	87.30		1.536E+01	1.711E+00	9.158E-01	8.584E-02	16.772
	+	238.63	*	1.029E+00	2.434E-01	1.505E-01	1.600E-02	6.842
TH-232	+	300.09		1.280E+00	1.579E+00	1.953E+00	1.161E+00	0.655
	+	609.31	*	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
		1120.29		5.311E-01	5.658E-01	9.792E-01	1.059E-01	0.542
U-234	+	1764.49		9.787E-01	4.906E-01	4.268E-01	3.506E-02	2.293
	+	338.32		1.387E+00	6.761E-01	6.014E-01	5.635E-02	2.306
	+	911.07	*	7.688E-01	4.659E-01	4.560E-01	5.585E-02	1.686
AM-241	+	969.11		1.174E+00	6.952E-01	8.619E-01	2.045E-01	1.362
	+	609.31	*	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
		1120.29		5.311E-01	5.658E-01	9.792E-01	1.059E-01	0.542
ANH-511	+	1764.49		9.787E-01	4.906E-01	4.268E-01	3.506E-02	2.293
BE-7	+	59.54	*	1.350E+01	1.204E+00	3.798E-01	2.972E-02	35.531
ANH-511	+	511.00	*	9.397E-02	9.443E-02	7.992E-02	7.447E-03	1.176

----- 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	*	-3.480E-01	6.290E-01	9.866E-01	9.589E-02	-0.353

---- 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	*		-1.315E-03	4.163E-02	6.670E-02	5.525E-03	-0.020
NA-24	1368.53	*		-1.403E-03	4.163E-02	Half-Life too short		
AL-26	1129.67			1.601E+00	2.535E+00	4.375E+00	3.706E-01	0.366
	1808.65	*		4.455E-03	3.891E-02	6.563E-02	5.331E-03	0.068
K-40	1460.81	*		6.210E-01	5.223E-01	9.938E-01	8.666E-02	0.625
TI-44	67.85			4.090E-02	5.439E-02	9.145E-02	6.881E-03	0.447
	78.38	*		9.287E-02	7.588E-02	8.976E-02	7.533E-03	1.035
SC-46	889.25	*		-2.900E-03	7.408E-02	1.220E-01	1.217E-02	-0.024
	1120.51			9.424E-02	9.326E-02	1.624E-01	1.389E-02	0.580
V-48	944.10			-1.430E-01	1.699E+00	2.782E+00	2.714E-01	-0.051
	983.50	*		-1.279E-01	1.324E-01	2.017E-01	1.928E-02	-0.634
	1312.09			1.093E-02	6.968E-02	1.152E-01	9.611E-03	0.095
CR-51	320.08	*		1.410E-01	5.491E-01	9.221E-01	9.244E-02	0.153
MN-52	744.21			3.613E-02	2.287E-01	3.866E-01	3.927E-02	0.093
	848.13			2.644E+00	7.341E+00	1.248E+01	1.257E+00	0.212
	935.52			1.641E-01	3.315E-01	5.624E-01	5.509E-02	0.292
	1246.25			1.060E+00	4.545E+00	7.580E+00	6.227E-01	0.140
	1333.61			5.035E+02	4.843E+01	5.375E+01	4.503E+00	9.367
	1434.06	*		-2.602E-02	1.455E-01	2.351E-01	1.989E-02	-0.111
MN-54	834.83	*		-1.211E-02	6.773E-02	1.109E-01	1.120E-02	-0.109
CO-56	846.75	*		2.286E-02	7.160E-02	1.213E-01	1.223E-02	0.188
	977.42			7.104E+00	6.176E+00	1.086E+01	1.042E+00	0.654
	1037.82			-4.427E-01	5.473E-01	8.282E-01	7.991E-02	-0.535
	1175.09			2.710E+02	2.560E+01	3.058E+01	2.460E+00	8.862
	1238.25			-2.870E-02	9.729E-02	1.513E-01	1.280E-02	-0.190
	1360.21			3.423E-01	1.002E+00	1.792E+00	1.507E-01	0.191
	1771.40			-1.551E-01	3.226E-01	4.793E-01	3.931E-02	-0.324
CO-58	810.76	*		-1.155E-03	6.850E-02	1.137E-01	1.155E-02	-0.010
FE-59	142.65			-5.237E-02	3.488E+00	5.601E+00	4.731E-01	-0.009
	192.34			6.968E-01	1.295E+00	2.238E+00	3.072E-01	0.311
	1099.22	*		-1.794E-01	1.592E-01	2.322E-01	2.190E-02	-0.773
	1291.56			-2.579E-03	1.284E-01	2.060E-01	1.959E-02	-0.013
ZN-65	1115.52	*		2.081E-02	1.674E-01	2.750E-01	2.367E-02	0.076
GE-68	1077.35	*		-1.789E+00	2.501E+00	3.839E+00	3.425E-01	-0.466
AS-73	53.44	*		-5.225E-01	1.306E+00	2.131E+00	1.582E-01	-0.245
AS-74	595.88	*		-3.405E-02	1.444E-01	2.273E-01	2.225E-02	-0.150
	634.78			2.139E-02	5.077E-01	8.586E-01	8.540E-02	0.025
SE-75	66.05			-7.085E+00	5.596E+00	8.699E+00	8.230E-01	-0.814
	96.73			-8.155E-01	1.096E+00	1.502E+00	2.074E-01	-0.543
	121.11			1.230E+00	3.455E-01	4.157E-01	4.577E-02	2.959
	136.00			3.796E-02	5.755E-02	9.474E-02	8.005E-03	0.401
	198.60			1.625E-01	2.613E+00	4.435E+00	4.464E-01	0.037
	264.65	*		-5.477E-02	7.374E-02	1.143E-01	1.132E-02	-0.479
	279.53			8.746E-02	1.657E-01	2.832E-01	2.898E-02	0.309
	303.91			-1.903E-01	3.666E+00	5.335E+00	6.600E-01	-0.036
	400.65			-7.784E-02	4.594E-01	7.454E-01	8.181E-02	-0.104
BR-77	87.88			2.021E+03	2.251E+02	2.427E+02	2.292E+01	8.327
	200.40			1.902E+01	6.793E+01	1.162E+02	1.069E+01	0.164
	239.00			4.575E+01	1.062E+01	1.235E+01	1.191E+00	3.705

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

	Line Energy Nuclide Ided (keV) Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
	249.79	-1.803E+01	2.837E+01	4.599E+01	4.483E+00	-0.392
	281.68	4.139E+00	3.937E+01	6.600E+01	6.563E+00	0.063
	297.23	1.049E+01	4.027E+01	4.390E+01	4.319E+00	0.239
	303.76	-1.110E+01	8.930E+01	1.292E+02	1.264E+01	-0.086
	439.47	1.750E+01	7.564E+01	1.249E+02	1.098E+01	0.140
	484.57	5.538E+01	1.131E+02	1.892E+02	1.728E+01	0.293
	520.65 *	3.340E+00	5.058E+00	8.532E+00	8.003E-01	0.392
	574.64	4.045E+01	9.533E+01	1.580E+02	1.530E+01	0.256
	578.91	-3.909E+01	4.926E+01	6.298E+01	6.114E+00	-0.621
	585.48	2.053E+02	1.037E+02	1.667E+02	1.624E+01	1.232
	755.35	9.936E+01	7.863E+01	1.420E+02	1.443E+01	0.700
	817.79	-1.964E+01	7.190E+01	1.171E+02	1.185E+01	-0.168
SR-82	698.33	1.341E+01	4.940E+01	8.438E+01	8.532E+00	0.159
	776.49 *	-3.556E-01	5.822E-01	9.237E-01	9.386E-02	-0.385
	1395.20	-3.848E+00	1.108E+01	1.747E+01	1.474E+00	-0.220
RB-83	520.41 *	-1.909E-02	1.209E-01	1.930E-01	1.810E-02	-0.099
	529.64	1.679E-01	1.765E-01	3.027E-01	2.856E-02	0.555
	552.65	1.405E-01	3.222E-01	5.350E-01	5.120E-02	0.263
RB-84	881.50 *	6.733E-02	1.299E-01	2.222E-01	2.221E-02	0.303
KR-85	513.99 *	1.127E+01	1.260E+01	1.928E+01	1.800E+00	0.585
SR-85	513.99 *	5.521E-02	6.170E-02	9.440E-02	8.815E-03	0.585
RB-86	1076.63 *	-4.177E-01	1.329E+00	2.113E+00	1.887E-01	-0.198
Y-88	898.02	2.307E-02	8.975E-02	1.511E-01	1.507E-02	0.153
	1836.01 *	-2.276E-02	4.280E-02	6.114E-02	4.933E-03	-0.372
ZR-88	392.90 *	-3.320E-02	5.152E-02	8.114E-02	6.786E-03	-0.409
Y-91	1204.90 *	-3.771E-01	2.091E+01	3.376E+01	2.741E+00	-0.011
NB-94	702.63 *	1.694E-02	5.543E-02	9.485E-02	9.596E-03	0.179
	871.10	-3.422E-02	7.437E-02	1.191E-01	1.194E-02	-0.287
NB-95	765.79 *	4.369E-02	6.890E-02	1.196E-01	1.216E-02	0.365
NB-95M	235.69 *	8.462E-02	1.950E-01	2.963E-01	3.183E-02	0.286
ZR-95	724.18	-6.508E-02	1.531E-01	2.119E-01	2.285E-02	-0.307
	756.15 *	8.919E-02	1.124E-01	1.979E-01	2.160E-02	0.451
NB-97	657.90 *	9.777E-04	1.124E-01	Half-Life	too short	
	1024.50	2.389E-01	1.124E-01	Half-Life	too short	
ZR-97	254.15	1.079E-01	1.124E-01	Half-Life	too short	
	355.39	1.209E-02	1.124E-01	Half-Life	too short	
	507.63 *	6.771E-03	1.124E-01	Half-Life	too short	
	602.52	-8.945E-02	1.124E-01	Half-Life	too short	
	1021.30	-6.158E-02	1.124E-01	Half-Life	too short	
	1147.95	-1.235E-01	1.124E-01	Half-Life	too short	
	1362.66	-6.322E-03	1.124E-01	Half-Life	too short	
	1750.46	-1.124E-01	1.124E-01	Half-Life	too short	
MO-99	140.51	1.463E+00	1.220E+01	1.960E+01	5.416E+00	0.075
	181.06	-2.237E+00	9.172E+00	1.263E+01	2.329E+00	-0.177
	366.43	-6.121E+00	4.928E+01	8.055E+01	7.161E+00	-0.076
	739.58 *	-2.719E+00	6.143E+00	9.878E+00	1.591E+00	-0.275
	778.00	-1.070E+01	1.999E+01	3.194E+01	3.245E+00	-0.335
TC-99M	140.51 *	3.668E+04	1.999E+01	Half-Life	too short	
RH-101	127.23	6.070E-03	4.844E-02	6.974E-02	5.817E-03	0.087

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
RH-102	198.01	*		1.057E-02	4.828E-02	8.246E-02	7.558E-03	0.128
	325.23			-2.118E-01	3.805E-01	6.114E-01	5.838E-02	-0.347
	418.52			1.349E-01	5.238E-01	8.687E-01	7.473E-02	0.155
	475.06	*		-2.618E-02	5.969E-02	9.435E-02	8.554E-03	-0.277
	631.29			8.501E-03	9.609E-02	1.544E-01	1.534E-02	0.055
	697.49			2.434E-02	1.274E-01	2.164E-01	2.187E-02	0.112
	766.84			1.556E-01	1.891E-01	3.310E-01	3.364E-02	0.470
RU-103	1046.59			1.164E-01	2.170E-01	3.694E-01	3.382E-02	0.315
	1112.84			-1.761E-01	4.182E-01	6.564E-01	5.660E-02	-0.268
	497.08	*		2.803E-02	7.004E-02	1.161E-01	1.688E-02	0.241
	610.33	+		7.126E+00	2.467E+00	2.935E+00	5.093E-01	2.428
RH-106	511.85	+		4.655E-01	4.678E-01	5.423E-01	5.056E-02	0.858
	621.84	*		7.569E-01	5.754E-01	9.922E-01	1.410E-01	0.763
RU-106	1050.47			-2.548E+00	4.655E+00	7.272E+00	6.637E-01	-0.350
	511.85	+		4.655E-01	4.678E-01	5.423E-01	5.056E-02	0.858
	621.84	*		7.569E-01	5.702E-01	9.922E-01	9.820E-02	0.763
AG-108M	1050.47			-2.548E+00	4.655E+00	7.272E+00	6.637E-01	-0.350
	433.93	*		3.044E-03	6.187E-02	1.012E-01	9.186E-03	0.030
	614.37			5.165E-02	7.176E-02	1.075E-01	1.093E-02	0.480
AG-110M	722.95			-6.815E-02	7.295E-02	9.408E-02	9.813E-03	-0.724
	657.75	*		8.704E-03	7.474E-02	1.107E-01	1.134E-02	0.079
	677.61			2.495E-01	5.075E-01	8.807E-01	9.054E-02	0.283
	706.67			-4.633E-01	3.305E-01	4.881E-01	5.040E-02	-0.949
	763.93			-1.028E-01	2.764E-01	4.485E-01	4.652E-02	-0.229
	884.67			-6.328E-02	9.863E-02	1.549E-01	1.583E-02	-0.409
	937.48			-1.171E-01	2.572E-01	4.109E-01	4.135E-02	-0.285
IN-111	1384.27			3.637E-03	1.627E-01	2.739E-01	2.377E-02	0.013
	171.28			1.011E-01	5.149E-01	8.241E-01	7.253E-02	0.123
	245.39	*		-1.091E-01	5.626E-01	9.038E-01	8.774E-02	-0.121
IN-113M	391.69	*		-2.722E-02	7.655E-02	1.229E-01	1.060E-02	-0.221
SN-113	391.69	*		-2.722E-02	7.655E-02	1.229E-01	1.060E-02	-0.221
IN-114M	190.27	*		-1.417E-02	2.645E-01	3.950E-01	3.580E-02	-0.036
CD-115	260.90			2.147E+01	5.456E+01	9.288E+01	9.137E+00	0.231
SN-117M	492.35			-4.561E+00	1.703E+01	2.708E+01	2.490E+00	-0.168
	527.90	*		5.993E-01	4.882E+00	7.944E+00	7.488E-01	0.075
	156.02			6.703E-01	2.611E+00	4.206E+00	3.616E-01	0.159
SB-122	158.56	*		-3.187E-02	6.555E-02	1.013E-01	8.740E-03	-0.315
	563.90	*		7.539E-01	1.180E+00	1.979E+00	1.906E-01	0.381
I-123	692.80			-1.626E+01	2.315E+01	3.677E+01	3.715E+00	-0.442
	159.00	*		1.034E-02	2.315E+01	Half-Life too short		
	528.96			2.427E+00	2.315E+01	Half-Life too short		
TE-123M	159.00	*		1.260E-02	4.031E-02	6.489E-02	5.638E-03	0.194
I-124	602.71	*		-4.902E-01	6.372E-01	8.117E-01	7.970E-02	-0.604
	722.78			-3.271E+00	3.704E+00	4.816E+00	4.885E-01	-0.679
SB-124	1325.50			1.251E+01	2.147E+01	3.387E+01	2.834E+00	0.369
	1376.25			4.611E-01	1.500E+01	2.529E+01	2.130E+00	0.018
	1509.49			1.305E-01	8.568E+00	1.432E+01	1.214E+00	0.009
	1691.02			4.215E-01	1.848E+00	3.235E+00	2.697E-01	0.130
	602.71			-5.591E-02	7.267E-02	9.257E-02	9.090E-03	-0.604

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
SB-125		645.85		1.113E-01	8.391E-01	1.426E+00	1.488E-01	0.078
		709.31		3.471E+00	4.054E+00	7.200E+00	7.292E-01	0.482
		713.82		-8.456E-01	2.553E+00	4.168E+00	5.486E-01	-0.203
		722.78		-5.408E-01	6.123E-01	7.962E-01	8.202E-02	-0.679
	+	968.20		1.149E+01	6.333E+00	1.006E+01	9.695E-01	1.143
		1045.16		-1.101E+00	4.522E+00	7.243E+00	6.639E-01	-0.152
		1325.50		2.209E+00	3.791E+00	5.981E+00	5.003E-01	0.369
		1368.21		-2.664E-01	1.761E+00	2.877E+00	3.839E-01	-0.093
		1436.60		1.103E+00	3.650E+00	6.553E+00	5.546E-01	0.168
		1691.02	*	1.643E-02	7.205E-02	1.261E-01	1.096E-02	0.130
		427.89	*	-2.099E-02	1.688E-01	2.735E-01	2.421E-02	-0.077
		463.38		5.126E-01	5.620E-01	9.542E-01	9.187E-02	0.537
		600.56		-2.733E-02	2.979E-01	4.734E-01	4.910E-02	-0.058
		635.90		-1.006E-01	4.596E-01	7.634E-01	8.061E-02	-0.132
TE-125M I-126		109.28	*	-9.148E+00	1.191E+01	1.845E+01	1.884E+00	-0.496
		388.63		4.363E-02	2.939E-01	4.862E-01	4.095E-02	0.090
		666.33	*	-1.245E-02	2.605E-01	3.797E-01	3.815E-02	-0.033
SB-126		753.82		1.803E+00	1.963E+00	3.479E+00	3.536E-01	0.518
		223.80		-3.970E-01	5.007E+00	8.406E+00	7.974E-01	-0.047
		278.60		2.127E+00	3.041E+00	5.231E+00	5.207E-01	0.407
		296.50		5.776E+00	2.858E+00	3.623E+00	3.567E-01	1.594
		414.70		5.855E-02	1.133E-01	1.903E-01	1.631E-02	0.308
		415.30		1.703E+00	9.470E+00	1.563E+01	1.340E+00	0.109
		555.20		1.859E+00	5.170E+00	8.542E+00	8.186E-01	0.218
		573.80		-1.533E-01	1.364E+00	2.169E+00	2.100E-01	-0.071
		593.00		6.966E-01	1.310E+00	2.178E+00	2.129E-01	0.320
		656.30		-1.713E+00	5.491E+00	7.819E+00	7.834E-01	-0.219
		666.33		-5.150E-03	1.078E-01	1.571E-01	1.578E-02	-0.033
		675.00		-7.756E-01	2.522E+00	4.141E+00	4.169E-01	-0.187
		695.00		5.242E-02	9.777E-02	1.700E-01	1.717E-02	0.308
		697.00		-1.069E-02	3.532E-01	5.913E-01	5.977E-02	-0.018
		720.50	*	-2.763E-02	1.853E-01	2.891E-01	2.932E-02	-0.096
SB-127		856.80		-5.725E-01	7.419E-01	1.160E+00	1.166E-01	-0.494
		989.30		-9.313E-01	2.122E+00	3.367E+00	3.207E-01	-0.277
		1034.80		-6.571E+00	1.327E+01	2.079E+01	1.920E+00	-0.316
		1213.00		9.093E-01	4.369E+00	7.245E+00	5.898E-01	0.126
	+	61.10		2.381E+03	2.307E+02	1.318E+02	1.153E+01	18.062
		252.40		8.081E-01	3.094E+00	5.217E+00	2.191E+00	0.155
		290.80		-1.268E+01	1.773E+01	2.456E+01	2.726E+00	-0.516
		411.60		1.113E+00	1.032E+01	1.698E+01	2.525E+00	0.066
		444.90		6.346E+00	8.464E+00	1.433E+01	1.671E+00	0.443
		473.00		1.083E+00	1.576E+00	2.648E+00	3.225E-01	0.409
		543.00		8.937E+00	1.364E+01	2.287E+01	3.223E+00	0.391
		603.60		3.405E-01	9.715E+00	1.360E+01	1.687E+00	0.025
		685.20	*	-3.473E-01	1.010E+00	1.653E+00	1.900E-01	-0.210
		698.50		2.490E+00	1.127E+01	1.918E+01	3.053E+00	0.130
		722.20		-1.576E+01	2.379E+01	3.189E+01	3.613E+00	-0.494
XE-127		783.80		4.239E+00	2.954E+00	5.315E+00	6.686E-01	0.798
		57.60		5.735E+01	1.285E+01	2.029E+01	1.449E+00	2.827

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
I-131		145.22		3.866E-02	8.904E-01	1.433E+00	1.214E-01	0.027
		172.10		8.991E-05	1.675E-01	2.654E-01	2.338E-02	0.000
		202.84	*	2.954E-02	6.252E-02	1.077E-01	9.944E-03	0.274
		374.96		-1.054E-01	3.292E-01	5.316E-01	4.635E-02	-0.198
		80.18		-1.027E+00	4.463E+00	6.421E+00	5.523E-01	-0.160
		284.30		-8.235E-01	1.641E+00	2.662E+00	2.742E-01	-0.309
		364.48	*	3.606E-04	1.419E-01	2.337E-01	2.186E-02	0.002
TE-132		636.97		-6.357E-02	1.779E+00	2.993E+00	3.098E-01	-0.021
		722.89		-7.732E+00	8.439E+00	1.092E+01	1.110E+00	-0.708
		49.72		8.179E-01	1.073E+01	1.778E+01	1.626E+00	0.046
		111.76		-2.306E+00	1.598E+01	2.557E+01	2.472E+00	-0.090
BA-133		116.30		2.163E+00	1.517E+01	2.458E+01	2.362E+00	0.088
		228.16	*	-1.398E-01	4.409E-01	7.313E-01	1.138E-01	-0.191
		53.15		6.020E-01	5.726E+00	9.477E+00	7.060E-01	0.064
		79.62		-6.020E-01	1.860E+00	2.661E+00	4.036E-01	-0.226
		81.00		-8.658E-02	1.418E-01	1.990E-01	3.164E-02	-0.435
I-133	+	276.40		1.059E-01	5.790E-01	9.744E-01	1.488E-01	0.109
		302.84		-7.417E-02	2.489E-01	3.550E-01	4.997E-02	-0.209
		356.01	*	1.184E-02	8.509E-02	1.244E-01	1.680E-02	0.095
		383.85		1.341E-01	5.343E-01	8.893E-01	1.115E-01	0.151
		510.53		2.907E-02	5.343E-01	Half-Life	too short	
		529.87	*	3.422E-04	5.343E-01	Half-Life	too short	
		706.58		-2.676E-02	5.343E-01	Half-Life	too short	
		856.28		-2.378E-02	5.343E-01	Half-Life	too short	
		875.33		1.114E-03	5.343E-01	Half-Life	too short	
		1236.41		1.239E-02	5.343E-01	Half-Life	too short	
CS-134		1298.22		2.676E-03	5.343E-01	Half-Life	too short	
		475.35		-1.901E+00	3.925E+00	6.186E+00	5.610E-01	-0.307
		563.23		1.325E-01	6.253E-01	1.020E+00	9.896E-02	0.130
		569.32		4.713E-02	3.268E-01	5.306E-01	5.180E-02	0.089
		604.70		-5.331E-04	6.176E-02	8.605E-02	8.472E-03	-0.006
CS-135		795.84	*	9.293E-02	8.153E-02	1.454E-01	1.483E-02	0.639
		801.93		2.321E-01	7.044E-01	1.199E+00	1.221E-01	0.194
		1038.57		-1.214E-01	6.946E+00	1.134E+01	1.045E+00	-0.011
		1167.94		-1.188E+00	4.397E+00	5.909E+00	4.783E-01	-0.201
		1365.15		3.932E-02	1.298E+00	2.189E+00	1.930E-01	0.018
		268.24	*	7.015E-02	2.857E-01	4.269E-01	4.731E-02	0.164
		288.45		3.980E+05	2.857E-01	Half-Life	too short	
		417.63		5.418E+04	2.857E-01	Half-Life	too short	
		546.56		1.061E+05	2.857E-01	Half-Life	too short	
		836.80		1.134E+05	2.857E-01	Half-Life	too short	
I-135		1038.76		-1.817E+04	2.857E-01	Half-Life	too short	
		1124.00		-1.615E+06	2.857E-01	Half-Life	too short	
		1131.51		-3.766E+04	2.857E-01	Half-Life	too short	
		1260.41	*	1.833E+04	2.857E-01	Half-Life	too short	
		1457.56		1.479E+05	2.857E-01	Half-Life	too short	
		1678.03		1.426E+05	2.857E-01	Half-Life	too short	
		1706.46		9.243E+04	2.857E-01	Half-Life	too short	
		1791.20		1.781E+05	2.857E-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	66.91			2.250E-04	7.289E-01	1.198E+00	1.775E-01	0.000
	86.29			9.770E+00	2.024E+00	2.759E+00	3.664E-01	3.541
	153.22			-4.564E-01	7.469E-01	1.150E+00	1.102E-01	-0.397
	163.89			1.084E-01	1.229E+00	1.961E+00	1.907E-01	0.055
	176.55			1.664E-01	4.352E-01	7.020E-01	6.567E-02	0.237
	273.65			4.635E-01	5.913E-01	9.139E-01	9.522E-02	0.507
	340.57			8.976E-02	1.819E-01	2.743E-01	2.624E-02	0.327
	818.51			-1.866E-02	1.125E-01	1.846E-01	1.870E-02	-0.101
	1048.07	*		4.881E-02	1.659E-01	2.774E-01	2.631E-02	0.176
	1235.34			2.847E-01	4.959E-01	8.573E-01	9.892E-02	0.332
CE-139	165.85	*		5.242E-03	4.247E-02	6.782E-02	5.921E-03	0.077
BA-140	162.64			-3.422E-01	8.653E-01	1.345E+00	1.235E-01	-0.254
	304.84			8.358E-02	1.802E+00	2.641E+00	7.501E-01	0.032
LA-140	423.70			1.898E+00	2.779E+00	4.607E+00	1.494E+00	0.412
	537.32	*		7.201E-02	3.673E-01	5.988E-01	1.998E-01	0.120
	328.77			2.518E-01	3.948E-01	6.727E-01	6.689E-02	0.374
	432.53			1.090E-01	3.108E+00	5.082E+00	4.645E-01	0.021
	487.03			2.400E-02	1.897E-01	3.101E-01	2.994E-02	0.077
	751.79			-1.283E+00	2.295E+00	3.664E+00	4.013E-01	-0.350
	815.85			-2.659E-01	4.754E-01	7.554E-01	8.300E-02	-0.352
	867.82			9.372E-01	2.248E+00	3.822E+00	3.984E-01	0.245
	919.63			1.602E+00	5.075E+00	8.528E+00	9.957E-01	0.188
	925.24			-1.934E+00	2.017E+00	3.092E+00	3.190E-01	-0.626
	1596.49	*		1.021E-02	9.188E-02	1.552E-01	1.310E-02	0.066
CE-141	145.44	*		2.034E-02	7.947E-02	1.284E-01	1.109E-02	0.158
CE-143	57.37			6.565E+02	2.531E+02	3.896E+02	3.791E+01	1.685
	231.56			-1.168E+02	4.453E+02	7.379E+02	2.374E+02	-0.158
+	293.26	*		5.785E+01	2.966E+01	4.433E+01	9.950E+00	1.305
	350.59			1.761E+03	7.489E+02	7.203E+02	2.270E+02	2.445
	490.36			-1.139E+02	5.719E+02	9.123E+02	2.925E+02	-0.125
	664.57			4.125E+03	1.438E+03	9.628E+02	3.180E+02	4.285
	721.93			-1.629E+02	2.741E+02	3.656E+02	1.097E+02	-0.445
CE-144	80.11			-6.483E-01	2.963E+00	4.265E+00	3.653E-01	-0.152
	133.54	*		-1.775E-01	2.974E-01	4.605E-01	7.106E-02	-0.386
PM-144	476.78			-8.092E-02	1.372E-01	2.146E-01	2.113E-02	-0.377
	618.01			-5.842E-02	5.682E-02	8.279E-02	8.353E-03	-0.706
	696.49	*		4.343E-03	5.652E-02	9.531E-02	9.634E-03	0.046
PR-144	778.57			-2.922E+00	3.981E+00	6.247E+00	6.348E-01	-0.468
	696.49	*		2.936E-01	3.821E+00	6.443E+00	6.513E-01	0.046
PM-146	1489.15			0.000E+00	1.255E+01	2.093E+01	1.774E+00	0.000
	453.90	*		-2.139E-02	8.723E-02	1.399E-01	1.532E-02	-0.153
	633.02			2.014E-01	2.429E+00	3.899E+00	1.470E+00	0.052
	735.90			-1.357E-01	2.513E-01	3.978E-01	1.158E-01	-0.341
ND-147	747.13			6.178E-02	1.505E-01	2.587E-01	3.889E-02	0.239
	91.11			-2.592E-01	2.571E-01	3.984E-01	3.941E-02	-0.651
	319.41			2.800E+00	4.081E+00	6.998E+00	6.732E-01	0.400
	439.89			1.031E+00	8.448E+00	1.387E+01	1.219E+00	0.074
PM-149	531.02	*		7.372E-01	7.606E-01	1.295E+00	2.000E-01	0.569
	285.90	*		-7.935E+00	3.713E+01	6.116E+01	9.962E+00	-0.130

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
EU-152	+	121.78		6.805E-01	1.878E-01	2.408E-01	2.332E-02	2.826
		244.69		7.874E-03	5.468E-01	8.095E-01	7.853E-02	0.010
		344.27	*	3.627E-02	1.715E-01	2.661E-01	2.596E-02	0.136
		443.98		1.618E-01	1.822E+00	2.984E+00	2.632E-01	0.054
		778.89		-3.377E-01	4.581E-01	7.183E-01	7.298E-02	-0.470
		867.32		1.083E+00	1.733E+00	2.981E+00	2.990E-01	0.363
		964.01		6.745E-02	7.367E-01	1.057E+00	1.021E-01	0.064
		1085.78		2.552E-01	8.416E-01	1.402E+00	1.241E-01	0.182
		1112.02		-4.589E-01	6.051E-01	9.210E-01	7.949E-02	-0.498
		1407.95		2.464E-02	2.042E-01	3.488E-01	2.946E-02	0.071
GD-153		69.67		6.937E-01	1.953E+00	3.239E+00	2.478E-01	0.214
		83.37		2.587E+01	2.145E+01	3.284E+01	2.927E+00	0.788
		97.43	*	-7.263E-02	1.126E-01	1.562E-01	1.385E-02	-0.465
EU-154	+	103.18		1.074E-03	1.351E-01	2.184E-01	1.889E-02	0.005
		123.07		4.776E-01	1.344E-01	1.677E-01	1.870E-02	2.848
		247.94		-7.014E-02	5.297E-01	8.824E-01	1.088E-01	-0.079
		591.81		-4.023E-01	1.117E+00	1.739E+00	2.181E-01	-0.231
		723.30		-2.709E-01	3.058E-01	3.971E-01	4.339E-02	-0.682
		756.87		5.575E-01	1.295E+00	2.226E+00	2.923E-01	0.250
		873.19		-9.557E-02	6.345E-01	1.039E+00	1.378E-01	-0.092
		996.32		9.739E-03	7.783E-01	1.277E+00	2.325E-01	0.008
		1004.76		-2.142E-01	4.641E-01	7.348E-01	9.005E-02	-0.291
		1274.45	*	6.465E-03	1.145E-01	1.865E-01	2.061E-02	0.035
EU-155		48.70		-1.967E+00	3.222E+00	5.225E+00	4.182E-01	-0.376
	+	60.01		4.383E+02	3.625E+01	3.292E+01	2.336E+00	13.313
		86.54		1.842E+00	2.671E-01	3.781E-01	3.540E-02	4.872
TB-160		105.31	*	2.949E-02	1.406E-01	2.294E-01	1.995E-02	0.129
	+	86.79		1.014E+01	1.129E+00	1.085E+00	1.011E-01	9.340
		197.04		2.423E-01	7.875E-01	1.350E+00	1.236E-01	0.180
		215.65		-3.333E-01	1.092E+00	1.817E+00	1.706E-01	-0.183
	+	298.57		1.767E-01	1.918E-01	3.119E-01	3.065E-02	0.566
		879.36	*	-3.047E-02	2.849E-01	4.677E-01	4.676E-02	-0.065
		962.29		1.410E-02	1.154E+00	1.848E+00	1.787E-01	0.008
		966.15		1.821E-01	4.737E-01	6.961E-01	6.717E-02	0.262
		1177.93		5.328E-01	5.450E-01	8.722E-01	7.023E-02	0.611
		1271.85		-3.425E-01	6.609E-01	9.604E-01	7.941E-02	-0.357
HO-166M		80.57		-2.583E-01	3.891E-01	5.466E-01	4.708E-02	-0.473
	+	184.41		1.221E-01	7.563E-02	9.001E-02	8.084E-03	1.357
		280.46		-6.269E-02	1.351E-01	2.198E-01	2.187E-02	-0.285
		410.95		-5.625E-03	4.547E-01	7.435E-01	6.345E-02	-0.008
		711.68	*	5.667E-02	9.835E-02	1.713E-01	1.735E-02	0.331
		752.31		3.623E-03	4.591E-01	7.671E-01	7.795E-02	0.005
		810.29		-3.489E-02	1.063E-01	1.722E-01	1.746E-02	-0.203
		51.35		1.580E+01	4.598E+01	7.660E+01	5.852E+00	0.206
TM-171		52.39		9.466E+00	2.463E+01	4.106E+01	3.089E+00	0.231
	+	59.40		2.299E+03	1.902E+02	1.798E+02	1.273E+01	12.784
		66.72	*	-2.506E+01	3.400E+01	5.429E+01	4.044E+00	-0.462
LU-176	+	88.36		7.793E+00	8.682E-01	9.232E-01	8.704E-02	8.442
		201.83		-3.856E-02	4.312E-02	6.998E-02	6.449E-03	-0.551

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Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
LU-177		306.84	*	2.199E-02	3.867E-02	6.609E-02	6.447E-03	0.333
		401.10		2.128E+00	1.228E+01	2.031E+01	1.714E+00	0.105
		112.95		4.243E-01	1.409E+00	2.300E+00	1.939E-01	0.184
	+	208.36	*	2.205E+00	1.368E+00	1.800E+00	1.674E-01	1.225
		52.97		1.583E-01	2.536E+00	4.193E+00	3.131E-01	0.038
		54.07		-4.208E-01	1.455E+00	2.271E+00	1.673E-01	-0.185
		61.30		4.818E+01	4.636E+00	6.323E+00	4.523E-01	7.620
	+	121.62		3.427E+00	9.307E-01	1.204E+00	1.004E-01	2.846
		147.16		-9.100E-02	9.041E-01	1.435E+00	1.218E-01	-0.063
		171.86		-2.247E-02	7.187E-01	1.137E+00	1.001E-01	-0.020
HF-181		218.09		1.385E-01	1.248E+00	2.114E+00	1.992E-01	0.065
	+	268.79		2.262E+00	1.505E+00	2.190E+00	2.167E-01	1.033
		319.02		1.831E-01	4.065E-01	6.896E-01	6.637E-02	0.266
		367.43		6.112E-02	1.539E+00	2.538E+00	2.251E-01	0.024
		413.65	*	8.523E-02	3.293E-01	5.460E-01	4.673E-02	0.156
		56.28		2.048E+00	1.711E+00	2.611E+00	1.884E-01	0.784
		57.53		4.222E+00	1.067E+00	1.683E+00	1.203E-01	2.508
		65.20		-1.009E+00	1.015E+00	1.601E+00	1.178E-01	-0.630
		133.02		-2.847E-02	8.661E-02	1.364E-01	1.141E-02	-0.209
		136.25		3.383E-01	6.373E-01	1.044E+00	8.757E-02	0.324
W-181		345.85		-4.794E-02	3.152E-01	4.770E-01	4.413E-02	-0.101
		482.03	*	-5.292E-02	7.736E-02	1.199E-01	1.093E-02	-0.441
		56.28		8.408E-01	7.017E-01	1.071E+00	7.724E-02	0.785
		57.53		1.725E+00	4.373E-01	6.901E-01	4.933E-02	2.499
		65.20	*	-4.108E-01	4.130E-01	6.519E-01	4.797E-02	-0.630
		67.75		8.161E-02	1.261E-01	2.118E-01	1.592E-02	0.385
		100.10		9.736E-02	2.281E-01	3.761E-01	3.294E-02	0.259
		152.43		-1.671E-01	4.664E-01	7.288E-01	6.234E-02	-0.229
		222.10		-8.535E-02	5.216E-01	8.726E-01	8.260E-02	-0.098
		1001.68		1.257E+00	4.221E+00	7.021E+00	6.637E-01	0.179
RE-183		1121.28		3.382E-01	2.531E-01	4.501E-01	3.847E-02	0.751
		1189.05		-1.538E-01	3.776E-01	5.806E-01	4.691E-02	-0.265
		1221.42	*	-5.247E-02	1.757E-01	2.700E-01	2.203E-02	-0.194
		1230.97		2.715E-01	4.547E-01	7.956E-01	6.509E-02	0.341
		57.98		5.647E+00	6.300E-01	9.008E-01	6.421E-02	6.269
	+	59.32		9.061E+00	7.494E-01	7.121E-01	5.041E-02	12.724
		67.20		4.796E-03	2.256E-01	3.709E-01	2.775E-02	0.013
		162.32	*	-4.489E-02	1.533E-01	2.398E-01	2.081E-02	-0.187
	+	208.81		2.981E+00	1.850E+00	2.453E+00	2.282E-01	1.215
		291.72		4.292E-01	1.585E+00	2.364E+00	2.336E-01	0.182
RE-184		57.98		2.134E+01	2.381E+00	3.405E+00	2.427E-01	6.269
	+	59.32		3.422E+01	2.830E+00	2.689E+00	1.904E-01	12.724
		67.20		1.812E-02	8.523E-01	1.401E+00	1.048E-01	0.013
		161.27		-2.527E-01	5.205E-01	8.057E-01	6.982E-02	-0.314
		216.55		-1.549E-01	3.983E-01	6.602E-01	6.207E-02	-0.235
		252.85	*	1.996E-01	3.526E-01	6.059E-01	5.922E-02	0.329
		318.01		-4.261E-01	7.244E-01	1.161E+00	1.118E-01	-0.367
		792.07		1.096E+00	1.657E+00	2.883E+00	2.927E-01	0.380
		903.28		4.311E-01	2.096E+00	3.506E+00	3.479E-01	0.123

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

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OS-185		920.93		8.859E-01	1.025E+00	1.774E+00	1.748E-01	0.499
	+	59.72		2.499E+01	2.067E+00	1.918E+00	1.359E-01	13.027
	+	61.14		1.442E+01	1.192E+00	7.753E-01	5.540E-02	18.596
		69.30		1.309E-01	3.431E-01	5.695E-01	4.342E-02	0.230
		592.07		-6.836E-01	4.430E+00	7.013E+00	6.852E-01	-0.097
		646.12	*	3.214E-02	7.209E-02	1.249E-01	1.247E-02	0.257
		717.42		1.281E+00	1.367E+00	2.438E+00	2.472E-01	0.525
RE-188		874.81		1.332E-01	1.191E+00	1.985E+00	1.987E-01	0.067
		880.27		4.188E-01	1.579E+00	2.656E+00	2.655E-01	0.158
		155.03	*	1.874E-01	2.356E-01	3.889E-01	3.339E-02	0.482
		477.96		3.768E+00	5.857E+00	9.841E+00	8.944E-01	0.383
		633.10		9.122E-01	4.656E+00	7.544E+00	7.499E-01	0.121
		63.58		1.957E+00	6.232E+01	9.393E+01	6.826E+00	0.021
		227.08		8.290E-01	1.975E+01	3.332E+01	3.172E+00	0.025
IR-192		290.67	*	-1.015E+01	1.286E+01	1.771E+01	1.751E+00	-0.574
	+	295.96		6.533E-01	2.793E-01	3.433E-01	3.400E-02	1.903
		308.46		-1.047E-01	1.475E-01	2.348E-01	2.296E-02	-0.446
		316.51	*	-2.424E-02	5.220E-02	8.420E-02	8.143E-03	-0.288
		468.07		-4.167E-04	1.302E-01	2.115E-01	2.032E-02	-0.002
		604.41		-4.787E-01	8.458E-01	1.104E+00	1.528E-01	-0.434
		612.46		9.883E-01	1.306E+00	1.953E+00	2.148E-01	0.506
AU-195		65.12		-1.789E-01	1.933E-01	3.061E-01	2.251E-02	-0.584
		66.83		-5.938E-04	1.084E-01	1.780E-01	1.328E-02	-0.003
		75.70		5.763E-01	3.038E-01	4.696E-01	3.822E-02	1.227
		98.88	*	3.364E-01	3.142E-01	4.829E-01	4.253E-02	0.696
		129.76		7.599E-01	3.821E+00	6.184E+00	5.164E-01	0.123
		367.94	*	-1.080E-05	3.821E+00	Half-Life	too short	
		579.30		-3.206E-04	3.821E+00	Half-Life	too short	
TL-200		828.27		2.915E-04	3.821E+00	Half-Life	too short	
		1205.75		1.165E-04	3.821E+00	Half-Life	too short	
		68.90		9.974E-01	2.116E+00	3.524E+00	2.676E-01	0.283
		70.82		-5.429E-01	1.207E+00	1.942E+00	1.502E-01	-0.280
		80.30		-1.561E+00	2.664E+00	3.760E+00	3.228E-01	-0.415
		135.34		1.785E+01	1.378E+01	2.325E+01	1.949E+00	0.767
		167.43	*	5.806E-01	3.819E+00	6.105E+00	5.341E-01	0.095
TL-202		68.90		1.893E-01	4.018E-01	6.689E-01	5.080E-02	0.283
		70.82		-1.028E-01	2.286E-01	3.677E-01	2.844E-02	-0.280
		80.30		-2.956E-01	5.045E-01	7.119E-01	6.112E-02	-0.415
		439.56	*	2.833E-02	1.025E-01	1.697E-01	1.490E-02	0.167
		70.83		-5.401E-01	1.190E+00	1.912E+00	2.498E-01	-0.283
		72.87		-1.382E+00	8.498E-01	1.121E+00	1.428E-01	-1.233
		82.60		-1.189E+00	1.411E+00	2.212E+00	3.070E-01	-0.537
HG-203		279.20	*	4.482E-02	6.032E-02	1.039E-01	1.057E-02	0.431
		72.80		-5.221E-01	2.657E-01	3.479E-01	2.746E-02	-1.500
		74.97		6.231E-02	1.618E-01	2.398E-01	1.936E-02	0.260
		84.90		3.516E-01	2.910E-01	4.441E-01	4.036E-02	0.792
		569.67		-9.916E-04	5.056E-02	8.106E-02	7.831E-03	-0.012
		1063.62	*	2.264E-02	1.035E-01	1.718E-01	1.551E-02	0.132
		1770.23		-1.599E+00	8.485E-01	8.934E-01	7.329E-02	-1.789

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TL-207		81.07		-1.815E-01	3.124E-01	4.408E-01	3.820E-02	-0.412
		83.78		2.979E-01	1.878E-01	2.908E-01	2.606E-02	1.024
		94.90		-4.915E-01	3.161E-01	4.742E-01	4.265E-02	-1.037
	+	122.32		1.622E+01	4.438E+00	5.754E+00	5.172E-01	2.818
		144.24		-7.250E-01	9.721E-01	1.500E+00	1.425E-01	-0.483
		154.21		2.833E-01	5.586E-01	9.110E-01	8.598E-02	0.311
	+	269.46		5.397E-01	3.591E-01	5.230E-01	5.258E-02	1.032
		323.87	*	-8.719E-01	1.140E+00	1.795E+00	3.265E-01	-0.486
	+	338.28		5.791E+00	2.869E+00	3.327E+00	4.275E-01	1.741
		445.03		3.503E+00	4.348E+00	7.377E+00	9.029E-01	0.475
PO-209		260.50		8.530E+00	1.544E+01	2.647E+01	2.603E+00	0.322
		262.80		2.707E+01	4.379E+01	7.521E+01	7.409E+00	0.360
		896.60	*	-9.990E-01	1.624E+01	2.671E+01	2.656E+00	-0.037
BI-210		46.50	*	-2.032E+00	4.183E+00	6.842E+00	6.345E-01	-0.297
PB-210		46.50	*	-2.032E+00	4.183E+00	6.842E+00	6.345E-01	-0.297
PO-210		46.50	*	-2.032E+00	4.182E+00	6.842E+00	5.741E-01	-0.297
PB-211		404.84	*	1.434E-01	1.660E+00	2.727E+00	1.708E+00	0.053
		427.08		-2.022E+00	4.015E+00	6.031E+00	3.748E+00	-0.335
		831.96		-9.411E-01	2.348E+00	3.641E+00	2.290E+00	-0.258
BI-212	+	727.18	*	4.389E-01	6.800E-01	9.007E-01	1.022E-01	0.487
		785.46		1.423E+00	3.140E+00	5.388E+00	5.473E-01	0.264
		1620.62		2.498E-01	1.552E+00	2.650E+00	2.232E-01	0.094
PO-215		81.07		-1.815E-01	3.124E-01	4.408E-01	3.820E-02	-0.412
		83.78		2.979E-01	1.878E-01	2.908E-01	2.606E-02	1.024
		94.90		-4.915E-01	3.161E-01	4.742E-01	4.265E-02	-1.037
	+	122.32		1.622E+01	4.438E+00	5.754E+00	5.172E-01	2.818
		144.24		-7.250E-01	9.721E-01	1.500E+00	1.425E-01	-0.483
		154.21		2.833E-01	5.586E-01	9.110E-01	8.598E-02	0.311
	+	269.46		5.397E-01	3.591E-01	5.230E-01	5.258E-02	1.032
		323.87	*	-8.719E-01	1.140E+00	1.795E+00	3.265E-01	-0.486
	+	338.28		5.791E+00	2.869E+00	3.327E+00	4.275E-01	1.741
		445.03		3.503E+00	4.348E+00	7.377E+00	9.029E-01	0.475
RN-219	+	271.23		6.925E-01	4.622E-01	6.391E-01	7.294E-02	1.083
		401.81	*	3.758E-01	7.515E-01	1.262E+00	1.883E-01	0.298
RN-220		549.76	*	8.041E+00	4.620E+01	7.527E+01	7.191E+00	0.107
RA-223		81.07		-1.815E-01	3.124E-01	4.408E-01	3.820E-02	-0.412
		83.78		2.979E-01	1.878E-01	2.908E-01	2.606E-02	1.024
		94.90		-4.915E-01	3.161E-01	4.742E-01	4.265E-02	-1.037
	+	122.32		1.622E+01	4.438E+00	5.754E+00	5.172E-01	2.818
		144.24		-7.250E-01	9.721E-01	1.500E+00	1.425E-01	-0.483
		154.21		2.833E-01	5.586E-01	9.110E-01	8.598E-02	0.311
	+	269.46		5.397E-01	3.591E-01	5.230E-01	5.258E-02	1.032
		323.87	*	-8.719E-01	1.140E+00	1.795E+00	3.265E-01	-0.486
	+	338.28		5.791E+00	2.869E+00	3.327E+00	4.275E-01	1.741
		445.03		3.503E+00	4.348E+00	7.377E+00	9.029E-01	0.475
RA-224		240.98	*	4.094E+00	1.302E+00	2.146E+00	2.075E-01	1.907
AC-227		79.80		-3.921E-01	2.321E+00	3.348E+00	7.189E-01	-0.117
		236.00		3.589E-01	3.904E-01	6.054E-01	7.849E-02	0.593
		256.20	*	-2.244E-01	6.011E-01	9.869E-01	1.583E-01	-0.227

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-227		286.10		-9.207E-01	2.459E+00	4.014E+00	5.653E-01	-0.229
	+	299.80		2.346E+00	2.573E+00	4.083E+00	7.395E-01	0.575
		304.40		9.552E-01	3.279E+00	4.887E+00	9.287E-01	0.195
		334.20		-3.845E-01	4.178E+00	6.025E+00	1.192E+00	-0.064
		79.80		-3.921E-01	2.321E+00	3.348E+00	7.281E-01	-0.117
	+	94.00		4.924E+00	3.882E+00	4.294E+00	9.425E-01	1.147
		236.00		3.589E-01	3.899E-01	6.054E-01	7.185E-02	0.593
		256.20	*	-2.244E-01	6.015E-01	9.869E-01	1.841E-01	-0.227
		286.10		-9.207E-01	2.624E+00	4.014E+00	4.034E+00	-0.229
	+	299.80		2.346E+00	2.573E+00	4.083E+00	7.395E-01	0.575
TH-229		304.40		9.552E-01	3.279E+00	4.887E+00	9.287E-01	0.195
		334.20		-3.845E-01	4.178E+00	6.025E+00	1.192E+00	-0.064
		85.43		4.237E-01	2.960E-01	4.538E-01	4.153E-02	0.934
	+	88.47		4.486E+00	4.998E-01	5.291E-01	4.984E-02	8.479
		100.00		1.137E-01	2.435E-01	4.022E-01	3.523E-02	0.283
		193.63	*	7.552E-01	7.349E-01	1.293E+00	1.177E-01	0.584
PA-231		210.97		4.150E-01	1.266E+00	1.922E+00	1.794E-01	0.216
		283.67	*	-9.882E-01	2.452E+00	3.995E+00	6.378E-01	-0.247
		301.29		2.929E-01	1.024E+00	1.525E+00	1.998E-01	0.192
TH-231		81.07		-1.815E-01	3.124E-01	4.408E-01	3.820E-02	-0.412
		83.78		2.979E-01	1.878E-01	2.908E-01	2.606E-02	1.024
		94.90		-4.915E-01	3.161E-01	4.742E-01	4.265E-02	-1.037
	+	122.32		1.622E+01	4.438E+00	5.754E+00	5.172E-01	2.818
U-231		144.24		-7.250E-01	9.721E-01	1.500E+00	1.425E-01	-0.483
		154.21		2.833E-01	5.586E-01	9.110E-01	8.598E-02	0.311
	+	269.46		5.397E-01	3.591E-01	5.230E-01	5.258E-02	1.032
		323.87	*	-8.719E-01	1.140E+00	1.795E+00	3.265E-01	-0.486
	+	338.28		5.791E+00	2.869E+00	3.327E+00	4.275E-01	1.741
		445.03		3.503E+00	4.348E+00	7.377E+00	9.029E-01	0.475
		84.21		5.833E+00	3.910E+00	6.037E+00	5.439E-01	0.966
	+	92.29		2.365E+00	1.804E+00	2.146E+00	1.963E-01	1.102
		95.87	*	-4.237E-02	7.166E-01	1.032E+00	9.230E-02	-0.041
		108.00		1.095E+00	1.307E+00	2.188E+00	1.864E-01	0.500
PA-233		75.28		3.813E+00	4.788E+00	7.160E+00	1.079E+00	0.533
		86.59		3.269E+01	9.464E+00	6.328E+00	1.711E+00	5.166
	+	300.12		6.542E-01	7.147E-01	1.112E+00	1.734E-01	0.588
		311.98	*	3.209E-02	1.016E-01	1.714E-01	1.701E-02	0.187
		340.50		7.175E-01	1.130E+00	1.703E+00	4.106E-01	0.421
PA-234		398.62		1.770E+00	3.794E+00	6.331E+00	1.682E+00	0.280
		415.76		2.115E-01	3.144E+00	5.159E+00	1.111E+00	0.041
		63.00		3.916E-01	1.929E+00	2.931E+00	4.331E-01	0.134
		94.67		-2.288E-01	2.298E-01	3.548E-01	4.496E-02	-0.645
		98.44		1.356E-01	1.487E-01	1.975E-01	1.103E-01	0.686
		99.86		3.741E-01	6.449E-01	1.024E+00	8.975E-02	0.365
		111.00		-7.349E-02	2.463E-01	3.912E-01	4.685E-02	-0.188
		131.20		-1.427E-01	1.475E-01	2.241E-01	1.873E-02	-0.637
		152.70		-2.225E-01	4.656E-01	7.208E-01	1.226E-01	-0.309
	+	186.00		4.395E+00	3.025E+00	3.432E+00	1.075E+00	1.281
		226.40		3.697E-01	6.430E-01	1.105E+00	1.525E-01	0.335

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
		227.20		-3.092E-02	7.006E-01	1.177E+00	1.121E-01	-0.026
		248.90		-8.452E-01	1.229E+00	1.963E+00	4.488E-01	-0.431
	+	293.70		4.284E+00	1.940E+00	2.171E+00	3.898E-01	1.973
		369.80		-6.528E-01	1.481E+00	2.364E+00	5.168E-01	-0.276
		568.70		1.928E-01	1.688E+00	2.733E+00	2.639E-01	0.071
		569.50		3.098E-02	4.516E-01	7.290E-01	7.042E-02	0.043
		574.00		-6.885E-02	2.515E+00	4.027E+00	3.900E-01	-0.017
		699.00		-1.791E-01	1.180E+00	1.957E+00	3.875E-01	-0.091
		706.10		-7.840E-01	1.703E+00	2.695E+00	1.210E+00	-0.291
		733.00		1.282E-01	6.853E-01	1.061E+00	2.422E-01	0.121
		742.81		-1.053E+00	2.336E+00	3.581E+00	2.415E+00	-0.294
		796.30		1.715E+00	1.627E+00	2.790E+00	7.693E-01	0.615
		805.60		6.636E-01	1.815E+00	3.078E+00	9.577E-01	0.216
		819.60		1.580E+00	2.395E+00	4.035E+00	1.549E+00	0.391
		826.30		-3.018E-01	1.631E+00	2.664E+00	1.200E+00	-0.113
		831.60		-5.519E-01	1.171E+00	1.848E+00	5.602E-01	-0.299
		876.40		-1.784E-01	1.798E+00	2.938E+00	3.024E+00	-0.061
		880.51		9.611E-02	5.881E-01	9.830E-01	9.826E-02	0.098
		883.24		1.711E-01	5.774E-01	9.547E-01	6.436E-01	0.179
		899.00		3.875E-01	1.903E+00	3.179E+00	1.399E+00	0.122
		925.00		-2.083E+00	2.681E+00	4.177E+00	4.110E-01	-0.499
		926.50		-1.882E-01	3.883E-01	6.137E-01	1.578E-01	-0.307
		946.00	*	-6.042E-01	7.041E-01	1.077E+00	2.079E-01	-0.561
		949.00		6.455E-01	9.810E-01	1.680E+00	1.636E-01	0.384
		980.50		1.563E-02	1.634E+00	2.684E+00	2.570E-01	0.006
		1394.10		1.111E-01	1.379E+00	2.337E+00	1.521E+00	0.048
PA-234M		766.42		2.245E+01	2.243E+01	3.464E+01	1.767E+01	0.648
		1001.03	*	3.622E+00	9.836E+00	1.644E+01	1.758E+00	0.220
TH-234		63.29	*	3.851E-01	1.646E+00	2.503E+00	4.349E-01	0.154
	+	92.38		1.274E+00	9.927E-01	1.161E+00	2.129E-01	1.098
U-235		89.95		9.910E+00	3.527E+00	3.256E+00	1.011E+00	3.044
	+	93.35		1.532E+00	1.238E+00	1.377E+00	3.879E-01	1.113
		105.00		-7.545E-02	1.392E+00	2.243E+00	6.692E-01	-0.034
		143.76	*	-1.458E-01	2.998E-01	4.682E-01	8.160E-02	-0.311
		163.35		-9.675E-02	6.918E-01	1.090E+00	2.084E-01	-0.089
	+	185.71		1.628E-01	1.008E-01	1.274E-01	1.146E-02	1.278
		205.31		2.944E-01	8.134E-01	1.238E+00	2.400E-01	0.238
NP-236		94.67		-1.719E-01	1.737E-01	2.693E-01	2.425E-02	-0.639
		98.44		1.025E-01	9.716E-02	1.493E-01	1.318E-02	0.686
		111.00		-5.559E-02	1.863E-01	2.959E-01	2.504E-02	-0.188
		160.31	*	1.478E-02	1.164E-01	1.856E-01	1.606E-02	0.080
NP-237		86.50	*	4.175E+00	1.065E+00	9.023E-01	2.041E-01	4.627
		95.87		-7.689E-02	1.300E+00	1.873E+00	4.635E-01	-0.041
U-238		63.29	*	3.851E-01	1.646E+00	2.503E+00	4.349E-01	0.154
	+	92.38		1.274E+00	9.718E-01	1.161E+00	1.061E-01	1.098
NP-239		99.55		2.052E-01	2.129E-01	3.439E-01	3.019E-02	0.597
		117.00	*	-5.832E-02	2.802E-01	4.241E-01	3.553E-02	-0.138
	+	209.75		2.455E+00	1.524E+00	2.015E+00	1.878E-01	1.218
		228.18		-5.719E-02	3.622E-01	6.055E-01	5.773E-02	-0.094

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

Nuclide	Line Ided	Energy (keV)	Key	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
AM-243		277.60		-7.368E-02	2.835E-01	4.669E-01	4.645E-02	-0.158
		334.30		-2.870E-01	2.364E+00	3.401E+00	3.207E-01	-0.084
		74.67	*	6.007E-02	8.814E-02	1.321E-01	1.063E-02	0.455
	+	86.72		3.618E+02	4.031E+01	3.798E+01	3.533E+00	9.527
		117.66		2.254E+00	5.961E+00	8.744E+00	7.320E-01	0.258
CM-243		142.18		-3.422E+00	2.466E+01	3.911E+01	3.301E+00	-0.088
		99.55		2.111E-01	2.190E-01	3.538E-01	3.106E-02	0.597
		103.76	*	9.020E-03	1.265E-01	2.052E-01	1.771E-02	0.044
		117.00		-5.998E-02	2.881E-01	4.362E-01	3.654E-02	-0.138
	+	209.75		2.420E+00	1.502E+00	1.986E+00	1.851E-01	1.218
AM-246		228.18		-5.777E-02	3.658E-01	6.116E-01	5.831E-02	-0.094
		277.60		-7.426E-02	2.857E-01	4.706E-01	4.681E-02	-0.158
		798.80		-4.439E-01	2.586E-01	3.684E-01	3.738E-02	-1.205
		1036.00		-6.037E-02	5.670E-01	9.191E-01	8.484E-02	-0.066
		1062.04		-3.934E-02	4.555E-01	7.386E-01	6.678E-02	-0.053
CM-247		1078.86	*	-2.204E-01	2.913E-01	4.455E-01	3.970E-02	-0.495
		278.00		5.561E-01	1.160E+00	1.978E+00	1.968E-01	0.281
		287.40		3.296E-01	1.978E+00	3.322E+00	3.292E-01	0.099
CF-249		402.60	*	1.913E-02	6.685E-02	1.112E-01	9.404E-03	0.172
		252.85		7.626E-01	1.347E+00	2.315E+00	2.262E-01	0.329
		333.44		-2.904E-02	3.122E-01	4.504E-01	4.251E-02	-0.064
CF-251		387.95	*	2.845E-02	7.311E-02	1.225E-01	1.033E-02	0.232
		176.60	*	7.223E-02	1.889E-01	3.047E-01	2.704E-02	0.237
		227.00		1.909E-02	6.189E-01	1.043E+00	9.933E-02	0.018
		285.00		-1.337E+00	2.785E+00	4.522E+00	4.488E-01	-0.296

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]G1202029819      *
* Acquisition date   : 12-FEB-2010 18:28:27 Detector SN#      :              *
* Detector ID        : GAM20                      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 01:00:19.24             Half life ratio : 8.000       *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-FEB-2010 00:00:00 Nuclide Library : SOLID            *
* Sample ID          : G1202029819             Analyst initials: RXF2          *
* Batch Number       : 947554                  Sample Quantity : 1.5544E+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)	
CO-57	2.320E-01	6.175E-02	6.030E-02	0.000E+00
CO-60	6.725E+00	6.339E-01	6.859E-02	0.000E+00
CD-109	3.321E+01	3.626E+00	1.841E+00	0.000E+00
SN-126	3.286E+00	3.587E-01	1.826E-01	0.000E+00
BA-137M	5.743E+00	6.182E-01	1.118E-01	0.000E+00
CS-137	6.071E+00	6.542E-01	1.182E-01	0.000E+00
TL-208	3.898E-01	1.082E-01	1.053E-01	0.000E+00
BI-211	2.009E+00	5.930E-01	5.691E-01	0.000E+00
PB-212	1.018E+00	2.359E-01	1.576E-01	0.000E+00
PO-212	1.018E+00	2.359E-01	1.576E-01	0.000E+00
BI-214	7.127E-01	2.232E-01	1.895E-01	0.000E+00
PB-214	6.987E-01	2.094E-01	2.041E-01	0.000E+00
PO-214	6.987E-01	2.094E-01	2.041E-01	0.000E+00
PO-216	1.018E+00	2.359E-01	1.576E-01	0.000E+00
PO-218	6.987E-01	2.094E-01	2.041E-01	0.000E+00
RA-226	7.127E-01	2.232E-01	1.895E-01	0.000E+00
AC-228	7.688E-01	4.565E-01	4.660E-01	0.000E+00
RA-228	7.688E-01	4.565E-01	4.660E-01	0.000E+00
TH-228	1.029E+00	2.385E-01	1.593E-01	0.000E+00
TH-230	7.127E-01	2.232E-01	1.895E-01	0.000E+00
TH-232	7.688E-01	4.565E-01	4.660E-01	0.000E+00
U-234	7.127E-01	2.232E-01	1.895E-01	0.000E+00
AM-241	1.350E+01	1.180E+00	4.163E-01	0.000E+00
ANH-511	9.397E-02	9.254E-02	8.296E-02	0.000E+00

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Act error) Ided	MDA (pCi/GRAM)	
BE-7	-3.480E-01	6.164E-01	1.026E+00	0.000E+00 NOT IDENT.
NA-22	-1.315E-03	4.080E-02	6.753E-02	0.000E+00 NOT IDENT.
NA-24	0.000E+00	5.941E+03	0.000E+00	0.000E+00 SHORT HLIF

AL-26	4.455E-03	3.813E-02	6.579E-02	0.000E+00	NOT IDENT.
K-40	6.210E-01	5.118E-01	1.002E+00	0.000E+00	NOT IDENT.
TI-44	9.287E-02	7.436E-02	9.773E-02	0.000E+00	FAIL ABUN
SC-46	-2.900E-03	7.260E-02	1.248E-01	0.000E+00	NOT IDENT.
V-48	-1.279E-01	1.298E-01	2.057E-01	0.000E+00	NOT IDENT.
CR-51	1.410E-01	5.381E-01	9.691E-01	0.000E+00	NOT IDENT.
MN-52	-2.602E-02	1.426E-01	2.372E-01	0.000E+00	FAIL ABUN
MN-54	-1.211E-02	6.637E-02	1.136E-01	0.000E+00	NOT IDENT.
CO-56	2.286E-02	7.016E-02	1.242E-01	0.000E+00	NOT IDENT.
CO-58	-1.155E-03	6.713E-02	1.166E-01	0.000E+00	NOT IDENT.
FE-59	-1.794E-01	1.561E-01	2.360E-01	0.000E+00	NOT IDENT.
ZN-65	2.081E-02	1.640E-01	2.794E-01	0.000E+00	NOT IDENT.
GE-68	-1.789E+00	2.451E+00	3.905E+00	0.000E+00	NOT IDENT.
AS-73	-5.225E-01	1.279E+00	2.342E+00	0.000E+00	NOT IDENT.
AS-74	-3.405E-02	1.416E-01	2.350E-01	0.000E+00	NOT IDENT.
SE-75	-5.477E-02	7.226E-02	1.208E-01	0.000E+00	FAIL ABUN
BR-77	3.340E+00	4.957E+00	8.852E+00	0.000E+00	FAIL ABUN
SR-82	-3.556E-01	5.706E-01	9.481E-01	0.000E+00	NOT IDENT.
RB-83	-1.909E-02	1.185E-01	2.002E-01	0.000E+00	NOT IDENT.
RB-84	6.733E-02	1.273E-01	2.273E-01	0.000E+00	NOT IDENT.
KR-85	1.127E+01	1.235E+01	2.001E+01	0.000E+00	NOT IDENT.
SR-85	5.521E-02	6.046E-02	9.798E-02	0.000E+00	NOT IDENT.
RB-86	-4.177E-01	1.303E+00	2.150E+00	0.000E+00	NOT IDENT.
Y-88	-2.276E-02	4.195E-02	6.126E-02	0.000E+00	NOT IDENT.
ZR-88	-3.320E-02	5.049E-02	8.482E-02	0.000E+00	NOT IDENT.
Y-91	-3.771E-01	2.049E+01	3.423E+01	0.000E+00	NOT IDENT.
NB-94	1.694E-02	5.433E-02	9.762E-02	0.000E+00	NOT IDENT.
NB-95	4.369E-02	6.752E-02	1.228E-01	0.000E+00	NOT IDENT.
NB-95M	8.462E-02	1.911E-01	3.138E-01	0.000E+00	NOT IDENT.
ZR-95	8.919E-02	1.102E-01	2.033E-01	0.000E+00	NOT IDENT.
NB-97	0.000E+00	2.844E+03	0.000E+00	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	4.604E+04	0.000E+00	0.000E+00	SHORT HLIF
MO-99	-2.719E+00	6.020E+00	1.015E+01	0.000E+00	NOT IDENT.
TC-99M	0.000E+00	2.996E+11	0.000E+00	0.000E+00	SHORT HLIF
RH-101	1.057E-02	4.731E-02	8.774E-02	0.000E+00	NOT IDENT.
RH-102	-2.618E-02	5.850E-02	9.813E-02	0.000E+00	NOT IDENT.
RU-103	2.803E-02	6.864E-02	1.206E-01	0.000E+00	FAIL ABUN
RH-106	7.569E-01	5.639E-01	1.025E+00	0.000E+00	FAIL ABUN
RU-106	7.569E-01	5.588E-01	1.025E+00	0.000E+00	FAIL ABUN
AG-108M	3.044E-03	6.064E-02	1.055E-01	0.000E+00	NOT IDENT.
AG-110M	8.704E-03	7.324E-02	1.141E-01	0.000E+00	NOT IDENT.
IN-111	-1.091E-01	5.514E-01	9.564E-01	0.000E+00	NOT IDENT.
IN-113M	-2.722E-02	7.502E-02	1.285E-01	0.000E+00	NOT IDENT.
SN-113	-2.722E-02	7.502E-02	1.285E-01	0.000E+00	NOT IDENT.
IN-114M	-1.417E-02	2.592E-01	4.207E-01	0.000E+00	NOT IDENT.
CD-115	5.993E-01	4.785E+00	8.239E+00	0.000E+00	NOT IDENT.
SN-117M	-3.187E-02	6.424E-02	1.084E-01	0.000E+00	NOT IDENT.
SB-122	7.539E-01	1.156E+00	2.049E+00	0.000E+00	NOT IDENT.
I-123	0.000E+00	3.240E+04	0.000E+00	0.000E+00	SHORT HLIF
TE-123M	1.260E-02	3.950E-02	6.943E-02	0.000E+00	NOT IDENT.
I-124	-4.902E-01	6.245E-01	8.389E-01	0.000E+00	NOT IDENT.
SB-124	1.643E-02	7.061E-02	1.267E-01	0.000E+00	FAIL ABUN
SB-125	-2.099E-02	1.654E-01	2.853E-01	0.000E+00	NOT IDENT.
TE-125M	-9.148E+00	1.168E+01	1.992E+01	0.000E+00	NOT IDENT.
I-126	-1.245E-02	2.552E-01	3.914E-01	0.000E+00	NOT IDENT.
SB-126	-2.763E-02	1.816E-01	2.974E-01	0.000E+00	NOT IDENT.
SB-127	-3.473E-01	9.903E-01	1.702E+00	0.000E+00	FAIL ABUN
XE-127	2.954E-02	6.127E-02	1.146E-01	0.000E+00	NOT IDENT.
I-131	3.606E-04	1.390E-01	2.447E-01	0.000E+00	NOT IDENT.
TE-132	-1.398E-01	4.320E-01	7.753E-01	0.000E+00	NOT IDENT.
BA-133	1.184E-02	8.339E-02	1.304E-01	0.000E+00	NOT IDENT.
I-133	0.000E+00	3.160E+02	0.000E+00	0.000E+00	SHORT HLIF
CS-134	9.293E-02	7.990E-02	1.491E-01	0.000E+00	NOT IDENT.
CS-135	7.015E-02	2.800E-01	4.507E-01	0.000E+00	NOT IDENT.
I-135	0.000E+00	9.558E+10	0.000E+00	0.000E+00	SHORT HLIF
CS-136	4.881E-02	1.626E-01	2.823E-01	0.000E+00	NOT IDENT.
CE-139	5.242E-03	4.162E-02	7.249E-02	0.000E+00	NOT IDENT.
BA-140	7.201E-02	3.599E-01	6.207E-01	0.000E+00	NOT IDENT.
LA-140	1.021E-02	9.004E-02	1.561E-01	0.000E+00	NOT IDENT.
CE-141	2.034E-02	7.788E-02	1.377E-01	0.000E+00	NOT IDENT.
CE-143	0.000E+00	2.907E+01	4.670E+01	0.000E+00	FAIL ABUN
CE-144	-1.775E-01	2.915E-01	4.948E-01	0.000E+00	NOT IDENT.
PM-144	4.343E-03	5.539E-02	9.811E-02	0.000E+00	NOT IDENT.
PR-144	2.936E-01	3.744E+00	6.633E+00	0.000E+00	NOT IDENT.
PM-146	-2.139E-02	8.548E-02	1.457E-01	0.000E+00	NOT IDENT.
ND-147	7.372E-01	7.454E-01	1.343E+00	0.000E+00	NOT IDENT.
PM-149	-7.935E+00	3.639E+01	6.447E+01	0.000E+00	NOT IDENT.
EU-152	3.627E-02	1.680E-01	2.791E-01	0.000E+00	FAIL ABUN

GD-153	-7.263E-02	1.103E-01	1.692E-01	0.000E+00	NOT IDENT.
EU-154	6.465E-03	1.123E-01	1.888E-01	0.000E+00	FAIL ABUN
EU-155	2.949E-02	1.378E-01	2.480E-01	0.000E+00	FAIL ABUN
TB-160	-3.047E-02	2.792E-01	4.784E-01	0.000E+00	FAIL ABUN
HO-166M	5.667E-02	9.638E-02	1.763E-01	0.000E+00	FAIL ABUN
TM-171	-2.506E+01	3.332E+01	5.934E+01	0.000E+00	FAIL ABUN
LU-176	2.199E-02	3.790E-02	6.953E-02	0.000E+00	FAIL ABUN
LU-177	0.000E+00	1.341E+00	1.913E+00	0.000E+00	FAIL ABUN
LU-177M	8.523E-02	3.227E-01	5.699E-01	0.000E+00	FAIL ABUN
HF-181	-5.292E-02	7.581E-02	1.246E-01	0.000E+00	NOT IDENT.
W-181	-4.108E-01	4.047E-01	7.129E-01	0.000E+00	NOT IDENT.
TA-182	-5.247E-02	1.721E-01	2.736E-01	0.000E+00	NOT IDENT.
RE-183	-4.489E-02	1.503E-01	2.564E-01	0.000E+00	FAIL ABUN
RE-184	1.996E-01	3.456E-01	6.407E-01	0.000E+00	FAIL ABUN
OS-185	3.214E-02	7.065E-02	1.288E-01	0.000E+00	FAIL ABUN
RE-188	1.874E-01	2.309E-01	4.164E-01	0.000E+00	NOT IDENT.
W-188	-1.015E+01	1.260E+01	1.865E+01	0.000E+00	NOT IDENT.
IR-192	-2.424E-02	5.115E-02	8.852E-02	0.000E+00	FAIL ABUN
AU-195	3.364E-01	3.079E-01	5.228E-01	0.000E+00	NOT IDENT.
TL-200	0.000E+00	4.781E+01	0.000E+00	0.000E+00	SHORT HLIF
TL-201	5.806E-01	3.743E+00	6.524E+00	0.000E+00	NOT IDENT.
TL-202	2.833E-02	1.004E-01	1.768E-01	0.000E+00	NOT IDENT.
HG-203	4.482E-02	5.911E-02	1.096E-01	0.000E+00	NOT IDENT.
BI-207	2.264E-02	1.014E-01	1.748E-01	0.000E+00	NOT IDENT.
TL-207	-8.719E-01	1.117E+00	1.886E+00	0.000E+00	FAIL ABUN
PO-209	-9.990E-01	1.591E+01	2.731E+01	0.000E+00	NOT IDENT.
BI-210	-2.032E+00	4.099E+00	7.544E+00	0.000E+00	NOT IDENT.
PB-210	-2.032E+00	4.099E+00	7.544E+00	0.000E+00	NOT IDENT.
PO-210	-2.032E+00	4.098E+00	7.544E+00	0.000E+00	NOT IDENT.
PB-211	1.434E-01	1.627E+00	2.849E+00	0.000E+00	NOT IDENT.
BI-212	4.389E-01	6.664E-01	9.261E-01	0.000E+00	FAIL ABUN
PO-215	-8.719E-01	1.117E+00	1.886E+00	0.000E+00	FAIL ABUN
RN-219	3.758E-01	7.365E-01	1.318E+00	0.000E+00	FAIL ABUN
RN-220	8.041E+00	4.527E+01	7.798E+01	0.000E+00	NOT IDENT.
RA-223	-8.719E-01	1.117E+00	1.886E+00	0.000E+00	FAIL ABUN
RA-224	0.000E+00	1.276E+00	2.272E+00	0.000E+00	NOT IDENT.
AC-227	-2.244E-01	5.891E-01	1.043E+00	0.000E+00	FAIL ABUN
TH-227	-2.244E-01	5.895E-01	1.043E+00	0.000E+00	FAIL ABUN
TH-229	7.552E-01	7.202E-01	1.376E+00	0.000E+00	FAIL ABUN
PA-231	-9.882E-01	2.403E+00	4.211E+00	0.000E+00	NOT IDENT.
TH-231	-8.719E-01	1.117E+00	1.886E+00	0.000E+00	FAIL ABUN
U-231	-4.237E-02	7.022E-01	1.118E+00	0.000E+00	FAIL ABUN
PA-233	3.209E-02	9.959E-02	1.803E-01	0.000E+00	FAIL ABUN
PA-234	-6.042E-01	6.900E-01	1.099E+00	0.000E+00	FAIL ABUN
PA-234M	3.622E+00	9.640E+00	1.675E+01	0.000E+00	NOT IDENT.
TH-234	3.851E-01	1.613E+00	2.739E+00	0.000E+00	FAIL ABUN
U-235	-1.458E-01	2.938E-01	5.022E-01	0.000E+00	FAIL ABUN
NP-236	1.478E-02	1.141E-01	1.986E-01	0.000E+00	NOT IDENT.
NP-237	0.000E+00	1.043E+00	9.801E-01	0.000E+00	NOT IDENT.
U-238	3.851E-01	1.613E+00	2.739E+00	0.000E+00	FAIL ABUN
NP-239	-5.832E-02	2.746E-01	4.572E-01	0.000E+00	FAIL ABUN
AM-243	6.007E-02	8.637E-02	1.440E-01	0.000E+00	FAIL ABUN
CM-243	9.020E-03	1.240E-01	2.219E-01	0.000E+00	FAIL ABUN
AM-246	-2.204E-01	2.854E-01	4.532E-01	0.000E+00	NOT IDENT.
CM-247	1.913E-02	6.551E-02	1.162E-01	0.000E+00	NOT IDENT.
CF-249	2.845E-02	7.165E-02	1.280E-01	0.000E+00	NOT IDENT.
CF-251	7.223E-02	1.851E-01	3.252E-01	0.000E+00	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 12-FEB-2010 19:29:18.00

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*****
*                               GEL Laboratories LLC                               *
*                               2040 Savage Road                               *
*                               Charleston, SC 29414                           *
*****
Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029819.CNF;1
Sample date        : 2-FEB-2010 00:00:00. Acquisition date : 12-FEB-2010 18:28:27
Sample ID          : G1202029819          Sample quantity  : 1.55440E+02 GRAM
Detector name      : GAM20                Detector geometry: CAN
Elapsed live time   : 0 01:00:00.00        Elapsed real time: 0 01:00:19.24  0.5%
Energy tolerance    : 1.50000 keV          Analyst Initials : RXF2
Abundance limit     : 75.00000             Sensitivity        : 5.00000
Batch ID           : 947554                Detector SN#       :
Matrix Spike ID     :                      LCS ID          : 1032-A
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Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-57	122.06	295	85.51*	7.377E+00	2.257E-01	2.320E-01	27.16
	136.48	-----	10.60	7.171E+00	-----	Line Not Found	-----
CO-60	1173.22	1919	100.00	1.497E+00	6.190E+00	6.214E+00	9.38
	1332.49	1868	100.00*	1.347E+00	6.699E+00	6.725E+00	9.62
CD-109	88.03	1757	3.72*	6.978E+00	3.268E+01	3.321E+01	11.14
SN-126	64.28	-----	9.60	4.779E+00	-----	Line Not Found	-----
	86.94	1757	8.90	6.978E+00	1.366E+01	1.366E+01	41.96
	87.57	1757	37.00*	6.978E+00	3.286E+00	3.286E+00	11.14
BA-137M	661.65	2603	89.98*	2.435E+00	5.739E+00	5.743E+00	10.98
CS-137	661.65	2603	85.12*	2.435E+00	6.067E+00	6.071E+00	11.00
TL-208	277.35	-----	6.80	4.722E+00	-----	Line Not Found	-----
	510.84	58	21.60	2.993E+00	4.351E-01	4.351E-01	100.83
	583.14	183	84.20*	2.696E+00	3.898E-01	3.898E-01	28.32
	860.37	-----	12.46	1.954E+00	-----	Line Not Found	-----
BI-211	72.87	-----	1.27	5.845E+00	-----	Line Not Found	-----
	351.07	214	12.94*	3.971E+00	2.009E+00	2.009E+00	30.13
PB-212	74.81	-----	10.70	6.041E+00	-----	Line Not Found	-----
	77.11	119	18.00	6.327E+00	5.034E-01	5.034E-01	81.70
	87.30	1757	8.00	6.978E+00	1.520E+01	1.520E+01	14.97
	238.63	494	44.60*	5.249E+00	1.018E+00	1.018E+00	23.64
	300.09	40	3.41	4.465E+00	1.266E+00	1.266E+00	108.74
PO-212	74.81	-----	10.70	6.041E+00	-----	Line Not Found	-----
	77.11	119	18.00	6.327E+00	5.034E-01	5.034E-01	81.70
	87.30	1757	8.00	6.978E+00	1.520E+01	1.520E+01	14.97
	115.19	-----	0.60	7.430E+00	-----	Line Not Found	-----
	238.63	494	44.60*	5.249E+00	1.018E+00	1.018E+00	23.64
	300.09	40	3.41	4.465E+00	1.266E+00	1.266E+00	108.74
BI-214	609.31	178	46.30*	2.603E+00	7.127E-01	7.127E-01	31.96
	1120.29	-----	15.10	1.557E+00	-----	Line Not Found	-----
	1764.49	35	15.80	1.100E+00	9.787E-01	9.787E-01	50.13
PB-214	74.81	-----	6.21	6.041E+00	-----	Line Not Found	-----
	77.11	119	10.50	6.327E+00	8.629E-01	8.629E-01	82.05

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	87.30	1757	4.67	6.978E+00	2.603E+01	2.603E+01	13.55
	241.98	-----	7.49	5.198E+00	-----	Line Not Found	-----
	295.21	160	19.20	4.518E+00	8.926E-01	8.926E-01	43.18
	351.92	214	37.20*	3.971E+00	6.987E-01	6.987E-01	30.58
PO-214	74.81	-----	6.21	6.041E+00	-----	Line Not Found	-----
	77.11	119	10.50	6.327E+00	8.629E-01	8.629E-01	82.05
	87.30	1757	4.67	6.978E+00	2.603E+01	2.603E+01	13.55
	241.98	-----	7.49	5.198E+00	-----	Line Not Found	-----
	295.21	160	19.20	4.518E+00	8.926E-01	8.926E-01	43.18
	351.92	214	37.20*	3.971E+00	6.987E-01	6.987E-01	30.58
PO-216	74.81	-----	10.70	6.041E+00	-----	Line Not Found	-----
	77.11	119	18.00	6.327E+00	5.034E-01	5.034E-01	81.70
	87.30	1757	8.00	6.978E+00	1.520E+01	1.520E+01	14.97
	238.63	494	44.60*	5.249E+00	1.018E+00	1.018E+00	23.64
	300.09	40	3.41	4.465E+00	1.266E+00	1.266E+00	108.74
PO-218	74.81	-----	6.21	6.041E+00	-----	Line Not Found	-----
	77.11	119	10.50	6.327E+00	8.629E-01	8.629E-01	82.05
	87.30	1757	4.67	6.978E+00	2.603E+01	2.603E+01	13.55
	241.98	-----	7.49	5.198E+00	-----	Line Not Found	-----
	295.21	160	19.20	4.518E+00	8.926E-01	8.926E-01	43.18
	351.92	214	37.20*	3.971E+00	6.987E-01	6.987E-01	30.58
RA-226	609.31	178	46.30*	2.603E+00	7.127E-01	7.127E-01	31.96
	1120.29	-----	15.10	1.557E+00	-----	Line Not Found	-----
	1764.49	35	15.80	1.100E+00	9.787E-01	9.787E-01	50.13
AC-228	338.32	134	11.40	4.086E+00	1.387E+00	1.387E+00	63.29
	911.07	82	27.70*	1.860E+00	7.688E-01	7.688E-01	60.60
	969.11	71	16.60	1.763E+00	1.174E+00	1.174E+00	59.22
RA-228	338.32	134	11.40	4.086E+00	1.387E+00	1.387E+00	63.29
	911.07	82	27.70*	1.860E+00	7.688E-01	7.688E-01	60.60
	969.11	71	16.60	1.763E+00	1.174E+00	1.174E+00	59.22
TH-228	74.81	-----	10.70	6.041E+00	-----	Line Not Found	-----
	77.11	119	18.00	6.327E+00	5.034E-01	5.088E-01	81.70
	87.30	1757	8.00	6.978E+00	1.520E+01	1.536E+01	11.14
	238.63	494	44.60*	5.249E+00	1.018E+00	1.029E+00	23.64
	300.09	40	3.41	4.465E+00	1.266E+00	1.280E+00	123.41
TH-230	609.31	178	46.30*	2.603E+00	7.127E-01	7.127E-01	31.96
	1120.29	-----	15.10	1.557E+00	-----	Line Not Found	-----
	1764.49	35	15.80	1.100E+00	9.787E-01	9.787E-01	50.13
TH-232	338.32	134	11.40	4.086E+00	1.387E+00	1.387E+00	48.75
	911.07	82	27.70*	1.860E+00	7.688E-01	7.688E-01	60.60
	969.11	71	16.60	1.763E+00	1.174E+00	1.174E+00	59.22
U-234	609.31	178	46.30*	2.603E+00	7.127E-01	7.127E-01	31.96
	1120.29	-----	15.10	1.557E+00	-----	Line Not Found	-----
	1764.49	35	15.80	1.100E+00	9.787E-01	9.787E-01	50.13
AM-241	59.54	4089	35.90*	4.076E+00	1.350E+01	1.350E+01	8.92
ANH-511	511.00	58	100.00*	2.993E+00	9.397E-02	9.397E-02	100.48

Flag: "*" = Keyline

Total number of lines in spectrum 23
Number of unidentified lines 0
Number of lines tentatively identified by NID 23 100.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-57	270.90D	1.03	2.257E-01	2.320E-01	0.630E-01	27.16	
CO-60	5.27Y	1.00	6.699E+00	6.725E+00	0.647E+00	9.62	
CD-109	464.00D	1.02	3.268E+01	3.321E+01	0.370E+01	11.14	
SN-126	1.00E+05Y	1.00	3.286E+00	3.286E+00	0.366E+00	11.14	
BA-137M	30.17Y	1.00	5.739E+00	5.743E+00	0.631E+00	10.98	
CS-137	30.17Y	1.00	6.067E+00	6.071E+00	0.668E+00	11.00	
TL-208	1.41E+10Y	1.00	3.898E-01	3.898E-01	1.104E-01	28.32	
BI-211	7.04E+08Y	1.00	2.009E+00	2.009E+00	0.605E+00	30.13	
PB-212	1.41E+10Y	1.00	1.018E+00	1.018E+00	0.241E+00	23.64	
PO-212	1.41E+10Y	1.00	1.018E+00	1.018E+00	0.241E+00	23.64	
BI-214	1600.00Y	1.00	7.127E-01	7.127E-01	2.278E-01	31.96	
PB-214	1600.00Y	1.00	6.987E-01	6.987E-01	2.136E-01	30.58	
PO-214	1600.00Y	1.00	6.987E-01	6.987E-01	2.136E-01	30.58	
PO-216	1.41E+10Y	1.00	1.018E+00	1.018E+00	0.241E+00	23.64	
PO-218	1600.00Y	1.00	6.987E-01	6.987E-01	2.136E-01	30.58	
RA-226	1600.00Y	1.00	7.127E-01	7.127E-01	2.278E-01	31.96	
AC-228	1.41E+10Y	1.00	7.688E-01	7.688E-01	4.659E-01	60.60	
RA-228	1.41E+10Y	1.00	7.688E-01	7.688E-01	4.659E-01	60.60	
TH-228	1.91Y	1.01	1.018E+00	1.029E+00	0.243E+00	23.64	
TH-230	4.47E+09Y	1.00	7.127E-01	7.127E-01	2.278E-01	31.96	
TH-232	1.41E+10Y	1.00	7.688E-01	7.688E-01	4.659E-01	60.60	
U-234	4.47E+09Y	1.00	7.127E-01	7.127E-01	2.278E-01	31.96	
AM-241	432.20Y	1.00	1.350E+01	1.350E+01	0.120E+01	8.92	
ANH-511	1.00E+09Y	1.00	9.397E-02	9.397E-02	9.443E-02	100.48	

Total Activity : 8.201E+01 8.260E+01

Grand Total Activity : 8.201E+01 8.260E+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	92.86	102	316	1.55	185.61	172	22	2.84E-02	75.7	7.17E+00	T
0	185.86	112	291	2.29	371.34	367	10	3.12E-02	61.3	6.18E+00	T
0	209.04	95	230	0.90	417.64	414	9	2.62E-02	61.4	5.74E+00	T
0	270.21	73	165	1.25	539.83	536	8	2.03E-02	65.8	4.81E+00	T
0	727.09	24	93	0.67	1452.90	1448	10	6.71E-03	****	2.25E+00	T

Flags: "T" = Tentatively associated

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*****
*                                     GEL Laboratories LLC                      *
*                                     2040 Savage Road                        *
*                                     Charleston, SC 29414                     *
*****
*                                     DETECTOR DATA                          *
*
* Configuration      : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1202029819.CNF;1
* Acquisition date   : 12-FEB-2010 18:28:27 Detector SN#      :
* Detector ID        : GAM20 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 01:00:19.24 Half life ratio : 8.00000
*****
*                                     SAMPLE DATA                          *
*
* Sample date        : 2-FEB-2010 00:00:00. Nuclide Library : SOLID
* Sample ID          : G1202029819 Analyst initials: RXF2
* Batch Number       : 947554 Sample Quantity : 1.55440E+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
CO-57	2.320E-01	6.301E-02	5.599E-02	4.674E-03	4.143
CO-60	6.725E+00	6.468E-01	6.784E-02	5.682E-03	99.135
CD-109	3.321E+01	3.700E+00	1.695E+00	1.603E-01	19.592
SN-126	3.286E+00	3.660E-01	1.682E-01	1.582E-02	19.537
BA-137M	5.743E+00	6.308E-01	1.085E-01	1.089E-02	52.939
CS-137	6.071E+00	6.676E-01	1.147E-01	1.152E-02	52.939
TL-208	3.898E-01	1.104E-01	1.018E-01	1.046E-02	3.830
BI-211	2.009E+00	6.051E-01	5.428E-01	5.200E-02	3.701
PB-212	1.018E+00	2.408E-01	1.489E-01	1.583E-02	6.842
PO-212	1.018E+00	2.408E-01	1.489E-01	1.583E-02	6.842
BI-214	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
PB-214	6.987E-01	2.136E-01	1.947E-01	2.121E-02	3.589
PO-214	6.987E-01	2.136E-01	1.947E-01	2.121E-02	3.589
PO-216	1.018E+00	2.408E-01	1.489E-01	1.583E-02	6.842
PO-218	6.987E-01	2.136E-01	1.947E-01	2.121E-02	3.589
RA-226	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
AC-228	7.688E-01	4.659E-01	4.560E-01	5.585E-02	1.686
RA-228	7.688E-01	4.659E-01	4.560E-01	5.585E-02	1.686

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
TH-228	1.029E+00	2.434E-01	1.505E-01	1.600E-02	6.842
TH-230	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
TH-232	7.688E-01	4.659E-01	4.560E-01	5.585E-02	1.686
U-234	7.127E-01	2.278E-01	1.835E-01	2.041E-02	3.885
AM-241	1.350E+01	1.204E+00	3.798E-01	2.972E-02	35.531
ANH-511	9.397E-02	9.443E-02	7.992E-02	7.447E-03	1.176

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
BE-7	-3.480E-01		6.290E-01	9.866E-01	9.589E-02	-0.353
NA-22	-1.315E-03		4.163E-02	6.670E-02	5.525E-03	-0.020
NA-24	-1.403E-03		3.031E-03	Half-Life too short		
AL-26	4.455E-03		3.891E-02	6.563E-02	5.331E-03	0.068
K-40	6.210E-01		5.223E-01	9.938E-01	8.666E-02	0.625
TI-44	9.287E-02	+	7.588E-02	8.976E-02	7.533E-03	1.035
SC-46	-2.900E-03		7.408E-02	1.220E-01	1.217E-02	-0.024
V-48	-1.279E-01		1.324E-01	2.017E-01	1.928E-02	-0.634
CR-51	1.410E-01		5.491E-01	9.221E-01	9.244E-02	0.153
MN-52	-2.602E-02		1.455E-01	2.351E-01	1.989E-02	-0.111
MN-54	-1.211E-02		6.773E-02	1.109E-01	1.120E-02	-0.109
CO-56	2.286E-02		7.160E-02	1.213E-01	1.223E-02	0.188
CO-58	-1.155E-03		6.850E-02	1.137E-01	1.155E-02	-0.010
FE-59	-1.794E-01		1.592E-01	2.322E-01	2.190E-02	-0.773
ZN-65	2.081E-02		1.674E-01	2.750E-01	2.367E-02	0.076
GE-68	-1.789E+00		2.501E+00	3.839E+00	3.425E-01	-0.466
AS-73	-5.225E-01		1.306E+00	2.131E+00	1.582E-01	-0.245
AS-74	-3.405E-02		1.444E-01	2.273E-01	2.225E-02	-0.150
SE-75	-5.477E-02		7.374E-02	1.143E-01	1.132E-02	-0.479
BR-77	3.340E+00		5.058E+00	8.532E+00	8.003E-01	0.392
SR-82	-3.556E-01		5.822E-01	9.237E-01	9.386E-02	-0.385
RB-83	-1.909E-02		1.209E-01	1.930E-01	1.810E-02	-0.099
RB-84	6.733E-02		1.299E-01	2.222E-01	2.221E-02	0.303
KR-85	1.127E+01		1.260E+01	1.928E+01	1.800E+00	0.585
SR-85	5.521E-02		6.170E-02	9.440E-02	8.815E-03	0.585
RB-86	-4.177E-01		1.329E+00	2.113E+00	1.887E-01	-0.198
Y-88	-2.276E-02		4.280E-02	6.114E-02	4.933E-03	-0.372
ZR-88	-3.320E-02		5.152E-02	8.114E-02	6.786E-03	-0.409
Y-91	-3.771E-01		2.091E+01	3.376E+01	2.741E+00	-0.011
NB-94	1.694E-02		5.543E-02	9.485E-02	9.596E-03	0.179
NB-95	4.369E-02		6.890E-02	1.196E-01	1.216E-02	0.365
NB-95M	8.462E-02		1.950E-01	2.963E-01	3.183E-02	0.286
ZR-95	8.919E-02		1.124E-01	1.979E-01	2.160E-02	0.451
NB-97	9.777E-04		1.451E-03	Half-Life too short		
ZR-97	6.771E-03		2.349E-02	Half-Life too short		
MO-99	-2.719E+00		6.143E+00	9.878E+00	1.591E+00	-0.275
TC-99M	3.668E+04		1.528E+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
RH-101	1.057E-02		4.828E-02	8.246E-02	7.558E-03	0.128
RH-102	-2.618E-02		5.969E-02	9.435E-02	8.554E-03	-0.277
RU-103	2.803E-02		7.004E-02	1.161E-01	1.688E-02	0.241
RH-106	7.569E-01		5.754E-01	9.922E-01	1.410E-01	0.763
RU-106	7.569E-01		5.702E-01	9.922E-01	9.820E-02	0.763
AG-108M	3.044E-03		6.187E-02	1.012E-01	9.186E-03	0.030
AG-110M	8.704E-03		7.474E-02	1.107E-01	1.134E-02	0.079
IN-111	-1.091E-01		5.626E-01	9.038E-01	8.774E-02	-0.121
IN-113M	-2.722E-02		7.655E-02	1.229E-01	1.060E-02	-0.221
SN-113	-2.722E-02		7.655E-02	1.229E-01	1.060E-02	-0.221
IN-114M	-1.417E-02		2.645E-01	3.950E-01	3.580E-02	-0.036
CD-115	5.993E-01		4.882E+00	7.944E+00	7.488E-01	0.075
SN-117M	-3.187E-02		6.555E-02	1.013E-01	8.740E-03	-0.315
SB-122	7.539E-01		1.180E+00	1.979E+00	1.906E-01	0.381
I-123	1.034E-02		1.653E-02	Half-Life too short		
TE-123M	1.260E-02		4.031E-02	6.489E-02	5.638E-03	0.194
I-124	-4.902E-01		6.372E-01	8.117E-01	7.970E-02	-0.604
SB-124	1.643E-02		7.205E-02	1.261E-01	1.096E-02	0.130
SB-125	-2.099E-02		1.688E-01	2.735E-01	2.421E-02	-0.077
TE-125M	-9.148E+00		1.191E+01	1.845E+01	1.884E+00	-0.496
I-126	-1.245E-02		2.605E-01	3.797E-01	3.815E-02	-0.033
SB-126	-2.763E-02		1.853E-01	2.891E-01	2.932E-02	-0.096
SB-127	-3.473E-01		1.010E+00	1.653E+00	1.900E-01	-0.210
XE-127	2.954E-02		6.252E-02	1.077E-01	9.944E-03	0.274
I-131	3.606E-04		1.419E-01	2.337E-01	2.186E-02	0.002
TE-132	-1.398E-01		4.409E-01	7.313E-01	1.138E-01	-0.191
BA-133	1.184E-02		8.509E-02	1.244E-01	1.680E-02	0.095
I-133	3.422E-04		1.612E-04	Half-Life too short		
CS-134	9.293E-02		8.153E-02	1.454E-01	1.483E-02	0.639
CS-135	7.015E-02		2.857E-01	4.269E-01	4.731E-02	0.164
I-135	1.833E+04		4.877E+04	Half-Life too short		
CS-136	4.881E-02		1.659E-01	2.774E-01	2.631E-02	0.176
CE-139	5.242E-03		4.247E-02	6.782E-02	5.921E-03	0.077
BA-140	7.201E-02		3.673E-01	5.988E-01	1.998E-01	0.120
LA-140	1.021E-02		9.188E-02	1.552E-01	1.310E-02	0.066
CE-141	2.034E-02		7.947E-02	1.284E-01	1.109E-02	0.158
CE-143	5.785E+01		2.966E+01	4.433E+01	9.950E+00	1.305
CE-144	-1.775E-01		2.974E-01	4.605E-01	7.106E-02	-0.386
PM-144	4.343E-03		5.652E-02	9.531E-02	9.634E-03	0.046
PR-144	2.936E-01		3.821E+00	6.443E+00	6.513E-01	0.046
PM-146	-2.139E-02		8.723E-02	1.399E-01	1.532E-02	-0.153
ND-147	7.372E-01		7.606E-01	1.295E+00	2.000E-01	0.569
PM-149	-7.935E+00		3.713E+01	6.116E+01	9.962E+00	-0.130
EU-152	3.627E-02		1.715E-01	2.661E-01	2.596E-02	0.136
GD-153	-7.263E-02		1.126E-01	1.562E-01	1.385E-02	-0.465
EU-154	6.465E-03		1.145E-01	1.865E-01	2.061E-02	0.035
EU-155	2.949E-02		1.406E-01	2.294E-01	1.995E-02	0.129
TB-160	-3.047E-02		2.849E-01	4.677E-01	4.676E-02	-0.065

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
HO-166M	5.667E-02		9.835E-02	1.713E-01	1.735E-02	0.331
TM-171	-2.506E+01		3.400E+01	5.429E+01	4.044E+00	-0.462
LU-176	2.199E-02		3.867E-02	6.609E-02	6.447E-03	0.333
LU-177	2.205E+00	+	1.368E+00	1.800E+00	1.674E-01	1.225
LU-177M	8.523E-02		3.293E-01	5.460E-01	4.673E-02	0.156
HF-181	-5.292E-02		7.736E-02	1.199E-01	1.093E-02	-0.441
W-181	-4.108E-01		4.130E-01	6.519E-01	4.797E-02	-0.630
TA-182	-5.247E-02		1.757E-01	2.700E-01	2.203E-02	-0.194
RE-183	-4.489E-02		1.533E-01	2.398E-01	2.081E-02	-0.187
RE-184	1.996E-01		3.526E-01	6.059E-01	5.922E-02	0.329
OS-185	3.214E-02		7.209E-02	1.249E-01	1.247E-02	0.257
RE-188	1.874E-01		2.356E-01	3.889E-01	3.339E-02	0.482
W-188	-1.015E+01		1.286E+01	1.771E+01	1.751E+00	-0.574
IR-192	-2.424E-02		5.220E-02	8.420E-02	8.143E-03	-0.288
AU-195	3.364E-01		3.142E-01	4.829E-01	4.253E-02	0.696
TL-200	-1.080E-05		2.439E-05	Half-Life too short		
TL-201	5.806E-01		3.819E+00	6.105E+00	5.341E-01	0.095
TL-202	2.833E-02		1.025E-01	1.697E-01	1.490E-02	0.167
HG-203	4.482E-02		6.032E-02	1.039E-01	1.057E-02	0.431
BI-207	2.264E-02		1.035E-01	1.718E-01	1.551E-02	0.132
TL-207	-8.719E-01		1.140E+00	1.795E+00	3.265E-01	-0.486
PO-209	-9.990E-01		1.624E+01	2.671E+01	2.656E+00	-0.037
BI-210	-2.032E+00		4.183E+00	6.842E+00	6.345E-01	-0.297
PB-210	-2.032E+00		4.183E+00	6.842E+00	6.345E-01	-0.297
PO-210	-2.032E+00		4.182E+00	6.842E+00	5.741E-01	-0.297
PB-211	1.434E-01		1.660E+00	2.727E+00	1.708E+00	0.053
BI-212	4.389E-01	+	6.800E-01	9.007E-01	1.022E-01	0.487
PO-215	-8.719E-01		1.140E+00	1.795E+00	3.265E-01	-0.486
RN-219	3.758E-01		7.515E-01	1.262E+00	1.883E-01	0.298
RN-220	8.041E+00		4.620E+01	7.527E+01	7.191E+00	0.107
RA-223	-8.719E-01		1.140E+00	1.795E+00	3.265E-01	-0.486
RA-224	4.094E+00		1.302E+00	2.146E+00	2.075E-01	1.907
AC-227	-2.244E-01		6.011E-01	9.869E-01	1.583E-01	-0.227
TH-227	-2.244E-01		6.015E-01	9.869E-01	1.841E-01	-0.227
TH-229	7.552E-01		7.349E-01	1.293E+00	1.177E-01	0.584
PA-231	-9.882E-01		2.452E+00	3.995E+00	6.378E-01	-0.247
TH-231	-8.719E-01		1.140E+00	1.795E+00	3.265E-01	-0.486
U-231	-4.237E-02		7.166E-01	1.032E+00	9.230E-02	-0.041
PA-233	3.209E-02		1.016E-01	1.714E-01	1.701E-02	0.187
PA-234	-6.042E-01		7.041E-01	1.077E+00	2.079E-01	-0.561
PA-234M	3.622E+00		9.836E+00	1.644E+01	1.758E+00	0.220
TH-234	3.851E-01		1.646E+00	2.503E+00	4.349E-01	0.154
U-235	-1.458E-01		2.998E-01	4.682E-01	8.160E-02	-0.311
NP-236	1.478E-02		1.164E-01	1.856E-01	1.606E-02	0.080
NP-237	4.175E+00		1.065E+00	9.023E-01	2.041E-01	4.627
U-238	3.851E-01		1.646E+00	2.503E+00	4.349E-01	0.154
NP-239	-5.832E-02		2.802E-01	4.241E-01	3.553E-02	-0.138
AM-243	6.007E-02		8.814E-02	1.321E-01	1.063E-02	0.455

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Ided	Act error	MDA (pCi/GRAM)	MDA error	Act/MDA
CM-243	9.020E-03		1.265E-01	2.052E-01	1.771E-02	0.044
AM-246	-2.204E-01		2.913E-01	4.455E-01	3.970E-02	-0.495
CM-247	1.913E-02		6.685E-02	1.112E-01	9.404E-03	0.172
CF-249	2.845E-02		7.311E-02	1.225E-01	1.033E-02	0.232
CF-251	7.223E-02		1.889E-01	3.047E-01	2.704E-02	0.237

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]G1202029819          *
* Acquisition date   : 12-FEB-2010 18:28:27 Detector SN# :                  *
* Detector ID        : GAM20 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 01:00:19.24 Half life ratio : 8.000             *
*****
*                                     SAMPLE DATA                            *
*
* Sample date        : 2-FEB-2010 00:00:00 Nuclide Library : SOLID          *
* Sample ID          : G1202029819 Analyst initials:  RXF2                *
* Batch Number       : 947554 Sample Quantity : 1.5544E+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
CO-57	2.320E-01	6.175E-02	3.017E-02	3.151E-02
CO-60	6.725E+00	6.339E-01	3.432E-02	3.234E-01
CD-109	3.321E+01	3.626E+00	9.208E-01	1.850E+00
SN-126	3.286E+00	3.587E-01	9.137E-02	1.830E-01
BA-137M	5.743E+00	6.182E-01	5.595E-02	3.154E-01
CS-137	6.071E+00	6.542E-01	5.914E-02	3.338E-01
TL-208	3.898E-01	1.082E-01	5.267E-02	5.519E-02
BI-211	2.009E+00	5.930E-01	2.847E-01	3.026E-01
PB-212	1.018E+00	2.359E-01	7.886E-02	1.204E-01
PO-212	1.018E+00	2.359E-01	7.886E-02	1.204E-01
BI-214	7.127E-01	2.232E-01	9.483E-02	1.139E-01
PB-214	6.987E-01	2.094E-01	1.021E-01	1.068E-01
PO-214	6.987E-01	2.094E-01	1.021E-01	1.068E-01
PO-216	1.018E+00	2.359E-01	7.886E-02	1.204E-01
PO-218	6.987E-01	2.094E-01	1.021E-01	1.068E-01
RA-226	7.127E-01	2.232E-01	9.483E-02	1.139E-01
AC-228	7.688E-01	4.565E-01	2.331E-01	2.329E-01
RA-228	7.688E-01	4.565E-01	2.331E-01	2.329E-01
TH-228	1.029E+00	2.385E-01	7.971E-02	1.217E-01
TH-230	7.127E-01	2.232E-01	9.483E-02	1.139E-01
TH-232	7.688E-01	4.565E-01	2.331E-01	2.329E-01
U-234	7.127E-01	2.232E-01	9.483E-02	1.139E-01
AM-241	1.350E+01	1.180E+00	2.083E-01	6.020E-01
ANH-511	9.397E-02	9.254E-02	4.150E-02	4.721E-02

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

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error	DLC (pCi/GRAM)	TPU
BE-7	-3.480E-01	6.164E-01	5.133E-01	3.145E-01 NOT IDENT.
NA-22	-1.315E-03	4.080E-02	3.378E-02	2.081E-02 NOT IDENT.
NA-24	-1.403E+03	5.941E+03	0.000E+00	3.031E+03 SHORT HLIF

AL-26	4.455E-03	3.813E-02	3.291E-02	1.945E-02	NOT IDENT.
K-40	6.210E-01	5.118E-01	5.014E-01	2.611E-01	NOT IDENT.
TI-44	9.287E-02	7.436E-02	4.889E-02	3.794E-02	FAIL ABUN
SC-46	-2.900E-03	7.260E-02	6.244E-02	3.704E-02	NOT IDENT.
V-48	-1.279E-01	1.298E-01	1.029E-01	6.621E-02	NOT IDENT.
CR-51	1.410E-01	5.381E-01	4.848E-01	2.745E-01	NOT IDENT.
MN-52	-2.602E-02	1.426E-01	1.187E-01	7.274E-02	FAIL ABUN
MN-54	-1.211E-02	6.637E-02	5.684E-02	3.386E-02	NOT IDENT.
CO-56	2.286E-02	7.016E-02	6.215E-02	3.580E-02	NOT IDENT.
CO-58	-1.155E-03	6.713E-02	5.832E-02	3.425E-02	NOT IDENT.
FE-59	-1.794E-01	1.561E-01	1.181E-01	7.962E-02	NOT IDENT.
ZN-65	2.081E-02	1.640E-01	1.398E-01	8.370E-02	NOT IDENT.
GE-68	-1.789E+00	2.451E+00	1.954E+00	1.251E+00	NOT IDENT.
AS-73	-5.225E-01	1.279E+00	1.172E+00	6.528E-01	NOT IDENT.
AS-74	-3.405E-02	1.416E-01	1.176E-01	7.222E-02	NOT IDENT.
SE-75	-5.477E-02	7.226E-02	6.041E-02	3.687E-02	FAIL ABUN
BR-77	3.340E+00	4.957E+00	4.429E+00	2.529E+00	FAIL ABUN
SR-82	-3.556E-01	5.706E-01	4.743E-01	2.911E-01	NOT IDENT.
RB-83	-1.909E-02	1.185E-01	1.002E-01	6.044E-02	NOT IDENT.
RB-84	6.733E-02	1.273E-01	1.137E-01	6.497E-02	NOT IDENT.
KR-85	1.127E+01	1.235E+01	1.001E+01	6.299E+00	NOT IDENT.
SR-85	5.521E-02	6.046E-02	4.902E-02	3.085E-02	NOT IDENT.
RB-86	-4.177E-01	1.303E+00	1.075E+00	6.647E-01	NOT IDENT.
Y-88	-2.276E-02	4.195E-02	3.065E-02	2.140E-02	NOT IDENT.
ZR-88	-3.320E-02	5.049E-02	4.243E-02	2.576E-02	NOT IDENT.
Y-91	-3.771E-01	2.049E+01	1.713E+01	1.046E+01	NOT IDENT.
NB-94	1.694E-02	5.433E-02	4.884E-02	2.772E-02	NOT IDENT.
NB-95	4.369E-02	6.752E-02	6.145E-02	3.445E-02	NOT IDENT.
NB-95M	8.462E-02	1.911E-01	1.570E-01	9.749E-02	NOT IDENT.
ZR-95	8.919E-02	1.102E-01	1.017E-01	5.622E-02	NOT IDENT.
NB-97	9.777E+02	2.844E+03	0.000E+00	1.451E+03	SHORT HLIF
ZR-97	6.771E+03	4.604E+04	0.000E+00	2.349E+04	SHORT HLIF
MO-99	-2.719E+00	6.020E+00	5.079E+00	3.071E+00	NOT IDENT.
TC-99M	3.668E+10	2.996E+11	0.000E+00	1.528E+11	SHORT HLIF
RH-101	1.057E-02	4.731E-02	4.390E-02	2.414E-02	NOT IDENT.
RH-102	-2.618E-02	5.850E-02	4.910E-02	2.985E-02	NOT IDENT.
RU-103	2.803E-02	6.864E-02	6.034E-02	3.502E-02	FAIL ABUN
RH-106	7.569E-01	5.639E-01	5.126E-01	2.877E-01	FAIL ABUN
RU-106	7.569E-01	5.588E-01	5.126E-01	2.851E-01	FAIL ABUN
AG-108M	3.044E-03	6.064E-02	5.280E-02	3.094E-02	NOT IDENT.
AG-110M	8.704E-03	7.324E-02	5.710E-02	3.737E-02	NOT IDENT.
IN-111	-1.091E-01	5.514E-01	4.785E-01	2.813E-01	NOT IDENT.
IN-113M	-2.722E-02	7.502E-02	6.430E-02	3.828E-02	NOT IDENT.
SN-113	-2.722E-02	7.502E-02	6.430E-02	3.828E-02	NOT IDENT.
IN-114M	-1.417E-02	2.592E-01	2.105E-01	1.322E-01	NOT IDENT.
CD-115	5.993E-01	4.785E+00	4.122E+00	2.441E+00	NOT IDENT.
SN-117M	-3.187E-02	6.424E-02	5.421E-02	3.278E-02	NOT IDENT.
SB-122	7.539E-01	1.156E+00	1.025E+00	5.900E-01	NOT IDENT.
I-123	1.034E+04	3.240E+04	0.000E+00	1.653E+04	SHORT HLIF
TE-123M	1.260E-02	3.950E-02	3.473E-02	2.015E-02	NOT IDENT.
I-124	-4.902E-01	6.245E-01	4.197E-01	3.186E-01	NOT IDENT.
SB-124	1.643E-02	7.061E-02	6.338E-02	3.602E-02	FAIL ABUN
SB-125	-2.099E-02	1.654E-01	1.427E-01	8.440E-02	NOT IDENT.
TE-125M	-9.148E+00	1.168E+01	9.968E+00	5.957E+00	NOT IDENT.
I-126	-1.245E-02	2.552E-01	1.958E-01	1.302E-01	NOT IDENT.
SB-126	-2.763E-02	1.816E-01	1.488E-01	9.267E-02	NOT IDENT.
SB-127	-3.473E-01	9.903E-01	8.515E-01	5.052E-01	FAIL ABUN
XE-127	2.954E-02	6.127E-02	5.732E-02	3.126E-02	NOT IDENT.
I-131	3.606E-04	1.390E-01	1.224E-01	7.094E-02	NOT IDENT.
TE-132	-1.398E-01	4.320E-01	3.879E-01	2.204E-01	NOT IDENT.
BA-133	1.184E-02	8.339E-02	6.522E-02	4.254E-02	NOT IDENT.
I-133	3.422E+02	3.160E+02	0.000E+00	1.612E+02	SHORT HLIF
CS-134	9.293E-02	7.990E-02	7.460E-02	4.076E-02	NOT IDENT.
CS-135	7.015E-02	2.800E-01	2.255E-01	1.428E-01	NOT IDENT.
I-135	1.833E+10	9.558E+10	0.000E+00	4.877E+10	SHORT HLIF
CS-136	4.881E-02	1.626E-01	1.413E-01	8.296E-02	NOT IDENT.
CE-139	5.242E-03	4.162E-02	3.627E-02	2.123E-02	NOT IDENT.
BA-140	7.201E-02	3.599E-01	3.105E-01	1.836E-01	NOT IDENT.
LA-140	1.021E-02	9.004E-02	7.812E-02	4.594E-02	NOT IDENT.
CE-141	2.034E-02	7.788E-02	6.889E-02	3.973E-02	NOT IDENT.
CE-143	5.785E+01	2.907E+01	2.336E+01	1.483E+01	FAIL ABUN
CE-144	-1.775E-01	2.915E-01	2.476E-01	1.487E-01	NOT IDENT.
PM-144	4.343E-03	5.539E-02	4.909E-02	2.826E-02	NOT IDENT.
PR-144	2.936E-01	3.744E+00	3.319E+00	1.910E+00	NOT IDENT.
PM-146	-2.139E-02	8.548E-02	7.289E-02	4.361E-02	NOT IDENT.
ND-147	7.372E-01	7.454E-01	6.721E-01	3.803E-01	NOT IDENT.
PM-149	-7.935E+00	3.639E+01	3.225E+01	1.857E+01	NOT IDENT.
EU-152	3.627E-02	1.680E-01	1.396E-01	8.574E-02	FAIL ABUN

GD-153	-7.263E-02	1.103E-01	8.464E-02	5.630E-02	NOT IDENT.
EU-154	6.465E-03	1.123E-01	9.446E-02	5.727E-02	FAIL ABUN
EU-155	2.949E-02	1.378E-01	1.241E-01	7.032E-02	FAIL ABUN
TB-160	-3.047E-02	2.792E-01	2.393E-01	1.425E-01	FAIL ABUN
HO-166M	5.667E-02	9.638E-02	8.818E-02	4.917E-02	FAIL ABUN
TM-171	-2.506E+01	3.332E+01	2.969E+01	1.700E+01	FAIL ABUN
LU-176	2.199E-02	3.790E-02	3.479E-02	1.934E-02	FAIL ABUN
LU-177	2.205E+00	1.341E+00	9.571E-01	6.841E-01	FAIL ABUN
LU-177M	8.523E-02	3.227E-01	2.851E-01	1.646E-01	FAIL ABUN
HF-181	-5.292E-02	7.581E-02	6.236E-02	3.868E-02	NOT IDENT.
W-181	-4.108E-01	4.047E-01	3.567E-01	2.065E-01	NOT IDENT.
TA-182	-5.247E-02	1.721E-01	1.369E-01	8.783E-02	NOT IDENT.
RE-183	-4.489E-02	1.503E-01	1.283E-01	7.667E-02	FAIL ABUN
RE-184	1.996E-01	3.456E-01	3.205E-01	1.763E-01	FAIL ABUN
OS-185	3.214E-02	7.065E-02	6.444E-02	3.605E-02	FAIL ABUN
RE-188	1.874E-01	2.309E-01	2.083E-01	1.178E-01	NOT IDENT.
W-188	-1.015E+01	1.260E+01	9.333E+00	6.430E+00	NOT IDENT.
IR-192	-2.424E-02	5.115E-02	4.429E-02	2.610E-02	FAIL ABUN
AU-195	3.364E-01	3.079E-01	2.616E-01	1.571E-01	NOT IDENT.
TL-200	-1.080E+01	4.781E+01	0.000E+00	2.439E+01	SHORT HLIF
TL-201	5.806E-01	3.743E+00	3.264E+00	1.910E+00	NOT IDENT.
TL-202	2.833E-02	1.004E-01	8.846E-02	5.123E-02	NOT IDENT.
HG-203	4.482E-02	5.911E-02	5.484E-02	3.016E-02	NOT IDENT.
BI-207	2.264E-02	1.014E-01	8.747E-02	5.175E-02	NOT IDENT.
TL-207	-8.719E-01	1.117E+00	9.437E-01	5.700E-01	FAIL ABUN
PO-209	-9.990E-01	1.591E+01	1.366E+01	8.120E+00	NOT IDENT.
BI-210	-2.032E+00	4.099E+00	3.774E+00	2.091E+00	NOT IDENT.
PB-210	-2.032E+00	4.099E+00	3.774E+00	2.091E+00	NOT IDENT.
PO-210	-2.032E+00	4.098E+00	3.774E+00	2.091E+00	NOT IDENT.
PB-211	1.434E-01	1.627E+00	1.425E+00	8.299E-01	NOT IDENT.
BI-212	4.389E-01	6.664E-01	4.633E-01	3.400E-01	FAIL ABUN
PO-215	-8.719E-01	1.117E+00	9.437E-01	5.700E-01	FAIL ABUN
RN-219	3.758E-01	7.365E-01	6.594E-01	3.758E-01	FAIL ABUN
RN-220	8.041E+00	4.527E+01	3.901E+01	2.310E+01	NOT IDENT.
RA-223	-8.719E-01	1.117E+00	9.437E-01	5.700E-01	FAIL ABUN
RA-224	4.094E+00	1.276E+00	1.137E+00	6.511E-01	NOT IDENT.
AC-227	-2.244E-01	5.891E-01	5.219E-01	3.006E-01	FAIL ABUN
TH-227	-2.244E-01	5.895E-01	5.219E-01	3.008E-01	FAIL ABUN
TH-229	7.552E-01	7.202E-01	6.885E-01	3.674E-01	FAIL ABUN
PA-231	-9.882E-01	2.403E+00	2.107E+00	1.226E+00	NOT IDENT.
TH-231	-8.719E-01	1.117E+00	9.437E-01	5.700E-01	FAIL ABUN
U-231	-4.237E-02	7.022E-01	5.594E-01	3.583E-01	FAIL ABUN
PA-233	3.209E-02	9.959E-02	9.020E-02	5.081E-02	FAIL ABUN
PA-234	-6.042E-01	6.900E-01	5.500E-01	3.520E-01	FAIL ABUN
PA-234M	3.622E+00	9.640E+00	8.381E+00	4.918E+00	NOT IDENT.
TH-234	3.851E-01	1.613E+00	1.370E+00	8.231E-01	FAIL ABUN
U-235	-1.458E-01	2.938E-01	2.513E-01	1.499E-01	FAIL ABUN
NP-236	1.478E-02	1.141E-01	9.934E-02	5.820E-02	NOT IDENT.
NP-237	4.175E+00	1.043E+00	4.903E-01	5.323E-01	NOT IDENT.
U-238	3.851E-01	1.613E+00	1.370E+00	8.231E-01	FAIL ABUN
NP-239	-5.832E-02	2.746E-01	2.287E-01	1.401E-01	FAIL ABUN
AM-243	6.007E-02	8.637E-02	7.205E-02	4.407E-02	FAIL ABUN
CM-243	9.020E-03	1.240E-01	1.110E-01	6.326E-02	FAIL ABUN
AM-246	-2.204E-01	2.854E-01	2.267E-01	1.456E-01	NOT IDENT.
CM-247	1.913E-02	6.551E-02	5.812E-02	3.342E-02	NOT IDENT.
CF-249	2.845E-02	7.165E-02	6.406E-02	3.656E-02	NOT IDENT.
CF-251	7.223E-02	1.851E-01	1.627E-01	9.445E-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	527.1066
46.50	527.1066
46.50	527.1066
48.70	596.0320
49.72	614.9310
51.35	656.3003
52.39	685.2524
52.97	709.7095
53.15	709.9640
53.44	755.7611
54.07	763.4234
56.28	761.9609
56.28	761.9648
57.37	824.7050
57.53	824.9561
57.53	824.9582
57.60	825.0658
57.98	831.6329
57.98	831.6329
59.32	606.7151
59.32	606.7151
59.40	606.8048
59.54	606.9641
59.72	607.1682
60.01	607.4944
61.10	409.9843
61.14	410.0134
61.30	390.6040
63.00	334.5476
63.29	336.2294
63.29	336.2294
63.58	336.4042
64.28	374.5865
65.12	383.2118
65.20	383.2659
65.20	383.2659
66.05	406.0607
66.72	402.4900
66.83	364.1309
66.91	364.1821
67.20	364.3652
67.20	364.3652
67.75	337.3580
67.85	346.5349
68.90	368.4762
68.90	368.4762
69.30	368.7273
69.67	368.9599
70.82	400.2260
70.82	400.2260
70.83	400.2320
72.80	525.6872
72.87	508.8867
72.87	508.8867
74.67	498.0877
74.81	498.2014
74.81	498.2014
74.81	498.2014
74.81	498.2014
74.81	498.2014
74.81	498.2014
74.81	498.2014
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77.11	501.0719

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77.11	501.0719
77.11	501.0719
77.11	501.0719
77.11	501.0719
78.38	344.8578
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79.80	382.8225
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80.18	383.0486
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80.30	403.2845
80.57	403.4531
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81.07	405.3174
81.07	405.3174
81.07	405.3174
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83.78	355.5368
83.78	355.5368
83.78	355.5368
83.78	355.5368
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84.90	393.6231
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86.29	414.7883
86.50	468.1524
86.54	468.1798
86.59	468.2141
86.72	468.3030
86.79	468.3509
86.94	501.3574
87.30	501.6235
87.30	501.6235
87.30	501.6235
87.30	501.6235
87.30	501.6235
87.30	501.6235
87.57	371.1387
87.88	371.3084
88.03	371.3896
88.36	371.5684
88.47	371.6280
89.95	372.4279
91.11	373.0490
92.29	373.6774
92.38	373.7261
92.38	373.7261
93.35	374.2389
94.00	374.5820
94.67	374.9305
94.67	374.9341
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94.90	375.0533
94.90	375.0533
94.90	375.0533
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95.87	250.7264
96.73	282.8007
97.43	263.9888
98.44	208.6163
98.44	208.6163
98.88	211.9282
99.55	220.7334
99.55	220.7334
99.86	234.8673
100.00	238.3167
100.10	238.3498
103.18	239.3319
103.76	238.4460
105.00	244.1901
105.31	234.6457
108.00	218.2626
109.28	266.0067

111.00	247.1603
111.00	247.1603
111.76	249.5580
112.95	235.8651
115.19	264.7305
116.30	245.5368
117.00	251.8365
117.00	251.8365
117.66	236.6948
121.11	252.4342
121.62	233.9983
121.78	234.0429
122.06	234.1213
122.32	234.1931
122.32	234.1931
122.32	234.1931
122.32	234.1931
123.07	234.4021
127.23	229.4913
129.76	234.0229
131.20	262.0491
133.02	250.4015
133.54	270.5013
135.34	225.5025
136.00	252.3477
136.25	252.4169
136.48	252.4816
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140.51	0.0000
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143.76	248.8806
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144.24	254.6176
144.24	254.6176
144.24	254.6176
145.22	225.6895
145.44	225.7426
147.16	238.5302
152.43	239.8414
152.70	245.5654
153.22	246.8289
154.21	216.4779
154.21	216.4779
154.21	216.4779
154.21	216.4779
155.03	216.6586
156.02	228.2310
158.56	250.4452
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159.00	220.9438
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161.27	251.1233
162.32	236.5284
162.64	238.8902
163.35	235.6246
163.89	224.3062
165.85	223.5883
167.43	226.2281
171.28	223.6080
171.86	235.2628
172.10	235.3168
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176.60	216.6239
181.06	219.8463
184.41	214.2187
185.71	204.1328
186.00	204.1861
190.27	216.7542
192.34	228.2572
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198.60	251.6570
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201.83	271.0170
202.84	222.3377
205.31	209.6132

208.36	205.8609
208.81	230.6080
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209.75	263.3500
210.97	237.8286
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216.55	245.5775
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226.40	233.0180
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227.08	251.2849
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228.16	257.8539
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228.18	250.5946
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236.00	223.6206
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238.63	240.7295
238.63	240.7295
239.00	240.7977
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241.98	211.4262
241.98	211.4262
241.98	211.4262
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252.85	179.4684
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256.20	205.8732
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262.80	193.8098
264.65	226.0522
268.24	205.0351
268.79	187.1460
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269.46	191.7281
269.46	191.7281
269.46	191.7281
271.23	197.9646
273.65	160.7429
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277.60	201.4773
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278.60	179.9456
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279.53	176.2884
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284.30	191.0487
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285.90	183.6807
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286.10	188.4391
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290.80	200.6232
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293.70	179.6879
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295.21	194.3472

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297.23	228.9478
298.57	229.1492
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300.09	171.2676
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323.87	200.8408
323.87	200.8408
323.87	200.8408
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334.20	165.5939
334.30	165.6043
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338.28	155.6252
338.28	155.6252
338.28	155.6252
338.32	155.6301
338.32	155.6301
338.32	155.6301
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344.27	151.9243
345.85	157.3096
350.59	156.1715
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351.92	163.7913
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364.48	165.9705
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367.43	153.3068
367.94	0.0000
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374.96	172.9498
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391.69	161.4282
391.69	161.4282
392.90	160.5236
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402.60	156.2817
404.84	155.4513
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443.98	151.3289
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445.03	137.9254
445.03	137.9254
445.03	137.9254
445.03	137.9254
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475.35	176.7799
476.78	175.8449
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513.99	92.5330
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546.56	0.0000
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568.70	97.5719
569.32	94.3092
569.50	94.3145
569.67	94.3223
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574.00	96.6877
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592.07	107.3578
593.00	96.3245
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602.52	0.0000
602.71	113.8156
602.71	113.8156
603.60	92.5057
604.41	110.3315
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609.31	96.9484
609.31	96.9484
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614.37	80.3936
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621.84	79.5067
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633.10	86.5968
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636.97	92.8081
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661.65	111.8531
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666.33	86.5414
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695.00	79.1574
696.49	91.1714
696.49	91.1714
697.00	95.7912
697.49	91.2028
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698.50	87.5480
699.00	94.9380
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722.78	86.7458
722.89	86.7480
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756.15	69.5593
756.87	76.1570
763.93	97.0705
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766.84	91.5035
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778.57	95.6442
778.89	93.7600
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792.07	77.0410

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898.02	111.0275
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911.07	109.4797
911.07	109.4797
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969.11	126.3292
969.11	126.3292
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1099.22	89.2250
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1120.29	79.2656
1120.29	79.2656
1120.29	79.2656
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1147.95	0.0000
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1175.09	42.2754
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1298.22	0.0000
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1325.50	14.5814
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1368.53	0.0000
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1407.95	15.7646
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1596.49	17.3210
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1691.02	5.8743
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1750.46	0.0000
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1764.49	10.9091
1764.49	10.9091
1764.49	10.9091
1770.23	33.7524
1771.40	15.8867
1791.20	0.0000
1808.65	8.9934

1836.01

12.0464

TOTAL URANIUM BY GAMMA SPEC REPORT
Sample:G1202029819

Total Uranium Activity	1.0784E+00	ug/g
Total Uranium Counting Unc.	4.8016E+00	ug/g
Total Uranium Tpu	2.4498E-06	ug/g
Total Uranium Mda	4.0786E+00	ug/g

```

*****
*
*                               GEL Laboratories LLC                               *
*                               2040 SAVAGE ROAD                               *
*                               CHARLESTON , SC 29417                          *
*                               GROSS GAMMA REPORT                            *
*
*****
*
*  BATCH ID      : 947554                SAMPLE ID   : G1202029819            *
*  ANALYST       : RXF2                  DETECTOR    : GAM20                *
*  SAMPLE DATE   : 2-FEB-2010 00:00:00.00  COUNT TIME : 0 01:00:00.00        *
*  ANALYSIS DATE: 12-FEB-2010 18:28:27.88  SAMPLE ALQT: 155.440 GRAM        *
*
*****

```

```

GROSS GAMMA ACTIVITY (pCi/GRAM ) : 2.716E+01
GROSS GAMMA ERROR   (pCi/GRAM ) : 2.836E+00
GROSS GAMMA MDA     (pCi/GRAM ) : 4.754E+00
GROSS GAMMA DLC     (pCi/GRAM ) : 2.327E+00

```


Radiochemistry Batch Checklist, Rev10

Batch# 948404

Product: H3

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

GEL Laboratories, LLC

RADchecklistrev10, revised 1/13/2010

Primary Review Performed By:

[Signature] 2/10/10

Secondary Review Performed By:

[Signature] 2/17/10

Tritium Que Sheet

03-FEB-10

40 Orange

Batch #: 948404 Analyst: KKK2 First Client Due Date 26-FEB-10 Internal Due Date: 15-FEB-10

Spike Isotope: Hydrogen-3 Spike Code: 0134- K Expiration Date: 3/27/10 Vol: 9.1
LCS Isotope: Hydrogen-3 LCS Code: 0134-K Expiration Date: 3/27/10 Vol: 9.1

Prep Date: 2/5/10 Initials: YKJ Pipet ID: 2970968 Witness: 2/21/10

Sample ID	Client Samp ID	Type	Hazard Code	Min CRDL	Matrix	Client	Sample Date	Aliquot in vial (g/mL)	LSC Rack #	Dist Rig #	Vol added for Dist (mL)	Initial Sample Aliquot (g/mL)	Final Wt (g)	Total Moisture Dist (mL)
245808001-1	RE15-10-7954	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	5	1		390.40	362.16	22.30
245808002-1	RE15-10-7956	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	6	2		413.51	444.63	28.88
245808003-1	RE15-10-7955	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	7	3		390.10	319.88	70.22
245808004-1	RE15-10-7953	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	8	4		425.44	365.88	59.56
245808005-1	RE15-10-7952	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	9	5		437.23	408.37	28.86
245808006-1	RE15-10-8060	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	10	6		422.66	361.37	61.29
245808007-1	RE15-10-8058	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	11	7		263.31	189.05	94.26
245808008-1	RE15-10-8059	SAMPLE		.25 pCi/mL SOIL		LANL010	26-JAN-10	10	12	8		362.31	336.22	26.09
1202031688-1	MB for batch 948404	MB		.25 pCi/mL SOIL		QC ACCOUNT		10	13	9		20.00	0	20.00
1202031689-1	DUP	DUP		.25 pCi/mL SOIL		QC ACCOUNT	26-JAN-10	10	14	3		390.10	319.88	70.22
1202031690-1	LCS for batch 948404	LCS		.25 pCi/mL SOIL		QC ACCOUNT		10	15	10		20.00	0	20.00

Bkg Rack #: 4

✓ 0411165

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 Econscint Ultra)
Data Reviewed By: [Signature]

GEL Laboratories LLC, Radiochemistry Division

Page 1 of 1

DATE	2/5/2010	INITIALS	KXK2	BATCH NUMBER	948404	
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
245808001	384.46	0.058	22.30	362.16	10	
245808002	473.51	0.061	28.88	444.63	10	
245808003	390.10	0.180	70.22	319.88	10	
245808004	425.44	0.140	59.56	365.88	10	
245808005	437.23	0.066	28.86	408.37	10	
245808006	422.66	0.145	61.29	361.37	10	
245808007	263.31	0.358	94.26	169.05	10	
245808008	362.31	0.072	26.09	336.22	10	
MB	20.00	1.000	20.00	0.00	10	
DUP	390.10	0.180	70.22	319.88	10	
LCS	20.00	1.000	20.00	0.00	10	

T948404

Tritium Solid

Filename : H3VAC.XLS
File type : Excel
Version # : 1.2.6

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

LCS S/N : 0134-K
LCS Exp Date : 3/27/2010
LCS Activity (dpm/ml): 2470.48
LCS Volume Added: 0.10

Batch : 848404
Analyst : KKK2
Prep Date : 2/5/2010

Procedure Code : LSC_VH9S
Paramname : Tritium
Required MDC : 250 pCi/L
Half-life of Tritium : 12.32 years

H-3 Abundance : 1
Method Uncertainty : 0.0691
Geometry: 10mL DW/13mL
Ecoschr Ultra

Pipet, 0.1 ml Stdev : +/- 0.000701 ml
Pipet, 0.5 ml Stdev : +/- 0.002584 ml
Pipet, 1.0 ml Stdev : +/- 0.005480 ml
Pipet, 5.0 ml Stdev : +/- 0.025729 ml

Sample Characteristics		Total Moisture		Sample Aliquot in Vial		Sample Aliquot Stdev.		Dry Sample Weight (g)		% Moisture of Sample		Rig number		Sample Date/Time	
Pos.	Sample ID	Wet Sample Weight (g)	L	Sample Aliquot in Vial L	L	Sample Aliquot Stdev. L	L	Weight (g)	L	Moisture of Sample %	L	number	L	Date/Time	L
1	245808001.1	384.46	0.0223	0.0100	2.5729E-05	362.16	5.80%	1	1/26/2010 12:00						
2	245808002.1	473.51	0.0288	0.0100	2.5729E-05	444.63	6.10%	2	1/26/2010 12:00						
3	245808003.1	390.10	0.0702	0.0100	2.5729E-05	319.88	18.00%	3	1/26/2010 12:00						
4	245808004.1	425.44	0.0596	0.0100	2.5729E-05	365.88	14.00%	4	1/26/2010 12:00						
5	245808005.1	437.23	0.0289	0.0100	2.5729E-05	408.37	6.60%	5	1/26/2010 12:00						
6	245808006.1	422.66	0.0613	0.0100	2.5729E-05	361.37	14.50%	6	1/26/2010 12:00						
7	245808007.1	263.31	0.0943	0.0100	2.5729E-05	169.05	35.80%	7	1/26/2010 12:00						
8	245808008.1	362.31	0.0261	0.0100	2.5729E-05	336.22	7.20%	8	1/26/2010 12:00						
9	1202031688.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	9	2/5/2010 0:00						
10	1202031689.1	390.10	0.0702	0.0100	2.5729E-05	319.88	18.00%	3	1/26/2010 12:00						
11	1202031690.1	20.00	0.0200	0.0100	2.5729E-05	0.00	100.00%	10	2/5/2010 0:00						

Count raw Data			Background				Calibration Data			Detector			Backgrounds	
Pos.	Rack Position #	Counting Time (min.)	Quench#	Gross cpm	Count Time (min.)	Count Start Date/Time	Sample Decay	Counted on	Calibration Date	Calibration Due Date	Detector Efficiency (cpm/dpm)	Detector Error (cpm/dpm)	Rack Position #	Count Start Date/Time
1	5	21.163	761.02	484.02	1.40	2/9/2010 9:37	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2727	0.00792	4	2/9/2010 8:54
2	6	14.2463	756.97	719.32	1.40	2/9/2010 10:00	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2661	0.00792	4	2/9/2010 8:54
3	7	9.12967	758.16	1125.11	1.40	2/9/2010 10:17	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2681	0.00792	4	2/9/2010 8:54
4	8	3.89633	757.89	2643.19	1.40	2/9/2010 10:29	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2676	0.00792	4	2/9/2010 8:54
5	9	40.0297	760.83	3.42	1.40	2/9/2010 10:35	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2724	0.00792	4	2/9/2010 8:54
6	10	4.27967	760.86	2405.66	1.40	2/9/2010 11:18	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2725	0.00792	4	2/9/2010 8:54
7	11	40.0297	757.82	30.22	1.40	2/9/2010 11:24	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2675	0.00792	4	2/9/2010 8:54
8	12	40.0297	756.47	5.77	1.40	2/9/2010 12:07	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2653	0.00792	4	2/9/2010 8:54
9	13	40.0297	759.49	0.76	1.40	2/9/2010 12:49	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2703	0.00792	4	2/9/2010 8:54
10	14	9.2462	759.71	1110.92	1.40	2/9/2010 13:32	0.998	LSCORANGE	7/23/2009	7/31/2010	0.2706	0.00792	4	2/9/2010 8:54
11	15	15.0297	761.92	36.91	1.40	2/9/2010 13:44	0.999	LSCORANGE	7/23/2009	7/31/2010	0.2742	0.00792	4	2/9/2010 8:54

Page 625 of 817

Results										Sample Act.				Sample Act.				1 SIGMA				1 SIGMA					
Pos.	Decision Level	Critical Level	Required MDC	MDC	pC/L	MDC	pC/L	Conc.	pC/L	Sample Act. Error	pC/L	Net Count Rate	Net Count Rate Error	Counting Uncertainty	pC/L	Total Prop. Uncertainty	QC	Sample Type	RER	RPD	Nominal pC/L	Recovery					
1	122.6944	86.5810	250	196.6240		79876.0898		0.013		482.620	4.786	792.1313	5618.4210		SAMPLE												
2	144.2672	101.8538	250	239.4271		121776.1286		0.013		717.920	7.108	1205.7188	8566.6785		SAMPLE												
3	170.2612	120.2059	250	295.7439		189218.2951		0.013		1123.710	11.103	1869.5748	13310.6053		SAMPLE												
4	246.7691	174.2211	250	478.3078		445561.6120		0.013		2641.790	26.046	4393.1529	31343.0581		SAMPLE												
5	102.1082	72.0692	250	156.5966		334.7094		0.172		2.020	0.347	57.4975	62.0435		SAMPLE												
6	232.2799	163.9916	250	444.1151		398310.3325		0.013		2404.260	23.710	3927.9485	28018.0270		SAMPLE												
7	103.9631	73.4129	250	159.4720		48833.0941		0.032		28.820	0.889	149.9715	370.4197		SAMPLE												
8	104.8532	74.0272	250	160.8084		743.5651		0.097		4.370	0.423	72.0122	88.7001		SAMPLE												
9	102.7827	72.5655	250	157.6312		-106.7471		0.363		-0.640	0.232	38.7447	38.7458		MB												
10	167.8037	118.4709	250	291.0664		185085.4619		0.013		1109.520	10.963	1828.7744	13019.8175	245808003.1	DUP		2.2%	0.0785									
11	137.1052	96.7975	250	228.4087		5937.6048		0.045		35.510	1.578	259.4492	482.3037		LCS						5564.1523	104.9%					

REGISTRY

TUE 9 FEB 2010 8:52

*** DIRECTORY PATH :S:\LSC\O\DA\948404A0 ***

PARAMETER GROUP: 8
ID: H-3 (4)

00A PROGRAM MODE 6 ->

ORDER	POS	ID	CTIME	COUNTS	CUCNTS	MCW	REP	STD	STMS	STIME
1	4	BKG	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
2	5	245808001	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
3	6	245808002	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
4	7	245808003	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
5	8	245808004	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
6	9	245808005	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
7	10	245808006	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
8	11	245808007	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
9	12	245808008	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
10	13	1202031688	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
11	14	1202031689	40:00	1.0E04	NO LIM	1	1	Y	1/10	1:00
12	15	1202031690	15:00	1.0E04	NO LIM	1	1	Y	1/10	1:00

NUMBER OF CYCLES 1
COINCIDENCE BIAS (L/H) L

MCA INPUT TRIGG. INHIBIT
1 LRSUM DCOS G
2 GSUM G

MEMORY SPLIT
L*R
L*R

WINDOW	CHANNELS	MCA	HALF
1	50- 175	1	2
2	5- 320	1	2
3	1- 1024	1	2
4	50- 320	1	1
5	50- 270	1	1
6	60- 220	1	1
7	1- 1024	2	1
8	1- 1024	2	2

SELECTED PRINTOUT FOR TERMINAL 1 (A)

SELECTED PRINTOUT FOR TERMINAL 2 (B)

1.	2.	3.	4.	5.	6.	7.
POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
SEND SPECTRA	12					
RESOLUTION OF SPECTRA	1024					
LISTING	Y					
INSTRUMENT NUMBER	1					

POS	ID	CTIME	SQP	CPM1	CPM2	CPM3
Q010401N.001	9 FEB 2010	9:35				
4	BKG	40:01.780	760.40	1.40	2.96	7.67
Q020501N.001	9 FEB 2010	9:59				

Page 1

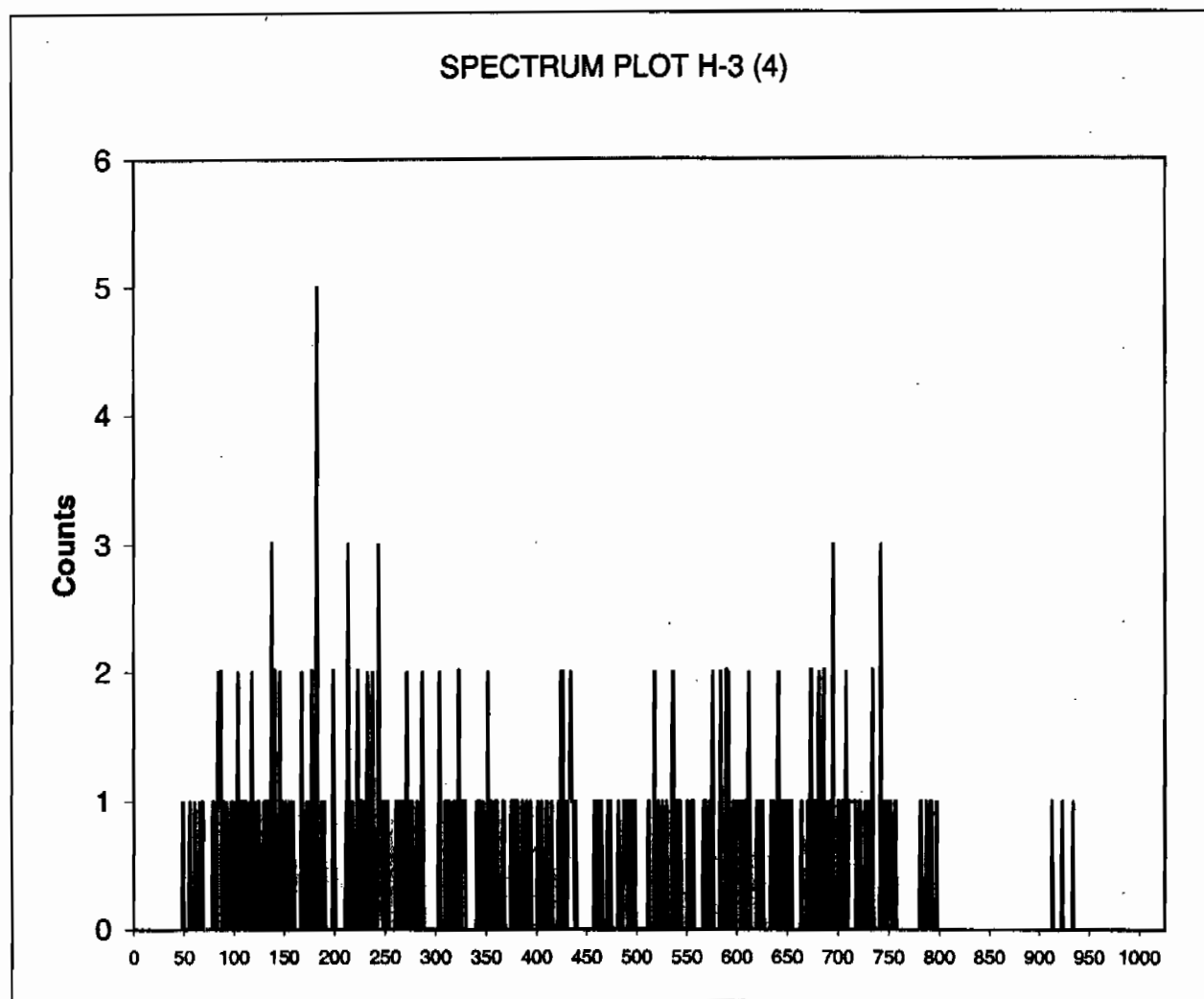
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5	245808001	21:09.780	761.02	484.02	528.47	532.68
Q030601N.001	9 FEB 2010	10:15				
6	245808002	14:14.780	756.97	719.32	779.61	783.41
Q040701N.001	9 FEB 2010	10:27				
7	245808003	9:07.780	758.16	1125.11	1213.13	1218.17
Q050801N.001	9 FEB 2010	10:33				
8	245808004	3:53.780	757.89	2643.19	2859.21	2862.36
Q060901N.001	9 FEB 2010	11:16				
9	245808005	40:01.780	760.83	3.42	4.83	9.15
Q071001N.001	9 FEB 2010	11:23				
10	245808006	4:16.780	760.86	2405.66	2615.24	2618.35
Q081101N.001	9 FEB 2010	12:05				
11	245808007	40:01.779	757.82	30.22	33.72	38.89
Q091201N.001	9 FEB 2010	12:48				
12	245808008	40:01.779	756.47	5.77	7.41	11.78
Q101301N.001	9 FEB 2010	13:30				
13	1202031688	40:01.779	759.49	.76	2.01	6.87
Q111401N.001	9 FEB 2010	13:42				
14	1202031689	9:14.772	759.71	1110.92	1217.09	1222.74
Q121501N.001	9 FEB 2010	14:00				
15	1202031690	15:01.779	761.92	36.91	41.06	46.17

Instrument Type: Quantulus
Data Capture Date: TUE 9 FEB 2010 8:52
FileName: s:\sc\files\orange\948404A0\SQ010401N.001.xls
File Info: s:\sc\files\orange\948404A0\U948404A0.xls

ID: H-3 (4)
Comments: ORANGE

Sample, Rack-Pos, Time: 1, BKG, 40.02967:
Quench: 760.4
Start, End, X-Axis 50-175

Channel Counts



31	0
32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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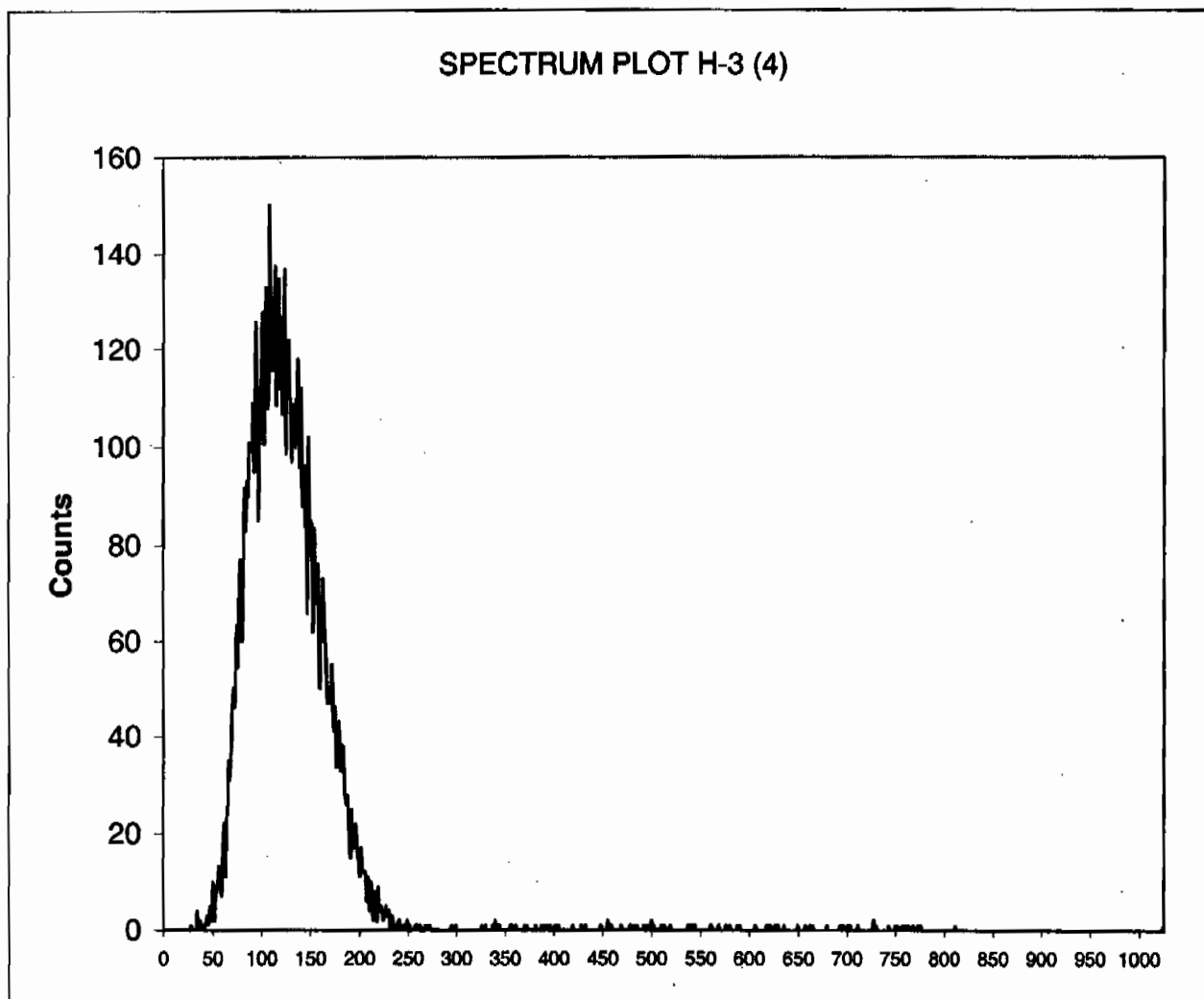
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Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

2, 245808001, 21.163:
761.02
50-175

Channel Counts



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32	0
33	0
34	4
35	1

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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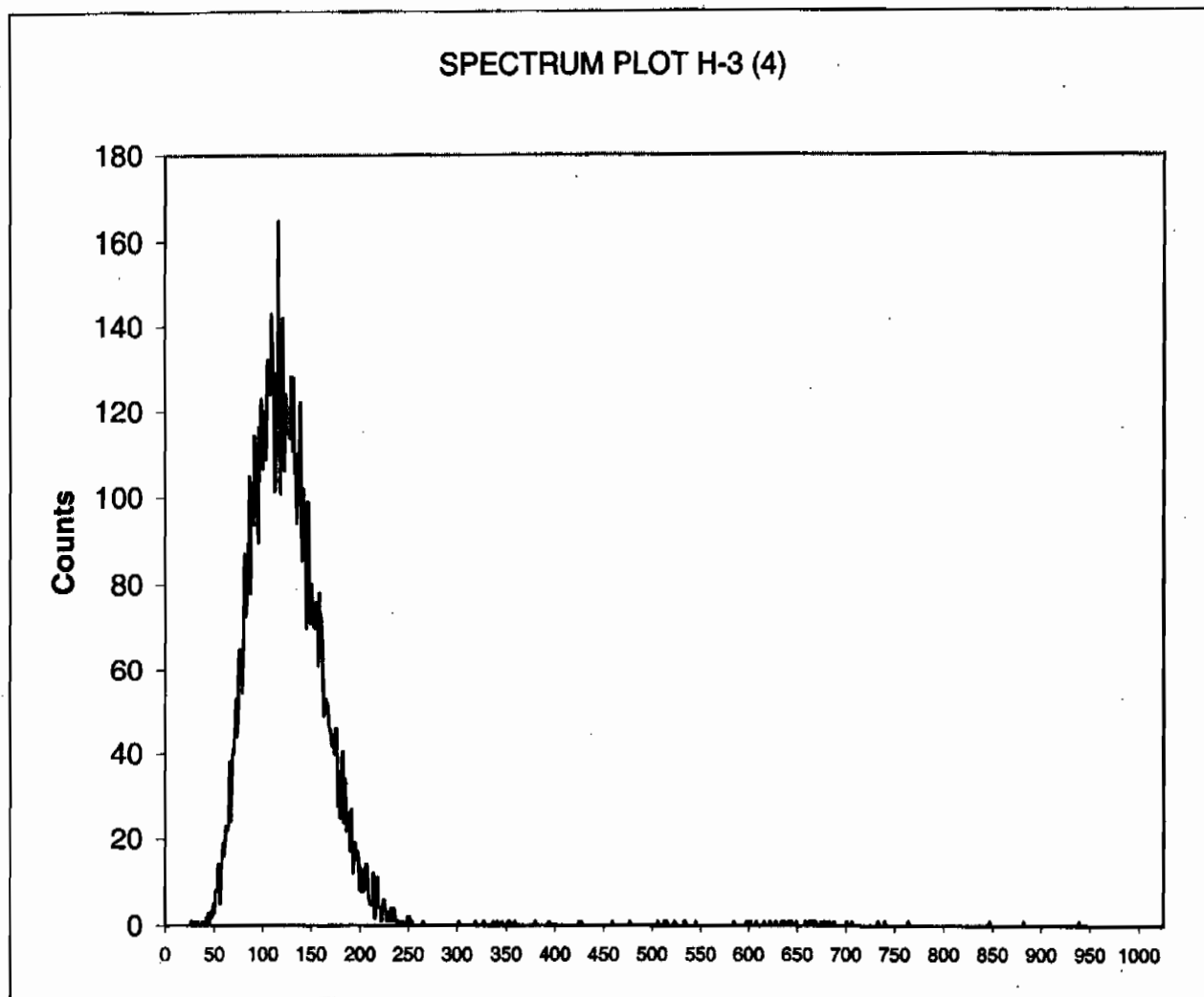
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H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

3, 245808002, 14.24633:
756.97
50-175

Channel Counts



31	0
32	0
33	1
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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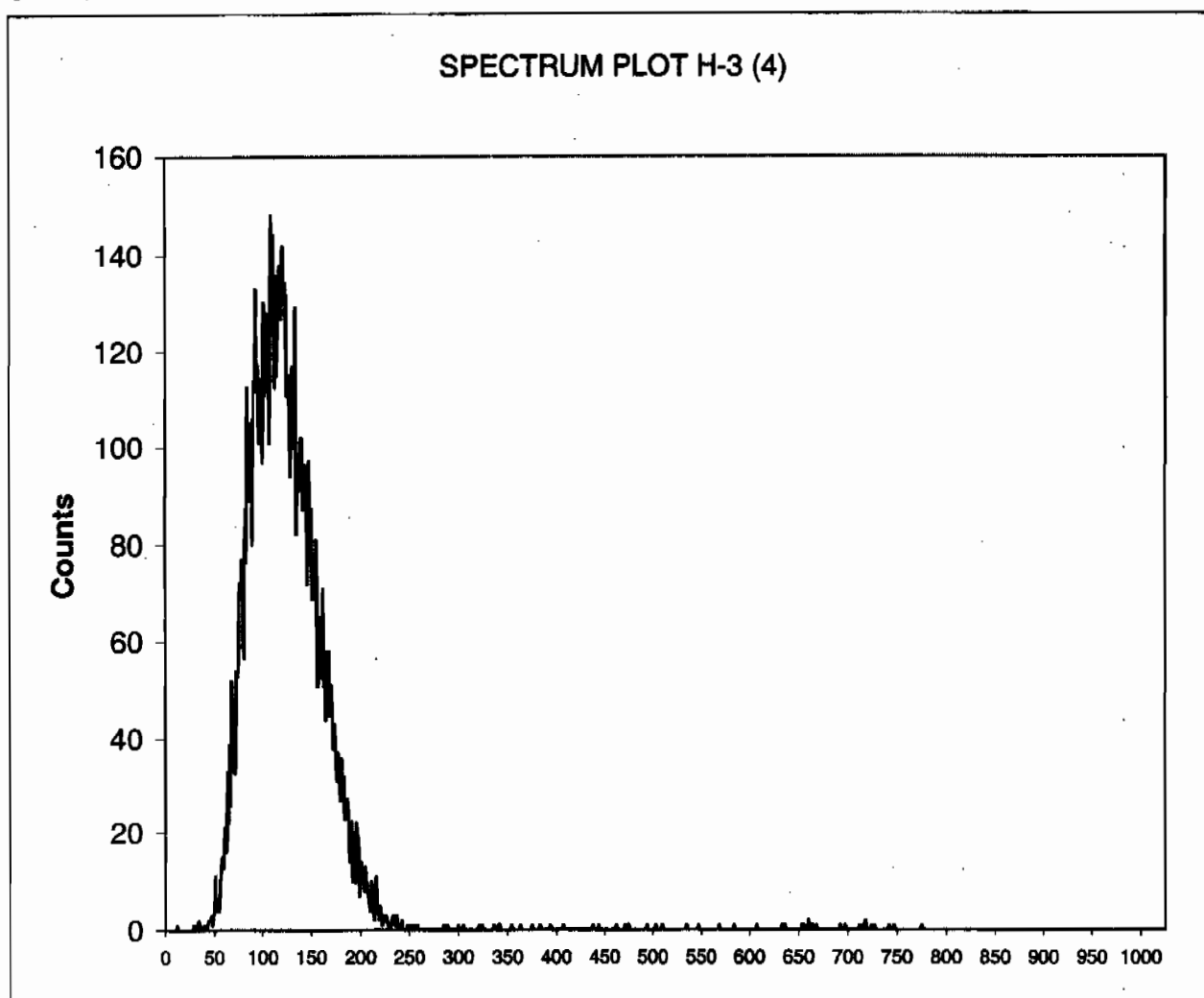
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

4, 245808003, 9.129666:
758.16
50-175

Channel Counts



31	0
32	1
33	1
34	2
35	1

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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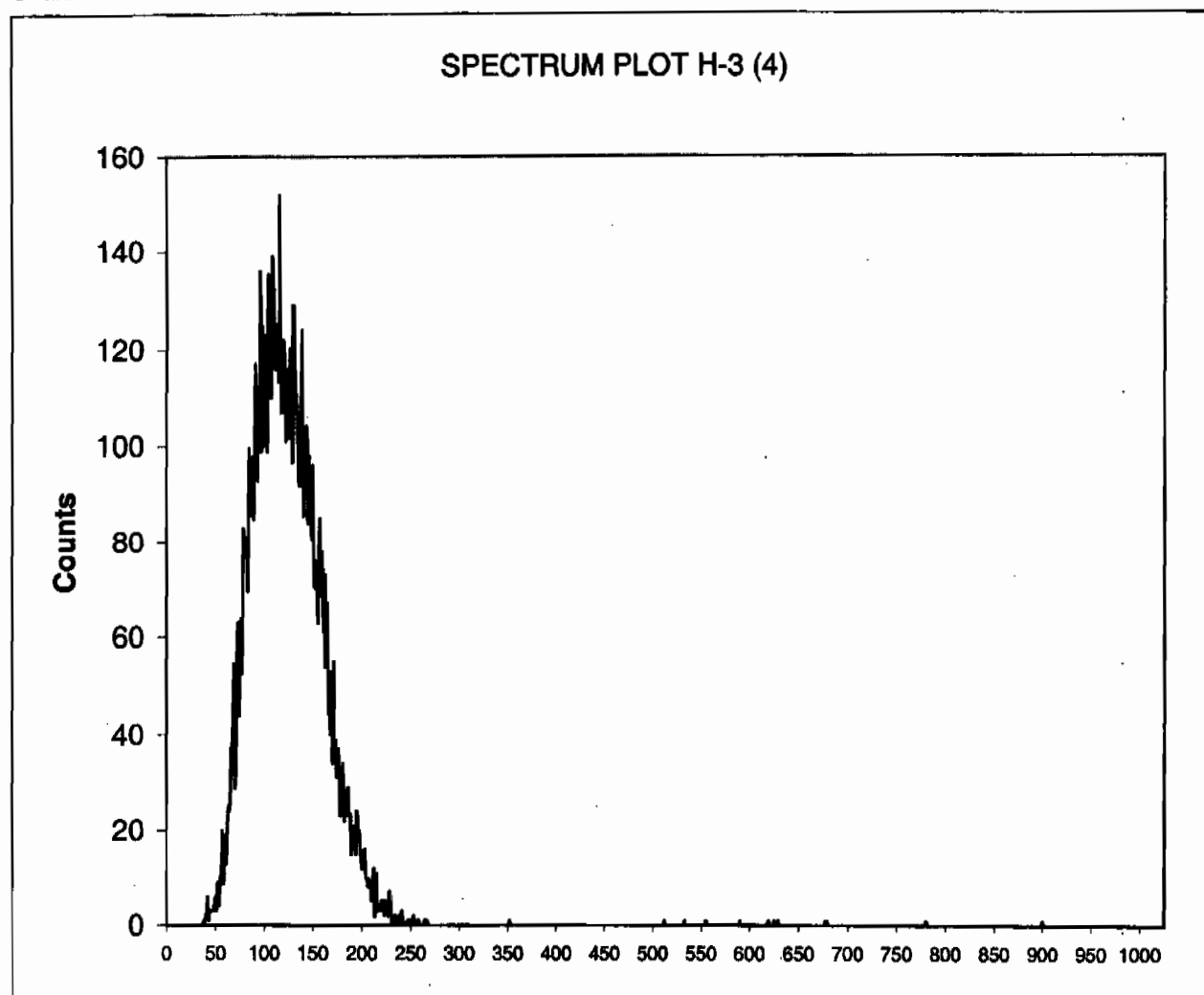
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

5, 245808004, 3.896333:
757.89
50-175

Channel Counts



31	0
32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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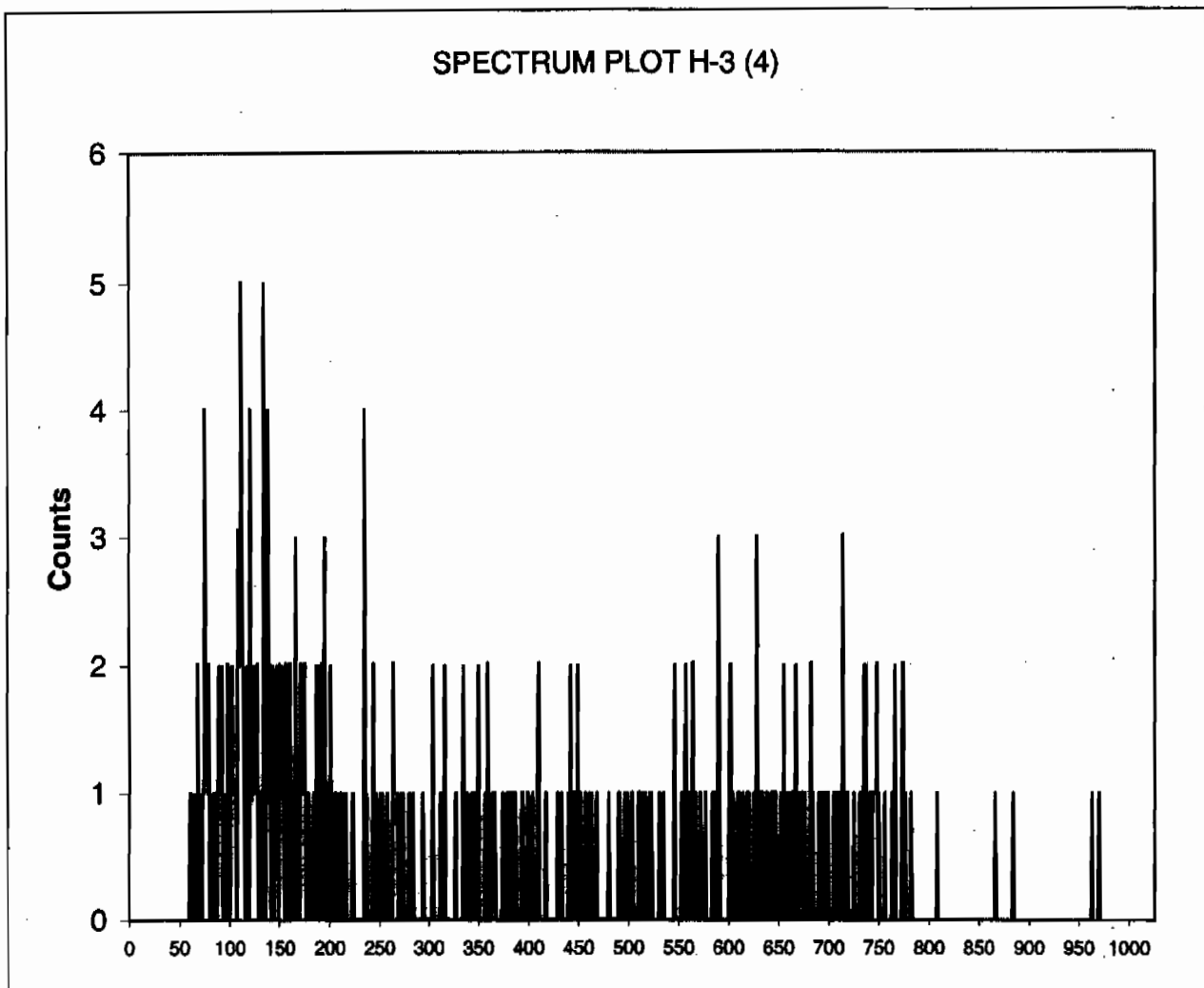
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

6, 245808005, 40.02967:
760.83
50-175

Channel Counts



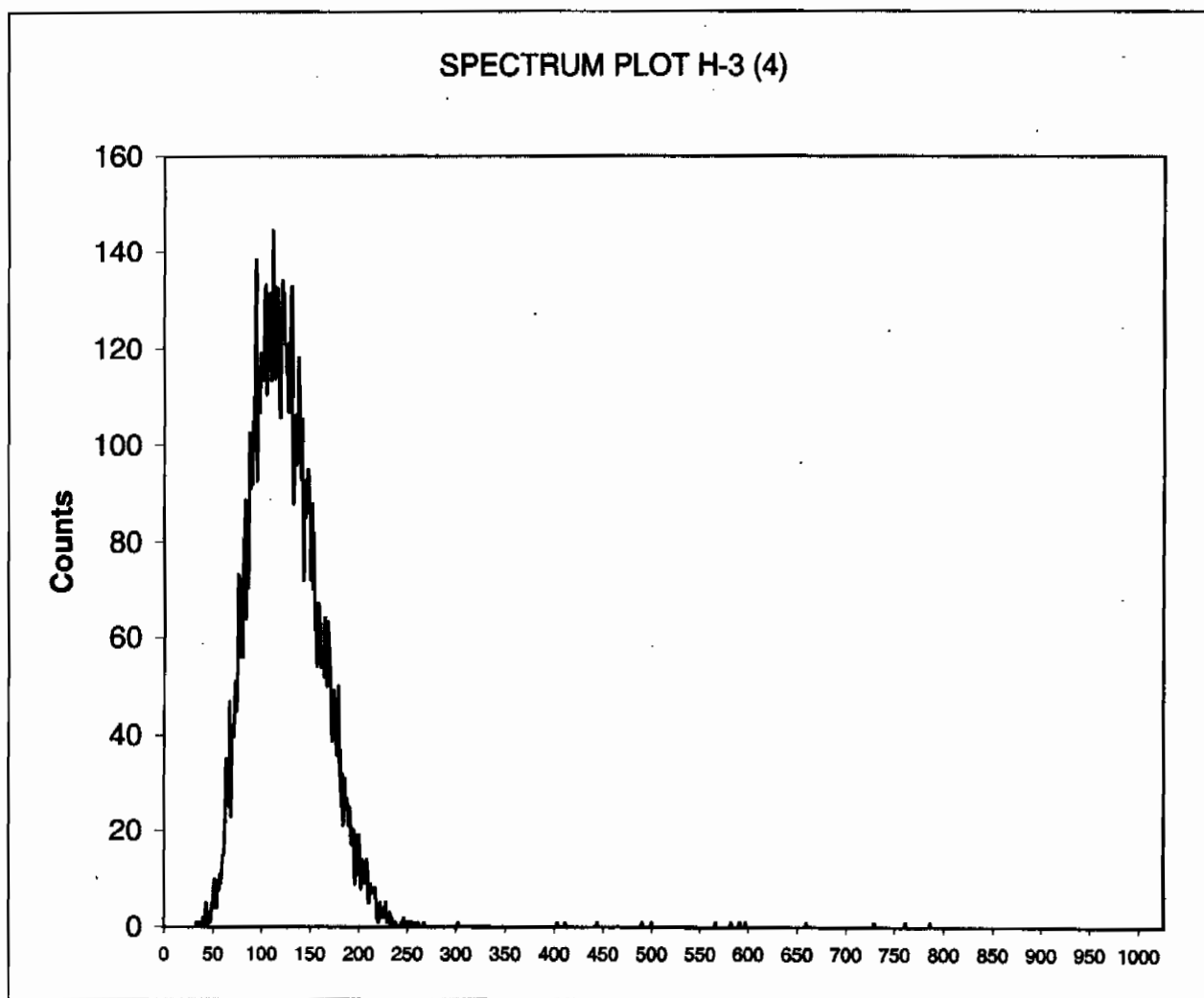
31	0
32	0
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: TUE 9 FEB 2010 8:52
FileName: s:\sc\files\orange\948404A0\SQ071001N.001.xls
File Info: s:\sc\files\orange\948404A0\U948404A0.xls

ID: H-3 (4)
Comments: ORANGE

Sample, Rack-Pos, Time: 7, 245808006, 4.279667:
Quench: 760.86
Start, End, X-Axis 50-175

Channel Counts



31	0
32	0
33	1
34	0
35	1

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
s:\sc\files\orange\948404A0\SQ081101N.001.xls
s:\sc\files\orange\948404A0\U948404A0.xls

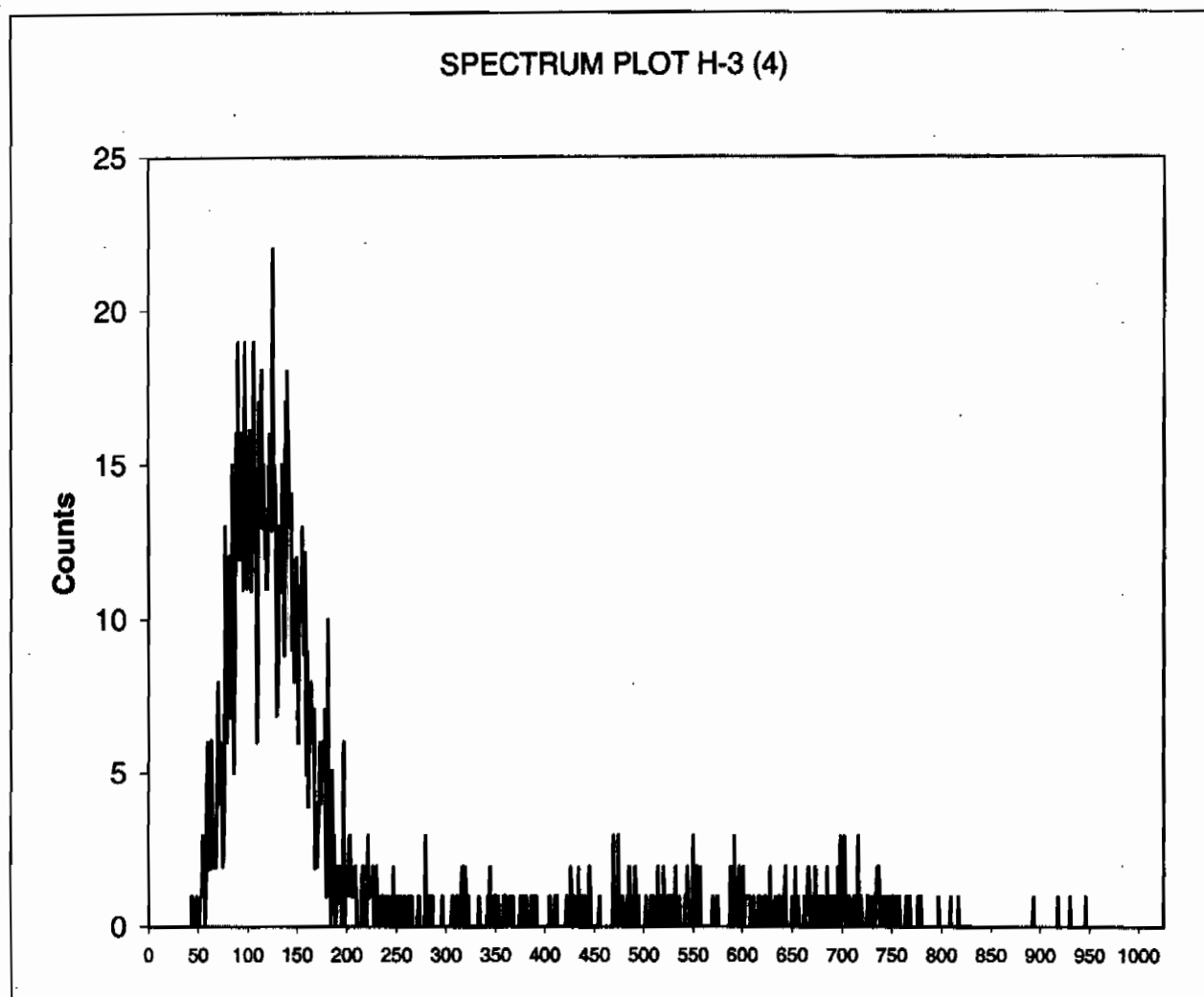
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

8, 245808007, 40.02965:
757.82
50-175

Channel Counts



31	0
32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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s:\sc\files\orange\948404A0\U948404A0.xls

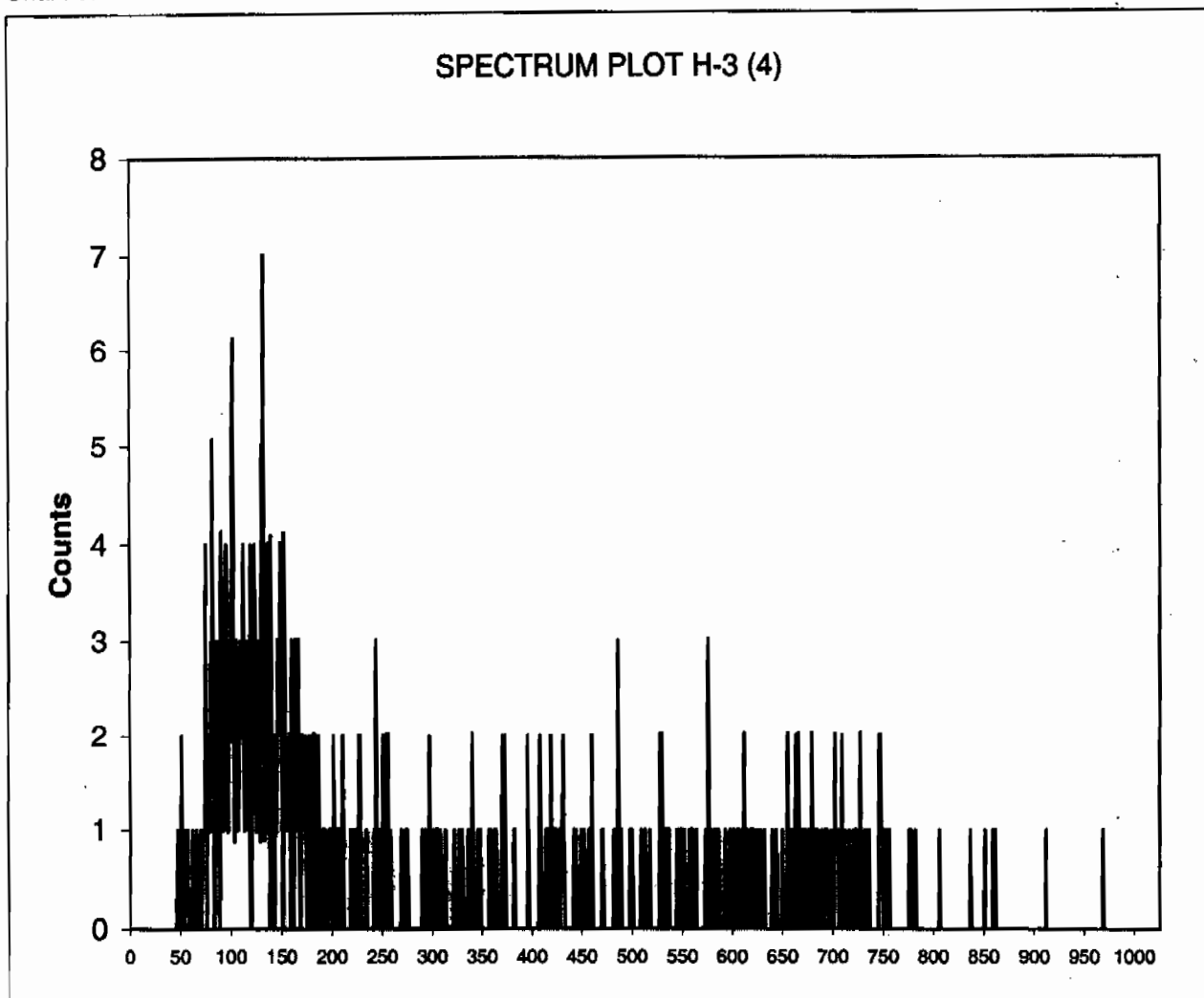
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

9, 245808008, 40.02965:
756.47
50-175

Channel Counts



31	0
32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
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s:\sc\files\orange\948404A0\U948404A0.xls

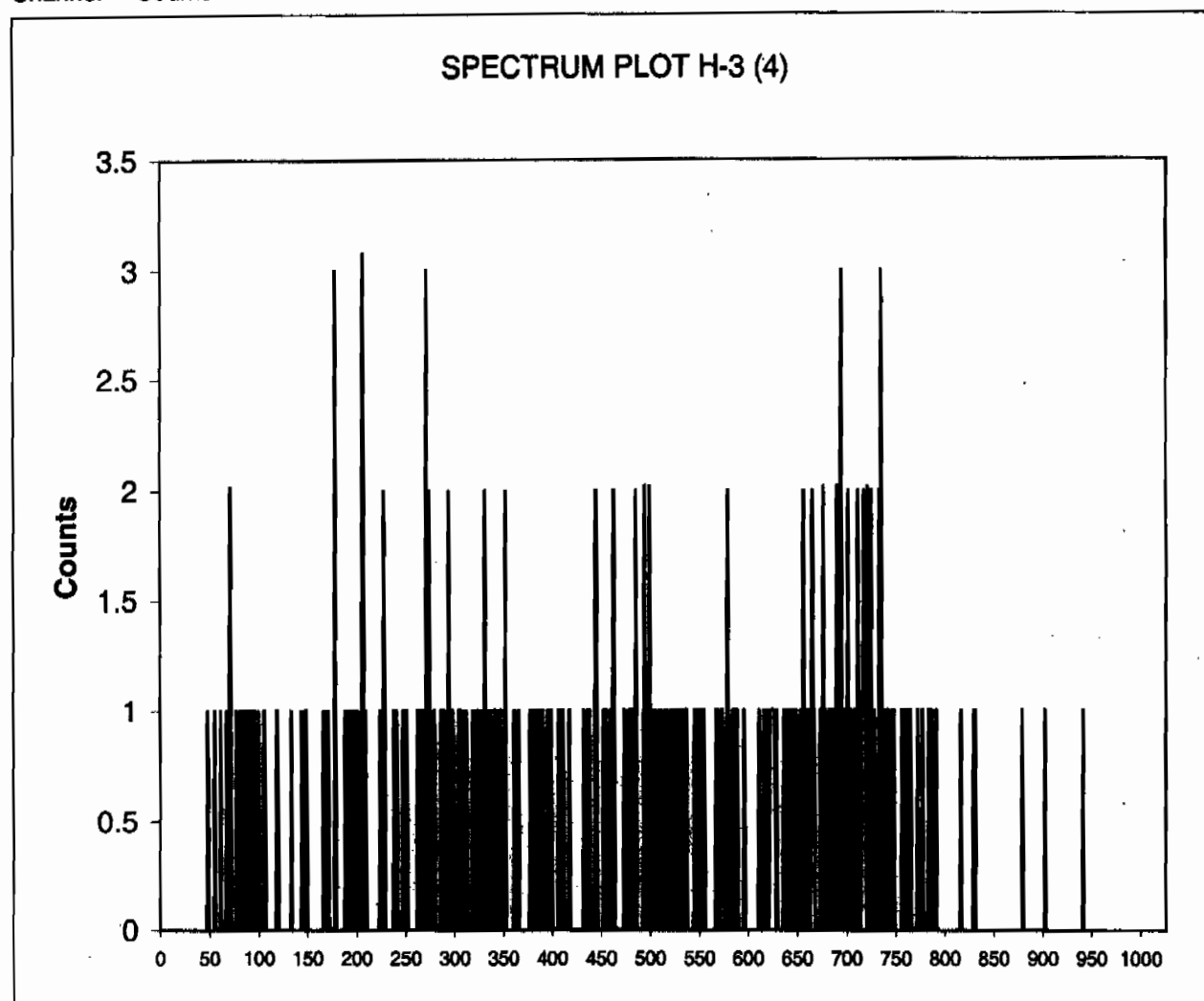
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

10, 1202031688, 40.02965:
759.49
50-175

Channel Counts



31	0
32	0
33	0
34	0
35	0

Instrument Type:
Data Capture Date:
FileName:
File Info:

Quantulus
TUE 9 FEB 2010 8:52
s:\sc\files\orange\948404A0\SQ111401N.001.xls
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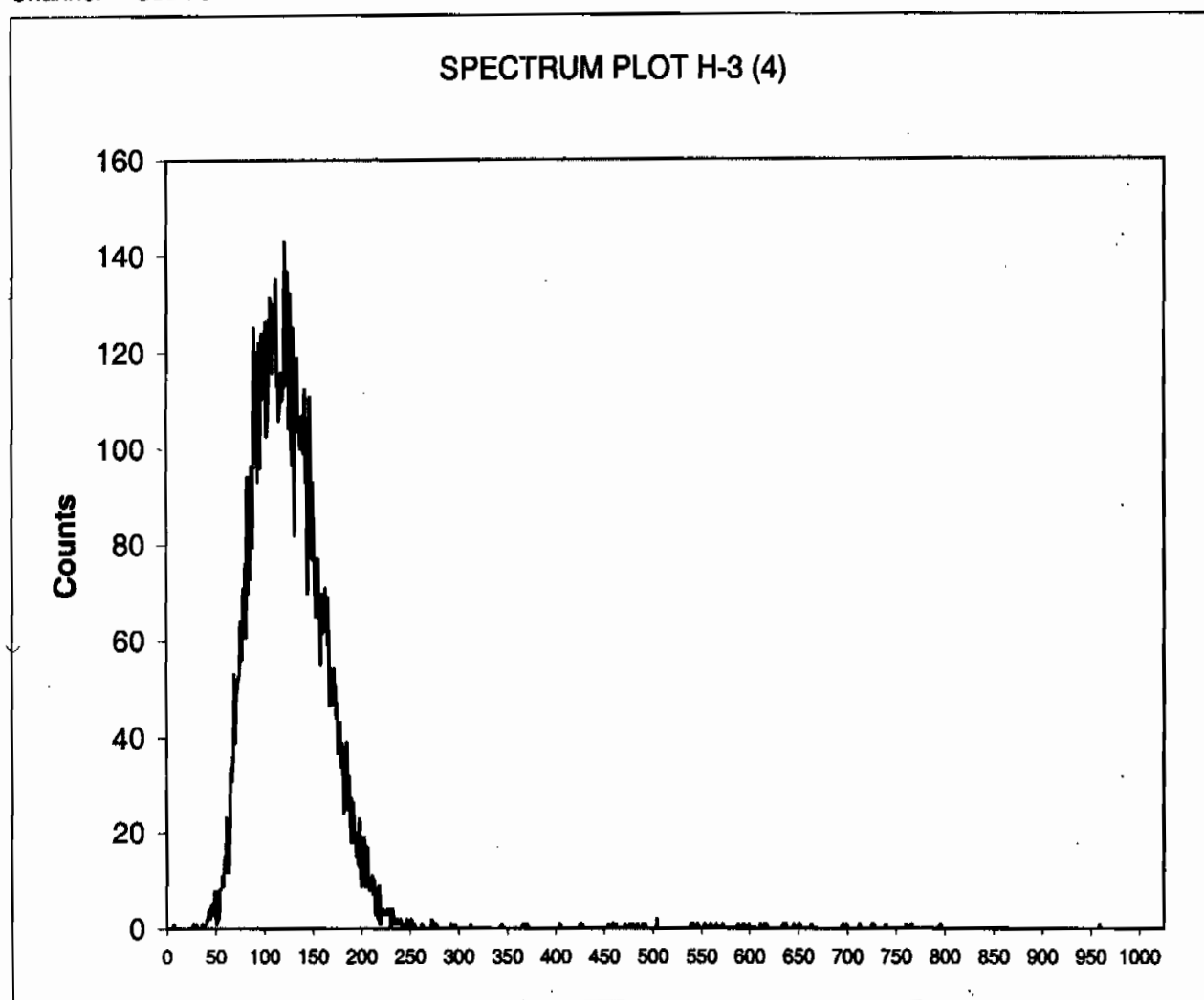
ID:
Comments:

H-3 (4)
ORANGE

Sample, Rack-Pos, Time:
Quench:
Start, End, X-Axis

11, 1202031689, 9.2462:
759.71
50-175

Channel Counts



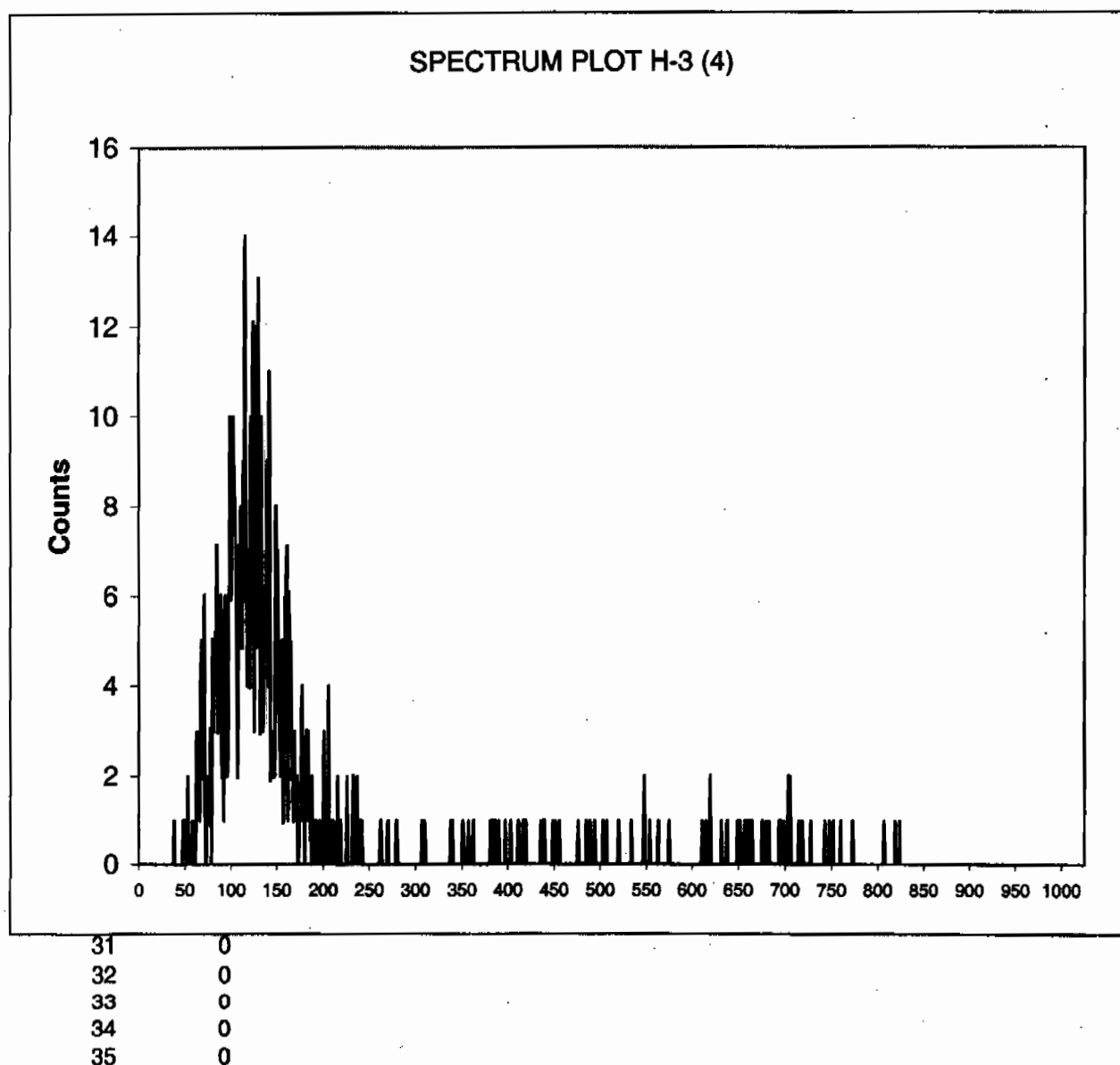
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32	0
33	0
34	0
35	0

Instrument Type: Quantulus
Data Capture Date: TUE 9 FEB 2010 8:52
FileName: s:\sc\files\orange\948404A0\SQ121501N.001.xls
File Info: s:\sc\files\orange\948404A0\U948404A0.xls

ID: H-3 (4)
Comments: ORANGE

Sample, Rack-Pos, Time: 12, 1202031690, 15.02965:
Quench: 761.92
Start, End, X-Axis 50-175

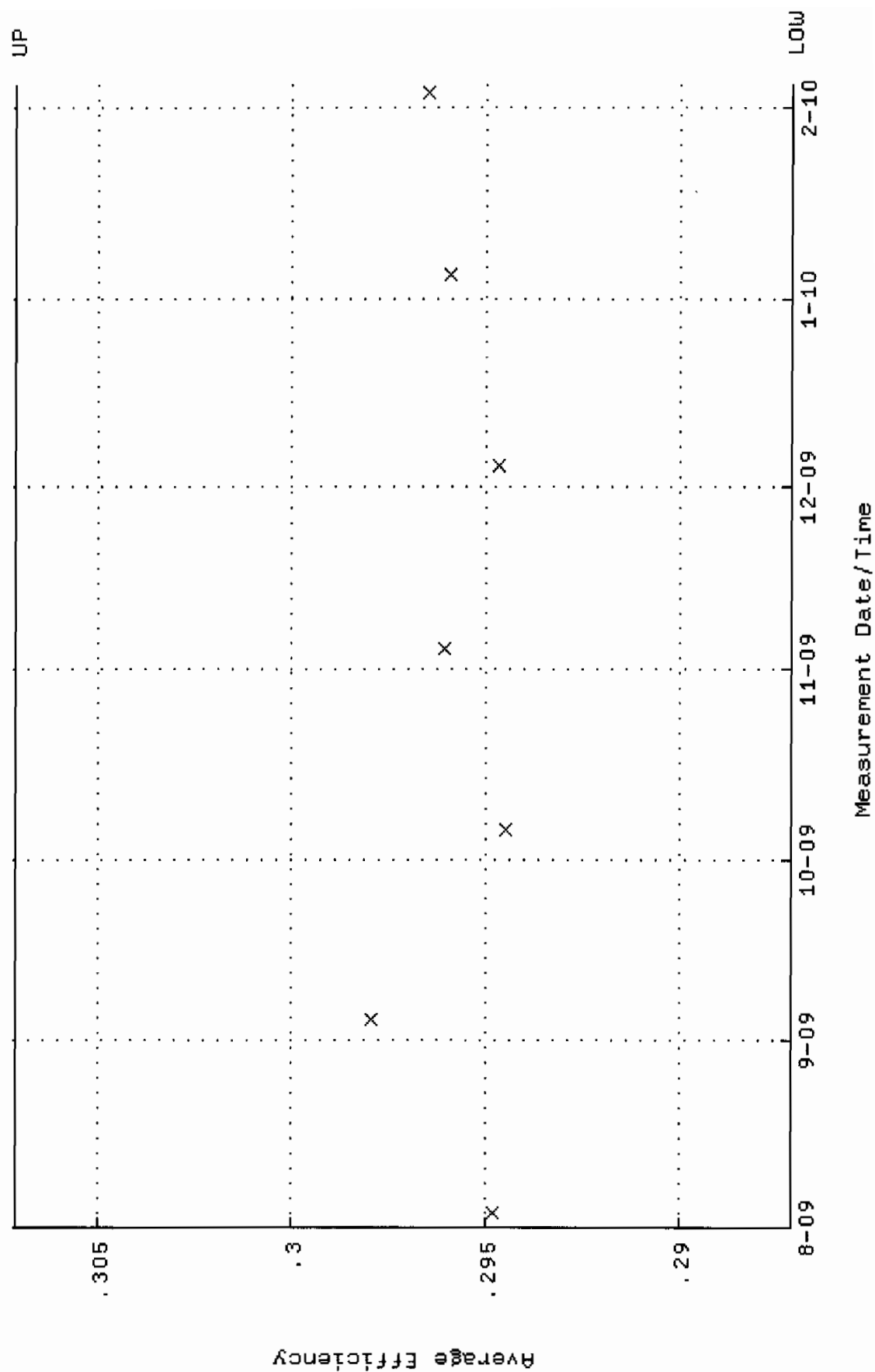
Channel Counts



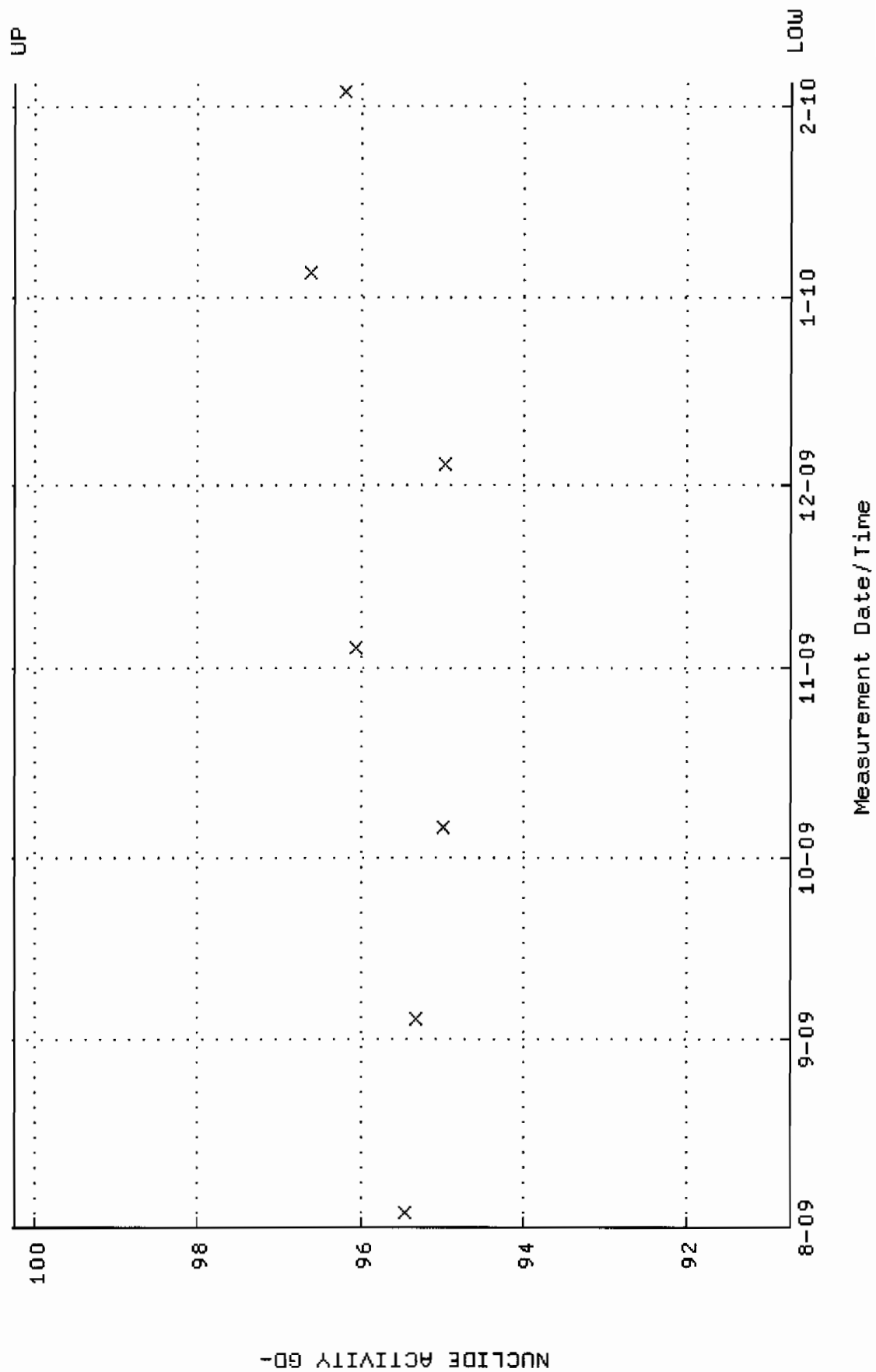
DATE	2/5/2010	INITIALS	KXK2	BATCH NUMBER	948404				
Sample #	Flask wt. (g)	Sample Wet (g)	Flask & Sample Wet (g)	% Moisture of Sample (Balance Interface using % Moisture Batch)	Total Moisture in Sample (mL)	Sample Dry (g)	Flask & Sample Dry (g)	mLs aliquoted into LSC vial	Collection Tube Number
245808001	200	384.46	584.46	0.058	22.30	362.16	562.16	10	
245808002	200	473.51	673.51	0.061	28.88	444.63	644.63	10	
245808003	200	390.10	590.10	0.180	70.22	319.88	519.88	10	
245808004	200	425.44	625.44	0.140	59.56	365.88	565.88	10	
245808005	200	437.23	637.23	0.066	28.86	408.37	608.37	10	
245808006	200	422.66	622.66	0.145	61.29	361.37	561.37	10	
245808007	200	263.31	463.31	0.358	94.26	169.05	369.05	10	
245808008	200	362.31	562.31	0.072	26.09	336.22	536.22	10	
MB	200	20.00	220.00	1.000	20.00	0.00	200.00	10	
DUP	200	390.10	590.10	0.180	70.22	319.88	519.88	10	
LCS	200	20.00	220.00	1.000	20.00	0.00	200.00	10	

BACKGROUND AND EFFICIENCY DATA

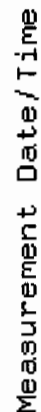
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.287129 through 0.307129



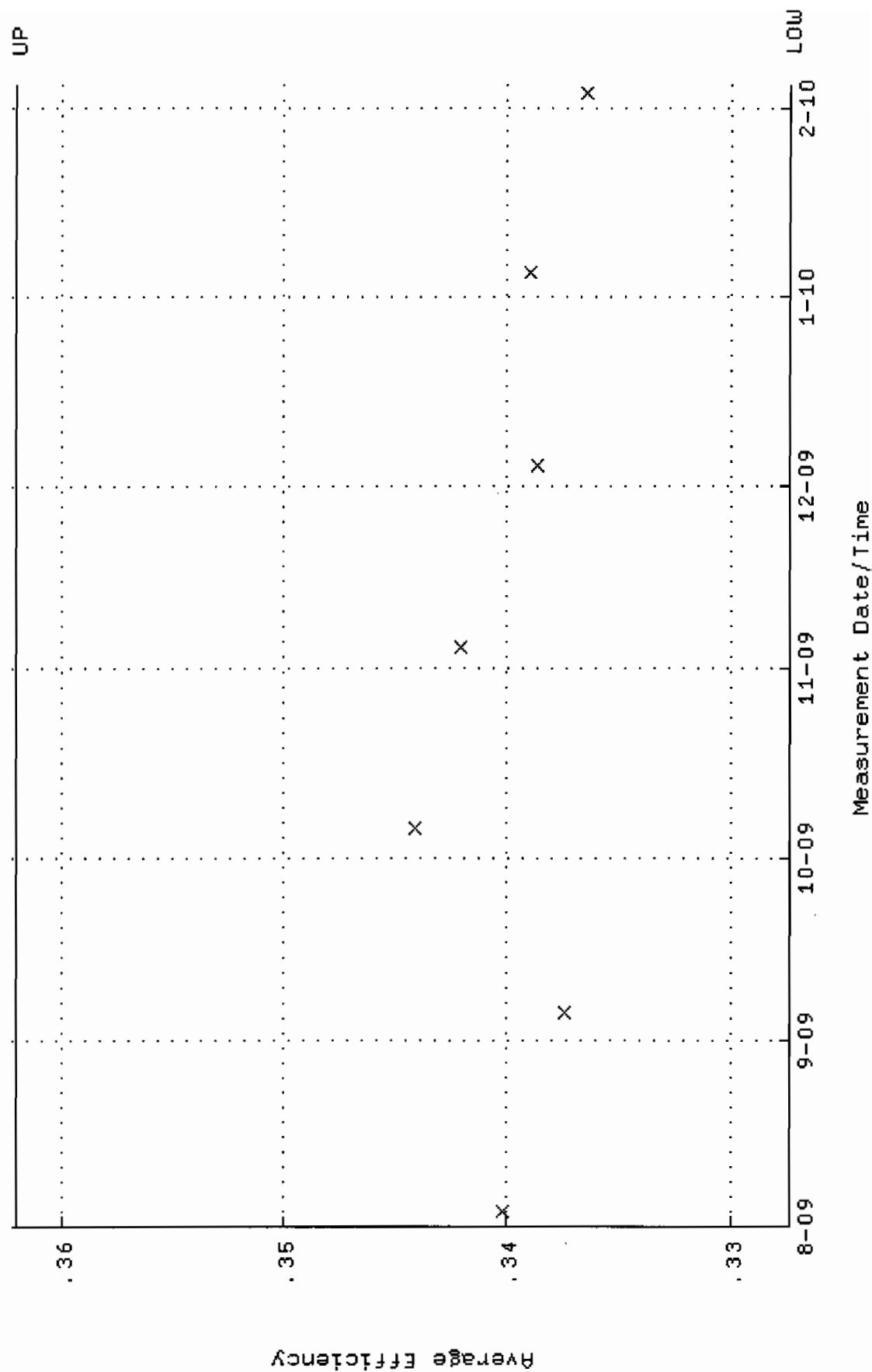
QA filename : DKA100:[ENV_ALPHA.QA.W]W011.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:33 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 90.7092 through 100.258



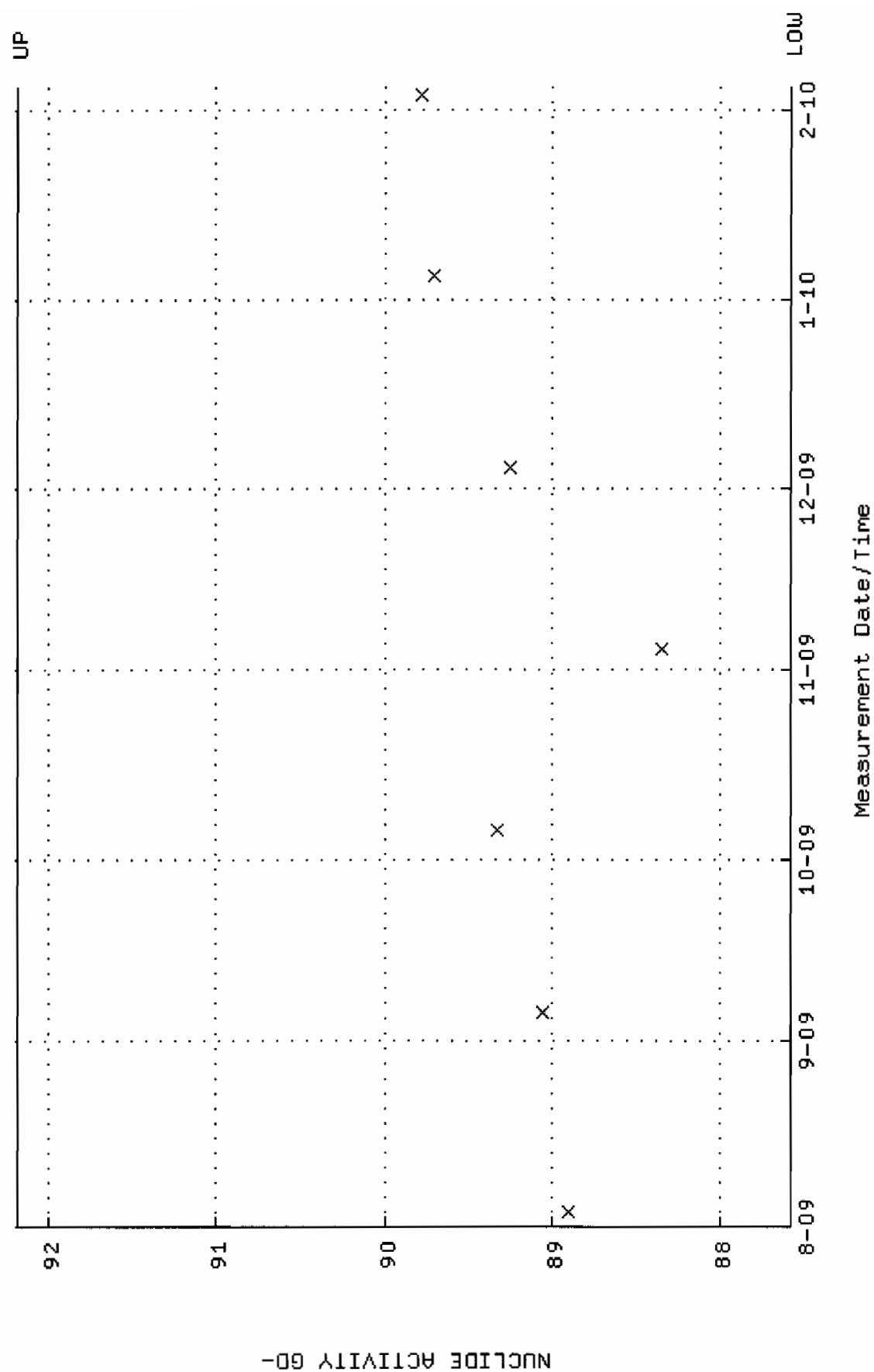
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



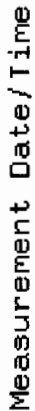
QA filename : DKA100:[ENV_ALPHA,QA,w]w038.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.327380 through 0.362086



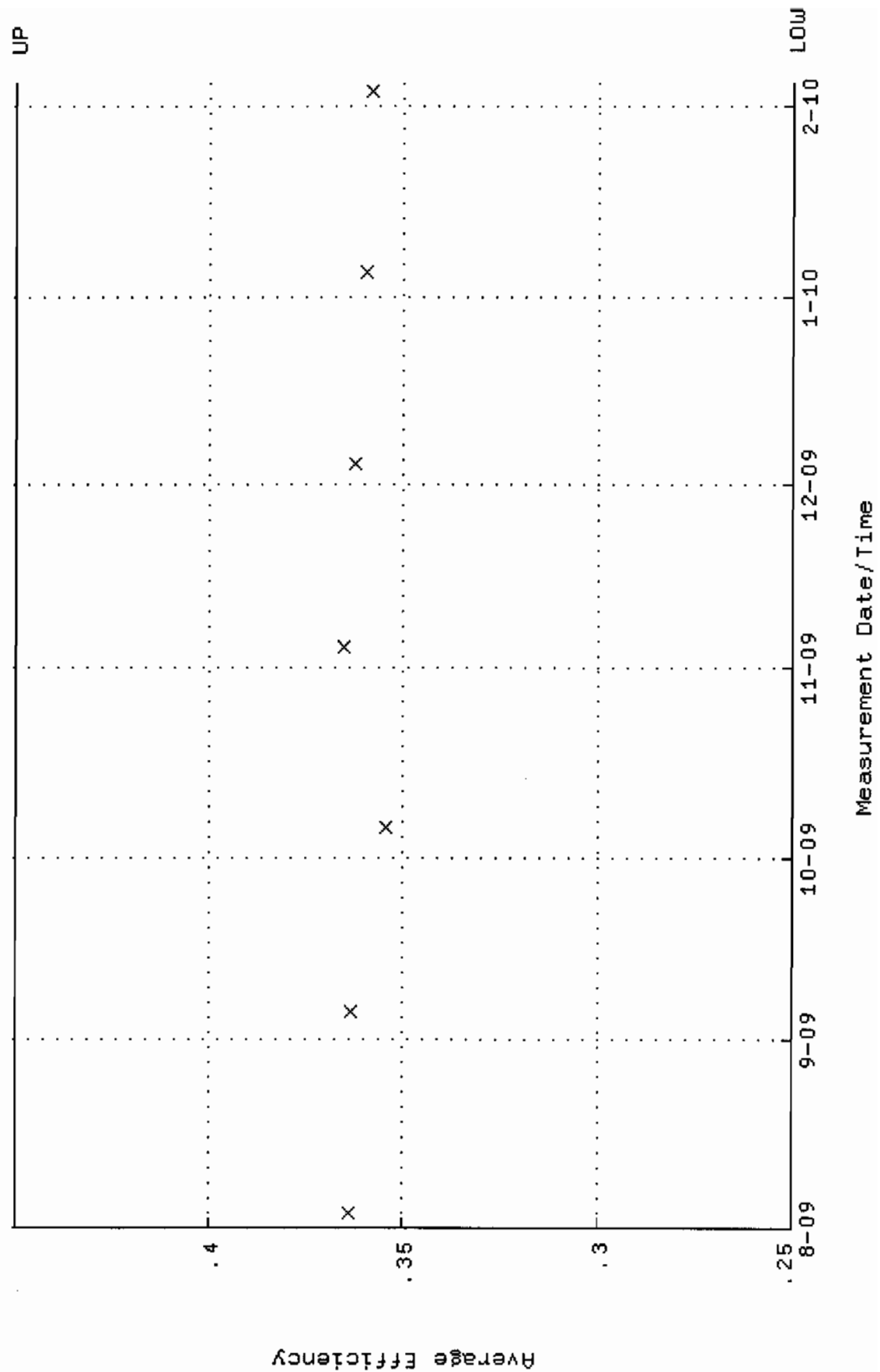
QA filename : DKA100:[ENV_ALPHA.QA.W]W038.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.5715 through 92.1899



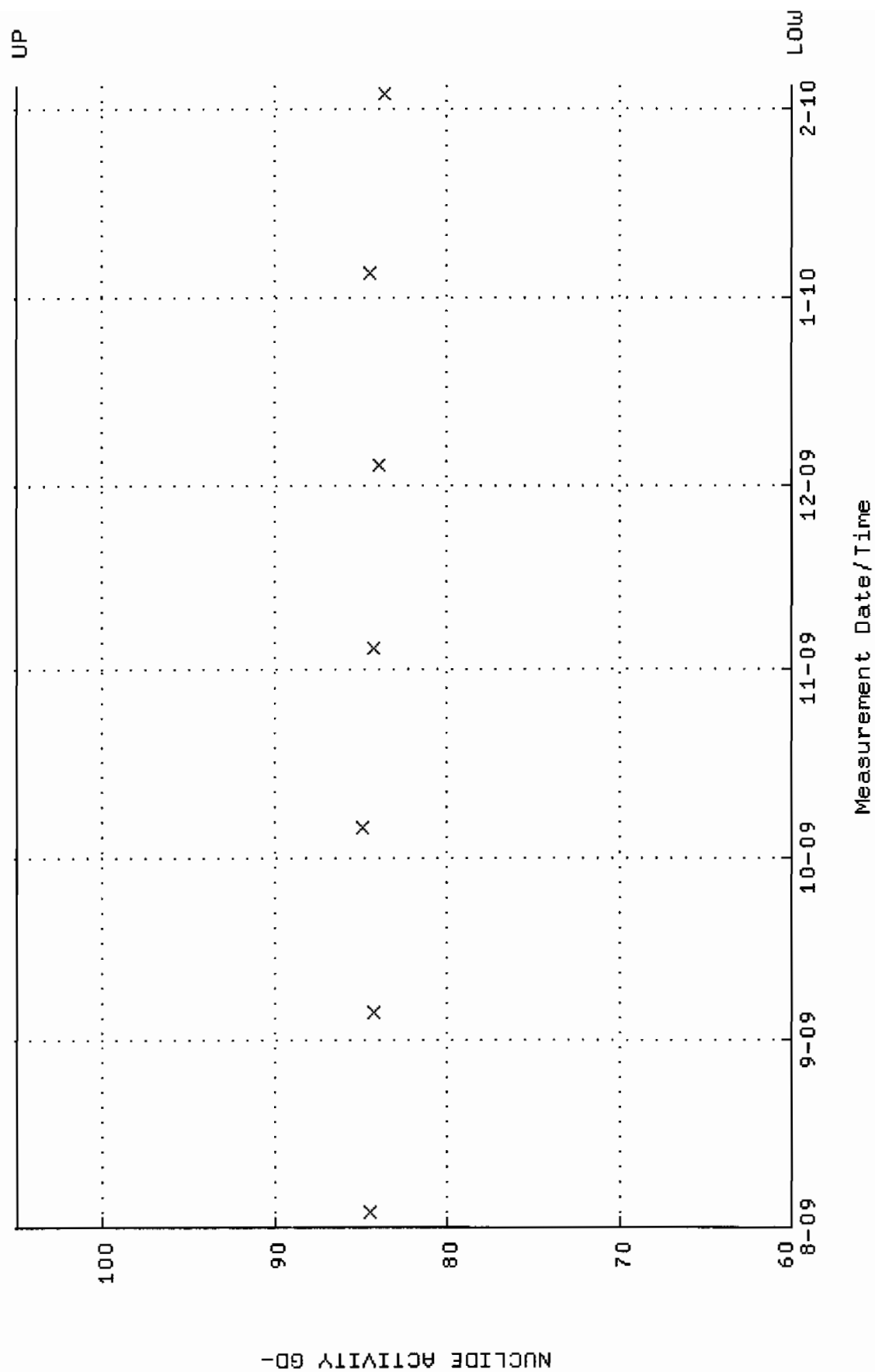
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



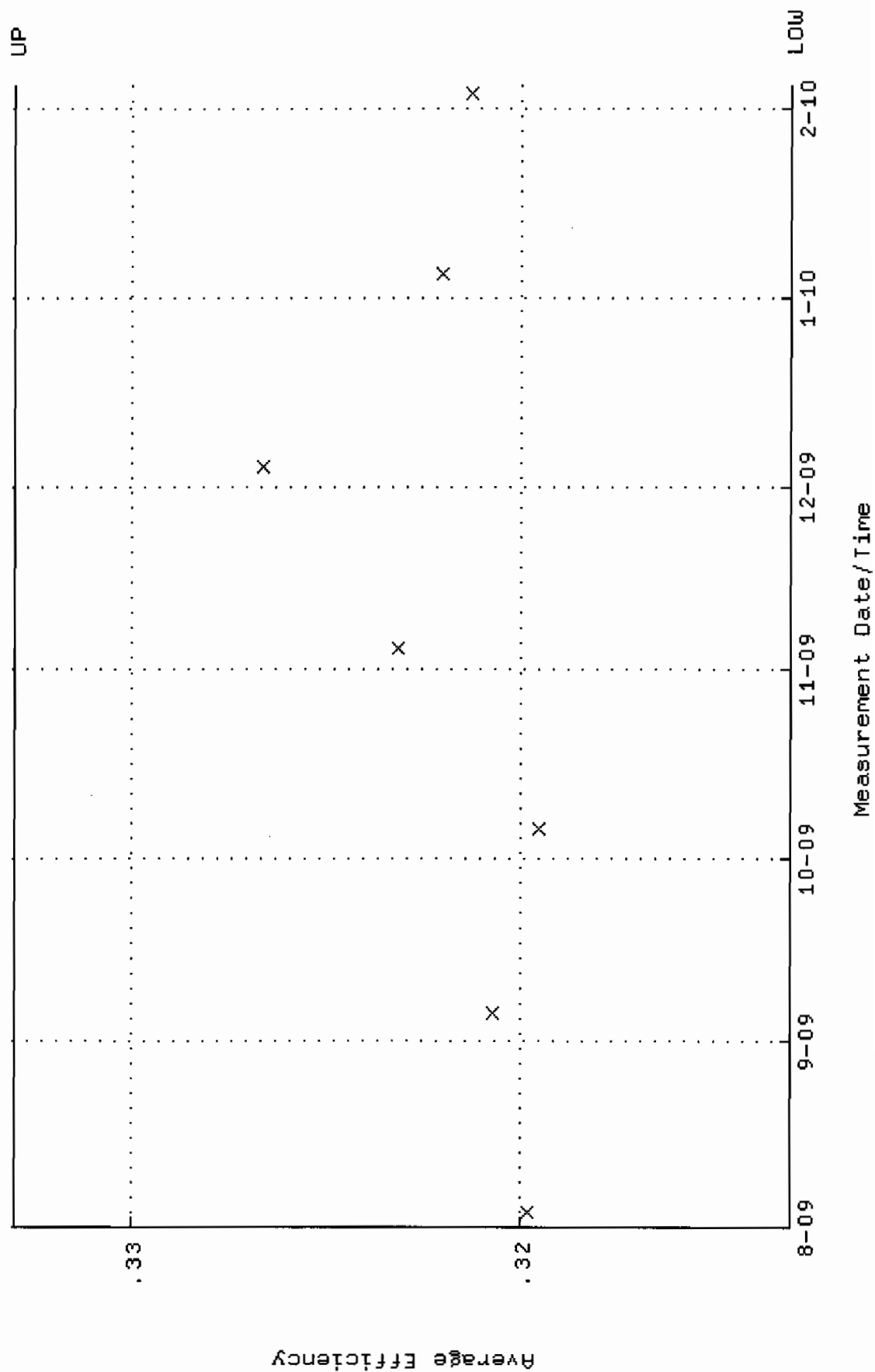
QA filename : DKA100:[ENV_ALPHA.QA.W]W039.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



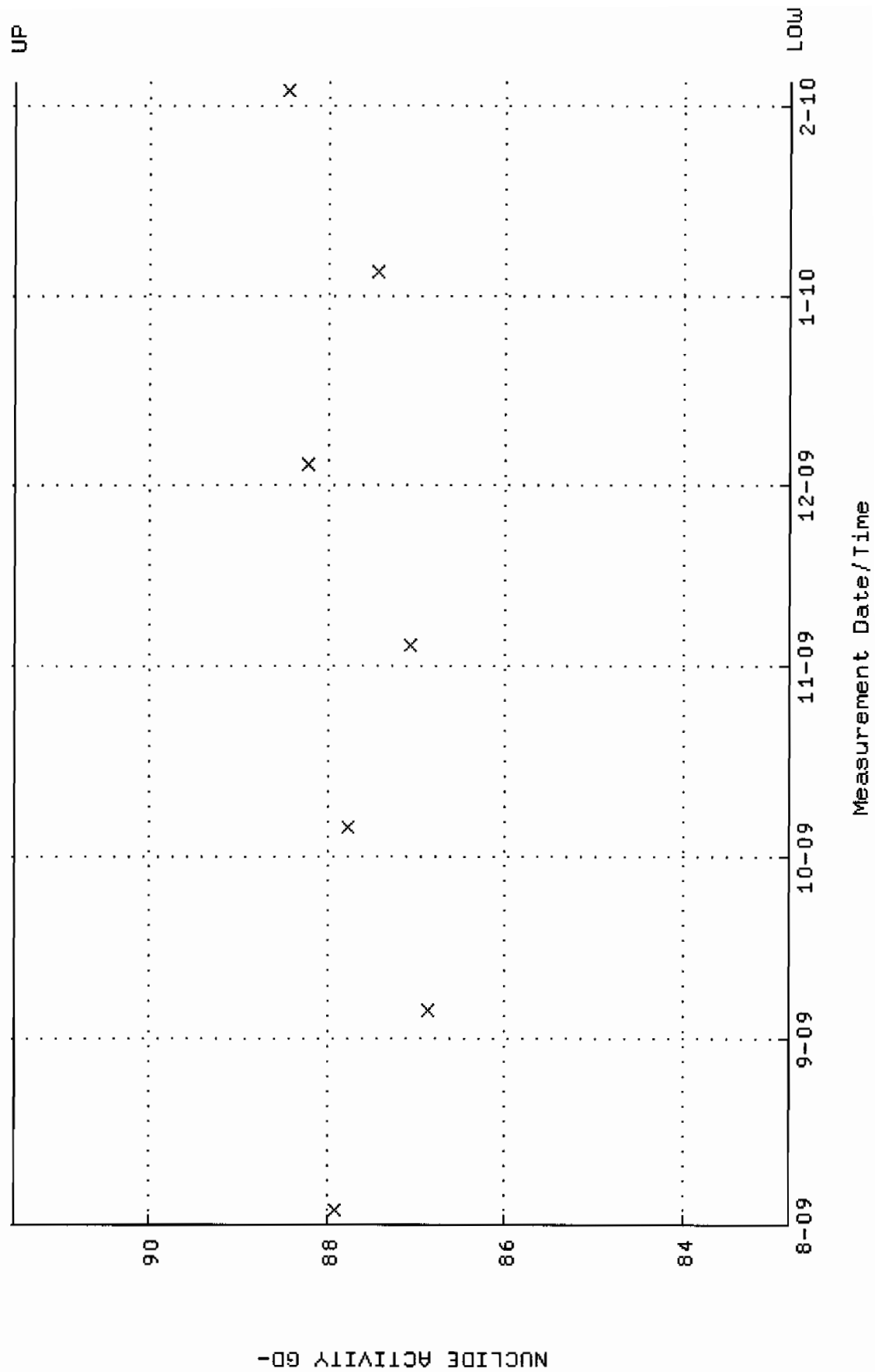
QA filename : DKA100:[ENV_ALPHA.QA.W]w039.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



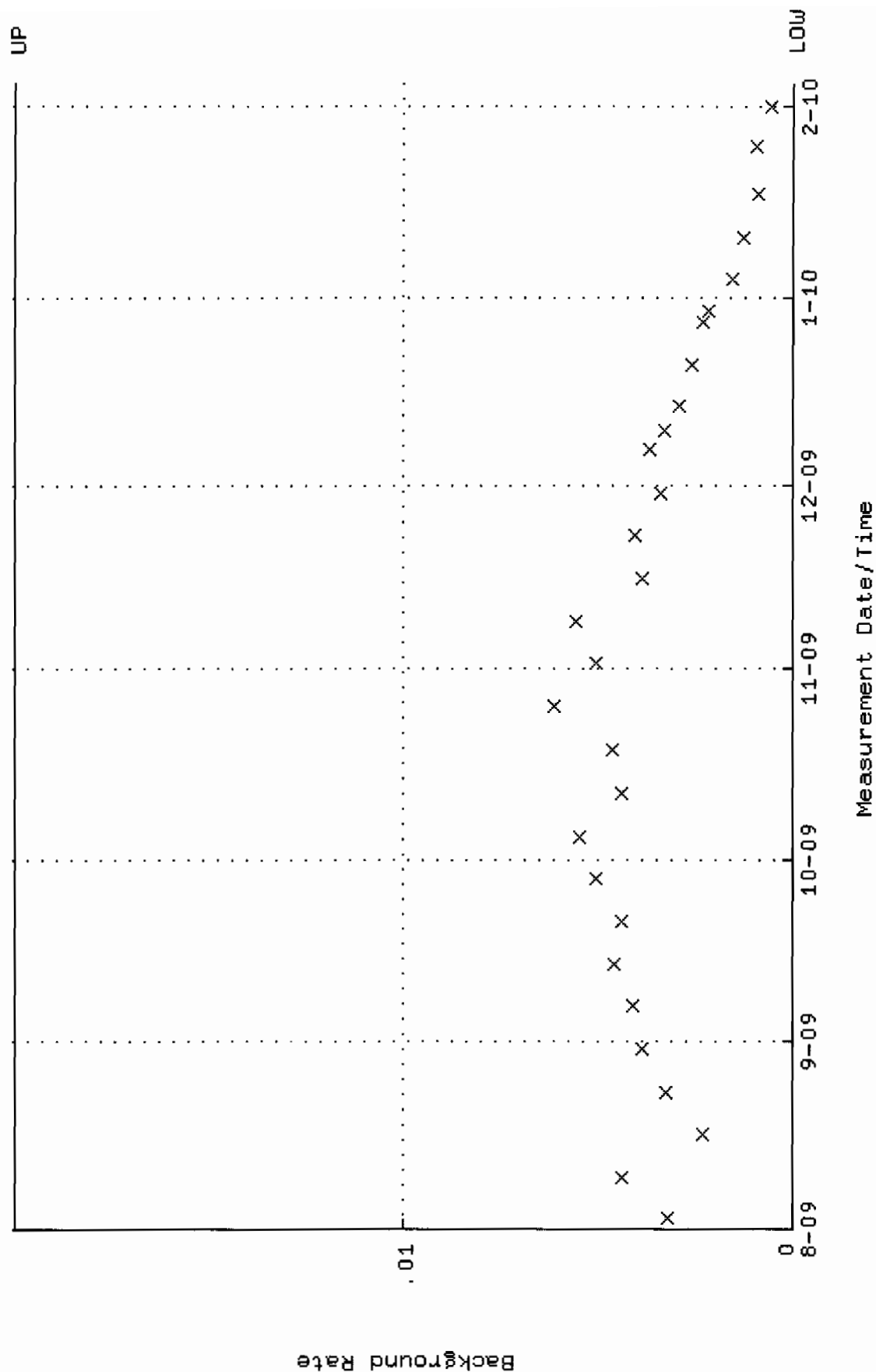
QA filename : DKA100:[ENV_ALPHA.QA.w]w040.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.313016 through 0.333016



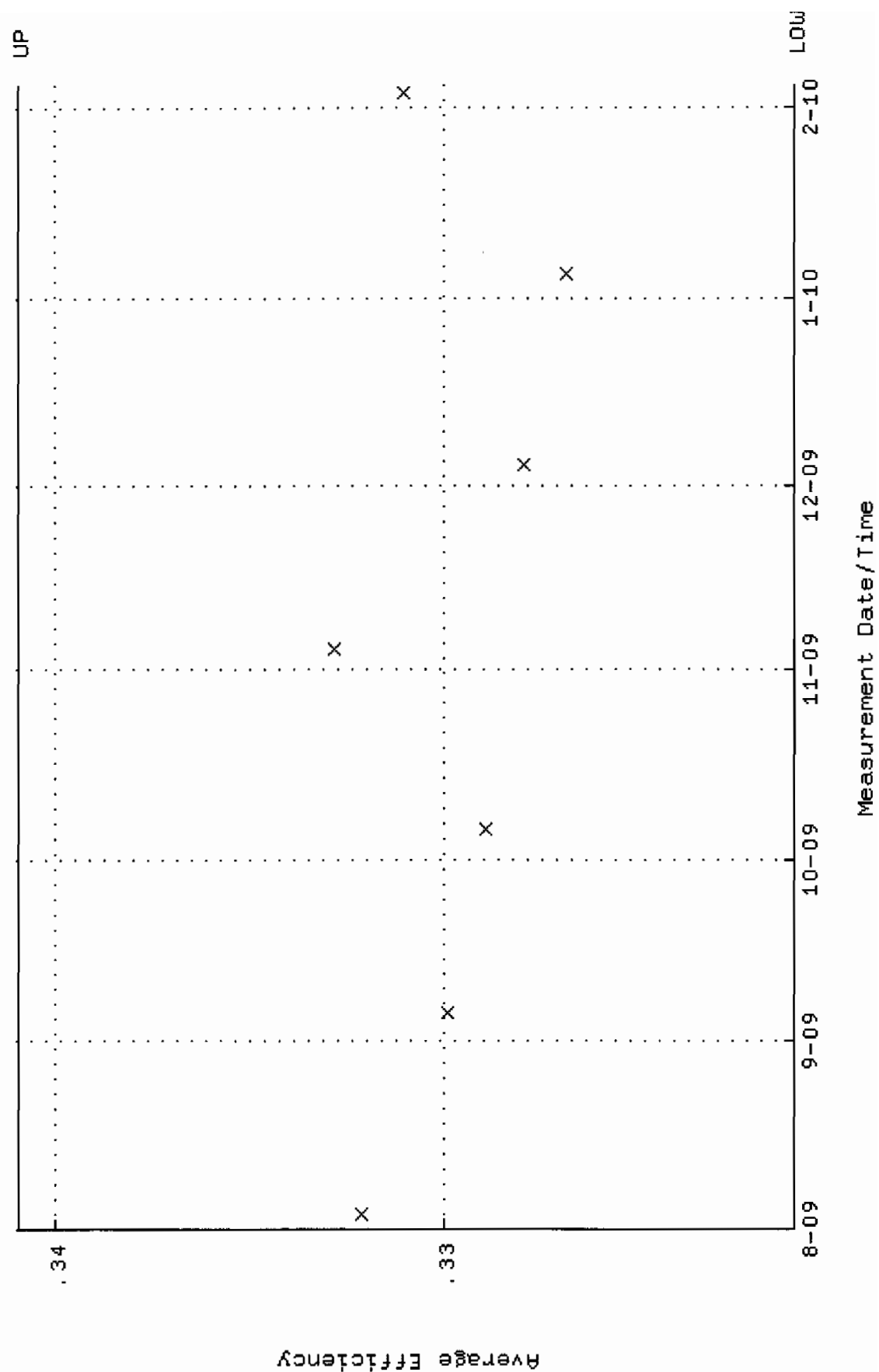
QA filename : DKA100:[ENV_ALPHA.QA.W]W040.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 82.8065 through 91.5229



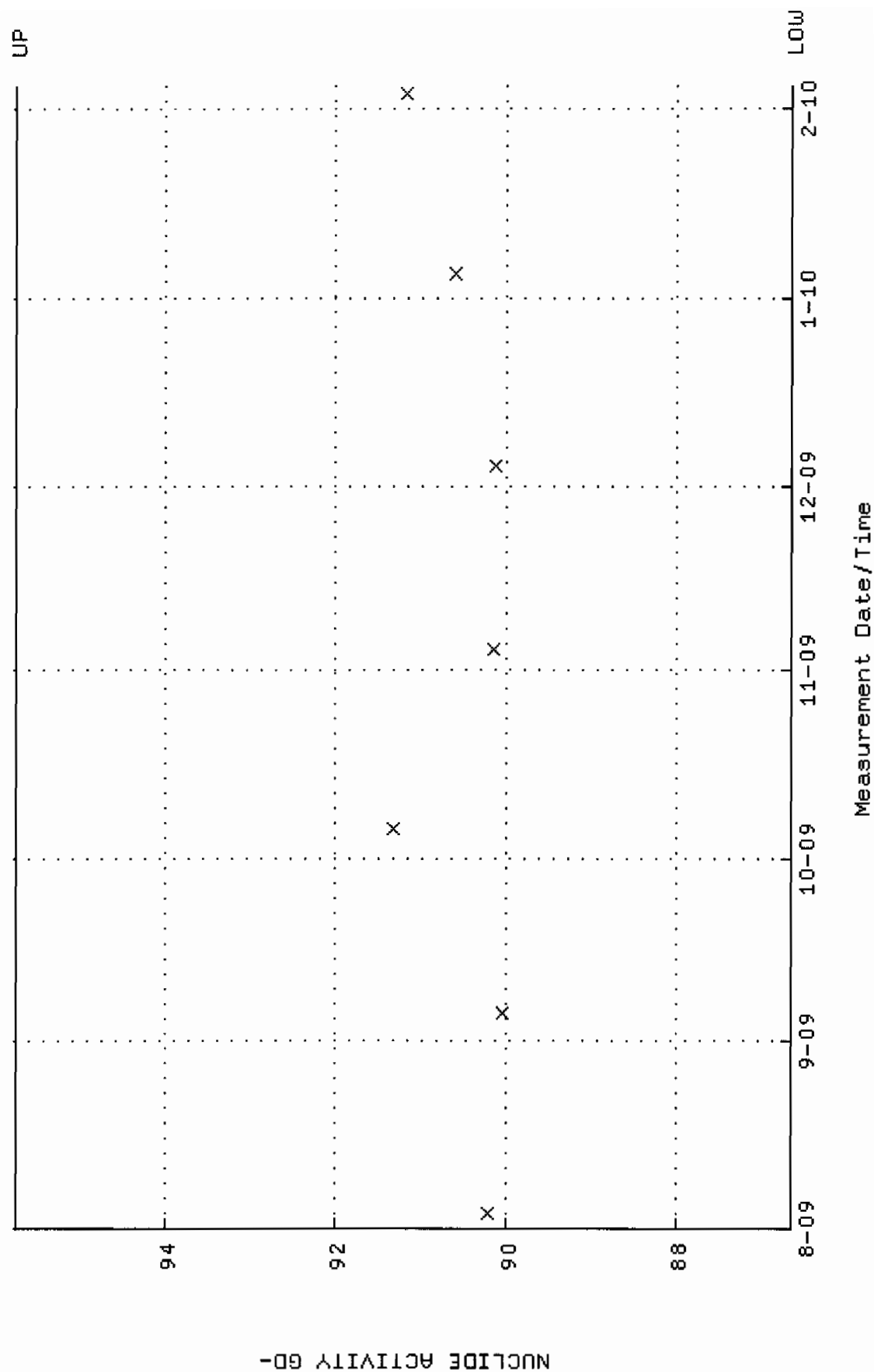
QA filename : DKA100:[ENV_ALPHA.QA,B]B040.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:36 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



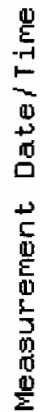
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.320943 through 0.340943



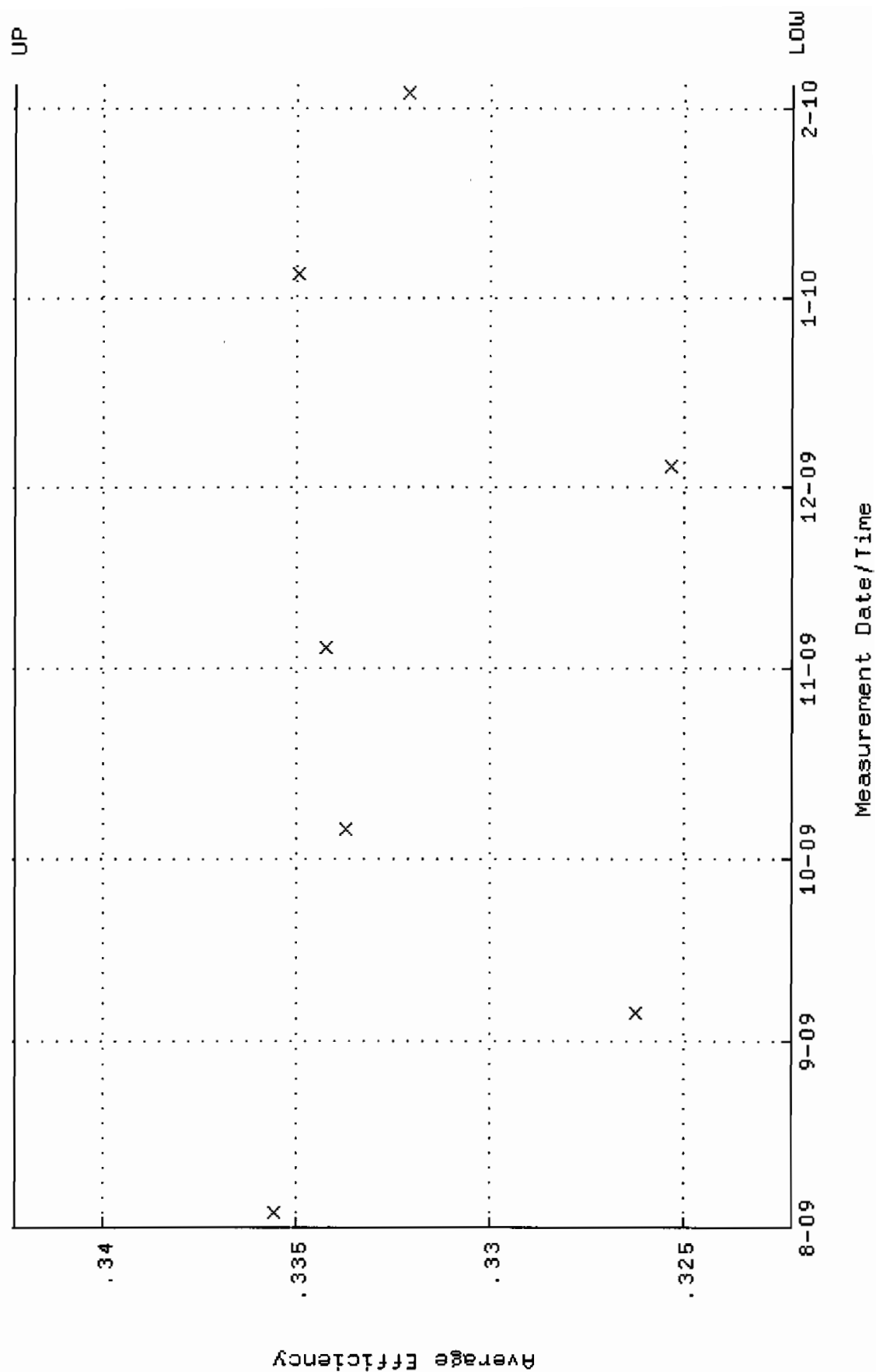
QA filename : DKA100:[ENV_ALPHA.QA.W]W041.QAF;5
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.6435 through 95.7639



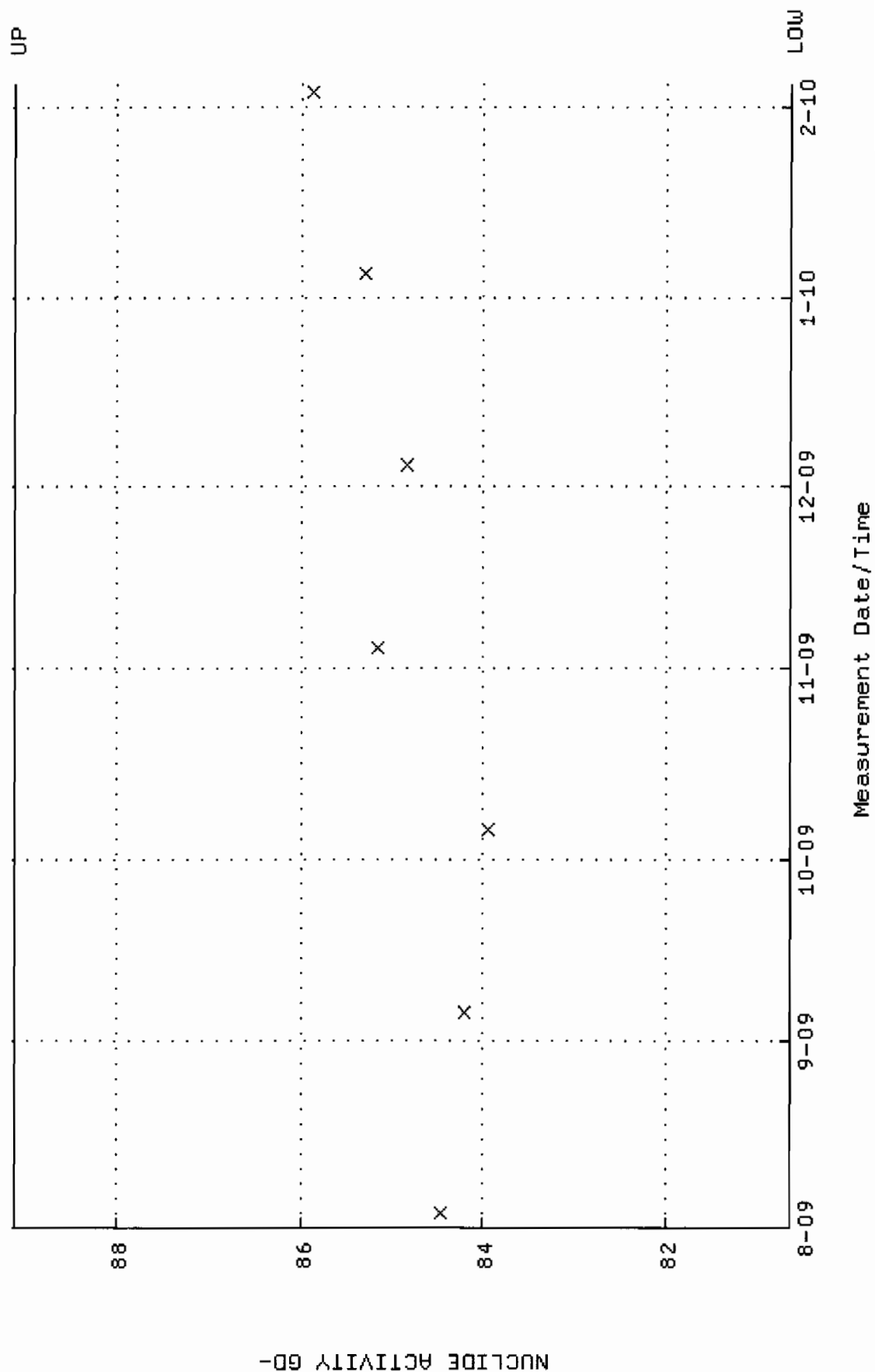
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



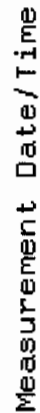
QA filename : DKA100:[ENV_ALPHA,QA,W]W042.QAF;3
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.322243 through 0.342243



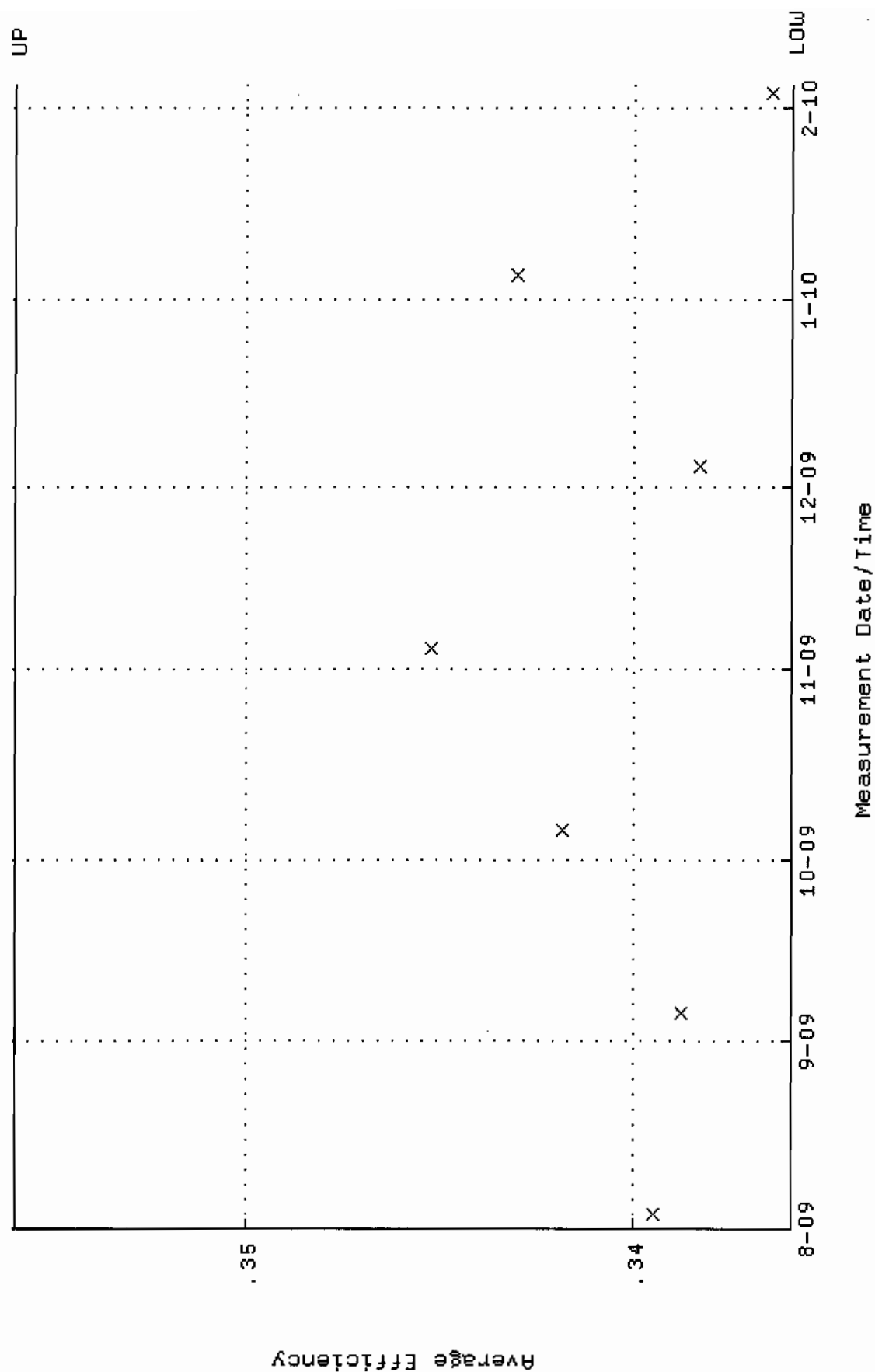
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;3
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:43 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 80.6389 through 89.1273



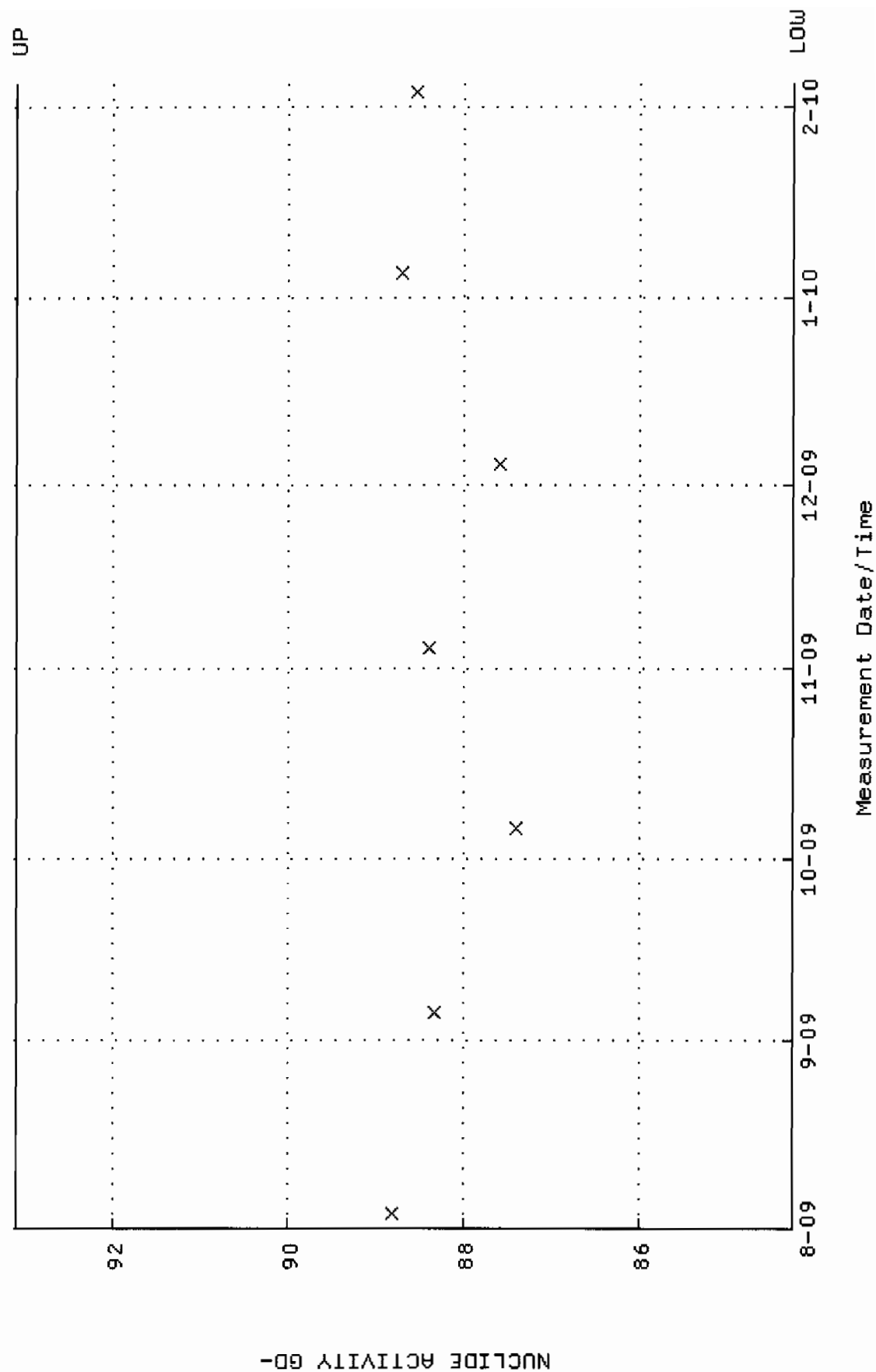
Lower/Upper limits: 0.000000E+00 through 2.000000E-02



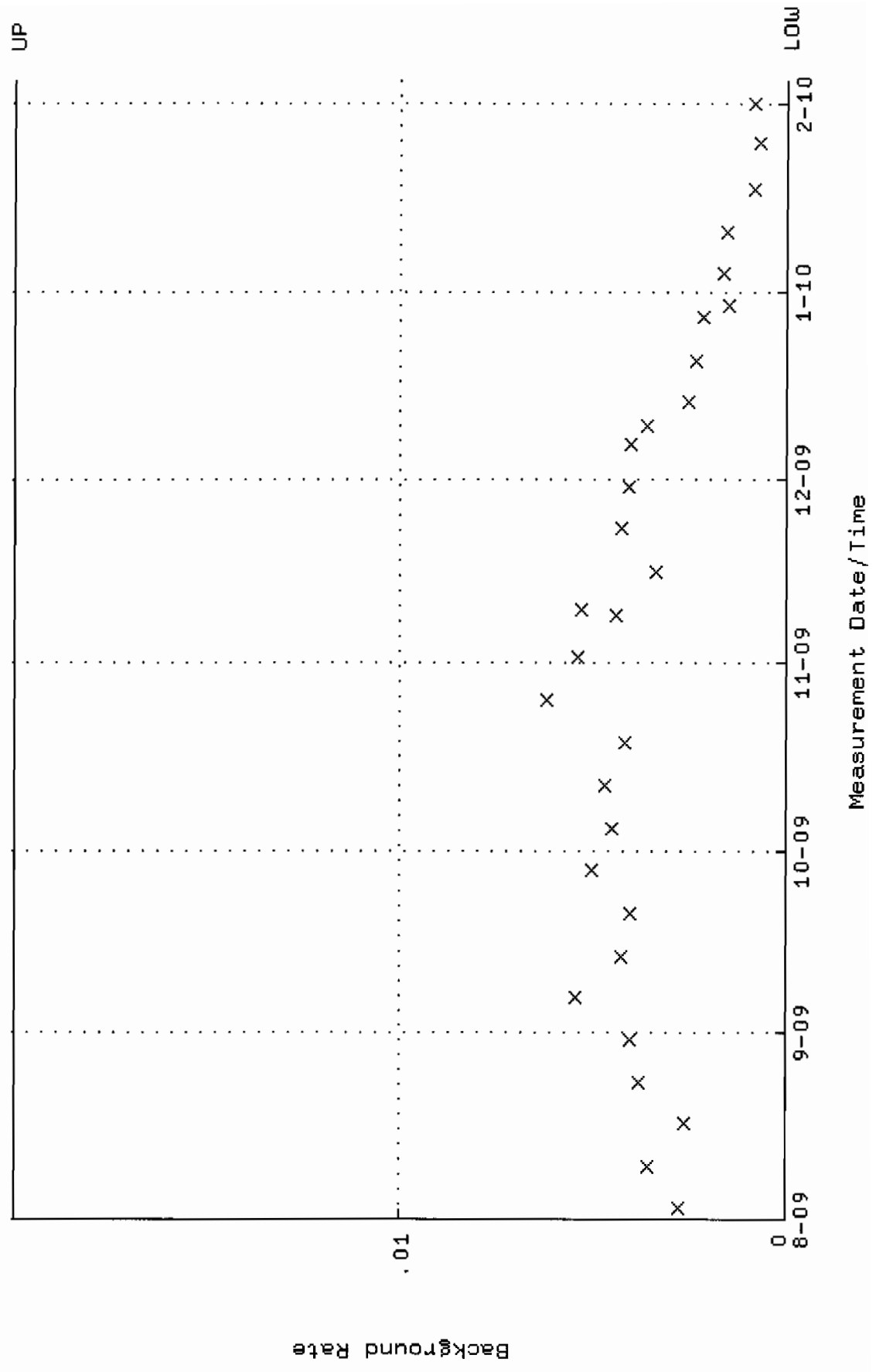
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;102
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.335973 through 0.355973



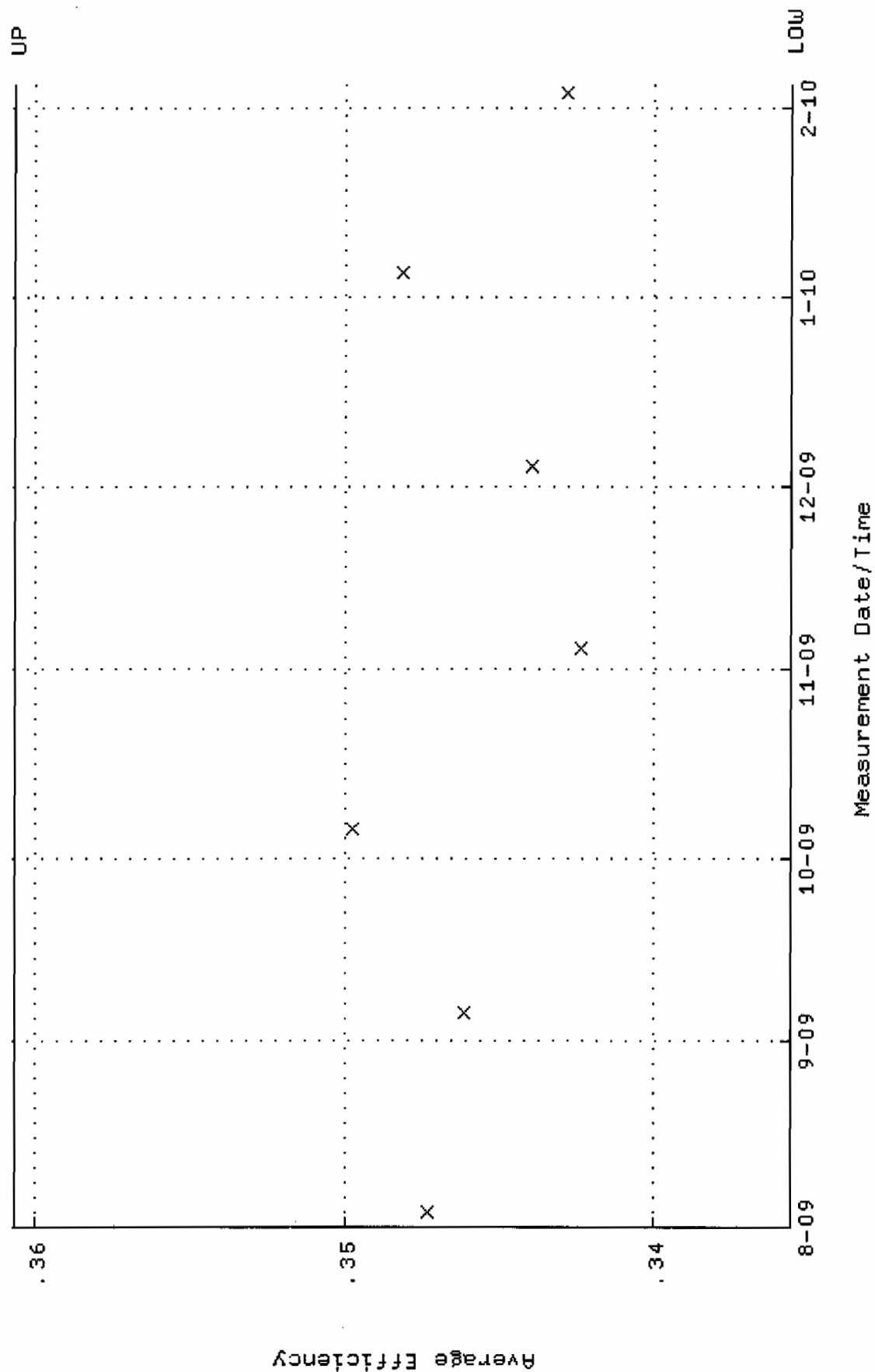
QA filename : DKA100:[ENV_ALPHA.QA.W]w043.QAF;102
 Parameter Name : NLACTIVY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.2440 through 93.1118



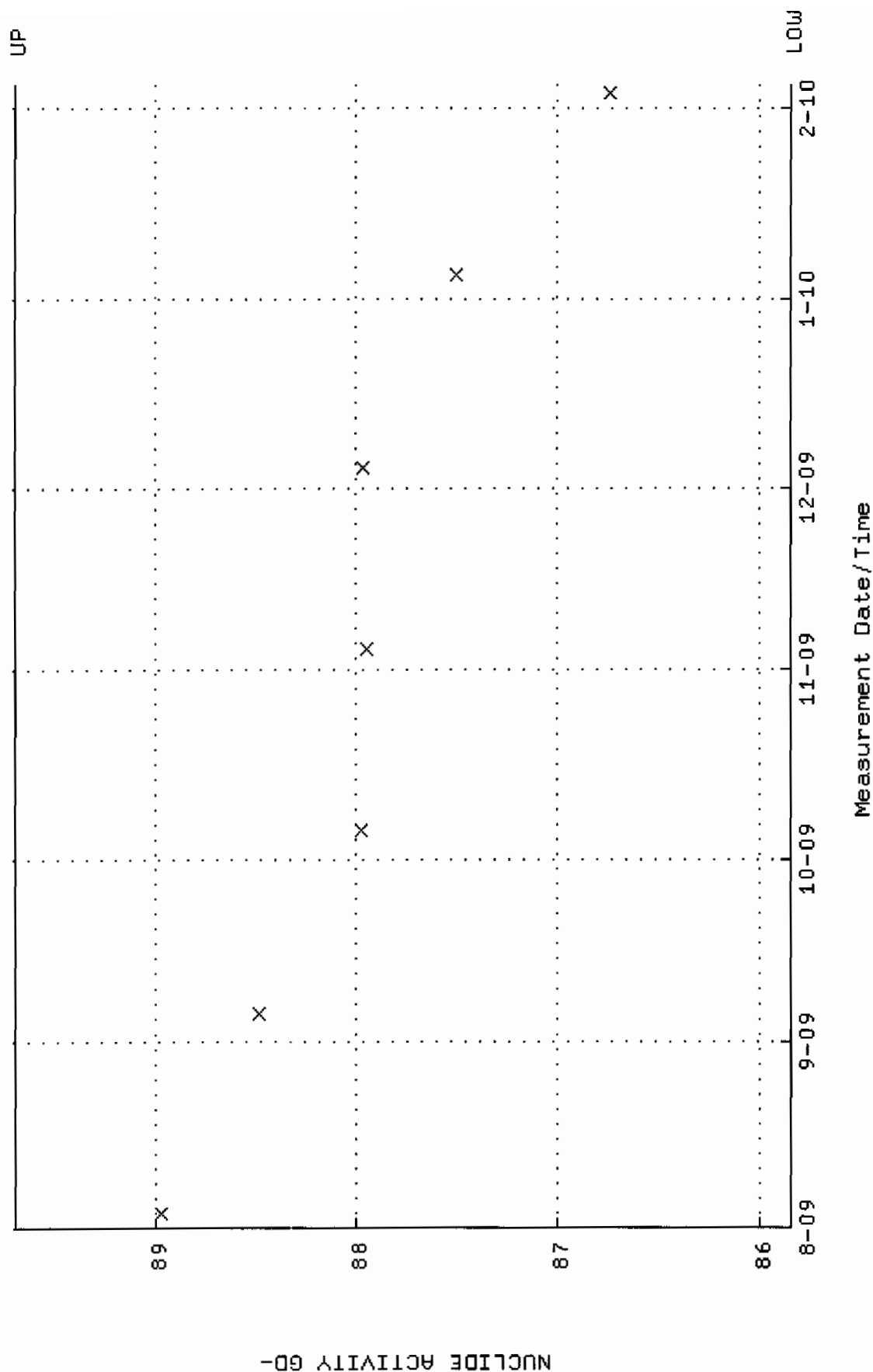
QA filename : DKA100:[ENV_ALPHA.QA.B]B043.QAF;1
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV-ALPHA.QA.W]W044.QAF;5
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.335557 through 0.360677



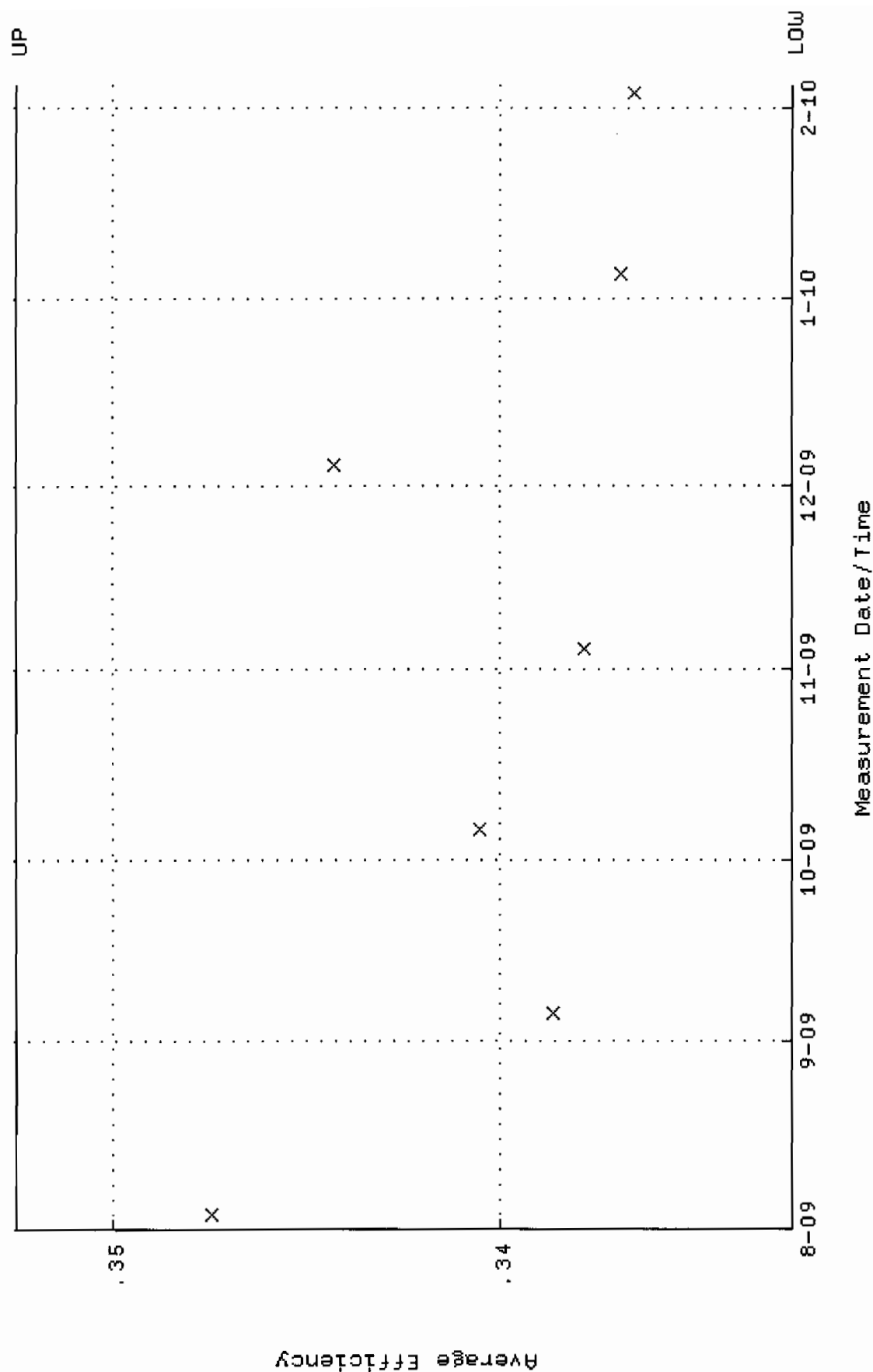
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;5
 Parameter Name : NLACTVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8425 through 89.6949



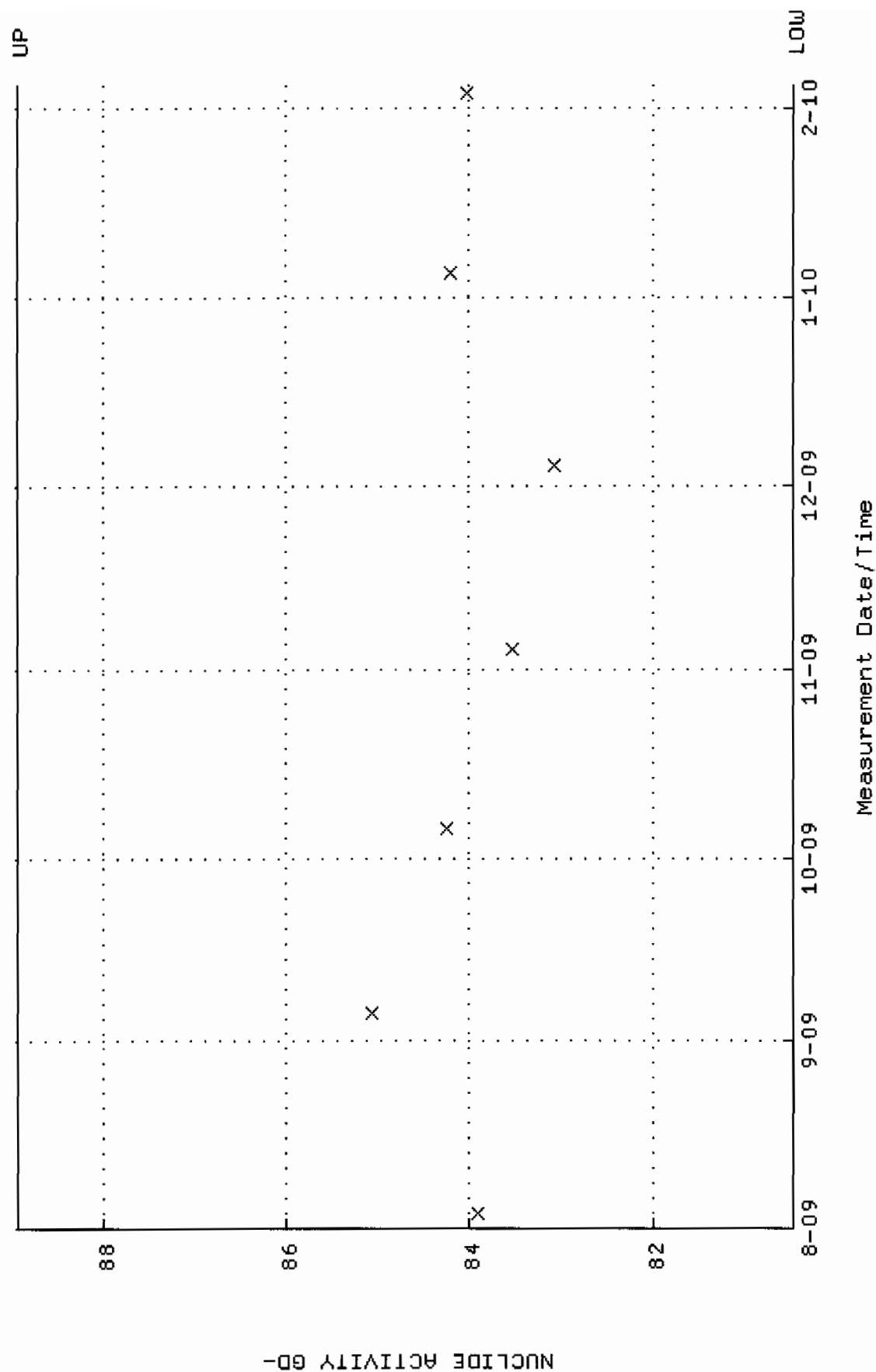
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



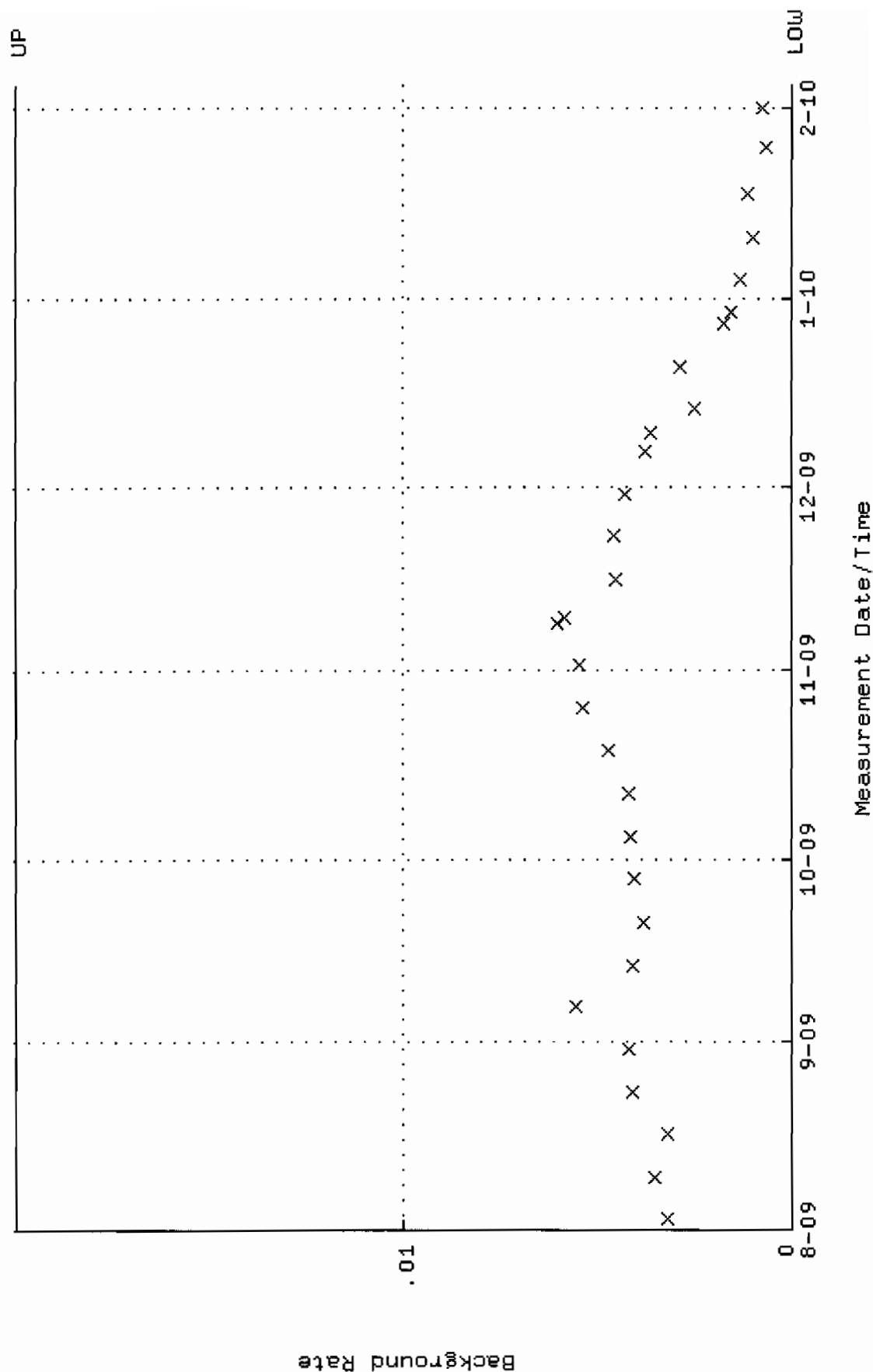
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.332472 through 0.352472



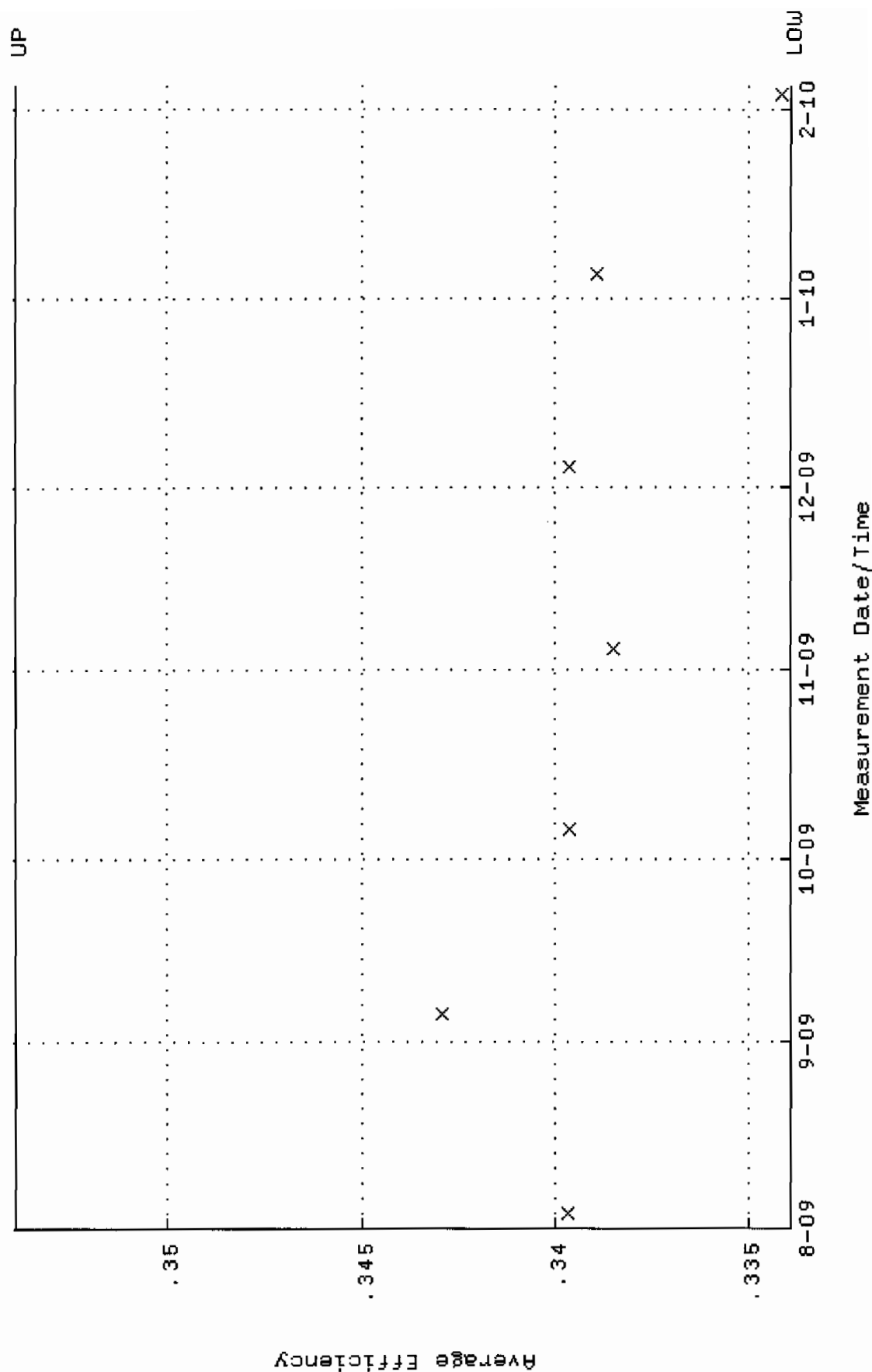
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 80.4622 through 88.9320



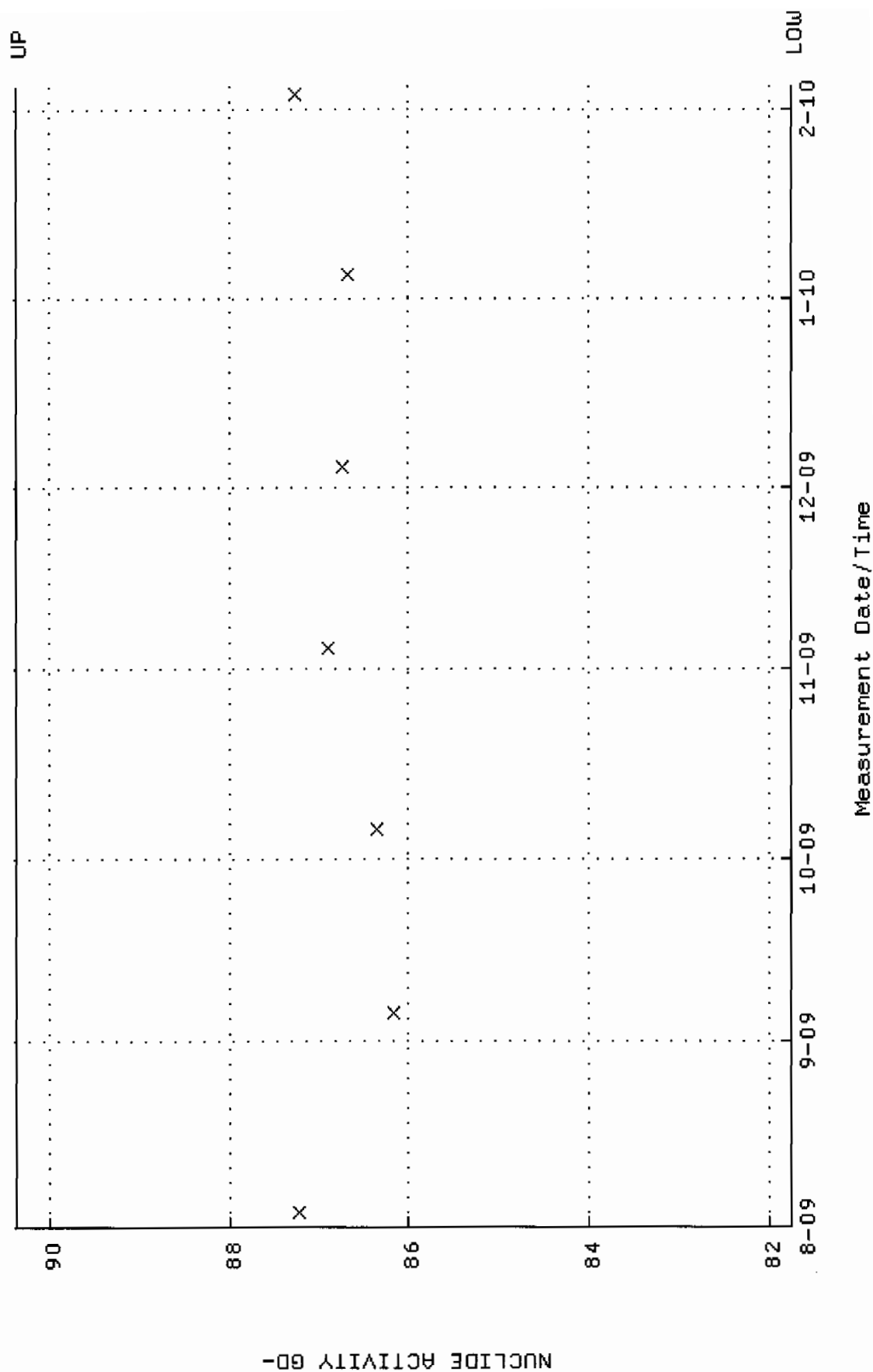
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



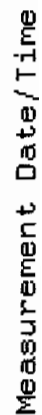
QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.333927 through 0.353927



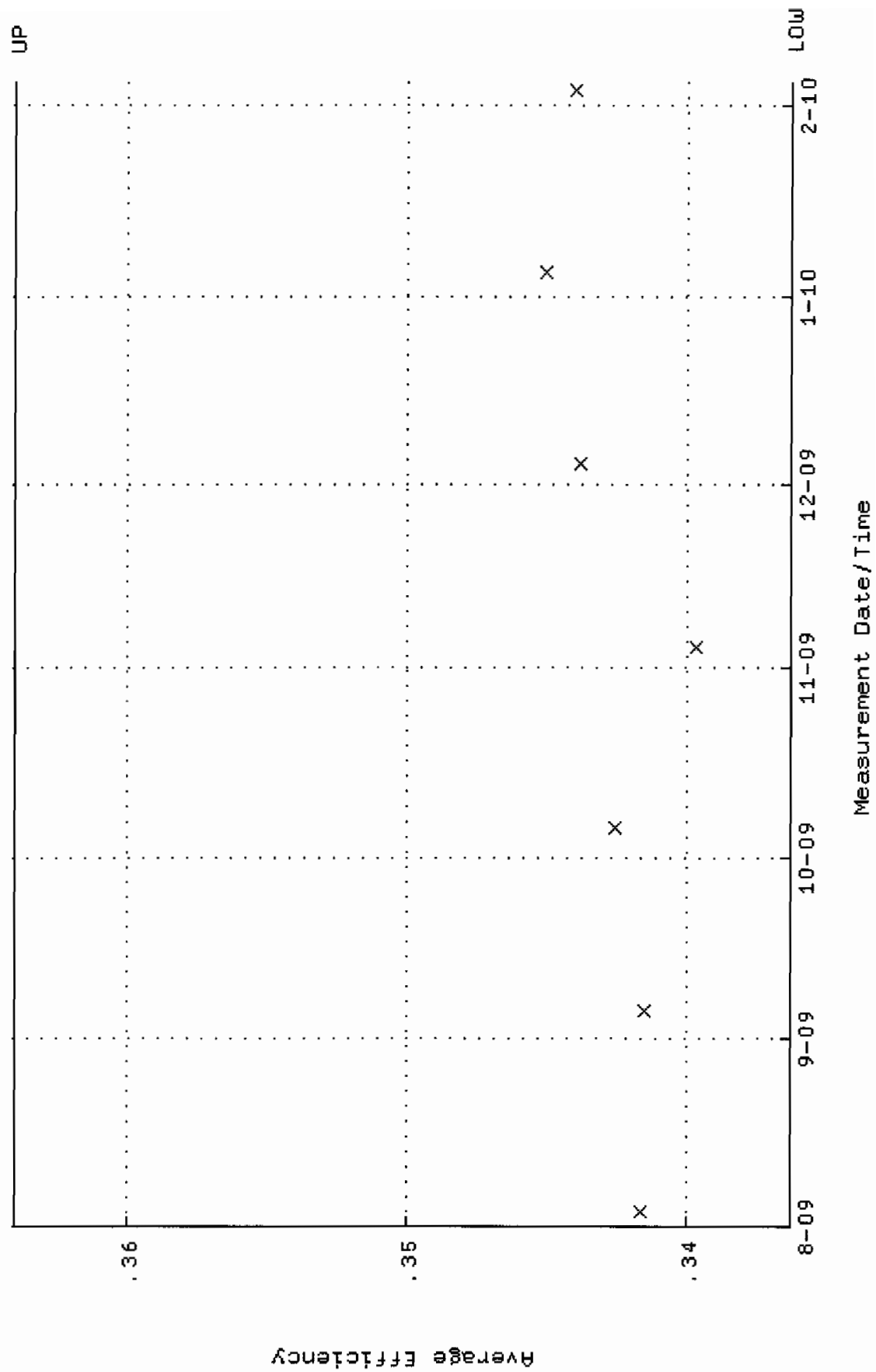
QA filename : DKA100:[ENV_ALPHA.QA.W]W046.QAF;4
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 81.7568 through 90.3628



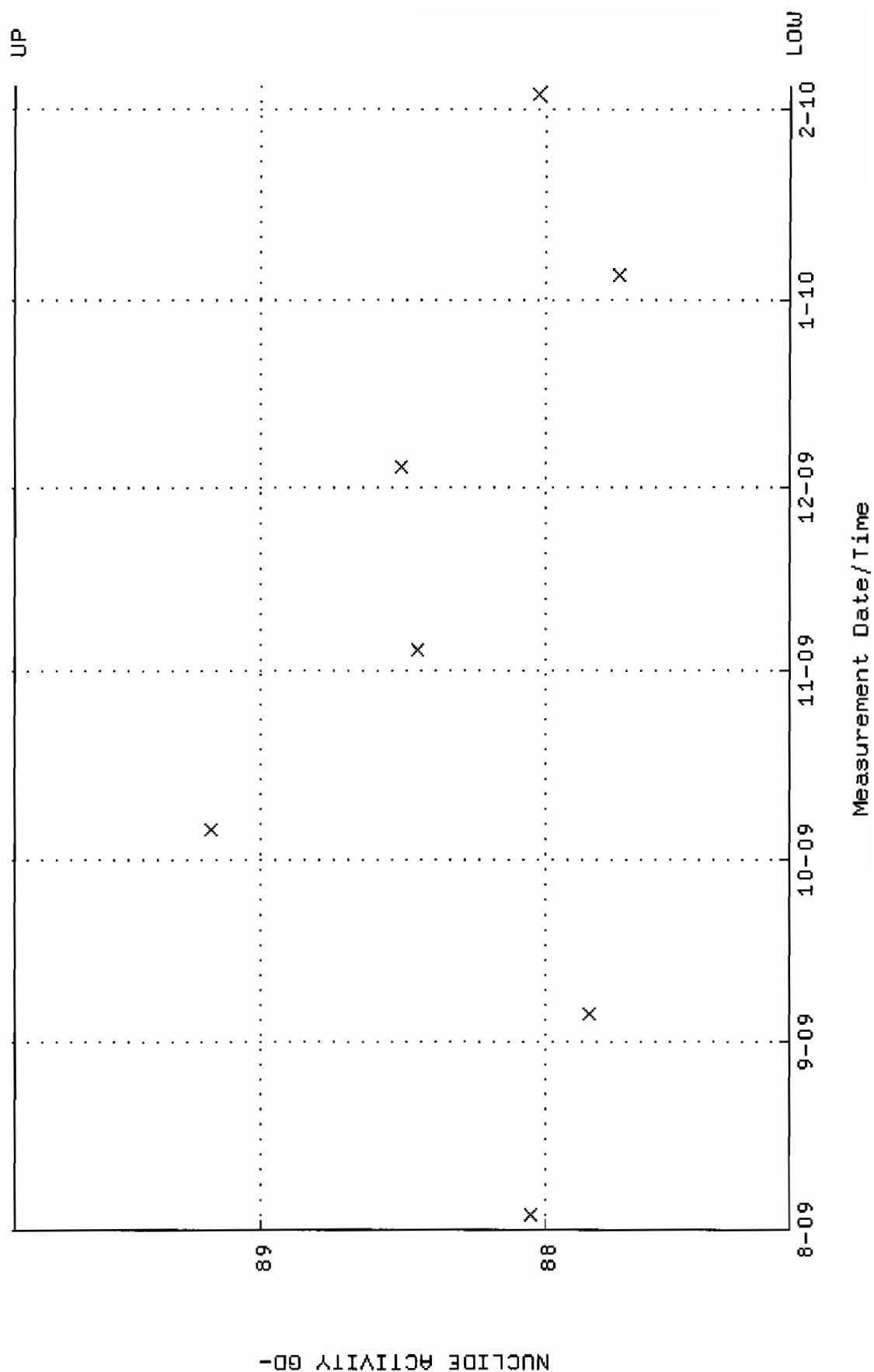
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



QA filename : DKA100:[ENV_ALPHA.QA.W]W047.QAF;5
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
Lower/Upper Lmts: 0.336276 through 0.364038



QA filename : DKA100:[ENV_ALPHA.QA.W]W047.QAF;5
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.1403 through 89.8631

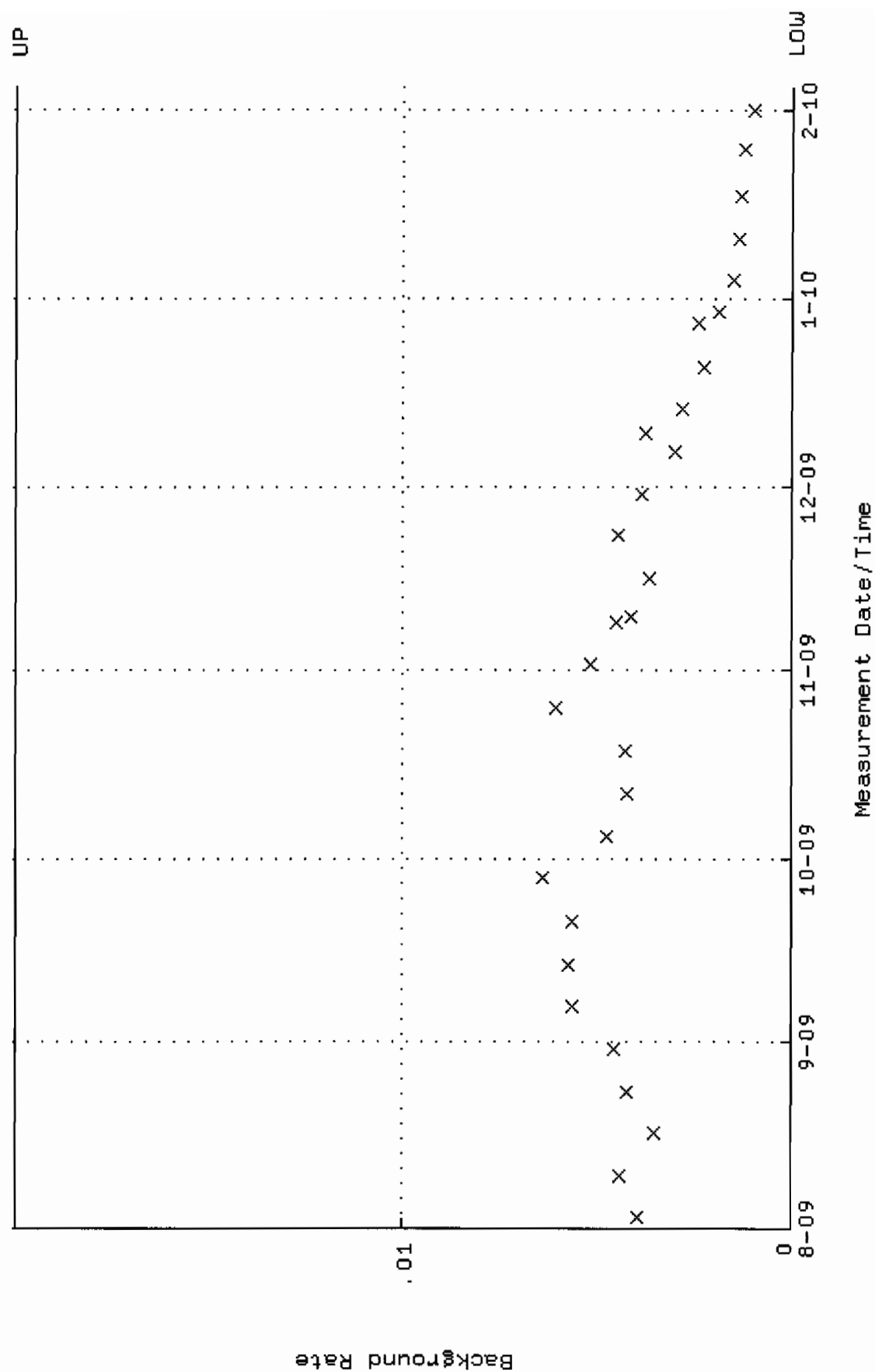


QA filename : DKA100:[ENV_ALPHA.QA.B]B047.QAF;2

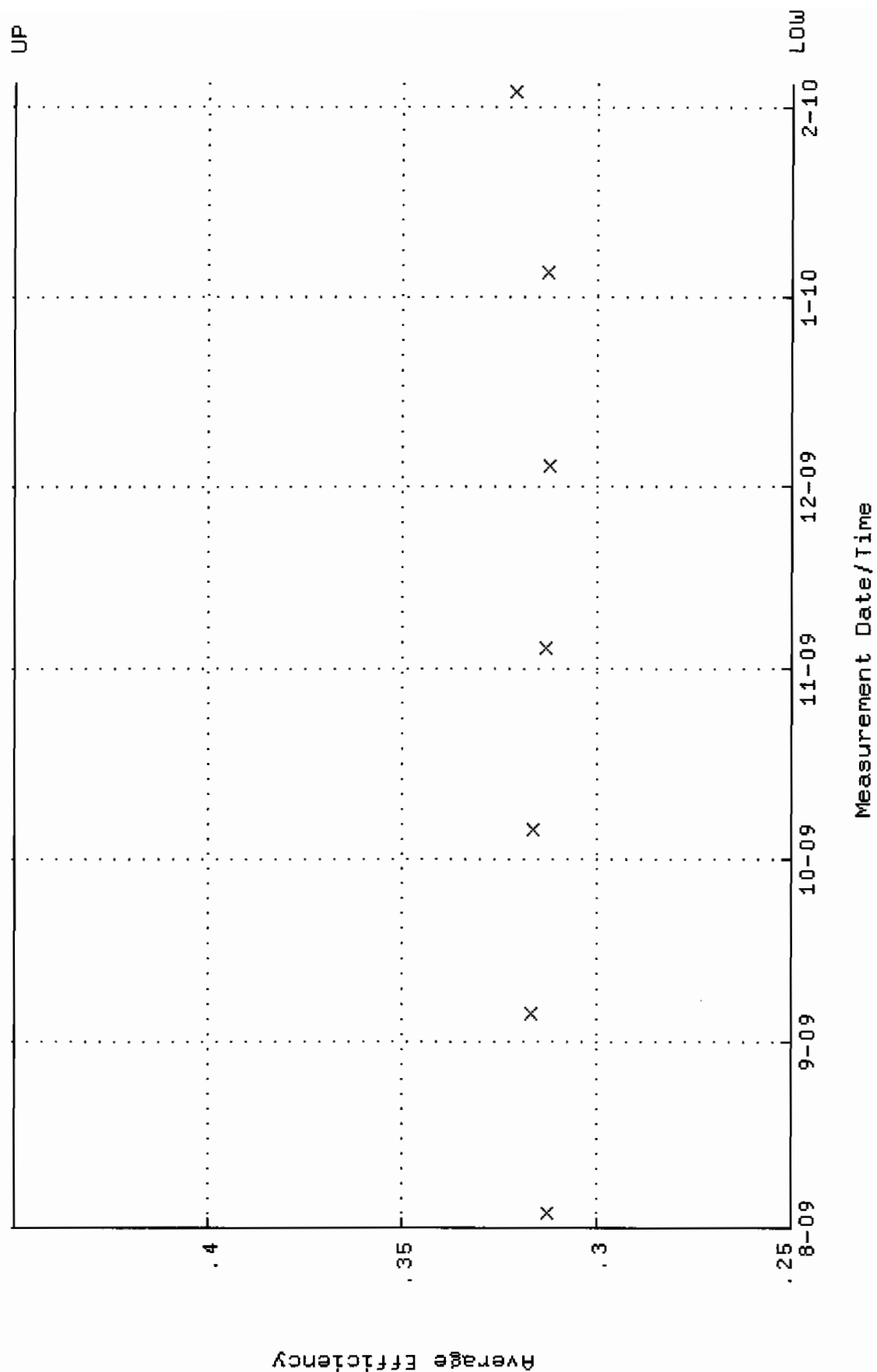
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:38:37 through 4-FEB-2010 12:00:00

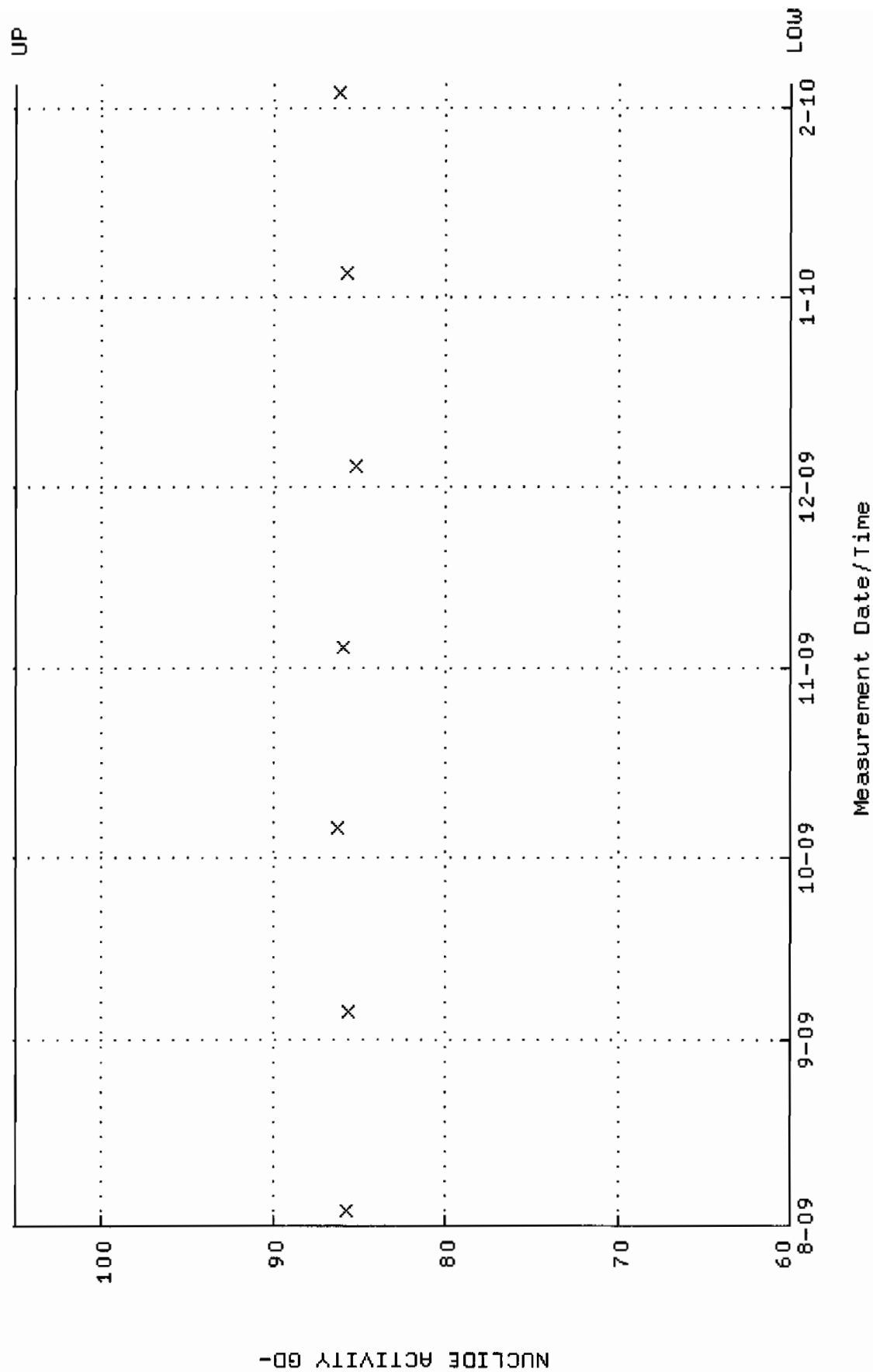
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



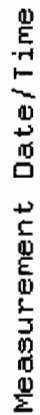
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.250000 through 0.450000



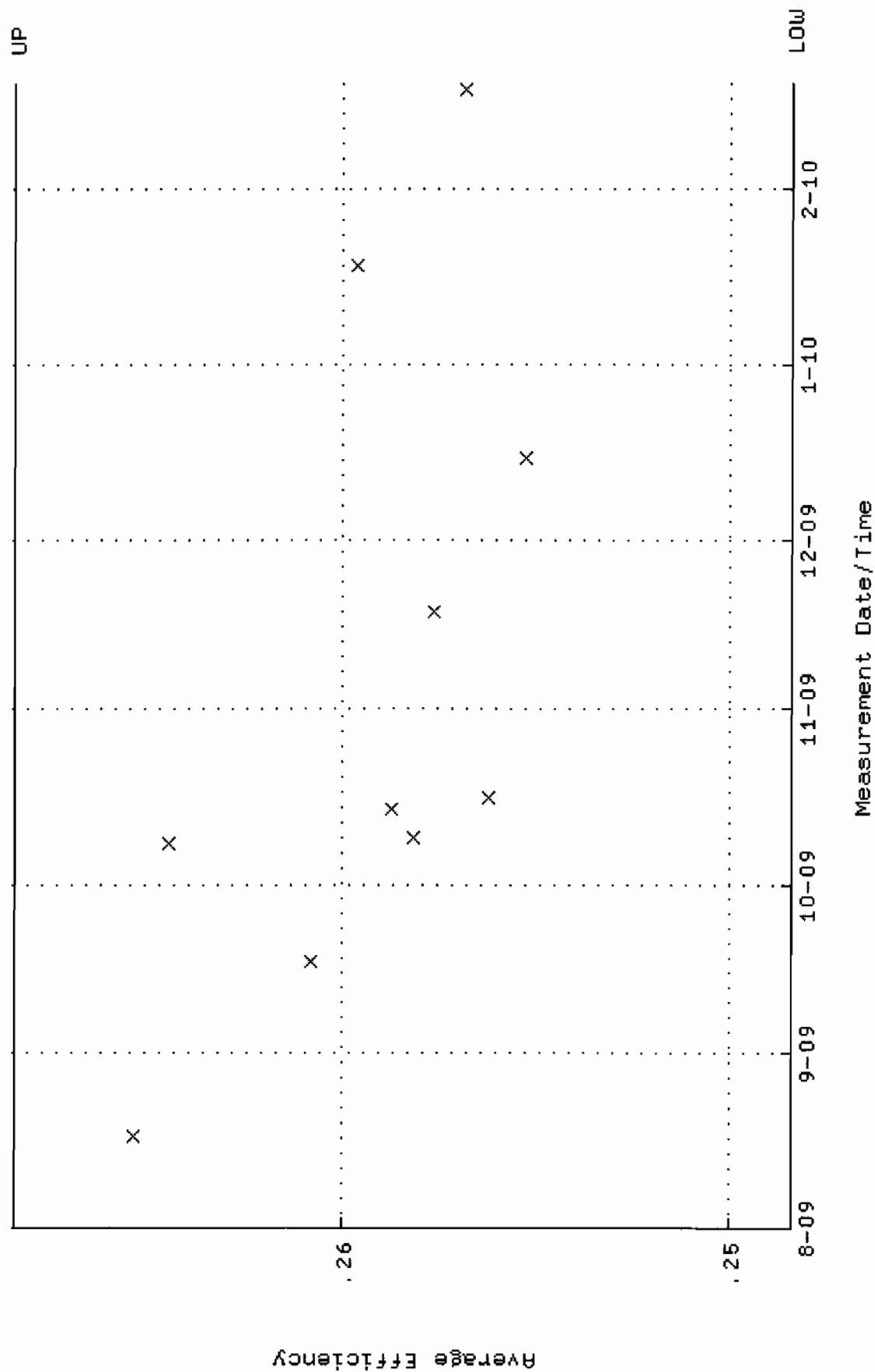
QA filename : DKA100:[ENV_ALPHA.QA.W]W048.QAF;6
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 3-AUG-2009 10:53:44 through 4-FEB-2010 12:00:00
 Lower/Upper Lmts: 60.0000 through 105.0000



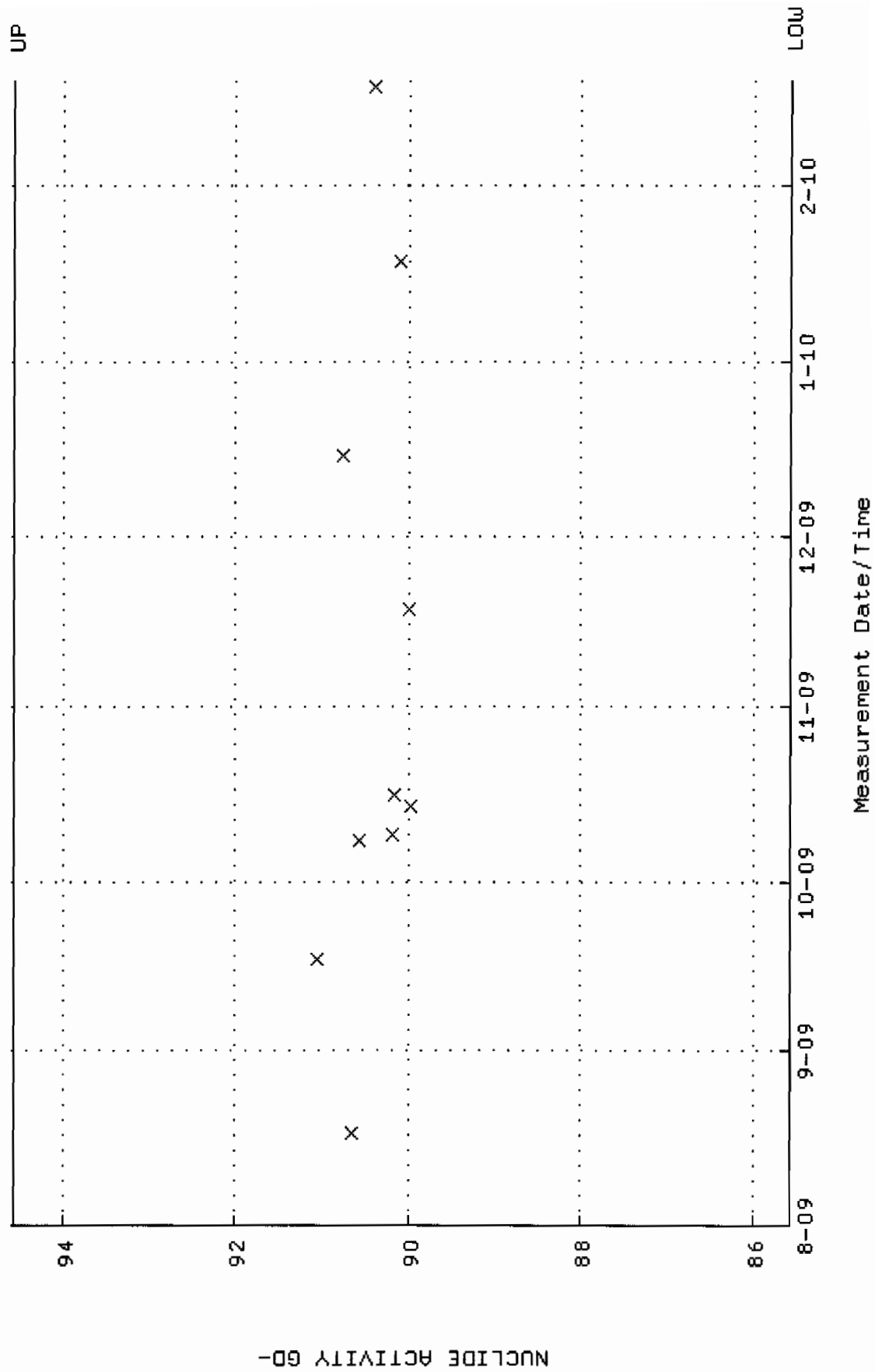
Lower/Upper Lmts: 0.00000E+00 through 2.00000E-02



QA filename : DKA100:[ENV-ALPHA.QA.W]W115.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:02 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.248404 through 0.268404



QA filename : DKA100:[ENV_ALPHA.QA.W]u115.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:02 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.5661 through 94.5731

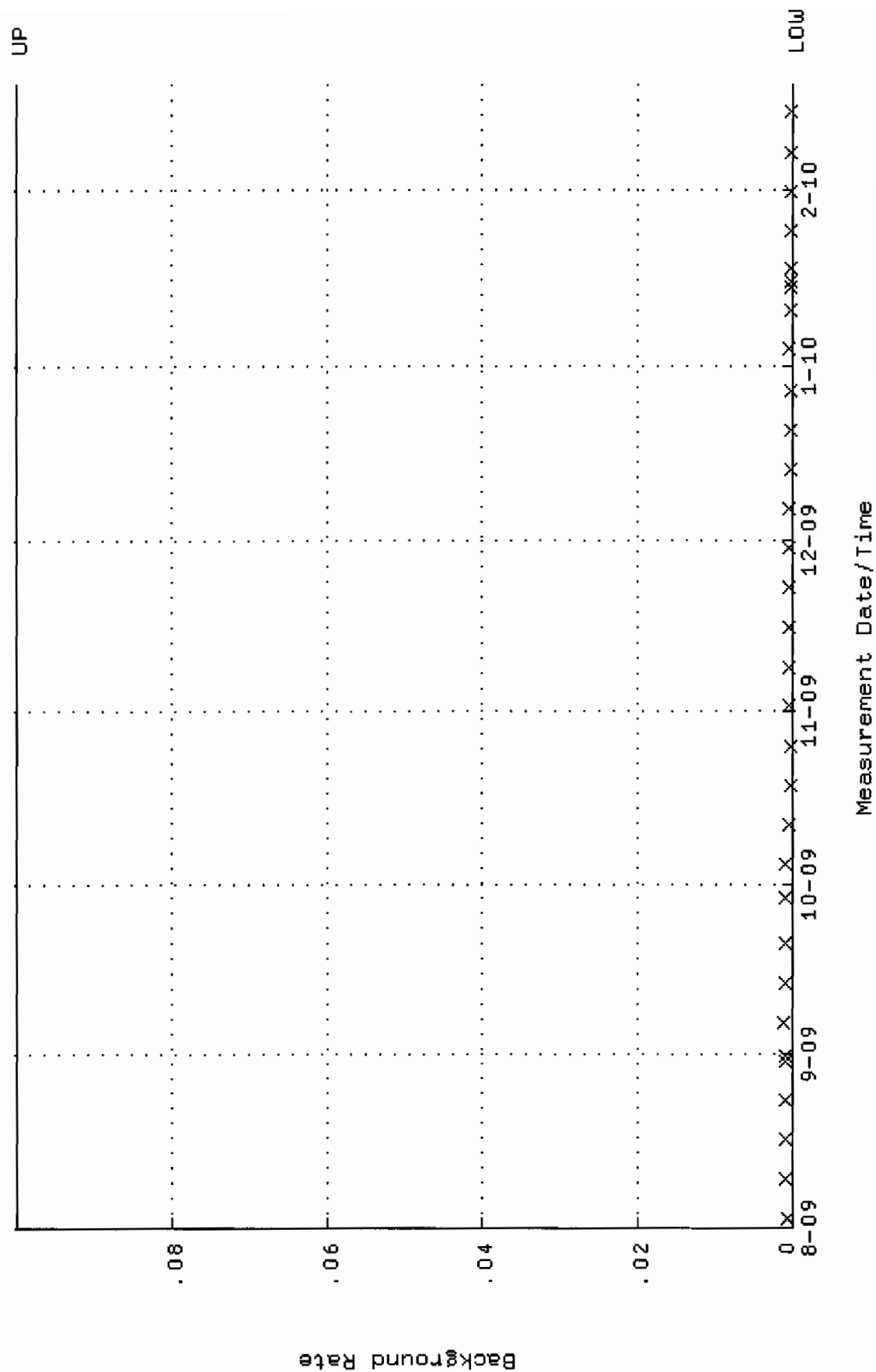


QA filename : DKA100:[ENV_ALPHA.QA.B]B115.QAF;1

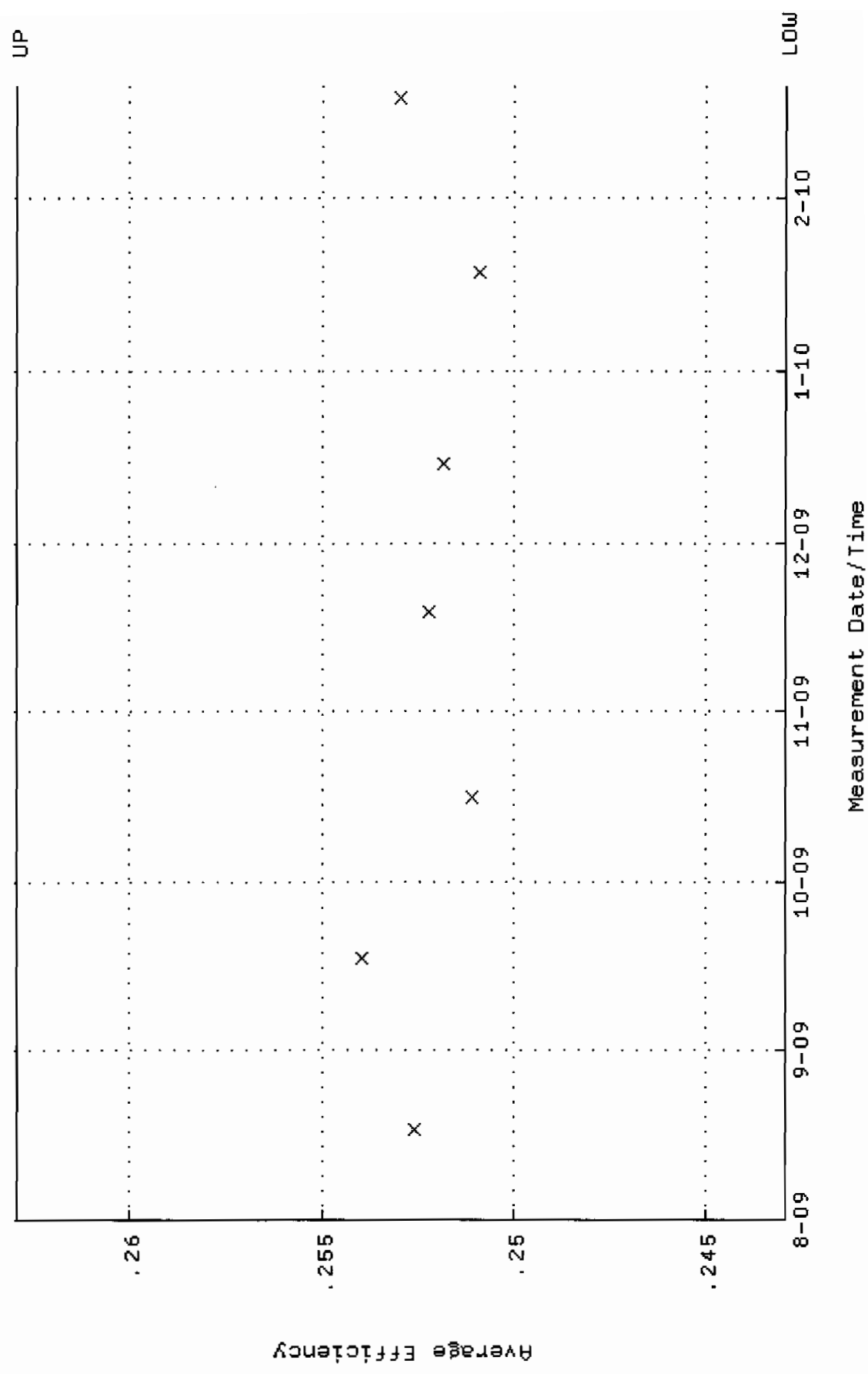
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:12:05 through 19-FEB-2010 12:00:00

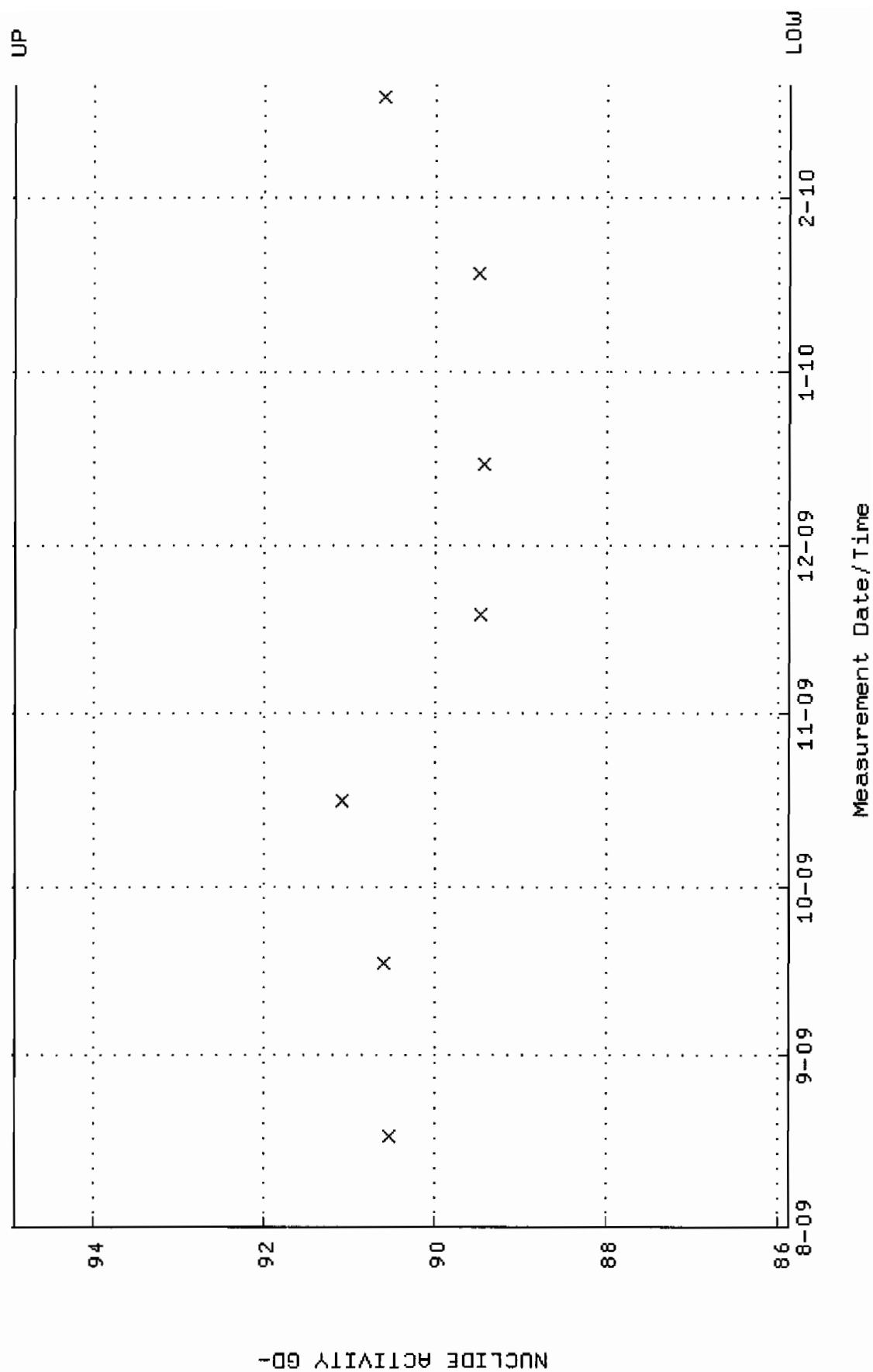
Lower/Upper Lmts: 0.000000E+00 through 0.100000



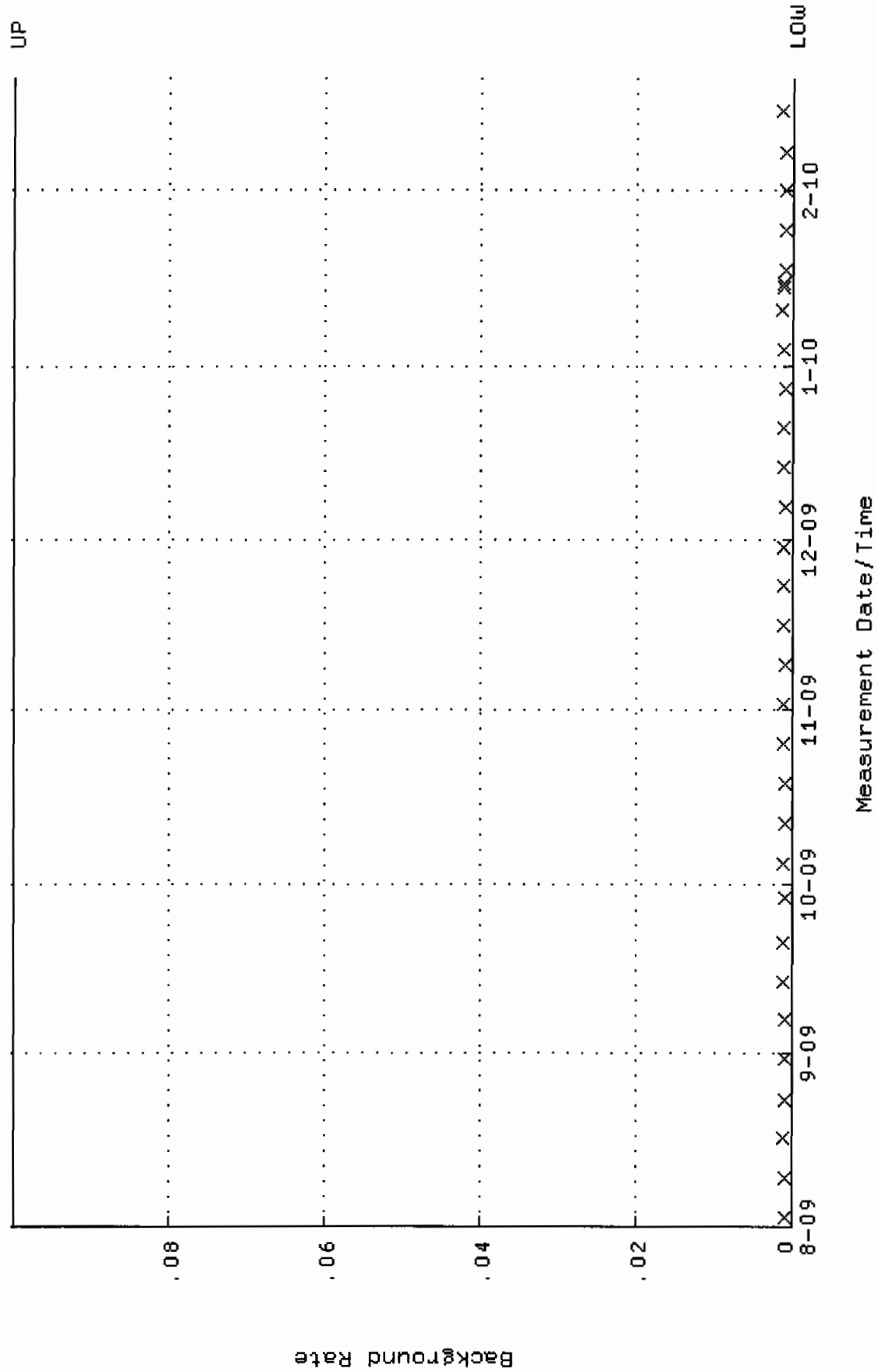
QA filename : DKA100:[ENV_ALPHA.QA.W]W117.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 17-AUG-2009 09:41:13 through 20-FEB-2010 12:00:00
Lower/Upper Lmts: 0.242940 through 0.262940



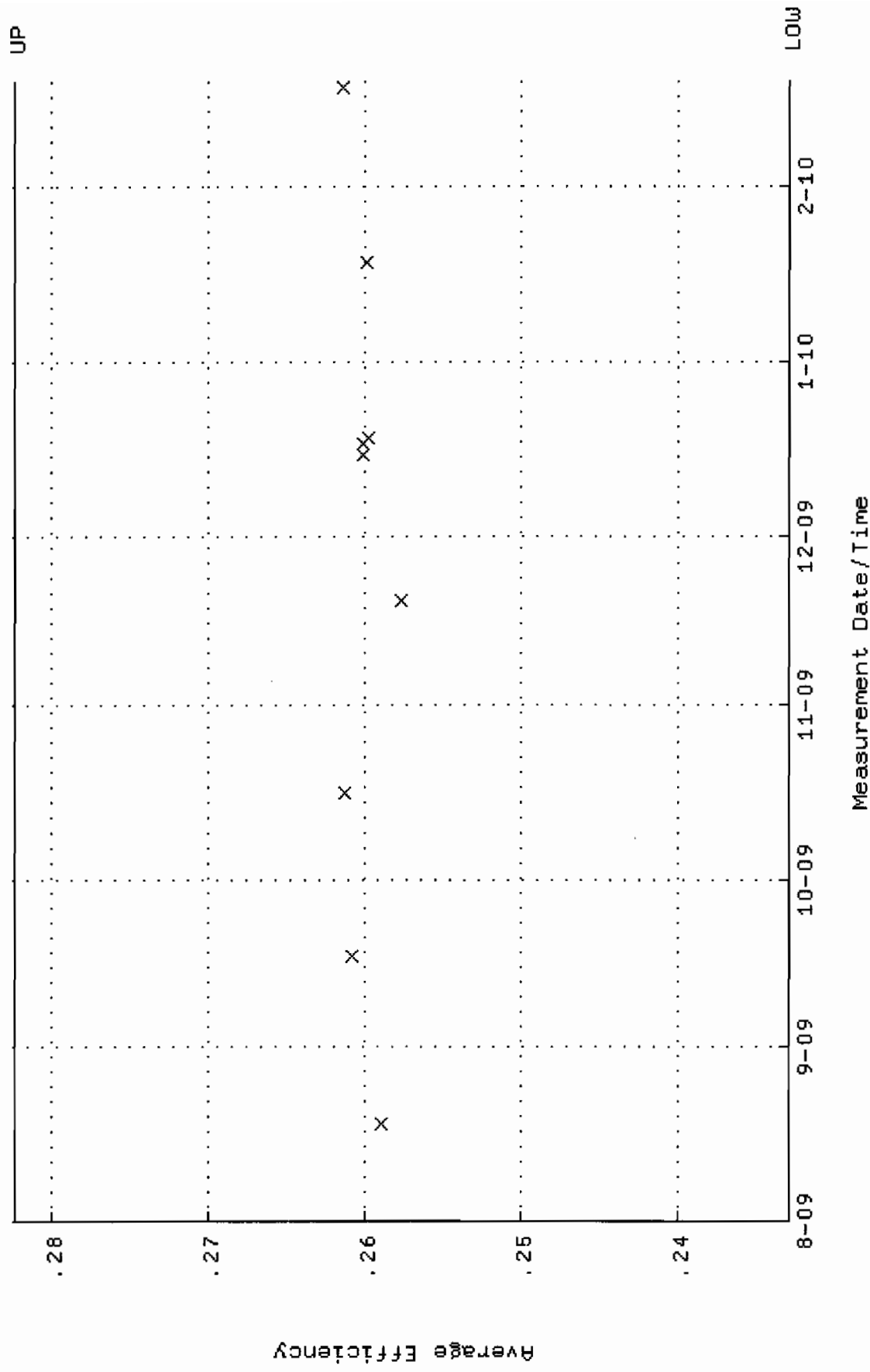
QA filename : DKA100:[ENV-ALPHA.QA.W]W117.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:13 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.8693 through 94.9081



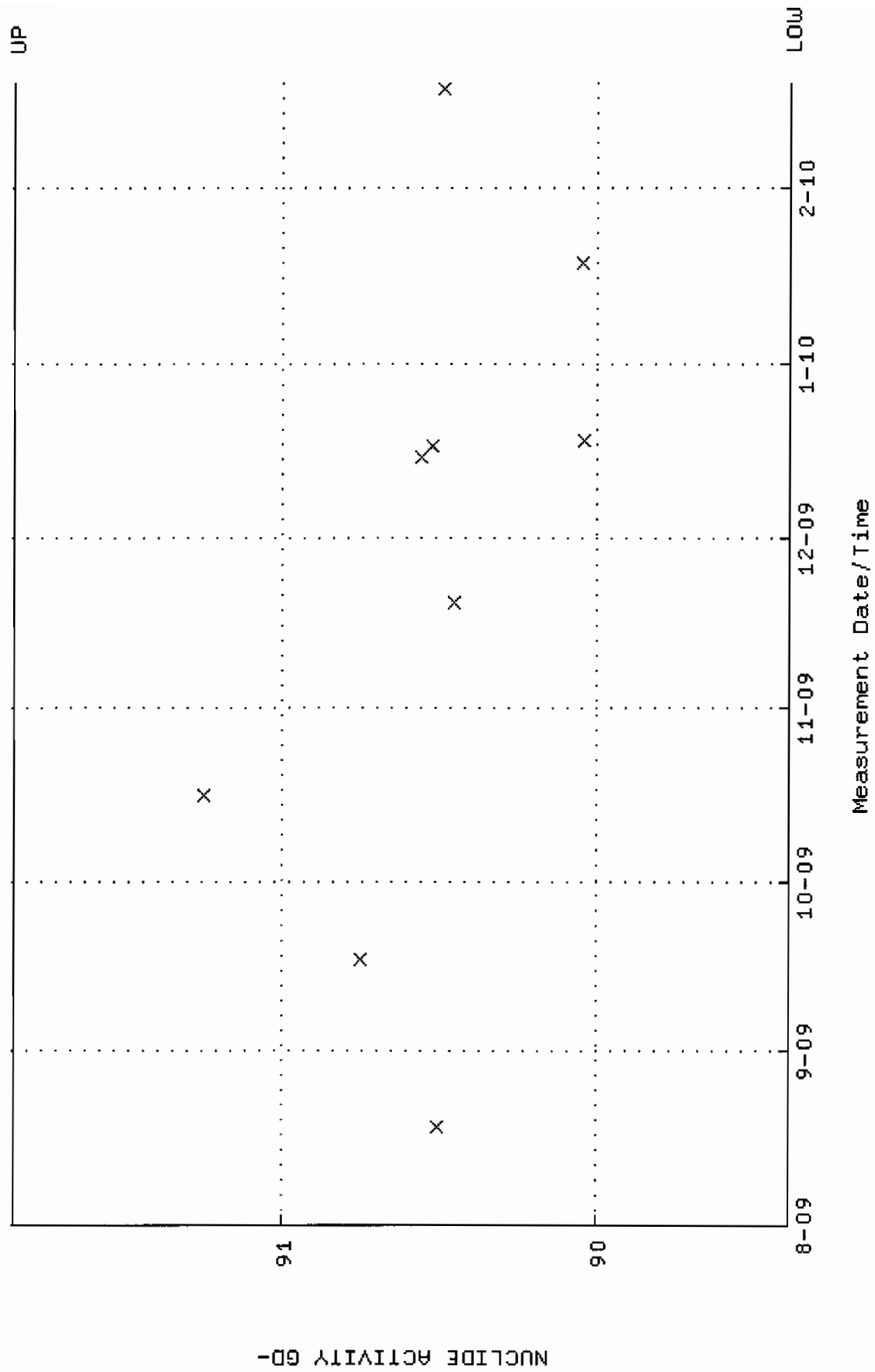
QA filename : DKA100:[ENV_ALPHA.QA.B]B117.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:15 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W120.QAF;1
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 18-AUG-2009 08:35:01 through 19-FEB-2010 12:00:00
Lower/Upper Lmts: 0.232847 through 0.282381



QA filename : DKA100:[ENV_ALPHA.QA.W]W120.QAF;1
 Parameter Name : NLAIVITY-GD148 {NUCLIDE ACTIVITY GD-148}
 Start/End Dates : 18-AUG-2009 08:35:01 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 89.3881 through 91.8481

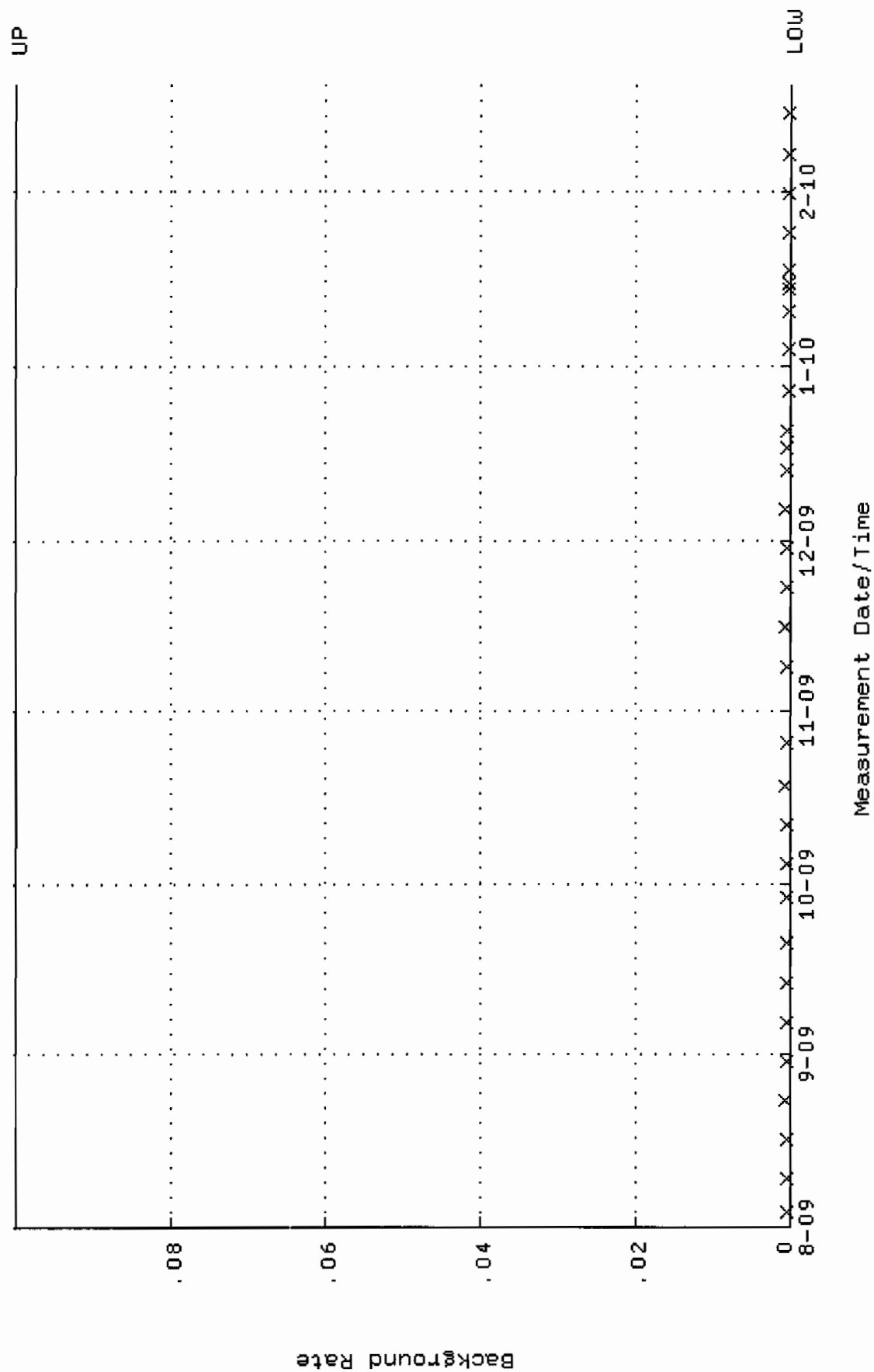


QA filename : DKA100:[ENV_ALPHA.QA.B]B120.QAF;1

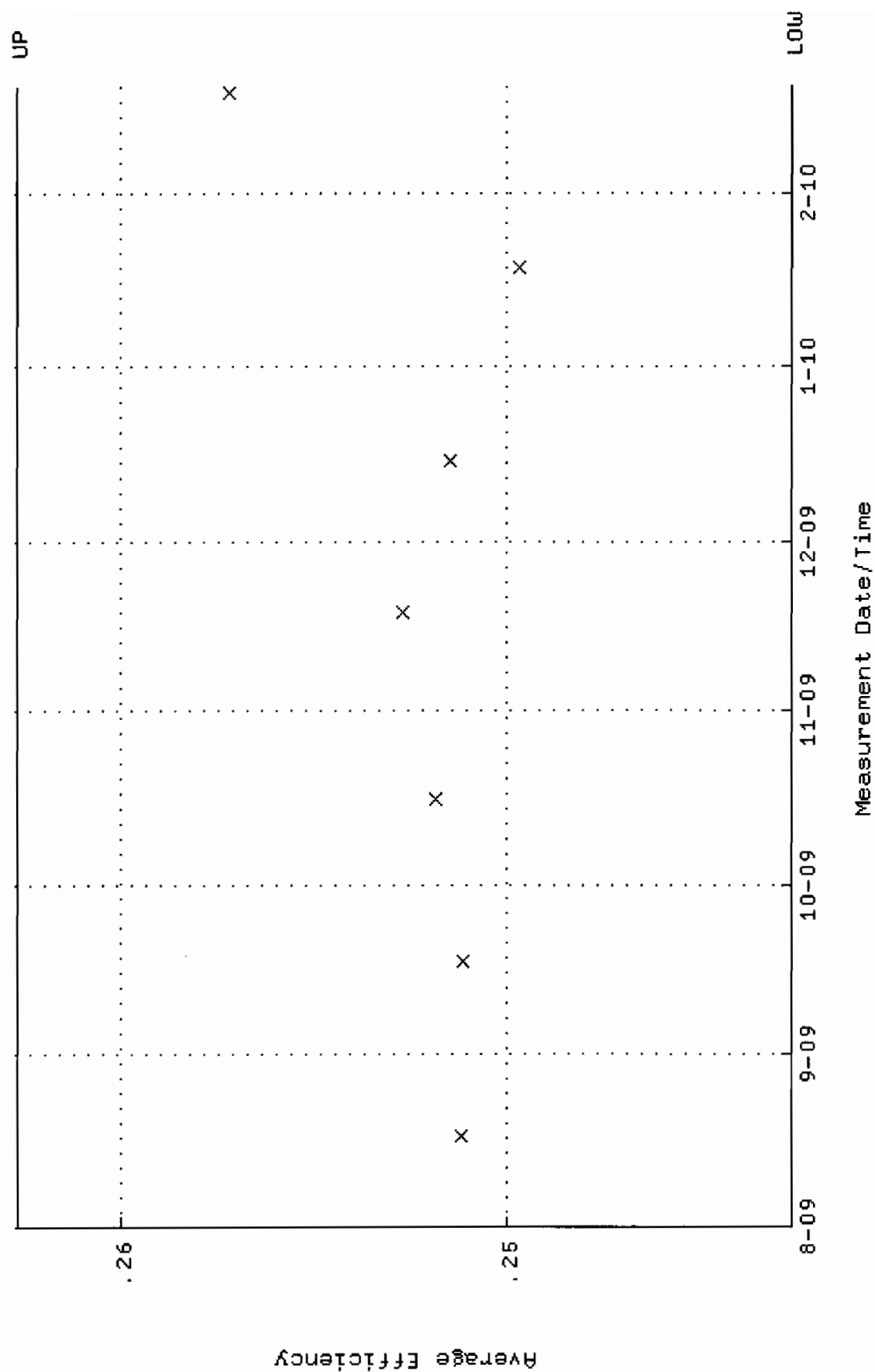
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 3-AUG-2009 15:38:20 through 19-FEB-2010 12:00:00

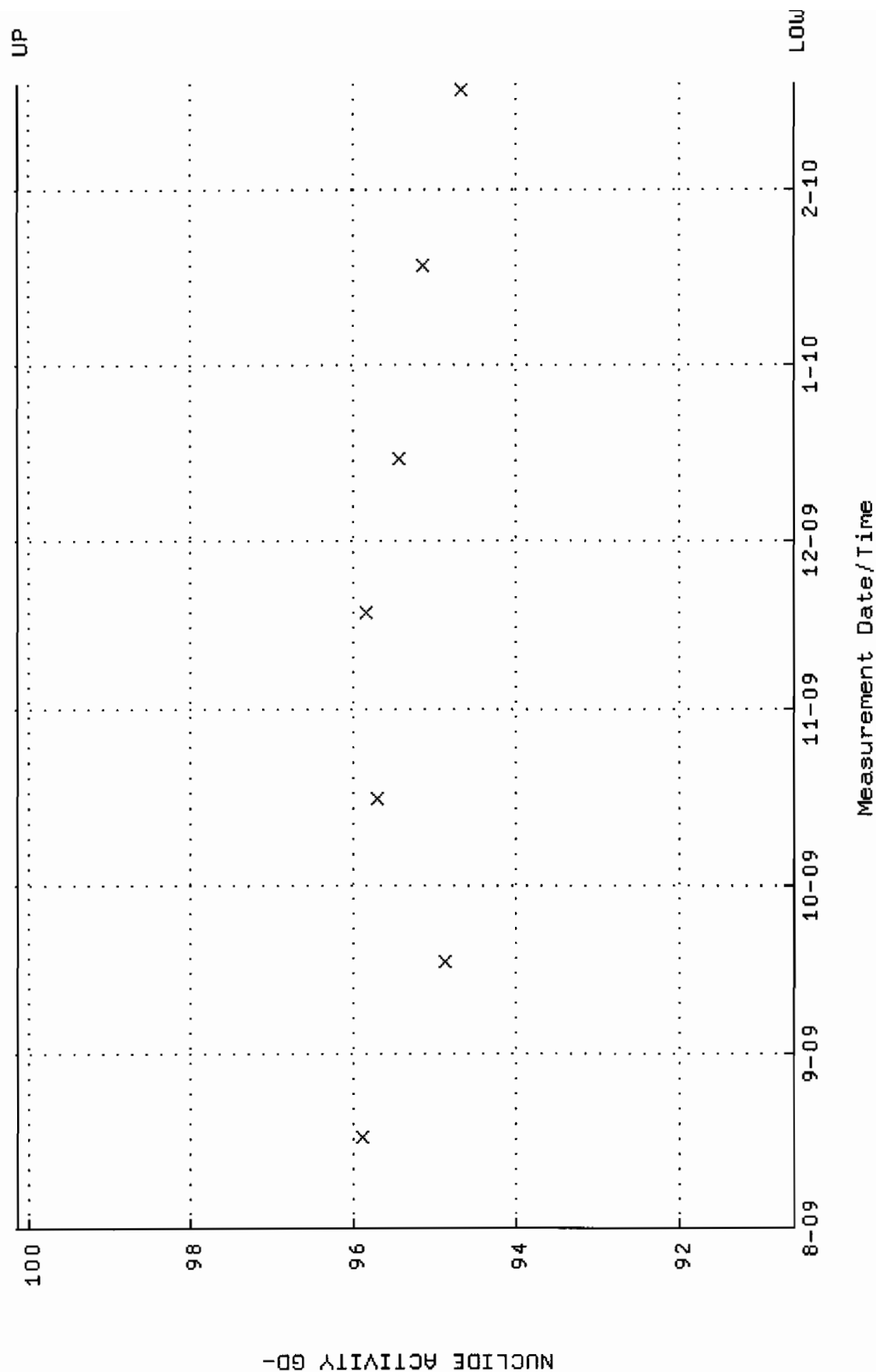
Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W122.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:30 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.242659 through 0.262659



QA filename : DKA100:[ENV_ALPHA.QA.W]w122.QAF;1
Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 17-AUG-2009 09:41:30 through 19-FEB-2010 12:00:00
Lower/Upper Lmts: 90.5949 through 100.131

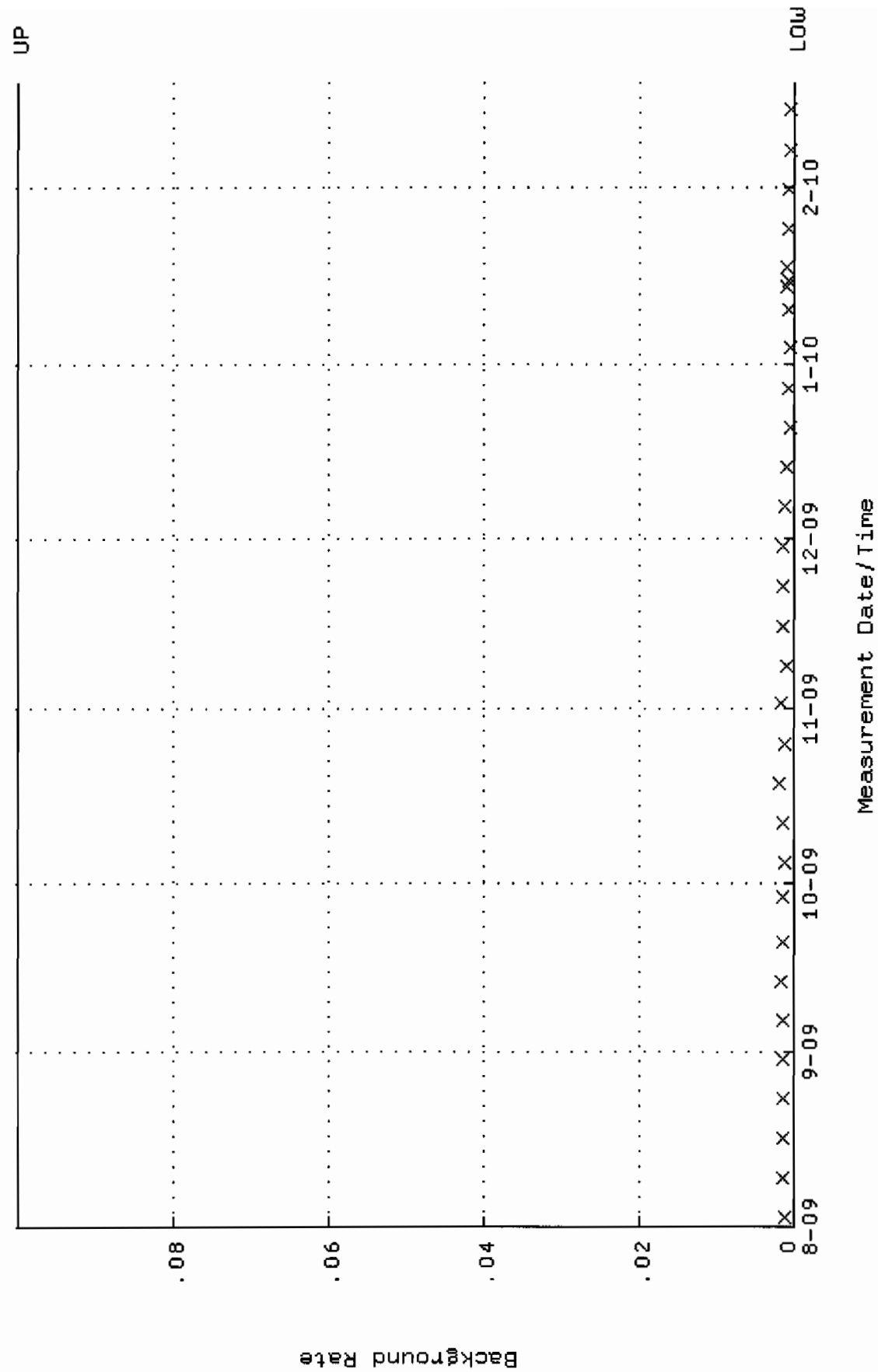


QA filename : DKA100:[ENV_ALPHA.QA.B]B122.QAF;1

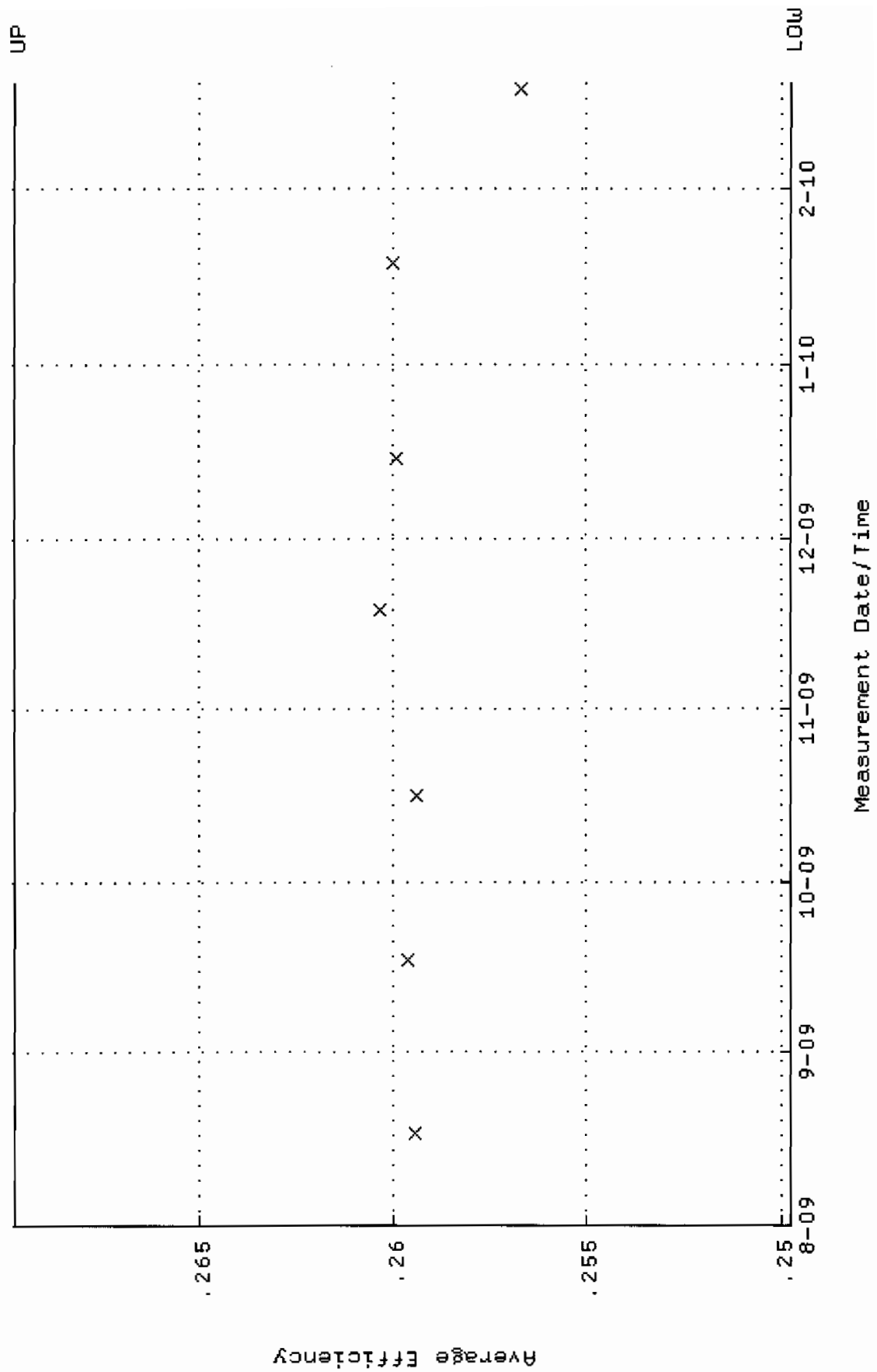
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:12:37 through 19-FEB-2010 12:00:00

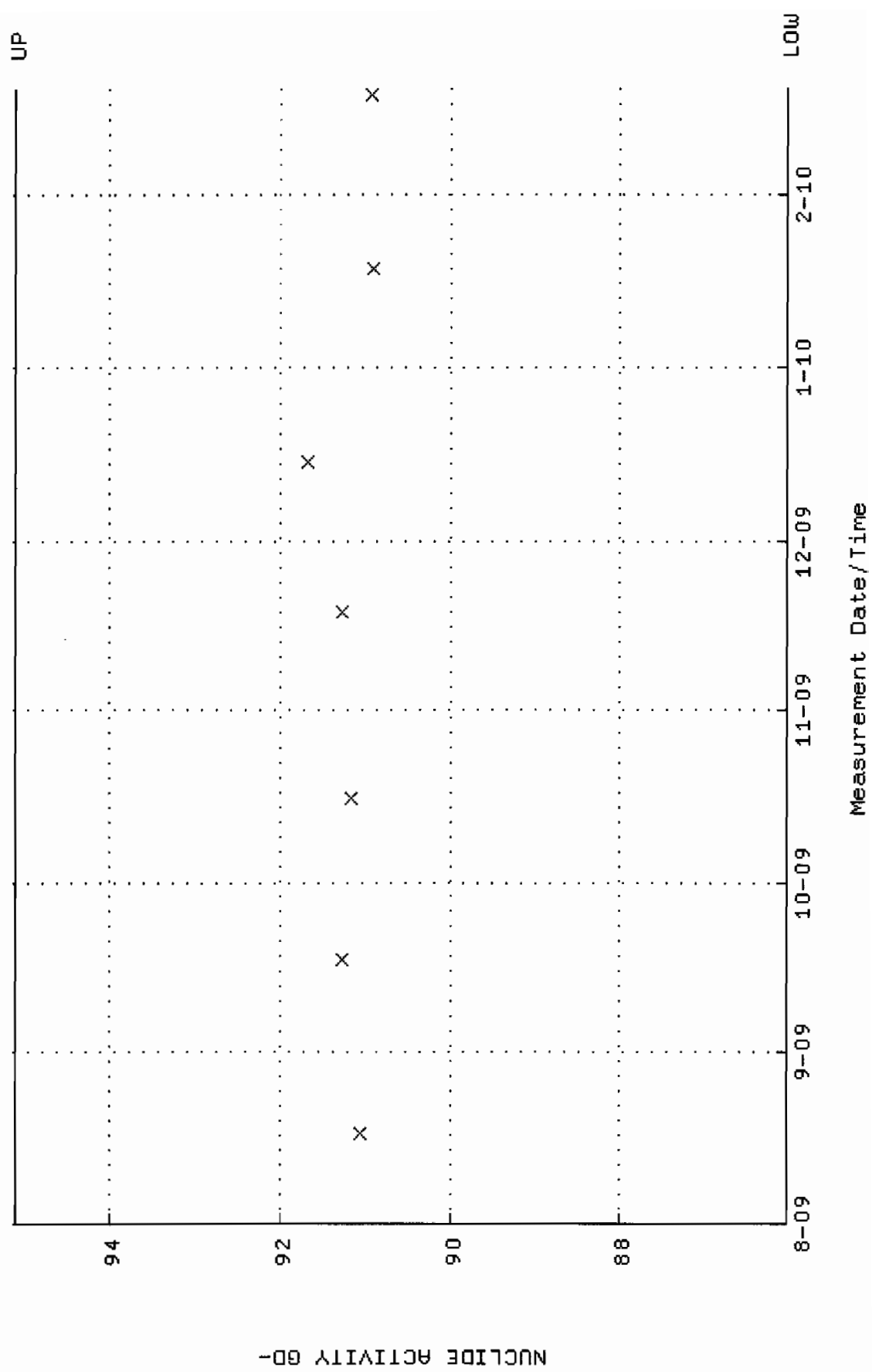
Lower/Upper Lmts: 0.000000E+00 through 0.100000



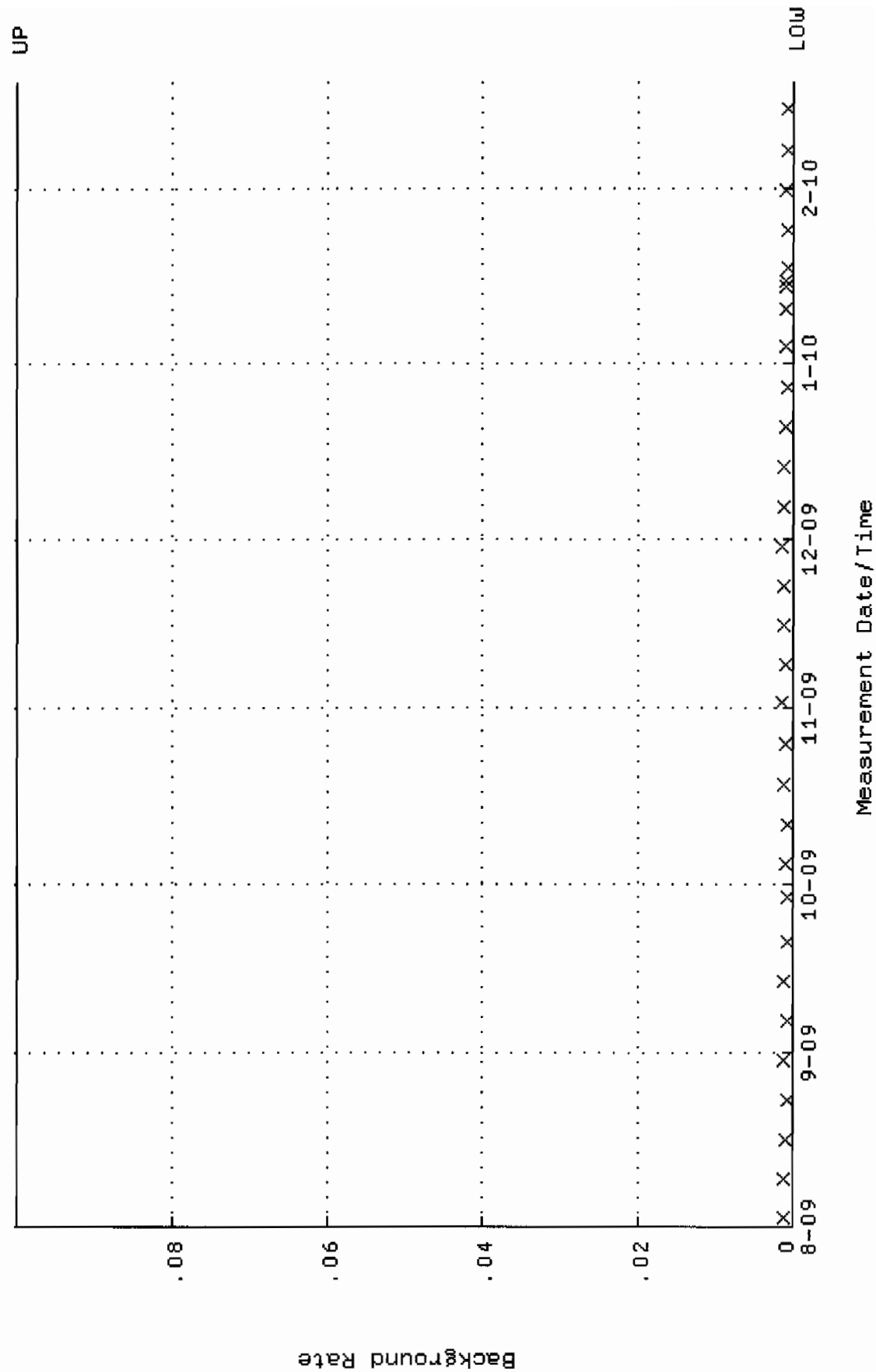
QA filename : DKA100:[ENV_ALPHA.QA.W]W123.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:34 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.249752 through 0.269752



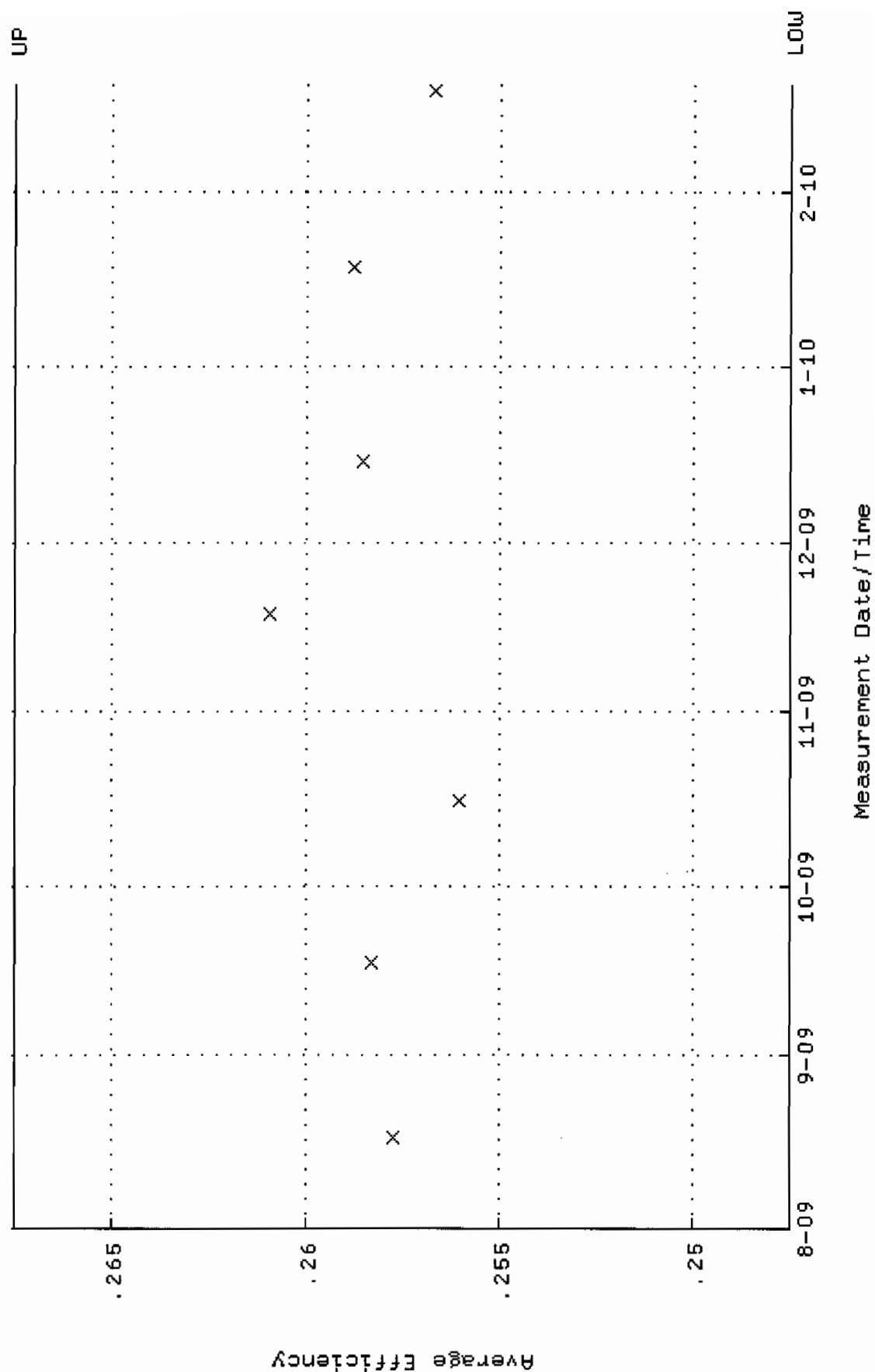
QA filename : DKA100:[ENV_ALPHA.QA.W]W123.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:34 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.0496 through 95.1074



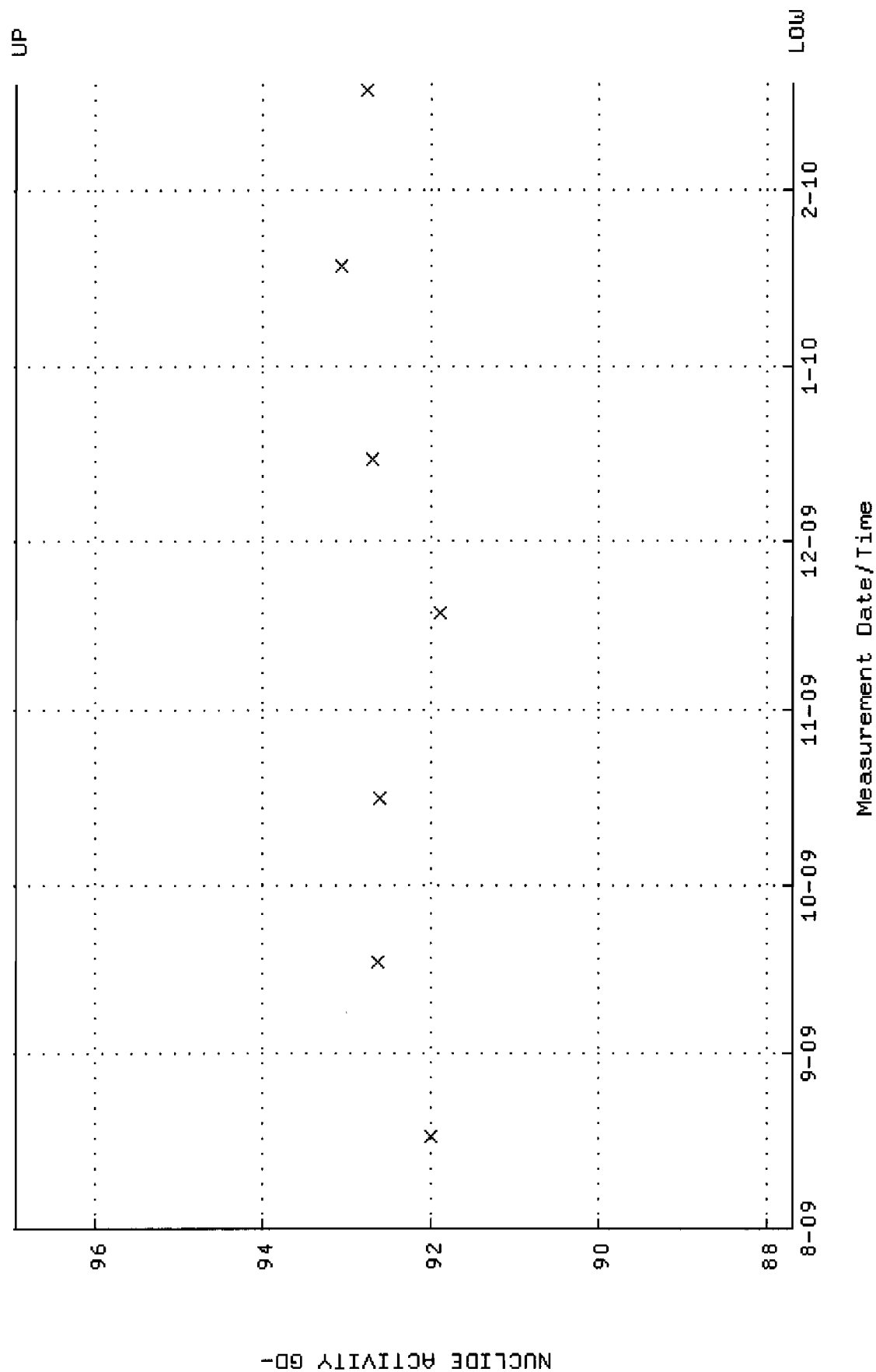
QA filename : DKA100:[ENV_ALPHA.QA.B]B123.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:42 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



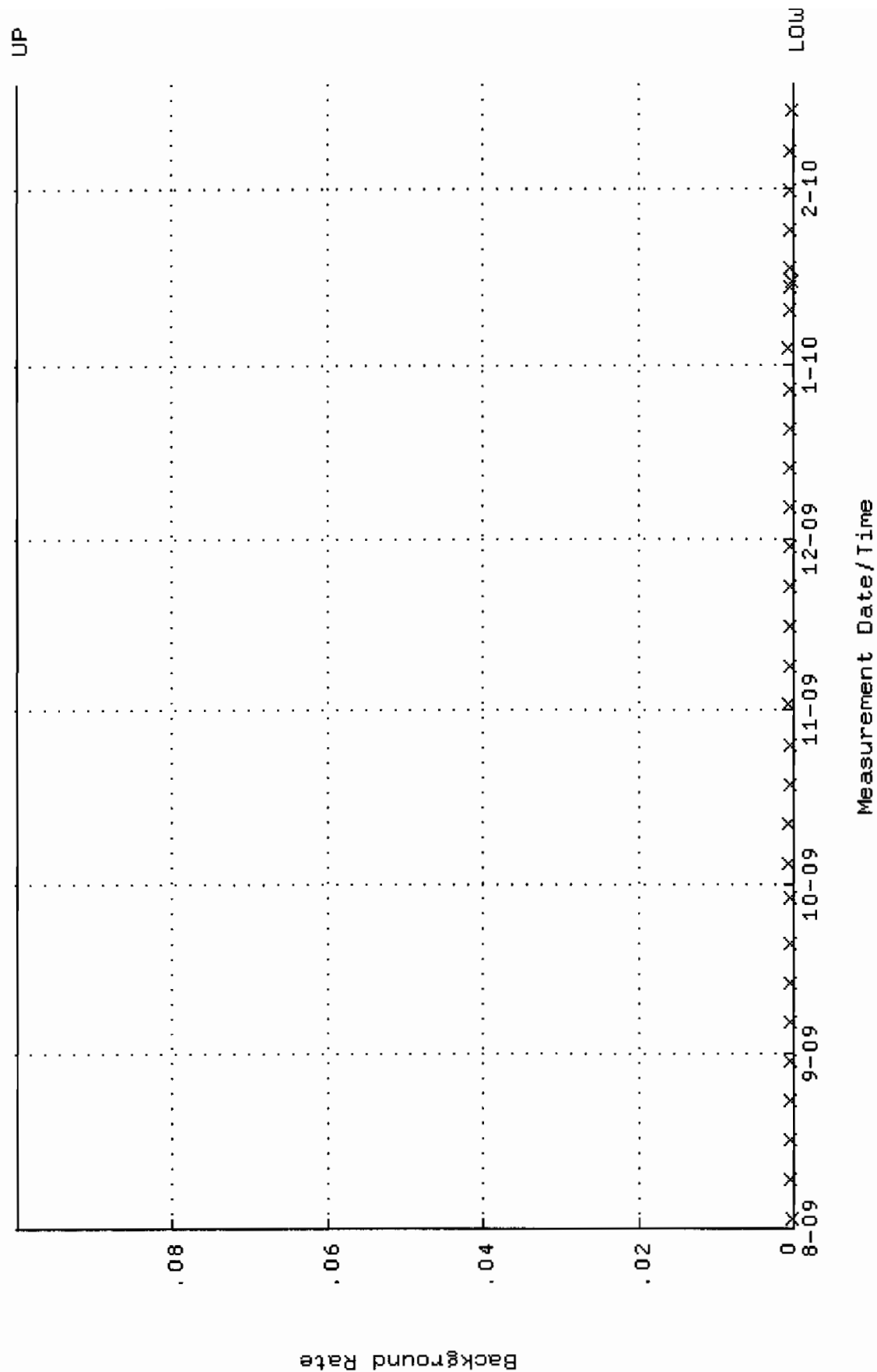
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:44 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.247512 through 0.267512



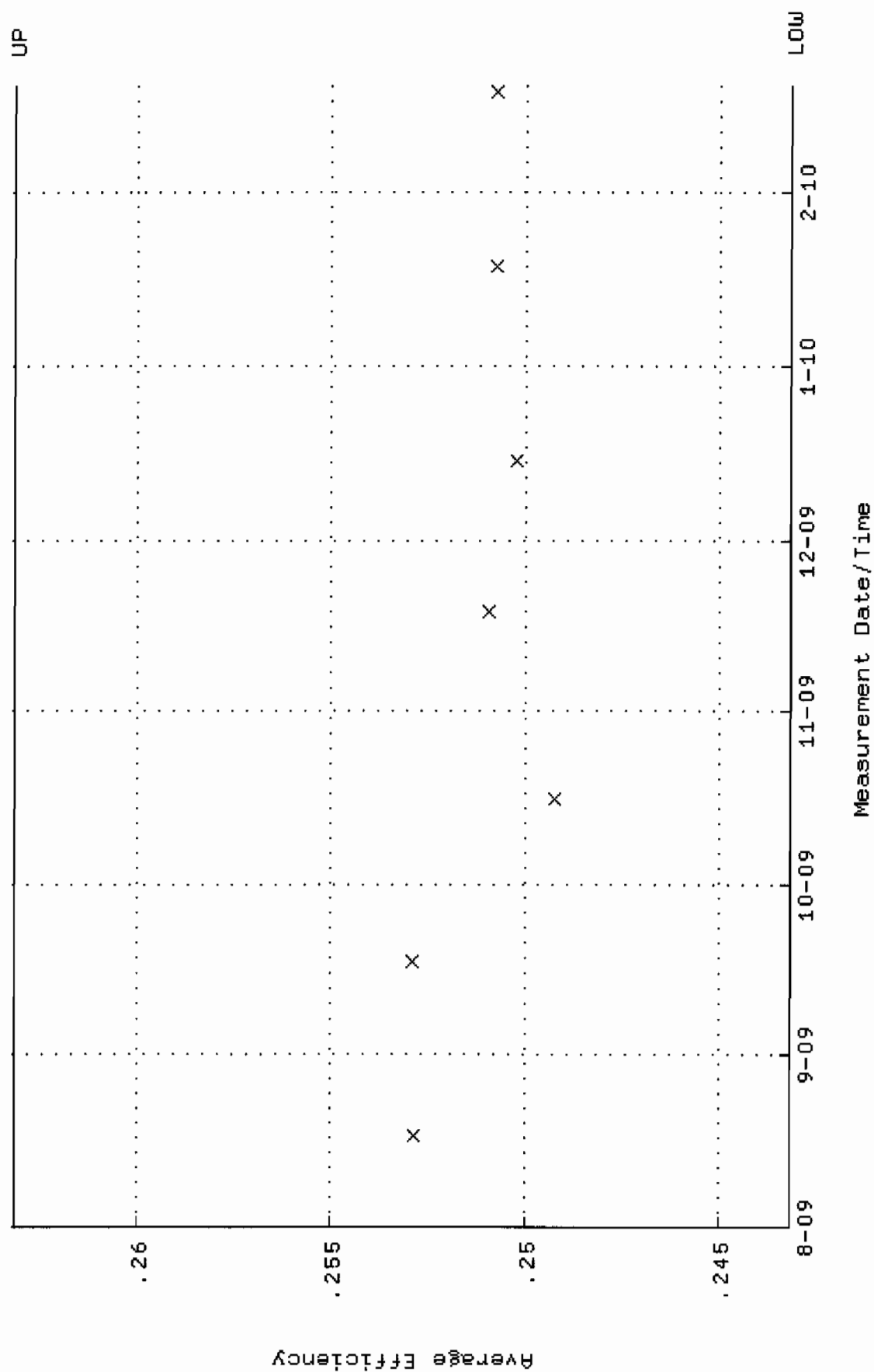
QA filename : DKA100:[ENV_ALPHA.QA.W]W125.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:44 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 87.6956 through 96.9268



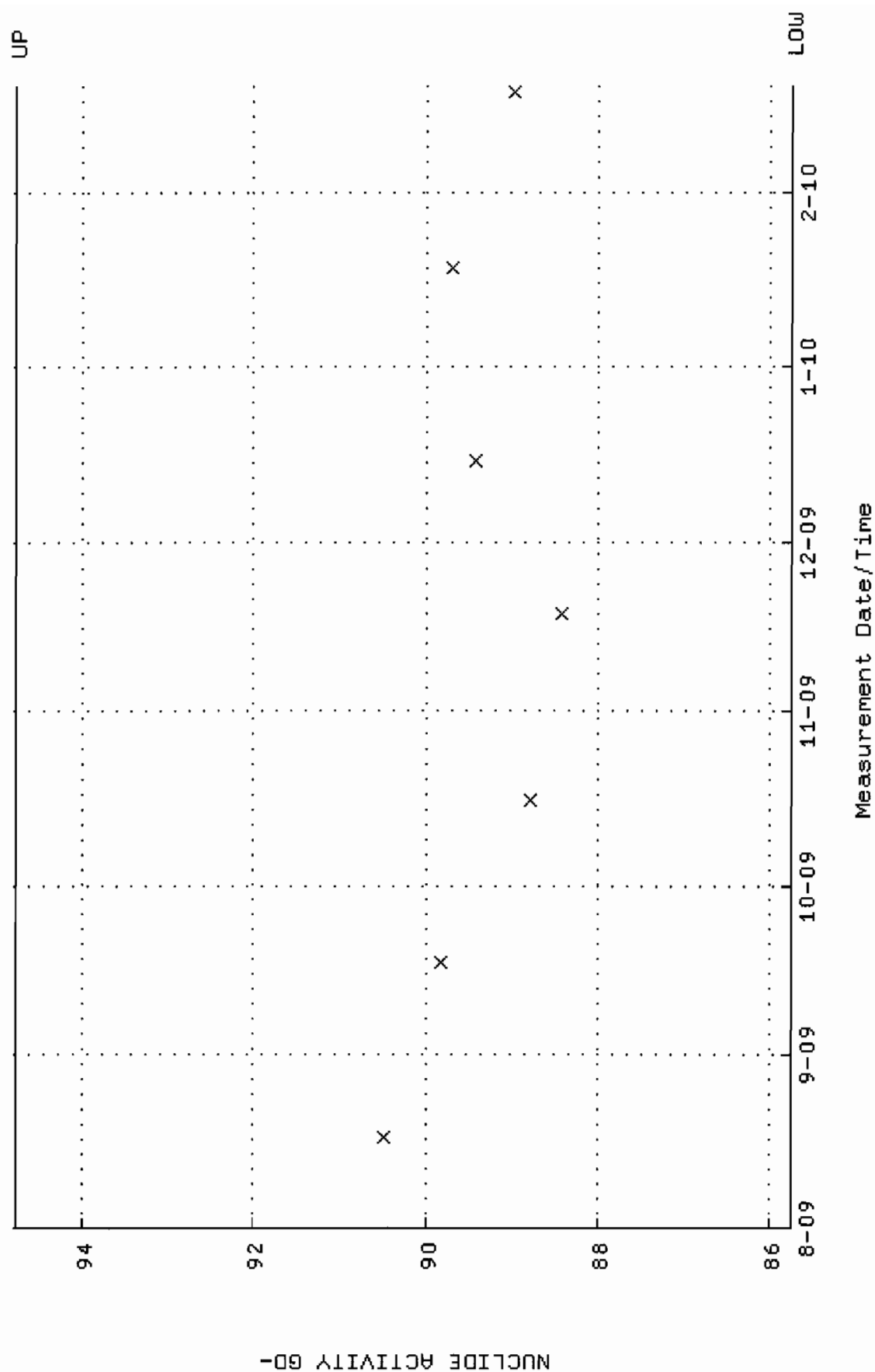
QA filename : DKA100:[ENV_ALPHA.QA.B]B125.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:12:51 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]w126.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:41:49 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.243156 through 0.263156



QA filename : DKA100:[ENV_ALPHA.QA.W]W126.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:41:49 through 19-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.7449 through 94.7707

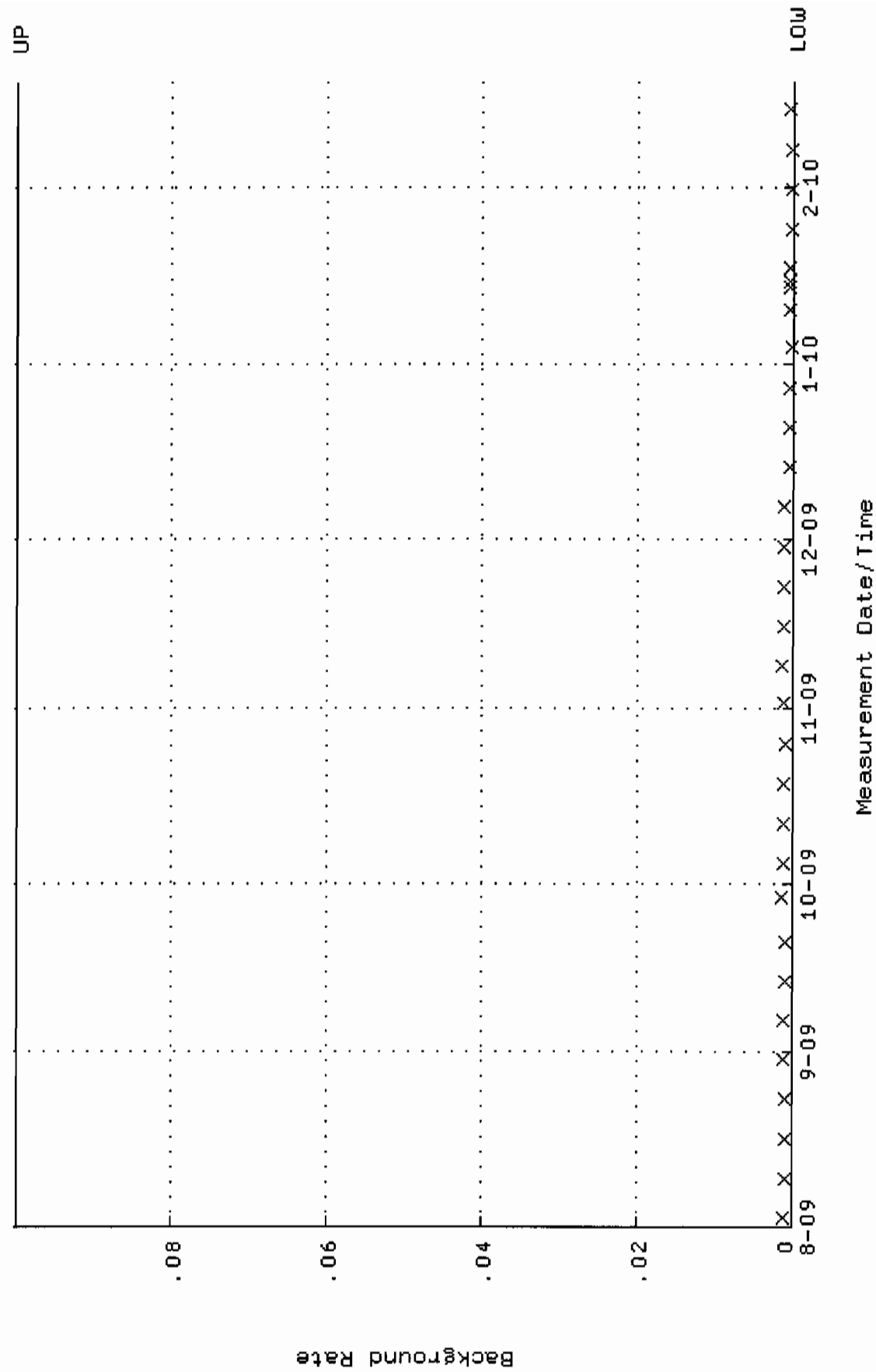


QA filename : DKA100:[ENV_ALPHA.QA.B]B126.QAF;1

Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:12:55 through 19-FEB-2010 12:00:00

Lower/Upper Lmts: 0.000000E+00 through 0.100000

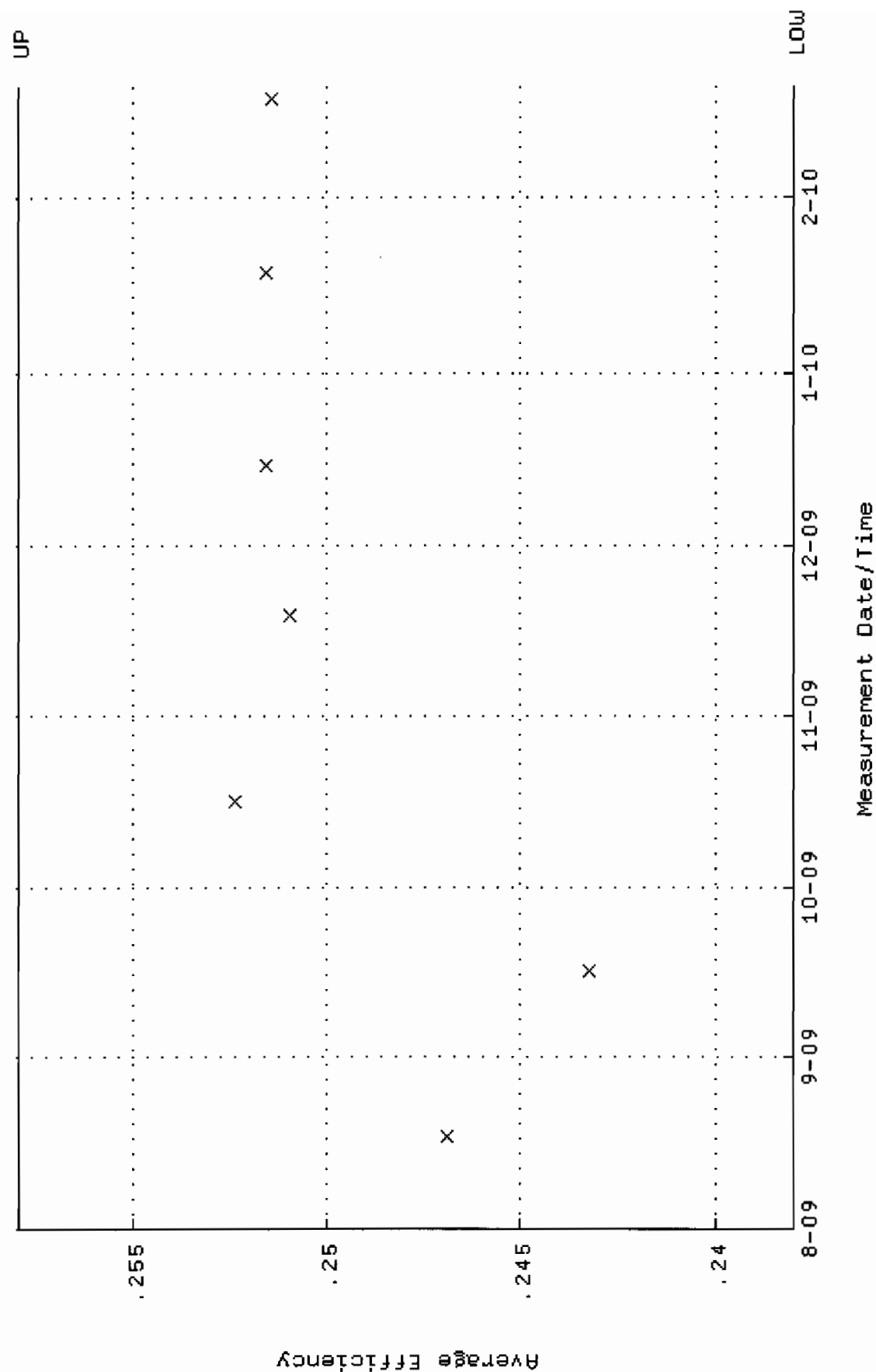


QA filename : DKA100:[ENV_ALPHA.QA.W]W144.QAF;1

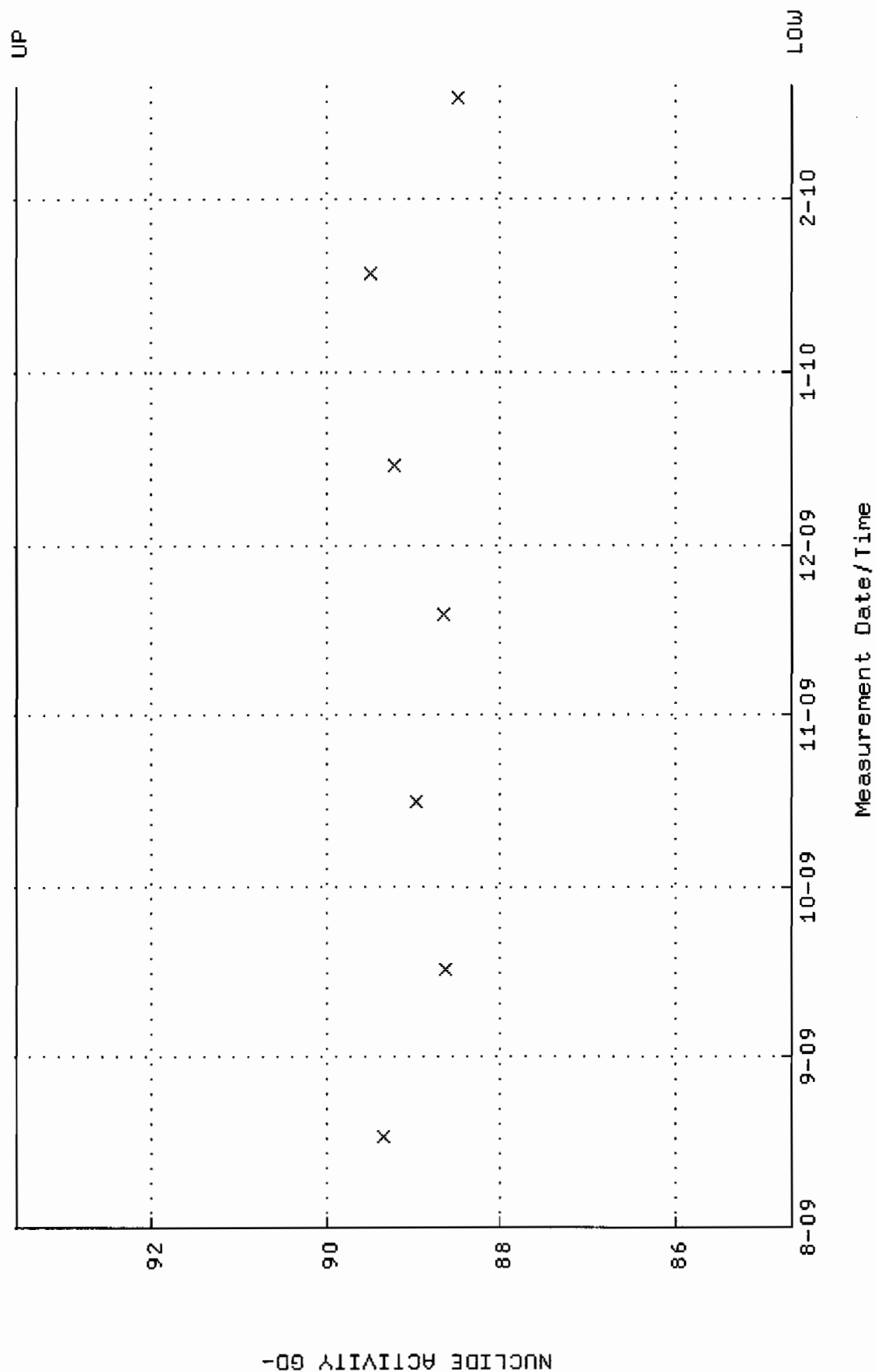
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-AUG-2009 10:06:42 through 20-FEB-2010 12:00:00

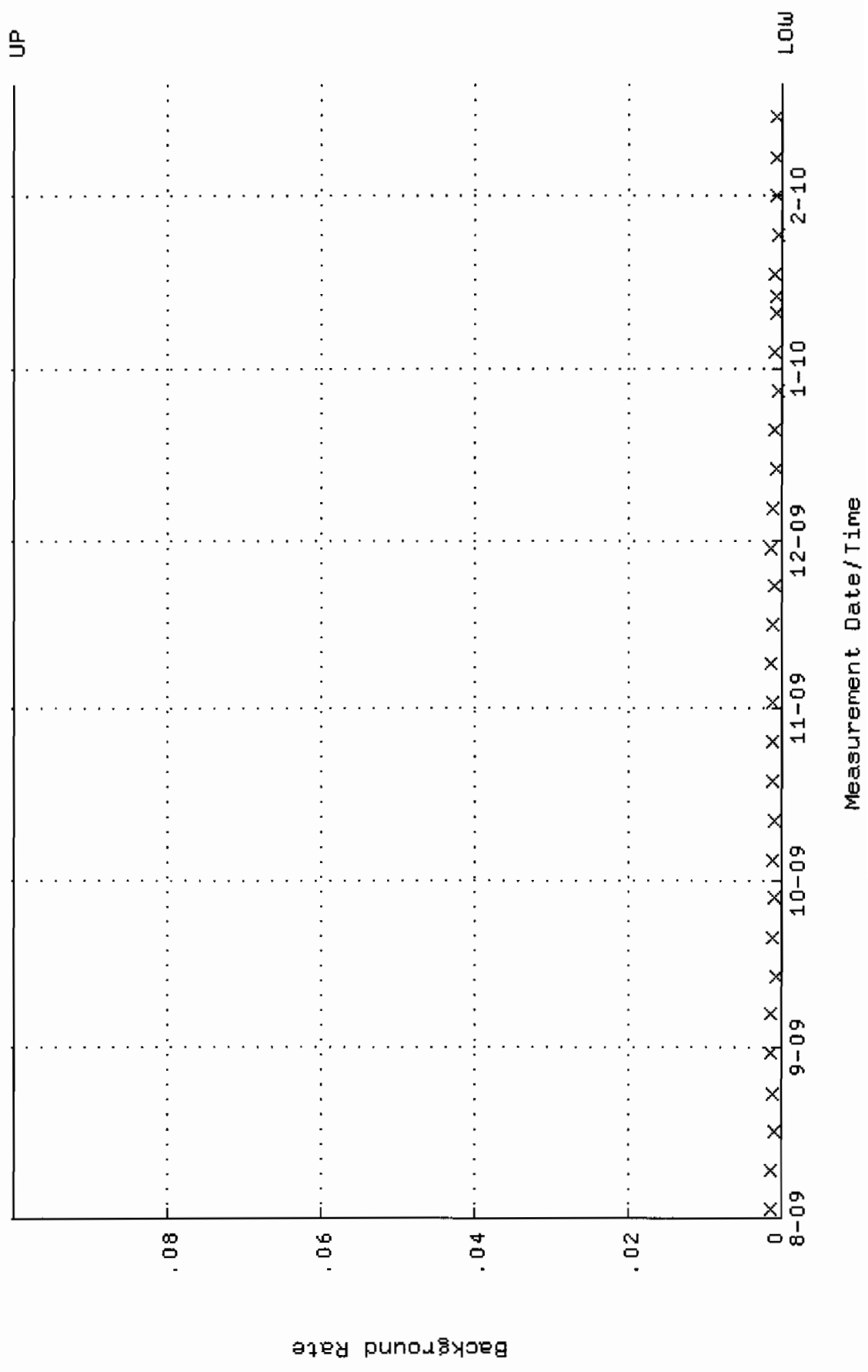
Lower/Upper Lmts: 0.237963 through 0.257963



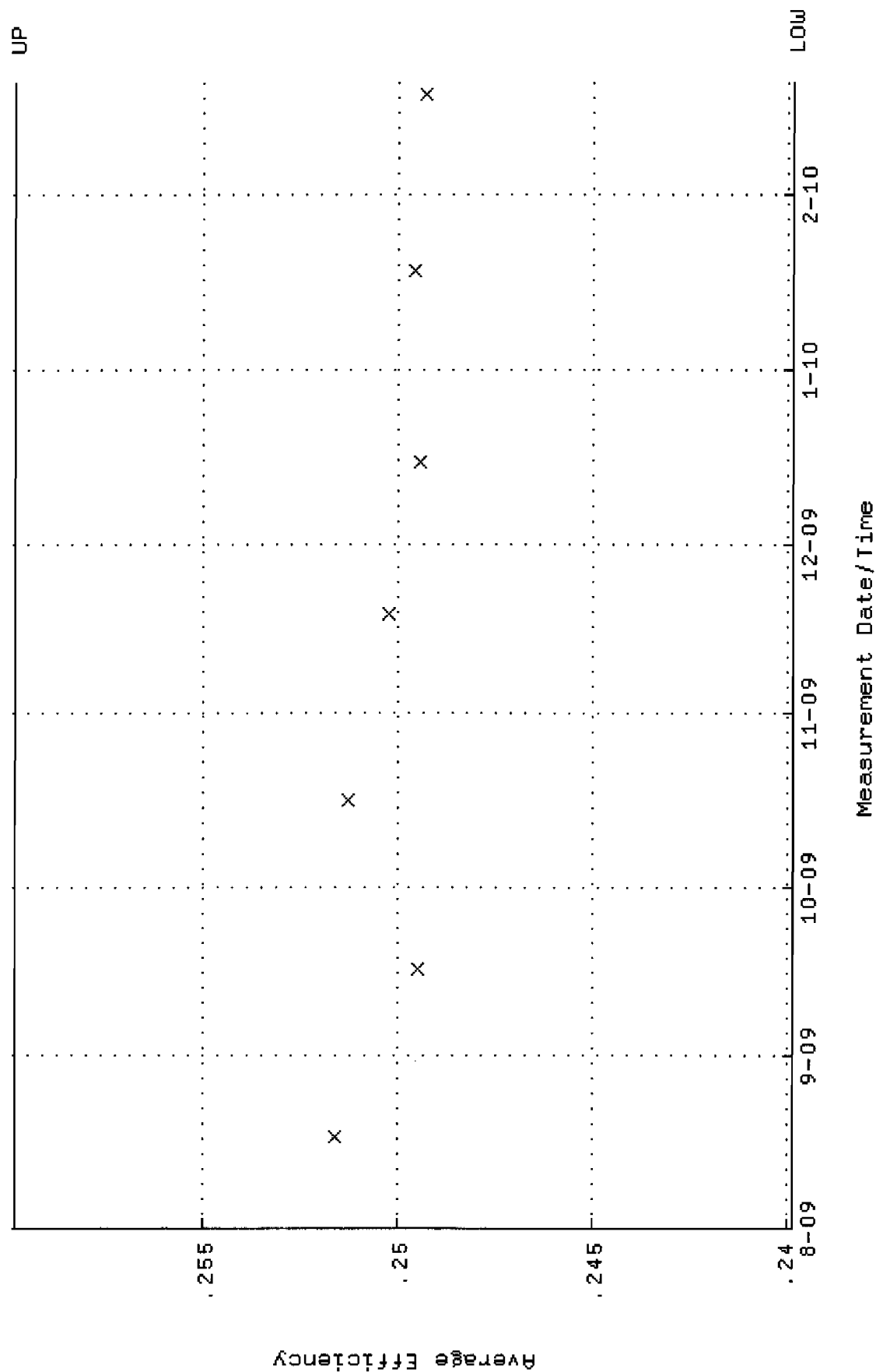
QA filename : DKA100:[ENV_ALPHA.QA.W]w144.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:42 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.6507 through 93.5613



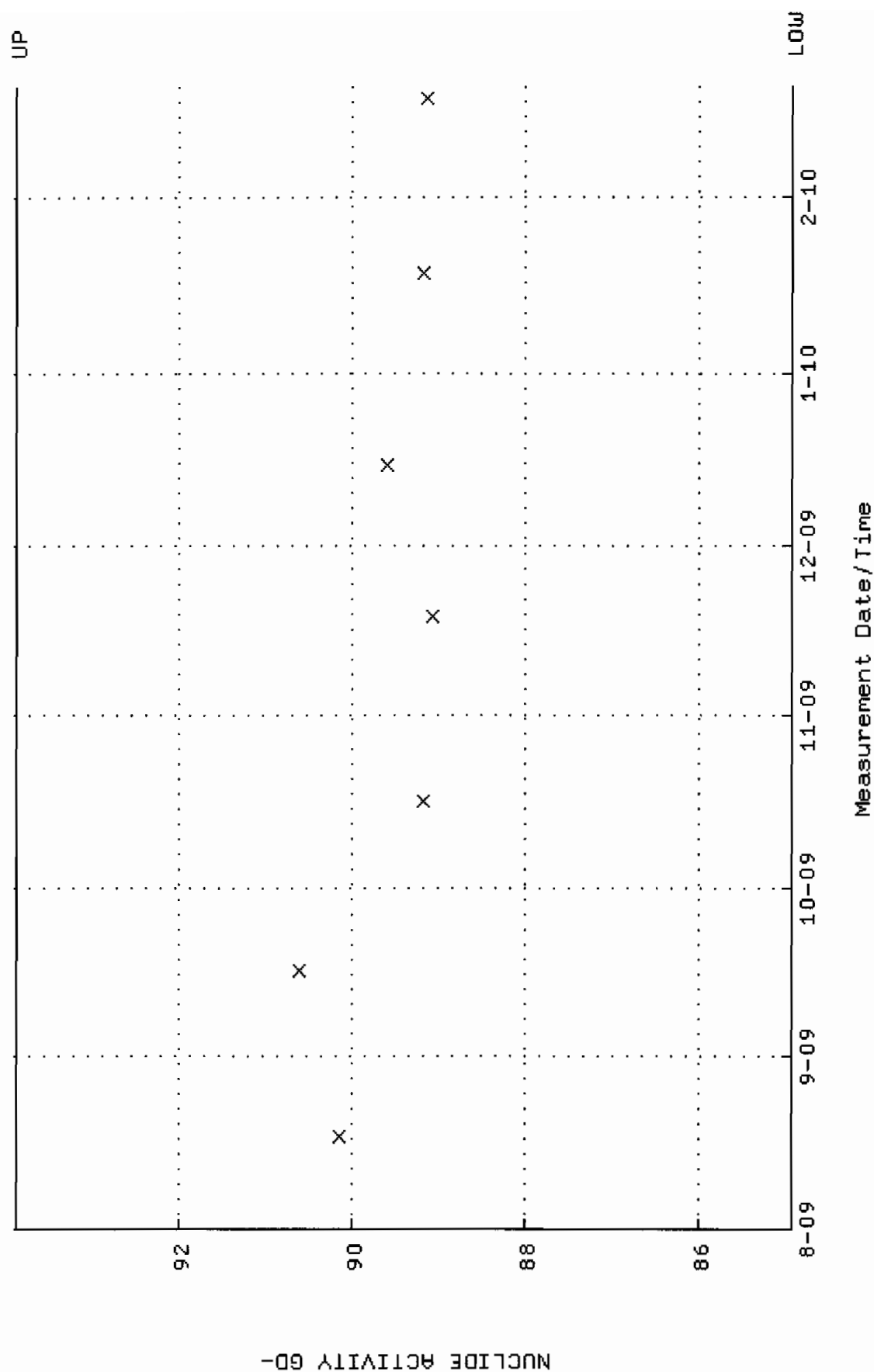
QA filename : DKA100:[ENV_ALPHA.QA.B]B144.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:14:12 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W145.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:06:50 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.239850 through 0.259850



QA filename : DKA100:[ENV_ALPHA.QA.W]W145.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:50 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.9354 through 93.8760

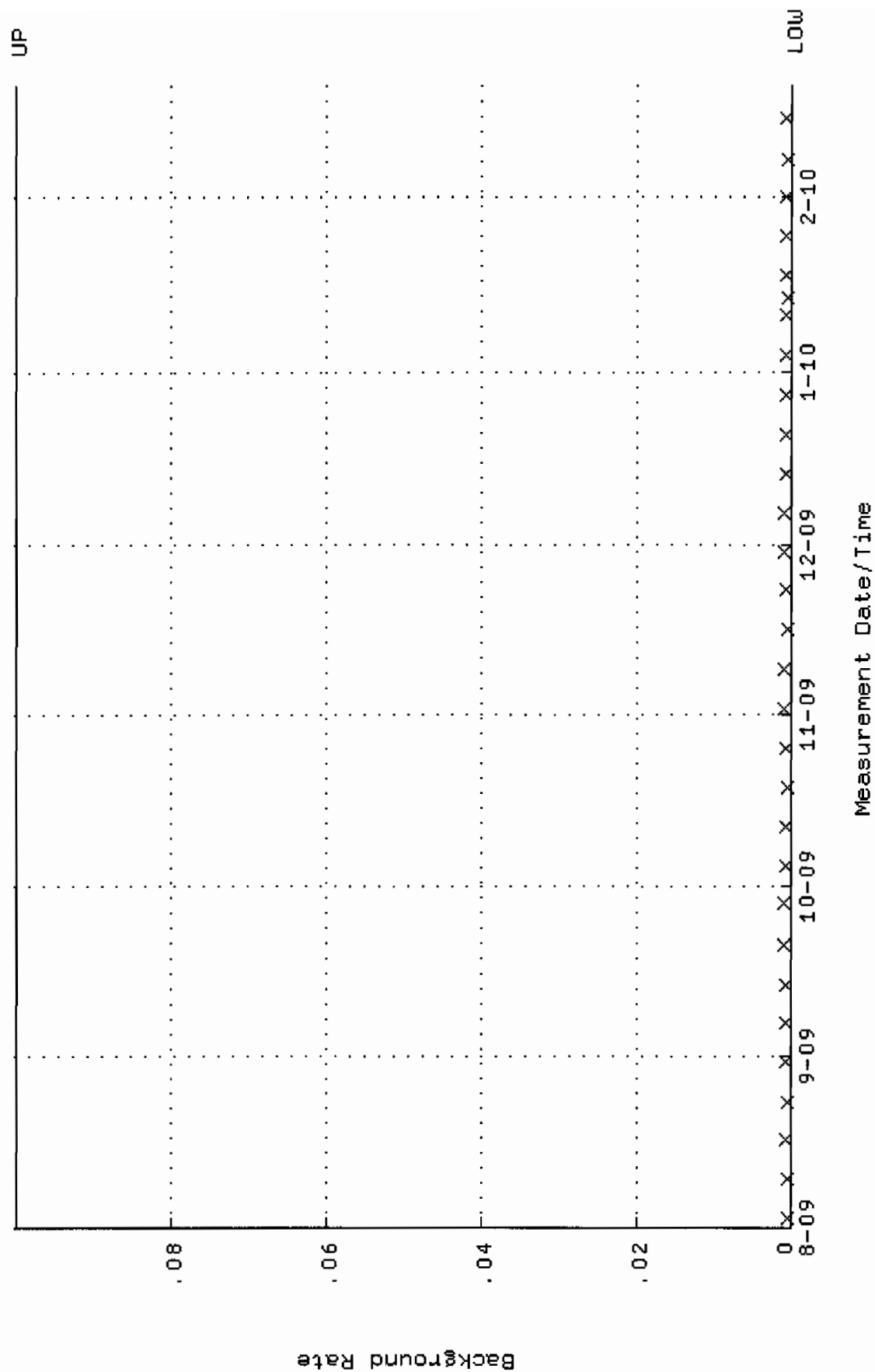


QA filename : DKA100:[ENV_ALPHA.QA.B]B145.QAF;1

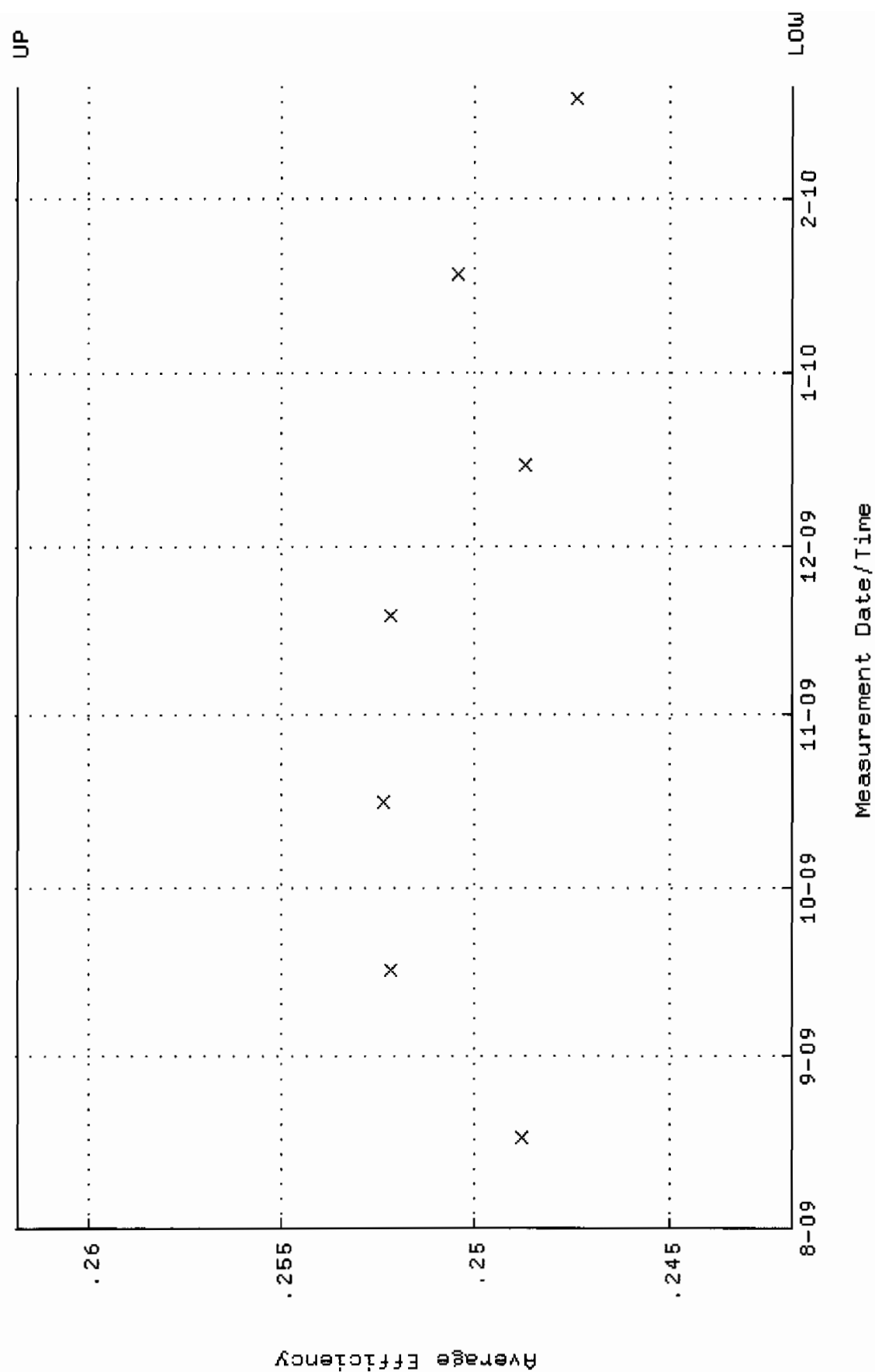
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:14:16 through 20-FEB-2010 12:00:00

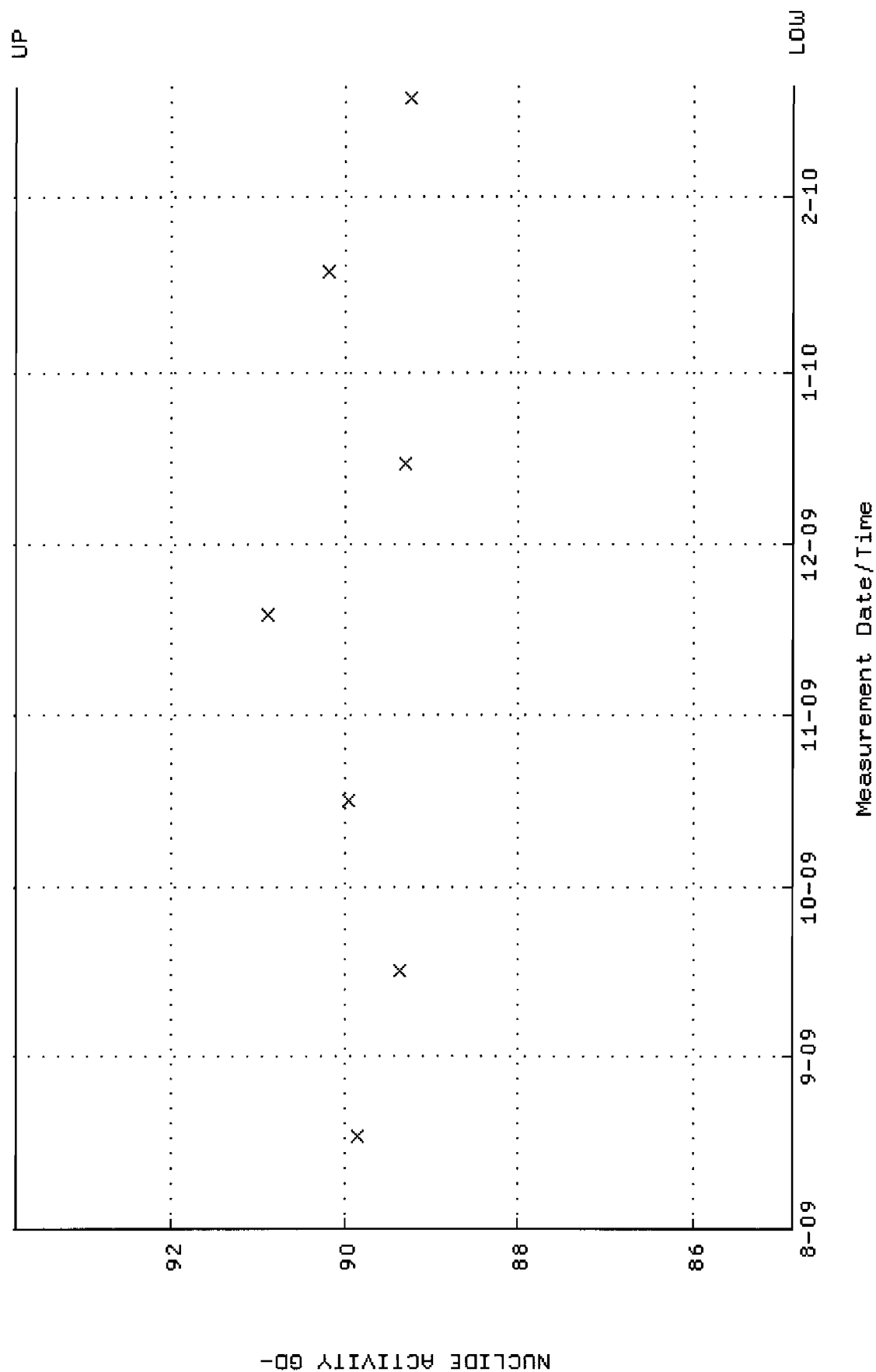
Lower/Upper Lmts: 0.000000E+00 through 0.100000



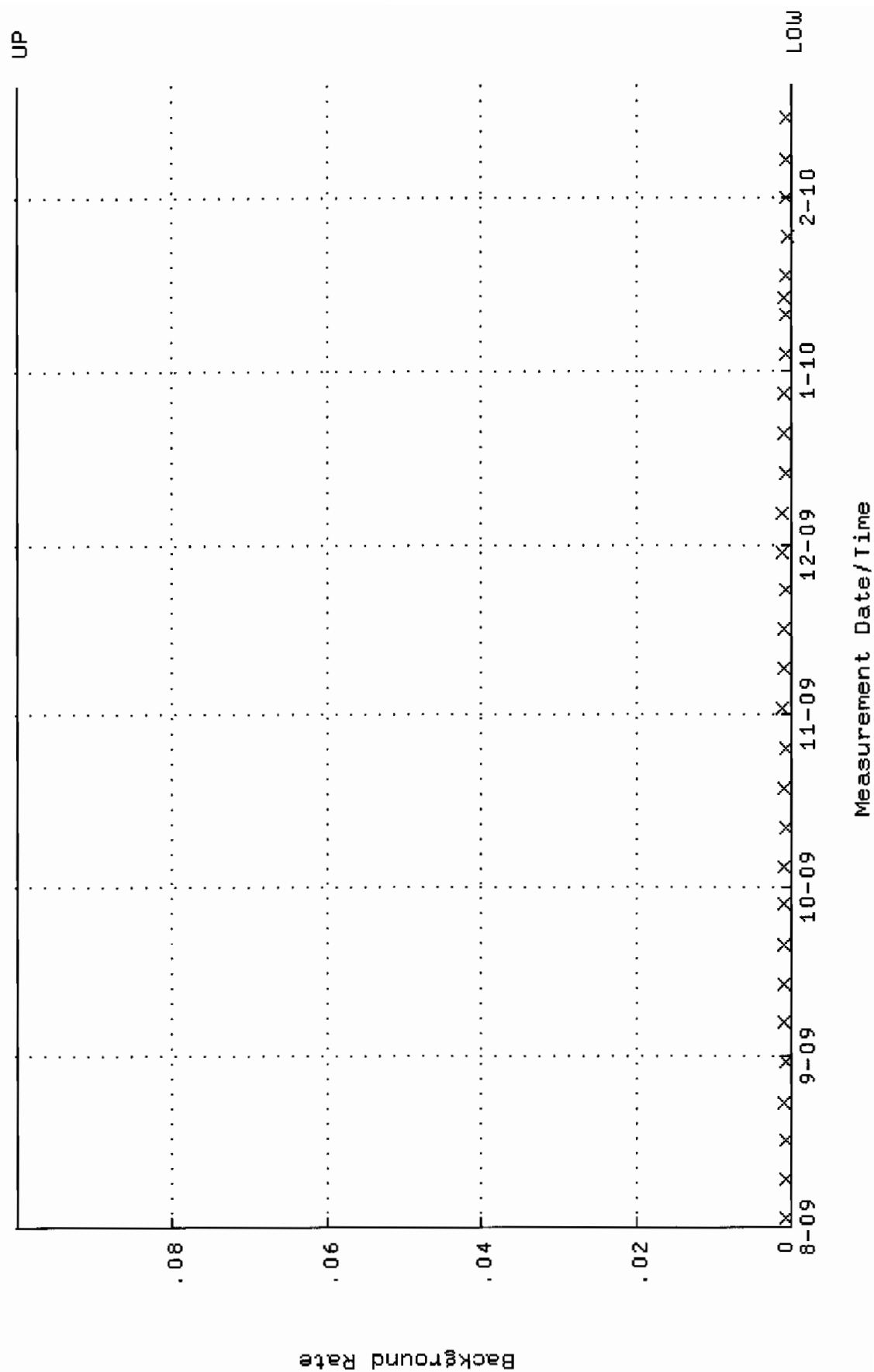
QA filename : DKA100:[ENV_ALPHA.QA.W]W146.QAF;2
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:06:56 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.241831 through 0.261831



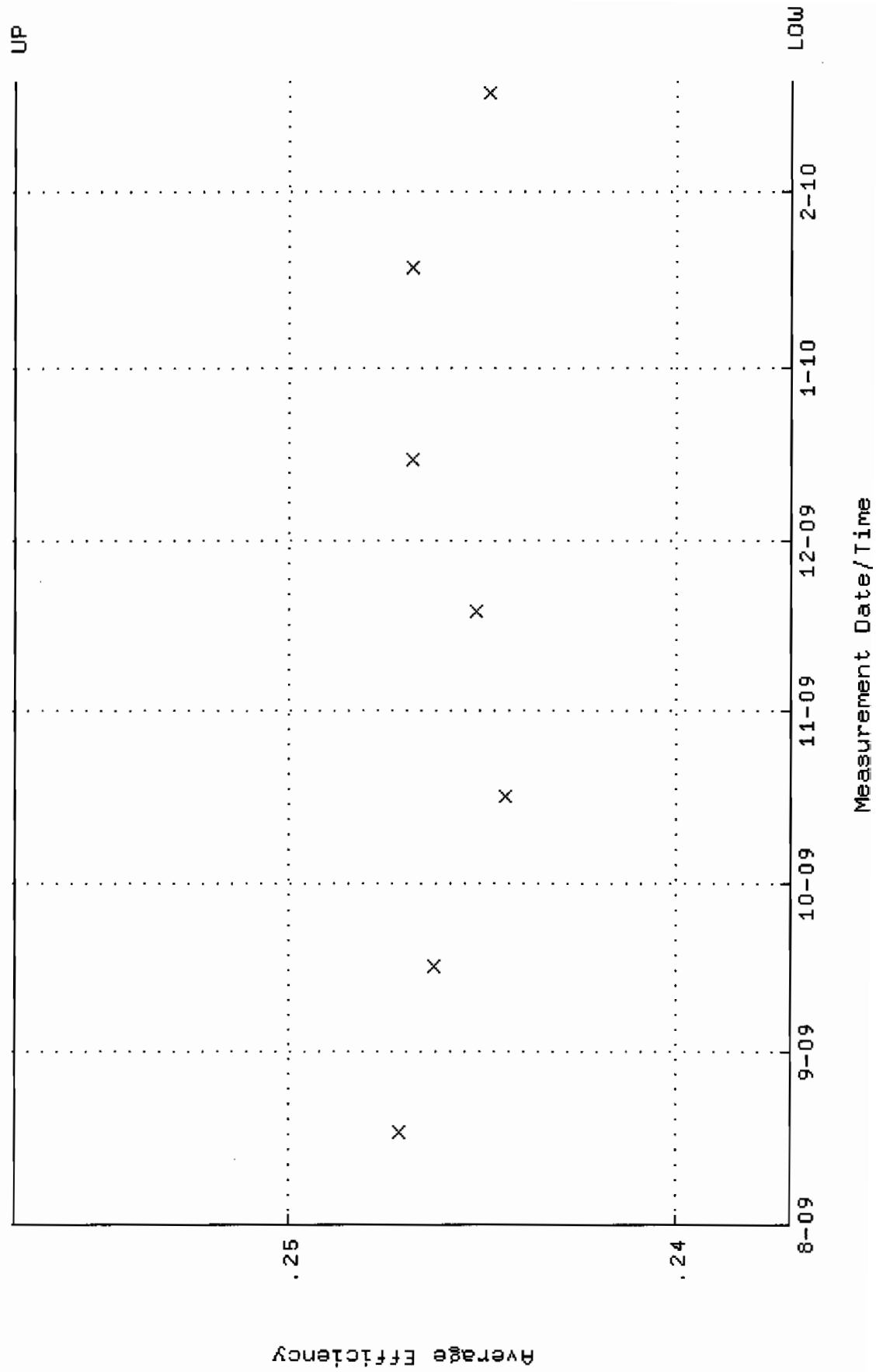
QA filename : DKA100:[ENV_ALPHA.QA.W]W146.QAF;2
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:06:56 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.8578 through 93.7902



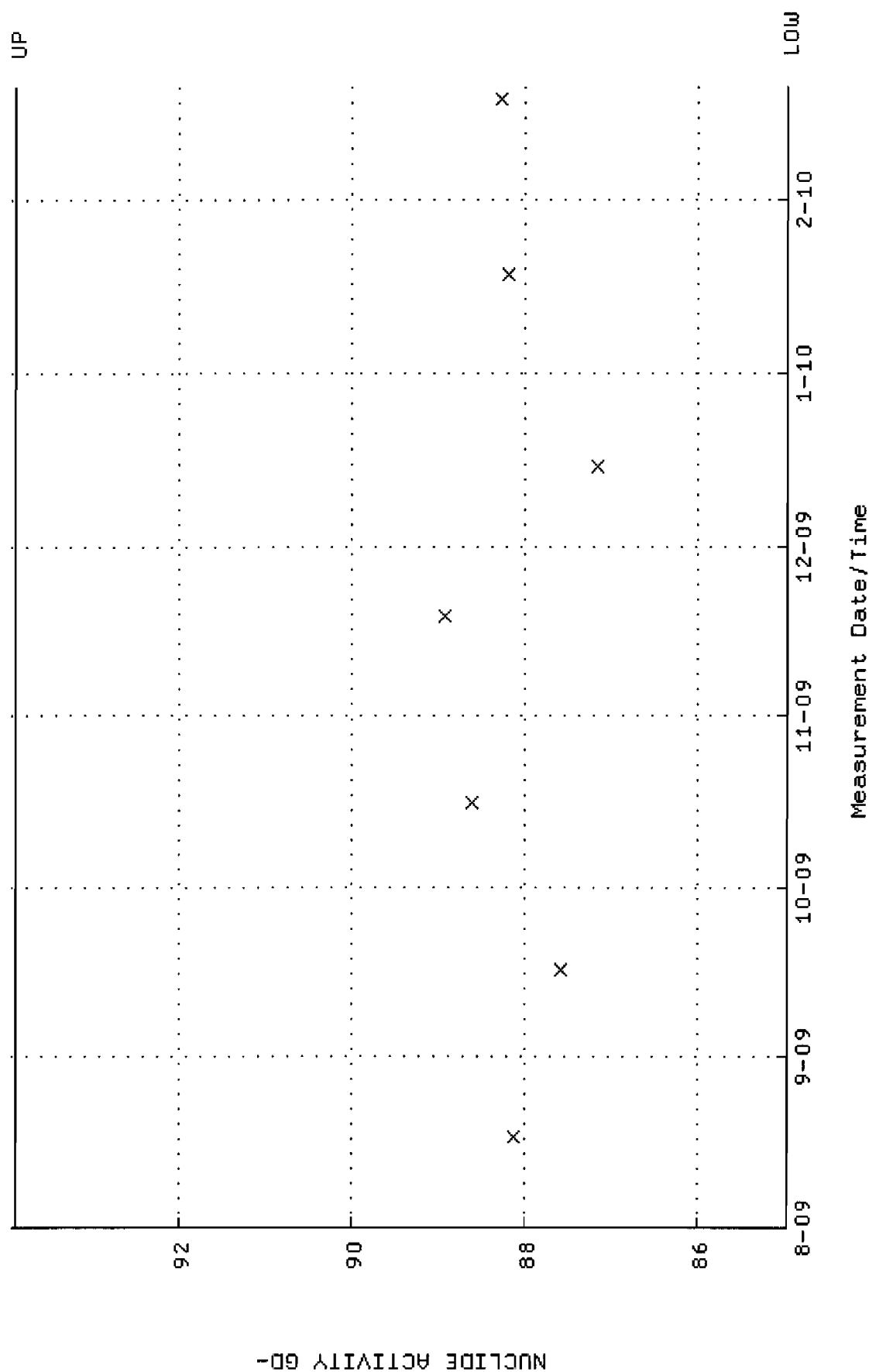
QA filename : DKA100:[ENV_ALPHA.QA.B]B146.QAF;2
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:14:20 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W147.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 10:07:03 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.237046 through 0.257046



QA filename : DKA100:[ENV_ALPHA.QA.W]W147.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:07:03 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.9777 through 93.9227

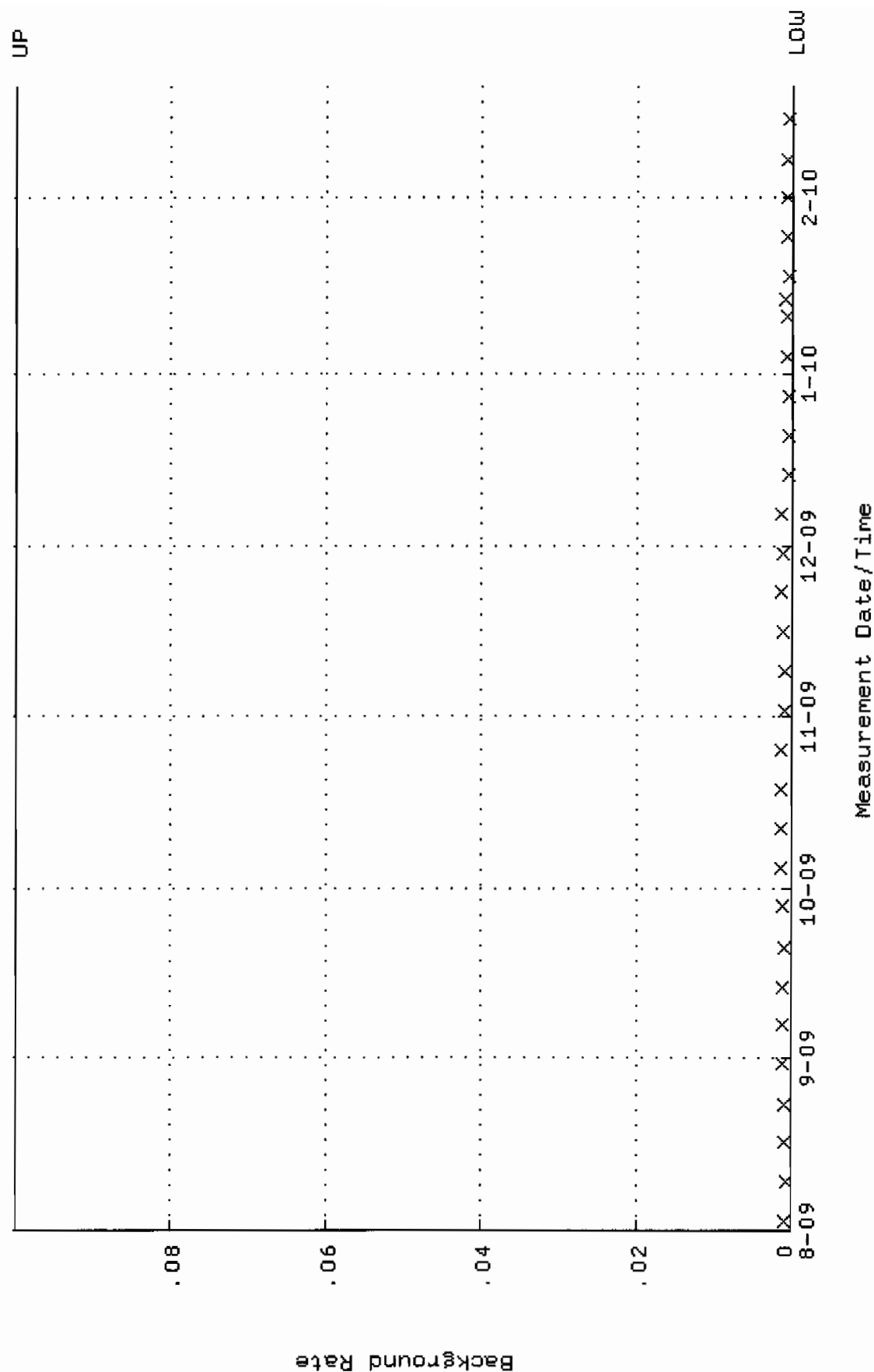


QA filename : DKA100:[ENV_ALPHA.QA.B]B147.QAF;1

Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:14:24 through 20-FEB-2010 12:00:00

Lower/Upper Lmts: 0.000000E+00 through 0.100000

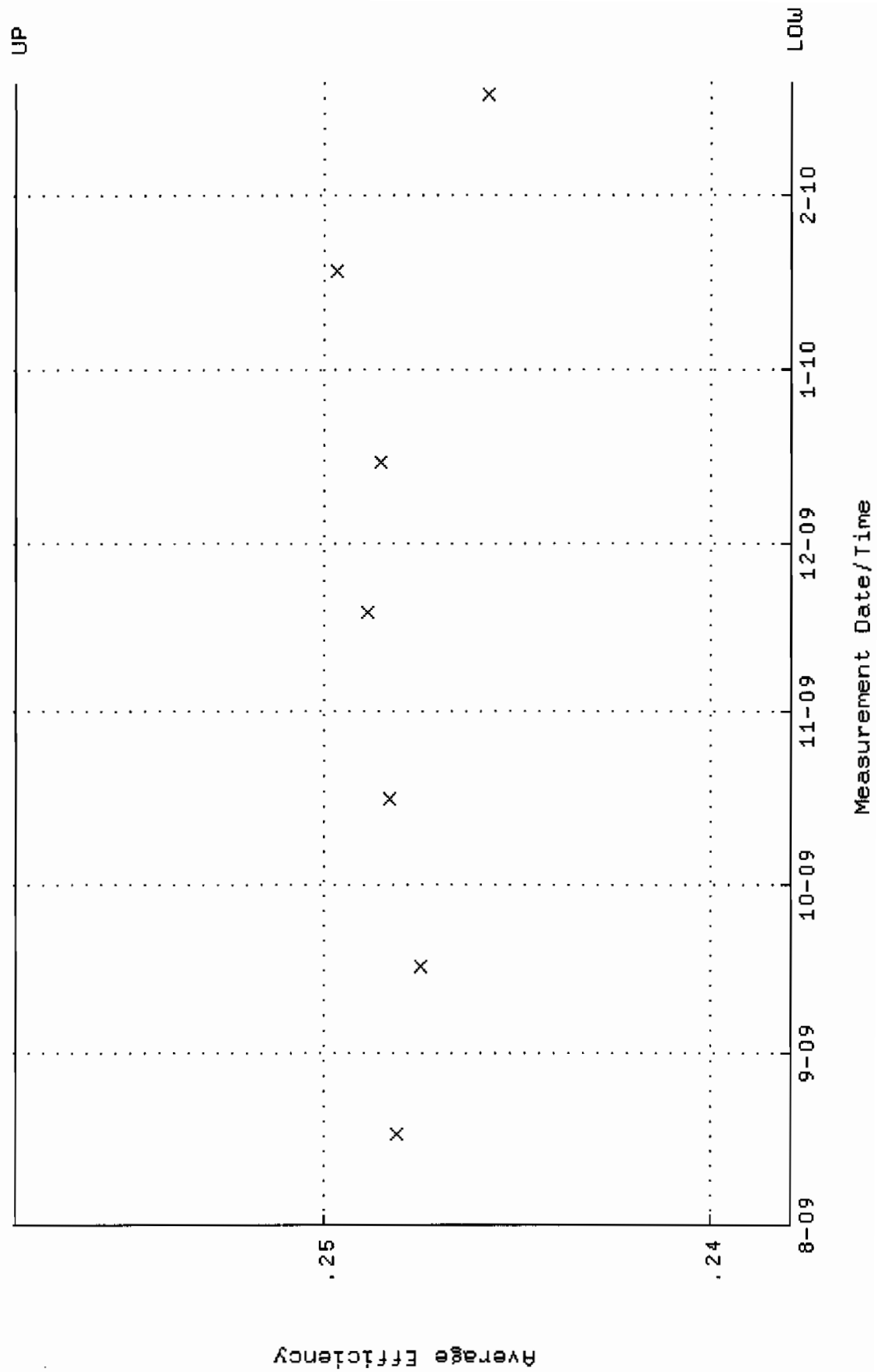


QA filename : DKA100:[ENV_ALPHA.QA.W]W148.QAF;1

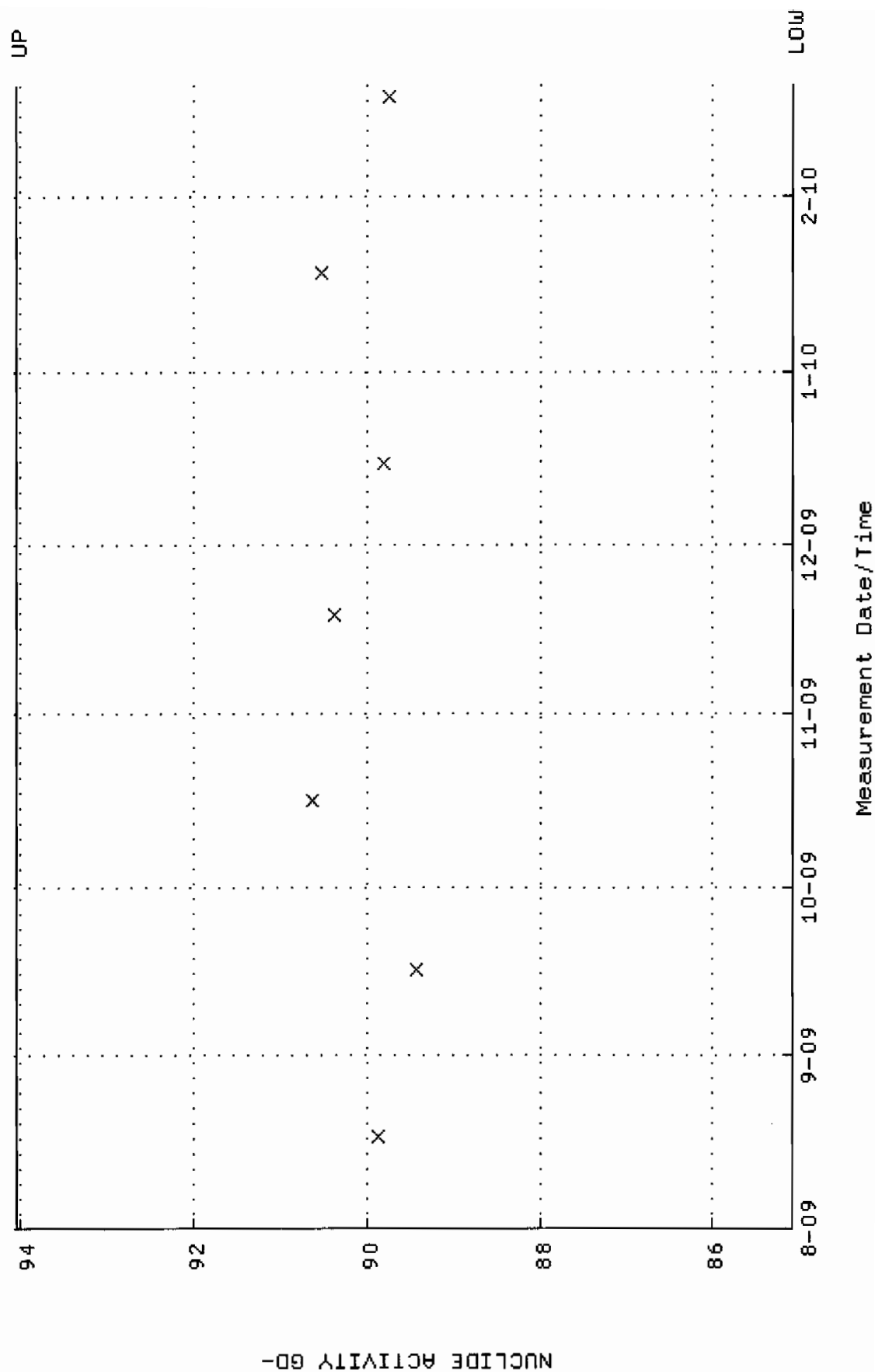
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-AUG-2009 10:07:10 through 20-FEB-2010 12:00:00

Lower/Upper Lmts: 0.237934 through 0.257934



QA filename : DKA100:[ENV_ALPHA.QA.W]W148.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 10:07:10 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 85.0831 through 94.0393

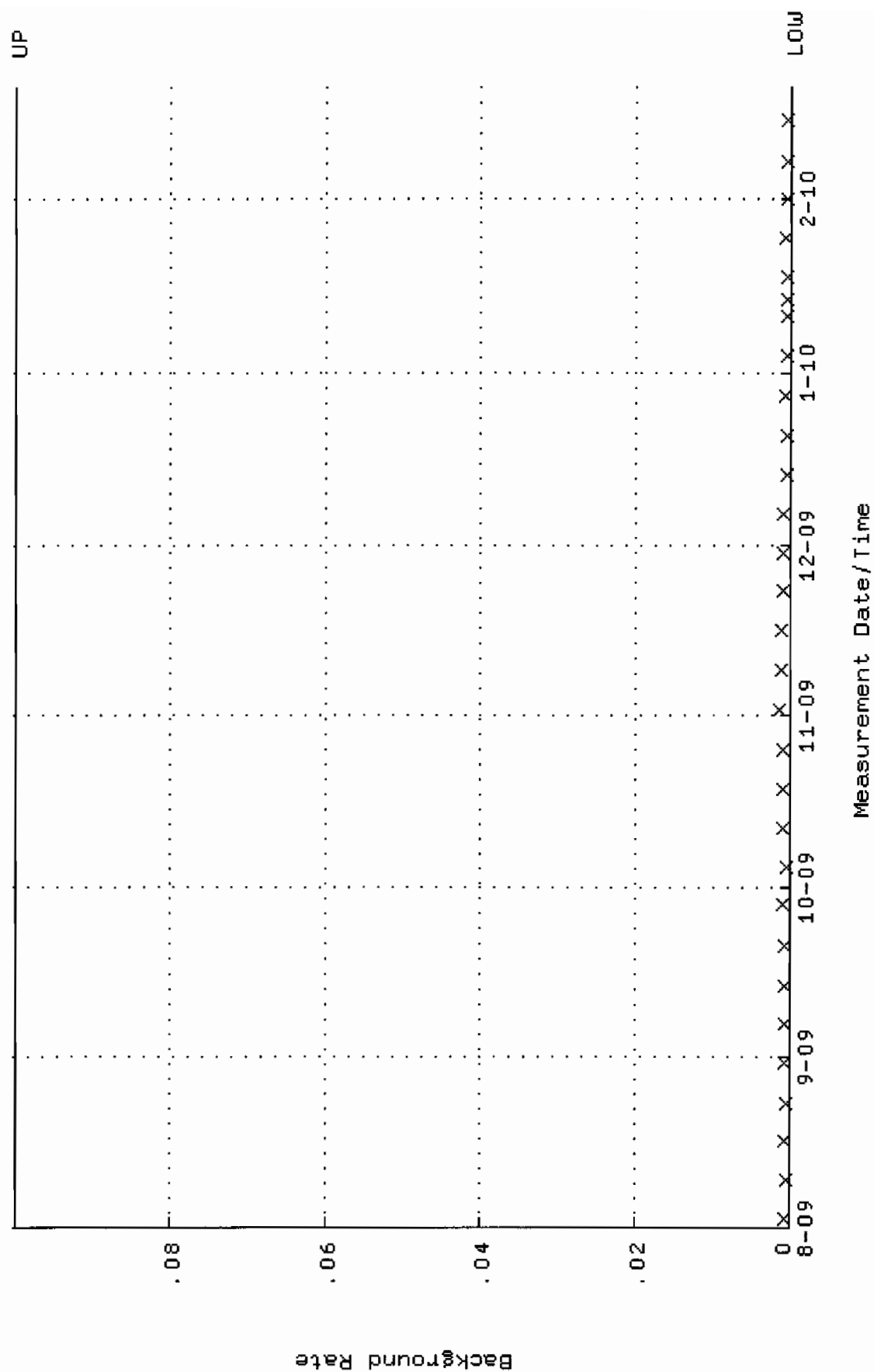


QA filename : DKA100:[ENV_ALPHA.QA.B]B148.QAF;1

Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:14:28 through 20-FEB-2010 12:00:00

Lower/Upper Lmts: 0.000000E+00 through 0.100000

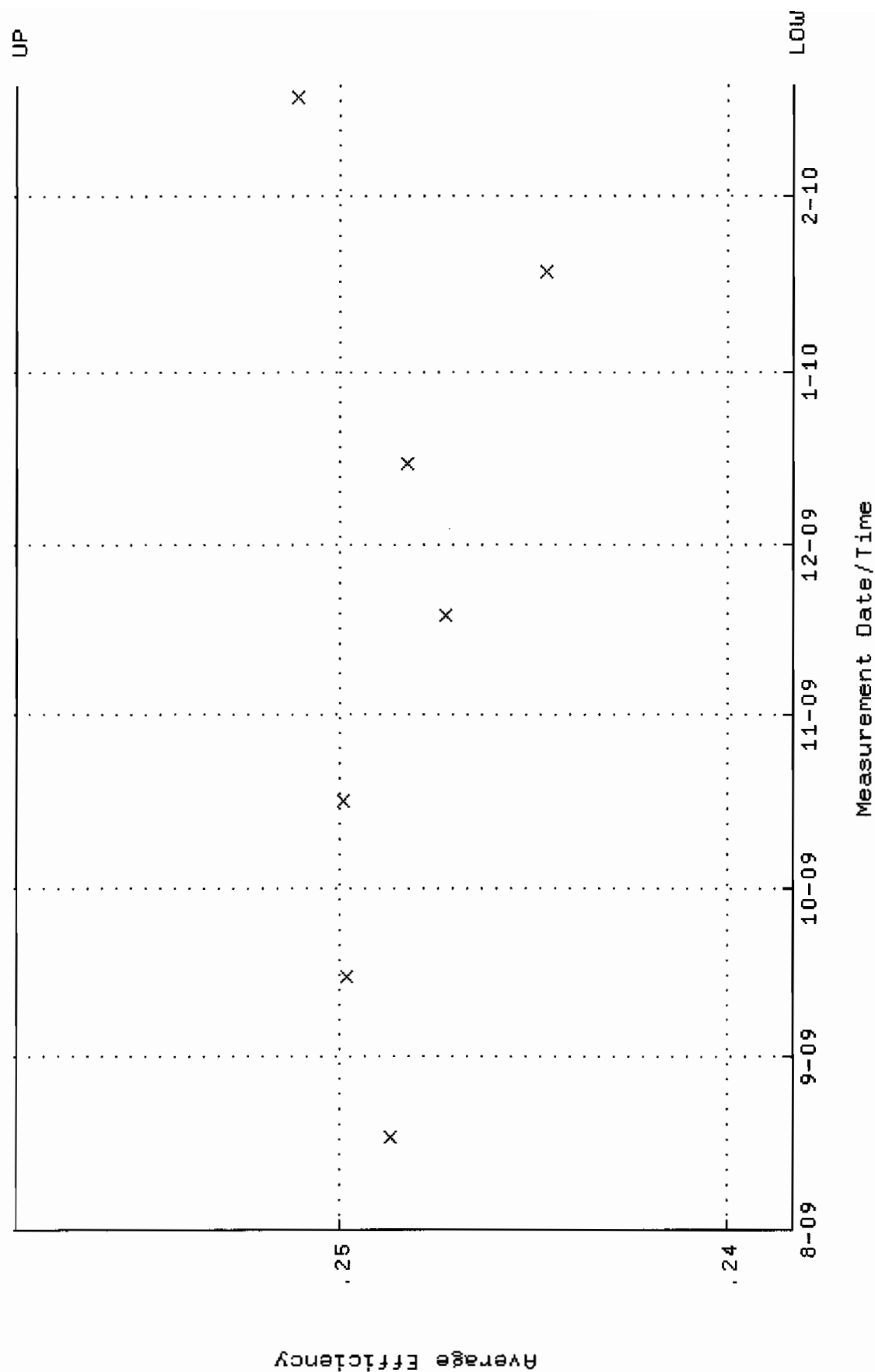


QA filename : DKA100:[ENV_ALPHA.QA.W]W150.QAF;1

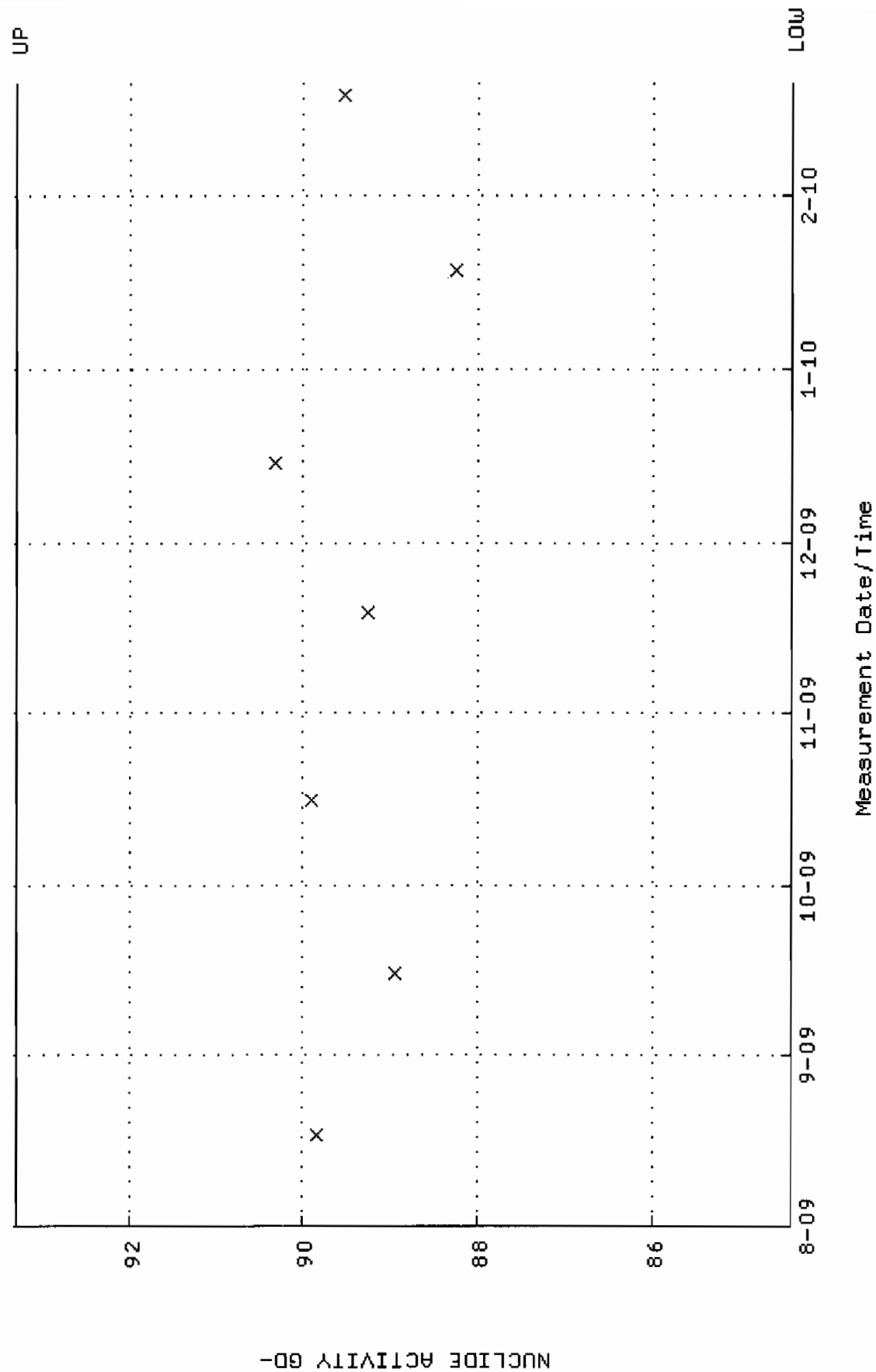
Parameter Name : AVRGEFF (Average Efficiency)

Start/End Dates : 17-AUG-2009 09:47:06 through 20-FEB-2010 12:00:00

Lower/Upper Lmts: 0.238314 through 0.258314



QA filename : DKA100:[ENV_ALPHA.QA.W]W150.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:47:06 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 84.4039 through 93.2885

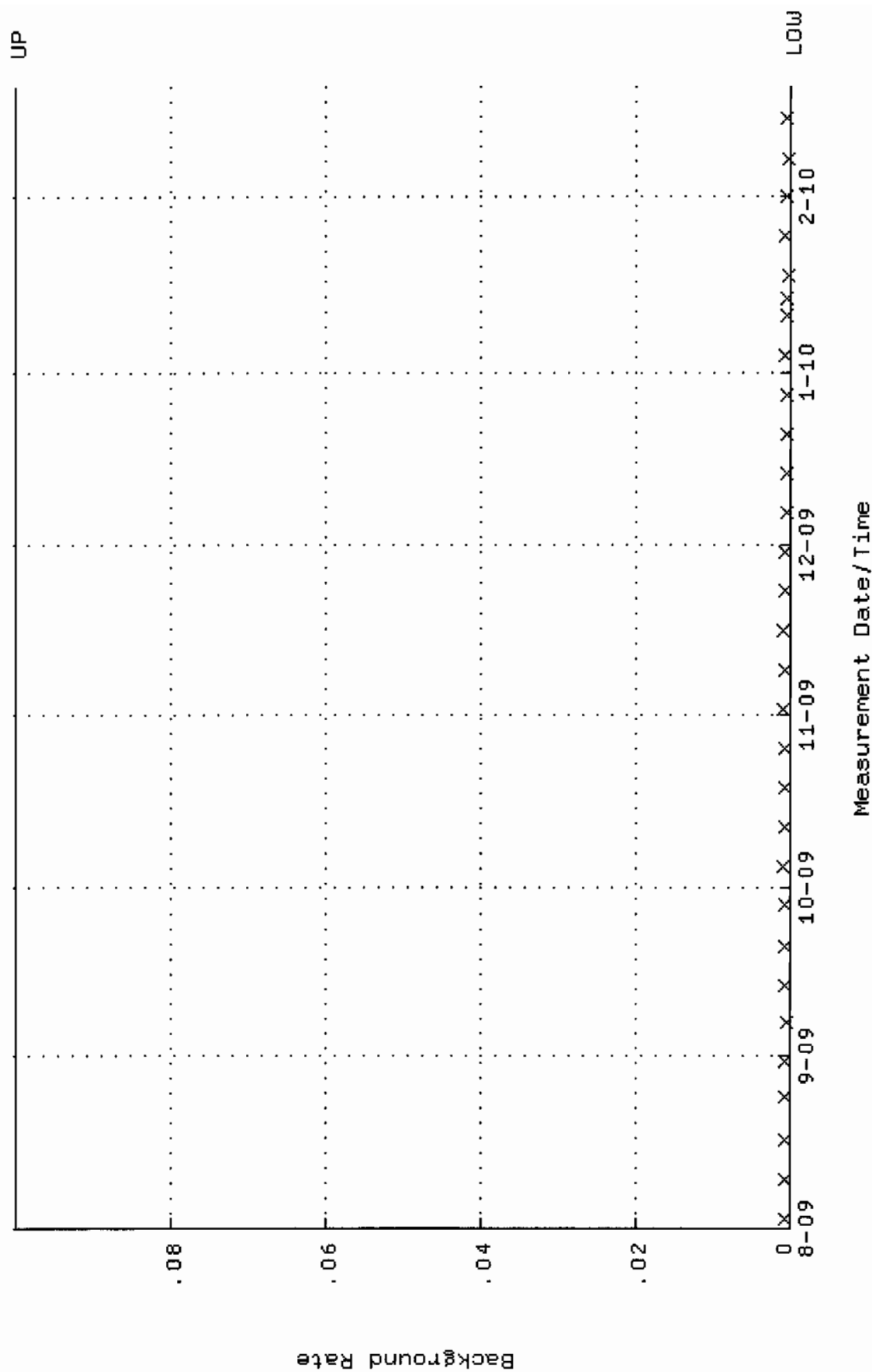


QA filename : DKA100:[ENV_ALPHA.QA.B]B150.QAF;1

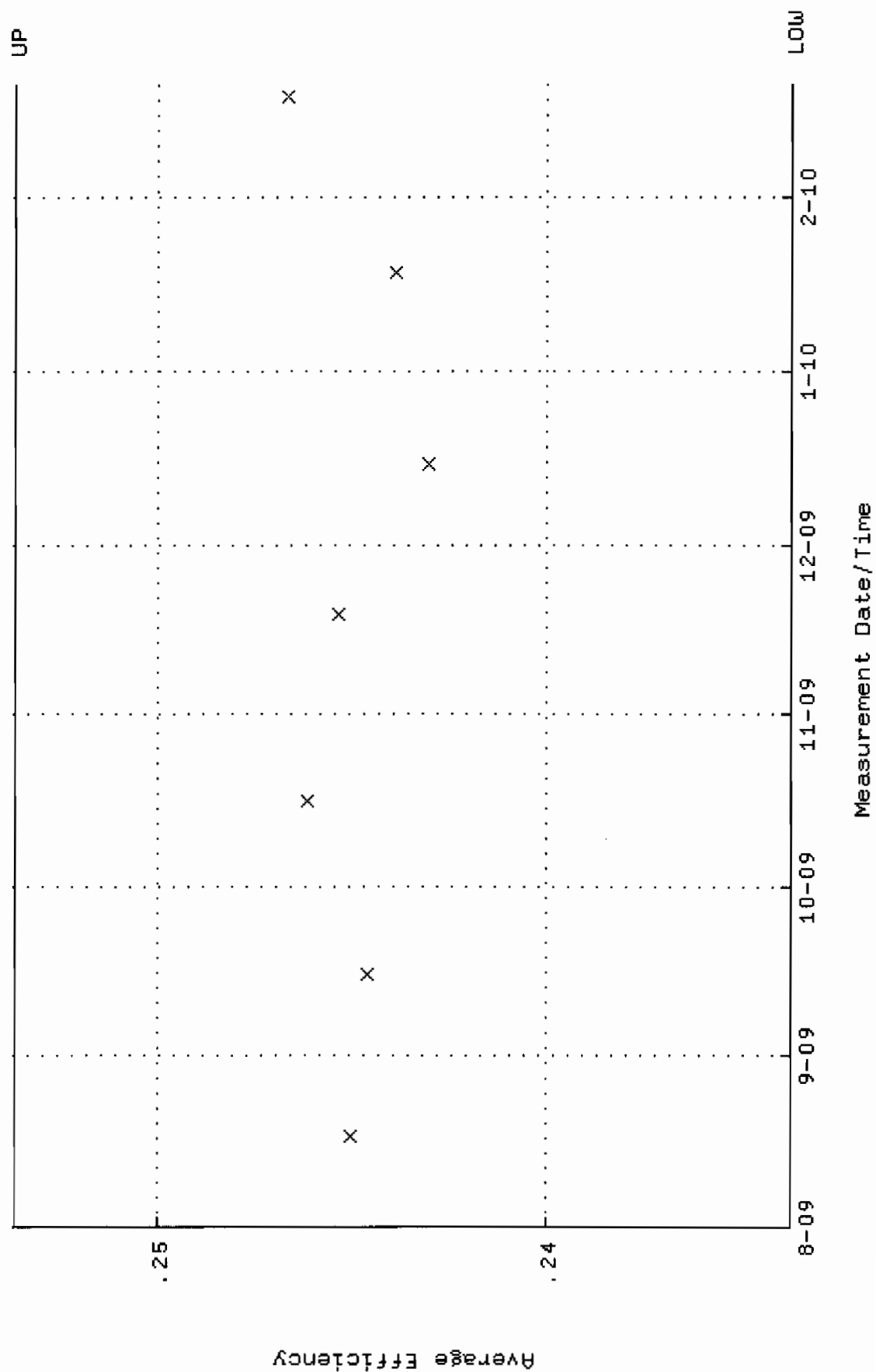
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:14:36 through 20-FEB-2010 12:00:00

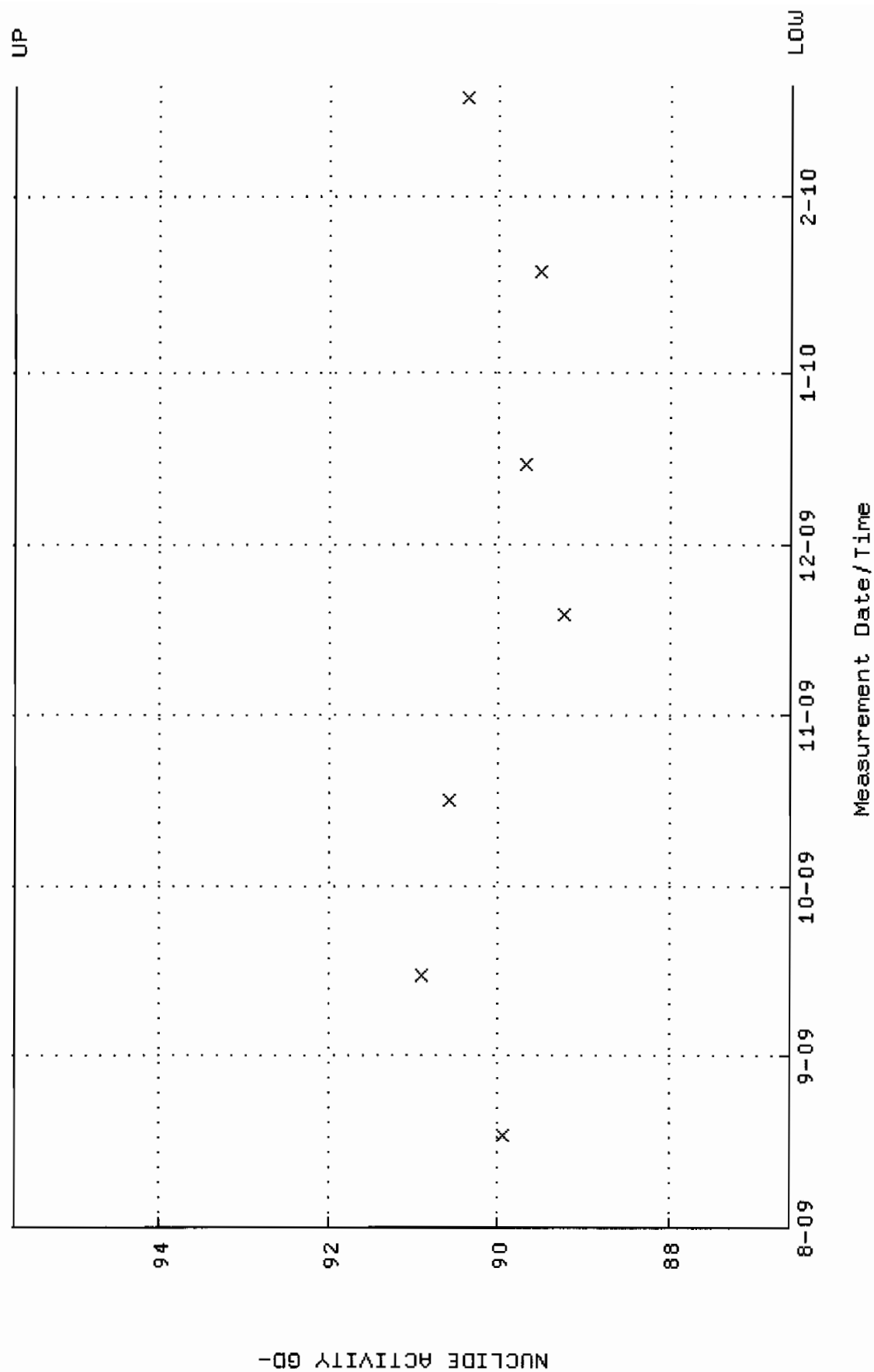
Lower/Upper Lmts: 0.000000E+00 through 0.100000



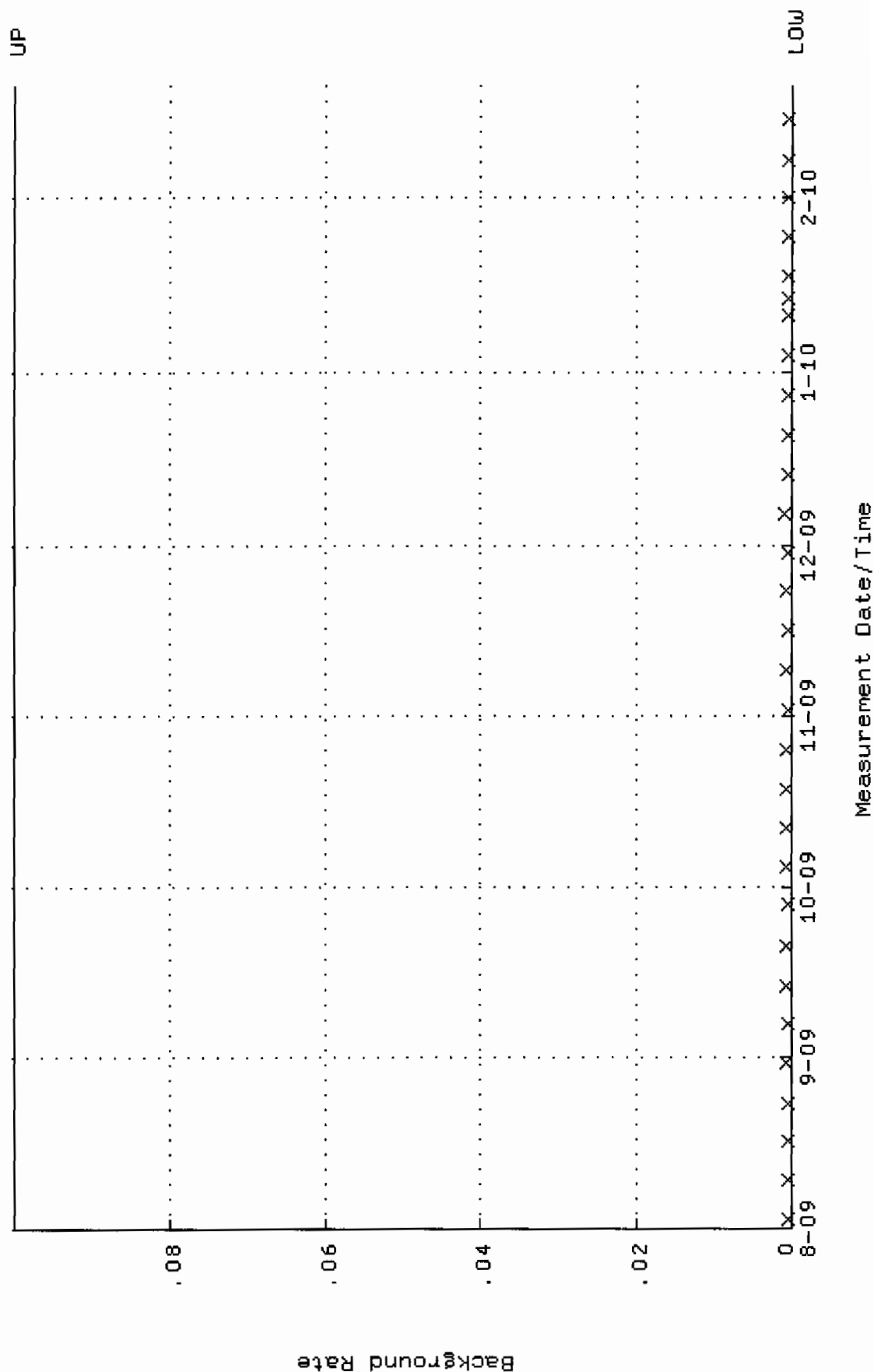
QA filename : DKA100:[ENV_ALPHA.QA.W]W151.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 17-AUG-2009 09:47:22 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.233693 through 0.253693



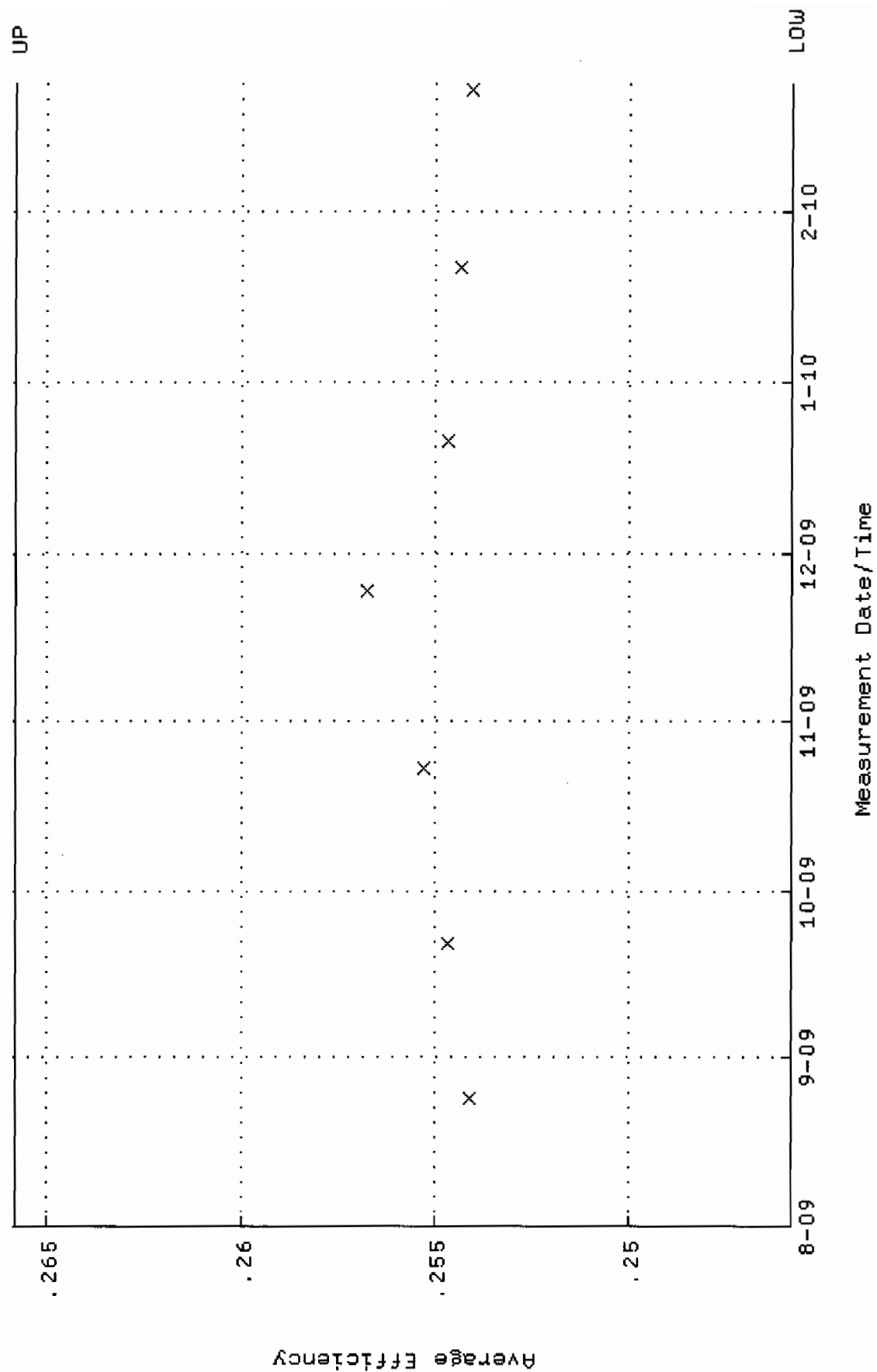
QA filename : DKA100:[ENV_ALPHA.QA.W]W151.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 17-AUG-2009 09:47:22 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 86.5749 through 95.6881



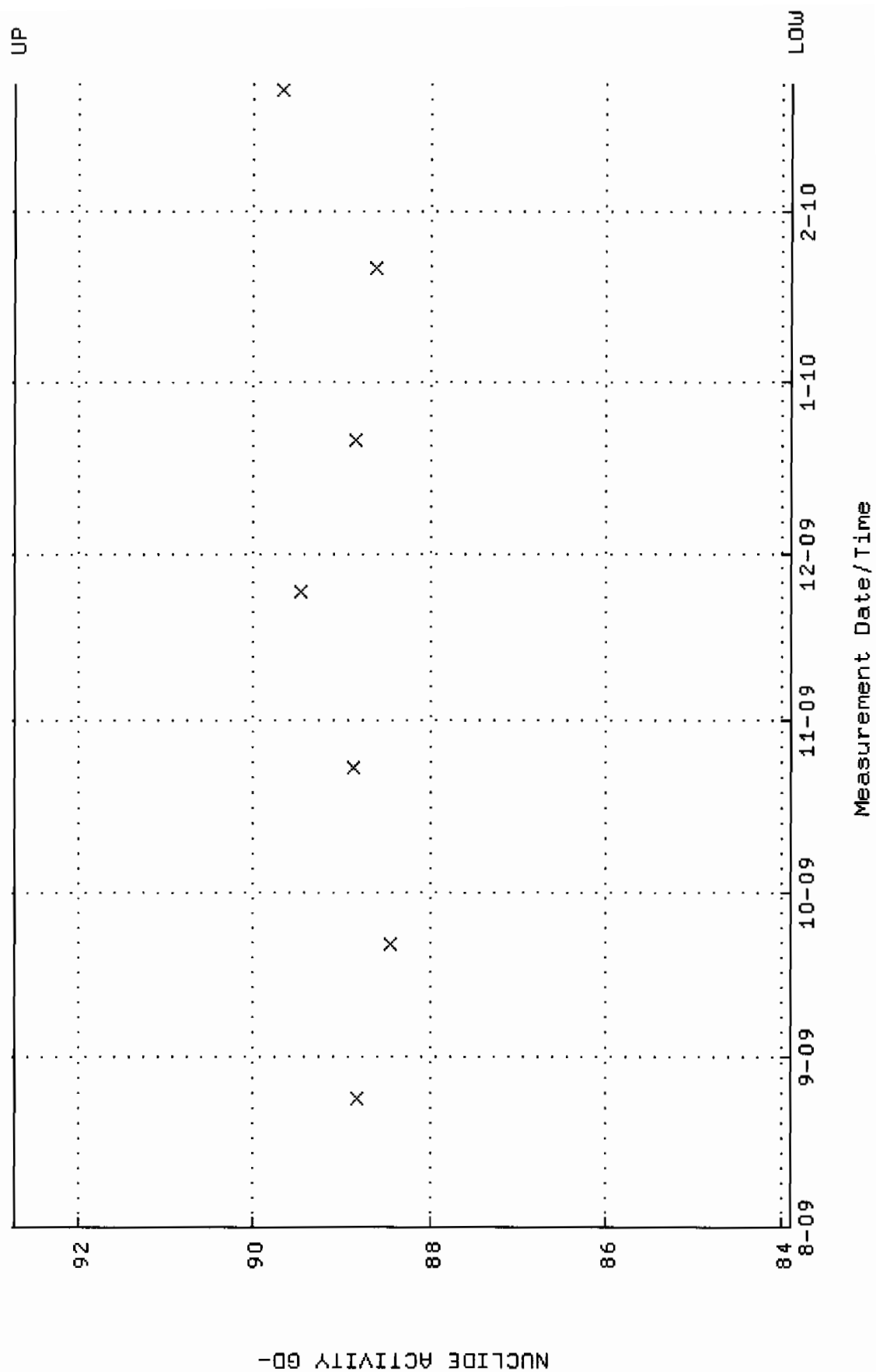
QA filename : DKA100:[ENV_ALPHA.QA.B]B151.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 2-AUG-2009 17:14:41 through 20-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100: [ENV_ALPHA.QA.W]W198.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 24-AUG-2009 08:43:18 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 0.245817 through 0.265817



QA filename : DKA100:[ENV_ALPHA.QA.W]W198.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 24-AUG-2009 08:43:18 through 23-FEB-2010 12:00:00
 Lower/Upper Lmts: 83.8978 through 92.7292

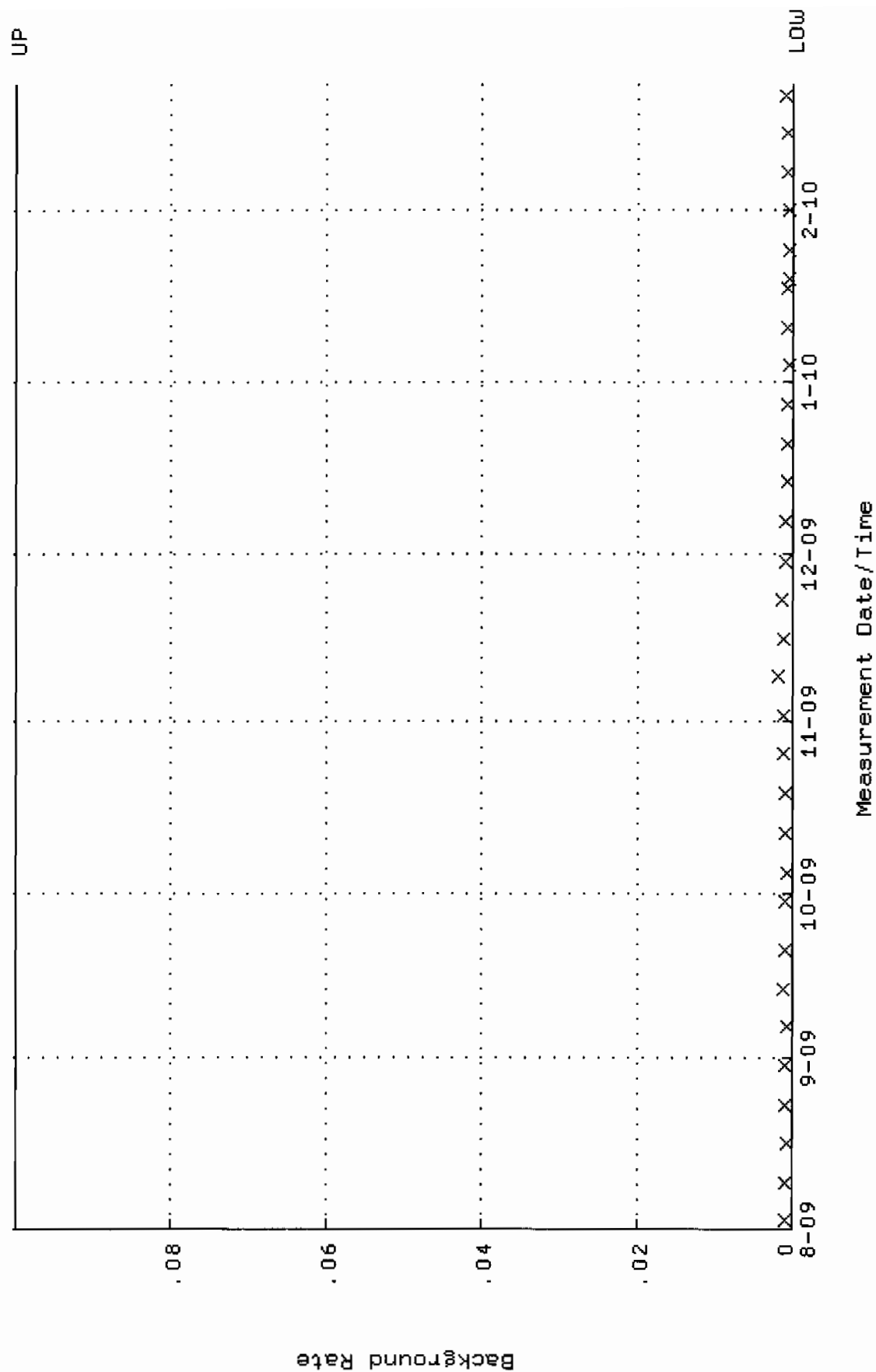


QA filename : DKA100:[ENV_ALPHA.QA.B]B198.QAF;1

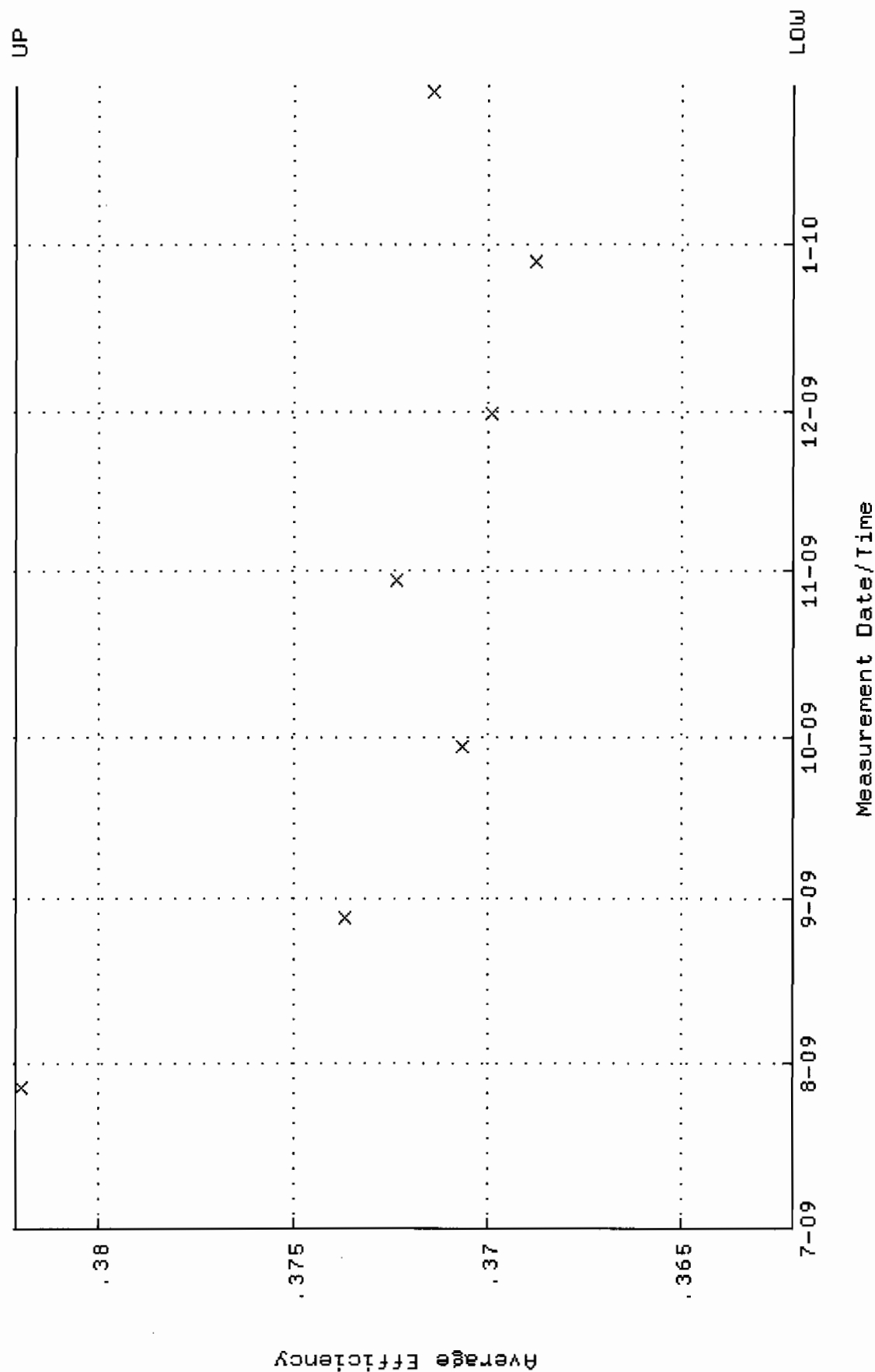
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 2-AUG-2009 17:24:20 through 23-FEB-2010 12:00:00

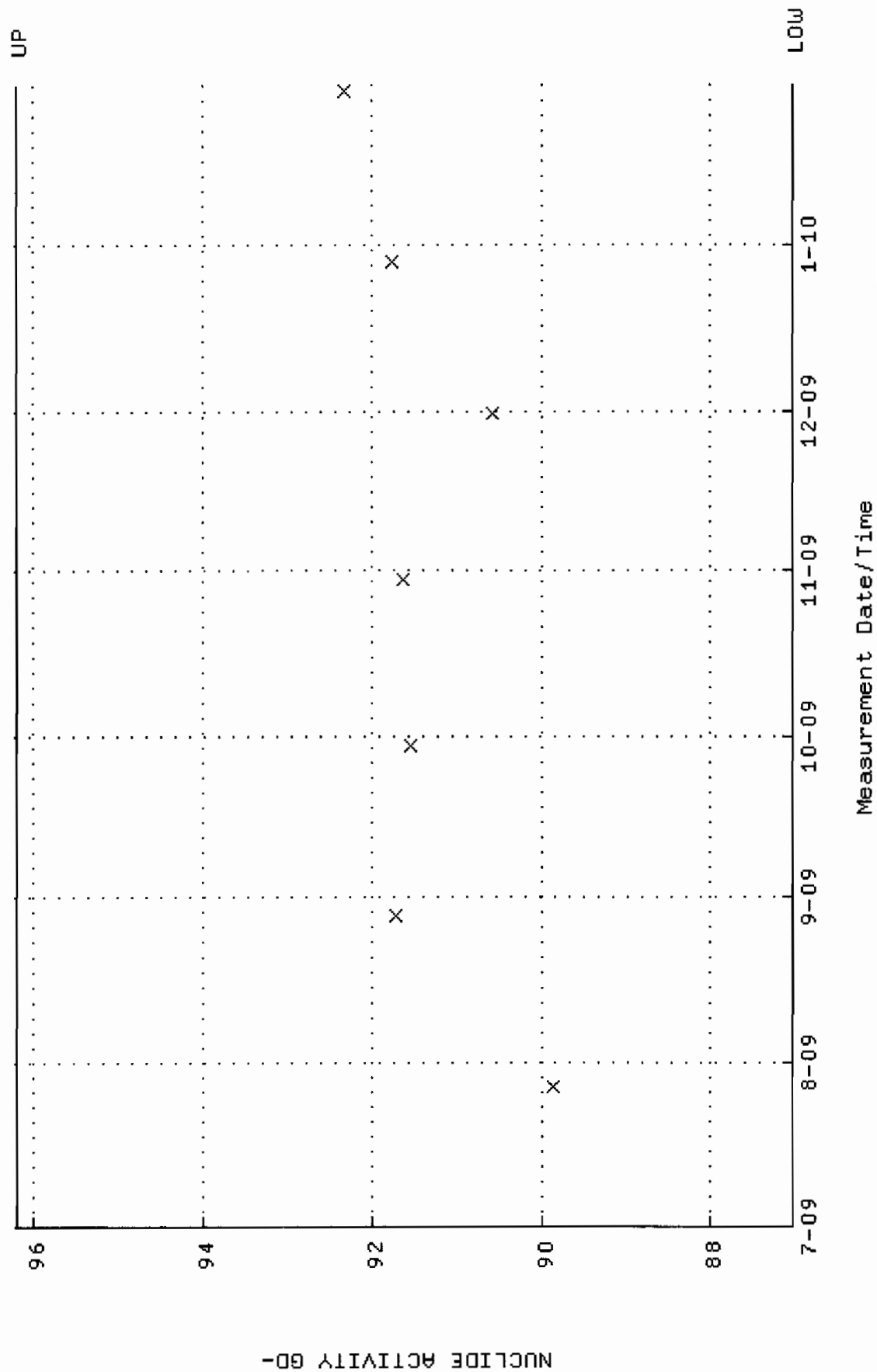
Lower/Upper Lmts: 0.000000E+00 through 0.100000



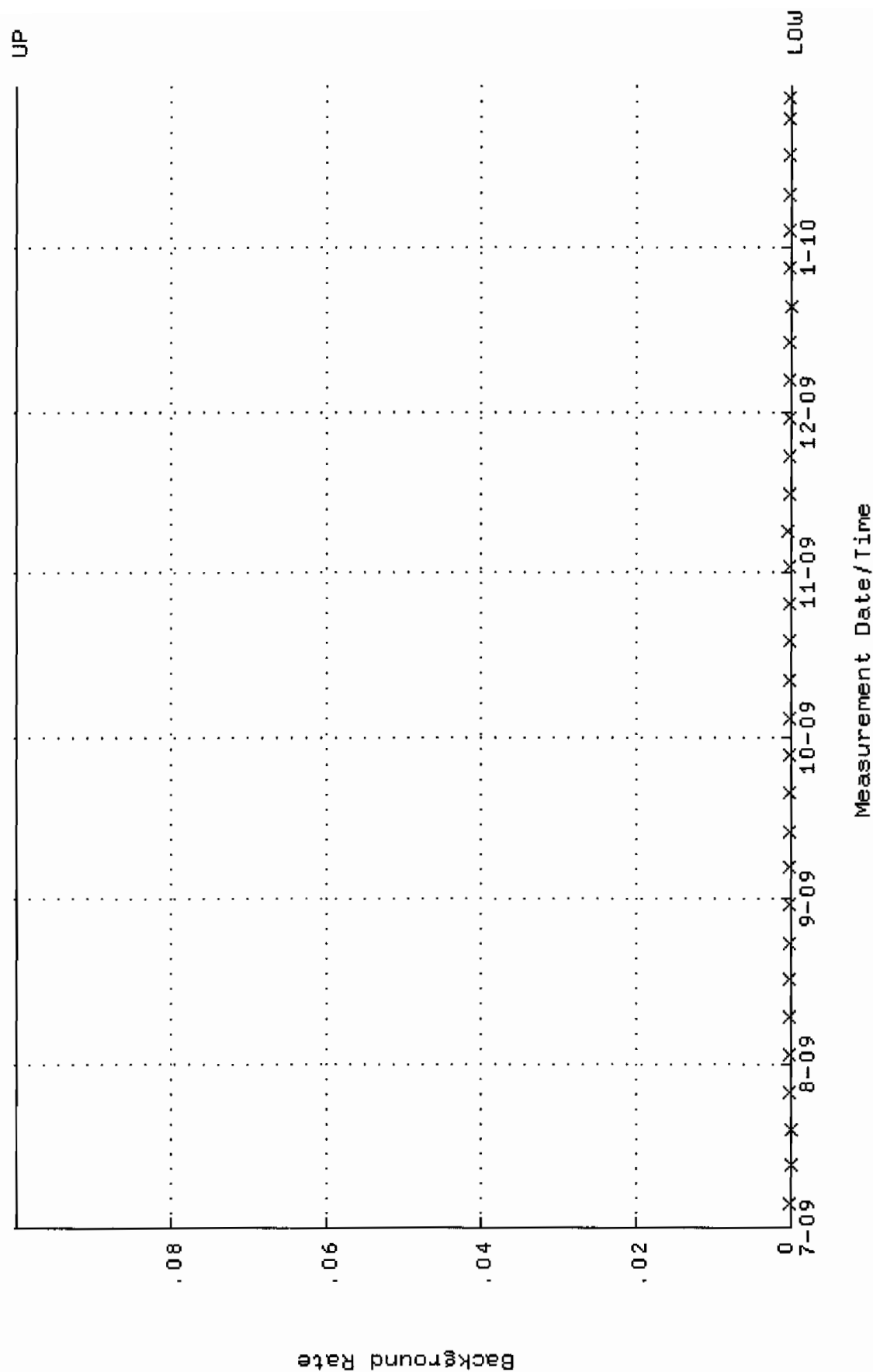
QA filename : DKA100:[ENV_ALPHA.QA.W]W228.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:16 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.362134 through 0.382134



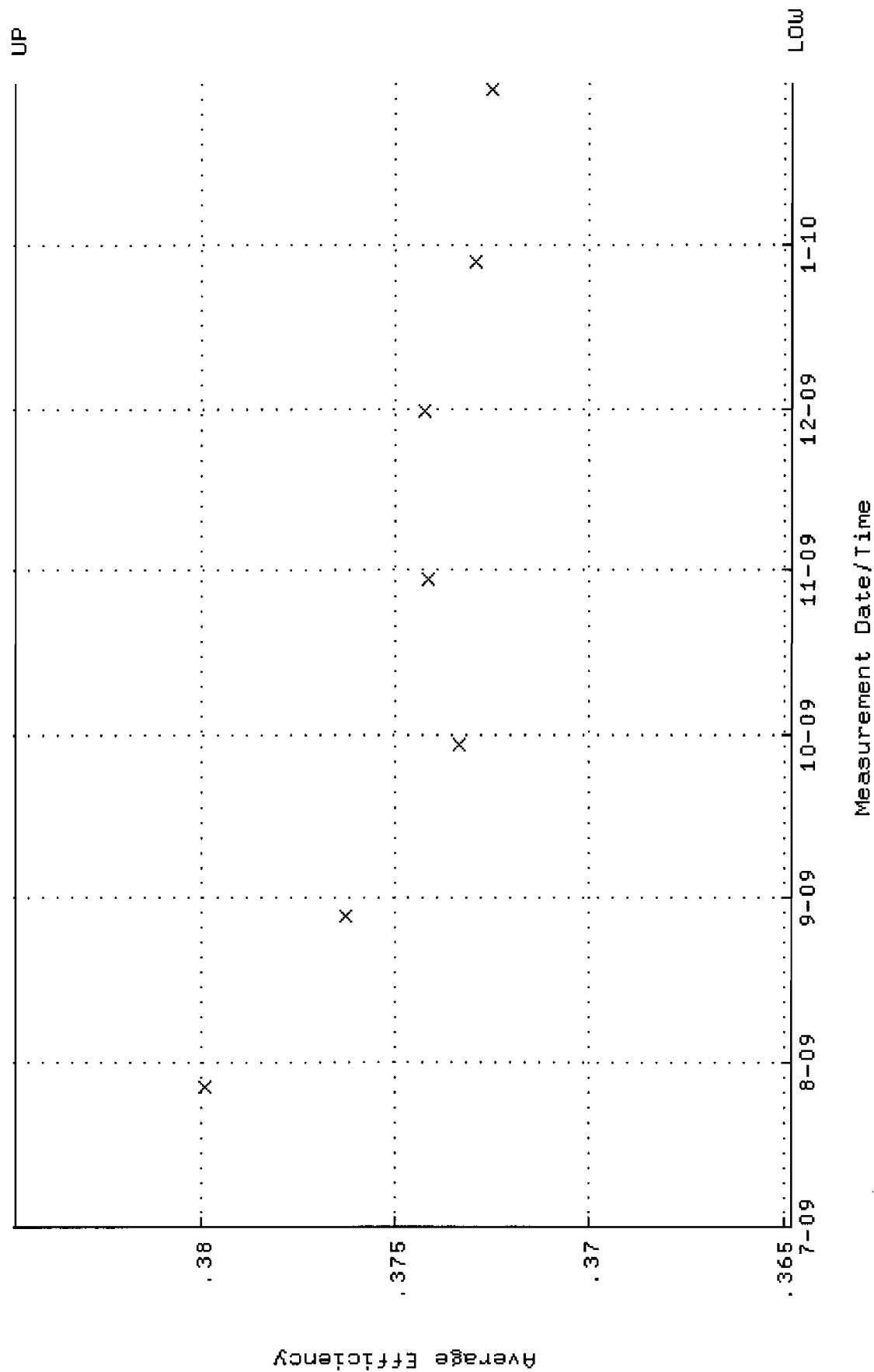
QA filename : DKA100:[ENV_ALPHA.QA.W]w228.QAF;1
 Parameter Name : NLACTIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:16 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 87.0370 through 96.1988



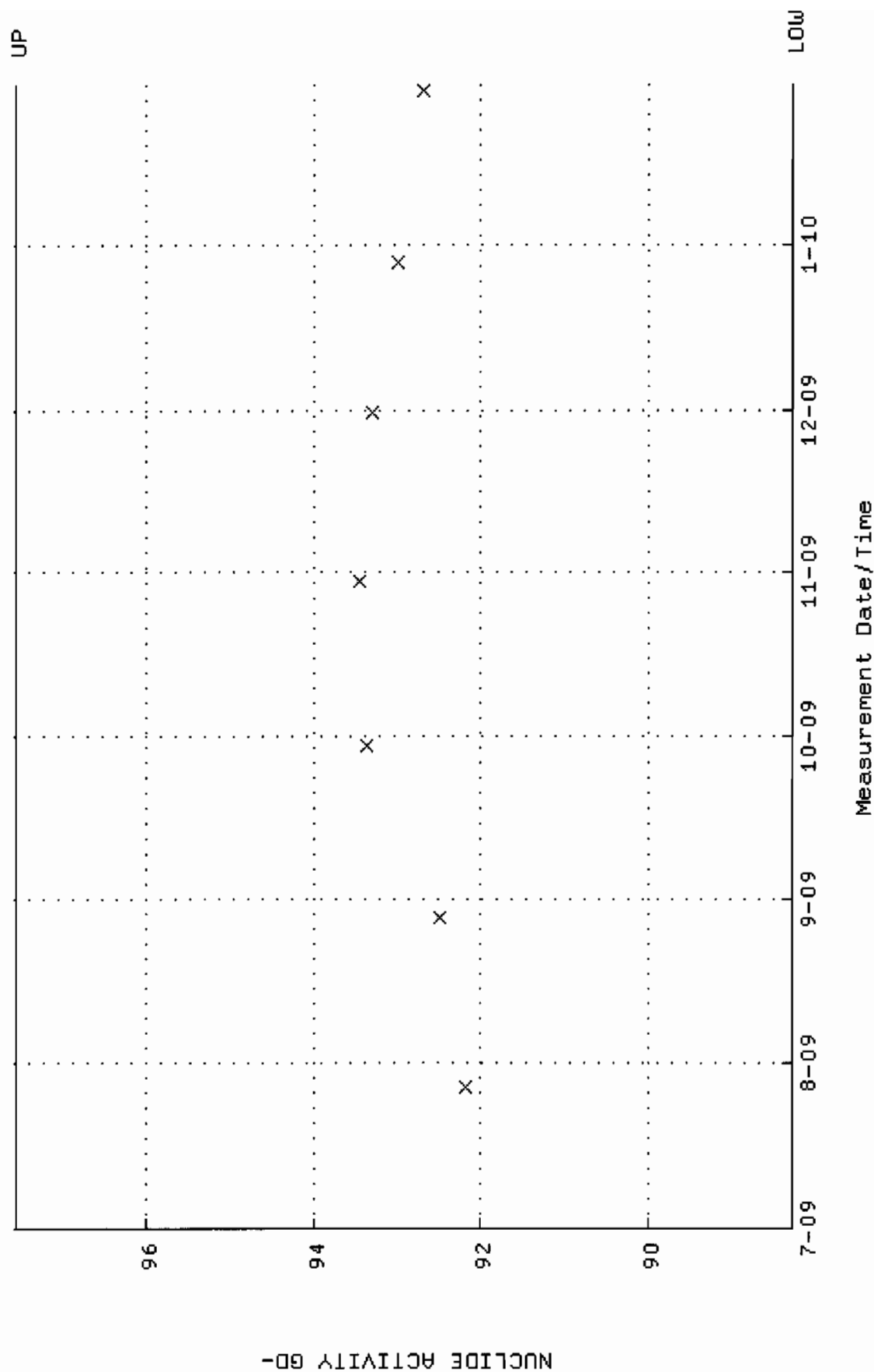
QA filename : DKA100:[ENV_ALPHA.QA.B]B228.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



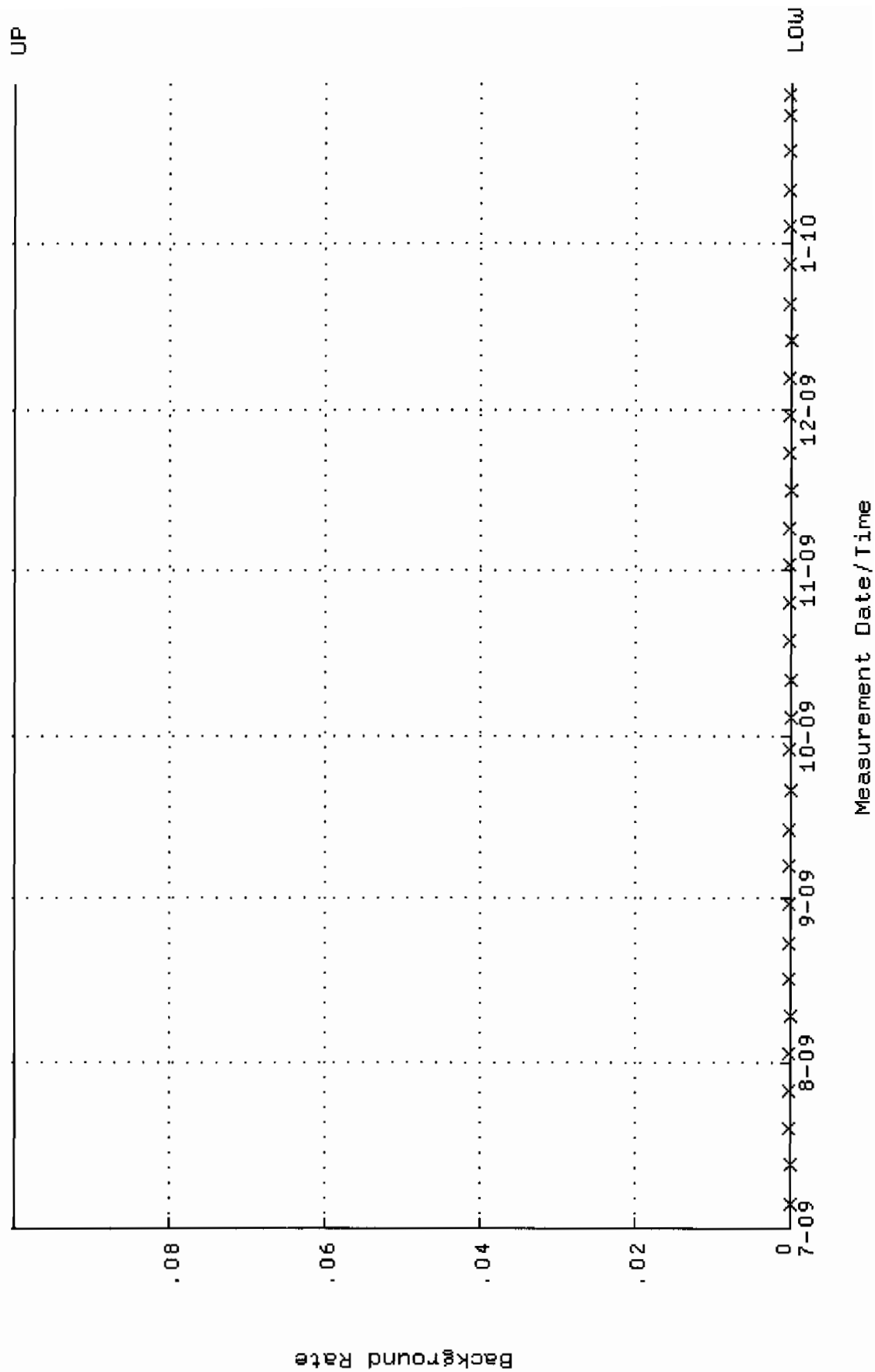
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:49:22 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.364789 through 0.384789



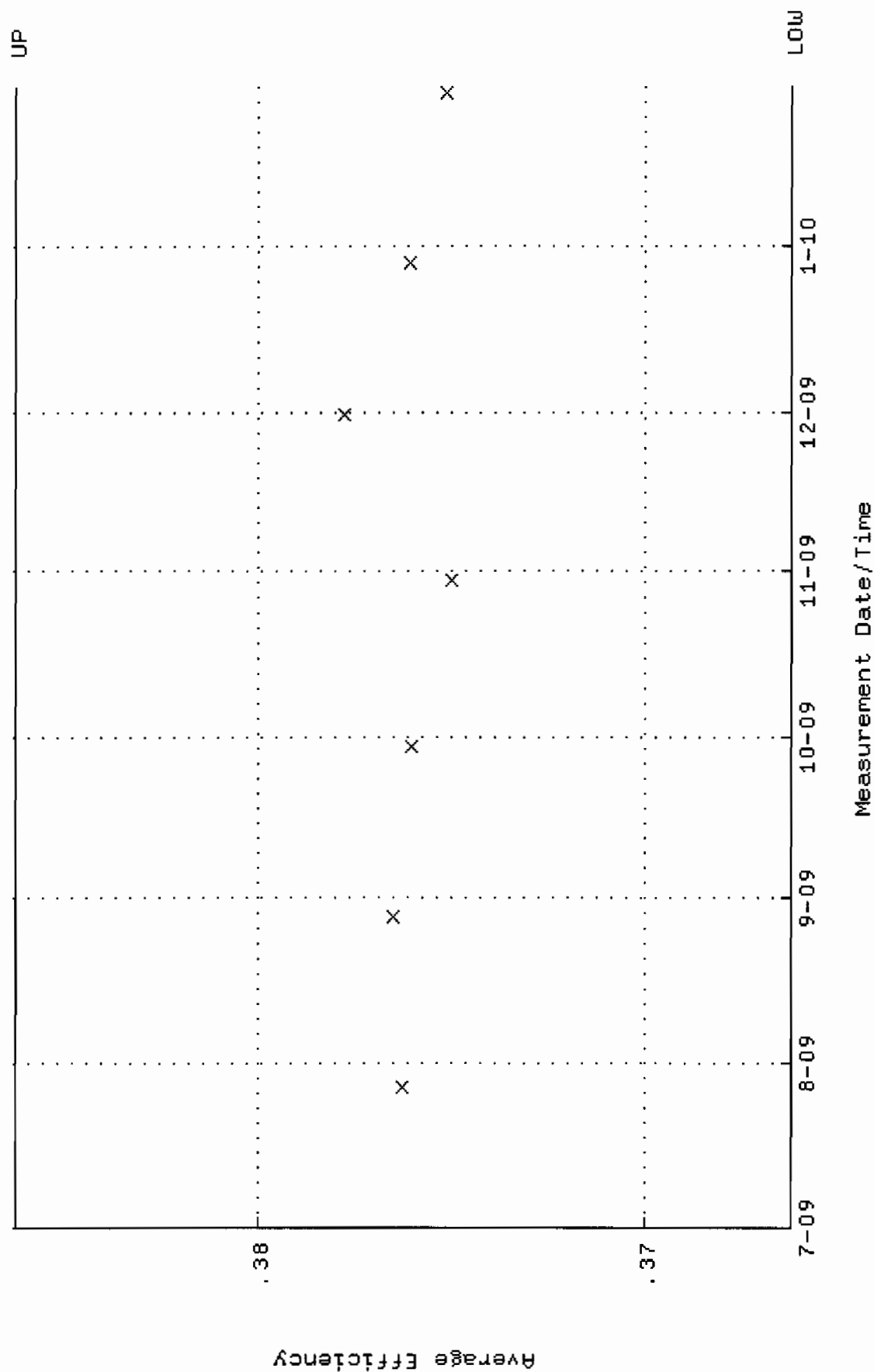
QA filename : DKA100:[ENV_ALPHA.QA.W]W229.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:49:22 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 88.2691 through 97.5605



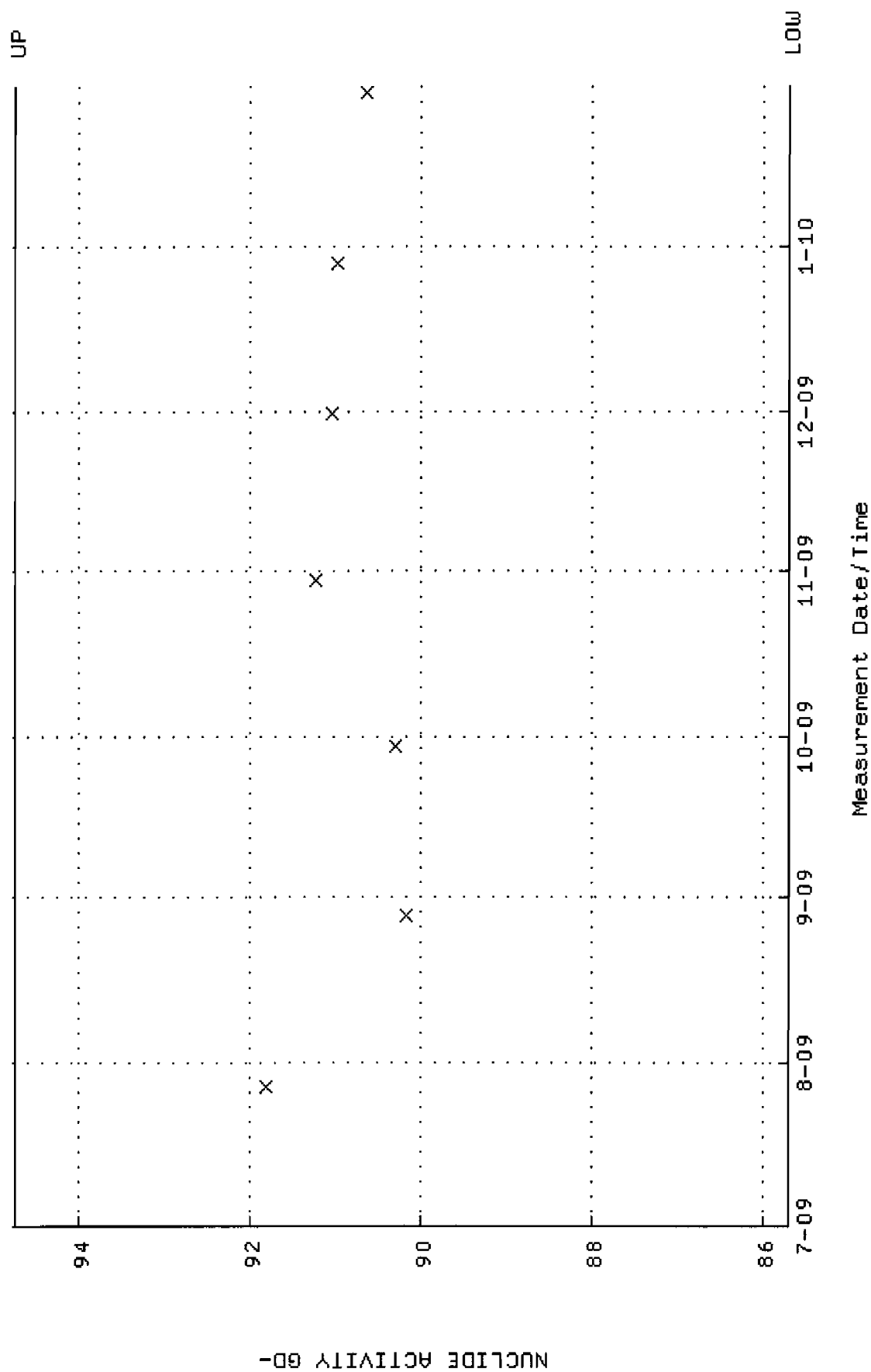
QA filename : DKA100:[ENV_ALPHA.QA.B]B229.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:04:53 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



QA filename : DKA100:[ENV_ALPHA.QA.W]W230.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 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 : NLAIVITY-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

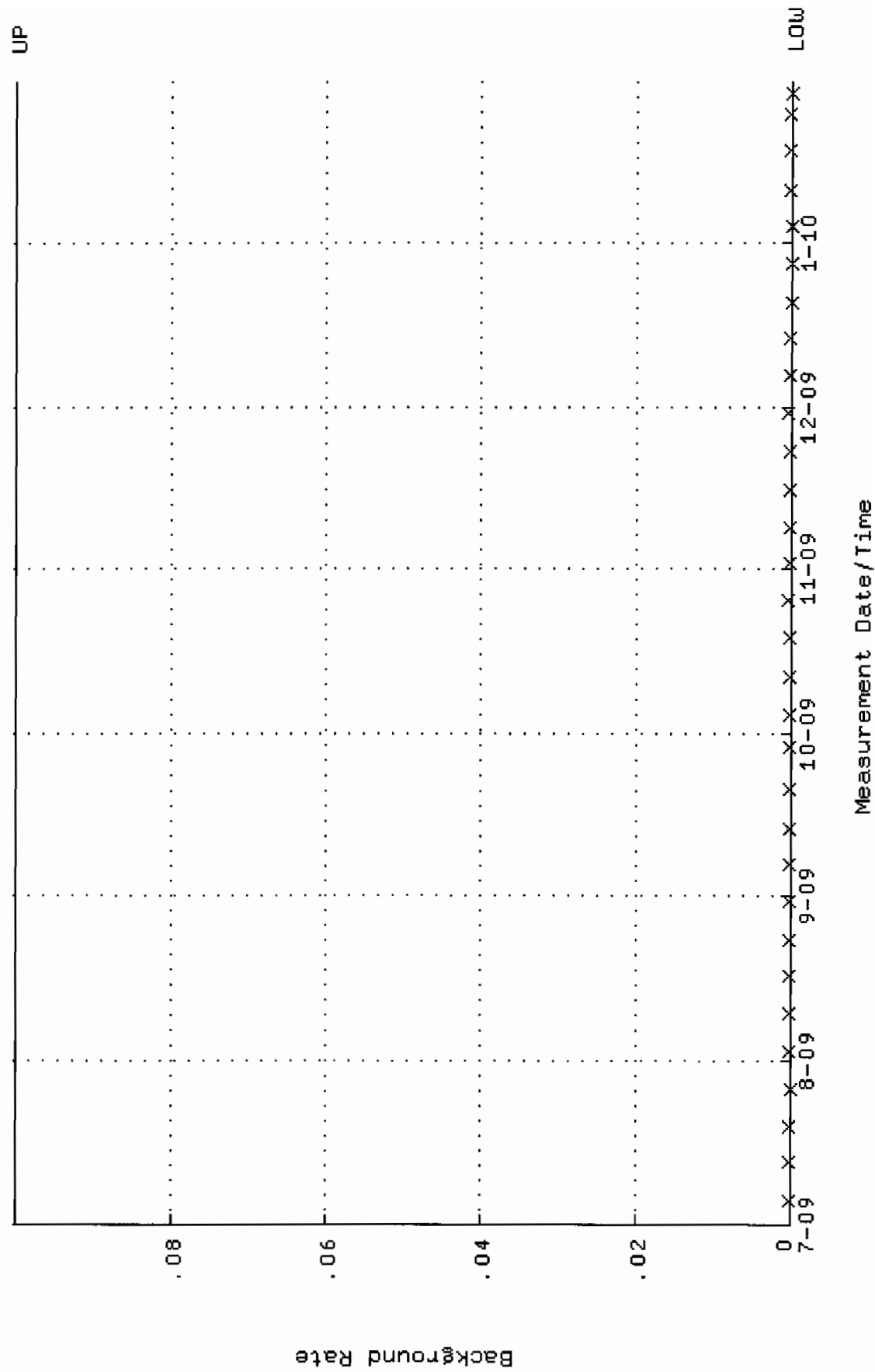


QA filename : DKA100:[ENV_ALPHA.QA.B]B230.QAF;1

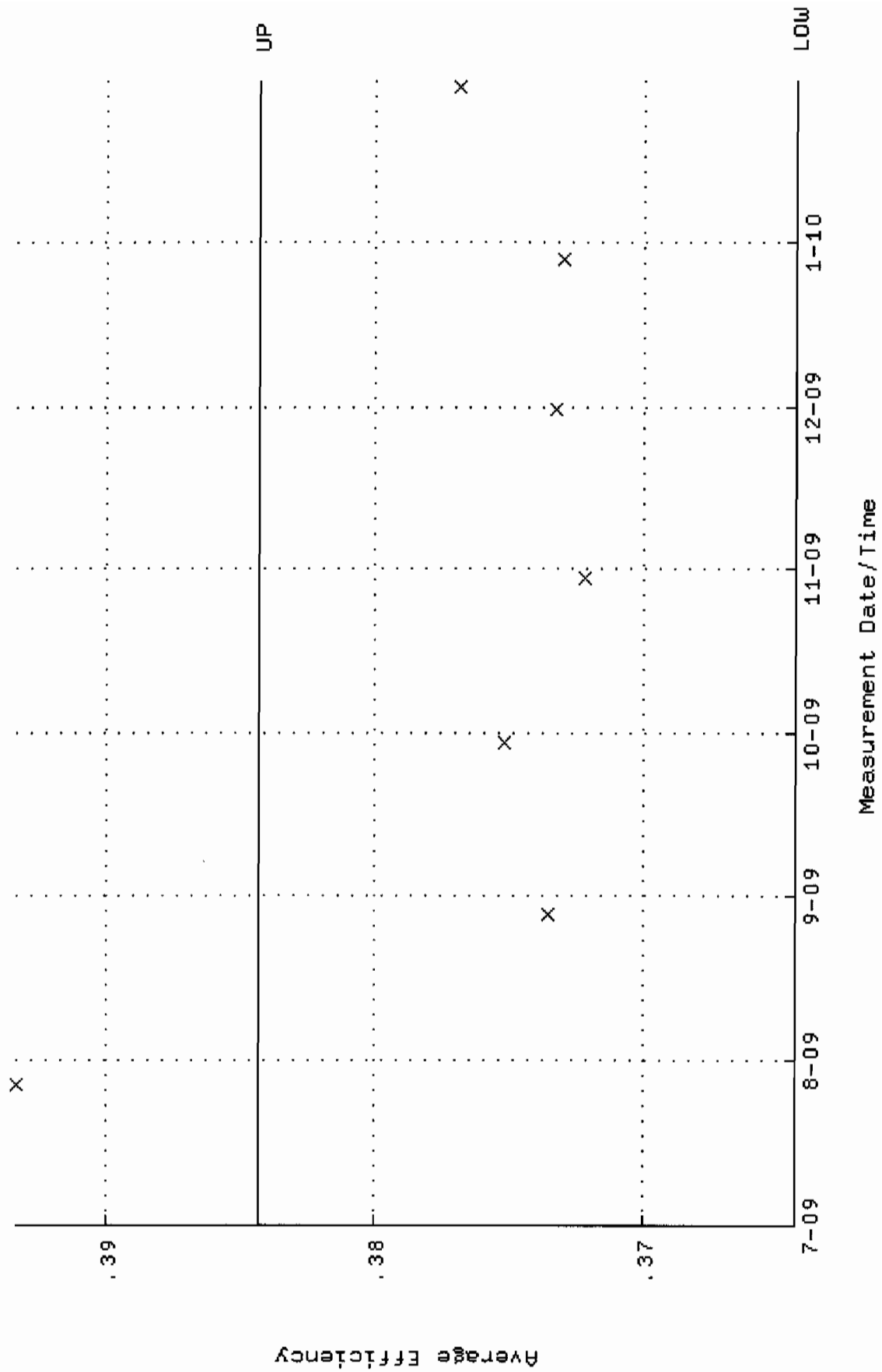
Parameter Name : BACKRATE (Background Rate)

Start/End Dates : 5-JUL-2009 15:04:57 through 30-JAN-2010 12:00:00

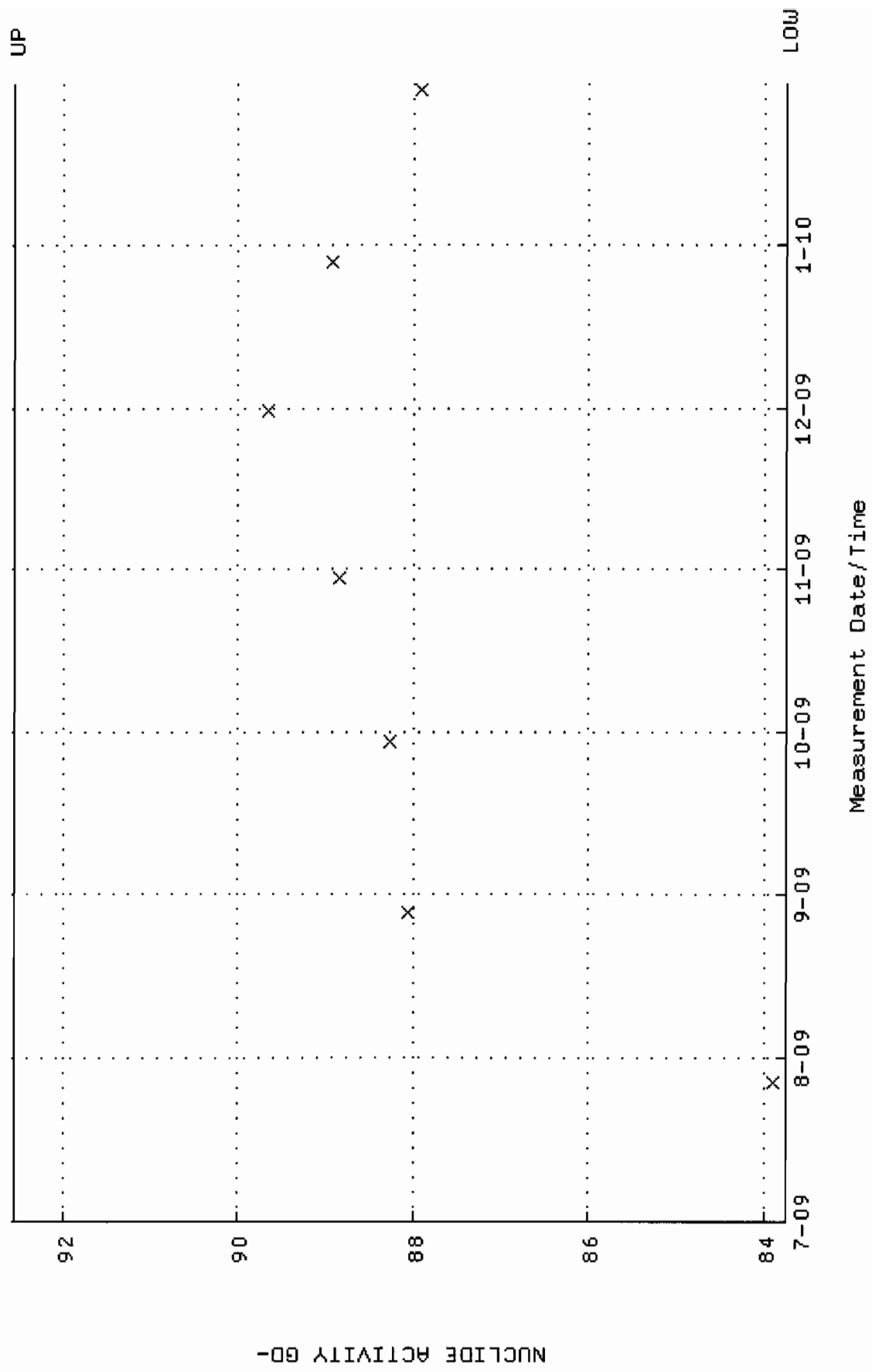
Lower/Upper Lmts: 0.000000E+00 through 0.100000



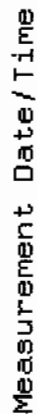
QA filename : DKA100:[ENV_ALPHA.QA.W]W235.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:01 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.364314 through 0.384314



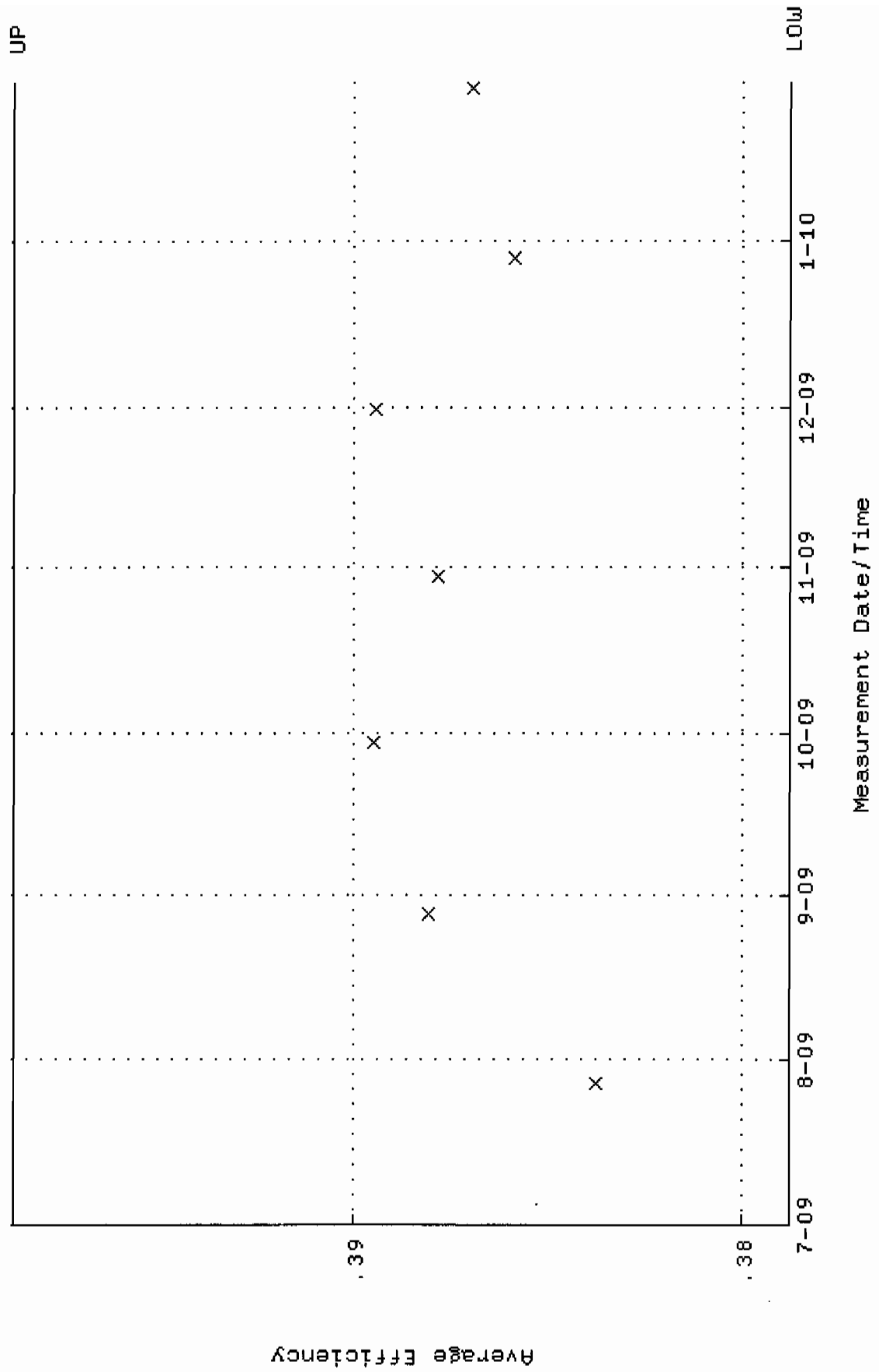
QA filename : DKA100:[ENV_ALPHA.QA.W]w235.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:01 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.7416 through 92.5566



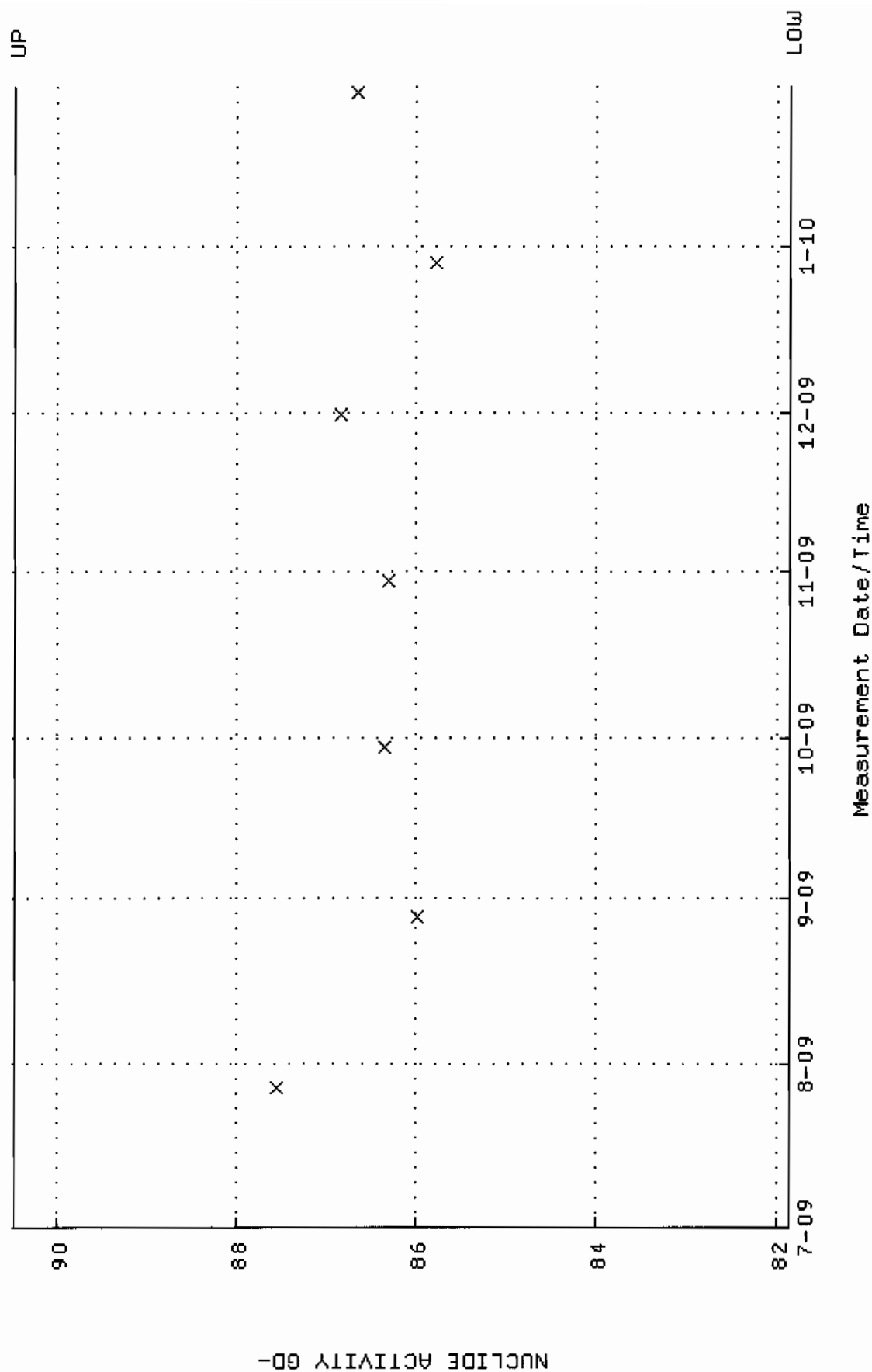
Lower/Upper Lmts: 0.00000E+00 through 0.100000



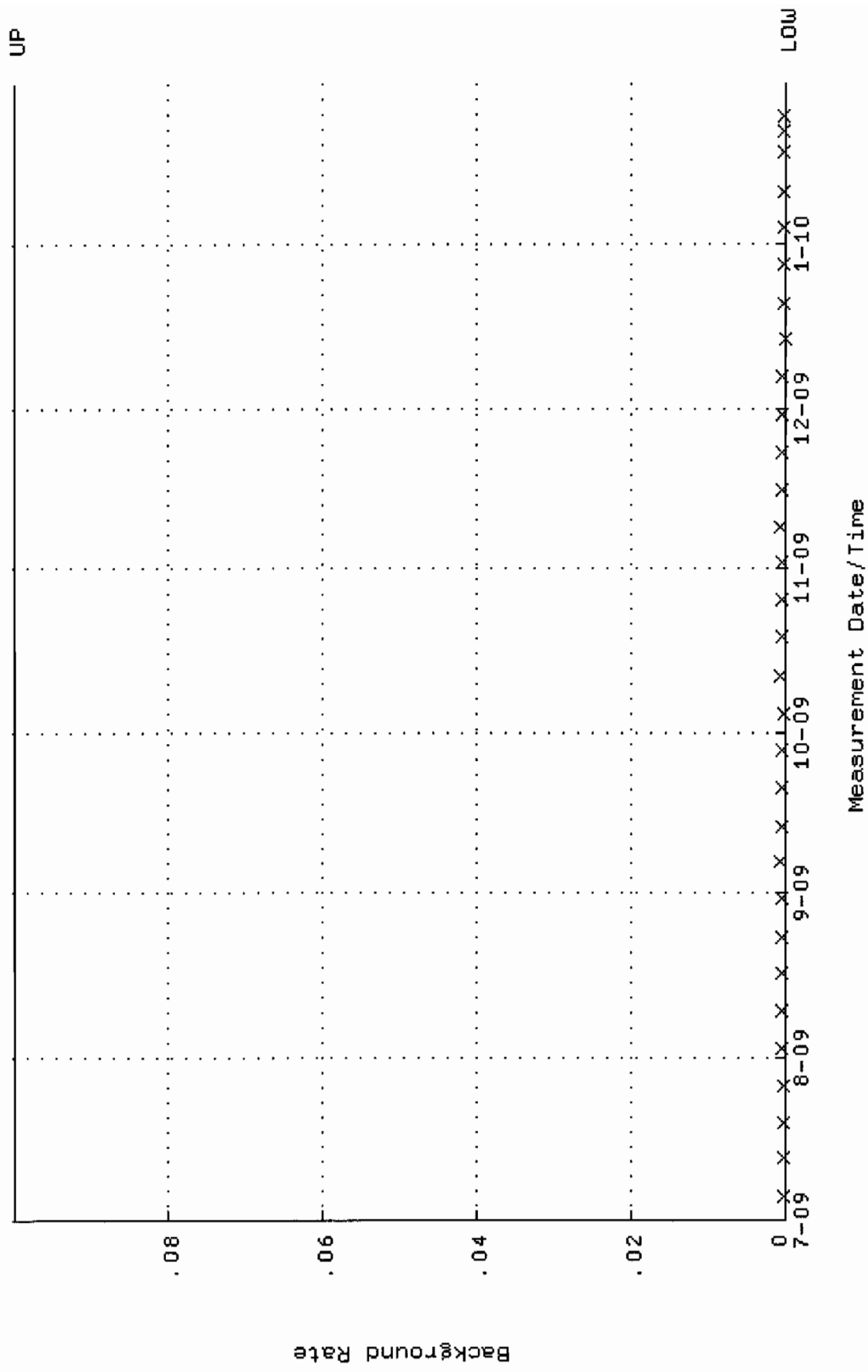
QA filename : DKA100:[ENV_ALPHA.QA.W]W236.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:07 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.378766 through 0.398766



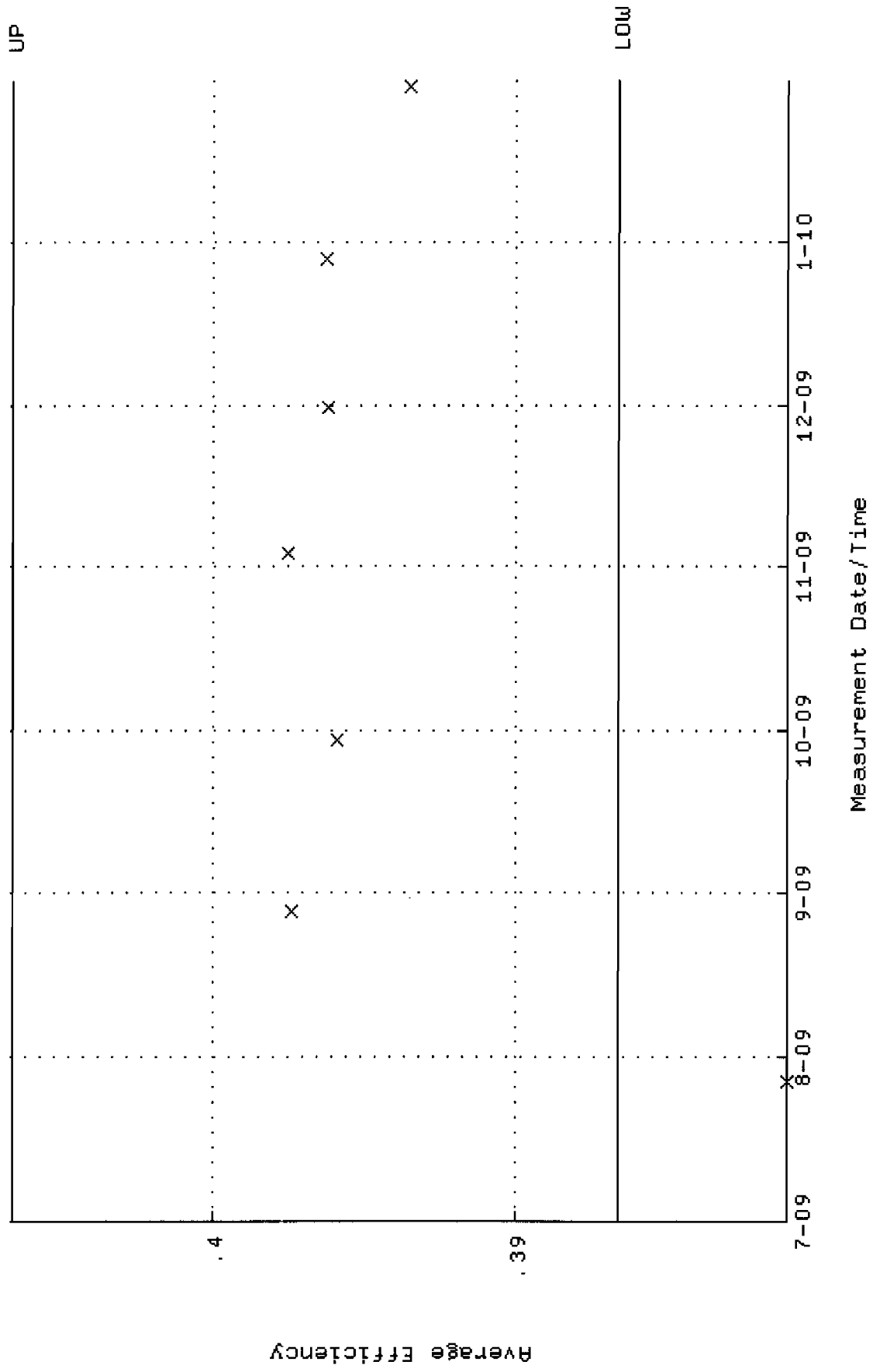
QA filename : DKA100:[ENV_ALPHA.QA.W]W236.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:07 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 81.8490 through 90.4646



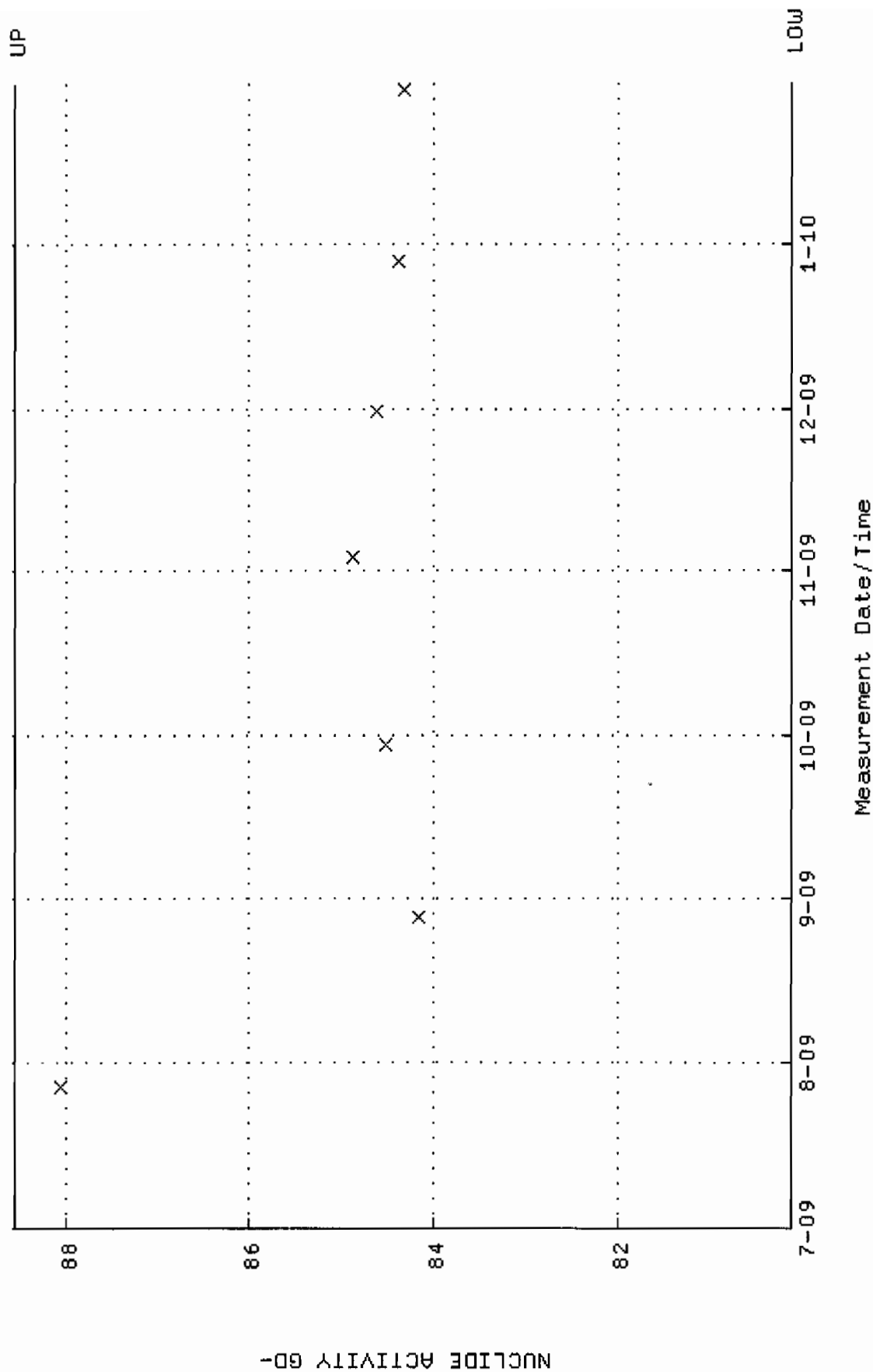
QA filename : DKA100:[ENV_ALPHA.QA.B]B236.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:24 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



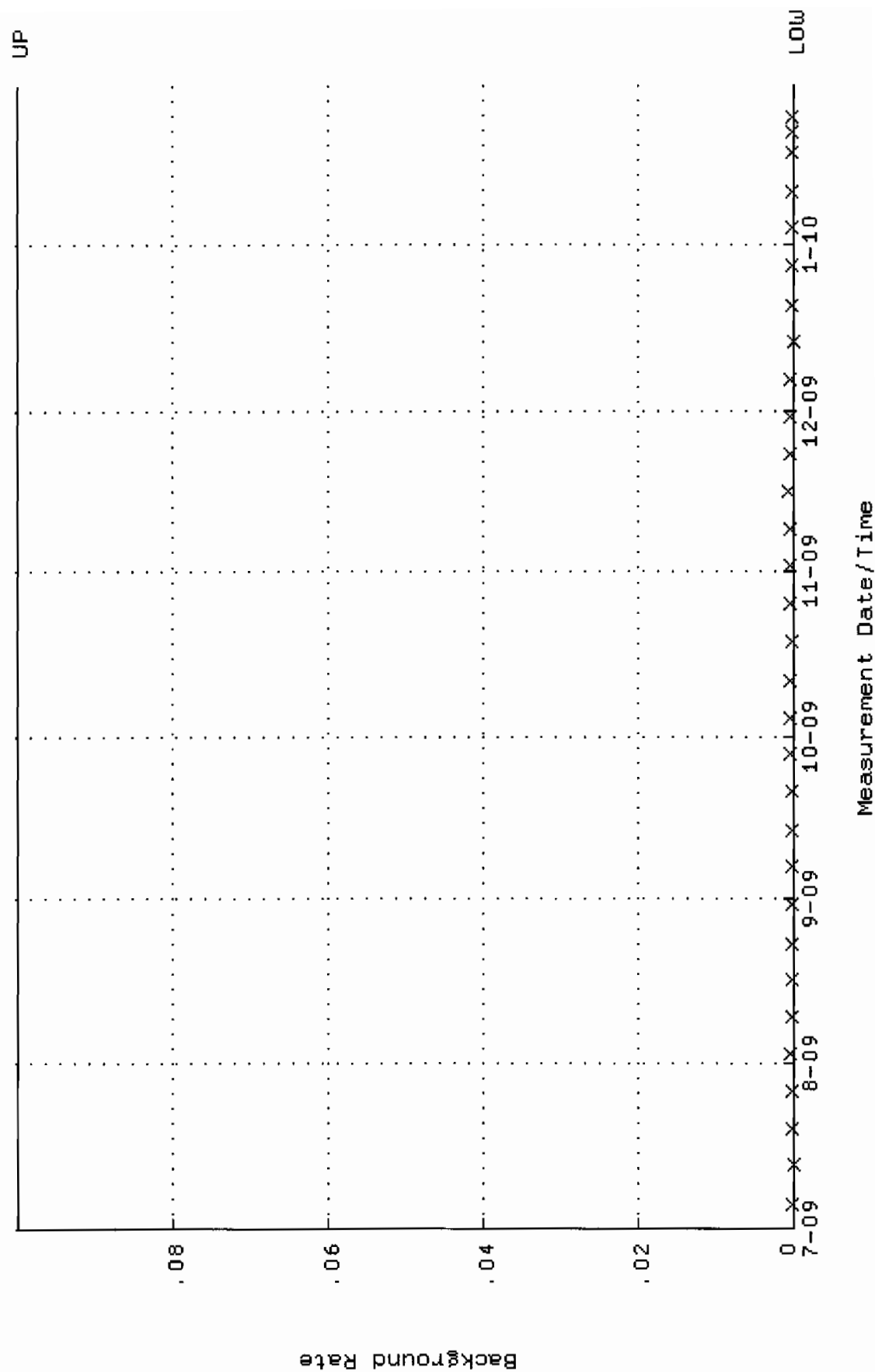
QA filename : DKA100:[ENV_ALPHA.QA.W]W238.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:20 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.386660 through 0.406660



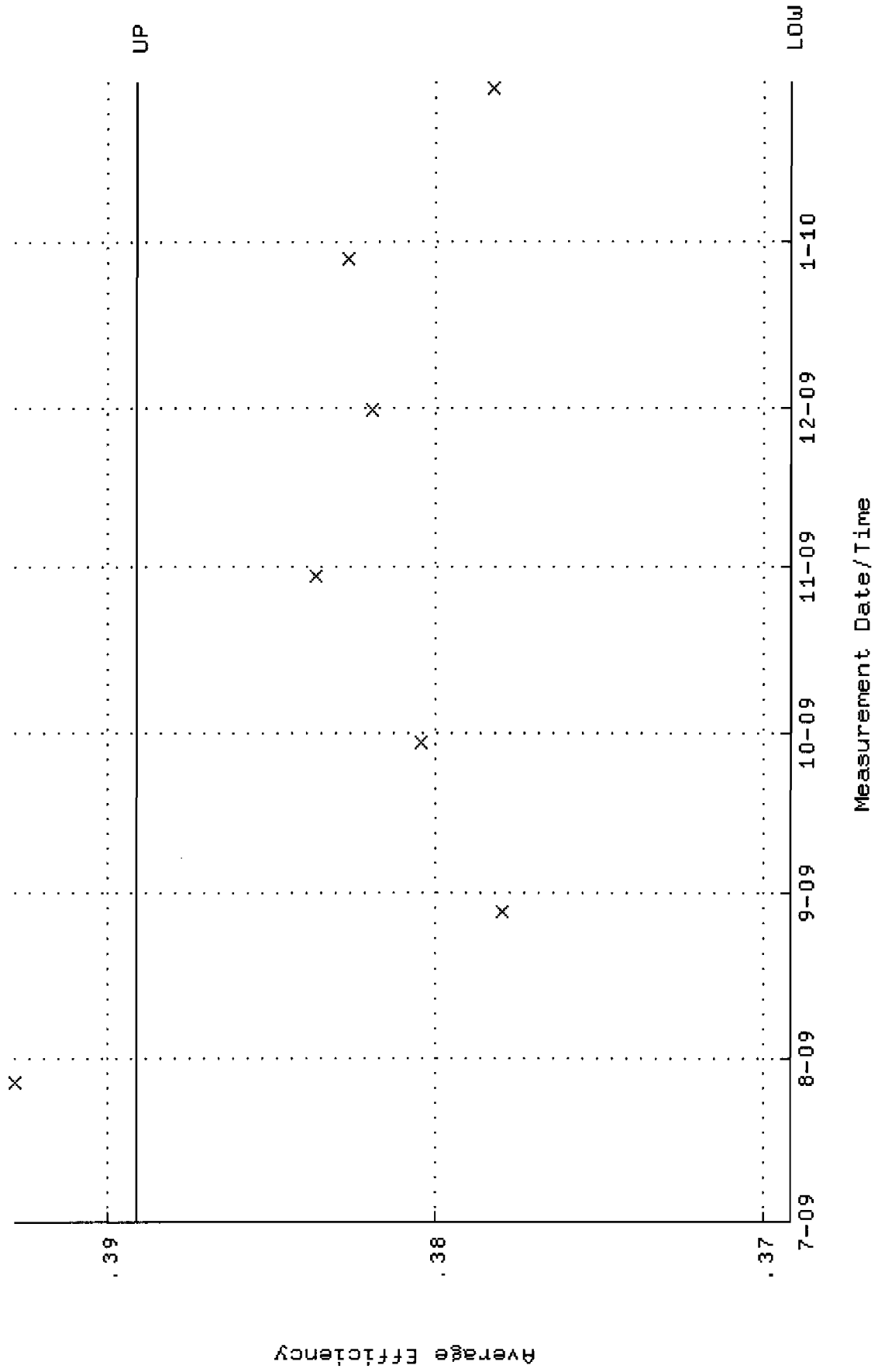
QA filename : DKA100:[ENV_ALPHA.QA.W]w238.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:20 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 80.1146 through 88.5478



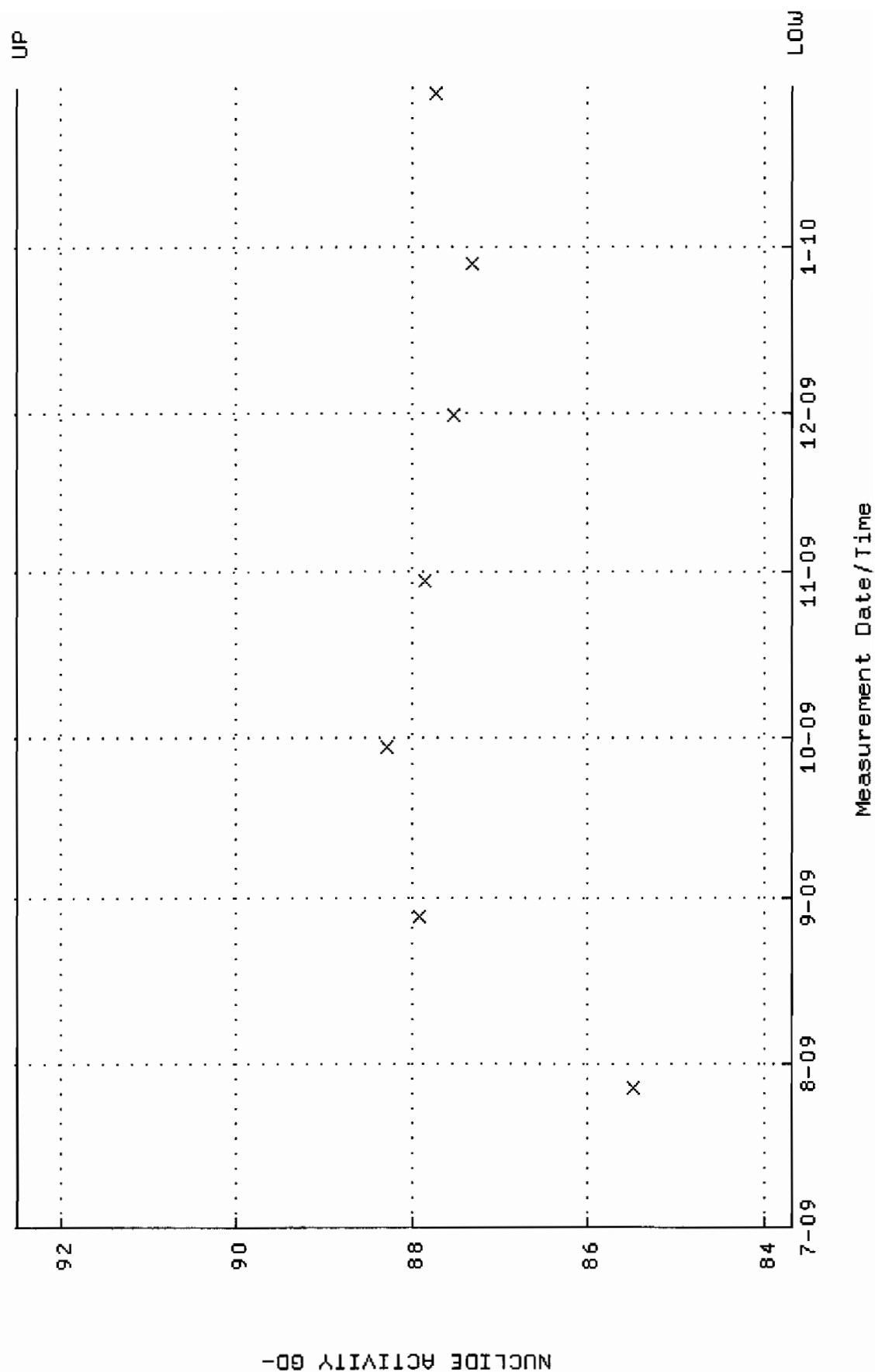
QA filename : DKA100:[ENV_ALPHA.QA.B]B238.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:34 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



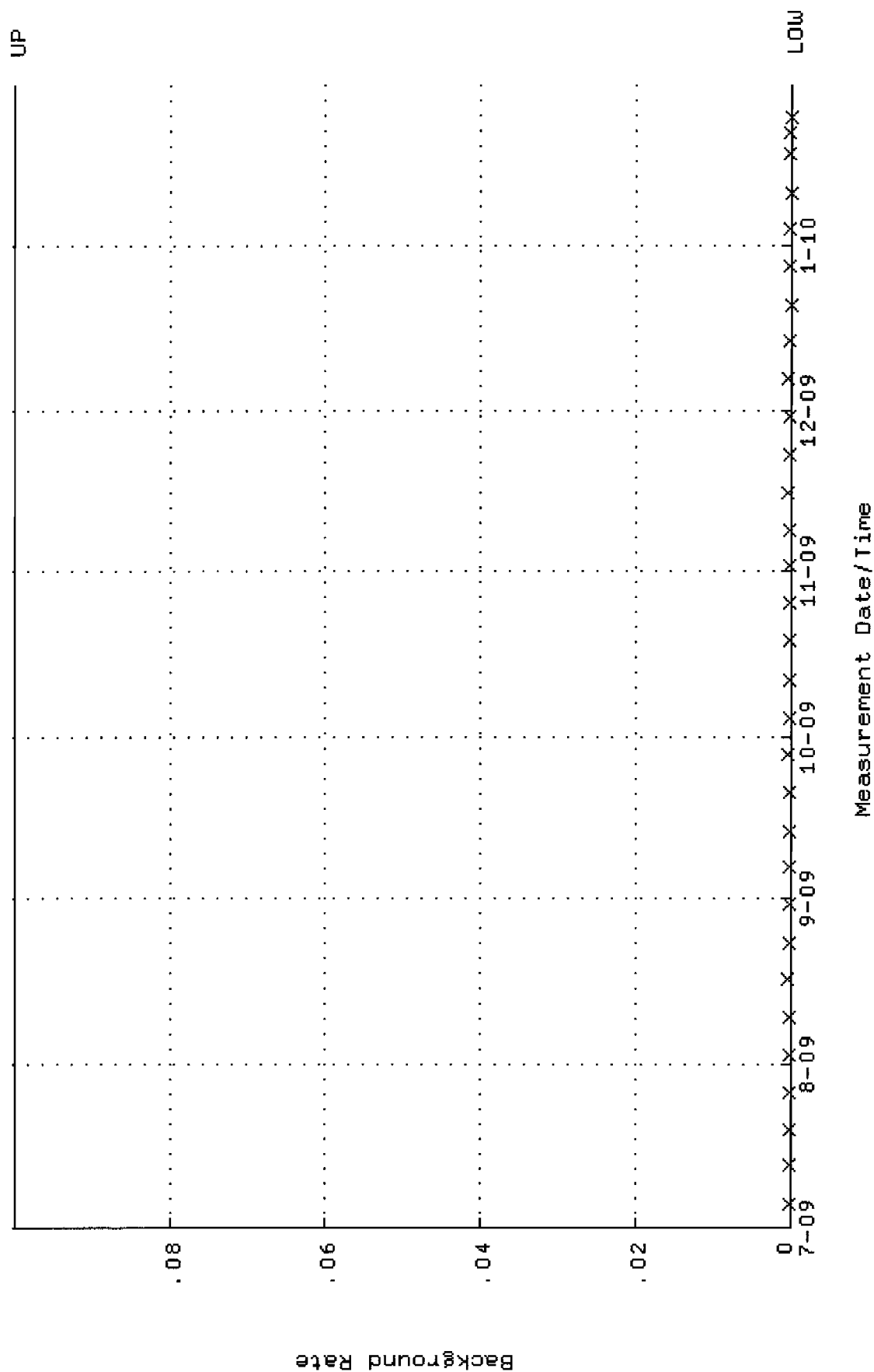
QA filename : DKA100:[ENV_ALPHA.QA.W]W239.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:26 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.369142 through 0.389142



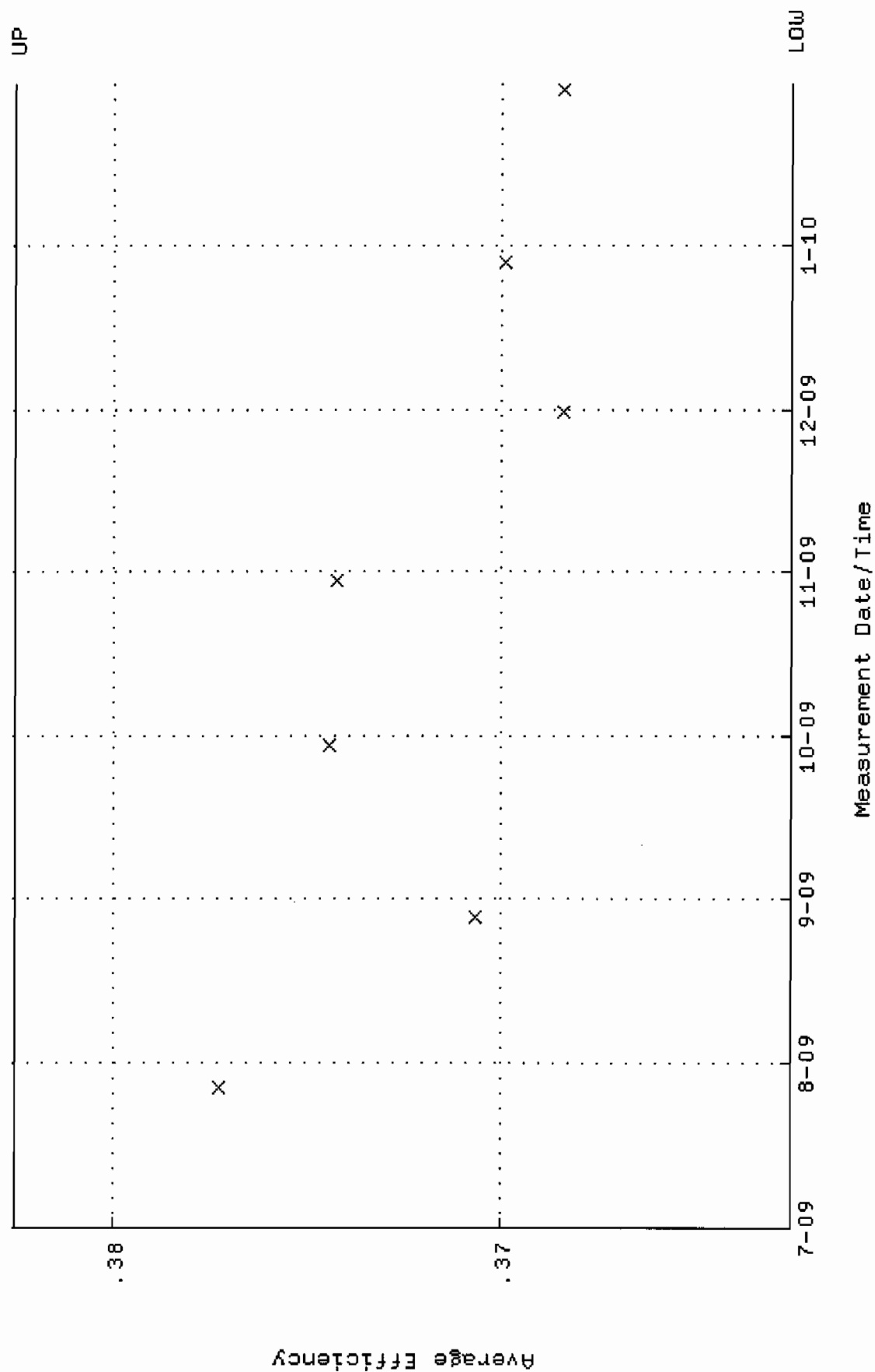
QA filename : DKA100:[ENV_ALPHA.QA.W]w239.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:26 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.6848 through 92.4938



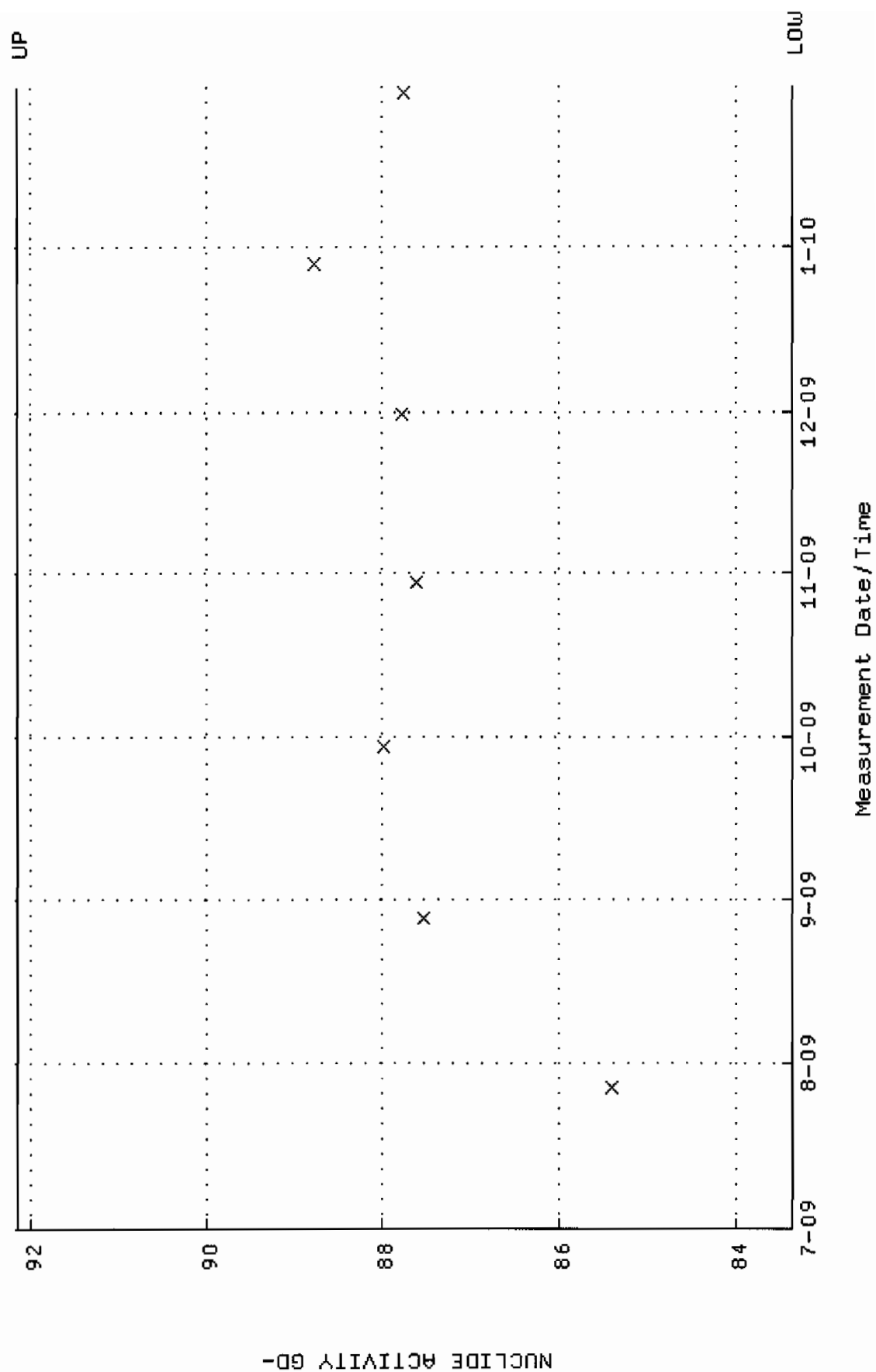
QA filename : DKA100:[ENV_ALPHA.QA.B]B239.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:39 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



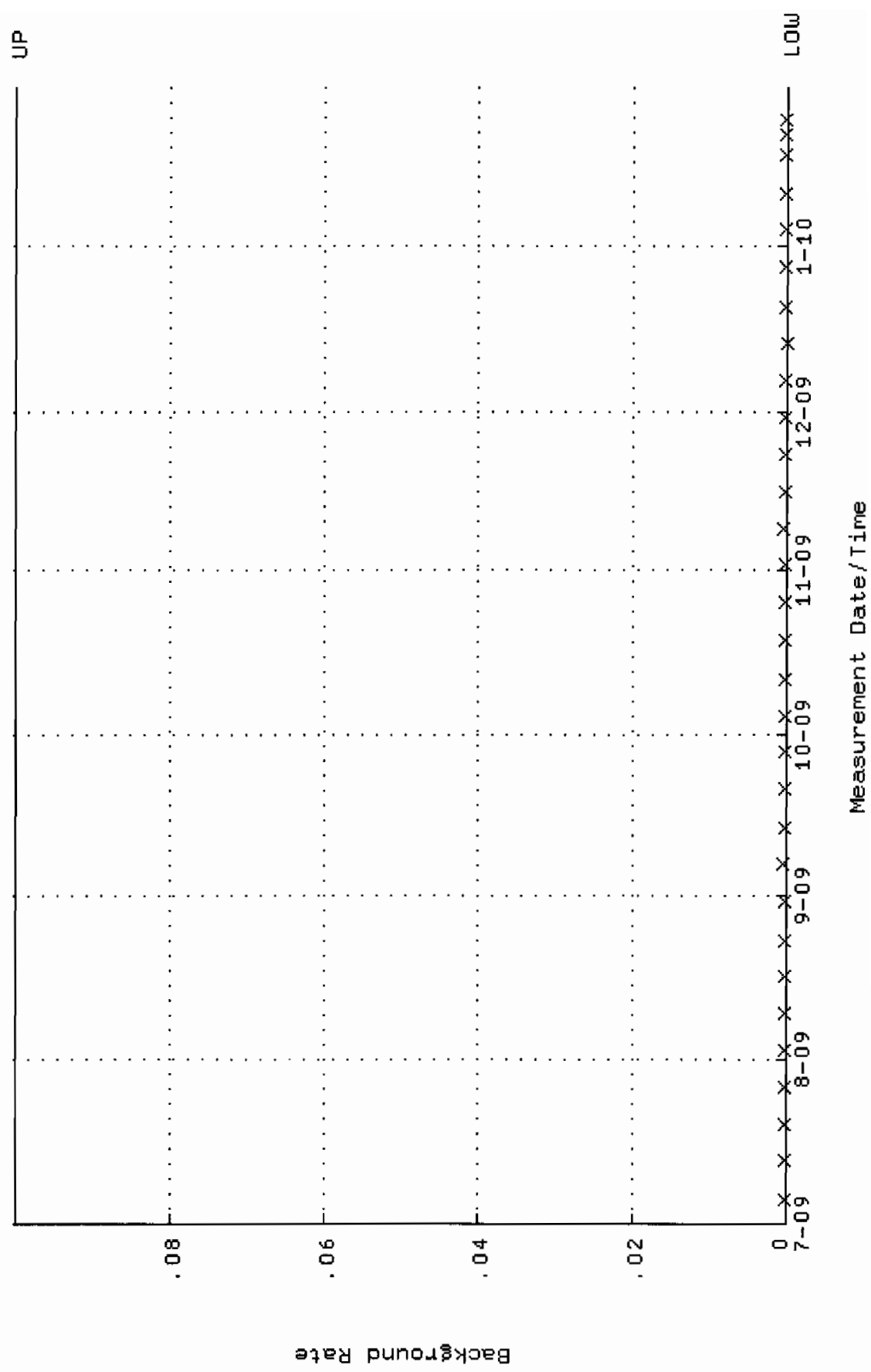
QA filename : DKA100:[ENV_ALPHA.QA.W]W240.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:32 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.362523 through 0.382523



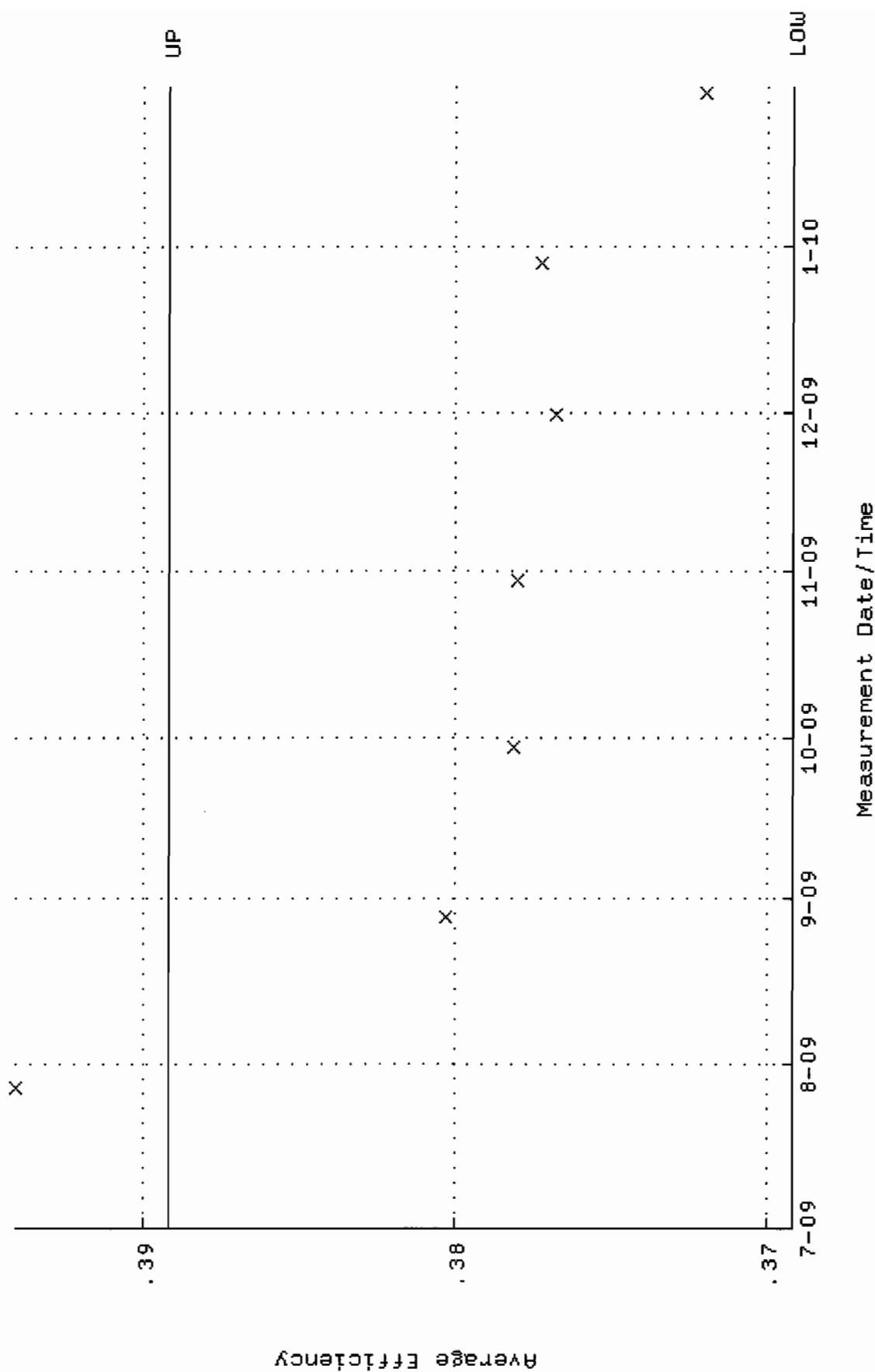
QA filename : DKA100:[ENV_ALPHA.QA.W]w240.QAF;1
Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 27-JUL-2009 11:50:32 through 30-JAN-2010 12:00:00
Lower/Upper Lmts: 83.3638 through 92.1390



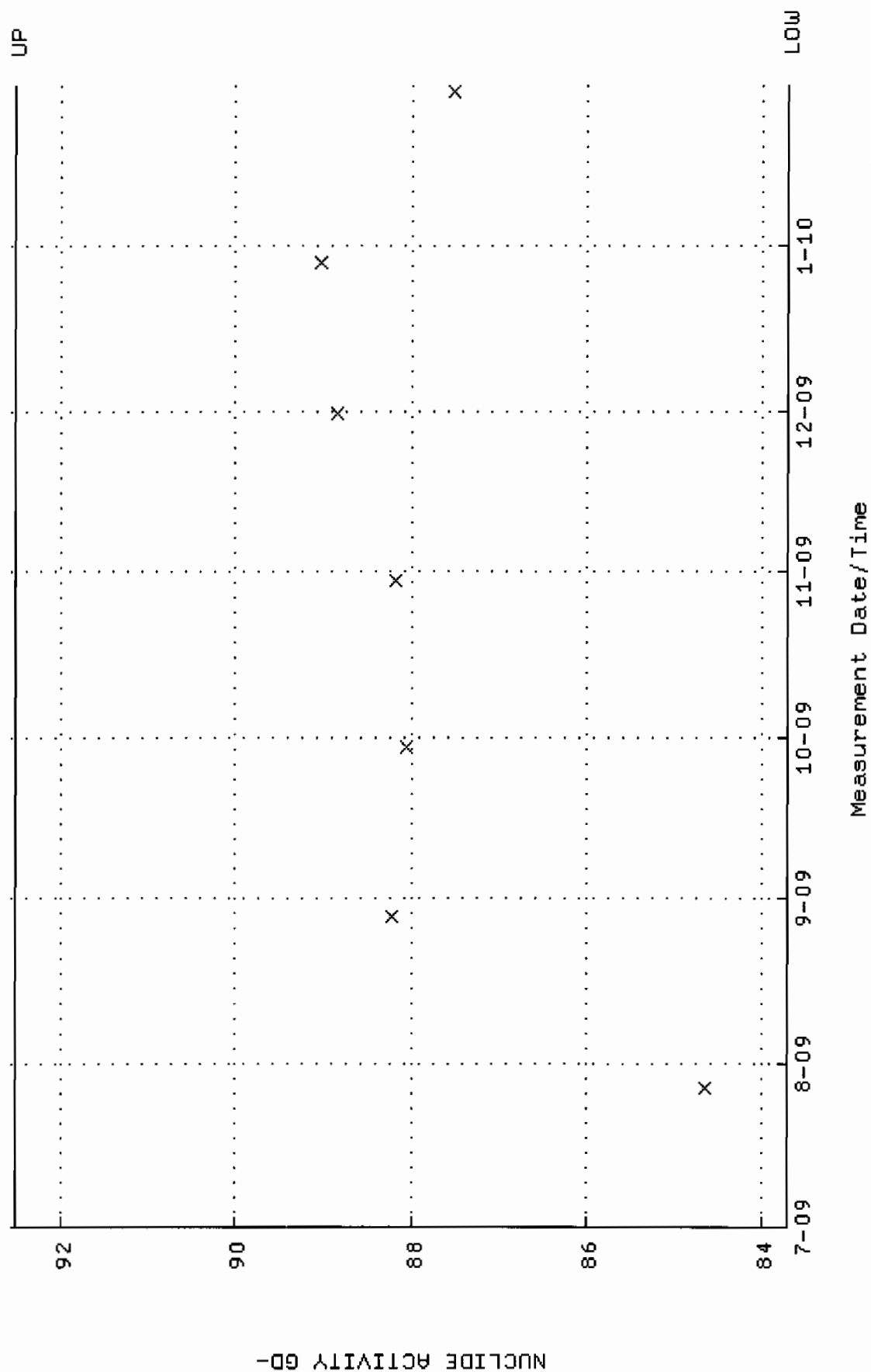
QA filename : DKA100:[ENV_ALPHA.QA.B]B240.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:43 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



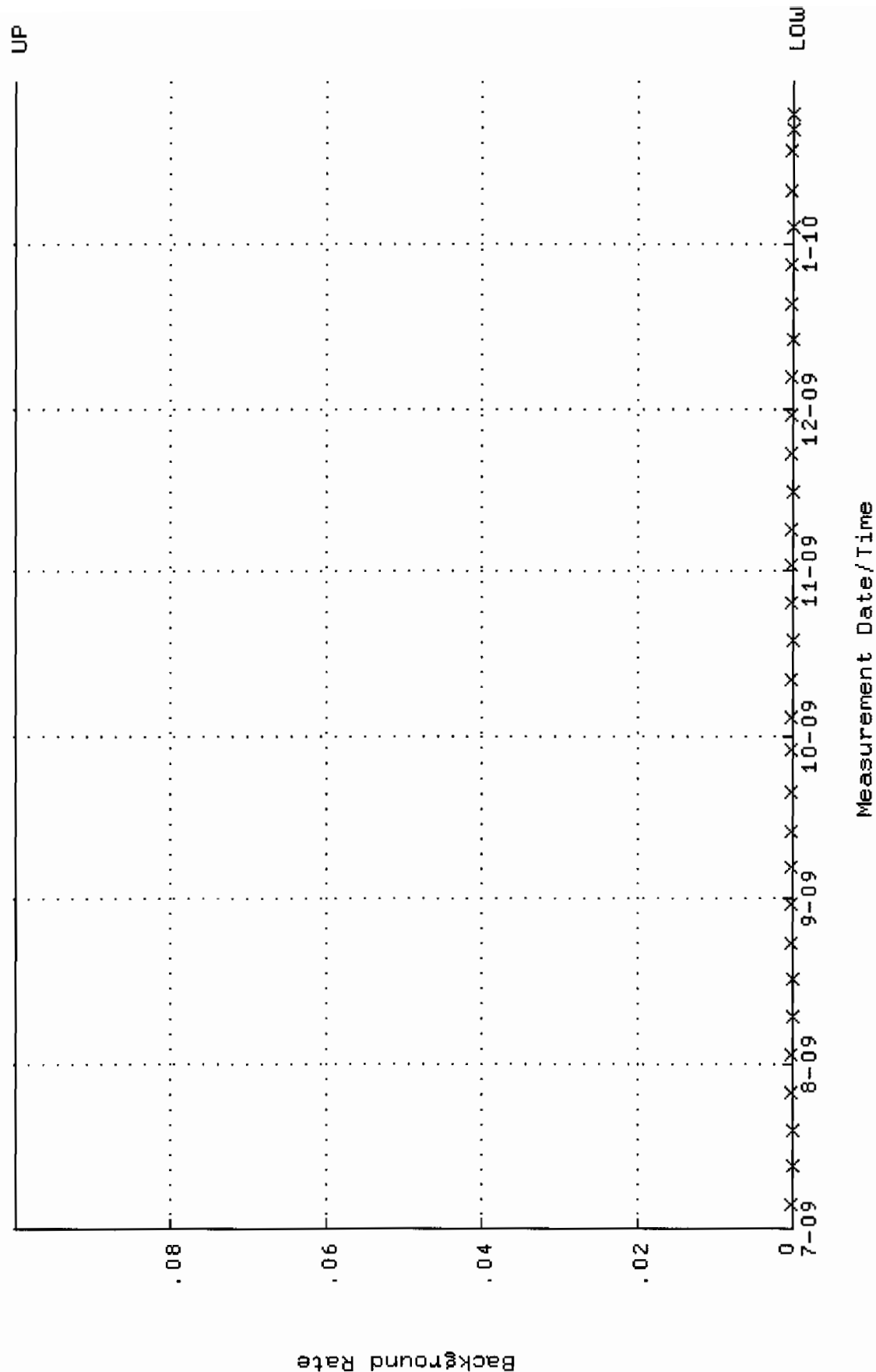
QA filename : DKA100:[ENV_ALPHA.QA.W]W241.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:38 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.369174 through 0.389174



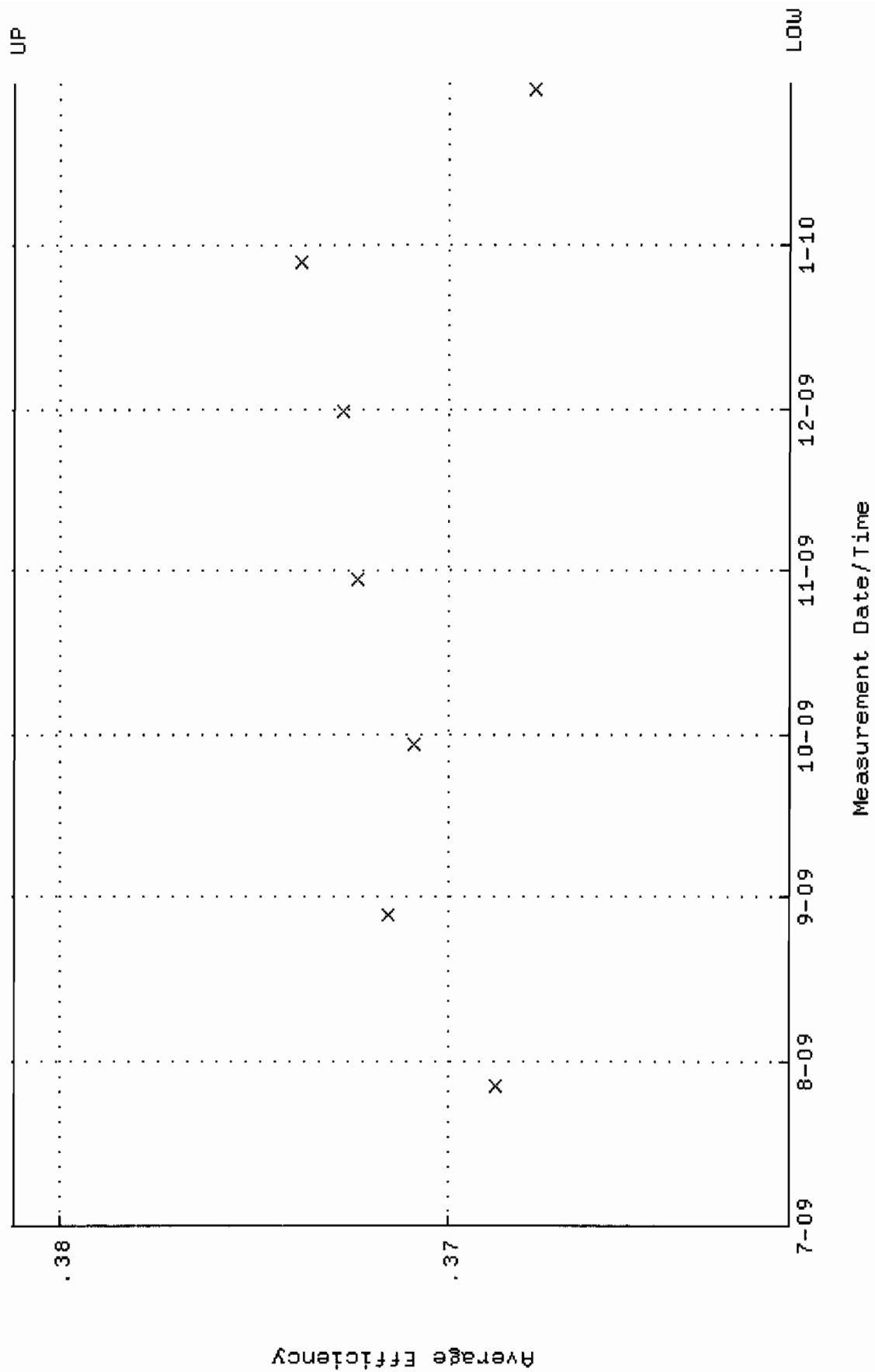
QA filename : DKA100:[ENV-ALPHA.QA.W]W241.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:38 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.7197 through 92.5323



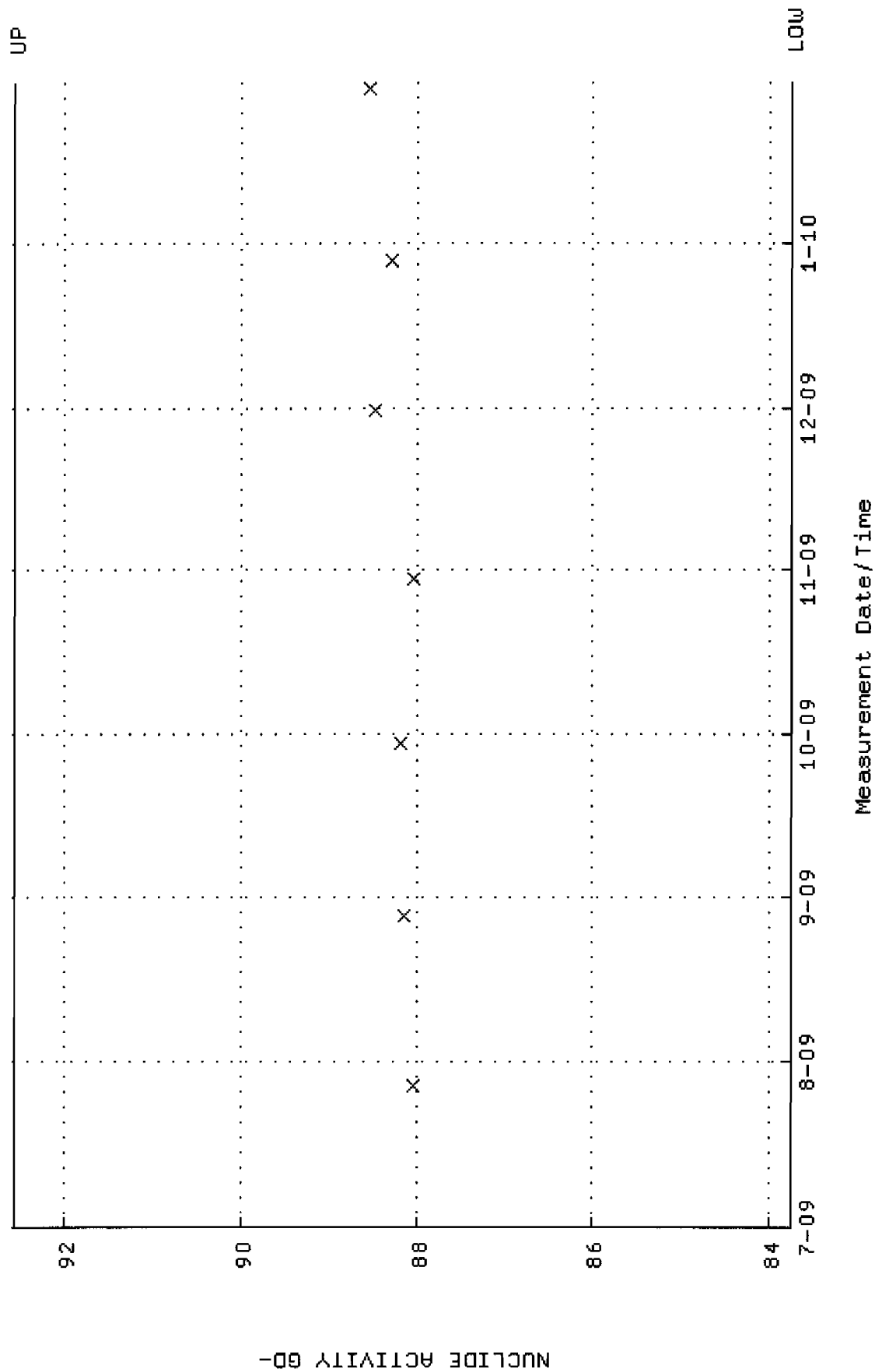
QA filename : DKA100:[ENV_ALPHA.QA.B]B241.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:05:48 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



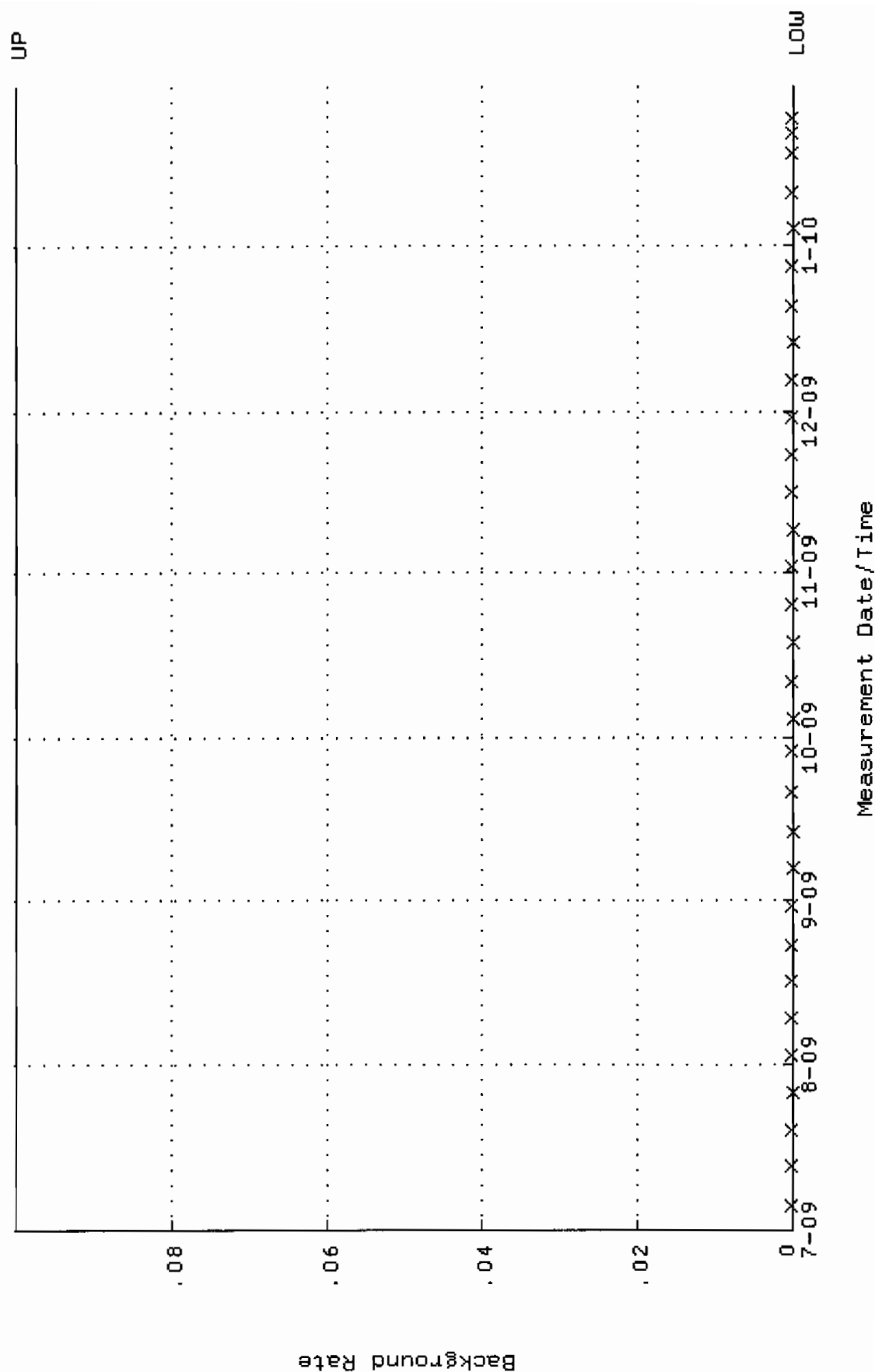
QA filename : DKA100:[ENV_ALPHA.QA.W]W244.QAF;1
 Parameter Name : AVRGEFF (Average Efficiency)
 Start/End Dates : 27-JUL-2009 11:50:57 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.361192 through 0.381192



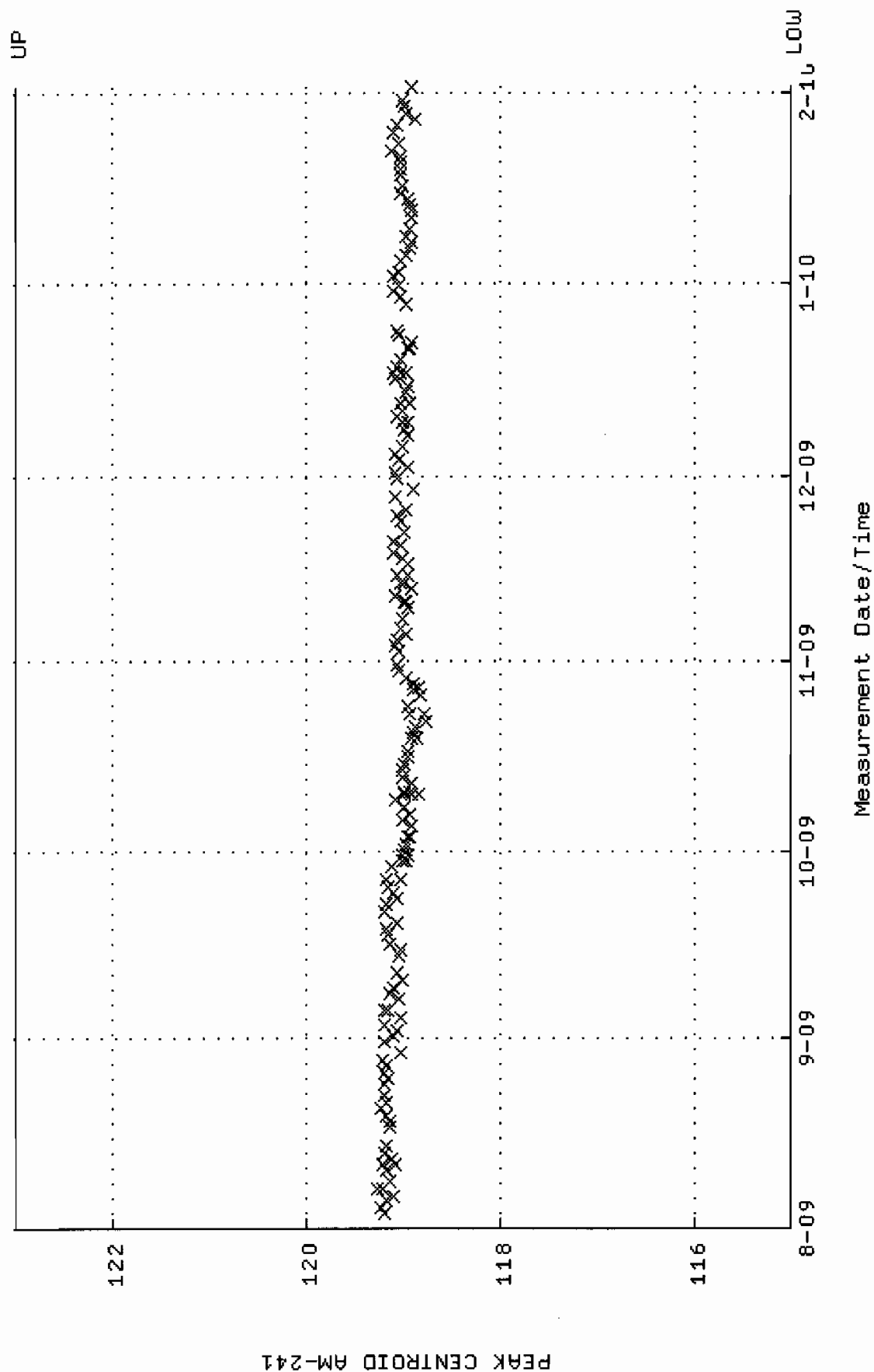
QA filename : DKA100:[ENV-ALPHA.QA.W]W244.QAF;1
 Parameter Name : NLAIVITY-GD148 (NUCLIDE ACTIVITY GD-148)
 Start/End Dates : 27-JUL-2009 11:50:57 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 83.7473 through 92.5629



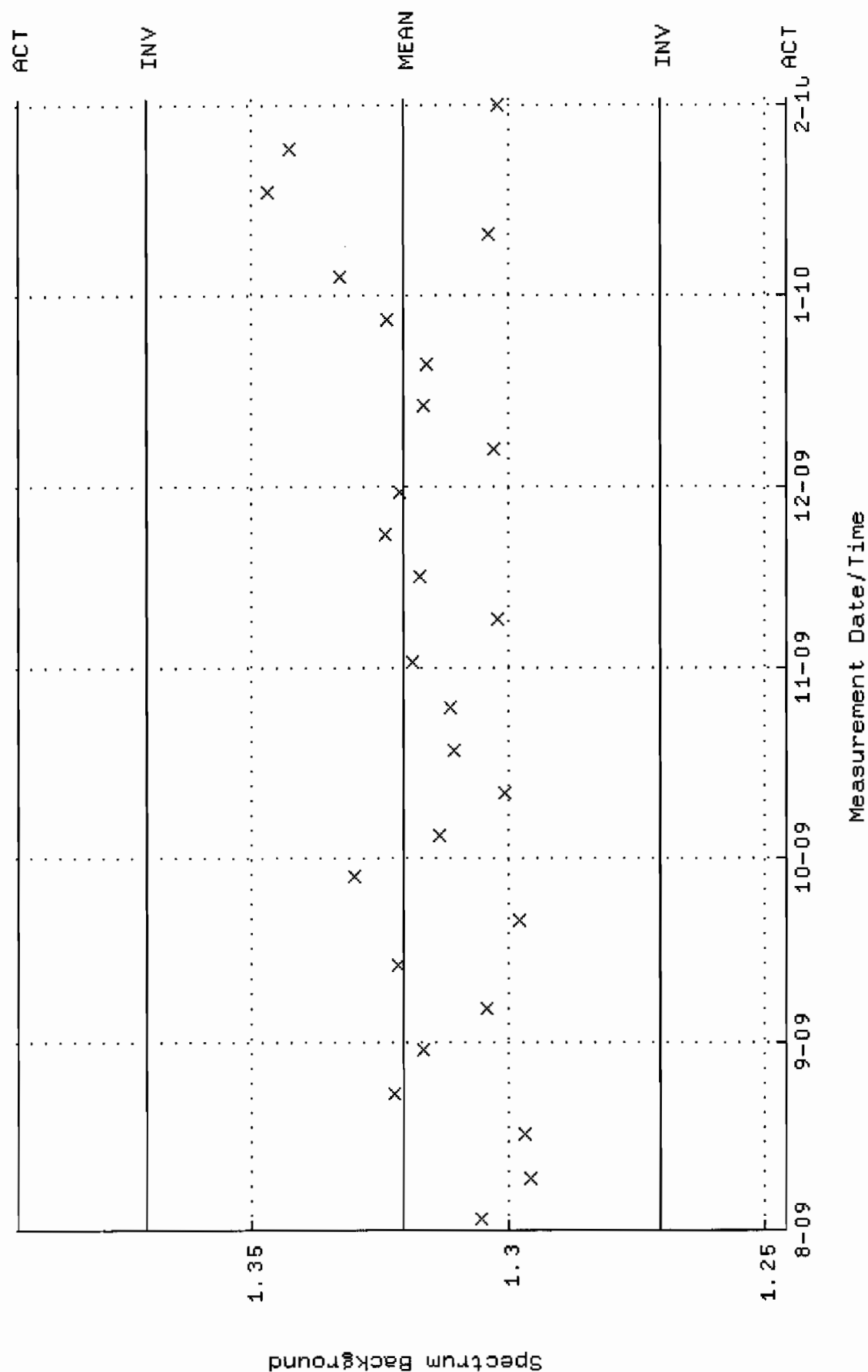
QA filename : DKA100:[ENV_ALPHA.QA.B]B244.QAF;1
 Parameter Name : BACKRATE (Background Rate)
 Start/End Dates : 5-JUL-2009 15:06:02 through 30-JAN-2010 12:00:00
 Lower/Upper Lmts: 0.000000E+00 through 0.100000



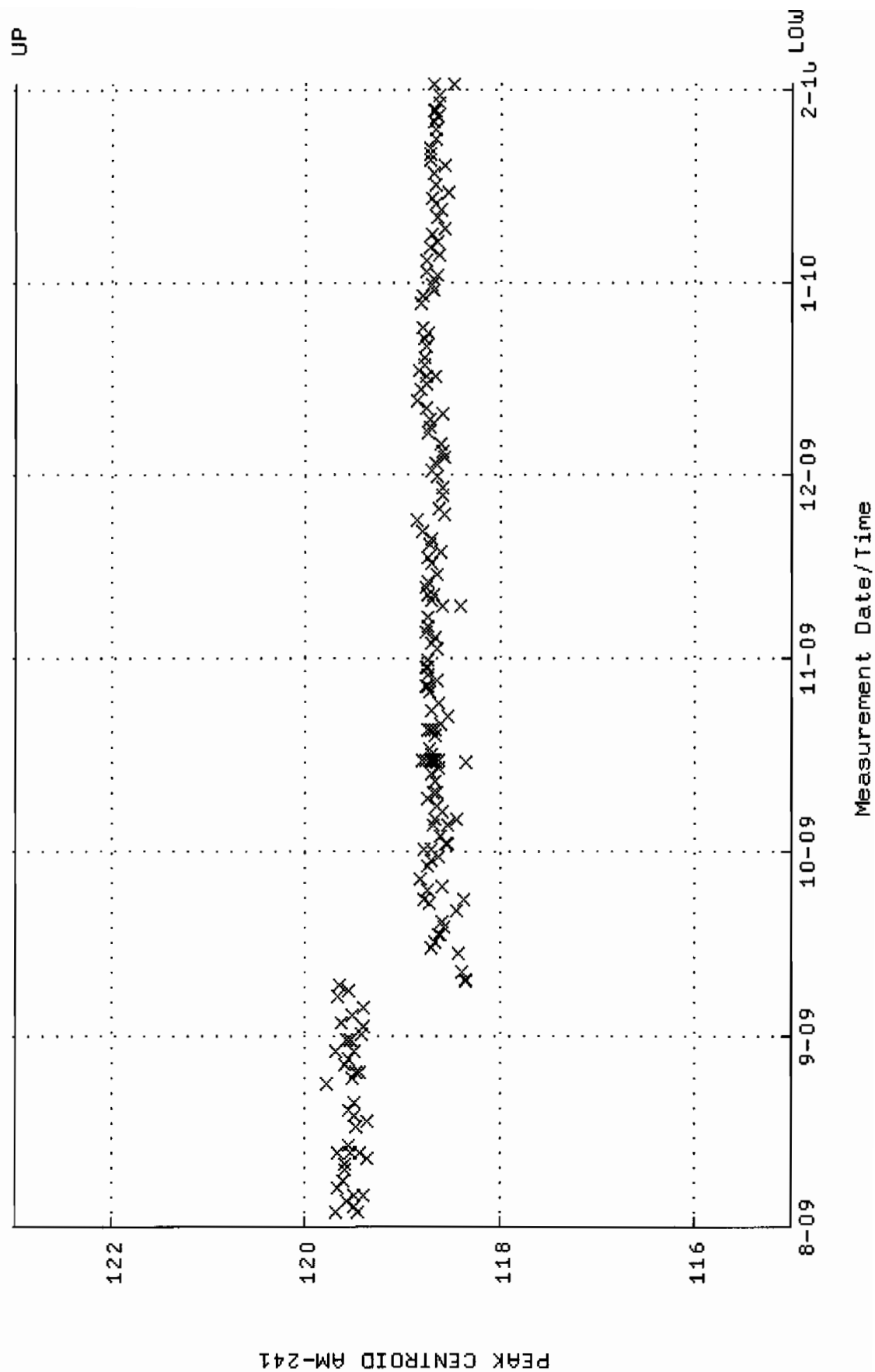
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM04_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:11:46 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



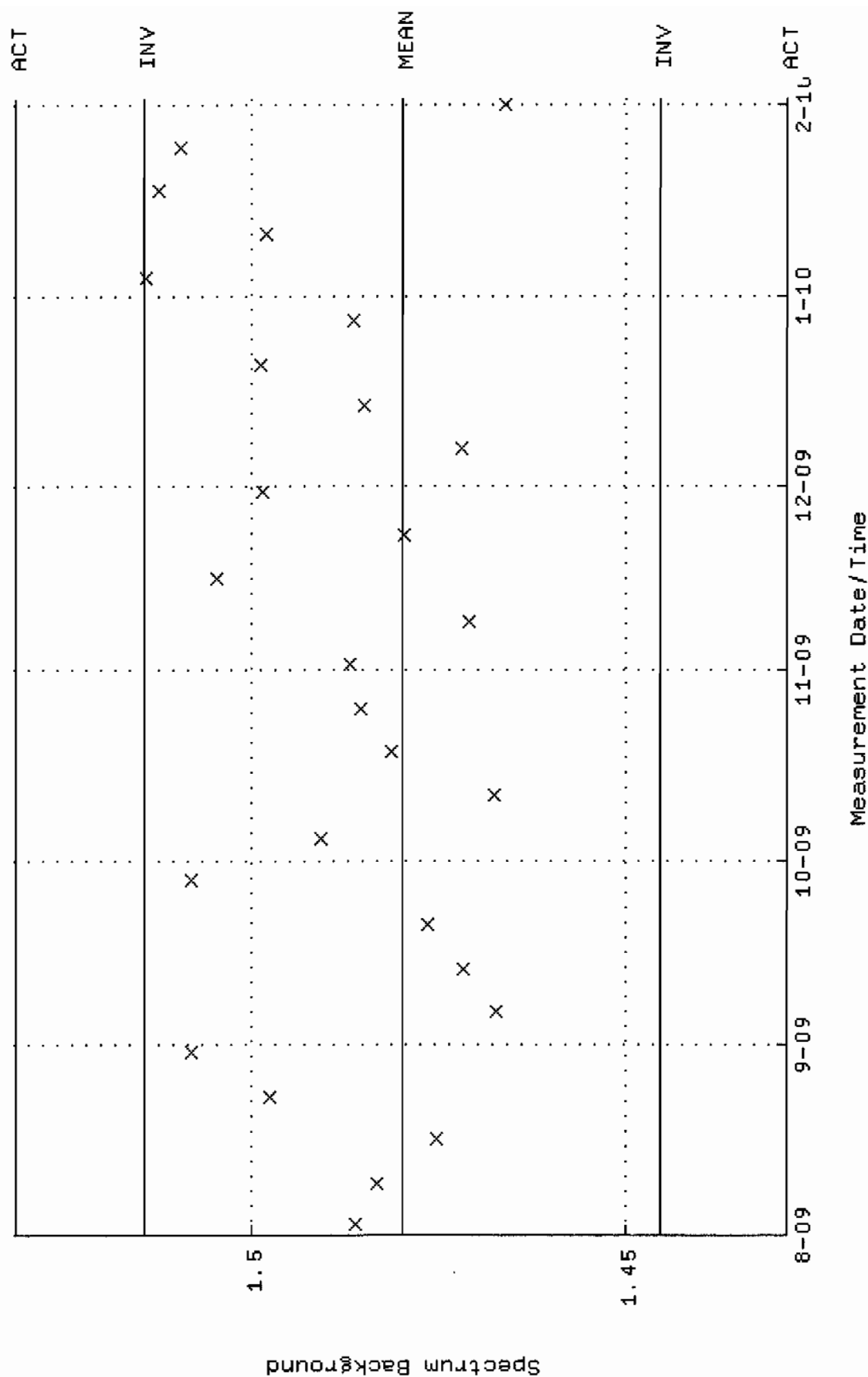
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM04.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:22:48 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.32050 +- 2.495234E-02 (1.89 %)



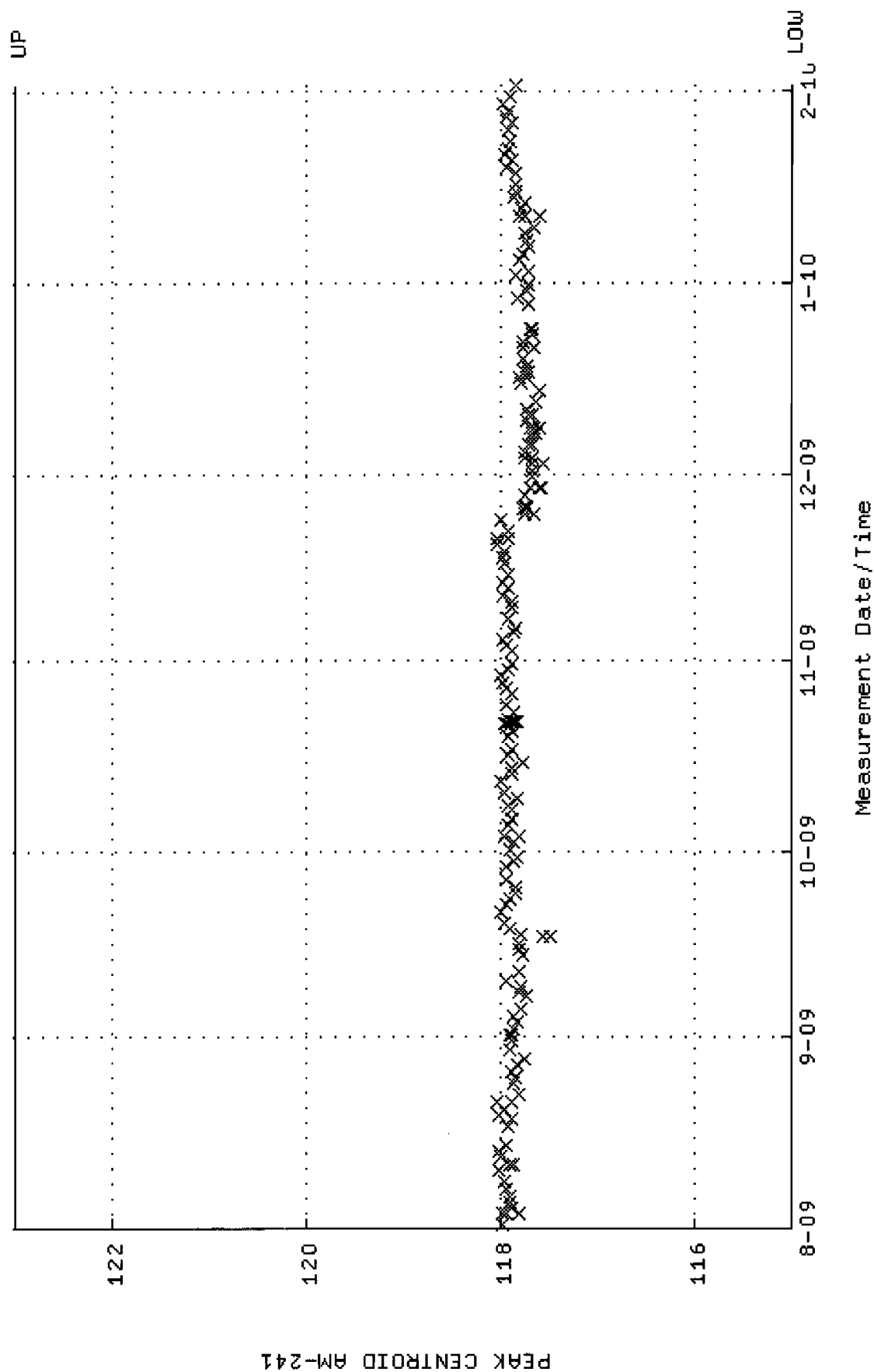
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM10_500MLMB.QAF;1
Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
Start/End Dates : 3-AUG-2009 09:36:50 through 1-FEB-2010 12:00:00
Lower/Upper Lmts: 115.000 through 123.000



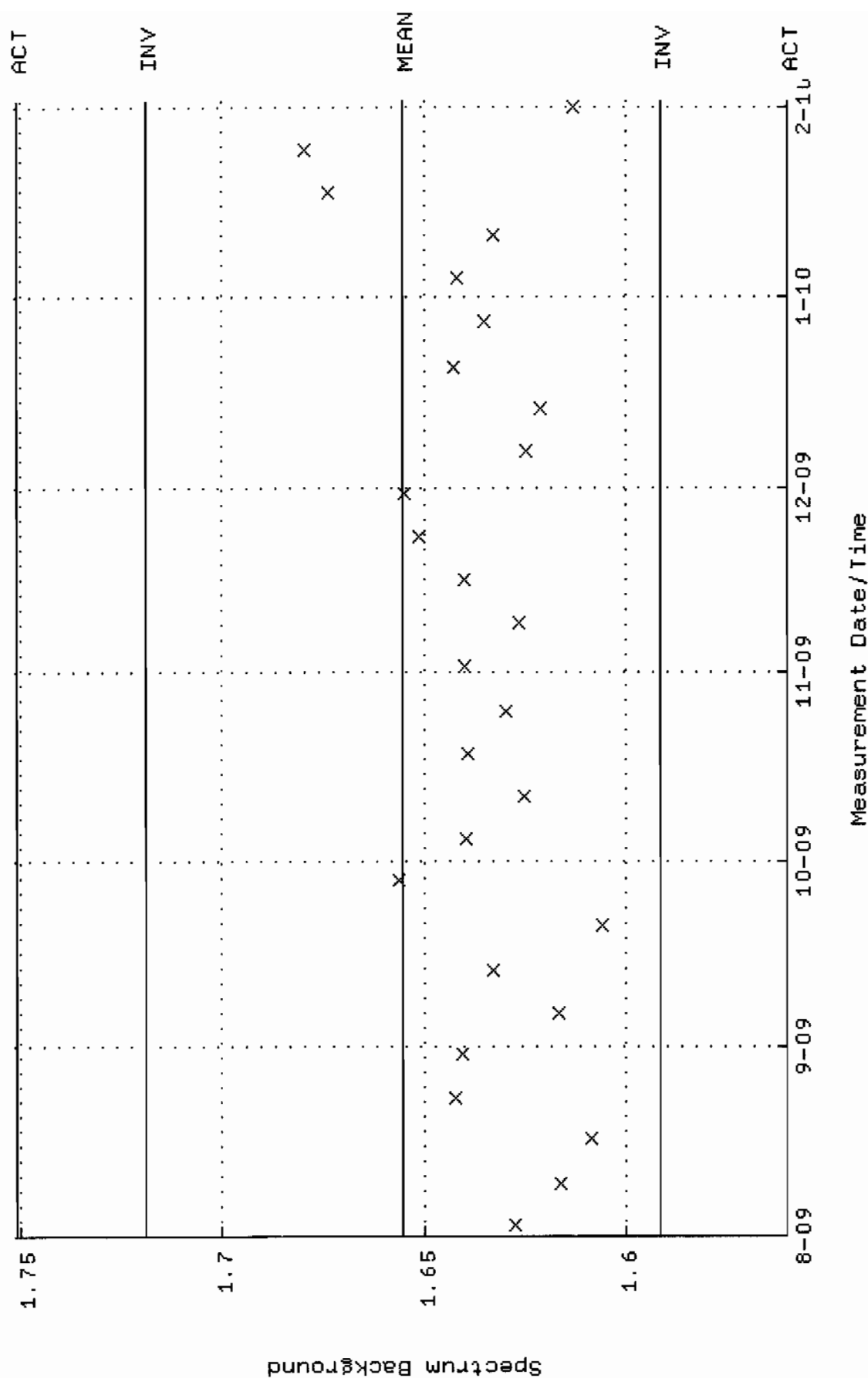
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM10.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:43 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.48000 +- 1.723892E-02 (1.16 %)



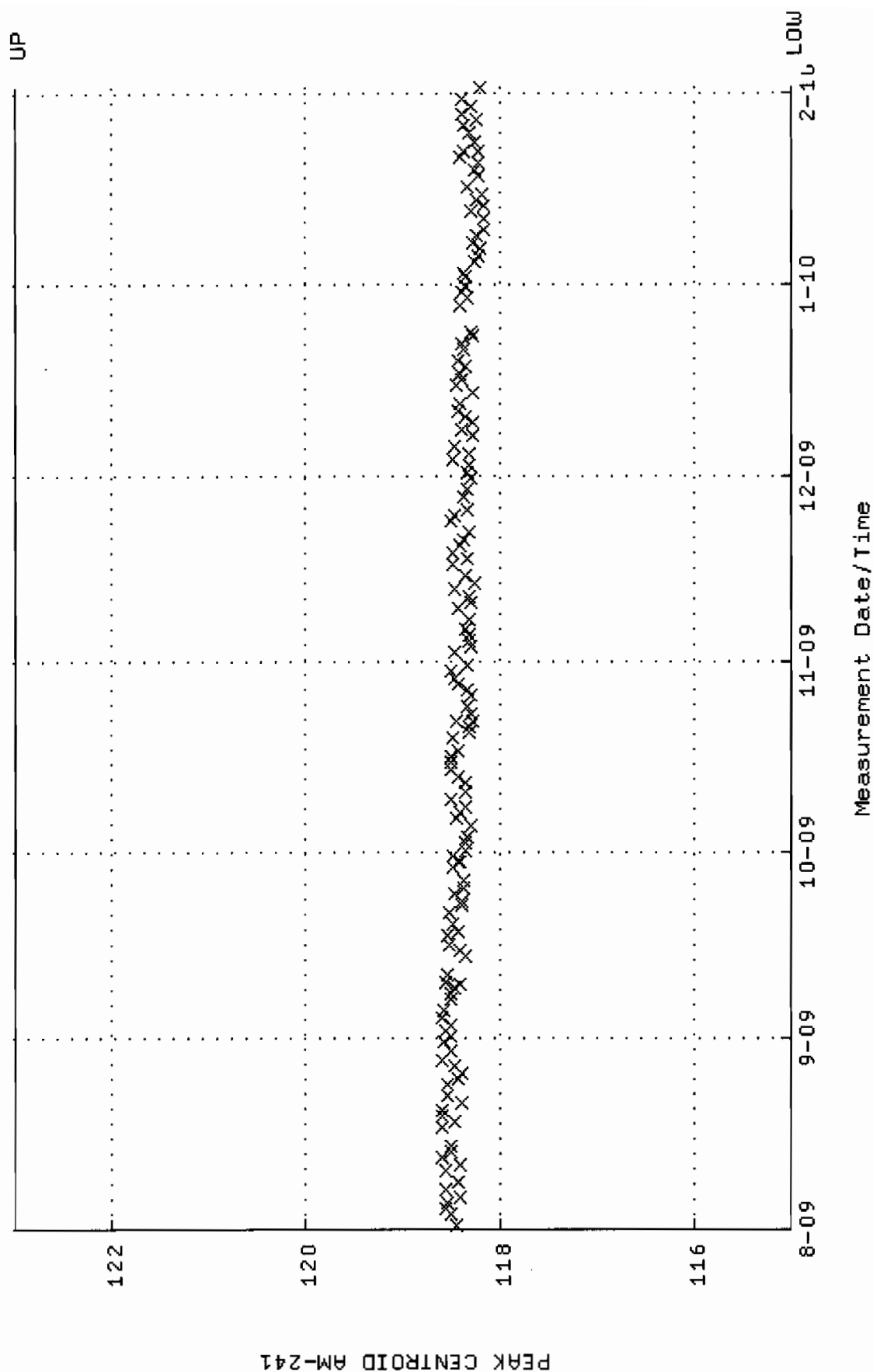
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM11_JAR.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-AUG-2009 13:27:21 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



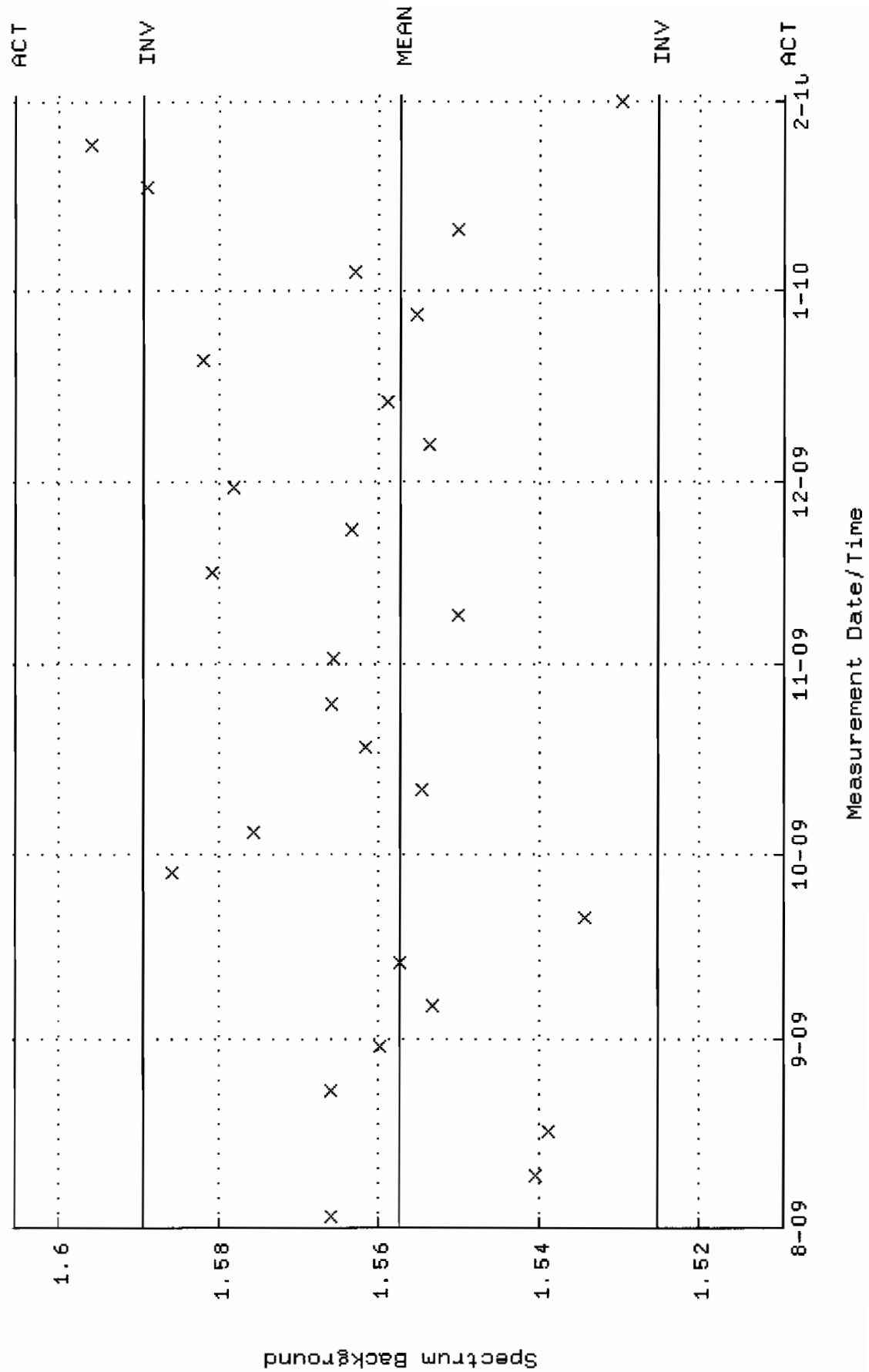
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM11.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:23:55 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.65552 +- 3.175806E-02 (1.92 %)



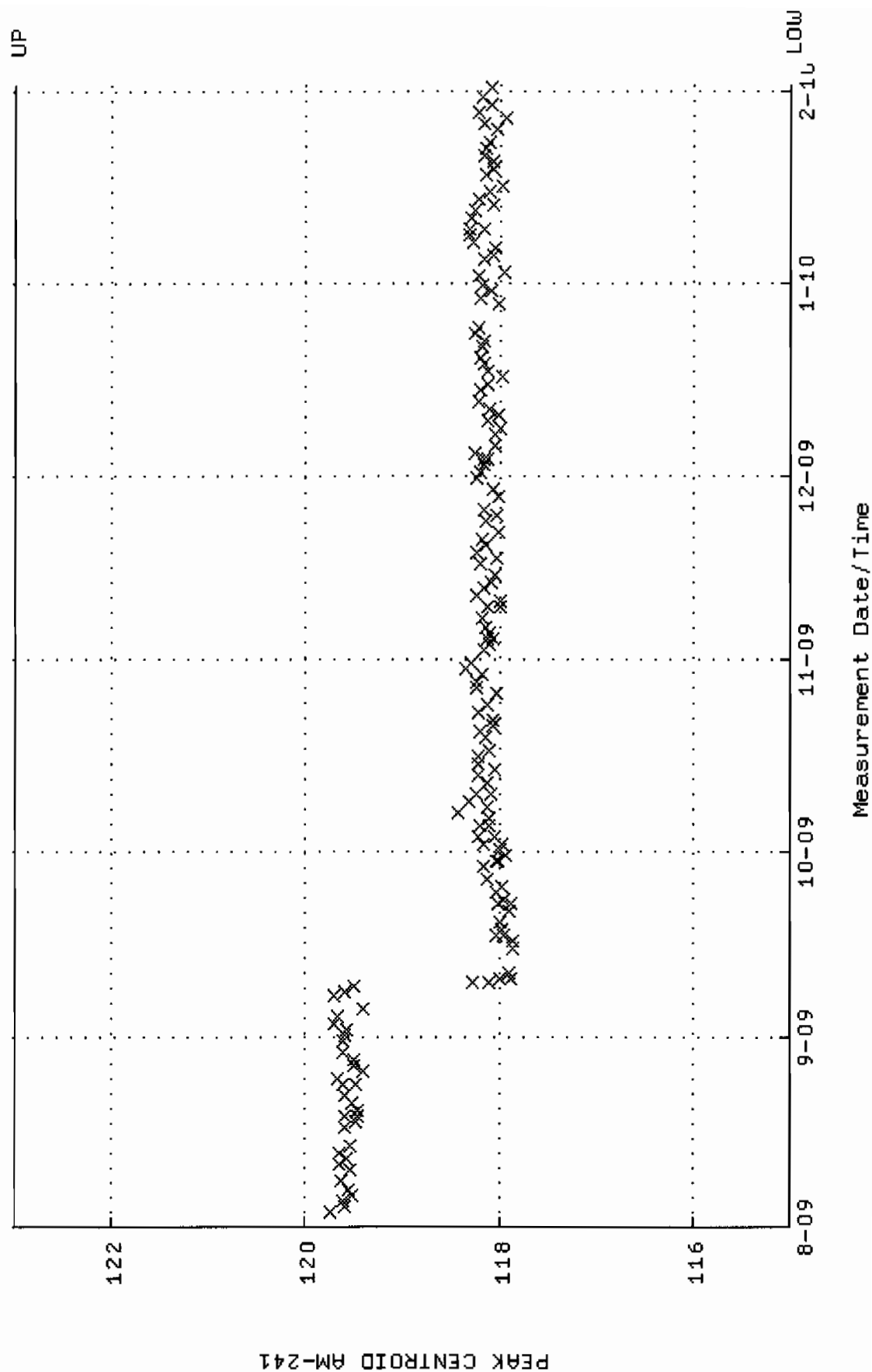
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM12_CAN.QAF;1
 Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)
 Start/End Dates : 1-AUG-2009 13:58:23 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



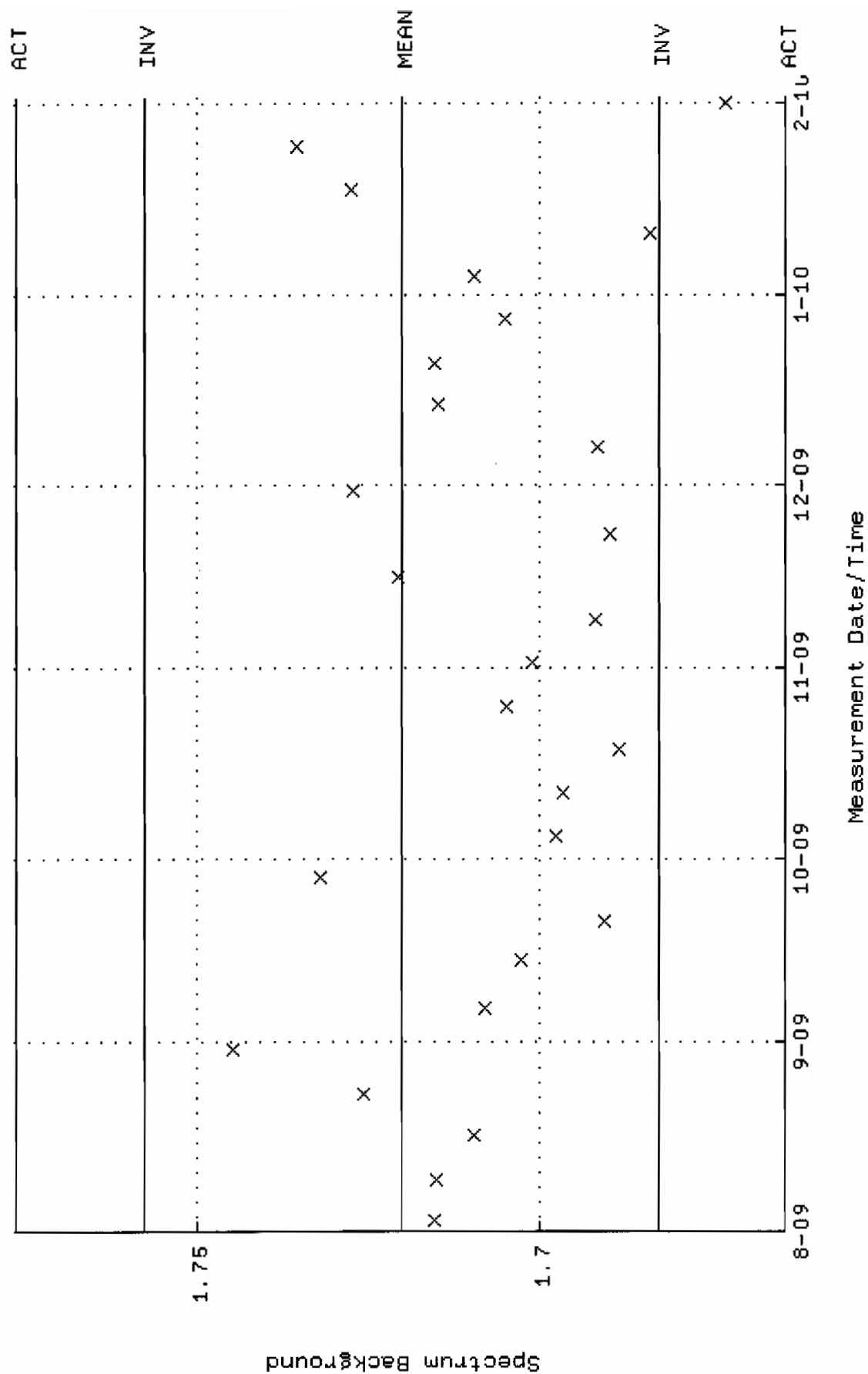
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM12.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:08 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.55746 +- 1.601675E-02 (1.03 %)



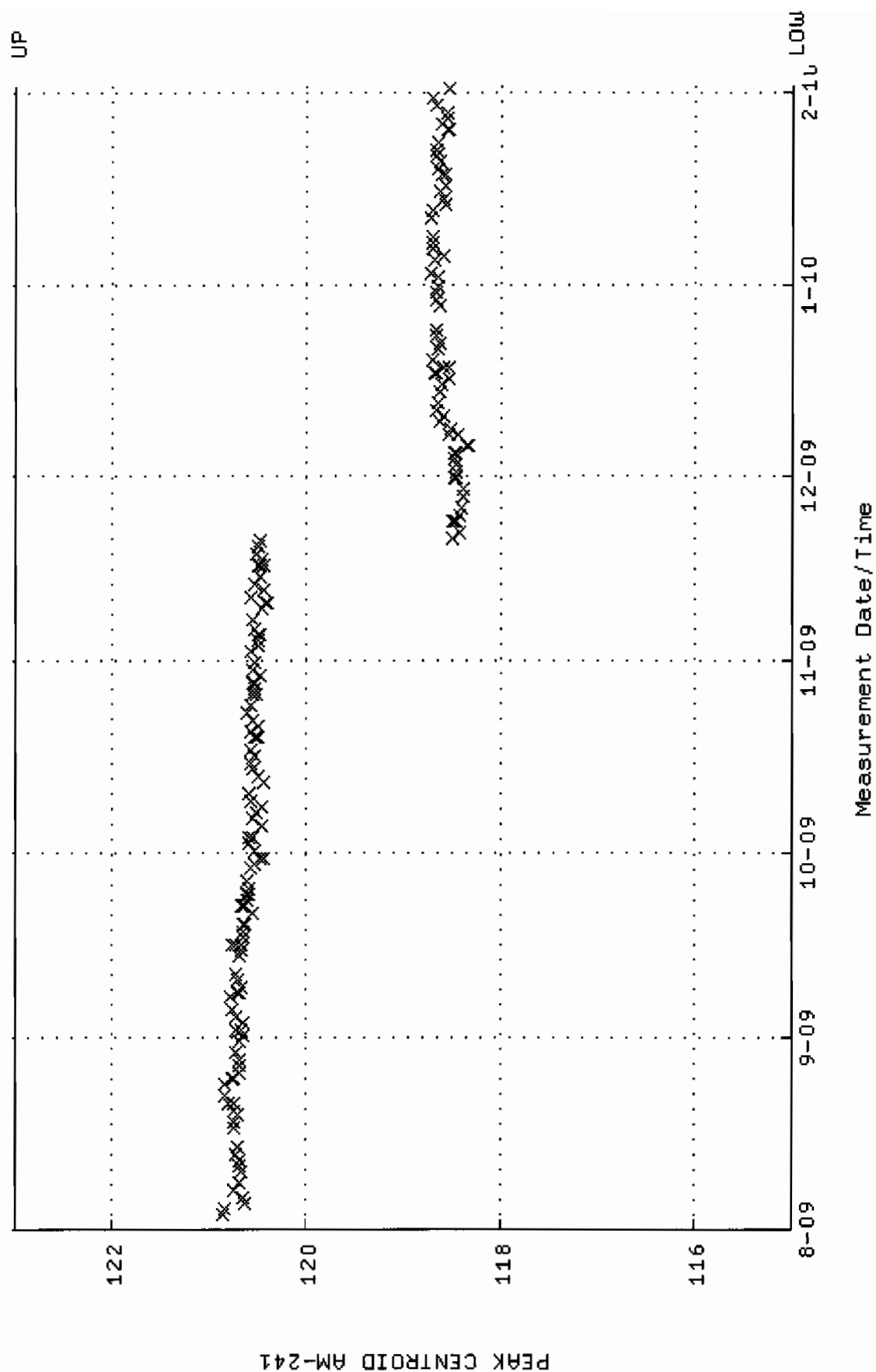
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM15_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:53:43 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



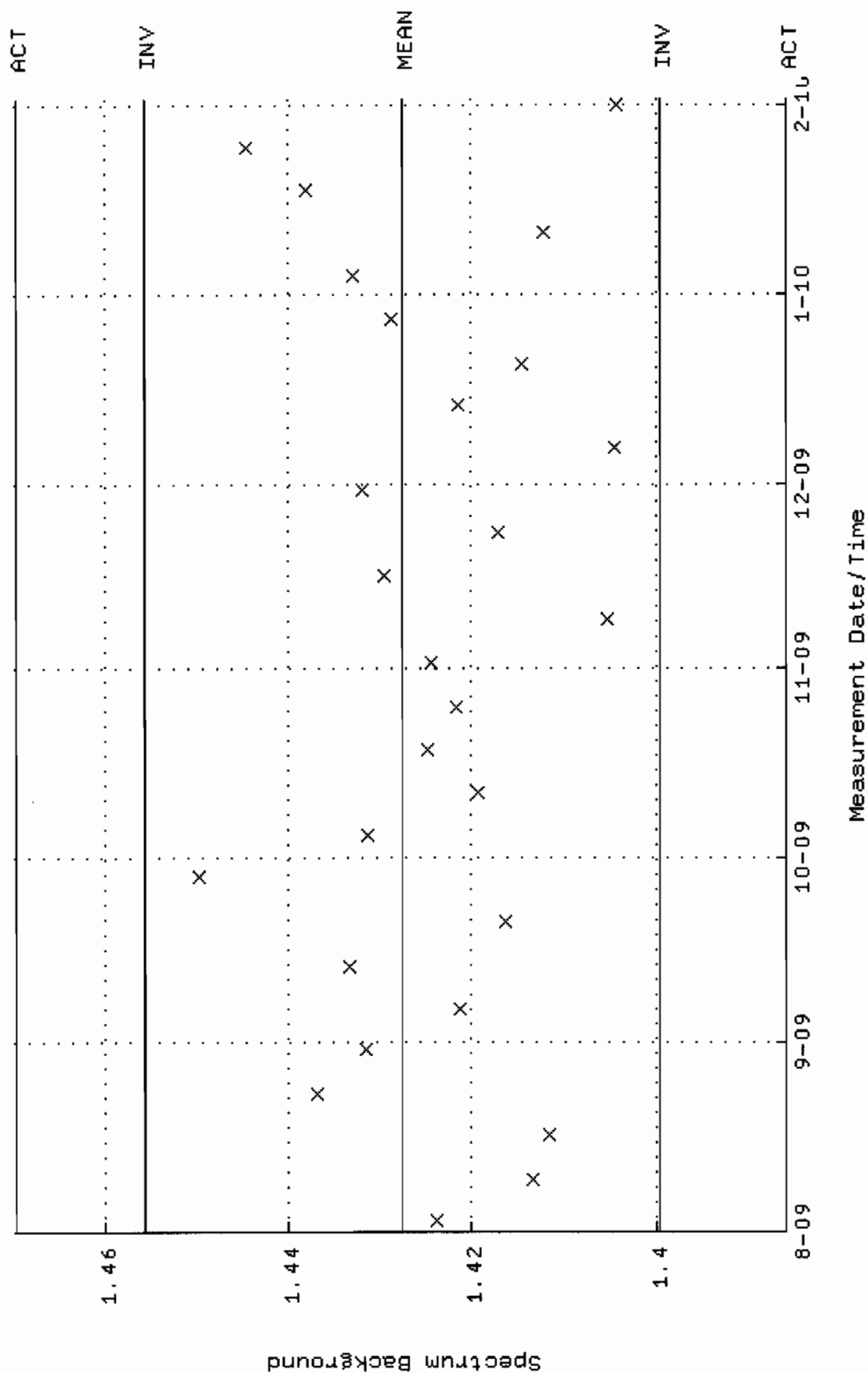
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM15.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:24:46 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.72024 +- 1.875820E-02 (1.09 %)



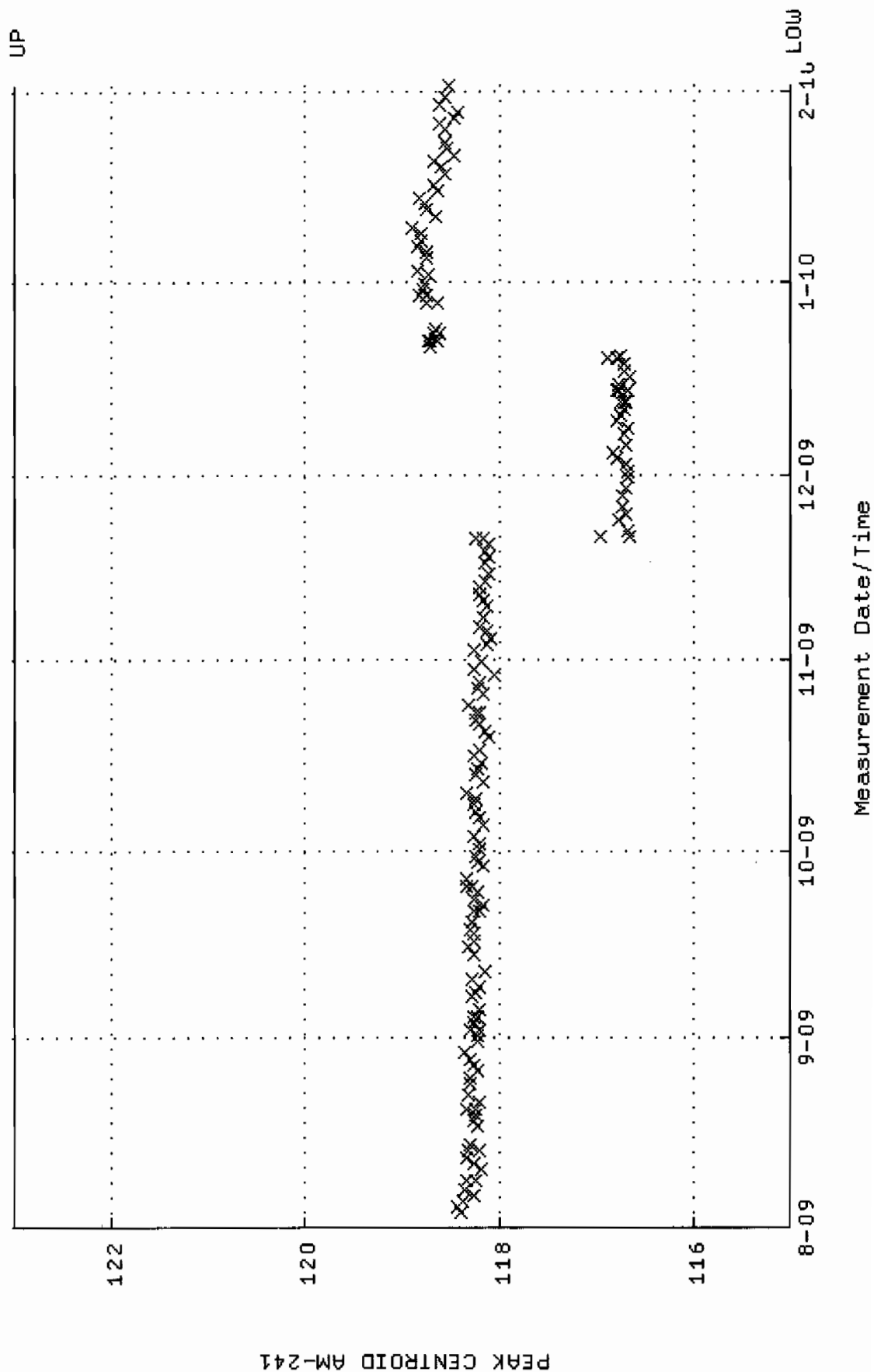
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM17_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:55:06 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



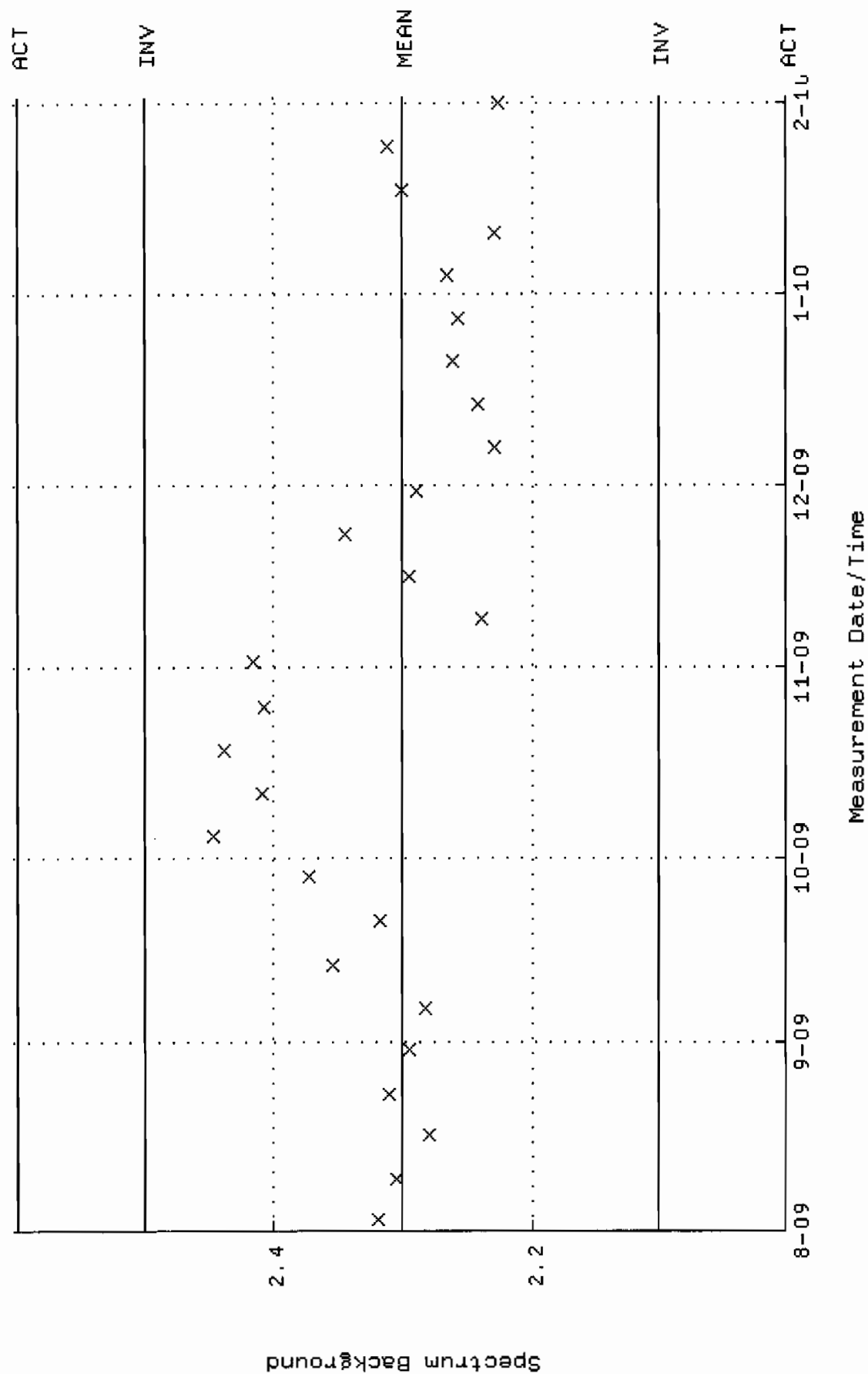
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM17.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:10 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.42766 +- 1.396974E-02 (0.98 %)



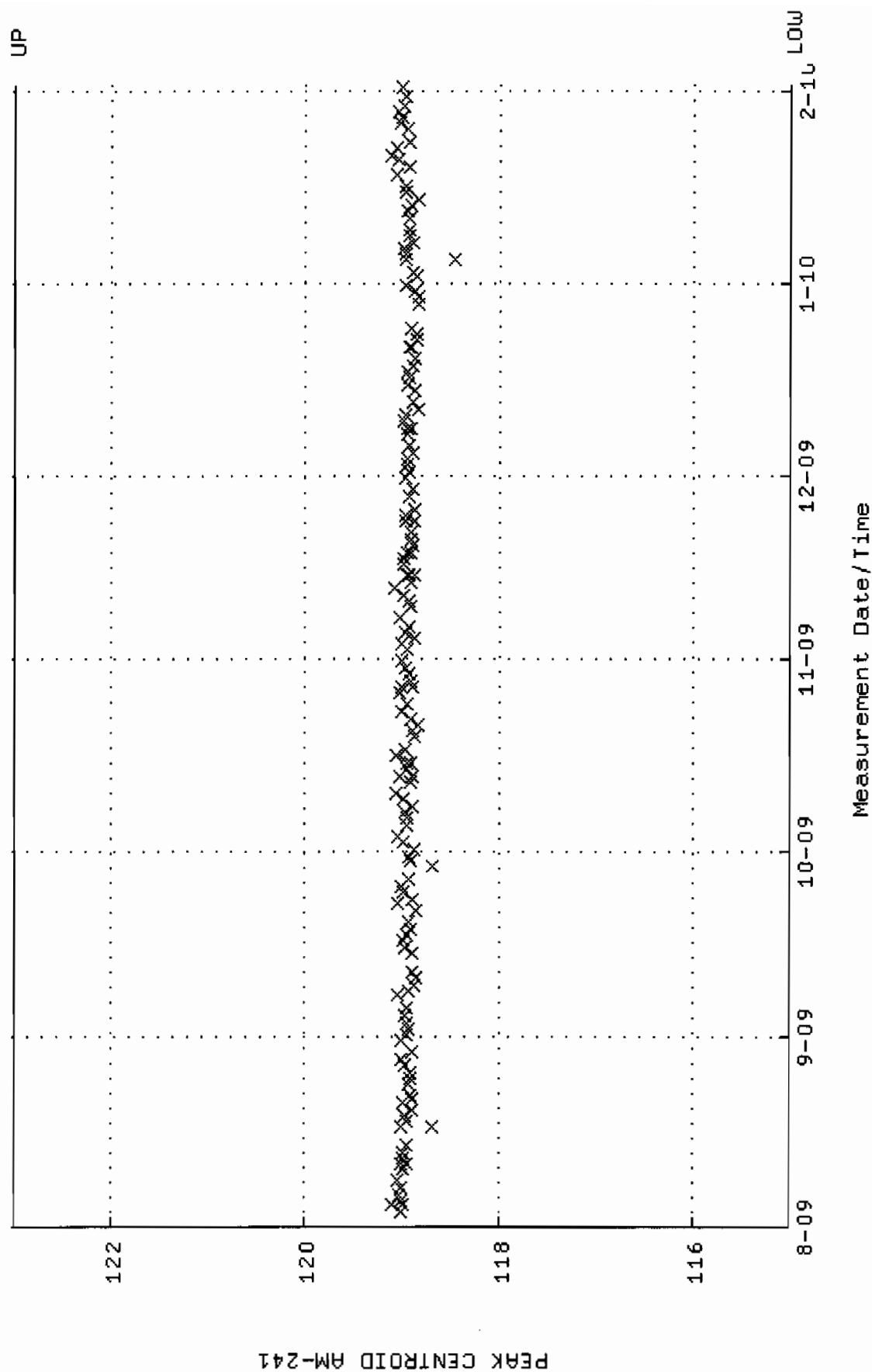
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM18_CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 10:02:47 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



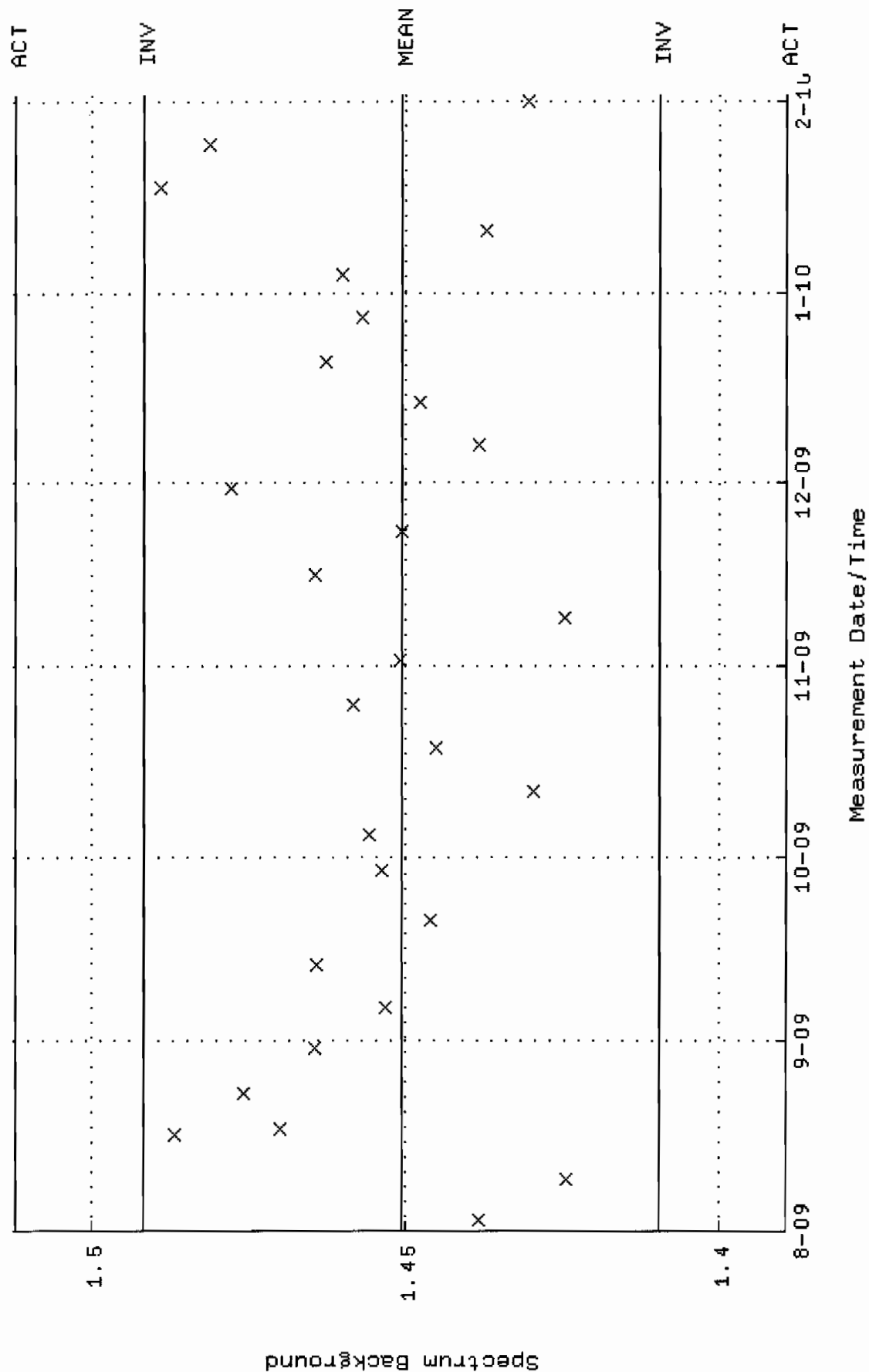
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM18.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:23 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 2.30164 +- 9.930626E-02 (4.31 %)



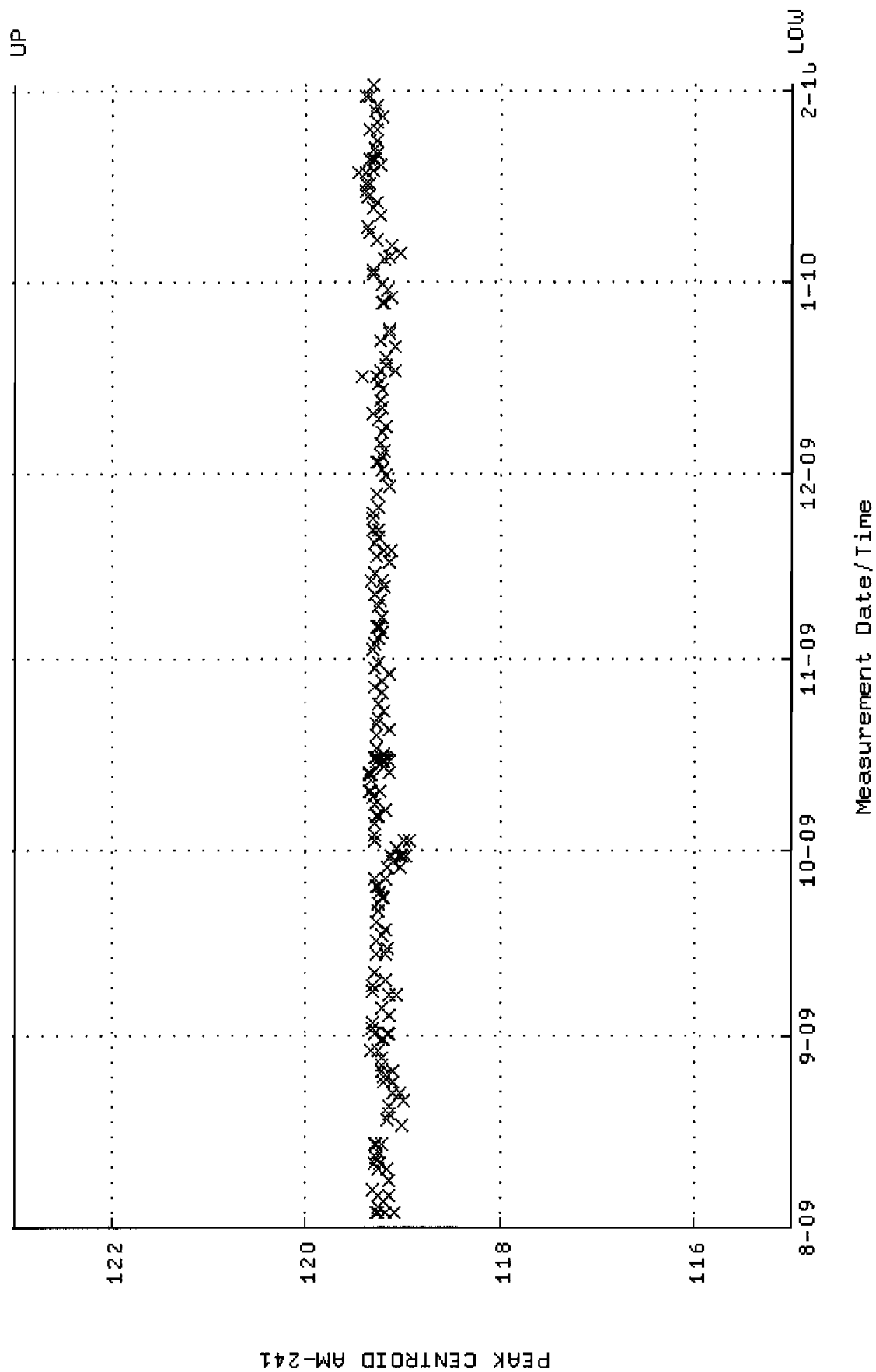
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM19-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 10:08:04 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



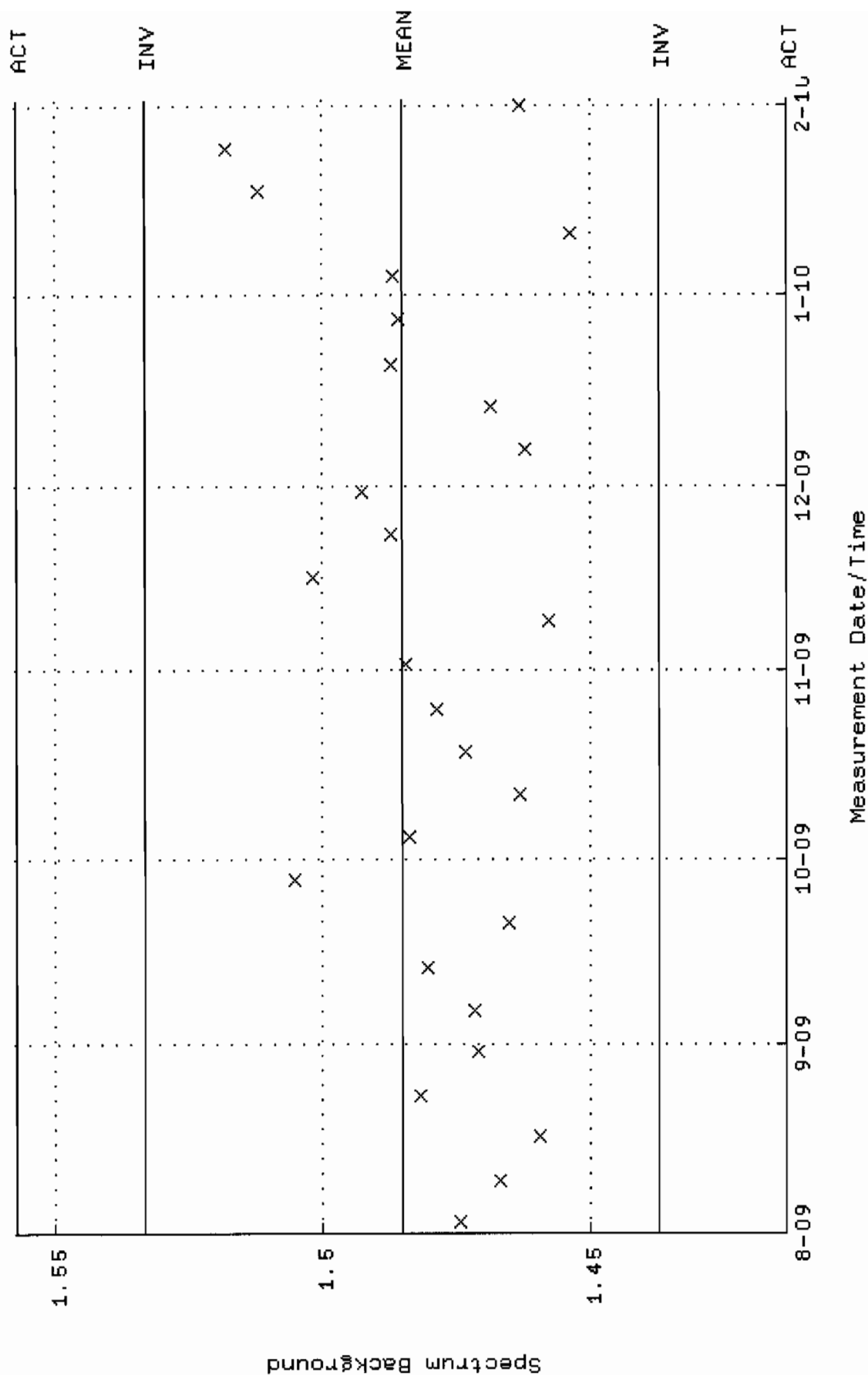
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM19.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:41 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.45067 +- 2.046038E-02 (1.41 %)



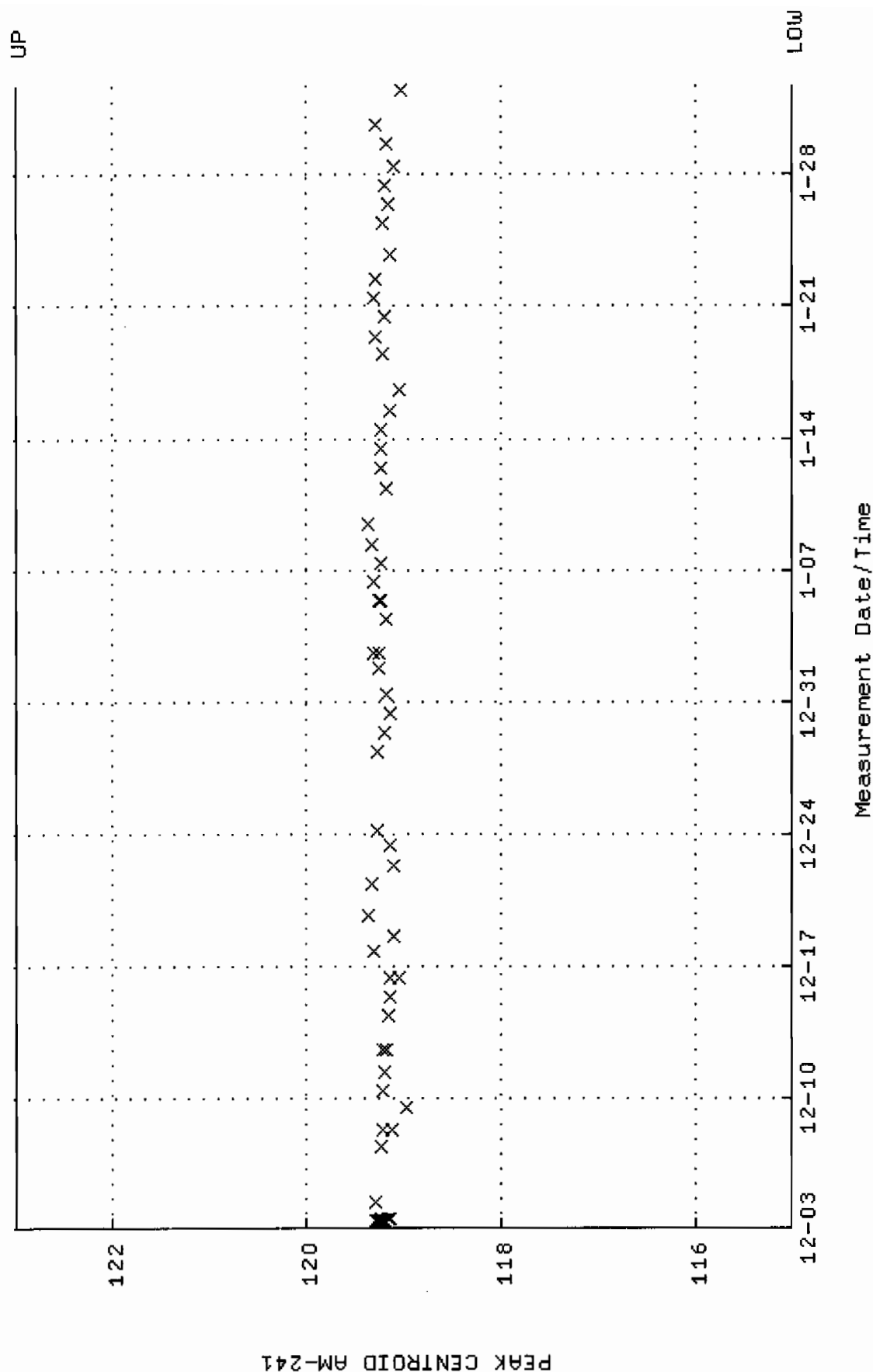
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM20_500MLMB.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:19:21 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



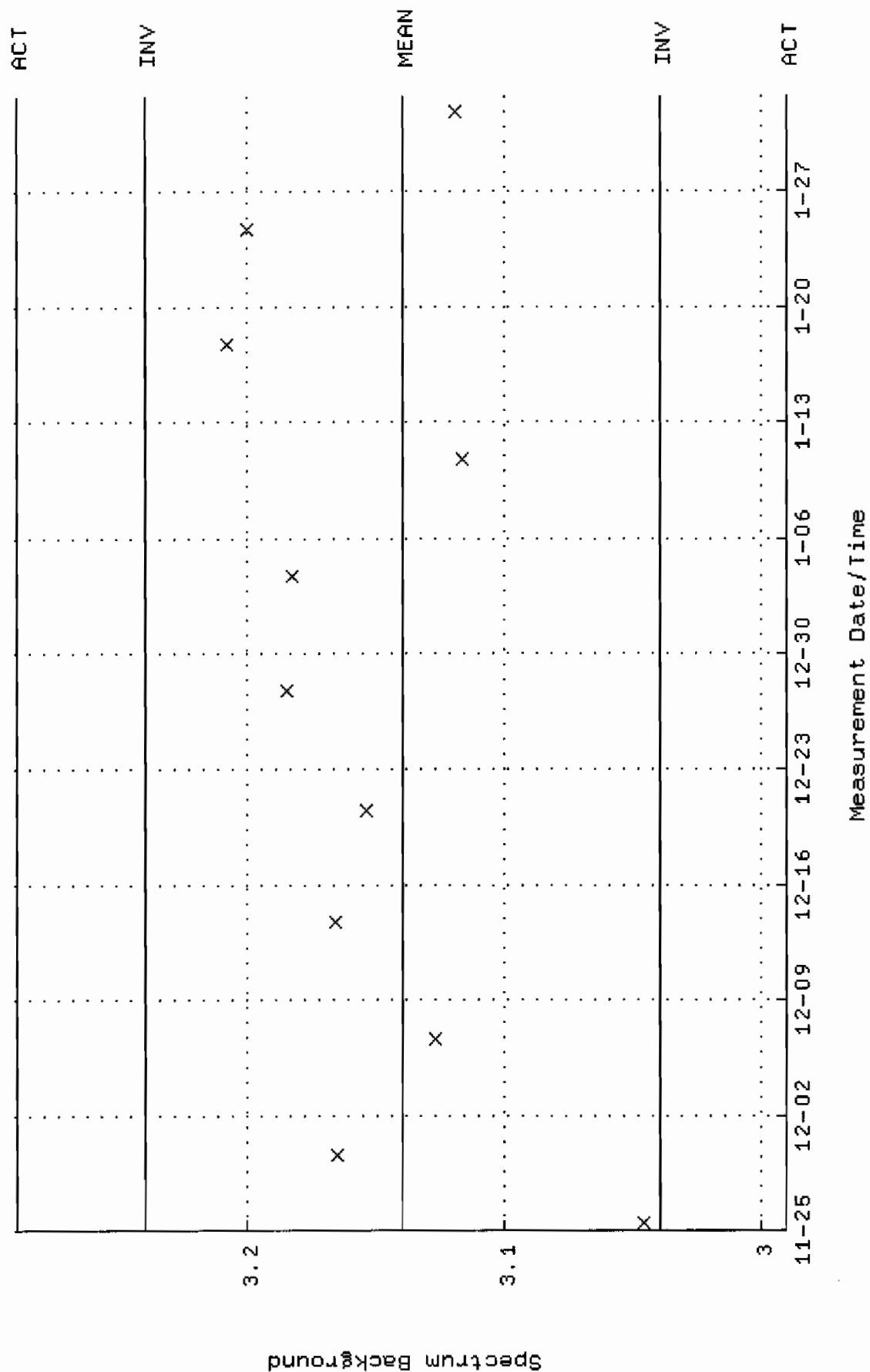
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC-GAM20.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 2-AUG-2009 16:25:55 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.48527 +- 2.388665E-02 (1.61 %)



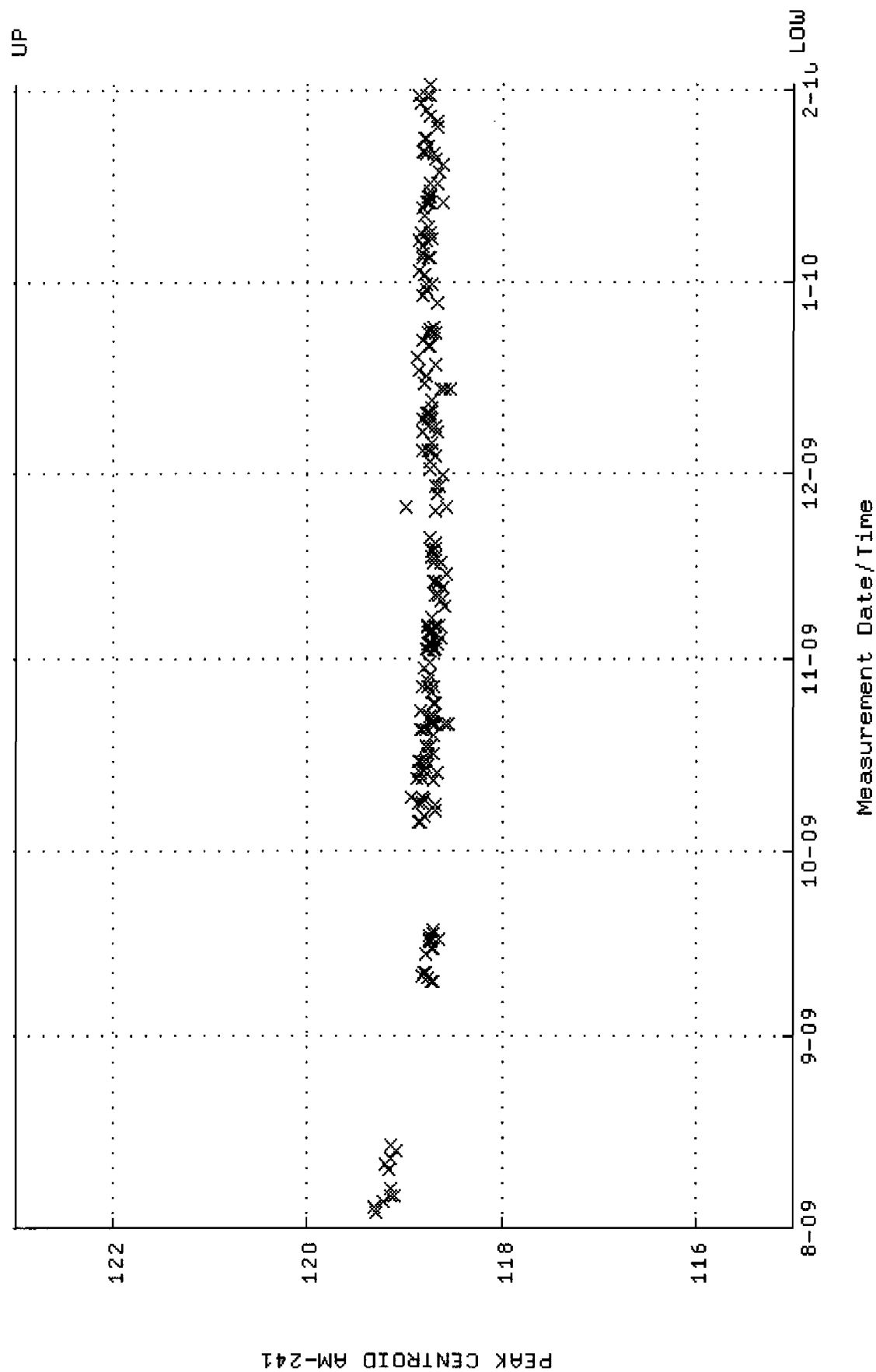
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM22_CAN.QAF;1
 Parameter Name : PSCENTRO-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-DEC-2009 09:11:39 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000



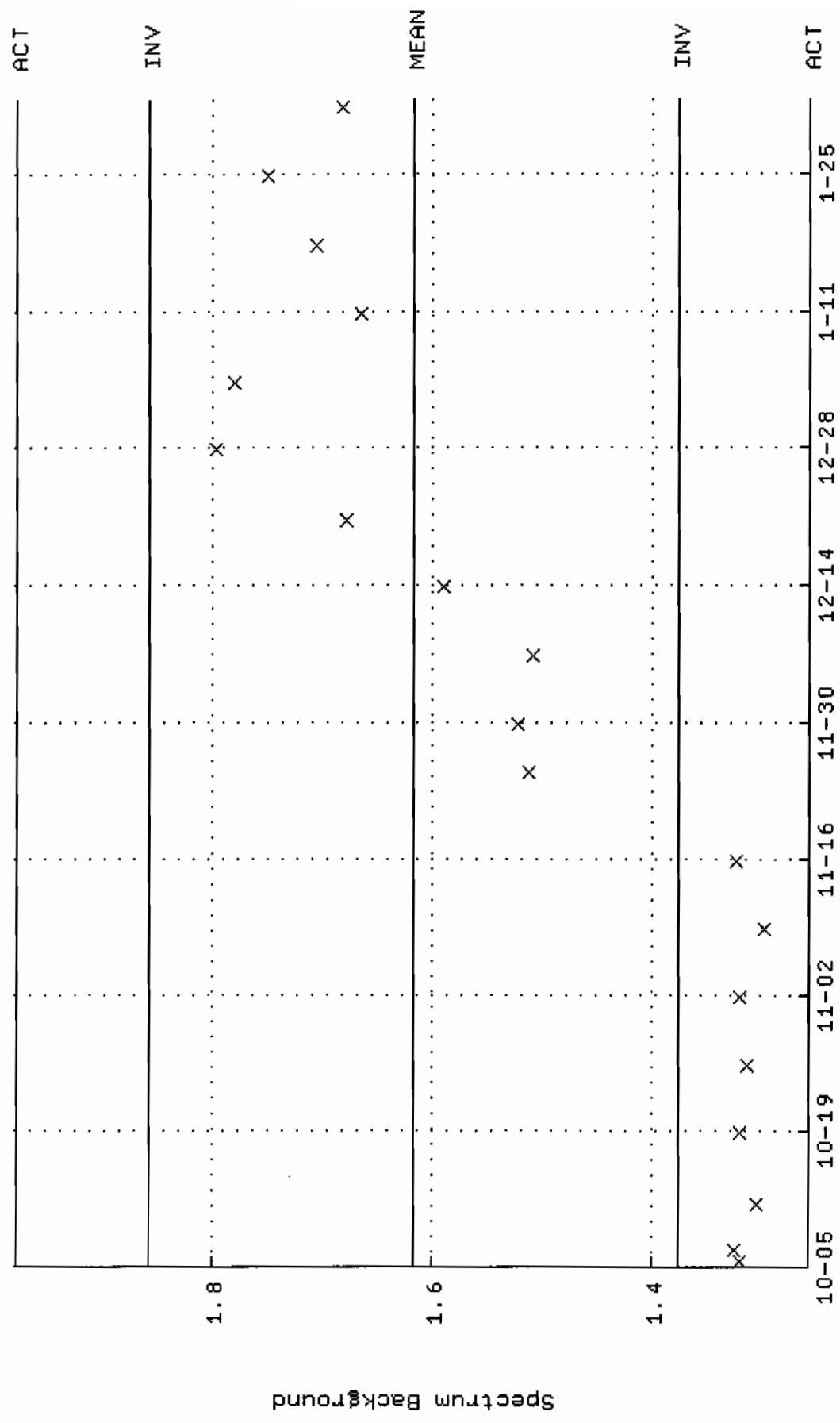
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM22.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 25-NOV-2009 10:28:37 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 3.13961 +- 4.985064E-02 (1.59 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC-GAM23-CAN.QAF;1
 Parameter Name : PSCENTRD-241 (PEAK CENTROID AM-241)
 Start/End Dates : 3-AUG-2009 09:16:07 through 1-FEB-2010 12:00:00
 Lower/Upper Lmts: 115.000 through 123.000

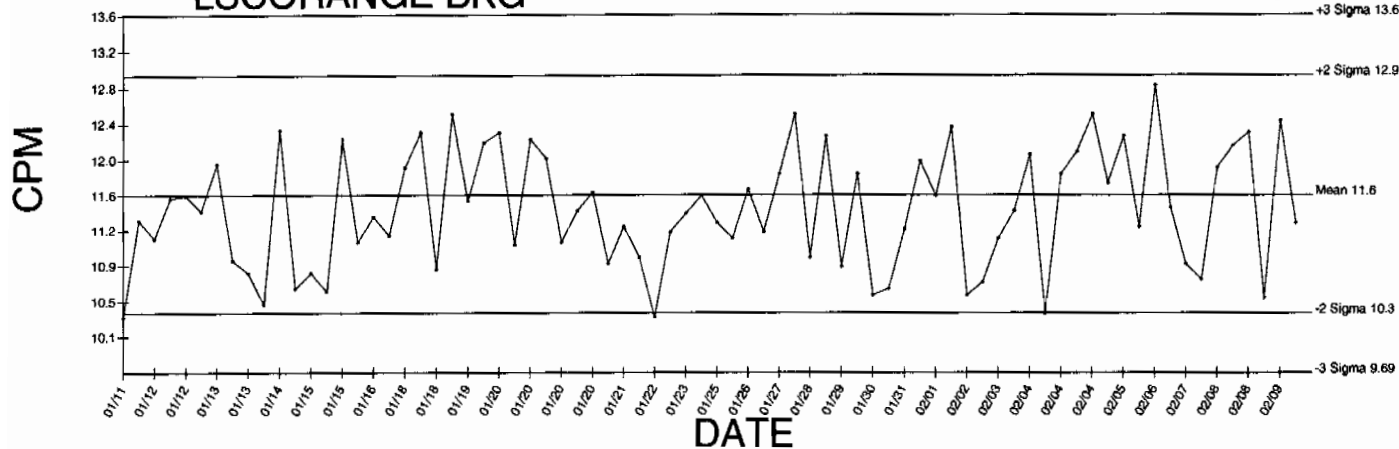


QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM23.QAF;1
 Parameter Name : BACKRATE (Spectrum Background Rate)
 Start/End Dates : 5-OCT-2009 15:13:53 through 1-FEB-2010 12:00:00
 Mean +- Std Dev : 1.61827 +- 0.119991 (7.41 %)

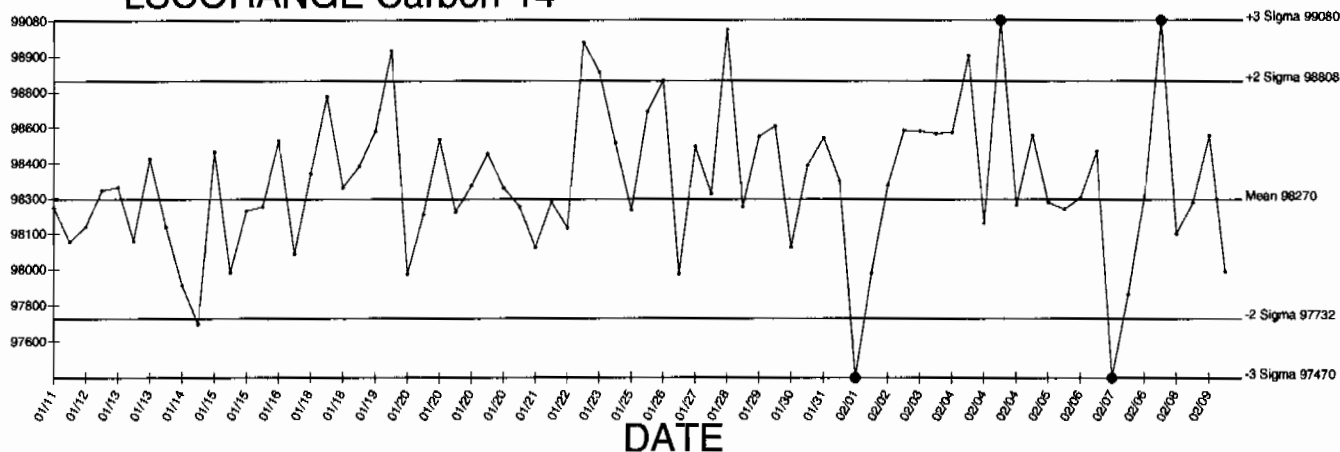


LSCORANGE BKG

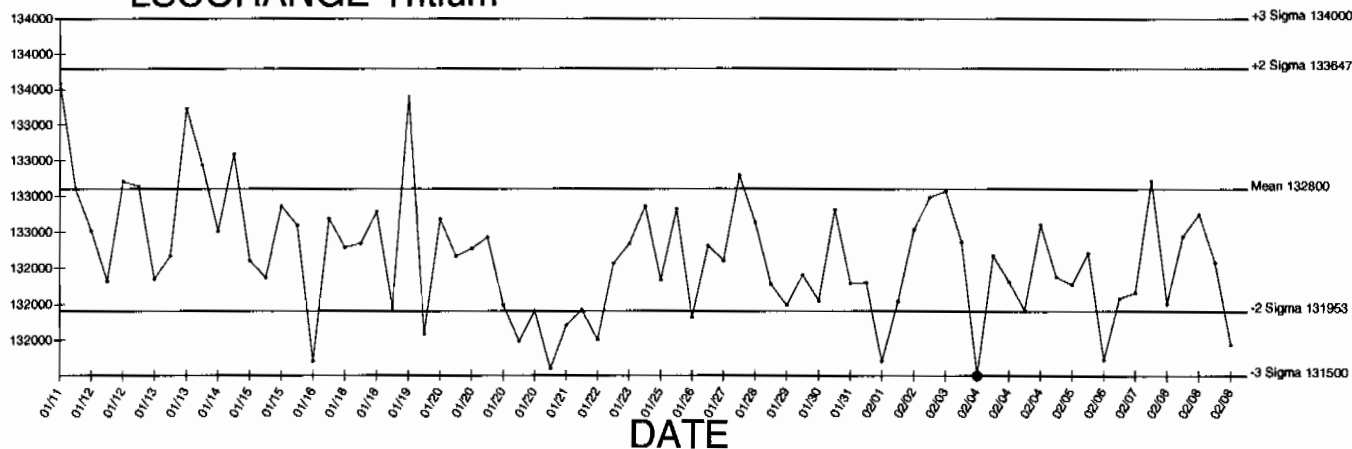
Generated 02/09/2010



LSCORANGE Carbon-14



LSCORANGE 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

2(-5-023-061a

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)	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
Mean Value (Counting) =	2709.776428		104.954429	Pass		2709.776428
Stdev =	31.53347278		0.01163693	Rule 3 (Pass/Fail)		

Certificate Value = 2581.86 dpm/mL
 Lower Limit = 2646.703482 dpm/mL
 Upper Limit = 2772.843373 dpm/mL
 Rule 1 Pass/Fail = Fail *exception taken due to full recovery of standard
 Two sigma = 63.0694556 dpm/mL
 10 % of Mean = 270.9776428 dpm/mL
 Rule 2 (Pass/Fail) = Pass

Verification Rules

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

The analyst prepared three standard verification sources for H-3 source 0134-K by transferring 0.1 mL portions of the standard into glass liquid scintillation vials. Ten mL of Ecoscint Ultra liquid scintillation cocktail was added to each vial and the vials were shaken to mix. A Blank vial was prepared in a similar fashion using 1 mL of DI water and 10 mL of Ecoscint Ultra liquid scintillation cocktail. The standard verification vials and Background source were dark adapted for two hours and counted on Silver for H-3 source standard verification. The H-3 efficiency calibration which was used for verification calculations was performed on 4/9/09 using 0020-A (H-3). Calibration data is recorded in this logbook under H-3 0020. Each verification source calculation was performed as follows:

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

where:

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

Reference RAD SOP M-001

Heather Johnson 4/9/09
 Amanda J. Lehn 4/9/09

1032

CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

74047-278

5 mL Liquid in Flame Sealed Vial

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solution sources. The Am-241 was calibrated by 4 pi alpha liquid scintillation counting. All other radionuclides were calibrated using a germanium gamma spectrometer system. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma-ray emission rates for the most intense gamma-ray lines are given. Analytisc maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Rev. 1, February, 1979.

Calibration date: October 1, 2006 12:00 EST

ISOTOPE	GAMMA-RAY ENERGY	HALF-LIFE	GAMMA-RAYS PER SECOND	TOTAL UNCERTAINTY %
Am-241	59.5	432 y	3339	3.0
Cd-109	88	462.6 d	4815	3.3
Co-57	122	271.79 d	2409	3.0
Ce-139	166	137.6 d	3408	2.8
Hg-203	279	46.61 d	7522	2.7
Sn-113	392	115.1 d	4728	2.6
Cs-137	662	30.07 y	2973	3.0
Y-88	898	106.6 d	11600	2.6
Co-60	1173	5.2714 y	5780	2.7
Co-60	1332	5.2714 y	5783	2.6
Y-88	1836	106.6 d	12260	2.6

5.31725 grams 4M HCl solution.

P O NUMBER 2734RD, Item 1

SOURCE PREPARED BY:

M. Dimitrova
M. Dimitrova, Radiochemist

Q A APPROVED:

W.M. [Signature] 11-28-06

This standard will expire one year after the calibration date.

rec'd 11/30/06
RC-S-045-073-0

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 - Ver. Jar. 3
Mixed Gamma N2	2510	pCi/L - Ver. Jar. 5
Mixed Gamma N3	2413	

Mean Value (Counting) = 2485.67
Sidev = 64.065
Rule 3 (Pass/Fail) 100.00 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

Cs-137

Isotope	Result	pCi/L - VER-JAR-1
Mixed Gamma N1	854.2	pCi/L - VER-JAR-3
Mixed Gamma N2	907.6	pCi/L - VER-JAR-2
Mixed Gamma N3	898.9	

Mean Value (Counting) =
Stdev =

886.90
28.651

95.01

Pass
Rule 3 (Pass/Fail)

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

933.44144
829.597644
944.202356
Pass
57.30235597
88.69000000
Pass

pCi/L
pCi/L
pCi/L

Verification Rules

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

Handwritten:
12/2/09
12/2/09
12/2/09

Verification for Mixed Gamma Standard 1032-A

M. Stamps
12/2/2009

Co-60 (1332.5)

Isotope	Result	pCi/L - VER-JAG-5
Mixed Gamma N1	1572	pCi/L - VER-JAG-2
Mixed Gamma N2	1495	pCi/L - VER-JAG-3
Mixed Gamma N3	1501	

Mean Value (Counting) = 1522.67 Pass
Stdev = 42.829 Rule 3 (Pass/Fail)

Certificate Value = 1545.8378
Lower Limit = 1437.008431
Upper Limit = 1608.324902
Rule 1 (Pass/Fail) Pass
Two sigma = 85.65823564
10 % of Mean = 152.26666667
Rule 2 (Pass/Fail) Pass

M. Stamps issued 12/2/09

Verification Rules

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

0244-A Characterization

Sample #	Uranium-233/234 Result (pCi/g)	Uranium-238 Result (pCi/g)	Thorium-230 Result (pCi/g)
0244-A 1	6.59	6.12	25.3
0244-A 2	6.36	6.07	28.5
0244-A 3	5.78	5.53	26.5
0244-A 4	6.48	5.97	25.5
0244-A 5	5.65	5.59	26.2
0244-A 6	6.96	5.78	27.0
0244-A 7	5.95	5.75	24.2
0244-A 8	5.29	5.67	27.2
0244-A 9	5.51	6.05	24.3
0244-A 10	6.37	5.57	25.6
0244-A 11	6.50	5.80	25.8
0244-A 12	6.13	5.42	22.4
0244-A 13	5.49	5.24	24.7
0244-A 14	6.19	5.21	26.9
0244-A 15	6.50	6.27	27.6
0244-A 16	6.50	5.24	24.9
0244-A 17	6.25	6.05	24.7
0244-A 18	6.14	6.00	25.4
0244-A 19	6.19	6.14	26.4
0244-A 20	5.67	5.61	23.2
Mean Value	6.13	5.75	25.62
1 sigma	0.439	0.325	1.493
2 sigma	0.878	0.650	2.986
75% Limit	4.60	4.31	19.22
125% Limit	7.66	7.19	32.03
Expected Result	6.2 +/- 4.0	6.0 +/- 4.0	24.5 +/- 0.6
Achieved Results	6.13 +/- 0.439	5.75 +/- 0.325	25.62 +/- 1.493

REFERENCE DATE 4/11/2000 *lett c held 12/1/04*

angela d. johnson 12/13/04

TRM

Invoice:

5 boxes of TRM-1
 10 " " TRM-2 and 3
 5 " each of TRM-1 through 6
 7 " baghouse dirt

use 1/4 gm x 10 samples with together
 for TRM-2

Table 7. Recommended Concentrations of Tailings Reference Materials (pCi/g)

	TRM-1	TRM-2	TRM-3	TRM-4
U-238	99 ± 6	6.0 ± 4.0	19.6 ± 1.4	44.9 ± 1.6
U-234	105 ± 6	6.2 ± 4.0	19.6 ± 1.9	44.6 ± 1.2
Tn-230	471 ± 11	24.5 ± 0.6	58.5 ± 2.1	44.0 ± 1.6
Ra-226	489 ± 17	25.4 ± 0.9	60.3 ± 2.3	42.9 ± 1.2
Pb-210	24	22.1 ± 1.2	56.0 ± 2.1	38.9 ± 2.0

0244-B Characterization

Sample #	Plutonium-239 Result (pCi/g)	Plutonium-238 Result (pCi/g)	Americium-241 Result (pCi/g)
0244-B 1	39.9	7.88	38.4
0244-B 2	44.1	7.97	40.6
0244-B 3	45.8	6.56	31.8
0244-B 4	43.6	7.69	31.5
0244-B 5	43	7.9	40.2
0244-B 6	43.5	7.84	29.4
0244-B 7	41.3	7.67	36
0244-B 8	44.3	6.95	33.2
0244-B 9	42.7	7.2	29.2
0244-B 10	44.9	7.69	30
0244-B 11	41.4	7.22	30.2
0244-B 12	41.3	7.74	36
0244-B 13	39.2	6.65	33.8
0244-B 14	39.6	7.78	31.1
0244-B 15	45.3	8.41	37.3
0244-B 16	38.1	6.74	33.6
0244-B 17	48.5	8.51	30.5
0244-B 18	36.5	7.23	38.6
0244-B 19	35.3	6.98	30.9
0244-B 20	37.4	8.55	31.3
Mean Value	41.79	7.56	33.68
1 sigma	3.418	0.596	3.724
2 sigma	6.835	1.193	7.448
75% Limit	30.75	6.02	24.38
125% Limit	51.25	10.04	40.63
Expected Result	41.0 +/- 3.0	8.03 +/- 0.37	32.5 +/- 1.1
Achieved Results	41.79 +/- 3.418	7.56 +/- .596	33.68 +/- 3.724

REFERENCE DATA 4/14/2000

Amanda L. Fehr 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.

CERTIFICATE OF CALIBRATION

ALPHA STANDARD SOLUTION

Radionuclide: Am-243
Half Life: 7380 \pm 40 years
Catalog No.: 7243
Source No.: 445-96-2

Customer: GENERAL ENGINEERING LABS
P.O.No.: 9290-RAD
Reference Date: January 1 1994 12:00 PST.
Contained Radioactivity: (Am-243) 101.2 μ Ci
Contained Radioactivity: (Am-243) 3750 kBq

Description of Solution

a. Mass of solution: 5.3739 g (in a 5 ml Flame Sealed Ampoule)
b. Chemical form: Am(NO₃)₃ in 2N HNO₃
c. Carrier content: None added
d. Density: 1.0651 g/ml @ 20°C.

Radioimpurities

None detected

Radioactive Daughters

Np-239 (beta active) in equilibrium

Radionuclide Concentration

(Am-243) 18.84 μ Ci/g

Method of Calibration

Weighed aliquots of the solution were assayed using gamma spectrometry for Np-239:

Energy peak(s) intergrated under: 228, 278 keV.
Branching ratio(s) used: 0.108, 0.1420 gamma rays per decay.

Uncertainty of Measurement

a. Systematic uncertainty in instrument calibration: $\pm 3.0\%$
b. Random uncertainty in assay: $\pm 0.4\%$
c. Random uncertainty in weighing(s): $\pm 0.0\%$
d. Total uncertainty at the 99% confidence level: $\pm 3.0\%$

NIST Traceability

This calibration is implicitly traceable to the National Institute of Standards and Technology.

Leak Test(s)

See reverse side for Leak Test(s) applied to this source.

Notes

1. Nuclear data were taken from "Table of Radioactive Isotopes", edited by Virginia S. Shirley, 1986.
2. IPL participates in an NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (As in NRC Regulatory Guide 4.15).



ISOTOPE PRODUCTS LABORATORIES
1800 North Keystone Street
Burbank, California 91504
(818) 843 - 7000

Anna W. Khan
QUALITY CONTROL

Jan 3, 1994
Date Signed

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO
DETERMINE THE INTEGRITY OF THE SOURCE DESCRIBED ON THE FRONT SIDE

☒ 1. STANDARD WIPE TEST

The source is wiped over its entire surface with a moistened filter paper disk. After drying, the disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 2. SOAK TEST

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for a minimum of four hours. After removal of the source, the liquid is a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 3. SOAK TEST -- BERYLLIUM WINDOW

The source is immersed in distilled water and maintained at $50 \pm 10^\circ \text{C}$ for 20 minutes. The entire surface of the source is then wiped with a moistened cotton swab or filter paper disk. After drying, the swab or disk is checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 4. GAS SOURCE TEST (Radioactive Gas)

The source is placed in a vacuum desiccator and maintained at a pressure of less than 1 mm Hg for not less than 12 hours. The activity is checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Activity levels exceeding 1000 cpm are cause for rejection of the source.

☒ 5. OTHER LEAK TEST

The ampoule is kept in an inverted position on a filter paper disk for a minimum of 16 hours. The filter paper disk is then checked for activity using a windowless proportional counter or end-window G.M. tube. Activity levels exceeding 0.001 μCi beta-gamma or 0.0001 μCi alpha are cause for rejection of the source.

☐ 6. LEAK TEST NOT APPLICABLE

The active area of this source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test. Levels of removable activity did not exceed 0.001 μCi beta-gamma or 0.0001 μCi alpha at the time of shipment.

Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	445-96-2	Isotope:	Americium-243
Prepared By:	Genie Bost	Prepared By:	Angela Johnson
Carrier Conc:	2M HNO3	Prep Date:	01/05/1994
Reference Date:	01/01/1994	Verification Date:	05/11/2009
Ampoule Mass (g):	5.3739 g	Expiration Date:	05/11/2010
Uncertainty:	+/- 3 %	Primary Code:	445-96-2-A
LogBook No:	RC S 005 032	Dilution(mL):	100 mL
		Mass of Parent(g):	5.3419 g
		Density(g/mL):	1.0785
		Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (uCi/g)}) * (\text{conversion dpm to uCi}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (100 \text{ mL}) = 2234238.9912 \text{ dpm/mL}$
$(5.3419 \text{ g}) * (18.84 \text{ uCi/g}) * (2220000 \text{ dpm/uCi}) / (1.0785 \text{ g/mL}) / (100 \text{ mL}) = 2071617.0528 \text{ dpm/g}$

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
01/05/1994	Genie Bost	.0058	100	445-96-2-B	120.1 dpm/ml	01/05/1995	01/05/1996
09/10/2004	Amanda Fehr	.0325	1000	445-96-2-BB	67.328 dpm/mL	09/10/2005	09/10/2006
01/05/1994	Genie Bost	.0025	100	445-96-2-C	51.77 dpm/ml	01/05/1995	01/05/1996
05/27/2005	Brenda Burke	.000246	100	445-96-2-CC	5.10613 dpm/mL	05/31/2005	05/31/2006
03/25/1994	Genie Bost	.0064	100	445-96-2-D	132.53 dpm/ml	01/05/1995	01/05/1996
08/16/2005	Brenda Burke	.001224	500	445-96-2-DD	5.07144 dpm/mL	08/18/2007	08/18/2008
08/04/1994	Genie Bost	.0094	100	445-96-2-E	194.65 dpm/ml	01/05/1995	01/05/1996
10/13/2005	Brenda Burke	.0017	500	445-96-2-EE	7.0435 dpm/mL	11/15/2005	11/15/2006
08/04/1994	Genie Bost	.0046	100	445-96-2-F	95.25 dpm/ml	01/05/1995	01/05/1996
10/14/2005	Mary Aders	.0141	500	445-96-2-FF	58.4196 dpm/mL	10/14/2005	10/14/2006
09/01/1994	Genie Bost	.0031	100	445-96-2-G	64.19 dpm/ml	01/05/1995	01/05/1996
05/10/2006	Mary Aders	2.0753	1000	445-96-2-GG	4299.227 dpm/mL	09/30/2008	09/30/2009
10/17/1994	Genie Bost	.0969	100	445-96-2-H	2006.52 dpm/ml	01/05/1995	01/05/1996
06/07/2006	Mary Aders	.0365	1000	445-96-2-HH	75.614 dpm/mL	06/19/2006	06/19/2007
02/06/1995	Genie Bost	.0043	100	445-96-2-I	89.04 dpm/ml	01/05/1995	01/05/1996
05/11/2006	Brenda Burke	.000009739	100	445-96-2-II	.201761 dpm/mL	07/26/2006	07/26/2007
07/20/1995	Theresa Austin	.0041	100	445-96-2-J	84.9 dpm/ml	01/05/1995	01/05/1996
05/01/2007	Daniel Roy	.0352	1000	445-96-2-JJ	72.9209 dpm/ml	04/30/2008	04/30/2009
08/10/1995	Garret Ray	.0952	100	445-96-2-K	1971.32 dpm/ml	01/05/1995	01/05/1996
06/12/2007	Julie Strock	.01038	250	445-96-2-KK	22.1496 dpm/mL	05/28/2008	05/28/2009

09/11/1995	Theresa Austin	1.0525	100	445-96-2-L	21794.23 dpm/ml	01/05/1995	01/05/1996
09/11/1995	Theresa Austin	.5107	100	445-96-2-L-1	111.3 dpm/ml	01/05/1995	01/05/1996
04/28/1998	Richard Kinney	.1264	100	445-96-2-M	2617.4 dpm/ml	04/28/1998	04/28/1999
11/01/2007	Eric Williamson	.001274	500	445-96-2-MM	5.27945 dpm/mL	04/06/2008	04/06/2010
10/12/1998	Gregory Smith	.1348	100	445-96-2-N	2791.32 dpm/mL	01/05/1995	01/05/1996
01/25/1999	Gregory Smith	1.9382	100	445-96-2-N-1	50.16 dpm/ml	01/05/1995	01/05/1996
04/19/2008	Daniel Roy	.0424	1000	445-96-2-NN	87.8366 dpm/ml	04/16/2009	04/16/2010
04/21/1999	Greg Smith	.1645	100	445-96-2-O	3406.32 dpm/mL	04/21/1999	04/21/2000
07/27/1999	Gregory Smith	1.567	100	445-96-2-O-2	50.56 dpm/ml	05/13/1999	05/13/2000
10/12/1999	Richard Kinney	1.5589	100	445-96-2-O-3	50.31 dpm/mL	05/13/1999	05/13/2000
04/21/1999	Greg Smith	1.5309	100	445-96-2-O-1	49.4 dpm/mL	04/21/1999	04/21/2000
11/10/1999	Joe Davis	.1809	100	445-96-2-P	3745.92 dpm/mL	05/13/1999	05/13/2000
01/04/2008	Julie Strock	.00001005	100	445-96-2-PP	.20819 dpm/mL	12/29/2008	12/29/2009
01/28/2000	Angela Johnson	.0354	1000	445-96-2-Q	73.3 dpm/mL	02/08/2001	02/08/2002
09/29/2008	Julie Strock	.0025219	250	445-96-2-QQ	20.8977 dpm/mL	09/30/2008	09/29/2009
04/18/2000	Robert Timm	.429	250	445-96-2-R	3553.34 dpm/mL	04/18/2000	04/18/2001
04/23/2009	Tina Schoneman	.001251	500	445-96-2-RR	4.8075 dpm/mL	04/23/2009	04/23/2010
04/13/2001	Angela Johnson	.1869	100	445-96-2-S	3870.16 dpm/mL	04/13/2001	04/13/2002
05/08/2009	Mary Aders	.0141	1000	445-96-2-SS	29.2098 dpm/ml	05/11/2009	05/11/2010
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-103	4153.225 dpm/mL	07/03/2002	07/03/2003
07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-203	4153.225 dpm/mL	07/03/2002	07/03/2003

07/03/2001	Lonnie Morris	2.0057	1000	445-96-2-T-303	4153.225 dpm/mL	07/03/2002	07/03/2003
06/03/2009	Julie Strock	.00000927	100	445-96-2-TT	.1923 dpm/mL	06/05/2009	06/03/2010
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-103	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-203	80.34 dpm/mL	08/23/2001	08/23/2002
08/23/2001	Angela Johnson	.0194	500	445-96-2-U-303	80.34 dpm/ml	08/23/2001	08/23/2002
06/02/2009	Mary Aders	2.1177	1000	445-96-2-UU	4385.1449 dpm/ml	06/04/2009	06/04/2010
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-103	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-203	81.586 dpm/mL	08/27/2002	08/27/2003
08/27/2001	Angela Johnson	.0394	1000	445-96-2-V-303	81.586 dpm/mL	08/27/2002	08/27/2003
03/17/2003	Angela Johnson	2.1108	1000	445-96-2-W	4370.857 dpm/mL	03/14/2006	03/14/2007
04/14/2003	Lonnie Morris	.0315	1000	445-96-2-X	65.2559 dpm/mL	04/14/2004	04/14/2005
05/03/2003	Tim Chandler	.0103	1000	445-96-2-Y	21.3376 dpm/mL	05/05/2003	05/05/2004
05/05/2003	Eric Williamson	.011	1000	445-96-2-Z	22.7877 dpm/mL	04/03/2007	04/03/2008

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Am-243 Standard 445-96-2-SS

M. Aders 5/15/2009	Isotope	Value	Uncertainty
	445-96-2-SS #1	1.360	0.1690
	445-96-2-SS #2	1.370	0.1690
	445-96-2-SS #3	1.290	0.1590
Mean Value (Counting) =	1.340	101.99	Pass
Stdev =	0.043588989	Rule 3 (Pass/Fail)	
Target =	1.314		
Lower Limit =	1.252822021		
Upper Limit =	1.427177979		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.087177979		
10 % of Mean =	0.134		
Rule 2 (Pass/Fail)	Pass		

The analyst prepared three standard verification sources for standard **445-96-2-SS** using 0.1 mL for each source. Each standard was combined with 0.1 mL of **Cm-244** standard **0533-O** and 50 micrograms of neodymium carrier in a disposable centrifuge tube. Each standard was diluted with 4 mL of 2 M HCl and 6 mL of DI Water. Two mL of 48% HF was added to precipitate Nd (and Americium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Am-243 were calculated by comparison to Am-241 certified values.

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

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

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

M. Aders 5/15/09
Taheri 07/09



Eckert & Ziegler
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Fax 404-352-2837
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CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

78747-278

1283

U-232 5 mL Liquid in Flame Sealed Vial

Customer: GEL Laboratories, LLC
P.O. No.: 7319 RD, Item 1

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated using a germanium gamma spectrometer system.

Radionuclide purity and calibration were checked using a germanium gamma spectrometer system. The nuclear decay rate and assay date for this source are given below.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

Isotope:	U-232
Activity (Bq):	3.754 E3
Half-Life:	68.9 years
Calibration Date:	December 9, 2008 12:00 EST
Relative Expanded Uncertainty (k=2):	5.0%

Comments:

Impurities: U-233 <0.3%, Am-241 <0.15%
5.20453 grams 1M HNO₃ solution.

Source Prepared By: W. Mao

W. Mao, Radiochemist

QA Approved: D. M. Montgomery

D. M. Montgomery, QA Manager

Date: 12-11-08

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12/15/08

2C-S-05

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

$(\text{Mass of parent(g)}) * (\text{Parent Activity (Bq)}) * (\text{conversion dpm to Bq}) / (\text{Ampoule Mass(g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parent Activity (Bq)}) * (\text{conversion dpm to Bq}) / \text{Density} / (\text{Ampoule Mass (g)} * (\text{Dilution Vol})) = \text{Parent Activity (dpm/g)}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2174.4872 \text{ dpm/mL}$
$(5.0245 \text{ g}) * (3754 \text{ Bq}) * (60 \text{ dpm/Bq}) / (1.0285 \text{ g/mL}) / (5.20453 \text{ g} * 100 \text{ mL}) = 2114.1700 \text{ dpm/g}$

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

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. Unterwieser, Acting Group Leader. The overall technical direction and physical measurements leading to certification were provided by L.L. Lucas of the Radioactivity Group. The support aspects involved in the preparation, certification, and issuance of this SRM were coordinated through the Standard Reference Materials Program.

RECEIVED
JAN 12 2005

Lisa R. Karam, Acting Chief
Ionizing Radiation Division

Gaithersburg, Maryland 20899
January 2005

Robert L. Watters, Jr., Chief
Measurement Services Division

Recommended Procedure for Opening the SRM Ampoule

- 1) If the SRM solution is to be diluted, it is recommended that the diluting solution have a composition comparable to that of the SRM solution.
- 2) Wear eye protection, gloves, and protective clothing and work over a tray with absorbent paper in it. Work in a fume hood. In addition to the radioactive material, the solution contains strong acid and is corrosive.
- 3) Shake the ampoule to wet all of the inside surface of the ampoule. Return the ampoule to the upright position.
- 4) Check that all of the liquid has drained out of the neck of the ampoule. If necessary, gently tap the neck to speed the process.
- 5) Holding the ampoule upright, score the narrowest part of the neck with a scribe or diamond pencil.
- 6) Lightly wet the scored line. This reduces the crack propagation velocity and makes for a cleaner break.
- 7) Hold the ampoule upright with a paper towel, a wiper, or a support jig. Position the scored line away from you. Using a paper towel or wiper to avoid contamination, snap off the top of the ampoule by pressing the narrowest part of the neck away from you while pulling the tip of the ampoule towards you.
- 8) Transfer the solution from the ampoule using a pycnometer or a pipet with dispenser handle. NEVER PIPETTE BY MOUTH.
- 9) Seal any unused SRM solution in a flame-sealed glass ampoule, if possible, to minimize the evaporation loss.

See also reference [4]*.

PROPERTIES OF SRM 4334H

Certified values

Radionuclide	Plutonium-242
Reference time	1200 EST, 07 June 1994 [b]*
Massic activity of the solution [c]	26.31 Bq·g ⁻¹
Relative expanded uncertainty (k=2)	0.72% [d] [e]
Solution density	(1.105 ± 0.002) g·mL ⁻¹ at 20 °C [f]

Uncertified values

Physical Properties:			
Source description	Liquid in flame-sealed NIST borosilicate-glass ampoule		
Ampoule specifications	Body outside diameter	(16.5 ± 0.5) mm	
	Wall thickness	(0.60 ± 0.04) mm	
	Barium content	Less than 2.5%	
	Lead-oxide content	Less than 0.02%	
	Other heavy elements	Trace quantities	
Solution mass	Approximately 5.5 g		
Chemical Properties:			
Solution composition	Chemical Formula	Concentration (mol·L ⁻¹)	Mass Fraction (g·g ⁻¹)
	H ₂ O 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 α liquid-scintillation counters, a calibrated germanium detector system, and a silicon surface-barrier detector		

EVALUATION OF THE UNCERTAINTY OF THE MASSIC ACTIVITY [d] [e]*

Input Quantity x_i , the source of uncertainty (and individual uncertainty components where appropriate)	Method Used To Evaluate $u(x_i)$, the standard uncertainty of x_i (A) denotes evaluation by statistical methods (B) denotes evaluation by other methods	Relative Uncertainty Of Input Quantity, $u(x_i)/x_i$, (%) [k]	Relative Sensitivity Factor, $ \partial y/\partial x_i \cdot$ (x_i/y) [m]	Relative Uncertainty Of Output Quantity, $u(y)/y$, (%) [n]
Massic alpha-particle emission rate, corrected for background and decay	Standard deviation of the mean for 80 sets of $4\pi\alpha$ liquid- scintillation measurements (A)	0.05	1.0	0.05
Half life of Pu-242	Standard uncertainty of the half life (A)	0.32 [p]	0.00001 [q]	0.000003
Decay-scheme data	Standard uncertainty of the probability of decay by alpha- particle emission (A)	0.001	1.0	0.001
Extrapolation of alpha- particle-count-rate- versus-energy to zero energy	Estimated (B)	0.25	1.0	0.25
Gravimetric measurements	Estimated (B)	0.10	1.0	0.10
Live time [r]	Estimated (B)	0.10	1.0	0.10
Alpha-particle detection efficiency of scintillators	Estimated (B)	0.15	1.0	0.15
Alpha-particle-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Photon-emitting impurities	Limit of detection (B) [s]	100.	0.001	0.10
Relative Combined Standard Uncertainty of the Output Quantity, $u_c(y)/y$, (%)				0.36
Coverage Factor, k				<u>$\times 2$</u>
Relative Expanded Uncertainty of the Output Quantity, U/y , (%)				<u>0.72</u>

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 $u_c(y)/y = |\partial y / \partial x_i| \cdot u(x_i)/y = |\partial y / \partial x_i| \cdot (x_i / y) \cdot u(x_i)/x_i$. The numerical values of $u(x_i)/x_i$, $|\partial y / \partial x_i| \cdot (x_i / y)$, and $u_c(y)/y$, all dimensionless quantities, are listed in columns 3, 4, and 5, respectively. Thus, the value in column 5 is equal to the value in column 4 multiplied by the value in column 3. The input quantities are independent, or very nearly so. Hence the covariances are zero or negligible.

- [p] The relative standard uncertainty of $\lambda \cdot t$ is determined by the relative standard uncertainty of λ (i.e., of the half life). The relative standard uncertainty of t is negligible.
- [q] $|\partial y / \partial x_i| \cdot (x_i / y) = |\lambda \cdot t|$
- [r] The live time is determined by counting the pulses from a gated crystal-controlled oscillator.
- [s] The standard uncertainty for each undetected impurity that might reasonably be expected to be present is estimated to be equal to the estimated limit of detection for that impurity, i.e. $u(x_i) / x_i = 100\%$. $|\partial y / \partial x_i| \cdot (x_i / y) = \{(\text{response per Bq of impurity}) / (\text{response per Bq of Pu-242})\} \cdot (\text{Bq of impurity}) / (\text{Bq of Pu-242})$. Thus $u(y) / y$ is the relative change in y if the impurity were present with a massic activity equal to the estimated limit of detection.
- [t] The stated uncertainty is the standard uncertainty. The plutonium-241 activity was calculated from a gamma-ray measurement of the americium-241 ingrowth as of 25 November 1998, assuming that americium-241 was completely removed at the time of chemical purification.
- [u] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The value shown is an estimated upper limit based upon background and counting statistics. Measurements were made at the Lawrence Livermore National Laboratory (LLNL) in July of 1994.
- [v] Using alpha-particle spectrometry, no alpha-particle emission was detected that could reliably be ascribed to these radionuclides. The stated uncertainty is the standard uncertainty. Measurements were made at the National Institute of Standards and Technology (NIST) in June and July of 1999.

REFERENCES

- [1] International Organization for Standardization (ISO), *ISO Standards Handbook - Quantities and Units*, 1993. Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [2] International Organization for Standardization (ISO), *Guide to the Expression of Uncertainty in Measurement*, 1993 (corrected and reprinted, 1995). Available from Global Engineering Documents, 12 Inverness Way East, Englewood, CO 80112, U.S.A. Telephone 1-800-854-7179.
- [3] B.N. Taylor and C.E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297, 1994. Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20407, U.S.A.
- [4] National Council on Radiation Protection and Measurements Report No. 58, *A Handbook of Radioactivity Measurements Procedures*, Second Edition, 1985. Available from the National Council on Radiation Protection and Measurements, 7910 Woodmont Avenue, Bethesda, MD 20814 U.S.A.
- [5] Evaluated Nuclear Structure Data File (ENSDF), January 2005.



Standard Traceability Log Rad

Source Material Info		A Solution Material Info	
Parent Code:	1375	Isotope:	Plutonium-242
Prepared By:	Mary Aders	Prepared By:	Ashley Drochter
Carrier Conc:	0.5M HNO3	Prep Date:	01/08/2010
Reference Date:	06/07/1994	Verification Date:	01/08/2010
Ampoule Mass (g):	5.5 g	Expiration Date:	01/08/2011
Uncertainty:	+/- .72 %	Primary Code:	1375-A
LogBook No:	RC-S-051-094	Dilution(mL):	250 mL
		Mass of Parent(g):	5.3542 g
		Density(g/mL):	1.0148
		Balance ID:	38080204

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

$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / (\text{Dilution Vol}) = \text{Parent Activity (dpm/mL)}$
$(\text{Mass of parent(g)}) * (\text{Parm Activity (Bq/g)}) * (\text{conversion dpm to Bq}) / \text{Density (g/mL)} / (\text{Dilution Vol}) = \text{Parent Activity (dpm/g)}$
$(5.3542 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (250 \text{ mL}) = 33.8086 \text{ dpm/mL}$
$(5.3542 \text{ g}) * (26.31 \text{ Bq/g}) * (60 \text{ dpm/Bq}) / (1.0148 \text{ g/mL}) / (250 \text{ mL}) = 33.3155 \text{ dpm/g}$

Secondary Standards

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

Verification for Pu-242 Standard 1375-A

A.Drochter 1/9/2010	Isotope	Value	Uncertainty
	1375-A	1.530	0.2410
	1375-A	1.630	0.2630
	1375-A	1.580	0.2480
Mean Value (Counting) =	1.580	103.75	Pass
Stdev =	0.05	Rule 3 (Pass/Fail)	
Target =	1.52		
Lower Limit =	1.48		
Upper Limit =	1.68		
Rule 1 Pass/Fail	Pass		
Two sigma =	0.1		
10 % of Mean =	0.158		
Rule 2 (Pass/Fail)	Pass		

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

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

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

The analyst prepared three standard verification sources for standard 1375-A using 0.1 mL for each source. Each standard was combined with 0.1 mL of Pu 239 standard 0338-BB and 50 micrograms of neodymium carrier in a disposable centrifuge tube containing 4 mL of 2 M HCl and 6 mL of DI water. Four drops of 25% Hydrazine dihydrochloride were added to each centrifuge tube and swirled. Two mL of 49% HF was added to precipitate neodymium (and plutonium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Pu-242 were calculated by comparison to Pu-239 certified values.

dal 1/12/10
fan 1/12/10

RUNLOGS

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER

Batch ID: 947554

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245808001	SAMPLE	RXF2	GAM04	11-FEB-10 22:26	DONE	CAN	05-MAY-09 00:00
245808002	SAMPLE	RXF2	GAM17	11-FEB-10 22:26	DONE	CAN	06-JAN-10 00:00
245808003	SAMPLE	RXF2	GAM18	11-FEB-10 22:27	DONE	CAN	23-APR-09 00:00
245808004	SAMPLE	RXF2	GAM19	11-FEB-10 22:27	DONE	CAN	12-MAR-09 00:00
245808005	SAMPLE	RXF2	GAM10	12-FEB-10 16:57	DONE	CAN	16-MAR-09 00:00
245808006	SAMPLE	RXF2	GAM11	12-FEB-10 16:58	DONE	CAN	18-NOV-09 00:00
245808007	SAMPLE	RXF2	GAM23	12-FEB-10 17:00	DONE	CAN	02-JUN-09 00:00
245808008	SAMPLE	RXF2	GAM15	12-FEB-10 17:37	DONE	CAN	03-FEB-10 00:00
1202029817	MB	RXF2	GAM12	12-FEB-10 17:51	DONE	CAN	10-FEB-09 00:00
1202029818	DUP	RXF2	GAM22	12-FEB-10 17:52	DONE	CAN	02-DEC-09 00:00
1202029819	LCS	RXF2	GAM20	12-FEB-10 18:28	DONE	CAN	26-AUG-09 00:00

Instrument Run Log

Instrument Type: LSC

Batch ID: 948404

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245808001	SAMPLE	KXK2	LSCORANGE	09-FEB-10 09:37	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808002	SAMPLE	KXK2	LSCORANGE	09-FEB-10 10:00	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808003	SAMPLE	KXK2	LSCORANGE	09-FEB-10 10:17	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808004	SAMPLE	KXK2	LSCORANGE	09-FEB-10 10:29	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808005	SAMPLE	KXK2	LSCORANGE	09-FEB-10 10:35	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808006	SAMPLE	KXK2	LSCORANGE	09-FEB-10 11:18	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808007	SAMPLE	KXK2	LSCORANGE	09-FEB-10 11:24	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
245808008	SAMPLE	KXK2	LSCORANGE	09-FEB-10 12:07	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
1202031688 MB		KXK2	LSCORANGE	09-FEB-10 12:49	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
1202031689 DUP		KXK2	LSCORANGE	09-FEB-10 13:32	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00
1202031690 LCS		KXK2	LSCORANGE	09-FEB-10 13:44	DONE	10mL DW/13mL Ecoscint Ultra	24-JUL-09 00:00

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 950408

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245808001	SAMPLE	AYB1	1038	16-FEB-10 14:33	DONE		
245808002	SAMPLE	AYB1	1039	16-FEB-10 14:33	DONE		
245808003	SAMPLE	AYB1	1040	16-FEB-10 14:33	DONE		
245808004	SAMPLE	AYB1	1041	16-FEB-10 14:33	DONE		
245808005	SAMPLE	AYB1	1042	16-FEB-10 14:33	DONE		
245808006	SAMPLE	AYB1	1043	16-FEB-10 14:33	DONE		
245808007	SAMPLE	AYB1	1044	16-FEB-10 14:33	DONE		
245808008	SAMPLE	AYB1	1045	16-FEB-10 14:33	DONE		
1202036746	MB	AYB1	1046	16-FEB-10 14:33	DONE		
1202036747	DUP	AYB1	1047	16-FEB-10 14:33	DONE		
1202036748	LCS	AYB1	1048	16-FEB-10 14:33	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 950409

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245808001	SAMPLE	AYB1	1115	15-FEB-10 21:11	DONE		
245808002	SAMPLE	AYB1	1119	15-FEB-10 21:11	DUSE		
245808003	SAMPLE	AYB1	1117	15-FEB-10 21:11	DONE		
245808004	SAMPLE	AYB1	1118	15-FEB-10 21:11	DUSE		
245808005	SAMPLE	AYB1	1120	15-FEB-10 21:11	DONE		
245808006	SAMPLE	AYB1	1121	15-FEB-10 21:11	DUSE		
245808007	SAMPLE	AYB1	1122	15-FEB-10 21:11	DONE		
245808008	SAMPLE	AYB1	1123	15-FEB-10 21:11	DONE		
1202036749	MB	AYB1	1124	15-FEB-10 21:11	DUSE		
1202036750	DUP	AYB1	1125	15-FEB-10 21:12	DONE		
1202036751	LCS	AYB1	1126	15-FEB-10 21:12	DONE		
1202036749	MB	AYB1	1011	18-FEB-10 17:13	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 954558

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245808001	SAMPLE	AYB1	1228	20-FEB-10 13:37	DONE		
245808002	SAMPLE	AYB1	1229	20-FEB-10 13:37	DONE		
245808003	SAMPLE	AYB1	1230	20-FEB-10 13:37	DONE		
245808004	SAMPLE	AYB1	1235	20-FEB-10 13:37	DONE		
245808005	SAMPLE	AYB1	1236	20-FEB-10 13:37	DONE		
1202046259	MB	AYB1	1238	20-FEB-10 13:37	DONE		
245808006	SAMPLE	AYB1	1239	20-FEB-10 13:37	DONE		
245808007	SAMPLE	AYB1	1240	20-FEB-10 13:37	DONE		
1202046260	DUP	AYB1	1244	20-FEB-10 13:37	DONE		
1202046261	LCS	AYB1	1198	20-FEB-10 13:39	DONE		
245808008	SAMPLE	AYB1	1241	20-FEB-10 14:58	DONE		

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER

Batch ID: 954559

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
245808002	SAMPLE	AYB1	1144	22-FEB-10 12:42	DONE		
245808004	SAMPLE	AYB1	1145	22-FEB-10 12:42	DONE		
245808006	SAMPLE	AYB1	1146	22-FEB-10 12:42	DONE		
246271002	SAMPLE	AYB1	1147	22-FEB-10 12:42	DONE		
1202046263	MB	AYB1	1148	22-FEB-10 12:42	DONE		
1202046264	DUP	AYB1	1150	22-FEB-10 12:42	DONE		
1202046265	LCS	AYB1	1151	22-FEB-10 12:42	DONE		